Council

CAMPBELLTOWN CITY COUNCIL

Agenda

Council Meeting

Notice is hereby given pursuant to the provisions of the Local Government Act, 1999 that the next Meeting of Campbelltown City Council will be held in the Council Chamber, 172 Montacute Road, Rostrevor on

Tuesday 16 August 2022 at 7.00 pm

for the purpose of considering the items included on the Agenda.

Paul Di Iulio
Chief Executive Officer

Campbelltown City Council Strategic Plan 2020-2024

Vision

A safe, sustainable, vibrant Community

Mission

The Community is the centre of everything we do

CAMPBELLTOWN
CITY COUNCIL

Values

Integrity • Respect • Teamwork • Leadership • Customer Focus

Goals

Goal 1
Supporting our Community

- 1.1 Our Community is our strength
- 1.2 Programs and Services that reflect Community needs
- 1.3 Creativity, connection and local identity
- 1.4 A safe and liveable Community
- 1.5 A socially inclusive Community
- 1.6 Thriving Community groups, clubs and organisations
- 1.7 Developing Campbelltown as a destination for business & tourism

Goal 2
Greening our City

- 2.1 Building our climate resilience
- 2.2 Living with our unique environment
- 2.3 Managing our resources sustainably

Goal 3
Enhancing our Assets

- 3.1 Inspecting and maintaining our assets to meet the current and future needs of our Community
- 3.2 Developing our stormwater infrastructure to minimise risk
- 3.3 Implementing our adopted plans to enhance our Community assets
- 3.4 Providing inclusive and sustainable facilities that meet the current and future needs of our Community

Goal 4
Planning for our Future

- 4.1 Maintaining sustainable plans and services that support Community needs
- 4.2 Embracing technology and systems to foster innovation and support changing Community needs
- 4.3 Providing services to maintain and enhance the look and feel of our City
- 4.4 Planning sustainable Infrastructure to meet the changing needs of our Community

Goal 5
Leading our People

- 5.1 Our people are innovative, accountable and forward thinking
- 5.1 Strong partnerships
- 5.3 Supporting systems and processes for sound decision making and excellence in service delivery

Kaurna Acknowledgement

Campbelltown City Council acknowledges that we meet on the traditional Country of the Kaurna people and respect their physical and spiritual connection to Country.

We as Council will act in a way that pays respect to Kaurna Heritage. We also acknowledge elders past, present, and future and the continuing importance of their living culture.

Chair: Mayor Jill Whittaker

Members: Councillor Dominic Barbaro
Councillor Luci Blackborough
Councillor Therese Britton-La Salle
Councillor Elena Casciano
Councillor John Flynn
Councillor Dr Sue Irvine
Councillor John Kennedy
Councillor Anna Leombruno
Councillor Johanna McLuskey
Councillor Matthew Noble

Council Agenda

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Council Agendas are placed on the website and can be viewed and downloaded from https://www.campbelltown.sa.gov.au/page.aspx?u=3438. Three copies of the Agenda are printed for the Public Gallery as part of Council's commitment to being environmentally friendly.

1. Opening of Meeting, Kaurna Acknowledgement and Council Pledge

Council Pledge

May we in this meeting speak honestly, listen attentively, think clearly and decide wisely for the good governance of the City of Campbelltown and the wellbeing of those we serve.

2. Apologies

3. Minutes

Recommendation

That the minutes of the meeting of the Council held on Tuesday 2 August 2022 as printed and circulated be taken as read and confirmed.

CAMPBELLTOWN
CITY COUNCIL

Minutes

Council Meeting

Minutes of the meeting of the **Council** held in the Council Chamber, 172 Montacute Road, Rostrevor

Tuesday 2 August 2022

Elected Members Present:	Mayor Jill Whittaker	
	Councillor Luci Blackborough	
	Councillor Therese Britton-La Salle	
	Councillor Elena Casciano	Arrived 7.02 pm
	Councillor John Flynn	
	Councillor Dr Sue Irvine	Left 7.04 pm
	Councillor John Kennedy	
	Councillor Anna Leombruno	Arrived 7.02 pm
	Councillor Johanna McLuskey	
	Councillor Matthew Noble	

Council Staff Present: Chief Executive Officer
General Manager Corporate & Community Services
General Manager Infrastructure Services
Acting General Manager Urban Planning & Leisure Services
Manager Governance & Community Interaction
Executive Services Officer

Meeting Commenced: 7.00 pm Meeting Concluded: 8.38 pm

1. Opening of the Meeting, Kaurna Acknowledgement and Council Pledge

The time being 7.00 pm Mayor Whittaker opened the meeting.

The time being 7.02 pm Cr Casciano and Cr Leombruno entered the meeting.

2. Apologies

Cr Casciano moved and Cr McLuskey seconded that an apology be received for the absence of Cr Barbaro.

Carried

3. Minutes

Cr Kennedy moved and Cr Blackborough seconded that the minutes of the meeting of the Council held on Tuesday 19 July 2022 as printed and circulated be taken as read and confirmed.

Carried

The time being 7.04 pm Cr Dr Irvine left the meeting and did not return.

4. Public Question Time

Ms Hermione Farmer of Campbelltown asked whether Council can explain why it doesn't expect an increase of unhomed cats and kittens as this is what C.A.T.S (Cats Assistance to Sterilise) expect where Adelaide Hills Council have a similar By-Law?

The Manager Governance & Community Interaction, Ms Lyn Barton advised that State Legislation requires all cats to be desexed so Staff wouldn't expect an increase in unhomed cats as a result of the proposed By-Law.

Ms Hermione Farmer of Campbelltown asked how is Council going to support cat management when in Council's survey it says Council doesn't have Staff with expertise?

The Manager Urban Planning & Leisure Services, Mr Andrew Nairn advised that Council does have the expertise with animal management (including cats) and Staff have had the appropriate training.

Ms Hermione Farmer of Campbelltown asked why in the lengthy draft Cats By-Law Community Engagement Outcomes report, haven't Council covered the option to grandfather existing cats as the RSPCA have suggested is important?

The Manager Governance & Community Interaction, Ms Lyn Barton advised when Council drafted the Cats By-Law it wasn't part of the drafting arrangements as it wasn't recommended by Council's solicitors.

Ms Virginia Ducruc of the Cat Adoption Foundation asked why does Council consistently ignore the advice of RSPCA, AWL and the National Enquiry in terms of cat management which has implications for this By-Law, namely the approach to containment?

The Manager Governance & Community Interaction, Ms Lyn Barton advised that regarding containment and timeframe, it was considered by Council in January this year and given that the By-Law has been discussed since 2018 through a number of surveys, Council decided they didn't need to extend the timeframe for containment.

Ms Virginia Ducruc of the Cat Adoption Foundation asked that in terms of recognising a third category, the RSPCA, AWL and the National Enquiry recognised another category of cats and in terms of the overall By-law to manage cats, why hasn't the third category been recognised?

The Manager Urban Planning & Leisure Services, Mr Andrew Nairn advised that the By-Law is around owned or homed cats and the nuisance issues and safety of unowned cats and that's why the By-Law has been drafted the way it has been.

Ms Virginia Ducruc of the Cat Adoption Foundation asked how Council is planning to deal with the third category unowned cats?

The Manager Urban Planning & Leisure Services, Mr Andrew Nairn advised that the By-Law is around owned or homed cats and, in terms of unowned cats, Council has no authority. When cats become a nuisance, the appropriate Staff speak to residents, however have no power to catch cats.

Mr Peter Stokes of Campbelltown asked what constitutes quorum of an ordinary Council meeting?

The Mayor advised six Elected Members.

Mr Peter Stokes of Campbelltown asked if Council has the minimum quorum and one Member leaves their chair, can the matter be considered?

The Mayor advised that a vote can't take place without a quorum.

Mr Peter Stokes of Campbelltown asked if Campbelltown doesn't have a quorum, can you vote under the Local Government Act?

The Mayor advised no a vote can't be taken.

Mr Darryl Reid of Campbelltown asked if Council is offended by him coming into Council to look at Members?

That Mayor advised no.

The Chief Executive Officer, Mr Paul Di Iulio provided some further context by stating that the Staff member Mr Reid is referring to said he will come into the room and keep an eye on her and put her into his black book.

Mr Darryl Reid of Campbelltown advised he did not say that and only said he was coming in to look at Members.

Ms Sue Willis of Newton previously asked if the residents could see the report that was presented to the Dog and Cat Management Board and the answer was it would come to Council if Council voted for it, can she apply for a Freedom for Information Application for the report?

The Mayor advised that yes she could.

5. Business Adjourned

Nil.

6. Questions With Notice

Nil.

7. Deputations / Presentations

Nil.

8. Petition

Nil.

9. Motions on Notice

Nil.

10. Recommendations from Committees

10.1 Council Assessment Panel - Minutes, Tuesday 26 July 2022

Cr Leombruno moved and Cr Britton-La Salle seconded that the minutes of the Council Assessment Panel made at its meeting held on Tuesday 26 July 2022 be received.

Carried

10.2 Climate Solutions Advisory Committee - Minutes, Wednesday 27 July 2022

Cr Leombruno moved and Cr McLuskey seconded that the minutes of the Climate Solutions Advisory Committee made at its meeting held on Wednesday 27 July 2022 be received and the following be adopted:

> That Council advocate for the State Government to provide alternative options to the Home Battery Scheme that is about to end.

Carried

11. Reports from Officers

11.1 Draft Cats By-Law 2022 – Community Engagement Outcomes

Cr Leombruno moved and Cr Britton-La Salle seconded that Council:

1. receive the consultation report 'Draft Cats By-Law 2022 - Community Engagement Outcomes'

2. agree to not proceed further with the implementation of a Cats By-Law.

Lost

A Division was requested by Cr Leombruno.

This set aside the Mayor's declaration that the **Motion** was **Lost** and the Mayor then took the Division being:

For: Cr Leombruno and Cr Britton-La Salle

Against: Cr Blackborough, Cr McLuskey, Cr Casciano, Cr Flynn, Cr Kennedy and Cr Noble

As a result of the Division the Mayor declared the **Motion** was **Lost**

Cr McLuskey moved and Cr Casciano seconded that Council:

1. receive the consultation report 'Draft Cats By-Law 2022 - Community Engagement Outcomes'

2. agree in principle to proceed with making By-Law No 6 – Cats, as previously presented and endorsed for consultation on 3 May 2022

3. request Staff to seek preparation of a legal practitioner certificate, National Competition Policy report, and report to the Legislative Review Committee for consideration prior to 'making' By-Law No. 6 - Cats.

Carried

A Division was requested by Cr Leombruno.

This set aside the Mayor's declaration that the **Motion** was **Carried** and the Mayor then took the Division being:

For: Cr Blackborough, Cr McLuskey, Cr Casciano, Cr Flynn, Cr Kennedy and Cr Noble

Against: Cr Leombruno and Cr Britton-La Salle

As a result of the Division the Mayor declared the **Motion** was **Carried**

11.2 Behavioural Management Framework

Cr Leombruno moved and Cr Flynn seconded that Council forward the attached feedback to the Local Government Association in response to the Draft Behavioural Management Policy and Draft Behavioural Support Policy.

Carried

11.3 Current Parking Behaviours in Thomson Avenue, Rostrevor

The time being 8.15 pm Cr Blackborough left the meeting.

Cr Britton-La Salle moved and Cr Flynn seconded that the report be received and Staff install yellow lines within the statutory 'no standing zones' at the three intersections along Thomson Avenue (Thomson Place, Quinn Avenue and Stradbroke Road).

Carried

11.4 Lease of 137 Montacute Road, Campbelltown

The time being 8.18 pm Cr Britton-La Salle left the meeting.

The time being 8.18 pm Cr Blackborough re-entered the meeting.

Cr Kennedy moved and Cr Leombruno seconded that Council agree to lease the Old Uniting Church, 137 Montacute Road Campbelltown to Aiki Kai Australia SA Branch for a period of five (5) years commencing on 1 September 2022 and expiring on 30 August 2027 subject to the insertion of the following clauses:

- that the property be properly maintained in accordance with Council's requirements or by Council at the expense of the lessee
- a lease fee of $7,000 for the first year (exclusive GST) with an annual CPI increase based on the June CPI, plus payment of all outgoings
- there shall be no sub-letting of the premises without Council approval
- that the costs associated with the preparation of the new lease be borne by the lessee
- that a Maintenance Table be an annexure to the lease which will specify which party is responsible for carrying out identified tasks and which party is liable to pay for the cost of such work
- that with reasonable notice, Council has the ability to use the facility when deemed desirable due to its local historical significance.

The time being 8.20 pm Cr Britton-La Salle re-entered the meeting.

Carried

11.5 Consent Items

Cr Casciano moved and Cr Leombruno seconded that the following Consent Items be received and the recommendations contained therein be adopted.

11.5A Investment Review 2021/2022

That the Review of Investments report for the year ended 30 June 2022 be received.

11.5B Magill Village Project Update

That the Magill Village project update report be received.

11.5C Circular – 20 July 2022 – Local Government Association of South Australia – Reminder – SA Flood Warning Consultative Committee – Call for Nominations

That the Circular dated 20 July 2022 from the Local Government Association of South Australia – Reminder – SA Flood Warning Consultative Committee – Call for Nominations be received.

Carried

12. Member's Reports

Mayor Whittaker

- A Drop In Session on the Manresa Court Road Closing Process and Land Swap will be held tomorrow 3 August from 3.00 pm to 7.00 pm at the Athelstone Community Hall, Corner Maryvale Road and Gorge Road, Athelstone.
- Come along to experience the recently refurbished historic home of pioneer farmer, Charles Campbell at an Open Day at Lochend House on 7 August from 2.00 pm to 4.00 pm.
- The Library will be holding a free Gothic/Noir Sunday Movie on 7 August from 2.00 pm to 4.00 pm. Contact the Library for movie titles and ratings and no bookings are necessary.
- The Library will be holding a free 'How to talk about end of life planning with your loved ones' session on 8 August from 2.00 pm to 3.00 pm. Visit Council's website to book.

- A free Candidate Briefing Session for prospective candidates for the 2022 Local Government Election will be held on 10 August from 7.00 pm to 9.00 pm in the Council Chamber.

- There will be a Citizenship Ceremony to be held in the Campbelltown Function Centre at 5.30 pm on 10 August 2022.

- The next Community Connections Café will be held at the Campbelltown Memorial Oval on 10 August from 10.30 am to 1.00 pm.

- The next Café Connect will be held at the Rostrevor Baptist Church on 11 August from 12.00 noon to 2.00 pm.

- A free online 'Planting Deciduous Fruit Trees' with Chris Day will be held on 13 August from 2.30 pm to 3.30 pm. Visit Council's website to book.

- The next Campbelltown Repair Café and Magill Sunrise Market will be held at the Campbelltown Memorial Oval on 14 August from 9.00 am to 2.00 pm.

- The Library will be holding a free presentation on 'Good Bugs and Bad Bugs in the Garden' on 15 August from 4.15 pm to 5.15 pm. You can book on Council's website.

Cr Leombruno

- As part of NAIDOC Week, I attended the Bush Tucker Event held at Morialta Pari/Fourth Creek with Mr Ivan-Tiwu Copley OAM

- The Campbelltown City Soccer & Social Club held its annual Sponsor's Day event. Club members provided the Elected Members who attended a tour of the Club's facilities

- On Sunday I participated in the National Tree Planting Day held at Max Amber Sportsfield. It is generally a two hour event, however with so many people willing to contribute their time, planting was completed within the hour. I think this year well over 500 small shrubs and trees were planted along the reserve on George Street

- The Magill Sunrise Markets will be held on the second Sunday of the month at the Campbelltown Memorial Oval.

- The Lochend House Open Day is occurring this Sunday 7 August from 2.00 pm to 4.00 pm with a gold coin donation and Devonshire tea for $5. The floors have been upgraded and the garden is looking amazing.

Cr Flynn

- Mental Health Month is in October and there's a number of official functions (official launch on 1 October with registrations open, a 5km walk will be held on Sunday 16 October from 10.30 am to 12.30 pm and the National Symposium on Mental Health for Men on 18 October). I encourage Members to undertake the walk with me.

Cr Kennedy

- The Magill Sunrise Markets is on 14 August 2022 at the Campbelltown Memorial Oval.
- Cr McLuskey and I attended the YAC (Youth Advisory Committee) meeting last night. One Member, Ms Gul Zehra, gave a short speech at the end of the meeting praising Council for allowing her to develop her self confidence through her role on the YAC. She is now going on to study medicine and was part of the 'This is My Campbelltown' video project.

Cr McLuskey

- Advised that Ms Gul Zehra is a remarkable mature young woman who will do extremely well in her career in medicine, which reflects the calibre of the young people Council has on the YAC. Some Members of the Committee graduated this year so they had a celebration at the last Committee meeting.
- Attended the Campbelltown City Soccer & Social Club function which had a very exciting finish with a goal scored in the very last minute to provide a Campbelltown win.
- Thanked Mr Ivan-Tiwu Copley OAM for all his support in the Community.

Cr McLuskey moved and Cr Leombruno seconded that
Mr Ivan-Tiwu Copley OAM be congratulated on being awarded the Lord Mayor's NAIDOC Award for 2022.

Carried

Cr Britton-La Salle

- Attended the Pizza Festival at Brookside Cellars, which was a fantastic Community event.
- Attended the Campbelltown City Soccer & Social Club function and went on a tour of the amenities to look at how we can support an increase in female participation in soccer in the future.

13. Closure of Meeting

The time being 8.38 pm the Mayor closed the meeting.

Certified a true record .....CHAIRPERSON

Taken as read and confirmed this day .....CHAIRPERSON

4. Public Question Time

5. Business Adjourned

Nil.

6. Questions With Notice

Nil.

7. Deputations / Presentations

Nil.

8. Petition

Nil.

9. Motions on Notice

Mayor Whittaker submitted the following motion for consideration:

9.1 That Cr Leombruno be nominated for one of the positions for the Metro East Regional Grouping of GAROC.

Rationale:

Cr Leombruno is an experienced, hard working Councillor and has a lifelong interest in the eastern region. She has 12 years solid experience as a Councillor and proved herself to be a reliable, conscientious and excellent Deputy Mayor for her two year term from 2018 to 2020. She has demonstrated a keen interest in the wider issues impacting Local Government, shows agility in rising to new situations and would bring a different, new perspective to GAROC and is a very worthy candidate.

10. Recommendations from Committees

10.1 Youth Advisory Committee – Minutes, Monday 1 August 2022

https://www.campbelltown.sa.gov.au/__data/assets/pdf_file/0034/1186369/Youth-Advisory-Committee-Agenda-1-August-2022.pdf

Recommendation

That the minutes of the Youth Advisory Committee made at its meeting held on Monday 1 August 2022 be received.

Section 41

CAMPBELLTOWN
CITY COUNCIL

Minutes

Youth Advisory Committee

Minutes of the meeting of the Youth Advisory Committee held in the Council Chamber, 172 Montacute Road, Rostrevor, on

Monday 1 August 2022

Chairperson:

Ms Maria Barbaro - Youth Community Member

Members Present:

Cr John Kennedy - City of Campbelltown
Cr Johanna McLuskey - City of Campbelltown
Mr Aaron Drayton - Youth Community Member
Ms Cayleigh Stock - Youth Community Member
Ms Giulia-Giorgina Condoluci - Youth Community Member
Ms Eva Dimmell - Youth Community Member
Ms Gul Zehra - Youth Community Member
Mr Kasey Reid - Youth Community Member
Ms Amber Roshkov - Youth Community Member
Mr Isaac Oosting - Youth Community Member

Council Staff Present:

Manager Community Services & Social Development

Meeting Commenced: 6.03 pm Meeting Concluded: 8.07 pm

1. Welcome and Kaurna Acknowledgement

Welcome and Kaurna Acknowledgment read by Ms Barbaro.

2. Apologies

Nil.

3. Minutes

Mr Drayton moved and Ms Dimmell seconded that the minutes of the meeting of the Youth Advisory Committee held on Monday 6 June 2022 as printed and circulated be taken as read and confirmed.

Carried

4. Presentations

4.1 Engaging Young People through Social Media

Ms Alexia Eleni Frangos, Managing Director at Lexicon - A Creative Agency made a presentation to the Committee to discuss how to engage with young people through social media.

Ms Dimmell moved and Ms Stock seconded that the presentation by Ms Alexia Eleni Frangos, Managing Director at Lexicon - A Creative Agency be received and Ms Frangos be thanked for her presentation.

Carried

4.2 'Monica's Story'

Mr Gavin Crosby, Filmmaker and Producer of 'Monica's Story' made make a presentation to the Committee regarding this movie.

Mr Drayton moved and Ms Condoluci seconded that the presentation by Mr Gavin Crosby, Filmmaker and Producer of 'Monica's Story' be received, Mr Crosby be thanked for his presentation and the written feedback forms be emailed to him.

Carried

5. Manager Community Services & Social Development's Report

With leave of the meeting Item 5.2 was brought forward.

5.2 Feedback on 'Monica's Story' – A Short Film about Bullying and Youth Mental Health

This item was dealt with in Item 4.2 above.

5.1 Lochiel Park Golf Building Master Plan

Ms Roshkov moved and Ms Zehra seconded that the Committee provide the following feedback on the Lochiel Park Golf Building Master Plan:

- General support for the design
- Query about the practice nets and if they have moved or been removed?
- Improve signage to find the location
- Committee Members can see the potential as a venue for programs

- Staff could consider the City of Port Adelaide Regency Park and Glanville/Largs Bay sites regarding their mini golf designs and management
- Mini golf will attract more families to the site
- Make the front appealing and easy to access
- Consider expanding book a bike at this site.

Carried

5.2 Feedback on 'Monica's Story' – A Short Film about Bullying and Youth Mental Health

This item was dealt with in Item 4.2 above.

5.3 What is Happening More Broadly in the Youth Sector?

Mr Drayton moved and Mr Oosting seconded that the report be received.

Carried

5. General Business

- Cr McLuskey advised of the release of the National Study of Mental Health and Wellbeing which showed young women are experiencing higher rates of anxiety

- Ms Condoluci mentioned youth networks like YACSA, Amnesty Youth, UN Youth, Commissioner for Children & Young People, Rotary programs, SA Student Representative Council

- Ms Condoluci and Ms Stock are reviewing youth politics infographic and Staff will email Committee Members with a link provided by Ms Condoluci to the Electoral Commission of SA.

Next YAC meeting: Monday 17 October 2022 at 6.00 pm in the Council Chamber

Chairperson: Ms Roshkov

Certified a true record .....CHAIRPERSON

Taken as read and confirmed this

day of .....CHAIRPERSON

11. Reports from Officers

11.1 Draft Cats By-Law

Manager Governance & Community Interaction, Lyn Barton's Report

Purpose of Report

To facilitate Council making a new Cats By-Law.

Strategic Plan Link

Focus Area 1.4.5 Promote responsible animal ownership

Focus Area 5.1.2 Support Elected Members and Committee Members to undertake their legislative functions

Focus Area 5.3.3 Provide corporate and financial governance that meets the needs of our Community and legislative requirements

Previous Council/Committee Resolution

At its meeting on 2 August 2022, Council resolved:

> 'That Council:
>
> 1. receive the consultation report 'Draft Cats By-Law 2022 - Community Engagement Outcomes'
>
> 2. agree in principle to proceed with making By-Law No 6 – Cats, as previously presented and endorsed for consultation on 3 May 2022
>
> 3. request Staff to seek preparation of a legal practitioner certificate, National Competition Policy report, and report to the Legislative Review Committee for consideration prior to 'making' By-Law No. 6 - Cats.'

At its meeting on 19 July 2022, Council resolved:

> 'That the petition opposing the Draft Cats By-Law be received and considered further when the Draft Cats By-Law Community Engagement Outcomes report is considered by Council.'

At its meeting on 3 May 2022, Council resolved that:

> 'That Council:
>
> 1. note the feedback received from the Dog and Cat Management Board, Animal Welfare League and RSPCA

2. reaffirm its draft Cats By-Law 2022 as attached to this Report for the purposes of public consultation in accordance with Section 249 of the Local Government Act 1999 and Section 90 of the Dog and Cat Management Act 1995

3. endorse Staff utilising Approach C as the preferred approach to Community Engagement for this consultation.'

At its meeting on 18 January 2022, Council resolved that:

'1. Council endorses draft Cats By-Law 2022 as attached to the Report for the purposes of public consultation in accordance with Section 249 of the Local Government Act 1999 and Section 90 of the Dog and Cat Management Act 1995

2. the Chief Executive Officer be authorised to provide a copy of draft Cats By-Law No 6 - Cats, together with the requisite report, to the Dog and Cat Management Board as soon as practicable

3. the Chief Executive Officer be authorised to:

3.1 make copies of the draft Cats By-Law available for public inspection without charge at Council's Office during ordinary office hours, and

3.2 publish a notice informing the public of the availability of the draft By-Law in The Advertiser and on Council's website

no less than 21 days after the draft By-Law No 6 - Cats has been sent to the Dog and Cat Management Board, and their response has been received.'

Background

Chapter 12, Part 1 of the Act (Local Government Act 1999) provides direction to Councils regarding the making and management of By-Laws. In particular:

- Section 246(1) of the Act specifies, that

(1) Subject to this or another Act, a Council may make By-Laws—

(a) that are within the contemplation of this or another Act; or

(b) that relate to a matter in relation to which the making of By-Laws is authorised by the Regulations under this or another Act.

- Section 249 of the Act specifies

(3) A By-Law cannot be made unless—

(a) the By-Law is made at a meeting of the Council where at least two-thirds of the members of the Council are present; and

(b) the relevant resolution is supported by an absolute majority of members of the Council.

(4) A Council must not make a By-Law unless or until the Council has obtained a certificate, in the prescribed form, signed by a legal practitioner certifying that, in the opinion of the legal practitioner—

(a) the Council has power to make the By-Law by virtue of a statutory power specified in the certificate; and

(b) the By-Law is not in conflict with this Act.

(5) Subject to subsection (6), a By-Law comes into operation four months after the day on which it is published in the Gazette or from a later day or days fixed in the By-Law.

(6) A By-Law may take effect from an earlier day specified in the By-Law if—

(a) it revokes a By-Law without making provision in substitution for that By-Law; or

(b) it corrects an error or inaccuracy in a By-Law; or

(c) it is required for the purposes of an Act that will come into operation on assent or less than four months after assent; or

(d) it confers a benefit on a person (other than the Council or an authority of the Council) and does not operate so as—

(i) to affect, in a manner prejudicial to a person (other than the Council or an authority of the Council), the rights of that person existing before the date of commencement of the By-Law; or

(ii) to impose a liability on a person (other than the Council or an authority of the Council) in respect of anything done or omitted to be done before the date of commencement of the By-Law; or

(e) the Council has been formed by the amalgamation of two or more Councils and the By-Law (or a By-Law in substantially the same terms) was previously in force in the area of a Council that has been amalgamated.

(7) A Council must publish a notice of the making of a By-Law under this section in a newspaper circulating in the area of the Council.

Section 90(1) of the Dog and Cat Management Act 1995 also empowers Council to 'make by-laws for the control or management of dogs or cats within its area'.

Following the disallowance of a previous by-law, at its meeting on 18 January 2022, Council resolved to endorse a modified Draft Cats By-Law that had been prepared by Mr Paul Kelly, Partner, Norman Waterhouse Lawyers.

Council's solicitor prepared documentation and forwarded the by-law to the DCMB (Dog and Cat Management Board) for consideration, as per the requirements of Section 249 of the Local Government Act 1999 and Section 90 of the Dog and Cat Management Act 1995. Staff concurrently undertook consultation with the AWL (Animal Welfare League) and RSPCA (Royal Society for the Prevention of Cruelty to Animals).

Council reaffirmed its position at its meeting on 3 May 2022 and endorsed the Draft By-Law for consultation with the Community. Consultation was subsequently undertaken and Council received the Community Engagement Outcomes at its meeting on 2 August 2022, resolving to 'agree in principle to proceed with making By-Law No 6 – Cats, as previously presented and endorsed for consultation on 3 May 2022'.

Discussion

To facilitate the making of the By-Law in accordance with Section 246(1) of the Local Government Act 1999, the following documents (all attached) have been prepared by Council's solicitor for consideration by Council:

- A Legal Practitioner's Certificate
- The final draft By-Law
- A National Competition Policy review report
- A report to the Legislative Review Committee.

A Community Engagement Summary report (attached) has also been prepared by Staff to accompany the report prepared by the solicitor that will be submitted to the Legislative Review Committee.

Social Implications

Members are aware that the Community has a broad range of views regarding this matter and that some people will be disappointed or concerned about how they will comply with the By-Law if it is made.

Council resolved at its 5 July 2022 for Staff to 'prepare a report exploring options to assist low-income households with the acquisition of appropriate cat enclosures to safely contain their cats within their property'. That report is contained in the consent items of this Agenda.

The Draft Animal Management Plan also contains actions to promote and support Community Members to be responsible pet owners, including if the By-Law is made.

Environmental / Climate Change Implications

Whilst lobby groups have provided submissions negating the impact of cats on native wildlife, during this term of office, Council has received research and anecdotal evidence from a range of individuals and groups regarding the negative impact cats have on native wildlife.

Concern for native wildlife was one of the factors that influenced Council's development of a By-Law containing curfew and containment provisions; nearly 20% of submission responses and 20% of telephone survey responses noted the need to protect native wildlife and habitat.

Asset Management Implications

There are no asset management implications in relation to this report.

Governance / Risk Management

Both the Local Government Act 1999 and the Dog and Cat Management Act 1995 empower Council to make a Cats By-Law. For a By-Law to be made and provided to the Legislative Review Committee for approval, at least two-thirds of the Members of Council must be present at the meeting where the matter is considered, and Council must consider a report containing a Legal Practitioner's Certificate and National Competition Policy review report.

Section 90(5)(b)(ii) of the Dog and Cat Management Act requires Council to turn its attention to how it will effectively implement and enforce the By-Law. Council's anticipated approach to enforcement has been regularly discussed at Council during the development of the By-Law and was provided in the FAQs available during the consultation period.

Management of unowned and feral cats are not a key matter within the Draft Cats By-Law, however Members may like to note that the Local Nuisance and Litter Control Act 2016 (Sections 17(1)(a)(i)(B) and 20) empowers Council to take action with regard to animals causing an adverse effect on the amenity value of an area. Introduction of a curfew and subsequently full containment of cats through the By-Law, will assist with identifying animals that are not being supported through responsible cat management practices.

Community Engagement

The broad Community, lobby groups, organisations and other stakeholders were invited to participate in consultation during the development of the By-Law.

Regional Implications

Adelaide Hills Council's Cats By-Law requires full containment of cats, while other neighbouring Councils do not have a Cats By-Law at this time.

Economic Development Implications

There are no economic development implications in relation to this report.

Financial Implications

The establishment of a By-Law is being funded within the existing budget lines for Governance.

A future report will be required to set cat registration fees (if Council wishes to introduce a fee). The 1 December 2020 report on the previous Draft By-Law suggested a potential fee of 68% of the standard dog fees might be appropriate (based on research undertaken at the time into other Council fees). If this approach was adopted, a desexed and microchipped cat would be $27.20 ($13.60 for concession holders) or similar.

Elected Members should note that all fees collected through registration for cats will need to be expended on cat management in accordance with the requirements of the Dog and Cat Management Act 1995.

Recommendation

That:

1. pursuant to Section 246 of the Local Government Act 1999:

1.1 there being at least two-thirds of the members of Council present; and

1.2 having considered the By-Law (Cats By-Law 2022) (reproduced as an Attachment to Item 11.1 on the agenda for the meeting of Council held on 16 August 2022) in light of the National Competition Policy and the Report prepared on the National Competition Policy with respect to the By-Law (reproduced as an Attachment to Item 11.1 on the agenda for the meeting of Council held on 16 August 2022); and

1.3 having considered all submissions and recommendations made on the By-Law,

Council makes the By-Law in exercise of the powers contained in the Dog and Cat Management Act 1995 and Local Government Act 1999.

2. the Chief Executive Officer be authorised to sign the By-Law as made by Council.

3. the Chief Executive Officer be authorised to publish notice of the making of the By-Law in the *Adelaide East Herald.*

4. the Chief Executive Officer be authorised to arrange for the By-Law to be published in the *Government Gazette*.

5. the report to the Legislative Review Committee on the By-Law (reproduced as an Attachment to Item 11.1 on the agenda for the meeting of Council held on 16 August 2022), be adopted and be signed by the Chief Executive Officer on Council's behalf.

6. the Chief Executive Officer be authorised to arrange for the By-Law and all other necessary documentation to be provided to the Legislative Review Committee.

CERTIFICATE OF VALIDITY

UNDER SECTION 249(4) OF THE LOCAL GOVERNMENT ACT 1999

I, Paul St Leger Kelly of 431 King William Street, Adelaide SA 5000, being a legal practitioner within the meaning of the *Legal Practitioners Act 1981*, declare that I have examined the following by-law which The Corporation of the City of Campbelltown intends to make, being *Cats By-law 2022* and do certify that in my opinion:

(a) the said Council has the power to make the by-law by virtue of the following statutory provisions:

Dog and Cat Management Act 1995, Sections 90(1), 90(2) and 90(3);

Local Government Act 1999, Sections 246(1), 246(2), 246(3); and

(b) the by-law is not in conflict with the *Local Government Act 1999*.

DATED the 4th day of August 2022.

Paul St Leger Kelly, Legal Practitioner

By-law made under the Local Government Act 1999
and the Dog and Cat Management Act 1995

CATS BY-LAW 2022

By-law No. 6 of 2022

For the management and control of cats within the Council's area.

Part 1 – Preliminary

1. **Short Title**

This by-law may be cited as the *Cats By-law 2022*.

2. **Commencement**

This by-law will come into operation four months after the day on which it is published in the *Gazette* in accordance with Section 249(5) of the *Local Government Act 1999*.

3. **Definitions**

3.1 In this by-law:

3.1.1 **authorised person** has the same meaning as in the *Dog and Cat Management Act 1995*;

3.1.2 **cattery** means a building, structure, premises or area approved by the relevant authority pursuant to the *Development Act 1993* or the *Planning, Development and Infrastructure Act 2016* for the keeping of cats on a temporary or permanent basis;

3.1.3 **cat** means an animal of the species *Felis catus* over three months of age;

3.1.4 **effective control by means of physical restraint**, with respect to a cat, means:

3.1.4.1 the person is exercising effective control of the cat by means of a chain, cord or leash that does not exceed two metres in length restraining the cat;

3.1.4.2 the person has effectively secured the cat by placing it in a cage, vehicle or other object or structure;

3.1.5 **keep** includes the provision of food or shelter;

3.1.6 **premises** includes:

3.1.6.1 land;

3.1.6.2 a part of any premises or land;

3.1.7 **prescribed premises** means:

3.1.7.1 a cattery;

3.1.7.2 a veterinary practice;

3.1.7.3 a pet shop; or

3.1.7.4 any premises for which the Council has granted an exemption;

3.1.8 **public notice** has the same meaning as in Section 4(1aa) of the *Local Government Act 1999*;

3.1.9 **responsible for the control** means a person who has possession or control of the cat;

3.1.10 **wander at large** means, with respect to a cat, the cat is in a public place or a private place without the consent of the occupier, and no person is exercising effective control by means of physical restraint.

3.2 For the purposes of this by-law:

3.2.1 the **prescribed limit**, in respect of the number of cats to be kept on premises, is two cats;

3.2.2 the **prescribed manner** in which a cat is to be identified at all times while the cat is not effectively confined to premises of which the owner of the cat is the occupier is by means of a collar around its neck to which a tag is attached legibly setting out:

3.2.2.1 the name of the owner of the cat, or of a person entitled to possession of the cat; and

3.2.2.2 either:

(a) the address of the owner or other person; or

(b) the telephone number of the owner or other person.

Part 2 – Registration and Identification of Cats

4. **Cats Must be Registered**

4.1 Every cat must be registered under this by-law.

4.2 If a cat is unregistered, any person who owns or is responsible for the control of the cat is guilty of an offence.

4.3 If a person is guilty of an offence by reason of a cat being unregistered, the person is guilty of a continuing offence for each day that the cat remains unregistered.

4.4 A person is not guilty of an offence by reason of the fact that the cat is unregistered if:

4.4.1 less than 14 days has elapsed since the person first owned or became responsible for the control of the cat; or

4.4.2 the cat:

4.4.2.1 is travelling with the person; and

4.4.2.2 is not usually kept within the area of the Council; or

4.4.3 the person is responsible for the control of the cat only by reason of the cat being kept for business purposes at prescribed premises.

5. Registration Procedure for Cats

5.1 An application for registration of a cat must:

5.1.1 be made to the Council in the manner and form approved by the Council; and

5.1.2 nominate a person of or over 16 years of age who consents to the cat being registered in their own name; and

5.1.3 nominate, with reference to an address of premises, the place at which the cat will usually be kept; and

5.1.4 include the unique identification number assigned to the microchip implanted in the cat; and

5.1.5 be accompanied by the registration fee and, if applicable, any late payment fee set by resolution of the Council for the cat.

5.2 Subject to subparagraph 5.3, on application and payment of the registration fee and any fee for late payment of the registration fee, the Council must register the cat in the name of the person nominated and issue to that person a certificate of registration in the form approved by Council.

5.3 The Council may refuse to register a cat under this by-law if:

5.3.1 the number of cats kept or proposed to be kept at premises exceeds the prescribed limit;

5.3.2 keeping a cat at the proposed premises would be contrary to any Act, Regulation or By-law.

5.4 A cat registered in the name of a particular person must, on application to the Council, be registered in the name of some other person who is of or over 16 years of age and consents to the cat being registered in their name.

6. **Duration and Renewal of Registration**

6.1 Registration under this by-law remains in force until 30 June next ensuing after registration was granted and may be renewed from time to time for further periods of 12 months.

6.2 If an application for renewal of registration is made before 31 August of the year in which the registration expired, the renewal operates retrospectively from the date of expiry.

7. **Accuracy of Records**

7.1 The person in whose name a cat is individually registered must inform the Council as soon as practicable after any of the following occurs:

7.1.1 the cat is removed from the place recorded in the register as the place at which the cat is usually kept with the intention that it will be usually kept at some other place (whether in the area of the Council, in a different Council area or outside the State);

7.1.2 the cat dies;

7.1.3 the cat has been missing for more than 72 hours;

7.1.4 the residential address or telephone number of the owner of the cat change;

7.1.5 the ownership of the cat is transferred to another person.

7.2 Information given to the Council under this paragraph must include such details as may be reasonably required for the purposes of ensuring the accuracy of records kept under the *Dog and Cat Management Act 1995* and this by-law.

7.3 If ownership of a cat is transferred from the person in whose name the cat is individually registered, the person must give to the new owner the certificate of registration last issued in respect of the cat.

8. **Identification of Cats**

8.1 Every cat must be identified in the prescribed manner at all times while the cat is not effectively confined to premises of which the owner of the cat is the occupier.

8.2 If a cat is not identified in the prescribed manner required by paragraph 8.1, any person who owns or is responsible for the control of the cat is guilty of an offence.

8.3 A person is not guilty of an offence by reason of the fact that the cat is not identified in the prescribed manner if:

8.3.1 the cat:

8.3.1.1 is travelling with the person; and

8.3.1.2 is not usually kept within the area of the Council; or

8.3.2 the person is responsible for the control of the cat only by reason of the cat being kept, for business purposes, at prescribed premises; or

8.3.3 the Council has granted the owner of the cat an exemption from the requirements of this paragraph or an extension of time within which to comply with the requirements.

Part 3 – Cat Management and Control

9. **Cats Not to Wander at Large**

9.1 A person who owns or is responsible for the control of a cat must not allow the cat to wander at large.

9.2 A person is not guilty of an offence by reason of the fact that a cat is wandering at large if the cat is wandering at large within the designated span of hours before the designated day.

9.3 In this paragraph:

9.3.1 **designated day** means 1 January 2024;

9.3.2 **designated span of hours** means between 7:00am and 9:00pm on any day.

10. **Cats Not to be a Nuisance**

10.1 A person who owns or is responsible for the control of a cat must not allow the cat to cause a nuisance.

10.2 In this paragraph, a cat causes a nuisance if the cat, alone or together with other cats:

10.2.1 creates or is responsible for noise;

10.2.2 creates or is responsible for odour, or

10.2.3 defecates or urinates on premises without consent of the owner or occupier of the premises,

which persistently occurs or continues to such a degree that it unreasonably interferes with the peace, comfort and convenience of a person.

11. **Limit on Cat Numbers**

11.1 A person must not, without permission, keep any cat on any premises where the number of cats on the premises exceeds the prescribed limit.

11.2 Permission under this paragraph may be given if the Council is satisfied that:

11.2.1 no insanitary condition exists on the premises as a result of the keeping of cats;

11.2.2 a nuisance is not caused to any neighbour as a result of the keeping of cats on the premises; and

11.2.3 all cats kept on the premises are desexed in accordance with any requirements of the *Dog and Cat Management Act 1995*.

11.3 The prescribed limit does not apply to prescribed premises.

The foregoing by-law was duly made and passed at a meeting of The Corporation of the City of Campbelltown held on the day of 2022 by an absolute majority of the members for the time being constituting the Council, there being at least two thirds of the members present.

……
Paul Di Iulio
Chief Executive Officer

THE CORPORATION OF THE CITY OF CAMPBELLTOWN

REPORT TO COUNCIL - NATIONAL COMPETITION POLICY

CATS BY-LAW 2022
BY-LAW NO. 6 OF 2022

STATUS

This by-law has been identified as one which will not have the potential to restrict competition.

REPORT

This by-law has been reviewed in light of the National Competition Policy.

The by-law provides for the control and management of cats within the Council's area and to limit the number of cats that may be kept on premises.

The objectives of the by-law include:

(a) protecting the comfort and safety of residents in and visitors to the Council's area;

(b) limiting the number of cats kept at premises for hygiene and amenity purposes.

There is no potential to restrict competition within the provisions of Cats By-law 2022, taking into account any likely benefit or detriment to the community.

Recommendation:

That the Council, following consideration of this report with respect to National Competition Policy, adopt Cats By-law 2022 as drafted.

THE CORPORATION OF THE CITY OF CAMPBELLTOWN

CATS BY-LAW 2022
BY-LAW NO. 6 OF 2022

REPORT TO LEGISLATIVE REVIEW COMMITTEE

REASONS, OBJECTIVES AND IMPLEMENTATION

REASONS

This by-law is being made to address identified concerns in relation to the management and control of cats within the Council's area.

OBJECTIVES

To assist the Council in controlling and managing cats within the Council's area and limit the number of cats that may be kept on premises. To create a registration and identification of cats scheme, to prevent cats from wandering at large and to assist in the prevention of cat nuisance. It is desirable and useful to have this by-law.

REFERRAL

This by-law has been referred to the Dog and Cat Management Board pursuant to Section 90(5) of the *Dog and Cat Management Act 1995*. The Board was satisfied that the by-law was broadly consistent with other council cat by-laws and had no further recommendations.

CLAUSES

Clause 1: Creates the short title for the by-law namely Cats By-law 2022.

Clause 2: Creates a commencement date for the by-law, namely four months after the day on which it is published in the Gazette.

Clause 3: Defines certain terms for the purposes of the by-law, namely 'authorised person', 'cattery', 'cat', 'effective control by means of physical restraint', 'keep', 'premises', 'prescribed premises', 'public notice', 'responsible for the control', 'wander at large', 'prescribed limit' and 'prescribed manner'.

Clause 4: Provides cats must be registered and creates an offence where cats are unregistered with exceptions where the cat has been in a person's ownership or responsibility for less than 14 days, the cat is travelling with a person and is not usually kept within the Council area or a person is responsible for the control of the cat only by reason of the cat being kept for business purposes at prescribed premises.

Clause 5: Provides a registration procedure for cats. An application for registration must be made to the Council in the appropriate manner and form and nominate a person over the age of 16 years who consents to the cat being registered in their name. This clause insists that that person nominate an address at which the cat will usually be kept and include a unique identification number assigned

to the microchip implant in the cat. The application must be accompanied by the registration fee and, if applicable, any late payment fee set by resolution of the Council. This clause sets out the Council may refuse an application if the number of cats kept or proposed to be kept at the premises exceeds the prescribed limit which is defined as two cats, or if it is contrary to any act, regulation or by-law.

Clause 6: Creates the regime for the duration and renewal of registration.

Clause 7: Creates notification requirements for the owner of cats to ensure the accuracy of records.

Clause 8: Requires every cat to be identified and creates an offence where cats are not identified in the prescribed manner with exceptions where the cat is travelling with a person and is not usually kept within the Council area, the person responsible for the control of the cat is keeping the cat for business purposes and at prescribed premises, or the Council has granted an exemption.

Clause 9: Provides that a person who owns or is responsible for the control of a cat must not allow the cat to wander at large. This paragraph has no effect if the cat is wandering at large between 7.00am and 9.00pm before 1 January 2024. If the cat is found to be wandering at large between 9.00pm and 7.00am up until 1 January 2024, then clause 9.1 has effect and the owner or person responsible breaches the by-law. After 1 January 2024, persons are required to prevent their cats from wandering at large at any time.

Clause 10: Provides that a cat must not be allowed to cause a nuisance. This is further defined to provide that a cat causes a nuisance if it alone or together with other cats creates noise, odour or defecates or urinates on premises without consent. This category of nuisance must persistently occur or continue to such a degree that it unreasonable interferes with the peace, comfort and convenience of a person.

Clause 11: Limits the number of cats that may be kept without the Council's permission on any premises and provides for exemptions and conditions.

IMPLEMENTATION

The by-law will be policed by inspection, the issue of warnings, expiation notices and by prosecution if necessary. It is anticipated complaints from members of the public will bring a breach of most parts of the by-law to Council's attention.

NATIONAL COMPETITION POLICY

The Council has considered and assessed the aims and objectives of this by-law and is satisfied that this by-law will not restrict competition.

CONSULTATION

This by-law submitted to the Dog and Cat Management Board for comment. The Board made no recommendations and provided in its report to the Council dated 22 March 2022 that they were satisfied that the by-law was broadly consistent with those of other councils. Accordingly, no changes were made to the by-law as a result of the consultation with the Dog and Cat Management Board.

This by-law was advertised for public comment in accordance with Section 249 of the *Local Government Act 1999*.

In respect of providing information to the Committee regarding public consultation, Council has considered the Legislative Review Committee Information Guide and specifically Part 4 of that Guide. Attached to this report is a copy of the *Community Engagement Outcomes* report prepared with respect to the by-law. The report summarises the outcome of the consultation undertaken by Council. No changes to the by-law are proposed arising from matters raised during the public consultation process.

..... .
Paul Di Iulio
Chief Executive Officer

Attach. *Community Engagement Outcomes*

Cats By-Law 2022
Community Engagement Outcomes Report
Executive Summary

Background

At its meeting on 18 January 2022, Council endorsed Draft Cats By-Law 2022 for the purpose of public consultation. The Draft By-Law was then sent to the Dog and Cat Management Board for comment and response. Concurrently, the AWL (Animal Welfare League) and RSPCA (Royal Society for the Prevention of Cruelty to Animals) were invited to provide comment on the Draft By-Law.

The Dog and Cat Management Board advised on 22 March 2022 that the Board's delegate is 'satisfied the draft by-law is broadly consistent with those of other Councils with similar by-laws, and have no recommendations to make.'

The RSPCA response maintained its position to oppose the By-Law and reaffirmed that it would prefer that state-wide legislation be introduced for cat management. Pleasingly, whilst the RSPCA advisee that it does not prefer an individual Council By-Law approach to cat management, the RSPCA commended the Council for its interest and action in addressing cat management in its local government area.

The RSPCA acknowledged in its submission that 'full containment on an owner's property is an important element of good cat management due to the benefits in cat safety, reduced wildlife predation and reduced impact on neighbours' however requested that it be introduced through a phased introduction, applying only to cats born after the date of By-Law introduction. The submission included that the RSPCA would support containment if Council grandfathered the provision to only apply to cats born after the date that this provision applies. The AWL similarly supported this approach to cat containment in its response.

Both responses are available from the 3 May 2022 Council agenda.

Following reaffirmation of the By-Law at the 3 May 2022 Council meeting, Council undertook public consultation to gather Community perceptions regarding the by-law. The consultation period was open for 36 days (Friday 27 May – Friday 1 July 2022 inclusive).

Consultation mechanisms included:

- An independently run telephone survey of 400 City of Campbelltown residents to obtain statistically validated results with a maximum standard error of +/- 5% (and 95% confidence level). This was managed by Micromex, a reputable and experienced research and consulting company.

- Legislative written submission opportunity (response by email or letter).

The consultation was promoted via an Advertisement in the *Adelaide East Herald* on 27 May 2022 and notification on Council's website as well as the following promotional arrangements:

- Emails (866) and letters (74) distributed to registered cat owners, as well as correspondence (75) sent to neighbouring and Eastern Region Alliance Councils, Community and lobby groups, and other relevant stakeholders
- Posters and flyers (along with a display copy of the By-Law) at Council's Office, The ARC Campbelltown and Campbelltown Library; further posters and flyers at 28 local businesses
- Street promotion (3 banners and 3 corflute signs), a VMS (electronic) Message Board, digital TV signage, social media posts, display on Council's email signature and a My Local Services App spotlight promotion
- Promotion and explanatory information provided on Connect 2 Campbelltown and Council's website, and through an explanatory video on Connect 2 Campbelltown and social media
- Connect 2 Campbelltown newsletters (26 May 2022, 20 June 2022, 29 June 2022).

Participation

Valid responses were received from the following participants:

Telephone	403
Individual Submission Respondents	164
Organisation Submission Respondents	5
Connect 2 Campbelltown	4
Total Community Participation	576

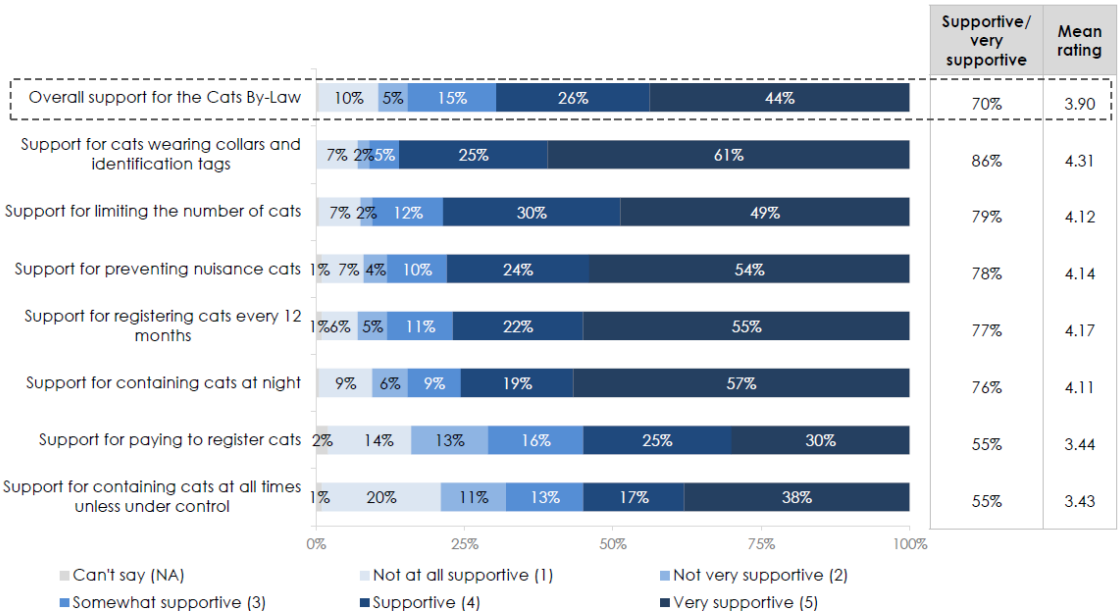
Outcomes

The statistically validated telephone survey was undertaken in accordance with ISO20252 Market and Social Research Standard accreditation and The Research Society Code of Professional Behaviour. Micromex completed 403 landline and mobile phone interviews for the project.

Key results are provided below:

- 70% of respondents advised that they were very supportive or supportive of the Cats By-Law (with the current provisions)
- 42% of respondents advised that they were aware of the Cats By-Law (with the current provisions) with residents aged 45-64 years and those who own one or more cats advising higher levels of awareness
- 58% of residents claim to have unwanted cats coming onto their property frequently or occasionally. Of the 326 respondents that claimed to have unwanted cats coming onto their property, experiences included spraying/urinating (46%), fighting with other cats (45%), defecating (44%) and noise (41%) as the most common experiences.

Summary of Overall Support and For Specific Provisions



Base: N=394-403
Note: chart labels <1% are not shown above

The most supported provision was 'Support for cats wearing collars and identification tags (86%); the least supported provision was 'Support for containing cats at all times unless under control' (55%).

Key reasons to support the By-Law included:

- Reducing instances of nuisance cats/damage to property, noise, fighting with pets etc (41%)
- Encouraging more responsible ownership e.g. same rules as dogs (27%)
- Protection of plants and wildlife (20%)

Key reasons not to support the By-Law included:

- Difficult/unnecessary to contain or control cats (19%)
- Not confident that Council can follow through / enforce the By-Law (10%)
- Have reservations / support of some measure but not all (10%)

Of the 75 people interviewed that advised they owned cats, 94% advised that their cat(s) was microchipped, 86% advised that their cat(s) was confined to their property overnight, 55% said that their cat(s) was contained during the day, and 38% advised that their cat(s) was registered with DACO (Dogs and Cats Online).

An extensive promotional campaign invited email and letter submissions during the consultation period. Valid email or letter responses were received from 173 Participants:

- Almost all individual responses were from residents within the Council area (n=165, 98%)

- 3 individual responses were from residents outside of the Council area
- 5 Organisational responses were received.

The overall support level from individuals' submissions for the Draft Cats By-Law was:

- 46% (n=78) of all Submission Participants supported the By-Law being implemented
- 40% (n=68) of all Submission Participants did not support the By-Law being implemented
- 13% (n=22) of all Submission Participants were neutral or had mixed views about the By-Law being implemented.

The following organisations also objected overall to the By-Law being introduced:

- Australian Pet Welfare Foundation
- C.A.T.S. Cats Assistance To Sterilise Inc
- Campbelltown Cat Management and Welfare Group
- Cat Adoption Foundation Incorporated
- South Aussies for Animals Inc.

At its meeting on 19 July 2022 Council received a petition with 135 valid signatories (petitioners that could be identified by unique name, address information and signature) who supported the following petition statement:

> 'We, the undersigned, petition the Mayor and Councillors of the City of Campbelltown to NOT proceed with the proposed Cats By-Law 2022.'

102 of the signatories were identified as being from the Campbelltown City Council area.

Three petitioners (all from the Council area) completed a submission and signed the petition.

Responses that objected to the By-Law or raised concerns (533 comments)

Item	Reason for objection	Individuals	Organisations	Total # of responses	Name of person (de-identified), or entity, that raised concern	Action taken by Minister or Responsible body in response to concern
1	Confinement issues - don't support, difficult to impose, should be allowed to roam	58	4	62	2, 7, 8, 9, 15, 18, 26, 28, 29, 31, 35, 45, 46, 49, 50, 56, 57, 63, 66, 69, 70, 74, 74, 83, 85, 91, 94, 96, 99, 102, 104, 107, 109, 112, 115, 119, 123, 126, 127, 129, 130, 136, 137, 140, 141, 142, 143, 147, 149, 153, 159, 160, 161, 162, 125a, 125b, 154a, 154b, 62, 64a, 64b, 68	Council has been discussing a potential transition to full containment of cats to owners' properties since June 2020 and a transition period until 1 January 2024 is incorporated into the current draft By-Law. Further education and support measures are being investigated to coincide with the by-law implementation.
2	Cat welfare concerns - trying to change current cats behaviour; worried about health if can't exercise outdoors	50	2	52	7, 8, 15, 18, 28, 29, 31, 32, 35, 45, 47, 49, 50, 57, 62, 63, 66, 67, 68, 69, 70, 74, 74, 83, 94, 96, 98, 102, 107, 110, 112, 113, 126, 127, 129, 136, 140, 141, 142, 143, 149, 151, 159, 160, 161, 162, 154a, 154b, 58a, 58b, 64a, 64b	Council will support residents with particular issues through education and regulatory services support.
3	Expense for pet owners	39	2	41	4, 15, 18, 28, 35, 46, 47, 50, 50, 57, 63, 66, 67, 68, 69, 70, 72, 74, 85, 91, 96, 98, 102, 115, 119, 129, 132, 136, 137, 141, 142, 148, 149, 158, 160, 161, 162, 125a, 125b, 154a, 154b, 62	Council will consider registration fees and support mechanisms at a future date with consideration of Community need.
4	Generally negative; waste ratepayers money; focus on other things; cats	36	2	38	2, 4, 9, 10, 12, 18, 25, 26, 28, 30, 46, 62, 66, 67, 68, 69, 70, 73, 74, 83, 93, 97,	Nil

Item	Reason for objection	Individuals	Organisations	Total # of responses	Name of person (de-identified), or entity, that raised concern	Action taken by Minister or Responsible body in response to concern
	should not be treated like dogs; cats are naturally agile etc.				98, 104, 112, 129, 130, 137, 142, 147, 148, 149, 158, 125a, 125b, 58a, 58b, C2C2	
5	Implementing the by-laws will put further strain on residents, RSPCA, AWL, Cat Rescues, prevent adoption	33	4	37	15, 18, 23, 28, 46, 47, 50, 63, 66, 68, 69, 70, 72, 74, 85, 102, 115, 119, 126, 129, 136, 137, 141, 142, 146, 148, 150, 151, 152, 159, 161, 125a, 125b, 154a, 154b, 58a, 58b, 62	State Government measures combined with education and potential support measures by Council will assist with minimising concern.
6	Curfew - don't support/want different times	22	2	24	7, 8, 23, 26, 28, 31, 34, 47, 67, 74, 76, 96, 113, 121, 122, 127, 133, 136, 137, 149, 159, 160, 154a, 154b	Education and support measures are being investigated to coincide with the by-law implementation.
7	Enforcement - concern with process; impact on residents that don't comply; don't want fines	22	2	24	7, 15, 18, 28, 47, 68, 72, 74, 74, 85, 92, 96, 98, 101, 104, 114, 115, 119, 127, 137, 151, 162, 58a, 58b	Council has established a process for policing and enforcement (similar to dog management processes). This was available during the consultation period.
8	Registration – don't support (fees or otherwise) OR should be microchipped instead and should use small organisations who offer cheap microchipping	20	4	24	10, 16, 18, 25, 28, 62, 66, 69, 70, 72, 74, 83, 85, 98, 100, 137, 146, 149, 153, 162, 58a, 58b, 64a, 64b	Registration is needed to facilitate enforcement processes and subsidise the by-law implementation.
9	Cruel/actions of others / Negative trapping reference	19	3	22	18, 26, 28, 29, 63, 67, 74, 97, 99, 116, 129, 130, 136, 137, 147, 159, 160, 125a, 125b, 154a, 154b, 68	Any cruelty or illegal trapping will be reported to relevant authorities
10	Doesn't address feral cats OR only targets	16	3	19	2, 18, 45, 68, 72, 93, 97, 108, 119, 127, 141, 148, 149, 151,	Council will work with relevant authorities to

Item	Reason for objection	Individuals	Organisations	Total # of responses	Name of person (de-identified), or entity, that raised concern	Action taken by Minister or Responsible body in response to concern
	registered cat owners and existing pets				153, 159, 162, 125a, 125b	address feral cats populations in the Council area. Transition to full confinement will facilitate effective management of this issue.
11	Safety of cats (collars/identification)	17	1	18	8, 15, 18, 25, 32, 38, 47, 67, 68, 94, 127, 129, 132, 143, 148, 160, 58a, 58b	Cats only need a collar/identification when they leave their owner's property boundary.
12	By-Law should only apply to new cats/Does not consider existing owners	17	1	18	8, 31, 57, 68, 112, 126, 132, 141, 142, 146, 151, 162, 154a, 154b, 58a, 58b, 64a, 64b	A two tier implementation process would be difficult to implement and enforce.
13	Policing/enforcement including at night	15	2	17	7, 12, 18, 45, 47, 67, 68, 74, 74, 90, 92, 96, 98, 104, 105, 127, 159	Council has established a process for policing and enforcement (similar to dog management processes). This was available during the consultation period.
14	Cat limit - disagree	13	3	16	18, 23, 25, 66, 69, 70, 72, 74, 83, 110, 137, 146, 150, 160, 62, 68	Council is limiting to 2 cats, with a permit system to manage additional cats on premises
15	Not all properties have space for an appropriate outdoor cat run/renters will not have authority to make the appropriate changes	13	2	15	18, 23, 28, 47, 49, 72, 74, 102, 132, 137, 149, 161, 162, 154a, 154b	Council has provided a transition period until 1 January 2024 to enable pet owners to implement household changes.
16	Unsure how to implement a cat not being a nuisance to neighbours/needs to	14	0	14	29, 32, 36, 47, 50, 59, 67, 68, 89, 102, 123, 126, 140, 150	A communication campaign will assist residents to understand

Item	Reason for objection	Individuals	Organisations	Total # of responses	Name of person (de-identified), or entity, that raised concern	Action taken by Minister or Responsible body in response to concern
	be defined/needs to be added to/not all cats are a nuisance					implementation of this component of the by-law better.
17	Concerns for elderly, disabled, shift workers & low socio-economic residents	10	3	13	4, 18, 46, 62, 66, 69, 70, 91, 136, 137, 148, 149, 159	Council will work with residents that need additional support and is currently investigating a support package for low income households in relation to changes.
18	Will not stop and may increase non desexed cats and increase litters	9	3	12	2, 18, 28, 32, 45, 57, 63, 68, 119, 137, 141, 159, 162	State Government legislation and Council continuing to work with relevant groups to support unhomed or semi-owned cats will minimise these concerns to the extent possible.
19	Don't agree with restraining cats	8	2	10	16, 18, 62, 68, 70, 74, 74, 136, 137, 141	Council has provided a transition period until 1 January 2024 to enable pet owners to implement household changes. Council would require cats to be under effective control when off owners' properties only.
20	Educate owners rather than enforce restrictions or fine them	6	4	10	12, 18, 28, 102, 146, 150, 152, 153, 159, C2C2	Education and communication is part of Council's future Animal Management Plan implementation.
21	Won't protect wildlife/Will increase rodent and snake issues	7	3	10	4, 18, 23, 57, 74, 74, 91, 137, 149, 159	Transition to full confinement will assist with wildlife concerns.

Item	Reason for objection	Individuals	Organisations	Total # of responses	Name of person (de-identified), or entity, that raised concern	Action taken by Minister or Responsible body in response to concern
22	Expense for Council to implement	5	3	8	2, 4, 18, 31, 98, 137, 149, 159	Nil
23	Timeframe too short - regarding 2024 changes	7	1	8	49, 50, 50, 57, 112, 119, 132, 146	Nil
24	Drafting of by-law/consultation process	3	4	7	18, 126, 132, 137, 146, 152, 153	Council's process was in accordance with legislation provisions
25	Don't support effective control provisions	4	1	5	16, 18, 41, 132, 152	Council has provided a transition period until 1 January 2024 to enable pet owners to implement household changes. Cats will only need to under effective control when they are outside of their owner's property boundary during curfew hours or after full confinement commences.
26	Focus on Desexing	2	3	5	114, 126, 137, 153, 159	State Government has legislative responsibility for this matter, however Council provides support through communication and education arrangements. This is not a by-law matter.
27	Purpose not clear	3	1	4	25, 110, 126, 132	Council's process was in accordance with legislation provisions

Responses that supported the By-Law (198 comments)

Item	Reason for support	Individuals	Organisations	Total # of responses	Name of person (de-identified), or entity, that raised concern	Action taken by Minister or Responsible body in response to concern
1	Generally good comments - agree to by-law	35		35	11, 14, 15, 37, 41, 43, 48, 65, 70, 77, 78, 79, 80, 84, 86, 88, 105, 106, 114, 120, 122, 128, 133, 134, 135, 155, 156, 103a, 103b, 13a, 13b, 20a, 20b, 60a, 60b	
2	Support - Cats impose a risk to the birds/wildlife by roaming	33		33	1, 3, 12, 14, 21, 39, 40, 42, 48, 57, 59, 65, 80, 82, 83, 86, 88, 102, 106, 108, 114, 121, 133, 135, 157, 125a, 125b, 13a, 13b, 20a, 20b, 22a, 22b	
3	Support confinement	20	1	21	5, 6, 14, 33, 42, 48, 55, 65, 80, 86, 117, 118, 121, 133, 103a, 103b, 13a, 13b, 20b, 22a	
4	Agree with Registration/ Microchipping/ Desexing	20		20	7, 8, 14, 16, 23, 29, 32, 41, 50, 55, 63, 65, 74, 80, 104, 107, 114, 123, 125a, 125b	
5	Support curfew for cats	19		18	5, 14, 21, 29, 50, 50, 66, 102, 107, 109, 121, 123, 126, 133, 135, 146, 147, 161, 125a, 125b	
6	Support due to concerns about the damage cats are doing to the environment	16		16	3, 14, 19, 21, 40, 48, 57, 86, 95, 106, 114, 133, 20a, 20b, 22a, 22b	
7	Cats should have to wear a collar with identifying information/be microchipped	12		12	5, 23, 29, 50, 55, 61, 63, 65, 121, 123, 147, 125a, 125b	
8	Tired of picking up cat droppings	9		9	6, 37, 55, 70, 117, 134, 103a, 103b, 60a, 60b	

Item	Reason for support	Individuals	Organisations	Total # of responses	Name of person (de-identified), or entity, that raised concern	Action taken by Minister or Responsible body in response to concern
9	By-Laws will decrease the amount of cats running on roads and therefore decrease distress for residents and increase safety of cats	6		6	1, 3, 39, 57, 80, 86	
10	Owner to ensure cat is not an unreasonable nuisance	6		6	5, 21, 23, 50, 74, 82, 83	
11	Agree with additional pet permit for more than 2 cats	6		6	5, 8, 29, 32, 50, 55	
12	Timeframe too long bring confinement in immediately	4		4	41, 42, 59, 105	
13	Collection of stray cats should be considered	4		4	1, 3, 82, 108	
14	Support, but council will need to increase resources for compliance, or the by-law will not be enforced correctly	4		4	14, 53, 82, 114	
15	Campbelltown has a bigger issue with strays than that of other councils	2		2	1, 3	
16	Should adopt a similar By-Law to Adelaide Hills	1		1	41	

Public Consultation participants

De-identified participants in the consultation are listed below. Some participants provided response by more than one mechanism and duplicate feedback was combined during analysis.

Campbelltown City Council residents are from the suburbs of Athelstone, Campbelltown, Hectorville, Magill, Newton, Paradise, Rostrevor and Tranmere.

Council thanks all participants for their response to this project.

ID	Name	Suburb	ID	Name	Suburb
1	Natasja	Magill	41	Anne-Marie	Magill
2	Duncan	Paradise	42	Trevor	Rostrevor
3	Ethan	Magill	43	John	Tranmere
4	Chris	Athelstone	45	Felicity	Magill
5	Felicia	Hectorville	46	Jill	Athelstone
6	Tanya	Tranmere	47	Kimberley	Tranmere
7	Anna	Rostrevor	48	Tony	Campbelltown
8	Traian	Paradise	49	Danielle	Rostrevor
9	Jack	Paradise	50	Chontelle	Athelstone
10	Casey	Athelstone	50	Katia	Tranmere
11	Brendan	Campbelltown	52	Alfred	Athelstone
12	Vanessa	Campbelltown	53	Mark	Rostrevor
13a	Julie	Paradise	54	Carmen	Paradise
13b	Kym	Paradise	55	Martin	Athelstone
14	Marc	Athelstone	56	Nathaniel	Paradise
15	Katrina	Rostrevor	57	Emma	Woodforde
16	Amy	Newton	58a	Andrea	Tranmere
17	Maureen	Newton	58b	Peter	Tranmere
18	C.A.T.S. Cats Assistance To Sterilise Inc		59	Sandra	Athelstone
19	Bradleigh	Rostrevor	60a	Kym	Athelstone
20a	Chris	Athelstone	60b	Val	Athelstone
20b	Stacey	Athelstone	61	David	Hectorville
21	Ingrid	Athelstone	62	Sarah	Campbelltown
22a	Brianna	Athelstone	63	Eleanor	Magill
22b	Lilith	Athelstone	64a	Lucia	Hectorville
23	Anne-Marie	Paradise	64b	Pellegrino	Hectorville
24	Rebecca	Magill	65	Sarah	Campbelltown
25	Cathy	Hazelwood Park	66	Sophia	Rostrevor
26	Coz	Rostrevor	67	Helen	Tranmere
27	Christine	Hectorville	68	Debbie	Newton
28	Nyree	Magill	69	Natalie	Athelstone
29	Leanne	Tranmere	70	Roslyn	Paradise
30	Abbey	Campbelltown	70	Claudia	Newton
31	Nicole	Paradise	72	Kelly	Hectorville
32	Lisa	Paradise	73	Hermione	Campbelltown
33	Greg	Rostrevor	74	Nel	Magill
34	Lia	Paradise	74	Kylie	Rostrevor
35	Sue	Tranmere	76	Nick	Paradise
36	Monika	Magill	77	Pam	Rostrevor
37	Suppressed Name	Paradise	78	Barbel	Athelstone
			79	Ruth	Campbelltown
38	Suppressed Name	Magill	80	Simone	Rostrevor
			81a	Santanu	Rostrevor
39	Cilla	Magill			
40	Susan	Athelstone	81b	Priya	Rostrevor

ID	Name	Suburb
82	Asbjorn	Athelstone
83	John	Athelstone
84	Donna	Athelstone
85	Julia	Rostrevor
86	Rob	Athelstone
87	Sue	Rostrevor
88	Sue	Paradise
89	Terry	Magill
90	Carla	Campbelltown
91	Penny	Athelstone
92	Eforia	Campbelltown
93	Jillian	Paradise
94	Sarah	Paradise
95	Derek	Athelstone
96	Jaye	Athelstone
97	Lisa	Athelstone
98	David	Rostrevor
99	Dianne	Athelstone
100	Andrejs	Campbelltown
101	Chris	Athelstone
102	Andrea	Campbelltown
103a	Judith	Magill
103b	Mark	Magill
104	Grant	Athelstone
105	Tracey	Magill
106	Julie	Athelstone
107	Gary	Magill
108	Ruth	Rostrevor
109	Audra	Rostrevor
110	Nicole	Paradise
111	Leigh	Tranmere
112	Hadyn	Magill North
113	Jo	Campbelltown
114	Alice	Athelstone
115	Heather	Paradise
116	Jo	Athelstone
117	Prajyot	Athelstone
118	Shraddha	Athelstone
119	Bianca	Rostrevor
120	Kate	Rostrevor
121	Diane	Campbelltown
122	Andrew	Medindie
123	Stephen	Campbelltown

ID	Name	Suburb
124	Barbara	Magill
125a	Andrew	Rostrevor
125b	Linda	Rostrevor
126	Anna	Athelstone
127	Christina	Paradise
128	Conrad	Athelstone
129	Pauline	Magill
130	Chris	Athelstone
131	Damian	Magill
132	Jonathan	Magill
133	Jennifer	Campbelltown
134	Maja	Hectorville
135	Elizabeth	Rostrevor
136	Jack	Athelstone
137	Campbelltown Cat Management and Welfare Group	
138	Claire	Magill
140	Sabika	Rostrevor
141	Rachael	Athelstone
142	Bronwyn	Athelstone
143	Fiona	Paradise
144	Siu ki	Tranmere
146	Cat Adoption Foundation Incorporated	
147	Sasha	Tranmere
148	Claire	Magill
149	Sue	Newton
150	Frances	Athelstone
151	Shaun	Athelstone
152	Sandra	Rostrevor
153	South Aussies for Animals Inc	
154a	Debra	Campbelltown
154b	Steven	Campbelltown
155	Anne-Marie	Magill
156	Josephine	Paradise
157	Robert	Campbelltown
158	Irene	Newton
159	Australian Pet Welfare Foundation	
160	Rowan	Magill
161	Amy	Campbelltown
162	Leejay	Campbelltown
C2C1	Louise	MAGILL, SA
C2C2	Trevor	Athelstone
C2C3	Mark	TRANMERE, SA
C2C4	Peter	CAMPBELLTOWN, SA

The full Council and Community Engagement report is available from the Council Agenda of 2 August 2022, Item 11.1 (pages 39 - 296).

https://www.campbelltown.sa.gov.au/__data/assets/pdf_file/0032/1186358/Council-Agenda-2-August-2022-Reduced.pdf

11.2 Boundary Reform Stage 2 Proposal Response

General Manager Corporate & Community Services, Michelle Hammond's Report

Purpose of Report

To advise Council of a response from the Commission (South Australian Local Government Boundaries Commission) regarding Council's Stage 2 Proposal and to seek feedback on Council's draft response.

Strategic Plan Link

Focus Area 4.3.3 Plan for change in demographics, population needs and climatic conditions

Focus Area 5.1.2 Support Elected Members and Committee Members to undertake their legislative functions

Focus Area 5.3.3 Provide corporate and financial governance that meets the needs of our Community and legislative requirements

Previous Council/Committee Resolution

At its meeting on 6 April 2021, Council resolved to:

'receive the report and:

1. note the outcomes of the consultation undertaken by McGregor Tan and the associated report

2. note the outcomes of the consultation undertaken with the City of Campbelltown residents and ratepayers

3. request Staff to prepare a Stage 2 Submission to the Boundaries Commission with respect to the boundary realignment between Campbelltown Council and Adelaide Hills Council.'

Background

The Stage 2 General Proposal was submitted to the Commission in April 2022. The Commission considered the Proposal at its meeting on 18 May 2022. A response (attached) was received from the Commission on 6 June 2022 requesting further information, which was provided to the Commission on 29 June 2022.

The Commission wrote to Council on 29 July 2022 (attached) advising that the Proposal meets the requirements of Guideline 3 and generally aligns with the Section 26 principles, and therefore an inquiry may proceed.

Discussion

The Commission is seeking feedback from both Councils (Campbelltown and Adelaide Hills) by 29 August 2022 on the outline of matters to be investigated (attached as part of the letter from the Commission). The Commission will use this outline, along with feedback provided from both Councils to formulate an estimate of costs. The Commission will then provide the estimate of cost to Council for the Inquiry at which time Council will need to determine whether they wish to proceed to, and pay for the Inquiry.

Staff have prepared a response to the Commission (attached) and are seeking Members' feedback. The draft letter to the Commission is also attached for Members' information.

Social Implications

Whilst the legislation remains untested, Staff assume that for the Boundaries Commission to support a boundary realignment, there would need to be benefits for both Communities.

AHC (Adelaide Hills Council) residents who are already associated strongly with Campbelltown (Campbelltown City Council), spend much of their time in the area having social, sports and other networks, may feel a sense of increased connection with the Campbelltown Community. AHC Residents who strongly oppose the boundary realignment and are passionate about staying as part of AHC may feel a sense of loss in moving to Campbelltown.

Environmental / Climate Change Implications

There are no environmental / climate change implications in relation to this report.

Asset Management Implications

There are no asset management implications in relation to this report.

If the boundary did change in the future there would be asset management implications for Council. Staff have not been able to obtain asset management data so are unable to determine the asset maintenance and replacement requirements, or depreciation expense at this time which would have a direct impact on the operating surplus.

Governance / Risk Management

It is important that this process continues to be managed with the utmost transparency and integrity, and in accordance with the relevant legislation.

The inquiry undertaken by the Commission will be used to form an opinion about the merit of the proposal and a recommendation to the Local Government Minister will be made.

Community Engagement

There are no Community engagement implications in relation to this particular report. Community Engagement was undertaken to inform the Stage 2 proposal.

Regional Implications

There are no regional implications in relation to this report.

Economic Development Implications

There are no economic development implications in relation to this report.

Financial Implications

There are no financial implications in relation to this report however once the Commission provides a cost estimate for the Inquiry, Council will need to make a decision as to whether it wishes to proceed. There is no funding in the current Budget for the cost of the Inquiry.

Recommendation

That the report be received and that Council endorse that the feedback on the 'outline of matters to be investigated' be provided to the Commission.

Government of South Australia
South Australian Local Government Boundaries Commission

GPO Box 2329
Adelaide SA 5001

Tel (08) 7109 7145
boundaries.commission@sa.gov.au

6 June 2022

Mayor Jill Whittaker
Campbelltown City Council
PO Box 1
CAMPBELLTOWN SA 5074

By email: mayor@campbelltown.sa.gov.au

Campbelltown City Council - Stage 2 Boundary Change General Proposal

Dear Mayor Whittaker

Thank you for the Campbelltown City Council's (the Council) Stage 2 Boundary Change General Proposal (the Proposal) submitted for the SA Local Government Boundaries Commission's (the Commission's) consideration on 14 April 2022.

The Proposal was considered by the Commission at its meeting on 18 May 2022, having regard to the requirements of the *Local Government Act 1999* (the Act) and *Guideline 3 — Submitting a General Proposal to the Commission* (Guideline 3).

The Commission acknowledges the significant work that the Council has undertaken to develop this Proposal and to address the requirements of Guideline 3.

Following an assessment of the information provided against the requirements of the Act and Guideline 3, the Commission resolved the following at its meeting on 18 May 2022:

That the Commission:

1. *Require the following further information before it will consider whether to inquire into the Campbelltown City Council Proposal:*
   a. *Further information about the advantages and disadvantages of the Proposal;*
   b. *Clear cadastral and topographic map/s of the Subject Area that clearly display the proposed boundary line relative to properties and landform and landscape features of the proposal area relative to adjacent areas of Campbelltown City Council;*
2. *Defer consideration of whether to inquire into the Proposal until the information requested is provided by the Campbelltown City Council;*
3. *Advise Campbelltown City Council that the Commission will consider the further information when received and determine whether to prepare an Inquiry Plan for the Council's consideration, and anticipates that any Inquiry that may proceed would be undertaken following the 2022 periodic local government elections; …*

The Commission would appreciate the Council providing the additional information described in point 1 by **30 June 2022.**

The Commission will then finalise its assessment of the proposal in accordance with the Act and the guidelines and determine whether or not an inquiry into the Proposal may proceed. Please note that a determination that an inquiry may proceed does not mean that the proposed boundary change will be recommended to the Minister.

If the Commission determines that an inquiry may proceed, the Commission will develop an inquiry plan and request feedback on this plan from the Council and the Adelaide Hills Council. Section 31 of the Act and *Guideline 4 – Investigation of General Proposals Initiated by Councils* sets out the process for these inquiries. This process will take approximately 4-6 weeks.

Once an inquiry plan is finalised, the Commission will develop a cost estimate in accordance with *Guideline 8 – Costs for General Proposals Initiated by a Council or Councils* for the Council's consideration. This process will take approximately 3-4 weeks. If the Council then advises the Commission that the inquiry can proceed, the Commission will procure and undertake a thorough investigation into the Proposal, which must be completed before any recommendations for boundary change are made to the Minister. The investigation will include engagement with the affected Councils and community.

Please note that a copy of this correspondence has been forwarded to Mayor Wisdom, Adelaide Hills Council and published on the Boundaries Commission's webpage.

Should you have any further queries about the information required for the Commission to complete its assessment of the Campbelltown City Council's General Proposal, please contact Mr Peter Ilee, Executive Officer of the Commission on 7109 7164 or by email to boundaries.commission@sa.gov.au

Yours sincerely

Rob Donaldson
CHAIR
SOUTH AUSTRALIAN LOCAL GOVERNMENT BOUNDARIES COMMISSION

CC: Mayor Jan-Claire Wisdom – Adelaide Hills Council

29 July 2022

Mayor Jill Whittaker
Campbelltown City Council
PO Box 1
CAMPBELLTOWN SA 5074

By email: mayor@campbelltown.sa.gov.au

Dear Mayor Whittaker

Campbelltown City Council - Stage 2 Boundary Change General Proposal

Thank you for the Campbelltown City Council's (the Council's) Stage 2 Boundary Change General Proposal (the Proposal) submitted on 14 April 2022 and the additional information provided on 28 June 2022 for the SA Local Government Boundaries Commission's (the Commission's) consideration.

At its meeting on 20 July 2022, the Commission discussed the Proposal and the additional information provided.

When discussing a Proposal, the Commission gives close consideration to the requirements of *Guideline 3 – Submitting a Proposal to the Commission* and the principles contained under section 26 of the *Local Government Act 1999* (the Act). These principles are of fundamental importance to boundary change proposals and ultimately form the basis of any recommendation that the Commission may make to the Minister.

The Commission acknowledges the significant work that your Council has undertaken to develop this Proposal in order to address the requirements of Guideline 3 and the section 26 principles.

The Commission formed the view that the Proposal meets the requirements of Guideline 3 and generally aligns with the section 26 principles. The Commission therefore determined that an inquiry into the Proposal may proceed in accordance with Section 31 of the Act and *Guideline 4 – Investigations of General Proposals Initiated by Councils*.

I must emphasise that the Commission's determination to inquire into the Proposal does not mean that the proposal has been recommended to proceed. A recommendation to the Minister regarding this Proposal can only be made once the Commission has conducted and considered the findings of an inquiry.

Section 31(1)(b) of the Act enables the Commission to appoint one or more investigators to conduct the inquiry. It is expected that the inquiry into the Proposal will require the appointment of a number of specialised investigators, given the extensive potential impact that the proposal may have on affected councils.

The appointment of investigators will be undertaken in accordance with the Act, and with *Guideline 5 – Appointment of Investigators for General Proposals*. As s 31(2) of the Act makes clear, the Commission must seek to ensure, as far as is reasonably practicable, that the qualifications, knowledge, expertise and experience of a particular investigator are relevant to the inquiry for which the investigator is being appointed.

Given this, an overview of the matters that the Commission is of the view should be inquired into for this proposal is attached. **The Commission invites your Council to comment on this document to assist the Commission to formulate an estimate of costs** that is as accurate as possible. Please provide any comments by **29 August 2022**.

In accordance with s 31(2)(b) of the Act, the Commission must also consult with councils affected by the proposal on the proposed appointment of investigators. While the Commission will therefore consult with your Council before formally appointing investigators, you may also wish to make comments on these appointments at this stage.

In accordance with *Guideline 8 - Costs*, the Commission's next step is to obtain a cost estimate for the inquiry. It is anticipated that this will be provided for the Council's consideration following the conclusion of the 2022 periodic local government elections. The Commission will not proceed with the inquiry until such time as it receives a clear direction from the Council to do so, in accordance with Guideline 8.

I also note that, if the inquiry proceeds, the engagement and consultation for an inquiry will be undertaken with the engagement principles and the mandatory requirements outlined in *Guideline 9 – Engagement and Consultation.* As part of the inquiry, an engagement and communications plan will be developed which will outline how the engagement process will proceed.

I take this opportunity to emphasise that this engagement will be extensive, and involve affected councils and their communities to ensure that the Commission is fully informed of all views. Equally, it is essential that the affected communities have the opportunity to make their views known to the Commission in the context of full information about the potential impacts of the Proposal, as these are detailed through the Commission's inquiry.

As part of any inquiry the Commission or the investigator(s) may request additional information from your Council or the Adelaide Hills Council in accordance with s 32A(1) of the Act and Guideline 4. This will allow the Commission to obtain the information it believes relevant to assist in undertaking the inquiry. Your prompt cooperation with these requests is essential to the facilitation of the inquiry.

Following the completion of an inquiry, the Commission will provide a report to the Minister that will include its recommendations in regard to the Proposal.

As set out in Guideline 9, I have notified the Adelaide Hills Council that the Commission has agreed to inquire into the Proposal.

I also advise that, under the Commission's publication policy, the information about the proposal has been made available at— www.dit.sa.gov.au/local-government/boundaries-commission.

I trust that this information is of assistance to you. If you have further questions, please contact the Commission on 7109 7164 or boundaries.commission@sa.gov.au.

Yours sincerely

Rob Donaldson
CHAIR
SOUTH AUSTRALIAN LOCAL GOVERNMENT BOUNDARIES COMMISSION

Attachment: Outline of matters to be investigated – Campbelltown City Council Boundary Change General Proposal Inquiry Plan

South Australian Local Government Boundaries Commission
Campbelltown City Council General Proposal – Outline of matters to be investigated

The following five areas will form the basis of the inquiry:

1. Financial matters
2. Land use and planning matters
3. Council employee matters
4. Representation matters
5. Community and service matters

The Commission must also design and deliver an engagement plan in accordance with Guideline 9 as part of the inquiry. The engagement plan will take the five above mentioned areas into consideration to ensure that the affected councils and communities are provided with the opportunity to make their views knows on all relevant matters.

The matters detailed below will be fully investigated in relation to the affected councils. The role and performance of similar (but not affected) councils may be included or referenced in the inquiry, so far as it informs the Commission's recommendations to the Minister for Local Government.

1. Financial Matters

Item number	Requirement	Reference in the Local Government Act/ Guideline	Matters that the investigation must cover

1	Financial implications	S 31(3)(b)(i)	• Potential impact on operating revenue for affected councils, analysing impact on:
			  ○ general rates
			  ○ service charges
			  ○ other fees and charges
			  ○ grants (particularly Financial Assistance Grants).
			  ○ any other relevant operating revenue
			• Potential impact on operating expenses for all affected councils.
			• Future financial impacts (short and long-term) on all affected councils' operating budgets if a boundary change was implemented.
			• Analysis of estimated total revenue against estimated total expenditure for affected councils.

Item number	Requirement	Reference in the Local Government Act/ Guideline	Matters that the investigation must cover
2	Division of assets and liabilities: land and buildings, plant & equipment, cash, investments, interests in any 'business activities', debtors	Guideline 4	• Identification of all council owned assets and liabilities and those in the care, control and management of each affected council. • Identify impacts that the division/loss of these assets may have both financially and in service provision for the affected councils. • Identify any issues for the affected communities that would remain as a result of the division/loss of assets. • Identify any impacts of the transfer of these assets on affected councils, including operating budgets / asset management in the context of each council's Long-term Financial Plan.
3	Impact of any significant contracts (e.g. waste management)	Guideline 4	• Identify all significant contracts held by the affected councils, and any impacts of the proposal on them.
4	Assessment of any significant differences in rating policies of the councils involved, the impacts on ratepayers and how these are to be addressed in both the short and longer term.	Guideline 4	• Identify changes in rates that may apply to rateable properties within the affected areas based on the affected councils' current rating policy. • Identify any impact of rating changes on ratepayers, and any suitable measures to address impacts in the short to medium term if necessary.
5	Assessment of any significant differences in fees and charges of the councils	Guideline 4	• Identify all fees and charges currently in place for affected councils, and the impact on councils and ratepayers from any necessary changes to these.
6	Existing grant arrangements relevant to affected area (including both Financial Assistance Grants and specific grants)	General Refer 31 (3)(b)(i)	• Identify any existing grant agreements that would be affected by this proposal. • Identify any infrastructure or general projects that have received grant funding and are not yet completed, and propose measures to transfer acquittal or reporting requirements if necessary.
7	Impact on any property based services (eg CWMS)	General Refer 31 (3)(b)(i)	• Identify property based services offered by affected councils, and the impact that a boundary change may have on the management of these services (including consideration of any applicable service charge or rate).

Item number	Requirement	Reference in the Local Government Act/ Guideline	Matters that the investigation must cover
8	Assessment of any significant differences in service levels provided by the councils	Guideline 4	• Assess the service levels provided by affected councils and identify any impact that a boundary change may have on the delivery of services to ratepayers and councils. • Propose any measures to address differences in service provision across affected areas in the short to medium term.

2. Land use and planning matters

Item number	Matter	Reference in the Act/ Guideline	Matters that the investigation must cover
1	Potential conflicts that may arise from existing patterns of land use if the proposal was implemented	Guideline 4	• Identify any significant conflicts in land use patterns, including any potential interface issues with future or existing growth areas. • Identify any land management issues that may arise with a transfer of areas– e.g. open space, stormwater, significant easements. • Review and identify any significant differences in planning policies between the affected councils • Identify any variances in development controls that may impact on development/growth if a council boundary change was implemented. • Identify current or previous planning studies and outcomes that are relevant to the affected councils/areas, including demographic, growth projections, infrastructure needs/demands. • Identify any existing or potential environmental impacts that should be considered. • Assess the capacity of the affected councils to manage significant future growth areas. • Identify any existing infrastructure deeds that may be affected by a boundary change. • Assess how the affected councils could facilitate effective and sustainable planning, development and protection of the environment if a boundary change was implemented, having particular regard to the Adelaide Hills Face Zone management. • Consider the impact of any existing land management agreements.

3. Council Employee Matters

Item number	Matter	Reference in the Act/ Guideline	Matters that the investigation must cover
1	The impact on the various rights and interests of any council employees affected by the general proposal	Section 31(3)(b)(v)	• Identify the rights and interests of council employees affected by the proposal. • Identify any significant difference in any work place agreements or conditions such as an enterprise bargaining agreement. • Propose arrangements that may need to put in place in the short to medium term to manage any impact on employees.
2	Implications for council employees, including any proposed transfer of staff and conditions of employment	Guideline 4 Refer 31(3)(b)(v)	• Identify any workforce or human resourcing issues that may result from a boundary change, including any need for transfer of staff. • Assess conditions of employment in affected councils, identify any impact of a boundary change and propose any arrangements that may be necessary to manage this.

4. Representation Matters

Item number	Matter	Reference in the Act/ Guideline	Matters that the investigation must cover
1	Impact on internal structure and representation of councils, and how this will be dealt with in the short and longer term	Guideline 4	• Identify the current representation for all areas impacted by the proposal • Recommend the future of representation of all areas that may be affected by a boundary change, with particular attention to any impact on ward quotas within affected councils • Consider any previous structural changes or reviews relating to the affected councils, and whether these have any impact or relevance to potential change arising from this Proposal. • Consider the most recent representation review completed for each council.

5. Community and Services

Item number	Matter	Reference in the Act/ Guideline	Matters that the investigation must cover
1	Community of interest	S 26(vii) and related s 26 principles	• Advise on community members' identification as members of a particular local and/or regional community • Identify any economic communities of interest that may be affected if a boundary change was implemented and what impact this might have • Assess whether a council boundary change would result in a significant division within an existing community
2	Ability of communities to access council services and relevant communication issues between councils and communities	Guideline 4	• Assess how community members in affected areas access and use services and facilities provided by their own or nearby councils • Identify any impact on this access that may arise from a boundary change • Assess current activities and engagement between affected communities and councils, including participation in local decision making, and identify any impact that a boundary change may have on these relationships • Identify existing relationships between affected councils and social, recreational and sporting groups, and the impact that a boundary change may have on this relationship or the operation of the group. • Determine if all affected councils would be in a position to offer its communities a reasonable range of services delivered on an efficient, flexible, equitable and responsive basis if a boundary change was implemented

Engagement requirements

The Commission must undertake engagement into the inquiry to meet both the requirements of the *Local Government Act 1999* (the Act) and Guideline 9.

Legislative and Guideline requirements

Section 31(3)(b) of the Act requires the Commission to consider—

- The extent of support for the general proposal within the affected community
- The extent of support for the general proposal of any council affected by the general proposal

Section 27(3)(b) of the Act requires that the Commission's guidelines must specify requirements relating to consultation that must be undertaken for the purposes of inquiries, including consultation with the community, councils affected by the proposal and entities that represent the interest of council employees affected by the proposal.

Accordingly, the Commission's Guideline 9 outlines the Commission's approach to consultation and engagement. This requires the Commission to design an Engagement Plan aligning with the engagement principles in the Guideline, and that is tailored to the engagement necessary to each Proposal.

Requirements for the inquiry

To meet the Commission's requirements, it is proposed that an investigator will be appointed to—

1. Design an Engagement Plan for the Commission's approval in relation to the Campbelltown City Council's proposal. This Engagement Plan must be in accordance with Section 31(3) of the Act and Guideline 9. This will be designed in consultation with affected councils and based on the four Engagement Principles.
2. Deliver the approved Engagement Plan and provide a report to the Commission, in accordance with s 31(4)(b) of the Act.

Enq: Paul Di Iulio
Ph: 8366 9247

Date

Mr Rob Donaldson
CHAIR
SOUTH AUSTRALIAN LOCAL GOVERNMENT BOUNDARIES COMMISSION
GPO Box 2329
ADELAIDE SA 5001

Dear Mr Donaldson

Campbelltown City Council – Stage 2 Boundary General Proposal

Thank you for your letter dated 29 July 2022 advising that the Commission (South Australian Local Government Boundaries Commission) has determined that the Proposal meets the requirements of Guideline 3 and an inquiry may proceed in accordance with Section 31 of the Local Government Act and Guideline 4.

Thank you also for the opportunity to comment on the Commission's document that details the 'Outline of matters to be investigated'. Council notes that the matters outlined are very comprehensive and Council's comments on this document are attached for the Commission's consideration.

Council also acknowledges the requirements under Section 31(3)(b) and 27(3)(b) of the Local Government Act 1999 and hopes that a statistically validated survey will be well supported by the Communities. Council is happy to provide comment on the Engagement Plan once the Investigator provides it.

In general, Council trusts the process and rigour around the investigation. Council also acknowledges that the size of the area being considered is quite small and in line with that is expecting a quote that reflects the efficient use of the Commission and the investigators time, as well as staff from both Councils, and of course offers value for money for Council's ratepayers. Council will fully cooperate with the Commission and the appointed investigators and will provide any requested information in a timely manner.

Council would like to thank the Commission for the work they have undertaken on this proposal to date, and we look forward to receiving the cost estimate for the Inquiry.

Yours sincerely

Jill Whittaker
Mayor

South Australian Local Government Boundaries Commission
Campbelltown City Council General Proposal – Outline of matters to be investigated

The following five areas will form the basis of the inquiry:

1. Financial matters
2. Land use and planning matters
3. Council employee matters
4. Representation matters
5. Community and service matters

The Commission must also design and deliver an engagement plan in accordance with Guideline 9 as part of the inquiry. The engagement plan will take the five above mentioned areas into consideration to ensure that the affected councils and communities are provided with the opportunity to make their views knows on all relevant matters.

The matters detailed below will be fully investigated in relation to the affected councils. The role and performance of similar (but not affected) councils may be included or referenced in the inquiry, so far as it informs the Commission's recommendations to the Minister for Local Government.

1. Financial Matters

Item number	Requirement	Reference in the Local Government Act/ Guideline	Matters that the investigation must cover

1	Financial implications	S 31(3)(b)(i)	• Potential impact on operating revenue for affected councils, analysing impact on:
			  ○ general rates
			  ○ service charges
			  ○ other fees and charges
			  ○ grants (particularly Financial Assistance Grants).
			  ○ any other relevant operating revenue
			• Potential impact on operating expenses for all affected councils.
			• Future financial impacts (short and long-term) on all affected councils' operating budgets if a boundary change was implemented.
			• Analysis of estimated total revenue against estimated total expenditure for affected councils.

Item number	Requirement	Reference in the Local Government Act/ Guideline	Matters that the investigation must cover
2	Division of assets and liabilities: land and buildings, plant & equipment, cash, investments, interests in any 'business activities', debtors	Guideline 4	• Identification of all council owned assets and liabilities and those in the care, control and management of each affected council. • Identify impacts that the division/loss of these assets may have both financially and in service provision for the affected councils. • Identify any issues for the affected communities that would remain as a result of the division/loss of assets. • Identify any impacts of the transfer of these assets on affected councils, including operating budgets / asset management, and capital works programs in the context of each council's Long-term Financial Plan. • Idenfity any impacts of the transfer of these assets on affected councils and their communities with respect to servicing and managing assets during emergencies, eg flooding, trees across roads, closing roads
3	Impact of any significant contracts (e.g. waste management)	Guideline 4	• Identify all significant contracts held by the affected councils, and any impacts of the proposal on them.
4	Assessment of any significant differences in rating policies of the councils involved, the impacts on ratepayers and how these are to be addressed in both the short and longer term.	Guideline 4	• Identify changes in rates that may apply to rateable properties within the affected areas based on the affected councils' current rating policy. • Identify any impact of rating changes on ratepayers, and any suitable measures to address impacts in the short to medium term if necessary.
5	Assessment of any significant differences in fees and charges of the councils	Guideline 4	• Identify all fees and charges currently in place for affected councils, and the impact on councils and ratepayers from any necessary changes to these.
6	Existing grant arrangements relevant to affected area (including both Financial Assistance Grants and specific grants)	General Refer 31 (3)(b)(i)	• Identify any existing grant agreements that would be affected by this proposal. • Identify any infrastructure or general projects that have received grant funding and are not yet completed, and propose measures to transfer acquittal or reporting requirements if necessary.

7	Impact on any property based services (eg CWMS)	General Refer 31 (3)(b)(i)	• Identify property based services offered by affected councils, and the impact that a boundary change may have on the management of these services (including consideration of any applicable service charge or rate).

Item number	Requirement	Reference in the Local Government Act/ Guideline	Matters that the investigation must cover
8	Assessment of any significant differences in service levels provided by the councils	Guideline 4	• Assess the service levels provided by affected councils and identify any impact that a boundary change may have on the delivery of services to ratepayers and councils. • Propose any measures to address differences in service provision across affected areas in the short to medium term.
Campbelltown Council Comment			
• Council supports the Financial Matters investigation topics with the suggested additions in Item 3 • Council notes that the asset information to be investigated is a critical piece of information which to date Council has been unable to source • Council notes that AHC will suffer a loss in rates income under this proposal (offset by relevant operating expenses) and Council welcomes the investigator/Boundaries Commission comments on models that may assist with transitioning this impact			

2. Land use and planning matters

Item number	Matter	Reference in the Act/ Guideline	Matters that the investigation must cover
1	Potential conflicts that may arise from existing patterns of land use if the proposal was implemented	Guideline 4	• Identify any significant conflicts in land use patterns, including any potential interface issues with future or existing growth areas. • Identify any land management issues that may arise with a transfer of areas– e.g. open space, stormwater, significant easements. • Review and identify any significant differences in planning policies between the affected councils • Identify any variances in development controls that may impact on development/growth if a council boundary change was implemented. • Identify current or previous planning studies and outcomes that are relevant to the affected councils/areas, including demographic, growth projections, infrastructure needs/demands. • Identify any existing or potential environmental impacts that should be considered. • Assess the capacity of the affected councils to manage significant future growth areas. • Identify any existing infrastructure deeds that may be affected by a boundary change. • Assess how the affected councils could facilitate effective and sustainable planning, development and protection of the environment if a boundary change was implemented, having particular regard to the Adelaide Hills Face Zone management. • Consider the impact of any existing land management agreements.

Campbelltown Council Comment
Council supports the matters suggested for investigation and notes the Council resolution on 17 November 2020 which states: 'That Council reaffirms its commitment to maintaining the current development controls contained in the Adelaide Hills Council Development Plan for the areas of Rostrevor, Woodforde and Hamilton Hill should there be a boundary realignment which brings these areas into Campbelltown Council.' Council acknowledges that the State Government is responsible for planning law within the state, and that Councils can lobby and/or influence these laws through their Development Plan Amendments. Campbelltown agrees that this is the correct zonings for this area and commits to maintaining these zonings. Council believes that the provisions of this zone and relevant overlays in the Rostrevor araa will retain the wide frontages, large allotments and low densities, which currently characterise this unique locality.

3. Council Employee Matters

Item number	Matter	Reference in the Act/ Guideline	Matters that the investigation must cover
1	The impact on the various rights and interests of any council employees affected by the general proposal	Section 31(3) (b)(v)	• Identify the rights and interests of council employees affected by the proposal. • Identify any significant difference in any work place agreements or conditions such as an enterprise bargaining agreement. • Propose arrangements that may need to put in place in the short to medium term to manage any impact on employees.
2	Implications for council employees, including any proposed transfer of staff and conditions of employment	Guideline 4 Refer 31(3)(b)(v)	• Identify any workforce or human resourcing issues that may result from a boundary change, including any need for transfer of staff. • Assess conditions of employment in affected councils, identify any impact of a boundary change and propose any arrangements that may be necessary to manage this.
Campbell town Council Comment			
• Council supports the matters suggested for investigation however confirms that there will be no impact to employees of Campbelltown Council. Council considers that due to the small size of the subject area it will be able to manage it within its existing staff complement and there will be no requirement to transfer any Adelaide Hill's Council staff across. As such Council considers that both Items 1 and 2 will have no impact on Campbelltown Council.			

4. Representation Matters

Item number	Matter	Reference in the Act/ Guideline	Matters that the investigation must cover
1	Impact on internal structure and representation of councils, and how this will be dealt with in the short and longer term	Guideline 4	• Identify the current representation for all areas impacted by the proposal • Recommend the future of representation of all areas that may be affected by a boundary change, with particular attention to any impact on ward quotas within affected councils • Consider any previous structural changes or reviews relating to the affected councils, and whether these have any impact or relevance to potential change arising from this Proposal. • Consider the most recent representation review completed for each council.
Campbelltown Council Comment			
• Council supports the matters suggested for investigation			

5. Community and Services

Item number	Matter	Reference in the Act/ Guideline	Matters that the investigation must cover
1	Community of interest	S 26(vii) and related s 26 principles	• Advise on community members' identification as members of a particular local and/or regional community • Identify any economic communities of interest that may be affected if a boundary change was implemented and what impact this might have • Assess whether a council boundary change would result in a significant division within an existing community
2	Ability of communities to access council services and relevant communication issues between councils and communities	Guideline 4	• Assess how community members in affected areas access and use services and facilities provided by their own or nearby councils • Identify any impact on this access that may arise from a boundary change • Assess current activities and engagement between affected communities and councils, including participation in local decision making, and identify any impact that a boundary change may have on these relationships • Identify existing relationships between affected councils and social, recreational and sporting groups, and the impact that a boundary change may have on this relationship or the operation of the group. • Determine if all affected councils would be in a position to offer its communities a reasonable range of services delivered on an efficient, flexible, equitable and responsive basis if a boundary change was implemented

Campbelltown Council Comment
• Council supports the matters suggested for investigation and notes that given the size of the subject area it is comfortable and confident that it can deliver efficient, flexible, equitable and responsive services to the residents of this area. • Council notes that welcoming the residents from the subject area into the council area will provide them with the right and opportunity to be involved in local decision making.

Engagement requirements

The Commission must undertake engagement into the inquiry to meet both the requirements of the *Local Government Act 1999* (the Act) and Guideline 9.

Legislative and Guideline requirements

Section 31(3)(b) of the Act requires the Commission to consider—

- The extent of support for the general proposal within the affected community
- The extent of support for the general proposal of any council affected by the general proposal

Section 27(3)(b) of the Act requires that the Commission's guidelines must specify requirements relating to consultation that must be undertaken for the purposes of inquiries, including consultation with the community, councils affected by the proposal and entities that represent the interest of council employees affected by the proposal.

Accordingly, the Commission's Guideline 9 outlines the Commission's approach to consultation and engagement. This requires the Commission to design an Engagement Plan aligning with the engagement principles in the Guideline, and that is tailored to the engagement necessary to each Proposal.

Requirements for the inquiry

To meet the Commission's requirements, it is proposed that an investigator will be appointed to—

1. Design an Engagement Plan for the Commission's approval in relation to the Campbelltown City Council's proposal. This Engagement Plan must be in accordance with Section 31(3) of the Act and Guideline 9. This will be designed in consultation with affected councils and based on the four Engagement Principles.
2. Deliver the approved Engagement Plan and provide a report to the Commission, in accordance with s 31(4)(b) of the Act.

11.3 Feasibility of Consulting the Community regarding Speed Limit Reduction on Stradbroke Road between Baroota Avenue, Rostrevor and Gorge Road, Newton

Senior Transport Officer, Clive Harrington's Report

Purpose of Report

To consider changing the remainder of Stradbroke Road to the 50 km/h Default Urban Speed Limit.

Strategic Plan Link

Focus Area 1.4.2 Manage and encourage safe movement within our City

Focus Area 1.4.4 Promote community safety and respond to concerns

Previous Council/Committee Resolution

At its meeting on 17 May 2022, Council resolved:

> 'That Staff prepare a report on the feasibility of the whole of Stradbroke Road becoming a 50 km/h zone.'

At its meeting on 7 December 2021, Council resolved:

> 'That Council:
>
> 1. receive the Stradbroke Road Speed Reduction (60kmh to 50kmh) – Morialta Road to Baroota Avenue - Community Engagement Outcomes and endorse reducing the speed to 50km/h in this section of Stradbroke Road, for the purposes of further discussion with Adelaide Hills Council and the Department for Infrastructure and Transport.
>
> 2. endorse Staff collaborating with Adelaide Hills Council and the Department of Environment and Water, to address the road condition and safety concerns raised in this consultation and prepare a further report for Council's consideration.'

At its meeting on 16 February 2021, Council resolved:

> 'That Council request Staff conduct community consultation to determine the level of support for a reduction of the speed limit at Stradbroke Road between Morialta Road and Baroota Terrace from 60 km/hr to 50 km/hr.'

At its meeting on 16 June 2020, Council resolved:

> 'That Council:
>
> 1. receive the consultation outcome report noting that the majority of participants do not support a speed reduction from 60kmh to 50kmh on Stradbroke Road therefore Council determines that the section between Montacute Road and Gorge Road retains a speed limit of 60kmh

2. whilst noting the community response in this report delay considering the reduction in speed limit between Montacute Road and Morialta Road until the Campbelltown Transport Plan (Southern Section) is considered by Council following Public Consultation

3. refer the suggestions provided to improve traffic flow and safety on Stradbroke Road to Staff to investigate in conjunction with the development of the Campbelltown Transport Plan (Southern Section).'

Background

Stradbroke Road is a sub-arterial road with an overall length of 2.8 km. The road spans from Thorndon Park Reservoir in the north to Morialta Road at the southern end. Being one of Council's longer roads, Stradbroke Road traverses multiple precincts that can be characterised by three diverse sections.

Section 1 - Hamilton Terrace to Gorge Road
Section 2 - Gorge Road to Baroota Avenue
Section 3 - Baroota Avenue to Morialta Road

A plan of the entire length of Stradbroke Road displaying these three sections is shown in Figure 1 below.

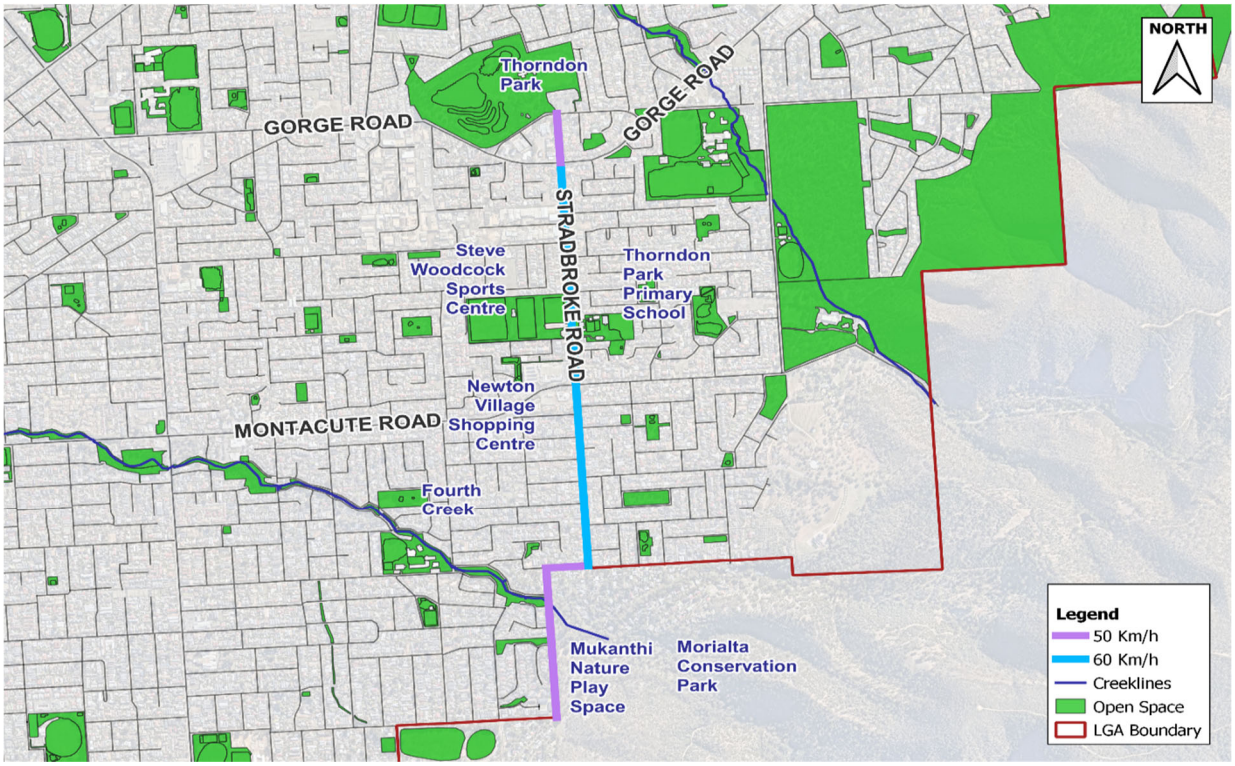


Figure 1. Showing 3 sections of Stradbroke Road.

Staff conducted a consultation process in March / April 2020, to determine the level of support for reducing the speed limit on Stradbroke Road from Gorge Road to Morialta Road to 50km/h. DIT (Department for Infrastructure and Transport) at that time endorsed a speed reduction between Morialta Road and Montacute Road.

The consultation determined the following results that are relevant to this report:

- 620 people participated in the consultation, with high participation from Rostrevor (40%), Athelstone (30%) and Newton (10%) residents

- Only 40% of participants supported speed reduction for the roadway between Gorge Road and Morialta Road

- 'Stradbroke Road is a main access road' was the key reason participants did not support the speed reduction (277 of 313 participants that provided comment). 71 participants also commented that they felt that changing the speed limit would create new issues that currently do not exist; 17 participants supported a speed reduction around Morialta Playground but not the whole of Stradbroke Road.

- 9 Participants supported a speed restriction on Stradbroke Road between Gorge Road and Montacute Road only.

After considering the feedback, Council resolved at its meeting on 16 June 2020 to retain the speed limit on Stradbroke Road between Montacute Road and Gorge Road at 60km/h, and delay further decision making on the speed limit for the road south of Montacute Road until consultation outcomes for the Council Transport Plan (Southern Section) had been considered.

Consultation for the Campbelltown City Council Transport Plan (Southern Section) was a two-stage process. Stage 1 occurred during February/March 2020 and Stage 2 followed in June 2020.

Most recently, Council, together with Adelaide Hills Council, consulted on the section of Stradbroke Road between Baroota Avenue and Morialta Road. Following further consultation, both Councils endorsed lowering the speed limit of this section of Stradbroke Road, from 60 to 50 km/h in April 2022.

Discussion

A summary of the sections of Stradbroke Road are individually discussed below.

Section 1 - Hamilton Terrace to Gorge Road is 200m long with a speed limit of 50 km/h and is classified a Minor Collector Road within Council's Road Hierarchy.

This section of Stradbroke Road primarily services a retail and commercial precinct on the western side and residential housing on the eastern side.

The road environment is subjected to higher pedestrian volumes accessing the businesses, residential properties and on weekends/school holidays, Thorndon Park Reserve.

Additionally many vehicles compete for on street parking to access the adjacent businesses and residential housing which generally creates a slower feel for this section of the road. Refer to Figure 2 below showing the view towards Hamilton Terrace with Thorndon Park in the background and The Rezz Hotel to the left. Hamilton Terrace is currently under construction transforming the streetscape to complement the main access to Thorndon Park.

Figure 2. Stradbroke Road (section 1) looking towards The Rezz Hotel and Thorndon Park

Section 2 - Gorge Road to Baroota Avenue is 1.8 km in length with a speed limit of 60 km/h, it is classified as a Council Sub Arterial Road.

The layout of this section, in particular Gorge Road to Montacute Road, is delineated with a central painted median and parking bays on both sides. Road width (kerb to kerb) varies between 10 to 12.5 metres over the length of this section of Stradbroke Road.

This section of road connects through to the Steve Woodcock Sports Centre, Thorndon Park Primary School and the Newton Village Shopping Precinct. Due to the nature of this precinct, traffic generating activities occur throughout the entire week.

Figure 3 below looks south between Thorndon Park Primary School and Steve Woodcock Sports Centre.

The Thorndon Park Primary School PAC (Pedestrian Actuated Crossing) was installed in 2019 replacing the existing Koala Crossing. This new crossing improves pedestrian safety during the school peak hours and throughout the entire week, whilst also catering for soccer activities and functions at the Steve Woodcock Sports Centre.

Figure 3. Stradbroke Road between Thorndon Park Primary School and Steve Woodcock Sports Centre, PAC in the background

Figure 4 below shows an image of Stradbroke Road, between Montacute Road and Baroota Avenue, looking south towards Baroota Avenue.

Figure 4. Stradbroke Road looking south towards Baroota Avenue

Section 3 - Baroota Avenue to Morialta Road totals 900 metres in length, with a speed limit of 50 km/h and is classified as a Council Sub Arterial Road.

This section of Stradbroke Road is adjacent the Morialta Park, (Mukanthi Nature Play Space), and includes the short section (120m in length) from Porter Terrace to Baroota Avenue.

Since the opening of the Mukanthi Nature Play Space in September of 2017, this popular Park now draws patrons from all over Adelaide increasing congestion on the adjacent road network with parking and pedestrians (mostly children and families) attending the Park.

Figure 5 below shows the section of Stradbroke Road looking north towards Fourth Creek with Morialta Park, Mukanthi Nature Play Space to the right.

Figure 5. Looking north towards the Fourth Creek / Morialta Park

Generally speaking when reducing the speed limit on a road, Council must consider the function of the road and its classification within the road hierarchy. DIT are the approving authority for speed limits on South Australian roads.

Following the most recent consultation to lower the speed limit on Stradbroke Road between Baroota Avenue and Morialta Road, DIT endorsed the change after considering a number of factors including the popularity of the newly created Mukanthi Nature Play Space.

Although Stradbroke Road is one continuous road, it is somewhat disjointed between Baroota Avenue and Porter Terrace. The average road user may not realise that they are travelling on the same road through this area. This 'break' in the road's connectivity was also a consideration to lowering the speed limit between Baroota Avenue and Morialta Road as it does not feel as though it is the continuation of the same road.

One of the primary reasons for the Community not supporting the previous consultation for a speed reduction for the complete length of Stradbroke Road was that Stradbroke Road is a main access road, aligning with the feel of the road as a Sub Arterial Road under Council's road hierarchy. This is significantly evident through section 2 of the road (Gorge Road to Baroota Avenue).

Council has recently adopted and is progressively implementing the CCTP (Campbelltown Council Transport Plan (Southern Section)), which covered all of Campbelltown south of Montacute Road, including this section of Stradbroke Road. The CCTP included broad consultation on all transport matters including vehicle speed. Some of the comments received during the CCTP were from the Stradbroke Road speed limit review consultation held in April 2020.

Given the recent consultations regarding speed along Stradbroke Road, Staff recommend that Council consider a Transport Plan for the northern section of the City for future budget consideration. This would include the northern section of Stradbroke Road, from Hamilton Terrace to Montacute Road. The Transport Plan consultation process may raise public support to reduce the speed limit on Stradbroke Road and provide an opportunity to investigate this matter further. Staff will seek a quotation to develop the CCTP (Northern Section) and provide a further report to Council as part of a future budget formulation process.

Social Implications

The functionality of a road changes with its surrounding environment. The primary use of a Sub Arterial road is to accommodate both through traffic and traffic generated by facilities accessed by the road. Stradbroke Road provides connection to schools, sporting/recreational facilities, commercial/retail precincts and residential properties. Balancing all these functions while providing suitable space for their diverse characteristics can be challenging, however a best-fit solution can enhance social wellbeing.

Environmental / Climate Change Implications

There are no environmental / climate change implications in relation to this report.

Asset Management Implications

There are no asset management implications in relation to this report.

Governance / Risk Management

There are no governance / risk management implications in relation to this report.

Community Engagement

If a speed reduction for Stradbroke Road is considered appropriate, consultation with the Community and DIT would need to occur. It is also important to note that DIT are the approving authority for speed limits on South Australian roads.

Regional Implications

There are no regional implications in relation to this report.

Economic Development Implications

There are no economic development implications in relation to this report.

Financial Implications

There are no financial implications in relation to this report.

Recommendation

That Council:

1. **defer further speed limit consultations for Stradbroke Road until the Campbelltown Council Transport Plan (Northern Section) has been completed, and**

2. **consider the development of the Campbelltown Council Transport Plan, (Northern Section) at the time of formulating the draft 2023/2024 Annual Business Plan and Budget.**

11.4 Performing Arts Centre

General Manager Corporate & Community Services, Michelle Hammond's Report

Purpose of Report

To provide an update on the process for the PAC (Performing Arts Centre) and consider the next stage.

Strategic Plan Link

Focus Area 1.3.2 Support the arts

Focus Area 1.5.1 A connected Community with people engaged in meaningful activities

Focus Area 3.4.1 Provide facilities that support Community groups, clubs, organisations and broader Community needs

Previous Council Resolution

At its meeting on 2 November 2021, Council resolved:

> 'That Council provide 'in-principle' support for the establishment of a Performing Arts Centre on the site of the Morialta Secondary College, subject to:
>
> - Community support (to be determined through a Community consultation process)
>
> - a satisfactory agreement being reached between Council and the Department for Education to meet Council's needs, and
>
> a Prudential Report supporting the proposed development'.
>
> At its meeting on 3 August 2021, Council resolved the following unanimously:
>
> '1. Council endorses the following base concept for a Performing Arts Centre and that Staff engage a suitably experienced architect to develop a concept design and costings for this venue:
>
> - a 380 seat, and a 500 seat capacity theatre with a combination of fixed and retractable seating to enable flexible use of the space
> - a proscenium arch theatre with a fixed stage with a minimum size of 10m x 12m
> - a base level of technical equipment (sound and lighting) that is sufficient for most users to hire the theatre, and that provides capacity for other users to hire and bring in additional equipment they require
> - a fly system (can be partial or full and should be separately costed)
> - appropriate acoustic treatments
> - sufficient wing space
> - appropriate and accessible loading dock

- a secondary space, at least the same size as the stage, to be used as a rehearsal space, a secondary performance space (with stackable chairs), or other uses
- a large foyer that could be used as a gallery and meeting space
- storage
- appropriately sized dressing rooms
- environmental sustainable design
- a servery area which could be used as a box office/canteen
- appropriate number of meeting/break out rooms; one of these potentially acoustically treated to allow for a live orchestra, or recordings, and
- fully accessible facilities including changing places, and

2. Staff continue to engage in discussions with the Department for Education to determine whether a Performing Arts Centre can be constructed at the site for the new school at Rostrevor that meet the needs of both Council and School Communities, and

3. a further report be prepared for Council when the concept design and costings are available.'

At its meeting on 18 August 2020, Council resolved:

'That Council support the engagement of consultants to undertake a Feasibility Study (including a business case) for a Performing Arts Centre with a fully operational theatre with the following attributes:

- 350 to 500 seat capacity with retractable seating
- Suitable for dance concerts, cabarets, performances
- Multi-use and flexible space
- Includes stage, wings, loading docks, dressing rooms
- Gallery space in the foyer (with the foyer itself being a feature)
- A canteen/café/servery space
- Appropriate and ample power sources
- Base technology (eg sound and lighting) with capacity for hirers to bring in additional technology
- Ample storage
- ESD (Environmental Sustainable Design) Principles and a five star Greenstar rating.'

Background

As Members are aware, DfE (Department for Education) have developed a design on the MSC (Morialta Secondary College) site that enables Council to build up to a 500 seat PAC on the site. The PAC would be a 'Community Facility' and as such would be completely separate and distinct from the School PAC. The PAC would be a fully functional and independent facility, with the School PAC having a smaller Theatre (approximately 200 seats), some dance/rehearsal studios, and a VET Kitchen.
Staff have continued discussions with DfE and have been working through the Draft Heads of Agreement and the first stage of the draft design. This report will provide an update on the progress of this and discuss the next steps.

Council has also received a letter from the Hon Blair Boyer, Minister for Education, Training and Skills (attached) to confirm the State Government's commitment to the construction of Council's PAC at the School site.

Discussion

DfE provided a Draft HOA (Heads of Agreement) to Council Staff which Staff reviewed and then sought legal advice. The draft HOA emphasises the partnering nature of the agreement and sets out who is responsible for costs, maintenance, improvements, right of access and who retains the income for each PAC. Staff provided a revised version of the draft HOA to DfE on 24 June 2022 and are awaiting feedback on the document. This document is key to the project as it clearly sets out how the two centres will operate together and independently, and Staff consider it is critical that this document is agreed upon prior to any further work commencing.

Staff have also been seeking a meeting with the appointed Principal of MSC to talk through the logistics and use of the school site. DfE have advised that the Principal is very supportive of the proposed partnership and suggested a meeting between both parties would be useful to determine which ancillary rooms associated with the School PAC will be available for Council to use (eg music/recording rooms etc). A meeting is yet to be organised by DfE with the Principal and Staff consider this meeting is critical to moving forward with the project.

An extensive body of work has been undertaken to develop a draft design and cost estimate for the PAC (attached). This work was undertaken by architects Brown Falconer and Thomson Rossi supported by a team of consultants including engineers, theatre experts, cost consultants, interior designers, acoustic and sound specialists, audio visual and theatre designers, surveyors, environmental specialists and landscape architects. Staff have attended several meetings with this team to fine tune the design and discuss issues as they arose such as car parking, loading dock position and tree removal.

It is important for Members to note the following features of the report which are changes to the original draft design:

- *Cost:* The proposed cost of the draft design is approximately $30 million. Council previously consulted on a construction cost (and associated depreciation) of $24 million so Staff recommend consulting with the Community to ask if they support the construction of the PAC at the higher cost. Costings have been based on current costs, which are higher due to the current economic climate, and also based on a current PAC that is being constructed at Trinity College which provides a level of confidence with regards to their accuracy. This cost and associated depreciation have been modelled in to the LTFP (Long Term Financial Plan) and Council has several options within the model to fund the PAC while still maintaining financial sustainability over the life of the LTFP

- *Carpark:* The original design by DfE included an underground carpark suitable for 100 cars, which was underneath both the PAC and the School PAC. DfE advised that it was no longer viable to have a carpark under their site. As such, to reduce costs and to avoid having a two storey underground carpark, Staff agreed to having an underground carpark that housed 60 vehicles. This means that during school hours the maximum number of patrons able to use the PAC would reduce from 500 to 300. This was not considered an issue due to the type of programs and shows that are likely to be offered during school terms during the day. In school holidays, on weekends, and generally out of school hours during school terms, capacity will return to the maximum of 500, as the overflow parking in the school will be available for use

- *Trees:* it was identified that seven trees would be required to be removed for construction of the PAC to occur (see page 14 of the attached design report). Replacement planting is planned once construction is complete

- *Loading dock:* The loading dock is proposed to be situated on the St Bernards Road frontage and provides direct ramp access from Morialta Road West to the back of the Theatre. This is an excellent outcome for the PAC and its users. An architectural veil element is planned to create a visual statement to St Bernards Road, which should address the concerns raised by DfE regarding the aesthetics of a loading dock in this location

- *Orchestra Pit:* It was identified during the process that an Orchestra Pit would be an attractive addition if possible. The existence of an underground carpark provides an easy option for a fixed orchestra pit to be included in the design at a cost of approximately $100,000. Staff support the inclusion of an orchestra pit as it provides greater usability of the PAC and addresses feedback from some groups across broader Adelaide that they would not hire the PAC without a pit.

In addition to the above work, Staff have also obtained a financial model to estimate the annual operating costs for the PAC. BRM Advisory were engaged to prepare the financial model and determined than on average the operating costs would be approximately $400,000 per annum. This is based on current costs, information gathered from operating theatres in metropolitan Adelaide and a draft Program for the PAC. The draft Program includes an Anchor Tenant (yet to be sourced), similar to the model used at The ARC. The adopted LTFP has $200,000 per annum included for operating costs; Staff recommend that the Community should also be consulted on the increase in expected operating costs.

The next stage in the process is to prepare a design suitable for submission to SCAP, Design Development and Documentation and pre-tender estimate and Construction Phase services. The cost of this work combined is approximately $2 million.

Given the cost of this work and the increase in construction and operating costs, combined with the fact that Staff are still waiting on information from DfE, Staff suggest it would be prudent to adopt the attached design for the purposes of public consultation. As Council are about to enter the Caretaker period, this consultation would need to wait until after the Council Elections in November.

Social Implications

There is much evidence that arts and culture, and performing arts in particular, builds Community pride and identity, inspires Community and civic participation and creates a culture of inclusion. It also contributes to Community connectedness, wellbeing and resilience.

Environmental / Climate Change Implications

In line with the Council resolution the PAC will be built with ESD (Environmental Sustainable Design) Principles and a five star Greenstar rating.

The attached report states that ESD obligations will be targeted as required through Council, Department of Infrastructure and Transport and DfE Guidelines with respect to sustainability initiatives and performance across building envelope design, operational costs, greenhouse gas emissions and minimum 5 Star Green Star Design. ODASA principles will also be addressed in detail during the SCAP design process, across the criteria of Context, Inclusivity, Durability, Value, Performance and Sustainability.

Asset Management Implications

Under the proposed model Council will capitalise the construction of the PAC. Council will be the managing tenant of the PAC and will be responsible for maintenance and operating costs.

Governance / Risk Management

The previous resolution of Council provides in principle support for a PAC at the MSC site provided that a Prudential Report supported the project. The Prudential Report would provide Council and the Community with assurance around the process and the project.

Community Engagement

Community Engagement was undertaken to determine whether the Community supported construction of a PAC at the MSC site for a construction cost of $24 million.

As the construction cost has increased to $30 million (and associated depreciation will also increase), and the operating cost per annum is greater than that contained within the adopted LTFP, Staff consider it would be prudent and appropriate to consult with the Community again to see if they support the PAC with the new information available, before committing to spending further funds on the PAC.

Regional Implications

A PAC is expected to attract patrons from across the metropolitan area.

Economic Development Implications

A PAC is expected to increase economic activity within the Council area as patrons using the PAC may shop and eat in the area.

Financial Implications

The construction cost of the PAC would be capitalised and depreciated accordingly. If the Community, and ultimately Council, support the construction of the PAC, the construction cost would be funded from Council's existing cash balances and the LTFP will be updated to reflect the required depreciation expense.

Ongoing maintenance and operating costs would need to be included in future budgets once determined. Council would need to determine the most efficient way to fund these expenses.

Recommendation

That Council endorse the Community Performing Arts Centre Concept Plan for the purpose of Community consultation.

PART 0 REPORT

CAMPBELLTOWN CITY COUNCIL COMMUNITY PERFORMING ARTS FACILITY

Government of South Australia
Department for Infrastructure and Transport

Government of South Australia
Department for Education

OFFICE FOR DESIGN + ARCHITECTURE

CAMPBELLTOWN CITY COUNCIL

RLB Rider Levett Bucknall

KBR

aurecon

ASPECT Studios

ARUP

CIRQA

URPS

TRENTO FULLER

1.0 EXEC. SUMMARY

TERMS OF REFERENCE

The DIT Part 0 Terms of Reference for the proposed City of Campbelltown Performing Arts Centre commenced with the Project Objective to deliver a 500 seat community performing arts facility and undercroft carpark in the north west corner of the Morialta Secondary College (MSC) site.

Designed and delivered for the City of Campbelltown (COC) and collocated with Morialta Secondary College, the facility will create a new benchmark for high-quality community use, whilst also enhancing the performing arts program at the school and larger functions for the City of Campbelltown community. Importantly, the project will also become a key landmark in the national movement towards "Schools as Community Hubs".

Key objectives from DIT include the provision of a flexible Performing Arts facility for 500 patrons, parking under the facility for a minimum of 100 cars, spatial planning to maximise shared use with school facilities and dedicated access points from street and undercroft.

Architecturally, the new facility will compliment the design language of Morialta Secondary College. The indicative preliminary total project budget before Part 0 investigations commenced is anticipated to be in the order of $24.23M, with a construction value of approximately $21.8M.

The preliminary Feasibility Study commissioned by the City of Campbelltown and prepared by Strategic Solutions Co in July 2021 highlighted the value of a 500 seat theatre venue in terms of attracting national touring acts. In addition, a series of functional requirements related to performance and technical spaces, backstage areas and amenities were proposed as design parameters. These requirements are listed in Section 3.0 Project Objectives.

PART 0 OUTCOMES

The Part 0 report effectively reviewed the combined Department for Infrastructure and Transport, Department for Education and City of Campbelltown objectives and through extensive client discussions and technical input from our team of design and engineering consultants, established the following outcomes as a basis for detailed investigations in Part 1:

1. NATIONAL EXEMPLARS

A review of similar recent Community Theatres around Australia as referenced in the Strategic Solutions Co. Feasibility Study underlines the potential of this City of Campbelltown project to benefit its community through **Community & Social Cohesion, Place Making and Economic Activity.**

The exemplars noted also provide design considerations around the sizing of foyers and proximity of Rehearsal Studios to the main performance auditorium. Both the national exemplars and the Strategic Solutions Co. Feasibility Study confirm the ability to host 500 seat performances is highly recommended to ensure future viability and maximum community benefit.

2. SHARED USE

Collocation between the proposed Performing Arts facility and the new School offers numerous advantages and efficiencies of shared use, including the following opportunities:

a. For shows up to 300 seats, the COC **Foyer** will be sufficient in its own right.
b. Full 500 seat performances for COC will only be programmed outside of school terms or after-hours.
c. For shows up to 500 seat capacity, the COC **Foyer** will be expanded into the adjoining school circulation spaces.
d. The 150 seat MSC Performing Arts space will be used as the **Small Theatre** for COC performances outside of school hours, hence avoiding the duplication of area.
e. Use of the MSC Performing Arts space by COC will also include shared use of the **MSC Bio Box, Theatre Back-of-House, Change/Make-up Rooms, Music/Drama and Dance Studios.**
f. **Music Practice Rooms** may offer potential shared use after hours, subject to further detailed discussions.

3. AREA

Analysis of the events and activities planned by the City of Campbelltown, during both client and technical reviews suggest the following Accommodation Schedule summaries.

- Total facilities gross floor area of the COC Performing Arts facility of 2,100sqm, plus external foyer deck.
- Shared use of adjoining 420sqm of MSC facilities at agreed times.
- Single level undercroft carpark for approximately 60 vehicles (incl. required accessible parking bays).
- An external loading deck and dedicated truck ramp will negate the need for a Goods Lift.

4. FUNCTIONAL ADJACENCIES

A preliminary review of internal adjacencies has been undertaken by Arup Theatre Consultants, which considers the efficient collocation of internal spaces for community theatre productions (refer page 16). Further review and consultation is recommended to finalise specific areas relevant to desired COC operations into the future.

5. CARPARKING & TRAFFIC

The COC Performing Arts Centre will be able to accommodate performances up to 300ppl utilising its own dedicated undercroft carparking space for approximately 60 vehicles (including. required accessible parking bays). Performances up to 500ppl will rely on after-hours use of the MSC staff carparking areas, which will provide an additional 129 on site carparks. A detailed Traffic review is provided in section 5.7, which suggests further investigations with regard to set-down/pick-up lanes, ingress/egress access points and loading dock access.

6. URBAN DESIGN ELEMENTS

Key objectives to enhance the urban amenity of the scheme include the following:

- The new COC facility will align with the setback of the proposed MSC Administration and Performing Arts building to allow retention of the majority of existing trees to the north-west corner.
- The loading deck ramp will be angled to allow a direct line of entry for vehicle access.
- Lift and stair access will allow the COC Foyer to be set at the same floor level as the adjoining MSC facilities.
- An architectural veil element will be designed to screen the loading dock to the west, creating a dynamic visual statement towards the St Bernard's Road frontage.
- Landscaping opportunities include new streetscape landscape, seating, planting, informal performance spaces, seating, shelters, key signage, lighting and wayfinding.

7. ESD INITIATIVES

ESD obligations will be targeted as required through COC, DIT and DFE Guidelines in respect to sustainability initiatives and performance across building envelope design, operational costs, Greenhouse Gas Emissions and minimum targeted 5 Star Green Star Design.

ODASA principles will also be addressed in detail during Part 1, across the criteria of Context, Inclusivity, Durability, Value, Performance and Sustainability.

8. BUDGET

The preliminary Feasibility Option budget estimate for the COC Performing Arts Centre prepared by RLB indicates a total project cost of $29,980,000 ex GST, with a construction value of approximately $25,400,00 ex. GST. Breakdown of cost components as follows:

Performing Arts Centre	$15,971,000
Carparking, Traffic, Landscaping	$3,867,500
Site infrastructure	$400,000
Margins, Adjustments, Contingencies	$9,739,200
Total $29,977,700, rounded to	**$29,980,000 (+/- 10%)**

Further detailed analysis in Part 1 will be undertaken to identify savings to this estimate through an elemental cost analysis. An additional allowance of ranging between $800,000 - $1,200,000 for an orchestra pit is also noted for further technical and operational consideration in Part 1.

Cost/risk items for further attention include potential traffic/automated pedestrian crossing upgrades to St Bernard's Road and allowances for FF&E. A detailed summary of the RLB report is provided in Appendix B.

PROJECT INFO.

PROJECT & CLIENT INFORMATION

SITE ADDRESS	Morialta Road W, Rostrevor SA 5073
ASSET NUMBER	01209
DPTI PROJECT MANAGER	Frances Caruso
LEAD AGENCY REP.	Wayne Dixon
PRINCIPAL	Roley Coulter
COUNCIL REPRESENTATIVE	Paul Di Lulio, Michelle Hammond & Wade Dallatore

CONCEPT REPORT PREPARED BY

COMPANY	Thomson Rossi / Brown Falconer
POSITION	Lead PSC
CONTACT	Marino Rossi / Michael Lambert
REVISION	[A]
DATE	04/08/2022

SIGN OFF

LEAD AGENCY REP.	Wayne Dixon
DATE	
SIGNATURE	
END USER (IF APPLICABLE)	Roley Coulter
DATE	
SIGNATURE	
COUNCIL REPRESENTATIVE END USER	Paul Di Lulio
DATE	
SIGNATURE	

REVISION

DOCUMENT TITLE	REVISION
Return Brief	[A]
Appendix A - Drawings	[A]
Appendix B - Cost Estimate Summary	[A]
Appendix C - Program	-
Appendix D - DE Request for Service	-
Appendix E - Return Entitlement / Accom. Schedule	-
Appendix F - Project Risk Register	-
Appendix G - Safety in Design Register	-
Appendix H - Hazardous Materials Report	-
Appendix I - Certificate of Title	-
Appendix J - SAMIS	-
Appendix K - Investigation Reports / Survey	-
Appendix L - DIT Return Brief Design Review Report	-

CONTENTS

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Department for Infrastructure and Transport

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Department for Education

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CAMPBELLTOWN CITY COUNCIL

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3.0 PROJECT OBJECTIVES

INTRODUCTION

The Cambelltown City Council approached the Department for Education to explore a joint use Performing Art Centre on the site of the new Morialta Secondary College. In July of 2021, the Council completed a Feasibility Study that outlines the following requirements for the facility:

CAMPBELLTOWN CITY COUNCIL BRIEF:

DEVELOP A CONCEPT DESIGN AND COSTING TO INCLUDE;

- A 500 seat capacity theatre with a combination of fixed and retractable seating to enable flexible use of the space
- A proscenium arch theatre with a fixed stage with a minimum size of 10m x 12m
- A base level of technical equipment (sound and lighting) that is sufficient for most users to hire the theatre, and that provides capacity for other users to hire and bring in additional equipment they require
- A fly system (can be partial or full and should be seperately costed)
- Appropriate acoustic treatments
- Sufficient Wing Space
- Appropriate and accessible loading dock
- A secondary space, at least the same size as the stage, to be used as a rehearsal space, a secondary performance space (with stackable chairs), or other users
- A large foryer that could be used as a gallery and meeting space
- Storage
- Appropriatley sized dressing rooms
- Environmental sustainable design
- A servery area which could be used as a box office/canteen
- Appropriate number of meeting/break out rooms; one of these potentially acoustically treated to allow for a live orchestra, or recordings, and
- A fully accessible facility, including changing places

RANGE OF HIRES INCLUDING:

- Professional Hires
- Venue Presentations
- Festivals and events
- Community users and hires
- Community theatre
- Schools
- Dance concerts and competitions
- Children's arts training
- Visual arts

On the completion of the Feasibility Study, the Campbelltown City Council and the Department for Infrastructure and Transport commissioned Part 0 - Return Brief to be completed by Thomson Rossi / Brown Falconer and their supporting team. As outlined by the request for services (as attached in Appendix D) this Return Brief investigates the design and construction of a 500 seat Community Performing Art Centre and undercroft carpark in the north west corner of the Morialta Secondary College (MSC) site. The facility is to be funded in full by the Campbelltown City Council, and leased on a permanent basis to the council, and operated by Council. The facility will be owned by the Department for Education. The preliminary estimate of the project is valued at $24.23M - total project value.

The following report investigates;

- a flexible, contemporary Performing Arts Facility for 500 people,
- undercroft carparking for a min. of 100 cars,
- the intergration and alignment of the existing design language of Morialta Secondary College,
- the location of the north/western corner of the site,
- the connection into the Morialta Secondary College Performing Arts facility to allow shared use by both parties,
- the ability to secure access from the public side, to ensure student safety in maintained,
- an individual entrance from the street and undercroft carpark.

3.1 PROJECT OBJECTIVES

The objective of the project is to deliver a community performing arts facility for the Campbelltown City Council collocated with Morialta Secondary College (MSC). The facility is to provide a high-quality theatre for community use. Its secondary objective is to be available to enhance the performing arts program at the school, and for larger functions for the school community.

The mutual benefit enjoyed by both stakeholders is unique to this project. The school will enjoy the benefits of having a larger performing arts centre to utilise for larger events, and the CoC will gain use of some school spaces such as rehearsal spaces and music studios.

As well as providing arts and cultural facilities for community members to enjoy as participants and audience members, there are other more broad and indirect project outcomes.

The theatre is proposed as a high standard community facility to be primarily suitable for Drama, dance, contemporary music and community gatherings. A venue of this nature will facilitate both events produced from within the local community and events where the theatre functions as a 'receiving house', where the venue is hired for touring performances. Typically theatres with 500 seats, a suitable fly tower, and suitable loading facilities are major factors in whether performances will tour to a venue. These benchmarks are in line with industry expectations.

COMMUNITY & SOCIAL COHESION

A Performing Arts Centre could provide spaces to undertake community functions and meetings which align with the Campbelltown City Council mission that "the Community is the centre of everything we do."
More broadly to this and indirectly, the project seeks to provide social and economic benefits by fostering social cohesion and by creating a central community hub.

PLACE MAKING

In a community like Campbelltown, a new Performing Arts Centre would help to provide a stronger connection to the school and would be a central reference point for the area.

ECONOMIC ACTIVITY

A Performing Arts Centre would create economic activity through its direct activities and its ability to draw visitors to the area who would spend additional money in the area. It could also act as a stimulator to additional private investment in tourism and hospitality facilities.

3.2 IDEA GENERATION

The following projects have been extracted from the Campbelltown City Council Feasibility Report as bench marking projects that are similar in scale, range of facilities and functional relationships. These examples include the Cairns Performing Art Centre and The Art House.

Image 3.0.1 - Cairns Performing Arts Centre

Image 3.0.2 - Cairns Performing Arts Centre

Image 3.0.3 - Cairns Performing Arts Centre

3.2 IDEA GENERATION CONT...

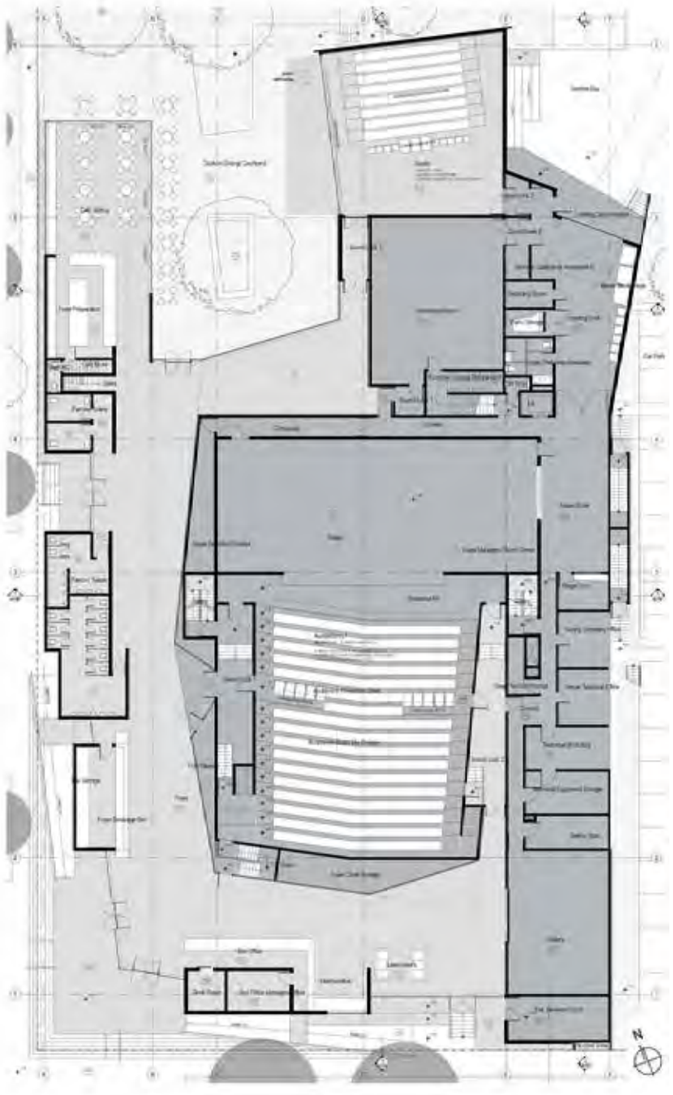


Image 3.0.4 - The Arthouse - Wyong Cultural and Conference Centre

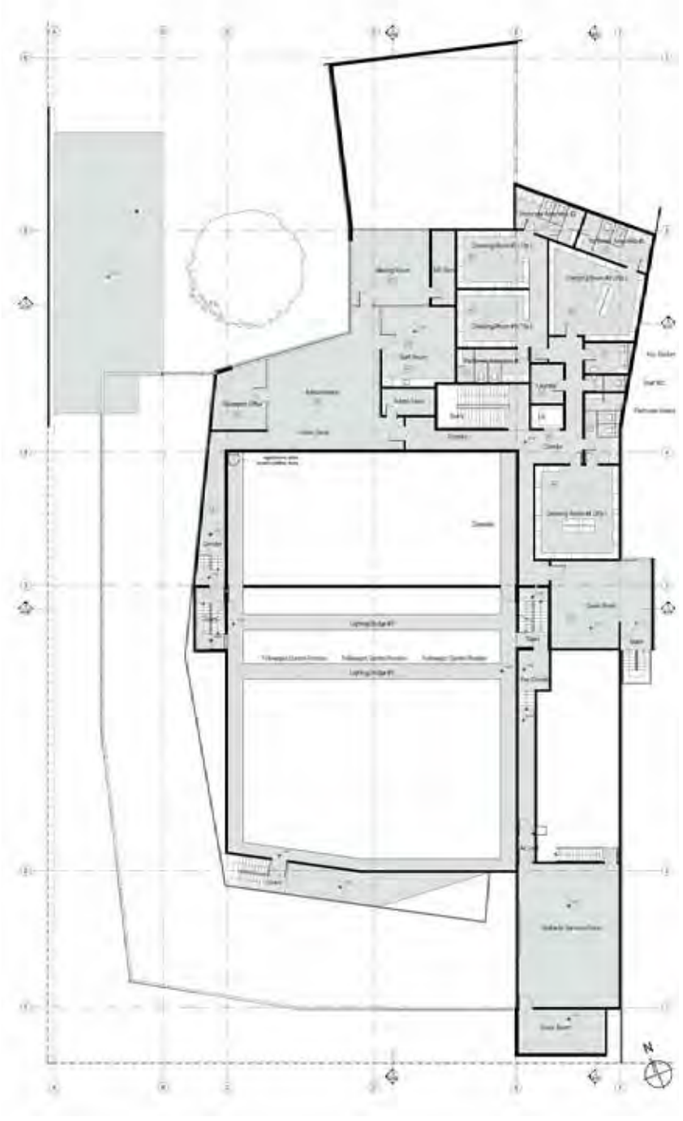


Image 3.0.5 - The Arthouse - Wyong Cultural and Conference Centre

Image 3.0.6 - The Arthouse - Wyong Cultural and Conference Centre

Image 3.0.7 - The Arthouse - Wyong Cultural and Conference Centre

4.0 RETURN BRIEF DEVELOPMENT PROCESS

Thomson Rossi and Brown Falconer are the LPSC for the new proposed Campbelltown City Council Performing Arts Centre on the corner of Morialta Road and St. Bernards Road. Our knowledge of the site and our current working relationship with the Department for Education and the Department for Infrastructure and Transport already formed during the design and documentation process of the new School, enabled a smooth and easy transition into the development and understanding of their needs for the new Campbelltown City Council Performing Arts Centre.

As such, a large portion of our development through this Part 0 process was to fully understand the requirements and expectations of our new client, the Campbelltown City Council, this included the confirmation of share use facilities between both parties. This process included a number of in-depth meetings with a number of Council representatives as well as the DIT, DfE and full project design team in attendance.

The original Project Brief (as provided in Appendix D) as provided by the Department for Education was used to test each area and desired function of the Campbelltown Performing Arts Facility to ensure compliance with the project objectives. Diagrammatic plans have been produced at each meeting to assist with spatial planning and cost estimates.

A theatre design consultant (Arup) has been engaged for this stage to provide specialist advice and feedback on the functional relationships diagram, areas allocated for each space, and costs for technical equipment specific to theatres and performing arts buildings.

Input from consultants for Traffic, Engineering and Planning at each meeting have fed back into the feasibility study to assist with understanding the project constraints.

A cost estimate has been provided at each meeting to assist with keeping the project budget within a range that the client is comfortable with. A final cost estimate associate with this report is included in Appendix B.

As outlined in the following pages and Appendix E, the proposed accommodation schedule has been adapted to meet the needs of the Council with advice from the theatre consultant, Arup. As such, following the series of in-depth meetings, we can confirm the following allowances have been considered. In conjunction, please refer to the meeting minutes as provided in Appendix E also for reference.

Foyer
The foyer, located adjacent the large theatre of 500 people, is to serve as a usable gallery space. The design team, during Part 1, will investigate how to utilise the wall space for art displays. With advice from Arup, the optimal size for the foyer is 1m2/pp. As such, due to budget constraints, the new foyer and the shared adjacent building (Learning Commons, Morialta Secondary College Theatre, Music/Drama)square meterage will provide a flexible foyer space that will reflect this optimal size. Note, however if the shared adjacent building spaces (Music / Drama, Morialta Secondary College Theatre) are utilised by an event production in the Campbelltown City Council Performing Arts Centre, this space may not be available as a foyer space. As a result, the design team has considered an outside terrace.

Foyers can also be provided with infrastructure to act as a performance location, for smaller and less formal performances. This can include acts that perform pre show or at interval or where the foyer & bar are hired or used as a event location without the theatre.

VET Commons / Kitchen / Store / Prep
The existing VET and VET commons is located within the Morialta Secondary College building. Due to the location of the VET facilities, it is deemed not suitable for use the Campbelltown City Council, however on the rare occasion this may be negotiated between DfE and the Council for afterhours use.

Box Office / Cloak / Bar + Canteen
Cambelltown City Council require a canteen space that is stand alone. The location of the Morialta Secondary College VET facility is not within close proximity, as such the new Bar / Canteen is to allow for pre-packaged food and beverages. The design team will consider the appropriate storage, location, space and service provision during design development. The Box Office and Cloak facilities will be a standalone area, separate from the Bar and Canteen.

4.0
RETURN BRIEF DEVELOPMENT PROCESS

Small Theatre
The small theatre is referred to the design and documented Performing Arts Theatre in the Morialta Secondary College Performing Arts Building. The theatre, 220sqm in size allows for a total 150ppl. During School hours, unless agreed with the Department for Education this theatre space will be used primarily by the Morialta Secondary College as an education tool, as well as for performances. After hours, this area could be provided as an additional performance space for smaller performances and/or rehearsal space for the Council. It was explained and understood by both the Council and Department for Education that during School hours, access will be limited, if any.

Large Theatre
The large theatre is referred to as the new Performing Arts Theatre for 500 seats within the new Cambelltown City Council Performing Arts Centre. With design advice from Arup, the optimal size of the theatre is 450sqm with a max. width of 26m and depth of 22m from the edge of the stage. As noted above, pending of the time/day of the event, in particular during school hours, access to the basement carpark will limit performances to 300ppl. Any afterhours event, with confirmation with the School will have access to the shared facilities and onsite car parking.

Stage / Wings (Stage House)
The stage house (consisting of the stage, 2 side wings and fly tower above) for the new Council Performing Arts Theatre of 500ppl has been sized on the design advice of Arup. A minimum acting area of 13m wide x 10m deep, with an additional 2m behind to accommodate the fly tower / catwalk above. This would correspond to a minimum proscenium opening of 13m wide by 6m high. The optimal wing depth from the side of the stage is half the stage width, making this 6.5m in this instance. This would make the Total Stage house 26m wide x 12m deep = 312m2 with Fly tower above. For costing purposes only the following information in relation to the height of the fly tower was also provided. Fly tower grid to be a minimum 2.5 x Proscenium height. Base of grid to be at minimum 15m above stage height. Base of fly tower structural beams to be minimum 2.2m above Fly tower Grid. The design team will investigate this as a mass during design development.

Theatre Bio Box (Control Room)
Each theatre, both small and large will be provided with a Bio Box. The small theatre will be designed to the minimum requirements as outlined by the Department for Education, whilst the bio box associated with the large theatre will be designed in accordance with the recommendations and requirements of the Council. An allowance of 30sqm is currently allowed for in the budget, with this being slightly larger than an acceptable size of 20sqm in order to accommodate recording capabilities. Noting that an additional Theatre Follow Spot Booth (located separate to the Bio Box) of 12sqm is required at the upper level.

Theatre Back of House
The theatre back of house for the Morialta Secondary College Performing Arts (small theatre) is 30sqm in total. With advice from Arup, the Campbelltown City Council Performing Arts (large theatre) is recommended to be 200sqm in total. Due to budget constraints this is proposed to be 175sqm, with the aim to investigate efficiencies in the planning to optimize this size.

Theatre Change / Make Up Rooms
The small theatre will have 2 x 17sqm theatre change / make up rooms, design as per the requirements of the School and the Department for Education. This scope of works has been documented and included in the construction documentation for Part 2.
The large theatre change / make up rooms, with advice from Arup will be approximately 110sqm in total. The total number of rooms, including dressing rooms, make up rooms, etc. will be developed during design development with advice from the Council and Arup.

Theatre Storage
The small theatre will be provided with 51sqm of storage, that is associated direct with the theatre. This space has been designed and documented as per the requirements of the Department for Education and School requirements. The large theatre, to align with the recommendation from Arup, would be a combination of spaces that would equate to 150sqm, but due to budget constraints currently 90sqm is allowed for. During design development the design team will investigate this space and allowance further, looking for other storage opportunities in the planning exercise.

Theatre Staff Areas
Not originally briefed, but during consultation with the Campbelltown City Council and Arup the requirement for staff areas associated within the Council Performing Arts Theatre (large theatre) was established. These areas are foreseen to equate to approximately 100sqm in total and include a staff meeting room, staff office, lunchroom/tea point as well as staff amenities. The spatial layout and functional relationships are to be developed in the next stage of planning, and have the potential to be dual use spaces with the adjacent back of stage areas.

Music/Drama/Dance Studio
The 160sqm of adaptable and flexible space is designed as per the requirements of the Department for Education and School. The space, as agreed between the School and the Council could be a shared space, after school hours. The dual use space has the opportunity to be utilised as an extension of the foyer for large productions, or as an additional rehearsal space, or large dressing room.

Music Storage / VET Learning Area / Dining / Front of House / Staff Prep
The Music Storage, VET Dining / Learning Areas and Staff Prep are not anticipated to be shared facilities between the Council and the Department for Education. It is to be noted however, that the Staff Prep will be required to be lockable to ensure belongings are secure, as the open design will allow public to enter, if the performance is large.

Music Practice
The music practice rooms have been designed within the Morialta Secondary College Performing Arts Theatre, as such may have belongings of the School within the 3 x 13/14sqm rooms. The Council would like to utilise these spaces, however confirmation and discussion is required further between both the Council, School and the Department for Education if this is deemed suitable.

Amenities
The amenities for both the small and large theatre will be designed as per the Australian Standards. Note, recommendation from Arup is to double the toilets for the large theatre.

Loading Dock / Scene Dock
The large theatre stage house will be designed to have direct connection to a loading and scene dock, this will total approximately 120sqm.

Car Parking
A single level basement car park the size of the corresponding Performing Arts building footprint will provide around 60 car parks for patrons attending the theatre. This total number of car parks will allow for a maximum 300ppl event in the Campbelltown City Council Performing Arts building (large theatre / foyer) during school hours of the neighboring Morialta Secondary College. A double level car park option (100 car parks = 500ppl event) was investigated, however due to budget constraints this was not feasible. In saying this, Campbelltown City Council advised that this capped size of 300ppl aligned with the envisaged use of the large theatre during school hours.

An after school hours event of 500ppl, will have access to approximately 130 car parks on site vacated by the Morialta Secondary College staff.

Shared Spaces (Council and School)
The Department for Education and the Campbelltown City Council deemed the following suitable to be used/shared by the the Council, after school hours and weekends (with agreement prior with the School);
- Site Carparking
- Foyer / VET Commons - although deemed to far from the Performing Arts Centre for Council requirements.
- Small Theatre
- Theatre Bio Box (associated with small theatre)
- Theatre back of house (associated with small theatre)
- Theatre Change / Make up rooms (associated with small theatre)
- Music/Drama and Dance Studios
- VET Kitchen, Learning etc. - although deemed to far from the Peforming Arts Centre for Council requirements.

The Council and Department for Education will discuss further during Part 1 the shared ability for the Music Practice rooms.

The following accomodation schedule has been developed and reflects the agreed sqm of each space. It is to be noted, the column titled 'As per current Part 2 Documentation' reflects the areas proposed and documented for the Morialta Secondary College Performing Art Building.

Table 4.0.1: Accomodation Schedule:
Refer Appendix E for further details.

	Quantity	Area	Total Area	Quantity	Area	Total Area
	As per current Part 2 Documentation			CoC Large Option (500 with englargd theatre)		
PERFORMING ARTS						
Foyer	-	-	-	1	380	380
Foyer / VET Commons	1	88	88	-	-	-
Box Office / Cloak	-	-	-	1	35	35
Bar / Canteen	-	-	-	1	50	50
Small Theatre	1	220	220	-	-	-
Large Theatre	-	-	-	1	450	450
Stage House	-	-	-	-	-	-
- Stage	-	-	-	1	156	156
- Wings	-	-	-	2	78	156
Theatre Bio Box (Control Room)	1	19	19	1	30	30
Theatre Follow Spot Booth	-	-	-	1	12	12
Theatre Back of House	1	30	30	1	175	175
Theatre Change / Make Up Rooms	2	17.5	35	TBC	Various	110
Theatre Storage	1	51	51	TBC	Various	90
Theatre Staff Areas (to include - Theatre Staff Meeting Room, Theatre Staff Office, Theatre Staff Lunchroom / Tea Point, Theatre Staff Amenities)	-	-	-	TBC	Various	100

MUSIC / VET KITCHEN						
Music/Drama/ Dance Studio	2	80.5	161	-	-	-
Music Storage	1	18	18	-	-	-
Music Practice	2 1	13 14	40	-	-	-
Staff Prep Music / Drama	1	36	36	-	-	-
VET Learning Area / Dining / Front of House	1	93	93	-	-	-
VET Kitchen	1	122	122	-	-	-
VET Kitchen Store	1	9	9	-	-	-
VET Prep	1	18	18	-	-	-
Lift / Stair Entry	2	4	8	1	20	20
Amenities (FOH)	1	1	15	2.5	Various	110
A fly screen	-	-	-	** Combined with Stage		
Loading Dock	-	-	-	1	60	60
Scene Dock	-	-	-	1	60	60
	SUB TOTAL:		**963**	**SUB TOTAL:**		**1980**
Circulation / Services			125			120
	TOTAL:		**1088**	**TOTAL:**		**2100**

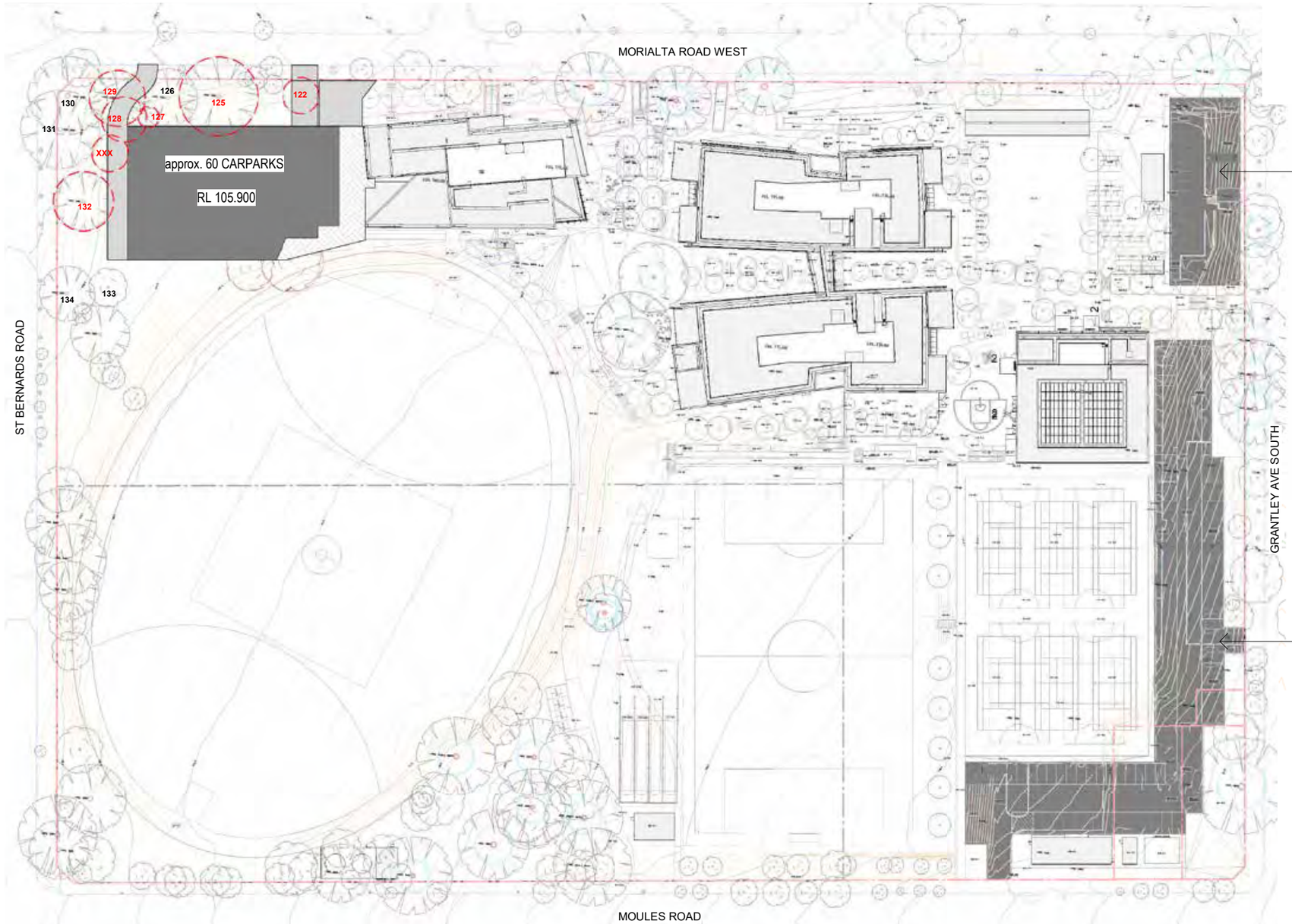
4.0
RETURN BRIEF DEVELOPMENT PROCESS

The site plan outlines the connection between the proposed under croft carpark below the Council Performing Arts Centre and the site carparking along Grantley Avenue South.

As outlined previously, a single level basement car park the size of the corresponding Performing Arts building footprint will provide around 60 car parks for patrons attending the theatre. This total number of car parks will allow for a maximum 300ppl event in the Campbelltown City Council Performing Arts building (large theatre / foyer) during school hours of the neighboring Morialta Secondary College. An after school hours event of 500ppl, will have access to approximately 130 car parks on site vacated by the Morialta Secondary College staff (Grantley Avenue South).

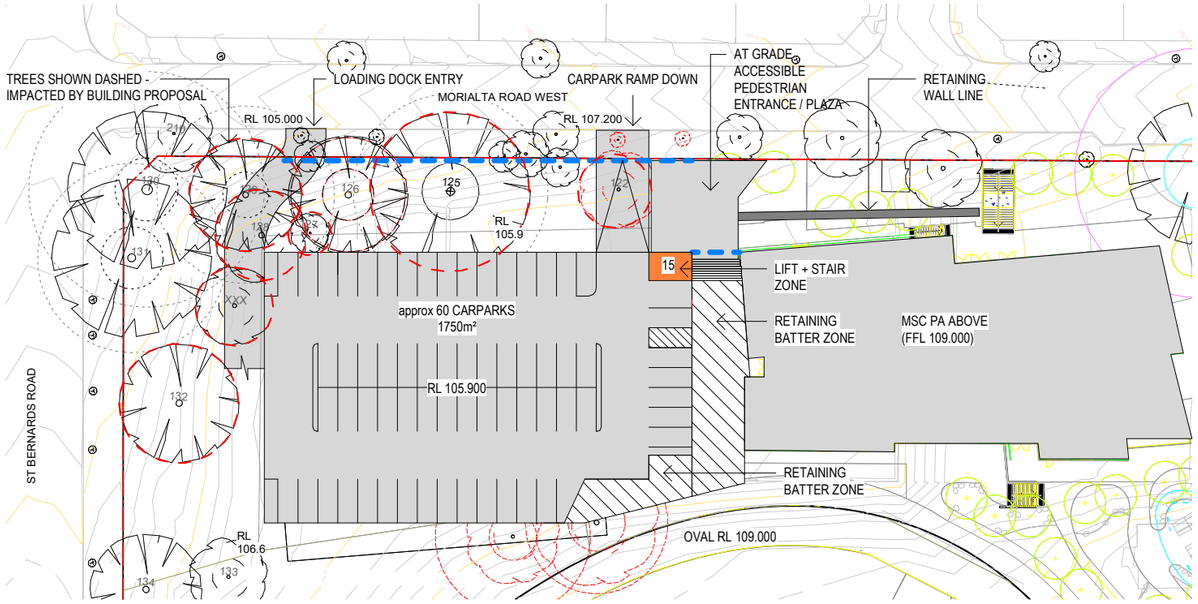
The existing sporting fields (football oval and soccer pitch) are to remain, as such locates Morialta Secondary College school facilities in the north / east portion of the site. The new Performing Arts Centre is to be positioned to be located in the predominant corner of St. Bernards Road and Morialta Road West. This location, in the current design will equate to the removal of 7 trees, a combination of significant and regulated trees (dashed red).

SITE PLAN
NTS (Refer to Appendix A for scaled drawing)



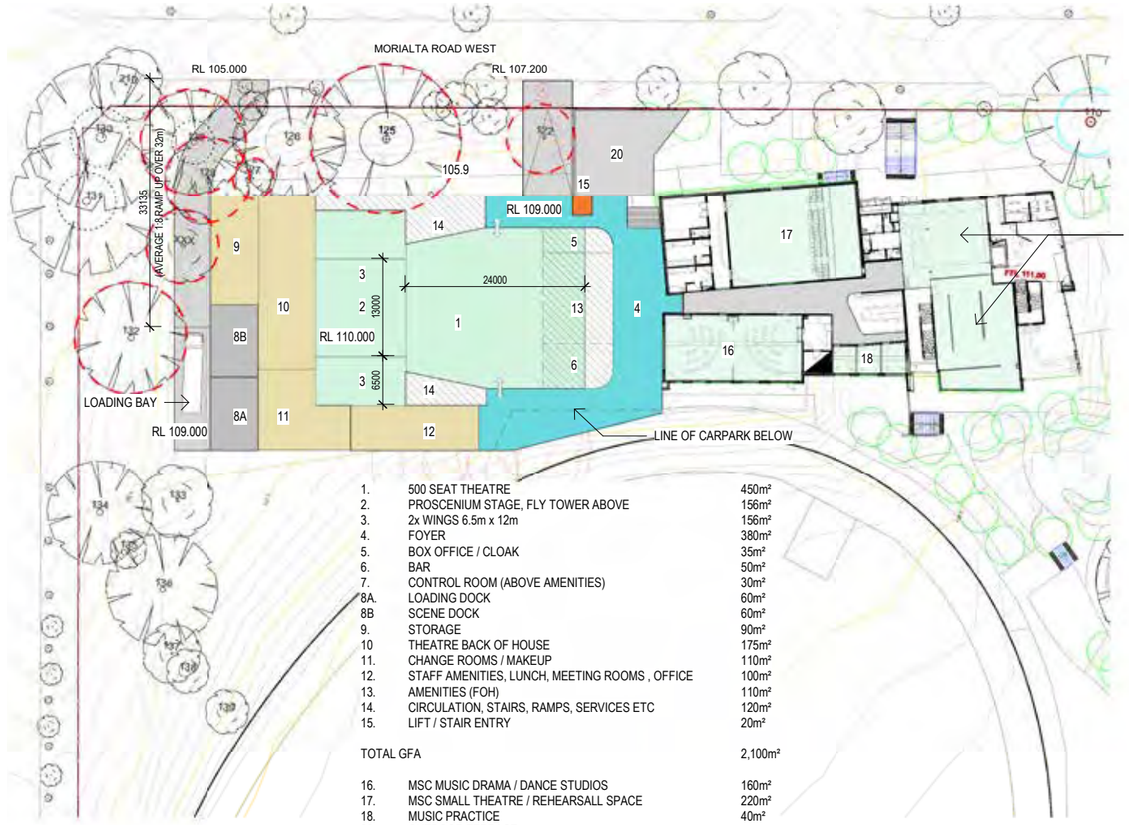
CAR PARK LEVEL 105.9

NTS (Refer to Appendix A for scaled drawing)



GROUND FLOOR PLAN 109.00

NTS (Refer to Appendix A for scaled drawing)



1.	500 SEAT THEATRE	450m²
2.	PROSCENIUM STAGE, FLY TOWER ABOVE	156m²
3.	2x WINGS 6.5m x 12m	156m²
4.	FOYER	380m²
5.	BOX OFFICE / CLOAK	35m²
6.	BAR	50m²
7.	CONTROL ROOM (ABOVE AMENITIES)	30m²
8A.	LOADING DOCK	60m²
8B	SCENE DOCK	60m²
9.	STORAGE	90m²
10	THEATRE BACK OF HOUSE	175m²
11.	CHANGE ROOMS / MAKEUP	110m²
12.	STAFF AMENITIES, LUNCH, MEETING ROOMS , OFFICE	100m²
13.	AMENITIES (FOH)	110m²
14.	CIRCULATION, STAIRS, RAMPS, SERVICES ETC	120m²
15.	LIFT / STAIR ENTRY	20m²
TOTAL GFA		2,100m²
16.	MSC MUSIC DRAMA / DANCE STUDIOS	160m²
17.	MSC SMALL THEATRE / REHEARSALL SPACE	220m²
18.	MUSIC PRACTICE	40m²
20.	OUTDOOR TERRACE	

A functional relationships diagram (above) has been developed for the site and highlights the following:

- The facility is to be in the north-western corner of the Morialta Secondary College site. The new building will connect into the Morialta Secondary College Performing Arts facility, to allow shared use by both parties. The school facility will have the ability to secure access from the public side, to ensure student safety if maintained,
- A facility that shares a foyer between both the School facility and the council,
- The new facility is to have its own accessible entry from the street and the undercroft carpark, that addresses the site levels.
- The undercroft carpark provides for approximately 60 carparks, which allows the Morialta Secondary College site carparks to be utilised during after hours events,
- Parts of the Stage 2 building, as shown on the plans will be shared by Campbelltown City Council outside of school hours (as outlined previously),
- Loading for the Theatre back of house area will occur to the western façade of the building.

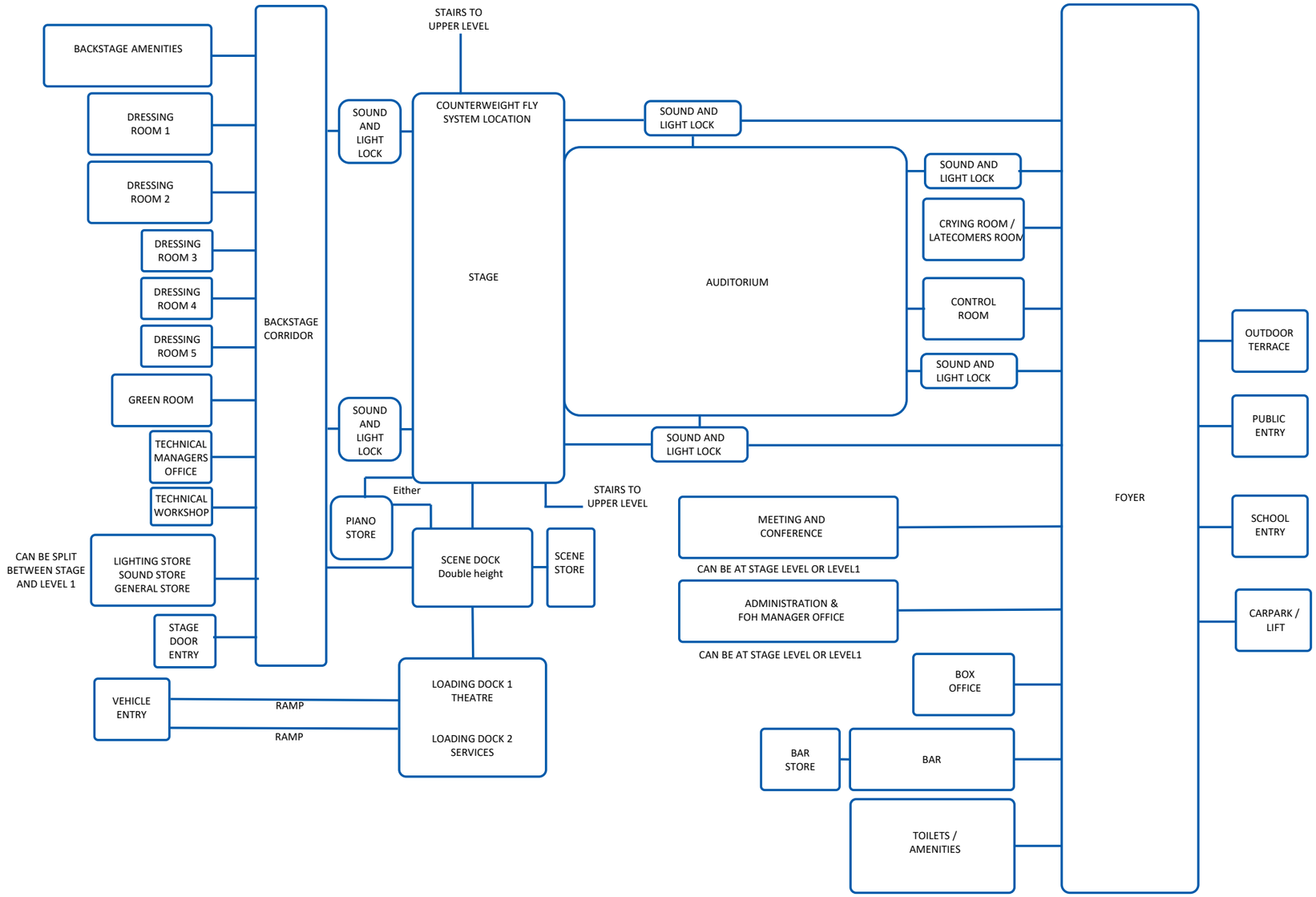
4.0
RETURN BRIEF DEVELOPMENT PROCESS

The following diagram shows the expected relationships between spaces for the Theatre. The major zones established include A) the front of house facilities- including foyer and bar, and administration, B) the auditorium and stage, C) The back of house facilities and loading dock.

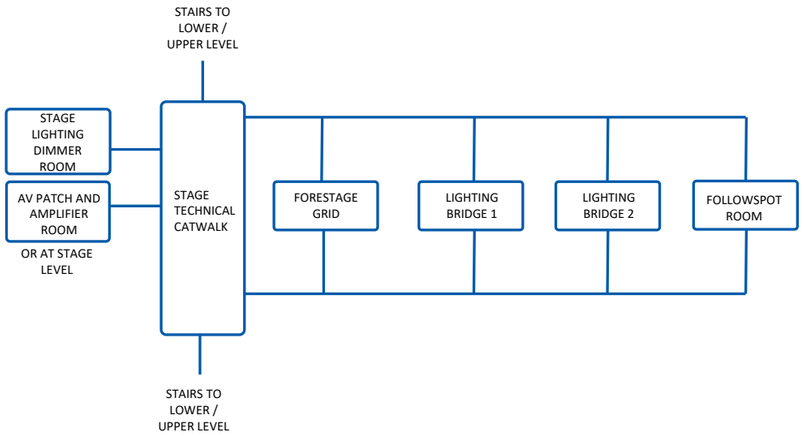
The diagram is preliminary, and final relationships for example between administration areas, meeting facilities etc are not fully resolved. The use of the School facilities for example as extra dressing rooms requires further development as it is not desirable for performers to pass through the foyer on the way to the stage.

The loading dock position has been modified during this stage of the project to facilitate stage access, at stage level, to allow for load in of sets and other equipment for touring and local performances, as this is a critical adjacency.

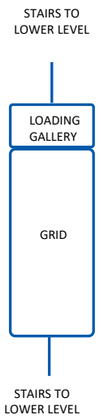
ADJACENCIES SKETCH 01
STAGE LEVEL - NTS



ADJACENCIES SKETCH 02
LEVEL 1 - WORKING GALLERIES - NTS



ADJACENCIES SKETCH 03
LEVEL 2 - GRID AND LOADING GALLERY - NTS



4.1 PART 1 ONWARDS

The proposal will be developed further during Part 1 to respond to the existing site conditions as outlined in this report.

The following plans demonstrate some early thinking of how the building could be positioned on site to accommodate;

- **Loading Dock (with access at stage level)**
  - Ramp length required at maximum grade.
  - Maximising the Ingress/ Egress crossover setback from St Benards Road to avoid existing services IPs in the road and existing significant trees.
- **Existing Trees**
  - Minimising tree removal, in particular maintaining as many of the significant ones.
- **Stormwater Detention**
  - Maintaining as much of the North West corner of the site as possible to not impact significantly (to the point of requiring a new design solution) on the current stormwater detention design of the site.

OPTION 2 - CAR PARK LEVEL 105.9
NTS (Refer to Appendix A for scaled drawing)

OPTION 2 - GROUND FLOOR PLAN 109.00
NTS (Refer to Appendix A for scaled drawing)

5.0 RETURN BRIEF

Refer Appendix A for Scope of Works as outlined on the Site Plan.

Refer Appendix B for Cost Estiamate Summary to outline the scope of works fully within the project budget.

Refer Appendix E for Accommodation Schedule as also outlined in Section 7.0

5.1 DEMOLITION

All buildings and structures on site are to be demolished as part of the construction of the new Morialta Secondary College. (Retain existing football oval and soccer pitch).

Additional demolition of the site adjacent the Morialta Secondary College Performing Arts will be required to be demolished to the extent required of the Community Performing Arts Facility.

5.2 REFURBISHMENTS OF EXISTING BUILDING/S

There is no refurbishment of existing buildings within the scope of works.

5.3 NEW BUILDING/S

The external building fabric will play homage to the new adjacent Morialta Secondary College. The selection of materials will be similar as such that will compliment the new built components but be unique enough to provide an exceptional building for the Campbelltown City Council.

The internal building fitout will be discussed in detail with the Council, Stakeholders and the Department for Education to ensure a facility provided suits all the different user needs and requirements. The finishes, fixtures, fittings, etc. will be similar to the MSC Performing Arts building to ensure a cohesive extension to each space is provided.

5.4 EXTERNAL WORKS / SITE IMPROVEMENTS

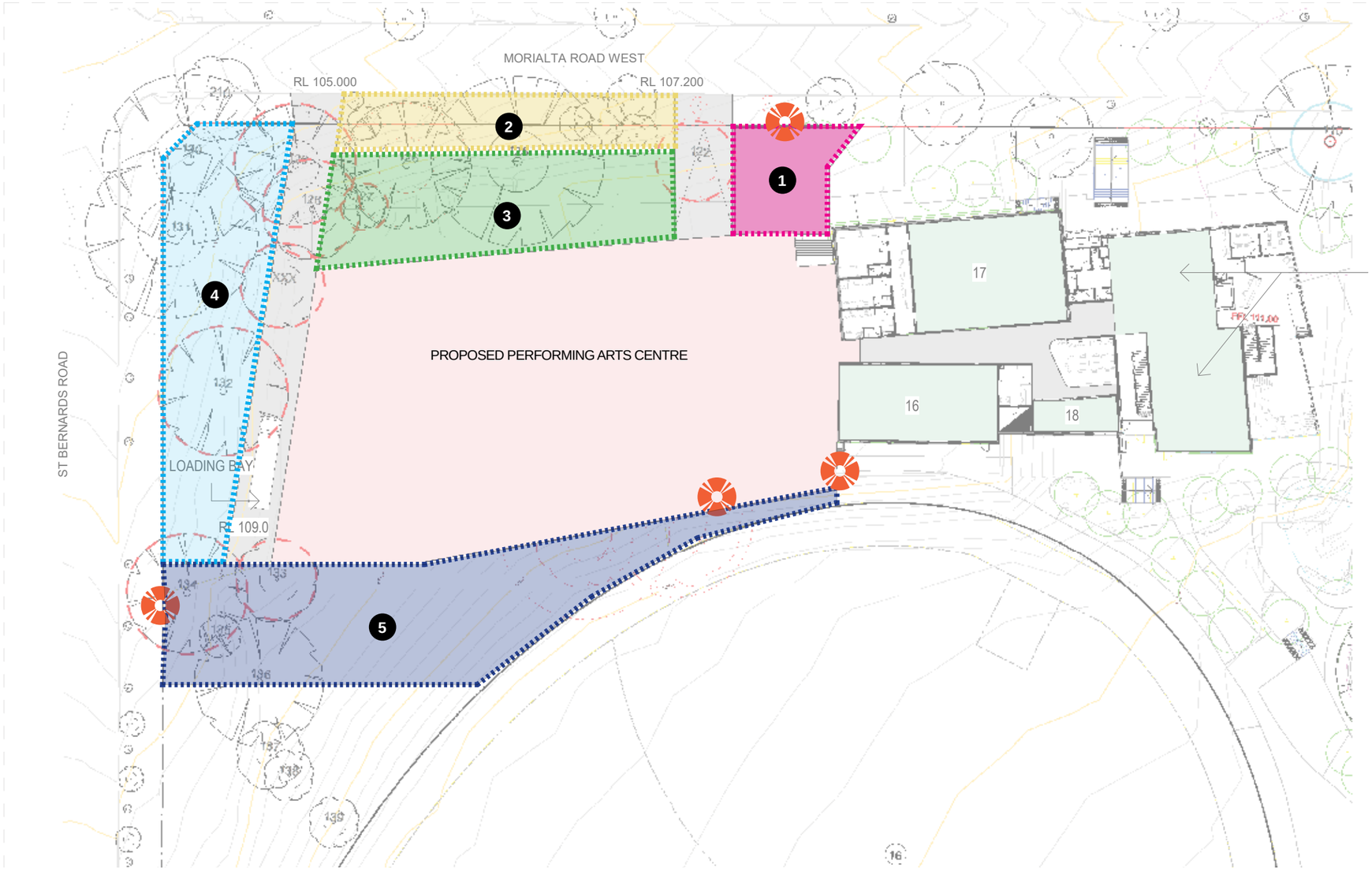
Work Impacted:

- WIth the addition of the new Performing Arts Centre a large number of trees to Morialta Road West would be removed.
- A large area of irrigated hydroseed turf any associated irrigation pipe work would need to be re designed and installed.
- The new building would also need to take into consideration the proximity to the School oval and make allowance for the 5m run-off as well as the position of the behind goal netting.
- Finally, a portion of the existing fencing along Morialta Road West would need to be removed.

To support the removal of the existing trees we would propose a large number of trees and vegetation be reinstated in areas around the building and streetscape to re-build the Morialta Road West and St Bernards road landscape aesthetic. New areas of landscape would need to consider a design that allows for outdoor gathering spaces, performance spaces and circulation around the building. It will also need to consider access and respond to any new carparking and pedestrian path networks. We would also recommend new signage and fence treatment along St Bernard's road to enhance the streetscape and allow for pedestrian entry points. Consideration would need to be given around pedestrian access so it aligns with the schools desires.

Any irrigation work would need to be redesigned/removed and re-installed without implicating existing work.

LANDSCAPE BRIEFING:
NTS (Refer to Appendix A for scaled drawing)



LEGEND

1. ENTRY PLAZA; PAVING, STAIRS, FEATURE TREES, SEATING, KEY SIGNAGE, LIGHTING AND WAYFINDING
2. STREETSCAPE LANDSCAPE: NEW STREET TREES, UPGRADED FENCING, SIGNAGE AND RETAIN EXISTING TREES
3. NORTHERN LANDSCAPE; GATHERING, SEATING, PLANTING, ACCESS AND INFORMAL PERFORMANCE SPACES
4. ST BERNARDS ROAD PLANTING; DRIVEWAY SCREENING, SOFT LANDSCAPING TO PROPOSED DETENTION BASIN
5. PERFORMING ARTS/OVAL LANDSCAPE INTERFACE; PLANTING, ACCESS, SEATING, SHELTER AND GATHERING SPACES

PROPOSED POINTS OF ENTRY

5 .5 SERVICES

ELECTRICAL SERVICES

DESIGN STANDARDS

The Electrical Services will be designed to meet current Building Code of Australia and Australian Standards including (but not limited to) the following:

NCC 2022	National Construction Code
AS/NZS 3000	Electrical Installation (Wiring rules)
AS/NZS 3008	Electrical Installations - Selection of Cables
AS/NZS 2293	Emergency lighting and exit signs for buildings
AS/NZS 1680	Interior and Workplace Lighting
AS/NZS 1158	Lighting for Roads and Public Spaces
AS/NZS 11801	Information Technology - Generic Cabling for Customer Premises
AS/CA S009	Installation Requirement for Customer Cabling (Wiring Rules)
AS/NZS 3084	Telecommunications Installations - Telecommunications Pathways and Spaces for Commercial Buildings
AS/NZS ISO/IEC 14763.2	Information technology - Implementation and operation of customer premises cabling, Part 2: Planning and installation
AS/NZS 1367	Coaxial cable and optical fibre systems for the RF distribution of digital television, radio and in-house analogue television signals in single and multiple dwelling installations
AS/NZS 2201	Intruder Alarm Systems
AS 4806	Closed circuit television (CCTV)
AS 1170.4	Structural design actions, Part 4: Earthquake actions in Australia
SA Power Networks	Service and Installation Rules

All relevant Laws, including OHS Laws and in accordance with DfE technical standards.

PHOTOVOLTAIC SOLAR SYSTEM

An energy assessment will be completed to determine the optimal PV system size; however it is envisaged that a nominal 30kW system will be installed. Asset Standards and Environmental Management team will be consulted to determine the final system size.

The PV system will be provided with a data logging system capable of wirelessly and automatically sending interval level inverter data to an online portal. The system will include a minimum 5 year subscription and will allow for data download for analysis and to display solar PV generation, site electricity consumption, costs savings and emissions reduction information visually.

POWER

The building will be provided with a Distribution Boards (DB) supplied from the Main Switchboard (MSB). Each building DB will incorporate surge protection and energy sub-metering and main switches. Each DB will also incorporate distribution sections for general power, lighting and mechanical services for the immediate zone/floor level of the DB.

All switchboards will be lockable, provided with 30% physical spare space and 20% spare load capacity for future additions and expansion. RCD protection will be provided on sub-circuits in accordance with AS/NZS 3000.

An Energy Management System (EMS) will be installed to facilitate electricity energy metering and recording as well as the monitoring of energy performance, power availability, quality and reliability. Energy meters will be located within the Main Switchboard and all local Distribution Boards to meter separately all power, lighting, mechanical, lifts and other ancillary plant as appropriate in accordance with the Building Code of Australia.

Distribution Boards - nominally 1 per 1600m2 (approximately) floor area or otherwise located to suit planning and to reduce cable lengths.

General power distribution throughout to service all equipment, with dedicated power circuits for special applications and equipment.

Specialist power provisions for equipment to the theatre, control room, bar and carpark as required.

All general purpose switched socket outlets (SSO) to be doubles.

Surge protection to communications cabinet power supplies.

LIGHTING

All internal lighting for the project will be designed in accordance with Australian Standard 1680 - Interior lighting, consisting of energy efficient LED luminaires throughout with minimum CRI >80.

External lighting will also utilise energy efficient LED luminaires throughout and comply with Australian Standard 1158 - Lighting for Roads and Public Spaces where applicable.

An automatic lighting control system will be provided for automated control, time scheduling and dimming of luminaires throughout.

The lighting will be controlled by a combination of local switches and pushbuttons, occupancy sensors and automated time scheduling controls in accordance with the Building Code of Australia and to optimise energy savings. External and carpark lighting will be controlled via occupancy sensors, photo electric cell and time clock controls.

A monitored exit and emergency lighting system will be provided throughout in accordance with the Building Code of Australia and Australian/New Zealand Standard 2293.1 - Emergency Evacuation Lighting for Buildings.

Feature lighting for the theatre and foyer and other selected areas as required to enhance the architectural intent.

COMMUNICATIONS

Provision of an integrated voice and data horizontal structured cabling system (SCS) in compliance with Australian/New Zealand Standard - 11801 Information Technology – Generic Cabling for Customer Premises and AS/CA S009 Installation Requirement for Customer Cabling (Wiring Rules), using Category 6A/Class EA unshielded twisted pair (UTP) horizontal cabling and Category 6A RJ45 outlets.

The structured cabling system will facilitate a common horizontal cabling infrastructure for systems such as telephony, data, security, CCTV, lighting control, audio visual, energy management and BMS. Some or all of these systems may utilise the structured cabling system.

Allowances are to be made for installation of wireless access points (WAPs) throughout (WAP's provided by DfE/CoC), connected to the communications network. The exact location of the WAP transceivers will be determined predictive wireless coverage/ density software. A dual data outlet will be provided at each WAP location.

Communication rooms - 1 per 1500mm2 (approximately) floor area or otherwise located to suit planning and to reduce cable lengths. Rooms to house 45RU 800mmW x 1000mmD communications racks, security, CCTV, EMS and AV equipment as required.
Provision of double communications outlets throughout generally.
Provision of double data outlets for wireless access points (WAPs) throughout to allow Wi-Fi.

SECURITY

Electronic Security Systems will be installed throughout all buildings comprising of Electronic Access Control, Intruder Detection and Closed-Circuit Television (CCTV) system. The DfE/CoC Security and Emergency Management Team will be consulted to determine the extent and type of systems to be installed.

The electronic access control and intruder detection system will be Gallagher, Inner Range Integriti or Inner Range Inception in accordance with the CoC Security Design Standards. The locations and extent of electronic access control and intruder detection will be determined in consultation with DfE/CoC and the LPSC during the concept and detailed design phases. The EACS will be integrated with the CCTV, fire detection and lift systems.

An IP based Closed-Circuit Television (CCTV) system of Milestone XProtect manufacture will be provided. The locations and extent of CCTV coverage will be determined in conjunction with DfE/CoC and the LPSC during the concept and detailed design phases, and/or via a site wide security risk assessment. All cameras will be ONVIF compliant.

Extent of security to be confirmed in conjunction with DfE/CoC Security and Emergency Management Team and the LPSC.

Electronic access control to external access doors and selected internal doors, primarily located to separate staff from public spaces.

Communications rooms to be provided with electronic access control.

Intruder detection throughout.

ONVIF compliant CCTV cameras to be provided to cover external areas and building entry points. Internal coverage to be determined with DfE/CoC.

DESIGN PARAMETERS

Table 0 1 Electrical Design Criteria

Item	Design Criteria
Extreme ambient conditions under which all services and systems shall operate	45.0°C dry bulb maximum 24.0°C wet bulb maximum Full solar load -2.0°C dry bulb minimum.
Ambient conditions within air-conditioned spaces under which all services and systems shall achieve full load performance	24.0°C dry bulb maximum 60% relative humidity maximum with humidity varying dependent on ambient and internal loads 20.0°C dry bulb minimum.
Ambient conditions within ventilated non air-conditioned spaces under which all services and systems shall achieve full load performance	38.0°C dry bulb maximum 21.7°C wet bulb maximum 4.5°C dry bulb minimum.
Earth resistivity	100 ohm - metres nominal.
Earthing	2m earth stake, minimum, within poly pit
Hours of operation	**Community Performing Arts** 12hour operation 7 days.
Maximum noise levels at adjoining property boundaries	Not to exceed levels specified for commercial properties and residential properties in the Environmental Protection Act.
Equipment balancing criteria - maximum allowable vibration levels (maximum peak to peak displacement mm)	All equipment not to exceed limits set in Australian Standard 1359 - Rotating electrical machines - General requirements and Australian Standard 2625 - Rotating and reciprocating machinery - Mechanical vibration.
Earthing systems:-	
– Protective earthing system	MEN earthing system in accordance with Australian/New Zealand Standard 3000 - Wiring rules and SA Power Networks Rules and Conditions of Supply.
Electricity supply	400/230volts, +10%, -6%, 3phase, 4 wire, 50 Hz in accordance with SA Power Networks Service Rules and Conditions of Supply. Design and utilise only systems and equipment to be capable of guaranteed rated performance on both present and future supply voltages.
Consumers mains	400volt, 3phase, 50 Hz supplies from the low voltage terminals of the SA Power Networks pad mounted transformer.
Metering	Retailer metering to minimise operating costs. Multifunction metering of light, power and significant loads in accordance with the Building Code of Australia.

Electrical reticulation	In accordance with Australian/New Zealand Standard 3000 - Wiring rules and Australian Standard 3008 - Electrical installations - Selection of cables.
Electrical and communications Pits and Lid	In accordance with Australian Standard AS 3996 Access covers and grates. Class D Covers, Grates and pit/lid combinations minimum in all areas.
Electrical capacities	Equipment and cable capacities calculated to achieve 30% spare capacity.
Voltage drop	Voltage drop at switchboards limited to 2.5% for mains and submains cabling (maximum) of nominal LV supply voltage of 400volt, 3phase, for all installations. Voltage drop at final circuit limited to 2.5% (maximum) of nominal LV supply voltage of 400volt, 3phase. Total site voltage drop to be no more than 5% total from point of supply to most distal final circuit.
Electromagnetic emission and immunity	In accordance with AS/NZS 61000.
Degree of protection (IP Code)	In accordance with AS/NZS 60529.
Illuminance levels	In accordance with the minimum requirements of the following:-
– General building interiors	Australian Standard 1680.1 - Interior lighting - General principles and recommendations and Australian Standard 1680.2.0 Interior lighting - Recommendations for specific tasks and interiors.
– Circulation spaces	Australian Standard 1680.2.1 - Interior lighting - Circulations spaces and other general areas.
– Office and screen based tasks	Australian Standard 1680.2.2 - Interior lighting - Office and screen based tasks.
– Education and training areas	Australian Standard 1680.2.3 - Interior lighting – Education and Training Facilities
– External, amenity	Australian Standard 1158 - Lighting for Roads and Public Spaces
Specific minimum maintained average illuminance levels:	
– Theatre	320 lux at 1 metre above floor level
– Office areas	320 lux at working plane
– Toilets, lockers	100 lux at 1 metre above floor level
– Access Toilets	200 lux at 1 metre above floor level
– Theatre Back of House	240 lux at 1 metre above floor level
– Foyer areas	240 lux at 1 metre above floor level
– Corridors	80 lux at 1 metre above floor level
– Secure carparks (internal)	40 lux at ground level
– Carpark (external)	10 lux at ground level
Exit and emergency lighting	In accordance with the Building Code of Australia and Australian/New Zealand Standard 2293.1 - Emergency evacuation lighting for buildings - System design, installation and operation, Australian/New Zealand Standard 2293.2 - Emergency evacuation lighting for buildings - Inspection and maintenance and Australian/New Zealand Standard 2293.3 - Emergency evacuation lighting for buildings - Emergency luminaires and exit signs.
Electronic security system	In accordance with Australian Standard 2201 - Intruder alarm systems.
Master antennae television system	In accordance with the minimum requirements of Australian Standard 1367 - Multiple outlet distribution systems - Sound and vision.
Voice/data cabling	In accordance with Australian/New Zealand Standard 11801 – Information Technology – Generic Cabling for Customer Premises.
Disability Access	In accordance with the Building Code of Australia and Australian Standard 1428 (Set) - Design for Access and Mobility (Set).

MECHANICAL SERVICES
DESIGN STANDARDS

The Mechanical Services will be designed to meet current Building Code of Australia and Australian Standards including (but not limited to) the following:

- AS1940-2004 The storage and handling of flammable and combustible liquids;
- AS / NZS 3000-2007 Electrical installations;
- AS 1170.4-2007 Structural design actions - Earthquake actions in Australia;
- AS 2670.1-2001 Evaluation of human exposure to whole-body vibration – General Requirements;
- AS1324.1 Air filters for use in general ventilation and air-conditioning - Application, performance and construction;
- AS 1324.2 Air filters for use in general ventilation and air-conditioning - Methods of test;
- AS / NZS 1668.1 The use of ventilation and air-conditioning in buildings - Fire and smoke control in multi-compartment buildings;
- AS / NZS 1668.2 The use of ventilation and air-conditioning in buildings - Mechanical ventilation in buildings;
- AS 1668.3 The use of ventilation and air-conditioning in buildings - Smoke control systems for large single compartments or smoke reservoirs;
- AS 1668.4-2012 The use of ventilation and air-conditioning in buildings - Natural ventilation of buildings;
- AS / NZS 3666.1-2011 Air-handling and water systems of buildings - Microbial control - Design, installation and commissioning;
- AS/NZS ISO 31000-2009 Risk Management;
- AS / NZS 817- 2016 Refrigerating systems - Refrigerant classification;

– AS / NZS 3666.3-2011 Air-handling and water systems of buildings - Microbial control - Performance-based maintenance of cooling water systems;
– AS 4254.1-2012 Ductwork for air-handling systems in buildings – flexible duct;
– AS 4254.2-2012 Ductwork for air-handling systems in buildings – rigid duct; and
– AS 4508-1999 Thermal resistance of insulation for ductwork used in building air-conditioning;

a) Other relevant standards, codes and guidelines including:

– Depatyment for Education Design Standards;
– Australian Government - Minimum Efficiency Performance Standards (MEPS);
– Environmental Protection Agency - Policies and guidelines;
– National Association of Testing Authorities (NATA);
– Australian Institute of Air-conditioning, Refrigeration and Heating (AIRAH) guidelines;
– American Society of Heating Refrigeration and Air-Conditioning Engineers (ASHRAE) design guidelines, including ASHRAE Standard 52–76, (filtration);
– Chartered Institution of Building Services Engineers (CIBSE) - Commissioning Code A;
– World Health Organisation (WHO) - recommendations for air quality; and
– Montreal Protocol; and
– All relevant Laws, including OHS Laws.

Where Australian Standards do not sufficiently prescribe the relevant requirements, the mechanical services will be designed to comply with relevant design guidelines. Where guidelines are utilised, the mechanical services will be designed in accordance with AIRAH guidelines. Where these are not sufficient for design guidance the mechanical services will be designed in accordance with the ASHRAE or the CIBSE design guidelines.

The general approach to serving the site is to provide mechanical air conditioning and ventilation to all areas as noted below:

– Direct expansion (DX) packaged air conditioning systems incorporating heat recovery and capable of operating at 100% outside air supply to serve the 500 Seat Theatre space and Foyer areas. Packaged units to allow for economy cycle operation which effectively provides “free cooling” when conditions outside are satisfactory.
– Direct expansion (DX) packaged air conditioning systems to serve Proscenium Stage and Wings.
– Direct expansion (DX) in-ceiling ducted air conditioning systems to serve Box Office/ Cloak, Bar, and Staff back-of-house areas.
– Direct expansion (DX) ceiling- or wall-mounted air conditioning systems to serve Control Room.
– Energy recovery ventilator (ERV) systems to serve Amenities exhaust systems and temper outside air systems to serve Box Office/ Cloak, Bar, and Staff back-of-house areas. Exhaust air and outside air systems reticulated to weatherproof discharge and intake points located on the roof.
– General ventilation or direct evaporative cooling systems to serve Goods and Carpark Lifts.
– General exhaust systems to serve Back-of-House, Storage, and Loading Dock areas.
– Smoke exhaust system/s to serve Proscenium Stage and 500 Seat Theatre areas.
– Carpark exhaust system/s to serve basement carpark areas.
– Air distribution systems including filters, motorised fire and smoke dampers associated with the above systems. The type of air distribution system will depend on the type of mechanical plant utilised, with consideration given to central plant and in-ceiling fan coil units.
– All pipework and ancillary equipment associated with the above systems.
– Electrical Services associated with the above systems.
– Controls associated with the above systems including installation of Building Management System (BMS).
– Noise and vibration control associated with the above systems.
– Painting, identification and labelling of the plant, equipment piping systems, and air distribution systems associated with the above systems.
– Testing and commissioning of all of the above systems.
– Bound volumes of “As Installed” drawings, maintenance and operating instructions.
– Maintenance and warranty defects liability for 12 months from the date of completion.

DESIGN PARAMETERS

DESIGN LIFE

Table 2: Design Life of Mechanical Plant

Element	Design Life	Comments
Pipework	40 years	Based on erosion to manufacturer’s recommended maximum at a pipework velocity of 2.4 m/s
Ductwork	30 years	Based on change in leakage of < 5% airflow
Packaged and Ducted (DX) Air Conditioning Units	20 years	Based on regular maintenance schedule and reliable operation without major failure
Dampers	20 years	Based on free movement without binding and sealing rate changes < 5%
Centrifugal fans	25 years	Based on reliable operation without bearing and motor failure or discernible erosion
Valves	30 years	Based on no measurable erosion and leakage
Valve actuators	20 years	Based on reliable operation with drift < 10%
Control equipment	15 years	Based on reliable operation without upgrade required or failure of components

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DESIGN CONDITIONS

Table 3: External Design Parameters

External Ambient Conditions	equirements
Outside ambient conditions in which air conditioning must be required to achieve continuous maximum ratings of performance	Summer 38°C DB, 21.7°C WB and full solar load Winter 4.5oC DB
Extreme ambient conditions within which plant must be required to operate.	Summer 45°C dry bulb (DB) / 24°C wet bulb (WB) and full solar load. Winter -2.0°C DB

Table 4: Internal Design Parameters

Internal Design Conditions	**Requirements**
Control limits	Conditioned Areas: Set point 22.5°C, with control band ±2°C around set points @ 1600mm AFFL
Relative humidity	Generally, between 40% to 60%
Minimum space pressurisation	0.25 air changes per hour
Air velocity	0.1 - 0.25 m/s measured 1.0 - 1.5 m above floor level 0.75m/s maximum terminal velocity in occupied zone - evaporative cooling systems.
Minimum air change rate	4 ACH
Description	**Performance Requirement**
Outside air	7.5 L/s/person minimum
Exhaust air	All areas to requirements of Australian Standard 1668.2 – 2012 The use of mechanical ventilation and air conditioning in buildings - Mechanical ventilation for acceptable indoor-air quality.
Hours of operation	Community Performing Arts 12hour operation 7 days.
Internal heat gains - people	70W per person, sensible 60W per person, latent
Internal heat gains - lighting	10 W/m2 - typical
Internal heat gains - power	10 W/m2 - typical
Maximum noise levels under all conditions of plant operations	Mechanical plant designed to achieve the noise criteria stated within acoustic report and AS2107 at all times.
Maximum noise levels at adjoining property boundaries	Not to exceed levels specified for commercial properties and residential properties in the Environmental Protection Act.
Design Pressure Losses	All ductwork and hydronic systems should be designed to achieve low pressure losses including: Ductwork: Floor Supply: Maximum velocity 6.0 m/s. Floor Return: 0.8 Pa/m or 6.0 m/s Riser Supply & Return air: 0.6 Pa/m or 6.0 m/s Toilet & General Exhaust: 0.6 Pa/m or 6.0 m/s All bends to be full radius with stream splitters. Where square bends must be used they shall be fitted with aerofoil turning vanes. Dampers: Minimum 3.0 m/s Maximum 8.0 m/s (unless scheduled otherwise) Louvres: Intake & Exhaust - maximum 2.5 m/s Exhaust (roof) – maximum 3.0 m/s Door Grilles: <50 L/s – 25 mm Undercut 51 – 200 L/s – 600x300 Door Grille 201 – 300 L/s – 600x450 Door Grille Filters: Maximum face velocity 1.8 m/s
Filtration	Dry media disposable filters, average filtration efficiency to Australian Standard 1324.2 - Air filters for use in general ventilation and air conditioning - Methods of test. Test dust no. 1 - 20%, test dust no. 2 - 98%. Provide panel type filtration on all outside air intakes.
Movement Joints	All pipework, ductwork & cabling to include 3 dimensional movement joints at all building structural movement joint locations (internal and external to the building)
Fire and Smoke Compartmentation	Services passing through smoke/fire compartments are required to maintain the required smoke/fire separation of the element that they penetrate. Fire dampers, smoke damper and or combined fire/smoke dampers shall be installed in accordance with AS1682.1-2105 and AS1530.4 (or AS1530.7) and or installed in accordance with As1682.2-2015

SAFETY

The design will incorporate risk assessments and developed strategies to minimise risk of injury during construction of the mechanical services and during operational maintenance of mechanical services.

Leak detection to be provided where other toxic or dangerous gases are present, including fuel vapour, carbon dioxide, carbon monoxide, chlorine or other pool water treatment, fertilisers, latent methane and industrial level cleaning agents.

MAINTAINABILITY

The mechanical services are to be designed and installed to accommodate manufacturers' recommended maintenance activity without removal of structure or other services and with clear access zones in accordance with all relevant Quality Standards and Laws, manufacturer's recommendations.
Minimum maintainability access requirements are as follows:

- Maintainable equipment to not be installed more than 300mm above ceilings, in locations requiring ladder access more than 1.8m in height and above flush set ceilings.
- Access openings, doors and lifting provisions to be provided for replacement of all equipment installed without removal of fixed building components or other services.

LOCATION OF MECHANICAL SERVICES PLANT

All large items of mechanical plant shall be located in dedicated plant areas and be secure from accidental or intentional damage caused by the introduction of material through outside air intakes. The location of air intakes and discharges (including heat rejection, kitchen exhaust, smoke exhaust and flues) to also take into account noise, visibility, aesthetics, OHS and security.

ASSET RENEWAL

All mechanical plant shall be able to be renewed without demolition of structural building components and while maintaining minimum levels of system availability and redundancy on critical infrastructure.

HYDRAULIC SERVICES
DESIGN STANDARDS

The Hydraulic Services will be designed to meet current Building Code of Australia and Australian Standards including (but not limited to) the following:

NCC 2022	National Construction Code.
AS/NZS 1055	Acoustics- Description and Measurement of environment noise.
AS/NZS 1170	Part 4 Earthquake Loads
AS/NZS 1345	Identification of the contents of piping, conduits and ducts.
AS/NZS 1530	Methods of fire tests on building materials, components and structures.
AS/NZS 2107	Acoustics - Recommended design sound levels and reverberation times for building interiors
AS/NZS 2279	Part 2 Limitations of Harmonics caused by Industrial Equipment.
AS ISO 9906	Rotodynamic pumps - Hydraulic performance acceptance tests
AS/NZS 2700	Colour standards for general purposes.
AS/NZS 2845	Water supply - backflow prevention devices
AS/NZS 3000	SAA wiring rules
AS/NZS 3666	Air handling and water systems of buildings - Microbial control
AS/NZS 4494	Discharge of commercial and industrial liquid waste to sewer – General performance requirements
AS/NZS 5601	Gas Installations
AS/NZS 1596	The Storage and Handling of LP Gas
AS/NZS 3500	Plumbing and Drainage

TRENCHING

The main hydraulic services shall be located within a new services common trenching with other services for easy access and maintenance. Minimum clearance distance between different services shall be allowed as per AS 3500 & AS 5601.

STORMWATER

Siphonic stormwater drainage system discharging to above ground polyethylene rainwater tanks or to storm water pits.

High quality commercial grade sanitary ware and tapware fixtures selected in consideration of durability, ease of replacement, water efficiency and infection control. WC to incorporate integral fold down hand rails with duress call Design Parameters.

DESIGN LIFE

Table 0 1 Hydraulic Services Design Criteria

Extreme ambient conditions under which all plant shall operate	46.0oC dry bulb maximum 24.0oC wet bulb maximum Full solar load 0.0oC dry bulb minimum.
Pipe Sizing Design Criteria	Australian Standard 2200 - Design charts for Water Supply and Sewerage and The Institute of Plumbing Australia - Selection and sizing of copper tubes for water piping systems.
Sanitary Plumbing and Drainage	To requirements of Australian/New Zealand Standard 3500 Plumbing and Drainage.
Floor Drainage Provisions	To requirements of Australian Standard 3740 - 1994 - Waterproofing of wet areas within residential buildings.
Domestic Hot and Cold Water Reticulation	To requirements of Australian/New Zealand Standard 3500 - Plumbing and Drainage.
General Pipe Identification	To requirements of Australian Standard 1345 - 1995 - Identification of the contents of piping, conduits and ducts.
Sanitary Plumbing Fittings and Fixtures	To requirements of:- Australian Standard 1172 - Water closets of 4.5/3 litre capacity Australian Standard 1172:1 - Water Closet Pans Australian Standard 1172:2 - Cisterns Australian Standard 1371 - Toilet seats of moulded plastics Australian/New Zealand Standard 1730 - Wash basins Australian Standard 1976 - Vitreous china for use in sanitary appliances.
Disability Access	In accordance with the Building Code of Australia and Australian Standard 1428.1 - Design for Access and Mobility.

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Faucets, Cocks and Outlets	To requirements of Australian Standard 1718, dezincification resistant copper alloy, pressure tested to 2.0 MPa.
Water Conservation Measures	In accordance with the Guidelines for Provision of Water Appliances and Plumbing issued by the Water Technology Committee of Australia Water Resources Council 1993 and WELS Labelling Scheme.
Hot Water Temperature Control	To requirements of Australian/New Zealand Standard 3500.4.1 - Hot water supply systems - Performance requirements.
Water supply - mains water	Mains water supplied from the new SA Water Corporation supply. Average supply temperature 15°C Minimum supply pressure 200 kPa Maximum supply pressure 700 kPa.
Hours of operation	Performing Arts 12hour operation 7 days.

FIRE PROTECTION SERVICES
DESIGN STANDARDS
The Fire Protection Services will be designed to meet the current National Construction Code (NCC) and Australian Standards including (but not limited to) the following:

NCC 2022	National Construction Code - also known as the Building Code of Australia (BCA)
AS/NZS 1170.4	Part 4 Earthquake Loads
AS/NZS 1345	Identification of the contents of piping, conduits and ducts.
AS 1670.1	Automatic fire detection and alarm systems, Part 1: Fire
AS 1670.4	Automatic fire detection and alarm systems, Part 4: Emergency warning and intercom systems
AS 1851	Maintenance of Fire Protection Equipment
AS 2118.1	Automatic fire sprinkler systems, Part 1: General systems
AS 2419.1	Installation of Fire Hydrants, Part 1: System design, installation and commissioning
AS 2441	Installation of Fire hose reels
AS 2444	Portable Fire Extinguishers - Selection and Location
AS 2700	Colour standards for general purposes
AS 2845	Water Supply - Mechanical Back flow prevention devices
AS/NZS 3000	Electrical Installations (SAA Wiring Rules)
AS/NZS 3500	Plumbing and Drainage

- SA Water Conditions of connection
- South Australian Metropolitan Fire Brigade (SAMFS) Conditions of connection
- Fire Engineered Brief (FEB) and Fire Engineered Report (FER)
- Department for Education (DfE) Education facilities design standards, July 2020

SCOPE OF WORKS
The fire protection services proposed for the new building will generally comprise of the following:
- Portable Fire Extinguishers
- Fire Hose Reels
- External Fire Hydrants (internal hydrants may be required subject to final building and stair set out)
- Fire sprinkler system
- Fire detection and alarm system
- Emergency Warning and Intercommunication System
- Mechanical smoke management systems interface
- Security systems interface
- Connection to the main site fire water supply and increase the capacity of the site fire water pumps
- Connection to the Main site fire alarm panel located in the Administration / PA building

DESIGN
HYDRANT SYSTEM PERFORMANCE
The fire hydrant design criteria will consist of:
- 600 litres/min at 350 kPa at each of the 2 most hydraulically disadvantaged hydrant outlets under Towns main pressure (unassisted).
- 600 litres/min at 700 kPa at each of the 2 most hydraulically disadvantaged hydrant outlets under Fire Brigade boost conditions.
- 300 litres/min at 700 kPa at each of the 2 most hydraulically disadvantaged hydrant outlets (where on site pumps are provided).

HOSE REEL SYSTEM PERFORMANCE
The fire hose reel design criteria will consist of:
- Minimum no of hose reels to operate simultaneously: 2
- Minimum flow rate: 0.33 l/s (each)
- Minimum outlet pressure: 220 kPa (+ or - 10 kPa)

SPRINKLER SYSTEM PERFORMANCE
The fire sprinkler hazard classification rating will consist of:

Building Services Plant rooms	Ordinary Hazard 1
Carpark	Ordinary Hazard 2
Theatre (general)	Ordinary Hazard 3
Theatrical scenery stores	High Hazard Process (Requirement TBC)

FIRE WATER SUPPLY
The new CoC Performing Arts building is proposed to be connected to the main site fire water supply and underground fire ring main infrastructure.

The main site's fire water supply consists of a new connection to the 200mm diameter SA Water main in St Bernard's Road, new fire tanks and new fire pumps.

The main site fire tanks and SA Water connection are suitably sized to service the fire water demands of the proposed CoC PA building without any future modifications. However, the site fire pumps in the pump house are currently only specified to meet the fire water demand of the learning buildings as per discussions. If the COC PA building goes ahead, the duty flow and pressure of the fire pumps will need to be increased to supply the CoC Building demands.

The capacity increase of the pumps is outlined below for information in the following schedules.

CURRENT SPECIFIED LEARNING BUILDINGS DUTY FLOW AND PRESSURE

Fire hydrant/ sprinkler pump schedule		
Pump	**Estimated duty flow**	**Estimated duty pressure**
Diesel fire pump (Primary)	1,300 L/min	1,050 kPa
Diesel fire pump (Secondary)	1,300 L/min	1,050 kPa
Electric jacking pump	0.5 L/min	1,200 kPa

COC PA BUILDING ESTIMATED FUTURE DUTY FLOW AND PRESSURE

(TO BE CONFIRMED DURING DESIGN DEVELOPMENT)

Fire hydrant/ sprinkler pump schedule		
Pump	**Estimated duty flow**	**Estimated duty pressure**
Diesel fire pump (Primary)	2,100 L/min	1,050 kPa
Diesel fire pump (Secondary)	2,100 L/min	1,050 kPa
Electric jacking pump	0.5 L/min	1,200 kPa

It is not anticipated for any other infrastructure alterations to be required as the fire pumps are both diesels (i.e. electrical supply would not change) and the size of the pump house will be satisfactory to accommodate an increase in pump dimensions (if required).

Timing of the change to the main site fire pumps will need further consideration by the Project to determine if the capacity increase is incorporated as part of the MSC main site project works or if the pumps are replaced in the future as part of the CoC PA Building project. It will be considerably more cost effective to make the changes to the specification of fire pumps now as part of the main MSC site works prior to their final selection and installation.

COMBINED AUTOMATIC FIRE SPRINKLER SYSTEMS AND HYDRANT SYSTEMS

The combined automatic sprinkler/hydrant system shall be fed by an infrastructure of 150mm pipe and isolating valves which will form a ring main and be fed by the dedicated fire water supply in accordance with AS2118.6.

150mm pipe risers are proposed to be installed in the fire isolated stairs as part of the fire service main infrastructure in a ring main configuration with fire hydrant landing valves strategically located on each stair floor landing and externally of the building in accordance with AS2419 and to meet SAMFS operational requirements.

Fire sprinkler control valves serving each of the floors are proposed to be located on each stair floor landing and be directly accessible via one of the fire isolated stairs. Automatic fire sprinkler systems will be installed on all floors throughout the complex in accordance with AS2118.1.

A fire sprinkler system is required to be installed within the building in accordance with the NCC due to the floor area of the stage and backstage area.

As the new COC PA building will be sprinkler protected and connected to the un-sprinklered Admin/ PA building, a fire wall with a minimum FRL of 2 hours will need to be constructed between them in accordance with AS2118.1. The requirements for this may need to be addressed as part of a fire safety engineered alternative solution.

PORTABLE FIRE EXTINGUISHERS

Fire extinguishers will be provided in accordance with Table E1.6 of BCA 2004 throughout the building. Portable Fire Extinguishers will be located within all fire hose reel cupboards, adjacent electrical switchboards, within plant rooms and generally in paths of egress, to enable trained building personnel to provide rapid response to a fire. The fire extinguishers shall be of the type suitable for the environment in which they are installed.

FIRE HOSE REEL SYSTEM

Fire hose reels will be installed to throughout the building in accordance with the NCC and AS2441 and must be located within 4 meters of an exit door. All points on a floor shall be within reach of a 4 m hose stream issuing from a 36 m hose laid flat on the floor.

AUTOMATIC FIRE DETECTION AND EMERGENCY WARNING AND INTERCOMMUNICATION SYSTEMS

The fire detection system and emergency warning system will consist of the following main items:

- Fire Indicator Panel (FDCIE)
- Evacuation Control Panel (EWCIE) built into the FDCIE
- Electrical services infrastructure
- Smoke detection, thermal detection and manual call points
- Warden Intercommunication Phones, speakers, Visual alarm Devices and electrical infrastructure

The FIP and MECP are proposed to be installed on ground level in the buildings designated entry point to meet SAMFS operational requirements.

Smoke detectors will be installed in accordance with AS1670.1 on all floors and in all areas for early warning and zoned to automatically interface with the mechanical smoke management systems and security systems.

The smoke detection system will be connected to the Emergency warning system which in turn is connected to a network of zoned speakers throughout the complex for early warning and to aide in the evacuation of the complex in an emergency.

Warden Intercommunication Phones and manual call points will typically be located adjacent to fire stair exits.

The COC PA buildings FDCIE and EWCIE are proposed to be networked with the sites main fire indicator panel and Master evacuation control Panel.

The new fire detection and alarm infrastructure will be discussed with the SAMFS to ensure their operational requirements for the site are appropriately considered.

MECHANICAL SYSTEMS SMOKE MANAGEMENT INTERFACE

A zoned interface is proposed to be provided to the Mechanical systems for automatic control of smoke upon receipt of a fire alarm within the building.

Smoke control in a fire situation by the Mechanical services systems will be a combination of compliance with AS 1668.1 and NCC requirements.

The fire fan control panel for use by the SAMFS (if required) will be built into the Fire Indicator Panel located in the buildings designated entry point.

SECURITY SYSTEMS INTERFACE

A zoned interface is proposed to be provided to the security system for indication of a fire alarm for potential investigation and to automatically release any electronic controlled security doors located in paths of egress.

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FIRE SAFETY ENGINEERING

The intent of undertaking a fire safety engineering analysis on the proposed building design is to identify and review areas where compliance with statutory codes and standards would compromise the intended building function. Through a performance-based approach to engineering analysis and modelling, deviations from the Deemed to Satisfy provisions of the National Construction Code (also known as Performance Solutions) may be justified as possessing either an equivalent level of safety or being safe to the degree necessary as outlined within the relevant Performance Requirements of the NCC.

As the adjoining Administration / PA building is subject to existing performance-based solutions and will be connected to the proposed new sprinkler protected COC PA building, both Buildings will need to be reviewed from a Fire Safety Engineering perspective to ensure their proposed connection does not impact on the safety of either building.

DESIGN PARAMETERS

DESIGN LIFE

Table 5 Fire Protection Services Design Criteria

Description	Performance Requirement
Extreme ambient conditions under which all plant shall operate	46.0oC dry bulb maximum 24.0oC wet bulb maximum Full solar load 0.0oC dry bulb minimum.
Security monitored smoke alarms	In accordance with DfE Design Standards
Automatic fire detection and alarm system	To the requirements of Australian Standard 1670.1:2018 - Fire detection, warning, control and intercom systems - System design, installation and commissioning
Emergency Warning and Intercommunication System	To the requirements of Australian Standard 1670.4:2018 - Fire detection, warning, control and intercom systems - System design, installation and commissioning Emergency warning and intercom systems
Automatic fire sprinkler system	To the requirements of Australian Standard 2118.1:2017 - Automatic fire sprinkler system, Part 1: general systems
Fire Hydrant Systems	To the requirements of Australian/New Zealand Standard 2419.1:2005 - Fire hydrant installations.
Portable Fire Extinguishers	To the requirements of Australian/New Zealand Standard 2444:2001 - Portable fire extinguishers and fire blankets - Selection and location.
Piping Systems	To the requirements of Australian/New Zealand Standard 2419.1:2005 - Fire hydrant installations, Australian Standard 2118.1:2017 - Automatic fire sprinkler system, Part 1: general systems and Australian/New Zealand Standard 3500:2018 - Plumbing and drainage
Maintenance and servicing	To the requirements of Australian Standard 1851:2012 - Routine service of fire protection systems and equipment
Disability Access	In accordance with the Building Code of Australia and Australian Standard 1428.1 - Design for Access and Mobility.
Hours of operation	**Community Performing Arts** 12hour operation 7 days.

ACOUSTICS

ACOUSTIC DESIGN METHODOLOGY AND STANDARD

The approach is to comply with the Department for Education (DfE) Education facilities design standards acoustic guidelines. We have also made reference to the Association of Australian Acoustical Consultants Guideline for Educational Facilities Acoustics (AAAC Guideline) which the DfE design standard document references. The Australian/New Zealand Standard 2107:2016 Acoustics - Recommended design sound levels and reverberation times for building interiors (AS/NZS 2107:2016) for some of the acoustic design criteria.

Acoustic design target for the redevelopment project will be established based on the following:

- AS2107:2016 - Acoustics - Recommended design sound levels and reverberation times for building interiors.
- Association of Australasian Acoustical Consultants (AAAC) - Guideline for Educational Facilities, Version 2.0
- Department for Education (DfE) Education facilities design standards v3.0, July 2020

The development of the school shall also be informed by the noise and vibration principles of development control promoted by the local councils' development plan. This will be included as a local requirement for developments proposed for the school. The approach is to comply with the Department for Education (DfE) Education facilities design standards acoustic guidelines. We have also made reference to the Association of Australian Acoustical Consultants Guideline for Educational Facilities Acoustics (AAAC Guideline) which the DfE design standard document references. The Australian/New Zealand Standard 2107:2016 Acoustics - Recommended design sound levels and reverberation times for building interiors (AS/NZS 2107:2016) for some of the acoustic design criteria.

Acoustic design target for the redevelopment project will be established based on the following.

- AS2107:2016 - Acoustics - Recommended design sound levels and reverberation times for building interiors.
- Association of Australasian Acoustical Consultants (AAAC) - Guideline for Educational Facilities, Version 2.0
- Department for Education (DfE) Education facilities design standards v3.0, July 2020

The development of the school shall also be informed by the noise and vibration principles of development control promoted by the local councils' development plan. This will be included as a local requirement for developments proposed for the school. Construction phase - Environmental management

Noise and vibration from construction work associated with the development has the potential to impact on surrounding noise sensitive areas surrounding the school precinct and the interaction with operational school areas in conjunction with construction activity.

The hours of construction/demolition activities shall comply with SA Environmental Protection Authority requirements relating to the project. Construction noise that causes an adverse impact on amenity is only permitted between 7 am and 7 pm, Monday to Saturday. The Contractor will be required to comply with the EPA and council requirements.

Noise and vibration associated with construction or demolition work should be considered with respect to the impact on existing buildings adjacent to the proposed site. To mitigate the noise and vibration impact due to such works, a Construction Noise and Vibration Management Plan should be developed by the contractor and implement mitigation measures where required. Consideration must also be given to operational school areas that will be completed in future while neighbouring buildings are being construction.

This will be important when considering the amenity of the operational school areas and potential impacts that construction may have on the learning environment.

Reverberation control within new art classroom

Acoustic separation between new and existing classrooms
- Façade design should ensure that the intrusion of traffic noise will not significantly diminish the amenity of occupants.
- Tailored design of internal fitout elements to suit the operational intent of each space with sufficient reverberation control to achieve suitable functional amenity
- HVAC noise control is required to achieve indoor comfort as well as to ensure environmental noise emission to nearby sensitive receivers (e.g. residents etc) is minimised.

VERTICAL TRANSPORTATION DESIGN STANDARDS

The Vertical Transportation Services will be designed to meet current Building Code of Australia and Australian Standards including (but not limited to) the following:

NCC 2022	National Construction Code.
AS/NZS 1170	Part 4 Earthquake Loads
AS/NZS 1345	Identification of the contents of piping, conduits and ducts.
AS/NZS 3000	SAA wiring rules
AS/NZS 3008	Electrical Installations
AS1735 /EN81	Lifts, Escalators and Moving Walks: AS 1735 Parts 1-20 or BS EN81

- Provision of a new lifts to serve all occupied levels.
- Combined passenger / goods lifts.
- Variable Voltage Variable Frequency Machine Room Less (VVVF MRL) lift.
- DDA Compliant with the ability to accommodate a stretcher
- Car capacity >=1000kg 13 person.
- Lateral vibration <=20mg.
- Regenerative drives for energy conservation.
- Security interface to card key control to lift cars.
- Lift equipment complete with all machinery, machine foundations, structural steel support beams, diverter sheaves and roping, governors and brake release and winding devices.
- Lift well equipment including guide rails, trimmer beams and fixings, counterweights and guard guide shoes, pit access, screens to trailing cables and counterweights, ropes and fittings, buffers and supports, access ladders and guide rail terminations.
- Landing equipment including landing frames, sills and sill supports, lift well flushing, landing doors, door support and locks, door closers, direction lanterns and landing call buttons.
- Lift cars and associated equipment including platforms, car frame, safety gear, car enclosures, ventilation systems, doors, hangers and tracks, sills, operating panels, position indicators and protective blankets.
- Permanent guards and handrails required by the Department of Planning, Transport and Infrastructure - SafeWork SA and Australian Standard 1735 - SAA Lift Code.
- Provide commercial quality interiors

SAFETY

The design will incorporate risk assessments and developed strategies to minimise risk of injury during construction of the vertical transportation services and during ongoing operational and maintenance of vertical transportation services.

DESIGN CRITERIA

Table 3 highlights the key design criteria which will be used throughout the design of the Vertical Transportation systems.

Table 3 Vertical Transportation Design Criteria

Item	Design Criteria
Extreme ambient conditions under which lift control equipment shall operate.	46.0oC dry bulb maximum 24.0oC wet bulb maximum Full solar load. -2.0oC dry bulb minimum.
Maximum lift shaft air temperature under which lift equipment shall operate.	40.0oC dry bulb maximum.
Floor levelling accuracy	Plus or minus 5mm under all load conditions
Approximate time from commencement of doors closing to doors fully open with lift level at floor	2 floor travel of 2900mm 10.2 seconds 3 floors travel of 5800mm 13.1 seconds 3 floors travel of 8700mm 16 second.
Maximum lift acceleration rate of	1.0 m/s2
Maximum lift deceleration rate of	1.0 m/s2
Maximum jerk rate of	1.5 m/s3
Maximum horizontal acceleration inside lift car measured both front to rear and side to side	15 milli-g in the frequency range of 1 to 10 Hertz (mean) and 20 milli-g (peak)
Rated number of starts	180 per hour
Hours of Operation	Community Performing Arts 12hour operation 7 days.
Maximum noise levels at a lift lobby - background noise level of 45 dBA	50 dBA - inside car at contract running speed 55 dBA - inside car during acceleration or deceleration 60 dBA - inside car during levelling with doors opening 45 dBA - in lift lobbies with car passing at contract running speed 50 dBA - within 1 metre of any part of escalator/moving walkway installation
Maximum noise levels at adjoining property boundaries	Not to exceed levels specified for commercial properties and residential properties in the Environmental Protection Act

5.6 RETURN BRIEF

5.6.1 STRUCTURAL

The structural design will comply with the following design parameters:

– **Importance level (NCC 2022)**	3
– **Design life**	50 years
– **Wind Parameters**	
Wind region	A1
Probability of exceedance (ultimate)	1:1000
Probability of exceedance (serviceability)	1:25
Ultimate design gust wind speed	46 m/s
Serviceability design gust wind speed	37 m/s
Terrain Category	3
Topographic and Shielding Multiplier	1.0
– **Earthquake parameters:**	
Annual probability of exceedance	1:1000
Probability factor (Kp)	1.3
Site sub-soil class	De
Hazard Factor (Z)	0.10
Earthquake design category	EDCII
Ductility factor (μ)	TBC during detailed design
Sp	0.77
– **Geotechnical parameters**	TBC based on geotechnical investigation

The structures will be designed and documented in accordance with the National Construction Code 2019 together with the deemed to comply Australian Standards as listed below:

AS 1170.0:2002	Structural Design Actions – Part 0: General Principles
AS 1170.1:2002	Structural Design Actions – Part 1: Permanent, imposed and other actions
AS 1170.2:2021	Structural Design Actions – Part 2: Wind Actions
AS 1170.4:2007	Structural Design Actions – Part 4: Earthquake Actions
AS 2312.1:2014	Protection of Structural Steel – Paint coatings
AS 2327:2017	Composite Structures – Composite steel-concrete construction in buildings
AS 2870:2011	Residential Slabs and Footings
AS 3600:2018	Concrete Structures
AS 4100:2020	Steel Structures
AS 4678:2002	Earth Retaining Structures

Structural documentation will comply with relevant DIT and DE standards in addition to the Australian Standards.

The proposed structure for the City of Campbelltown Performing Arts Building is as follows:

- Footings are isolated reinforced concrete pad footings beneath columns, precast concrete core walls and stair walls. Pad footings will be connected in accordance with AS 1170.4
- Basement walls are insitu cantilever reinforced concrete walls ranging up to 3m high. The eastern side of the basement which is approximately 3m lower than the adjacent school Performing Arts/Admin building is a shotcrete stabilized slope. Slope stability requirements will be confirmed by the geotechnical engineer in the concept phase of the project.
- Basement slab is a asphalt sealed civil pavement suitable for the expected vehicular access
- Structural solution for the suspended slab above the basement is expected to be a one-way reinforced concrete band beam solution to support the dynamic loading expected. A steel and bondek solution similar to the learning commons building will also be investigated during concept design
- The roof structure will consist of structural steel trusses spanning the width of the performing arts area from which catwalks and lighting will be connected. Cold form purlins will support roof sheeting and acoustic treatment to the inside of the main performing arts space. A raised steel plant platform will be included above the truss system with necessary acoustic and vibration isolation from its supporting structure.
- Vertical support will be provided by steel and/or reinforced concrete columns
- Lateral stability will be provided by discrete bracing in combination with precast stair of lift core walls

5.6.2 CIVIL

Some or all of the following codes and standards will form the basis for components of the stormwater drainage design.

- AS 1012 methods of testing concrete.
- AS 1260 un-plasticised PVC (UPVC) pipes and fittings for sewerage applications.
- AS 1289 methods of testing soils for engineering purposes.
- AS 1302 steel reinforcing bars for concrete.
- AS 1304 welded wire reinforcing fabric for concrete.
- AS 1342 precast concrete drainage pipes.
- AS 1379 the specification and manufacture of concrete.
- AS 1597 precast reinforced boxed culverts.
- AS 3725 loads on buried concrete pipes.
- AS 2566 plastics pipe laying design.
- AS 3500 plumbing and drainage.
- AS 3600 concrete structures.
- AS 3610 formwork for concrete.
- AS 3972 Portland and blended cements.
- AS 3996 access cover and grates.
- AS 4058 precast concrete pipes (pressure and non-pressure).
- Australian Rainfall and Runoff, 2016.
- Storm Drainage Design in Small Urban Catchments: ARRB Special Report No. 34, Argue, 1986.
- Hydraulics of Pre-cast Concrete Conduits, Concrete Pipe Association of Australia (1983).
- Australian Runoff Quality: A Guide to Water Sensitive Urban Design: Engineers Australia (2006).

RETAINING WALLS

Retaining walls will be provided around the Performing Arts building, including access from Morialta Road West up to a maximum height of 3m.

STORMWATER

Stormwater from the Morialta Secondary College buildings and pavements is collected within a series of underground reinforced concrete pipes which discharge into a detention basin on the north-west corner of the site and ultimately into the council network via a side entry pit located in Morialta Road West. The design intent is for the current detention basin in the north-western corner of the site (Refer Area 4 on 'Landscape Briefing Plan' sketch (Page 7 of the Appendix A)) to be modified to accommodate the additional 30m3 of storage by increasing the western and northern bank height. The finalised detention strategy will be developed with council in Stage 1 of the project. The new City of Campbelltown Performing Arts building will connect into this stormwater network.

Discussions with Council, DfE requirements and Australian Rainfall and Runoff 2019 informed the following design requirements for new stormwater infrastructure:

Drainage System	Design storm event (ARI)	Drainage condition
Drainage to Council stormwater networks		Stormwater discharge via a pump system or location where there is no overland flow shall be designed to limit Post development flow 20 year ARI critical flow to Pre development flow 5 year ARI, and prepared by a suitably qualified engineer to control the discharge of stormwater from the land and buildings such that design complies with Australian Standards AS/NZS 3500.3:2018
Internal site underground drainage	5	Ensure new internal pits and pipes have capacity to collect and convey the 5 year ARI event (Department for Education) Minimum freeboard to = 150 mm
Sag locations	20	Where pits are located at a sag point, ensure they have at least a 20 year ARI event capacity
Detention	20	Do not exceed the pre-development flow for a 5 year ARI event for the post development 20 year ARI event.
Overland Flow path	100	No flooding to school buildings (Department for Education) Maximum ponded depth at sag points, detention and rain gardens to be limited to 300 mm
Roof plumbing and stormwater collection	100	Roof drainage system in accordance with AS 3500.3

To meet Council guidelines to limit the post development 20 year ARI peak flow to pre development 5 year ARI peak flow, it is proposed to utilise a new detention basin in the north-west corner of the site to ensure the required pre development discharge is not exceeded. Initial modelling suggests that an additional 30m3 of stormwater detention is required as a result of the new building. In addition, the proposed new facility reduces the extent of the schools detention basin; this will need to be evaluated during the concept phase of the project.

Roof stormwater drainage pipes are proposed to be a minimum 150 mm diameter for down pipe connections and 300 mm diameter for reinforced concrete pipes.
Overland flow paths will be provided between buildings that obstruct the natural flow path which is from south-east to north-west. In general the site has reasonable grade from south east to north west, and the 100 year ARI event peak flows will be able to be directed via carparks and landscape areas, away from the new facilities.

WSUD

The Campbelltown City Council have advised that the provision of water quality devices are required to meet water quality target of:

- Oil removal = 99.95%
- Gross pollutants (GP) = 100%
- Total Suspended Solids (TSS) = 80%
- Total Nitrogen (TN) = 45%
- Total Phosphorous (TP) = 45%

Achieving these requirements will be investigated in the concept phase of the project.

PAVEMENTS
The Geotechnical report for the Morialta Secondary College (which is expected to be similar to this area) indicates that the pavement subgrade would typically comprise an extremely reactive, high plasticity clay with a design subgrade CBR of 2% recommended for the pavement design. The wearing course of asphalt will degrade under UV exposure and is likely to require resurfacing after approximately 10 years. Design vehicles considered include standard garbage truck, delivery vehicles and emergency service vehicles. Traffic volumes have been determined as per Austroads guide to traffic management and Austroads guide to pavement technology.

Concrete pavement/footpaths will require dowelling at joints to mitigate differential movement and achieve 40 year design life.

All pavement design for the project will be compliant with AS 1428.2, 1428.3 and Ausco requirements.

EARTHWORKS
Generally the new building will be in up to 2m of cut on the south-east corner tending to 0 on the western side. Geotechnical investigations will be completed during the concept phase of the project to confirm excavation slope stability.

GENERAL RISKS AND OPPORTUNITIES
The following risks and opportunities have been identified during the concept design:
- Highly reactive soils present risk to the durability of pavements. Suitable pavement thicknesses will be adopted to mitigate the large ground surface movements expected. Dowelled joints for concrete pavements will be required to mitigate differential movement.
- Condition and capacity of existing Council downstream stormwater infrastructure is unknown. It has been assumed suitable connection can be made to the existing infrastructure.

5.7 TRAFFIC
The Planning and Design Code identifies the following parking rates relevant to the proposal:

- Hall/meeting hall - 0.2 spaces per seat; and
- Concert hall / theatre - 0.2 spaces per seat.

Based upon the above rates, the proposed Performing Arts Centre would require 100 parking spaces to accommodate a 500 seat capacity. It is noted that nearby on-street parking opportunities will be minimal during peak set-down/pick-up up periods associated with the adjacent Morialta Secondary College. If a shortfall in parking is required to be accommodated on-street or elsewhere on-site (by sharing parking with the College), events would need to be scheduled outside of school hours (or school events) when additional parking opportunities would be available on-street and within the College parking area. Alternatively, event/performance capacities could be restricted during school hours to ensure that parking can be accommodated within the proposed Performing Arts Centres on-site parking area (i.e. if 60 parking spaces are proposed within the Performing Arts Centres designated parking area this could accommodate the parking demand associated with 300 people).

Based upon 100 parking spaces being required to service a maximum capacity event of 500 people, the Performing Arts Centre would require 2 accessible parking spaces (i.e. 1 accessible parking space for every 50 parking spaces). It is recommended that these parking spaces be accommodated within the Performing Arts Centres designated parking area to ensure easy access to the building.

Adjacent the site, parking is generally unrestricted in the surrounding local roads. This includes and indented parking lane of Morialta Road West which is utilised as Morialta Secondary College's set-down/pick-up lane. Should longer duration parking become an issue within areas utilised for set-down/pick-up demands, it would be recommended that parking be restricted to short term parking during set-down/pick-up times (i.e. 8 to 9 am and 3 to 4pm, school days). It would also be desirable to consider similar controls for set-down/pick-up arrangements on-street for the proposed Performing Arts Centre (as a proportion of attendees may be dropped off rather than require long term parking within the site). Parking restrictions could also be considered on the nearby residential streets to encourage attendees to park on-site.

Potential options to accommodate commercial vehicle access include (but are not limited to):
- separate ingress and egress access points on Morialta Road West to accommodate forward-in/forward-out movements. This would minimise any risks associated with vehicles reversing to/from the site (particularly during periods where there are a high number of pedestrians associated with the school);
- a single access point that would require vehicles to reverse into the site and exit forward-out. Appropriate separation will be required between the building and the property boundary to accommodate a commercial vehicle storing on-site. It is recommended that bends in the access driveway are minimised to provide ease of access and maximise sight lines for reversing commercial vehicles; and
- an ingress on Morialta Road West and an egress on St Bernards Road (left-out). Vehicles would be able to drive forward-in and forward-out of the site.

To accommodate commercial vehicles access on Morialta Road West, the duration and length of the existing part-time parking restrictions (on Morialta Road West) may need to be increased. Appropriate separation will also be required between St Bernards Road and the commercial vehicle access point (on Morialta Road West). This would need to accommodate a vehicle entering and storing on Morialta Road West while waiting for a commercial vehicle to enter the site. Further information will be required regarding the size of the largest commercial vehicle that will be required to access the site to determine the access requirements for the loading bay and manoeuvring provisions.

Consideration will also need to be given to the loading/unloading requirements of the commercial vehicles accessing the site. This includes the clearances required to the rear of the vehicle (for rear loading/unloading) and the head height required to accommodate vehicle movements and loading/unloading.

In addition to the above, consideration will need to be given to emergency vehicle access requirements. This will require liaison with the relevant authorities to ensure that appropriate access is provided.

In regards to the public parking area, it is desirable for the access point to be located on Morialta Road West, maximising the separation to the intersection of St Bernards Road. Access via the minor road is preferred in comparison to an access point on St Bernards Road as it minimises the potential conflict risk. A single access point to the proposed undercroft parking area will be sufficient for the anticipated number of parking spaces accommodated on-site.

Detailed design of the sites access points and parking area will need to be undertaken in accordance with the requirements of the relevant Australian Standards including the Australian/New Zealand Standards for "Parking Facilities – Part 1: Off-street car parking" (AS/NZS 2890.1:2004), "Parking Facilities – Part 2: Off-street commercial vehicle facilities" (AS/NZS 2890.2:2018) and "Parking Facilities – Part 6: Off-street parking for people with disabilities" (AS/NZS 2890.6:2009).

To determine the potential traffic generation associated with a full capacity event at the proposed Performing Art Centre (maximum capacity of 500 people), a first principles assessment has been undertaken. The assessment has been based upon the following assumptions:

- Each vehicle travelling to/from the site will have an average occupancy of 3 people (visitors attending the site);
- Based upon the parking rate identified within the Planning and Design Code, the proposal will have a parking requirement of 100 spaces. It is assumed that all parking spaces will be occupied during a maximum capacity event (i.e. 300 people will attend the site in a private motor vehicle); and
- The remaining attendees attend the site via ride share/taxi.

Based upon the above it is forecast that the proposal could generate in the order of 235 movements. Although not considered above, people may also attend the site using public transport or alternative active transport modes (i.e. walking or cycling). This number of movements would be akin to the number of movements that the Morialta Secondary College would generate during peak periods on Morialta Road West (and the nearby local roads). However, it is noted that peak traffic generation associated with the proposed Performing Arts Centre would have a differing proportion of trips distributed to/from the site (i.e. 70% to/30% from the site in the peak hour prior to a performance/event and vice versa after an event). This would result in a higher concentration of movements to the site prior to events and from the site after events. Noting the existing capacity constraints associated with the intersection of Morialta Road West and St Bernards Road (and the nearby intersections on St Bernards Road), intersection treatments may be required to accommodate peak movements associated with the proposal.

Based upon discussions with DIT during the planning process for the redevelopment of the Morialta Secondary College, it is anticipated that DIT's Transport Assessment section may be resistant to additional traffic impacts on the road network surrounding the site (particularly if there is a notable increase generated by the proposal during the existing set-down/pick-up and commuter peak periods). While further analysis would need to be undertaken as the proposal progresses, there is potential that DIT may raise the potential need for upgrade of the adjacent road network. For instance, based on previous discussions with DIT, there is potential that the following options would be considered:

- widening/ additional turn lane on the Morialta Road West approach of the St Bernards intersection - This would likely require widening into the subject site which would impact trees on the southern side of Morialta Road West (but in the context of other potential upgrade options would be easier to achieve)
- a sheltered right-turn lane on St Bernards Road – this would involve the widening of St Bernards Road into our site to accommodate a right-turn lane. Property acquisition would also be required on the northern side of Morialta Road West to allow the intersection upgrade to tie back in to the northern side of St Bernards Road;
- signalisation of the Moules Road/St Bernards Road intersection – although the proposal will generate a small number of turning movements at the intersection, DIT could push for the signalisation of the intersection due to the increase in through bound movements at the intersection; and

Detailed analysis would be required to confirm whether or not any upgrades are warranted as a result of the proposal (and negotiated further with DIT). Furthermore, if upgrades are required, there would be opportunity for discussion with DIT in respect to responsibilities and cost sharing opportunities (given the existing conditions may also warrant treatment). Alternatively, should upgrades not be feasible, there would be opportunity to consider management of event capacities and schedules to avoid notable traffic generation from the proposal during the school/commuter peak periods. This would need to be considered in the broader context of the desired use and viability of the project as this may be an undesirable outcome. There may also be an opportunity to achieve a balance between a lower order upgrade and partial capacity/scheduling restrictions.

Accordingly, the anticipated operation (i.e. timing and capacity of events) of the Performing Arts Centre will have a significant influence on the proposal's traffic and parking impact on the adjacent road network. Noting the existing concerns that DIT have for the surrounding road network, further discussions and analysis will be required with DIT as the project progresses.

5.8 ECOLOGICALLY SUSTAINABLE DEVELOPMENT (ESD) INITIATIVES

ESD METHODOLOGY AND STANDARD

Traditionally, design scopes for ESD and building services have had a primary focus on operational energy savings by optimising the efficiency of active systems, and only a secondary focus on optimising the building envelope.

This approach has been challenged by the volatility of energy prices, the forecasts for future climate change, and the increasing demand to decarbonise the built environment. A different focus is gaining traction, where 'passive design' strategies are being recognised as an efficient tool to help overcome these challenges.

'Passive design' is design that takes advantage of the climate and physical properties in order to reduce the demand for 'actively' having to heat, cool and ventilate a building with energy-consuming mechanical systems. This approach can reduce operational energy consumption substantially, thereby continuously saving costs and emissions over the entirely building lifecycle. In return, it requires more coordination between the design and engineering teams, and additional computational modelling at the early stages of the project, which the Integrated Design Lab (IDL) will undertake

The IDL will be providing a tailored advice for the different types of spaces listed in the project. Different challenges and design opportunities will be highlighted for each of the typologies, aiming to unlock a passive design potential.

DFE GUIDELINES

We will be translating to the design teams the DfE guidelines to enhance the key parameters to make a successful design

- Durability and adaptability
- Site design considerations
- Building design and performance

KEY PARAMETERS

The following minimum building performance standards will apply to all new buildings:

- Building façade performance: must be minimum 10% better than NCC deemed to satisfy minimum energy efficiency requirements.

- Greenhouse Gas Emissions: must be minimum 10% improvement when compared to the deemed to satisfy minimum energy efficiency requirements in the NCC, with a preference for 30% improvement.[1]
- Achieve a minimum 5 star Green Star Design and As Built v1.3 rating (a self-assessed basis).

Whilst aiming to fulfil these metrics, we will be aiming to provide the best learning conditions whist reducing the overall environmental impact to the project.

5.9 DEPARTURES

No departures are known at this stage. All departures will be tabled and tracked for the duration of design and documentation.

5.10 PRIORITY RANKING OF WORKS

Priority:
- Foyer
- Box Office / Cloak
- Bar / Canteen
- 500 Seat Theatre
- Stage House (stage + wings)
- Theatre Bio Box / Control Room
- Theatre Follow Spot Both
- Theatre Back of House
- Theatre Change Rooms / Make up Rooms
- Theatre Storage
- Theatre Staff Areas
- Lift / Stair Entry
- LoadinG dock / Scene Dock
- Basement Parking

Below the line:
- Orchestra Pit from Undercroft
- Bar Equipment

5.11 ODASA SCHOOL DESIGN PRINCIPLES

We have referred to the ODASA Principles of Good Design. These have confirmed our gentle approach between built form and the natural features of the landscape by promoting porous and permeable edges to the school and new Performing Art Centre for the Council.

Key areas of consideration that will be addressed in Part 1, design and documentation are as follows;

CONTEXT
The topography and the existing large established trees, will be crucial in forming the design response. The new Performing Arts will be positioned to work with the existing site conditions and by retaining the existing trees, to the best of our ability. The design will seek to be a direct response to Country via its layered landscape of learning set within gullies and ridge lines. This striated landscape similar to Morialta Secondary College, will form both the landscape and the external form.

Taking its cues from the landscape, the colour palette of earthy and natural hues will promote the integration of indoor and outdoor entertainment spaces. External materials will be durable and robust and selected to reflect the suburban residential context. The material palette will complement the intrinsic colours and textures of the site and the neighboring Morialta Conservation Park. Internal materials will align with the exterior landscape palette to reflect natural warmth and highlights of colour from the natural flora, reinforcing a connection with its context. These colours will be consistant with the Morialta Secondary College.

INCLUSIVITY
The 17m cross fall of the site has meant a significant amount of investigation has been done on ensuring equitable, practical and well integrated access for all school users and the wider community, this similar approach will be adapted for the new Performing Arts Building. Careful design and planning will be given to minimise long ramps without impacting accessibility.

DURABILITY
The design for the Morialta Secondary College seeks to create buildings which are long lasting and adaptable, the durability should mimic the same for the new Performing Arts Theatre.

At a smaller scale, façade materials have been selected for their robustness in a secondary school application as well as their weathering qualities and ability to minimise ongoing maintenance e.g. low level brickwork, high level metal cladding and concrete paving. The design team will investigate how these materials will either be compliments or adapted for the new Performing Arts Theatre.

The internal spaces will be unique to reflect a public performing arts centre, but play homage to the adjacent Morialta Secondary College Performing Arts Theatre.

VALUE
The 'community mode' for the new school highlights key facilities that can be activated after hours for broader public benefit. This includes the Performing Arts Building, Café and Gymnasium together with associated outdoor sports fields and courts.

To promote community engagement and to establish a welcoming community hub the existing school fencing will be removed. This will be done without compromising student safety and security.

Similar to all the items listed above, the new Council Performing Arts Theatre will provide another community mode for access within the typical School hours.

PERFORMANCE
The design shall be proportioned, fit for purpose and be utilised as an education tool where appropriate. The design shall be appropriate for now and in the future. The design shall provide amenity and comfort, encourage healthy habits and provide positive outcomes for wellbeing.

SUSTAINABILITY
The primary sustainability objective is for the design solution to respond to its context and contribute to the existing quality and future character of place whilst maximizing user health and well-being.

The design team will investigate a concept design, that addresses the following:
- optimum passive orientation;
- responding to the unique topography of the site by carefully setting the benching levels of the buildings without comprising universal access;
- retaining existing trees for natural shade and shelter;
- promoting natural ventilation and daylight;
- solar harvesting and collection;
- heavy reliance on sourcing local materials i.e. structural steel (note this will dictate member sizes);
- creating direct outdoor connections with the natural vegetation for all elevations.

6.0 RISK ISSUES

6.1 PROJECT RISK

Key areas for consideration are:

(a) Environmental

- From a macro perspective, ongoing risks from bush fires, flash floods and other extreme weather events could pose a risk to this development.
- From a micro perspective, the site is situated around Eucalyptus Gum Trees. Inclement weather could cause limbs from the trees to break off, damaging either property or people.
- Also, water retention is to be achieved by banking earthworks to the west of the site. During inclement weather events which produce significant rainfall, excessive water pooling may occur resulting in risk to occupants of the site.
- The proposed development will likely impact trees on the site. The development footprint impedes on some trees, either directly or within the Tree Protection Zone.

(b) Cultural

- There are no foreseen Cultural risk factors associated with this project

(c) Heritage

- There are no foreseen Heritage risk factors associated with this project

(d) Procurement

- Retaining the current contractor to procure this work as a continuation of Stage 1 and 2 could result in less competitive pricing. A managing contractor model as currently in place will not result in the most competitive pricing and shifts the risk to the principal. A D&C model would mitigate this and shift the risk to the contractor with a fixed price and program.

(e) Budget

- There is a risk that the cost of the project could exceed budget expectations. The project is slated to begin construction in early 2023. The global economy, and its impact on local inflation rates could inflate the cost of the project beyond that which is expected.
- Global supply chain issues are currently driving an uplift in structural steel pricing in the order of 15%. Supply chain issues are likely to continue to impact other trades in 2023.

(f) Staging/Program

- Staging and managing the works will need to be carefully executed to mitigate any risks involved with students being around a construction site.

(g) Approvals/Authorities

- There is a risk that DIT could require upgrades to the road network if frequent large events are not adequately accommodated at the nearby intersections.
- SCAP / ODASSA Approval could potentially delay program (in particular the Public Notification process)

(h) Traffic

- Loading Dock (road cross over location and manoeuvring method)

(i) Council Election Timing and Operation Costs

6.2 SAFE DESIGN OF STRUCTURES

A Principles of Safe Design Workshop will be carried out and a Risk Register populated as required at the next stage of this project as per DIT Guide Note G125.

A template for the SID register has been attached to this report. The SID register will be filled out at the next stage of this project.

As this project will be integrating with a new building, the Policy for Strengthening Existing Buildings for Earthquakes is not relevant to this project.

6.3 HAZARDOUS MATERIALS

A preliminary Environmental Assessment Investigation and report was completed by Aurecon in March 2021 as part of the projects business. This included a desktop historical investigation which highlighted that prior to the formation of the school in the early 1970's, the site was cleared paddock with some farmsteads, orchards and sheds which were developed over time. Residential housing/small businesses were developed on the surrounding land in the late 1960's. The assessment concludes that while localised site contamination is possible it is not expected that significant or widespread contamination of the soils and groundwater will be present. To supplement the desktop investigation, a field study was implemented to test for soil contamination in the areas of proposed development.

6.4 FURTHER INVESTIGATIONS

Further investigations may need to be carried out as part of the next stage.

7.0 EXISTING FACILITIES

7.1 INFORMATION AND REPORTS

The following information relating to the site and facilities has been gathered (and included as appendices.

– Site Survey
– Geotech Report
– Site Contamination Report
– Aborist Report

7.2 SITE GENERAL

The school is on multiple crown land certificate of titles – Allotment A32/F3995, A33/F3995, A34/F3995, A36/F3995, A37/F3995 in the area named Rostrevor, hundred of Adelaide. The school is located within Campbell Town City Council in the community facilities zone and as a secondary school is compliant with the envisaged use and zone character.

The site is located in the south west area of the suburb Rostrevor. The site is surrounded by residential properties directly to all four sides except for (E) employment zone to south west of the site and an LAC (Local activity zone)

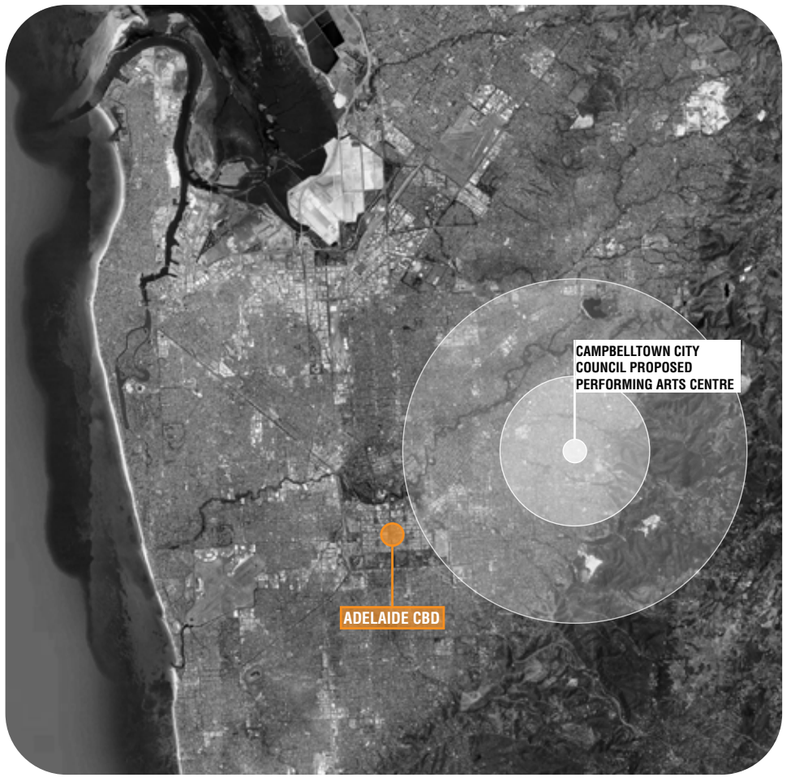
No heritage / Character preservation areas within the Site have been identified by the Development Plan or project. The prescribed site use is consistent with the existing zoning requirements and doesn't constitute a change of use.

Aboriginal Heritage is being investigated by requesting a search of the Register of Aboriginal Sites and Objects, however it is not anticipated that there will be any aboriginal heritage to be identified during the concept stage due to the site not being a green site. Further investigation to be carried out prior to commencing ground disrupting works.

It is a regularly shaped (rectangular) site bound by Morialta Road W to the north, Grantly Avenue S to the east, Moules Road to the south and St Bernards Road to the west.

CURRENT SITE PHOTOGRAPHS

MAP 01: LOCATION IN ADELAIDE



MAP 02: OVERALL SUBURB - ROSTREVOR SA 5073

MAP 03: THE SITE - MORIALTA ROAD WEST, ROSTREVOR

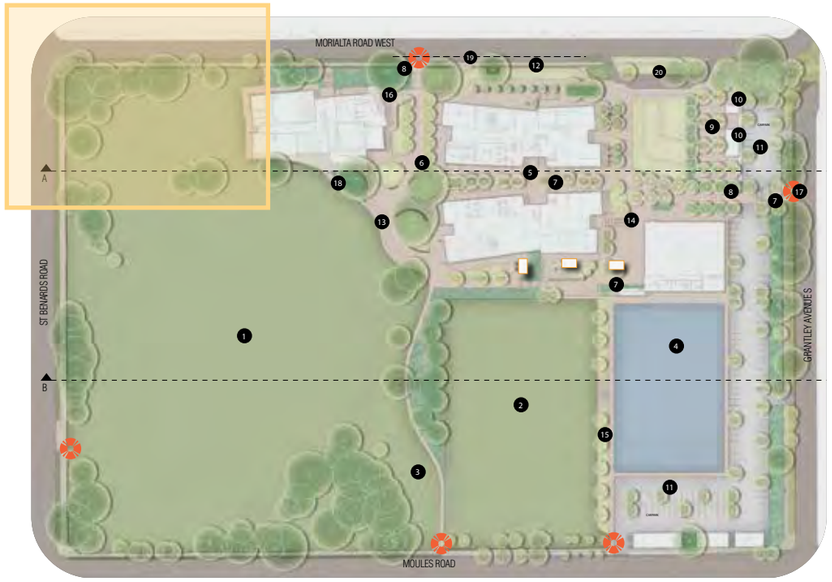
8.0 SITE ANALYSIS

8.1 SITE ANALYSIS - ARCHITECTURAL

As the construction of the new Morialta Secondary College is underway onsite, the following outlines the site analysis of the proposed design. The site analysis explains the functional relationships and key connections of the proposed built form of the School. The following diagrams outline the location of the new Community Performing Arts Centre (yellow) in relation to the whole School site, connection to St Bernards and Morialta Road, current landscaping, existing trees and site pedestrian circlulations.

DIAGRAM 8.0.1 - CURRENT MORIALTA SECONDARY COLLEGE SITE

DIAGRAM 8.0.2 - CURRENT MORIALTA SECONDARY LANDSCAPE PLAN



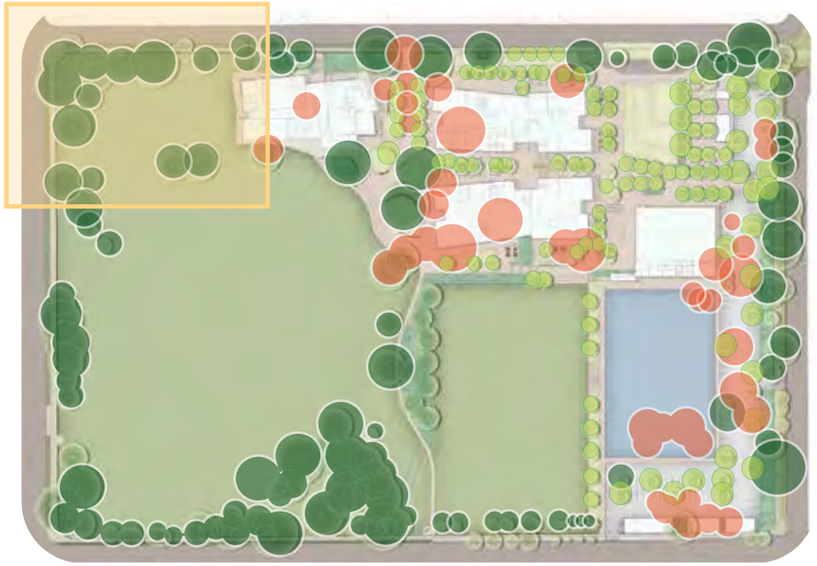
LEGEND

1. EXISTING OVAL
2. EXISTING SOCCER PITCH
3. CRICKET PRACTICE NETS
4. SPORTS COURTS
5. CENTRAL COURTYARD
6. PLAZA
7. KEY STAIRS
8. KEY RAMPS
9. BIKE PARKING
10. BIKE SHED
11. CARPARK GREENING
12. MORIALTA STREET FRONTAGE
13. TIERED SEATING
14. HARD SURFACE PLAY AREA
15. LANDSCAPED EMBANKMENT
16. CONNECTION TO COUNTRY
17. EAST ENTRY
18. EDIBLE GARDEN
19. KISS AND DROP
20. INCLUSIVE DROP-OFF

KEY PEDESTRIAN ENTRY

SHADE STRUCTURES

DIAGRAM 8.0.3 - CURRENT MORIALTA SECONDARY EXISTING TREES



KEY

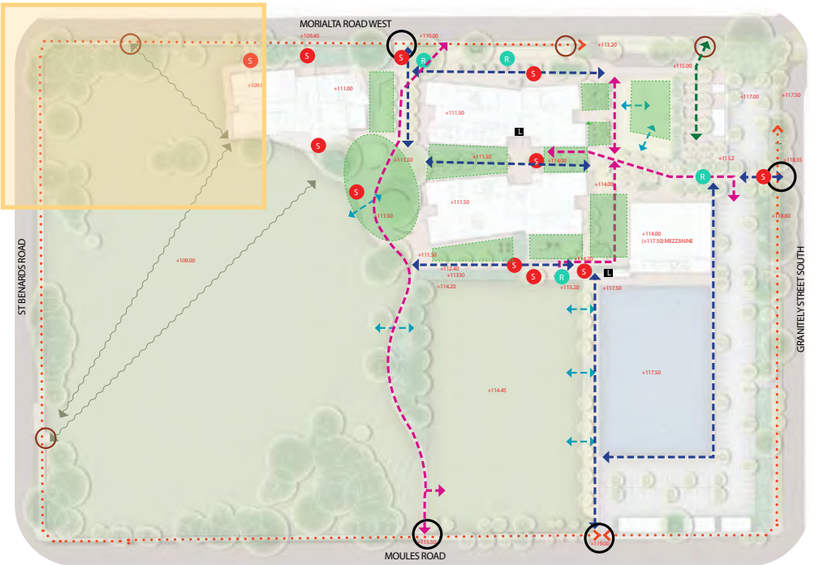
TREE RETAINED

TREE REMOVED

TREE PROPOSED

Refer to the Tree Report prepared by Project Green for Significant Trees, Regulated Trees and discussion on Development Application requirements

DIAGRAM 8.0.4 - CURRENT MORIALTA SECONDARY PEDESTRIAN CIRCULATION



KEY

EXISTING FOOTPATH

PEDESTRIAN PATHS

DDA PATH

DDA PATH LINKED THROUGH BUILDING

INFORMAL CONNECTIONS

LANDSCAPE CONNECTIONS THROUGH SLOPE

MAIN PEDESTRIAN ENTRANCES

SECONDARY PEDESTRIAN ENTRANCES

BIKE PATH

STAIRS

RAMPS

LIFT

OUTDOOR LEARNING AREA

8.2 SITE ANALYSIS - SERVICES

ELECTRICAL SUPPLY

A new 630A, three phase power supply will be required to serve the Community Performing Arts Centre and is proposed to originate from the Morialta Secondary College SAPN pad mounted transformer located along Morialta Road West. We will work with SAPN during the design phase to establish the new connection point.

A new free-standing Main Switchboard (MSB) will be established for the Community Performing Arts Centre. The MSB will incorporate the Community Performing Arts Centre retailer metering, surge protection and energy sub-metering and main switches for supplies to the building. Additional spare capacity will also be incorporated to facilitate future expansion. Should this switchboard be required to be located outside, the switchboard will be rated IP56 and be provided with full weather/sun protection to enable 24/7 maintenance access. However, we will endeavour to locate the MSB within the confines of the building (accessible externally) however this will be restricted based on the proximity to the transformer (the MSB must be located within 4-10m of the transformer to comply with SAPN requirements).

COMMUNICATIONS

A main communications/server room will be established where lead-in carrier services and all building fibre optic interconnections will be terminated. This main communications room will contain communication cabinets for installation of the main site data and telephony core active equipment, servers, security and CCTV head end equipment. Fibre optic tie cabling will be installed from this main communications room to each comms room in each subsequent building in a star configuration. All fibre optic backbone cabling will generally be multimode OM4 facilitating 10GB connectivity. All fibre terminations will be LC type.

SEWER DRAINAGE

A new 150mm sewer connection will be provided to the new PA building, connecting to 150mm SA Water Corporation sewer main network located on Morialta road west.

Sanitary plumbing and drainage as required to suit fixture locations. In-ground plumbing drainage material to High Density Polyethylene (HDPE), suspended plumbing drainage material to be acoustically rated “Rehau Raupiano” polypropylene (PP).

Sewer drainage system consisting of vertical sewer stacks and horizontal graded drains serving fixtures as required. Sewer drainage pipework shall be acoustically treated where located above habitable areas.

TRADE WASTE

A 2,400L below ground, pre cast concrete grease arrestor pit located externally complete with heavy duty, trafficable Gatic type covers serving the bar trade waste.

All trade waste drainage will be reticulated in High Density Polyethylene HDPE type material.

COLD WATER

A New domestic cold water meter and individual backflow prevention will need to be provided and installed as a separately billed invoice from SA Water to the CoC.

Domestic cold-water reticulation pipe work serving fixtures and fittings as required. Pipe work material shall be either fully welded copper tube or cross-linked polyethylene ‘Rehau’ materials.

HOT WATER

Domestic hot water reticulation pipework serving fixtures and fittings complete with forced circulation flow and return pipe circuit as required to minimise draw off times at fixtures and resultant energy and water wastage. Pipe work material shall be either fully welded copper tube or cross-linked polyethylene ‘Rehau’ materials. Domestic hot water pipework forming part of the ring main circuit shall be thermally insulated to prevent heat loss and resultant energy wastage.

Thermostatic Mixing Valves (TMV’s) serving all fixtures used primarily for personal ablution purposes such as hand basins, showers and baths.

Boiling and chilled water will be provided to staff areas, serveries and kitchenettes.

NATURAL GAS

No Natural gas to be supplied to the building.

FIRE WATER SUPPLY

The fire water supply feeding the automatic fire sprinkler and hydrant / hose reel systems is proposed be via a new 150mm diameter fire water connection to the 200mm SA Water potable water mains infrastructure located in St Bernards Road and incorporate a testable back flow prevention device located on the property boundary.

It is assumed that the flow and pressure available from the 200mm town main will be satisfactory to supply the flow and pressure required for the combined fire hydrant and sprinkler systems. The proposed connection and available flows and pressures are currently in the process of being confirmed with SA Water and there is the possibility that this may not be suitable subject to these investigations.

If connection to the 200mm town main or flow and pressures **are found not to be acceptable to SA Water,** the fire sprinkler water demand will need to be stored on site in fire water tanks and fire pumps provided to give the required flow and pressure. The easiest solution in this case would be to utilise the current connection to the 150mm SA water main for the school buildings and include the additional fire sprinkler water in the fire tanks already proposed for the school site. This will also increase the size of the site fire pumps slightly to handle the increased fire water demand for the proposed COC PA building. The current site pump and tank area footprint may not need to be increased if the tank construction is changed to square panel tanks in lieu of the current circular steel tanks documented. This may also have little cost impact as the proposed connection to the 200mm SA Water town main would no longer be required, and the cost saving be used to offset the cost of increasing capacity to the site pumps and tanks.

The new fire services water supply will be discussed with the SAMFS to ensure their operational requirements for the site are appropriately considered.

8.3.1 SITE ANALYSIS - STRUCTURAL

There are no buildings structures associated with the original Norwood Morialta High School in the location of the proposed City of Campbelltown Performing Arts facility. The school used this area for tennis courts, cricket nets, long jump and oval space. There are a number of large trees to the north and west of the proposed location which will need to be considered in the design.

As part of the Morialta Secondary College (MSC) development a new 2-storey Performing Arts and Administration building is to be constructed directly to the east of the proposed City of Campbelltown facility. Subject to the timing of the two projects, the MSC building may be complete and occupied when works on the council facility begin. Noting that the proposed basement level is approximately 3m lower than the MSC building, due consideration will need to be given in the design process for the excavation works to not affect the existing structure.

8.3.2 SITE ANALYSIS - CIVIL

Based on the available records, site stormwater infrastructure at the site was established around 1973 which typically consists of reinforced concrete pipes and reinforced concrete pits, all of which are to be removed as a part of the Morialta Secondary College development.

The site generally grades to the north west with significant fall across from the south east to the north west. There is currently an informal stormwater overland flowpath from the oval which drains across the footpath in Morialta Road West and discharges into a Council street side entry pit. The MSC stormwater solution upgrades the existing connection to the Council drainage network and formalizes this overland flow path from the oval via an inlet pit within the school site, to avoid overland flow across the footpath in Morialta Road West. This solution includes a detention basin in the north-west corner of the site approximately 350m2 and up to 700mm deep. The proposed City of Cambelltown development increases the volume of detention required and also impacts the current extent with the positioning of the loading dock to the north. This will require some reshaping and potential increase to basin depth to meet Council requirements of detaining the post development 20 year Average Recurrence Interval (ARI) event to the pre-development 5 year ARI event.

As designed, the MSC underground stormwater network is beneath the proposed location of the City of Campbelltown facility. This would need to be re-routed to the south and west of the building which will impact existing trees adjacent St Bernard's Road.

As part of the council development, the 100 year ARI event will be routed around the building to ensure a minimum 300mm freeboard is maintained.

Flood mapping of the area indicates no water pooling in the 1 in 100 year event.

CMW Geosciences geotechnical investigation report ADL2021-0244AB Rev 1 dated 8th December 2021, reported on soil samples taken at proposed building and carpark locations across the site. A copy of the geotechnical investigation is included in Appendix K. Generally, the site consists of fill, Pooraka formation clay and Hindmarsh clay which is typical of the area and is classified as highly (H1-D) to extremely (E-D) reactive.

A preliminary Environmental Assessment Investigation and report was completed in October 2021. This included in-situ site testing in relation to relevant environmental authority requirements. A copy of this report is included in Appendix K.

8.4 SITE ANALYSIS - TRAFFIC

St Bernards Road is an arterial road under the care and control of the Department for Infrastructure and Transport (DIT). Adjacent the site, St Bernards Road comprises two traffic lanes in each direction. Traffic data obtained from DIT indicates that this section of St Bernards Road has an Annual Average Daily Traffic (AADT) volume in the order of 22,500 vehicles per day (vpd), of which approximately 5% are commercial vehicles. Adjacent the site, a 60 km/h speed limit applies on St Bernards Road.

Moules Road is an arterial road under the care and control of the Department for Infrastructure and Transport (DIT). Adjacent the site, Moules Road comprises a single traffic lane in each direction. Parking is generally unrestricted along Moules Road. Traffic data obtained from DIT indicates that this section of Moules Road has an Annual Average Daily Traffic (AADT) volume in the order of 5,100 vehicles per day (vpd), of which approximately 5% are commercial vehicles. Adjacent the site, a 50 km/h speed limit applies on Moules Road. It is noted that a koala crossing is located between Davenport Terrace and Grantley Avenue South. The speed limit is reduced to 25 km/h when lights are flashing.

Grantley Avenue South is a local road under the care and control of the City of Campbelltown. Grantley Avenue South comprises a 9 m wide carriageway (approximate) with a single traffic lane in each direction. Parking restrictions apply to sections of Grantley Avenue South. The eastern side is restricted to 2-hour parking between 8 am to 4.30pm, Monday to Friday (school days only). The southern section of Grantley Avenue South (western side) is also restricted to 1-hour parking (8 am to 4 pm, Monday to Friday, school days only). The default urban speed limit of 50 km/h applies on Grantley Avenue South. It is noted that a School Zone is located on Grantley Avenue South. Within the School Zone, a 25 km/h speed limit applies when children are present.

Morialta Road West is a local road under the care and control of the City of Campbelltown. Morialta Road West comprises a 7.9 m wide carriageway (approximate) with a single traffic lane in each direction. Parking restrictions apply to sections of Morialta Road West. 'No Stopping' parking restrictions apply to the southern end of Morialta Road West at 8am to 9.30am and 3pm to 4.30pm, Monday to Friday. Between Johnson Avenue and Grantley Avenue North, 2-hour parking restrictions apply between 8 am and 4.30 pm, Monday to Friday, school days only. Two indented parking bays (no parking restrictions) are located directly adjacent the school. These indented parking bays are informally utilised as the set-down/pick-up area during school days. The default urban speed limit of 50 km/h applies on Morialta Road West. It is noted that a School Zone, located on Morialta Road West limits speed to 25 km/h when children are present.

Sealed footpaths are provided on both sides of St Bernards Road, Moules Road, Grantley Avenue South and Morialta Road West; providing access for both pedestrians and cyclists. Cyclists are also able to ride on-street, sharing the surrounding roads with motorists. A number of formal pedestrian crossings are provided in close proximity of the site. This includes a koala crossing on Moules Road (directly adjacent the site) and two signalised pedestrian crossings on St Bernards Road (adjacent the intersections of Morialta Road West and Arthur St).

Public bus services operate regularly in the vicinity of the subject site. Bus stops are located directly adjacent the subject site on both sides of St Bernards Road and Moules Road. These stops are serviced by the following bus routes:

- 530 – Firle to City;
- 580 – Keswick to Paradise Interchange;
- 624 – Stepney to Saint Ignatius' College;
- 629 – Saint Ignatius' College to Norwood;
- 638 – Norwood Morialta High School to City;
- 639 – Norwood Morialta High School Middle Campus to Paradise;
- AO11 – Newton to Adelaide Oval;
- H20 – Glenelg Interchange to Paradise Interchange;
- H20C – Glenelg Interchange/Paradise Interchange to City;
- H20R – Paradise Interchange to Richmond;
- H30 – West Lakes Centre Interchange to Paradise Interchange;
- H30C – West Lakes Centre Interchange/ Paradise Interchange to City;
- H30S – West Lakes Centre Interchange to Newton; and
- X30 – West Lakes Interchange to Paradise Interchange.

Morialta Secondary College is currently located on the site. The college accommodates two on-site parking areas and the on-site set-down/pick-up area. Access to the main parking area is provided via two-way access points on Moules Road and Grantley Avenue South. A smaller staff parking area (north of the main parking area) is accessed via a two-way access point on Grantley Avenue South. The inclusive school set-down/pick-up area is accessed via separate ingress only and egress only access points on Morialta Road West.

Commercial access to the site (i.e. refuse collection) is provided via the main parking area. Servicing of the site also occurs via an on-street loading zone on Morialta Road West.

The indented parking lane on Morialta Road West (directly adjacent the school) operates as a set-down/pickup lane for Morialta Secondary College. However, there are no parking restrictions that would prohibit drivers from parking within this lane during set-down/pick-up times.

The scheduling of events at the City of Campbelltown's proposed Performing Arts Centre would need to consider the peak parking and traffic periods associated with the network and the adjacent Morialta Secondary College. It is recommended that parking demands be accommodated on-site during school operating hours due to on-street parking demands associated with the schools set-down/pick-up periods. Similarly, the proposal would need to consider the traffic impacts on the nearby intersections and the adjacent road network. Scheduling of events may need to consider peak traffic periods associated with the Morialta Secondary College and adjacent road network. This will be explored in further detail with during the traffic impact assessment.

9.0 AUTHORITY AND STATUTORY APPROVALS

The site of the development is in the Community Facilities Zone under the Planning and Design Code.

The proposed works are sufficiently large that they are not exempt from requiring an approval. The development Is proposed by the Department of Education, a State Agency. As such the State Commission Assessment Panel is the relevant authority pursuant to section 131 of the Planning, Development and Infrastructure Act 2016.

Under Section 131 of the Planning Development and Infrastructure (PDI) Act 2016, development undertaken by a State agency or department requires approval from the Minister for Planning with the Statement Planning Commission (SPC) acting as the Minister's advisory body.

Under Section 131(13), public notification is required because the proposal has a development in excess of $10million.

Under Section 131(6) SCAP must give notice to Campbelltown City Council detailing the particulars of the development. Council has 4 weeks from the date of the notice to report to SCAP on any matters of query.

There are no heritage places affected by the proposal development and tree damaging activities (including removal) for regulated and significant trees are exempt from requiring an approval on any land—
(A) on which a school, within the meaning of the Education and Early Childhood Services (Registration and Standards) Act 2011, is located or is proposed to be built; and
(B) that is under the care, control or management of the Minister responsible for the administration of that Act;

In terms of approvals, the planning application will deliver the following:
- Planning approval
- Heritage approval (although not applicable in this instance)
- Native Veg approval (not applicable)
- Regulated and significant tree removal approval
- DIT approval via referral process
- Council approval via referral process

The subsequent BRC approval will deliver the following:
- Building certification
- SAMFS approval

Outside of the Development Approval process are:
- Public works
- Native title
- Register of aboriginal sites

10.0 COST ESTIMATE

10.1 PROJECT BUDGET

Refer Appendix B - Cost Estimate Summary

10.2 INDICATIVE COST ESTIMATE

Refer Appendix B - Cost Estimate Summary

10.3 SCHEDULE OF COST OPTIONS

Refer Appendix B - Cost Estimate Summary

11.0 PROGRAM

11.1 INDICATIVE OVERALL PROGRAM

KEY MILESTONE	DATE
Return Brief - Submit for Approval	04/08/2022
Concept Report	2022
Design and Documentation	2022 / 2023
Tender	2023
Construction	2023 / 2024
Practical Completion	2024 / 2025
Defects Liability Period	2025 / 2026

Refer Appendix C for full program as outlined by DIT. Note, due dates above are indicative only until Program is issued by DIT.

11.2 STAGING

Not applicable for this project at this stage.

11.3 EARLY WORKS

Not applicable for this project at this stage.

12.0 FEEDBACK AND NEXT STEPS

A Draft issue of the Part 0 Report was issued to primary stakeholders DIT, DFE and the City of Campbelltown for review, with the following feedback providing points of reference for more detailed design in Parts 1 and 2:

12.1 COUNCIL REVIEW

- Historical proposals for road improvements around the site prepared by DIT will need to be promoted with further dialogue between the Council and DIT. These improvements were detailed in the DIT Draft Road Management Plan October 2010 and include a proposed Bus Lane on St Bernard's Road, with further negotiation required for potential traffic lights to the St Bernards Road'/ Arthur Street intersection as an adjunct to that study. These negotiations will continue separate to the scope of this Report.
- Loading dock access and proximity to the corner of St Bernard's Road will be reviewed in detail once operational data for the Performing Arts Centre is confirmed. Additional traffic and movement studies will be undertaken in Part 1.
- A range of options have been considered for the Orchestra Pit, with cost range of $800,000 - $1,200,000 applicable for either a static cover or fully automated levelling floor, respectively.
- RLB build rates for the Performing Arts Centre include allowances for ESD initiatives as required to DIT Guidelines.

12.2 DEPARTMENT FOR EDUCATION REVIEW

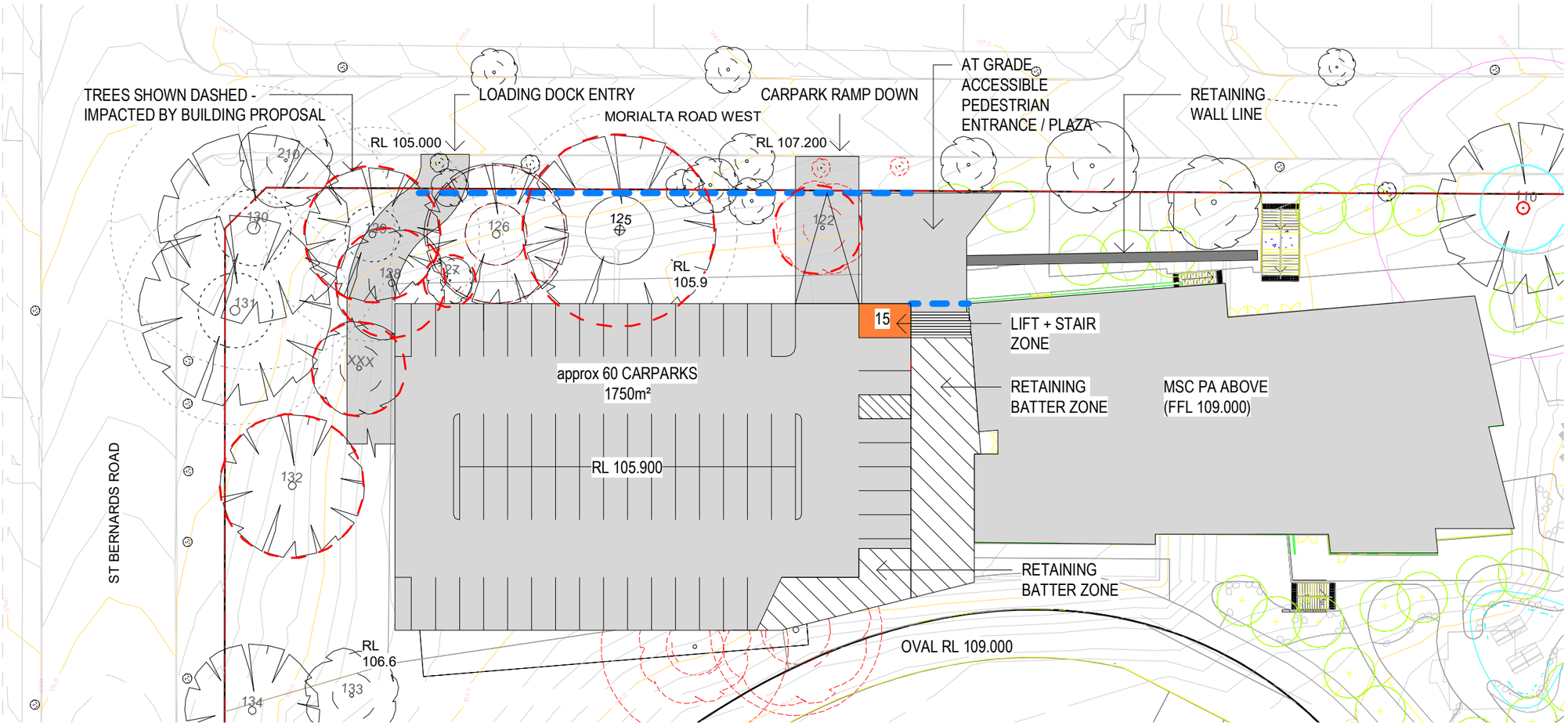
- Further design consideration will be directed to the proximity of the Performing Arts Centre to the existing football oval, with attention to landscaping and appropriate ball nets.
- The Part 0 has identified and minimised trees to be removed, with further specialist arborist input to be considered in Part 1.
- Civil engineering has updated the proposed stormwater management infrastructure to the north-west corner of the site, with further liaison to be undertaken with City of Campbelltown engineers.
- A design response to the proposed visual screen to the loading dock will be developed in Part 1 to appropriately address the importance of visual presentation to St Bernard's Road.
- Management of larger vehicles along Morialta Road West will be reviewed through a detailed Part 1 traffic assessment.

12.3 DIT RETURN BRIEF DESIGN REVIEW REPORT

- Part 1 will develop equitable access routes across the full site, including the school car park, in addition to a review of traffic access and safety provisions, signage/ wayfinding and waste management plans.
- Provisions will be included for separate security and energy metering.
- Site infrastructure provisions for stormwater detention will be further developed in consultation with the City of Campbelltown.
- Detailed design in Part 1 will develop further strategies for equitable access, shared use for students and/or patrons within the new Performing Arts Centre and statutory car parking requirements.

PRELIMINARY

WORK IN PROGRESS ISSUE



CARPARK LEVEL RL 105.9

1 : 500

CoC Performing Arts

SKETCH

COC SKETCH PLAN
CARPARK RL 105.900

02/08/2022

2022040 **SK08**

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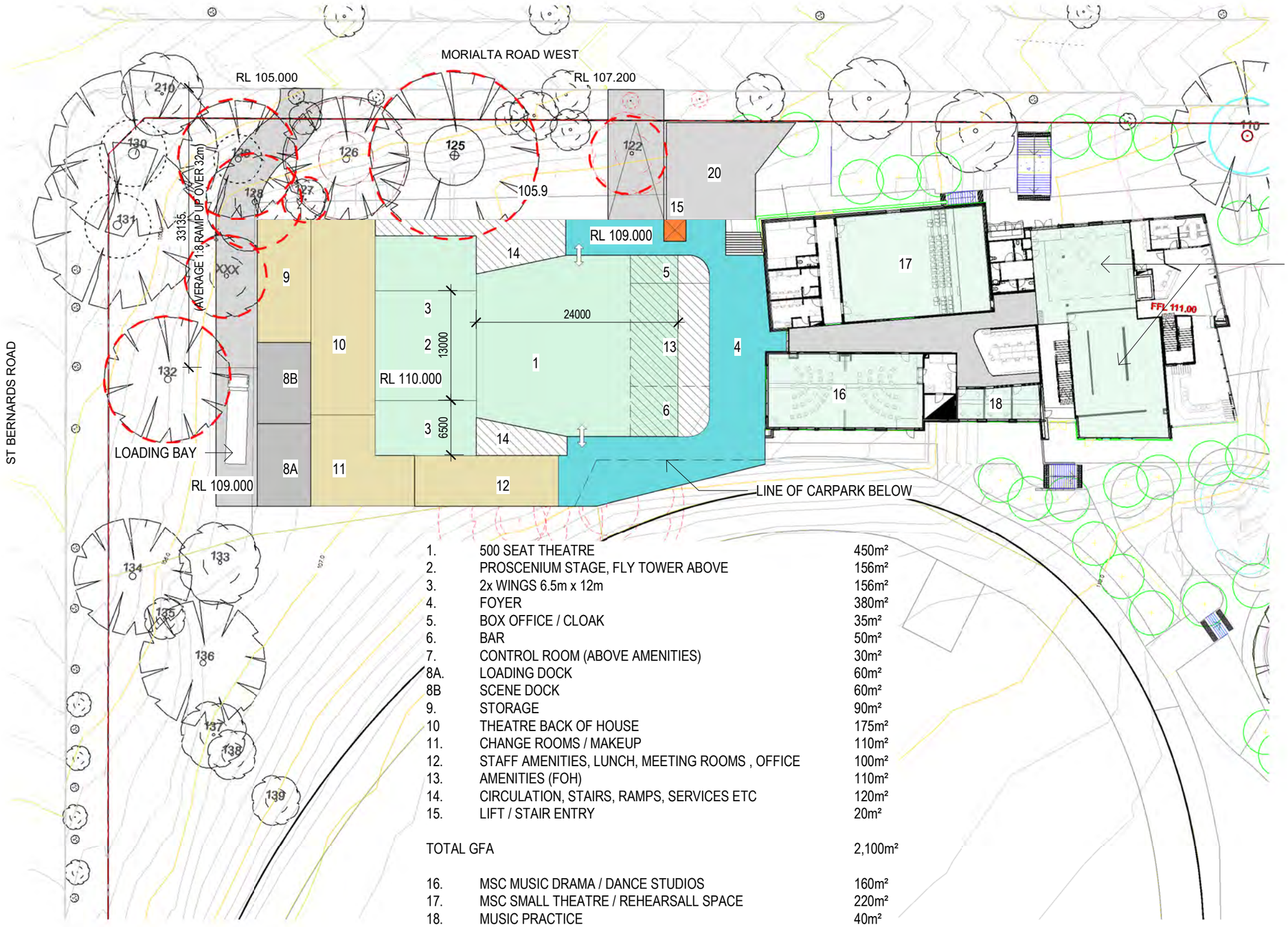

1.	500 SEAT THEATRE	450m²
2.	PROSCENIUM STAGE, FLY TOWER ABOVE	156m²
3.	2x WINGS 6.5m x 12m	156m²
4.	FOYER	380m²
5.	BOX OFFICE / CLOAK	35m²
6.	BAR	50m²
7.	CONTROL ROOM (ABOVE AMENITIES)	30m²
8A.	LOADING DOCK	60m²
8B	SCENE DOCK	60m²
9.	STORAGE	90m²
10	THEATRE BACK OF HOUSE	175m²
11.	CHANGE ROOMS / MAKEUP	110m²
12.	STAFF AMENITIES, LUNCH, MEETING ROOMS , OFFICE	100m²
13.	AMENITIES (FOH)	110m²
14.	CIRCULATION, STAIRS, RAMPS, SERVICES ETC	120m²
15.	LIFT / STAIR ENTRY	20m²
TOTAL GFA		2,100m²
16.	MSC MUSIC DRAMA / DANCE STUDIOS	160m²
17.	MSC SMALL THEATRE / REHEARSALL SPACE	220m²
18.	MUSIC PRACTICE	40m²
20.	OUTDOOR TERRACE	

CoC BUILDING FOOTPRINT: 2,000m²

GROUND FLOOR PLAN LEVEL RL 109.0

1 : 500

CoC Performing Arts

SKETCH

PRELIMINARY

WORK IN PROGRESS ISSUE

COC SKETCH PLAN LEVEL RL 109.000

31/05/2022

2022040 **SK09**

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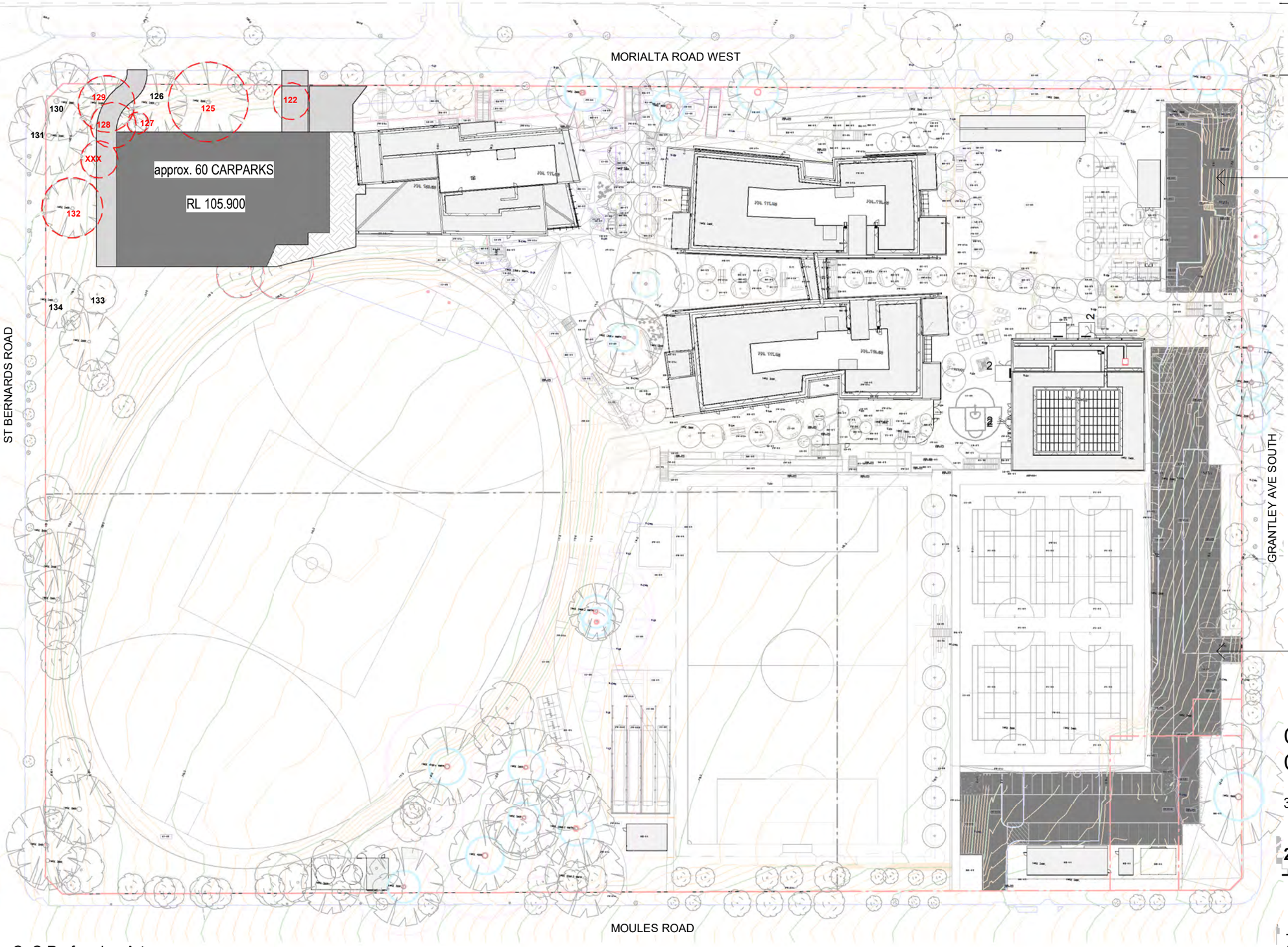

PRELIMINARY

WORK IN PROGRESS ISSUE

On Site (school) Car Parking
via Grantley Avenue South:
28

On Site (school) Car Parking
via Grantley Avenue South & Moules Road:
101 (includes 4 accessible)

CoC Performing Arts

SKETCH

SITE CARPARK PLAN

1 : 1000

COC SKETCH PLAN SITE CARPARKING

31/05/2022

2022040 **SK10**

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PRELIMINARY

WORK IN PROGRESS ISSUE

CARPARK LEVEL RL 105.9 OPTION TO BE EXPLORED IN PART 1

1 : 500

CoC Performing Arts

SKETCH

COC SKETCH PLAN
CARPARK RL 105.900 Opt2

31/05/2022

2022040 **SK11**

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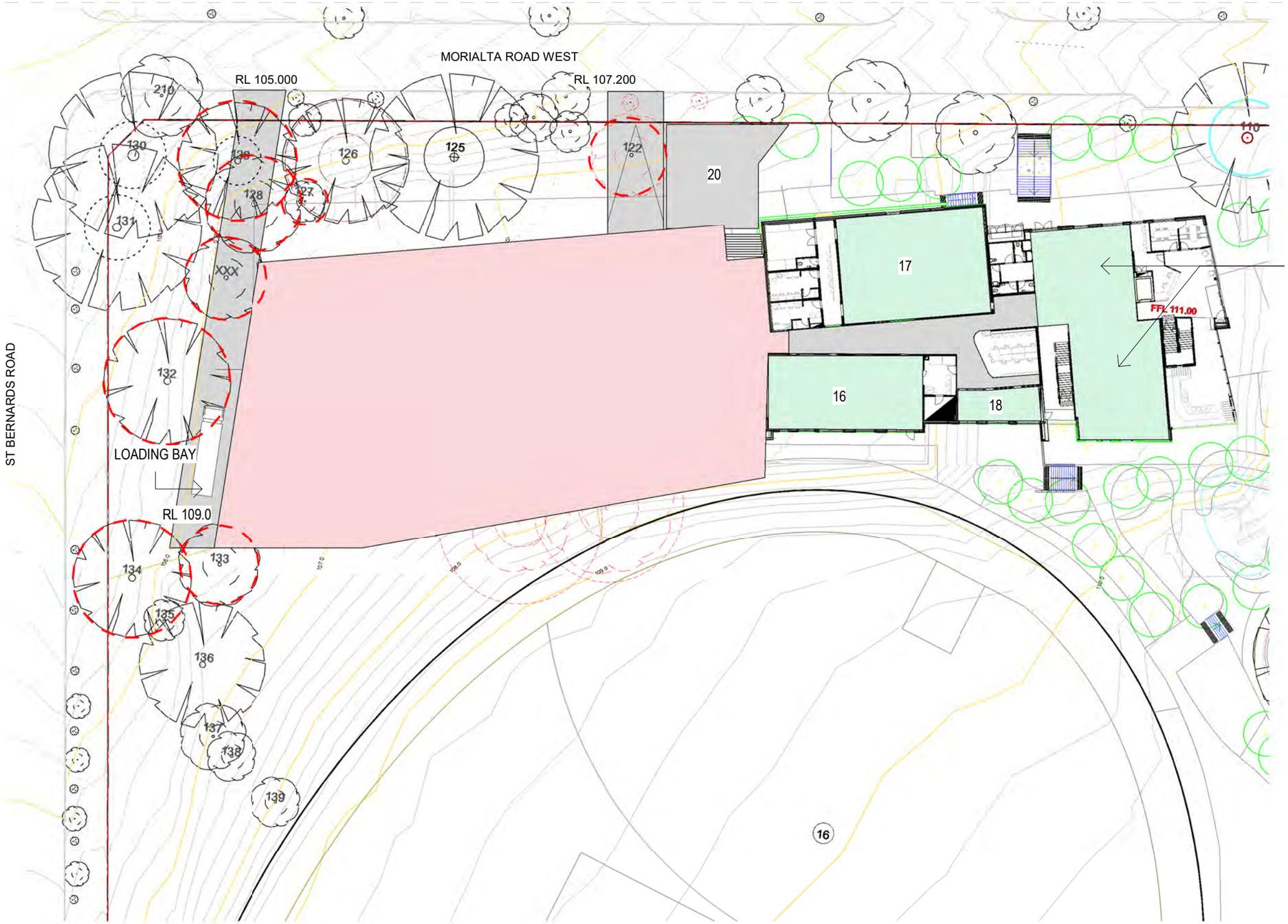

GROUND FLOOR LEVEL RL 109.0 OPTION TO BE EXPLORED IN PART 1

1 : 500

CoC Performing Arts

SKETCH

PRELIMINARY

WORK IN PROGRESS ISSUE

COC SKETCH PLAN LEVEL
RL 109.000 Opt2

31/05/2022

2022040 **SK12**

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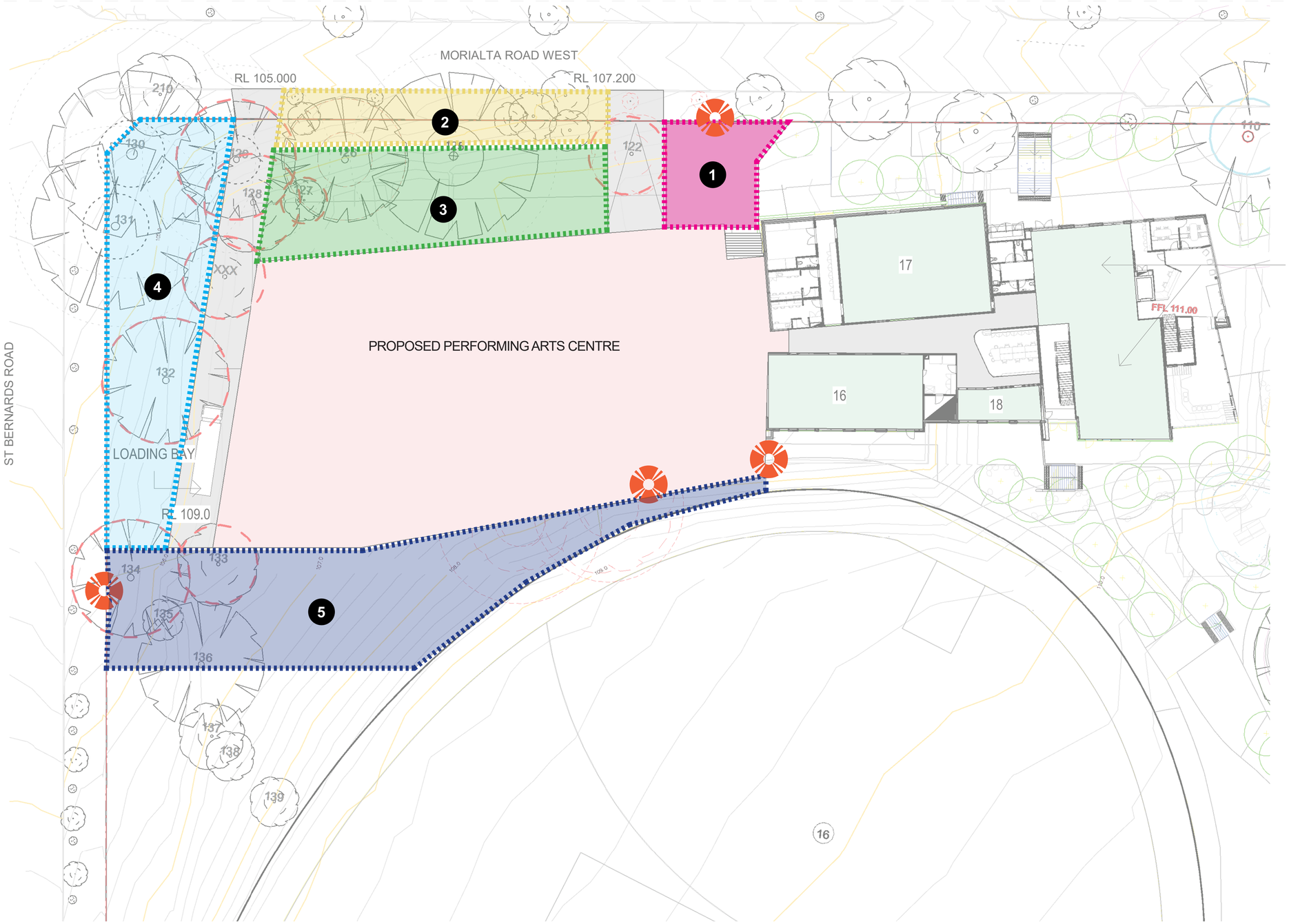


GROUND FLOOR LEVEL RL 109.0 OPTION TO BE EXPLORED IN PART 1

1 : 500

LEGEND

1. ENTRY PLAZA; PAVING, STAIRS, FEATURE TREES, SEATING, KEY SIGNAGE, LIGHTING AND WAYFINDING
2. STREETSCAPE LANDSCAPE: NEW STREET TREES, UPGRADED FENCING, SIGNAGE AND RETAIN EXISTING TREES
3. NORTHERN LANDSCAPE; GATHERING, SEATING, PLANTING, ACCESS AND INFORMAL PERFORMANCE SPACES
4. ST BERNARDS ROAD PLANTING; DRIVEWAY SCREENING, SOFT LANDSCAPING TO PROPOSED DETENTION BASIN
5. PERFORMING ARTS/OVAL LANDSCAPE INTERFACE; PLANTING, ACCESS, SEATING, SHELTER AND GATHERING SPACES

PROPOSED POINTS OF ENTRY

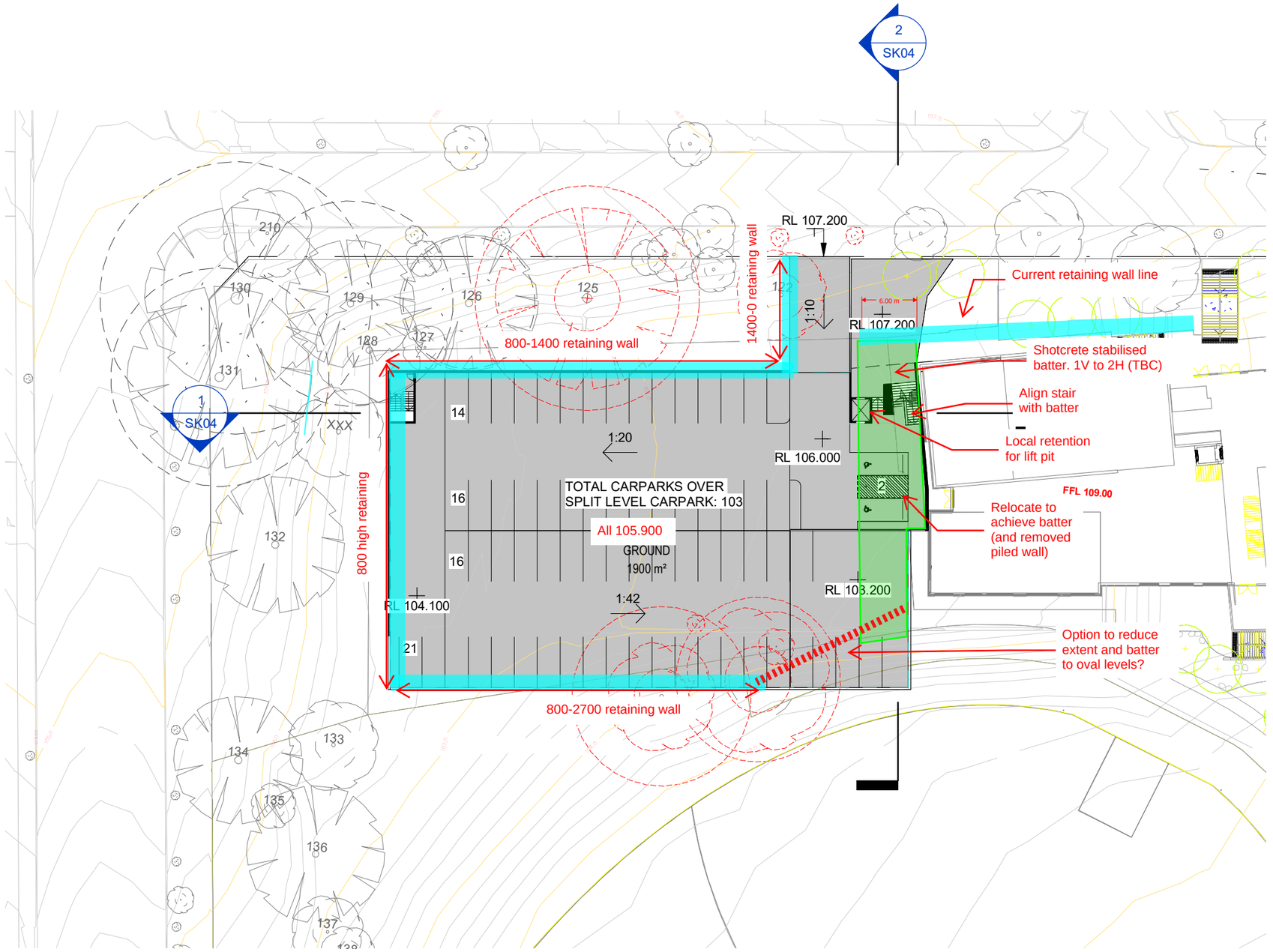
SCALE
1:500@A1
0 5 10 15 20 50M

LANDSCAPE BRIEFING PLAN
MORIALTA SECONDARY COLLEGE PERFORMING ARTS CENTRE

ASPECT Studios

PRELIMINARY

WORK IN PROGRESS ISSUE



City of Campbelltown

Performing Arts Centre

0 5 10 15 20m

1:500

ENTRY FFL 107.2

APRIL 2022

2021040 **SK02**

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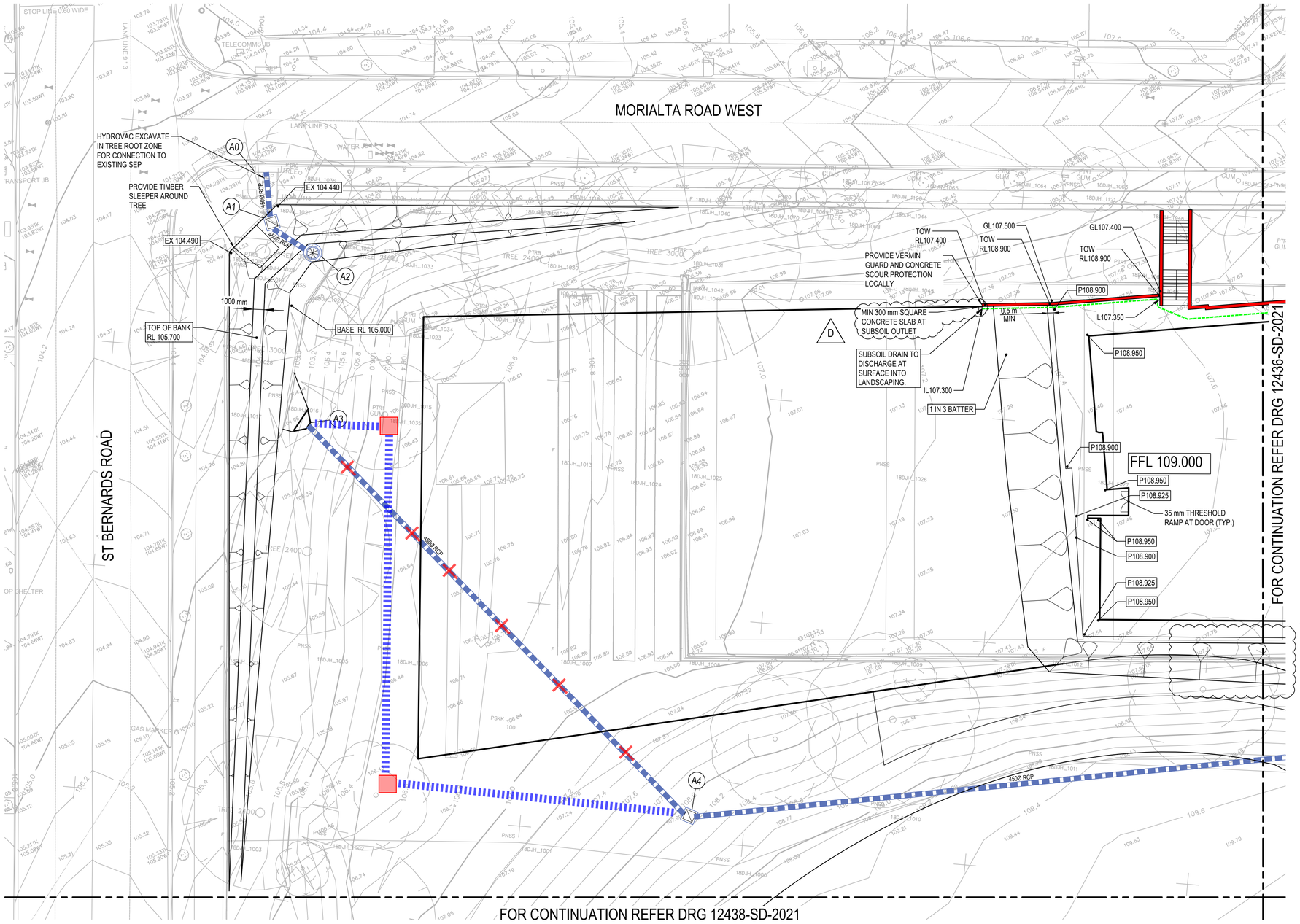
www.brownfalconer.com.au

Scale Bar Units in Millimetres

10 20 50 100 200 300 400 500 600 700



PLAN
SCALE 1:200

NOTES:

D 1. FOR SUBSOIL DRAINAGE DISCHARGE LOCATIONS REFER TO DRAWING 12444-SD-2021.

2. REFER TO SERVICES DRAWINGS FOR LOCATION OF SIPHONIC DRAINAGE CONNECTIONS.

D 3. FOR LEGEND, REFER TO DRAWING 12433-SD-2021.

4. FOR STORMWATER PIT SCHEDULE AND SETOUT, REFER TO DRAWING 12444-SD-2021.

0 4 8 12 16
SCALE 1: 200 SCALE IN m

DRAWINGS ARE INTENDED TO BE VIEWED IN COLOUR

ISSUE FOR CONSTRUCTION

DOCUMENT CONTROL STATUS

CONSTRUCTION

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CONSULTANTS

STRUCTURAL & CIVIL ENGINEERS
NAME: KBR
ADDRESS: 186 GREENHILL ROAD, PARKSIDE 5063
TEL: 08 8301 1234

BUILDING SERVICES ENGINEERS
NAME: AURECON
ADDRESS: LEVEL 3, 25 GRENFELL STREET, ADELAIDE 5000
TEL: 08 8237 9777

LANDSCAPE DESIGN
NAME: ASPECT STUDIOS
ADDRESS: 9-11 BAILEY STREET, ADELAIDE 5000
TEL: 08 8231 9985

FACADE ENGINEER
NAME: ARUP
ADDRESS: 7/182 VICTORIA SQUARE, ADELAIDE 5000
TEL: 08 8413 6500

ACOUSTIC ENGINEER
NAME: AURECON
ADDRESS: LEVEL 3, 25 GRENFELL STREET, ADELAIDE 5000
TEL: 08 8237 9777

NOTES

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DRAWINGS ARE NOT FOR CONSTRUCTION UNLESS STAMPED "FOR CONSTRUCTION".

	NAME	SIGNATURE
DRAFTING CHECK	M. PIGNATA	
ORIGINATE/ DESIGN	I. McLENNAN	
INDEPENDENT CHECK	B. CHUA	
TECHNICAL APPROVAL	T. HENSCHKE	
PROJECT APPROVAL	T. HENSCHKE	

REV.	DATE	AMENDMENTS	INITIAL
D	19.04.2022	ISSUED FOR CONSTRUCTION	
C	28.03.2022	ISSUED FOR CONSTRUCTION	
B	07.02.2022	ISSUED FOR CONSTRUCTION	
A	25.01.2022	ISSUED FOR CONSTRUCTION	

Government of South Australia
Department for Infrastructure and Transport

CONTRACT EXECUTION

CONTRACTOR DATE

WITNESS DATE

CONTRACT NAME
MORIALTA SECONDARY COLLEGE

SITE ADDRESS
MORIALTA ROAD WEST
ROSTREVOR, SA 5073

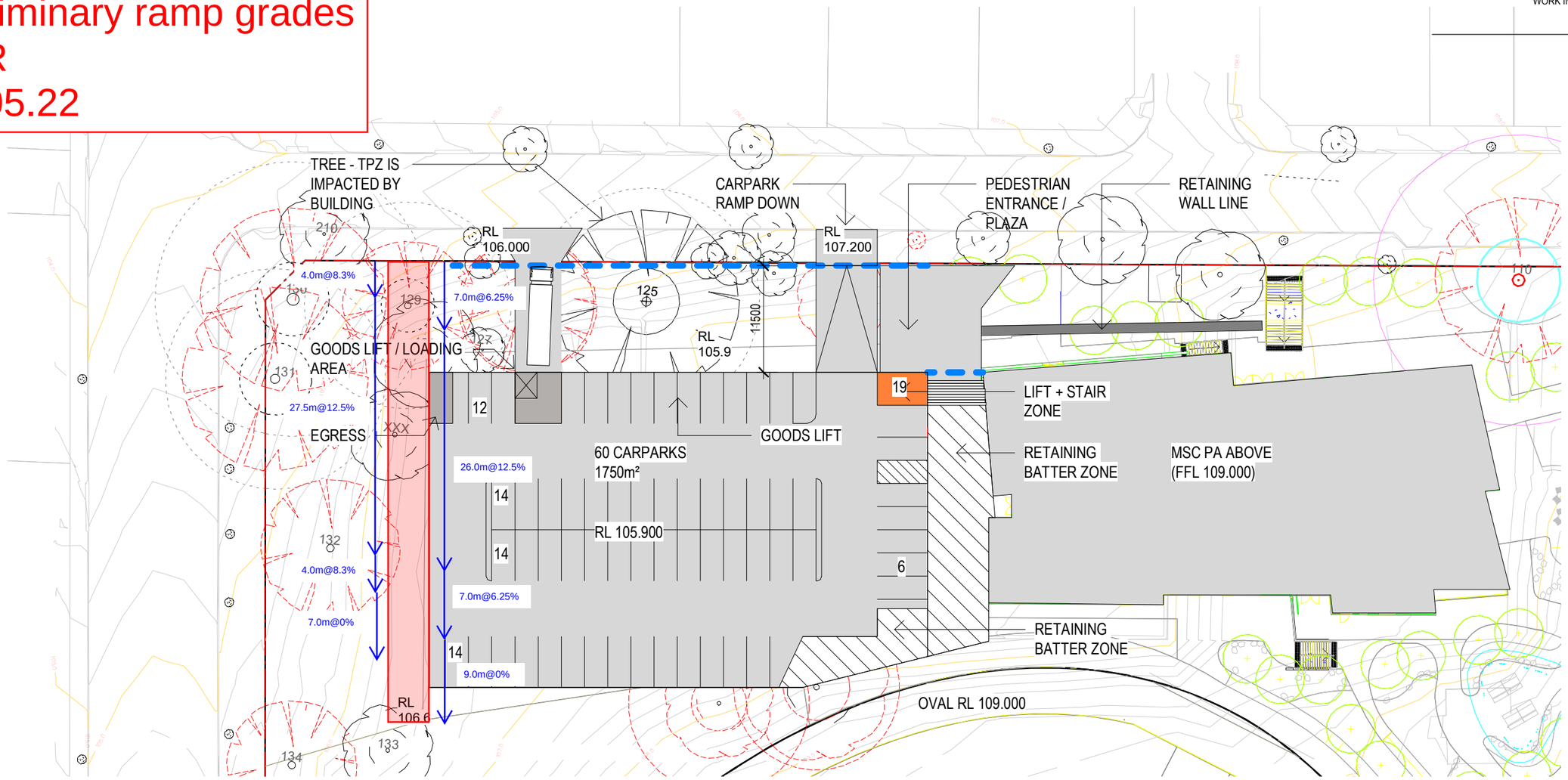
DRAWING TITLE
STORMWATER & GRADING PLAN - ZONE A1
SHEET 1 OF 9

CONTRACT NO. 7459-A-2021
DRAWN BY - CHECKED BY G.A. M.P.
PSC JOB NO. AES167-01
SCALE - SHEET SIZE 1:200 A1
DIT ASSET NO. 01209
SHEET NO. AES167-01-DW-CV-GEN-0011
DIT DRAWING NO. 12435-SD-2021
REVISION D

CoCPA
Preliminary ramp grades
KBR
24.05.22

PRELIMINARY

WORK IN PROGRESS ISSUE



COC CARPARK LEVEL 105.9

1 : 500

COC SKETCH PLAN CARPARK 105.900

16/05/2022

2022040 **SK08**

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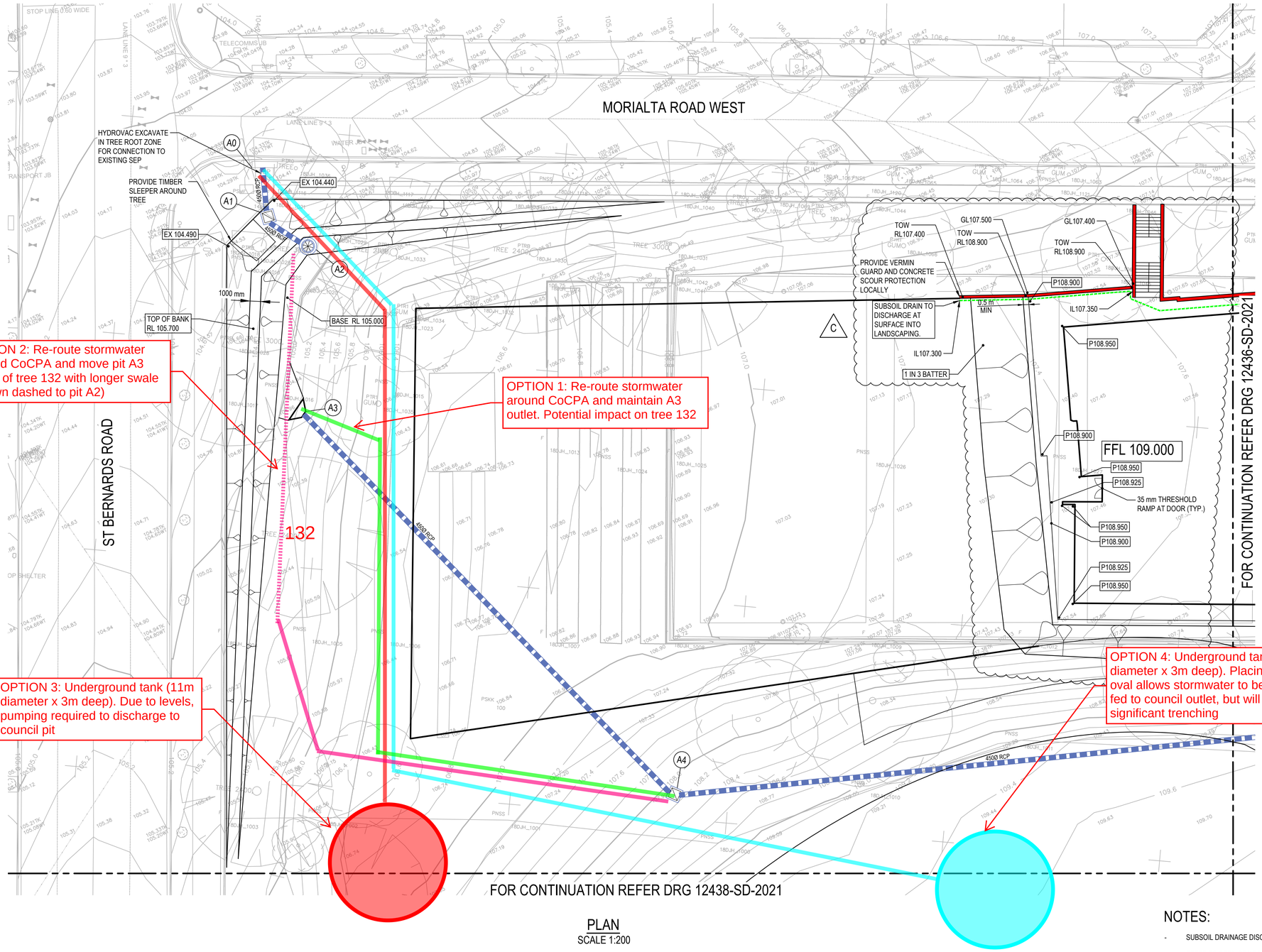
CoC Performing Arts

SKETCH

Scale Bar Units in Millimetres

CoCPA
Stormwater Detention
KBR
26.05.22



PLAN
SCALE 1:200

NOTES:

- SUBSOIL DRAINAGE DISCHARGE LOCATIONS TO BE CONFIRMED.
- REFER TO SERVICES DRAWINGS FOR LOCATION OF SIPHONIC DRAINAGE CONNECTIONS.

0 4 8 12 16
SCALE 1: 200 SCALE IN m

DRAWINGS ARE INTENDED TO BE VIEWED IN COLOUR

ISSUE FOR CONSTRUCTION

DOCUMENT CONTROL STATUS

CONSTRUCTION

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FACADE ENGINEER
NAME: TBC
ADDRESS: TBC
TEL: TBC

ACOUSTIC ENGINEER
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ADDRESS: LEVEL 3, 25 GRENFELL STREET, ADELAIDE 5000
TEL: 08 8237 9777

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REV.	DATE	AMENDMENTS	INITIAL
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DRAWING TITLE
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SHEET 1 OF 9

CONTRACT NO. 7459-A-2021
DRAWN BY - CHECKED BY G.A. M.P.
PSC JOB NO. AES167-01
SCALE - SHEET SIZE 1:200 A1
DIT ASSET NO. 01209
SHEET NO. AES167-01-DW-CV-GEN-0011
DIT DRAWING NO. 12435-SD-2021
REVISION C

APPENDIX

SERVICES DRAWINGS

NEW P5 COMMUNICATIONS PIT

MAIN SWITCHBOARD (MSB) (LOCATED AT CARPARK G LEVEL BELOW) 2000Hx3500Wx600D

CONTROL ROOM DISTRIBUTION BOARD (DB) 2000Hx700Wx300D

DISTRIBUTION BOARD (DB1) 2000Hx2400Wx400D (TYPICAL)

MORIALTA SECONDARY COLLEGE
SA POWER NETWORKS PAD MOUNTED TRANSFORMER (TF)

PRELIMINARY
WORK IN PROGRESS ISSUE

RL 105

RL 109.0

MAIN COMMUNICATIONS ROOM 5000Wx4000Dx2700H

MAIN COMMS CABINETS (CC) 2x800Wx1000Dx45RU (FLOOR MOUNTED)

NEW P5 COMMUNICATIONS PIT

BOX OFFICE COMMS CABINET (CC) 800Wx600D12RU (WALL MOUNTED)

CONTROL ROOM COMMS CABINET (CC) 3x800Wx800Dx45RU (FLOOR MOUNTED)

STAGE COMMS CABINET (CC) 800Wx800Dx45RU (FLOOR MOUNTED)

CAFE DISTRIBUTION BOARD (DB) 1500Hx700Wx300D

CAFE COMMS CABINET (CC) 800Wx600D12RU (WALL MOUNTED)

City of Campbelltown

Performing Arts Centre

ELECTRICAL SERVICES
ESK-01 05/06/22

COC SKETCH PLAN LEVEL 109.000

23/05/2022

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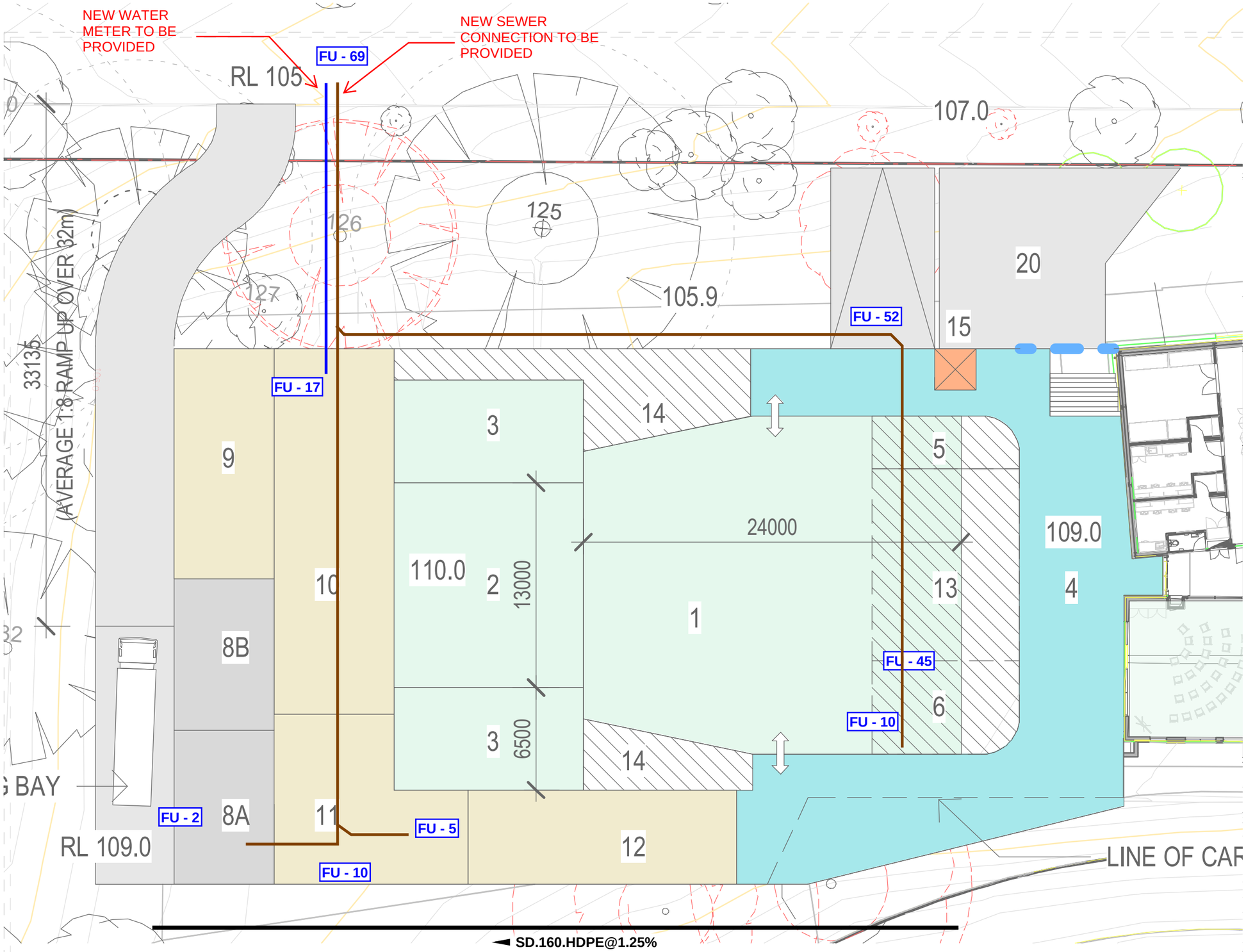

City of Campbelltown

Performing Arts Centre

PRELIMINARY

WORK IN PROGRESS ISSUE

WC - 9
BSN - 6
UR - 3

WC - 2
BSN - 2
UR - 0

BAR:
BSN - 1
GLASS WASH - 1
SINK - 2

CHANGE ROOMS/MARKUP:
BSN - 2

WATER SUPPY: 0.52L/s

HYDRAULIC SERVICES
HSK-01 05/06/22

COC SKETCH PLAN LEVEL 109.000

23/05/2022

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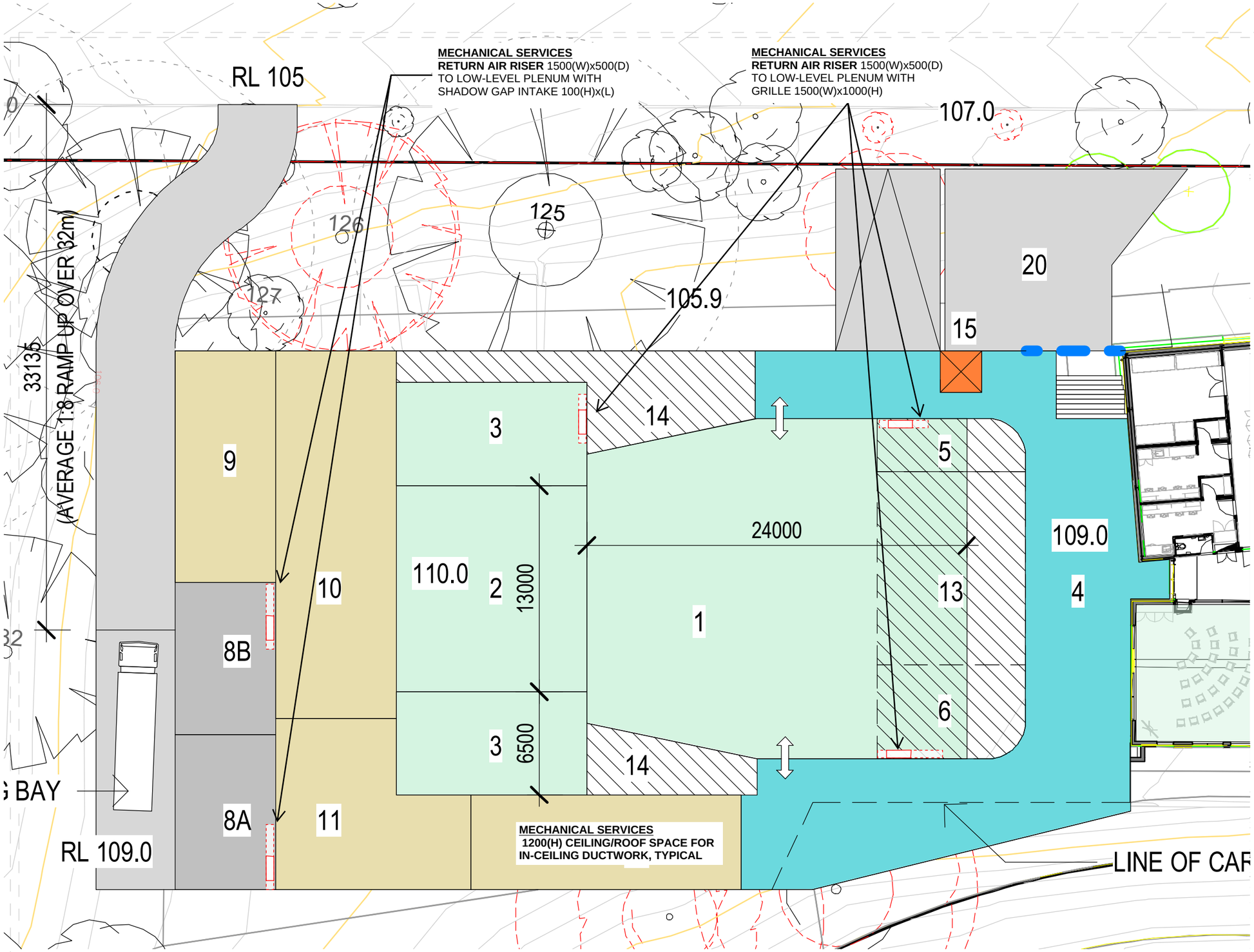

City of Campbelltown

Performing Arts Centre

PRELIMINARY

WORK IN PROGRESS ISSUE

MECHANICAL SERVICES
ESK-01 05/06/22

COC SKETCH PLAN LEVEL 109.000

23/05/2022

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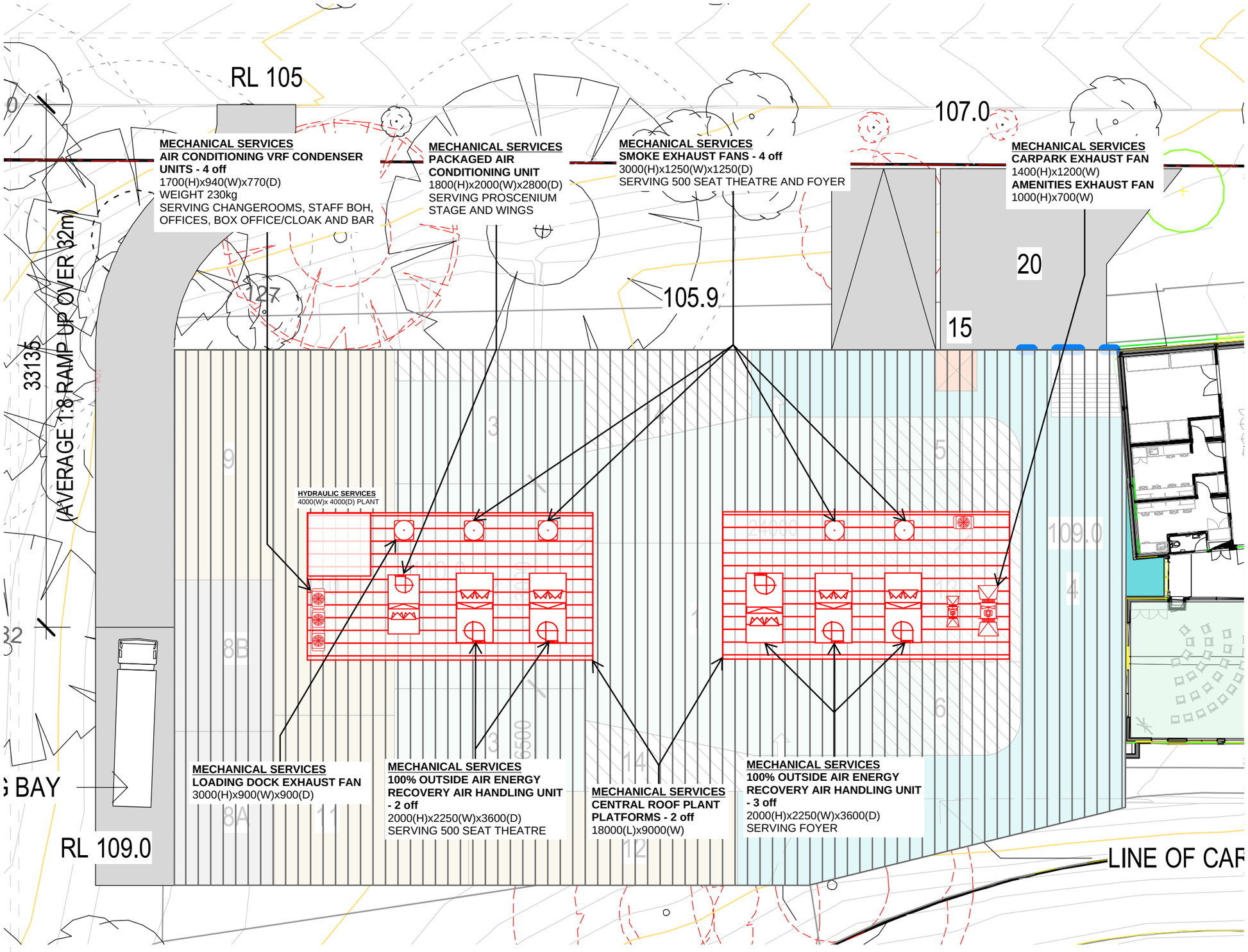

PRELIMINARY

WORK IN PROGRESS ISSUE

City of Campbelltown

Performing Arts Centre

MECHANICAL SERVICES
ESK-01 05/06/22

COC SKETCH PLAN LEVEL 109.000

23/05/2022

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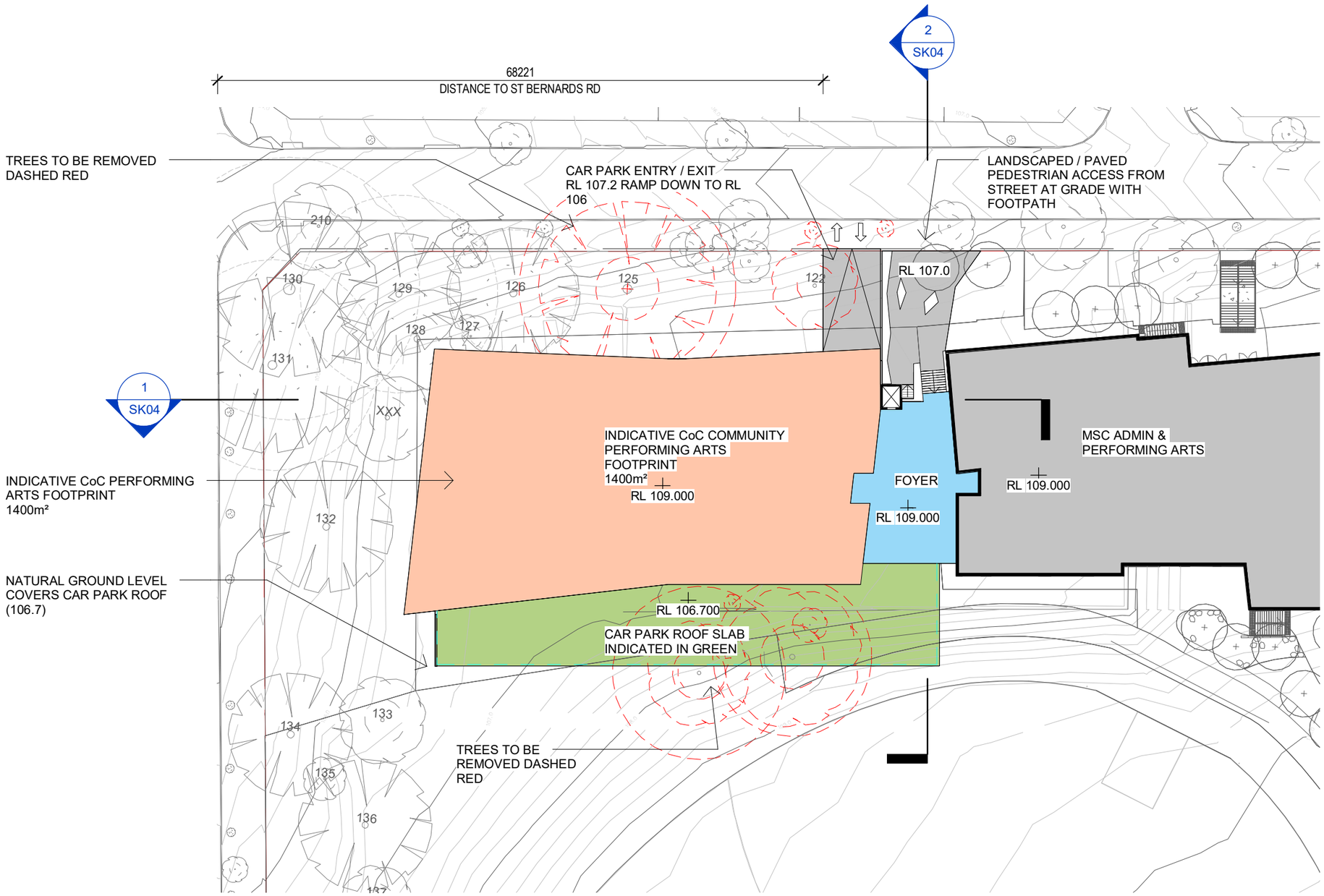
WORK IN PROGRESS ISSUE



City of Campbelltown

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SITE PLAN

APRIL 2022

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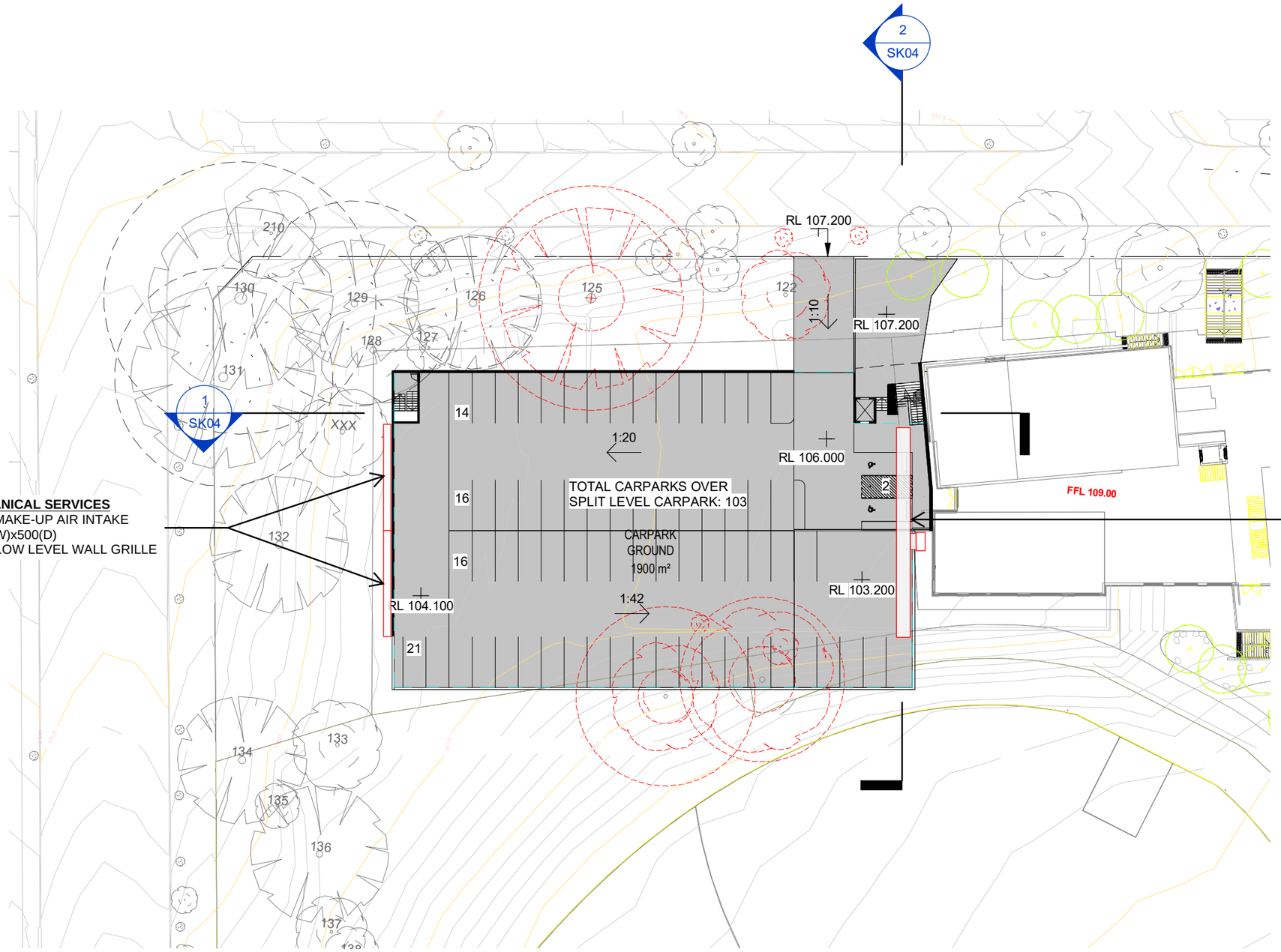
WORK IN PROGRESS ISSUE



ENTRY FFL 107.2

APRIL 2022

2021040 **SK02**

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0 5 10 15 20m

1:500

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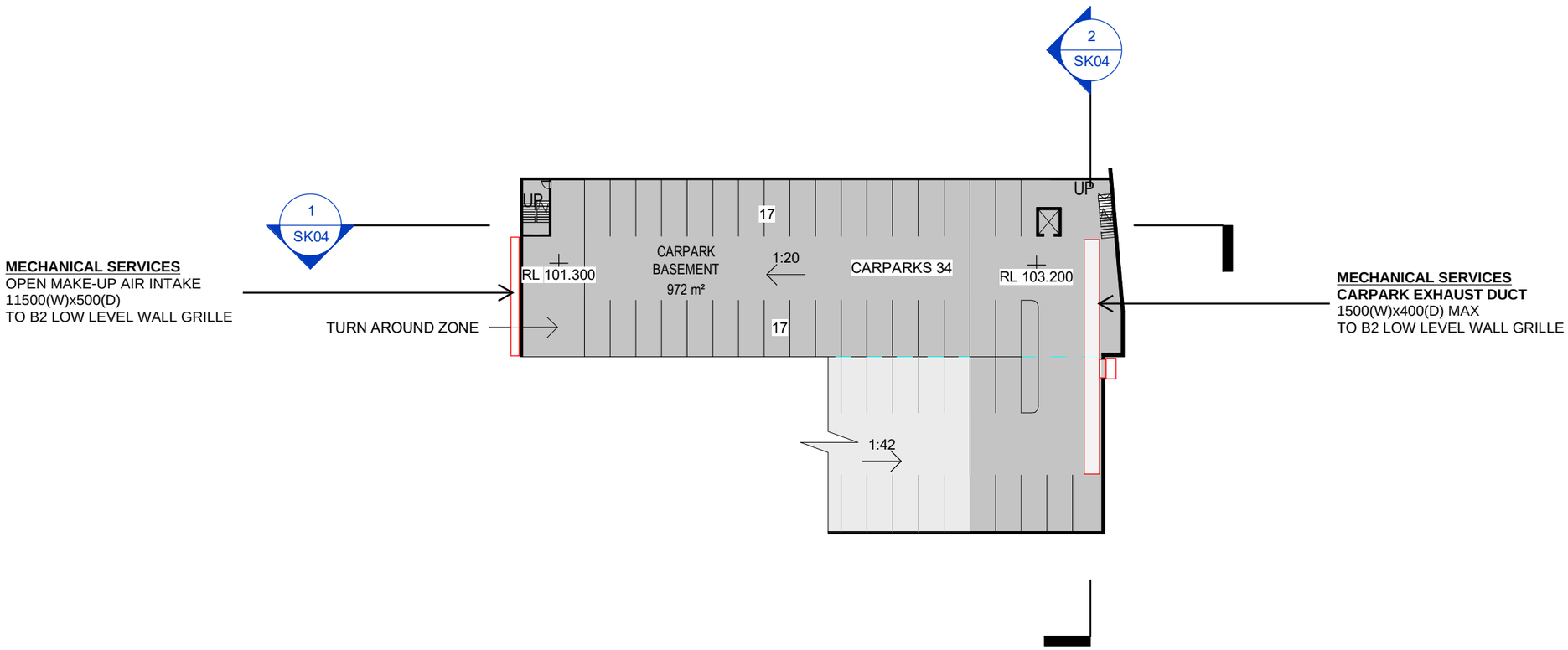

CAR PARK B2

1 : 500

BASEMENT LEVEL

02/12/18

2021040 **SK03**

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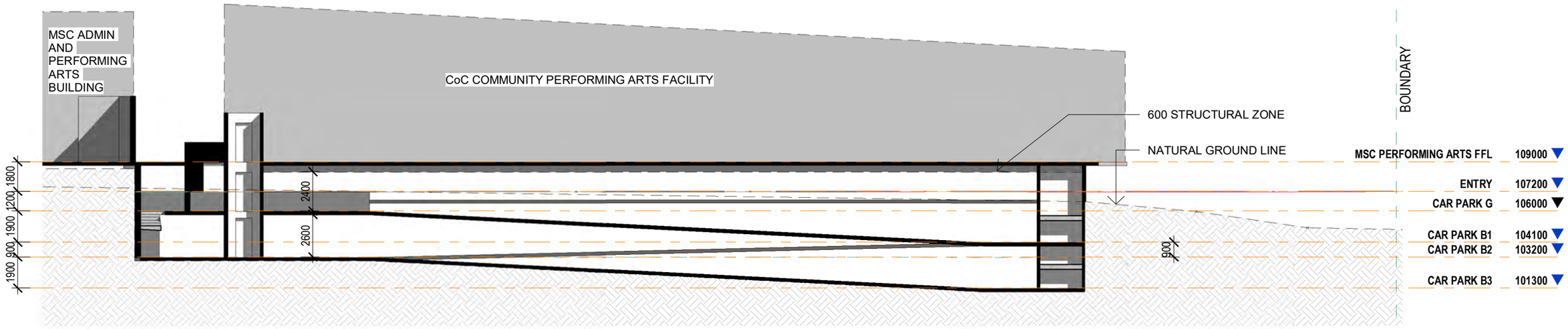
PRELIMINARY

WORK IN PROGRESS ISSUE

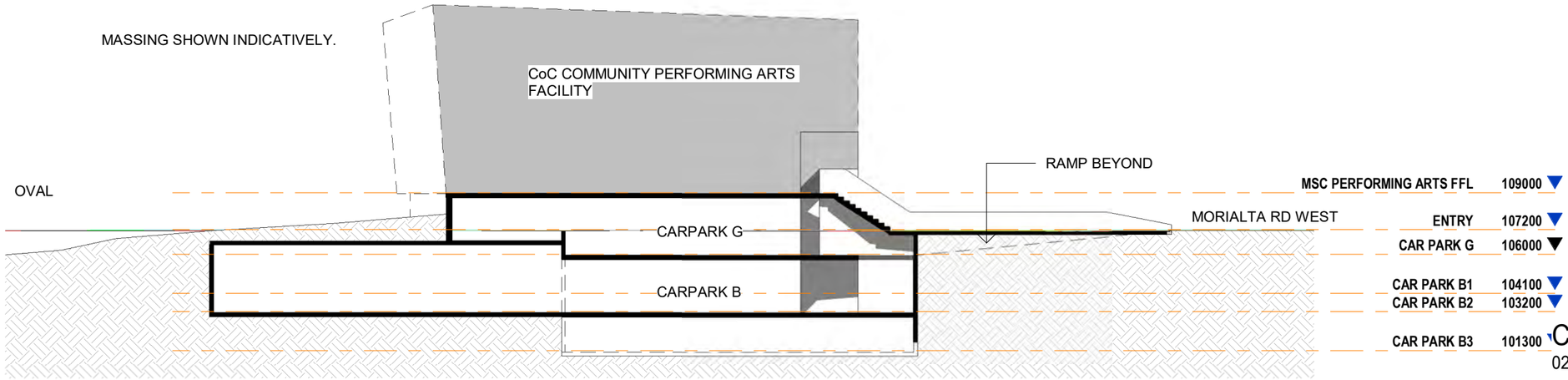
MASSING SHOWN INDICATIVELY.



SECTION A

1 : 250

MASSING SHOWN INDICATIVELY.



CAR PARK SECTION

02/12/18

SECTION B

1 : 250

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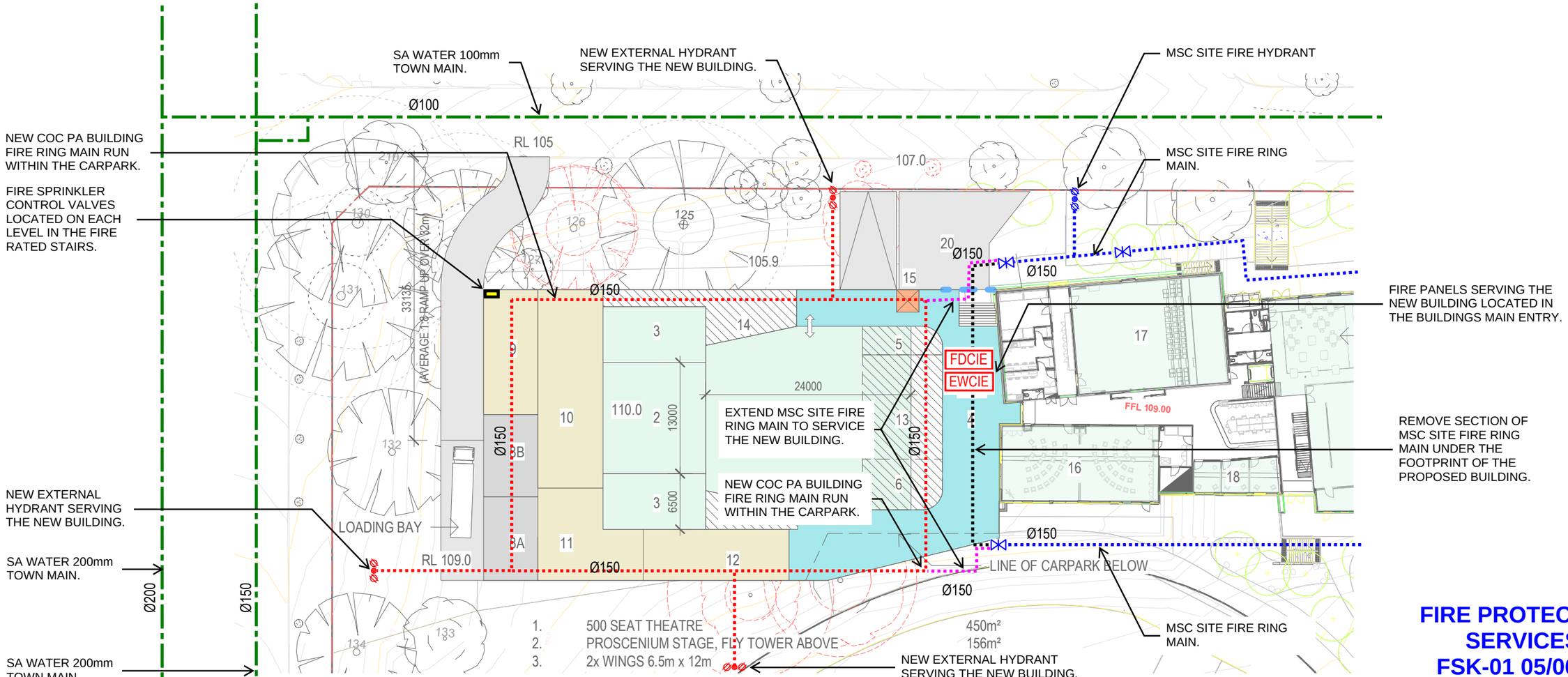
City of Campbelltown

Performing Arts Centre

PRELIMINARY

WORK IN PROGRESS ISSUE



FIRE WATER SUPPLY NOTES:

CoC PERFORMING ARTS BUILDING IS TO BE CONNECTED TO THE MSC SITE FIRE WATER SUPPLY.

THE MSC SITE FIRE WATER SUPPLY CONSISTS OF A CONNECTION TO THE 200mm DIAMETER SA WATER MAIN IN ST BERNARD'S ROAD, FIRE TANKS AND FIRE PUMPS.

THE MSC SITE FIRE TANKS AND SA WATER CONNECTION ARE SUITABLY SIZED TO SERVICE THE CoC PA BUILDING WITHOUT MODIFICATION.

THE MSC SITE FIRE PUMPS MUST BE INCREASED IN CAPACITY IN ORDER TO SUPPLY THE PROPOSED NEW CoC PA BUILDING's COMBINED FIRE HYDRANT AND SPRINKLER DEMANDS.

City of Campbelltown

Performing Arts Centre

FIRE PROTECTION SERVICES
FSK-01 05/06/22

COC SKETCH PLAN LEVEL 109.000

23/05/2022

2022040 **SK09**

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PRELIMINARY

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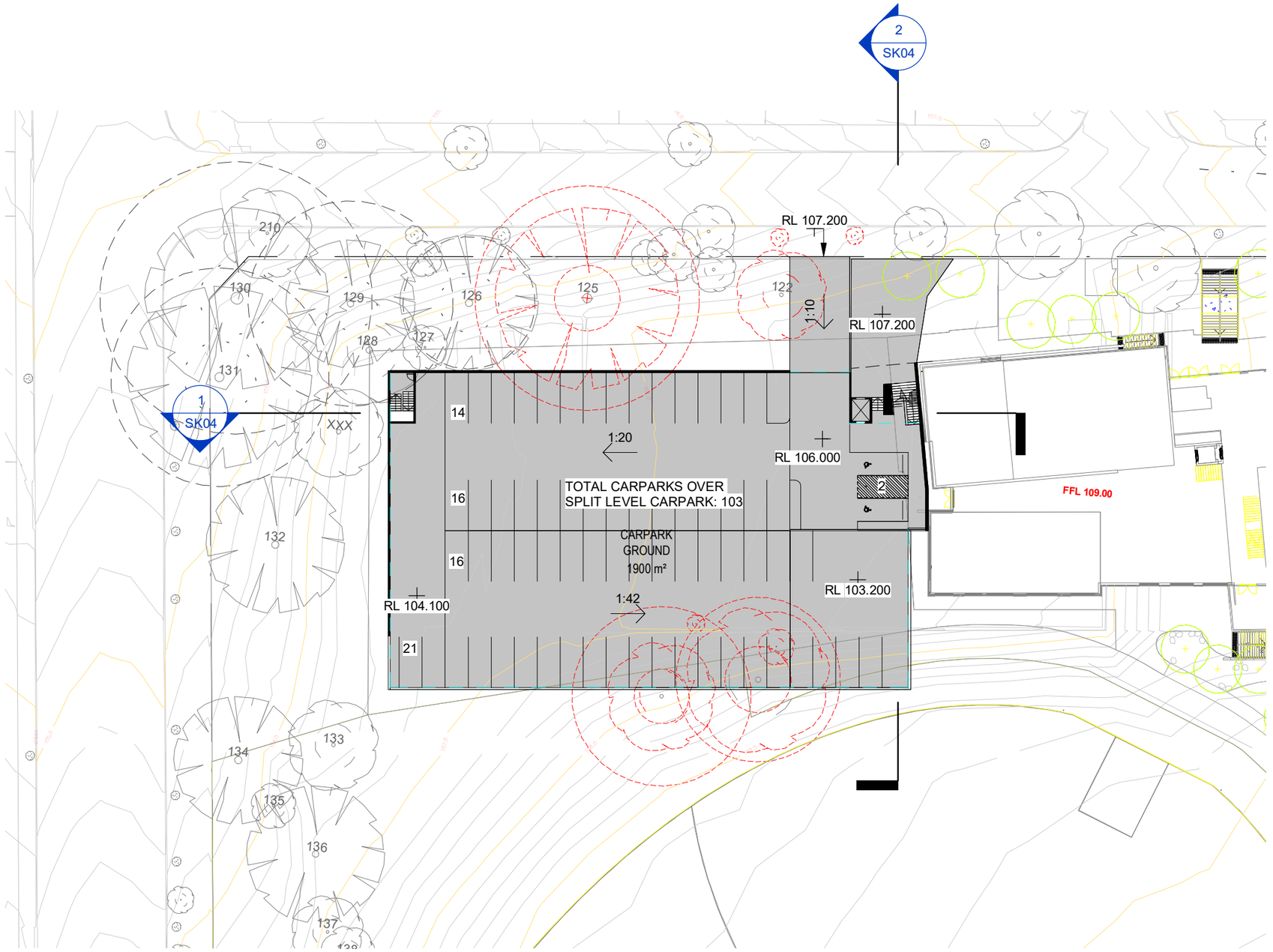

City of Campbelltown

Performing Arts Centre

0 5 10 15 20m

1:500

ENTRY FFL 107.2

APRIL 2022

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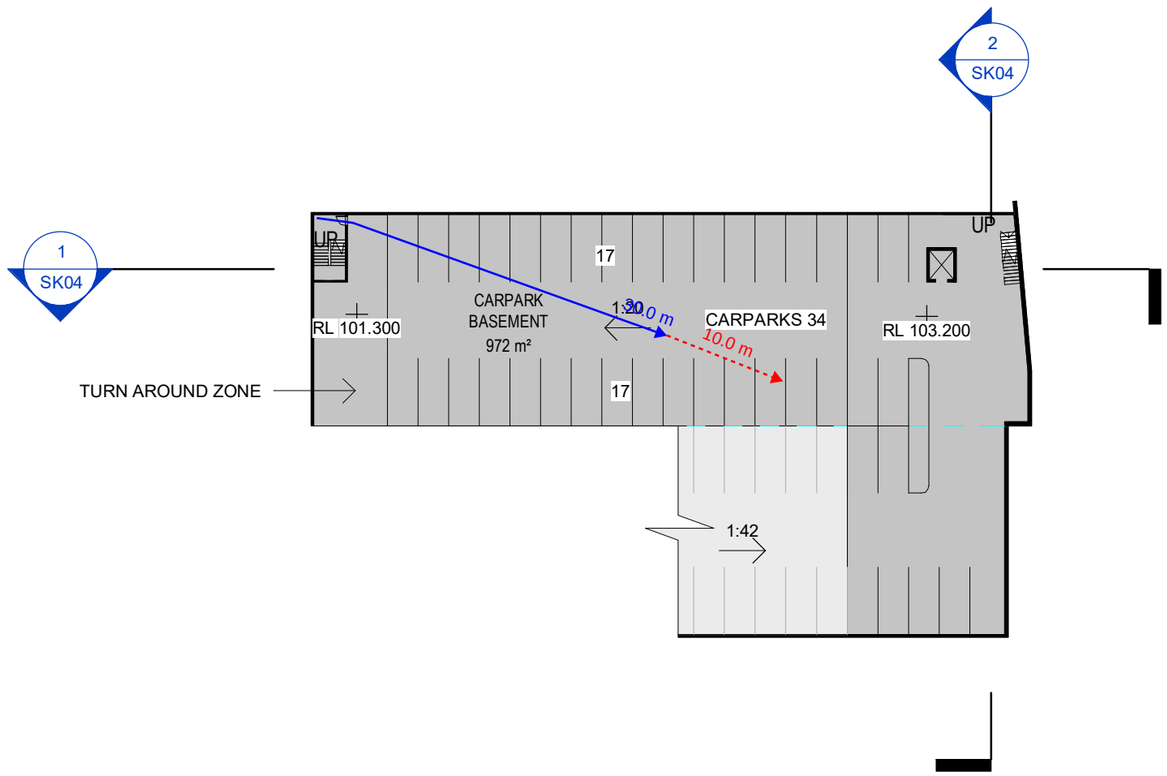

CAR PARK B2

1 : 500

BASEMENT LEVEL

02/12/18

2021040 **SK03**

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City of Campbelltown

Performing Arts Centre

PRELIMINARY

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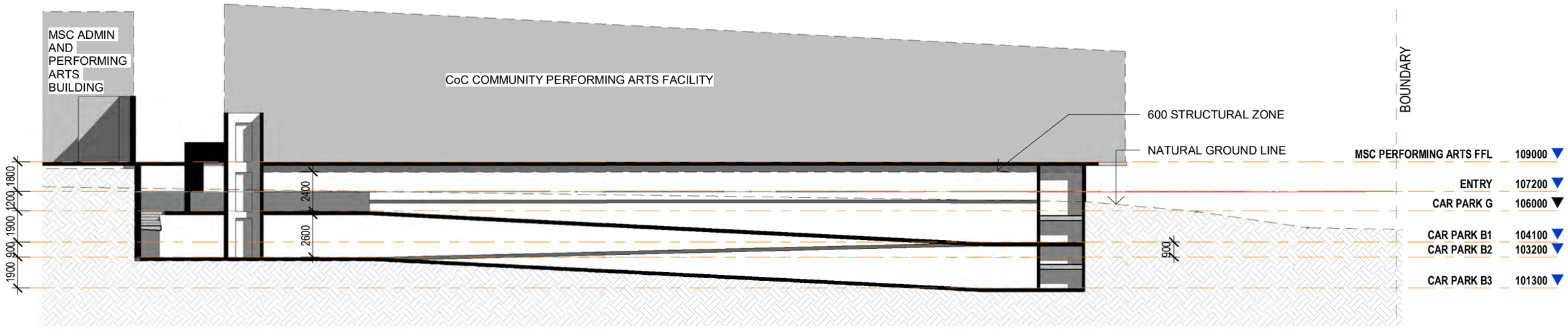
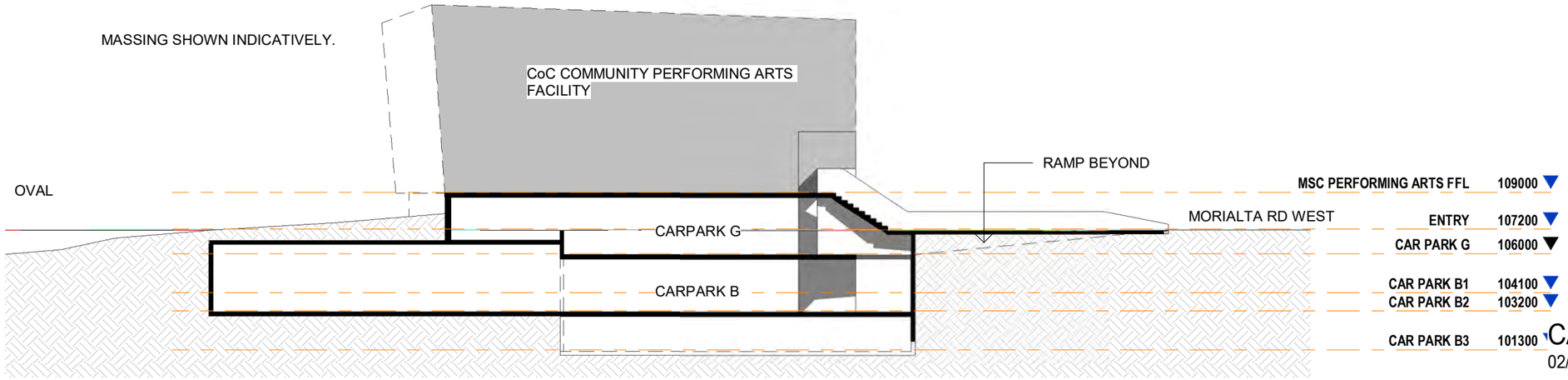
MASSING SHOWN INDICATIVELY.



SECTION A

1 : 250

MASSING SHOWN INDICATIVELY.



CAR PARK SECTION

02/12/18

SECTION B

1 : 250

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City of Campbelltown

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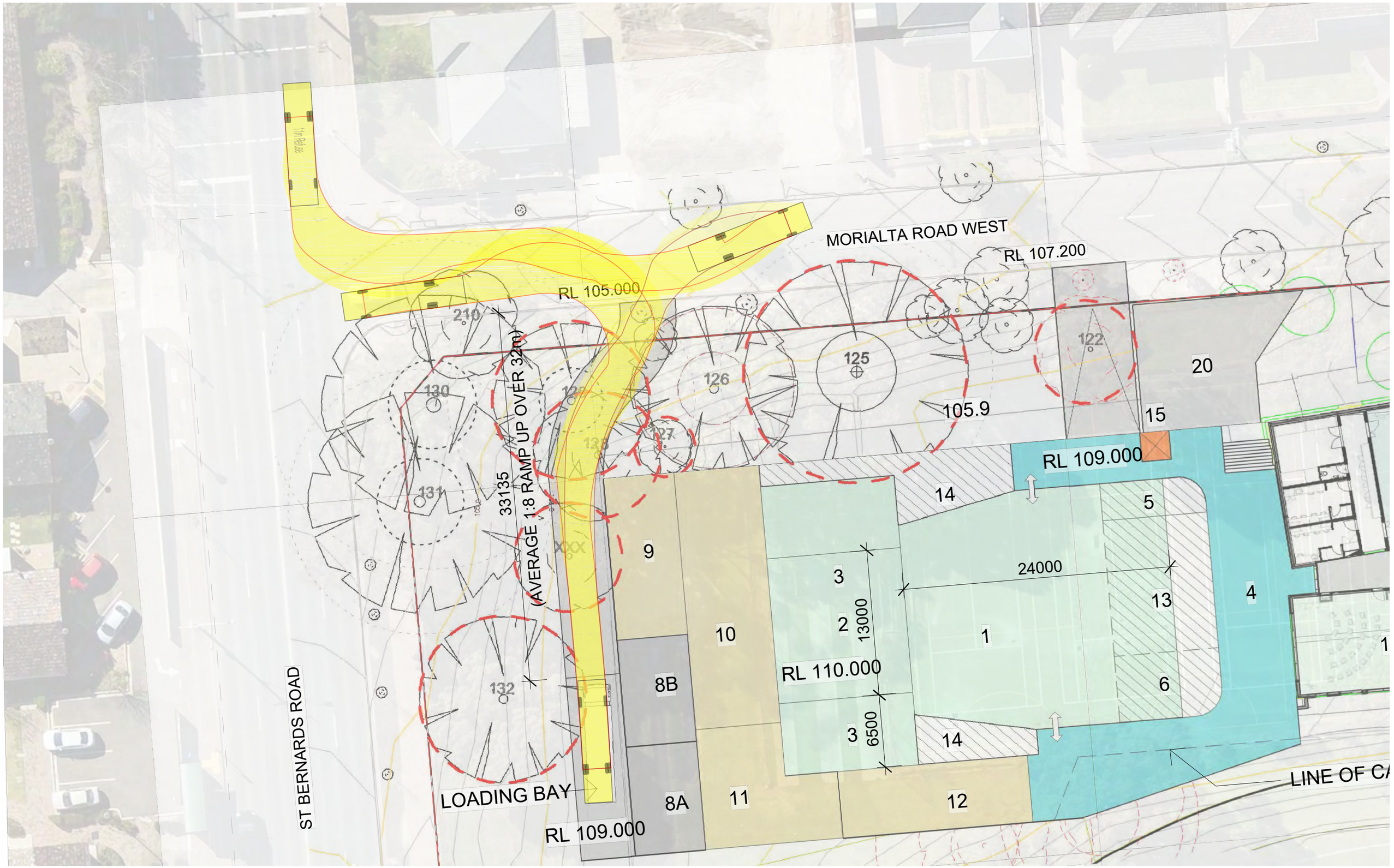

CIRQA™

CAMPBELLTOWN CITY COUNCIL - COMMUNITY PERFORMING ARTS FACILITY

APPENDIX A - DRAWINGS | AUGUST 2022 | REVISION [A]

ABN 57 600 029 993 | PO Box 141, Glenside SA 5065 | E: info@cirqa.com.au

DRAWING AMENDMENTS

VER	DATE	DESCRIPTION	DWN	CHK
A	19/05/2022	DESIGN COMMENTS	JJB	BNW
C	02/08/2022	TURN PATH	JJB	BNW

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CoC PERFORMING ARTS CENTRE

MORIALTA ROAD WEST, ROSTREVOR
RIGID VEHICLE TURN PATH

PROJECT # 22088 SHEET # 01_SH01

ARUP

Technical Note

Project title	Campbelltown City Council Performing Arts Centre
Job number	285291
File reference	TN_02
To / cc	Tyson Jacquier, Sophia Bartemucci, Jonathon Kirby, Marino Rossi, Brendan Scarborough, Michael Lambert, Craig Tonkin, Nick Boulter, Nick Roach
Prepared by	Terry Ryan
Date	23 May 2022
Subject	Adjacencies Diagram

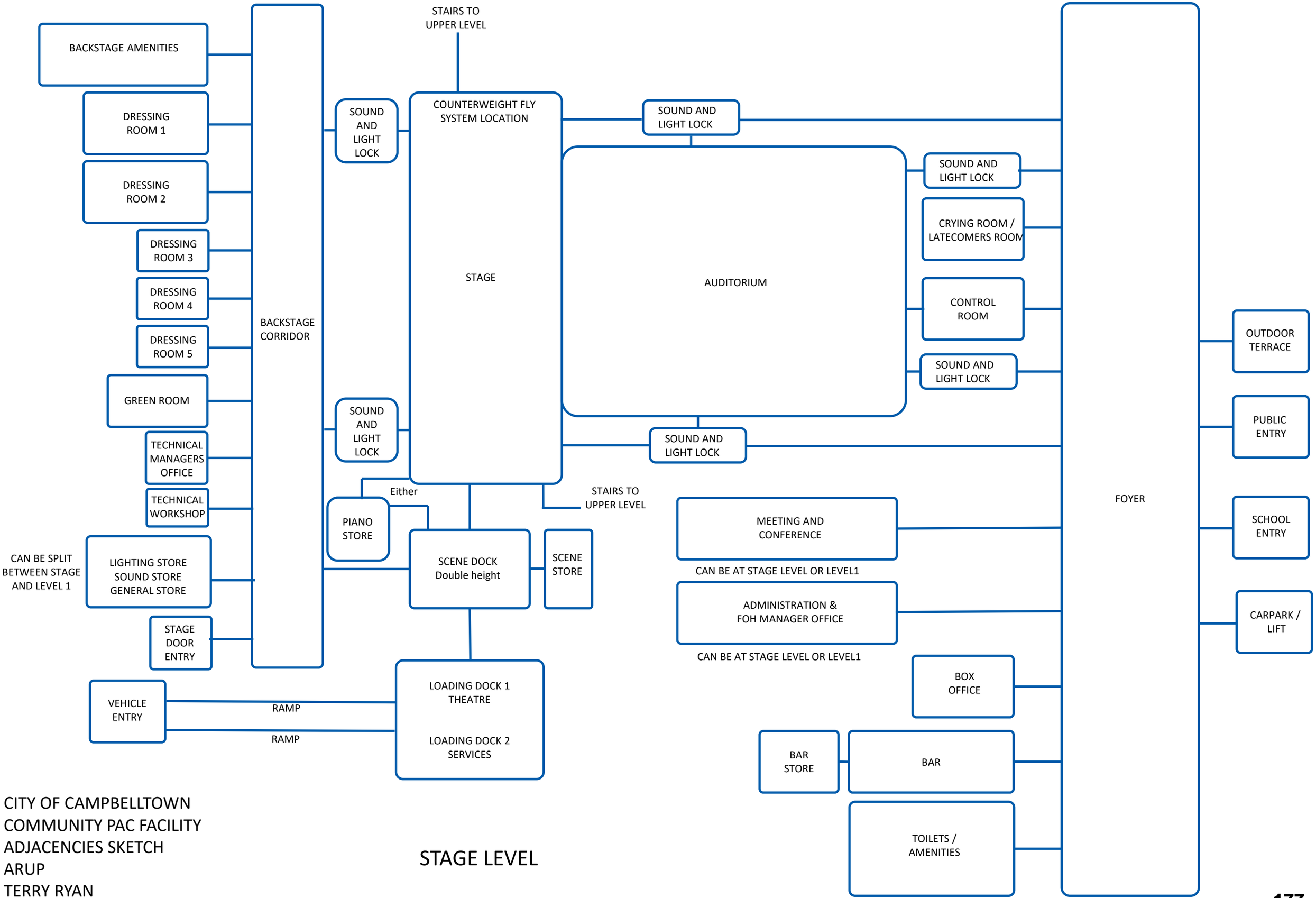
Sky Park One Melbourne Quarter 699 Collins Street Docklands VIC 3008 Australia
t +61 3 9668 5500 d +61 3 9668 5580
arup.com

Hi Thomson Rossi and Brown Falconer Teams,

Please find attached a preliminary adjacencies diagram to communicate anticipated adjacencies of various front of house and back of house spaces.

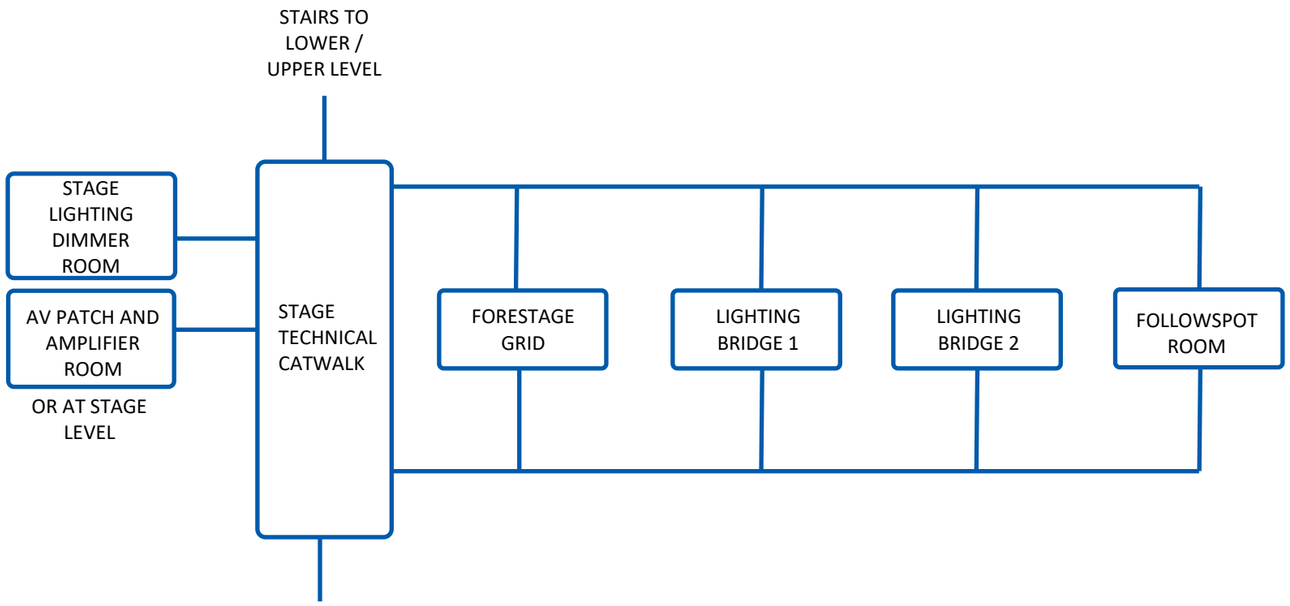
DOCUMENT CHECKING

	Prepared by	Checked by	Approved by
Name	Terry Ryan		
Signature			

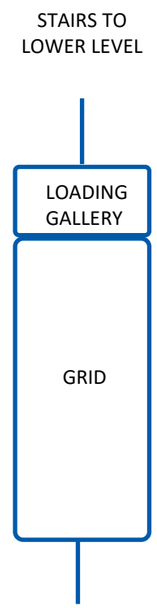


CITY OF CAMPBELLTOWN
COMMUNITY PAC FACILITY
ADJACENCIES SKETCH
ARUP
TERRY RYAN
23/5/22

STAGE LEVEL



LEVEL 1 -
WORKING GALLERIES



LEVEL 2 -
GRID AND LOADING GALLERY

CITY OF CAMPBELLTOWN
COMMUNITY PAC FACILITY
ADJACENCIES SKETCH
ARUP
TERRY RYAN
23/5/22

APPENDIX

B

COST ESTIMATE SUMMARY

CITY OF CAMPBELLTOWN - Performing Art Centre

Preliminary Feasibility Options

Date: 4 August 2022
Revision: D - Target Budget
JN 21398

Preliminary Cost Advice

Cost Location	Indicative Cost Advice 500 Seat Option, Single level carpark basement					Notes
	FECA (m2)	UCA (m2)	GFA (m2)	Rate x GFA (m2)	Indicative Costs (excl. GST)	
ITEM						
Performing Arts Centre						
Base Building						
Base Building Works incl. Services					refer breakdown	
Sub-structure (foundations only)	2,223		2,223	$510	$1,133,730	Assumed similar to Learning Communities (eg; similar vertical load, soil conditions etc - TBC)
Super-structure						
Columns	2,223		2,223	$200	$444,600	incl. support for lighting rigs, fire rating etc
Suspended Slab (note: over basement)	2,223		2,223	$600	$1,333,800	high load over basement - KBR TBC
Seating structure platform					$275,000	
Catwalks					$195,000	Note: BF_TR to Check SOA and access to Catwalks
Stairs / Cores	2,223		2,223	$150	$333,450	TBC
Roof	2,223		2,223	$585	$1,300,455	Incl. main theatre trusses - TBC by KBR
Roof Platforms					$350,000	
External Walls (indicative facade area)					$1,700,000	Note; up to 15m for Theatre and 5m for Foyer/BOH - Design TBC
Hydraulic Services	2,223		2,223	$120	$266,760	TBC (new amenities)
Mechanical Services	2,223		2,223	$700	$1,556,100	TBC
Electrical, Data, Security Services	2,223		2,223	$400	$889,200	TBC
Fire Protection Services	2,223		2,223	$155	$344,565	TBC, Sprinkler System
Vertical Transportation Services					$150,000	1 x Passenger Lift
VM ITEM (Area Reduction)	-100		-100	$3,450	-$345,000	TBC
Sub-Total - Base Building	**2,123**		**2,123**	**$4,676**	**$9,927,660**	
Batter / Footings and transfer adjacent MSC PA					$150,000	No longer a retaining wall. Approx 250m2 area
Performing Arts						
Foyer	360		360	$750	$270,000	*DfE Standard to match MSC PA/Admin
Box Office/ Cloak	35		35	$770	$26,950	
Bar	50		50	$5,000	$250,000	*Excl. Bar Equipment
Large Theatre	450		450	$2,000	$900,000	Note: Seats incl. below. High acoustic treatment
Stage & Wings	312		312	$2,000	$624,000	High acoustic treatment required
Theatre Bio Box (Control Room)	42		42	$1,000	$42,000	
Theatre Back of House	200		200	$650	$130,000	
Theatre Change / Makeup Rooms	110		110	$1,200	$132,000	
Theatre Storage	150		150	$500	$75,000	
Fly Tower					$130,000	
Scene Dock (Double height)	50		50	$1,500	$130,000	
Loading Dock	50		50	$750	$37,500	External roadway excl. refer below
Amenities - FOH	110		110	$1,750	$192,500	
Amenities - Staff	100		100	$1,200	$120,000	
Building Grossing (stairs / circulation / services)	204		204	$280	$57,120	Design - TBA
VM ITEM (Area Reduction)	-100		-100	$987	-$98,700	TBC
Provisional Sums						
Seating (500 Seats)					$425,000	Design / spec - TBA
Audio Visual / Theatre Equipment including Curtains, Lighting, Rigging etc					$1,850,000	As per Arup Estimate 19 May 2022
Builders Works Associated with AV / Rigging					$350,000	
Orchestra Pit from Undercroft					Excluded	refer below
Bar Equipment					Excluded	Previously excl. as advised
Retractable seating (required to front section)					$250,000	Quanitity TBA, raised in meeting. 12.05.22
Sub-Total - Performing Arts	**2,123**	**0**	**2,123**	**$7,523**	**$15,971,000**	
Carparking / Traffic / Landscaping						
Single storey basement / undercroft carpark	1,750		1,750	$1,950	$3,412,500	60 Cars
Extra over for landscaping to basement 'lid'					Excl.	Entire footprint covered by building over
Street Crossovers (2x)					$30,000	
External loading dock & carpark access					$225,000	Loading dock to west of building. Approx 285m2 - with retaining walls to the sides due to levels & screening to dock

Cost Location	Indicative Cost Advice 500 Seat Option, Single level carpark basement					Notes
	FECA (m2)	UCA (m2)	GFA (m2)	Rate x GFA (m2)	Indicative Costs (excl. GST)	
Pedestrian Entrance / Plaza					$100,000	Approx 135m2 - pavers / landscape
External access incl. stairs / ramps etc					$50,000	
External landscaping / matching MSC					$50,000	
Traffic Works / Upgrades					Excluded	Previously Excluded, risk item
Sub-Total - Carparking	**1,750**		**1,750**	**$2,210**	**$3,867,500**	
Site Infrastructure						
Provisional Sum - Services Infrastructure (electrical, fire, water, sewer etc)					$300,000	Shared transformer. Includes fire pump upgrade
Site stormwater instructure / re-work to existing detention basin					$100,000	Diversion of main pipe and raised stormwater basin walls
Sub-Total - Infrastructure					**$400,000**	
Margins & Adjustments						
Site logistics with access, temporary works, making good etc					$205,000	Previously costed as 'integrated' building. Now standalone and likley to impact MSC when operational
Design contingency				5.0%	$1,022,175	
Managing contractor preliminaries				10.0%	$2,146,568	Procurement TBA
Managing contractor margin				3.0%	$708,367	Procurement TBA
Construction contingency				5.0%	$1,216,030	
Department for Education direct costs					Excluded	Assume not required
City of Cambelltown Direct Costs					Excluded	Previously Excluded
Statutory fees & charges (incl. CITB levy)				0.3%	$76,610	
Escalation / market risk for project completion (TBC)				4.5%	$1,152,596	Program TBA (assumed commencment 2023, complete end of 2024)
Professional fees				12.0%	$3,211,902	Incl. DIT Costs as advised
Sub-Total - Margins and Adjustments					**$9,739,200**	
INDICATIVE PROJECT TOTAL	**3,873**	**0**	**3,873**	**$7,741**	**$29,980,000**	

BELOW THE LINE COSTS

Orchestra Pit incl. fitout from Undercroft (fixed, not hydraulic)					$800,000	Design / spec - TBA, assume area increase of approx. 50m2, open acoustic walled 'pit' with balustrades for fall protection
Extra to have hydraulic orchestra lift					$300,000	Mechanical item that raises the orchestra floor up

COST NOTES:

Limitation of Estimate

This estimate should be viewed as a 'pre-concept / preliminary' cost advice for use in strategic master planning review and scenario analysis; and given the preliminary nature of the functional areas only (no design & engineering documentation), the estimating tolerance would be in the region of +/- 10%.
We therefore recommend that a more detailed elemental cost model be prepared before such commitment is to be considered.

Documents Used

- Accommodation & Area Schedule 20220519 (2223m2 GFA)
- Arup comments over Thomson Rossi / Brown Falconer COC Sketch Plan Level 109.000 SK09 16/05/2022
- Thomson Rossi / Brown Falconer COC Sketch Plan Carpark 105.9 SK08 16/05/2022
- KBR Markup of TR/BF Drawing Entry FFL107.2
- KBR Stormwater Markup
- Aurecon Electrical, Mechanical, Fire & Hydraulics Markups "Work in Progress" 29.04.2022
- Arup Theatre & Audio Visual Equipment Preliminary Budget Estimate (19 May 2022)

Cost Exclusions:

- Relocation of existing engineering services
- 'Iconic' Design (design intent to relate to Morialta Secondary College PA/Admin Building)
- Works associated with asbestos / harazdous materials including soil contamination beyond 'waste fill' classification
- External works including landscaping works, connection to buildings, connection to existing footpaths etc
- Rock excavation
- COVID 19 Impacts (including potential new wave / outbreak etc)
- Cost associated with DfE (including internal staffing, legal, etc)
- Cost associated with City of Campbeltown Council (including internal staffing, legal, marketing, relocations, etc)
- Escalation beyond end 2024 program advice required
- Works to existing roadways / networks
- Goods and Services Taxation
- DfE Areas eg; VET kitchen etc

Cost Risks

- Works associated with existing services engineering infrastructure.
- Building heights including associated basement depths
- External works including connection to adjacent buildings, footpaths, etc
- Traffic / External roadway networks

ARUP

Technical Note

Project title	Campbelltown City Council Performing Arts Centre
Job number	285291
File reference	TN_01
cc	
Prepared by	Terry Ryan
Date	19 May 2022
Subject	Theatre and Audio Visual Equipment Preliminary Budget Estimate

Sky Park One Melbourne Quarter 699 Collins Street Docklands VIC 3008 Australia
t +61 3 9668 5500 d +61 3 9668 5580
arup.com

Please find below the Theatre and Audio Visual Equipment Preliminary Budget Estimate, based on facilities of this size and nature.

DOCUMENT CHECKING

	Prepared by	Checked by	Approved by
Name	Terry Ryan		
Signature			

Campbelltown City Council
Performing Arts Centre
Preliminary Theatre Equipment and AV budget estimate

ARUP

AREA	Total (Ex GST)
Theatre Counterweight Flying system, flown lighting bars, & fixed rigging	470,000
Flown lighting bars and cable management	100,000
Stage lighting dimming, lighitng control, lighting console, and patching	120,000
Stage lighting luminaires	220,000
Drapes, Curtain track and house Curtain	90,000
PA system including FOH loudspeakers, Subs, amplifiers, rigging equipment and console	440,000
Stage mananagement console, Stage Communications, Paging and relay to foyer and dressing rooms, wireless communications system	160,000
Main venue projection, projection screen, digital signage, video processing, show relay to foyer and dressing rooms	160,000
Meeting / Conference areas, Podcast studio	90,000
Total	**$ 1,850,000.00**

Notes

1. Excludes orchestra pit lift
2. Costs noted are for supply and installation of the Theatre and AV equipment only. Associate builder's works and works by others excluded.
3. All costs are exclusive of GST
4. AV cabling installation by Electrical Contractor. Cable termination By AV contractor included in allowances above.
5. Electrical and Data cabling and termination by Electrical Contractor.

PROGRAM

At the time of issuing this report, no program was provided by the Department for Infrastructure and Transport. All dates indicated in the report are indicative.

Government of South Australia
Department for Education

REQUEST FOR SERVICE

DEPARTMENT FOR EDUCATION

TO: **DEPARTMENT FOR INFRASTRUCTURE AND TRANSPORT**

ATTENTION: **BEN HOGARTH, DIRECTOR, BUILDING PROJECTS, ACROSS GOVERNMENT SERVICES DIVISION**

RE: MORIALTA SECONDARY COLLEGE – COMMUNITY PERFORMING ARTS FACILITY

Project Name	MORIALTA SECONDARY COLLEGE – COMMUNITY PERFORMING ARTS FACILITY
Site Address	Morialta Road West, Rostrevor SA 5073

Brief Prepared by

Name	Wayne Dixon
Position	Project Leader, New Schools
Contact	0434 867 125

School Principal

Name	Roley Coulter
Contact	8226 5782
Date	07/02/2022

Approving Officer

Name	Deb O'Riley
Position	Director, New Schools
Contact	(08) 8226 7417
Date	07/02/2022

Signature		
Services Required *(DIT ref – AS4122 Schedule 2.3)*	☐ Brief Development ☐ Master Plan/Scoping Study ☒ Pre Part 1	☒ Full Services (Parts 1, 2, 3) ☐ Concept Report (Parts 1 only) ☐ Other, please specify: Parts 2 & 3 only
Project Summary	The project involves the design and construction of a 500 seat community performing arts facility and undercroft carpark in the north west corner of the Morialta Secondary College (MSC) site. The facility is to be funded in full by the City of Campbelltown, and leased on a permanent basis to the council, and operated by council. The facility will be owned by DfE. The preliminary estimate valued the project at $24.23m - total project value (with a construction cost of approx. $21.8m)	
Project Objective	The objective of the project is to deliver a community performing arts facility for the City of Campbelltown collocated with Morialta Secondary College (MSC). The facility is to provide a high-quality theatre for community use. Its secondary objective is to be available to enhance the performing arts program at the school, and for larger functions for the school community.	
Project Overview	• Construction of new infrastructure to provide a contemporary flexible performing arts facility for 500 people • Construction of an undercroft carpark for a minimum of 100 cars under the facility and the MSC performing arts theatre building. • Design of new facility to integrate into and align with the existing design language of the Morialta Secondary College • The facility is to be in the northwestern corner of the site. The new building is to connect into the MSC Performing Arts facility, to allow shared use by both parties. The school facility will have the ability to secure access from the public side, to ensure student safety if maintained. • The new facility is to have its own accessible entry from the street and the undercroft carpark. The City of Campbelltown has provided advice for the project. DfE have generated a Schedule of Accommodation based on the advice. Thompson Rossi and Brown Falconer have been engaged to develop preliminary blocking design drawings for the proposed scope of works. RLB have prepared a preliminary estimate. The council have conducted a community engagement process, which has resulted in over 80% support for the facility. DFE is in the process of putting in place formal agreements with the city of Campbelltown in relation to the ownership, usage, management, and maintenance of the facility. Please find attached: Concept site plans Accommodation Schedule	
Project Budget	$24.23m (ex. GST)	

	Construction budget including prelims, margin, all contingencies, and escalation is approx. $21.8m The $24.23m budget includes: • DIT fees • Consultant and statutory fees • Commissioning (including furniture, fittings and equipment) • Contingency • Escalation
School Context and background – **Current Enrolment** – **Required built capacity** – **General background** – **Cohort**	In 2020, DfE prepared a Full Business Case for the redevelopment of the Morialta campus as a standalone school for 1200 students. Cabinet endorsed $84.4m to deliver the project. DIT were engaged to procure the consult team and a managing contractor. As of February 2022, documentation is well advanced for Stage 1 (one learning community building) which will provide accommodation for 200 year 7 students who will arrive in January 2023. Stage 2 which includes all of the remaining works, will be progressively competed by late 2023 for full operations in 2024. The community performing arts facility will be the last component of the project to be completed. The school's facilities will provide all the required environments for curriculum related to performing arts. The community facility will be a high-quality addition for larger events, and potentially for students to access during the day when not in use by the council (by agreement).
Cultural design consideration	Encourage communities to recognise, promote and celebrate local Aboriginal heritage, culture and language when planning refurbishments and building new facilities.
Design Criteria	**ODASA School Design Principles** Good design plays an important role in providing learning and teaching environments that support the educational needs of all students and maximises the contribution the school will provide to the wider physical context and community. Key areas for consideration are: – **Context** Responds to the site conditions and its surrounding context, integrating with the community both visually, physically, socially and functionally. – **Inclusivity** Provides a safe and secure environment that is welcoming and accessible to all. – **Durability** A high-quality design that is flexible, adaptable and has potential for future expansion or contraction that utilises attractive, simple materials that are durable, easily maintained and age well. – **Value** Provides a positive contribution to the community as a civic heart that fosters a sense of belonging, ownership and pride, inspires learning and teaching and continues to provide broader public benefits over time. – **Performance**

	Buildings and grounds that are appropriately proportioned, fit for purpose, can be used as education tools and are able to deliver learning outcomes now and in the future. Designs should provide amenity and comfort, encourage healthy habits and provide positive outcomes for wellbeing. – **Sustainability** Reinforce a sustainable approach to design and travel options and maximise opportunities for the buildings and landscape to demonstrate sustainability in action for the benefit of the whole community.
DfE Standards and Guidelines	Education Facility Design Standards (2020) – https://www.education.sa.gov.au/sites/default/files/decd-design-standards.pdf?v=1624257027 Department for Education ICT Design Standards (including in Facilities Design Standards) DfE Security Design Standards (attached) Refer also to AS4122 Contract Schedule 4 for DIT and SA Government policies, guide notes and standards.
Approvals	Statutory approvals Development Approval (Building Rules only) Stakeholder approvals School's principal endorsement of concept plans CoC's approval of plans Infrastructure Planning and Delivery Framework – Gateway Approvals Building Rules consent (generally a condition of the Development Approval) Security requirements (typically door and window hardware, keying systems, electronic access, security systems, internal fences and security fences) must be reviewed by and approved by the DfE Security & Emergency Management team during the design phase and prior to construction tender.

☐ Certificate of Title
☐ SAMIS Site Plan/Building Plans – Attachment 1
☐ SAMIS Room Reports – Attachment 2
☐ Hazardous Materials Report – Attachment 3
☐ Work Health Safety Incident Register / Risk Register
☒ Scoping Study Exercise
☐ Learning Environment Opportunity Study
☐ Other, please specify

Orange – Indicates the current allowance in the budget and documentation of MSC PA.
Yellow – Indicates the COC Brief, as extracted from their website (see extract below for reference)
Blue – Indicates new CoC PA only (does not include existing MSC PA)

*** table below does not include DfE MSC Administration Building.*

DFE BRIEFED AREAS / FUNCTIONS	Quantity	Area	Total Area	COC Brief	Quantity	Area	Total Area	Comments / Questions:
	As per current Part 2 Documentation			(TR and BF assumption of how COC PA brief (as extracted from their website) relates to the accomodation schedule provided):	CoC Large Option (500 with englargd theatre)			
PERFORMING ARTS								
Foyer	-	-	-	A large foyer that could be used as a gallery and meeting space	1	380	380	The foyer is to serve as a usable gallery space. Please elaborate on this, what is the desired outcome for the foyer. Also – assuming the foyer will not need to accommodate for joint use of both theatres operating at the same time. 05/05 – COC confirmed that the foyer is to serve as a usable gallery space via utilising wall space for art / partitions etc 12/05 – Optimial size 1m2/pp. Event size during school hours based on a basement car park of 60 will be 300ppl. An after school hours event of 500ppl will have access to the shared adjacent building. New build foyer + shared adjacent building m2 to get it closer to the 1m2/pp. Noting however, if the shared adjacent building spaces are being used by the event production, this space may not be available as foyer space. Therefore consideration to outside terrace m2.
Foyer / VET Commons	1	88	88		0	0	0	Current foyer / VET commons included in Stage 2 documentation is not included in the COC Brief. 02/03 – DFE confirmed Foyer/VET Commons to remain as documented in PA/Admin Building. 12/05 – Connection with new build foyer in order to increase the over all floor area of foyer space for large events.
Box Office / Cloak	-	-	-	A servery area which could be used as a box office / canteen	1	35	35	Bar/Cloak, is a kitchen required, COC brief requested for a canteen, food preperations, etc? 02/03 – DFE confirmed only fridge / storage would be required for Bar/Canteen. Any food preperation would be undertaken in the VET Kitchen, but note access would only be after hours for the COC. DfE to confirm this requirement with COC. 05/05 - COC Confirmed Servery type canteen space. Stand alone servery without need to access VET kitchen. Providing Pre- packaged food & Beverage (Provide appropriate housing/space/services provisions). Box office separate from canteen. 12/05 - Vet Kitchen access for use on the rare occasion to be negotiated/discussed further COC/DFE.
Bar / Canteen	-	-	-		1	50	50	

DFE BRIEFED AREAS / FUNCTIONS	Quantity	Area	Total Area	COC Brief	Quantity	Area	Total Area	Comments / Questions:
	As per current Part 2 Documentation			(TR and BF assumption of how COC PA brief (as extracted from their website) relates to the accomodation schedule provided):	CoC Large Option (500 with englargd theatre)			
Small Theatre	1	220	220		0	0	0	TR/BF assumption this is to remain as per the MSC PA design. Confirm otherwise. 02/03 – DFE confirmed to remain as documented. 05/05 - COC / DFE confirmed: MSC theatre (10x13m stage with 10m clear space in front before 150 tiered seats) & Music/Drama rooms for rehearsal space for out of school hours use. 12/05 - COC confirmed that the rehearsal space being shared with the MSC is OK. Design team explained that the location of the rehearsal space prohibits the use of it during performances as it is disconnected from the stage and back of house areas. COC confirm that access to rehearsal space is not required during performances given the nature of the types of users that will be booking out the venue. (noting: user groups in mind for using this theatre would rehears off-site & would potentially have access to the stage prior to the show)
Large Theatre	-	-	-	A 380 seat, and a 500 seat capacity theatre with a combination of fixed and retractable seating to enable flexible use of the space	1	450	450	Brief requested for a 380 seat, and a 500 seat. Confirm? Assumption that the total seats are to align with the brief which is 500 seats. 02/03 – DFE confirmed 500 seat to be investigated. 12/05 – 500 seat theatre, however event capacity depending on the time/day of the event. Event size during school hours based on a basement car park of 60 will be 300ppl. An after school hours event of 500ppl with access to shared facilities and site car parking.
Stage House					1	312	312	
- Stage	-	-	-	A prosceium arch theatre with a fixed stage with a minimum of 10m x 12m	1	156		Confirm, this assumption (A prosceium arch theatre with a fixed stage with a minimum of 10m x 12m) is correct. 02/03 – DFE confirmed this assumption is correct. 12/05 - COC confirmed a stage the same size as the school's adjacent/shared 10x13m stage. 19/05 – Arupt: Acting area at 13mW x 10m deep is acceptable. (Minimum proscenium opening 6m high x 13m wide) Therefore a 12m deep stage to be provided to accommodate fly tower catwalk above.
- Wings	-	-	-	Sufficient wing space	2	78		Confirm, this assumption (Sufficient wing space = x2 side wings) is correct. 02/03 – DFE confirmed this assumption is correct. 12/05 - Arup: On principle, half the stage width if possible. CoC: If less (eg 3m, the ability to connect/overflow to the foyer to assemble processions and the like.)

DFE BRIEFED AREAS / FUNCTIONS	Quantity	Area	Total Area	COC Brief	Quantity	Area	Total Area	Comments / Questions:
	As per current Part 2 Documentation			(TR and BF assumption of how COC PA brief (as extracted from their website) relates to the accomodation schedule provided):	CoC Large Option (500 with englargd theatre)			
								19/05 - Arup: Increase wings to create a Total Stage house size of 12m deep x 26m wide = 312m2 with Fly tower above. (Preferred is 350m2 stage house.)
Theatre Bio Box (Control Room)	1	19	19		1	30	30	Quantity states 1 bio box, but would required 1 per theatre space. Please confirm. (I.e. 1 x 16 for COC PA and 1 x 16 for MSC PA?) 02/03 – DFE confirmed this assumption is correct. However, noted that the size of the bio box may need to be investigated further with requirements from CoC and the theatre consultant. TR and BF to investiaget Bio Box to be 20sqm in CoC PA. Bio Box in MSC PA to remain. 19/05 - Next to / Incorporate into the control room (increase room size to 30m2). Arup: Separate follow spot booth required at upper level. 12m2.
Theatre Follow Spot Booth					1	12	12	Added as per Arup feedback. (above Control Room)
Theatre Back of House	1	30	30		1	175	175	Theatre Back of House – COC PA Note, the current design / budget for MSC PA is 30sqm. 02/03 – Theatre back of house for MSC PA to remain as documented (30sqm). Back of house for COC PA to be 90sqm (TR / BF to investigate). DfE confirm with COC if suitable / appropriate. 19/05 – Arup: Expect this to be 200m2. (Amenities required backstage)
Theatre Change / Make Up Rooms	2	17.5	35	Appropriately sized dressing rooms	TBC	Various	110	Assumption: 2 x change rooms COC PA 2 x change rooms for MSC PA Please confirm otherwise. 02/03 – DFE confirmed assumption is correct. DfE to confirm if 20sqm per changeroom is suitable for COC PA. Table has been updated to reflect COC change room and MSC change room. 12/05 - Dressing Rooms. (1x Male – Small, ppl TBC. 1x Female – Large, ppl TBC. 1x Leads – Small, Up to 8ppl.) 19/05 – Arup: Expect this to be 110m2.
Theatre Storage	1	51	51	Storage	TBC		90	Confirm if storage is to be shared, or combined. 51sqm for MSC PA, and 41sqm for COC PA, is this sufficient? 02/03 – DFE confirmed Theatre Storage to remain as documented for MSC PA (51sqm). DfE to confirm if 60sqm is sufficient for COC PA storage.

DFE BRIEFED AREAS / FUNCTIONS	Quantity	Area	Total Area	COC Brief	Quantity	Area	Total Area	Comments / Questions:
	As per current Part 2 Documentation			(TR and BF assumption of how COC PA brief (as extracted from their website) relates to the accomodation schedule provided):	CoC Large Option (500 with englargd theatre)			
								19/05 – Arup: 150m2 would be more appropriate.
***Not provided in DfE Briefed Areas / Functions*	-	-	-	A secondary space, at least the same size as the stage to be used as a rehearsal space, a secondary performance space (with stackable chairs)	Refer Comments	Refer Comments	Refer Comments	Size of stage is 120sqm, assume would align with this. Please confirm? 02/03 – DFE confirmed it is DfE understanding that the small theatre within MSC PA will be utilised by the COC as a small rehearsal space, but note that access will only be provided to COC after hours. DfE to confirm this with COC.
Theatre Staff Areas							100	TOTAL of the below for now. 05/05 - COC advised to allow for an office, lunch room and meeting room. These could be used during large events by temporary staff. Generally allow for 2 full time staff. 12/05 - Could the lunch room double as a performer 'tea point' (refreshments pre show/intervals/post show)? 19/05 - Arup: Subject to staffing profile for operations.
***Not provided in DfE Briefed Areas / Functions*	-	-	-	Appropriate number of meeting / break out rooms; one of these potentially acoustically treated to allow for a live orchestra, or recordings.				Confirm requirement and size. 02/03 – DFE confirmed no additional meeting rooms, break outs, etc. will be required. It is anticipated that COC will have access to MSC PA areas. Note, access to these areas will only be after hours. DfE to confirm with COC. SEE ABOVE.
Theatre Staff Meeting Room	-	-	-		TBC			
***Not provided in DfE Briefed Areas / Functions*	-	-	-	Staff Office(s)				How many FTE staff will be onsite, how many offices required? 02/03 – DFE to confirm total number of FTE staff onsite. 1 x Staff office to be provided. 12-14sqm in total. DFE to confirm with COC of any additional requirements. SEE ABOVE.
Theatre Staff Office	-	-	-		TBC			
***Not provided in DfE Briefed Areas / Functions*	-	-	-	Staff Lunchroom/teapoint, etc.				Confirm requirement and size. 02/03 – DFE noted to be confirmed. Potentially a small tea point. DFE to confirm with COC. SEE ABOVE.
Theatre Staff Lunchroom / Tea point	-	-	-		TBC			
Theatre Staff Amenities	-	-	-		TBC			

DFE BRIEFED AREAS / FUNCTIONS	Quantity	Area	Total Area	COC Brief	Quantity	Area	Total Area	Comments / Questions:
	As per current Part 2 Documentation			(TR and BF assumption of how COC PA brief (as extracted from their website) relates to the accomodation schedule provided):	CoC Large Option (500 with englargd theatre)			
Music VET Kitchen								
Music/Drama/ Dance Studio	2	80.5	161		0	0	0	Note, the current design / budget for MSC PA is 161sqm, not 180sqm. Confirming, the brief only requires 2 x 90sqm music/drama/dance/ studios for the MSC and COC PA. No additional spaces required? What is required in regards to the COC PA? 02/03 – DFE confirmed what has been documented for MSC PA to remain. No additional spaces are required to COC PA. It is of the understanding that the council can utilise MSC PA spaces after hours. DFE to confirm with COC. 05/05 – Shared
Music Storage	1	18	18		-	-	-	Note, the current design / budget for MSC PA is 18sqm, not 30sqm. Confirming, the brief only requires 1 x 18 music storage for the MSC. What is required for COC PA? 02/03 – DFE confirmed what has been documented for MSC PA to remain. No additional spaces are required to COC PA. It is of the understanding that the council can utilise MSC PA spaces after hours. DFE to confirm with COC. 05/05 – Not Shared
Music Practice	2 1	13 14	40		0	0	0	Note, the current design / budget for MSC PA is 39sqm, not 42sqm. Confirming, the brief only requires 3 x 13sqm music practice for the MSC. What is required for COC PA? 02/03 – DFE confirmed what has been documented for MSC PA to remain. No additional spaces are required to CoC PA. It is of the understanding that the council can utilise MSC PA spaces after hours. DfE to confirm with CoC. 05-12/05 – Up for negotiation (DFE/CoC). May pose a logistical challenge with equipment (e.g. drum kit) permanently housed in these rooms. 19/05 - Next to / Incorporate into the control room (increase room size to 30m2)
Staff Prep Music / Drama	1	36	36		0	0	0	Confirming the brief only requires 1 x staff area for MSC PA. Refer comment below for COC PA. 02/03 – DFE confirmed what has been documented for MSC PA to remain. No additional spaces are required to COC PA. It is of the

DFE BRIEFED AREAS / FUNCTIONS	Quantity	Area	Total Area	COC Brief	Quantity	Area	Total Area	Comments / Questions:
	As per current Part 2 Documentation			(TR and BF assumption of how COC PA brief (as extracted from their website) relates to the accomodation schedule provided):	CoC Large Option (500 with englargd theatre)			
								understanding that the council can utilise MSC PA spaces after hours. DFE to confirm with COC. 05-12/05 – Noted that the area is open to the learning commons (accessible under a shared foyer scenario)
VET Learning Area / Dining / Front of House	1	93	93		0	0	0	Note, the current design / budget for MSC PA is 93sqm, not 90sqm. Confirming the brief only required 1 x 93sqm VET Learning Area / Dining / Etc. 02/03 – DFE confirmed what has been documented for MSC PA to remain. No additional spaces are required to COC PA. It is of the understanding that the council can utilise MSC PA spaces after hours. DFE to confirm with COC. 05/05 – Not Shared
VET Kitchen	1	122	122		0	0	0	Confirming the brief only requires 2 x 120sqm VET Space. 02/03 – DFE confirmed what has been documented for MSC PA to remain. No additional spaces are required to COC PA. It is of the understanding that the council can utilise MSC PA spaces after hours. DFE to confirm with COC. 12/05 - Vet Kitchen access for use on the rare occasion to be negotiated/discussed further COC/DFE.
VET Kitchen Store	1	9	9		-	-	-	Note, VET Kitchen and Prep to be read in conjunction with one another. A total of 26sqm in current design / budget. 02/03 – DFE confirmed what has been documented for MSC PA to remain. No additional spaces are required to COC PA. It is of the understanding that the council can utilise MSC PA spaces after hours. DFE to confirm with COC. 05/05 – Not Shared
VET Prep	1	18	18		-	-	-	
Lift / Stair Entry	2	4	8		1	20	20	02/03 – TR and BF to investiagte requirement for lifts further. 05-12/05 – Passage lift servicing car park (B) & Foyer (L1). Goods & Services lift servicing lower level loading dock & side of stage (L1). 19/05 - Passage lift servicing car park (B) & Foyer (L1) & Theatre Bio Box / Control Room (L2). No Goods & Services lift.
Amenities (FOH)	1	1	15	Fully assessible facilities including changing places.	2.5	Various	110	TR and BF to confirm no. against code. 02/03 – Indicative only, TR and BF yet to confirm required numbers. 12/05 - Arup: Toilets should be double the code requirements. 19/05 - This represents minimum requirement to meet code. We would seek 2 x code for female facilities only. Suggest 110m2.
~~Fly Tower~~				A fly screen				02/03 – DFE no comments.

DFE BRIEFED AREAS / FUNCTIONS	Quantity	Area	Total Area	COC Brief	Quantity	Area	Total Area	Comments / Questions:
	As per current Part 2 Documentation			(TR and BF assumption of how COC PA brief (as extracted from their website) relates to the accomodation schedule provided):	CoC Large Option (500 with englargd theatre)			
								Combined with Stage House.
Loading Dock	-	-	-	Appropriate and assessible loading dock	1	60	60	02/03 – DFE a loading dock required for a full size truck would not be suitable. TR and BF to investigate further. 19/05 – Arup: In association with the Loading Dock area is a Scene Dock for scene assembly.
Scene Dock					1	60	60	Added as per Arup feedback.
~~Risers~~	~~1~~	~~10~~	~~10~~		-	-	-	Combined with Circultaion.
	SUB-TOTAL				SUB-TOTAL		1980	
Circulation & Services							120	
	TOTAL		1075		TOTAL		2100	
Outdoor Terrace							40	
Carparks (Incl. Circulation (Stairs & Lift) & Airlock)		25	0			150 car	-	For the large option (500 seats) the accommodation schedule notes 150 cars, however the brief states to allow for a min. of 100 cars. 02/03 – TR and BF to investiage option for 100 carparks only.
						100 car	-	Our understanding is for 500 seat theatre, a min. of 100 cars is required. This number will be investigated. 02/03 – TR and BF to investiage option for 100 carparks only.
						60 car	2000	12/05 - Design team advised that current design allows for 60 carparks, which given the ratio of 5 people per carpark will allow 300 people to attend venue during school hours. COC Confirmed - OK

At its meeting on 3 August 2021, Council resolved:

'1. Council endorses the following base concept for a Performing Arts Centre and that Staff engage a suitably experienced architect to develop a concept design and costings for this venue:

- a 380 seat, and a 500 seat capacity theatre with a combination of fixed and retractable seating to enable flexible use of the space
- a proscenium arch theatre with a fixed stage with a minimum size of 10m x 12m
- a base level of technical equipment (sound and lighting) that is sufficient for most users to hire the theatre, and that provides capacity for other users to hire and bring in additional equipment they require
- a fly system (can be partial or full and should be separately costed)
- appropriate acoustic treatments
- sufficient wing space
- appropriate and accessible loading dock
- a secondary space, at least the same size as the stage, to be used as a rehearsal space, a secondary performance space (with stackable chairs), or other uses
- a large foyer that could be used as a gallery and meeting space
- storage
- appropriately sized dressing rooms
- environmental sustainable design
- a servery area which could be used as a box office/canteen
- appropriate number of meeting/break out rooms; one of these potentially acoustically treated to allow for a live orchestra, or recordings, and
- fully accessible facilities including changing places, and

APPENDIX

PROJECT RISK REGISTER

At the time of issuing this report, no project risk register was provided by the Department for Infrastructure and Transport.

APPENDIX

G

SAFETY IN DESIGN REGISTER

A template of the Safety in Design Register has been provided for Part 0, this will be populated from Part 1 onward.

SAFE DESIGN FILE

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1 User guide

WARNING

*This suite of documents (**Documents**) may only be used by the members of the Association of Consultant Architects Australia to whom the ACAA provides them (**Recipients**). Recipients are entitled to use the Documents only for their own internal purposes in the usual course of providing their professional architectural services. The Documents may not be reproduced or distributed for any other purpose without the written consent of ACAA.*

The Documents are intended to provide general practical guidance on how the architect might address the duties of a PCBU under the Model Work Health and Safety Act 2011 and Regulations (Model Act), specifically in relation to the practice of architecture and the provision of architectural services. They do not constitute legal, insurance or other advice; do not purport to deal with all of the relevant issues; and may not be relied upon. Recipients of the Documents should obtain their own legal, insurance and other professional advice.

ACAA, its office bearers and members accept no responsibility for the accuracy or currency of the Documents. To the extent permitted by law, liability (including in negligence) of ACAA, its office bearers and members for any loss or damage caused in connection with information contained in the Documents is excluded. Each Recipient indemnifies ACAA, its office bearers and members against any liability to the Recipient and / or third parties arising from the Recipient's use of the Documents.

The Documents address the duties of an Architect as a Designer under the Model Act.

The Documents were originally based on the ACA-Vic Safe Design Process documents (created to address the duties of an Architect under Section 28 of the Victorian Occupational Health and Safety Act 2004). They have been updated to reflect the specific requirements of the SA Act.

As noted by Tom Martin, *"…on 1January 2013, South Australia joined the Commonwealth, Queensland, New South Wales, Tasmania, the Australian Capital Territory and Northern Territory in enacting the model legislation, via the SA WHS Act. The SA WHS Act replaces the Occupational Health Safety and Welfare Act 1986 (SA) (OHSW Act).*
The SA WHS Act contains a number of departures from the model legislation, which broadly reflect the political issues that held up the passage of the legislation for twelve months from its intended commencement date of 1 January 2012:
The duty to first eliminate and then minimise risks has been limited to the extent to which the duty holder has the 'capacity to influence and control the matter or would have that capacity but for an agreement or arrangement purporting to remove that capacity', a change which is intended to replace the old 'control test' in the OHSW Act.
Preserving the right of a person to refuse to answer questions or provide information or a document on the ground that it may incriminate the person or expose the person to a liability"..[1]
The subjects and activities suggested in the pro formas are not exhaustive; documents are provided in writable format to encourage project specific development.

It is strongly recommended that each practice uses the Documents to create its own templates to capture practice and project specific requirements, and to prevent formatting and key text being changed unintentionally. Strong leadership from principals and senior staff follow-through will assist the successful introduction of sound policies and effective procedures into practice-wide work systems.

The Documents do not address duties as a Person Conducting a Business or Undertaking (PCBU) in any context other than Safe Design. Architects are advised to review their other duties as a PCBU (e.g. as an employer).

1 Tom Martin Norton Rose LLP

– *If any significant incident occurs, involving a lawyer early will provide protection and advice.*
– Adhering to Codes of Practice is a good way of demonstrating that a duty has been complied with. These may be found on the State and Commonwealth websites, examples of which are given below under Further Reading.
– Failure to adhere to relevant Codes of Practice could be seen as failure to take the reasonably practicable steps the Act requires of the designer.

2 Applicability of the Model Act

The Model Act was created to replace inconsistent State laws. It must be passed into law by each State. Victoria and Western Australia have not adopted the Model Act, therefore Safe Design obligations are as hitherto, i.e.:

– Practices operating and delivering projects solely in Victoria have obligations under Section 28 of the Victorian OH&S Act 2004 and may use the existing ACA-Vic Safe Design Process documents, however see *Note 1* below.
– Practices operating and delivering projects solely in Western Australia have obligations under the current WA Occupational Health and Safety Act, but see *Note 1* below.

All other States have adopted the Model Act, with minor local variations. Tasmania and South Australia have passed new Acts, which apply to projects commencing from 1 January 2013, and to pre-existing projects that run for two or more years after 1 January 2013.

Note 1: Codes of Practice are not law, however their recommendations may tend towards a higher standard than that set by the Victorian OH&S Act 2004 or the WA OH&S Act 1984. Many client and contractor parties are already adopting practices that respond to the Model Act for consistency Australia wide, and may require their consultants to do likewise.

3 Definitions

– *Person conducting a business or undertaking (PCBU)*
Section 5(1)
For the purposes of the Act, a person conducts a business or undertaking:
(a) whether the person conducts the business or undertaking alone or with others; and
(b) whether or not the business or undertaking is conducted for profit or gain.
s 5(2)
A business or undertaking conducted by a person includes a business or undertaking conducted by a partnership or an incorporated association.
s 5(3)
If a business or undertaking is conducted by a partnership (other than an incorporated partnership), a reference in this Act to a person conducting the business or undertaking is to be read as a reference to each partner in the partnership.

– *Workplace*
s 8(1)
A workplace is a place where work is carried out for a business or undertaking and includes any place where a worker goes, or is likely to be, while at work.
s 8 (2)

Place includes:

(a) a vehicle, vessel, aircraft or other mobile structure; and

(b) any waters and any installation on land, on the bed of any waters or floating on any waters.

- *Worker*

  s 7

  A person is a worker if the person carries out work in any capacity for a person conducting a business or undertaking, including work as:

  (a) an employee; or
  (b) a contractor or subcontractor; or
  (c) an employee of a contractor or subcontractor; or
  (d) an employee of a labour hire company who has been assigned to work in the person's business or undertaking; or
  (e) an outworker; or
  (f) an apprentice or trainee; or
  (g) a student gaining work experience; or
  (h) a volunteer; or
  (i) a person of a prescribed class.

- *Structure*

  s 4

  Structure means anything that is constructed, whether fixed or moveable, temporary or permanent, and includes:

  (a) buildings, masts, towers, framework, pipelines, transport infrastructure and underground works (shafts or tunnels); and
  (b) any component of a structure; and
  (c) part of a structure.

- *Substance*

  s 4

  Substance means any natural or artificial substance, whether in the form of a solid, liquid, gas or vapour.

- *Plant*

  s 4

  Plant includes:

  (a) any machinery, equipment, appliance, container, implement and tool; and
  (b) any component of any of those things; and
  (c) anything fitted or connected to any of those things.

– *Officer*

s 4

The same meaning as s 9 of the Corporations Act 2001, but does not include a partner in a partnership. Note that the definition of a PCBU includes a partner in a partnership.

s 9 Corporations Act 2001

Officer of a corporation means:

(a) a director or secretary of the corporation; or

(b) a person:

(i) who makes, or participates in making, decisions that affect the whole, or a substantial part, of the business of the corporation; or

(ii) who has the capacity to affect significantly the corporation's financial standing; or

(iii) in accordance with whose instructions or wishes the directors of the corporation are accustomed to act (excluding advice given by the person in the proper performance of functions attaching to the person's professional capacity or their business relationship with the directors or the corporation).

4 An outline of the PCBU's obligations under the Act as a Designer

A PCBU cannot transfer its duties under the Model Act to others.

- A PCBU that designs plant, substances or structures (Designer) has a duty to ensure as far as practicable that they are without risk to health and safety.
- The Designer must carry out calculations, analysis, testing or examination that may be necessary for the performance of the above duty.
- Officers of PCBU's with duties or obligations under the Act must exercise due diligence to ensure that the PCBU complies with those duties and obligations.
- The Designer must, on request, give current relevant information to persons who will work on the implementation of the design or who will use the plant, substance or structure for a purpose for which it was designed.
- The Designer has a duty to consult and cooperate with, and coordinate between duty holders.
- The Designer must answer questions irrespective of the privilege against self incrimination / no duty to provide information which would be incriminatory.
- Duty to minimise the effects of noise.
- Duty to provide adequate information concerning noise.
- Duty to eliminate the need for any hazardous manual task to be carried out.
- Duty to provide adequate information.
- Duty to provide information to manufacturer.
- Duty to identify hazards.
- Duty in relation to unidentified hazards.
- Duty to eliminate or minimise risk in relation to confined spaces.
- Duty in relation to guarding (as a control measure to prevent access to danger areas).
- Duty in relation to operational controls (identification, convenience of operation, location, locking and the like).
- Duty in relation to emergency stops (plant).

- Duty in relation to warning devices (plant).
- Duty to make records (plant).
- Duty to record technical standards or engineering principles (plant).
- Duty to preserve records (plant).
- Duty to register design (plant – a specific list of plant is found in the Act).
- Duty to provide a design verification statement (plant).
- *(Report 1) The Designer must give adequate information to persons concerned with implementing and constructing the design – refer s 22(4).*
- *(Report 2) Duty to give a written safety report to the person who commissioned the design – refer Work Health and Safety Regulations 2011 Part 6.2.295.*

Duty holders are responsible to the extent of their capacity to influence or control. The architect should not attempt to resolve matters or assume responsibility outside her / his professional expertise, but must create the opportunity for other Duty Holders to provide input in their areas of responsibility and expertise.

5 Records

The two Reports referenced above must be prepared in writing and issued to the parties indicated. These are likely to be at least the Builder, the Owner and the Occupier (if different). When issuing the pro formas in the Documents as these specific Reports, Recipients could create their own cover sheets indicating status as a Report under the appropriate section or regulation. The following written records are a suggested minimum to be kept as a continuously updated part of the project files:

- This suite of documents, completed for each project from commencement to completion.
- Consultation with Duty Holders.
- Calculations, analysis and testing information relating to noise, hazardous manual tasks, confined spaces, plant, etc, *to the extent that such fall within the architect's area of professional expertise*.
- Dissemination of safety information, in particular confirmation that the Risk Management Summary / Risk Register has been provided at commencement and completion of each stage to the relevant parties.

6 Further reading

The following links are a guide only. Website information changes frequently and these links, while generally current as at November 2017, may not always be valid, or show the most up to date information. The Recipient is responsible for sourcing the most current information.

Commonwealth:
www.safeworkaustralia.gov.au

Work Health and Safety Act 2011:
https://www.legislation.gov.au/Series/C2011A00137

Work Health and Safety Regulations 2011:

https://www.legislation.gov.au/Series/F2011L02664

Codes of Practice
https://www.safework.sa.gov.au/show_page.jsp?id=5892

South Australia:
www.safework.sa.gov.au

Work Health and Safety Act 2012 (SA)
http://www.legislation.sa.gov.au/LZ/C/A/WORK%20HEALTH%20AND%20SAFETY%20ACT%202012.aspx
South Australia Work Health and Safety Regulations 2012
https://www.legislation.sa.gov.au/LZ/C/R/Work%20Health%20and%20Safety%20Regulations%202012.aspx

Sherriff's Work Health and Safety Law Guide
Sherriff (SAI Global, on-line updated service, July 2011) (Act, regulations, codes, guidance and commentary)
Understanding the Model Work Health and Safety Act: Sherriff and Tooma (CCH, Sydney, 2010)
CHAIR (Construction Hazard Assessment Implication Review)
https://www.google.com.au/url?sa=t&rct=j&q=&esrc=s&source=web&cd=4&cad=rja&uact=8&ved=0ahUKEwjd0u_Gus7XAhWJppQKHbLLAdkQFgg3MAM&url=https%3A%2F%2Fdynamic.architecture.com.au%2Fi-cms_file%3Fpage%3D8548%2FCHAIR_Safety_in_Design_Tool.pdf&usg=AOvVaw0vurwrPDRfZ9BBw-9nznGo

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SAFE DESIGN PROCESS CONTROL SHEET – 1			Date	File reference	Initials	Notes
	STEP 1 – PRELIMINARY HAZARD ANALYSIS					
Stage Item	Pre-design / Briefing	Review Client Brief and / or seek advice from Client				
1	BUILDING PURPOSE	Check intended use of the building (or parts of the building).				Part of brief
		Define type/s of workplace/s.				
		Identify any special equipment or plant to be used in the building.				Design development
2	INDUSTRY TYPE AND SAFETY PERFOMANCE	Identify the relevant industry classification(s).				BCA check
		Check industry injury and disease profile and statistics.				
		Research general industry safety issues.				
3	RELEVANT STANDARDS	Identify specific WHS regulations, codes, or guides.				
4	EMPLOYMENT PERFORMANCE AND QUALIFICATIONS / SKILLS	Request information from Client on typical WHS incidents.				
5	DUTY HOLDERS	Identify future Duty Holder roles (a PCBU, facilities manager?).				
		Identify intended PCBU (if possible).				
		Identify the Client or future users' WHS representatives.				
		Identify employee representative groups.				
		In conjunction with other Duty Holders, determine whether there is a need for WHS specialist advice.				
	OUTPUT 1: WHS BRIEF	In conjunction with other Duty Holders (eg Consultant Team), complete Safe Design record and issue to Principal, Client and (as soon as on board, Contractor) at commencement and completion of each stage of services.				
	Concept and Schematic Design	Identify broad groupings of workplace hazards.				
6	IDENTIFY HAZARDS	Record typical hazards for relevant workplaces / industry.				
		Confirm preliminary hazard analysis to Principal and Client and Contractor (if applicable).				
	OUTPUT 2: PRELIMINARY HAZARD ANALYSIS WORKSHEET					

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SAFE DESIGN PROCESS CONTROL SHEET – 2			Date	File ref	Init	Notes
	STEP 2 – SYSTEMATIC RISK MANAGEMENT					
Stage Item	Design Development, Documentation, Tender, Contract Administration and Post Occupation	Incorporate control measures in the design, record actions and carry through to completion.				
7	IDENTIFY AND ADOPT APPROPRIATE STANDARD CONTROL MEASURES FOR EACH HAZARD	Assess level of risk for each hazard.				
		Identify and adopt standard control if available and are sufficient.				
		Determine need for and practicability of other control measures.				
8	DEVELOP AND ADOPT SEPCIFIC CONTROL MEASURES	Decide with other Duty Holders appropriate risk management technique.				
		Decide with other Duty Holders whether expert assistance is needed.				
		Conduct risk assessment and risk management.				
		Check that controls are at minimum 'reasonably practicable'.				
9	IDENTIFY RESIDUAL RISKS	Identify any residual risks, particularly those that may not be readily apparent to users.				
		Record any control measures or work systems assumed to be in-use.				
	OUTPUT 3: RISK MANAGEMENT SUMMARY / RISK REGISTER					
10	FINALISE DESIGN	Check that adopted control measures are recorded in final construction documents.				
		Inform Principal, Client (if different) and Contractor of residual risks.				

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OUTPUT 1: WHS BRIEF

1.0 The Project

1.1	Is the building or any part of it intended to be used as a workplace?	
1.2	What type(s) of workplace(s)?	
1.3	What are the known risks in performing work or attendance at this workplace by the workforce, visitors and maintenance personnel?	
1.4	What are the potential risks to others including the general public and nearby residents?	
1.5	Will any special equipment or substances be used in the building?	
1.6	Is an existing workplace to operate in the same location during building activity?	*If yes, refer to State based Codes of Practice and Guidelines.*
1.7	Does the client have its own WHS standards?	*If yes, obtain and attach a copy.*

2.0 The Industry and Industry Standards

2.1	What is the relevant industry classification? *Industry classification gives an indication of the type of activity – e.g. a nursing home has a particular claims profile for lifting/back injuries, slips, trips and falls*	
2.2	What is the general industry safety performance? [Low / Medium / High] *- Is it an industry profile with a poor record?* *E.g. Schools generally have a high safety performance due to the nature of the environment*	
2.3	Are WHS guides / codes available for this industry or these occupations over and above Australian Standard and Building Code of Australia?	

	E.g. National Health Facilities Guidelines, DECD Design Guidelines	

3.0 PCBU's Safety Record (Client)		
3.1	What is the PCBU's safety performance relative to its industry? [Low / Medium / High] *Government schools generally would have high safety performance in its industry*	
3.2	Is the work complex? (size, multiple job types, organisation, task difficulty, operational pressures, etc)	
3.3	Assessed cumulative design difficulty – 2.2 / 3.1 / 3.2. (Low / Medium / High)	

Roles / Duties		
4.1	Who is the Client?	
4.2	Who are the relevant Duty Holders?	*Capture designers, installers, manufacturers, occupiers, employers, property managers and owners, and workers if and existing workplace will continue to operate while the construction work is performed.*
4.3	Has consultation between Duty Holders taken place? Can this be demonstrated?	
4.4	Will the Client be a PCBU in the building?	
4.5	Who is the Owner?	
4.6	Will the Owner be a PCBU of persons or engage sub-contractors to work in the building?	

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4.7	Which other Duty Holders will be PCBUs?	
4.8	Nominated WHS representatives (client / owner / operator).	
4.9	Who is the intended building facility manager?	
4.10	What is the intended maintenance regime?	
4.11	Are there any other WHS stakeholders?	

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OUTPUT 2: PRELIMINARY HAZARD ANALYSIS WORKSHEET

Hazard category	Hazard source / type	Hazards identified	Is it within the scope of Model WHS ACT? Y / N	Does a potential source of control exist? Eg: Standards / BCA Y / Partial / N	How is the industry or workplace's safety performance rated? (Low / Medium / High)	What degree of design difficulty does the hazard present? (Low / Medium / High)
Siting of buildings						
Construction of buildings						
Risks associated with heights						
Risks associated with confined spaced						
High consequence hazards	Chemical / fire					
	Electrical					
	Gravitational					
	Motion					

Designer *THOMSON ROSSI*	Completed by:	Date completed:	Signed as / for a Designer	Checked:

Project Name Campbelltown City Council Performing Arts Facility	Job no. 21-3321

Environment	Microbiological					
	Noise and vibration					
	Physical pressure					
	Psychological					
	Thermal					
Systems of work	Bio-mechanical					
Other						
Incident-escalating influences						

Designer *THOMSON ROSSI*	Completed by:	Date completed:	Signed as / for a Designer	Checked:

Project Name	Job no.
Campbelltown City Council Performing Arts Facility	21-3321

OUTPUT 3: RISK MANAGEMENT SUMMARY / RISK REGISTER

This document is to be maintained continuously throughout the project.
It must be provided at commencement and completion of each stage of the Architect's services, and also on request, to the Principal, the Client (if different) and once involved, to the Contractor.

Risk Assessment Overview

Thomson Rossi Architects have completed a Risk Assessment for the identified Safety Hazards in **OUTPUT 3: RISK MANAGEMENT SUMMARY / RISK REGISTER**. In our Risk Assessment, we have estimated the Risk associated with each identified hazard via the assumed Likelihood (L) of a safety incident occurring, multiplied by the assumed Severity (S) of the safety incident. Scores for both Likelihood and Severity range from 0 to 5 and possible values for the resulting Risk are summarised in the following matrix:

Risk Matrix

Severity (1 - 5)						
	5	5	10	15	20	25
	4	4	8	12	16	20
	3	3	6	9	12	15
	2	2	4	6	8	10
	1	1	2	3	4	5
	0	1	2	3	4	5
Likelihood (1 - 5)						

Risk Matrix Legend

The resulting Risk values are colour coded and correspond with the following:

12 - 25	Denotes extreme safety in design risk, considered unacceptable. Further action must be taken to improve Safety.
5 - 10	Denotes high perceived risk. Further action should be taken to improve safety. Personnel should be made aware of hazards.
1 - 4	Denotes moderate perceived risk. Personnel should be made aware of hazards.

In the Risk Assessment, we have calculated:

- **Initial Risk** for each identified hazard prior to the introduction of any controls in our design
- **Residual Risk** for each identified hazard after our chosen design controls have been applied

Residual Risks greater than 5 generally need further controls to be applied to improve Safety. In these cases, responsibility for applying further controls is assigned in the Risk Assessment.

Applying control measures should result in reducing the Likelihood and/or the Severity of Safety Incident.

Designer *THOMSON ROSSI*	Completed by:	Date completed:	Signed as / for a Designer	Checked:

SAFE DESIGN FILE

Project Name	Job no.
Campbelltown City Council Performing Arts Facility	21-3321

Designer *THOMSON ROSSI*	Completed by:	Date completed:	Signed as / for a Designer	Checked:

Project Name	Job no.
Campbelltown City Council Performing Arts Facility	21-3321

OUTPUT 3: RISK MANAGEMENT SUMMARY / RISK REGISTER

This document is to be maintained continuously throughout the project.
It must be provided at commencement and completion of each stage of the Architect's services, and also on request, to the Principal, the Client (if different) and once involved, to the Contractor.

Control Measures Overview

Applying control measures should result in reducing the Likelihood and/or the Severity of Safety Incident. The effectiveness of control measures is based on the following Hierarchy of Controls:

Hierarchy of Controls

Order of Preference 1 = Most Effective 6 = Least Effective	Control Type	Description
1	Elimination	The most effective control measure involves eliminating the hazard and associated risk. By designing-in or designing-out certain features, hazards may be eliminated. For example, designing components that facilitate pre-fabrication on the ground can avoid the need for working at height and therefore eliminate the risk of falls.
2	Substitution	Replace a hazardous process or material with one that is less hazardous to reduce the risk. For example: Using pre-cast panels rather than constructing a masonry wall or using prefinished materials in preference to on-site finishing.
3	Isolation	Separate the hazard or hazardous work practice from people, for example designing the layout of a building so that noisy machinery is isolated from workstations.
4	Engineering Control	Use engineering control measures to minimise the risk, for example, including adequate ventilation and lighting in the design, designing and positioning permanent anchorage and hoisting points into buildings where maintenance needs to be undertaken at height.
5	Administration Control	If engineering controls cannot reduce the risk sufficiently, then administrative controls should be used, for example using warning signs or exclusion zones where a hazardous activity is carried out
6	Personal Protective Equipment	For example hard hats, respiratory protection, gloves, ear muffs should be used to protect the worker from any residual risk. It is the least effective control measure as it relies on the worker's behaviour and therefore requires thorough training and a high level of supervision to be effective

Project Name	Job no.
Campbelltown City Council Performing Arts Facility	21-3321

OUTPUT 3: RISK MANAGEMENT SUMMARY / RISK REGISTER

This document is to be maintained continuously throughout the project.
It must be provided at commencement and completion of each stage of the Architect's services, and also on request, to the Principal, the Client (if different) and once involved, to the Contractor.

Item #	Potential hazard	Location	Initial Risk (Likelihood x Severity = Risk)			Risk Control Measures			Check action taken *(initial and date or ✓)*				Residual Risk (Likelihood x Severity = Risk)			Further Action		
			L 1-5	S 1-5	R LxS	Standard controls	Control Category (refer Hierarchy of Control)	Relevant consultant	SD	DD	CD	CA	L	S	R	Reported to Client	Reported to Owner	Reported to .....

Designer *THOMSON ROSSI*	Completed by:	Date completed:	Signed as / for a Designer	Checked:

SAFE DESIGN FILE

Project Name	Job no.
Campbelltown City Council Performing Arts Facility	21-3321

Designer *THOMSON ROSSI*	Completed by:	Date completed:	Signed as / for a Designer	Checked:

Project Name	Job no.
Campbelltown City Council Performing Arts Facility	21-3321

OUTPUT 3: RISK MANAGEMENT SUMMARY / RISK REGISTER

Ref	Guideword/General topic	Sub-prompts/detail	What is the risk/potential hazard?	Strategy / actions to reduce risk - Risk Treatment	SD	DD	CD	CA	Residual Risk	Party responsible for action
3.0.	GENERAL RISK AND WORKPLACE MANAGEMENT									
3.2	WORK ENVIRONMENT AND FACILITIES	Work Environment and Amenity: design of workspaces, furniture, amenities	*general risk mitigation - use of Code of Practice*	*Client and designer to complete Code of Practice: Managing the Work Environment and Facilities - Appendix A Checklist*					*Changes to design during construction; changes to work practices between design and occupation*	*Client to monitor*
	WORK ENVIRONMENT AND FACILITIES	THE WORK ENVIRONMENT	***Fill out specific risks and potential hazards noted when filling out appendix A checklist noted above:***							
	WORK ENVIRONMENT AND FACILITIES	Entry and exit								
	WORK ENVIRONMENT AND FACILITIES	Housekeeping								
	WORK ENVIRONMENT AND FACILITIES	Work areas								
	WORK ENVIRONMENT AND FACILITIES	Floors and other surfaces	*e.g. Slips, trips and falls noted as major source of claims for Client:*	*detailed analysis of flooring and paving types, tolerances and slip resistances*					*maintain and clean properly;*	*designer*

Designer *THOMSON ROSSI*	Completed by:	Date completed:	Signed as / for a Designer	Checked:

Project Name	Job no.
Campbelltown City Council Performing Arts Facility	21-3321

Ref	Guideword/General topic	Sub-prompts/detail	What is the risk/potential hazard?	Strategy / actions to reduce risk - Risk Treatment	SD	DD	CD	CA	Residual Risk	Party responsible for action
	WORK ENVIRONMENT AND FACILITIES	Workstations								
	WORK ENVIRONMENT AND FACILITIES	Lighting								
	WORK ENVIRONMENT AND FACILITIES	Air quality	*e.g. low indoor environment quality; legionella*							
	WORK ENVIRONMENT AND FACILITIES	Heat and cold	*e.g. poor comfort conditions, reduced work effectiveness*	*agreed operating tolerances for air conditioning*					*unable to meet specified comfort conditions*	*mechanical engineer; builder and services contractor*
	WORK ENVIRONMENT AND FACILITIES	WELFARE FACILITIES	***Fill out specific risks and potential hazards noted when filling out appendix A checklist noted above:***							
	WORK ENVIRONMENT AND FACILITIES	Access to facilities								
	WORK ENVIRONMENT AND FACILITIES	Drinking water								
	WORK ENVIRONMENT AND FACILITIES	Toilets								
	WORK ENVIRONMENT AND FACILITIES	Hand washing								
	WORK ENVIRONMENT AND FACILITIES	Dining facilities								

Designer *THOMSON ROSSI*	Completed by:	Date completed:	Signed as / for a Designer	Checked:

Project Name	Job no.
Campbelltown City Council Performing Arts Facility	21-3321

Ref	Guideword/General topic	Sub-prompts/detail	What is the risk/potential hazard?	Strategy / actions to reduce risk - Risk Treatment	SD	DD	CD	CA	Residual Risk	Party responsible for action
	WORK ENVIRONMENT AND FACILITIES	Personal storage								
	WORK ENVIRONMENT AND FACILITIES	Change rooms								
	WORK ENVIRONMENT AND FACILITIES	Shower facilities								
4.0.	HAZARDOUS WORK									
4.1	NOISE	construction noise								
		poor acoustic design								
		plant and equipment								
4.2	HAZARDOUS MANUAL TASKS									
		building maintenance - eg window cleaning, relamping.								
		welding	*Hot works, fires, fumes, eye damage*	*Construction: All welding sites are to be adequately shielded from line of vision on or near site. Builder to provide safe work method statements Building operation: no welding facilities in this building*						
4.3	CONFINED SPACES	The principal confined space in this building is the ceiling space.	*Safety issues relating to maintenance access within confined spaces*	*Adequate access points are provided and isolation valves etc. are provided with separate access from below to minimise the need to gain ceiling entry.*						

Designer *THOMSON ROSSI*	Completed by:	Date completed:	Signed as / for a Designer	Checked:

Project Name	Job no.
Campbelltown City Council Performing Arts Facility	21-3321

Ref	Guideword/General topic	Sub-prompts/detail	What is the risk/potential hazard?	Strategy / actions to reduce risk - Risk Treatment	SD	DD	CD	CA	Residual Risk	Party responsible for action
	CONFINED SPACES	Irritant materials used in construction	*contact with Synthetic Mineral Fibres*	*Where SMF insulation is used, signs are to be fixed near access points advising of need to comply with handling Code.*						
		Crawlspaces and tunnels	*entrapment, safety*	*design out such areas where possible* *Where not possible, client to institute confined spaces work policy and procedures*						
4.4	FALLS									
	WORKING AT HEIGHTS	Maintenance: Gutters and Roof coverings	*Falls*	*Reduce access requirements onto roof* *provide safe methods for gutter cleaning* *provide anchor points and harnesses for any roof access* *ensure no fragile roof materials*						
		Maintenance: Roof-mounted plant		*Provide roof walkways for plant access* *move plant to ground level where possible*						
		Maintenance: relamping of high light fittings		*Move light fittings to lower level* *reselect light fittings to have longer service life between relampings*						
		Maintenance: repair, painting								
4.5	HIGH RISK WORK	refer definition: includes:								
		working at heights	*falls*							
		towers								

Designer *THOMSON ROSSI*	Completed by:	Date completed:	Signed as / for a Designer	Checked:

Project Name	Job no.
Campbelltown City Council Performing Arts Facility	21-3321

Ref	Guideword/General topic	Sub-prompts/detail	What is the risk/potential hazard?	Strategy / actions to reduce risk - Risk Treatment	SD	DD	CD	CA	Residual Risk	Party responsible for action
		loadbearing demolition		*engineering assessment; sourcing existing drawings if available*						
		excavations, shafts and tunnels								
		use of explosives								
		work in proximity to hazards								
		tilt-up and precast concrete work								
		work in or near traffic	*Injury of workers*	*during construction: site access and traffic management on completion: suitable traffic management design and controls*						
4.6	DEMOLITION	demolition safety for work in contract in existing buildings	*unsafe work practices*	*sourcing of existing drawings, where possible*						
		demolition of new buildings at end of lifespan	*unsafe work practices*	*retention of documentation of building*						
4.7	ELECTRICAL SAFETY									
	Electrical installations and equipment	Electrical Compliance	*unsafe electrical equipment*	*compliance with codes ensure all work has certificates of compliance*						
	Specific operational issues									
	Existing installations		*existing installations are non-compliant*	*audit of existing prior to commencement. Clear deliniation between what areas are to be upgraded and which remain responsibility of the owner/operator of the building*						

Designer *THOMSON ROSSI*	Completed by:	Date completed:	Signed as / for a Designer	Checked:

Project Name Campbelltown City Council Performing Arts Facility	Job no. 21-3321

Ref	Guideword/General topic	Sub-prompts/detail	What is the risk/potential hazard?	Strategy / actions to reduce risk - Risk Treatment	SD	DD	CD	CA	Residual Risk	Party responsible for action
	Maintenance of RCDs			*building owner/operator is responsible for regular testing and maintenance*						
	Working in proximity to exposed live equipment	Working on live equipment requires a safe system of work procedures.								
4.8	DIVING WORK	Is diving work required for this project?								
5.0.	PLANT AND STRUCTURES									
	Plant	Registered plant	*what items of plant require registration? (e.g. pressure vessels, boilers, lifts)*							
		Other plant	*what other items of plant present risks to safety?*							
	Structures									
6.0.	CONSTRUCTION WORK									
	DUTIES OF DESIGNERS	person who commissions the work must consult with designer	*insufficient consultation results in lack of relevant information given to designer*							
	DUTIES OF DESIGNERS	designer to give safety report to person who commissions design	*designer does not fulfil obligations under the act*							
	DUTIES OF DESIGNERS	person who commissions project must give information to the principal contractor	*loss of relevant information on residual risks*	*incorporate residual risk register into the specification.*						
7.0.	HAZARDOUS CHEMICALS	includes chemicals, fuels & other dangerous goods etc								

Designer *THOMSON ROSSI*	Completed by:	Date completed:	Signed as / for a Designer	Checked:

Project Name Campbelltown City Council Performing Arts Facility	Job no. 21-3321

Ref	Guideword/General topic	Sub-prompts/detail	What is the risk/potential hazard?	Strategy / actions to reduce risk - Risk Treatment	SD	DD	CD	CA	Residual Risk	Party responsible for action
	storage and handling	check threshold quantities for storage and handling	*risks of hazardous chemicals used in construction*	*Builder to provide safe methods of storage and handling*						
		check threshold quantities for storage and handling	*storing and handling of hazardous chemicals in building*	*Client to provide safe methods of storage and handling*						
		Corrosive substances: eyewash	*eye damage from chemicals*	*compliance with codes for installation and locations*						
		Corrosive substances: emergency shower facilities	*injuries from chemicals*	*compliance with codes for installation and locations*						
		Spray painting	*fumes, overspray*	*Construction: spray painting generally not allowable except in certain circumstances Operational: no spray painting envisaged*						
7.2	LEAD	use of lead	*removal of lead-based paints in existing buildings*	*investigations prior to construction; safe methods of removal specified*						
			use of lead in existing buildings							
8.0.	ASBESTOS									

Designer *THOMSON ROSSI*	Completed by:	Date completed:	Signed as / for a Designer	Checked:

Project Name Campbelltown City Council Performing Arts Facility	Job no. 21-3321

Ref	Guideword/General topic	Sub-prompts/detail	What is the risk/potential hazard?	Strategy / actions to reduce risk - Risk Treatment	SD	DD	CD	CA	Residual Risk	Party responsible for action
		Identification and removal of asbestos in existing buildings	*exposure to asbestos*	*Client to provide asbestos registers in accordance with statutory obligations*						
9.0.	MAJOR HAZARD FACILITIES		*many potential risks - specialist advice required*							
10.0.	MINES		*many potential risks - specialist advice required*							

APPENDIX

HAZARDOUS MATERIALS REPORT

Hazardou Materials Report to be requested direct from the Department for Infrastructure and Transport (DIT).

REAL PROPERTY ACT, 1886
South Australia

The Registrar-General certifies that this Title Register Search displays the records maintained in the Register Book and other notations at the time of searching.

Certificate of Title - Volume 5526 Folio 242

Parent Title(s) CT 4110/801

Creating Dealing(s) CONVERTED TITLE

Title Issued 21/04/1998 **Edition** 1 **Edition Issued** 21/04/1998

Estate Type

FEE SIMPLE

Registered Proprietor

MINISTER FOR EDUCATION AND CHILDREN'S SERVICES
OF ADELAIDE SA 5000

Description of Land

ALLOTMENT 37 FILED PLAN 3995
IN THE AREA NAMED ROSTREVOR
HUNDRED OF ADELAIDE

Easements

NIL

Schedule of Dealings

NIL

Notations

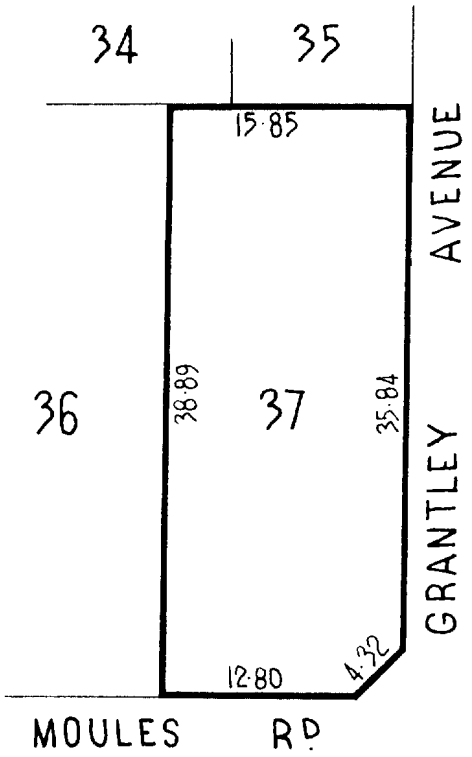
Dealings Affecting Title NIL

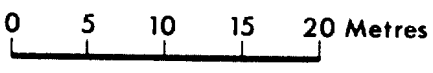
Priority Notices NIL

Notations on Plan NIL

Registrar-General's Notes NIL

Administrative Interests NIL





REAL PROPERTY ACT, 1886
South Australia

The Registrar-General certifies that this Title Register Search displays the records maintained in the Register Book and other notations at the time of searching.

Certificate of Title - Volume 5671 Folio 767

Parent Title(s) CT 2369/198

Creating Dealing(s) CONVERTED TITLE

Title Issued 15/07/1999 **Edition** 2 **Edition Issued** 19/08/1999

Estate Type

FEE SIMPLE

Registered Proprietor

MINISTER FOR EDUCATION AND CHILDREN'S SERVICES
OF ADELAIDE SA 5000

Description of Land

ALLOTMENT 35 FILED PLAN 3995
IN THE AREA NAMED ROSTREVOR
HUNDRED OF ADELAIDE

Easements

NIL

Schedule of Dealings

NIL

Notations

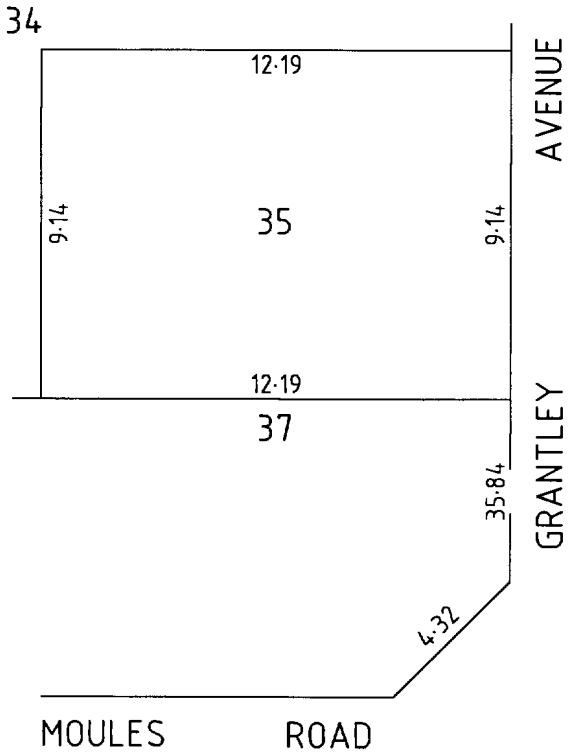
Dealings Affecting Title NIL

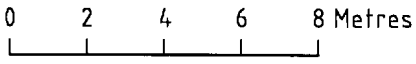
Priority Notices NIL

Notations on Plan NIL

Registrar-General's Notes NIL

Administrative Interests NIL





REAL PROPERTY ACT, 1886
South Australia

The Registrar-General certifies that this Title Register Search displays the records maintained in the Register Book and other notations at the time of searching.

Certificate of Title - Volume 5788 Folio 281

Parent Title(s) CT 2712/6

Creating Dealing(s) CONVERTED TITLE

Title Issued 10/07/2000 **Edition** 1 **Edition Issued** 10/07/2000

Estate Type

FEE SIMPLE

Registered Proprietor

MINISTER FOR EDUCATION AND CHILDREN'S SERVICES
OF ADELAIDE SA 5000

Description of Land

ALLOTMENT 36 FILED PLAN 3995
IN THE AREA NAMED ROSTREVOR
HUNDRED OF ADELAIDE

Easements

NIL

Schedule of Dealings

NIL

Notations

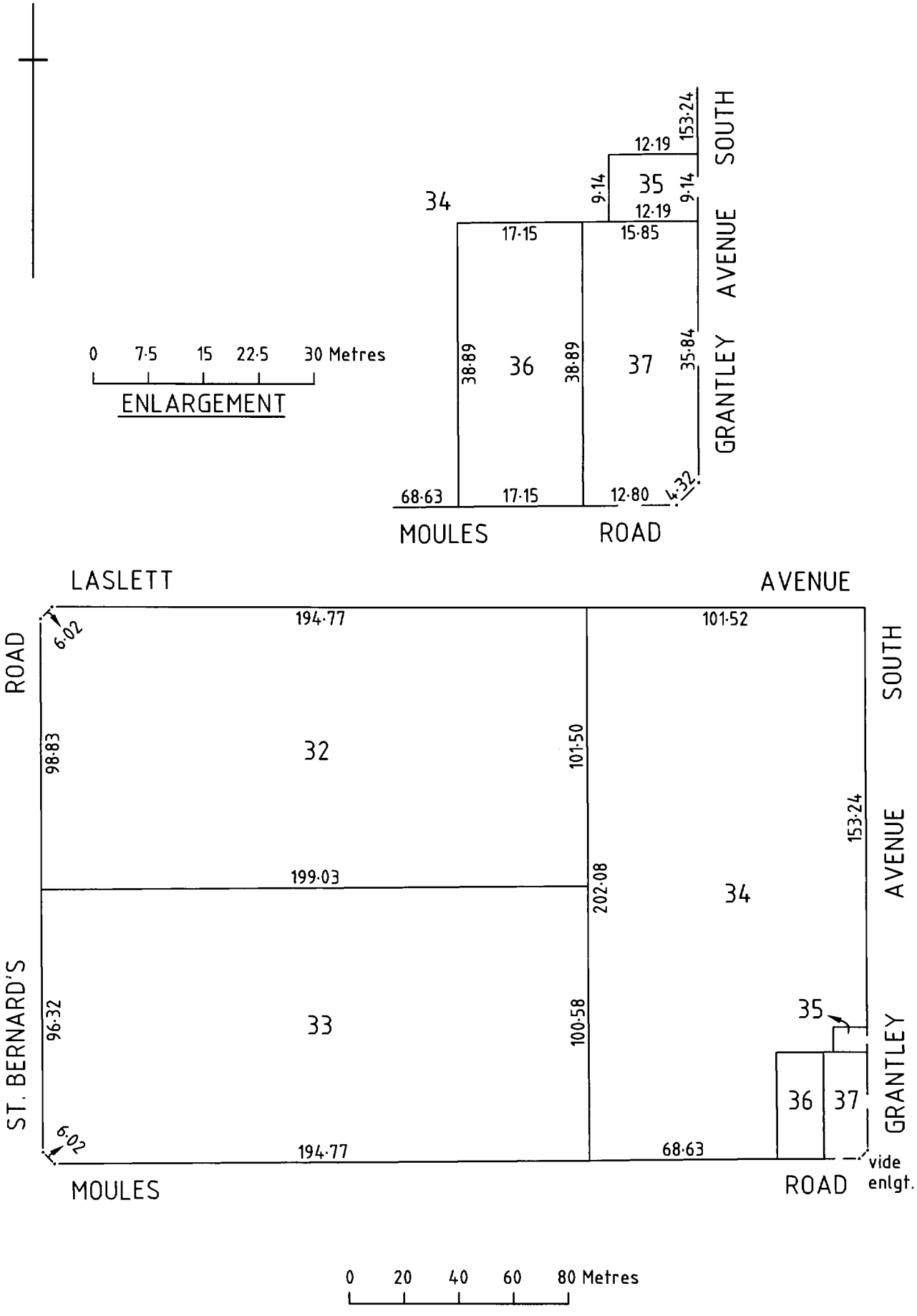
Dealings Affecting Title NIL

Priority Notices NIL

Notations on Plan NIL

Registrar-General's Notes NIL

Administrative Interests NIL



REAL PROPERTY ACT, 1886
South Australia

The Registrar-General certifies that this Title Register Search displays the records maintained in the Register Book and other notations at the time of searching.

Certificate of Title - Volume 6176 Folio 65

Parent Title(s) CT 5788/875

Creating Dealing(s) TG 12494058

Title Issued 21/06/2016 **Edition** 2 **Edition Issued** 21/06/2016

Estate Type

FEE SIMPLE

Registered Proprietor

MINISTER FOR EDUCATION AND CHILD DEVELOPMENT
OF ADELAIDE SA 5000

Description of Land

ALLOTMENTS 32, 33 AND 34 FILED PLAN 3995
IN THE AREA NAMED ROSTREVOR
HUNDRED OF ADELAIDE

Easements

SUBJECT TO EASEMENT(S) OVER PORTION OF ALLOTMENT 34 MARKED A AND B ON F250209 (TG 12494058)

Schedule of Dealings

NIL

Notations

Dealings Affecting Title NIL

Priority Notices NIL

Notations on Plan NIL

Registrar-General's Notes

PLAN FOR LEASE PURPOSES VIDE G454/1995

Administrative Interests NIL

PURPOSE: EASEMENT

AREA NAME: ROSTREVOR

MAP REF: 6628/42/D

COUNCIL: THE CORPORATION OF THE CITY OF CAMPBELLTOWN

LAST PLAN:

DEVELOPMENT NO:

APPROVED:
MATTHEW LETHBRIDGE
06/07/2015

FILED:
MATTHEW LETHBRIDGE
06/07/2015

FX250209

SHEET 1 OF 2

48133_text_01_v03_Version_3

AGENT DETAILS: SA POWER NETWORKS - SURVEY GROUP
1 ANZAC HWY
KESWICK SA 5035
PH: 8404 4252
FAX:

AGENT CODE: SAPG

REFERENCE: 20140068

SURVEYORS CERTIFICATION:

SUBJECT TITLE DETAILS:

PREFIX	VOLUME	FOLIO	OTHER	PARCEL	NUMBER	PLAN	NUMBER	HUNDRED / IA / DIVISION	TOWN	REFERENCE NUMBER
PT CT	5788	875		ALLOTMENT(S)	34	F	3995	ADELAIDE		

OTHER TITLES AFFECTED:

EASEMENT DETAILS:

STATUS	LAND BURDENED	FORM	CATEGORY	IDENTIFIER	PURPOSE	IN FAVOUR OF	CREATION
PROPOSED	34	LONG	EASEMENT(S)	A.B	FOR ELECTRICITY SUPPLY PURPOSES	CKI UTILITIES DEVELOPMENT LTD. PAI UTILITIES DEVELOPMENT LTD. SPARK INFRASTRUCTURE SA (NO. 1) PTY. LTD. SPARK INFRASTRUCTURE SA (NO. 2) PTY. LTD. SPARK INFRASTRUCTURE SA (NO. 3) PTY. LTD.	

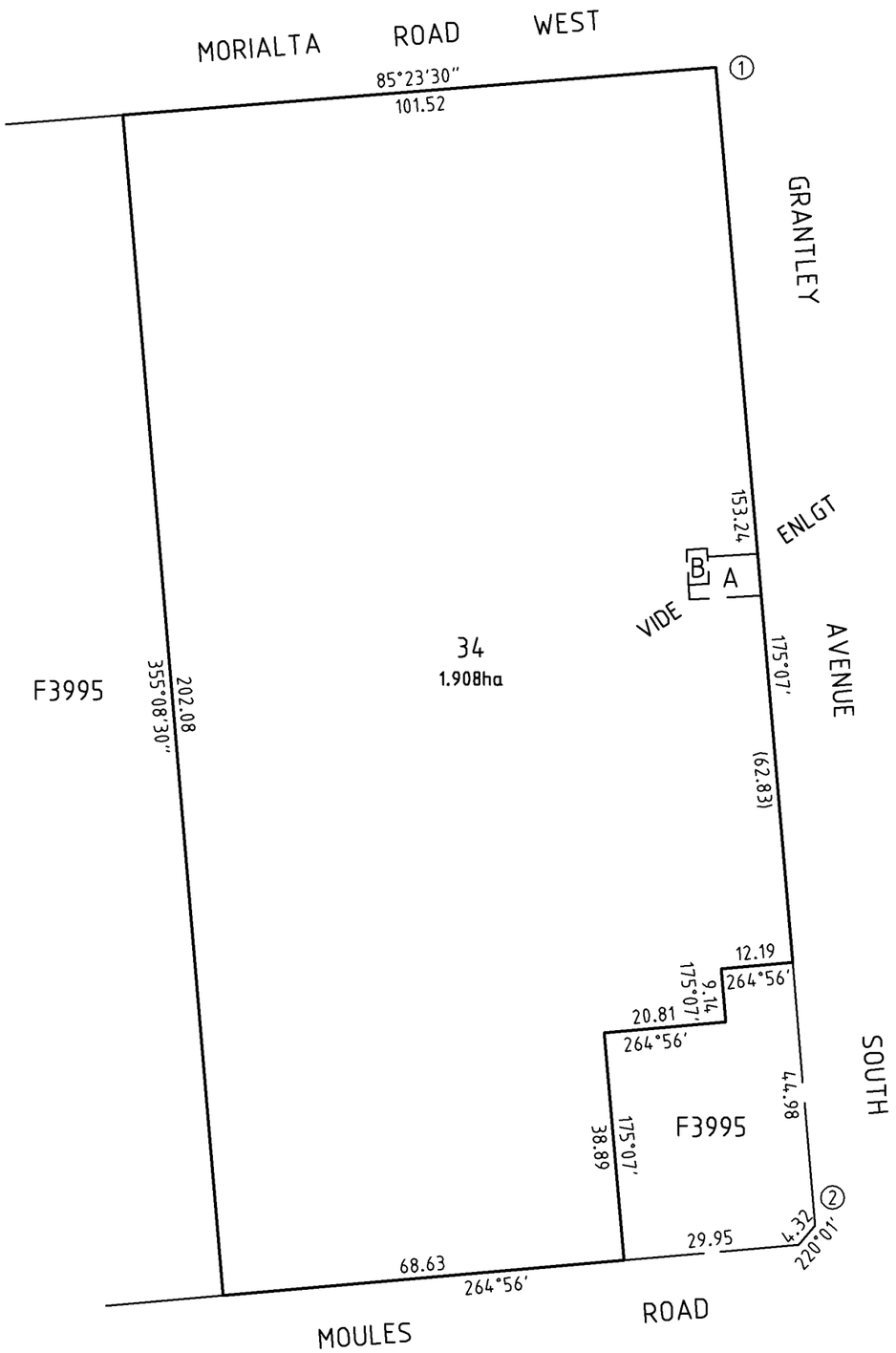
ANNOTATIONS:

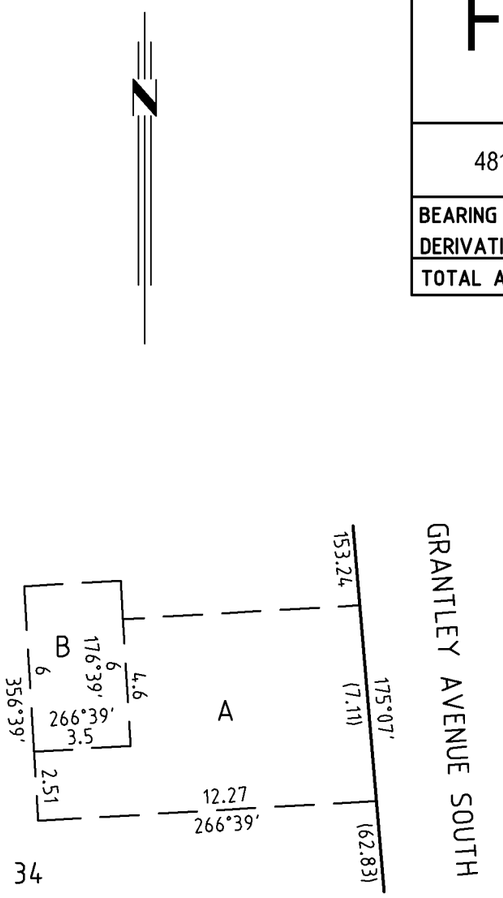
FX250209

SHEET 2 OF 2

48133_pland_1_V01_Version_3

BEARING DATUM: ①-② 175°07'
DERIVATION: 6628/42/D SCALED
TOTAL AREA





ENLARGEMENT
NOT TO SCALE

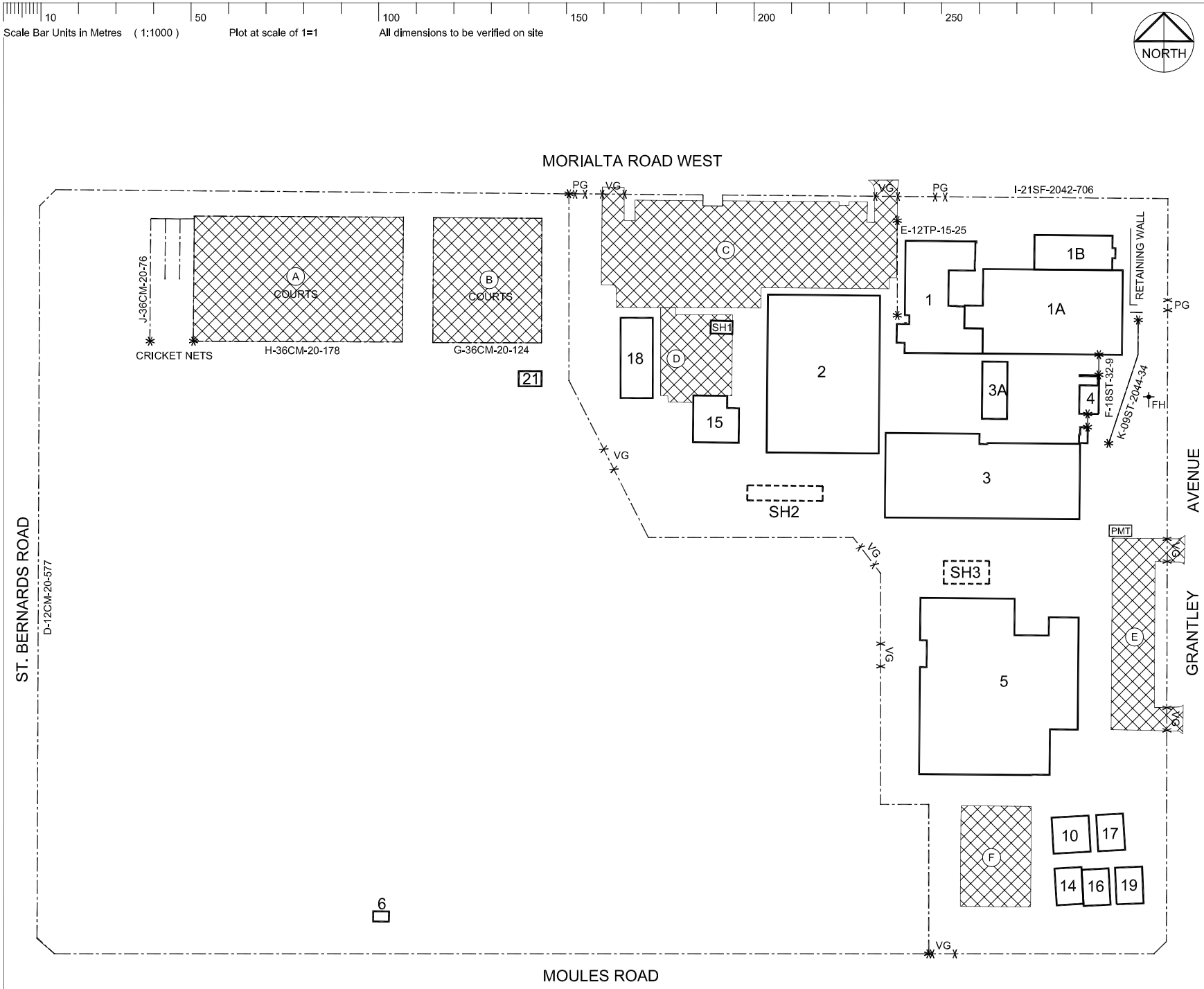
SCALE
0 10 20 30 40 50 METRES 100

APPENDIX

SITE SURVEY PLANS

Scale Bar Units in Metres (1:1000) Plot at scale of 1=1 All dimensions to be verified on site

10 50 100 150 200 250



BUILDINGS

1	ADMINISTRATION & CANTEEN
1A	SCIENCE & GENERAL TEACHING
1B	SCIENCE
2	TECHNICAL STUDIES & HOME ECONOMICS
3	RESOURCE & GENERAL TEACHING
3A	TOILEL BLOCK & STORE
4	GENERAL TEACHING, TOILETS & STORE
5	GYMNASIUM, MUSIC & DRAMA
6	TOILET BLOCK
M10	GENERAL TEACHING
M14	GENERAL TEACHING
M15	AUTOMOTIVE WORKSHOP
M16	GENERAL TEACHING
M17	GENERAL TEACHING
18	VEHICLE & SPORTS STORE
M19	GENERAL TEACHING
21	SPORTS STORE
SH1	COLORBOND STORE SHED
SH2	COLORBOND SHELTER
SH3	SHADE STRUCTURE

PAVING DETAILS: Location, Type, Fall year, Area (sq ms)

A	bit-crt	2015	1856	B	bit-crt	2015	961
C	bit-veh	2015	2042	D	bit-veh	2015	411
E	bit-veh	2015	683	F	bit-veh	2015	503

FENCES *code-height-type-fail date-length (ms)*

ST steel	TP timber post
CM chain mesh	SF security fence
GT galtube	NF not fenced
PG pedestrian gate	VG vehicle gate

WM *Water Meter* — *Fence junction*
GM *Gas Meter* — PMT *Pad mtd trans*

MIDDLE CAMPUS - NORWOOD MORIALTA MORIALTA ROAD WEST ROSTREVOR 5073

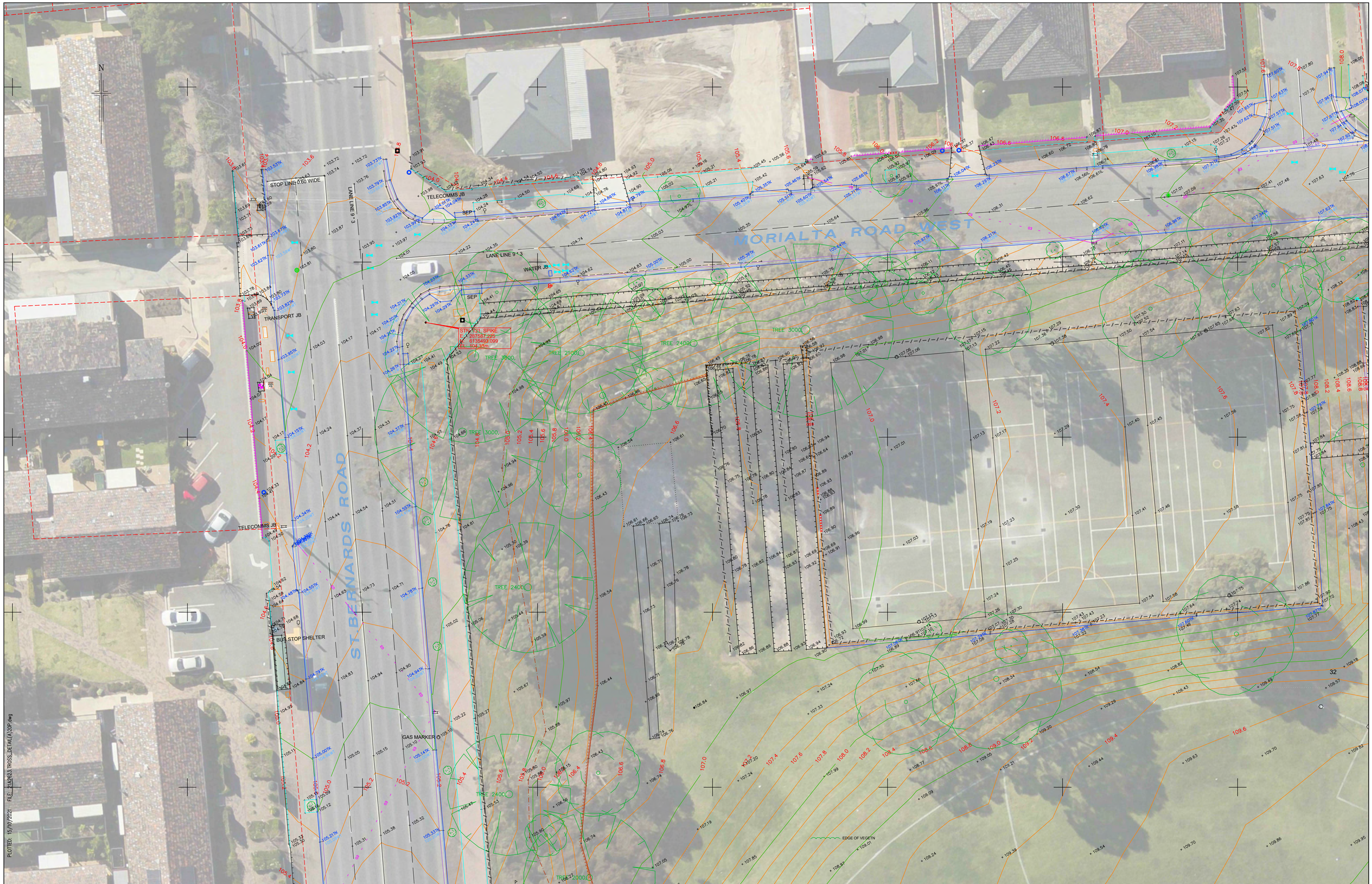
Government of South Australia
Department of Planning, Transport and Infrastructure

Asset no.	*01209*	Client.	*DECD*
DPTI Office.	*ADELAIDE*	Sheet.	*1 of 1*
Created by.	*BLAMS*	*B Clayton*	*Nov 2002*
Modified by.	*Survcad*	*R.L.Chapman*	*Oct 2015*
Audited by.	*Helica Archi*	*T Tan*	*July 2013*
Title details.	*refer layer " site-allotment " CT/71-M-78*		
Site area.	*6.0734 ha*	Accuracy.	*site survey*

Strategic Asset Management Information System Plan

SAMIS 01209

242



PLOTTED: 15/10/2021 FILE: 21A2623.TROSS_DETAIL(A)20P.dwg

REV	DATE	DESCRIPTION	CALC	FIELD

ADDITIONS, AMENDMENTS AND APPROVALS

LEGEND

- 47.51TK TOP KERB
- 47.36WT WATER TABLE
- 45.16FL FLOOR LEVEL
- 48.12IL INVERT LEVEL
- TAP
- WATER METER
- SPRINKLR / IRRIG VALVE
- HYDRANT
- DOMESTIC OUTLET
- DOWNPIPE
- DOMESTIC SUMP
- STORMWATER M'HOLE
- SEP / GRATING
- 47.51TWA TOP OF WALL LEVEL
- 47.51 EDGE OF BITUMEN
- TEL. COMM. PILLAR / PIT
- TRAFFIC LIGHT
- SIGN / BUS SIGN
- LITTER BIN
- MAIL BOX / SIGNAL BOX
- TICKET MACHINE
- ROAD / ELEC. SERVICE
- WATER SV / FP
- ELEC. / GAS METER
- GAS SERVICE
- PSM
- PEG / TBM
- SURVEY MARKS
- BOREHOLE
- POWER / LIGHT POLE
- CABLE MARKER
- STOBIE / WOODEN POLE
- POST / BOLLARD
- SEWER MH / IO / SIP
- UNKNOWN POINT / SERVICE
- EDGE OF BITUMEN
- ROAD SIGN / HOARD.
- TREE / SHRUB
- Possible REGULATED / SIGNIFICANT TREE by measurement only (trunk greater than 2.0m circumference). Professional advice from council / arborist required.
- DCDB LINE
- WATER TABLE
- BOTTOM OF BANK
- TOP OF BANK
- CHANGE OF GRADE
- DRAIN
- SEWER PIPE UG
- TEL. COMM. UG
- WATER PIPE UG
- BUILDING
- WALL
- GI BUILDING
- CONCRETE
- FENCE
- GATE

COORDINATE SYSTEM

VERTICAL:	AHD
HORIZONTAL:	GROUND PLANE ORIENTED TO: MGA 20 ZONE 54
SCALE: GROUND	(CSF = 1.00013518)

ADOPTED STATION & AUTHORITY

PSM 6628/14591	RL:	115.848	SDB
PSM 6628/14591	E:	287889.890	SDB
	N:	6135532.648	SDB

SDB denotes SA Government survey data base values (Dated: / / 2015)

0 2 4 8 12 16 20 m

1:200

ORIGINAL SHEET SIZE A1

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Aerial photography supplied by MetroMap, date 01/09/2021

CONTOUR INTERVAL:		MIN: 0.2m MAJ:1.0m
SURVEY:	DJH	SEP-OCT 2021
DRAWN:	DJH	15/10/2021
CHECKED:	AMP	15/10/2021

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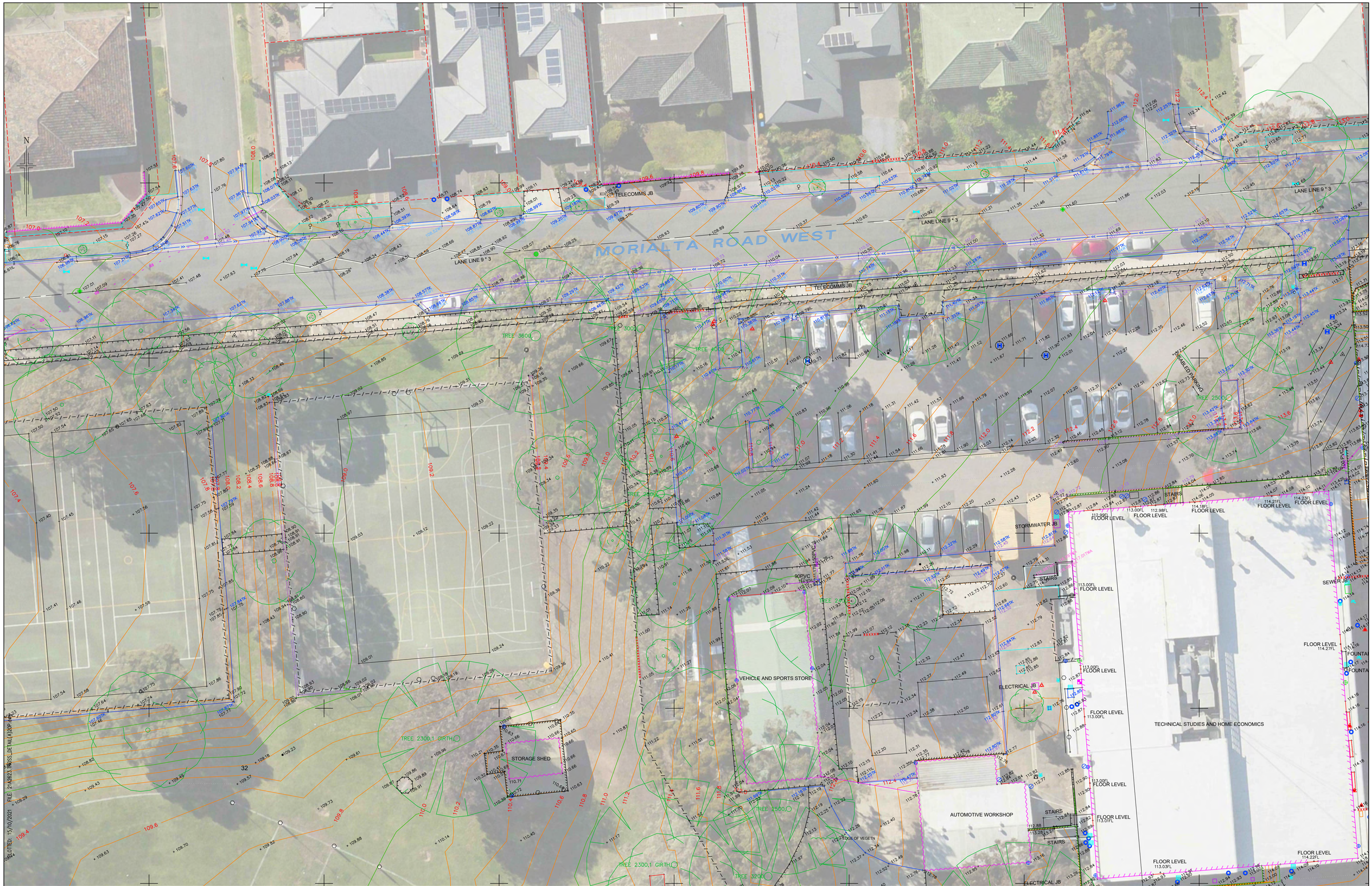
DETAIL SURVEY
NORWOOD MORIALTA HIGH SCHOOL MIDDLE CAMPUS - ROSTREVOR

DRAWING No. 21A2623.TROSS_DETAIL(A)20P

SHEET 1 OF 9

REVISION 0



REV	DATE	DESCRIPTION	CALC	FIELD
		ADDITIONS, AMENDMENTS AND APPROVALS		

LEGEND

- 47.51TK TOP KERB
- 47.36WT WATER TABLE
- 45.16FL FLOOR LEVEL
- 48.12IL INVERT LEVEL
- TAP
- WATER METER
- SPRINKLR / IRRIG VALVE
- HYDRANT
- DOMESTIC OUTLET
- DOWNPIPE
- DOMESTIC SUMP
- STORMWATER M'HOLE
- SEP / GRATING
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- MAIL BOX / SIGNAL BOX
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- ROAD / ELEC. SERVICE
- WATER SV / FP
- ELEC. / GAS METER
- GAS SERVICE
- PSM PEG / TBM
- SURVEY MARKS
- BOREHOLE
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- BUILDING
- WALL
- GI BUILDING
- CONCRETE
- FENCE
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COORDINATE SYSTEM	
VERTICAL:	AHD
HORIZONTAL:	GROUND PLANE ORIENTED TO: MGA 20 ZONE 54
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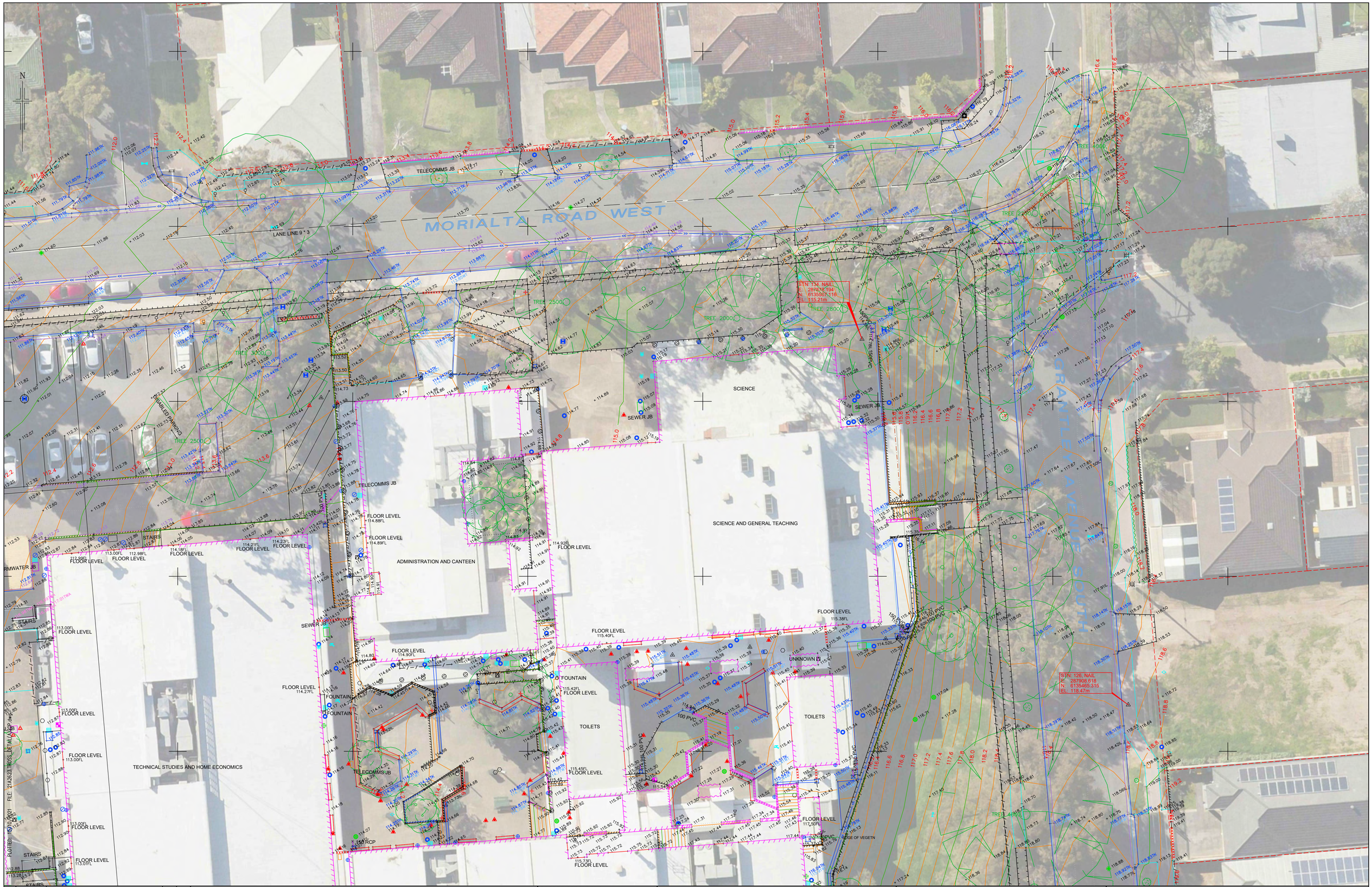
DETAIL SURVEY
NORWOOD MORIALTA HIGH SCHOOL MIDDLE CAMPUS - ROSTREVOR

DRAWING No.	SHEET 2 OF 9	REVISION
21A2623.TROSS_DETAIL(A)20P		0



LEGEND

47.51TK TOP KERB	47.51TWA TOP OF WALL LEVEL	PSM / PEG / TBM	EDGE OF BITUMEN	BOTTOM OF BANK
47.30WT WATER TABLE	47.51 EDGE OF BITUMEN	SURVEY MARKS	ROAD SIGN / HOARD.	TOP OF BANK
45.16FL FLOOR LEVEL	TEL. COMM. PILLAR / PIT	BOREHOLE	TREE / SHRUB	CHANGE OF GRADE
48.12IL INVERT LEVEL	TRAFFIC LIGHT	POWER / LIGHT POLE	Possible REGULATED / SIGNIFICANT TREE by measurement only (trunk greater than 2.0m circumference). Professional advice from council / arborist required.	DRAIN
TAP	SIGN / BUS SIGN	CABLE MARKER		SEWER PIPE UG
WATER METER	LITTER BIN	STOBIE / WOODEN POLE		TEL. COMM. UG
SPRINKLR / IRRIG VALVE	MAIL BOX / SIGNAL BOX	POST / BOLLARD		WATER PIPE UG
HYDRANT	TICKET MACHINE	SEWER MH / IO / SIP		BUILDING
DOMESTIC OUTLET	ROAD / ELEC. SERVICE	UNKNOWN POINT / SERVICE		WALL
DOWNPIPE	WATER SV / FP		DCDB LINE	GI BUILDING
DOMESTIC SUMP	ELEC. / GAS METER		WATER TABLE	CONCRETE
STORMWATER M'HOLE	GAS SERVICE			FENCE
SEP / GRATING				GATE

REV	DATE	DESCRIPTION	CALC	FIELD
ADDITIONS, AMENDMENTS AND APPROVALS				

COORDINATE SYSTEM

VERTICAL:	AHD
HORIZONTAL:	GROUND PLANE ORIENTED TO: MGA 20 ZONE 54
SCALE: GROUND	(CSF = 1.00013518)

ADOPTED STATION & AUTHORITY

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0 2 4 8 12 16 20 m

1:200

ORIGINAL SHEET SIZE A1

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DETAIL SURVEY
NORWOOD MORIALTA HIGH SCHOOL MIDDLE CAMPUS - ROSTREVOR

DRAWING No. 21A2623.TROSS_DETAIL(A)20P

SHEET 3 OF 9

REVISION 0

PLOTTED: 15/10/2021 — FILE: 21A2623.TROSS_DETAIL(A)20P.dwg

REV	DATE	DESCRIPTION	CALC	FIELD
ADDITIONS, AMENDMENTS AND APPROVALS				

LEGEND

- 47.51TK TOP KERB
- 47.36WT WATER TABLE
- 45.16FL FLOOR LEVEL
- 48.12IL INVERT LEVEL
- TAP
- WATER METER
- SPRINKLR / IRRIG VALVE
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- SEP / GRATING
- 47.51TWA TOP OF WALL LEVEL
- 47.51 EDGE OF BITUMEN
- TEL. COMM. PILLAR / PIT
- TRAFFIC LIGHT
- SIGN / BUS SIGN
- LITTER BIN
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- ROAD / ELEC. SERVICE
- WATER SV / FP
- ELEC. / GAS METER
- GAS SERVICE
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- SEWER PIPE UG
- TEL. COMM. UG
- WATER PIPE UG
- BUILDING
- WALL
- GI BUILDING
- CONCRETE
- FENCE
- GATE

COORDINATE SYSTEM

VERTICAL:	AHD
HORIZONTAL:	GROUND PLANE ORIENTED TO: MGA 20 ZONE 54
SCALE: GROUND	(CSF = 1.00013518)

ADOPTED STATION & AUTHORITY

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0 2 4 8 12 16 20 m

1:200

ORIGINAL SHEET SIZE A1

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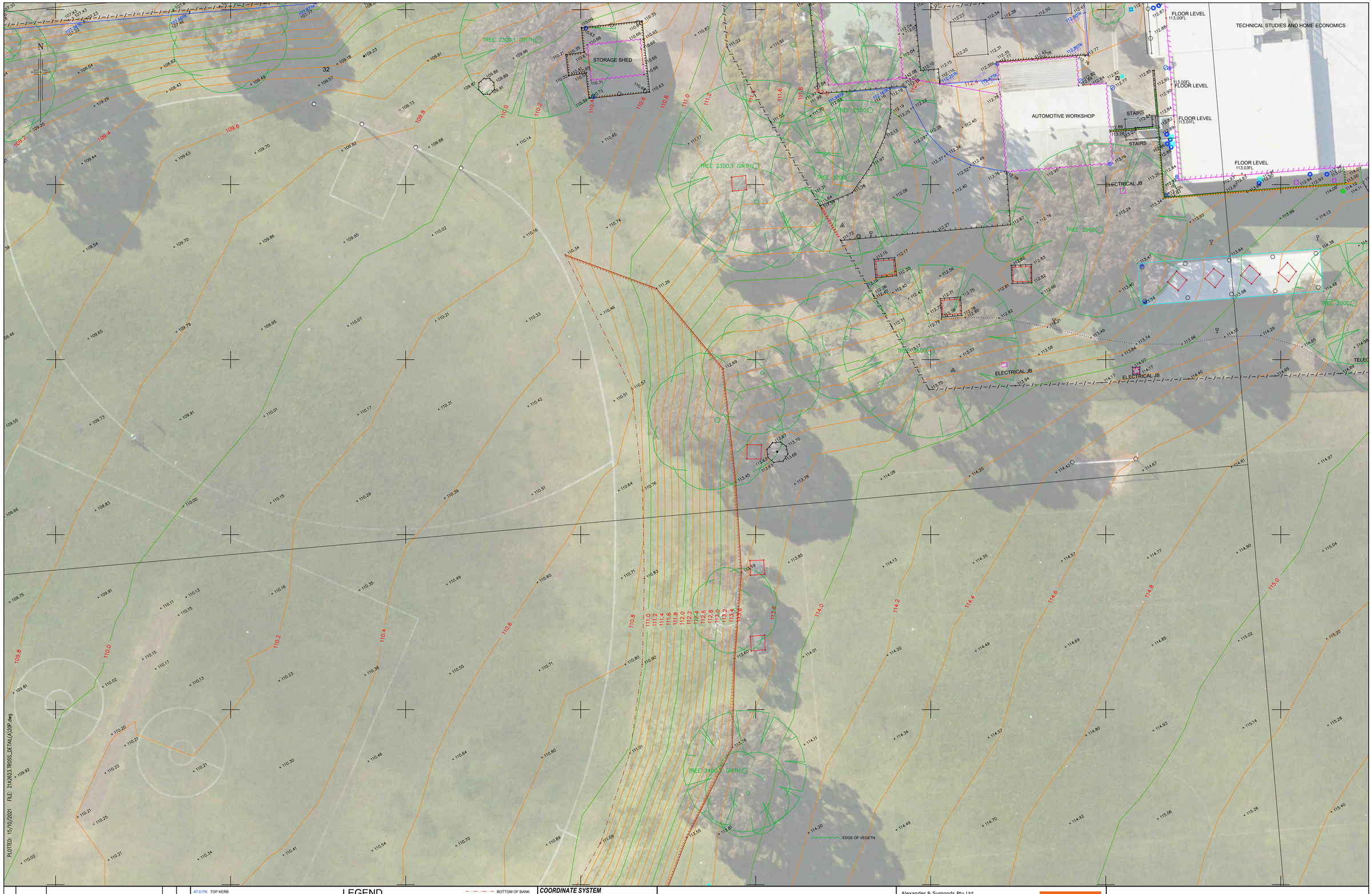
DETAIL SURVEY
NORWOOD MORIALTA HIGH SCHOOL MIDDLE CAMPUS - ROSTREVOR

DRAWING No. 21A2623.TROSS_DETAIL(A)20P

SHEET 4 OF 9

REVISION 0



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REV	DATE	DESCRIPTION	CALC	FIELD
ADDITIONS, AMENDMENTS AND APPROVALS				

LEGEND

47.51TK TOP KERB	47.51TWA TOP OF WALL LEVEL	PSM / PEG / TBM	EDGE OF BITUMEN
47.36WT WATER TABLE	47.51 EDGE OF BITUMEN	SURVEY MARKS	ROAD SIGN / HOARD.
45.16FL FLOOR LEVEL	TEL. COMM. PILLAR / PIT	BOREHOLE	TREE / SHRUB
48.12IL INVERT LEVEL	TRAFFIC LIGHT	POWER / LIGHT POLE	Possible REGULATED / SIGNIFICANT TREE by measurement only (trunk greater than 2.0m circumference). Professional advice from council / arborist required.
or TAP	SIGN / BUS SIGN	CABLE MARKER	BOTTOM OF BANK
WATER METER	LITTER BIN	STOBIE / WOODEN POLE	TOP OF BANK
SPRINKLR / IRRIG VALVE	MAIL BOX / SIGNAL BOX	POST / BOLLARD	CHANGE OF GRADE
or HYDRANT	TICKET MACHINE	SEWER MH / IO / SIP	DRAIN
DOMESTIC OUTLET	ROAD / ELEC. SERVICE	UNKNOWN POINT / SERVICE	SEWER PIPE UG
DOWNPIPE	WATER SV / FP	DCDB LINE	TEL. COMM. UG
DOMESTIC SUMP	ELEC. / GAS METER	WATER TABLE	WATER PIPE UG
STORMWATER M'HOLE	GAS SERVICE		BUILDING
SEP / GRATING			WALL
			GI BUILDING
			CONCRETE
			FENCE
			xxxxxxxxxx GATE

COORDINATE SYSTEM	
VERTICAL:	AHD
HORIZONTAL:	GROUND PLANE ORIENTED TO: MGA 20 ZONE 54
SCALE: GROUND	(CSF = 1.00013518)

ADOPTED STATION & AUTHORITY			
PSM 6628/14591	RL:	115.848	SDB
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0 2 4 8 12 16 20 m

1:200

ORIGINAL SHEET SIZE A1

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DETAIL SURVEY
NORWOOD MORIALTA HIGH SCHOOL MIDDLE CAMPUS - ROSTREVOR

DRAWING No. 21A2623.TROSS_DETAIL(A)20P

SHEET 5 OF 9

REVISION 0

RESOURCE AND GENERAL TEACHING

GYMNASIUM, MUSIC AND DRAMA

FLOOR LEVEL 114.22FL

FLOOR LEVEL 115.73FL

FLOOR LEVEL 117.50FL

FLOOR LEVEL 115.69FL

FLOOR LEVEL 117.30FL

FLOOR LEVEL 117.91FL

FLOOR LEVEL 117.81FL

FLOOR LEVEL 118.56FL

FLOOR LEVEL 118.24FL

FLOOR LEVEL 118.49FL

TRANSFORMER

ELECTRICAL JB

TELECOMMS JB

EDGE OF VEGETN

TREE 2000

TREE 3800

TREE 2400

TREE 3200

TREE 4200

TREE 3400

TREE 2800

STN: 139: NAIL
E: 287821.072
N: 6135474.500
EL: 115.49m

150 CLAY

150PVC

450mm RCP

GRATLEY AVENUE SOUTH

N

PLOTTED: 15/10/2021 FILE: 21A2623.TROSS_DETAIL(A)20P.dwg

LEGEND

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- SEP / GRATING
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- TEL. COMM. PILLAR / PIT
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- SIGN / BUS SIGN
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REV	DATE	DESCRIPTION	CALC	FIELD

ADDITIONS, AMENDMENTS AND APPROVALS

COORDINATE SYSTEM

VERTICAL:	AHD
HORIZONTAL:	GROUND PLANE ORIENTED TO: MGA 20 ZONE 54
SCALE: GROUND	(CSF = 1.00013518)

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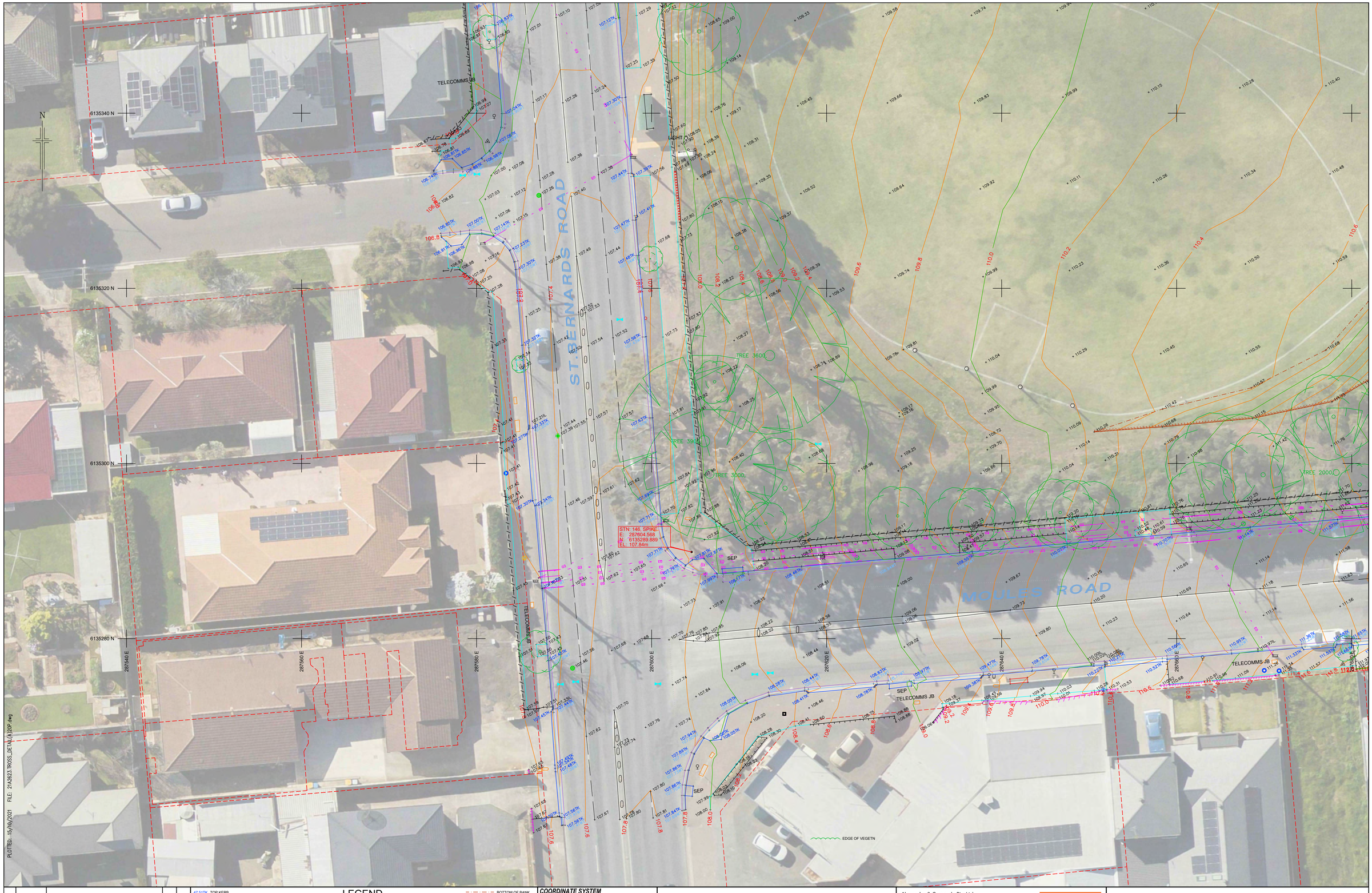
SHEET 6 OF 9

REVISION 0



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REV	DATE	DESCRIPTION	CALC	FIELD
		ADDITIONS, AMENDMENTS AND APPROVALS		

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COORDINATE SYSTEM

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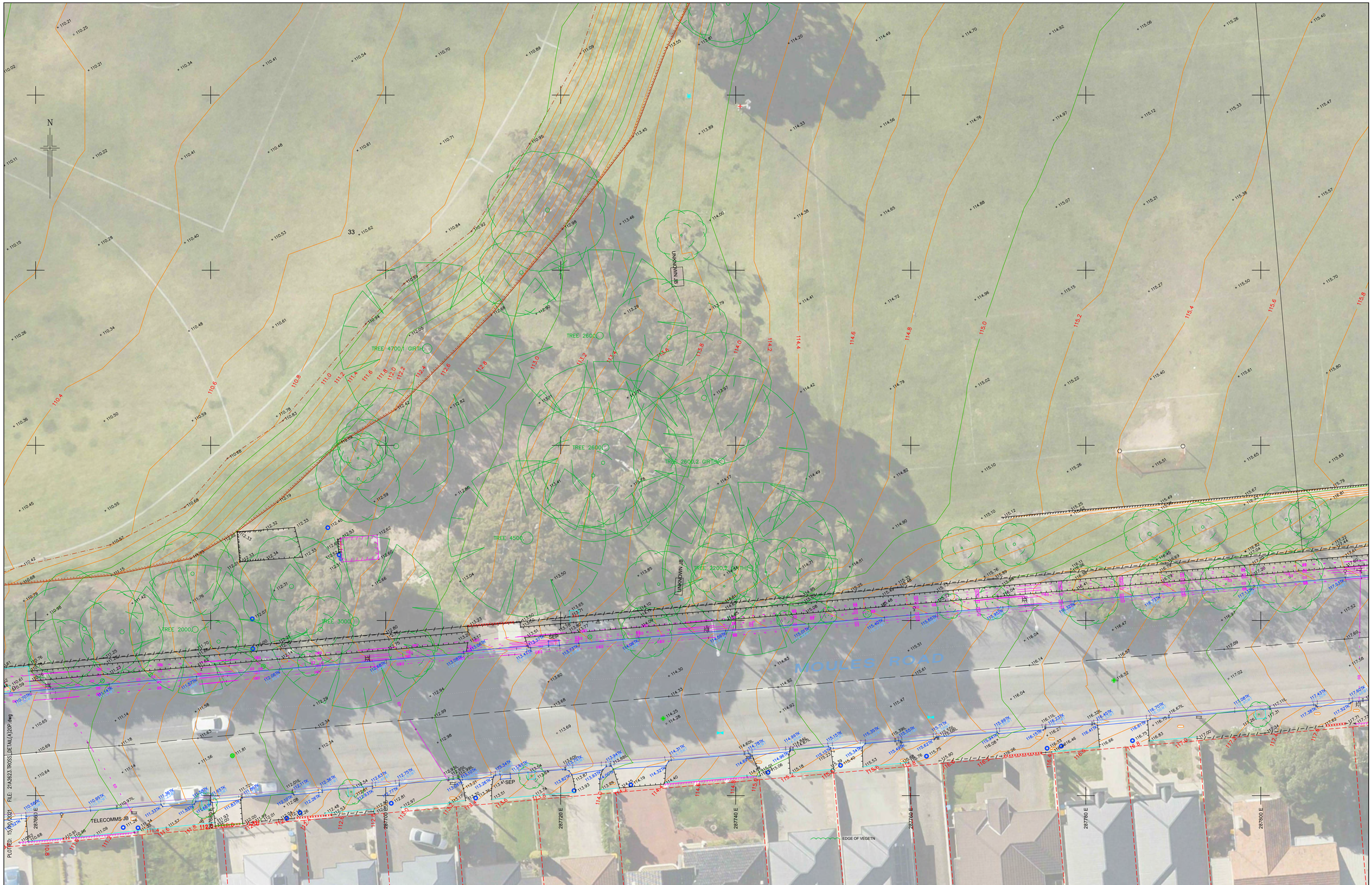
SHEET 7 OF 9

REVISION 0



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- SIGN / BUS SIGN
- LITTER BIN
- MAIL BOX / SIGNAL BOX
- TICKET MACHINE
- ROAD / ELEC. SERVICE
- WATER SV / FP
- ELEC. / GAS METER
- GAS SERVICE
- PSM
- PEG / TBM
- SURVEY MARKS
- BOREHOLE
- POWER / LIGHT POLE
- CABLE MARKER
- STOBIE / WOODEN POLE
- POST / BOLLARD
- SEWER MH / IO / SIP
- UNKNOWN POINT / SERVICE
- EDGE OF BITUMEN
- ROAD SIGN / HOARD.
- TREE / SHRUB
- Possible REGULATED / SIGNIFICANT TREE by measurement only (trunk greater than 2.0m circumference). Professional advice from council / arborist required.
- DCDB LINE
- WATER TABLE
- BOTTOM OF BANK
- TOP OF BANK
- CHANGE OF GRADE
- DRAIN
- SEWER PIPE UG
- TEL. COMM. UG
- WATER PIPE UG
- BUILDING
- WALL
- GI BUILDING
- CONCRETE
- FENCE
- GATE

COORDINATE SYSTEM	
VERTICAL:	AHD
HORIZONTAL:	GROUND PLANE ORIENTED TO: MGA 20 ZONE 54
SCALE: GROUND	(CSF = 1.00013518)

ADOPTED STATION & AUTHORITY			
PSM 6628/14591	RL:	115.848	SDB
PSM 6628/14591	E:	287889.890	SDB
	N:	6135532.648	SDB

SDB denotes SA Government survey data base values (Dated: / /2015)

0 2 4 8 12 16 20 m

1:200

ORIGINAL SHEET SIZE A1

Notes:
Property boundaries shown hereon as DCDB have been sourced from the relevant government authority and may be of poor accuracy. DCDB data has been provided for general information only.

Aerial photography supplied by MetroMap, date 01/09/2021

CONTOUR INTERVAL:	MIN: 0.2m	MAJ:1.0m
SURVEY:	DJH	SEP-OCT 2021
DRAWN:	DJH	15/10/2021
CHECKED:	AMP	15/10/2021

Alexander & Symonds Pty Ltd
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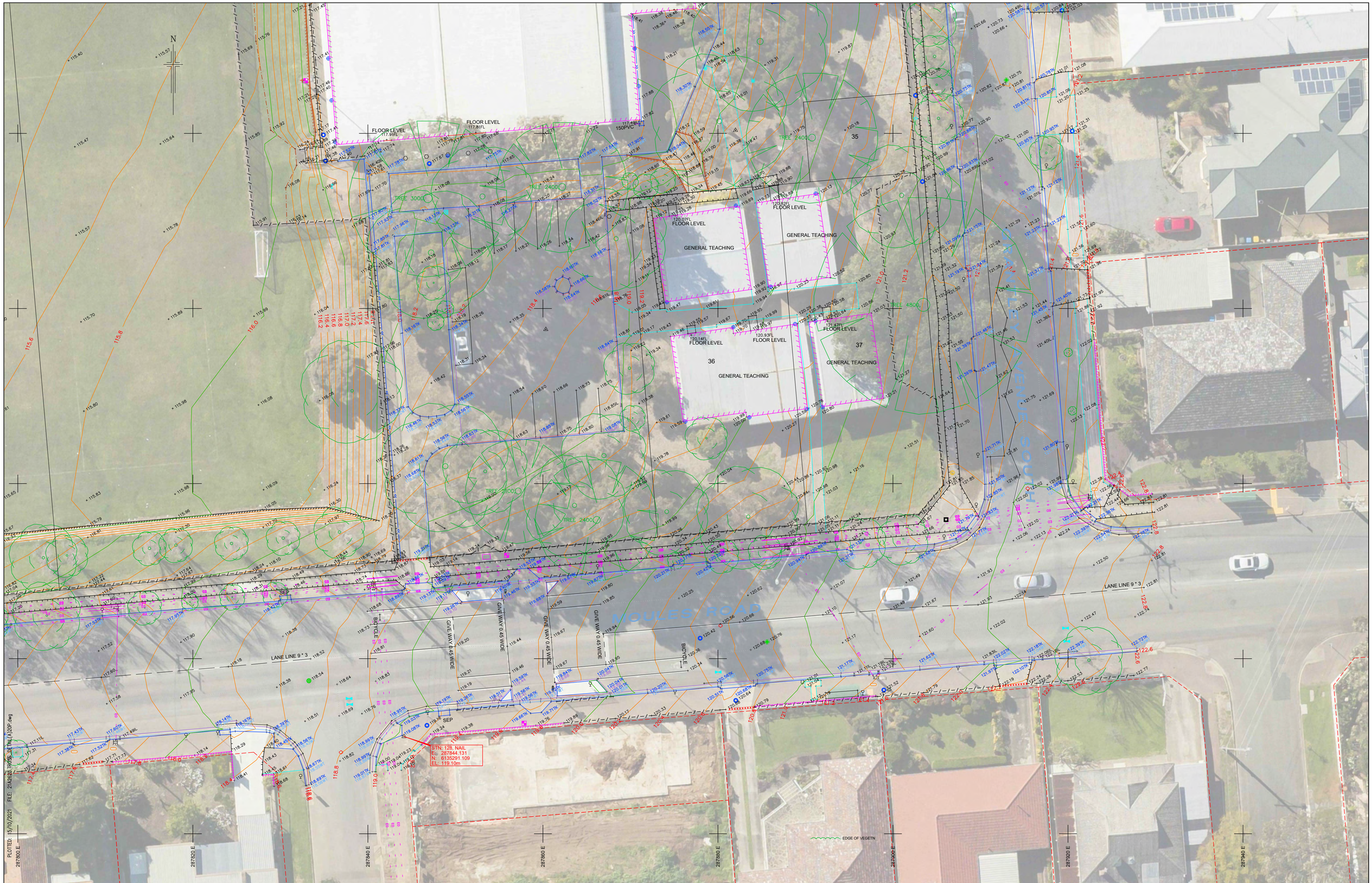
Alexander Symonds Surveying Consultants

DETAIL SURVEY
NORWOOD MORIALTA HIGH SCHOOL MIDDLE CAMPUS - ROSTREVOR

DRAWING No.	SHEET 8 OF 9	REVISION
21A2623.TROSS_DETAIL(A)20P		0



REV	DATE	DESCRIPTION	CALC	FIELD

ADDITIONS, AMENDMENTS AND APPROVALS

LEGEND

- 47.51TK TOP KERB
- 47.36WT WATER TABLE
- 45.16FL FLOOR LEVEL
- 48.12IL INVERT LEVEL
- TAP
- WATER METER
- SPRINKLR / IRRIG VALVE
- HYDRANT
- DOMESTIC OUTLET
- DOWNPIPE
- DOMESTIC SUMP
- STORMWATER M'HOLE
- SEP / GRATING
- 47.51TWA TOP OF WALL LEVEL
- 47.51 EDGE OF BITUMEN
- TEL. COMM. PILLAR / PIT
- TRAFFIC LIGHT
- SIGN / BUS SIGN
- LITTER BIN
- MAIL BOX / SIGNAL BOX
- TICKET MACHINE
- ROAD / ELEC. SERVICE
- WATER SV / FP
- ELEC. / GAS METER
- GAS SERVICE
- PSM / PEG / TBM
- SURVEY MARKS
- BOREHOLE
- POWER / LIGHT POLE
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- BUILDING
- WALL
- GI BUILDING
- CONCRETE
- FENCE
- GATE

COORDINATE SYSTEM

VERTICAL:	AHD
HORIZONTAL:	GROUND PLANE ORIENTED TO: MGA 20 ZONE 54
SCALE: GROUND	(CSF = 1.00013518)

ADOPTED STATION & AUTHORITY

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PSM 6628/14591	E:	287889.890	SDB
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0 2 4 8 12 16 20 m

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Aerial photography supplied by MetroMap, date 01/09/2021

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DETAIL SURVEY
NORWOOD MORIALTA HIGH SCHOOL MIDDLE CAMPUS - ROSTREVOR

DRAWING No. 21A2623.TROSS_DETAIL(A)20P

SHEET 9 OF 9

REVISION 0

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81100-1

2 November 2021

James Carter
CMW Geosciences
Level 1, Mitsubishi Admin Building
1 Tonsley Blvd,
TONSLEY SA 5042

Dear James,

ROSTREVOR HIGH SCHOOL DEVELOPMENT – LIMITED SOIL CONTAMINATION REPORT

1. Introduction

At the request of CMW Geosciences (CMW), Fyfe Pty Ltd (Fyfe) has undertaken a review of analytical data for soil samples collected from the Rostrevor High School Development located on Morialta Road West, Rostrevor, South Australia (SA). The combined geotechnical and environmental investigation is being undertaken to assist in designing the Rostrevor High School redevelopment. Fyfe understands the development comprises a number of new learning and administration buildings, tennis courts, basketball courts, carparking and miscellaneous landscaping.

This letter outlines the project objective, scope and methodology utilised during CMW's field investigations, provides discussion of the analytical results in comparison to the relevant soil classification criteria and provides conclusions regarding the chemical and physical suitability of the material to be disposed to landfill[1] or re-used at a third-party site[2].

1.1 Objectives

The objectives of this project were to:

— inform a preliminary assessment of potential risk to human health; and
— provide recommendations for the management of soil at the site where required, including the provision of a preliminary waste soil classification and to inform the need for any additional assessment.

[1] In accordance with the criteria defined in the South Australian Environment Protection Authority (SA EPA) 'Waste Disposal Information Sheet, Current criteria for the classification of waste – including Industrial and Commercial Waste (Listed) and Waste Soil' (2010);
[2] In accordance with the requirements of the EPA (2013) Standard for the production and use of Waste Derived Fill.

2. Scope of works

2.1 Field work guidance

Fyfe's review was based on our understanding of the overall project aims and the fieldwork undertaken, in the light of the guidance provided in the following documents:

— *National Environment Protection (Assessment of Site Contamination) Measure 1999* (amended in 2013) (ASC NEPM);

— SA EPA (2018) *Guidelines for the Assessment and Remediation of Site Contamination;*

— Australian Standard AS1726:2017, *Geotechnical site investigations*;

— Australian Standard AS4482.1:2005, *Guide to the investigation and sampling of sites with potentially contaminated soils*;

— South Australia Environment Protection Authority (SA EPA) (2010), *Waste Disposal Information Sheet, Current criteria for the classification of waste – including Industrial and Commercial Waste (Listed) and Waste Soil*;

— SA EPA (2013) *Standard for the production and use of Waste Derived Fill* (the WDF Guideline); and

— EPA Victoria (2009) *Industrial Waste Resource Guidelines, Publication IWRG 702 - Soil Sampling*.

2.2 Field work

Sampling was undertaken by appropriately trained CMW field engineers under direction from a Fyfe environmental scientist on 5 and 6 October, 2021 and included the following:

— collection of a total of 33 primary soil samples (and two duplicate samples) from six soil bores progressed to depths of between 4.0 m and 10.0 m below ground level (BGL) – locations were aimed at providing non-judgemental coverage of exterior site areas;
— description of the soil in accordance with *Australian Standard 1726 – Geotechnical Site Investigations*, which included noting the physical characteristics, evidence of contamination (staining, odour) and the presence of waste (if any);
— collecting samples from clean core trays directly into laboratory supplied jars, using a fresh nitrile glove for each sample; and
— freighting the samples on ice in an insulated chilled chest to ALS Laboratory Group (ALS) under standard Chain of Custody protocols

Soil bore locations are shown on the attached Figure.

2.3 Chemical analysis

The soil samples were analysed by Australian Laboratory Services (ALS) Laboratory Group, who are NATA accredited for the analytical testing undertaken. The laboratory certificates of analysis, including identification of the analytical methods used, laboratory reporting limits and chemical concentrations, are provided in Attachment 3.

2.3.1 Initial analysis

The analytical testing undertaken on the collected samples is summarised in the attached table. Broadly speaking, the analysis requested included the following:

— benzene, toluene, ethylbenzene, xylenes and naphthalene (BTEXN);
— total recoverable hydrocarbons (TRH);
— polycyclic aromatic hydrocarbons (PAHs);
— a suite of nine metals[3];
— presence of asbestos;
— organochlorine pesticides (OCPs) and organophosphorus pesticides (OPPs); and
— an additional screen of potential COPC included in the SA EPA Waste Screen[4].

In addition, as summarised in the attached table, two intra-laboratory duplicate samples were analysed, as well as two equipment rinsate samples for QA/QC purposes. The remaining samples were held at the laboratory in case additional analysis was required.

2.4 Data management

The data was tabulated and compared against the assessment criteria presented in Section 3. The resulting analytical data summaries are provided in the attached table, which also includes summaries of duplicate and field blank results. To arrive at a final waste classification of the material, consideration was also given to the physical characteristics of the soil observed during the field work component of the project.

[3] metals suite includes barium, arsenic, cadmium, chromium (III+VI), copper, lead, mercury, nickel and zinc.
[4] SA Waste Screen includes 13 metals, TRH, BTEXN, PAHs, phenols, OCPs, polychlorinated biphenyls and total cyanide.

3. Assessment criteria

3.1 Human health

The ASC NEPM sets out the basis for assessing the significance of soil contamination with respect to potential risks to human health. Based on an understanding the project area is to be utilised for ongoing use as a high school, the following ASC NEPM investigation levels were adopted to assess the suitability of the soil for this particular land use:

— ASC NEPM recreational health investigation levels (HILs) (HIL C) for direct soil contact;

— ASC NEPM recreational health screening levels (HSLs) (HSL C) for vapour intrusion, conservatively assuming sandy soils and various depths; and

— Management Limits: residential/parkland values for hydrocarbons (in coarse-grained soils as a conservative approach) which are based on the consideration of the formation of LNAPL, fire and explosive hazards and effects on buried services.

3.2 Waste classification criteria

3.2.1 Chemical criteria

Soil analytical data were compared against the waste soil disposal guidelines published in the EPA SA Waste Disposal Information Sheet entitled *Current Criteria for the Classification of Waste – Including Industrial and Commercial Waste (Listed) and Waste Soil* (2010), which describes the physical and chemical requirements regarding the offsite disposal of surplus soils to landfill, and the EPA SA *Standard for the production and use of Waste Derived Fill* (2013) (the WDF Guideline), which outlines the requirements for re-use of waste soil at a third party site.

Chemical concentrations were compared against the following chemical criteria:

— Waste Fill (WF);
— Intermediate Waste (IW);
— Low-level Contaminated Waste (LLCW) – landfill disposal only.

3.3 Physical criteria

3.3.1 Disposal

In addition to the chemical criteria waste soils to be classified as WF must also meet certain physical requirements. The physical WF definition (as defined in Part 1 of the *Environment Protection Regulations 2009*) defines a suitable waste as consisting of clay, concrete, rock, sand, soil or other inert mineralogical matter in pieces not exceeding 100 millimetres in length, but does not include waste consisting of or containing asbestos or bitumen. (However, the drilling and sampling method used makes it unlikely that this 'oversized' criterion can be applied.)

3.3.2 Re-use

The Waste Derived Fill (WDF) Guideline outlines the requirements for assessing the suitability of waste soils to be used as WDF. Key guidance associated with the physical requirements for use of waste soil as WDF is quoted below:

— Section 1.1 states: "the scope of waste materials potentially suitable for use as fill is intentionally narrow as the WDF must be similar to solid mineralogical materials naturally present in the soil profile (such as inert soil, rock, sand and silt). Deposition to land of mixed wastes or other wastes not demonstrated as suitable fill does not constitute a use of a WDF as intended by this standard, it is a deposition of waste."

— Section 5.1 states: "Waste soil consists of soil, clay, rock, sand or other natural mineralogical matter and must not contain other wastes (minor amounts of naturally occurring inclusions such as wood or other vegetative matter are acceptable)."

4. Soil assessment

4.1 Subsurface conditions

Soil bore log reports are included in Attachment 4 and provide details of the soil profile encountered at the site, as summarised in Table 1.

Table 1 Soil profile summary

Soil Bore	Total Depth (m BGL)	Depth of Fill (m BGL)	Fill Characteristics	Natural Materials Characteristics
BH01	9.7	0.6	Sandy clay	Sandy clay overlying clay, with gravel at > 9.5 m BGL
BH02	10.0	0.0	-	Sandy clay overlying clay, with a gravelly clay at 8.3 – 8.5 m BGL
BH03	7.7	0.0	-	Sandy clay overlying clay
BH04	4.0	0.3	Sandy gravel overlying sand	Clay overlying sandy clay, with an additional clay layer at >3.7 m BGL
BH05	4.0	0.1	Sandy gravel	Clay
BH06	4.0	0.6	Sandy clay	Sandy clay overlying clay, with a clayey gravel lens at 1.8 – 2.0 m BGL.

In summary, fill material (where encountered) was recorded across the site at depths ranging from 0.1 m BGL to 0.6 m BGL, and generally comprised sandy gravels and sandy clays. The underlying natural material was relatively consistent across the site, generally consisting of sandy clay overlying clays at depth. Gravel layers were observed at location BH01, BH02 and BH06 at various depths, potentially indicating that a former creek bed may have been located in this area. No visual or olfactory signs of contamination were observed in the soil profiles.

4.2 Laboratory analytical results

Human health criteria

Concentrations of all COPC were within the adopted human health screening criteria for a recreational open space land use setting, at the locations assessed.

Trace concentrations of TRH were reported in sample BH04_0.5-0.2, collected from the sandy gravel fill, but were below adopted screening criteria for the most conservative land use setting. This TRH concentration is not considered to be evidence of wide spread contamination, rather indicative of a minor historical surface spill at this location, or a result of the overlying bitumen layer.

Various concentrations of metals analysed were above the laboratory limit of reporting (LOR), but below all relevant health criteria. Concentrations of metals are generally considered indicative of background conditions rather than indicative of the presence of contamination.

All other results were below the laboratory LOR for all samples analysed.

Waste classification criteria

Concentrations of the following COPC exceeded Waste Fill criteria:

— zinc in sample BH03_0-0.2; and
— barium in sample BH06_2.8-3.

Based upon the barium and zinc exceedance of the WF criteria, statistical assessment of the zinc and barium data sets was undertaken utilising the software program ProUCL to calculate the 95% Upper Confidence Limit average concentration ($95\%UCL_{ave}$) and standard deviation for zinc and barium in the site soil.

Statistical analysis of the soil concentrations of the two elements is summarised in Table 2 below. The ProUCL statistical outputs are provided in Attachment 5.

Table 2 Statistical assessment summary

Metal		Guidance requirement			Summary
	Waste Fill criterion (mg/kg)	**95% UCL mean concentration less than the criterion**	**Standard Deviation <50% of the criterion**	**Maximum concentration <250% of the criterion**	
Barium	300	The 95%UCL outputs for the Barium dataset ranged from 125 to 270 mg/kg, in all cases less than the relevant WF criterion.	The standard deviation (SD) of the data set was 87.03 which was less than 50% of the relevant WF criterion.	The maximum concentration was 410 mg/kg, which was less than 250% of the relevant WF criterion.	**Barium concentrations are compliant with the Waste Fill criterion.**
Zinc	200	The 95%UCL outputs for the Zinc dataset ranged from 59 to 152 mg/kg, in all cases less than the relevant WF criterion.	The standard deviation (SD) of the data set was 53.52 which was less than 50% of the relevant WF criterion.	The maximum concentration was 211 mg/kg, which was less than 250% of the relevant WF criterion.	**Zinc concentrations are compliant with the Waste Fill criterion.**

Concentrations of all other COPC were compliant with Waste Fill criteria for the locations assessed.

A summary of the soil analytical results with respect to waste classification criteria is included as Attachment 2, and copies of the laboratory certificates of analysis are provided in Attachment 3.

5. Quality assurance/Quality control (QA/QC)

5.1 General

QA/QC procedures were used by CMW personnel as part of the investigation. These QA/QC procedures were based on the requirements of AS 4482.1:2005, the ASC NEPM (1999) and Fyfe's standard procedures. QA/QC procedures adopted included the following:

- Using a new pair of nitrile gloves and a new laboratory jar (with a Teflon® lined lid) to collect each sample;
- Collecting and analysing field equipment rinsate and trip blank samples;
- Collecting and analysing field duplicate QA/QC samples;
- Using NATA accredited laboratories for analysis;
- Preserving and storing samples upon collection and during transport to the laboratory;
- Analysing samples at the laboratory within appropriate sample holding times;
- Tracking sample movements using appropriate COC documentation;
- Checking the results reported for the internal QA/QC tests conducted by the laboratory; and
- Calculating the relative percent differences (RPDs) between the primary samples and the corresponding duplicate.

5.2 Fyfe QC results

The majority of RPD values calculated for the soil duplicate sample pairs were within the acceptable range defined in Schedule B3 of the ASC NEPM (i.e. 30%), or one or both concentrations were reported to be less than the laboratory LOR. However, the following exception was noted:

- QC1 and duplicate pair BH04_0.7-0.8, had high RPDs for barium, chromium copper, lead, nickel, and zinc;
- QC3 and duplicate pair BH06_1.2-1.3, had high RPDs for manganese.

It is noted that the elevated RPD results were reported at concentrations relatively close to the method detection limit and well below the adopted assessment criterion, where small differences in the results have large impacts on the RPD. Consequently, these RPD exceedances are not considered to prejudice the results.

The two equipment blank rinsate samples both reported concentrations below the laboratory LOR for all potential contaminants of concern. As a result, the decontamination process employed between sample locations was deemed to be sufficient for this investigation.

Recommended holding times were exceeded for sample QC2 for analytes OCP, OPP, PAHs and TRH. Although the hold time exceedances may have resulted in lower concentrations of certain analytes being detected, this is considered unlikely to be significant given that the hold times are generally conservative and the samples were stored on ice immediately and during transport to the analytical laboratory. It is further noted that this was a duplicate sample, and the duplicate pair was extracted within holding times.

5.3 Laboratory QC results

No outliers were reported for any of the internal QC laboratory duplicate, laboratory control, blank samples, with the exception of:

— laboratory duplicates were analysed at less than the expected frequency for PAH, phenols and pesticides; and
— matrix spikes were analysed at less than the expected frequency for PAH, phenols, pesticides and TRH.

The minor internal laboratory QA/QC outliers noted are not considered to adversely affect the reliability of the analytical data set and/or any reliant conclusions made herein.

5.4 QC results summary

Based on the rationale in Sections 5.2 and 5.3, the analytical data is considered to be acceptable for this soil assessment.

6. Summary and conclusions

A summary of the results indicates:

— all target analytes were reported at concentrations below the adopted human health screening/investigation criterion in all samples analysed.

— all target analytes were reported below the laboratory LOR or at concentrations below the applicable 'Waste Fill' criteria (where established) with the exception of:

  – BH03_0-0.2 for zinc; and
  – BH06_2.8-3 for barium.

— subsequent statistical assessment of the barium and zinc data sets using the statistical software program ProUCL indicated that the 95% Upper Confidence Limit (UCL) for each of the metal concentrations does not exceed the 'Waste Fill' criteria.

Based upon the above Fyfe concludes that:

— the subject soils do not pose a risk to human health; and
— provided oversize materials are not included, the preliminary classification of soils from the site, for purposes of off-site disposal to landfill and following statistical analysis, is Waste Fill. Provided oversize materials are not included, the subject soils can be disposed and/or re-used offsite to a licenced landfill as Waste Fill.

The conclusions in this letter are subject to the limitations outlined below.

7. Limitations

Fyfe has used the degree of skill and care ordinarily exercised by reputable members of our profession practising in the same or similar locality. This letter has been prepared for CMW Geosciences, for the specific purpose identified in the letter. Fyfe accepts no liability or responsibility to any third party for the accuracy of any information contained in the letter or any opinion or conclusion expressed in the letter. Neither the whole of the letter nor any part or reference thereto may be in any way used, relied upon or reproduced by any third party without Fyfe's prior written approval. This letter must be read in its entirety, including all tables and attachments.

8. Closure

If you require any further clarifications or information regarding this letter, please do not hesitate to contact myself on 0425 374 094 or Tim Henderson on 0419 024 493.

Yours Sincerely

Stephen Partridge

Environmental Scientist

Attachments:

1 Sample Location Plans
2 Soil Data Summary Table
3 Laboratory Chain of Custody and Certificates of Analysis
4 Soil Borehole Logs
5 Statistic Pro UCL output

LEGEND:

Locations By Type - BH

CMW Geosciences

CLIENT:	KBR	DRAWN: AR	PROJECT: ADL2021-0244
PROJECT:	Rostrevor High School Development Morialta Road West, Rostrevor, SA 5072	CHECKED: JVS	FIGURE: 1
		REVISION: 0	SCALE: 1:2000
TITLE:	Site Location Plan / Site Investigation Plan	DATE: 08/10/2021	SHEET: A4 L

81100-1
Rostrevor High School

Table 1
Summary of Analytical Results - Soil Samples

			BTEXN								TRH												
			Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylene Total	Total BTEX	Naphthalene	C6-C10	>C10-C16	>C16-C34	>C34-C40	>C10-C40 (Sum of total)	F1 (C6-C10 minus BTEX)	F2 (>C10-C16 minus Naphthalene)	C6-C9	C10-C14	C15-C28	C29-C36	C10-C36 (Sum of total)
	Units		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	LOR		0.2	0.5	0.5	0.5	0.5	0.5	0.2	1	10	50	100	100	50	10	50	10	50	100	100	50
ASC NEPM (1999) HIL Recreational C																						
ASC NEPM (1999) Vapour intrusion HSL Recreational, Sand >=0m - <1m			NL	NL	NL			NL		NL						NL	NL					
ASC NEPM (1999) Vapour intrusion HSL Recreational, Sand >=1m - <2m			NL	NL	NL			NL		NL						NL	NL					
ASC NEPM (1999) Vapour intrusion HSL Recreational, Sand >=2m - <4m			NL	NL	NL			NL		NL						NL	NL					
ASC NEPM (1999) Vapour intrusion HSL Recreational, Sand 4 m+			NL	NL	NL			NL		NL						NL	NL					
ASC NEPM (1999) Management Limits Residential/Parkland, Coarse Soil											700	1,000	2,500	10,000								
SA EPA Waste Fill Criteria			1	1.4	3.1			14										65				1,000
SA EPA Intermediate Waste - Total Dry Weight Concentrations			5	50	100			180										100				1,000
SA EPA Low-level Contaminated - Total Dry Weight Concentrations			15	500	1,000			1,800										1,000				10,000
Sample Name	**Date Sampled**	**Lab Report Number**																				
BH01_0.1-0.3	**5/10/2021**	**EM2119781**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH01_1.4-1.6	**5/10/2021**	**EM2119781**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH02_0.05-0.1	**6/10/2021**	**EM2119781**	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.5	<10	<50	<100	<100	<50	<10	<50	<10	<50	<100	<100	<50
BH02_3.4-3.5	**6/10/2021**	**EM2119781**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH03_0-0.2	**5/10/2021**	**EM2119781**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH03_1.9-2	**5/10/2021**	**EM2119781**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH03_2.5-2.6	**5/10/2021**	**EM2119781**	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.5	<10	<50	<100	<100	<50	<10	<50	<10	<50	<100	<100	<50
BH04_0.05-0.2	**5/10/2021**	**EM2119781**	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<10	<50	<100	**140**	**140**	<10	<50	<10	<50	<100	<100	<50
BH04_0.7-0.8	**5/10/2021**	**EM2119781**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH05_0.2-0.3	**6/10/2021**	**EM2119781**	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<10	<50	<100	<100	<50	<10	<50	<10	<50	<100	<100	<50
BH05_0.6-0.7	**6/10/2021**	**EM2119781**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH05_3-3.1	**6/10/2021**	**EM2119781**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH06_0-0.2	**6/10/2021**	**EM2119781**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH06_1.2-1.3	**6/10/2021**	**EM2119781**	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<10	<50	<100	<100	<50	<10	<50	<10	<50	<100	<100	<50
BH06_1.6-1.7	**6/10/2021**	**EM2119781**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH06_2.8-3	**6/10/2021**	**EM2119781**	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<10	<50	<100	<100	<50	<10	<50	<10	<50	<100	<100	<50

Duplicate Sample Summary

BH04_0.7-0.8	**5/10/2021**	**EM2119781**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC1	**5/10/2021**	**EM2119781**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RPD			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH06_1.2-1.3	**6/10/2021**	**EM2119781**	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<10	<50	<100	<100	<50	<10	<50	<10	<50	<100	<100	<50
QC3	**6/10/2021**	**EM2119781**	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1	<10	<50	<100	<100	<50	<10	<50	<10	<50	<100	<100	<50
RPD			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Field Blank Summary (units in µg/L)

QC2 (Rinsate)	**5/10/2021**	**EM2119781**	<1	<2	<2	<2	<2	<2	<1	<1.0	<20	<100	<100	<100	<100	<20	<100	<20	<50	<100	<50	<50
QC4 (Rinsate)	**6/10/2021**	**EM2119781**	<1	<2	<2	<2	<2	<2	<1	<1.0	<20	<100	<100	<100	<100	<20	<100	<20	<50	<100	<50	<50

81100-1
Rostrevor High School

Table 1
Summary of Analytical Results - Soil Samples

			Metals															
	Asbestos (Trace) detected	Arsenic	Barium	Beryllium	Cadmium	Chromium (hexavalent)	Chromium (III+VI)	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Nickel	Silver	Zinc
Units	Fibres	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
LOR	5	5	10	1	1	0.5	2	2	5	50	5	5	0.1	2	2	5
ASC NEPM (1999) HIL Recreational C		300		90	90	300		300	17,000		600	19,000	80	1,200		30,000
ASC NEPM (1999) Vapour intrusion HSL Recreational, Sand >=0m - <1m																
ASC NEPM (1999) Vapour intrusion HSL Recreational, Sand >=1m - <2m																
ASC NEPM (1999) Vapour intrusion HSL Recreational, Sand >=2m - <4m																
ASC NEPM (1999) Vapour intrusion HSL Recreational, Sand 4 m+																
ASC NEPM (1999) Management Limits Residential/Parkland, Coarse Soil																
SA EPA Waste Fill Criteria		20	300	20	3	1		170	60		300	500	1	60		200
SA EPA Intermediate Waste - Total Dry Weight Concentrations		200		40	30	200		170	2,000		1,200	6,000	30	600		14,000
SA EPA Low-level Contaminated - Total Dry Weight Concentrations		750		150	60	750		1,000	7,500		5,000	10,000	110	3,000		50,000

Sample Name	Date Sampled	Lab Report Number																
BH01_0.1-0.3	5/10/2021	EM2119781	No	<5	-	-	<1	-	25	-	14	-	21	-	<0.1	15	-	37
BH01_1.4-1.6	5/10/2021	EM2119781	-	<5	100	-	<1	-	27	-	7	-	8	-	<0.1	15	-	16
BH02_0.05-0.1	6/10/2021	EM2119781	-	7	60	<1	<1	<0.5	24	4	56	11900	51	159	0.6	10	3	146
BH02_3.4-3.5	6/10/2021	EM2119781	-	<5	60	-	<1	-	31	-	11	-	12	-	<0.1	12	-	28
BH03_0-0.2	5/10/2021	EM2119781	No	7	100	-	<1	-	23	-	56	-	175	-	<0.1	14	-	211
BH03_1.9-2	5/10/2021	EM2119781	-	<5	40	-	<1	-	34	-	10	-	9	-	<0.1	13	-	20
BH03_2.5-2.6	5/10/2021	EM2119781	-	<5	60	<1	<1	<0.5	21	9	10	24800	9	340	<0.1	11	<2	24
BH04_0.05-0.2	5/10/2021	EM2119781	-	<5	20	-	<1	-	12	-	<5	-	<5	-	<0.1	<2	-	<5
BH04_0.7-0.8	5/10/2021	EM2119781	-	<5	70	-	<1	-	27	-	7	-	10	-	<0.1	17	-	40
BH05_0.2-0.3	6/10/2021	EM2119781	-	<5	40	1	<1	<0.5	35	32	8	31500	14	155	<0.1	14	<2	12
BH05_0.6-0.7	6/10/2021	EM2119781	-	<5	70	-	<1	-	27	-	10	-	12	-	<0.1	19	-	16
BH05_3-3.1	6/10/2021	EM2119781	-	<5	30	-	<1	-	27	-	8	-	17	-	<0.1	15	-	26
BH06_0-0.2	6/10/2021	EM2119781	No	<5	70	-	<1	-	28	-	13	-	24	-	<0.1	17	-	29
BH06_1.2-1.3	6/10/2021	EM2119781	-	<5	120	<1	<1	<0.5	30	6	10	29300	9	129	<0.1	16	<2	18
BH06_1.6-1.7	6/10/2021	EM2119781	-	<5	100	-	<1	-	33	-	8	-	13	-	<0.1	17	-	16
BH06_2.8-3	6/10/2021	EM2119781	-	<5	410	<1	<1	<0.5	22	9	12	25400	12	188	<0.1	11	<2	21

Duplicate Sample Summary

BH04_0.7-0.8	5/10/2021	EM2119781	-	<5	70	-	<1	-	27	-	7	-	10	-	<0.1	17	-	40
QC1	5/10/2021	EM2119781	-	<5	100	-	<1	-	42	-	12	-	14	-	<0.1	24	-	21
RPD			-	-	35	-	-	-	43	-	53	-	33	-	-	34	-	62
BH06_1.2-1.3	6/10/2021	EM2119781	-	<5	120	<1	<1	<0.5	30	6	10	29,300	9	129	<0.1	16	<2	18
QC3	6/10/2021	EM2119781	-	<5	100	<1	<1	<0.5	29	8	10	29,000	10	188	<0.1	17	<2	17
RPD			-	-	18	-	-	-	3	29	0	1	11	37	-	6	-	6

Field Blank Summary (units in µg/L)

QC2 (Rinsate)	5/10/2021	EM2119781	-	<1	-	-	<0.1	<1	-	-	<1	-	<1	-	<0.1	<1	-	9
QC4 (Rinsate)	6/10/2021	EM2119781	-	<1	-	-	<0.1	<1	-	-	<1	-	<1	-	<0.1	<1	-	<5

Table 1
Summary of Analytical Results - Soil Samples

			Phenols												
			3/4-Methylphenol (m/p-cresol)	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,6-Dichlorophenol	2-Chlorophenol	2-Methylphenol	2-Nitrophenol	4-chloro-3-methylphenol	Pentachlorophenol	Phenolics Total	Phenol
	Units		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	LOR		1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2	0.5	0.5
ASC NEPM (1999) HIL Recreational C													120		40,000
ASC NEPM (1999) Vapour intrusion HSL Recreational, Sand >=0m - <1m															
ASC NEPM (1999) Vapour intrusion HSL Recreational, Sand >=1m - <2m															
ASC NEPM (1999) Vapour intrusion HSL Recreational, Sand >=2m - <4m															
ASC NEPM (1999) Vapour intrusion HSL Recreational, Sand 4 m+															
ASC NEPM (1999) Management Limits Residential/Parkland, Coarse Soil															
SA EPA Waste Fill Criteria														0.5	
SA EPA Intermediate Waste - Total Dry Weight Concentrations														17,000	
SA EPA Low-level Contaminated - Total Dry Weight Concentrations														50,000	
Sample Name	**Date Sampled**	**Lab Report Number**													
BH01_0.1-0.3	5/10/2021	EM2119781	-	-	-	-	-	-	-	-	-	-	-	-	-
BH01_1.4-1.6	5/10/2021	EM2119781	-	-	-	-	-	-	-	-	-	-	-	-	-
BH02_0.05-0.1	6/10/2021	EM2119781	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5
BH02_3.4-3.5	6/10/2021	EM2119781	-	-	-	-	-	-	-	-	-	-	-	-	-
BH03_0-0.2	5/10/2021	EM2119781	-	-	-	-	-	-	-	-	-	-	-	-	-
BH03_1.9-2	5/10/2021	EM2119781	-	-	-	-	-	-	-	-	-	-	-	-	-
BH03_2.5-2.6	5/10/2021	EM2119781	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5
BH04_0.05-0.2	5/10/2021	EM2119781	-	-	-	-	-	-	-	-	-	-	-	-	-
BH04_0.7-0.8	5/10/2021	EM2119781	-	-	-	-	-	-	-	-	-	-	-	-	-
BH05_0.2-0.3	6/10/2021	EM2119781	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5
BH05_0.6-0.7	6/10/2021	EM2119781	-	-	-	-	-	-	-	-	-	-	-	-	-
BH05_3-3.1	6/10/2021	EM2119781	-	-	-	-	-	-	-	-	-	-	-	-	-
BH06_0-0.2	6/10/2021	EM2119781	-	-	-	-	-	-	-	-	-	-	-	-	-
BH06_1.2-1.3	6/10/2021	EM2119781	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5
BH06_1.6-1.7	6/10/2021	EM2119781	-	-	-	-	-	-	-	-	-	-	-	-	-
BH06_2.8-3	6/10/2021	EM2119781	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5

Duplicate Sample Summary

BH04_0.7-0.8	5/10/2021	EM2119781	-	-	-	-	-	-	-	-	-	-	-	-	-
QC1	5/10/2021	EM2119781	-	-	-	-	-	-	-	-	-	-	-	-	-
RPD			-	-	-	-	-	-	-	-	-	-	-	-	-
BH06_1.2-1.3	6/10/2021	EM2119781	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5
QC3	6/10/2021	EM2119781	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5
RPD			-	-	-	-	-	-	-	-	-	-	-	-	-

Field Blank Summary (units in µg/L)

QC2 (Rinsate)	5/10/2021	EM2119781													
QC4 (Rinsate)	6/10/2021	EM2119781	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 1
Summary of Analytical Results - Soil Samples

			PAH																	
			Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(b+j)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	Benzo(a)pyrene TEQ calc (Zero)	PAHs (Sum of total)
	Units		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	LOR		0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
ASC NEPM (1999) HIL Recreational C																			3	300
ASC NEPM (1999) Vapour intrusion HSL Recreational, Sand >=0m - <1m																NL				
ASC NEPM (1999) Vapour intrusion HSL Recreational, Sand >=1m - <2m																NL				
ASC NEPM (1999) Vapour intrusion HSL Recreational, Sand >=2m - <4m																NL				
ASC NEPM (1999) Vapour intrusion HSL Recreational, Sand 4 m+																NL				
ASC NEPM (1999) Management Limits Residential/Parkland, Coarse Soil																				
SA EPA Waste Fill Criteria							1													5
SA EPA Intermediate Waste - Total Dry Weight Concentrations							2													40
SA EPA Low-level Contaminated - Total Dry Weight Concentrations							5													200
Sample Name	**Date Sampled**	**Lab Report Number**																		
BH01_0.1-0.3	5/10/2021	EM2119781	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH01_1.4-1.6	5/10/2021	EM2119781	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH02_0.05-0.1	6/10/2021	EM2119781	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH02_3.4-3.5	6/10/2021	EM2119781	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH03_0-0.2	5/10/2021	EM2119781	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH03_1.9-2	5/10/2021	EM2119781	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH03_2.5-2.6	5/10/2021	EM2119781	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH04_0.05-0.2	5/10/2021	EM2119781	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH04_0.7-0.8	5/10/2021	EM2119781	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH05_0.2-0.3	6/10/2021	EM2119781	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH05_0.6-0.7	6/10/2021	EM2119781	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH05_3-3.1	6/10/2021	EM2119781	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH06_0-0.2	6/10/2021	EM2119781	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH06_1.2-1.3	6/10/2021	EM2119781	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH06_1.6-1.7	6/10/2021	EM2119781	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH06_2.8-3	6/10/2021	EM2119781	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Duplicate Sample Summary

BH04_0.7-0.8	5/10/2021	EM2119781	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC1	5/10/2021	EM2119781	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RPD			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH06_1.2-1.3	6/10/2021	EM2119781	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
QC3	6/10/2021	EM2119781	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
RPD			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Field Blank Summary (units in µg/L)

QC2 (Rinse)	5/10/2021	EM2119781	<1.0	<1.0	<1.0	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5	<0.5
QC4 (Rinse)	6/10/2021	EM2119781	<1.0	<1.0	<1.0	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5	<0.5

Table 1
Summary of Analytical Results - Soil Samples

			Organochlorine Pesticides																								
			4,4-DDE	a-BHC	Aldrin	Aldrin + Dieldrin	b-BHC	Chlordane	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	Hexachlorobenzene
		Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
		LOR	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.2	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.2	0.05
ASC NEPM (1999) HIL Recreational C						10		70						400		340				20				10		400	10
ASC NEPM (1999) Vapour intrusion HSL Recreational, Sand >=0m - <1m																											
ASC NEPM (1999) Vapour intrusion HSL Recreational, Sand >=1m - <2m																											
ASC NEPM (1999) Vapour intrusion HSL Recreational, Sand >=2m - <4m																											
ASC NEPM (1999) Vapour intrusion HSL Recreational, Sand 4 m+																											
ASC NEPM (1999) Management Limits Residential/Parkland, Coarse Soil																											
SA EPA Waste Fill Criteria						2		2					2											2			
SA EPA Intermediate Waste - Total Dry Weight Concentrations						2		2					2											2			
SA EPA Low-level Contaminated - Total Dry Weight Concentrations						50		50					50											50			
Sample Name	**Date Sampled**	**Lab Report Number**																									
BH01_0.1-0.3	5/10/2021	EM2119781	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05
BH01_1.4-1.6	5/10/2021	EM2119781	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH02_0.05-0.1	6/10/2021	EM2119781	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05
BH02_3.4-3.5	6/10/2021	EM2119781	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH03_0-0.2	5/10/2021	EM2119781	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05
BH03_1.9-2	5/10/2021	EM2119781	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH03_2.5-2.6	5/10/2021	EM2119781	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05
BH04_0.05-0.2	5/10/2021	EM2119781	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05
BH04_0.7-0.8	5/10/2021	EM2119781	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH05_0.2-0.3	6/10/2021	EM2119781	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05
BH05_0.6-0.7	6/10/2021	EM2119781	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH05_3-3.1	6/10/2021	EM2119781	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH06_0-0.2	6/10/2021	EM2119781	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05
BH06_1.2-1.3	6/10/2021	EM2119781	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05
BH06_1.6-1.7	6/10/2021	EM2119781	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH06_2.8-3	6/10/2021	EM2119781	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05

Duplicate Sample Summary

BH04_0.7-0.8	5/10/2021	EM2119781	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC1	5/10/2021	EM2119781	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RPD			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH06_1.2-1.3	6/10/2021	EM2119781	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05
QC3	6/10/2021	EM2119781	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05
RPD			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Field Blank Summary (units in µg/L)

QC2 (Rinsate)	5/10/2021	EM2119781	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5
QC4 (Rinsate)	6/10/2021	EM2119781	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<0.5

81100-1
Rostrevor High School

Table 1
Summary of Analytical Results - Soil Samples

			Organophosphorous Pesticides															Pesticides/Herbicides				Other		
			Azinophos methyl	Bromophos-ethyl	Carbophenothion	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Diazinon	Dichlorvos	Dimethoate	Ethion	Fenthion	Malathion	Methyl parathion	Monocrotophos	Prothiofos	Demeton-S-methyl	Fenamiphos	Parathion	Pirimphos-ethyl	Cyanide Total	PCBs (Sum of total)	Moisture Content
Units			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%
LOR			0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.2	0.2	0.05	0.05	0.05	0.2	0.05	1	0.1	1
ASC NEPM (1999) HIL Recreational C							250																1	
ASC NEPM (1999) Vapour intrusion HSL Recreational, Sand >=0m - <1m																								
ASC NEPM (1999) Vapour intrusion HSL Recreational, Sand >=1m - <2m																								
ASC NEPM (1999) Vapour intrusion HSL Recreational, Sand >=2m - <4m																								
ASC NEPM (1999) Vapour intrusion HSL Recreational, Sand 4 m+																								
ASC NEPM (1999) Management Limits Residential/Parkland, Coarse Soil																								
SA EPA Waste Fill Criteria																						500	2	
SA EPA Intermediate Waste - Total Dry Weight Concentrations																						1,000	2	
SA EPA Low-level Contaminated - Total Dry Weight Concentrations																						3,500	50	
Sample Name	**Date Sampled**	**Lab Report Number**																						
BH01_0.1-0.3	**5/10/2021**	**EM2119781**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	-	-	**14.4**
BH01_1.4-1.6	**5/10/2021**	**EM2119781**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**17.0**
BH02_0.05-0.1	**6/10/2021**	**EM2119781**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<0.1	**4.3**
BH02_3.4-3.5	**6/10/2021**	**EM2119781**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**16.6**
BH03_0-0.2	**5/10/2021**	**EM2119781**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	-	-	**24.3**
BH03_1.9-2	**5/10/2021**	**EM2119781**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**19.6**
BH03_2.5-2.6	**5/10/2021**	**EM2119781**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<0.1	**17.9**
BH04_0.05-0.2	**5/10/2021**	**EM2119781**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	-	-	**3.0**
BH04_0.7-0.8	**5/10/2021**	**EM2119781**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**20.4**
BH05_0.2-0.3	**6/10/2021**	**EM2119781**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<0.1	**16.4**
BH05_0.6-0.7	**6/10/2021**	**EM2119781**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**15.4**
BH05_3-3.1	**6/10/2021**	**EM2119781**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**5.6**
BH06_0-0.2	**6/10/2021**	**EM2119781**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05	<0.05	<0.05	<0.2	<0.05	-	-	**14.7**
BH06_1.2-1.3	**6/10/2021**	**EM2119781**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<0.1	**16.2**
BH06_1.6-1.7	**6/10/2021**	**EM2119781**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**18.1**
BH06_2.8-3	**6/10/2021**	**EM2119781**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<0.1	**16.6**
Duplicate Sample Summary																								
BH04_0.7-0.8	**5/10/2021**	**EM2119781**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**20.4**
QC1	**5/10/2021**	**EM2119781**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**21.4**
RPD			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**5**
BH06_1.2-1.3	**6/10/2021**	**EM2119781**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<0.1	**16.2**
QC3	**6/10/2021**	**EM2119781**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<0.1	**17.3**
RPD			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**7**
Field Blank Summary (units in µg/L)																								
QC2 (Rinsate)	**5/10/2021**	**EM2119781**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<2.0	<0.5	<0.5	<0.5	<2.0	<0.5	-	-	-
QC4 (Rinsate)	**6/10/2021**	**EM2119781**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	<2.0	<0.5	<0.5	<0.5	<2.0	<0.5	-	-	-

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **EM2119781**	Page	: 1 of 27
Amendment	: **1**		
Client	: **FYFE PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: TIM HENDERSON	Contact	: Kieren Burns
Address	: LEVEL 1, 124 SOUTH TERRACE ADELAIDE SOUTH AUSTRALIA 5000	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: +61 08 8201 9638	Telephone	: +61881625130
Project	: ----	Date Samples Received	: 07-Oct-2021 10:55
Order number	: ----	Date Analysis Commenced	: 13-Oct-2021
C-O-C number	: ----	Issue Date	: 22-Oct-2021 13:49
Sampler	: ----		
Site	: ----		
Quote number	: EN/112/20		
No. of samples received	: 36		
No. of samples analysed	: 20		

Accreditation No. 825
Accredited for compliance with ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
Jarwis Nheu	Senior Inorganic Chemist	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC
Vanessa Phung	Team Leader - Asbestos	Melbourne Asbestos, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- EP068: Where reported, Total OCP is the sum of the reported concentrations of all Organochlorine Pesticides at or above LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EG020-T : EM2119781 #34 results for total metal have been confirmed by re-digestion and re-analysis.
- **EA200: As only one sample container was submitted for multiple tests, sub sampling was conducted prior to Asbestos analysis. As this has the potential to understate detection, results should be scrutinised accordingly.**
- Amendment (21/10/2021):This report has been amended following the request for the results of Barium (EG005T) for samples 003, 010, 011, 013, 017, 018, 022, 025, 026 and 031.
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Trace' - Asbestos fibres ("Free Fibres") detected by trace analysis per AS4964. The result can be interpreted that the sample contains detectable 'respirable' asbestos fibres
- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- EA200 Legend
- EA200 'Ch' Chrysotile (white asbestos)
- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- EA200: For samples larger than 30g, the <2mm fraction may be sub-sampled prior to trace analysis as outlined in ISO23909:2008(E) Sect 6.3.2-2
- EA200: 'Yes' - Asbestos detected by polarised light microscopy including dispersion staining.
- EA200: 'No*' - No asbestos found, at the reporting limit of 0.1g/kg, by polarised light microscopy including dispersion staining. Asbestos material was detected and positively identified at concentrations estimated to be below 0.1g/kg.
- EA200: 'No' - No asbestos found at the reporting limit 0.1g/kg, by polarised light microscopy including dispersion staining.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH01_0.1-0.3	BH01_1.4-1.6	BH02_0.05-0.1	BH02_3.4-3.5	BH03_0-0.2
			Sampling date / time	05-Oct-2021 00:00	05-Oct-2021 00:00	06-Oct-2021 00:00	06-Oct-2021 00:00	05-Oct-2021 00:00
Compound	CAS Number	LOR	Unit	EM2119781-001	EM2119781-003	EM2119781-006	EM2119781-010	EM2119781-011
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	14.4	17.0	4.3	16.6	24.3
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	No	----	----	----	No
Asbestos (Trace)	1332-21-4	5	Fibres	No	----	----	----	No
Asbestos Type	1332-21-4	-	--	-	----	----	----	-
Sample weight (dry)	----	0.01	g	43.3	----	----	----	39.9
APPROVED IDENTIFIER:	----	-	--	V.PHUNG	----	----	----	V.PHUNG
Synthetic Mineral Fibre	----	0.1	g/kg	No	----	----	----	No
Organic Fibre	----	0.1	g/kg	Yes	----	----	----	Yes
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	7	<5	7
Barium	7440-39-3	10	mg/kg	----	100	60	60	100
Beryllium	7440-41-7	1	mg/kg	----	----	<1	----	----
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	25	27	24	31	23
Cobalt	7440-48-4	2	mg/kg	----	----	4	----	----
Copper	7440-50-8	5	mg/kg	14	7	56	11	56
Iron	7439-89-6	50	mg/kg	----	----	11900	----	----
Lead	7439-92-1	5	mg/kg	21	8	51	12	175
Manganese	7439-96-5	5	mg/kg	----	----	159	----	----
Nickel	7440-02-0	2	mg/kg	15	15	10	12	14
Silver	7440-22-4	2	mg/kg	----	----	3	----	----
Zinc	7440-66-6	5	mg/kg	37	16	146	28	211
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.6	<0.1	<0.1
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	----	----	<0.5	----	----
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	----	----	<1	----	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	----	<0.1	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	----	<0.05	----	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	----	<0.05	----	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH01_0.1-0.3	BH01_1.4-1.6	BH02_0.05-0.1	BH02_3.4-3.5	BH03_0-0.2
				Sampling date / time	05-Oct-2021 00:00	05-Oct-2021 00:00	06-Oct-2021 00:00	06-Oct-2021 00:00	05-Oct-2021 00:00
Compound	CAS Number	LOR	Unit		EM2119781-001	EM2119781-003	EM2119781-006	EM2119781-010	EM2119781-011
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
beta-BHC	319-85-7	0.05	mg/kg		<0.05	----	<0.05	----	<0.05
gamma-BHC	58-89-9	0.05	mg/kg		<0.05	----	<0.05	----	<0.05
delta-BHC	319-86-8	0.05	mg/kg		<0.05	----	<0.05	----	<0.05
Heptachlor	76-44-8	0.05	mg/kg		<0.05	----	<0.05	----	<0.05
Aldrin	309-00-2	0.05	mg/kg		<0.05	----	<0.05	----	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg		<0.05	----	<0.05	----	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg		<0.05	----	<0.05	----	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg		<0.05	----	<0.05	----	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg		<0.05	----	<0.05	----	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg		<0.05	----	<0.05	----	<0.05
Dieldrin	60-57-1	0.05	mg/kg		<0.05	----	<0.05	----	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg		<0.05	----	<0.05	----	<0.05
Endrin	72-20-8	0.05	mg/kg		<0.05	----	<0.05	----	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg		<0.05	----	<0.05	----	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg		<0.05	----	<0.05	----	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg		<0.05	----	<0.05	----	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg		<0.05	----	<0.05	----	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg		<0.05	----	<0.05	----	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg		<0.2	----	<0.2	----	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg		<0.05	----	<0.05	----	<0.05
Methoxychlor	72-43-5	0.2	mg/kg		<0.2	----	<0.2	----	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg		<0.05	----	<0.05	----	<0.05
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg		<0.05	----	<0.05	----	<0.05
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		<0.05	----	----	----	<0.05
Demeton-S-methyl	919-86-8	0.05	mg/kg		<0.05	----	----	----	<0.05
Monocrotophos	6923-22-4	0.2	mg/kg		<0.2	----	----	----	<0.2
Dimethoate	60-51-5	0.05	mg/kg		<0.05	----	----	----	<0.05
Diazinon	333-41-5	0.05	mg/kg		<0.05	----	----	----	<0.05
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		<0.05	----	----	----	<0.05
Parathion-methyl	298-00-0	0.2	mg/kg		<0.2	----	----	----	<0.2
Malathion	121-75-5	0.05	mg/kg		<0.05	----	----	----	<0.05
Fenthion	55-38-9	0.05	mg/kg		<0.05	----	----	----	<0.05
Chlorpyrifos	2921-88-2	0.05	mg/kg		<0.05	----	----	----	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH01_0.1-0.3	BH01_1.4-1.6	BH02_0.05-0.1	BH02_3.4-3.5	BH03_0-0.2
				Sampling date / time	05-Oct-2021 00:00	05-Oct-2021 00:00	06-Oct-2021 00:00	06-Oct-2021 00:00	05-Oct-2021 00:00
Compound	CAS Number	LOR	Unit		EM2119781-001	EM2119781-003	EM2119781-006	EM2119781-010	EM2119781-011
					Result	Result	Result	Result	Result
EP068B: Organophosphorus Pesticides (OP) - Continued									
Parathion	56-38-2	0.2	mg/kg		<0.2	----	----	----	<0.2
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		<0.05	----	----	----	<0.05
Chlorfenvinphos	470-90-6	0.05	mg/kg		<0.05	----	----	----	<0.05
Bromophos-ethyl	4824-78-6	0.05	mg/kg		<0.05	----	----	----	<0.05
Fenamiphos	22224-92-6	0.05	mg/kg		<0.05	----	----	----	<0.05
Prothiofos	34643-46-4	0.05	mg/kg		<0.05	----	----	----	<0.05
Ethion	563-12-2	0.05	mg/kg		<0.05	----	----	----	<0.05
Carbophenothion	786-19-6	0.05	mg/kg		<0.05	----	----	----	<0.05
Azinphos Methyl	86-50-0	0.05	mg/kg		<0.05	----	----	----	<0.05
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		----	----	<0.5	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg		----	----	<0.5	----	----
2-Methylphenol	95-48-7	0.5	mg/kg		----	----	<0.5	----	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg		----	----	<1	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg		----	----	<0.5	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		----	----	<0.5	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		----	----	<0.5	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		----	----	<0.5	----	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		----	----	<0.5	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		----	----	<0.5	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		----	----	<0.5	----	----
Pentachlorophenol	87-86-5	2	mg/kg		----	----	<2	----	----
^ Sum of Phenols	----	0.5	mg/kg		----	----	<0.5	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		----	----	<0.5	----	----
Acenaphthylene	208-96-8	0.5	mg/kg		----	----	<0.5	----	----
Acenaphthene	83-32-9	0.5	mg/kg		----	----	<0.5	----	----
Fluorene	86-73-7	0.5	mg/kg		----	----	<0.5	----	----
Phenanthrene	85-01-8	0.5	mg/kg		----	----	<0.5	----	----
Anthracene	120-12-7	0.5	mg/kg		----	----	<0.5	----	----
Fluoranthene	206-44-0	0.5	mg/kg		----	----	<0.5	----	----
Pyrene	129-00-0	0.5	mg/kg		----	----	<0.5	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		----	----	<0.5	----	----
Chrysene	218-01-9	0.5	mg/kg		----	----	<0.5	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH01_0.1-0.3	BH01_1.4-1.6	BH02_0.05-0.1	BH02_3.4-3.5	BH03_0-0.2
				Sampling date / time	05-Oct-2021 00:00	05-Oct-2021 00:00	06-Oct-2021 00:00	06-Oct-2021 00:00	05-Oct-2021 00:00
Compound	CAS Number	LOR	Unit		EM2119781-001	EM2119781-003	EM2119781-006	EM2119781-010	EM2119781-011
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		----	----	<0.5	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		----	----	<0.5	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		----	----	<0.5	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		----	----	<0.5	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		----	----	<0.5	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		----	----	<0.5	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		----	----	<0.5	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		----	----	<0.5	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		----	----	**0.6**	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		----	----	**1.2**	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		----	----	<10	----	----
C10 - C14 Fraction	----	50	mg/kg		----	----	<50	----	----
C15 - C28 Fraction	----	100	mg/kg		----	----	<100	----	----
C29 - C36 Fraction	----	100	mg/kg		----	----	<100	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		----	----	<50	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		----	----	<10	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		----	----	<10	----	----
>C10 - C16 Fraction	----	50	mg/kg		----	----	<50	----	----
>C16 - C34 Fraction	----	100	mg/kg		----	----	<100	----	----
>C34 - C40 Fraction	----	100	mg/kg		----	----	<100	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		----	----	<50	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		----	----	<50	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	----	<0.2	----	----
Toluene	108-88-3	0.5	mg/kg		----	----	<0.5	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		----	----	<0.5	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		----	----	<0.5	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		----	----	<0.5	----	----
^ Sum of BTEX	----	0.2	mg/kg		----	----	<0.2	----	----
^ Total Xylenes	----	0.5	mg/kg		----	----	<0.5	----	----
Naphthalene	91-20-3	1	mg/kg		----	----	<1	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH01_0.1-0.3	BH01_1.4-1.6	BH02_0.05-0.1	BH02_3.4-3.5	BH03_0-0.2
				Sampling date / time	05-Oct-2021 00:00	05-Oct-2021 00:00	06-Oct-2021 00:00	06-Oct-2021 00:00	05-Oct-2021 00:00
Compound	CAS Number	LOR	Unit		EM2119781-001	EM2119781-003	EM2119781-006	EM2119781-010	EM2119781-011
					Result	Result	Result	Result	Result
EP080: BTEXN - Continued									
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	----	**80.3**	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		**90.8**	----	**99.0**	----	**97.3**
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		**63.9**	----	**65.6**	----	**95.6**
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		----	----	**97.3**	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		----	----	**89.7**	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%		----	----	**73.9**	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		----	----	**101**	----	----
Anthracene-d10	1719-06-8	0.5	%		----	----	**106**	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		----	----	**105**	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		----	----	**90.7**	----	----
Toluene-D8	2037-26-5	0.2	%		----	----	**77.3**	----	----
4-Bromofluorobenzene	460-00-4	0.2	%		----	----	**81.7**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH03_1.9-2	BH03_2.5-2.6	BH04_0.05-0.2	BH04_0.7-0.8	QC1
			Sampling date / time	05-Oct-2021 00:00	05-Oct-2021 00:00	05-Oct-2021 00:00	05-Oct-2021 00:00	05-Oct-2021 00:00
Compound	CAS Number	LOR	Unit	EM2119781-013	EM2119781-014	EM2119781-015	EM2119781-017	EM2119781-018
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	19.6	17.9	3.0	20.4	21.4
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Barium	7440-39-3	10	mg/kg	40	60	20	70	100
Beryllium	7440-41-7	1	mg/kg	----	<1	----	----	----
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	34	21	12	27	42
Cobalt	7440-48-4	2	mg/kg	----	9	----	----	----
Copper	7440-50-8	5	mg/kg	10	10	<5	7	12
Iron	7439-89-6	50	mg/kg	----	24800	----	----	----
Lead	7439-92-1	5	mg/kg	9	9	<5	10	14
Manganese	7439-96-5	5	mg/kg	----	340	----	----	----
Nickel	7440-02-0	2	mg/kg	13	11	<2	17	24
Silver	7440-22-4	2	mg/kg	----	<2	----	----	----
Zinc	7440-66-6	5	mg/kg	20	24	<5	40	21
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	----	<0.5	----	----	----
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	----	<1	----	----	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	<0.1	----	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	----	<0.05	<0.05	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	<0.05	<0.05	----	----
beta-BHC	319-85-7	0.05	mg/kg	----	<0.05	<0.05	----	----
gamma-BHC	58-89-9	0.05	mg/kg	----	<0.05	<0.05	----	----
delta-BHC	319-86-8	0.05	mg/kg	----	<0.05	<0.05	----	----
Heptachlor	76-44-8	0.05	mg/kg	----	<0.05	<0.05	----	----
Aldrin	309-00-2	0.05	mg/kg	----	<0.05	<0.05	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	----	<0.05	<0.05	----	----
^ Total Chlordane (sum)	----	0.05	mg/kg	----	<0.05	<0.05	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg	----	<0.05	<0.05	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH03_1.9-2	BH03_2.5-2.6	BH04_0.05-0.2	BH04_0.7-0.8	QC1
				Sampling date / time	05-Oct-2021 00:00	05-Oct-2021 00:00	05-Oct-2021 00:00	05-Oct-2021 00:00	05-Oct-2021 00:00
Compound	CAS Number	LOR	Unit		EM2119781-013	EM2119781-014	EM2119781-015	EM2119781-017	EM2119781-018
					Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued									
alpha-Endosulfan	959-98-8	0.05	mg/kg		----	<0.05	<0.05	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg		----	<0.05	<0.05	----	----
Dieldrin	60-57-1	0.05	mg/kg		----	<0.05	<0.05	----	----
4.4`-DDE	72-55-9	0.05	mg/kg		----	<0.05	<0.05	----	----
Endrin	72-20-8	0.05	mg/kg		----	<0.05	<0.05	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg		----	<0.05	<0.05	----	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg		----	<0.05	<0.05	----	----
4.4`-DDD	72-54-8	0.05	mg/kg		----	<0.05	<0.05	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg		----	<0.05	<0.05	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg		----	<0.05	<0.05	----	----
4.4`-DDT	50-29-3	0.2	mg/kg		----	<0.2	<0.2	----	----
Endrin ketone	53494-70-5	0.05	mg/kg		----	<0.05	<0.05	----	----
Methoxychlor	72-43-5	0.2	mg/kg		----	<0.2	<0.2	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg		----	<0.05	<0.05	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg		----	<0.05	<0.05	----	----
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		----	----	<0.05	----	----
Demeton-S-methyl	919-86-8	0.05	mg/kg		----	----	<0.05	----	----
Monocrotophos	6923-22-4	0.2	mg/kg		----	----	<0.2	----	----
Dimethoate	60-51-5	0.05	mg/kg		----	----	<0.05	----	----
Diazinon	333-41-5	0.05	mg/kg		----	----	<0.05	----	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		----	----	<0.05	----	----
Parathion-methyl	298-00-0	0.2	mg/kg		----	----	<0.2	----	----
Malathion	121-75-5	0.05	mg/kg		----	----	<0.05	----	----
Fenthion	55-38-9	0.05	mg/kg		----	----	<0.05	----	----
Chlorpyrifos	2921-88-2	0.05	mg/kg		----	----	<0.05	----	----
Parathion	56-38-2	0.2	mg/kg		----	----	<0.2	----	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		----	----	<0.05	----	----
Chlorfenvinphos	470-90-6	0.05	mg/kg		----	----	<0.05	----	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg		----	----	<0.05	----	----
Fenamiphos	22224-92-6	0.05	mg/kg		----	----	<0.05	----	----
Prothiofos	34643-46-4	0.05	mg/kg		----	----	<0.05	----	----
Ethion	563-12-2	0.05	mg/kg		----	----	<0.05	----	----
Carbophenothion	786-19-6	0.05	mg/kg		----	----	<0.05	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH03_1.9-2	BH03_2.5-2.6	BH04_0.05-0.2	BH04_0.7-0.8	QC1
			Sampling date / time	05-Oct-2021 00:00	05-Oct-2021 00:00	05-Oct-2021 00:00	05-Oct-2021 00:00	05-Oct-2021 00:00
Compound	CAS Number	LOR	Unit	EM2119781-013	EM2119781-014	EM2119781-015	EM2119781-017	EM2119781-018
				Result	Result	Result	Result	Result
EP068B: Organophosphorus Pesticides (OP) - Continued								
Azinphos Methyl	86-50-0	0.05	mg/kg	----	----	<0.05	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	----	<0.5	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	----	<0.5	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	----	<0.5	----	----	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg	----	<1	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	----	<0.5	----	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	----	<0.5	----	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	----	<0.5	----	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	----	<0.5	----	----	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	----	<0.5	----	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	----	<0.5	----	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	----	<0.5	----	----	----
Pentachlorophenol	87-86-5	2	mg/kg	----	<2	----	----	----
^ Sum of Phenols	----	0.5	mg/kg	----	<0.5	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	<0.5	<0.5	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	----	<0.5	<0.5	----	----
Acenaphthene	83-32-9	0.5	mg/kg	----	<0.5	<0.5	----	----
Fluorene	86-73-7	0.5	mg/kg	----	<0.5	<0.5	----	----
Phenanthrene	85-01-8	0.5	mg/kg	----	<0.5	<0.5	----	----
Anthracene	120-12-7	0.5	mg/kg	----	<0.5	<0.5	----	----
Fluoranthene	206-44-0	0.5	mg/kg	----	<0.5	<0.5	----	----
Pyrene	129-00-0	0.5	mg/kg	----	<0.5	<0.5	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	<0.5	<0.5	----	----
Chrysene	218-01-9	0.5	mg/kg	----	<0.5	<0.5	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	----	<0.5	<0.5	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	<0.5	<0.5	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	<0.5	<0.5	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	<0.5	<0.5	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	<0.5	<0.5	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	<0.5	<0.5	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	----	<0.5	<0.5	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	----	<0.5	<0.5	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH03_1.9-2	BH03_2.5-2.6	BH04_0.05-0.2	BH04_0.7-0.8	QC1
				Sampling date / time	05-Oct-2021 00:00	05-Oct-2021 00:00	05-Oct-2021 00:00	05-Oct-2021 00:00	05-Oct-2021 00:00
Compound	CAS Number	LOR	Unit		EM2119781-013	EM2119781-014	EM2119781-015	EM2119781-017	EM2119781-018
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		----	**0.6**	**0.6**	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		----	**1.2**	**1.2**	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		----	<10	<10	----	----
C10 - C14 Fraction	----	50	mg/kg		----	<50	<50	----	----
C15 - C28 Fraction	----	100	mg/kg		----	<100	<100	----	----
C29 - C36 Fraction	----	100	mg/kg		----	<100	<100	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		----	<50	<50	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		----	<10	<10	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		----	<10	<10	----	----
>C10 - C16 Fraction	----	50	mg/kg		----	<50	<50	----	----
>C16 - C34 Fraction	----	100	mg/kg		----	<100	<100	----	----
>C34 - C40 Fraction	----	100	mg/kg		----	<100	**140**	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		----	<50	**140**	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		----	<50	<50	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		----	<0.2	<0.2	----	----
Toluene	108-88-3	0.5	mg/kg		----	<0.5	<0.5	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		----	<0.5	<0.5	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		----	<0.5	<0.5	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		----	<0.5	<0.5	----	----
^ Sum of BTEX	----	0.2	mg/kg		----	<0.2	<0.2	----	----
^ Total Xylenes	----	0.5	mg/kg		----	<0.5	<0.5	----	----
Naphthalene	91-20-3	1	mg/kg		----	<1	<1	----	----
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		----	**76.5**	----	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		----	**88.3**	**85.3**	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		----	**80.0**	**87.2**	----	----
EP075(SIM)S: Phenolic Compound Surrogates									

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH03_1.9-2	BH03_2.5-2.6	BH04_0.05-0.2	BH04_0.7-0.8	QC1
				Sampling date / time	05-Oct-2021 00:00	05-Oct-2021 00:00	05-Oct-2021 00:00	05-Oct-2021 00:00	05-Oct-2021 00:00
Compound	CAS Number	LOR	Unit		EM2119781-013	EM2119781-014	EM2119781-015	EM2119781-017	EM2119781-018
					Result	Result	Result	Result	Result
EP075(SIM)S: Phenolic Compound Surrogates - Continued									
Phenol-d6	13127-88-3	0.5	%		----	**86.1**	**91.1**	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		----	**84.2**	**83.2**	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%		----	**64.0**	**74.2**	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		----	**92.0**	**97.5**	----	----
Anthracene-d10	1719-06-8	0.5	%		----	**101**	**106**	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		----	**95.5**	**102**	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		----	**85.3**	**82.6**	----	----
Toluene-D8	2037-26-5	0.2	%		----	**66.2**	**73.2**	----	----
4-Bromofluorobenzene	460-00-4	0.2	%		----	**70.6**	**78.1**	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH05_0.2-0.3	BH05_0.6-0.7	BH05_3-3.1	BH06_0-0.2	BH06_1.2-1.3
			Sampling date / time	06-Oct-2021 00:00	06-Oct-2021 00:00	06-Oct-2021 00:00	06-Oct-2021 00:00	06-Oct-2021 00:00
Compound	CAS Number	LOR	Unit	EM2119781-021	EM2119781-022	EM2119781-025	EM2119781-026	EM2119781-028
				Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	16.4	15.4	5.6	14.7	16.2
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Asbestos Detected	1332-21-4	0.1	g/kg	----	----	----	No	----
Asbestos (Trace)	1332-21-4	5	Fibres	----	----	----	No	----
Asbestos Type	1332-21-4	-	--	----	----	----	-	----
Sample weight (dry)	----	0.01	g	----	----	----	45.2	----
APPROVED IDENTIFIER:	----	-	--	----	----	----	V.PHUNG	----
Synthetic Mineral Fibre	----	0.1	g/kg	----	----	----	No	----
Organic Fibre	----	0.1	g/kg	----	----	----	Yes	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	<5	<5
Barium	7440-39-3	10	mg/kg	40	70	30	70	120
Beryllium	7440-41-7	1	mg/kg	1	----	----	----	<1
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg	35	27	27	28	30
Cobalt	7440-48-4	2	mg/kg	32	----	----	----	6
Copper	7440-50-8	5	mg/kg	8	10	8	13	10
Iron	7439-89-6	50	mg/kg	31500	----	----	----	29300
Lead	7439-92-1	5	mg/kg	14	12	17	24	9
Manganese	7439-96-5	5	mg/kg	155	----	----	----	129
Nickel	7440-02-0	2	mg/kg	14	19	15	17	16
Silver	7440-22-4	2	mg/kg	<2	----	----	----	<2
Zinc	7440-66-6	5	mg/kg	12	16	26	29	18
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	----	----	----	<0.5
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	<1	----	----	----	<1
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	----	----	----	<0.1
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	----	----	<0.05	<0.05
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	----	----	<0.05	<0.05

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	BH05_0.2-0.3	BH05_0.6-0.7	BH05_3-3.1	BH06_0-0.2	BH06_1.2-1.3
			Sampling date / time	06-Oct-2021 00:00	06-Oct-2021 00:00	06-Oct-2021 00:00	06-Oct-2021 00:00	06-Oct-2021 00:00
Compound	CAS Number	LOR	Unit	EM2119781-021	EM2119781-022	EM2119781-025	EM2119781-026	EM2119781-028
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
beta-BHC	319-85-7	0.05	mg/kg	<0.05	----	----	<0.05	<0.05
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	----	----	<0.05	<0.05
delta-BHC	319-86-8	0.05	mg/kg	<0.05	----	----	<0.05	<0.05
Heptachlor	76-44-8	0.05	mg/kg	<0.05	----	----	<0.05	<0.05
Aldrin	309-00-2	0.05	mg/kg	<0.05	----	----	<0.05	<0.05
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	----	----	<0.05	<0.05
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	----	----	<0.05	<0.05
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	----	----	<0.05	<0.05
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	----	----	<0.05	<0.05
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	----	----	<0.05	<0.05
Dieldrin	60-57-1	0.05	mg/kg	<0.05	----	----	<0.05	<0.05
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	----	----	<0.05	<0.05
Endrin	72-20-8	0.05	mg/kg	<0.05	----	----	<0.05	<0.05
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	----	----	<0.05	<0.05
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	----	----	<0.05	<0.05
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	----	----	<0.05	<0.05
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	----	----	<0.05	<0.05
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	----	----	<0.05	<0.05
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	----	----	<0.2	<0.2
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	----	----	<0.05	<0.05
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	----	----	<0.2	<0.2
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	----	----	<0.05	<0.05
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	----	----	<0.05	<0.05
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	----	----	----	<0.05	----
Demeton-S-methyl	919-86-8	0.05	mg/kg	----	----	----	<0.05	----
Monocrotophos	6923-22-4	0.2	mg/kg	----	----	----	<0.2	----
Dimethoate	60-51-5	0.05	mg/kg	----	----	----	<0.05	----
Diazinon	333-41-5	0.05	mg/kg	----	----	----	<0.05	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	----	----	----	<0.05	----
Parathion-methyl	298-00-0	0.2	mg/kg	----	----	----	<0.2	----
Malathion	121-75-5	0.05	mg/kg	----	----	----	<0.05	----
Fenthion	55-38-9	0.05	mg/kg	----	----	----	<0.05	----
Chlorpyrifos	2921-88-2	0.05	mg/kg	----	----	----	<0.05	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH05_0.2-0.3	BH05_0.6-0.7	BH05_3-3.1	BH06_0-0.2	BH06_1.2-1.3
				Sampling date / time	06-Oct-2021 00:00	06-Oct-2021 00:00	06-Oct-2021 00:00	06-Oct-2021 00:00	06-Oct-2021 00:00
Compound	CAS Number	LOR	Unit		EM2119781-021	EM2119781-022	EM2119781-025	EM2119781-026	EM2119781-028
					Result	Result	Result	Result	Result
EP068B: Organophosphorus Pesticides (OP) - Continued									
Parathion	56-38-2	0.2	mg/kg		----	----	----	<0.2	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		----	----	----	<0.05	----
Chlorfenvinphos	470-90-6	0.05	mg/kg		----	----	----	<0.05	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg		----	----	----	<0.05	----
Fenamiphos	22224-92-6	0.05	mg/kg		----	----	----	<0.05	----
Prothiofos	34643-46-4	0.05	mg/kg		----	----	----	<0.05	----
Ethion	563-12-2	0.05	mg/kg		----	----	----	<0.05	----
Carbophenothion	786-19-6	0.05	mg/kg		----	----	----	<0.05	----
Azinphos Methyl	86-50-0	0.05	mg/kg		----	----	----	<0.05	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		<0.5	----	----	----	<0.5
2-Chlorophenol	95-57-8	0.5	mg/kg		<0.5	----	----	----	<0.5
2-Methylphenol	95-48-7	0.5	mg/kg		<0.5	----	----	----	<0.5
3- & 4-Methylphenol	1319-77-3	1	mg/kg		<1	----	----	----	<1
2-Nitrophenol	88-75-5	0.5	mg/kg		<0.5	----	----	----	<0.5
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		<0.5	----	----	----	<0.5
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		<0.5	----	----	----	<0.5
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		<0.5	----	----	----	<0.5
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		<0.5	----	----	----	<0.5
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		<0.5	----	----	----	<0.5
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		<0.5	----	----	----	<0.5
Pentachlorophenol	87-86-5	2	mg/kg		<2	----	----	----	<2
^ Sum of Phenols	----	0.5	mg/kg		<0.5	----	----	----	<0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	----	----	----	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	----	----	----	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	----	----	----	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	----	----	----	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	----	----	----	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	----	----	----	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	----	----	----	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	----	----	----	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	----	----	----	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	----	----	----	<0.5

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH05_0.2-0.3	BH05_0.6-0.7	BH05_3-3.1	BH06_0-0.2	BH06_1.2-1.3
				Sampling date / time	06-Oct-2021 00:00	06-Oct-2021 00:00	06-Oct-2021 00:00	06-Oct-2021 00:00	06-Oct-2021 00:00
Compound	CAS Number	LOR	Unit		EM2119781-021	EM2119781-022	EM2119781-025	EM2119781-026	EM2119781-028
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	----	----	----	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	----	----	----	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	----	----	----	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	----	----	----	<0.5
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	----	----	----	<0.5
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	----	----	----	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	----	----	----	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	----	----	----	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	----	----	----	**0.6**
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	----	----	----	**1.2**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	----	----	----	<10
C10 - C14 Fraction	----	50	mg/kg		<50	----	----	----	<50
C15 - C28 Fraction	----	100	mg/kg		<100	----	----	----	<100
C29 - C36 Fraction	----	100	mg/kg		<100	----	----	----	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	----	----	----	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	----	----	----	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	----	----	----	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	----	----	----	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	----	----	----	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	----	----	----	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	----	----	----	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	----	----	----	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	----	----	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	----	----	----	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	----	----	----	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	----	----	----	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	----	----	----	<0.5
^ Sum of BTEX	----	0.2	mg/kg		<0.2	----	----	----	<0.2
^ Total Xylenes	----	0.5	mg/kg		<0.5	----	----	----	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	----	----	----	<1

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH05_0.2-0.3	BH05_0.6-0.7	BH05_3-3.1	BH06_0-0.2	BH06_1.2-1.3
				Sampling date / time	06-Oct-2021 00:00	06-Oct-2021 00:00	06-Oct-2021 00:00	06-Oct-2021 00:00	06-Oct-2021 00:00
Compound	CAS Number	LOR	Unit		EM2119781-021	EM2119781-022	EM2119781-025	EM2119781-026	EM2119781-028
					Result	Result	Result	Result	Result
EP080: BTEXN - Continued									
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		**74.9**	----	----	----	**66.9**
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		**84.5**	----	----	**97.9**	**67.3**
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		**81.9**	----	----	**63.4**	**64.8**
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**76.7**	----	----	----	**71.4**
2-Chlorophenol-D4	93951-73-6	0.5	%		**78.9**	----	----	----	**72.4**
2.4.6-Tribromophenol	118-79-6	0.5	%		**62.8**	----	----	----	**56.1**
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**87.1**	----	----	----	**79.3**
Anthracene-d10	1719-06-8	0.5	%		**96.0**	----	----	----	**89.8**
4-Terphenyl-d14	1718-51-0	0.5	%		**92.2**	----	----	----	**82.0**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**81.5**	----	----	----	**96.1**
Toluene-D8	2037-26-5	0.2	%		**76.5**	----	----	----	**90.2**
4-Bromofluorobenzene	460-00-4	0.2	%		**83.2**	----	----	----	**95.1**

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	QC3	BH06_1.6-1.7	BH06_2.8-3	----	----
			Sampling date / time	06-Oct-2021 00:00	06-Oct-2021 00:00	06-Oct-2021 00:00	----	----
Compound	CAS Number	LOR	Unit	EM2119781-029	EM2119781-031	EM2119781-032	--------	--------
				Result	Result	Result	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	17.3	18.1	16.6	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	<5	<5	----	----
Barium	7440-39-3	10	mg/kg	100	100	410	----	----
Beryllium	7440-41-7	1	mg/kg	<1	----	<1	----	----
Cadmium	7440-43-9	1	mg/kg	<1	<1	<1	----	----
Chromium	7440-47-3	2	mg/kg	29	33	22	----	----
Cobalt	7440-48-4	2	mg/kg	8	----	9	----	----
Copper	7440-50-8	5	mg/kg	10	8	12	----	----
Iron	7439-89-6	50	mg/kg	29000	----	25400	----	----
Lead	7439-92-1	5	mg/kg	10	13	12	----	----
Manganese	7439-96-5	5	mg/kg	188	----	188	----	----
Nickel	7440-02-0	2	mg/kg	17	17	11	----	----
Silver	7440-22-4	2	mg/kg	<2	----	<2	----	----
Zinc	7440-66-6	5	mg/kg	17	16	21	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	<0.1	----	----
EG048: Hexavalent Chromium (Alkaline Digest)								
Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	----	<0.5	----	----
EK026SF: Total CN by Segmented Flow Analyser								
Total Cyanide	57-12-5	1	mg/kg	<1	----	<1	----	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	----	<0.1	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	----	<0.05	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	----	<0.05	----	----
beta-BHC	319-85-7	0.05	mg/kg	<0.05	----	<0.05	----	----
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	----	<0.05	----	----
delta-BHC	319-86-8	0.05	mg/kg	<0.05	----	<0.05	----	----
Heptachlor	76-44-8	0.05	mg/kg	<0.05	----	<0.05	----	----
Aldrin	309-00-2	0.05	mg/kg	<0.05	----	<0.05	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	----	<0.05	----	----
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	----	<0.05	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	----	<0.05	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC3	BH06_1.6-1.7	BH06_2.8-3	----	----
				Sampling date / time	06-Oct-2021 00:00	06-Oct-2021 00:00	06-Oct-2021 00:00	----	----
Compound	CAS Number	LOR	Unit		EM2119781-029	EM2119781-031	EM2119781-032	--------	--------
					Result	Result	Result	----	----
EP068A: Organochlorine Pesticides (OC) - Continued									
alpha-Endosulfan	959-98-8	0.05	mg/kg		<0.05	----	<0.05	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg		<0.05	----	<0.05	----	----
Dieldrin	60-57-1	0.05	mg/kg		<0.05	----	<0.05	----	----
4.4`-DDE	72-55-9	0.05	mg/kg		<0.05	----	<0.05	----	----
Endrin	72-20-8	0.05	mg/kg		<0.05	----	<0.05	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg		<0.05	----	<0.05	----	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg		<0.05	----	<0.05	----	----
4.4`-DDD	72-54-8	0.05	mg/kg		<0.05	----	<0.05	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg		<0.05	----	<0.05	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg		<0.05	----	<0.05	----	----
4.4`-DDT	50-29-3	0.2	mg/kg		<0.2	----	<0.2	----	----
Endrin ketone	53494-70-5	0.05	mg/kg		<0.05	----	<0.05	----	----
Methoxychlor	72-43-5	0.2	mg/kg		<0.2	----	<0.2	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg		<0.05	----	<0.05	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg		<0.05	----	<0.05	----	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		<0.5	----	<0.5	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg		<0.5	----	<0.5	----	----
2-Methylphenol	95-48-7	0.5	mg/kg		<0.5	----	<0.5	----	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg		<1	----	<1	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg		<0.5	----	<0.5	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		<0.5	----	<0.5	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		<0.5	----	<0.5	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		<0.5	----	<0.5	----	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		<0.5	----	<0.5	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		<0.5	----	<0.5	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		<0.5	----	<0.5	----	----
Pentachlorophenol	87-86-5	2	mg/kg		<2	----	<2	----	----
^ Sum of Phenols	----	0.5	mg/kg		<0.5	----	<0.5	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	----	<0.5	----	----
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	----	<0.5	----	----
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	----	<0.5	----	----
Fluorene	86-73-7	0.5	mg/kg		<0.5	----	<0.5	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QC3	BH06_1.6-1.7	BH06_2.8-3	----	----
				Sampling date / time	06-Oct-2021 00:00	06-Oct-2021 00:00	06-Oct-2021 00:00	----	----
Compound	CAS Number	LOR	Unit		EM2119781-029	EM2119781-031	EM2119781-032	--------	--------
					Result	Result	Result	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	----	<0.5	----	----
Anthracene	120-12-7	0.5	mg/kg		<0.5	----	<0.5	----	----
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	----	<0.5	----	----
Pyrene	129-00-0	0.5	mg/kg		<0.5	----	<0.5	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	----	<0.5	----	----
Chrysene	218-01-9	0.5	mg/kg		<0.5	----	<0.5	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	----	<0.5	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	----	<0.5	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	----	<0.5	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	----	<0.5	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	----	<0.5	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	----	<0.5	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	----	<0.5	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	----	<0.5	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	----	**0.6**	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	----	**1.2**	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	----	<10	----	----
C10 - C14 Fraction	----	50	mg/kg		<50	----	<50	----	----
C15 - C28 Fraction	----	100	mg/kg		<100	----	<100	----	----
C29 - C36 Fraction	----	100	mg/kg		<100	----	<100	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	----	<50	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	----	<10	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	----	<10	----	----
>C10 - C16 Fraction	----	50	mg/kg		<50	----	<50	----	----
>C16 - C34 Fraction	----	100	mg/kg		<100	----	<100	----	----
>C34 - C40 Fraction	----	100	mg/kg		<100	----	<100	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	----	<50	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	----	<50	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	----	<0.2	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Sample ID	QC3	BH06_1.6-1.7	BH06_2.8-3	----	----
			Sampling date / time	06-Oct-2021 00:00	06-Oct-2021 00:00	06-Oct-2021 00:00	----	----
Compound	CAS Number	LOR	Unit	EM2119781-029	EM2119781-031	EM2119781-032	--------	--------
				Result	Result	Result	----	----
EP080: BTEXN - Continued								
Toluene	108-88-3	0.5	mg/kg	<0.5	----	<0.5	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	----	<0.5	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	----	<0.5	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	----	<0.5	----	----
^ **Sum of BTEX**	----	0.2	mg/kg	<0.2	----	<0.2	----	----
^ **Total Xylenes**	----	0.5	mg/kg	<0.5	----	<0.5	----	----
Naphthalene	91-20-3	1	mg/kg	<1	----	<1	----	----
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	**79.7**	----	**82.5**	----	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	**79.9**	----	**80.4**	----	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	**70.5**	----	**69.0**	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	**87.5**	----	**97.0**	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%	**81.9**	----	**96.1**	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%	**67.4**	----	**75.4**	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	**92.8**	----	**108**	----	----
Anthracene-d10	1719-06-8	0.5	%	**103**	----	**118**	----	----
4-Terphenyl-d14	1718-51-0	0.5	%	**97.5**	----	**113**	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	**72.1**	----	**85.9**	----	----
Toluene-D8	2037-26-5	0.2	%	**69.4**	----	**79.4**	----	----
4-Bromofluorobenzene	460-00-4	0.2	%	**72.7**	----	**80.2**	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	QC2	QC4	----	----	----
			Sampling date / time	05-Oct-2021 00:00	06-Oct-2021 00:00	----	----	----
Compound	CAS Number	LOR	Unit	EM2119781-034	EM2119781-035	--------	--------	--------
				Result	Result	----	----	----
EG020T: Total Metals by ICP-MS								
Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	----	----	----
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	----	----	----
Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	----	----	----
Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	----	----	----
Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	----	----	----
Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	----	----	----
Zinc	7440-66-6	0.005	mg/L	**0.009**	<0.005	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	----	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.5	µg/L	<0.5	<0.5	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	<0.5	----	----	----
beta-BHC	319-85-7	0.5	µg/L	<0.5	<0.5	----	----	----
gamma-BHC	58-89-9	0.5	µg/L	<0.5	<0.5	----	----	----
delta-BHC	319-86-8	0.5	µg/L	<0.5	<0.5	----	----	----
Heptachlor	76-44-8	0.5	µg/L	<0.5	<0.5	----	----	----
Aldrin	309-00-2	0.5	µg/L	<0.5	<0.5	----	----	----
Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	<0.5	----	----	----
trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	<0.5	----	----	----
alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	<0.5	----	----	----
cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	<0.5	----	----	----
Dieldrin	60-57-1	0.5	µg/L	<0.5	<0.5	----	----	----
4.4`-DDE	72-55-9	0.5	µg/L	<0.5	<0.5	----	----	----
Endrin	72-20-8	0.5	µg/L	<0.5	<0.5	----	----	----
beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	<0.5	----	----	----
4.4`-DDD	72-54-8	0.5	µg/L	<0.5	<0.5	----	----	----
Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	<0.5	----	----	----
Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	<0.5	----	----	----
4.4`-DDT	50-29-3	2.0	µg/L	<2.0	<2.0	----	----	----
Endrin ketone	53494-70-5	0.5	µg/L	<0.5	<0.5	----	----	----
Methoxychlor	72-43-5	2.0	µg/L	<2.0	<2.0	----	----	----
^ Total Chlordane (sum)	----	0.5	µg/L	<0.5	<0.5	----	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.5	µg/L	<0.5	<0.5	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.5	µg/L	<0.5	<0.5	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	QC2	QC4	----	----	----
			Sampling date / time	05-Oct-2021 00:00	06-Oct-2021 00:00	----	----	----
Compound	CAS Number	LOR	Unit	EM2119781-034	EM2119781-035	--------	--------	--------
				Result	Result	----	----	----
EP068A: Organochlorine Pesticides (OC) - Continued								
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.5	µg/L	<0.5	<0.5	----	----	----
Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	<0.5	----	----	----
Monocrotophos	6923-22-4	2.0	µg/L	<2.0	<2.0	----	----	----
Dimethoate	60-51-5	0.5	µg/L	<0.5	<0.5	----	----	----
Diazinon	333-41-5	0.5	µg/L	<0.5	<0.5	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	<0.5	----	----	----
Parathion-methyl	298-00-0	2.0	µg/L	<2.0	<2.0	----	----	----
Malathion	121-75-5	0.5	µg/L	<0.5	<0.5	----	----	----
Fenthion	55-38-9	0.5	µg/L	<0.5	<0.5	----	----	----
Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	<0.5	----	----	----
Parathion	56-38-2	2.0	µg/L	<2.0	<2.0	----	----	----
Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	<0.5	----	----	----
Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	<0.5	----	----	----
Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	<0.5	----	----	----
Fenamiphos	22224-92-6	0.5	µg/L	<0.5	<0.5	----	----	----
Prothiofos	34643-46-4	0.5	µg/L	<0.5	<0.5	----	----	----
Ethion	563-12-2	0.5	µg/L	<0.5	<0.5	----	----	----
Carbophenothion	786-19-6	0.5	µg/L	<0.5	<0.5	----	----	----
Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	<0.5	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	<1.0	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	<1.0	----	----	----
Acenaphthene	83-32-9	1.0	µg/L	<1.0	<1.0	----	----	----
Fluorene	86-73-7	1.0	µg/L	<1.0	<1.0	----	----	----
Phenanthrene	85-01-8	1.0	µg/L	<1.0	<1.0	----	----	----
Anthracene	120-12-7	1.0	µg/L	<1.0	<1.0	----	----	----
Fluoranthene	206-44-0	1.0	µg/L	<1.0	<1.0	----	----	----
Pyrene	129-00-0	1.0	µg/L	<1.0	<1.0	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	<1.0	----	----	----
Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	<1.0	<1.0	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	<1.0	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC2	QC4	----	----	----
				Sampling date / time	05-Oct-2021 00:00	06-Oct-2021 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2119781-034	EM2119781-035	--------	--------	--------
					Result	Result	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	<1.0	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	<1.0	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L		<0.5	<0.5	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L		<0.5	<0.5	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	<20	----	----	----
C10 - C14 Fraction	----	50	µg/L		<50	<50	----	----	----
C15 - C28 Fraction	----	100	µg/L		<100	<100	----	----	----
C29 - C36 Fraction	----	50	µg/L		<50	<50	----	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L		<50	<50	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	<20	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L		<20	<20	----	----	----
>C10 - C16 Fraction	----	100	µg/L		<100	<100	----	----	----
>C16 - C34 Fraction	----	100	µg/L		<100	<100	----	----	----
>C34 - C40 Fraction	----	100	µg/L		<100	<100	----	----	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L		<100	<100	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L		<100	<100	----	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	<1	----	----	----
Toluene	108-88-3	2	µg/L		<2	<2	----	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	<2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	----	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	<2	----	----	----
^ Total Xylenes	----	2	µg/L		<2	<2	----	----	----
^ Sum of BTEX	----	1	µg/L		<1	<1	----	----	----
Naphthalene	91-20-3	5	µg/L		<5	<5	----	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.5	%		88.0	86.8	----	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.5	%		115	111	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	QC2	QC4	----	----	----
				Sampling date / time	05-Oct-2021 00:00	06-Oct-2021 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2119781-034	EM2119781-035	--------	--------	--------
					Result	Result	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		**29.4**	**32.0**	----	----	----
2-Chlorophenol-D4	93951-73-6	1.0	%		**65.9**	**70.6**	----	----	----
2.4.6-Tribromophenol	118-79-6	1.0	%		**71.2**	**73.6**	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		**83.9**	**84.8**	----	----	----
Anthracene-d10	1719-06-8	1.0	%		**80.2**	**79.8**	----	----	----
4-Terphenyl-d14	1718-51-0	1.0	%		**78.0**	**77.3**	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**100**	**102**	----	----	----
Toluene-D8	2037-26-5	2	%		**90.0**	**83.4**	----	----	----
4-Bromofluorobenzene	460-00-4	2	%		**94.5**	**92.7**	----	----	----

Analytical Results

Descriptive Results

Sub-Matrix: **SOIL**

Method: Compound	Sample ID - Sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in Soils		
EA200: Description	BH01_0.1-0.3 - 05-Oct-2021 00:00	Brown clay like soil with organic matter.
EA200: Description	BH03_0-0.2 - 05-Oct-2021 00:00	Brown clay like soil with organic matter.
EA200: Description	BH06_0-0.2 - 06-Oct-2021 00:00	Brown tan clay like soil with organic matter.

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	36	140
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	62	128
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	40	139
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	54	125
2-Chlorophenol-D4	93951-73-6	65	123
2.4.6-Tribromophenol	118-79-6	34	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	61	125
Anthracene-d10	1719-06-8	62	130
4-Terphenyl-d14	1718-51-0	67	133
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	51	125
Toluene-D8	2037-26-5	55	125
4-Bromofluorobenzene	460-00-4	56	124

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	49	117
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	51	127
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	51
2-Chlorophenol-D4	93951-73-6	30	114
2.4.6-Tribromophenol	118-79-6	26	133
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	35	127
Anthracene-d10	1719-06-8	44	122
4-Terphenyl-d14	1718-51-0	44	124
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	129
Toluene-D8	2037-26-5	70	125
4-Bromofluorobenzene	460-00-4	71	129

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **EM2119781**	Page	: 1 of 16
Amendment	: **1**		
Client	: **FYFE PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: TIM HENDERSON	Contact	: Kieren Burns
Address	: LEVEL 1, 124 SOUTH TERRACE ADELAIDE SOUTH AUSTRALIA 5000	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: +61 08 8201 9638	Telephone	: +61881625130
Project	: ----	Date Samples Received	: 07-Oct-2021
Order number	: ----	Date Analysis Commenced	: 13-Oct-2021
C-O-C number	: ----	Issue Date	: 22-Oct-2021
Sampler	: ----		
Site	: ----		
Quote number	: EN/112/20		
No. of samples received	: 36		
No. of samples analysed	: 20		

Accreditation No. 825
Accredited for compliance with ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
Jarwis Nheu	Senior Inorganic Chemist	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC
Vanessa Phung	Team Leader - Asbestos	Melbourne Asbestos, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 3956513)									
EM2119781-001	BH01_0.1-0.3	EG005T: Beryllium	7440-41-7	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	70	70	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	25	26	0.0	0% - 50%
		EG005T: Cobalt	7440-48-4	2	mg/kg	8	8	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	15	15	0.0	No Limit
		EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	14	15	7.3	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	21	20	0.0	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	369	347	6.3	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	37	33	11.7	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	23600	24200	2.5	0% - 20%
EM2119781-018	QC1	EG005T: Beryllium	7440-41-7	1	mg/kg	1	1	0.0	No Limit
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Barium	7440-39-3	10	mg/kg	100	90	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	42	37	11.4	0% - 20%
		EG005T: Cobalt	7440-48-4	2	mg/kg	9	10	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	24	23	6.8	0% - 50%
		EG005T: Silver	7440-22-4	2	mg/kg	<2	<2	0.0	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	12	11	9.3	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	14	14	0.0	No Limit
		EG005T: Manganese	7439-96-5	5	mg/kg	318	334	4.8	0% - 20%

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 3956513) - continued									
EM2119781-018	QC1	EG005T: Zinc	7440-66-6	5	mg/kg	21	18	14.8	No Limit
		EG005T: Iron	7439-89-6	50	mg/kg	40000	34900	13.4	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3955064)									
EM2119781-001	BH01_0.1-0.3	EA055: Moisture Content	----	0.1	%	14.4	14.2	1.7	0% - 50%
EM2119781-021	BH05_0.2-0.3	EA055: Moisture Content	----	0.1	%	16.4	16.4	0.0	0% - 50%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3956514)									
EM2119781-001	BH01_0.1-0.3	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EM2119781-018	QC1	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EG048: Hexavalent Chromium (Alkaline Digest) (QC Lot: 3957137)									
EM2119781-006	BH02_0.05-0.1	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EM2120072-002	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EK026SF: Total CN by Segmented Flow Analyser (QC Lot: 3958396)									
EM2119888-015	Anonymous	EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	<1	0.0	No Limit
EM2119888-002	Anonymous	EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	<1	0.0	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 3954755)									
EM2119781-006	BH02_0.05-0.1	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 3954754)									
EM2120128-001	Anonymous	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EM2119781-006	BH02_0.05-0.1	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP068A: Organochlorine Pesticides (OC) (QC Lot: 3954754) - continued									
EM2119781-006	BH02_0.05-0.1	EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 3954754)									
EM2120128-001	Anonymous	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 3954754) - continued									
EM2119781-006	BH02_0.05-0.1	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.0	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 3954757)									
EM2119781-006	BH02_0.05-0.1	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.0	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3954757)									
EM2119781-006	BH02_0.05-0.1	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3954757) - continued									
EM2119781-006	BH02_0.05-0.1	EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3954739)									
EM2119781-006	BH02_0.05-0.1	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EM2120136-003	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3954756)									
EM2119781-006	BH02_0.05-0.1	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
		EP071: C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3954739)									
EM2119781-006	BH02_0.05-0.1	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EM2120136-003	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3954756)									
EM2119781-006	BH02_0.05-0.1	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.0	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.0	No Limit
		EP071: >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	0.0	No Limit
EP080: BTEXN (QC Lot: 3954739)									
EM2119781-006	BH02_0.05-0.1	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit
EM2120136-003	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.0	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.0	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP080: BTEXN (QC Lot: 3954739) - continued									
EM2120136-003	Anonymous	EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG020T: Total Metals by ICP-MS (QC Lot: 3956892)									
EM2119781-034	QC2	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	0.009	0.008	0.0	No Limit
EM2120130-005	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	0.006	0.006	0.0	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	0.008	0.008	0.0	No Limit
		EG020A-T: Lead	7439-92-1	0.001	mg/L	0.004	0.004	0.0	No Limit
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	0.006	0.006	0.0	No Limit
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	0.019	0.018	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3960829)									
EM2119781-035	QC4	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EM2120134-007	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3954375)									
EM2120148-003	Anonymous	EP071: C15 - C28 Fraction	----	100	µg/L	1140	1210	6.3	0% - 50%
		EP071: C10 - C14 Fraction	----	50	µg/L	300	370	21.4	No Limit
		EP071: C29 - C36 Fraction	----	50	µg/L	90	70	22.1	No Limit
EM2120148-009	Anonymous	EP071: C15 - C28 Fraction	----	100	µg/L	300	240	21.2	No Limit
		EP071: C10 - C14 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
		EP071: C29 - C36 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 3955275)									
EM2119781-034	QC2	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EM2120230-003	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3954375)									
EM2120148-003	Anonymous	EP071: >C10 - C16 Fraction	----	100	µg/L	690	810	15.9	No Limit
		EP071: >C16 - C34 Fraction	----	100	µg/L	840	860	1.2	No Limit
		EP071: >C34 - C40 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
EM2120148-009	Anonymous	EP071: >C10 - C16 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C16 - C34 Fraction	----	100	µg/L	260	190	31.2	No Limit
		EP071: >C34 - C40 Fraction	----	100	µg/L	<100	<100	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 3955275)									
EM2119781-034	QC2	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EM2120230-003	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEXN (QC Lot: 3955275)									
EM2119781-034	QC2	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EM2120230-003	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3956513)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	97.0	70.0	130
EG005T: Barium	7440-39-3	10	mg/kg	<10	99.3 mg/kg	92.6	70.0	130
EG005T: Beryllium	7440-41-7	1	mg/kg	<1	0.67 mg/kg	91.6	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.23 mg/kg	83.0	50.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	105	70.0	130
EG005T: Cobalt	7440-48-4	2	mg/kg	<2	11.2 mg/kg	91.2	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.9 mg/kg	97.3	70.0	130
EG005T: Iron	7439-89-6	50	mg/kg	<50	33227 mg/kg	106	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	91.2	70.0	130
EG005T: Manganese	7439-96-5	5	mg/kg	<5	590 mg/kg	90.3	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	98.9	70.0	130
EG005T: Silver	7440-22-4	2	mg/kg	<2	2.9 mg/kg	78.7	70.0	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	80.3	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3956514)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.64 mg/kg	93.8	70.0	130
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 3957137)								
EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	20 mg/kg	72.9	70.0	130
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 3958396)								
EK026SF: Total Cyanide	57-12-5	1	mg/kg	<1	20 mg/kg	91.8	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3954755)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	92.2	68.0	133
EP068A: Organochlorine Pesticides (OC) (QCLot: 3954754)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	99.2	71.8	126
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	97.5	72.2	125
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	97.4	70.0	124
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	95.2	69.1	124
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	94.2	69.2	125
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	96.1	66.6	122
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	92.1	68.8	123
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	97.3	67.2	124
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	81.0	66.0	126
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	101	70.2	126
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	97.7	72.1	124
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	98.0	68.0	122

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 3954754) - continued								
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	99.4	68.9	124
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	97.0	55.8	130
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	72.7	67.9	124
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	102	72.0	127
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	90.4	66.3	131
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	91.2	62.4	131
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	89.0	55.4	130
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	91.0	68.8	128
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	88.8	55.5	132
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3954754)								
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	105	65.6	127
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	100	63.0	129
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	82.7	10.0	136
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	98.0	58.3	128
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	114	69.0	122
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	95.2	68.0	122
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	93.3	59.6	124
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	98.2	63.8	128
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	98.0	71.1	124
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	96.9	67.4	126
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	93.8	57.9	122
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	97.5	66.2	123
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	95.4	59.8	123
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	96.0	65.4	127
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	91.5	52.1	128
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	97.6	65.2	122
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	97.6	63.2	124
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	92.6	65.9	127
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	80.1	43.1	131
EP075(SIM)A: Phenolic Compounds (QCLot: 3954757)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	3 mg/kg	95.0	81.2	121
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	3 mg/kg	96.8	83.2	120
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	3 mg/kg	93.0	81.6	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	6 mg/kg	95.3	79.7	129
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	3 mg/kg	82.2	49.8	129
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	3 mg/kg	96.5	81.5	127
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	3 mg/kg	96.8	74.2	125
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	3 mg/kg	95.4	79.8	121
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	3 mg/kg	87.1	71.5	121

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)A: Phenolic Compounds (QCLot: 3954757) - continued								
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	3 mg/kg	84.1	67.8	119
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	3 mg/kg	84.1	64.5	126
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	6 mg/kg	58.8	9.68	118
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3954757)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	100	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	92.4	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	96.6	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	93.8	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	99.2	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	103	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	96.5	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	99.0	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	95.1	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	101	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	86.1	70.0	121
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	102	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	86.0	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	91.0	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	88.9	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	93.5	65.8	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3954739)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	119	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3954756)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	840 mg/kg	84.5	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	2900 mg/kg	94.0	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1490 mg/kg	92.6	82.4	121
EP071: C10 - C36 Fraction (sum)	----	50	mg/kg	<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3954739)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	118	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3954756)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1110 mg/kg	90.5	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3900 mg/kg	91.9	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	96.5	73.3	137
EP071: >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	----	----	----	----
EP080: BTEXN (QCLot: 3954739)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	105	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	111	65.8	125

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP080: BTEXN (QCLot: 3954739) - continued								
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	106	65.8	124
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	112	64.8	134
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	113	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	88.8	61.8	123

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 3956892)								
EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	99.4	89.2	115
EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	98.7	86.4	115
EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	99.1	86.9	112
EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	95.7	86.9	111
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	97.3	88.3	112
EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	97.2	87.9	113
EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	97.9	86.7	117
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3960829)								
EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.01 mg/L	92.1	73.4	119
EP068A: Organochlorine Pesticides (OC) (QCLot: 3954377)								
EP068: alpha-BHC	319-84-6	0.5	µg/L	<0.5	2.5 µg/L	88.8	50.6	119
EP068: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	2.5 µg/L	89.2	44.2	117
EP068: beta-BHC	319-85-7	0.5	µg/L	<0.5	2.5 µg/L	88.8	53.7	119
EP068: gamma-BHC	58-89-9	0.5	µg/L	<0.5	2.5 µg/L	82.4	47.7	117
EP068: delta-BHC	319-86-8	0.5	µg/L	<0.5	2.5 µg/L	85.3	52.5	117
EP068: Heptachlor	76-44-8	0.5	µg/L	<0.5	2.5 µg/L	108	46.9	118
EP068: Aldrin	309-00-2	0.5	µg/L	<0.5	2.5 µg/L	86.6	48.0	115
EP068: Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	2.5 µg/L	86.7	51.1	119
EP068: trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	2.5 µg/L	101	48.4	120
EP068: alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	2.5 µg/L	88.9	50.1	122
EP068: cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	2.5 µg/L	88.1	51.0	118
EP068: Dieldrin	60-57-1	0.5	µg/L	<0.5	2.5 µg/L	88.3	48.4	116
EP068: 4.4`-DDE	72-55-9	0.5	µg/L	<0.5	2.5 µg/L	90.0	49.3	116
EP068: Endrin	72-20-8	0.5	µg/L	<0.5	2.5 µg/L	92.5	47.1	130
EP068: beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	2.5 µg/L	88.4	51.6	118
EP068: 4.4`-DDD	72-54-8	0.5	µg/L	<0.5	2.5 µg/L	88.6	48.6	122
EP068: Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	2.5 µg/L	83.7	49.4	128
EP068: Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	2.5 µg/L	90.3	49.1	123
EP068: 4.4`-DDT	50-29-3	2	µg/L	<2.0	2.5 µg/L	107	45.6	126

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
				Result	Concentration	LCS	Low	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 3954377) - continued								
EP068: Endrin ketone	53494-70-5	0.5	µg/L	<0.5	2.5 µg/L	89.4	52.8	117
EP068: Methoxychlor	72-43-5	2	µg/L	<2.0	2.5 µg/L	112	47.1	126
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3954377)								
EP068: Dichlorvos	62-73-7	0.5	µg/L	<0.5	2.5 µg/L	89.4	47.4	133
EP068: Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	2.5 µg/L	80.5	46.4	129
EP068: Monocrotophos	6923-22-4	2	µg/L	<2.0	2.5 µg/L	17.6	10.0	42.9
EP068: Dimethoate	60-51-5	0.5	µg/L	<0.5	2.5 µg/L	87.0	41.7	131
EP068: Diazinon	333-41-5	0.5	µg/L	<0.5	2.5 µg/L	90.1	50.5	122
EP068: Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	2.5 µg/L	85.8	52.4	123
EP068: Parathion-methyl	298-00-0	2	µg/L	<2.0	2.5 µg/L	97.8	52.0	132
EP068: Malathion	121-75-5	0.5	µg/L	<0.5	2.5 µg/L	106	51.8	133
EP068: Fenthion	55-38-9	0.5	µg/L	<0.5	2.5 µg/L	85.6	52.3	123
EP068: Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	2.5 µg/L	63.4	48.7	122
EP068: Parathion	56-38-2	2	µg/L	<2.0	2.5 µg/L	95.8	49.5	136
EP068: Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	2.5 µg/L	88.5	50.4	123
EP068: Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	2.5 µg/L	84.1	50.9	131
EP068: Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	2.5 µg/L	87.2	47.5	126
EP068: Fenamiphos	22224-92-6	0.5	µg/L	<0.5	2.5 µg/L	76.0	46.5	138
EP068: Prothiofos	34643-46-4	0.5	µg/L	<0.5	2.5 µg/L	87.6	49.2	119
EP068: Ethion	563-12-2	0.5	µg/L	<0.5	2.5 µg/L	101	50.0	126
EP068: Carbophenothion	786-19-6	0.5	µg/L	<0.5	2.5 µg/L	114	50.0	131
EP068: Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	2.5 µg/L	111	41.7	147
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3954376)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	83.5	42.8	114
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	84.7	48.6	119
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	90.4	47.0	117
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	83.9	49.5	119
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	92.8	49.4	121
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	90.2	48.4	122
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	87.1	50.3	124
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	88.3	50.0	126
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	75.6	49.4	127
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	95.2	48.7	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	90.6	54.5	134
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	92.9	56.1	134
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	84.9	55.6	135
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	81.3	54.4	126
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	85.6	54.5	126

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3954376) - continued								
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	91.6	54.4	126
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3954375)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	4670 µg/L	80.7	44.2	140
EP071: C15 - C28 Fraction	----	100	µg/L	<100	15800 µg/L	88.7	46.9	127
EP071: C29 - C36 Fraction	----	50	µg/L	<50	8180 µg/L	85.9	47.4	128
EP071: C10 - C36 Fraction (sum)	----	----	µg/L	----	28650 µg/L	86.6	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3955275)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	360 µg/L	85.1	66.2	134
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3954375)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	6100 µg/L	85.8	43.0	127
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	21200 µg/L	86.3	48.6	129
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	1620 µg/L	98.7	42.2	133
EP071: >C10 - C40 Fraction (sum)	----	----	µg/L	----	28920 µg/L	86.9	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3955275)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	450 µg/L	83.5	66.2	132
EP080: BTEXN (QCLot: 3955275)								
EP080: Benzene	71-43-2	1	µg/L	<1	20 µg/L	88.8	68.8	127
EP080: Toluene	108-88-3	2	µg/L	<2	20 µg/L	88.1	72.9	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	20 µg/L	86.8	71.7	130
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	40 µg/L	87.7	72.3	136
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	20 µg/L	87.4	75.9	134
EP080: Naphthalene	91-20-3	5	µg/L	<5	5 µg/L	90.1	68.3	131

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3956513)							
EM2119781-003	BH01_1.4-1.6	EG005T: Arsenic	7440-38-2	50 mg/kg	85.8	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	83.6	79.7	116
		EG005T: Chromium	7440-47-3	50 mg/kg	84.8	79.0	121
		EG005T: Copper	7440-50-8	250 mg/kg	99.0	80.0	120
		EG005T: Lead	7439-92-1	250 mg/kg	84.6	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	83.8	78.0	120

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3956513) - continued							
EM2119781-003	BH01_1.4-1.6	EG005T: Zinc	7440-66-6	250 mg/kg	80.6	80.0	120
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3956514)							
EM2119781-003	BH01_1.4-1.6	EG035T: Mercury	7439-97-6	0.5 mg/kg	97.0	76.0	116
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 3957137)							
EM2119781-014	BH03_2.5-2.6	EG048G: Hexavalent Chromium	18540-29-9	20 mg/kg	91.8	58.0	114
EM2119781-014	BH03_2.5-2.6	EG048G: Hexavalent Chromium	18540-29-9	20 mg/kg	90.9	58.0	114
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 3958396)							
EM2119781-014	BH03_2.5-2.6	EK026SF: Total Cyanide	57-12-5	20 mg/kg	78.8	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 3954755)							
EM2119781-014	BH03_2.5-2.6	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	93.8	63.2	144
EP068A: Organochlorine Pesticides (OC) (QCLot: 3954754)							
EM2119781-011	BH03_0-0.2	EP068: gamma-BHC	58-89-9	0.5 mg/kg	77.4	51.4	139
		EP068: Heptachlor	76-44-8	0.5 mg/kg	64.0	49.1	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	78.0	38.4	135
		EP068: Dieldrin	60-57-1	0.5 mg/kg	78.9	58.4	136
		EP068: Endrin	72-20-8	0.5 mg/kg	70.1	33.0	146
		EP068: 4.4`-DDT	50-29-3	0.5 mg/kg	70.0	20.0	133
EP068B: Organophosphorus Pesticides (OP) (QCLot: 3954754)							
EM2119781-011	BH03_0-0.2	EP068: Diazinon	333-41-5	0.5 mg/kg	88.8	65.1	135
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	59.2	56.3	127
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	61.6	55.0	133
		EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	67.7	55.1	133
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	57.4	43.8	128
EP075(SIM)A: Phenolic Compounds (QCLot: 3954757)							
EM2119781-015	BH04_0.05-0.2	EP075(SIM): Phenol	108-95-2	3 mg/kg	96.7	77.1	119
		EP075(SIM): 2-Chlorophenol	95-57-8	3 mg/kg	99.2	78.9	123
		EP075(SIM): 2-Nitrophenol	88-75-5	3 mg/kg	86.2	43.8	136
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	3 mg/kg	86.5	61.5	120
		EP075(SIM): Pentachlorophenol	87-86-5	3 mg/kg	53.6	15.3	139
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3954757)							
EM2119781-015	BH04_0.05-0.2	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	92.1	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	104	65.5	136
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3954739)							
EM2119781-014	BH03_2.5-2.6	EP080: C6 - C9 Fraction	----	28 mg/kg	73.4	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3954756)							
EM2119781-014	BH03_2.5-2.6						

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3954756) - continued							
EM2119781-014	BH03_2.5-2.6	EP071: C10 - C14 Fraction	----	840 mg/kg	84.5	71.2	125
		EP071: C15 - C28 Fraction	----	2900 mg/kg	94.5	75.6	122
		EP071: C29 - C36 Fraction	----	1490 mg/kg	92.9	78.0	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3954739)							
EM2119781-014	BH03_2.5-2.6	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	66.7	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3954756)							
EM2119781-014	BH03_2.5-2.6	EP071: >C10 - C16 Fraction	----	1110 mg/kg	90.6	72.2	128
		EP071: >C16 - C34 Fraction	----	3900 mg/kg	92.4	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	95.4	66.8	138
EP080: BTEXN (QCLot: 3954739)							
EM2119781-014	BH03_2.5-2.6	EP080: Benzene	71-43-2	2 mg/kg	76.1	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	75.7	57.1	131

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020T: Total Metals by ICP-MS (QCLot: 3956892)							
EM2119781-034	QC2	EG020A-T: Arsenic	7440-38-2	1 mg/L	106	82.0	123
		EG020A-T: Cadmium	7440-43-9	0.25 mg/L	108	81.8	123
		EG020A-T: Chromium	7440-47-3	1 mg/L	110	78.9	119
		EG020A-T: Copper	7440-50-8	1 mg/L	105	80.4	118
		EG020A-T: Lead	7439-92-1	1 mg/L	108	80.5	121
		EG020A-T: Nickel	7440-02-0	1 mg/L	110	80.0	118
		EG020A-T: Zinc	7440-66-6	1 mg/L	98.7	74.0	120
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3960829)							
EM2119781-035	QC4	EG035T: Mercury	7439-97-6	0.01 mg/L	91.6	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 3955275)							
EM2119781-035	QC4	EP080: C6 - C9 Fraction	----	280 µg/L	75.0	33.9	126
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 3955275)							
EM2119781-035	QC4	EP080: C6 - C10 Fraction	C6_C10	330 µg/L	72.0	34.0	122
EP080: BTEXN (QCLot: 3955275)							
EM2119781-035	QC4	EP080: Benzene	71-43-2	20 µg/L	95.6	56.3	133
		EP080: Toluene	108-88-3	20 µg/L	91.8	60.4	132

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2119781**	Page	: 1 of 12
Amendment	: **1**		
Client	: **FYFE PTY LTD**	Laboratory	: Environmental Division Melbourne
Contact	: TIM HENDERSON	Telephone	: +61881625130
Project	: ----	Date Samples Received	: 07-Oct-2021
Site	: ----	Issue Date	: 22-Oct-2021
Sampler	: ----	No. of samples received	: 36
Order number	: ----	No. of samples analysed	: 20

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **Analysis Holding Time Outliers exist - please see following pages for full details.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Analysis Holding Time Compliance

Matrix: **WATER**

Method / Container / Client Sample ID(s)	Extraction / Preparation			Analysis		
	Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EP068A: Organochlorine Pesticides (OC)						
Amber Glass Bottle - Unpreserved						
QC2	14-Oct-2021	12-Oct-2021	**2**	----	----	----
EP068B: Organophosphorus Pesticides (OP)						
Amber Glass Bottle - Unpreserved						
QC2	14-Oct-2021	12-Oct-2021	**2**	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons						
Amber Glass Bottle - Unpreserved						
QC2	14-Oct-2021	12-Oct-2021	**2**	----	----	----
EP080/071: Total Petroleum Hydrocarbons						
Amber Glass Bottle - Unpreserved						
QC2	14-Oct-2021	12-Oct-2021	**2**	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions						
Amber Glass Bottle - Unpreserved						
QC2	14-Oct-2021	12-Oct-2021	**2**	----	----	----

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type / Method	Count		Rate (%)		Quality Control Specification
	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
PAH/Phenols (GC/MS - SIM)	0	2	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	0	3	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
PAH/Phenols (GC/MS - SIM)	0	2	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	0	3	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	0	15	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)								
Soil Glass Jar - Unpreserved (EA055)								
BH01_0.1-0.3,	BH01_1.4-1.6,	**05-Oct-2021**	**----**	----	----	**14-Oct-2021**	19-Oct-2021	✓
BH03_0-0.2,	BH03_1.9-2,							
BH03_2.5-2.6,	BH04_0.05-0.2,							
BH04_0.7-0.8,	QC1							
Soil Glass Jar - Unpreserved (EA055)								
BH02_0.05-0.1,	BH02_3.4-3.5,	**06-Oct-2021**	**----**	----	----	**14-Oct-2021**	20-Oct-2021	✓
BH05_0.2-0.3,	BH05_0.6-0.7,							
BH05_3-3.1,	BH06_0-0.2,							
BH06_1.2-1.3,	QC3,							
BH06_1.6-1.7,	BH06_2.8-3							
EA200: AS 4964 - 2004 Identification of Asbestos in Soils								
Snap Lock Bag - Subsampled by ALS (EA200)								
BH01_0.1-0.3,	BH03_0-0.2	**05-Oct-2021**	**----**	----	----	**15-Oct-2021**	03-Apr-2022	✓
Snap Lock Bag - Subsampled by ALS (EA200)								
BH06_0-0.2		**06-Oct-2021**	**----**	----	----	**15-Oct-2021**	04-Apr-2022	✓
EG005(ED093)T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved (EG005T)								
BH01_0.1-0.3,	BH01_1.4-1.6,	**05-Oct-2021**	**15-Oct-2021**	03-Apr-2022	✓	**15-Oct-2021**	03-Apr-2022	✓
BH03_0-0.2,	BH03_1.9-2,							
BH03_2.5-2.6,	BH04_0.05-0.2,							
BH04_0.7-0.8,	QC1							
Soil Glass Jar - Unpreserved (EG005T)								
BH02_0.05-0.1,	BH02_3.4-3.5,	**06-Oct-2021**	**15-Oct-2021**	04-Apr-2022	✓	**15-Oct-2021**	04-Apr-2022	✓
BH05_0.2-0.3,	BH05_0.6-0.7,							
BH05_3-3.1,	BH06_0-0.2,							
BH06_1.2-1.3,	QC3,							
BH06_1.6-1.7,	BH06_2.8-3							
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved (EG035T)								
BH01_0.1-0.3,	BH01_1.4-1.6,	**05-Oct-2021**	**15-Oct-2021**	02-Nov-2021	✓	**15-Oct-2021**	02-Nov-2021	✓
BH03_0-0.2,	BH03_1.9-2,							
BH03_2.5-2.6,	BH04_0.05-0.2,							
BH04_0.7-0.8,	QC1							
Soil Glass Jar - Unpreserved (EG035T)								
BH02_0.05-0.1,	BH02_3.4-3.5,	**06-Oct-2021**	**15-Oct-2021**	03-Nov-2021	✓	**15-Oct-2021**	03-Nov-2021	✓
BH05_0.2-0.3,	BH05_0.6-0.7,							
BH05_3-3.1,	BH06_0-0.2,							
BH06_1.2-1.3,	QC3,							
BH06_1.6-1.7,	BH06_2.8-3							

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG048: Hexavalent Chromium (Alkaline Digest)							
Soil Glass Jar - Unpreserved (EG048G)							
BH03_2.5-2.6	**05-Oct-2021**	**15-Oct-2021**	02-Nov-2021	✓	**16-Oct-2021**	22-Oct-2021	✓
Soil Glass Jar - Unpreserved (EG048G)							
BH02_0.05-0.1, BH05_0.2-0.3, BH06_1.2-1.3, QC3, BH06_2.8-3	**06-Oct-2021**	**15-Oct-2021**	03-Nov-2021	✓	**16-Oct-2021**	22-Oct-2021	✓
EK026SF: Total CN by Segmented Flow Analyser							
Soil Glass Jar - Unpreserved (EK026SF)							
BH03_2.5-2.6	**05-Oct-2021**	**15-Oct-2021**	19-Oct-2021	✓	**16-Oct-2021**	29-Oct-2021	✓
Soil Glass Jar - Unpreserved (EK026SF)							
BH02_0.05-0.1, BH05_0.2-0.3, BH06_1.2-1.3, QC3, BH06_2.8-3	**06-Oct-2021**	**15-Oct-2021**	20-Oct-2021	✓	**16-Oct-2021**	29-Oct-2021	✓
EP066: Polychlorinated Biphenyls (PCB)							
Soil Glass Jar - Unpreserved (EP066)							
BH03_2.5-2.6	**05-Oct-2021**	**15-Oct-2021**	19-Oct-2021	✓	**15-Oct-2021**	24-Nov-2021	✓
Soil Glass Jar - Unpreserved (EP066)							
BH02_0.05-0.1, BH05_0.2-0.3, BH06_1.2-1.3, QC3, BH06_2.8-3	**06-Oct-2021**	**15-Oct-2021**	20-Oct-2021	✓	**15-Oct-2021**	24-Nov-2021	✓
EP068A: Organochlorine Pesticides (OC)							
Soil Glass Jar - Unpreserved (EP068)							
BH01_0.1-0.3, BH03_0-0.2, BH03_2.5-2.6, BH04_0.05-0.2	**05-Oct-2021**	**15-Oct-2021**	19-Oct-2021	✓	**15-Oct-2021**	24-Nov-2021	✓
Soil Glass Jar - Unpreserved (EP068)							
BH02_0.05-0.1, BH05_0.2-0.3, BH06_0-0.2, BH06_1.2-1.3, QC3, BH06_2.8-3	**06-Oct-2021**	**15-Oct-2021**	20-Oct-2021	✓	**15-Oct-2021**	24-Nov-2021	✓
EP068B: Organophosphorus Pesticides (OP)							
Soil Glass Jar - Unpreserved (EP068)							
BH01_0.1-0.3, BH03_0-0.2, BH04_0.05-0.2	**05-Oct-2021**	**15-Oct-2021**	19-Oct-2021	✓	**15-Oct-2021**	24-Nov-2021	✓
Soil Glass Jar - Unpreserved (EP068)							
BH06_0-0.2	**06-Oct-2021**	**15-Oct-2021**	20-Oct-2021	✓	**15-Oct-2021**	24-Nov-2021	✓
EP075(SIM)A: Phenolic Compounds							
Soil Glass Jar - Unpreserved (EP075(SIM))							
BH03_2.5-2.6	**05-Oct-2021**	**15-Oct-2021**	19-Oct-2021	✓	**15-Oct-2021**	24-Nov-2021	✓
Soil Glass Jar - Unpreserved (EP075(SIM))							
BH02_0.05-0.1, BH05_0.2-0.3, BH06_1.2-1.3, QC3, BH06_2.8-3	**06-Oct-2021**	**15-Oct-2021**	20-Oct-2021	✓	**15-Oct-2021**	24-Nov-2021	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM)) BH03_2.5-2.6, BH04_0.05-0.2	**05-Oct-2021**	**15-Oct-2021**	19-Oct-2021	✓	**15-Oct-2021**	24-Nov-2021	✓
Soil Glass Jar - Unpreserved (EP075(SIM)) BH02_0.05-0.1, BH05_0.2-0.3, BH06_1.2-1.3, QC3, BH06_2.8-3	**06-Oct-2021**	**15-Oct-2021**	20-Oct-2021	✓	**15-Oct-2021**	24-Nov-2021	✓
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080) BH03_2.5-2.6, BH04_0.05-0.2	**05-Oct-2021**	**14-Oct-2021**	19-Oct-2021	✓	**15-Oct-2021**	19-Oct-2021	✓
Soil Glass Jar - Unpreserved (EP071) BH03_2.5-2.6, BH04_0.05-0.2	**05-Oct-2021**	**15-Oct-2021**	19-Oct-2021	✓	**15-Oct-2021**	24-Nov-2021	✓
Soil Glass Jar - Unpreserved (EP080) BH02_0.05-0.1, BH05_0.2-0.3, BH06_1.2-1.3, QC3, BH06_2.8-3	**06-Oct-2021**	**14-Oct-2021**	20-Oct-2021	✓	**15-Oct-2021**	20-Oct-2021	✓
Soil Glass Jar - Unpreserved (EP071) BH02_0.05-0.1, BH05_0.2-0.3, BH06_1.2-1.3, QC3, BH06_2.8-3	**06-Oct-2021**	**15-Oct-2021**	20-Oct-2021	✓	**15-Oct-2021**	24-Nov-2021	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP080) BH03_2.5-2.6, BH04_0.05-0.2	**05-Oct-2021**	**14-Oct-2021**	19-Oct-2021	✓	**15-Oct-2021**	19-Oct-2021	✓
Soil Glass Jar - Unpreserved (EP071) BH03_2.5-2.6, BH04_0.05-0.2	**05-Oct-2021**	**15-Oct-2021**	19-Oct-2021	✓	**15-Oct-2021**	24-Nov-2021	✓
Soil Glass Jar - Unpreserved (EP080) BH02_0.05-0.1, BH05_0.2-0.3, BH06_1.2-1.3, QC3, BH06_2.8-3	**06-Oct-2021**	**14-Oct-2021**	20-Oct-2021	✓	**15-Oct-2021**	20-Oct-2021	✓
Soil Glass Jar - Unpreserved (EP071) BH02_0.05-0.1, BH05_0.2-0.3, BH06_1.2-1.3, QC3, BH06_2.8-3	**06-Oct-2021**	**15-Oct-2021**	20-Oct-2021	✓	**15-Oct-2021**	24-Nov-2021	✓
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080) BH03_2.5-2.6, BH04_0.05-0.2	**05-Oct-2021**	**14-Oct-2021**	19-Oct-2021	✓	**15-Oct-2021**	19-Oct-2021	✓
Soil Glass Jar - Unpreserved (EP080) BH02_0.05-0.1, BH05_0.2-0.3, BH06_1.2-1.3, QC3, BH06_2.8-3	**06-Oct-2021**	**14-Oct-2021**	20-Oct-2021	✓	**15-Oct-2021**	20-Oct-2021	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Unfiltered; Lab-acidified (EG020A-T) QC2	**05-Oct-2021**	**15-Oct-2021**	03-Apr-2022	✓	**15-Oct-2021**	03-Apr-2022	✓
Clear Plastic Bottle - Unfiltered; Lab-acidified (EG020A-T) QC4	**06-Oct-2021**	**15-Oct-2021**	04-Apr-2022	✓	**15-Oct-2021**	04-Apr-2022	✓
EG035T: Total Recoverable Mercury by FIMS							
Clear Plastic Bottle - Unfiltered; Lab-acidified (EG035T) QC2	**05-Oct-2021**	**----**	----	----	**18-Oct-2021**	02-Nov-2021	✓
Clear Plastic Bottle - Unfiltered; Lab-acidified (EG035T) QC4	**06-Oct-2021**	**----**	----	----	**18-Oct-2021**	03-Nov-2021	✓
EP068A: Organochlorine Pesticides (OC)							
Amber Glass Bottle - Unpreserved (EP068) QC2	**05-Oct-2021**	**14-Oct-2021**	12-Oct-2021	×	**15-Oct-2021**	23-Nov-2021	✓
Amber Glass Bottle - Unpreserved (EP068) QC4	**06-Oct-2021**	**13-Oct-2021**	13-Oct-2021	✓	**15-Oct-2021**	22-Nov-2021	✓
EP068B: Organophosphorus Pesticides (OP)							
Amber Glass Bottle - Unpreserved (EP068) QC2	**05-Oct-2021**	**14-Oct-2021**	12-Oct-2021	×	**15-Oct-2021**	23-Nov-2021	✓
Amber Glass Bottle - Unpreserved (EP068) QC4	**06-Oct-2021**	**13-Oct-2021**	13-Oct-2021	✓	**15-Oct-2021**	22-Nov-2021	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM)) QC2	**05-Oct-2021**	**14-Oct-2021**	12-Oct-2021	×	**15-Oct-2021**	23-Nov-2021	✓
Amber Glass Bottle - Unpreserved (EP075(SIM)) QC4	**06-Oct-2021**	**13-Oct-2021**	13-Oct-2021	✓	**15-Oct-2021**	22-Nov-2021	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071) QC2	**05-Oct-2021**	**14-Oct-2021**	12-Oct-2021	×	**15-Oct-2021**	23-Nov-2021	✓
Amber Glass Bottle - Unpreserved (EP071) QC4	**06-Oct-2021**	**13-Oct-2021**	13-Oct-2021	✓	**15-Oct-2021**	22-Nov-2021	✓
Amber VOC Vial - Sulfuric Acid (EP080) QC2	**05-Oct-2021**	**14-Oct-2021**	19-Oct-2021	✓	**14-Oct-2021**	19-Oct-2021	✓
Amber VOC Vial - Sulfuric Acid (EP080) QC4	**06-Oct-2021**	**14-Oct-2021**	20-Oct-2021	✓	**14-Oct-2021**	20-Oct-2021	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071) QC2	**05-Oct-2021**	**14-Oct-2021**	12-Oct-2021	×	**15-Oct-2021**	23-Nov-2021	✓
Amber Glass Bottle - Unpreserved (EP071) QC4	**06-Oct-2021**	**13-Oct-2021**	13-Oct-2021	✓	**15-Oct-2021**	22-Nov-2021	✓
Amber VOC Vial - Sulfuric Acid (EP080) QC2	**05-Oct-2021**	**14-Oct-2021**	19-Oct-2021	✓	**14-Oct-2021**	19-Oct-2021	✓
Amber VOC Vial - Sulfuric Acid (EP080) QC4	**06-Oct-2021**	**14-Oct-2021**	20-Oct-2021	✓	**14-Oct-2021**	20-Oct-2021	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080) QC2	**05-Oct-2021**	**14-Oct-2021**	19-Oct-2021	✓	**14-Oct-2021**	19-Oct-2021	✓
Amber VOC Vial - Sulfuric Acid (EP080) QC4	**06-Oct-2021**	**14-Oct-2021**	20-Oct-2021	✓	**14-Oct-2021**	20-Oct-2021	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Moisture Content	EA055	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	7	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	6	**16.67**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	7	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	6	**16.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Matrix Spikes (MS) - Continued							
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	2	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	0	3	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	15	**13.33**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	2	**50.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	2	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	0	3	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	15	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Asbestos Identification in Soils	EA200	SOIL	AS 4964 Method for the qualitative identification of asbestos in bulk samples Analysis by Polarised Light Microscopy including dispersion staining
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl2) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3)
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	SOIL	In house: Referenced to USEPA SW846, Method 3060. Hexavalent chromium is extracted by alkaline digestion. The digest is determined by photometrically by automatic discrete analyser, following pH adjustment. The instrument uses colour development using dephenylcarbazide. Each run of samples is measured against a five-point calibration curve. This method is compliant with NEPM Schedule B(3)
Total Cyanide by Segmented Flow Analyser	EK026SF	SOIL	In house: Referenced to APHA 4500-CN C / ASTM D7511 / ISO 14403. Caustic leachates of soil samples are introduced into an automated segmented flow analyser. Complex bound cyanide is decomposed in a continuously flowing stream, at a pH of 3.8, by the effect of UV light. A UV-B lamp (312 nm) and a decomposition spiral of borosilicate glass are used to filter out UV light with a wavelength of less than 290 nm thus preventing the conversion of thiocyanate into cyanide. The hydrogen cyanide present at a pH of 3.8 is separated by gas dialysis. The hydrogen cyanide is then determined photometrically, based on the reaction of cyanide with chloramine-T to form cyanogen chloride. This then reacts with 4-pyridine carboxylic acid and 1,3-dimethylbarbituric acid to give a red colour which is measured at 600 nm. This method is compliant with NEPM Schedule B(3).
Polychlorinated Biphenyls (PCB)	EP066	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3).
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270 Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM Schedule B(3).
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015 Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM Schedule B(3).
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)

Analytical Methods	Method	Matrix	Method Descriptions
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM Schedule B(3) amended.
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Mercury by FIMS	EG035T	WATER	In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the unfiltered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3).
Pesticides by GCMS	EP068	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015 The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM Schedule B(3)

Preparation Methods	Method	Matrix	Method Descriptions
NaOH leach for CN in Soils	CN-PR	SOIL	In house: APHA 4500 CN. Samples are extracted by end-over-end tumbling with NaOH.
Alkaline digestion for Hexavalent Chromium	EG048PR	SOIL	In house: Referenced to USEPA SW846, Method 3060A.
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
Digestion for Total Recoverable Metals	EN25	WATER	In house: Referenced to USEPA SW846-3005. Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM Schedule B(3)

Preparation Methods	Method	Matrix	Method Descriptions
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for purging.

Samples received without CoC

CLIENT / SENDER:	FYFB
PROJECT:	ADC 2021-0244
CONTACT NAME:	
CONTACT NUMBER:	
CARRIER:	TNT
CONNOTE REFERENCE:	423288 9F
SAMPLER:	JT
NUMBER OF SAMPLES/MATRIX:	2 Soil
Client services notified by:	

COC SEQUENCE NUMBER (Circle)

COC:	1	2	3	4	5	6	7
OF:	1	2	3	4	5	6	7

SAMPLES RECEIVED BY: Marie (Ams)

DATE/TIME: 7/10, 10:50

ANALYSIS RECEIVED BY:

DATE/TIME:

Comments

FREIGHT

Environmental Division
Melbourne
Work Order Reference
EM2119781

Telephone : +61-3-8549 9600

LAB ID	SAMPLE ID	DATE	MATRIX	NUMBER OF CONTAINERS	Additional Information
	BH04 3-3.2	5/10			
	BH01 1-A-2.0	"			
	BH02 2-2.1				
	ele				
			TOTAL		

CLIENT:	LABORATORY: ALS	LABORATORY BATCH NO.:	**TURNAROUND TIME:**
PROJECT: Rostrevor	COC Reference #:	SAMPLERS:	**Standard: yes**
SEND REPORT TO:	SEND INVOICE TO: Tim Henderson	PHONE: 08 8201 9788	**24 Hour Turnaround: yes / no**
DATA/ REPORT NEEDED BY:		REPORT FORMAT: HARD:NO FAX: NO E-MAIL: YES	**48 Hour Turnaround: yes / no**
PROJECT ID:	**QUOTE #: AD/060/21**		

RELINQUISHED BY: CMW		**RECEIVED BY:**		
NAME : James Takos	DATE: 5/10/21	NAME :	DATE:	CONSIGNMENT NOTE NO.
OF: Fyfe	TIME: PM	OF:	TIME:	
NAME :	DATE:	NAME :	DATE:	TRANSPORT CO. NAME.
OF:	TIME:	OF:	TIME:	

P.O. NO.:	COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:	ANALYSIS REQUIRED
FOR LAB USE ONLY COOLER SEAL Yes ..... No ..... Broken ..... Intact ..... COOLER TEMP: deg. °C	**Please forward results and invoice to:** tim.henderson@fyfe.com.au	*Container Type and Preservative Codes: P = Neutral Plastic; N = Nitric Acid Preserved; C = Sodium Hydroxide Preserved; J = Solvent Washed Acid Rinsed Jar; S = Solvent Washed Acid Rinsed Glass Bottle; VC = Hydrochloric Acid Preserved Vial; VS = Sulfuric Acid Preserved Vial; BS = Sulfuric Acid Preserved Glass Bottle; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; O = Other.

	SAMPLE DATA					*CONTAINER DATA			ANALYSIS REQUIRED																
	SAMPLE ID		MATRIX	DATE	TIME	TYPE & PRESERVATIVE	NO.	pH field	metals (8)	OCP/OPP	SA Waste Screen	TRH/BTEXN/PAH	asbestos (presence/absence)												**NOTES**
1	BH01	0.1 0.3	soil	5/10/2021		jar			1	1			1												
2	BH01	0.6 0.8	soil	5/10/2021		jar																			
3	BH01	1.4 1.6	soil	5/10/2021		jar			1																
4	BH01	1.8 2	soil	5/10/2021		jar																			
5	BH01	2.8 3	soil	5/10/2021		jar																			
6	BH02	0.05 0.1	soil	6/10/2021		jar					1														
7	BH02	0.7 0.8	soil	6/10/2021		jar																			
8	BH02	1.4 1.5	soil	6/10/2021		jar																			
9	BH02	2 2.1	soil	6/10/2021		jar																			
10	BH02	3.4 3.5	soil	6/10/2021		jar			1																
11	BH03	0 0.2	soil	5/10/2021		jar			1	1			1												
12	BH03	0.8 1	soil	5/10/2021		jar																			
13	BH03	1.9 2	soil	5/10/2021		jar			1																
14	BH03	2.5 2.6	soil	5/10/2021		jar					1														
15	BH04	0.05 0.2	soil	5/10/2021		jar			1	1		1													
16	BH04	0.2 0.3	soil	5/10/2021		jar																			
17	BH04	0.7 0.8	soil	5/10/2021		jar			1																
18	BH04	0.7 0.8	soil	5/10/2021		jar			1																please report as QC1
19	BH04	1.4 1.5	soil	5/10/2021		jar																			
20	BH04	3 3.2	soil	5/10/2021		jar																			
21	BH05	0.2 0.3	soil	6/10/2021		jar					1														
22	BH05	0.6 0.7	soil	6/10/2021		jar			1																
23	BH05	1.7 1.8	soil	6/10/2021		jar																			
24	BH05	2.2 2.3	soil	6/10/2021		jar																			
25	BH05	3 3.1	soil	6/10/2021		jar			1																
26	BH06	0 0.2	soil	6/10/2021		jar			1	1			1												

FYFE

CLIENT:	LABORATORY: ALS	LABORATORY BATCH NO.:	**TURNAROUND TIME:**
PROJECT: Rostrevor	COC Reference #:	SAMPLERS:	**Standard: yes**
SEND REPORT TO:	SEND INVOICE TO: Tim Henderson	PHONE: 08 8201 9788	**24 Hour Turnaround: yes / no**
DATA/ REPORT NEEDED BY:		REPORT FORMAT: HARD:NO FAX: NO E-MAIL: YES	**48 Hour Turnaround: yes / no**
PROJECT ID:	**QUOTE #: AD/060/21**		

RELINQUISHED BY: CMW		**RECEIVED BY:**		METHOD OF SHIPMENT: Overnight
NAME : James Takos	DATE: 5/10/21	NAME :	DATE:	CONSIGNMENT NOTE NO.
OF: Fyfe	TIME: PM	OF:	TIME:	
NAME :	DATE:	NAME :	DATE:	TRANSPORT CO. NAME.
OF:	TIME:	OF:	TIME:	

P.O. NO.:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

FOR LAB USE ONLY

COOLER SEAL

Yes ..... No .....

Broken ..... Intact .....

COOLER TEMP: deg. °C

Please forward results and invoice to:

tim.henderson@fyfe.com.au

*Container Type and Preservative Codes: P = Neutral Plastic; N = Nitric Acid Preserved; C = Sodium Hydroxide Preserved; J = Solvent Washed Acid Rinsed Jar; S = Solvent Washed Acid Rinsed Glass Bottle; VC = Hydrochloric Acid Preserved Vial; VS = Sulfuric Acid Preserved Vial; BS = Sulfuric Acid Preserved Glass Bottle; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; O = Other.

	SAMPLE DATA					*CONTAINER DATA			ANALYSIS REQUIRED															
	SAMPLE ID			MATRIX	DATE	TIME	TYPE & PRESERVATIVE	NO.	pH field	metals (8)	OCP/OPP	SA Waste Screen	TRH/BTEXN/PAH	asbestos (presence/absence)											NOTES
27	BH06	0.3	0.4	soil	6/10/2021		jar																		
28	BH06	1.2	1.3	soil	6/10/2021		jar					1													
29	BH06	1.2	1.3	soil	6/10/2021		jar					1													please report as QC4 3
30	BH06	1.2	1.3	soil	6/10/2021		jar																		
31	BH06	1.6	1.7	soil	6/10/2021		jar			1															
32	BH06	2.8	3	soil	6/10/2021		jar					1													
33	BH06	3.8	4	soil	6/10/2021		jar																		
34	QC2			water						1	1		1												
35	QC4			water						1	1		1												
									TOTAL	14	6	6	3	3											

36 BH03 2.9 - 3.0 5/10/2021

SM 13/10

Ranil Weerakkody

From: Tim Henderson <Tim.Henderson@fyfe.com.au>
Sent: Wednesday, 13 October 2021 2:49 PM
To: Kieren Burns
Subject: [EXTERNAL] - RE: ON HOLD - EM2119781 - FYFEAR - ADL2021-0244
Attachments: 81100-1_Rostrevor Soil COC 131021.pdf

HI Kieren,

Please find attached the analysis request for these samples.

Ta

Tim Henderson | Principal Environmental Scientist
T +61 8 8201 9638 **M** +61 419 024 493

From: Kieren Burns <Kieren.Burns@alsglobal.com>
Sent: Wednesday, 13 October 2021 12:37 PM
To: Tim Henderson <Tim.Henderson@fyfe.com.au>
Subject: FW: ON HOLD - EM2119781 - FYFEAR - ADL2021-0244

Hi Tim,

The lab is waiting on a completed COC for these CMW samples that were submitted for FYFE.

ADL2021-0244

Regards

Kieren Burns
Business Development Manager - SA
Environmental

T +61 8 8162 5130
M +61 448 527 608
kieren.burns@alsglobal.com
Unit 3/1 Burma Road
Pooraka SA 5095

BOREHOLE LOG - BH01

Client: KBR
Project: Rostrevor High School Development
Location: Glen Stuart Rd, Woodforde SA 5072
Project ID: ADL2021-0244
Date: 05/10/2021

CMW Geosciences

1:50 Sheet 1 of 1

Logged by: James Takos Position: E.287694m N.6135485m Plant used: MPS300 Geoprobe
Checked by: Elevation: Angle from horizontal: 90° Contractor: A&S Drilling

Groundwater	Samples & Insitu Tests Depth	Samples & Insitu Tests Type & Results	RL (m)	Depth (m)	Graphic Log	Material Description Soil Type, Plasticity or Particle Characteristics, Colour, Secondary and Minor Components	Moisture Condition	Consistency/ Relative Density	Structure & other observations
	0.1-0.3	ES				CI: SANDY CLAY: medium plasticity; sand, fine grained; trace gravel; brown, trace fine grained gravel; trace roots.	<PL	F	0.00-0.60m: Fill
	0.6-0.8	ES				CI: SANDY CLAY: medium plasticity; sand; pale brown white; Calcareous.	<PL	St	0.60-1.50m: Calcareous
	1.0-1.2	D(1KG)		1					
	1.4-1.6	ES							
	1.50	SPT: (7,7,9) N=16				CH: CLAY: high plasticity; trace sand; pale brown mottled grey, trace fine to medium grained gravel.			1.50-9.50m: Natural Material Keswick Clay
	1.8-2.0	ES							
	2.00	PP=475.0kPa		2			<PL	St to VSt	
	2.60	PP=460.0kPa							
	2.8-3.0	ES							
	3.0-3.4	U50		3					
	3.1-3.2	D(1KG)				CH: CLAY: high plasticity; trace sand; grey mottled brown yellow.			
	3.40	SPT: (4,6,9) N=15					<PL	VSt	
	4.10	PP=490.0kPa		4					
	4.50	SPT: (5,6,8) N=14							
	4.70	PP=525.0kPa				CH: CLAY: high plasticity; trace sand; grey mottled red yellow.			
	5.50	PP=550.0kPa		5					
	6.00	SPT: (7,8,12) N=20		6			<PL	VSt	
	6.70	PP=550.0kPa							
	7.20	PP=550.0kPa		7					
	7.50	SPT: (9,10,14) N=24							
	8.80	PP=550.0kPa		8				Vst to H	
	9.50	SPT: (37,30/70mm) N=R		9		CH: CLAY: high plasticity; trace sand; red brown mottled grey, trace fine grained sand.		H	9.50-9.67m: Sandstone
						GP: GRAVEL: fine to coarse grained, subangular to subrounded; trace sand, fine to medium grained; red brown with grey white.			9.67m: SPT Refusal (80mm) Left
				10		Borehole terminated at 9.67 m			

DCP/PSP Equipment Ref.: | In Situ Vane Equipment Ref.: | Pocket Penetrometer Equipment Ref.:

Termination Reason: Equipment refusal
Remarks:

This report must be read in conjunction with accompanying notes and abbreviations.

BOREHOLE LOG - BH02

Client: KBR
Project: Rostrevor High School Development
Location: Glen Stuart Rd, Woodforde SA 5072
Project ID: ADL2021-0244
Date: 06/10/2021

CMW Geosciences

1:50 Sheet 1 of 1

Logged by: James Takos Position: E.287816m N.6135427m Plant used: MPS300 Geoprobe
Checked by: Elevation: Angle from horizontal: 90° Contractor: A&S Drilling

Groundwater	Samples & Insitu Tests: Depth	Samples & Insitu Tests: Type & Results	RL (m)	Depth (m)	Graphic Log	Material Description	Moisture Condition	Consistency/ Relative Density	Structure & other observations
	0.0-0.1	ES				brick.	<PL	F	0.00-0.04m: Brick
						ML: SANDY SILT: low plasticity; sand, fine grained; trace gravel, subangular to subrounded; brown, with fine grained gravel; trace roots.			0.04-0.16m: Select Fill
	0.5-0.6	D(1KG)				CL: SANDY CLAY: low plasticity; sand, fine grained; trace gravel, subangular to subrounded; brown, trace fine grained gravel.	<PL	F to St	0.16-10.00m: Natural
	0.7-0.8	ES							
				1		CL: SANDY CLAY: low plasticity; sand, fine grained; trace gravel, subangular to subrounded; brown mottled pale brown white, trace fine grained gravel; Calcareous.			0.80-3.00m: Calcareous
	1.4-1.5	ES					<PL	St to VSt	
	1.50	SPT: (13,15,15) N=30							
	2.0-2.1	ES		2					
	2.00	PP=495.0kPa				CL: SANDY CLAY: low plasticity; sand, fine to medium grained; trace gravel, subangular to subrounded; pale brown, with fine to medium grained gravel; Calcareous.	<PL		
	3.00	SPT: (12,15,18) N=33		3		CI: CLAY: medium plasticity; trace sand; brown mottled grey.			3.00-10.00m: Natural Keswick Clay
	3.4-3.5	ES							
	3.60	PP=310.0kPa							
	4.00	PP=550.0kPa		4			<PL	St to VSt	
	4.40	PP=550.0kPa							
	4.5-4.8	U50							
	4.80	SPT: (6,8,9) N=17		5					
	5.2-5.4	D(1KG)				CI: CLAY: medium plasticity; trace sand; brown and grey.			
	5.70	PP=550.0kPa					<PL	VSt	
	5.90	PP=550.0kPa							
	6.00	SPT: (8,13,15) N=28		6		CI: CLAY: medium plasticity; trace sand; red brown mottled grey yellow, trace fine to medium grained gravel.			
	6.70	PP=475.0kPa							
	7.00	PP=550.0kPa		7			<PL	St to VSt	
	7.50	SPT: (8,16,15) N=31							
	7.70	PP=480.0kPa							
				8		CI: GRAVELLY CLAY: medium plasticity; gravel, fine to coarse grained, angular to subangular; trace sand; red brown mottled grey yellow, trace fine to medium grained sand.	<PL	St to VSt	
	8.70	PP=310.0kPa				CI: CLAY: medium plasticity; trace sand; red brown streaked grey yellow, with fine to medium grained sand.			
	9.0-9.2	D(1KG)		9					
	9.00	PP=400.0kPa					<PL	St	
	9.40	PP=350.0kPa							
	9.50	SPT: (5,14,11) N=25							
				10		Borehole terminated at 10.00 m			

DCP/PSP Equipment Ref.: | In Situ Vane Equipment Ref.: | Pocket Penetrometer Equipment Ref.:

Termination Reason: Target depth reached
Remarks:

This report must be read in conjunction with accompanying notes and abbreviations.

BOREHOLE LOG - BH03

Client: KBR
Project: Rostrevor High School Development
Location: Glen Stuart Rd, Woodforde SA 5072
Project ID: ADL2021-0244
Date: 05/10/2021

CMW Geosciences

1:50 Sheet 1 of 1

Logged by: James Takos Position: E.287725m N.6135440m Plant used: MPS300 Geoprobe
Checked by: Elevation: Angle from horizontal: 90° Contractor: A&S Drilling

Groundwater	Samples & Insitu Tests Depth	Samples & Insitu Tests Type & Results	RL (m)	Depth (m)	Graphic Log	Material Description Soil Type, Plasticity or Particle Characteristics, Colour, Secondary and Minor Components	Moisture Condition	Consistency/ Relative Density	Structure & other observations
	0.0-0.2	ES				CI: SANDY CLAY: medium plasticity; sand, fine grained; trace gravel; brown, trace fine grained gravel; trace roots.	<PL	S to F	0.00-0.30m: Topsoil
						CI: SANDY CLAY: medium plasticity; sand; brown and white; Calcareous.	<PL	F	0.30-1.00m: Calcareous
	0.8-1.0	ES		1		CH: CLAY: high plasticity; trace sand; pale brown mottled grey, trace fine to medium grained gravel; trace roots.			1.00-7.73m: Natural Keswick Clay
	1.50	SPT: (4,5,6) N=11					<PL	St to VSt	
	1.9-2.0	ES							
	1.90	PP=350.0kPa		2					
	2.30	PP=400.0kPa							
	2.5-2.6	ES							
	2.90	PP=410.0kPa				CI: SANDY CLAY: medium plasticity; sand; trace gravel, subrounded to rounded; pale brown, with fine grained gravel.	<PL	St	
	3.00	SPT: (7,7,13) N=20		3		CI: CLAY: medium plasticity; trace sand; pale brown mottled grey.	<PL	St	
						CH: CLAY: high plasticity; trace sand; grey mottled brown yellow.			
	3.70	PP=500.0kPa							
	4.0-4.3	D(1KG)		4					
	4.20	PP=500.0kPa							
	4.50	SPT: (5,6,9) N=15					<PL	VSt	
				5					
	5.50	PP=525.0kPa							
	6.00	SPT: (7,10,12) N=22		6					
	6.20	PP=540.0kPa				CH: CLAY: high plasticity; trace sand; grey mottled brown yellow, with fine to coarse grained gravel.			
	6.80	PP=535.0kPa					<PL	Vst to H	
	7.50	SPT: (20,30/80mm) N=R		7					
						Borehole terminated at 7.73 m			7.73m: SPT Refusal (70mm) left
				8					
				9					
				10					

DCP/PSP Equipment Ref.: | In Situ Vane Equipment Ref.: | Pocket Penetrometer Equipment Ref.:

Termination Reason: Equipment refusal
Remarks:

This report must be read in conjunction with accompanying notes and abbreviations.

BOREHOLE LOG - BH04

Client: KBR
Project: Rostrevor High School Development
Location: Glen Stuart Rd, Woodforde SA 5072
Project ID: ADL2021-0244
Date: 05/10/2021

CMW Geosciences

1:50 Sheet 1 of 1

Logged by: James Takos Position: E.287787m N.6135496m Plant used: MPS300 Geoprobe
Checked by: Elevation: Angle from horizontal: 90° Contractor: A&S Drilling

Groundwater	Samples & Insitu Tests: Depth	Samples & Insitu Tests: Type & Results	RL (m)	Depth (m)	Graphic Log	Material Description	Moisture Condition	Consistency/ Relative Density	Structure & other observations
	0.0-0.2	ES				GP: SANDY GRAVEL: fine to medium grained, subangular to subrounded; sand, fine to coarse grained; pale yellow with grey white.	D	D to MD	0.00-0.05m: Asphalt
	0.2-0.3	ES					D	MD to VD	0.05-0.20m: Basecourse
						SW: SAND: fine to medium grained; orange.		VD	0.20-0.30m: Select Fill
						CI: CLAY: medium plasticity; brown.	<PL	St to VSt	0.30-4.00m: Natural
	0.7-0.8	ES							
	0.7-0.8	QC							
				1		CI: CLAY: medium plasticity; white with pale brown; Calcareous.	<PL	VSt	
	1.4-1.5	ES							
	1.60	PP=550.0kPa				CL: SANDY CLAY: low plasticity; sand, fine to medium grained; trace gravel, subangular to subrounded; pale brown, with fine grained gravel.			
				2					
	2.30	PP=200.0kPa						St	
							<PL		
	3.0-3.2	ES		3					
	3.70	PP=550.0kPa				CI: CLAY: medium plasticity; trace sand; pale brown mottled grey.		VSt	
	3.90	PP=600.0kPa		4		Borehole terminated at 4.00 m			
				5					
				6					
				7					
				8					
				9					
				10					

DCP/PSP Equipment Ref.: | In Situ Vane Equipment Ref.: | Pocket Penetrometer Equipment Ref.:

Termination Reason: Target depth reached
Remarks:

This report must be read in conjunction with accompanying notes and abbreviations.

BOREHOLE LOG - BH05

Client: KBR
Project: Rostrevor High School Development
Location: Glen Stuart Rd, Woodforde SA 5072
Project ID: ADL2021-0244
Date: 06/10/2021

CMW Geosciences

1:50 Sheet 1 of 1

Logged by: James Takos Position: E.287864m N.6135335m Plant used: MPS300 Geoprobe
Checked by: Elevation: Angle from horizontal: 90° Contractor: A&S Drilling

Groundwater	Samples & Insitu Tests: Depth	Samples & Insitu Tests: Type & Results	RL (m)	Depth (m)	Graphic Log	Material Description (Soil Type, Plasticity or Particle Characteristics, Colour, Secondary and Minor Components)	Moisture Condition	Consistency/ Relative Density	Structure & other observations
	0.2-0.3	ES				asphalt.	D	D	0.00-0.04m: Asphalt
						GP: SANDY GRAVEL: fine to medium grained, subangular to subrounded; sand, fine to coarse grained; pale yellow with grey white.			0.04-0.10m: Basecourse
	0.5-0.8	CBR							0.10-4.00m: Natural
	0.6-0.7	ES				CI: CLAY: medium plasticity; brown, trace fine grained gravel.	<PL	St	
				1		CI: CLAY: medium plasticity; brown to pale brown, trace fine to medium grained sand.			
	1.60	PP=550.0kPa							
	1.7-1.8	ES							
	1.90	PP=550.0kPa					<PL	St to VSt	
	2.2-2.3	ES		2					
	2.25	PP=550.0kPa							
	2.90	PP=550.0kPa							
	3.0-3.1	ES		3		CI: CLAY: medium plasticity; brown to pale brown, with fine to medium grained gravel.			
	3.30	PP=550.0kPa					<PL	St to VSt	
	3.75	PP=510.0kPa							
	3.90	PP=550.0kPa		4		Borehole terminated at 4.00 m			
				5					
				6					
				7					
				8					
				9					
				10					

DCP/PSP Equipment Ref.: | In Situ Vane Equipment Ref.: | Pocket Penetrometer Equipment Ref.:

Termination Reason: Target depth reached
Remarks:

This report must be read in conjunction with accompanying notes and abbreviations.

BOREHOLE LOG - BH06

Client: KBR
Project: Rostrevor High School Development
Location: Glen Stuart Rd, Woodforde SA 5072
Project ID: ADL2021-0244
Date: 06/10/2021

CMW Geosciences

1:50 Sheet 1 of 1

Logged by: James Takos Position: E.287893m N.6135473m Plant used: MPS300 Geoprobe
Checked by: Elevation: Angle from horizontal: 90° Contractor: A&S Drilling

Groundwater	Samples & Insitu Tests Depth	Samples & Insitu Tests Type & Results	RL (m)	Depth (m)	Graphic Log	Material Description Soil Type, Plasticity or Particle Characteristics, Colour, Secondary and Minor Components	Moisture Condition	Consistency/ Relative Density	Structure & other observations
	0.0-0.2	ES				CL: SANDY CLAY: low plasticity; sand; trace gravel, subangular to subrounded; brown, trace fine grained gravel; trace roots.	<PL	F	0.00-0.10m: Topsoil
	0.3-0.4	ES				CI: SANDY CLAY: medium plasticity; sand, fine to medium grained; trace gravel, subangular to subrounded; red brown speckled white grey, with fine grained gravel.	<PL	St to VSt	0.10-0.60m: Fill
	0.5-0.8	CBR				CI: SANDY CLAY: medium plasticity; sand, fine to medium grained.	<PL	St	0.60-4.00m: Natural
	0.8-0.8	D(1KG)							
	0.75	PP=310.0kPa							
	0.85	PP=490.0kPa		1					
	1.00	PP=550.0kPa				CI: CLAY: medium plasticity; pale brown streaked white, trace fine grained gravel.	<PL	St to VSt	
	1.2-1.3	ES							
	1.2-1.3	QC							
	1.2-1.3	QC							
	1.30	PP=525.0kPa				GC: CLAYEY GRAVEL: fine to coarse grained, angular to subangular; clay, low plasticity; trace sand; pale brown with grey, trace fine to medium grained sand.	D	D to VD	
	1.40	PP=550.0kPa		2					
	1.6-1.7	ES				CI: CLAY: medium plasticity; trace gravel, angular to subangular; trace sand; red brown streaked grey yellow, with fine to coarse grained gravel.			
	1.60	PP=550.0kPa							
	1.70	PP=540.0kPa							
	2.8-3.0	ES							
	2.80	PP=485.0kPa		3			<PL	St to VSt	
	3.10	PP=370.0kPa							
	3.30	PP=390.0kPa							
	3.8-4.0	ES							
	3.80	PP=490.0kPa		4		Borehole terminated at 4.00 m			
				5					
				6					
				7					
				8					
				9					
				10					

DCP/PSP Equipment Ref.: | In Situ Vane Equipment Ref.: | Pocket Penetrometer Equipment Ref.:

Termination Reason: Target depth reached
Remarks:

This report must be read in conjunction with accompanying notes and abbreviations.

UCL Statistics for Uncensored Full Data Sets

User Selected Options	
Date/Time of Computation	ProUCL 5.129/10/2021 12:02:40 PM
From File	WorkSheet_a.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Barium

General Statistics

Total Number of Observations	17	Number of Distinct Observations	8
		Number of Missing Observations	0
Minimum	20	Mean	91.18
Maximum	410	Median	70
SD	87.03	Std. Error of Mean	21.11
Coefficient of Variation	0.954	Skewness	3.381

Normal GOF Test

Shapiro Wilk Test Statistic	0.574	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.892	Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.342	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.207	Data Not Normal at 5% Significance Level

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	128	95% Adjusted-CLT UCL (Chen-1995)	144.4
		95% Modified-t UCL (Johnson-1978)	130.9

Gamma GOF Test

A-D Test Statistic	0.947	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.748	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.24	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.211	Data Not Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	2.233	k star (bias corrected MLE)	1.878
Theta hat (MLE)	40.83	Theta star (bias corrected MLE)	48.54
nu hat (MLE)	75.93	nu star (bias corrected)	63.87
MLE Mean (bias corrected)	91.18	MLE Sd (bias corrected)	66.53
		Approximate Chi Square Value (0.05)	46.48
Adjusted Level of Significance	0.0346	Adjusted Chi Square Value	44.93

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	125.3	95% Adjusted Gamma UCL (use when n<50)	129.6

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.919	**Shapiro Wilk Lognormal GOF Test**

53	5% Shapiro Wilk Critical Value					0.892	Data appear Lognormal at 5% Significance Level					
54	Lilliefors Test Statistic					0.19	**Lilliefors Lognormal GOF Test**					
55	5% Lilliefors Critical Value					0.207	Data appear Lognormal at 5% Significance Level					
56	**Data appear Lognormal at 5% Significance Level**											
57												
58	**Lognormal Statistics**											
59	Minimum of Logged Data					2.996	Mean of logged Data					4.273
60	Maximum of Logged Data					6.016	SD of logged Data					0.663
61												
62	**Assuming Lognormal Distribution**											
63	95% H-UCL					128.9	90% Chebyshev (MVUE) UCL					132.7
64	95% Chebyshev (MVUE) UCL					152.9	97.5% Chebyshev (MVUE) UCL					181.1
65	99% Chebyshev (MVUE) UCL					236.3						
66												
67	**Nonparametric Distribution Free UCL Statistics**											
68	**Data appear to follow a Discernible Distribution at 5% Significance Level**											
69												
70	**Nonparametric Distribution Free UCLs**											
71	95% CLT UCL					125.9	95% Jackknife UCL					128
72	95% Standard Bootstrap UCL					124.9	95% Bootstrap-t UCL					180
73	95% Hall's Bootstrap UCL					270.1	95% Percentile Bootstrap UCL					130
74	95% BCA Bootstrap UCL					150.6						
75	90% Chebyshev(Mean, Sd) UCL					154.5	95% Chebyshev(Mean, Sd) UCL					183.2
76	97.5% Chebyshev(Mean, Sd) UCL					223	99% Chebyshev(Mean, Sd) UCL					301.2
77												
78	**Suggested UCL to Use**											
79	95% H-UCL					128.9						
80												
81	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
82	Recommendations are based upon data size, data distribution, and skewness.											
83	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
84	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
85												
86	**ProUCL computes and outputs H-statistic based UCLs for historical reasons only.**											
87	**H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.**											
88	**It is therefore recommended to avoid the use of H-statistic based 95% UCLs.**											
89	**Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.**											
90												

UCL Statistics for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	ProUCL 5.121/10/2021 4:13:33 PM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Zinc

General Statistics

Total Number of Observations	18	Number of Distinct Observations	15
Number of Detects	17	Number of Non-Detects	1
Number of Distinct Detects	14	Number of Distinct Non-Detects	1
Minimum Detect	12	Minimum Non-Detect	5
Maximum Detect	211	Maximum Non-Detect	5
Variance Detects	2864	Percent Non-Detects	5.556%
Mean Detects	41.06	SD Detects	53.52
Median Detects	21	CV Detects	1.304
Skewness Detects	2.739	Kurtosis Detects	6.982
Mean of Logged Detects	3.317	SD of Logged Detects	0.767

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.525	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.892	Detected Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.39	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.207	Detected Data Not Normal at 5% Significance Level

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	39.06	KM Standard Error of Mean	12.42
KM SD	51.13	95% KM (BCA) UCL	63
95% KM (t) UCL	60.67	95% KM (Percentile Bootstrap) UCL	60
95% KM (z) UCL	59.49	95% KM Bootstrap t UCL	151.1
90% KM Chebyshev UCL	76.32	95% KM Chebyshev UCL	93.2
97.5% KM Chebyshev UCL	116.6	99% KM Chebyshev UCL	162.7

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	2.322	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.758	Detected Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.303	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.213	Detected Data Not Gamma Distributed at 5% Significance Level

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	1.398	k star (bias corrected MLE)	1.191
Theta hat (MLE)	29.37	Theta star (bias corrected MLE)	34.48
nu hat (MLE)	47.54	nu star (bias corrected)	40.48
Mean (detects)	41.06		

Gamma ROS Statistics using Imputed Non-Detects

53	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs											
54	GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)											
55	For such situations, GROS method may yield incorrect values of UCLs and BTVs											
56	This is especially true when the sample size is small.											
57	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
58					Minimum	0.01				Mean	38.78	
59					Maximum	211				Median	21	
60					SD	52.82				CV	1.362	
61					k hat (MLE)	0.764				k star (bias corrected MLE)	0.674	
62					Theta hat (MLE)	50.74				Theta star (bias corrected MLE)	57.55	
63					nu hat (MLE)	27.51				nu star (bias corrected)	24.26	
64					Adjusted Level of Significance (β)	0.0357						
65					Approximate Chi Square Value (24.26, α)	14.05				Adjusted Chi Square Value (24.26, β)	13.3	
66					95% Gamma Approximate UCL (use when n>=50)	66.98				95% Gamma Adjusted UCL (use when n<50)	70.72	
67												
68	**Estimates of Gamma Parameters using KM Estimates**											
69					Mean (KM)	39.06				SD (KM)	51.13	
70					Variance (KM)	2614				SE of Mean (KM)	12.42	
71					k hat (KM)	0.583				k star (KM)	0.523	
72					nu hat (KM)	21				nu star (KM)	18.84	
73					theta hat (KM)	66.94				theta star (KM)	74.64	
74					80% gamma percentile (KM)	64.25				90% gamma percentile (KM)	104.7	
75					95% gamma percentile (KM)	147.6				99% gamma percentile (KM)	252.8	
76												
77	**Gamma Kaplan-Meier (KM) Statistics**											
78					Approximate Chi Square Value (18.84, α)	9.998				Adjusted Chi Square Value (18.84, β)	9.383	
79					95% Gamma Approximate KM-UCL (use when n>=50)	73.58				95% Gamma Adjusted KM-UCL (use when n<50)	78.4	
80												
81	**Lognormal GOF Test on Detected Observations Only**											
82					Shapiro Wilk Test Statistic	0.775				**Shapiro Wilk GOF Test**		
83					5% Shapiro Wilk Critical Value	0.892				Detected Data Not Lognormal at 5% Significance Level		
84					Lilliefors Test Statistic	0.238				**Lilliefors GOF Test**		
85					5% Lilliefors Critical Value	0.207				Detected Data Not Lognormal at 5% Significance Level		
86	**Detected Data Not Lognormal at 5% Significance Level**											
87												
88	**Lognormal ROS Statistics Using Imputed Non-Detects**											
89					Mean in Original Scale	39.06				Mean in Log Scale	3.222	
90					SD in Original Scale	52.61				SD in Log Scale	0.845	
91					95% t UCL (assumes normality of ROS data)	60.63				95% Percentile Bootstrap UCL	60.39	
92					95% BCA Bootstrap UCL	67.28				95% Bootstrap t UCL	152.3	
93					95% H-UCL (Log ROS)	58.88						
94												
95	**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**											
96					KM Mean (logged)	3.222				KM Geo Mean	25.07	
97					KM SD (logged)	0.822				95% Critical H Value (KM-Log)	2.391	
98					KM Standard Error of Mean (logged)	0.2				95% H-UCL (KM -Log)	56.64	
99					KM SD (logged)	0.822				95% Critical H Value (KM-Log)	2.391	
100					KM Standard Error of Mean (logged)	0.2						
101												
102	**DL/2 Statistics**											
103	**DL/2 Normal**									**DL/2 Log-Transformed**		
104					Mean in Original Scale	38.92				Mean in Log Scale	3.183	

	A	B	C	D	E	F	G	H	I	J	K	L
105					SD in Original Scale	52.71					SD in Log Scale	0.935
106					95% t UCL (Assumes normality)	60.53					95% H-Stat UCL	66.5
107	**DL/2 is not a recommended method, provided for comparisons and historical reasons**											
108												
109	**Nonparametric Distribution Free UCL Statistics**											
110	**Data do not follow a Discernible Distribution at 5% Significance Level**											
111												
112	**Suggested UCL to Use**											
113					95% KM (Chebyshev) UCL	93.2						
114												
115	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
116	Recommendations are based upon data size, data distribution, and skewness.											
117	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
118	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
119												

27 October 2021

ROSTREVOR HIGH SCHOOL DEVELOPMENT
MORIALTA ROAD WEST, ROSTREVOR, SA 5073

GEOTECHNICAL INVESTIGATION REPORT

KBR

ADL2021-0244AB Rev0

Table of Contents

Drawings

Appendices

1 EXECUTIVE SUMMARY

This report presents the results of the geotechnical and contamination site investigation carried out at Rostrevor High School at Morialta Road West, Rostrevor, SA 5073. Key findings are summarised below.

- Uncontrolled fill was encountered generally at depths up to 0.4m but may extend up to 0.6 metres at the proposed building and carpark area (corresponds to BH01 and BH06);
- Site classification to AS2870-2011 for the site is Class E-D. However, the site at BH01 and BH06 is classified as Class P subject to recommendations provided herein.
- A site sub-soil class of D_e (Deep soil site) is recommended for seismic design purposes.
- Bored piles are considered to be a suitable deep foundation option, subject to recommendations provided herein.
- A design subgrade CBR of 2% is assessed appropriate subject to preparation requirements listed herein.
- Groundwater was not encountered during the site investigation.
- An exposure classification of "**non-aggressive**" is assessed within the tested depth and location where soils are above ground water level.

2 INTRODUCTION

CMW Geosciences (CMW) was authorised by KBR to carry out a geotechnical investigation for the proposed development at Rostrevor High School at Morialta Road West, Rostrevor, SA 5073 by an way of email dated 9 September and a Letter of Intent – REF 1ES780-LOI-CMW-0001 dated 30 September 2021.

The scope of work and associated terms and conditions of our engagement were detailed in our services proposal letter referenced ADL2021-0244AA Rev2, dated 21 September 2021.

The purpose of this report is to describe the investigation completed, the ground conditions encountered, to provide recommendations and geotechnical parameters to aid the construction work involved with proposed developments at Rostrevor high School.

A separate preliminary contamination assessment is currently being carried out by Fyfe and will be provided separately.

3 PROPOSED DEVELOPMENT

Based on information provided by KBR the proposed development will include;

- 2x new learning communities (each 3 storeys);
- Administration, library entrepreneual hub and café (2 storey);
- Single storey performing arts;
- Single storey Gym and fitness building;
- New carparks for total 145 parking spaces
- New tennis courts, basketball courts;
- Miscellaneous landscaping and retaining walls.

A proposed plan was provided by KBR which shows the location of the development and the structures involved in the new development project (Figure 1).

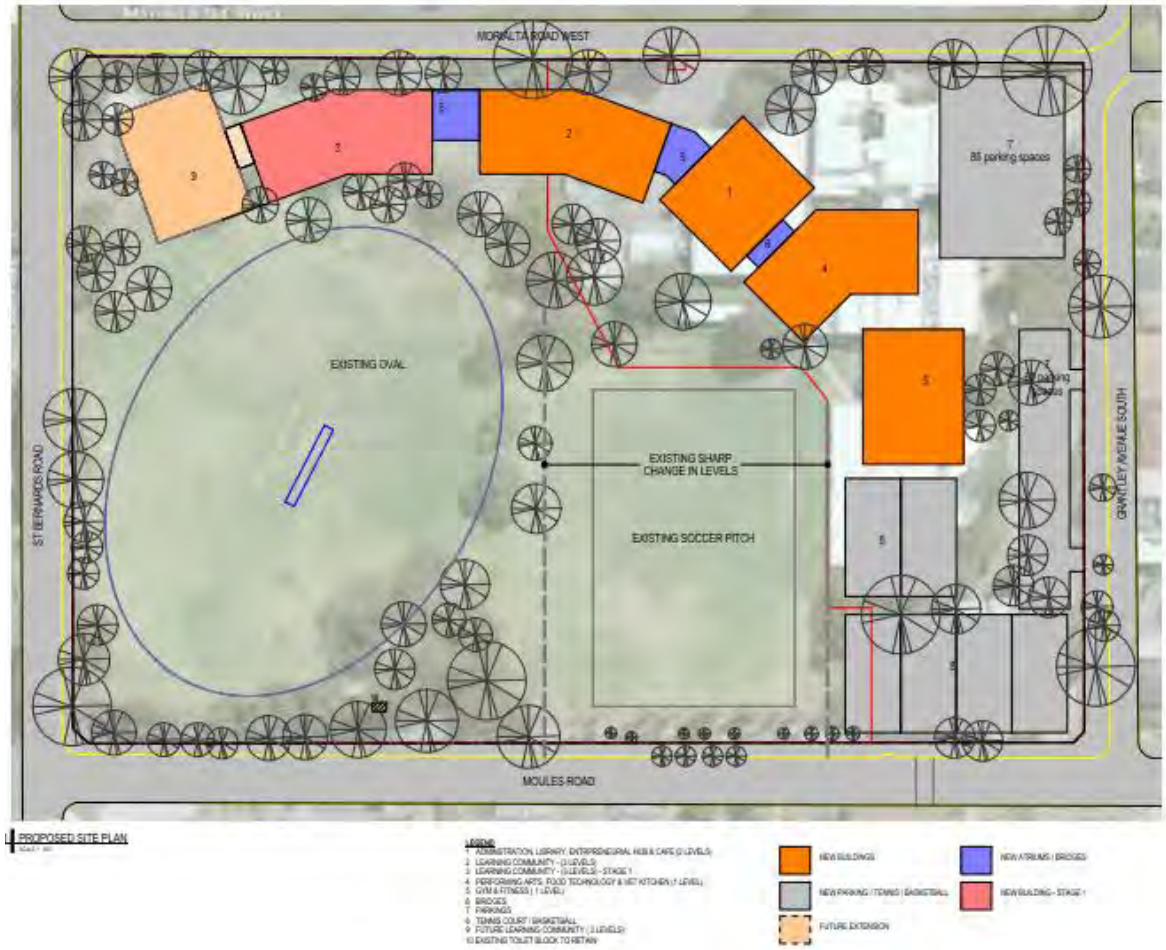

Figure 1 - Proposed development at Rostrevor High School (Provided by KBR)

4 SITE DESCRIPTION

The proposed development is located within Rostrevor High School at Morialta Road West, Rostrevor, SA 5073. The site is generally flat with a sharp level change of the existing Oval. The area is bounded by Morialta Road West on the north, Grantley Avenue South on the east, Moules Road on the south and St. Bernard Road on the west. The existing site consists of administration building, Sports and Gymnastic centre and car park on the east side of the area adjacent to Grantley Avenue South. The northern end of the site consists of existing asphalt pavements for the tennis / mixed use outdoor courts, asphalt pavements for existing roads and carpark pavements and grassed areas through-out. Majority of the south-west site of the area consists of a soccer ground and an oval.

Along the northern and eastern boundary and surrounding the existing building there are number of trees present of height ranging between 10 and 20m. The location of existing trees can be observed in Figure 1 with respect to the proposed development.

Photographs of the site as presented in Figure 2, Figure 3 and Appendix A.

Figure 2 - Site photograph at BH01, Rostrevor High School (04-10-21)

Figure 3: Site photograph at BH05, Rostrevor High School (06-10-21)

5 FIELD INVESTIGATION

Following a dial before you dig search, and onsite service location, the field investigation was carried out on 5 and 6 October 2021. All fieldwork was carried out under the direction of CMW Geosciences in general accordance with AS1726 (2017), Geotechnical Site Investigations. The scope of fieldwork completed was as follows:

- Advance 2x boreholes to a target depth of 10.0m depth below ground level or shallower upon refusal, using pushtube and hollow auger drilling methods with a truck mounted ezi-probe drilling rig, with Standard Penetration Tests (SPT) undertaken at nominal 1.5 metre centres;
- Advance 1x boreholes to a target depth of 8.0m depth below ground level or shallower upon refusal, using pushtube and hollow auger drilling methods with a truck mounted ezi-probe drilling rig, with Standard Penetration Tests (SPT) undertaken at nominal 1.5 metre centres;
- Advance 3x boreholes to 4.0m depth below ground level, using pushtube drilling methods with a truck mounted ezi-probe drilling rig;
- Conducted a dynamic cone penetrometer (DCP) test adjacent each borehole location to a depth of 1.5m below ground level (DCP adjacent BH06 encountered shallow refusal);
- Conducted pocket penetrometer tests in encountered cohesive material.
- Collected sufficient soil samples for subsequent laboratory testing, including.
    - 1 x Atterberg Limits and Particle Size Distribution;
    - 2x 4-day Soaked CBR Tests, 98% SMDD, 4.5kg surcharge;
    - 2x U50 samples for Shrink-swell tests; and
    - 2x Durability suits (pH, Cl, SO4, EC).
- Collection of contamination testing samples

Engineering logs of the subsurface conditions, as well as graphical representation of DCP test results are presented in Appendix A. The approximate locations of the respective investigation sites referred to above are shown in the attached site investigation plan (Drawing 1).

The investigation locations were recorded using a hand-held GPS to the inherent accuracy of the unit (+/- 5m) and elevations were inferred based on the survey plan provided.

5.1 Laboratory Testing

Laboratory testing was carried out generally in accordance with the requirements of the current edition of AS 1289 (where applicable). All testing was scheduled by CMW and carried out by Coffey Testing and Eurofins, both are NATA registered Testing Authorities.

The extent of testing carried out to provide the geotechnical parameters required for this study are presented in Table 1.

Table 1: Laboratory Test Schedule Summary		
Type of Test	**Test Method**	**Quantity**
Particle size distribution	AS1289.3.6.1	1
Atterberg limits	AS1289.3.1.1, 3.2.1, 3.3.1	1
Standard compaction	AS1289.5.1.1	2
Soaked CBR tests	AS1289.6.1.1	2
Shrink-swell Test	AS 1289.7.1.1	2
Durability testing (pH, Cl, SO4, EC)	Refer Test Certificate	2

Certificates for the test results outlined above are presented in Appendix B.

6 GROUND MODEL

6.1 Regional Geology

Based on the review of the soil associate map sheet for the project area (Adelaide Mapsheet 1: 50,000) the upper surface of the project site is likely to underlain by the Red Brown Earth (RB3) and Black Earth (BE) soil profile (Figure 4).

An RB3 soil profile generally comprises a sandy or silty, grey to red-brown A horizon over a very well-developed, clay B horizon of high plasticity with coarse prismatic–angular structure, and a thick B_{Ca} horizon with variable calcareous content occurring as pockets or occasional nodules.

BE soil is characteristically consisted of a dark grey to back, clay rich A horizon which may be self-mulching and which grades to a black to dark olive grey, heavy clay B horizon. A prominent B_{Ca} horizon is usually present, containing abundant calcareous content. When dry, the surface horizon is usually of loose granular structure, with large cracks forming a hexagonal pattern and in deep subsoil the strongly blocky structure may exhibit slickensided shear faces.

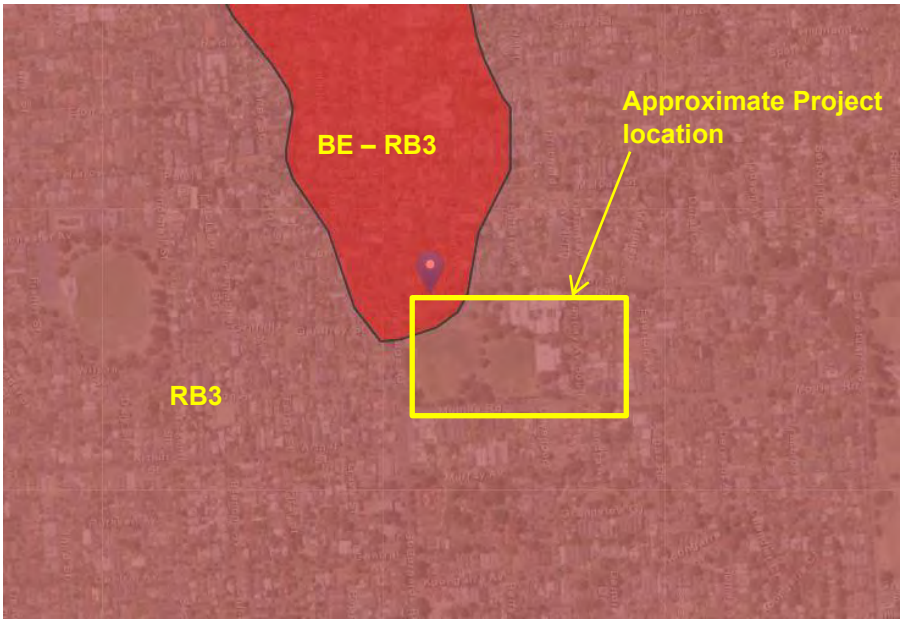

Figure 4: Soil Association Map sheet for the project area (site shown approximately in yellow)

The project site lies in close proximity to the Hope Valley fault, as shown in Figure 5. The regional geological map for the project site (1:100,000 Adelaide Mapsheet) depicts the land being underlain by the Pooraka Formation (Qpap) and Keswick clay (Qpas) as shown in Figure 6. Pooraka Formation (Qpap) is described as a typical piedmont slope deposit, consisting of sandy clay and clayey to sandy silts, with interbeds and layers of clay, sand and gravel. It is often described in Sheard and Bowman (1996) as carbonate impregnated. Keswick clay (Qpas) primarily consists of clay, generally smectite rich, grey-green with red or yellow mottling and rare sand lenses.

Published in ''Soil, Stratigraphy and engineering geology of near surface materials of the Adelaide Plains'' (Sheard and Bowman 1996), a geological cross section has been generated using borehole information from Grange to Payneham South to Rostrevor. The cross section lies between Hectorville Primary School (BH46) and Rostrevor Tennis Club (BH48) with the project site lying approximately 500m south of the connecting line between the two sites. The cross section has been reproduced in Figure 7 and shows that underlying the Pooraka Formation, is Gley Clay or Hindmarsh Clay.

Gley is a colour name applied to soil or clay layers that have been subject to poor or impeded drainage conditions, resulting in a reduction of iron and other sesquioxides. These clays have greyish to greenish colours and mottle patterns and are generally considered to be highly to extremely reactive.

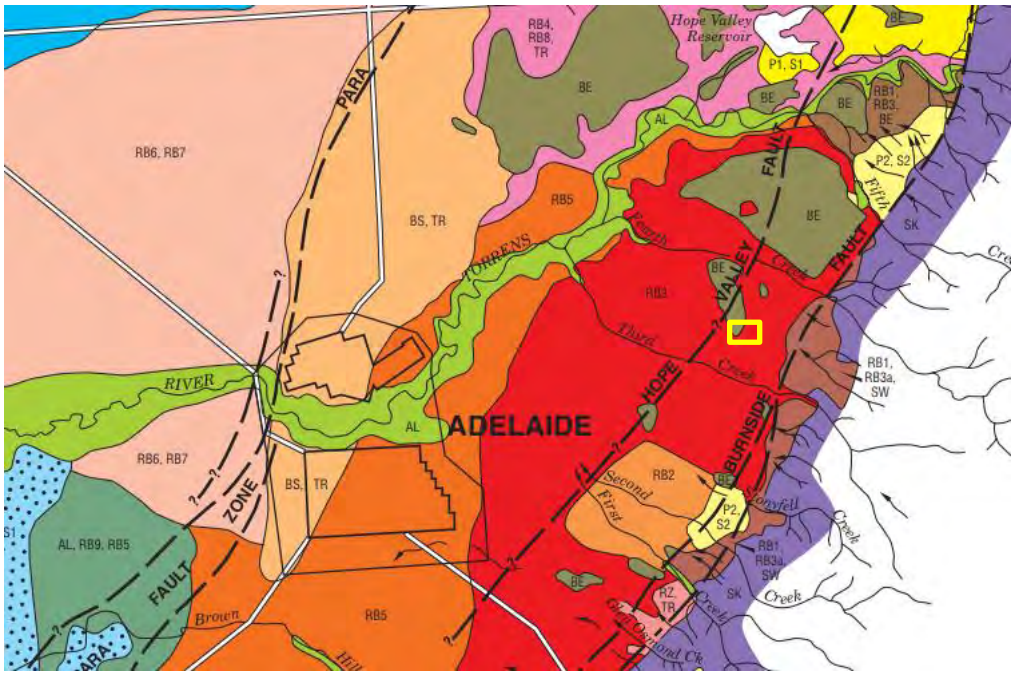

Figure 5: Soil association map of the Adelaide region (after Taylor et al 1989), project site shown approximately in yellow rectangle

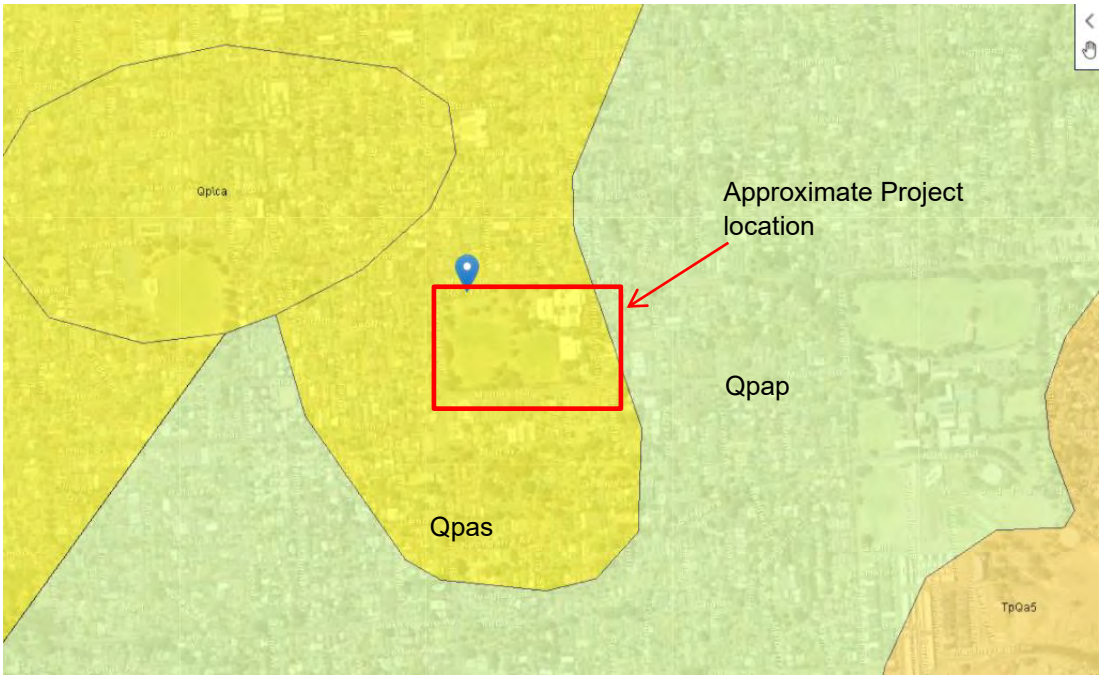

Figure 6 - Regional geological map overlain on aerial imagery with red rectangle showing project location, extract from SARIG 2021.

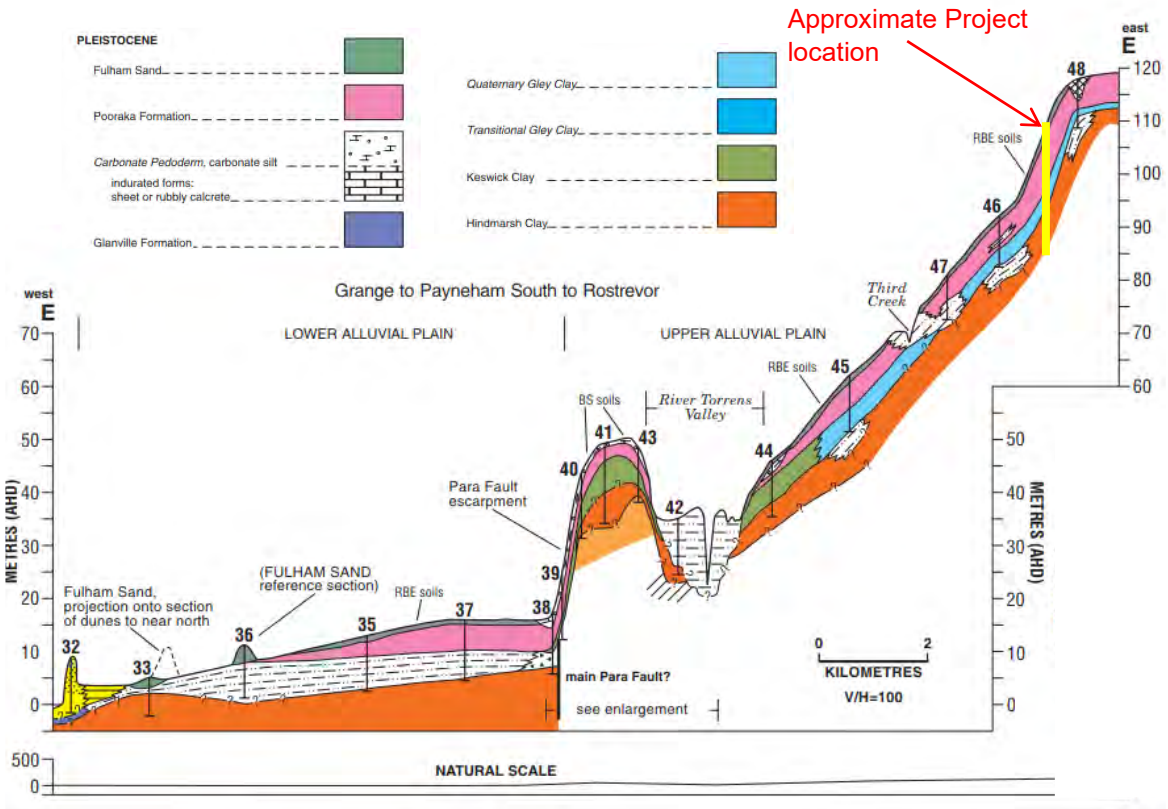

Figure 7: Geological Cross Section, Unley to Urrbrae, with the project site shown approximately in yellow (extracted from Sheard and Bowman 1996)

6.2 Subsurface Conditions

The ground conditions encountered and inferred from the investigation were generally consistent with the published geology for the area. The subsurface profile for site can be generalise as below

FILL	Asphalt, underlain by sandy gravel, associated with existing pavement at BH04 and BH05,
	Brick paver underlain by Silty Sand or Sandy Clay fill material associated with BH01 and BH02,
	Sandy Clay; medium plasticity, brown, fine to coarse grained sand, trace fine grained gravel, angular to subangular, trace root fibres.
	Silty Sand, fine to coarse grained, brown, low plasticity fines, underlain by
POORAKA FORMATION	medium to high plasticity clay or sandy clay, often calcareous, contained sand and gravel, underlain by
HINDMARSH CLAY	high plasticity, grey green or brown mottled grey-green, trace fine to medium grained sand.

A summary of the subsurface conditions encountered is provided in Table 2. The conditions encountered are described in more detail on the borehole logs presented in Appendix A.

Table 2: Summary of Subsurface Conditions

Description	Depth to base of layer (m)					
	BH01	BH02	BH03	BH04	BH05	BH06
ASPHALT / BRICK PAVER	0.04	0.04	NE	0.04	0.04	NE
TOPSOIL	NE	NE	NE	NE	NE	0.2
FILL	0.6	0.16	0.3	0.3	0.1	0.6
POORAKA FORMATION	3.0	3.0	2.95	3.6	4.0*	4.0*
HINDMARSH CLAY	9.67*	10.0*	7.73*	4.0*	-	-
Notes: * - termination depth of the borehole, NE – Not Encountered						

6.3 Groundwater

Groundwater was not observed during the investigation. Based on regional geology maps (SARIG 2021) groundwater is expected between 10 and 20 metres below ground level. Should further information on permanent site groundwater levels be required, additional investigation would need to be carried out (i.e. installation of groundwater monitoring wells) with ongoing monitoring of levels.

6.4 Laboratory Test Results

Geotechnical soil laboratory tests were undertaken by Coffey Testing a NATA accredited laboratory and Environmental laboratory tests were undertaken by Eurofins a NATA accredited laboratory. Certificates for the completed test results are presented in Appendix B.

Results of the Geotechnical laboratory tests and Environmental laboratory tests provided are summarised in Table 3 and Table 4 respectively.

Table 3: Summary of Geotechnical Laboratory Test Results													
ID	**Depth (mbgl)**	**Gravel (%)**	**Sand (%)**	**Fines (%)**	**LL (%)**	**PI (%)**	**LS (%)**	**FMC (%)**	**OMC (%)**	**SMDD (t/m^3)**	**CBR (%)**	**Swell (%)**	**I_{SS} (%)**
BH01	3.00 – 3.40	-	-	-	-	-	-	-	-	-	-	-	1.2
BH02	4.50 – 4.80	-	-	-	-	-	-	-	-	-	-	-	3.5
BH05	0.50 – 0.75	-	-	-	-	-	-	16.6	21.5	1.66	2.0	3.0	-
BH06	0.50 – 0.75	-	-	-	-	-	-	17.8	21.0	1.67	4.0	1.0	-
BH06	0.75 – 0.85	3	14	83	70	50	17	-	-	-	3.0*	-	-
Note: LL = Liquid Limits, PI = Plasticity Index, LS = Linear Shrinkage, FMC = Field Moisture Content, OMC = Optimum Moisture Content, SMDD = Standard Maximum Dry Density, I_{SS} – Shrink-swell Index, CBR = California Bearing Ratio, * - estimated CBR based on DIT TP133													

Table 4: Summary of Environmental Laboratory Test Results					
ID	**Depth (mbgl)**	**pH**	**SO_4 (mg/kg)**	**Cl (mg/kg)**	**MC (%)**
BH02	0.5 – 0.6	8.4	<30	84	16
BH03	4.0 – 4.3	7.8	81	600	23
Note: Cl – Chloride, SO_4 – Sulphate, MC – Moisture Content					

7 GEOTECHNICAL ASSESSMENT AND RECOMMENDATIONS

7.1 Earthworks and Excavation Conditions

Earthworks may be required to remove existing uncontrolled fill, vegetation and any topsoil material encountered below the pavement and building areas. Based on the ground conditions encountered within the boreholes, stripping depths generally 0.4m but may extend up to 0.6 metres at the proposed new building location (corresponds to BH01) and carpark location at north-east corner (corresponding to BH06) below existing surface level.

General guidelines relating to earthworks for foundations include:

- Remove any uncontrolled fill, loose surface soils and vegetation;
- Moisture condition the exposed subgrade as necessary;
- Proof roll the exposed surface as per AS3798 under the guidance of a suitable trained person;
- Any wet, soft, loose or heaving materials identified during proof rolling should be removed as directed by the geotechnical engineer or Level 1 Geotechnical Inspection and Testing Authority (GITA);
- Fill, where required, should be placed in layers not exceeding 250mm loose thickness and be compacted to the required standard density with each fill layer being level before placing the next layer. Thinner layers (i.e. 150mm to 200mm) may be required for smaller compaction equipment to ensure the required minimum compaction density is achieved. The recommended compaction levels would be:
    - Pavement Subgrades – 98% standard minimum dry density ratio at ±3% optimum moisture content

- Pavement Materials – 98% modified minimum dry density ratio
- Beneath Tennis/Basketball Courts – 95% standard minimum dry density ratio ±3% optimum moisture content
- Beneath Structures – 100% standard minimum dry density ratio at ±2% optimum moisture content

The technical and control requirements for engineered fill, including site observation and compaction testing, are outlined in AS3798. We recommend that this work is completed under the direction and control of a suitably experienced Geotechnical Engineer familiar with the contents of this report. CMW would be pleased to perform this function if required.

7.2 Site Classification – AS2870

Fill was encountered in all borehole locations, with depths ranging between 0.1 and 0.6 metres below ground level. It is assumed that the fill is uncontrolled.

Based on the visual-tactile assessment and of the encountered soil, the following instability indexes have been assessed for the material encountered on site:

- The high plasticity Hindmarsh clay layers are assessed as very high reactivity, with an instability index of 4.0% assessed as appropriate.
- The high plasticity Pooraka Formation clay/sandy clay layers are assessed as high reactivity, with an instability index between 3.0 and 3.5% assessed as appropriate.
- The calcareous/carbonate clay/sandy clay layers are assessed as moderate reactivity, with an instability index of 2.0 assessed as appropriate.
- The low plasticity clay/sandy clay layers are assessed as low reactivity, with an instability index of 1.5% assessed as appropriate;

Based upon the design suction soil profile and recommendations in AS2870-2011 “Residential Slabs and Footings” a characteristic surface movement (y_s) has been assessed for the soil profile encountered in the boreholes at the proposed finished surface level of the structure. The depth of design suction change (H_s) adopted in this assessment is 4m based on Table 2.4 in AS2870-2011 and in accordance with local practice, with a design suction change at ground surface of 1.2pF and crack depth of 3.0m below the current surface level.

It should be noted that we are unsure of the height of trees and the distance of the trees from the edge of the footing. We have adopted a conservate assessment of Dt/HT of 0.5 for a single tree, Di/HT of 1.0 for a group of trees.

CMW has been provided with the proposed depth of cut or fill, as shown in **Table 5**, which provides an overview of the cut or fill depths.. Where a site has been cut less than two years prior to construction, the depth of the cracked zone shall be reduced by the depth of the cut. The depth of recent fill material less than two years are considered uncracked zone for the purpose of assessing the surface movement. Summary of indicative y_s and $y_{m,tree}$ values as shown in Table 5.

It is assumed that the site won material will be used as engineered fill where required and considered as moderate reactivity, with a shrink-swell index of 2.5%

Table 5: Summary of Predicted ys (mm)										
Locations	**BH01**		**BH02**			**BH03**	**BH04**		**BH05**	**BH06**
Structure	**Performing Arts Building**		**Learning Building**		**Gym**	**Library**	**Learning Building**		**Tennis Court**	**Carpark**
	West	**East**	**West**	**East**			**West**	**East**		
Current RL (m)	108.4	108.4	114.75	114.75	114.75	110.6	112.5	112.5	114.5	116.8
Proposed RL (m)	109.0	111.0	111.0	113.5	115.0	111.0	111.0	113.5	114.5	116.8
Depth of Fill (m)	0.6	2.6	-	-	0.25	0.4	-	1.0	-	-
Depth of Cut (m)	-		3.75	1.25	-	-	1.5	-	-	-
y_s (mm)	75	100	160	75	55	80	50	60	55	50
$y_{m,tree}$ (mm) (Group)	72	86	147	81	55	75	50	52	51	55
Classification	P*	P*	E-D	H2-D	H1-D	E-D	H1-D	H1-D	H1-D	P*
Note – *BH01 and BH06 encountered uncontrolled fill (other than sand) greater than 0.4m and classified as Class P as per section 2.5.3 in AS2870-2011.										

If trees are located more than 25m from the edge of the nearest footing, the tree effects can be assumed to not apply.

The site may experience very high to extreme ground movement from moisture changes, with deep seated moisture i.e., **Class E-D** as per AS2870-2011. BH01 and BH06 is assessed **Class P** considering the presence of uncontrolled clayey fill depth greater than 0.4m as per the recommendations provided in Section 2.5.3 in AS2870-2011.

Larger y_s values may occur when the future moisture content change in the soil exceeds design moisture content change as determined from AS2870. Such changes may occur, for example, adjacent to leaking water services or where the soils are desiccated by the roots of trees. Should final site levels vary by more than 0.5m, it is recommended that the site classification be reassessed.

7.3 Subsoil Classification

Based on our understanding of the general geology beneath the site, the results of our investigation, and the recommendations provided in AS1170.4-2007, a site subsoil class of D_e (Deep or soft soil site) to Section 4.2 of AS1170.4 is recommended for seismic design purposes.

7.4 Pavements

Following site preparation recommended in Section 7.1, it would be expected that the pavement subgrade would typically comprise an extremely reactive, high plasticity clay. Based on laboratory testing results and CMW's experience in similar soils, a design CBR of 2% is recommended for the pavement design.

This design CBR is based on;

- Site preparation for new roads and mixed used sports courts being carried out in accordance with the recommendations presented in Section 7.1;

- The pavement is adequately drained to prevent saturation of the pavement materials and underlying subgrade; and
- Field testing is undertaken on subgrade and pavement materials during construction to ensure compliance with the above recommendations.

Volume changes in highly expansive soils can be minimised by adopting of some or all, of the following strategies:

- Construct the subgrade or fill material at a time when its soil suction (the ability of a soil to attract moisture) is likely to be near the long-term equilibrium value.
- Compact the soil at its Equilibrium Moisture Content (EMC). This value occurs when a soil is at its equilibrium soil suction value.
- Provide a low-permeability lower subbase or select fill capping layer above the expansive soil. The minimum thickness of this layer should be the greater of 150 mm or two-and-a-half times the maximum particle size. This capping layer should extend at least 500 mm past the edge of pavement, and if provided, past the kerb and channel, to reduce edge movement.
- Provide a minimum cover of material over the expansive soil for all pavement types. Material used to provide this layer should have swells of less than 1.5% for the top 300 mm and less than 2.5% for the remaining thickness and be placed at an appropriate moisture content to remain within this limit. The required thickness of cover increases with the traffic loading to reflect the better ride quality required on higher traffic volume roads.
- Ensure that the location of pavement drains is confined to the impermeable subbase and does not extend into the expansive soils. Drains located within expansive soils will cause fluctuations in the moisture content of the soil.
- Restrict the planting of shrubs and trees close to the pavement.
- Provide – through appropriate design of the cross-section of the road – sealed shoulders and impermeable verge material. A seal width of 1 to 1.5 m is required outside the edge of the traffic lanes to minimise subgrade moisture changes under the outer wheel path.
- Incorporate lime stabilisation to reduce the plasticity and increase the volume stability of the upper layer of the expansive clay subgrade.

7.5 Geotechnical Model

Based on the subsurface conditions encountered and results of field testing a generalised geotechnical model has been assessed and provided in Table 6.

Table 6: Preliminary geotechnical model

Unit	Depth range (mBGL)		Φ' (º)	c' (kPa)	C_u, (kPa)	γ (kN/m^3)	E' (MPa)
FILL*	0	0.4	N/A	N/A	N/A	N/A	N/A
Pooraka Formation	0.4	3.5	25	2	80	18	20
Hindmarsh Clay 1	3.5	6.0	25	7	150	18	45
Hindmarsh Clay 2	6.0	10.0	25	10	200	18	60

Where; Φ' = angle of internal friction, c' – drained cohesion, c_u = Undrained shear strength γ = bulk unit weight, E = Youngs Modulus N/A – Not Applicable, uncontrolled fill not suitable founding layer

Note: *is expected to vary across the site.

7.6 Foundation Recommendations

7.6.1 Strip and Pad Foundations

Shallow foundations for this site could comprise, pad, strip or stiffened raft, founded in stiff to very stiff low to medium plasticity clay/sandy clay layer.

The design of available foundation bearing pressures for isolated strip and pad footings at this site has been carried out using the Terzaghi (1943) bearing capacity equation. Subject to completing the earthworks and foundation preparation recommendations provided herein, shallow strip or pad footings founded within natural high plasticity clay be designed based on the maximum allowable bearing pressures provided in Table 7.

Table 7: Summary of Allowable Bearing Capacity

Embedment Depth (m)	Footing Width (m)	Footing Length (m)	Allowable Bearing Pressure (kPa)	Settlement (mm)
0.8	0.5 or 1.0 strip		135	10
	1.0 or 2.0	1.0 or 2.0	135	10
1.2	0.5 or 1.0 strip		135	10
	1.0	1.0	140	10
	2.0	2.0	160	15

Notes: – Allowable bearing capacity is dependent not only on ground conditions but also footing dimensions, proximity to slopes and allowable settlement.

The values shown in Table 7 are based on a geotechnical strength reduction factor of 0.5 and an average load factor of 1.5 (Factor of Safety = 3.0). It should be noted that these bearing pressures assume isolated vertical, non-eccentric loads. Groundwater was not encountered during the ground investigation and was therefore not considered in calculating the values provided.

The assessed bearing capacity outlined above assumes that the bearing surfaces are adequately prepared, are clean and free from spoil and other soft and loose material, and free of water during the placement of concrete.

It should be noted that differential movement due to soil movement from changes in moisture condition will be higher than the values provided in **Table 7**.

7.6.2 Deep Foundations

Pile foundations may be used to support any part of the proposed building structure to transfer proposed building loads to more competent units at depth, if required.

A range of pile foundation options for this site are available, the suitability of which is dictated by site location, ground conditions, nature of the surrounding environment, local availability, programme, plant access and cost. Typical pile foundation options include:

- Driven steel tube / H pile / precast concrete;
- Continuous Flight Auger (CFA) concrete;
- Screw Piles;

- Bored Piles;

Based on the ground conditions, location of the site with respect to the surrounding built up environment and local market availability, it is expected that bored piles may be the most suitable option.

Preliminary pile design parameters to aid the designer can be found in Table 8.

Table 8: Summary of Preliminary Pile Design Parameters

Unit	Ultimate Capacity	
	Skin friction, f_s (kPa)	**End Bearing, f_b (kPa)**
FILL	Not suitable	Not suitable
POORAKA FORMATION CLAY	40	Not suitable
HINDMARSH CLAY 1	48	1280
HINDMARSH CLAY	72	1800

Notes: The shaft capacity and passive resistance provided by the soil to a depth of 1.5 pile diameters below surface level must be ignored.

Capacities provided are ultimate values in compression. The designer must apply appropriate reductions based on the piling technique adopted and if used in tension.

For axial loading, the ultimate geotechnical strength (R_{ug}) of the bored pier can be estimated based on the ultimate shaft adhesion, f_s, and ultimate end bearing pressure, f_b. The design geotechnical strength ($R_{d.g}$) of the bored pier can then be calculated by multiplying R_{ug} by an appropriate geotechnical strength reduction factor ($Ø_g$) based on Section 4.3 of AS 2159-2009. For bored piers a ϕ_g of 0.48 is considered appropriate unless dynamic or static load testing is carried out during construction to confirm the axial pile load capacity.

For bored pier construction, the following are recommended:

- Drilling of the pile holes should be observed by a suitably qualified and experienced geotechnical engineer familiar with the design.
- The reinforcement cages should be ready on site prior to boring.
- Concrete should be placed as soon as possible after boring and cleaning the holes. Bored pile holes should not remain open overnight; and

If any groundwater seeps into the bored hole, the hole should be dewatered prior to placement of concrete. If the dewatering cannot be undertaken effectively due to high rate of groundwater seepage, concrete placement should be placed by Tremie method.

This level of analysis and design is outside the current scope of CMW geotechnical investigation work but can be carried out by CMW personnel as an extension to our scope of work if required.

7.7 Retaining Wall Design Parameters

Based on the subsurface conditions encountered the soil, **Table 9** summarises the parameters regarding retaining wall design. All walls to be designed as per AS4678-2002.

Table 9: Summary of Design Parameters for Retaining Wall Design

Unit	Depth Range (m)	Short Term		ν	γ (kN/m^3)	Long Term		K_0	K_a	K_p
		Cu (kPa)	ϕ (°)			c' (kPa)	ϕ' (°)			
FILL	0.00 – 0.40	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
POORAKA FORMATION	0.40 -3.50	80	25	0.3	18	2	25	0.58	0.41	2.46
HINDMARSH CLAY 1	3.50 – 6.00	150	25	0.35	18	7	25	0.58	0.41	2.46
HINDMARSH CLAY 2	6.00 – 10.00	200	25	0.35	18	10	25	0.92	0.41	2.46

Where C_u = undrained shear strength, ϕ = angle of internal friction, ν = Poisson's ratio, γ = bulk unit weight, c' = effective shear strength, ϕ' = effective angle of internal friction, K_0 = coefficient of earth pressure at rest, Ka = coefficient of active earth pressure, Kp = coefficient of passive earth pressure.
The above parameters are based on the condition of a horizontal ground surface behind the retaining structure.

Retaining structures should be designed in accordance with AS 4678-2002 "*Earth Retaining Structures*" or an alternate approved factor of safety approach. Should any fill be placed against the permanent basement retaining wall after construction, it is expected that the compaction induced pressures will be much greater than the above active earth pressures. The compaction equipment used to compact backfill behind the wall must be carefully selected and preferably light-weight compaction equipment should be used. The load on the retaining wall due to compaction equipment may be estimated from Figure J5 in AS4678-2002 *"Earth Retaining Structures"*.

It is noted that some ground movement will occur behind temporary or permanent retaining walls. By definition, movement of the wall must occur to fully mobilise the active and passive earth pressure coefficients provided in Table 9 above. The extent of this movement is dependent on the height of retaining, type of wall selected and construction methodology. This must be considered during the design and construction of the retaining walls to ensure adjacent facilities are not adversely affected.

Any ground anchors associated with retaining wall construction should be designed on the basis of the above effective stress soil parameters and using appropriate design standards such as BS8081.

7.8 Exposure Classification for Concrete

A total two (2) samples were tested at different depths ranging between 0.5m and 4.3m for aggressivity to concrete.

Results for the chemical testing of the residual subsurface material indicated that the soil within the tested depths in the investigated borehole has:

- pH ranging between 7.8 and 8.4;
- Soluble sulphate ranging between <30mg/kg to 81mg/kg; and
- Chloride ion ranging between 84 and 600mg/kg.

Based on the above test results of investigated boreholes, in accordance with AS2159 – 2009 Table 6.4.2(C), concrete footings in such soil environments are considered to have an exposure classification of "**non-aggressive**" where soils are above ground water level.

A reproduction of Table 6.4.2(C) from AS2159-2009 is provided in **Table 10.**

Table 10: Reproduction of Table 6.4.2(C) - Exposure classification for Concrete piles - piles in soil

Exposure Conditions				Exposure classification	
pH	Sulfates (exressed as SO_4)		Chlorides in groundwater ppm	Soil Condition A*	Soil Condition B#
	In soil ppm	In groundwater ppm			
>5.5	<5,000	<1,000	<6,000	Mild	Non-aggressive
4.5 – 5.5	5,000 – 10,000	1,000 – 3,000	6,000 – 12,000	Moderate	Mild
4 – 4.5	10,000 – 20,000	3,000 – 10,000	12,000 – 30,000	Severe	Moderate
<4	>20,000	>10,000	>30,000	Very Severe	Severe
* Soil conditions A – high permeability soils (e.g., sands and gravels) which are in groundwater					
# Soil conditions B – low permeability soils (e.g. silts and clays) or all soils above groundwater					

7.9 Construction Issues

7.9.1 Trafficability

Trafficability for tyred vehicles on the natural soils is expected to become poor when wetted.

7.9.2 Site Drainage

Water must not be permitted to pond in footing excavations for any length of time. It is essential that no water be allowed to pond against the footings.

Surface drainage, pavements and cross falls must be constructed to keep water off the foundation soil strata.

The ground surface adjacent to the footings should be graded once the footing construction has been completed to provide at least 1 in 20 over the first 2m. Alternatively, all water run-offs should be collected and channelled away from the footings which is currently the case as the site is a concrete paved area.

7.9.3 Suitability of Reuse of Site Won Material

Excavations are expected to recover granular fill, high plasticity clay and medium plasticity gravelly clay, which is expected to be readily undertaken with standard earthmoving machinery.

We consider the existing fill material to be suitable for re-use as general fill.

High plasticity clays are extremely reactive and need to be selectively placed within the fill under strict moisture and density control.

Recommendations associated with this work are summarised as follows:

- At the completion of excavation to design levels or base of fill levels, the exposed subgrade must be moisture conditioned, and compacted to achieve at least 95% compaction with respect to Standard Maximum Dry Density (SMDD) at its Optimum Moisture Content within ±2%. This shall be judged to occur when tested with a nuclear densometer with moisture

contents calibrated in the laboratory. Any loose / soft, weak or organic materials observed shall be removed and replaced with compacted fill;

- The prepared subgrade is to be proof rolled with a fully loaded water cart identify any soft, wet or weak areas which may require remedial works (such as over-excavation and replacement);
- Care must be exercised when compacting in the vicinity of existing structures, particularly if vibratory compaction is being carried out; and
- Temporary cut slopes less than 1.5m depth may be excavated to a gradient of between 1V:1H. These values apply where there is no surcharge, or load, at the top of the batter crest.

The technical and control requirements for Engineered Fill, including site observation and compaction testing, are outlined in AS3798. We recommend that this work, is completed under the direction and control of a suitably experienced Geotechnical Engineer familiar with the contents of this report. CMW would be pleased to perform this function if required.

8 FURTHER WORK

CMW has extensive experience in the detailed design of foundations, pad, shallow footings and deep foundations. We would be pleased to review detailed design drawings.

It is recommended that an experienced geotechnical engineer attend site to verify the validity of the assumptions made by the designer as to the subsurface conditions encountered.

9 CLOSURE

The findings contained within this report are the result of limited discrete investigations conducted in accordance with normal practices and standards. To the best of our knowledge, they represent a reasonable interpretation of the general condition of the site. Under no circumstances, can it be considered that these findings represent the actual state of the ground conditions away from our investigation locations.

If the ground conditions encountered during construction are significantly different from those described in this report and on which the conclusions and recommendations were based, then we must be notified immediately.

This report has been prepared for use for KBR in relation to the proposed development at Rostrevor High School Development Project at Morialta Road West, Rostrevor SA 5073 in accordance with generally accepted consulting practice.

No other warranty, expressed or implied, is made as to the professional advice included in this report. Use of this report by parties other than KBR and their respective consultants and contractors is at their risk as it may not contain sufficient information for any other purposes.

For and on behalf of CMW Geosciences

Prepared by:

Abu Rabbi

Project Geotechnical Engineer

Reviewed and authorised by:

David Argent

Associate Geotechnical Engineer, CPEng

Distribution: 1 electronic copy to KBR via email
Original held at CMW Geosciences

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Drawings

LEGEND:

Approximate Borehole Locations

CLIENT: KBR	DRAWN: AR	PROJECT: ADL2021-0244
PROJECT: Rostrevor High School Development Glen Stuart Rd, Woodforde SA 5072	CHECKED: DBA	FIGURE: 1
	REVISION: 0	SCALE: 1:2000
TITLE: Site Investigation Plan	DATE: 08/10/2021	SHEET: A4 L

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Appendix A
Results of Field Investigation

Explanatory Notes – Soil Description

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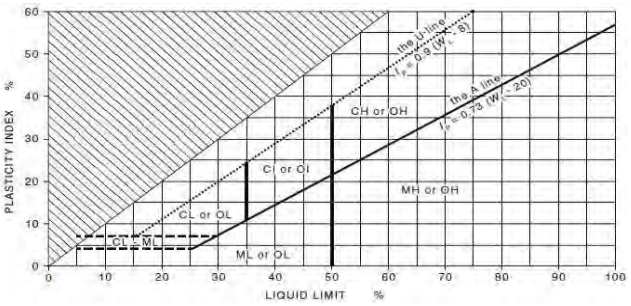
GRAVEL	Gravelly SAND	Sandy CLAY	FILL
SILTY GRAVEL	SILTY SAND	SILT	TOPSOIL
CLAYEY GRAVEL	CLAYEY SAND	Gravelly SILT	COBBLES & BOULDERS
Sandy GRAVEL	CLAY	Sandy SILT	CONCRETE
SAND	Gravelly CLAY	PEAT	NO CORE

GP	Poorly Graded Gravel	ML	Low Plasticity Silt
GW	Well Graded Gravel	MH	High Plasticity Silt
GM	Silty Gravel	CL	Low Plasticity Clay
GC	Clayey Gravel	CI	Medium Plasticity Clay
SP	Poorly Graded Sand	CH	High Plasticity Clay
SW	Well Graded Sand	OL	Organic Soils (LP)
SM	Silty Sand	OH	Organic Soils (HP)
SC	Clayey Sand	PT	Peat
	Fill		Cobbles & Boulders

Soil colours based on BGS Internal report IR/05/123 "A Revised scheme for coding unlithified deposits", 2006.

WATER	
Groundwater (Strike)	Groundwater (rise)



CLASSIFICATION AND INFERRED STRATIGRAPHY

Particle Size		
Major Division	Sub Division	Particle Size
Boulders		> 200 mm
Cobbles		63 to 200 mm
Gravel	Coarse	19 to 63 mm
	Medium	6.7 to 19 mm
	Fine	2.36 to 6.7 mm
Sand	Coarse	0.6 to 2.36 mm
	Medium	0.21 to 0.6 mm
	Fine	0.075 to 0.21 mm
Silt		0.002 to 0.075 mm
Clay		< 0.002 mm

SECONDARY/MINOR COMPONENTS	
TERMS FOR SANDS/GRAVELS (Less than 35% Particles < 0.075mm)	**TERMS FOR CLAYS/SILTS** (More than 35% Particles < 0.075mm)
trace… sand/gravel = <15% clay/silt = <5%	**trace…** sand/gravel = <15%
with… sand/gravel = >15%, <30% clay/silt = >5%, <12%	**with…** sand/gravel = >15%, <30%
Sandy… / Gravelly… >30%	**Sandy… / Gravelly**… >30%
Clayey… / Silty … >12%	

MOISTURE CONDITION (Cohesionless Soils)

Symbol	Term	Description
D	Dry	Looks and feels dry. Cohesionless and free-running.
M	Moist	No free water on remoulding. Soil feels cool, darkened in colour. Soil tends to cohere.
W	Wet	Free water on remoulding. Soil feels cool, darkened in colour. Soil tends to cohere.

MOISTURE CONDITION (Cohesive Soils)

Symbol	Term	Description
<PL	Dry	Looks and feels dry. Hard and friable or powdery, well dry of the plastic limit
≈PL	Moist	Soil feels cool, darkened in colour. Soil can be moulded. Near plastic limit.
>PL	Wet	Soils feels cool, darkened in colour. Usually weakened and free water forms when remoulding. Wet of plastic limit.

DENSITY (Cohesionless Soils)

Sym.	Term	Density Index (%)	SPT 'N'
VL	Very Loose	Less than 15	0 to 4
L	Loose	15 to 35	4 to 10
MD	Medium Dense	35 to 65	10 to 30
D	Dense	65 to 85	30 to 50
VD	Very Dense	Above 85	Above 50

STIFFNESS (Cohesive Soils)

Sym.	Term	Undrained Shear Strength
VS	Very Soft	0 to 12 kPa
S	Soft	12 to 25 kPa
F	Firm	25 to 50 kPa
St	Stiff	50 to 100 kPa
VSt	Very Stiff	100 to 200 kPa

SAMPLING AND LABORATORY / INSITU TESTING RESULTS

B	Bulk Disturbed Sample	U	Undisturbed Push-in Sample	CBR	California Bearing Ratio
BLK	Block Sample	W	Water Sample	UCS	Unconfined Compressive Strength
C	Core Sample	LL	Liquid Limit	PLI	Point Load Index
ES	Environmental Soil Sample	PI	Plasticity Index	N	SPT-N Value
P	Piston Sample	LS	Linear Shrinkage		

DRILLING/EXCAVATION METHOD

AC	Air Core	HA	Hand Auger	RC	Rotary Cored
ADH	Hollow Auger Drilling	HQ	Rotary Core 63.5mm	RO	Rotary Open Hole
AD/V	Auger with V-Bit	HQ3	Rotary Core 61.1mm	SPT	Standard Penetration Test
AD/T	Auger with TC-Bit	PQ3	Rotary Drill 83mm	TP	Test Pit
DPP	Direct Push Probe	PT	Push Tube	W	Wash Bore

BOREHOLE LOG - BH01

Client: KBR
Project: Rostrevor High School Development
Location: Glen Stuart Rd, Woodforde SA 5072
Project ID: ADL2021-0244
Date: 05/10/2021

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1:25 Sheet 1 of 2

Logged by: JMT Position: E.287694m N.6135485m Plant used: MPS300 Geoprobe
Checked by: JSC Elevation: 108.4 m Angle from horizontal: 90° Contractor: A&S Drilling

Well	Groundwater	Samples & Insitu Tests: Depth	Samples & Insitu Tests: Type & Results	RL (m)	Depth (m)	Graphic Log	Material Description: Soil Type, Plasticity or Particle Characteristics, Colour, Secondary and Minor Components	Moisture Condition	Consistency/ Relative Density	Dynamic Cone Penetrometer (Blows/100mm)	Structure & other observations
							BRICK PAVER			4	0.00-0.60m: Fill
		0.1-0.3	ES	108.36			FILL: SANDY CLAY: medium plasticity, brown, fine to coarse grained sand, trace fine grained gravel, angular to subangular, trace root fibres.	<PL	St	5 5 4 5 6	
		0.6-0.8	ES	107.80			CI: CALCAREOUS SANDY CLAY: medium plasticity, pale brown white, fine to coarse grained sand.			5 6 7 7	0.60-3.00m: Pooraka Formation
		1.0-1.2	D(1KG)		1			<PL	VSt	6 6 7	
		1.4-1.6	ES							8 8	
		1.50	SPT: (7,7,9) N=16	106.90			CH: CLAY: high plasticity, pale brown mottled grey, trace fine to medium grained sand.				
		1.8-2.0	ES								
		2.00	PP=475.0kPa		2			<PL	VSt		
		2.60	PP=460.0kPa								
		2.8-3.0	ES								
		3.0-3.4	U50	105.40	3		CH: CLAY: high plasticity, pale brown mottled yellow, trace fine to medium grained sand.				3.00-9.67m: Hindmarsh Clay
		3.1-3.2	D(1KG)								
		3.40	SPT: (4,6,9) N=15					<PL	VSt		
		4.10	PP=490.0kPa		4						
		4.50	SPT: (5,6,8) N=14	103.80			CH: CLAY: high plasticity, grey green, trace fine to medium grained sand.				
		5.00	PP=525.0kPa		5						

DCP/PSP Equipment Ref.: DCP01 | In Situ Vane Ref.: | Pocket Penetrometer Equipment Ref.: PP14

Termination Reason: Equipment refusal

Remarks:

This report must be read in conjunction with accompanying notes and abbreviations.

BOREHOLE LOG - BH01

Client: KBR
Project: Rostrevor High School Development
Location: Glen Stuart Rd, Woodforde SA 5072
Project ID: ADL2021-0244
Date: 05/10/2021

CMW Geosciences

1:25 Sheet 2 of 2

Logged by: JMT Position: E.287694m N.6135485m Plant used: MPS300 Geoprobe
Checked by: JSC Elevation: 108.4 m Angle from horizontal: 90° Contractor: A&S Drilling

Well	Groundwater	Samples & Insitu Tests: Depth	Samples & Insitu Tests: Type & Results	RL (m)	Depth (m)	Graphic Log	Material Description	Moisture Condition	Consistency/ Relative Density	Dynamic Cone Penetrometer (Blows/100mm) 5 10 15	Structure & other observations
		5.50	PP=550.0kPa				CH: CLAY: high plasticity, grey green, trace fine to medium grained sand.				
		6.00	SPT: (7,8,12) N=20		6			<PL	VSt		
		6.70	PP=550.0kPa								
		7.20	PP=550.0kPa		7						
		7.50	SPT: (9,10,14) N=24								
					8				Vst to H		
		8.80	PP=550.0kPa								
				99.40	9		CH: CLAY: high plasticity, red brown mottled grey green, trace fine to medium grained sand.		H		
		9.50	SPT: (37,30/70mm) N=R	98.73			Borehole terminated at 9.67 m				
					10						

DCP/PSP Equipment Ref.: DCP01 | In Situ Vane Ref.: | Pocket Penetrometer Equipment Ref.: PP14

Termination Reason: Equipment refusal

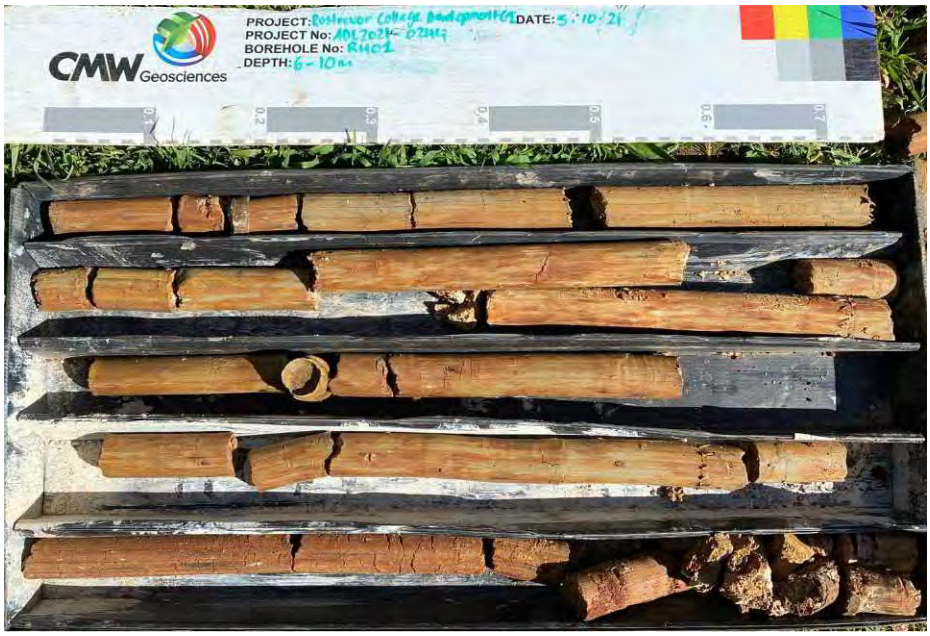
Remarks:

This report must be read in conjunction with accompanying notes and abbreviations.

CORE PHOTOGRAPH SHEET - BH01

Client: KBR
Project: Rostrevor High School Development
Location: Glen Stuart Rd, Woodforde SA 5072
Project ID: ADL2021-0244
Date: 05/10/2021

BH01 0-6m



BH01 6-10m

CORE PHOTOGRAPH SHEET - BH01

Client: KBR
Project: Rostrevor High School Development
Location: Glen Stuart Rd, Woodforde SA 5072
Project ID: ADL2021-0244
Date: 05/10/2021

BH01 Site Location Photo

BOREHOLE LOG - BH02

Client: KBR
Project: Rostrevor High School Development
Location: Glen Stuart Rd, Woodforde SA 5072
Project ID: ADL2021-0244
Date: 06/10/2021

CMW Geosciences

1:25 Sheet 1 of 3

Logged by: JMT Position: E.287816m N.6135427m Plant used: MPS300 Geoprobe
Checked by: JSC Elevation: 114.75 m Angle from horizontal: 90° Contractor: A&S Drilling

Well	Groundwater	Samples & Insitu Tests: Depth	Samples & Insitu Tests: Type & Results	RL (m)	Depth (m)	Graphic Log	Material Description: Soil Type, Plasticity or Particle Characteristics, Colour, Secondary and Minor Components	Moisture Condition	Consistency/ Relative Density	Dynamic Cone Penetrometer (Blows/100mm)	Structure & other observations
		0.0-0.1	ES	114.71			FILL: BRICK PAVER:				0.00-0.04m: Brick Paver
							FILL: SILTY SAND: fine to coarse grained, brown, low plasticity fines, with fine to medium grained gravel, angular to subangular, trace root fibres.	D	L		0.04-0.16m: Select Fill
				114.59							0.16-3.00m: Pooraka Formation
				114.45			CI: CALCAREOUS SANDY CLAY: medium plasticity, brown with white, fine to coarse grained sand.				
		0.5-0.6	D(1KG)				CL: CALCAREOUS SANDY CLAY: low plasticity, brown with white, fine to coarse grained sand.	<PL	St to VSt	6	
		0.7-0.8	ES							8	
										10	
				113.95			CI: CALCAREOUS SANDY CLAY: medium plasticity, brown with white, fine to coarse grained sand.			11	
					1					12	
										15	
										12	
										13	
		1.4-1.5	ES							14	
		1.50	SPT: (13,15,15) N=30					<PL	VSt	12	
		2.0-2.1	ES		2						
		2.00	PP=495.0kPa								
				112.55			CI: CALCAREOUS SANDY CLAY: pale plasticity, brown with white, fine to coarse grained sand, with fine to medium grained gravel, angular to subangular.	<PL			
		3.00	SPT: (12,15,18) N=33	111.75	3		CH: CLAY: high plasticity, brown mottled grey green, with fine to coarse grained sand.				3.00-10.00m: Hindmarsh Clay
		3.4-3.5	ES								
		3.60	PP=310.0kPa								
		4.00	PP=550.0kPa		4			<PL	Vst to H		
		4.40	PP=550.0kPa								
		4.5-4.8	U50								
		4.80	SPT: (6,8,9) N=17								
					5						

DCP/PSP Equipment Ref.: DCP01 | In Situ Vane Ref.: | Pocket Penetrometer Equipment Ref.: PP14

Termination Reason: Target depth reached

Remarks:

This report must be read in conjunction with accompanying notes and abbreviations.

BOREHOLE LOG - BH02

Client: KBR
Project: Rostrevor High School Development
Location: Glen Stuart Rd, Woodforde SA 5072
Project ID: ADL2021-0244
Date: 06/10/2021

CMW Geosciences

1:25 Sheet 2 of 3

Logged by: JMT Position: E.287816m N.6135427m Plant used: MPS300 Geoprobe
Checked by: JSC Elevation: 114.75 m Angle from horizontal: 90° Contractor: A&S Drilling

Well	Groundwater	Samples & Insitu Tests: Depth	Samples & Insitu Tests: Type & Results	RL (m)	Depth (m)	Graphic Log	Material Description: Soil Type, Plasticity or Particle Characteristics, Colour, Secondary and Minor Components	Moisture Condition	Consistency/ Relative Density	Dynamic Cone Penetrometer (Blows/100mm) 5 10 15	Structure & other observations
							CH: CLAY: high plasticity, brown mottled grey green, with fine to coarse grained sand.				
		5.2-5.4	D(1KG)	109.50			CH: CLAY: high plasticity, brown and grey green, trace fine to coarse grained sand.				
		5.70	PP=550.0kPa					<PL	VSt		
		5.90	PP=550.0kPa								
		6.00	SPT: (8,13,15) N=28	108.75	6		CH: CLAY: high plasticity, red brown mottled grey green, trace fine to coarse grained sand, trace fine to medium grained gravel, angular to subangular.				
		6.70	PP=475.0kPa								
		7.00	PP=550.0kPa		7			<PL	VSt		
		7.50	SPT: (8,16,15) N=31								
		8.00	PP=480.0kPa		8						
				106.45			CH: GRAVELLY CLAY: high plasticity, red brown mottled grey green, fine to medium grained gravel, angular to subangular, trace fine to coarse grained sand.	<PL	VSt		
		8.70	PP=310.0kPa	106.20			CH: CLAY: high plasticity, red brown mottled grey green, trace fine to coarse grained sand, trace fine to medium grained gravel, angular to subangular.				
		9.0-9.2 9.00	D(1KG) PP=400.0kPa		9			<PL	VSt		
		9.40	PP=350.0kPa								
		9.50	SPT: (5,14,11) N=25	105.25			GP: GRAVEL: fine to coarse grained, subangular to subrounded, red brown with grey white, with fine to coarse grained sand.	D	MD to D		
				105.08			CH: CLAY : high plasticity, red brown mottled grey yellow, trace fine to coarse grained sand, trace fine to medium grained gravel, angular to subangular.	<PL	VSt		
					10						

DCP/PSP Equipment Ref.: DCP01 | In Situ Vane Ref.: | Pocket Penetrometer Equipment Ref.: PP14

Termination Reason: Target depth reached

Remarks:

This report must be read in conjunction with accompanying notes and abbreviations.

CORE PHOTOGRAPH SHEET - BH02

Client: KBR
Project: Rostrevor High School Development
Location: Glen Stuart Rd, Woodforde SA 5072
Project ID: ADL2021-0244
Date: 06/10/2021

BH02 0-6m

BH02 6-10m

CORE PHOTOGRAPH SHEET - BH02

Client: KBR
Project: Rostrevor High School Development
Location: Glen Stuart Rd, Woodforde SA 5072
Project ID: ADL2021-0244
Date: 06/10/2021

BH02 Site Location Photo

BOREHOLE LOG - BH03

Client: KBR
Project: Rostrevor High School Development
Location: Glen Stuart Rd, Woodforde SA 5072
Project ID: ADL2021-0244
Date: 05/10/2021

CMW Geosciences

1:25 Sheet 1 of 2

Logged by: JMT Position: E.287725m N.6135440m Plant used: MPS300 Geoprobe
Checked by: JSC Elevation: 110.6 m Angle from horizontal: 90° Contractor: A&S Drilling

Well	Groundwater	Samples & Insitu Tests: Depth	Samples & Insitu Tests: Type & Results	RL (m)	Depth (m)	Graphic Log	Material Description: Soil Type, Plasticity or Particle Characteristics, Colour, Secondary and Minor Components	Moisture Condition	Consistency/ Relative Density	Dynamic Cone Penetrometer (Blows/100mm)	Structure & other observations
		0.0-0.2	ES				FILL: SANDY CLAY: medium plasticity, brown, fine to coarse grained sand, trace fine grained gravel, angular to subangular, trace root fibres.	<PL	St	5, 5, 6	0.00-0.30m: Fill
				110.30			CI: CALCAREOUS SANDY CLAY: medium plasticity, brown and white, fine to coarse grained sand.			6, 6, 8, 8	0.30-2.95m: Pooraka Formation
		0.8-1.0	ES					<PL	VSt	7, 7, 7, 6	
				109.60	1		CH: CLAY: high plasticity, pale brown mottled grey, trace fine to medium grained sand.			6, 6, 7, 6, 6	
		1.50	SPT: (4,5,6) N=11								
		1.9-2.0	ES					<PL			
		1.90	PP=350.0kPa		2				VSt		
		2.30	PP=400.0kPa								
		2.5-2.6	ES								
								<PL			
		2.90	PP=410.0kPa								
		3.00	SPT: (7,7,13) N=20	107.65	3		CI: CLAY: medium plasticity, pale brown mottled grey green, trace fine to medium grained sand.	<PL	VSt		2.95-7.73m: Hindmarsh Clay
				107.35			CH: CLAY: high plasticity, grey green, trace fine to medium grained sand.				
		3.70	PP=500.0kPa								
		4.0-4.3	D(1KG)		4						
		4.20	PP=500.0kPa					<PL	VSt		
		4.50	SPT: (5,6,9) N=15								
					5						

DCP/PSP Equipment Ref.: DCP01 | In Situ Vane Ref.: | Pocket Penetrometer Equipment Ref.: PP14

Termination Reason: Equipment refusal

Remarks:

This report must be read in conjunction with accompanying notes and abbreviations.

BOREHOLE LOG - BH03

Client: KBR
Project: Rostrevor High School Development
Location: Glen Stuart Rd, Woodforde SA 5072
Project ID: ADL2021-0244
Date: 05/10/2021

CMW Geosciences

1:25 Sheet 2 of 2

Logged by: JMT Position: E.287725m N.6135440m Plant used: MPS300 Geoprobe
Checked by: JSC Elevation: 110.6 m Angle from horizontal: 90° Contractor: A&S Drilling

Well	Groundwater	Samples & Insitu Tests: Depth	Samples & Insitu Tests: Type & Results	RL (m)	Depth (m)	Graphic Log	Material Description: Soil Type, Plasticity or Particle Characteristics, Colour, Secondary and Minor Components	Moisture Condition	Consistency/ Relative Density	Dynamic Cone Penetrometer (Blows/100mm) 5 10 15	Structure & other observations
							CH: CLAY: high plasticity, grey green, trace fine to medium grained sand.				
		5.50	PP=525.0kPa								
		6.00	SPT: (7,10,12) N=22		6						
		6.20	PP=540.0kPa	104.30			CH: CLAY: high plasticity, brown mottled grey green, with fine to medium grained gravel, angular to subangular, trace fine to medium grained sand.				
		6.80	PP=535.0kPa								
					7			<PL	Vst to H		
		7.50	SPT: (20,30/80mm) N=R								
				102.87			Borehole terminated at 7.73 m				
					8						
					9						
					10						

DCP/PSP Equipment Ref.: DCP01 | In Situ Vane Ref.: | Pocket Penetrometer Equipment Ref.: PP14

Termination Reason: Equipment refusal

Remarks:

This report must be read in conjunction with accompanying notes and abbreviations.

CORE PHOTOGRAPH SHEET - BH03

Client: KBR
Project: Rostrevor High School Development
Location: Glen Stuart Rd, Woodforde SA 5072
Project ID: ADL2021-0244
Date: 05/10/2021

BH03 0-6m

BH03 6-7.73m

CORE PHOTOGRAPH SHEET - BH03

Client: KBR
Project: Rostrevor High School Development
Location: Glen Stuart Rd, Woodforde SA 5072
Project ID: ADL2021-0244
Date: 05/10/2021

BH03 Site Location Photo

BOREHOLE LOG - BH04

Client: KBR
Project: Rostrevor High School Development
Location: Glen Stuart Rd, Woodforde SA 5072
Project ID: ADL2021-0244
Date: 05/10/2021

CMW Geosciences

1:25 Sheet 1 of 1

Logged by: JMT Position: E.287787m N.6135496m Plant used: MPS300 Geoprobe
Checked by: JSC Elevation: 112.5 m Angle from horizontal: 90° Contractor: A&S Drilling

Well	Groundwater	Samples & Insitu Tests: Depth	Samples & Insitu Tests: Type & Results	RL (m)	Depth (m)	Graphic Log	Material Description: Soil Type, Plasticity or Particle Characteristics, Colour, Secondary and Minor Components	Moisture Condition	Consistency/ Relative Density	Dynamic Cone Penetrometer (Blows/100mm)	Structure & other observations
		0.0-0.2	ES	112.46			ASPHALT (40mm)				0.00-0.05m: Asphalt
							FILL: SANDY GRAVEL: fine to medium grained, subangular to subrounded, pale yellow with grey white, fine to coarse grained sand.	D	MD		0.05-0.30m: Select Fill
		0.2-0.3	ES	112.30				D	MD		
				112.20			FILL: SAND: fine to medium grained, orange.				0.30-3.60m: Pooraka Formation
							CI: CALCAREOUS SANDY CLAY: medium plasticity, brown, fine to coarse grained sand.			25	
										9	
								<PL	VSt	7	
		0.7-0.8	ES							8	
		0.7-0.8	QC							16	
				111.55	1		CI: CALCAREOUS CLAY: medium plasticity, white with pale brown, with fine to coarse grained sand.			17	
										17	
										15	
								<PL	VSt	15	
		1.4-1.5	ES							14	
				111.00						14	
		1.60	PP=550.0kPa				CL: CALCAREOUS SANDY CLAY: low plasticity, pale brown with white, fine to medium grained sand, with fine to medium grained gravel, subangular to subrounded.				
					2						
		2.30	PP=200.0kPa						St		
								<PL			
		3.0-3.2	ES		3						
				108.90			CI: CLAY: medium plasticity, pale brown mottled grey, with fine to coarse grained sand.				3.60-4.00m: Hindmarsh Clay
		3.70	PP=550.0kPa						Vst to H		
		3.90	PP=600.0kPa								
				108.50	4		Borehole terminated at 4.00 m				
					5						

DCP/PSP Equipment Ref.: DCP01 | In Situ Vane Ref.: | Pocket Penetrometer Equipment Ref.: PP14

Termination Reason: Target depth reached

Remarks:

This report must be read in conjunction with accompanying notes and abbreviations.

CORE PHOTOGRAPH SHEET - BH04

Client: KBR
Project: Rostrevor High School Development
Location: Glen Stuart Rd, Woodforde SA 5072
Project ID: ADL2021-0244
Date: 05/10/2021

BH04 0-4m

BH04 Site Location Photo

BOREHOLE LOG - BH05

Client: KBR
Project: Rostrevor High School Development
Location: Glen Stuart Rd, Woodforde SA 5072
Project ID: ADL2021-0244
Date: 06/10/2021

CMW Geosciences

1:25 Sheet 1 of 1

Logged by: JMT Position: E.287864m N.6135335m Plant used: MPS300 Geoprobe
Checked by: JSC Elevation: 114.5 m Angle from horizontal: 90° Contractor: A&S Drilling

Well	Groundwater	Samples & Insitu Tests: Depth	Samples & Insitu Tests: Type & Results	RL (m)	Depth (m)	Graphic Log	Material Description: Soil Type, Plasticity or Particle Characteristics, Colour, Secondary and Minor Components	Moisture Condition	Consistency/ Relative Density	Dynamic Cone Penetrometer (Blows/100mm)	Structure & other observations
				114.46			ASPHALT (40mm)	D	D		0.00-0.04m: Asphalt
		0.2-0.3	ES	114.40			FILL: SANDY GRAVEL: fine to medium grained, subangular to subrounded, pale yellow with grey white, fine to coarse grained sand.				0.04-0.10m: Select Fill
							CI: CLAY: medium plasticity, brown, with fine to coarse grained sand, trace fine grained gravel, angular to subangular.				0.10-4.00m: Pooraka Formation
		0.5-0.8	CBR					<PL	VSt	7	
		0.6-0.7	ES							7	
										7	
										7	
					1					14	
				113.45			CI: CALCAREOUS CLAY: medium plasticity, brown to pale brown, trace fine to medium grained sand.			14	
										18	
										17	
										13	
										15	
		1.60	PP=550.0kPa								
		1.7-1.8	ES								
		1.90	PP=550.0kPa		2			<PL	Vst to H		
		2.2-2.3	ES								
		2.25	PP=550.0kPa								
		2.90	PP=550.0kPa								
		3.0-3.1	ES	111.50	3		CI: CALCAREOUS CLAY: medium plasticity, brown to pale brown, with fine to coarse grained sand, with fine to medium grained gravel, angular to subangular.				
		3.30	PP=550.0kPa					<PL	Vst to H		
		3.75	PP=510.0kPa								
		3.90	PP=550.0kPa								
				110.50	4		Borehole terminated at 4.00 m				
					5						

DCP/PSP Equipment Ref.: DCP01 | In Situ Vane Ref.: | Pocket Penetrometer Equipment Ref.: PP14

Termination Reason: Target depth reached

Remarks:

This report must be read in conjunction with accompanying notes and abbreviations.

CORE PHOTOGRAPH SHEET - BH05

Client: KBR
Project: Rostrevor High School Development
Location: Glen Stuart Rd, Woodforde SA 5072
Project ID: ADL2021-0244
Date: 06/10/2021

BH05 0-4m

BH05 Site Location Photo

BOREHOLE LOG - BH06

Client: KBR
Project: Rostrevor High School Development
Location: Glen Stuart Rd, Woodforde SA 5072
Project ID: ADL2021-0244
Date: 06/10/2021

CMW Geosciences

1:25 Sheet 1 of 1

Logged by: JMT Position: E.287893m N.6135473m Plant used: MPS300 Geoprobe
Checked by: JSC Elevation: 116.8 m Angle from horizontal: 90° Contractor: A&S Drilling

Well	Groundwater	Samples & Insitu Tests: Depth	Samples & Insitu Tests: Type & Results	RL (m)	Depth (m)	Graphic Log	Material Description: Soil Type, Plasticity or Particle Characteristics, Colour, Secondary and Minor Components	Moisture Condition	Consistency/ Relative Density	Dynamic Cone Penetrometer (Blows/100mm)	Structure & other observations
		0.0-0.2	ES				TOPSOIL: SANDY CLAY: medium plasticity, brown, fine to coarse grained sand, trace fine grained gravel, angular to subangular, trace root fibres.	<PL	St	4, 5	0.00-0.20m: Topsoil
				116.60							0.20-0.60m: Fill
		0.3-0.4	ES				FILL: SANDY CLAY: medium plasticity, brown with white, fine to coarse grained sand, trace fine grained gravel, angular to subangular, trace root fibres.	<PL	St to VSt	7, 6	
		0.5-0.8	CBR							10, 25	
				116.20			CI: SANDY CLAY: medium plasticity, brown to grey, fine to medium grained sand.				0.60-4.00m: Pooraka Formation
		0.8-0.8	D(1KG)								
		0.75	PP=310.0kPa								
		0.85	PP=490.0kPa					<PL	VSt		
		1.00	PP=550.0kPa		1						
				115.65			CH: CALCAREOUS CLAY: high plasticity, pale brown streaked white, trace fine to coarse grained sand, trace fine grained gravel, angular to subangular.				
		1.2-1.3	ES								
		1.2-1.3	QC								
		1.2-1.3	QC								
		1.30	PP=525.0kPa					<PL	VSt		
		1.40	PP=550.0kPa								
		1.6-1.7	ES								
		1.60	PP=550.0kPa								
		1.70	PP=540.0kPa								
				115.05			GP: CALCAREOUS GRAVEL: fine to coarse grained, angular to subangular, pale brown with grey, trace fine to medium grained sand.	D	D		
				114.80	2		CH: CALCAREOUS CLAY: medium plasticity, red brown with white, with fine to coarse grained sand, trace fine grained gravel, angular to subangular.				
		2.8-3.0	ES								
		2.80	PP=485.0kPa								
					3			<PL	VSt		
		3.10	PP=370.0kPa								
		3.30	PP=390.0kPa								
		3.8-4.0	ES								
		3.80	PP=490.0kPa								
				112.80	4		Borehole terminated at 4.00 m				
					5						

DCP/PSP Equipment Ref.: DCP01 | In Situ Vane Ref.: | Pocket Penetrometer Equipment Ref.: PP14

Termination Reason: Target depth reached

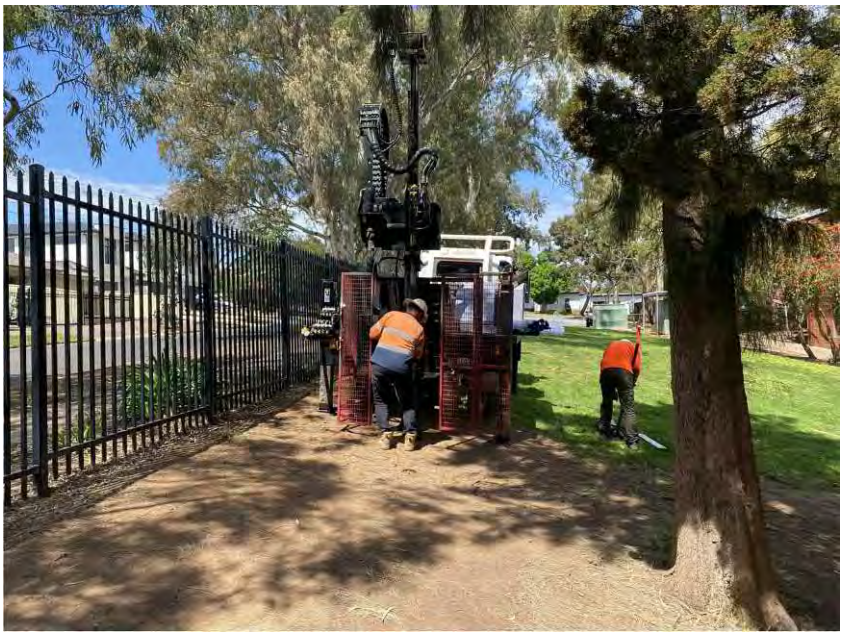
Remarks:

This report must be read in conjunction with accompanying notes and abbreviations.

CORE PHOTOGRAPH SHEET - BH06

Client: KBR
Project: Rostrevor High School Development
Location: Glen Stuart Rd, Woodforde SA 5072
Project ID: ADL2021-0244
Date: 06/10/2021

BH06 0-4m



BH06 Site Location Photo

Appendix B
Laboratory Test Certificates

Adelaide Laboratory

Coffey Testing Pty Ltd
ABN 92 114 364 046
Unit 2, 30-34 Ragless Street
St Marys SA 5042

Phone: +61 8 8490 5720

Report No: SSI:ADEL21S-04260
Issue No: 1

Shrink Swell Index Report

Client:	CMW Geosciences (East Coast) Pty Ltd CO-Hab Level 1 Clovelly Park SA 5042
Principal:	
Project No.:	TESTADEL00537AA
Project Name:	Rostrevor High School Development
Lot No.:	**TRN:**

Accredited for compliance with ISO/IEC 17025 - Testing. NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection and proficiency testing scheme providers reports.

Approved Signatory: Ross Dingle
(Technical Manager)
NATA Accredited Laboratory Number:431
Date of Issue: 19/10/2021

Sample Details

Sample ID:	ADEL21S-04260	**Sampling Method:**	Submitted by client*
Date Sampled:		**Material:**	Clay
Date Submitted:	7/10/2021	**Source:**	Bore Hole
Date Tested:	7/10/2021		
Project Location:	ADL2021-0244		
Sample Location:	BH01 3.00-3.40m		
Borehole Number:	BH01		
Borehole Depth (m):	3.00-3.40		

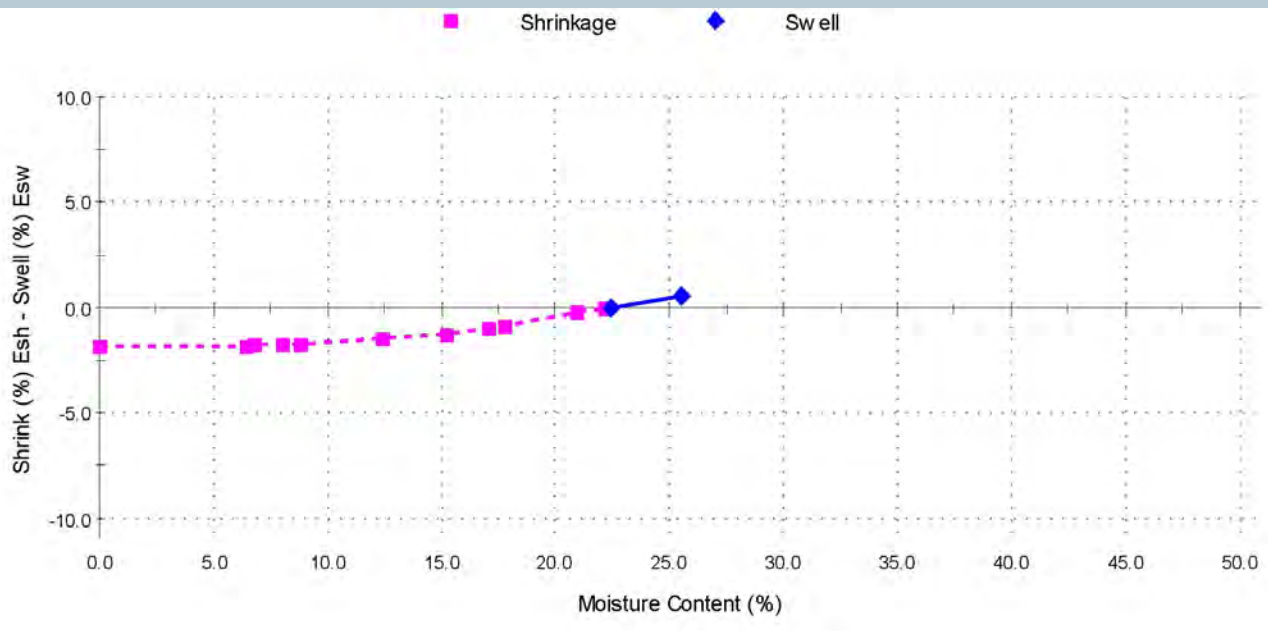
Swell Test AS 1289.7.1.1

Swell on Saturation (%):	0.5
Moisture Content before (%):	22.4
Moisture Content after (%):	25.5
Est. Unc. Comp. Strength before (kPa):	
Est. Unc. Comp. Strength after (kPa):	

Shrink Test AS 1289.7.1.1

Shrink on drying (%):	1.8
Shrinkage Moisture Content (%):	22.1
Est. inert material (%):	2
Crumbling during shrinkage:	slight
Cracking during shrinkage:	significant

Shrink Swell



Shrink Swell Index - Iss (%): 1.2

Comments

Adelaide Laboratory

Coffey Testing Pty Ltd
ABN 92 114 364 046
Unit 2, 30-34 Ragless Street
St Marys SA 5042

Phone: +61 8 8490 5720

Shrink Swell Index Report

Report No: SSI:ADEL21S-04261
Issue No: 2
This report replaces all previous issues of report no 'SSI:ADEL21S-04261'.

Client:	CMW Geosciences (East Coast) Pty Ltd CO-Hab Level 1 Clovelly Park SA 5042
Principal:	
Project No.:	TESTADEL00537AA
Project Name:	Rostrevor High School Development
Lot No.:	**TRN:**

Accredited for compliance with ISO/IEC 17025 - Testing. NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection and proficiency testing scheme providers reports.

Approved Signatory: Ross Dingle
(Technical Manager)
NATA Accredited Laboratory Number:431
Date of Issue: 19/10/2021

Sample Details

Sample ID:	ADEL21S-04261	**Sampling Method:**	Submitted by client*
Date Sampled:		**Material:**	Clay
Date Submitted:	7/10/2021	**Source:**	Bore Hole
Date Tested:	8/10/2021		
Project Location:	ADL2021-0244		
Sample Location:	BH02 4.5-4.8m		
Borehole Number:	BH02		
Borehole Depth (m):	4.5-4.8		

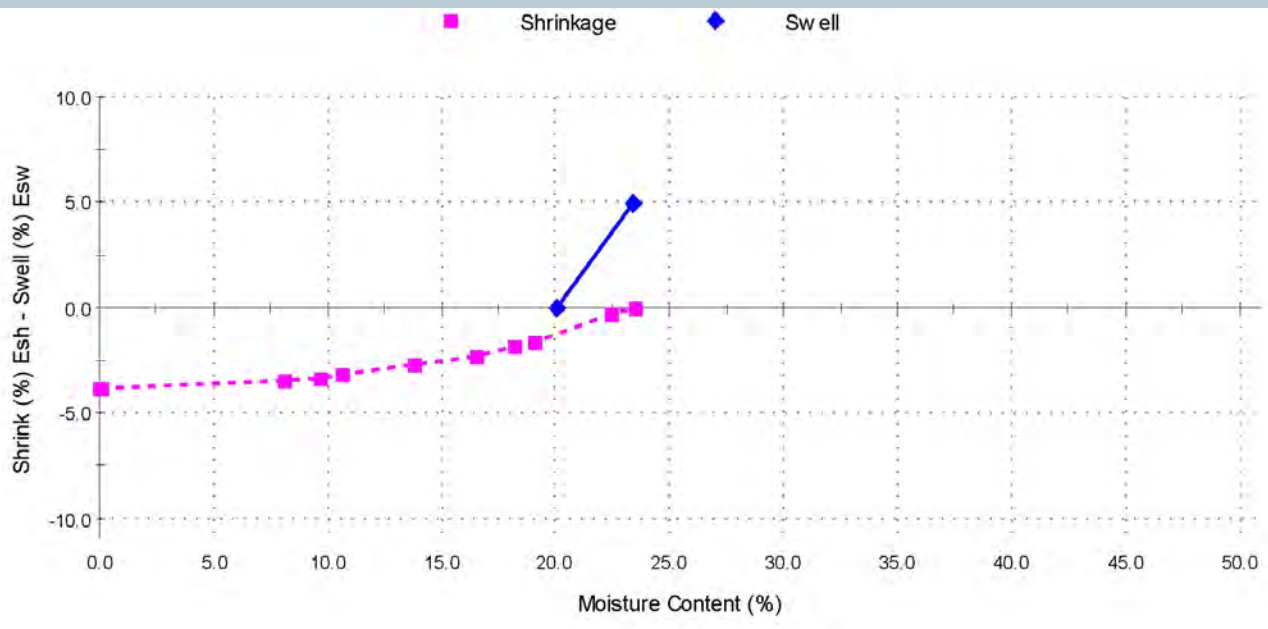
Swell Test — AS 1289.7.1.1

Swell on Saturation (%):	4.9
Moisture Content before (%):	20.0
Moisture Content after (%):	23.4
Est. Unc. Comp. Strength before (kPa):	
Est. Unc. Comp. Strength after (kPa):	

Shrink Test — AS 1289.7.1.1

Shrink on drying (%):	3.8
Shrinkage Moisture Content (%):	23.5
Est. inert material (%):	0
Crumbling during shrinkage:	None
Cracking during shrinkage:	Some

Shrink Swell



Shrink Swell Index - Iss (%): 3.5

Comments

Report re-issued, sample ID amended.

Adelaide Laboratory

Coffey Testing Pty Ltd
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Unit 2, 30-34 Ragless Street
St Marys SA 5042

Phone: +61 8 8490 5720

California Bearing Ratio Test Report

Report No: CBR:ADEL21S-04262
Issue No: 3
This report replaces all previous issues of report no 'CBR:ADEL21S-04262'.

Client:	CMW Geosciences (East Coast) Pty Ltd CO-Hab Level 1 Clovelly Park SA 5042
Principal:	
Project No.:	TESTADEL00537AA
Project Name:	Rostrevor High School Development
Lot No.:	**TRN:**

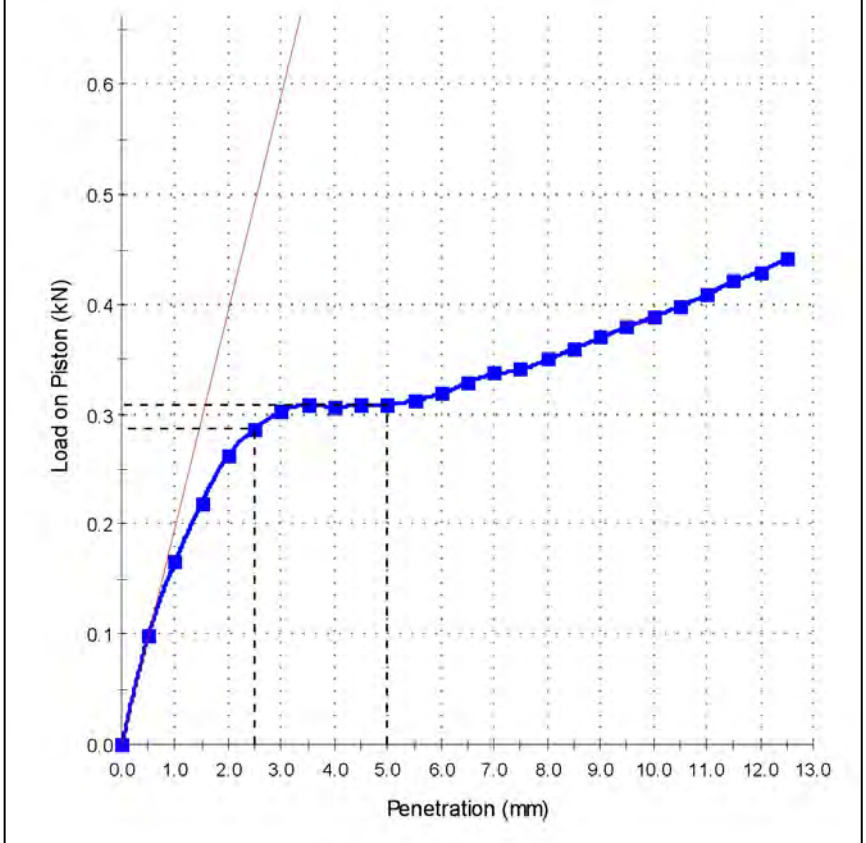
Accredited for compliance with ISO/IEC 17025 - Testing. NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection and proficiency testing scheme providers reports.

Approved Signatory: Ross Dingle
(Technical Manager)
NATA Accredited Laboratory Number:431
Date of Issue: 19/10/2021

Sample Details

Sample ID:	ADEL21S-04262	**Sampling Method:**	Submitted by client*
Client ID:	BH05 0.50-0.75m	**Material:**	Clay
Date Sampled:		**Source:**	Bore Hole
Date Submitted:	7/10/2021	**Specification:**	No Specification
Date Tested:	15/10/2021		
Project Location:	ADL2021-0244		
Sample Location:	BH05 0.50-0.75m		

Load vs Penetration



Test Results

	AS 1289.6.1.1
CBR at 2.5mm (%):	**2.0**
Dry Density before Soaking (t/m³):	1.63
Density Ratio before Soaking (%):	98.5
Moisture Content before Soaking (%):	21.2
Moisture Ratio before Soaking (%):	99.0
Dry Density after Soaking (t/m³):	1.58
Density Ratio after Soaking (%):	95.5
Swell (%):	3.0
Moisture Content of Top 30mm (%):	34.7
Moisture Content of Remaining Depth (%):	25.5
Compaction Hammer Used:	Standard AS 1289.5.1.1
Surcharge Mass (kg):	4.50
Period of Soaking (Days):	4
Retained on 19 mm Sieve (%):	0
CBR Moisture Content Method:	AS 1289.2.1.1
Sample Curing Time (h):	3
Plasticity Determination Method:	Visual/Tactile

Comments

Standard MDD (t/m³) AS 1289.5.1.1 1.66 Optimum Moiture Content (%) 21.5 Field Moiture Content (%): 16.6
Report re-issued, comments updated.

Adelaide Laboratory

Coffey Testing Pty Ltd
ABN 92 114 364 046
Unit 2, 30-34 Ragless Street
St Marys SA 5042

Phone: +61 8 8490 5720

California Bearing Ratio Test Report

Report No: CBR:ADEL21S-04263
Issue No: 1

Client:	CMW Geosciences (East Coast) Pty Ltd CO-Hab Level 1 Clovelly Park SA 5042
Principal:	
Project No.:	TESTADEL00537AA
Project Name:	Rostrevor High School Development
Lot No.:	**TRN:**

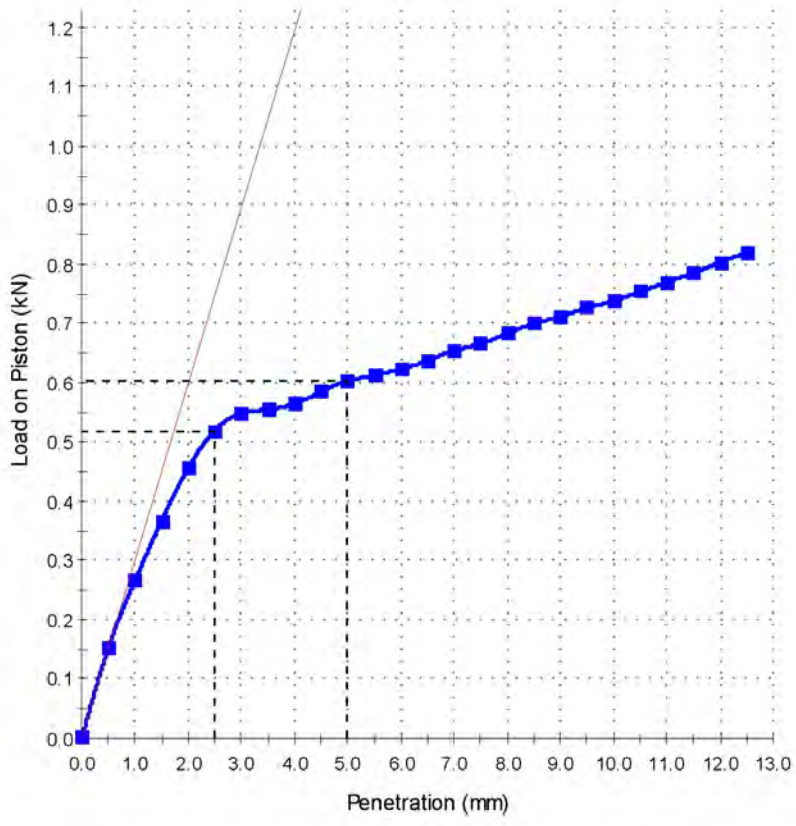
Accredited for compliance with ISO/IEC 17025 - Testing. NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection and proficiency testing scheme providers reports.

Approved Signatory: Ross Dingle
(Technical Manager)
NATA Accredited Laboratory Number:431
Date of Issue: 19/10/2021

Sample Details

Sample ID:	ADEL21S-04263	**Sampling Method:**	Submitted by client*
Client ID:	BH06 0.50-0.75m	**Material:**	Sandy Clay
Date Sampled:		**Source:**	Bore Hole
Date Submitted:	7/10/2021	**Specification:**	No Specification
Date Tested:	15/10/2021		
Project Location:	ADL2021-0244		
Sample Location:	BH06 0.50-0.75m		

Load vs Penetration



Test Results

	AS 1289.6.1.1
CBR at 2.5mm (%):	**4.0**
Dry Density before Soaking (t/m³):	1.63
Density Ratio before Soaking (%):	97.5
Moisture Content before Soaking (%):	21.4
Moisture Ratio before Soaking (%):	102.5
Dry Density after Soaking (t/m³):	1.61
Density Ratio after Soaking (%):	96.5
Swell (%):	1.0
Moisture Content of Top 30mm (%):	31.0
Moisture Content of Remaining Depth (%):	22.3
Compaction Hammer Used:	Standard
	AS 1289.5.1.1
Surcharge Mass (kg):	4.50
Period of Soaking (Days):	4
Retained on 19 mm Sieve (%):	0
CBR Moisture Content Method:	AS 1289.2.1.1
Sample Curing Time (h):	3
Plasticity Determination Method:	Visual/Tactile
——— AS 1289.2.1.1 ———	
In Situ (Field) Moisture Content (%):	17.8

Comments

Standard MDD (t/m³) AS 1289.5.1.1 1.67, Optimum Moiture Content (%) 21.0

386

Adelaide Laboratory

Coffey Testing Pty Ltd
ABN 92 114 364 046
Unit 2, 30-34 Ragless Street
St Marys SA 5042

Phone: +61 8 8490 5720

Material Test Report

Report No: ADEL21S-04264-1
Issue No: 1

Client: CMW Geosciences (East Coast) Pty Ltd
CO-Hab Level 1
Clovelly Park SA 5042

Principal:
Project No.: TESTADEL00537AA
Project Name: Rostrevor High School Development
Lot No.: **TRN:**

Accredited for compliance with ISO/IEC 17025 - Testing. NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection and proficiency testing scheme providers reports.

Approved Signatory: Ross Dingle
(Technical Manager)
NATA Accredited Laboratory Number:431
Date of Issue: 12/10/2021

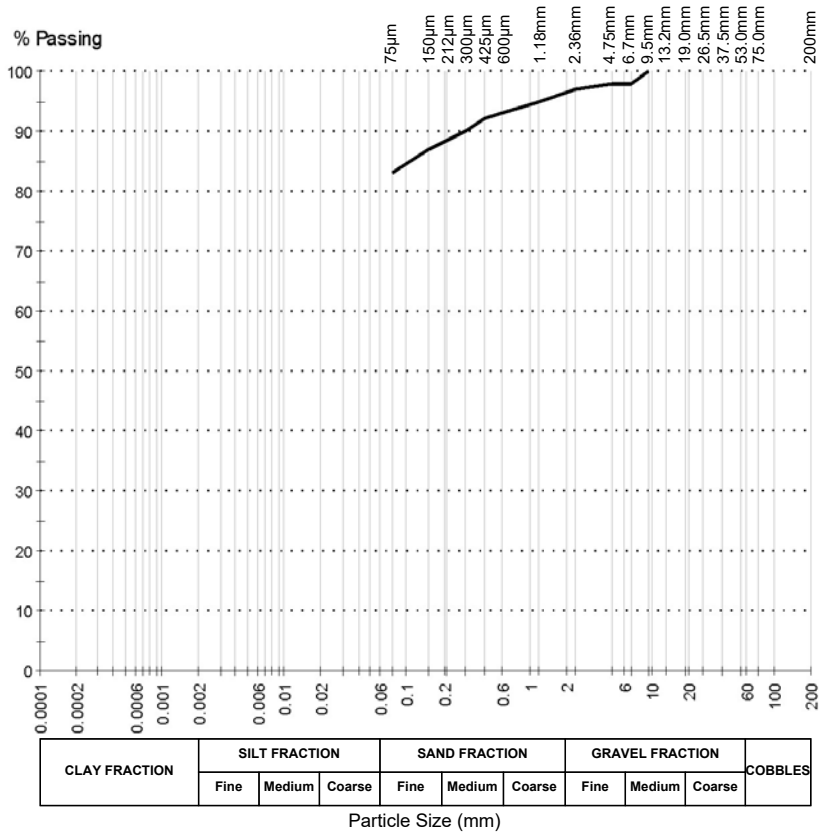
Sample Details

Sample ID / Client ID: ADEL21S-04264 / BH06 0.75-0.85m
Date Sampled:
Source: Bore Hole
Material: Sandy Clay
Specification: No Specification
Sampling Method: Submitted by client*
Project Location: Rostrevor
Sample Location: BH06 0.75-0.85m

Other Test Results

Description	Method	Result	Limits
Sample History	AS 1289.1.1	Air-dried	
Preparation	AS 1289.1.1	Dry Sieved	
Linear Shrinkage (%)	AS 1289.3.4.1	17.0	
Mould Length (mm)		254	
Cracking		Yes	
Liquid Limit (%)	AS 1289.3.1.2	70	
Plastic Limit (%)	AS 1289.3.2.1	20	
Plasticity Index (%)	AS 1289.3.3.1	50	
Date Tested		11/10/2021	

Particle Size Distribution



Method: AS 1289.3.6.1
Drying by: Oven
Date Tested: 11/10/2021

Note: Sample Washed

Sieve Size	% Passing	Limits
9.5mm	100	
6.7mm	98	
4.75mm	98	
2.36mm	97	
1.18mm	95	
600µm	93	
425µm	92	
300µm	90	
150µm	87	
75µm	83	

Comments

*Results relate only to the items tested or sampled.

Coffey Testing Adelaide
Unit 2, 30-34 Ragless Street
St Marys
SA 5042

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Ross Dingle**

Report **830477-S**
Project name ROSTREVOR HIGH SCHOOL DEVELOPMENT
Project ID TESTADEL00537 AA
Received Date Oct 08, 2021

Client Sample ID			**BH02 0.50-0.60M**	**BH03 4.00-4.30M**
Sample Matrix			**Soil**	**Soil**
Eurofins Sample No.			**M21-Oc14702**	**M21-Oc14703**
Date Sampled			**Not Provided**[I12]	**Not Provided**[I12]
Test/Reference	LOR	Unit		
Chloride	5	mg/kg	84	600
pH (1:5 Aqueous extract at 25°C as rec.)	0.1	pH Units	8.4	7.8
Sulphate (as SO4)	30	mg/kg	< 30	81
% Moisture	1	%	16	23

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Chloride	Melbourne	Oct 11, 2021	28 Days
- Method: LTM-INO-4090 Chloride by Discrete Analyser			
pH (1:5 Aqueous extract at 25°C as rec.)	Melbourne	Oct 11, 2021	7 Days
- Method: LTM-GEN-7090 pH in soil by ISE			
Sulphate (as SO4)	Melbourne	Oct 11, 2021	28 Days
- Method: LTM-INO-4110 Sulfate by Discrete Analyser			
% Moisture	Melbourne	Oct 08, 2021	14 Days
- Method: LTM-GEN-7080 Moisture			

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web: www.eurofins.com.au
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Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

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Phone : +61 3 8564 5000
NATA # 1261 Site # 1254

Sydney
Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Newcastle
4/52 Industrial Drive
Mayfield East NSW 2304
PO Box 60 Wickham 2293
Phone : +61 2 4968 8448
NATA # 1261 Site # 25079

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool WA 6106
Phone : +61 8 6253 4444
NATA # 2377 Site # 2370

Eurofins Environment Testing NZ Limited
NZBN: 9429046024954

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name: Coffey Testing Adelaide
Address: Unit 2, 30-34 Ragless Street
St Marys
SA 5042

Project Name: ROSTREVOR HIGH SCHOOL DEVELOPMENT
Project ID: TESTADEL00537 AA

Order No.:
Report #: 830477
Phone: 08 83754400
Fax: 08 83754499

Received: Oct 8, 2021 10:30 AM
Due: Oct 15, 2021
Priority: 5 Day
Contact Name: Ross Dingle

Eurofins Analytical Services Manager : Michael Cassidy

Sample Detail						Chloride	pH (1:5 Aqueous extract at 25°C as rec.)	Sulphate (as SO4)	Moisture Set
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X
Sydney Laboratory - NATA # 1261 Site # 18217									
Brisbane Laboratory - NATA # 1261 Site # 20794									
Mayfield Laboratory - NATA # 1261 Site # 25079									
Perth Laboratory - NATA # 2377 Site # 2370									
External Laboratory									
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**				
1	BH02 0.50-0.60M	Not Provided		Soil	M21-Oc14702	X	X	X	X
2	BH03 4.00-4.30M	Not Provided		Soil	M21-Oc14703	X	X	X	X
Test Counts						2	2	2	2

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

Units

mg/kg: milligrams per kilogram
mg/L: milligrams per litre
ug/L: micrograms per litre
ppm: Parts per million
ppb: Parts per billion
%: Percentage
org/100mL: Organisms per 100 millilitres
NTU: Nephelometric Turbidity Units
MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs..

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM where no positive PFAS results have been reported have been reviewed and no data was affected.

.

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank									
Chloride			mg/kg	< 5			5	Pass	
Sulphate (as SO4)			mg/kg	< 30			30	Pass	
LCS - % Recovery									
Chloride			%	109			70-130	Pass	
Sulphate (as SO4)			%	106			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
				Result 1	Result 2	RPD			
Chloride	M21-Oc12939	NCP	mg/kg	12	16	27	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
pH (1:5 Aqueous extract at 25°C as rec.)	M21-Oc14703	CP	pH Units	7.8	8.0	pass	30%	Pass	
% Moisture	M21-Oc14703	CP	%	23	23	2.0	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	No
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	N/A
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
I12	Where sampling date has not been provided, Eurofins | Environment Testing is not able to determine whether analysis has been performed within recommended holding times.

Authorised by:

Michael Cassidy	Analytical Services Manager
Scott Beddoes	Senior Analyst-Inorganic (VIC)

Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

project GREEN

TREE ASSESSMENT

S31091 Thompson Rossi Norwwod Morialta High School 2021 Tree Audit

Thursday, 21 October 2021

Project Green Pty Ltd
25-27 Ceafield Road
Para Hills West S A 5096
ABN: 78 088 402 706
ACN: 088 402 706
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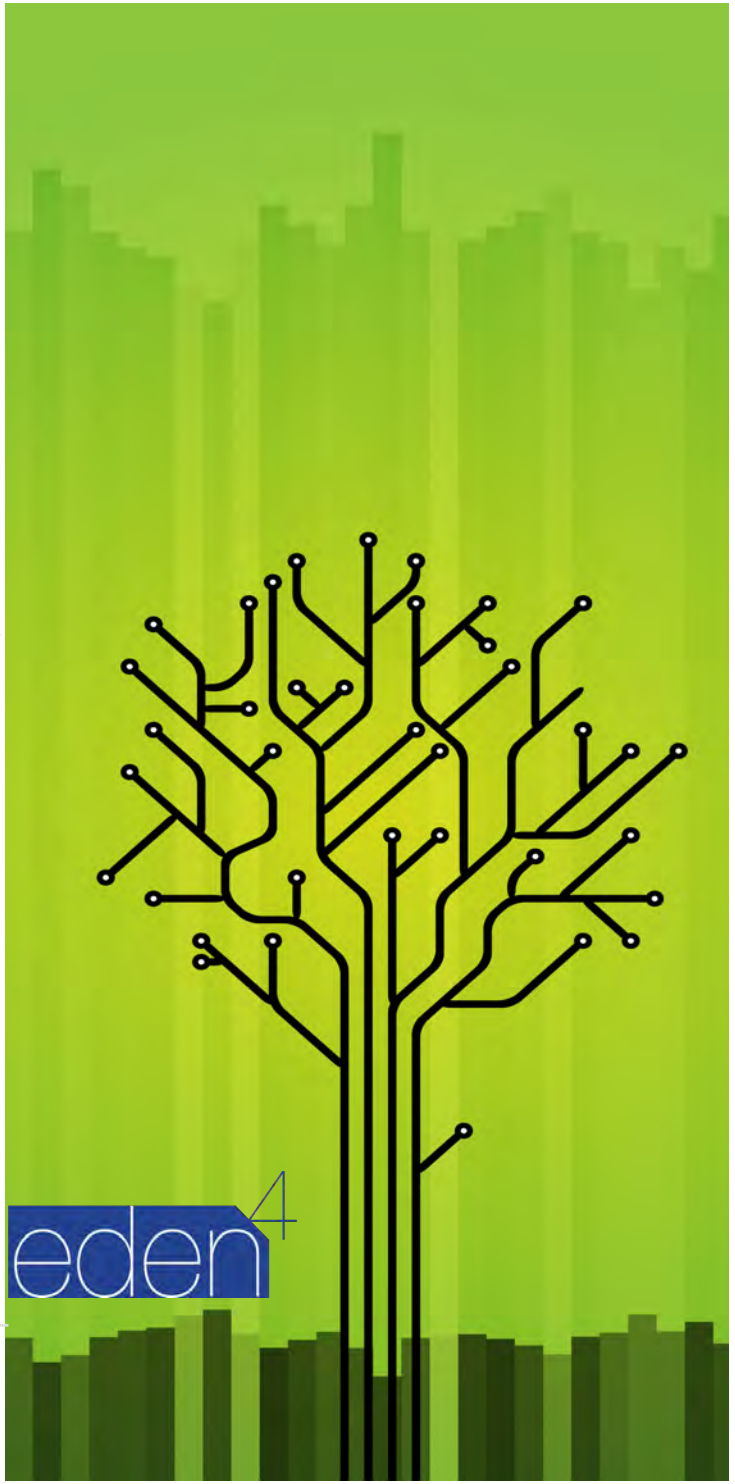

CONTENTS

INTRODUCTION & BACKGROUND INFORMATION

1.0 INTRODUCTION

Project Green was engaged by Thompson Rossi to undertake an audit on trees located at lot Hamilton Secondary College. The purpose of the audit was to identify and assess all trees at the site to identify which trees on site are currently regulated or significant or a are likely to attain a size to be regulated or significant in the near future

Site visits were undertaken for the purposes of conducting the visual tree assessment. A total of 222 trees were assessed in this report refer APPENDIX A 'TREE SCHEDULES' for further detail. All trees were assessed against the SA Planning, Development & Infrastructure Act 2016, refer APPENDIX A 'TREE SCHEDULES' and APPENDIX B 'LEGISLATIVE STATUS GRAPH' for more information.

Recommendations for retention are based on structural defects noted in the trees which would be undesirable in a new developed precinct

2 BACKGROUND INFORMATION

2.1 DOCUMENTS AND INFORMATION PROVIDED

A list of required attributes and value lists associated with these attributes were provided for reference as well as a basic site map

2.2 LEGISLATIVE REQUIREMENTS

Regard was given to the following legislation and standards for the purpose of assessing trees at the school and providing recommendations on 'Regulated' and 'Significant' trees.

INTRODUCTION & BACKGROUND INFORMATION

2.2.1 SA PLANNING, DEVELOPMENT & INFRASTRUCTURE ACT 2016

The *SA Planning, Development & Infrastructure Act 2016* (Act) provides that any activity that damages a 'Regulated' or 'Significant' tree is classed as 'Development' and as such requires development approval.

The Act defines tree damaging activity as:

a) the killing or destruction of a tree; or

b) the removal of a tree; or

c) the severing of branches, limbs, stems or trunk of a tree; or

d) the ringbarking, topping or lopping of a tree; or

e) any other substantial damage to a tree,

and includes any other act or activity that causes any of the foregoing to occur but does not include maintenance pruning that is not likely to affect adversely the general health and appearance of a tree or that is excluded by regulation from the ambit of this definition.

A '**Significant**' tree is defined as any tree in Metropolitan Adelaide which has a trunk circumference of 3m or more – or, in the case of trees with multiple trunks, that have trunks with a total circumference of 3m or more and an average circumference of 625mm or more – measured at a point 1m above natural ground level; or any tree identified as a 'Significant' tree in a Development Plan.

A '**Regulated**' tree is defined as any tree in Metropolitan Adelaide which has a trunk circumference of 2m or more – or, in the case of trees with multiple trunks, that have trunks with a total circumference of 2m or more and an average circumference of 625mm or more – measured at a point 1m above natural ground level.

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2.2.2 SA PLANNING, DEVELOPMENT & INFRASTRUCTURE (GENERAL) REGULATIONS 2017

The *SA Planning, Development & Infrastructure (General) Regulations 2017* (Regulations) list a range of tree species as 'exempt' from regulated tree controls. The trees listed are:

- All trees located within 10 metres of an existing dwelling or existing in-ground swimming pool (excluding *Agonis flexuosa* and any *Eucalypt* species).
- A list of 24 other tree species commonly planted in urban areas.

In addition the Regulations also exempt the need for an applicant to seek approval to:

- Remove a regulated or significant tree that is dead.
- Remove a regulated or significant tree within 20 metres of a dwelling in Medium or High Bushfire Protection Areas.

Unless otherwise stipulated, the pruning works recommended in this audit are not considered to be tree-damaging as per the criteria contained within the Regulations in so far as recommended works do not remove more than 30% of a tree's crown and are targeted at removing only dead or diseased wood, or branches that pose a material risk and occur in a location that is frequently used by people.

Any regulated trees identified for removal, or where tree damaging activity may occur, will require a Development Application to be lodged in accordance with the relevant Local Government Authority.

Therefore it is suggested that before any works occur on such trees notification is undertaken with a local government representative to discuss the intention of works and seek the necessary approvals to perform the work.

2.2.4 AUSTRALIAN STANDARD 4970-2009 PROTECTION OF TREES ON DEVELOPMENT SITES

Australian Standard 4970-2009 protection of tree on development sites specifies calculations for Tree Protection Zones and Tree Structural Root Zones as used in this report. This standard also outlines protection measures and construction methodologies designed to preserve and protect significant and regulated trees.

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METHOD & RESULTS

3.0 METHOD

The tree audit was undertaken utilising Project Green's new EDEN 4 software platform utilising the Flametree Data Collection and Management Software Solution on Apple IPads ™.

All trees on site were collected using Project Green's Data collection attribute list that has been specifically designed to identify the status of, and protection requirements for, trees on the subject land.

The following methods were used to assess the trees on site:

- **Unique ID** - Individual trees are given a unique Project Green identification number.
- **GEO Location** - The GPS location (longitude/latitude) of all trees is captured utilising ta GPS corrected locational signal
- **Identification** - trees were identified by genus and species
- **Height** - Tree height was estimated and these estimated verified routinely using a Nikon Forestry 550 range finder.
- **Legislative Status** – a trunk circumference measurement was taken at 1 metre above natural ground level. A tape measure was used to take measurements.
- **Tree Structure** - was assessed based on assessing live crown ratio and other crown physiology including limb attachment, taper, evidence of past limb failure, wound occlusion, evidence of any pest and or insect occurrence and general overall structure for the species being assessed.
- **Structural Root Zone** – A measurement of the base of each tree was undertaken to calculate the SRZ of the tree
- **Tree Protection Zone**– A measurement at 1.4M from Natural ground level of each tree was undertaken to calculate the TPZ of the tree.
- **Crown Spread** - North-South and East-West crown spread was estimated in metres and was routinley checked with a tape measure
- **Tree Form and Tree Health** – each tree was assessed for its biological attributes such as health and vigour with these being assessed and ranked in accordance with recognised industry standards .
- **ULE** – for each tree is derived by assessing all factors of the tree that affect life expectancy and each tree is given an expected life range
- **Photograph** - photographic records were taken of each tree.

3.1 LIMITATIONS

The trees were inspected visually from the ground only. Aerial, subsurface or invasive inspections were not performed and no soil or plant samples were laboratory tested. Due to plant hybridisation some species can be difficult to accurately identify.
Information contained in this report is based on observations taken on the day of inspection and material provided only. It is possible that changes in environmental conditions or subsequent information may affect or alter these findings. This report has been prepared on behalf of and for the exclusive use of the Project Green client.

4 RESULTS

Refer to Appendix A Tree Schedules
Refer to Appendix B Charts & Graphs

5 MAPS

Interactive Map URL:
https://www.google.com/maps/d/u/0/edit?mid=1RC_RmN_2Gcu_EMTux4Z2yFXAohB55AZV&usp=sharing

6 DISCUSSION

A total of 222 trees were audited and included in this report from within and adjacent to the Norwood Morialta High School site.

Of these trees 40 were found to be of a size to be afforded regulated tree status under state planning legislation with a further 29 Trees of a size to be afforded significant tree status under the same legislation. To note gazetted changes to the S.A. Development Act in November 2017 exempts the school from tree damaging activities therefore the removal of such trees would be exempt from the need for approval.

The Tree Protection Zone (TPZ) and Structural Root Zone (SRZ) calculation of all Regulated and Significant trees is also included within the report along with the same calculations of trees likely to attain regulated or significant tree size in the coming 18 months.

The Australian Standard 4970-2009 Protection of Trees on Development Sites prescribes encroachments greater than 10% into the TPZ need to be assessed by a project aborist to determine the proposed impact on future health and viability of the tree. The individual impacts to trees from any proposed develop will need to be considered once a final site plan has been finalised.

RECOMMENDATIONS

7 RECOMMENDATIONS

Based on the findings of the tree audit, the following is recommended:

1. Seek approval for, and undertake removal of all trees identified as requiring removal in Appendix A

2. Establish a Tree Protection Zone or as a minimum a Structural Root Zone protection fencing on all trees for which retention has been identified prior to commencing construction activities on site

3. As a minimum, a follow up tree audit should be undertaken within 18 months to assess additional trees against the Development Act if construction works have not commenced on site

4. All tree works should be overseen/supervised by a qualified Arborist with a minimum Certification of Level IV Horticulture (Arboriculture).

All works should be undertaken in accordance with Australian Standard 4373-2007 Pruning of Amenity Trees.

DISCLAIMER

8 DISCLAIMER

This report only covers identifiable defects present at the time of inspection. The author accepts no responsibility and cannot be held liable for any structural defect or unforseen event/situation that may occur after the time of inspection, unless clearly specified time scales are detailed within the report.

The author cannot guarantee trees contained within this report will be structurally sound under all circumstances, and cannot guarantee that the recommendations made will categorically result in the tree being made safe.

Unless specifically mentioned this report will only be concerned with above ground inspections, that will be undertaken visually from ground level. Trees are living organisms and as such cannot be classified as safe under any circumstances. The recommendations are made on the basis of what can be reasonably identified at the time of inspection therefore the author accepts no liability for any recommendations made.

Care has been taken to obtain all information from reliable sources. All data has been verified insofar as possible; however the author can neither guarantee nor be responsible for the accuracy of information provided by others

REFERENCES

9 REFERENCES

Dunster, J.A., (2013) Tree Risk Assessment Manual. ISA Publications.

Googlemaps.com

Matheny, N.P: & Clark, J.R (1994) Evaluation of Hazard Trees in Urban Areas. ISA Publications.

SA Planning, Development & Infrastructure Act 2016, Government of South Australia

SA Planning, Development & Infrastructure (General) Regulations 2017, Government of South Australia

Shigo, A. L. (1999) A New Tree Biology (ninth edition) Sherwin Dodge Printers, Littlelton, New Hampshire.

www.Treeaz.com – Pre Planning tree Surveys: Safe Useful Life Expectancy (SULE) is the natural progression

flametree®

GLOSSARY

Co-dominant stems	Stems or trunks of about the same size originating from the same position from the main stem (AS4373:2007)
Crown maintenance	Pruning that preserves the size and structure of a tree while maintaining the crown volume (AS4373:2007).
Deadwood	Dead branches within a tree's canopy can be categorised as small, medium or large in size based on diameter and length and volume within the canopy.
End weight	Excessive formation of foliage concentrated at the distal end of the branch
Exotic	A plant introduced from another country or region to a place where it was not indigenous.
Formative prune	The pruning of trees to assist with the development of crown form and shape, and to develop strong structure.
Health	Includes the tree's vigour exhibited by density of crown, cover, leaf colour etc.
Live Crown Ratio	Is the proportion of live crown to tree height used to assist in the assessment of potentially hazardous trees.
Reduction prune	Branches specifically pruned to reduce crown height or crown spread by pruning to reduce the length of the branch with a final cut at a branch union inside the crown. Here the retained branch should be (>1/3) of the diameter of the removed branch (Australian Standard 2007p.8, Draper & Richards 2009, p.123-124).
Remedial prune	Pruning to repair previously poorly undertaken works or to assist in re-establishing the crown form and shape.
Size	Tree Height and canopy diameter measured in meters.
Taper	In roots and branches; the decrease in diameter along a given length, usually reducing gradually in the distal direction (away from the point of attachment).
Visual Tree Assessment (VTA)	A visual inspection of a tree from the ground undertaken by a trained Arborist competent in determining tree type, structural integrity, health, growing environment and environmental benefits or impacts the tree may present, and determining suitable methods for managing the tree and impact it may have on its immediate surrounds. The inspection is limited to those attributes observed on the day of inspection. No other investigation techniques are used unless stated otherwise.

HAZARD ASSESSMENT

Each tree has been assessed using Matheny & Clark (1994) Hazard Rating in line with the following description and expression: Hazard = Failure Potential + Size of Defective Part + Target Rating

DEVELOPING THE HAZARD RATING

Failure Potential

Failure potential identifies the most likely failure and rates the likelihood that the structural defect(s) will result in failure within the inspection period. Examples of ratings are:

1. Low: defects are minor (e.g. dieback of twigs, small wounds with good wound wood development)
2. Medium: defects are present and obvious (e.g. cavity encompassing 10-25% of the circumference of the trunk, co-dominant stems without included bark)
3. High: numerous and/or significant defects present (e.g. cavity encompassing 30-50% of the circumference of the trunk, multiple pruning wounds with decay along a branch).
4. Severe: Defects are very severe (e.g. heartrot decay conks along the main stem, cavity encompassing more than 50% of the trunk)

Size of Defective Part

Size of defective part rates the size of the part most likely to fail. The larger the part that fails, the greater the potential for damage. Therefore, the size of the failure affects the hazard potential. Examples are:

1. Most likely failure less than 15cm in diameter.
2. Most likely failure 15 to 45cm in diameter.
3. Most likely failure 45 to 75cm in diameter.
4. Most likely failure greater than 75cm in diameter.

TARGET RATING

Target rating rates the use and occupancy of the area that would be struck by the defective part.

1. Occasional use: Jogging, cycling etc.
2. Intermittent use: Picnic area, day use parking etc.
3. Frequent use, secondary structure: Seasonal camping area, storage facilities etc.
4. Constant use, structures: year round use for a number of hours each day, residences.

The hazard rating is not intended to define “danger” or provide risk acceptance. The score is intended to be used as a simple guide to help client prioritise works where resources are scarce.

Further information see Matheny N, P & Clark J, R. (1994) A Photographic Guide to the Evaluation of Hazard Trees in Urban Areas, Second Edition, International society of Arboriculture Books.

Hazard Score

3-4 Low Hazard
5-7 Medium Hazard
8-12 High Hazard

Appendix A: Tree Schedule

Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	21
Structure	Good
Crown Dia. N/S	17
Crown Dia. E/W	20

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	1.49367089
Structural Root Zone (M)	3.92
1m Circum. Total (M)	4.67
1m Circum. Avg. (mm)	4.67
Legislative Status	Significant
1.4m Diameter (M)	1.60759494
Tree Protection Zone (M)	15.00

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9011968
Longitude	138.678645
ID Number	12

Appendix A: Tree Schedule

Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Fair
Useful Life Expectancy	11+
Height	20
Structure	Average
Crown Dia. N/S	12
Crown Dia. E/W	19

Base of Tree

Legislative Appraisal

Base Diameter (M)	1.06012658
Structural Root Zone (M)	3.39
1m Circum. Total (M)	3.38
1m Circum. Avg. (mm)	3.38
Legislative Status	Significant
1.4m Diameter (M)	1.10126582
Tree Protection Zone (M)	13.22

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9012453
Longitude	138.678639
ID Number	13

Appendix A: Tree Schedule

Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	21
Structure	Good
Crown Dia. N/S	17
Crown Dia. E/W	19

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	1.36075949
Structural Root Zone (M)	3.77
1m Circum. Total (M)	3.9
1m Circum. Avg. (mm)	3.9
Legislative Status	Significant
1.4m Diameter (M)	1.59810127
Tree Protection Zone (M)	15.00

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9013258
Longitude	138.678666
ID Number	14

Appendix A: Tree Schedule
Botanical Name: Ficus macrophylla- Moreton Bay Fig

Tree Overview

Tree Information

Age Class	Mature
Health	Excellent
Useful Life Expectancy	11+
Height	15
Structure	Excellent
Crown Dia. N/S	20
Crown Dia. E/W	19

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	3.16455696
Structural Root Zone (M)	5.37
1m Circum. Total (M)	5
1m Circum. Avg. (mm)	5
Legislative Status	Significant
1.4m Diameter (M)	1.89873418
Tree Protection Zone (M)	15.00

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9021932
Longitude	138.678742
ID Number	24

Appendix A: Tree Schedule

Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Excellent
Useful Life Expectancy	11+
Height	18
Structure	Good
Crown Dia. N/S	13
Crown Dia. E/W	12

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	1.20253165
Structural Root Zone (M)	3.58
1m Circum. Total (M)	3.5
1m Circum. Avg. (mm)	3.5
Legislative Status	Significant
1.4m Diameter (M)	1.36075949
Tree Protection Zone (M)	15.00

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.902119
Longitude	138.678128
ID Number	36

Appendix A: Tree Schedule

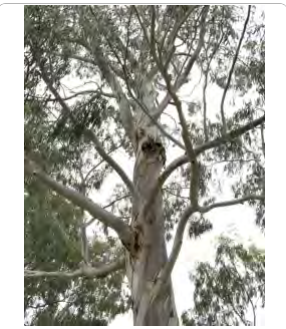
Botanical Name: Eucalyptus scoparia - Wallangarra White Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	21
Structure	Good
Crown Dia. N/S	14
Crown Dia. E/W	13

Base of Tree



Defects or Issues

Legislative Appraisal

Base Diameter (M)	1.32911392
Structural Root Zone (M)	3.73
1m Circum. Total (M)	3.26
1m Circum. Avg. (mm)	3.26
Legislative Status	Significant
1.4m Diameter (M)	.949367089
Tree Protection Zone (M)	11.39

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9015055
Longitude	138.678483
ID Number	46

Appendix A: Tree Schedule

Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

Tree Information

Age Class	Veteran
Health	Excellent
Useful Life Expectancy	11+
Height	21
Structure	Good
Crown Dia. N/S	16
Crown Dia. E/W	14

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	1.93037975
Structural Root Zone (M)	4.36
1m Circum. Total (M)	5.1
1m Circum. Avg. (mm)	5.1
Legislative Status	Significant
1.4m Diameter (M)	1.63924051
Tree Protection Zone (M)	15.00

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.9007307
Longitude	138.677251
ID Number	77

Appendix A: Tree Schedule

Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Excellent
Useful Life Expectancy	11+
Height	18
Structure	Good
Crown Dia. N/S	14
Crown Dia. E/W	15

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	1.17088608
Structural Root Zone (M)	3.54
1m Circum. Total (M)	3.45
1m Circum. Avg. (mm)	3.45
Legislative Status	Significant
1.4m Diameter (M)	1.08227848
Tree Protection Zone (M)	12.99

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.9007125
Longitude	138.677062
ID Number	79

Appendix A: Tree Schedule

Botanical Name: Eucalyptus intertexta - Gum Barked Coolibah

Tree Overview

Tree Information

Age Class	Mature
Health	Excellent
Useful Life Expectancy	11+
Height	18
Structure	Good
Crown Dia. N/S	14
Crown Dia. E/W	14

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	1.02848101
Structural Root Zone (M)	3.35
1m Circum. Total (M)	4.52
1m Circum. Avg. (mm)	1.50666667
Legislative Status	Significant
1.4m Diameter (M)	1.31962025
Tree Protection Zone (M)	15.00

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.9012892
Longitude	138.677032
ID Number	91

Appendix A: Tree Schedule

Botanical Name: Eucalyptus scoparia - Wallangarra White Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	18
Structure	Good
Crown Dia. N/S	15
Crown Dia. E/W	14

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	1.4556962
Structural Root Zone (M)	3.87
1m Circum. Total (M)	3.45
1m Circum. Avg. (mm)	3.45
Legislative Status	Significant
1.4m Diameter (M)	1.0443038
Tree Protection Zone (M)	12.53

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.9014473
Longitude	138.677145
ID Number	92

Appendix A: Tree Schedule
Botanical Name: Eucalyptus fasciculosa - Pink Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Excellent
Useful Life Expectancy	11+
Height	10
Structure	Good
Crown Dia. N/S	11
Crown Dia. E/W	11

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	.791139241
Structural Root Zone (M)	3.00
1m Circum. Total (M)	3.5
1m Circum. Avg. (mm)	1.16666667
Legislative Status	Significant
1.4m Diameter (M)	1.07911392
Tree Protection Zone (M)	12.95

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.9019147
Longitude	138.676921
ID Number	98

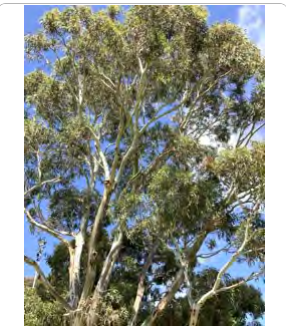
Appendix A: Tree Schedule
Botanical Name: Eucalyptus fasciculosa - Pink Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	15
Structure	Good
Crown Dia. N/S	10
Crown Dia. E/W	11

Base of Tree



Defects or Issues

Legislative Appraisal

Base Diameter (M)	1.13924051
Structural Root Zone (M)	3.50
1m Circum. Total (M)	3.92
1m Circum. Avg. (mm)	1.96
Legislative Status	Significant
1.4m Diameter (M)	1.16772152
Tree Protection Zone (M)	14.01

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.9018887
Longitude	138.676919
ID Number	99

Appendix A: Tree Schedule

Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	21
Structure	Good
Crown Dia. N/S	16
Crown Dia. E/W	14

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	1.42405063
Structural Root Zone (M)	3.84
1m Circum. Total (M)	4.2
1m Circum. Avg. (mm)	4.2
Legislative Status	Significant
1.4m Diameter (M)	1.29746835
Tree Protection Zone (M)	15.00

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.900701
Longitude	138.676798
ID Number	110

Appendix A: Tree Schedule

Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Excellent
Useful Life Expectancy	11+
Height	18
Structure	Excellent
Crown Dia. N/S	15
Crown Dia. E/W	13

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	1.20253165
Structural Root Zone (M)	3.58
1m Circum. Total (M)	3.3
1m Circum. Avg. (mm)	3.3
Legislative Status	Significant
1.4m Diameter (M)	1.01898734
Tree Protection Zone (M)	12.23

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.900809
Longitude	138.675774
ID Number	125

Appendix A: Tree Schedule

Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	21
Structure	Good
Crown Dia. N/S	14
Crown Dia. E/W	12

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	1.55063291
Structural Root Zone (M)	3.98
1m Circum. Total (M)	4.3
1m Circum. Avg. (mm)	4.3
Legislative Status	Significant
1.4m Diameter (M)	1.23417722
Tree Protection Zone (M)	14.81

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.9008272
Longitude	138.675355
ID Number	130

Appendix A: Tree Schedule

Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	21
Structure	Good
Crown Dia. N/S	12
Crown Dia. E/W	18

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	1.48734177
Structural Root Zone (M)	3.91
1m Circum. Total (M)	3.35
1m Circum. Avg. (mm)	3.35
Legislative Status	Significant
1.4m Diameter (M)	.990506329
Tree Protection Zone (M)	11.89

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.9008805
Longitude	138.675301
ID Number	131

Appendix A: Tree Schedule

Botanical Name: Eucalyptus spathulata - Swamp Mallet

Tree Overview

Tree Information

Age Class	Mature
Health	Excellent
Useful Life Expectancy	11+
Height	11
Structure	Good
Crown Dia. N/S	9
Crown Dia. E/W	11

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	1.26582278
Structural Root Zone (M)	3.65
1m Circum. Total (M)	4.6
1m Circum. Avg. (mm)	2.3
Legislative Status	Significant
1.4m Diameter (M)	1.66139241
Tree Protection Zone (M)	15.00

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.9010803
Longitude	138.675402
ID Number	132

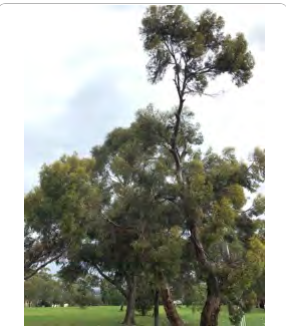
Appendix A: Tree Schedule
Botanical Name: Eucalyptus sargentii - Salt River Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	15
Structure	Average
Crown Dia. N/S	8
Crown Dia. E/W	8

Base of Tree



Defects or Issues

Legislative Appraisal

Base Diameter (M)	.82278481
Structural Root Zone (M)	3.05
1m Circum. Total (M)	3.5
1m Circum. Avg. (mm)	1.75
Legislative Status	Significant
1.4m Diameter (M)	.949367089
Tree Protection Zone (M)	11.39

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.9012417
Longitude	138.675388
ID Number	134

Appendix A: Tree Schedule

Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	20
Structure	Good
Crown Dia. N/S	15
Crown Dia. E/W	18

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	1.80379747
Structural Root Zone (M)	4.24
1m Circum. Total (M)	4.3
1m Circum. Avg. (mm)	4.3
Legislative Status	Significant
1.4m Diameter (M)	1.30379747
Tree Protection Zone (M)	15.00

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9018067
Longitude	138.675386
ID Number	141

Appendix A: Tree Schedule

Botanical Name: Eucalyptus sideroxylon - Red Flowered Ironbark

Tree Overview

Tree Information

Age Class	Mature
Health	Excellent
Useful Life Expectancy	11+
Height	21
Structure	Good
Crown Dia. N/S	13
Crown Dia. E/W	17

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	1.06012658
Structural Root Zone (M)	3.39
1m Circum. Total (M)	3.46
1m Circum. Avg. (mm)	3.46
Legislative Status	Significant
1.4m Diameter (M)	1.33544304
Tree Protection Zone (M)	15.00

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9019407
Longitude	138.675424
ID Number	143

Appendix A: Tree Schedule
Botanical Name: Eucalyptus cladocalyx - Sugar Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	23
Structure	Average
Crown Dia. N/S	11
Crown Dia. E/W	11

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	1.64556962
Structural Root Zone (M)	4.08
1m Circum. Total (M)	3.8
1m Circum. Avg. (mm)	3.8
Legislative Status	Significant
1.4m Diameter (M)	1.11392405
Tree Protection Zone (M)	13.37

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9024095
Longitude	138.675483
ID Number	147

Appendix A: Tree Schedule

Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	20
Structure	Good
Crown Dia. N/S	13
Crown Dia. E/W	15

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	1.74050633
Structural Root Zone (M)	4.18
1m Circum. Total (M)	4.8
1m Circum. Avg. (mm)	4.8
Legislative Status	Significant
1.4m Diameter (M)	1.51898734
Tree Protection Zone (M)	15.00

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9025122
Longitude	138.675443
ID Number	149

Appendix A: Tree Schedule

Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	20
Structure	Good
Crown Dia. N/S	11
Crown Dia. E/W	15

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	1.32911392
Structural Root Zone (M)	3.73
1m Circum. Total (M)	5.35
1m Circum. Avg. (mm)	1.78333333
Legislative Status	Significant
1.4m Diameter (M)	1.63291139
Tree Protection Zone (M)	15.00

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9025143
Longitude	138.675448
ID Number	150

Appendix A: Tree Schedule

Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Excellent
Useful Life Expectancy	11+
Height	20
Structure	Good
Crown Dia. N/S	12
Crown Dia. E/W	12

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	1.21835443
Structural Root Zone (M)	3.60
1m Circum. Total (M)	3.2
1m Circum. Avg. (mm)	3.2
Legislative Status	Significant
1.4m Diameter (M)	.981012658
Tree Protection Zone (M)	11.77

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9025347
Longitude	138.676412
ID Number	165

Appendix A: Tree Schedule

Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Excellent
Useful Life Expectancy	11+
Height	18
Structure	Average
Crown Dia. N/S	15
Crown Dia. E/W	14

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	1.48734177
Structural Root Zone (M)	3.91
1m Circum. Total (M)	4.2
1m Circum. Avg. (mm)	4.2
Legislative Status	Significant
1.4m Diameter (M)	1.25
Tree Protection Zone (M)	15.00

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9022675
Longitude	138.676491
ID Number	170

Appendix A: Tree Schedule

Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	20
Structure	Good
Crown Dia. N/S	11
Crown Dia. E/W	10

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	1.42405063
Structural Root Zone (M)	3.84
1m Circum. Total (M)	3.57
1m Circum. Avg. (mm)	3.57
Legislative Status	Significant
1.4m Diameter (M)	1.10126582
Tree Protection Zone (M)	13.22

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9022235
Longitude	138.676731
ID Number	174

Appendix A: Tree Schedule

Botanical Name: Eucalyptus intertexta - Gum Barked Coolibah

Tree Overview

Tree Information

Age Class	Mature
Health	Excellent
Useful Life Expectancy	11+
Height	23
Structure	Good
Crown Dia. N/S	14
Crown Dia. E/W	16

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	1.20253165
Structural Root Zone (M)	3.58
1m Circum. Total (M)	4.58
1m Circum. Avg. (mm)	2.29
Legislative Status	Significant
1.4m Diameter (M)	1.48734177
Tree Protection Zone (M)	15.00

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9023567
Longitude	138.676873
ID Number	177

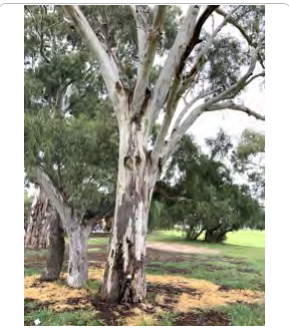
Appendix A: Tree Schedule

Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	21
Structure	Good
Crown Dia. N/S	16
Crown Dia. E/W	15



Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	1.13924051
Structural Root Zone (M)	3.50
1m Circum. Total (M)	3.15
1m Circum. Avg. (mm)	3.15
Legislative Status	Significant
1.4m Diameter (M)	.955696203
Tree Protection Zone (M)	11.47

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9023608
Longitude	138.676724
ID Number	178

Appendix A: Tree Schedule

Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Excellent
Useful Life Expectancy	11+
Height	21
Structure	Excellent
Crown Dia. N/S	16
Crown Dia. E/W	16

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	1.61392405
Structural Root Zone (M)	4.05
1m Circum. Total (M)	4.5
1m Circum. Avg. (mm)	4.5
Legislative Status	Significant
1.4m Diameter (M)	1.40822785
Tree Protection Zone (M)	15.00

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9024342
Longitude	138.676656
ID Number	181

Appendix A: Tree Schedule

Botanical Name: Eucalyptus spathulata - Swamp Mallet

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	11
Structure	Good
Crown Dia. N/S	13
Crown Dia. E/W	16

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	1.48734177
Structural Root Zone (M)	3.91
1m Circum. Total (M)	2.8
1m Circum. Avg. (mm)	2.8
Legislative Status	Regulated
1.4m Diameter (M)	.939873418
Tree Protection Zone (M)	11.28

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9006057
Longitude	138.678424
ID Number	2

Appendix A: Tree Schedule
Botanical Name: Eucalyptus torquata - Coral Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	10
Structure	Good
Crown Dia. N/S	12
Crown Dia. E/W	12

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	.639240506
Structural Root Zone (M)	2.74
1m Circum. Total (M)	2.35
1m Circum. Avg. (mm)	1.175
Legislative Status	Regulated
1.4m Diameter (M)	.727848101
Tree Protection Zone (M)	8.73

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9009848
Longitude	138.678648
ID Number	9

Appendix A: Tree Schedule

Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	20
Structure	Good
Crown Dia. N/S	12
Crown Dia. E/W	10

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	.791139241
Structural Root Zone (M)	3.00
1m Circum. Total (M)	2.32
1m Circum. Avg. (mm)	2.32
Legislative Status	Regulated
1.4m Diameter (M)	.702531646
Tree Protection Zone (M)	8.43

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9024298
Longitude	138.678308
ID Number	28

Appendix A: Tree Schedule

Botanical Name: Eucalyptus intertexta - Gum Barked Coolibah

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	17
Structure	Good
Crown Dia. N/S	12
Crown Dia. E/W	10

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	.784810127
Structural Root Zone (M)	2.99
1m Circum. Total (M)	2.39
1m Circum. Avg. (mm)	2.39
Legislative Status	Regulated
1.4m Diameter (M)	.949367089
Tree Protection Zone (M)	11.39

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9024237
Longitude	138.678177
ID Number	30

Appendix A: Tree Schedule

Botanical Name: Eucalyptus brockwayi - Dundas Mahogany

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	16
Structure	Good
Crown Dia. N/S	11
Crown Dia. E/W	14

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	.886075949
Structural Root Zone (M)	3.15
1m Circum. Total (M)	3.1
1m Circum. Avg. (mm)	1.55
Legislative Status	Regulated
1.4m Diameter (M)	1.01582278
Tree Protection Zone (M)	12.19

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9021518
Longitude	138.678121
ID Number	35

Appendix A: Tree Schedule

Botanical Name: Eucalyptus sideroxylon - Red Flowered Ironbark

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	20
Structure	Good
Crown Dia. N/S	12
Crown Dia. E/W	11

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	.680379747
Structural Root Zone (M)	2.82
1m Circum. Total (M)	2.01
1m Circum. Avg. (mm)	2.01
Legislative Status	Regulated
1.4m Diameter (M)	.626582278
Tree Protection Zone (M)	7.52

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9021137
Longitude	138.678203
ID Number	37

Appendix A: Tree Schedule

Botanical Name: Eucalyptus sideroxylon - Red Flowered Ironbark

Tree Overview

Tree Information

Age Class	Mature
Health	Excellent
Useful Life Expectancy	11+
Height	18
Structure	Good
Crown Dia. N/S	12
Crown Dia. E/W	14

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	1.12025316
Structural Root Zone (M)	3.47
1m Circum. Total (M)	3.62
1m Circum. Avg. (mm)	1.81
Legislative Status	Regulated
1.4m Diameter (M)	1.11392405
Tree Protection Zone (M)	13.37

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9021097
Longitude	138.678263
ID Number	38

Appendix A: Tree Schedule

Botanical Name: Eucalyptus sideroxylon - Red Flowered Ironbark

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	16
Structure	Good
Crown Dia. N/S	11
Crown Dia. E/W	9

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	.696202532
Structural Root Zone (M)	2.84
1m Circum. Total (M)	2.18
1m Circum. Avg. (mm)	2.18
Legislative Status	Regulated
1.4m Diameter (M)	.556962025
Tree Protection Zone (M)	6.68

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.902111
Longitude	138.678314
ID Number	39

Appendix A: Tree Schedule
Botanical Name: Fraxinus angustifolia - Desert Ash

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	10
Structure	Good
Crown Dia. N/S	8
Crown Dia. E/W	9

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	1.13924051
Structural Root Zone (M)	3.50
1m Circum. Total (M)	2.56
1m Circum. Avg. (mm)	2.56
Legislative Status	Regulated
1.4m Diameter (M)	.838607595
Tree Protection Zone (M)	10.06

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9020387
Longitude	138.678541
ID Number	41

Appendix A: Tree Schedule
Botanical Name: Corymbia maculata - Spotted Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	15
Structure	Good
Crown Dia. N/S	13
Crown Dia. E/W	13

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	1.32911392
Structural Root Zone (M)	3.73
1m Circum. Total (M)	2.4
1m Circum. Avg. (mm)	2.4
Legislative Status	Regulated
1.4m Diameter (M)	.71835443
Tree Protection Zone (M)	8.62

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9017857
Longitude	138.678488
ID Number	44

Appendix A: Tree Schedule
Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	20
Structure	Good
Crown Dia. N/S	12
Crown Dia. E/W	11

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	.870253165
Structural Root Zone (M)	3.12
1m Circum. Total (M)	2.38
1m Circum. Avg. (mm)	2.38
Legislative Status	Regulated
1.4m Diameter (M)	.664556962
Tree Protection Zone (M)	7.97

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.901446
Longitude	138.678404
ID Number	57

Appendix A: Tree Schedule

Botanical Name: Melaleuca styphelioides - Prickly Paperbark

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	09
Structure	Average
Crown Dia. N/S	5
Crown Dia. E/W	5

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	.585443038
Structural Root Zone (M)	2.64
1m Circum. Total (M)	2.04
1m Circum. Avg. (mm)	1.02
Legislative Status	Regulated
1.4m Diameter (M)	.731012658
Tree Protection Zone (M)	8.77

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9009482
Longitude	138.678548
ID Number	64

Appendix A: Tree Schedule
Botanical Name: Eucalyptus cladocalyx - Sugar Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	21
Structure	Good
Crown Dia. N/S	14
Crown Dia. E/W	12

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	1.31329114
Structural Root Zone (M)	3.71
1m Circum. Total (M)	2.85
1m Circum. Avg. (mm)	2.85
Legislative Status	Regulated
1.4m Diameter (M)	.860759494
Tree Protection Zone (M)	10.33

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.900673
Longitude	138.678483
ID Number	68

Appendix A: Tree Schedule

Botanical Name: Corymbia citriodora - Lemon Scented Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	18
Structure	Average
Crown Dia. N/S	9
Crown Dia. E/W	9

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	.85443038
Structural Root Zone (M)	3.10
1m Circum. Total (M)	2.14
1m Circum. Avg. (mm)	2.14
Legislative Status	Regulated
1.4m Diameter (M)	.639240506
Tree Protection Zone (M)	7.67

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9006777
Longitude	138.678121
ID Number	73

Appendix A: Tree Schedule

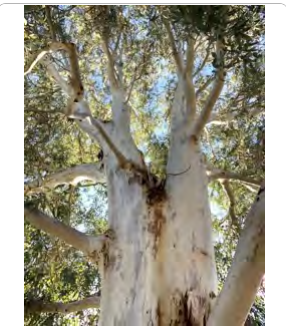
Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Excellent
Useful Life Expectancy	11+
Height	20
Structure	Good
Crown Dia. N/S	13
Crown Dia. E/W	13

Base of Tree



Defects or Issues

Legislative Appraisal

Base Diameter (M)	1.42405063
Structural Root Zone (M)	3.84
1m Circum. Total (M)	2.83
1m Circum. Avg. (mm)	2.83
Legislative Status	Regulated
1.4m Diameter (M)	.85443038
Tree Protection Zone (M)	10.25

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.900744
Longitude	138.677691
ID Number	75

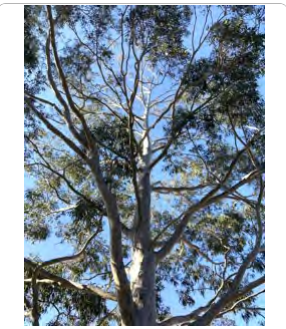
Appendix A: Tree Schedule
Botanical Name: Corymbia maculata - Spotted Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	20
Structure	Good
Crown Dia. N/S	14
Crown Dia. E/W	12

Base of Tree



Defects or Issues

Legislative Appraisal

Base Diameter (M)	1.13924051
Structural Root Zone (M)	3.50
1m Circum. Total (M)	2.44
1m Circum. Avg. (mm)	2.44
Legislative Status	Regulated
1.4m Diameter (M)	.740506329
Tree Protection Zone (M)	8.89

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.9007625
Longitude	138.677666
ID Number	76

Appendix A: Tree Schedule

Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	18
Structure	Average
Crown Dia. N/S	10
Crown Dia. E/W	9

Legislative Appraisal

Base Diameter (M)	.82278481
Structural Root Zone (M)	3.05
1m Circum. Total (M)	2.28
1m Circum. Avg. (mm)	2.28
Legislative Status	Regulated
1.4m Diameter (M)	.75
Tree Protection Zone (M)	9.00

Base of Tree

Defects or Issues

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.90074
Longitude	138.676902
ID Number	80

Appendix A: Tree Schedule

Botanical Name: Eucalyptus sideroxylon - Red Flowered Ironbark

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	17
Structure	Good
Crown Dia. N/S	10
Crown Dia. E/W	12

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	.791139241
Structural Root Zone (M)	3.00
1m Circum. Total (M)	2.42
1m Circum. Avg. (mm)	2.42
Legislative Status	Regulated
1.4m Diameter (M)	1.00632911
Tree Protection Zone (M)	12.08

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.9008973
Longitude	138.676911
ID Number	83

Appendix A: Tree Schedule

Botanical Name: Eucalyptus leucoxylon ssp leucoxylon - SA Blue Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	15
Structure	Good
Crown Dia. N/S	13
Crown Dia. E/W	13

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	.886075949
Structural Root Zone (M)	3.15
1m Circum. Total (M)	2.23
1m Circum. Avg. (mm)	2.23
Legislative Status	Regulated
1.4m Diameter (M)	.696202532
Tree Protection Zone (M)	8.35

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.9010025
Longitude	138.677165
ID Number	86

Appendix A: Tree Schedule

Botanical Name: Eucalyptus brockwayi - Dundas Mahogany

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	18
Structure	Good
Crown Dia. N/S	13
Crown Dia. E/W	12

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	.727848101
Structural Root Zone (M)	2.90
1m Circum. Total (M)	2.2
1m Circum. Avg. (mm)	2.2
Legislative Status	Regulated
1.4m Diameter (M)	.727848101
Tree Protection Zone (M)	8.73

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.9011362
Longitude	138.676895
ID Number	89

Appendix A: Tree Schedule

Botanical Name: Eucalyptus intertexta - Gum Barked Coolibah

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	12
Structure	Good
Crown Dia. N/S	13
Crown Dia. E/W	14

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	.886075949
Structural Root Zone (M)	3.15
1m Circum. Total (M)	2.3
1m Circum. Avg. (mm)	2.3
Legislative Status	Regulated
1.4m Diameter (M)	.727848101
Tree Protection Zone (M)	8.73

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.9012045
Longitude	138.677042
ID Number	90

Appendix A: Tree Schedule

Botanical Name: Eucalyptus intertexta - Gum Barked Coolibah

Tree Overview

Tree Information

Age Class	Mature
Health	Excellent
Useful Life Expectancy	11+
Height	21
Structure	Good
Crown Dia. N/S	14
Crown Dia. E/W	16

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	1.18670886
Structural Root Zone (M)	3.56
1m Circum. Total (M)	2.74
1m Circum. Avg. (mm)	2.74
Legislative Status	Regulated
1.4m Diameter (M)	.873417722
Tree Protection Zone (M)	10.48

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.9013838
Longitude	138.677329
ID Number	94

Appendix A: Tree Schedule

Botanical Name: Eucalyptus intertexta - Gum Barked Coolibah

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	21
Structure	Good
Crown Dia. N/S	14
Crown Dia. E/W	14

Legislative Appraisal

Base Diameter (M)	1.12341772
Structural Root Zone (M)	3.48
1m Circum. Total (M)	2.93
1m Circum. Avg. (mm)	2.93
Legislative Status	Regulated
1.4m Diameter (M)	.911392405
Tree Protection Zone (M)	10.94

Base of Tree

Defects or Issues

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.901452
Longitude	138.677687
ID Number	97

Appendix A: Tree Schedule

Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	13
Structure	Good
Crown Dia. N/S	12
Crown Dia. E/W	10

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	.901898734
Structural Root Zone (M)	3.17
1m Circum. Total (M)	2.23
1m Circum. Avg. (mm)	2.23
Legislative Status	Regulated
1.4m Diameter (M)	.705696203
Tree Protection Zone (M)	8.47

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.9012845
Longitude	138.676932
ID Number	105

Appendix A: Tree Schedule

Botanical Name: Eucalyptus sideroxylon - Red Flowered Ironbark

Tree Overview

Tree Information

Age Class	Mature
Health	Excellent
Useful Life Expectancy	11+
Height	15
Structure	Good
Crown Dia. N/S	12
Crown Dia. E/W	12

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	.943037975
Structural Root Zone (M)	3.23
1m Circum. Total (M)	2.2
1m Circum. Avg. (mm)	2.2
Legislative Status	Regulated
1.4m Diameter (M)	.651898734
Tree Protection Zone (M)	7.82

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.9011427
Longitude	138.676691
ID Number	106

Appendix A: Tree Schedule

Botanical Name: Eucalyptus leucoxylon Rosea - Pink Flowered Blue Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	10
Structure	Good
Crown Dia. N/S	10
Crown Dia. E/W	11

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	1.01265823
Structural Root Zone (M)	3.33
1m Circum. Total (M)	2.6
1m Circum. Avg. (mm)	1.3
Legislative Status	Regulated
1.4m Diameter (M)	.838607595
Tree Protection Zone (M)	10.06

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.9009147
Longitude	138.676463
ID Number	112

Appendix A: Tree Schedule

Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	16
Structure	Good
Crown Dia. N/S	14
Crown Dia. E/W	16

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	1.23417722
Structural Root Zone (M)	3.62
1m Circum. Total (M)	2.5
1m Circum. Avg. (mm)	2.5
Legislative Status	Regulated
1.4m Diameter (M)	.746835443
Tree Protection Zone (M)	8.96

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.9011535
Longitude	138.676004
ID Number	115

Appendix A: Tree Schedule

Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	10
Structure	Good
Crown Dia. N/S	8
Crown Dia. E/W	9

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	.791139241
Structural Root Zone (M)	3.00
1m Circum. Total (M)	2.81
1m Circum. Avg. (mm)	2.81
Legislative Status	Regulated
1.4m Diameter (M)	.813291139
Tree Protection Zone (M)	9.76

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.9011685
Longitude	138.675909
ID Number	116

Appendix A: Tree Schedule

Botanical Name: Eucalyptus sideroxylon - Red Flowered Ironbark

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	12
Structure	Good
Crown Dia. N/S	10
Crown Dia. E/W	10

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	.886075949
Structural Root Zone (M)	3.15
1m Circum. Total (M)	2.85
1m Circum. Avg. (mm)	1.425
Legislative Status	Regulated
1.4m Diameter (M)	.901898734
Tree Protection Zone (M)	10.82

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.9007473
Longitude	138.676219
ID Number	121

Appendix A: Tree Schedule

Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	18
Structure	Good
Crown Dia. N/S	13
Crown Dia. E/W	11

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	1.01265823
Structural Root Zone (M)	3.33
1m Circum. Total (M)	2.6
1m Circum. Avg. (mm)	2.6
Legislative Status	Regulated
1.4m Diameter (M)	.791139241
Tree Protection Zone (M)	9.49

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.9008057
Longitude	138.675627
ID Number	126

Appendix A: Tree Schedule

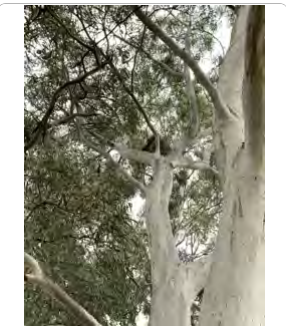
Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Excellent
Useful Life Expectancy	11+
Height	14
Structure	Good
Crown Dia. N/S	11
Crown Dia. E/W	10

Base of Tree



Defects or Issues

Legislative Appraisal

Base Diameter (M)	.759493671
Structural Root Zone (M)	2.95
1m Circum. Total (M)	2.2
1m Circum. Avg. (mm)	2.2
Legislative Status	Regulated
1.4m Diameter (M)	.930379747
Tree Protection Zone (M)	11.16

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.9008202
Longitude	138.675485
ID Number	129

Appendix A: Tree Schedule
Botanical Name: Eucalyptus microcarpa - Grey Box

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	17
Structure	Good
Crown Dia. N/S	13
Crown Dia. E/W	13

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	.949367089
Structural Root Zone (M)	3.24
1m Circum. Total (M)	2.1
1m Circum. Avg. (mm)	2.1
Legislative Status	Regulated
1.4m Diameter (M)	.601265823
Tree Protection Zone (M)	7.22

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.901342
Longitude	138.675459
ID Number	136

Appendix A: Tree Schedule

Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Excellent
Useful Life Expectancy	11+
Height	12
Structure	Good
Crown Dia. N/S	9
Crown Dia. E/W	10

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	.791139241
Structural Root Zone (M)	3.00
1m Circum. Total (M)	2.15
1m Circum. Avg. (mm)	2.15
Legislative Status	Regulated
1.4m Diameter (M)	.670886076
Tree Protection Zone (M)	8.05

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9017255
Longitude	138.675371
ID Number	140

Appendix A: Tree Schedule

Botanical Name: Eucalyptus intertexta - Gum Barked Coolibah

Tree Overview

Tree Information

Age Class	Mature
Health	Excellent
Useful Life Expectancy	11+
Height	21
Structure	Good
Crown Dia. N/S	12
Crown Dia. E/W	17

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	.933544304
Structural Root Zone (M)	3.22
1m Circum. Total (M)	2.35
1m Circum. Avg. (mm)	2.35
Legislative Status	Regulated
1.4m Diameter (M)	.731012658
Tree Protection Zone (M)	8.77

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.901859
Longitude	138.675419
ID Number	142

Appendix A: Tree Schedule
Botanical Name: Acacia Salicina - Broughton Willow

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	09
Structure	Good
Crown Dia. N/S	9
Crown Dia. E/W	7

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	.85443038
Structural Root Zone (M)	3.10
1m Circum. Total (M)	2.04
1m Circum. Avg. (mm)	2.04
Legislative Status	Regulated
1.4m Diameter (M)	.696202532
Tree Protection Zone (M)	8.35

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9022923
Longitude	138.675444
ID Number	146

Appendix A: Tree Schedule

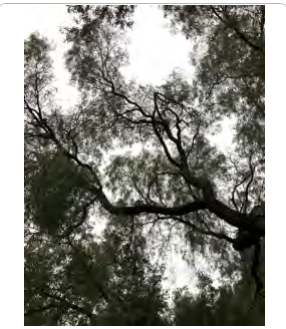
Botanical Name: Acacia Salicina - Broughton Willow

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	18
Structure	Good
Crown Dia. N/S	12
Crown Dia. E/W	12

Base of Tree



Defects or Issues

Legislative Appraisal

Base Diameter (M)	.85443038
Structural Root Zone (M)	3.10
1m Circum. Total (M)	2.15
1m Circum. Avg. (mm)	2.15
Legislative Status	Regulated
1.4m Diameter (M)	.664556962
Tree Protection Zone (M)	7.97

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9025318
Longitude	138.676215
ID Number	161

Appendix A: Tree Schedule
Botanical Name: Eucalyptus cladocalyx - Sugar Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Excellent
Useful Life Expectancy	11+
Height	20
Structure	Good
Crown Dia. N/S	11
Crown Dia. E/W	12

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	1.0443038
Structural Root Zone (M)	3.37
1m Circum. Total (M)	2.32
1m Circum. Avg. (mm)	2.32
Legislative Status	Regulated
1.4m Diameter (M)	.727848101
Tree Protection Zone (M)	8.73

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9022907
Longitude	138.676816
ID Number	176

Appendix A: Tree Schedule

Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	20
Structure	Good
Crown Dia. N/S	14
Crown Dia. E/W	14

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	1.20253165
Structural Root Zone (M)	3.58
1m Circum. Total (M)	2.7
1m Circum. Avg. (mm)	2.7
Legislative Status	Regulated
1.4m Diameter (M)	.82278481
Tree Protection Zone (M)	9.87

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9024923
Longitude	138.676884
ID Number	185

Appendix A: Tree Schedule

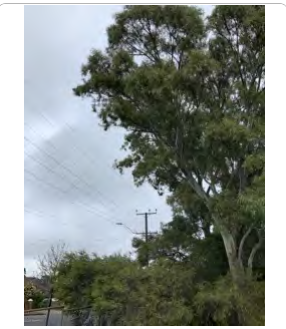
Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	19
Structure	Good
Crown Dia. N/S	10
Crown Dia. E/W	10

Base of Tree



Defects or Issues

Legislative Appraisal

Base Diameter (M)	.838607595
Structural Root Zone (M)	3.07
1m Circum. Total (M)	2.02
1m Circum. Avg. (mm)	2.02
Legislative Status	Regulated
1.4m Diameter (M)	.601265823
Tree Protection Zone (M)	7.22

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9024605
Longitude	138.676964
ID Number	188

Appendix A: Tree Schedule
Botanical Name: Melaleuca sp - Paperbark

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	06
Structure	Good
Crown Dia. N/S	6
Crown Dia. E/W	6

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	1.5
Structural Root Zone (M)	3.92
1m Circum. Total (M)	2.2
1m Circum. Avg. (mm)	?
Legislative Status	Regulated
1.4m Diameter (M)	2.1
Tree Protection Zone (M)	15.00

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9022743
Longitude	138.677966
ID Number	200

Appendix A: Tree Schedule

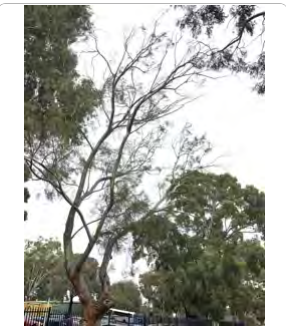
Botanical Name: Eucalyptus spathulata - Swamp Mallet

Tree Overview

Tree Information

Age Class	Mature
Health	Fair
Useful Life Expectancy	3 - 10 Years
Height	09
Structure	Average
Crown Dia. N/S	6
Crown Dia. E/W	9

Base of Tree



Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.38
1m Circum. Avg. (mm)	1.38
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9006505
Longitude	138.67766
ID Number	1

Appendix A: Tree Schedule

Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	12
Structure	Good
Crown Dia. N/S	7
Crown Dia. E/W	8

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.62
1m Circum. Avg. (mm)	1.62
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9006353
Longitude	138.678592
ID Number	3

Appendix A: Tree Schedule

Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	11
Structure	Good
Crown Dia. N/S	4
Crown Dia. E/W	4

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.76
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9007203
Longitude	138.678644
ID Number	4

Appendix A: Tree Schedule

Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	10
Structure	Good
Crown Dia. N/S	6
Crown Dia. E/W	7

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.05
1m Circum. Avg. (mm)	1.05
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.900762
Longitude	138.678637
ID Number	5

Appendix A: Tree Schedule

Botanical Name: Eucalyptus leucoxylon ssp leucoxylon - SA Blue Gum

Tree Overview

Tree Information

Age Class	Juvenile
Health	Good
Useful Life Expectancy	11+
Height	2
Structure	Good
Crown Dia. N/S	1
Crown Dia. E/W	1

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.05
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9008057
Longitude	138.678651
ID Number	6

Appendix A: Tree Schedule

Botanical Name: Eucalyptus leucoxylon Rosea - Pink Flowered Blue Gum

Tree Overview

Tree Information

Age Class	Juvenile
Health	Good
Useful Life Expectancy	11+
Height	03
Structure	Good
Crown Dia. N/S	1
Crown Dia. E/W	1

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.025
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9008422
Longitude	138.678632
ID Number	7

Appendix A: Tree Schedule

Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	09
Structure	Good
Crown Dia. N/S	6
Crown Dia. E/W	8

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.25
1m Circum. Avg. (mm)	1.25
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9009247
Longitude	138.678621
ID Number	8

Appendix A: Tree Schedule

Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	12
Structure	Good
Crown Dia. N/S	8
Crown Dia. E/W	10

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.57
1m Circum. Avg. (mm)	1.57
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9010713
Longitude	138.678642
ID Number	10

Appendix A: Tree Schedule

Botanical Name: Eucalyptus leucoxylon Rosea - Pink Flowered Blue Gum

Tree Overview

Tree Information

Age Class	Juvenile
Health	Good
Useful Life Expectancy	11+
Height	2
Structure	Good
Crown Dia. N/S	1
Crown Dia. E/W	1

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.025
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9011333
Longitude	138.678655
ID Number	11

Appendix A: Tree Schedule

Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	11
Structure	Good
Crown Dia. N/S	10
Crown Dia. E/W	9

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.22
1m Circum. Avg. (mm)	1.22
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9014888
Longitude	138.678652
ID Number	15

Appendix A: Tree Schedule

Botanical Name: Eucalyptus leucoxylon Rosea - Pink Flowered Blue Gum

Tree Overview

Tree Information

Age Class	Juvenile
Health	Good
Useful Life Expectancy	11+
Height	02
Structure	Good
Crown Dia. N/S	1
Crown Dia. E/W	1

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.015
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9016068
Longitude	138.678671
ID Number	16

Appendix A: Tree Schedule
Botanical Name: Eucalyptus torquata - Coral Gum

Tree Overview

Tree Information

Age Class	Juvenile
Health	Good
Useful Life Expectancy	11+
Height	2
Structure	Good
Crown Dia. N/S	1
Crown Dia. E/W	1

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.015
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9016773
Longitude	138.678693
ID Number	17

Appendix A: Tree Schedule
Botanical Name: Eucalyptus torquata - Coral Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	09
Structure	Good
Crown Dia. N/S	10
Crown Dia. E/W	8

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.5
1m Circum. Avg. (mm)	1.5
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9017213
Longitude	138.678696
ID Number	18

Appendix A: Tree Schedule

Botanical Name: Callistemon Harkness - Gawler Hybrid Bottlebrush

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	04
Structure	Good
Crown Dia. N/S	3
Crown Dia. E/W	3

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.55
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Base of Tree

Defects or Issues

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.901913
Longitude	138.678718
ID Number	19

Appendix A: Tree Schedule

Botanical Name: Callistemon Harkness - Gawler Hybrid Bottlebrush

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	05
Structure	Good
Crown Dia. N/S	4
Crown Dia. E/W	4

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.1
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Base of Tree

Defects or Issues

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9019402
Longitude	138.678713
ID Number	20

Appendix A: Tree Schedule
Botanical Name: Callistemon sp. - Bottlebrush

Tree Overview

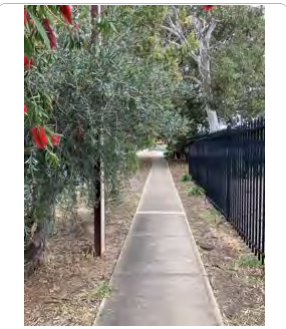
Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	03
Structure	Good
Crown Dia. N/S	2
Crown Dia. E/W	2

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.87
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Base of Tree



Defects or Issues

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9020043
Longitude	138.678705
ID Number	21

Appendix A: Tree Schedule

Botanical Name: Callistemon viminalis - Weeping Bottlebrush

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	07
Structure	Good
Crown Dia. N/S	3
Crown Dia. E/W	3

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.35
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Base of Tree

Defects or Issues

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.902012
Longitude	138.678729
ID Number	22

Appendix A: Tree Schedule

Botanical Name: Eucalyptus leucoxylon Rosea - Pink Flowered Blue Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	16
Structure	Good
Crown Dia. N/S	12
Crown Dia. E/W	14

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	
Structural Root Zone (M)	
1m Circum. Total (M)	1.78
1m Circum. Avg. (mm)	1.78
Legislative Status	Exempt
1.4m Diameter (M)	
Tree Protection Zone (M)	

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9021192
Longitude	138.678696
ID Number	23

Appendix A: Tree Schedule

Botanical Name: Eucalyptus leucoxylon Rosea - Pink Flowered Blue Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	09
Structure	Good
Crown Dia. N/S	7
Crown Dia. E/W	9

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.62
1m Circum. Avg. (mm)	1.62
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9024252
Longitude	138.678481
ID Number	25

Appendix A: Tree Schedule
Botanical Name: Acacia melanoxylon - Blackwood

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	06
Structure	Good
Crown Dia. N/S	4
Crown Dia. E/W	4

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.9
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9023627
Longitude	138.678441
ID Number	26

Appendix A: Tree Schedule
Botanical Name: Brachychiton x hybridus - Kurrajong

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	08
Structure	Good
Crown Dia. N/S	9
Crown Dia. E/W	8

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.47
1m Circum. Avg. (mm)	1.47
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9024318
Longitude	138.678379
ID Number	27

Appendix A: Tree Schedule
Botanical Name: Corymbia maculata - Spotted Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	15
Structure	Good
Crown Dia. N/S	11
Crown Dia. E/W	12

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.64
1m Circum. Avg. (mm)	1.64
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9023993
Longitude	138.678267
ID Number	29

Appendix A: Tree Schedule

Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

Tree Information

Age Class	Semi-Mature
Health	Good
Useful Life Expectancy	11+
Height	09
Structure	Good
Crown Dia. N/S	8
Crown Dia. E/W	8

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.06
1m Circum. Avg. (mm)	1.06
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9023843
Longitude	138.678154
ID Number	31

Appendix A: Tree Schedule

Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	17
Structure	Good
Crown Dia. N/S	12
Crown Dia. E/W	10

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	.85443038
Structural Root Zone (M)	3.10
1m Circum. Total (M)	1.96
1m Circum. Avg. (mm)	1.96
Legislative Status	Exempt
1.4m Diameter (M)	.563291139
Tree Protection Zone (M)	6.76

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9023777
Longitude	138.678094
ID Number	32

Appendix A: Tree Schedule
Botanical Name: Acacia pendula - Weeping Myall

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	17
Structure	Good
Crown Dia. N/S	5
Crown Dia. E/W	5

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1
1m Circum. Avg. (mm)	1
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9023595
Longitude	138.678262
ID Number	33

Appendix A: Tree Schedule
Botanical Name: Eucalyptus torquata - Coral Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	08
Structure	Good
Crown Dia. N/S	4
Crown Dia. E/W	5

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.05
1m Circum. Avg. (mm)	1.05
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9022667
Longitude	138.678322
ID Number	34

Appendix A: Tree Schedule

Botanical Name: Eucalyptus spathulata - Swamp Mallet

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	10
Structure	Good
Crown Dia. N/S	9
Crown Dia. E/W	9

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	.759493671
Structural Root Zone (M)	2.95
1m Circum. Total (M)	1.75
1m Circum. Avg. (mm)	1.75
Legislative Status	Exempt
1.4m Diameter (M)	.553797468
Tree Protection Zone (M)	6.65

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9020155
Longitude	138.678472
ID Number	40

Appendix A: Tree Schedule
Botanical Name: Eucalyptus sp - Gum Tree

Tree Overview

Tree Information

Age Class	Mature
Health	Excellent
Useful Life Expectancy	11+
Height	16
Structure	Good
Crown Dia. N/S	14
Crown Dia. E/W	15

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	1.13924051
Structural Root Zone (M)	3.50
1m Circum. Total (M)	1.82
1m Circum. Avg. (mm)	1.82
Legislative Status	Exempt
1.4m Diameter (M)	.506329114
Tree Protection Zone (M)	6.08

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9019455
Longitude	138.678543
ID Number	42

Appendix A: Tree Schedule
Botanical Name: Eucalyptus torquata - Coral Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	08
Structure	Good
Crown Dia. N/S	8
Crown Dia. E/W	7

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.3
1m Circum. Avg. (mm)	1.3
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9018367
Longitude	138.678674
ID Number	43

Appendix A: Tree Schedule

Botanical Name: Eucalyptus sideroxylon - Red Flowered Ironbark

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	15
Structure	Good
Crown Dia. N/S	9
Crown Dia. E/W	8

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.67
1m Circum. Avg. (mm)	1.67
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9015217
Longitude	138.678633
ID Number	45

Appendix A: Tree Schedule
Botanical Name: Acacia saligna - Golden Wreath Wattle

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	07
Structure	Good
Crown Dia. N/S	8
Crown Dia. E/W	7

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	900
1m Circum. Avg. (mm)	900
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9015603
Longitude	138.67841
ID Number	47

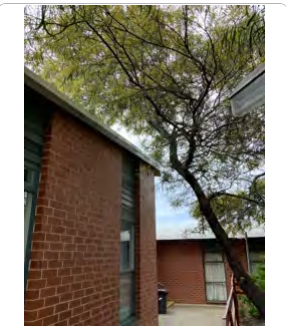
Appendix A: Tree Schedule
Botanical Name: Acacia saligna - Golden Wreath Wattle

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	3 - 10 Years
Height	08
Structure	Average
Crown Dia. N/S	4
Crown Dia. E/W	4

Base of Tree



Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	800
1m Circum. Avg. (mm)	800
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9015748
Longitude	138.678375
ID Number	48

Appendix A: Tree Schedule
Botanical Name: Acacia saligna - Golden Wreath Wattle

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	09
Structure	Good
Crown Dia. N/S	5
Crown Dia. E/W	5

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.05
1m Circum. Avg. (mm)	1.05
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9015763
Longitude	138.678312
ID Number	49

Appendix A: Tree Schedule
Botanical Name: Acacia saligna - Golden Wreath Wattle

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	3 - 10 Years
Height	08
Structure	Good
Crown Dia. N/S	4
Crown Dia. E/W	44

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	750
1m Circum. Avg. (mm)	750
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9015977
Longitude	138.67829
ID Number	50

Appendix A: Tree Schedule

Botanical Name: Acacia iteaphylla - Flinders Ranges Wattle

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	3 - 10 Years
Height	05
Structure	Good
Crown Dia. N/S	2
Crown Dia. E/W	2

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.3
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9015608
Longitude	138.678308
ID Number	51

Appendix A: Tree Schedule

Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Excellent
Useful Life Expectancy	11+
Height	17
Structure	Good
Crown Dia. N/S	9
Crown Dia. E/W	8

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	.838607595
Structural Root Zone (M)	3.07
1m Circum. Total (M)	1.94
1m Circum. Avg. (mm)	1.94
Legislative Status	Exempt
1.4m Diameter (M)	.553797468
Tree Protection Zone (M)	6.65

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9015605
Longitude	138.678327
ID Number	52

Appendix A: Tree Schedule
Botanical Name: Callistemon sp. - Bottlebrush

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	05
Structure	Average
Crown Dia. N/S	2
Crown Dia. E/W	2

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.42
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9015655
Longitude	138.678375
ID Number	53

Appendix A: Tree Schedule

Botanical Name: Acacia saligna - Golden Wreath Wattle

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	05
Structure	Average
Crown Dia. N/S	3
Crown Dia. E/W	3

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.45
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9015293
Longitude	138.678379
ID Number	54

Appendix A: Tree Schedule

Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	16
Structure	Average
Crown Dia. N/S	5
Crown Dia. E/W	5

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.1
1m Circum. Avg. (mm)	1.1
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9015065
Longitude	138.678382
ID Number	55

Appendix A: Tree Schedule

Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	16
Structure	Good
Crown Dia. N/S	5
Crown Dia. E/W	5

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.18
1m Circum. Avg. (mm)	1.18
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9014865
Longitude	138.678376
ID Number	56

Appendix A: Tree Schedule

Botanical Name: Melaleuca styphelioides - Prickly Paperbark

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	08
Structure	Average
Crown Dia. N/S	4
Crown Dia. E/W	4

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.37
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.901459
Longitude	138.67832
ID Number	58

Appendix A: Tree Schedule

Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Fair
Useful Life Expectancy	11+
Height	15
Structure	Average
Crown Dia. N/S	5
Crown Dia. E/W	6

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	.727848101
Structural Root Zone (M)	2.90
1m Circum. Total (M)	1.9
1m Circum. Avg. (mm)	1.9
Legislative Status	Exempt
1.4m Diameter (M)	.588607595
Tree Protection Zone (M)	7.06

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9014055
Longitude	138.678491
ID Number	59

Appendix A: Tree Schedule
Botanical Name: Unknown Species

Tree Overview

Tree Information

Age Class	Mature
Health	Fair
Useful Life Expectancy	3 - 10 Years
Height	05
Structure	Average
Crown Dia. N/S	3
Crown Dia. E/W	3

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.5
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9013953
Longitude	138.678444
ID Number	60

Appendix A: Tree Schedule

Botanical Name: Callistemon Harkness - Gawler Hybrid Bottlebrush

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	07
Structure	Average
Crown Dia. N/S	5
Crown Dia. E/W	5

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.6
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9013165
Longitude	138.678442
ID Number	61

Appendix A: Tree Schedule

Botanical Name: Casuarina cunninghamiana - River Oak

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	15
Structure	Good
Crown Dia. N/S	5
Crown Dia. E/W	5

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.24
1m Circum. Avg. (mm)	1.24
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9010765
Longitude	138.678598
ID Number	62

Appendix A: Tree Schedule
Botanical Name: Callitris gracilis- Native Pine

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	08
Structure	Good
Crown Dia. N/S	3
Crown Dia. E/W	4

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.77
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9010245
Longitude	138.678582
ID Number	63

Appendix A: Tree Schedule

Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Excellent
Useful Life Expectancy	11+
Height	10
Structure	Good
Crown Dia. N/S	5
Crown Dia. E/W	8

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.06
1m Circum. Avg. (mm)	1.06
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9007378
Longitude	138.678543
ID Number	65

Appendix A: Tree Schedule

Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	09
Structure	Good
Crown Dia. N/S	4
Crown Dia. E/W	5

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.15
1m Circum. Avg. (mm)	1.15
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9006993
Longitude	138.678578
ID Number	66

Appendix A: Tree Schedule
Botanical Name: Eucalyptus cladocalyx - Sugar Gum

Tree Overview

Tree Information

Age Class	Semi-Mature
Health	Good
Useful Life Expectancy	11+
Height	08
Structure	Good
Crown Dia. N/S	4
Crown Dia. E/W	6

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.18
1m Circum. Avg. (mm)	1.18
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9006595
Longitude	138.678529
ID Number	67

Appendix A: Tree Schedule
Botanical Name:

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	10
Structure	Average
Crown Dia. N/S	5
Crown Dia. E/W	5

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.58
1m Circum. Avg. (mm)	1.58
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9006643
Longitude	138.678423
ID Number	69

Appendix A: Tree Schedule
Botanical Name: Corymbia citriodora - Lemon Scented Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	18
Structure	Good
Crown Dia. N/S	9
Crown Dia. E/W	9

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.76
1m Circum. Avg. (mm)	1.76
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9006497
Longitude	138.67833
ID Number	70

Appendix A: Tree Schedule
Botanical Name: Corymbia maculata - Spotted Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	21
Structure	Good
Crown Dia. N/S	7
Crown Dia. E/W	9

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	.85443038
Structural Root Zone (M)	3.10
1m Circum. Total (M)	1.98
1m Circum. Avg. (mm)	1.98
Legislative Status	Exempt
1.4m Diameter (M)	.585443038
Tree Protection Zone (M)	7.03

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9006642
Longitude	138.678289
ID Number	71

Appendix A: Tree Schedule
Botanical Name: Eucalyptus sp - Gum Tree

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	11
Structure	Good
Crown Dia. N/S	8
Crown Dia. E/W	7

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.4
1m Circum. Avg. (mm)	1.4
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9006477
Longitude	138.678209
ID Number	72

Appendix A: Tree Schedule

Botanical Name: Sapium sebiferum - Chinese Tallow Tree

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	09
Structure	Good
Crown Dia. N/S	8
Crown Dia. E/W	8

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.25
1m Circum. Avg. (mm)	1.25
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Tue, 28 Sep 2021
Latitude	-34.9006768
Longitude	138.677881
ID Number	74

Appendix A: Tree Schedule

Botanical Name: Melaleuca armillaris - Bracelet Honey Myrtle

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	3 - 10 Years
Height	06
Structure	Good
Crown Dia. N/S	4
Crown Dia. E/W	4

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.55
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.900745
Longitude	138.677041
ID Number	78

Appendix A: Tree Schedule

Botanical Name: Eucalyptus sideroxylon - Red Flowered Ironbark

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	17
Structure	Good
Crown Dia. N/S	9
Crown Dia. E/W	9

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.57
1m Circum. Avg. (mm)	1.57
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.9008282
Longitude	138.676899
ID Number	81

Appendix A: Tree Schedule

Botanical Name: Eucalyptus sideroxylon - Red Flowered Ironbark

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	10
Structure	Average
Crown Dia. N/S	7
Crown Dia. E/W	7

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.88
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.9008162
Longitude	138.676968
ID Number	82

Appendix A: Tree Schedule

Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	11
Structure	Good
Crown Dia. N/S	6
Crown Dia. E/W	9

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.48
1m Circum. Avg. (mm)	1.48
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.900927
Longitude	138.67692
ID Number	84

Appendix A: Tree Schedule
Botanical Name: Corymbia maculata - Spotted Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	10
Structure	Good
Crown Dia. N/S	8
Crown Dia. E/W	8

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.4
1m Circum. Avg. (mm)	1.4
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.9008307
Longitude	138.676978
ID Number	85

Appendix A: Tree Schedule

Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	10
Structure	Good
Crown Dia. N/S	6
Crown Dia. E/W	8

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.9
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.9009697
Longitude	138.676944
ID Number	87

Appendix A: Tree Schedule
Botanical Name: Eucalyptus fasciculosa - Pink Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	10
Structure	Average
Crown Dia. N/S	6
Crown Dia. E/W	6

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.8
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.9010388
Longitude	138.676907
ID Number	88

Appendix A: Tree Schedule

Botanical Name: Eucalyptus cladocalyx Nana - Dwarf Sugar Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	09
Structure	Average
Crown Dia. N/S	6
Crown Dia. E/W	7

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.1
1m Circum. Avg. (mm)	1.1
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Base of Tree

Defects or Issues

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.901393
Longitude	138.677227
ID Number	93

Appendix A: Tree Schedule
Botanical Name: Callistemon sp. - Bottlebrush

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	3 - 10 Years
Height	06
Structure	Good
Crown Dia. N/S	3
Crown Dia. E/W	3

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.6
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.9011352
Longitude	138.677373
ID Number	95

Appendix A: Tree Schedule
Botanical Name: Eucalyptus saligna - Sydney Blue Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	15
Structure	Average
Crown Dia. N/S	8
Crown Dia. E/W	10

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	.911392405
Structural Root Zone (M)	3.18
1m Circum. Total (M)	1.82
1m Circum. Avg. (mm)	1.82
Legislative Status	Exempt
1.4m Diameter (M)	.569620253
Tree Protection Zone (M)	6.84

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.9014027
Longitude	138.677656
ID Number	96

Appendix A: Tree Schedule

Botanical Name: Eucalyptus leucoxylon Rosea - Pink Flowered Blue Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	09
Structure	Average
Crown Dia. N/S	10
Crown Dia. E/W	6

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.3
1m Circum. Avg. (mm)	1.3
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.9017453
Longitude	138.676905
ID Number	100

Appendix A: Tree Schedule

Botanical Name: Eucalyptus leucoxylon Rosea - Pink Flowered Blue Gum

Tree Overview

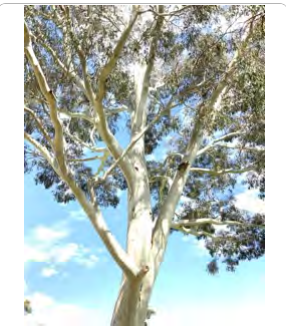
Tree Information

Age Class	Mature
Health	Excellent
Useful Life Expectancy	11+
Height	13
Structure	Good
Crown Dia. N/S	10
Crown Dia. E/W	10

Legislative Appraisal

Base Diameter (M)	.791139241
Structural Root Zone (M)	3.00
1m Circum. Total (M)	1.92
1m Circum. Avg. (mm)	1.92
Legislative Status	Exempt
1.4m Diameter (M)	.585443038
Tree Protection Zone (M)	7.03

Base of Tree



Defects or Issues

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.9015517
Longitude	138.676886
ID Number	101

Appendix A: Tree Schedule
Botanical Name: Acacia Salicina - Broughton Willow

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	09
Structure	Good
Crown Dia. N/S	7
Crown Dia. E/W	7

Legislative Appraisal

Base Diameter (M)	
Structural Root Zone (M)	
1m Circum. Total (M)	1.4
1m Circum. Avg. (mm)	1.4
Legislative Status	Exempt
1.4m Diameter (M)	
Tree Protection Zone (M)	

Base of Tree

Defects or Issues

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.901491
Longitude	138.676938
ID Number	102

Appendix A: Tree Schedule

Botanical Name: Angophora floribunda- rough bark apple gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	10
Structure	Average
Crown Dia. N/S	9
Crown Dia. E/W	7

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	
Structural Root Zone (M)	
1m Circum. Total (M)	1.6
1m Circum. Avg. (mm)	1.6
Legislative Status	Exempt
1.4m Diameter (M)	
Tree Protection Zone (M)	

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.9014567
Longitude	138.677041
ID Number	103

Appendix A: Tree Schedule

Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	10
Structure	Average
Crown Dia. N/S	6
Crown Dia. E/W	7

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	
Structural Root Zone (M)	
1m Circum. Total (M)	1.68
1m Circum. Avg. (mm)	1.68
Legislative Status	Exempt
1.4m Diameter (M)	
Tree Protection Zone (M)	

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.9013057
Longitude	138.676945
ID Number	104

Appendix A: Tree Schedule

Botanical Name: Corymbia citriodora - Lemon Scented Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	09
Structure	Good
Crown Dia. N/S	4
Crown Dia. E/W	4

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.6
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.9009612
Longitude	138.676856
ID Number	107

Appendix A: Tree Schedule
Botanical Name: Corymbia citriodora - Lemon Scented Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	16
Structure	Good
Crown Dia. N/S	9
Crown Dia. E/W	9

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.26
1m Circum. Avg. (mm)	1.26
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.90089
Longitude	138.676815
ID Number	108

Appendix A: Tree Schedule
Botanical Name: Pittosporum undulatum- Native Daphne

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	05
Structure	Good
Crown Dia. N/S	5
Crown Dia. E/W	5

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.9
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.9008367
Longitude	138.676855
ID Number	109

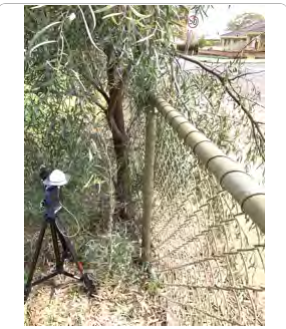
Appendix A: Tree Schedule
Botanical Name: Acacia Salicina - Broughton Willow

Tree Overview

Tree Information

Age Class	Semi-Mature
Health	Good
Useful Life Expectancy	Dead/Remove
Height	04
Structure	Good
Crown Dia. N/S	2
Crown Dia. E/W	2

Base of Tree



Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.3
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.9007025
Longitude	138.676641
ID Number	111

Appendix A: Tree Schedule

Botanical Name: Acacia Salicina - Broughton Willow

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	11
Structure	Good
Crown Dia. N/S	9
Crown Dia. E/W	9

Legislative Appraisal

Base Diameter (M)	.727848101
Structural Root Zone (M)	2.90
1m Circum. Total (M)	1.98
1m Circum. Avg. (mm)	1.98
Legislative Status	Exempt
1.4m Diameter (M)	.639240506
Tree Protection Zone (M)	7.67

Base of Tree

Defects or Issues

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.9011183
Longitude	138.6763
ID Number	113

Appendix A: Tree Schedule
Botanical Name: Acacia melanoxylon - Blackwood

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	05
Structure	Good
Crown Dia. N/S	4
Crown Dia. E/W	4

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.85
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.9011258
Longitude	138.676014
ID Number	114

Appendix A: Tree Schedule
Botanical Name: Acacia Salicina - Broughton Willow

Tree Overview

Tree Information

Age Class	Semi-Mature
Health	Good
Useful Life Expectancy	Dead/Remove
Height	01
Structure	Good
Crown Dia. N/S	1
Crown Dia. E/W	1

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.3
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.9011065
Longitude	138.675929
ID Number	117

Appendix A: Tree Schedule
Botanical Name: Eucalyptus fasciculosa - Pink Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	13
Structure	Good
Crown Dia. N/S	11
Crown Dia. E/W	12

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.85
1m Circum. Avg. (mm)	1.85
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.9007328
Longitude	138.676431
ID Number	118

Appendix A: Tree Schedule
Botanical Name: Melaleuca nesophila - Pink Melaleuca

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	08
Structure	Good
Crown Dia. N/S	5
Crown Dia. E/W	5

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.1
1m Circum. Avg. (mm)	1.1
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.9007697
Longitude	138.676395
ID Number	119

Appendix A: Tree Schedule
Botanical Name: Eucalyptus fasciculosa - Pink Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	08
Structure	Average
Crown Dia. N/S	9
Crown Dia. E/W	9

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.38
1m Circum. Avg. (mm)	1.38
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Base of Tree

Defects or Issues

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.9007523
Longitude	138.676357
ID Number	120

Appendix A: Tree Schedule
Botanical Name: Corymbia maculata - Spotted Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	15
Structure	Good
Crown Dia. N/S	8
Crown Dia. E/W	7

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.5
1m Circum. Avg. (mm)	1.5
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.9007758
Longitude	138.676024
ID Number	122

Appendix A: Tree Schedule
Botanical Name: Melaleuca sp - Paperbark

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	3 - 10 Years
Height	05
Structure	Good
Crown Dia. N/S	4
Crown Dia. E/W	4

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.2
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.900755
Longitude	138.675914
ID Number	123

Appendix A: Tree Schedule
Botanical Name: Acacia Salicina - Broughton Willow

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	07
Structure	Good
Crown Dia. N/S	3
Crown Dia. E/W	3

Legislative Appraisal

Base Diameter (M)	
Structural Root Zone (M)	
1m Circum. Total (M)	.6
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	
Tree Protection Zone (M)	

Base of Tree

Defects or Issues

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.9007512
Longitude	138.675892
ID Number	124

Appendix A: Tree Schedule

Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Fair
Useful Life Expectancy	3 - 10 Years
Height	07
Structure	Average
Crown Dia. N/S	4
Crown Dia. E/W	4

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.7
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.9008378
Longitude	138.675578
ID Number	127

Appendix A: Tree Schedule
Botanical Name: Eucalyptus cladocalyx - Sugar Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	20
Structure	Average
Crown Dia. N/S	12
Crown Dia. E/W	13

Base of Tree

Eastern leader

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.9
1m Circum. Avg. (mm)	1.9
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.9008732
Longitude	138.675509
ID Number	128

Appendix A: Tree Schedule

Botanical Name: Eucalyptus lansdowneana - Red-flowered Mallee Box

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	09
Structure	Average
Crown Dia. N/S	11
Crown Dia. E/W	9

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.94
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Base of Tree

Defects or Issues

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.9012382
Longitude	138.675505
ID Number	133

Appendix A: Tree Schedule
Botanical Name: Eucalyptus torquata - Coral Gum

Tree Overview

Tree Information

Age Class	Semi-Mature
Health	Good
Useful Life Expectancy	11+
Height	05
Structure	Good
Crown Dia. N/S	5
Crown Dia. E/W	6

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.8
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.9012958
Longitude	138.675425
ID Number	135

Appendix A: Tree Schedule

Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	08
Structure	Good
Crown Dia. N/S	7
Crown Dia. E/W	7

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.1
1m Circum. Avg. (mm)	1.1
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Base of Tree

Defects or Issues

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.9014323
Longitude	138.67551
ID Number	137

Appendix A: Tree Schedule

Botanical Name: Eucalyptus lansdowneana - Red-flowered Mallee Box

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	08
Structure	Good
Crown Dia. N/S	5
Crown Dia. E/W	5

Legislative Appraisal

Base Diameter (M)	
Structural Root Zone (M)	
1m Circum. Total (M)	.95
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	
Tree Protection Zone (M)	

Base of Tree

Defects or Issues

Location Data

Date	Wed, 29 Sep 2021
Latitude	-34.9014693
Longitude	138.675501
ID Number	138

Appendix A: Tree Schedule
Botanical Name: Eucalyptus torquata - Coral Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Fair
Useful Life Expectancy	11+
Height	08
Structure	Good
Crown Dia. N/S	7
Crown Dia. E/W	7

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.78
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9015113
Longitude	138.675563
ID Number	139

Appendix A: Tree Schedule
Botanical Name: Eucalyptus eremophila Tall Sand Mallee

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	08
Structure	Good
Crown Dia. N/S	7
Crown Dia. E/W	7

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.89
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9020152
Longitude	138.675435
ID Number	144

Appendix A: Tree Schedule

Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	08
Structure	Average
Crown Dia. N/S	5
Crown Dia. E/W	5

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.31
1m Circum. Avg. (mm)	1.31
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9020797
Longitude	138.675436
ID Number	145

Appendix A: Tree Schedule
Botanical Name: Brachychiton x hybridus - Kurrajong

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	06
Structure	Good
Crown Dia. N/S	4
Crown Dia. E/W	4

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.7
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9024373
Longitude	138.675454
ID Number	148

Appendix A: Tree Schedule

Botanical Name: Cupressus macrocarpa Greenstead Magnificent - Monterey Cypress

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	06
Structure	Good
Crown Dia. N/S	5
Crown Dia. E/W	5

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.7
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Base of Tree

Defects or Issues

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9025803
Longitude	138.675493
ID Number	151

Appendix A: Tree Schedule
Botanical Name: Corymbia maculata - Spotted Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	12
Structure	Average
Crown Dia. N/S	8
Crown Dia. E/W	7

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.64
1m Circum. Avg. (mm)	1.64
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9025405
Longitude	138.675541
ID Number	152

Appendix A: Tree Schedule
Botanical Name: Brachychiton x hybridus - Kurrajong

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	07
Structure	Good
Crown Dia. N/S	8
Crown Dia. E/W	6

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.95
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9025557
Longitude	138.675647
ID Number	153

Appendix A: Tree Schedule
Botanical Name: Olea europaea - Olive

Tree Overview

Tree Information

Age Class	Mature
Health	Excellent
Useful Life Expectancy	11+
Height	09
Structure	Good
Crown Dia. N/S	8
Crown Dia. E/W	9

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	1.10759494
Structural Root Zone (M)	3.45
1m Circum. Total (M)	3.65
1m Circum. Avg. (mm)	1.21666667
Legislative Status	Exempt
1.4m Diameter (M)	1.1835443
Tree Protection Zone (M)	14.20

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9025613
Longitude	138.675716
ID Number	154

Appendix A: Tree Schedule
Botanical Name: Olea europaea - Olive

Tree Overview

Tree Information

Age Class	Mature
Health	Excellent
Useful Life Expectancy	11+
Height	08
Structure	Good
Crown Dia. N/S	8
Crown Dia. E/W	7

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	.917721519
Structural Root Zone (M)	3.19
1m Circum. Total (M)	2.32
1m Circum. Avg. (mm)	2.32
Legislative Status	Exempt
1.4m Diameter (M)	.753164557
Tree Protection Zone (M)	9.04

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9025828
Longitude	138.675781
ID Number	155

Appendix A: Tree Schedule
Botanical Name: Olea europaea - Olive

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	07
Structure	Good
Crown Dia. N/S	8
Crown Dia. E/W	11

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	2.03
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9025643
Longitude	138.675864
ID Number	156

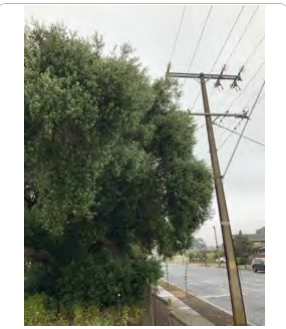
Appendix A: Tree Schedule
Botanical Name: Olea europaea - Olive

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	08
Structure	Good
Crown Dia. N/S	6
Crown Dia. E/W	8

Base of Tree



Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.2
1m Circum. Avg. (mm)	1.2
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9025533
Longitude	138.676043
ID Number	157

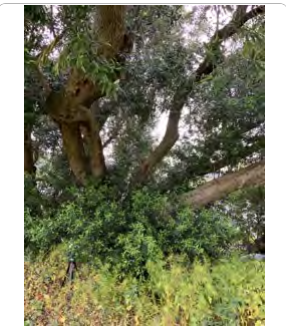
Appendix A: Tree Schedule
Botanical Name: Olea europaea - Olive

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	09
Structure	Good
Crown Dia. N/S	9
Crown Dia. E/W	9

Base of Tree



Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	3.15
1m Circum. Avg. (mm)	1.05
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9025223
Longitude	138.676069
ID Number	158

Appendix A: Tree Schedule
Botanical Name: Olea europaea - Olive

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	10
Structure	Good
Crown Dia. N/S	7
Crown Dia. E/W	7

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	.886075949
Structural Root Zone (M)	3.15
1m Circum. Total (M)	3.17
1m Circum. Avg. (mm)	1.585
Legislative Status	Exempt
1.4m Diameter (M)	1.0221519
Tree Protection Zone (M)	12.27

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9025412
Longitude	138.676108
ID Number	159

Appendix A: Tree Schedule
Botanical Name: Brachychiton x hybridus - Kurrajong

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	09
Structure	Good
Crown Dia. N/S	7
Crown Dia. E/W	8

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.45
1m Circum. Avg. (mm)	1.45
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9025032
Longitude	138.676188
ID Number	160

Appendix A: Tree Schedule

Botanical Name: Acacia Salicina - Broughton Willow

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	09
Structure	Average
Crown Dia. N/S	7
Crown Dia. E/W	7

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.3
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9025602
Longitude	138.676242
ID Number	162

Appendix A: Tree Schedule
Botanical Name: Schinus areira - Pepper Tree

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	09
Structure	Good
Crown Dia. N/S	9
Crown Dia. E/W	10

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	.82278481
Structural Root Zone (M)	3.05
1m Circum. Total (M)	2.08
1m Circum. Avg. (mm)	2.08
Legislative Status	Exempt
1.4m Diameter (M)	.696202532
Tree Protection Zone (M)	8.35

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9025103
Longitude	138.676318
ID Number	163

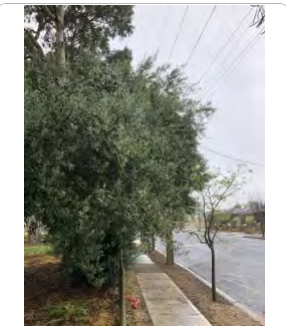
Appendix A: Tree Schedule
Botanical Name: Olea europaea - Olive

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	06
Structure	Average
Crown Dia. N/S	6
Crown Dia. E/W	9

Base of Tree



Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.8
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9025475
Longitude	138.676375
ID Number	164

Appendix A: Tree Schedule
Botanical Name: Schinus areira - Pepper Tree

Tree Overview

Tree Information

Age Class	Semi-Mature
Health	Good
Useful Life Expectancy	11+
Height	06
Structure	Good
Crown Dia. N/S	4
Crown Dia. E/W	4

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.65
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9025105
Longitude	138.676443
ID Number	166

Appendix A: Tree Schedule

Botanical Name: Melaleuca armillaris - Bracelet Honey Myrtle

Tree Overview

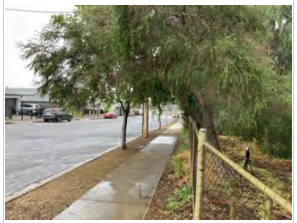
Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	05
Structure	Good
Crown Dia. N/S	4
Crown Dia. E/W	4

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.7
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Base of Tree



Defects or Issues

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9025287
Longitude	138.676528
ID Number	167

Appendix A: Tree Schedule
Botanical Name: Olea europaea - Olive

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	06
Structure	Good
Crown Dia. N/S	10
Crown Dia. E/W	10

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	3.78
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9023828
Longitude	138.676431
ID Number	168

Appendix A: Tree Schedule
Botanical Name: Schinus areira - Pepper Tree

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	09
Structure	Average
Crown Dia. N/S	9
Crown Dia. E/W	10

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.78
1m Circum. Avg. (mm)	1.78
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9023812
Longitude	138.676462
ID Number	169

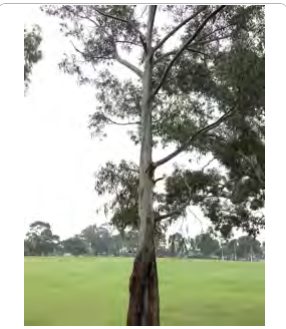
Appendix A: Tree Schedule
Botanical Name: Eucalyptus saligna - Sydney Blue Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	11
Structure	Good
Crown Dia. N/S	7
Crown Dia. E/W	7

Base of Tree



Defects or Issues

Legislative Appraisal

Base Diameter (M)	.632911392
Structural Root Zone (M)	2.73
1m Circum. Total (M)	1.6
1m Circum. Avg. (mm)	1.6
Legislative Status	Exempt
1.4m Diameter (M)	.474683544
Tree Protection Zone (M)	5.70

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9022113
Longitude	138.676633
ID Number	171

Appendix A: Tree Schedule
Botanical Name: Eucalyptus fasciculosa - Pink Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Excellent
Useful Life Expectancy	11+
Height	12
Structure	Good
Crown Dia. N/S	11
Crown Dia. E/W	10

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	.791139241
Structural Root Zone (M)	3.00
1m Circum. Total (M)	1.85
1m Circum. Avg. (mm)	1.85
Legislative Status	Exempt
1.4m Diameter (M)	.835443038
Tree Protection Zone (M)	10.03

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9021168
Longitude	138.676645
ID Number	172

Appendix A: Tree Schedule

Botanical Name: Eucalyptus botryoides - Southern Mahogany

Tree Overview

Tree Information

Age Class	Mature
Health	Fair
Useful Life Expectancy	11+
Height	08
Structure	Average
Crown Dia. N/S	4
Crown Dia. E/W	4

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.68
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9021497
Longitude	138.676829
ID Number	173

Appendix A: Tree Schedule

Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	12
Structure	Good
Crown Dia. N/S	7
Crown Dia. E/W	7

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.55
1m Circum. Avg. (mm)	1.55
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9022272
Longitude	138.676788
ID Number	175

Appendix A: Tree Schedule

Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	08
Structure	Average
Crown Dia. N/S	11
Crown Dia. E/W	12

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.6
1m Circum. Avg. (mm)	1.6
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.902363
Longitude	138.676733
ID Number	179

Appendix A: Tree Schedule

Botanical Name: Eucalyptus camaldulensis - River Red Gum

Tree Overview

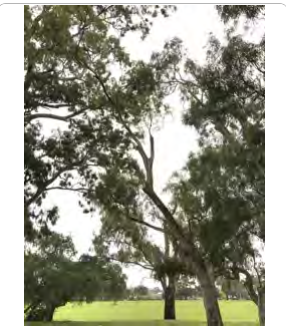
Tree Information

Age Class	Mature
Health	Fair
Useful Life Expectancy	11+
Height	10
Structure	Average
Crown Dia. N/S	6
Crown Dia. E/W	6

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.4
1m Circum. Avg. (mm)	1.4
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Base of Tree



Defects or Issues

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9023835
Longitude	138.676745
ID Number	180

Appendix A: Tree Schedule

Botanical Name: Melaleuca armillaris - Bracelet Honey Myrtle

Tree Overview

Tree Information

Age Class	Semi-Mature
Health	Good
Useful Life Expectancy	11+
Height	05
Structure	Good
Crown Dia. N/S	6
Crown Dia. E/W	2

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.7
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.902511
Longitude	138.676786
ID Number	182

Appendix A: Tree Schedule

Botanical Name: Melaleuca armillaris - Bracelet Honey Myrtle

Tree Overview

Tree Information

Age Class	Semi-Mature
Health	Good
Useful Life Expectancy	11+
Height	06
Structure	Good
Crown Dia. N/S	4
Crown Dia. E/W	3

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.8
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9025097
Longitude	138.676869
ID Number	183

Appendix A: Tree Schedule

Botanical Name: Melaleuca armillaris - Bracelet Honey Myrtle

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	3 - 10 Years
Height	05
Structure	Good
Crown Dia. N/S	4
Crown Dia. E/W	4

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.6
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9024848
Longitude	138.676877
ID Number	184

Appendix A: Tree Schedule

Botanical Name: Melaleuca armillaris - Bracelet Honey Myrtle

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	3 - 10 Years
Height	06
Structure	Average
Crown Dia. N/S	4
Crown Dia. E/W	4

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.25
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.902473
Longitude	138.676959
ID Number	186

Appendix A: Tree Schedule

Botanical Name: Melaleuca armillaris - Bracelet Honey Myrtle

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	3 - 10 Years
Height	05
Structure	Good
Crown Dia. N/S	5
Crown Dia. E/W	4

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.25
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9025095
Longitude	138.676981
ID Number	187

Appendix A: Tree Schedule
Botanical Name: Populus Sp. - Poplar

Tree Overview

Tree Information

Age Class	Semi-Mature
Health	Good
Useful Life Expectancy	11+
Height	08
Structure	Good
Crown Dia. N/S	3
Crown Dia. E/W	3

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.3
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9024647
Longitude	138.677186
ID Number	189

Appendix A: Tree Schedule
Botanical Name:

Tree Overview

Tree Information

Age Class	Semi-Mature
Health	Good
Useful Life Expectancy	11+
Height	09
Structure	Good
Crown Dia. N/S	3
Crown Dia. E/W	3

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.95
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9024687
Longitude	138.677239
ID Number	190

Appendix A: Tree Schedule
Botanical Name:

Tree Overview

Tree Information

Age Class	Semi-Mature
Health	Good
Useful Life Expectancy	11+
Height	10
Structure	Good
Crown Dia. N/S	3
Crown Dia. E/W	3

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.4
1m Circum. Avg. (mm)	1.4
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9024587
Longitude	138.677393
ID Number	191

Appendix A: Tree Schedule
Botanical Name:

Tree Overview

Tree Information

Age Class	Semi-Mature
Health	Good
Useful Life Expectancy	11+
Height	10
Structure	Good
Crown Dia. N/S	3
Crown Dia. E/W	3

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.3
1m Circum. Avg. (mm)	1.3
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9024558
Longitude	138.677469
ID Number	192

Appendix A: Tree Schedule
Botanical Name: Populus Sp. - Poplar

Tree Overview

Tree Information

Age Class	Semi-Mature
Health	Good
Useful Life Expectancy	11+
Height	12
Structure	Good
Crown Dia. N/S	3
Crown Dia. E/W	3

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.5
1m Circum. Avg. (mm)	1.5
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.902454
Longitude	138.677561
ID Number	193

Appendix A: Tree Schedule
Botanical Name: Populus Sp. - Poplar

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	10
Structure	Good
Crown Dia. N/S	3
Crown Dia. E/W	3

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.85
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9024398
Longitude	138.677624
ID Number	194

Appendix A: Tree Schedule
Botanical Name: Populus Sp. - Poplar

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	11
Structure	Good
Crown Dia. N/S	3
Crown Dia. E/W	3

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.3
1m Circum. Avg. (mm)	1.3
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.902453
Longitude	138.677712
ID Number	195

Appendix A: Tree Schedule
Botanical Name: Populus Sp. - Poplar

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	10
Structure	Average
Crown Dia. N/S	3
Crown Dia. E/W	3

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.95
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9024545
Longitude	138.677765
ID Number	196

Appendix A: Tree Schedule
Botanical Name:

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	11
Structure	Good
Crown Dia. N/S	3
Crown Dia. E/W	3

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.5
1m Circum. Avg. (mm)	1.5
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.902441
Longitude	138.677816
ID Number	197

Appendix A: Tree Schedule
Botanical Name: Populus Sp. - Poplar

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	11
Structure	Good
Crown Dia. N/S	3
Crown Dia. E/W	3

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.1
1m Circum. Avg. (mm)	1.1
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.902439
Longitude	138.677866
ID Number	198

Appendix A: Tree Schedule
Botanical Name: Populus Sp. - Poplar

Tree Overview

Tree Information

Age Class	Mature
Health	Fair
Useful Life Expectancy	3 - 10 Years
Height	11
Structure	Good
Crown Dia. N/S	4
Crown Dia. E/W	4

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.25
1m Circum. Avg. (mm)	1.25
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Thu, 30 Sep 2021
Latitude	-34.9024268
Longitude	138.677944
ID Number	199

Appendix A: Tree Schedule
Botanical Name: Eucalyptus torquata - Coral Gum

Tree Overview

Tree Information

Age Class	Juvenile
Health	Good
Useful Life Expectancy	11+
Height	2
Structure	Good
Crown Dia. N/S	1
Crown Dia. E/W	1

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.05
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Fri, 1 Oct 2021
Latitude	-34.900721
Longitude	138.676475
ID Number	202

Appendix A: Tree Schedule
Botanical Name: Eucalyptus torquata - Coral Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Excellent
Useful Life Expectancy	11+
Height	10
Structure	Good
Crown Dia. N/S	12
Crown Dia. E/W	12

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	
Structural Root Zone (M)	
1m Circum. Total (M)	1.7
1m Circum. Avg. (mm)	1.7
Legislative Status	Exempt
1.4m Diameter (M)	
Tree Protection Zone (M)	

Location Data

Date	Fri, 1 Oct 2021
Latitude	-34.9006968
Longitude	138.676219
ID Number	203

Appendix A: Tree Schedule
Botanical Name: Eucalyptus torquata - Coral Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Fair
Useful Life Expectancy	11+
Height	06
Structure	Average
Crown Dia. N/S	4
Crown Dia. E/W	4

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	
Structural Root Zone (M)	
1m Circum. Total (M)	.8
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	
Tree Protection Zone (M)	

Location Data

Date	Fri, 1 Oct 2021
Latitude	-34.9007
Longitude	138.676149
ID Number	204

Appendix A: Tree Schedule
Botanical Name: Eucalyptus torquata - Coral Gum

Tree Overview

Tree Information

Age Class	Juvenile
Health	Good
Useful Life Expectancy	11+
Height	03
Structure	Good
Crown Dia. N/S	1
Crown Dia. E/W	1

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.2
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Fri, 1 Oct 2021
Latitude	-34.9006997
Longitude	138.676083
ID Number	205

Appendix A: Tree Schedule
Botanical Name: Eucalyptus torquata - Coral Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	03
Structure	Good
Crown Dia. N/S	2
Crown Dia. E/W	2

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.25
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Fri, 1 Oct 2021
Latitude	-34.9007078
Longitude	138.675986
ID Number	206

Appendix A: Tree Schedule
Botanical Name: Eucalyptus torquata - Coral Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	07
Structure	Good
Crown Dia. N/S	6
Crown Dia. E/W	6

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.85
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Fri, 1 Oct 2021
Latitude	-34.9007122
Longitude	138.675895
ID Number	207

Appendix A: Tree Schedule
Botanical Name: Eucalyptus torquata - Coral Gum

Tree Overview

Tree Information

Age Class	Semi-Mature
Health	Good
Useful Life Expectancy	11+
Height	03
Structure	Good
Crown Dia. N/S	2
Crown Dia. E/W	2

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.25
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Fri, 1 Oct 2021
Latitude	-34.9007267
Longitude	138.675684
ID Number	208

Appendix A: Tree Schedule
Botanical Name: Eucalyptus torquata - Coral Gum

Tree Overview

Tree Information

Age Class	Juvenile
Health	Good
Useful Life Expectancy	11+
Height	2
Structure	Good
Crown Dia. N/S	1
Crown Dia. E/W	1

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.1
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Fri, 1 Oct 2021
Latitude	-34.9007432
Longitude	138.675536
ID Number	209

Appendix A: Tree Schedule
Botanical Name: Eucalyptus torquata - Coral Gum

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	07
Structure	Good
Crown Dia. N/S	6
Crown Dia. E/W	9

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	1.14
1m Circum. Avg. (mm)	1.14
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Fri, 1 Oct 2021
Latitude	-34.9007317
Longitude	138.675356
ID Number	210

Appendix A: Tree Schedule

Botanical Name: Celtis australis - Mediteranean Hackberry

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	06
Structure	Good
Crown Dia. N/S	7
Crown Dia. E/W	7

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.78
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Fri, 1 Oct 2021
Latitude	-34.902524
Longitude	138.67733
ID Number	211

Appendix A: Tree Schedule

Botanical Name: Celtis australis - Mediteranean Hackberry

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	06
Structure	Good
Crown Dia. N/S	6
Crown Dia. E/W	6

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.64
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Fri, 1 Oct 2021
Latitude	-34.9025038
Longitude	138.677452
ID Number	212

Appendix A: Tree Schedule

Botanical Name: Celtis australis - Mediteranean Hackberry

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	06
Structure	Good
Crown Dia. N/S	5
Crown Dia. E/W	5

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.5
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Fri, 1 Oct 2021
Latitude	-34.902511
Longitude	138.67752
ID Number	213

Appendix A: Tree Schedule

Botanical Name: Celtis australis - Mediteranean Hackberry

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	07
Structure	Good
Crown Dia. N/S	6
Crown Dia. E/W	6

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.75
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Fri, 1 Oct 2021
Latitude	-34.9025188
Longitude	138.677587
ID Number	214

Appendix A: Tree Schedule

Botanical Name: Pyrus calleryana upright form - Flowering Pear

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	05
Structure	Good
Crown Dia. N/S	4
Crown Dia. E/W	4

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.45
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Fri, 1 Oct 2021
Latitude	-34.9024985
Longitude	138.677719
ID Number	215

Appendix A: Tree Schedule

Botanical Name: Pyrus calleryana upright form - Flowering Pear

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	05
Structure	Good
Crown Dia. N/S	2
Crown Dia. E/W	2

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.25
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Fri, 1 Oct 2021
Latitude	-34.9024912
Longitude	138.677793
ID Number	216

Appendix A: Tree Schedule

Botanical Name: Pyrus calleryana upright form - Flowering Pear

Tree Overview

Tree Information

Age Class	Mature
Health	Good
Useful Life Expectancy	11+
Height	04
Structure	Good
Crown Dia. N/S	3
Crown Dia. E/W	3

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.28
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Fri, 1 Oct 2021
Latitude	-34.902481
Longitude	138.677846
ID Number	217

Appendix A: Tree Schedule
Botanical Name:

Tree Overview

Tree Information

Age Class	Juvenile
Health	Good
Useful Life Expectancy	11+
Height	03
Structure	Good
Crown Dia. N/S	2
Crown Dia. E/W	2

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.4
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Fri, 1 Oct 2021
Latitude	-34.9024902
Longitude	138.677889
ID Number	218

Appendix A: Tree Schedule
Botanical Name:

Tree Overview

Tree Information

Age Class	Juvenile
Health	Good
Useful Life Expectancy	11+
Height	03
Structure	Good
Crown Dia. N/S	2
Crown Dia. E/W	2

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.2
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Fri, 1 Oct 2021
Latitude	-34.902471
Longitude	138.678391
ID Number	219

Appendix A: Tree Schedule
Botanical Name:

Tree Overview

Tree Information

Age Class	Juvenile
Health	Good
Useful Life Expectancy	11+
Height	03
Structure	Good
Crown Dia. N/S	2
Crown Dia. E/W	2

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.3
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Fri, 1 Oct 2021
Latitude	-34.9024697
Longitude	138.678447
ID Number	220

Appendix A: Tree Schedule
Botanical Name:

Tree Overview

Tree Information

Age Class	Juvenile
Health	Good
Useful Life Expectancy	11+
Height	03
Structure	Good
Crown Dia. N/S	2
Crown Dia. E/W	2

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.4
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Fri, 1 Oct 2021
Latitude	-34.9024753
Longitude	138.678491
ID Number	221

Appendix A: Tree Schedule
Botanical Name:

Tree Overview

Tree Information

Age Class	Juvenile
Health	Good
Useful Life Expectancy	11+
Height	03
Structure	Good
Crown Dia. N/S	2
Crown Dia. E/W	2

Base of Tree

Defects or Issues

Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.56
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

Date	Fri, 1 Oct 2021
Latitude	-34.9024638
Longitude	138.67863
ID Number	222

Appendix A: Tree Schedule
Botanical Name:

Tree Overview

Tree Information

Age Class	Juvenile
Health	Good
Useful Life Expectancy	11+
Height	03
Structure	Good
Crown Dia. N/S	2
Crown Dia. E/W	2

Base of Tree

Defects or Issues

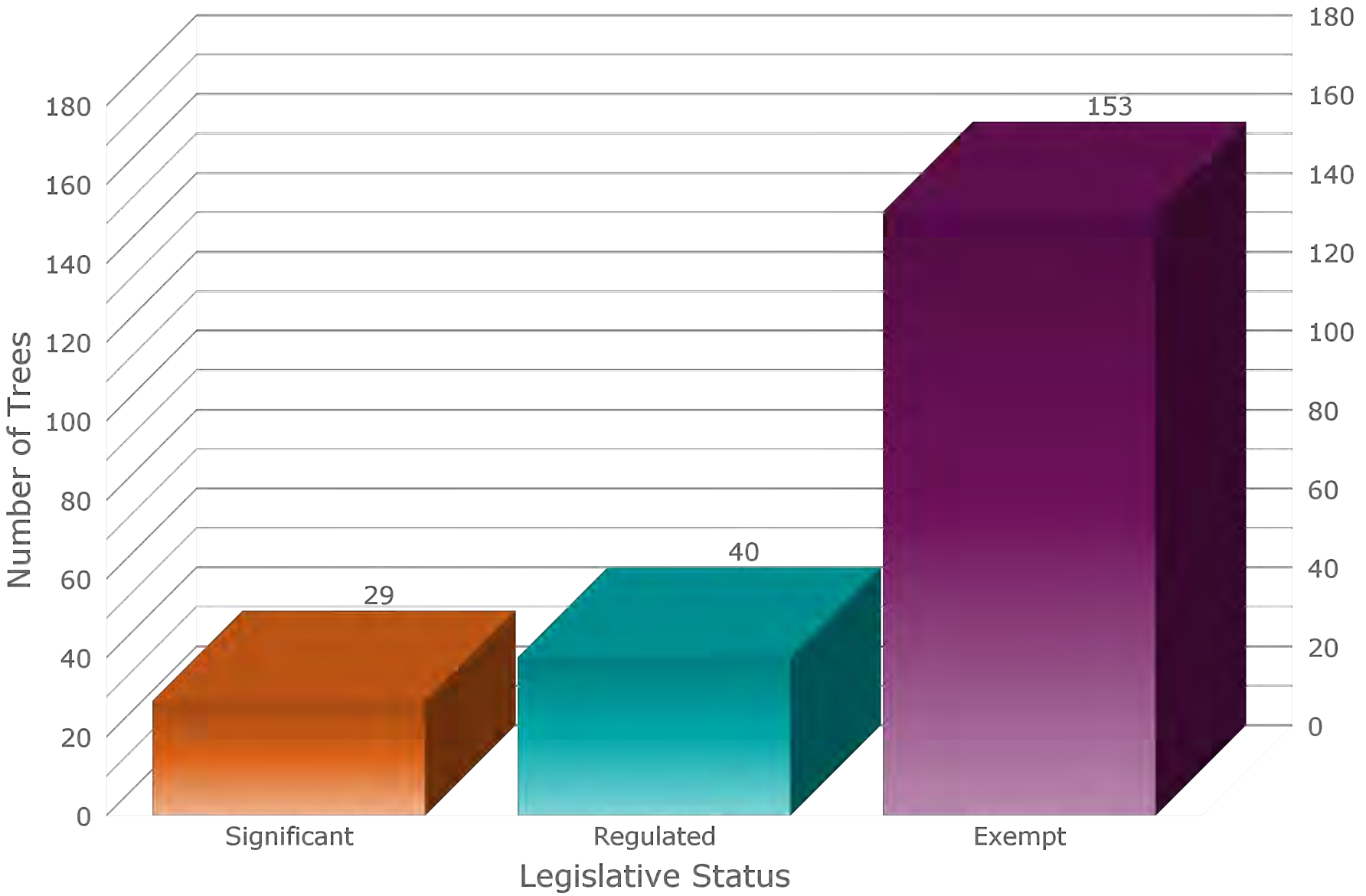
Legislative Appraisal

Base Diameter (M)	0
Structural Root Zone (M)	0.00
1m Circum. Total (M)	.5
1m Circum. Avg. (mm)	?
Legislative Status	Exempt
1.4m Diameter (M)	0
Tree Protection Zone (M)	0.00

Location Data

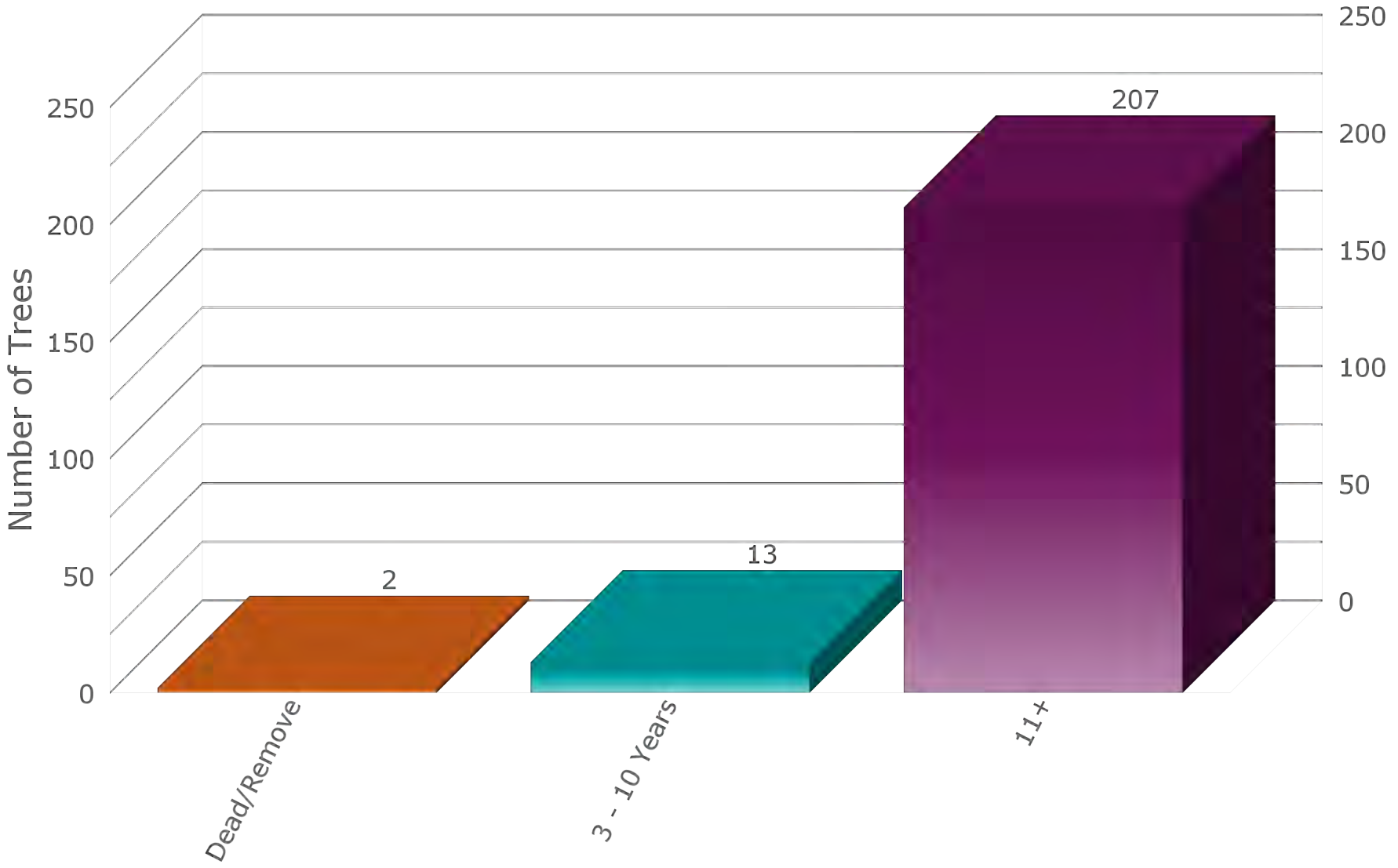
Date	Fri, 1 Oct 2021
Latitude	-34.9024418
Longitude	138.678679
ID Number	223

Appendix B:
LEGISLATIVE STATUS



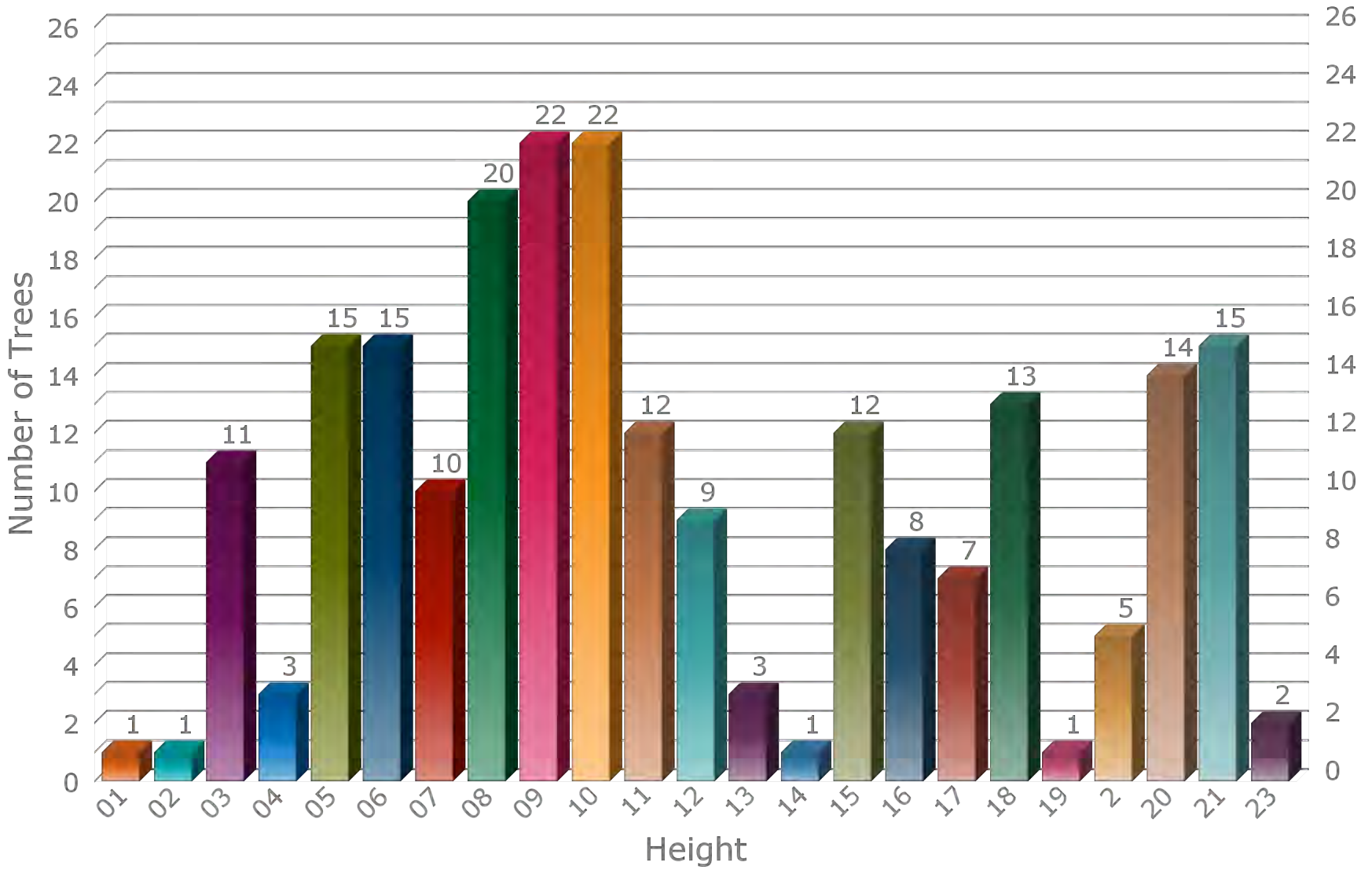
Appendix B:

USEFUL LIFE EXPECTANCY



project GREEN

Appendix B:
TREE HEIGHT



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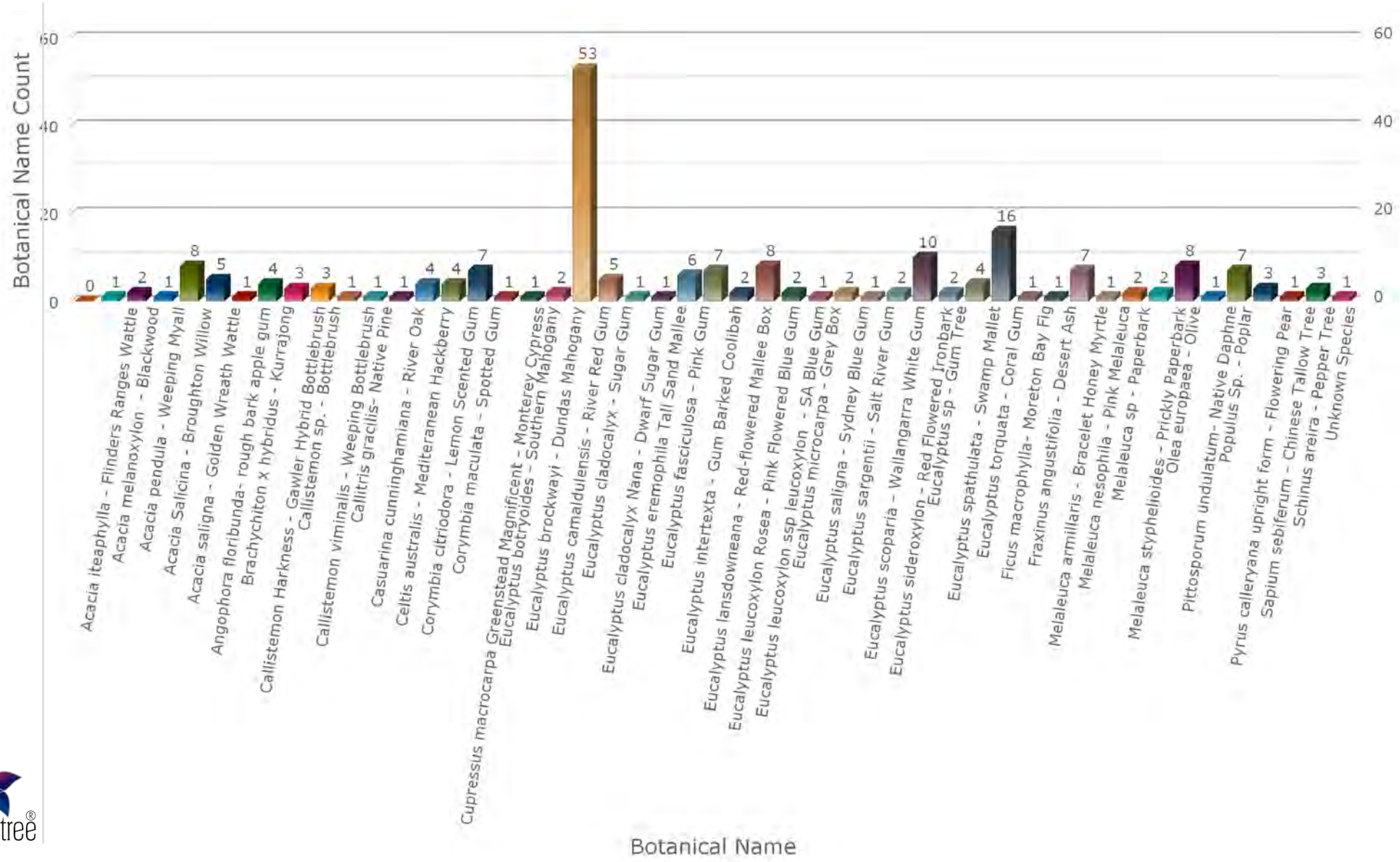
project GREEN

Appendix B:
BOTANICAL NAME



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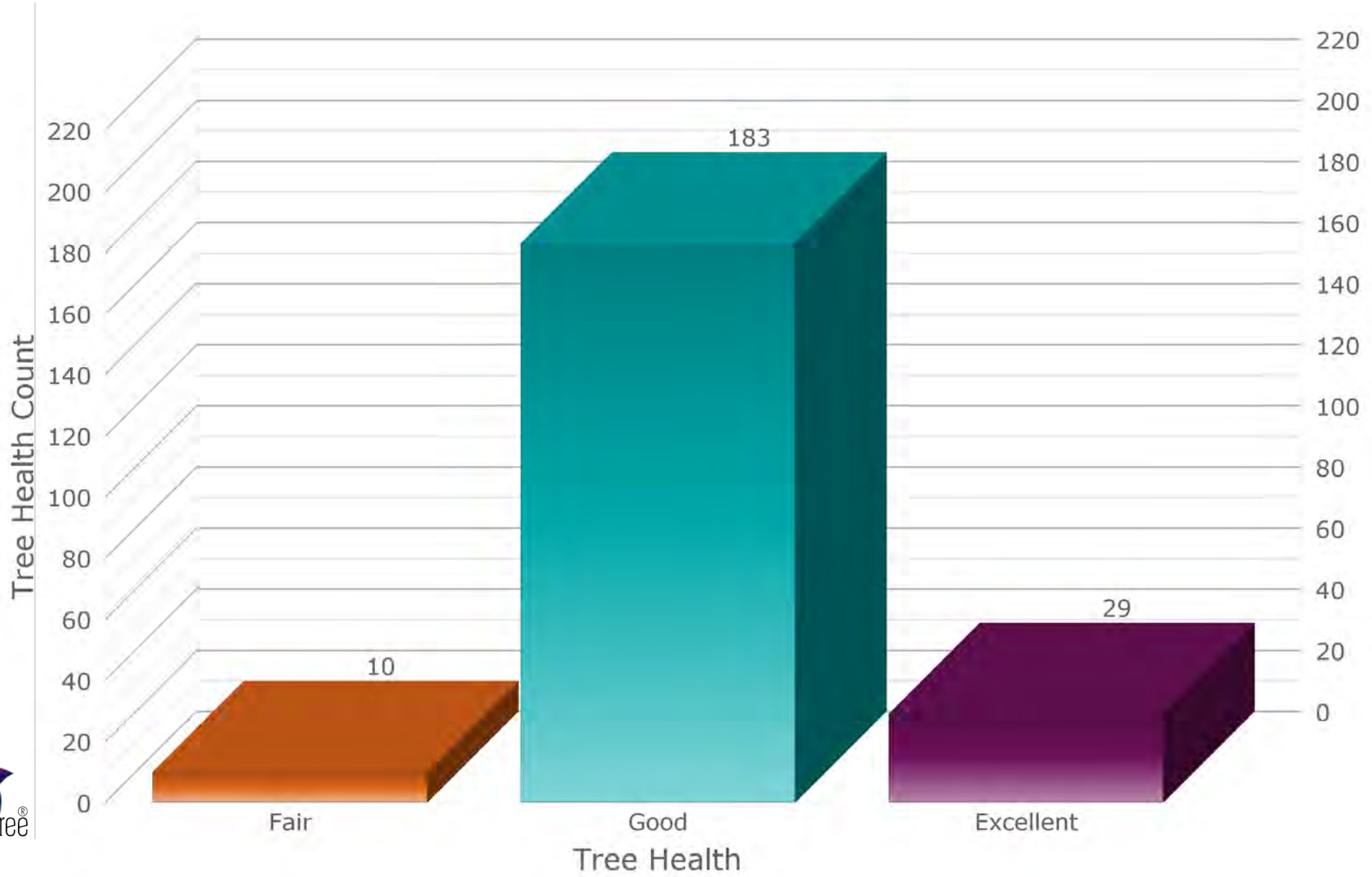
Appendix B:
TREE HEALTH



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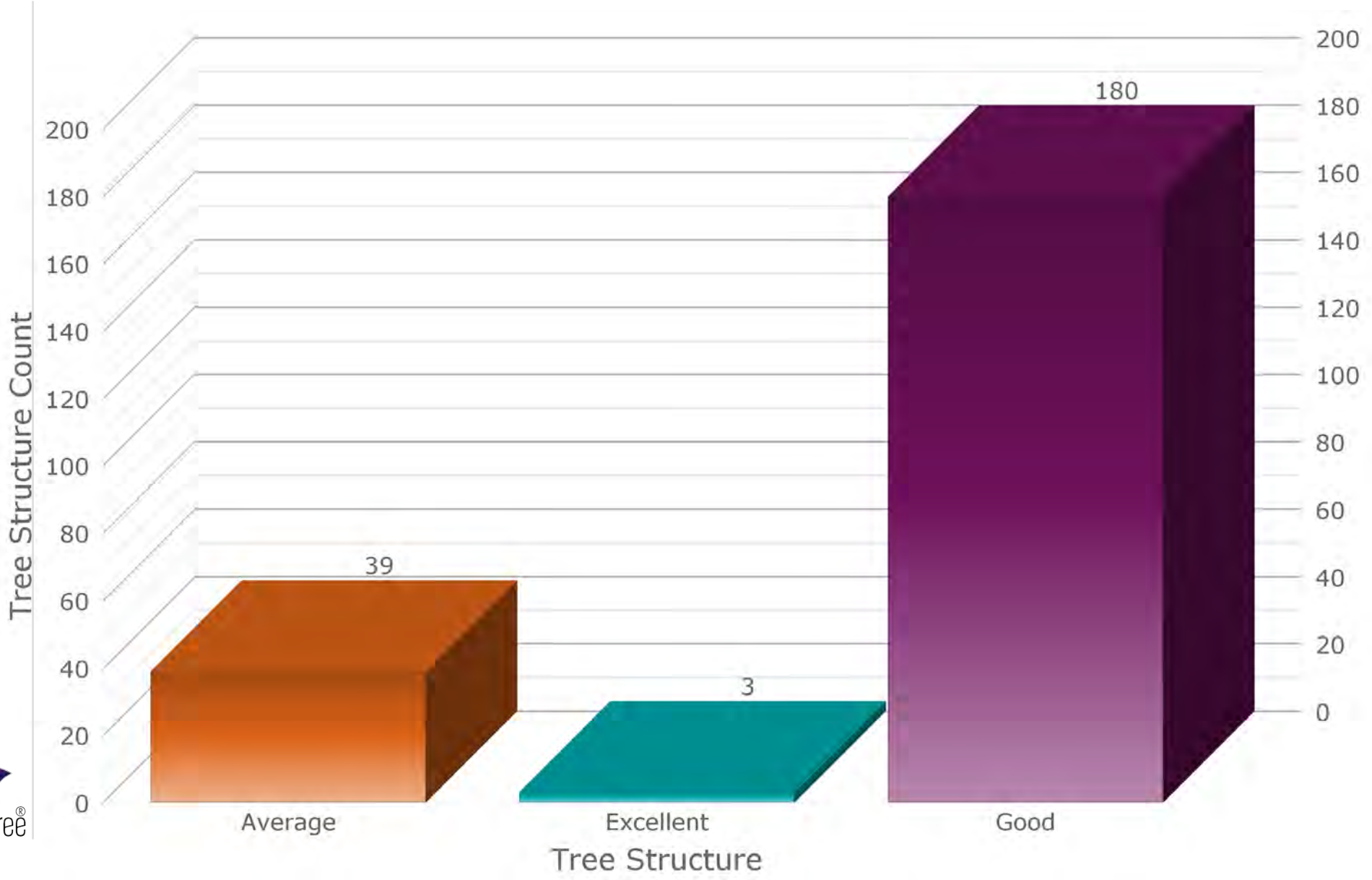
Appendix B:

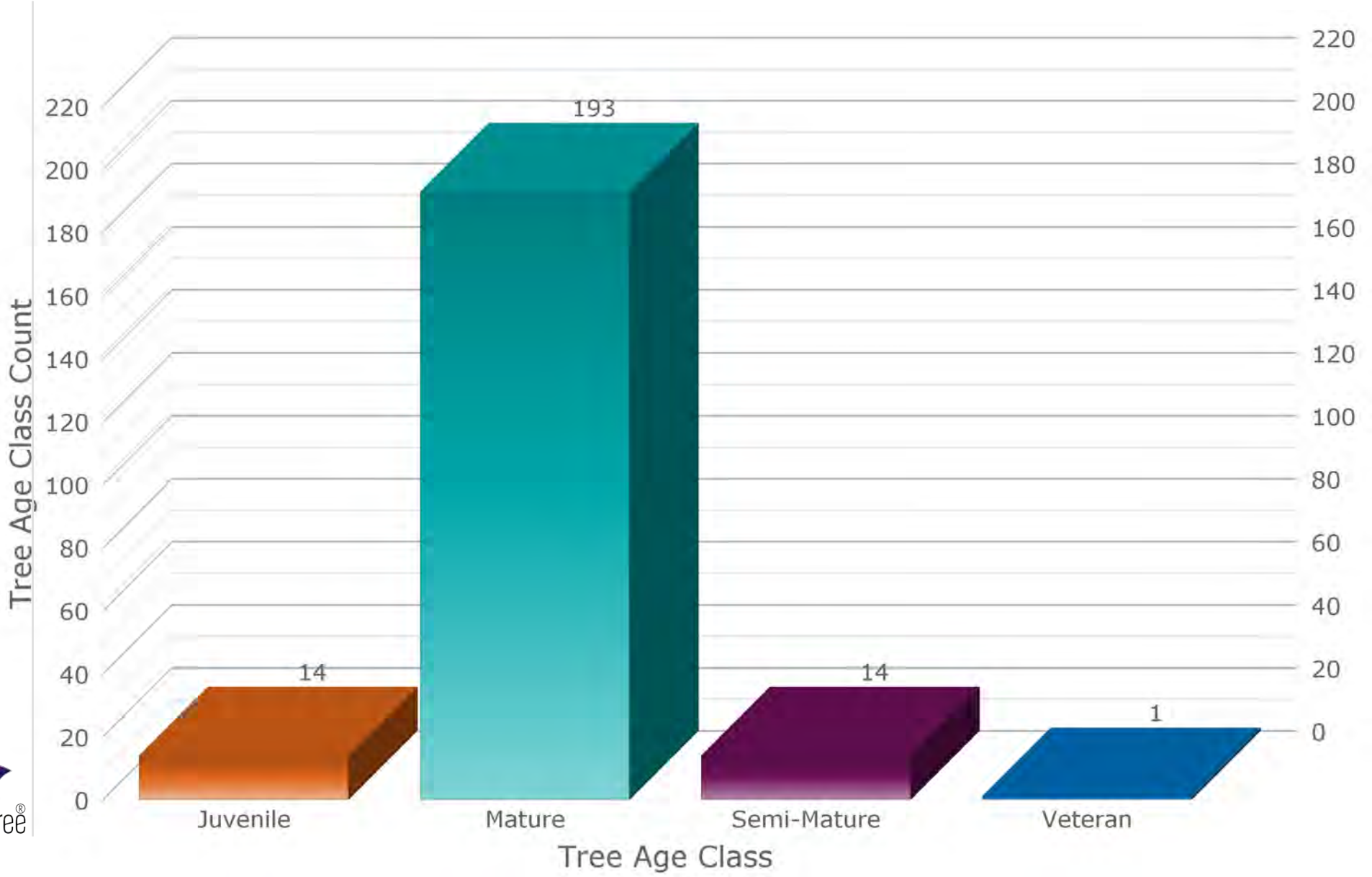
TREE STRUCTURE



project GREEN

Appendix B:

TREE AGE CLASS



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Norwood Morialta
25 views
All changes saved in Drive
Add layer
Share
Preview
Norwood Morialta.xlsx
Styled by L_S 1M Legislative Status
Exempt (153)
Regulated (40)
Significant (29)
Base map
Morialta Rd W
Norwood Morialta High School: Middle Campus
Kara Kara Rhythmic Sportive Gymnastics Club
St Bernards Rd
Alton Ave
Moules Rd
Grantley Ave S
Google My Maps


Norwood Morialta
This map was created by a user. Learn how to create your own.
29 views
SHARE
Norwood Morialta.xlsx
Exempt
Regulated
Significant
St Bernards Rd
Johnson Ave
Buttery Ave
Grantley Ave N
Grantley Ave S
Morialta Rd W
Morialta Rd
Tagocha Smoke & Grill
Norwood Morialta High School: Middle Campus
Kara Kara Rhythmic Sportive Gymnastics Club
Alton Ave
Moules Rd
Central Overlocking
Rug Shop
Davenport Terrace
Alexandra Ave

APPENDIX

Design Review Report: Morialta Secondary College Community Performing Arts Returned Brief Design Review Report

Project Manager: Frances Caruso

Review type: ☒ Returned Brief ☐ Concept ☐ 60% Documentation ☐ 100% Documentation

Documents received: Draft issued 14/06/2022 **Date** 20 July 2022

Discipline	Professional Service Contractor (PSC)	DIT Reviewer(s) or N/A	
Architect	Thomson Rossi + Brown Falconer	Design Adviser:	Kirstie Coultas
Interior Designer	Thomson Rossi + Brown Falconer		
Health Planner	n/a	Construction Adviser:	Pat May
Landscape Architect	Apsect	Design Adviser:	Jordana Wilson
Mechanical Engineer	Aurecon	Design Adviser:	Eddie Yick
		Construction Adviser:	
Hydraulic Engineering	Aurecon	Design Adviser:	Nick Storey
Fire Engineer		Construction Adviser:	Nick Storey
Electrical Engineer	Aurecon	Design Adviser:	Jeremy Chu
Electronic Engineer	n/a		
Vertical Transportation Engineer	Aurecon	Construction Adviser:	Robby Delben
Structural Engineer	KBR	Design Adviser:	Adrian Swiatnik
Civil Engineer	KBR		
All disciplines (conditions of tender and contract)		Contracts Formation:	

The review does not verify the accuracy, completeness or co-ordination of documentation or compliance against NCC, Australian Standards or any requirements under the Contract. The review of or comment on the documents contained herein does not relieve the Consultant / Contractor from its responsibility under the Contract for completeness, accuracy and coordination of documents.

Architect, Interior Designer and Health Planner Review Report

DIT Reviewer: **Kirstie Coultas** **Review date: 25/07/2022**

Item	Ref	Discipline	Description	Action Required	Role	Consultants response (include date)
1.	General	All	1. References to 'DECD' throughout. 2. Minor grammatical and/or spelling errors, incomplete references apparent ("refer Appendix XX"). 3. Superseded DfE guidelines referenced (i.e. page 26 reference is made to July 2020 revision). 4. Reference made to 'NCC 2019'; NCC 2022 is to be adopted by all States and Territories from 1 September 2022. Assume to be updated accordingly. 5. Confirm/ advise any Council specific ESD requirements/ initiatives required to be implemented.	D, N, IA, U	LPSC/ DPSC	Thomson Rossi / Brown Falconer 28/07/2022 1) Noted –report updated to remove any reference to DECD. 2) Noted – report updated to remove 1 x instance Appendix ## was present. 3) Noted – report updated 4) Noted – Report updated 5) Design to a 5 star green star rating
2.	Access and egress	Arch.	1. Confirm that equitable access is provided to the performing arts centre from Morialta Road West? Ground Floor Plan provided shows terraced entry (identified as "20") however no ramping apparent? 2. The on site (school) carparking is located a considerable distance from the performing arts centre. In the event that these are to be used out of hours, confirm that safe and equitable access is provided for patrons. 3. Confirm anticipates landscaping scope of works.	D, IA	LPSC	Thomson Rossi / Brown Falconer 28/07/2022 1) Detailed levels to be provided in Part 1. 2) Level access from the carpark from the eastern side of the campus, to the new facility in the north/western corner. Detailed diagram to be provided in Part 1. 3) Budget allocated for landscaping, to be developed in part 1.

3.	Traffic	Arch/ Traffic	1. Loading bay is accessed off Morialta Road West. Confirm vehicle turning paths as it appears that the intention is to reverse from Morialta Road West which would pose a risk item? Note that provided traffic design study in Appendices shows alternative layout. 2. Risk factor evident concerning potential intersection upgrade to St Bernards Road and Morialta Road West. Noted to be investigated further in the traffic impact assessment. 3. Provided traffic design comment plan layout differs from concept plan (loading loop provided in lieu of straight reverse access to loading dock).	A, D, IA, N	LPSC/ DPSC	CIRQA 02/08/2022 1) Traffic Drawing updated in Appendices – refer Appendix A for details. 2) Noted, to be developed in Part 1. 3) Refer item 1. Turn paths updated. However, it is recommended that the access driveway be straightened to improve accessibility for large vehicles and sight lines (particularly for reversing vehicles). It is noted that straightening the access driveway will move the access closer to St Bernards Road. The location of the commercial vehicle access will need to be explored in further detail.
4.	Security	Elec	1. Query how it is intended for the security monitoring to occur for the shared facilities out of hours? Assume that this will be separated from the rest of the school facilities? 2. Confirm security measures to prevent student access of lower carpark to CoC preforming arts building	D, IA, N	DPSC	Thomson Rossi / Brown Falconer 28/07/2022 1) Yes this is correct, it will be separated from the rest of the School. 2) Detailed solution to be developed in Part 1.
5.	Services metering	Services	Metering – how is this intended to be undertaken? Will the Council have dedicated meters for the 'standalone' component or will the school invoice the Council (and have one meter)?	D, IA, N	DPSC	Aurecon 02/08/2022

						Separate metering to be provided and documented as part of detailed design.
6.	Planning considerations	Arch.	Given the anticipated extended hours of the Community Centre, confirm that any required hours of operation are in accordance with the planning conditions.	D, IA, N	LPSC	Thomson Rossi / Brown Falconer 28/07/2022 This is development is submit as a separated development application, and will be established at this time.
7.	Fire services	Services	1. Confirm that the proposed budget estimate allows for the fire pump modifications mentioned on page 26. 2. 2 Hr fire wall noted as required between MSC Performing arts centre and CoC performing arts complex however glazing shown between.	D, IA. N	DPSC	RLB 03/08/2022 1) The estimate provided allows for fire pump upgrade. Thomson Rossi 28/07/2022 2) Detailed solution to be provided in Part 1.
8.	Refuge	Arch.	1. Confirm that a waste management plan is to be undertaken. 2. Confirm that dedicated waste refuge is to be provided for the Council Performing arts centre. Or is it assumed that this be located elsewhere on the site?	D, IA	LPSC/ DPSC	Thomson Rossi / Brown Falconer 28/07/2022 1) Yes it will be undertaken in Part 1 2) Yes, it will be developed in Part 1
9.	Stormwater	Services	1. 30m3 additional capacity anticipated at present for the stormwater detention; confirm allowance for this has been included in the preliminary cost estimate. Confirm anticipated proposed position on site as this appears to have been originally proposed where new carpark is proposed?.	D, IA, N	DPSC	KBR 01/08/2022 The intention is for the current detention basin in the north-western corner of the site (refer

						area 4 on 'landscape briefing plan' sketch (page 7 of appendices) to be modified to accommodate the additional 30m3 of storage by increasing the western and northern bank height. This approach will be further developed with council in stage 1 of the project. 
10.	Planning and Design Review Considerations	All	<u>*Connection with the school campus/facility*</u> We anticipate the new performing arts facility will be designed to respond to the new school campus layout, in terms of campus-wide circulation and wayfinding strategies. With the planning approval for the school project, the final landscape design has been made a condition (to be resolved prior to the operational commencement of Stage 2), and this condition is yet to be satisfied. The referral response for the school development recommended further development of the external spaces, with the view to further strengthen the through-site axes, and to ensure equitable, practical and well integrated access for all users including members of the public. We anticipate this will be further enhanced by the new performing arts facility. To that end, we recommend consideration given to the facility's interface with the school oval, with the view to achieve activated social environments. <u>*Removal of Significant and Regulated trees*</u> Acknowledging that the removal of Significant and Regulated trees in this instance is exempt from requiring a planning	D, IA, N	LOSC/ DPSC	Thomson Rossi / Brown Falconer 28/07/2022 1) Agreed to be developed during Part 1 2) Agreed to be developed during Part 1 3) A revised traffic management will be developed in Part 1 of this project to ensure a compliant solution is provided. 4) Noted, to be developed during Part 1 5) Due to being a DIT/DfE project alongside Council it is of our understanding an ODASA design review will be required and be

			approval, replacement planting of mature trees is recommended, with the view to maintaining the distinctive landscape character of the Adelaide Foothills. *Traffic/access* The proximity of the loading dock entry to the St Bearnards Road/Morialta Road West junction is a potential concern, as an existing traffic congestion issue along St Beranards Road was identified during the DR process (particularly at the intersection of Moules Road). We also note that Morialta Road West is a quiet residential street and the potential impacts of large loading vehicle need careful management. As you have commented, manoeuvrability of the loading bay also appears to require further consideration. It is noted that the Traffic Management Plan for the school project has been made a condition of the planning approval (to be resolved prior to construction commencement), and the planning officer has informed us that this is yet to be submitted/satisfied. *Morialta Road entry* The raised foyer is accessed from Morialta Road via the outdoor terrace, which is located adjacent the driveway to the basement car park. A careful consideration of the main entry sequence is recommended to ensure a high-quality sense of arrival, safe pedestrian environment and intuitive circulation. *Pre-lodgement and Design Review* We trust that the project will benefit from engaging with the pre-lodgement and design review process, and recommend programming and fee allowances be made to ensure a meaningful engagement.			completed during the next stage.
			-END REPORT-			

Landscape Architect Review Report

DIT Reviewer: Jordana Wilson **Review date: 20/07/2022**

Item	Ref	Discipline	Description	Action Required	Role	Consultants response (include date)
			No comments.			

Construction Adviser Design Review Report

DIT Reviewer: Pat May **Review date: 22/07/2022**

Item	Ref	Discipline	Description	Action Required	Responsible Role	Consultants response (include date)
	Pg 2	Arch	How is access to the bio box gained? Would there be any requirement for an external person to walk through school occupied areas to gain entry to the large theatre bio box to rehearse or during a 300 person maximum event?	N	LPSC/EU	Thomson Rossi / Brown Falconer 28/07/2022 Bio box is accessed via lift. There will be access to agree school spaces between the council and DfE and will be securely controlled.
	Pg 3	Arch	Confirm NCC requirements for accessible car parking spaces are met. 1 per 50 or part thereof for a 9B assembly building, 60 carparks would require an additional accessible car park? DIT would not endorse the use of other accessible parking on site due to the distance from the performing arts building to the	N	LPSC/Certifier	Thomson Rossi / Brown Falconer 28/07/2022 The 60 carparks will be provided, with the required amount of accessible car parking. The design

			nearest accessible car park and the ability for the large theatre to house 300 people during school hours. If utilising the Moules rd accessible car parks for 500pax performances, would this require lift access out of hours to connect to the lower portion of the site?			team will investigate adding additional accessible car parks, to account for 500 seat event. CIRQA 03/08/2022 It is recommended that two accessible parking spaces be provided within the Performing Arts Centre's parking area.
	Pg 3	Arch/Civil	DIT do not endorse the current methodology for truck entry into the site, reversing vehicle off the main access road to the school will present a risk. Where is it intended for SAMFS to position an appliance if required? Unlikely they will accept reversing a vehicle in or out of the site. Refer Pg 32 also, the remaining two options would be preferred.	N	LPSC/DPSC	Thomson Rossi / Brown Falconer 28/07/2022 Initial conversations have been had with John Callea and Council. Further development in Part 1. CIRQA 03/08/2022 It would be desirable to accommodate forward-in/forward-out access for commercial vehicles to minimise the conflict risk with pedestrians. If reverse entry to the site were to be provided it would be recommended that access be restricted during times of peak pedestrian movements (i.e. start and end of school periods).

	Pg 19	Arch	Zone 1 notes stairs but no ramp and appears it will be the main point of entry from the street, is there any accessible entry points on the street side of the building?	N	LPSC	Thomson Rossi / Brown Falconer 03/08/2022 Refer updated drawing in Appendix A for clarification.
	Pg 25	Arch/Hydraulic	References resident ensuites? And is under the stormwater heading	N	LPSC/DPSC	Aurecon 02/08/2022 Noted – reference to ensuite removed.
	PG 28	Arch	Acoustic design references DfE Standards, are there any requirements from The City of Campbelltown for the large theatre?	N	LPSC	Thomson Rossi / Brown Falconer 28/07/2022 Specialist acoustic advice to be sought and integrated in part 1.
	General	Arch	Consider how the underground carpark and associated lift could be used by students during school hours, methodology on how to prevent access for students should be explored.	N	LPSC	Thomson Rossi / Brown Falconer 28/07/2022 Underground carpark to be secure from student access and a detailed solution will be developed in Part 1.
			END REPORT			

Mechanical Engineer Design Review Report

DIT Reviewer: Eddie Yick **Review date: 21/07/2022**

Item	Ref	Discipline	Description	Action Required	Responsible Role	Consultants response (include date)
1	Return brief	Mech	Relevant standard should include DIT guideline G44 Ecologically Sustainable Development – Planning, Design and Delivery.			Aurecon 02/08/2022 Noted, to be included within Concept Design Report.
2			Encouraged to explore energy efficient systems during concept phase			Aurecon 02/08/2022 Noted, to be developed in Part 1. Would like DIT to come along for the journey as well.
			end			

Hydraulic and Fire Engineer Design Review Report

DIT Reviewer: Nick Storey (ns) **Review date: 20/07/2022**

Item	Ref	Discipline	Description	Action Required	Responsible Role	Consultants response (include date)
F1		Arch	Fire separation between theatre and stage/s	IA	LPSC	Aurecon 02/08/2022 To be confirmed with Aurecon / provide commentary.
H1		Hyd/Elec	Hot water circulation pumps (not heating of Hot Water) to be linked with security system. Security active/circulation off.	IA	DPSC	Aurecon 02/08/2022 Correct, To be developed in Part 1
H2		all	Plant room allocations for mechanical, hydraulics, electrical etc.?	IA	DPSC	Aurecon 02/08/2022 To be developed in Part 1
H3		Hyd	Solar/heat pump hot water heating?	IA	DPSC	Aurecon 02/08/2022 Likely heat pump as per main school. To be developed in Part 1
H4		Hyd sewer/water	Is there capacity in existing sewer and water supplies to MSC to serve new development?	IA	DPSC	Aurecon 02/08/2022 New sewer and water connections will be provided.
H5		Hyd	Location of new grease arrestor for café/bar	IA	DPSC	Aurecon 02/08/2022 To be developed in Part 1.

Electrical, Electronic and Vertical Transportation Engineer Design Review Report

DIT Reviewer: Jeremy Chu & Robby Delben **Review date: 20 July 2022**

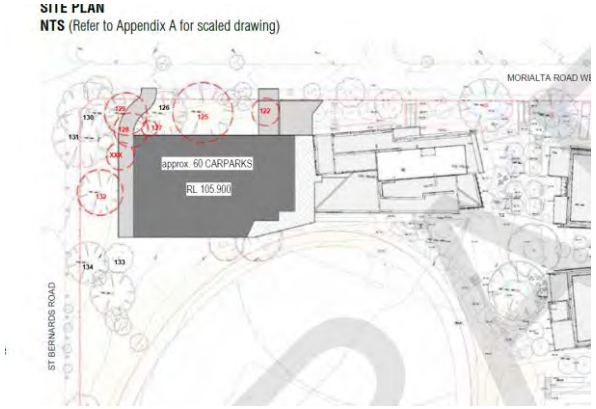
Item	Ref	Description	Action Required	Responsible Role	Consultants response (include date)
1	Page 20	Photovoltaic Solar System – if the whole site (i.e. school and community performing arts centre) are off one supply, the team should be aware of SAPN's requirements should the total combined solar capacity exceeding 100kW. As currently documented (50kWp on the school and 30kWp on the CPAC), this is OK, but should the project end up adding 40kWp more on another building, this might become a problem	N	DPSC	Aurecon 02/08/2022 SAPN requirements for exceeding combined solar capacity of 100kW is correct. Aurecon understand the CPAC and the school is on one title as such the 100kW max. Solar capacity will be applicable. The new CPAC will have a separate electricity supply and separate SAPN retailer meter.
2		If the CPAC does not have its own supply, how will power usage be accounted for. If CPAC is being operated by City of Campbelltown and not SA Government, it is likely that they will need their own electricity retailer and not be on the State Government energy contract. Perhaps a parent-child metering arrangement is required, confirm with SAPN.	IA CD	DPSC	Aurecon 02/08/2022 The CPAC shall have a separate SAPN retailer meter to record the CPAC electricity consumption.
3		Lighting: provide CRI >90 in the gallery and any spaces that artwork might be displayed	D	DPSC	Aurecon 02/08/2022 Noted, to be developed in Part 1
u4		Page 20, calls for: *The building will be provided with a Distribution Boards (DB) supplied from the Main Switchboard (MSB). Each building DB will incorporate surge protection and energy sub-metering and main switches.*	IA, D, U	DPSC	Aurecon 02/08/2022

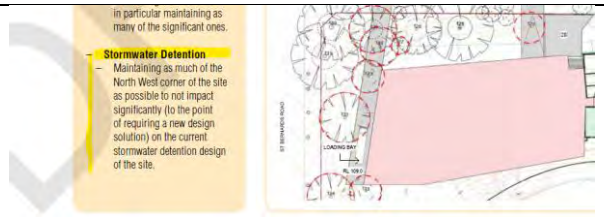
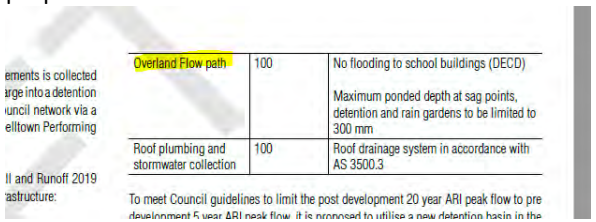
		However, Page 40 calls up: *A new 630A, three phase power supply will be required to serve the Community Performing Arts Centre and is proposed to originate from the Morialta Secondary College SAPN pad mounted transformer located along Morialta Road West.* *A new free-standing Main Switchboard (MSB) will be established for the Community* *Performing Arts Centre.* Which Page/clause is correct? Has the Project sought out approval/dispensation from SAPN for multiple supply points to this school?			Aurecon has had preliminary discussions with SAPN. The new school transformer shall be fitted with two protection devices, one for the school and one for the CPAC. The CPAC shall have a dedicated Main Switchboard (MSB) and Distribution Boards (DB). Each DB will incorporate main switch, surge protection and energy sub-metering .
5		Drawing SK09: Incoming communications cabling seems only to come in from the street. Should there be a conduit system tying this building into the rest of the school?	IA, D, U	LPSC, DPSC	Aurecon 02/08/2022 We have included future provisions for a separate incoming communications lead-in but envisage the CPAC would be connect to the schools communications infrastructure. 5% design for high level information, details to be provided for part 1 and 2 services design.
6		End of comments.			

Civil Engineer Design Review Report

DIT Reviewer: Adrian Swiatnik **Review date: 22/07/2022**

Item	Ref	Discipline	Description	Action Required	Responsible Role	Consultants response (include date)
1	Return brief	traffic	Traffic study is required to adequately assess parking demands associated with the proposed 500ppl facility – note that it appears from the report that there is inadequate provision for parking. **Car Parking** A single level basement car park the size of the corresponding Performing Arts building footprint will provide around 60 car parks for patrons attending the theatre. This total number of car parks will allow for a maximum 300ppl event in the Campbelltown City Council Performing Arts building (large theatre / foyer) during school hours of the neighboring Morialta Secondary College. A double level car park option (100 car parks = 500ppl event) was investigated, however due to budget constraints this was not feasible. In saying this, Campbelltown City Council advised that this capped size of 300ppl aligned with the envisaged use of the large theatre during school hours. An after school hours event of 500ppl, will have access to approximately 130 car parks on site vacated by the Morialta Secondary College staff.	IA, C	LPSC/DPSC	Thomson Rossi / Brown Falconer 28/07/2022 Detailed development and response to be provided in Part 1. CIRQA 02/08/2022 The 60 parking spaces within the Performing Arts Centre parking area will meet the Planning and Design Codes parking requirements for a 300 person event. For a 500 person event, 40 additional parking spaces will be required to meet the parking requirements of the Planning and Design Code. These additional parking spaces could be provided on-street or by sharing the parking area of the adjacent College (outside of College operating hours)
2			Traffic study will need to analyse impacts to surrounding road network of new facility including peak-off peak traffic impacts and que lengths, parking impacts to surrounding residential streets, road and traffic safety impacts, pedestrian safety and required works on surrounding streets to ensure pedestrian and traffic safety.	IA, C	LPSC/DPSC	CIRQA 02/08/2022 Noted, to be developed in Part 1.

3			Investigations required to confirm what road lighting upgrades will be required to ensure pedestrian and vehicle safety.	IA, C	LPSC/DPSC	Aurecon 02/08/2022 Noted, to be developed in Part 1.
4		stormwater	Confirm that adequate provision has been made for the additional impervious area generated by the proposed development – there is no detail provided to demonstrate that adequate provision has been made for stormwater.	IA, C	LPSC/DPSC	KBR 01/08/2022 Additional 30m3 of detention is required to accommodate the additional impervious area. The existing detention basin will be modified to increase capacity. This approach will be further developed with council in stage 1 of the project.
5			The area proposed for stormwater detention appears to have been taken by carparking – see drawing extract below – 	IA, C	LPSC/DPSC	KBR 01/08/2022 Detention basin is to the west of the carparking/ramp area Finalised detention strategy will be developed with council in stage 1 of the project.
6			Advise how this issue will be addressed –	IA, C	LPSC/DPSC	KBR 01/08/2022

						The intention is for the current detention basin in the north-western corner of the site (refer area 4 on 'landscape briefing plan' sketch (page 7 of appendices) to be modified to accommodate an additional 30m3 of storage required by this project by increasing the western and northern bank height. This approach will be further developed with council in stage 1 of the project.
7			Overland flow path to also ensure that there is no flooding to neighbouring and/or downstream properties – 	IA, C	LPSC/DPSC	KBR 01/08/2022 This will be reviewed and closed with council as a part of the stormwater management plan developed in Part 1
8			Design to ensure reactive soils are managed to prevent shrink swell movements and impacts to pavements.	IA, C	LPSC/DPSC	KBR 01/08/2022A geotechnical investigation specific to this area is being completed in part 1 works. Pavement design will reflect the investigation findings.
9			End			

Legend

Trade	Category	Discipline	Action Required		Responsible Role	
Aluminium framing/glazing	Access	Architect	**A**	Propose Alternative	**ConM**	Construction Manager
Asbestos removal	Acoustics	Interior Designer	**C**	Correct Documents	**CM**	Cost Manager
Bricklaying/ Stonemasonry	Design intent	Mechanical Engineer	**D**	Provide More Detail	**DPSC**	Discipline PSC
Carpentry	Maintenance	Electrical Engineer	**IA**	Investigate and Advise	**EU**	End User
Ceilings/Partitions	Program	Electronic Engineer	**N**	Note	**FM**	FM Service Provider
Civil Work	Scope	Hydraulic Engineering	**P**	Provide Program	**GBC**	General Building Contractor
Concrete construction/ Reinforcing/Formwork	Siting	Fire Engineer	**R**	Provide Written Report	**LA**	Lead Agency
Demolition	Sustainability	Vertical Transportation Engineer	**U**	Update/Complete Documents	**LPSC**	Lead PSC
Electrical/Electronic		Structural Engineer	**O**	Other (describe)	**PM**	Project Manager
Fire Protection		Civil Engineer			**TC**	Trade Contractor
Joinery		Cost Manager			**O**	Other (describe)
Lifts/Escalators		Health Planner				
Mechanical		Other (describe)				
Plumbing						
Roofing						
Structural Steelwork						
Tiling						
Other (describe)						

Government of South Australia

Hon Blair Boyer MP
Member for Wright

22ME1451

Mr Paul Di Lulio
Chief Executive Officer
Campbelltown City Council
PO Box 1
CAMPBELLTOWN SA 5074

Email: PDilulio@campbelltown.sa.gov.au

5 July 2022

Dear Mr Di Lulio

It was a pleasure meeting with you on Thursday 2 June 2022 to discuss the new Morialta Secondary College and the proposed Community Performing Arts Centre built on site.

I would like to re-confirm our support for the Council's proposed development on the school site. The delivery of the centre will enhance our partnership with the Campbelltown City Council and promote Morialta Secondary College as a central hub for the community.

Mr Wayne Dixon, Project Leader, Capital Programs and Asset Services, is the Department for Education's lead for Morialta Secondary College. Wayne is also liaising with the Department of Infrastructure and Transport regarding your enquiry about a possible bus-stopping lane.

Should you have any further queries, Mr Dixon can be contacted on 08 8226 5534 or at Wayne.Dixon@sa.gov.au.

Yours sincerely

Hon Blair Boyer MP
Minister for Education, Training and Skills

Minister for Education, Training and Skills
Level 9, 31 Flinders Street, Adelaide SA 5000 | GPO Box 1563, Adelaide SA 5001 | DX 128 Adelaide
Tel 08 8226 1205 | Fax 08 8226 1556 | ABN 60 168 401 578

SOUTH AUSTRALIA

11.5 Food Organics Business Case

Coordinator Environment & Sustainability, Rachael Hamilton's Report

Purpose of Report

To update Members on the outcomes of the Food Organics Collection Service Business Case.

Strategic Plan Link

Focus Area 2.3.2 Expand and implement waste management and recycling programs

Focus Area 5.2.4 Drive innovation, enhancement and efficiency through collaboration

Previous Council/Committee Resolution

At its meeting on 16 February 2021, Council resolved:

'That Council:

- request Staff to undertake Community engagement to explore the options for alternative service models / trials and Community support for this initiative

- allocate $20,000 from the Climate Solutions Fund in the draft 2021/2022 Annual Business Plan and Budget to build a business case (subject to Community Support) for an alternative collection trial and report back to Council with proposed outcomes and options for further consideration.'

At its meeting on1 March 2022, Council resolved:

'That Council:

1. receive the Community Engagement Outcomes Report for the Food Waste Solutions consultation

2. consider allocating $120,000 from the Climate Solutions Fund at the time of formulating the draft 2022/2023 Annual Business Plan and Budget for the implementation of a Green Organics / Food Waste trial, subject to a favourable outcome of the Business Case.'

Background

Council implemented an 'opt in' kitchen caddy system in 2013 and since this time has undertaken a range of initiatives to help encourage residents to place their food in the green organics bin and reduce the amount of food waste being sent to landfill.

Food organics still represents 200,000 tonnes of waste sent to landfill each year in South Australia alone. This equates to approximately 22% by weight of total household waste collected at kerbside and up to 40% of material presented in residual waste bins.

Whilst there has been notable improvement in people disposing of food into the green organics bin in recent waste audits and bin inspections, there is still considerable work to be done to increase the amount currently being diverted from landfill.

A large proportion of residents that participated in the food organics survey undertaken in late 2021 were supportive of Council exploring alternative collection service models in relation to green organics collections. To this end, Council has explored in more detail, the potential for alternative service models and a business case for different approaches which were presented at an Elected Member Briefing Session in July.

Discussion

Council has made considerable headway in diverting food from landfill, however food organics still represents one of the biggest opportunities for additional benefits by making a resource instead of waste, reducing costs and reducing greenhouse gases.

The purpose of the business case into food organics collection was to:

- Review existing trials relating to weekly FOGO (food organics green organics) collections
- Identification of clear options and recommendations with cost benefit analysis for Council's consideration
- Identify logistics and processes required for implementation of any recommendations, including administrative issues and/or barriers.

A range of projects and trials have been reviewed that included providing a weekly green organics collection or trials aimed at increasing food organics diversion from landfill. This review included recent trials of weekly green organics undertaken at the Cities of Holdfast Bay, West Torrens and Unley. All of these projects were slightly different with their approaches and demographics. The full details of this and the Business Case are provided in the attachment.

The City of Holdfast Bay undertook a pilot weekly collection of FOGO bins and fortnightly collection of general waste and recycling, with the pilot being split into two different parts:

- *Opt In* - Approximately 3200 households of mixed demographic across several suburbs were given the opportunity to opt-in and participate in the pilot. Around 800 households (25% of those eligible) joined in the pilot, which ran for 12 months from September 2020 to October 2021

- *Opt Out* - Commencing in mid-2021, approximately 300 households from a small area were all included in an alternative model that required them to opt-out if they did not wish to participate in the new collection regime. About 88% of the households remained in the pilot.

The City of West Torrens undertook a trial of weekly green organics collection over a period of twelve months from February 2021 to February 2022. The trial was offered to 750 households in the West Beach area on an opt-in basis. 298 households replied positively and participated in the program.

The City of Unley conducted a six-month trial of 522 households in the Goodwood area – 'Going Green in Goodwood'. All households in the target area were automatically moved to the changed service model, with no official opt-out option, however both general waste and organics bins could be put out for weekly collection if desired.

Several other programs were also included in the review, however ultimately the report found that:

1. The opt-in approach at both Holdfast Bay and West Torrens resulted in a slightly higher diversion of FOGO from landfill from those involved. This is because it is largely focussed on those that are already engaged around this and limits exposure from other potential participants more broadly

2. The opt-out system is seen as the better overall option in terms of maximising participation from the start. The opt-out approach has resulted in a smaller number of households requiring the original weekly general waste collection, compared with the opt-in model

3. The option of a larger (240L) general waste bin for residents requiring it (eg nappies or medical/personal health needs) should also reduce the number of residents opting-out and help maximise participation.

A summary comparison of the main trials that provided a weekly green organics collection is outlined in Table 1.

Project	Timeline	Food to landfill kg/hh/wk	Food in Green Organics bin kg/hh/wk
City of Holdfast Bay Weekly FOGO Pilot Opt-in	12 months	- 1.2 kg (-47%)	+ 1.4 kg (+200%)
City of Holdfast Bay Weekly FOGO Pilot Opt-out	4 – 5 months	- 0.9 kg (-39%)	+ 0.9 kg (+129%)
City of West Torrens Organic Bin Trial Opt-in	12 months	- 1.0 kg (-35%)	+ 1.5 kg (+330%)
City of Unley Going Green in Goodwood	6 months	-0.9 kg (-21%)	+ 1.1 kg (+85%)

Table 1. High level comparison of trials reviewed in Business Case

Should Council wish to pursue alternative service options, the following options have been considered as part of the Business Case:

- Option 1) Opt-out system – similar to Holdfast Bay
- Option 2) Full weekly green organics collection service with fortnightly waste to landfill*

* NB: Legislative changes would need to occur to enable this option to proceed.

Unless there are legislative changes made, Council will need to consider the Opt-out approach at this stage to be able to implement a City wide program.

The Business Case report identified the costs and estimated potential savings for each option based on current tonnage rates and costs and assumed take up rates experienced at Holdfast Bay for the opt-out system (12-15% of residents opting out). This is summarised in Table 2.

	Business as usual	Opt-out	Council wide
Annual Collection Cost	$2,441,000	$2,523,000	$2,470 000
Assumed landfill diversion savings		-$220,000	-$250,000
Organics Processing		+$44,000	+$50,000
Support programs and monitoring (once- off)		+$90,000	+$90,000
TOTAL COST	**$2,441,000**	**$2,437,000**	**$2,360,000**
Savings compared to business as usual	-	-$4000	-$81,000

Table 2. Overall costings of different options proposed in business case report.

The figures for the collection costs have been provided by East Waste. The opt-out collection service component is estimated to cost approximately $82,000 more than the current service. This is due to the requirement to collect the percentage of landfill bins that opt-out. The Council wide 'swap' of services is slightly more expensive than the current system as the green organics fortnightly collection costs slightly more to operate than a fortnightly landfill collection service. This is potentially due to truck size and/or capacity.

It is anticipated that should the assumed tonnages be diverted from landfill as a result of increased food organics in the green bin, then estimated savings can be generated from landfill disposal costs which would offset the cost of initially rolling out the system (promotional materials, education campaigns, waste audits etc) and this would be an initial upfront cost. In subsequent years it is anticipated that additional savings of up to $90,000 may be generated as these upfront costs would be significantly less or not required.

Table 3 provides more detailed costs for the proposed support programs required for initial implementation of the system change.

Type of Support Program	Cost estimate
Welcome Pack	Between $2-$5 per household Staff believe this could cost less with volunteer deliveries (ie Waste Warriors).
Kerbside bin waste audit (for performance measuring and baseline)	$20,000 - $25,000 per audit x 2 audits (before and after) = $40,000 - $50,000
Community engagement and events to launch and promote	Propose $10,000 - $20,000 depending on extent of engagement desired

Table 3: Breakdown of proposed support programs

There are several additional considerations of note outlined below:

1. *Larger Bins*

   Consideration will need to be made in relation to providing larger landfill bins for some residents. If Council supported purchasing these, then this cost would need to be factored in to the upfront costs. The City of Holdfast Bay has taken the line of providing larger bins for those that require it for a period of twelve months and then reviewing the ongoing needs and requirements of this.

2. *Option to retrofit bins with RFID (Radio Frequency Identification Device)*

   RFID placed onto bins enables more accurate data on weights per bin to improve monitoring. Also useful for other issues and missed bins, contamination in bins etc. There is additional work required to determine whether the RFID method or other methods available would be beneficial for Council to improve data collection and bin identification as well as the number of bins that are at the end of their useful life. As a guide, the cost to retrofit Council's is in the order of $276,000 for all bins.

Council has currently allocated $120,000 from the Climate Solutions Fund towards potential implementation of a project in the 2022/2023 budget. Due to the potential savings to be generated, Council could potentially use these funds to fund the upfront costs or alternatively look to put this money towards improving the bin identification systems (RFID or similar type of system).

There are many potential benefits to be gained from such a system, however this level of change is a significant project requiring a reasonable amount of Staff time and financial resources to ensure it is done successfully and accepted by residents.

Administration and logistics

Types of upfront work required would include, however not limited to:

- Develop promotional campaign and materials
- Develop FAQs
- Review Waste Management Policy
- Develop new collection routes/methods of collection/non collection
- Determine criteria and systems for opt-out, bin upsizes etc
- Review 2nd bin permit system (and existing permit allocation)
- Overall logistics and communications to ensure success.

Whilst there is support to investigate alternative service collection options within the Community, this needs to be tested and any specific issues worked through for the Campbelltown Community prior to any major service change decisions being undertaken by Council. Keeping residents involved and bringing them along is critical if such a proposal is going to be successful.

The following is suggested as the next steps to progress this based on the outcomes of this report and conversations with the City of Holdfast Bay:

1. Continue to review and monitor outcomes of the City of Holdfast Bay rollout
2. Propose to trial this approach in one suburb first
3. Timing of a trial to ensure the new Council is supportive and well informed due to high level of Community engagement and promotions that will be associated with the project.
4. Sufficient time to dedicate resources required to organise and implement the trial.

Based on items 1-4, it is recommended that Staff further develop and cost out a detailed proposal for an opt-out weekly green organics trial, including detailed communications and implementation plan for Council's consideration in early 2023.

Social Implications

There are no social implications in relation to this report.

Environmental / Climate Change Implications

The project proposal aims to address the barriers that still exist in relation to diverting food organics from landfill. Increasing diversion from landfill will decrease the amount of waste created and the amount of greenhouse gases created. This supports key outcomes in Council's Environment Plan and Climate Solutions Strategy.

Asset Management Implications

There would be potential implications to kerbside bin assets if Council retrofitted these with RFID, however this would be subject to the outcomes of further investigation into the different approaches and technology available.

Governance / Risk Management

There are no governance / risk management implications in relation to this report.

Community Engagement

There are no Community engagement implications in relation to this report.

Regional Implications

There are no regional implications in relation to this report.

Economic Development Implications

There are no economic development implications in relation to this report.

Financial Implications

It is anticipated that the report on a potential trial that will be considered by Council in early 2023, will detail the costs associated with the proposal and whether additional funds are required.

Recommendation

That the report be noted and Staff further develop and cost a detailed proposal for an opt-out weekly green organics trial, including detailed communication and implementation plan for Council's consideration.

KESAB environmental solutions

REPORT

Campbelltown City Council

Development of a Business Case for options to improve the Food and Green Organics Collection diversion in the City of Campbelltown

August 2022

City of Campbelltown

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Document Verification

Date	Version	Title	Prepared by	Reviewed by	Approved by
3/7/2022	V1	Development of a Business Case for options to improve the Food and Green Organics Collection diversion in the City of Campbelltown	Chris Brideson	Eloise Quihampton	Wendy Bevan
10/7/2022	V2	Development of a Business Case for options to improve the Food and Green Organics Collection diversion in the City of Campbelltown	Chris Brideson	Rachael Hamilton	Wendy Bevan
02/08/2022	Final	Development of a Business Case for options to improve the Food and Green Organics Collection diversion in the City of Campbelltown	Chris Brideson	Eloise Quihampton	Wendy Bevan

1. Introduction

KESAB *environmental solutions* have been engaged by the City of Campbelltown to develop a business case for viable options to improve kerbside collection services such that there is an increased level of food organics and green (garden) organics (FOGO) diverted from landfill.

This work involved a review of existing literature and relevant projects/trials that have identified collection options for improved diversion from landfill of compostable organics.

In addition to reviewing the work done by others, a number of related activities undertaken by Campbelltown City Council, including observational bin audits and community survey, were also assessed.

This report provides a summary of trials undertaken and outcomes achieved. It also includes several recommended options for consideration by Council, to achieve a step change improvement in the diversion of food organics, green organics and other compostable organics from landfill.

KESAB acknowledges the contribution made to this review by the Cities of Holdfast Bay, West Torrens and Unley through their willingness to share data and information resulting from their individual trials.

2. Background

Kerbside audits in recent years have shown that on average across Councils in Metropolitan Adelaide, the percentage of organic material in general waste bins ranges between 40% and 45%. This is a significant opportunity for diversion from landfill, and the focus of efforts by Councils to achieve an improvement.

The City of Campbelltown first implemented an opt-in food organics collection service to residents in 2013, followed by a full roll-out to the remaining residents in late 2020. The service provides each household with a kitchen caddy (food scraps collection container) and an annual roll of 150 compostable liner bags.

Council staff have undertaken snapshot bin inspections of random streets to provide a measure of the level of uptake of the new service, and most recently also undertook a community survey of the food waste collection service. The survey also canvassed the concept of alternative future service options with residents.

A significant proportion of Campbelltown residents enthusiastically support the food waste collection system; however, many are still not using it, with one of the major barriers being the current fortnightly collection of their green organics bin. Residents have concerns around odours and potential vermin resulting from food waste sitting in the bin for up to two weeks.

South Australian legislation currently requires weekly collection of the landfill bin in metropolitan areas, so the concept of swapping the current fortnightly organics bin with the weekly residual waste/landfill bin at present has a legislative barrier.

In response to this bin collection frequency issue, several Adelaide metropolitan Councils have been trialling alternative service models for FOGO collections in their areas. Each of the Councils have taken slightly different approaches to their individual trials, and this report provides a summary of these outcomes.

The Councils who have undertaken significant trials are:

- City of Holdfast Bay
- City of West Torrens
- City of Unley

City of Holdfast Bay recently declared their trial a success and with the endorsement of the State Government propose to permanently move to a weekly FOGO bin collection, and fortnightly general waste bin collection. No legislative change is seen as necessary because residents can opt-out of the fortnightly general waste collection and revert back to a weekly collection if they wish.

3. City of Campbelltown Programs

Since 2015 City of Campbelltown have undertaken a number of programs, campaigns and surveys to better understand details of the household kerbside waste and recycling collection systems, and identify potential opportunities for improvement, particularly involving diversion of food waste and other compostable materials from general waste to the FOGO bin.

- **Bin Tagging 2015**
  In mid-2015 a program of fortnightly inspections of general waste and organics bins was undertaken for eight weeks in two target areas. Each bin was inspected four times, and the bins left with tags identifying contaminants to help educate residents.
  The program increased awareness that food scraps can/should go to the FOGO bin, and achieved an increase of FOGO bins containing food – 35% of inspected bins against a baseline of 7%.

- **Bin Tagging 2019**
  The inspection and tagging of kerbside general waste and organics bins underwent another round during October and November 2019 at 121 households.
  On this occasion there was a further 5% increase in FOGO bins containing food by the third inspection, and a noted decrease in the presence of food in the general waste bin from the first to third inspection.

- **Household Bin Audit 2019**
  This audit was undertaken by East Waste and involved general waste and organics bins from 100 households. Auditing included a breakdown of food waste into edible/non-edible, type of packaging and type of food. The overall report findings suggested that a large number of households were using the compostable bags to collect food scraps for the FOGO bin.

- **Kitchen Caddy and Liner Distribution 2020**
  As a follow on from the previous opt-in system for receipt of a kitchen caddy and liner bags, and with the assistance of a Green Industries SA Grant, a Council-wide distribution of kitchen caddies and liners was undertaken, followed by a review of household food scrap recycling.

  Overall, there was a continuing improvement in the use of the caddies and liners to correctly dispose of food in the FOGO bin, but the review report did note that further education about use of the organics bin would support the ongoing success of the kitchen caddy rollout.

- **Compostable Produce Bag Trial 2021**
  Several local supermarkets and grocery stores trialled the use of compostable produce bags alongside the regular plastic bags. Although acceptable to consumers, the cost of compostable bags was identified as a barrier at the time to continued use after the trial. The trial had good community support, with 65% of surveyed customers willing to pay 5c to 10c for the compostable bag.

  In addition, the trial generated interest from other local businesses interested in their possible involvement with something similar. Council is now implementing an expanded version of this trial with local supermarkets in the Council area to help them transition to compostable bags collectively.

- **Food Waste Solutions Community Survey 2021**
  During early November 2021, Council Staff undertook a survey to assess the community support for different waste service models, specifically in relation to food waste. The consultation received a good response from all suburbs and age groups.

Some of the feedback about food waste disposal included:

- ✓ Using a home compost system,
- ✓ Not convenient to separate waste,
- ✓ 82% of respondents use the kitchen caddy, and
- ✓ Where the caddy was not used, the most common reasons were problems with ants, flies or other insects, or concerns about possible smell.

Nevertheless, there was a high level of support for Council trials to explore alternative bin collection options:

- ✓ 85% support for weekly FOGO bin collection,
- ✓ 75% support for weekly FOGO bin collection at an extra cost, and
- ✓ 81% support to swap the frequency of FOGO bin and general waste bin collection

4. Industry FOGO Trials Undertaken

A number of pilots and trials around food waste collection have been held across the waste industry, and several of these are detailed below. A table of outcomes is included at the end of each section, with a comparative summary table at Section 4.6.

4.1 City of Holdfast Bay

The City of Holdfast Bay undertook a pilot with weekly collection of FOGO bins and fortnightly collection of general waste and recycling, with the pilot being split into two different parts:

- Opt In
  Approximately 3200 households of mixed demographic across several suburbs were given the opportunity to opt-in and participate in the pilot. Around 800 households (25% of those eligible) joined in the pilot, which ran for 12 months from September 2020 to October 2021.

- Opt Out
  Commencing in mid-2021, approximately 300 households from a small area were all included in an alternative model that required them to opt-out if they did not wish to participate in the new collection regime. About 88% of the households remained in the pilot.

  Both the alternatives had a similar range of flexibility and supporting measures to involve and educate the community:
  - ✓ Flexibility for households with specific needs (nappies / personal health) to request a larger bin for either general waste or recycling,
  - ✓ Welcome pack with letter from the Mayor and explanation of the service and benefits,
  - ✓ Kitchen caddy and liner bags,
  - ✓ Stickers for both general waste and organics bins,
  - ✓ Collection calendar,
  - ✓ Weekly FOGO community events (“Compost and Coffee” and “FOGO Bingo”, and
  - ✓ Regular updates on progress of the trial.

  The outcome from the overall pilot program was a conclusion that the Opt Out model of weekly FOGO and fortnightly general waste and recycling, with appropriate supporting measures and flexibility options would be successful if implemented permanently in City of Holdfast Bay.

Table 1: City of Holdfast Bay Weekly FOGO Pilot - Opt In

	Fortnight Organics	Weekly Organics	Difference	
	kg/hh/wk	kg/hh/wk	kg	%
Landfill Bin	6.4 kg	3.4 kg	- 3.0 kg	- 47%
Food in Landfill	1.6 kg	0.4 kg	- 1.2 kg	- 75%
Organics Bin	5.9 kg	13.5 kg	+ 7.6 kg	+ 128%
Food in Organics	0.7 kg	2.1 kg	+ 1.4 kg	+ 200%

Table 2: City of Holdfast Bay Weekly FOGO Pilot - Opt Out

	Fortnight Organics	Weekly Organics	Difference	
	kg/hh/wk	kg/hh/wk	kg	%
Landfill Bin	6.4 kg	3.9 kg	- 2.5 kg	- 39%
Food in Landfill	1.6 kg	0.7 kg	- 0.9 kg	- 56%
Organics Bin	5.9 kg	9.6 kg	+ 3.7 kg	+ 63%
Food in Organics	0.7 kg	1.6 kg	+ 0.9 kg	+ 129%

4.2 City of West Torrens

City of West Torrens undertook a trial of weekly green organics collection over a period of twelve months from February 2021 to February 2022. The trial was offered to 750 households in the West Beach area on an opt-in basis. 298 households replied positively and participated in the program.

A number of bin audits were undertaken by KESAB *environmental solutions* before, during and after the trial for both trial registered households and non-trial households. These audits were supplemented by a series of visual bin inspections to help validate the overall outcomes.

The audit results indicated no observable difference for non-trial households with baseline data before the trial began. This particular result indicated that there was no 'spill over' effect from the trial to non-trial homes.

For the trial homes audited, the results were very positive with the percentage weight and volume of food placed in the organics bin more than tripled.

Support during the trial was provided to participating households through:

- ✓ Welcome pack and stickers for bins
- ✓ Kitchen caddy and liner bags
- ✓ Resident survey

A survey of participating residents after the trial resulted in 82% reporting a "great experience during the trial", with 70% supporting a switch to fortnightly general waste and weekly organics collections.

Table 3: City of West Torrens Kerbside Organics Bin Opt In

	Fortnight Organics kg/hh/wk	Weekly Organics kg/hh/wk	Difference kg	Difference %
Landfill Bin	8.8 kg	5.7 kg	- 3.1 kg	- 35%
Food in Landfill	3.1 kg	2.1 kg	- 1.0 kg	- 32%
Organics Bin	11.2 kg	16.0 kg	+ 4.8 kg	+ 43%
Food in Organics	0.45 kg	1.95 kg	+ 1.5 kg	+ 330%

4.3 City of Unley – Going Green in Goodwood

City of Unley conducted a six-month trial of 522 households in the Goodwood area – "Going Green in Goodwood". All households in the target area were automatically moved to the changed service model, with no official opt-out option, but both general waste and organics bins could be put out for weekly collection if desired.

Support and promotion for the trial consisted of:

- ✓ Welcome pack - letter from the Mayor / FAQ sheet / green bin sticker / collection calendar
- ✓ Kitchen caddy and liner bags
- ✓ Face to face – 46% of participating households had direct contact
- ✓ City of Unley Facebook posts
- ✓ Community event at end of trial
- ✓ Bin inspections

From the overall trial area, 40% of households presented their organics bins on the extra collection week, i.e., weekly collection, but only 14% did not present a general waste bin. Despite this relatively low participation in the strict change, the average weight of material in landfill bins decreased during the trial.

Table 4: City of Unley - Going Green in Goodwood

	Fortnight Organics kg/hh/wk	Weekly Organics kg/hh/wk	Difference kg	Difference %
Landfill Bin	8.4 kg	6.6 kg	- 1.8 kg	- 21%
Food in Landfill	2.6 kg	1.7 kg	- 0.9 kg	- 35%
Organics Bin	13.1 kg	14.1 kg	+ 1.0 kg	+ 8%
Food in Organics	1.3 kg	2.4 kg	+ 1.1 kg	+ 85%

4.4 City of Unley – Take the Pledge

For several years City of Unley has been canvassing residents to join their "Take the Pledge' program. This involves residents 'pledging' to recycle everything they can and/or put all food scraps in the organics bin. When the program commenced, participating households were provided with a kitchen caddy and liners, but Council has subsequently completed a Council wide roll-out of kitchen caddies and liners. The scheme does not involve any change to the normal kerbside collection service levels of weekly general waste and fortnightly recyclables and organics.

By June 30, 2021 there were just under 1,800 households participating in the scheme, which is supported by:

- ✓ Welcome letter with stickers for the recycling and organics bins,
- ✓ Kitchen caddy and liner bags,
- ✓ Community displays,
- ✓ Bin inspections / follow up letter to residents for incorrect bin use,
- ✓ Prizes for correct bin use, and
- ✓ Regular newsletter with progress reported.

Table 5: City of Unley – Take the Pledge

	Non-Pledge (2019) kg/hh/wk	Pledge (2018) kg/hh/wk	Difference	
			kg	%
Landfill Bin	6.6 kg	6.3 kg	- 0.3 kg	- 5%
Food in Landfill	2.7 kg	2.0 kg	- 0.7 kg	- 26%
Organics Bin	8.4 kg	9.0 kg	+ 0.6 kg	+ 7%
Food in Organics	0.9 kg	1.0 kg	+ 0.1 kg	+ 11%

4.5 UK WRAP

The UK Waste and Resources Action Programme (WRAP) undertook a number of pilot trials with 11 local authorities between 2013 and 2015 to identify cost-effective solutions aimed at increasing the diversion of food waste for recycling. The solutions were designed to help address some of the main barriers that residents cited as reasons for their non participation in the existing system.

WRAP then provided further support in 2018 and 2019 to local authorities to implement a package of the most successful solutions, identified as the following:

- ✓ Free supply of liners,
- ✓ Redesigned information leaflet,
- ✓ General waste bin stickers – don't deposit food waste,
- ✓ Kitchen caddy stickers – identify suitable types of food waste,
- ✓ Door to door personal engagement with residents, and
- ✓ Redesigned kitchen caddy for small kitchens in flats – attach to inside of cupboard door.

The greatest increase of diverted food waste tonnage, as measured from regular audits, came from those areas where general waste bin stickers were provided. The most effective 'package'

of solutions (liners, residual bin sticker and information leaflet) saw an average increase of 32% in weight of food waste diverted.

The WRAP 'Household Food Waste Collections Guide' specifically notes that …" communications materials on their own are unlikely to address key infrastructural barriers faced by residents…"

Table 6: UK WRAP – Various Programs

	Pre-Program	Post program	Difference	
	kg/hh/wk	kg/hh/wk	kg	%
Landfill Bin	N/A	N/A		
Food in Landfill			- 0.4 kg	N/A
Organics Bin	N/A	N/A		
Food in Organics			+ 0.3 kg	N/A

4.6 Summary of Trials

The opt-in approach at both Holdfast Bay and West Torrens resulted in a slightly higher diversion of FOGO from landfill, but opt-out is seen as the better overall option in terms of maximising participation from the start. This service model is expected to yield better diversion rates when implemented over a longer time period (opt-out trial was only 5 months). The opt-out has also shown to result in a smaller number of households requiring the original weekly general waste collection, compared with the opt-in model.

The option of a larger (240L) general waste bin for residents requiring it, e.g., nappies, large households or medical/personal health needs, should also reduce the number opting-out and help maximise participation.

Table 7: Summary of FOGO Trial Outcomes

Project	Timeline	Food to landfill		Food in FOGO	
		kg/hh/wk	%	kg/hh/wk	%
City of Holdfast Bay Weekly FOGO Pilot Opt-in	12 months	- 1.2 kg	- 75%	+ 1.4 kg	+ 200%
City of Holdfast Bay Weekly FOGO Pilot Opt-out	4 – 5 months	- 0.9 kg	- 56%	+ 0.9 kg	+ 129%
City of West Torrens Organic Bin Trial Opt-in	12 months	- 1.0 kg	- 32%	+ 1.5 kg	+ 330%

City of Unley **Going Green in Goodwood**	6 months	- 0.9 kg	- 35%	+ 1.1 kg	+85%
City of Unley **Take the Pledge**	Ongoing	- 0.7 kg	- 26%	+ 0.1 kg	+ 11%
UK WRAP **Various Projects**	3 months	- 0.4 kg	N/A	+ 0.3 kg	N/A

5. Support Programs

There are various programs and activities that are designed to support any service change, and should be considered for implementation as part of an overall strategy.

5.1 Welcome Pack

The Welcome Pack is an essential item to help kick-start any service level change program. It will generally include as a minimum a welcome letter (from the Mayor), explanatory pamphlet, bin stickers and a collection calendar.

- The cost of a Welcome Pack could range from around $2 upwards, depending on the contents and distribution. Estimate $35,000 if using volunteer deliveries.

5.2 Audits

A physical audit of the general waste and organics bins is essential to fully understand the progress and success of any FOGO service change.

A base reference audit of at least 100 general waste and 100 organics bins from the same residences should be undertaken prior to launching a change, followed by a second audit 12 months later

- A detailed audit of 200 bins, completed in a week has an estimated cost of $20,000 to $25,000

5.3 Bin Tagging

This involves a physical inspection of the bins with some form of tag or sticker applied, indicating correct use ‘happy tag’, or ‘sad tag’ to show incorrect use. The tag should also include additional information about how to improve the bin use.

Tagging is more about conveying information to residents and encouraging behaviour change, and the success of bin tagging cannot be easily measured in the same way as other trials as there is generally no audit involved.

5.4 Door Stepping

Door Stepping provides the opportunity for a face-to-face conversation with residents and has been successful in clarifying recycling of trickier items, and helping people understand the range of compostable wastes suitable for disposal in the FOGO bin.

It is most effective when undertaken at the same time as a bin inspection and tagging at the household, because it provides an opportunity to answer questions, and clarify any issues that the tag may raise.

Both Bin Tagging and Door Stepping are quite labour intensive and hence relatively high-cost support activities, although an effective mechanism to reinforce appropriate behaviour change.

- As an estimate, allow $5 per bin for inspection/tagging and $15 per Door Stepping visit.

5.5 Community Events

A wide range of face-to-face community engagement events have been used to support waste service changes. These have ranged from community displays in the local library to morning coffee sessions, and even 'food waste bingo'.

These events provide the opportunity for Council staff to engage with residents who may not seek information independently, and also communicate with those for whom English is a second language.

- A budget of around $10,000 to $20,000 should provide for a reasonable level of additional community engagement, including communication and events. This is particularly the case in a Council that has already established a level of community awareness through kitchen caddy distribution and the associated education campaign.

5.6 Radio Frequency Identification Devices (RFID)

A further program support item that should be considered by Council is to retrofit a radio frequency identification device (RFID) to all bins, at an estimated cost of $4 per bin (based on a large-scale campaign).

RFIDs in kerbside domestic bins will allow for household bin weights to be collected, and provide data specifically on the transfer of compostables from the general waste to organics bin.

In addition, the RFID can be used in conjunction with an in-vehicle data management system to track various collection related information such as missed services, damaged bins, and contamination.

- The estimated cost to retrofit an RFID to all of Council's household bins is $276,000, ($92K for each of general waste, recyclables and organics)

5.7 Support Program Summary

Depending on the level of support to be provided, the cost of Support Programs could range from around $100K for Council wide welcome packs, two audits and community engagement, with up to an additional $50K if 2,300 households (10% Council area) were also visited for bin inspections and door stepping.

6. Service Options

The three service options listed below are provided for consideration by Council. The main difference between the OPT-OUT and FOGO FOR ALL options is that East Waste will still be required to run a general waste collection truck on the alternative weeks, under OPT-OUT to service those who have opted out of the fortnight collection. It is important to note however that under the current Environment Protection (Waste to Resources) Policy 2010, General waste management obligations—Part 3, Unlawful disposal of waste—Division 1, "a metropolitan council must provide a weekly general kerbside waste collection service (other than for recyclable waste or vegetative matter) in respect of residential premises within its area". A fully FOGO FOR ALL without at least the option of a weekly general waste collection will therefore require legislative change.

Costing Assumptions

- Full roll out over 23,000 households across Campbelltown LGA at the same time. (See Option 4 below for alternative staged roll out.
- Participation of 80% across the Council area.
- organics diversion from landfill 1.3kg/hh/wk
- landfill disposal $200/tonne
- organics processing $40/tonne.

1. OPT-OUT

- Weekly FOGO / Fortnight general waste / Fortnight recycling collections across Council
- Option for household to opt-out and take weekly general waste (assume 12% to 15% opt out)
  - **Annual Collection Cost:** **$2.523 mill** (East Waste cost to collect all bins)
  - **Saving from Landfill diversion:** **- $220K pa** (includes gate fee + waste levy)
  - **Cost of Organics Processing:** **+ $44K pa** (additional processing cost)
  - **Support Programs** **$100K - $150K** (Council wide roll-out)

2. FOGO FOR ALL

- Weekly FOGO / Fortnight general waste / Fortnight recycling collections across Council
- Option for larger (240L) general waste if required
  - **Annual Collection Cost:** **$2.470 mill** (East Waste cost to collect all bins)
  - **Saving from Landfill diversion:** **- $250K pa** (includes gate fee + waste levy)
  - **Cost of Organics Processing:** **+ $50K pa** (additional processing cost)
  - **Support Programs** **$100K - $150K** (Council wide roll-out)

3. NO CHANGE

- Weekly general waste / Fortnight FOGO / Fortnight recycling
- Business as usual
  - **Annual Collection Cost**: **$2.441 mill** (East Waste cost to collect all bins)

4. STAGED ROLL OUT

For either OPT-OUT or FOGO FOR ALL, an alternative option would be to introduce the changes on a staged basis over three years. This would involve the Council area being divided into three discrete collection zones (East Waste suggest basing this on individual collection days), with the changes being introduced progressively across the three zones; one each year.

Under this scenario, the estimated annual costs across the three-year transition period are shown in Table 8 below.

Table 8: Annual Costs for Staged Roll Out

	Year 1		Year 2		Year 3	
	Opt Out	All	Opt Out	All	Opt Out	All
Annual Collection	$2.468 mill	$2.451	$2.495 mill	$2.460	$2.523 mill	$2.470
Landfill Savings	- $75K	- $85K	- $150K	- $170K	- $220K	- $250K
Organics Processing	+ $15K	+ $17K	+ $29K	+ $34K	+ $44K	+ $50

7. Benefits

There are a number of benefits that would be expected if City of Campbelltown moved all households to weekly FOGO, fortnight general waste and recycling kerbside collections, supported by some flexibility in bin size availability and appropriate communication programs. These benefits could be summarised as:

- ✓ A reduction of food waste to landfill of 1,550 tonnes per annum (assume 1.3 kg/hh/wk) and an equivalent increase in FOGO to composting.
- ✓ An increase in diversion from landfill
- ✓ A reduction in the solid waste levy payment for landfill disposal
- ✓ Nett saving in landfill/processing costs of from $180,000 to $200,000 (est)
- ✓ Reduced greenhouse gas emission by an estimated 800 tonnes per annum due to the diversion of food waste from landfill. (641 kg of CO_2 eq emission/tonne food waste diverted)

8. Conclusion

Providing Service Option 1, 'Opt-Out', incurs relatively minimal extra cost when compared to the current service model. It can be expected that some residents who initially 'opt-out', will choose to participate in the new service model over time, resulting in fewer landfill bins being collected weekly.

Besides the potential cost savings of diverting organic material from landfill, the considerable environmental benefits should be considered.

The related support programs mentioned in this report involve an upfront cost and are not included in the service option costing. They will, however, provide important support to residents and ensure the success of transitioning to an alternative service model.

Permanent fortnightly landfill collection (without the opt-out option) would require legislative change. This change would eliminate the requirement to provide a weekly landfill service for residents wanting to opt-out, resulting in savings for Council.

In the context of South Australia's Climate Change Strategy, Council can show leadership by choosing a service model that benefits both residents and the environment.

9. References

Keane B and Rawson M (201) *City of Holdfast Bay Weekly FOGO Pilot Summary: Final Report December 2021,* Rawtec, Adelaide

Hendrix J (2002) *Food Organics Trial – Audit Report: City of West Torrens February 2022,* KESAB Environmental Solutions, Adelaide

Prossor K (2021) *Goodwood Trial – Final Report: City of Unley July 2021,* KESAB Environmental Solutions, Adelaide

https://wrap.org.uk/resources/guide/household-food-waste-collections-guide

11.6 Chief Executive Officer's Performance Review

AM Consulting on behalf of the CEO Performance Management Panel, Ms Allison Ashby's Report

Purpose of Report

To present the findings of the CEO (Chief Executive Officer's) Performance Review for the year ending 31 May 2022.

Strategic Plan Link

Focus Area 5.1.2 Support Elected Members and Committee Members to undertake their legislative functions

Previous Council/Committee Resolution

Nil.

Background

In accordance with Section 17 of the Employment Agreement between Campbelltown City Council and the CEO, Mr Paul Di Iulio, a CEO Performance Management Panel was formed comprising Cr Casciano as Chair, Cr Flynn and Cr Kennedy and an Independent Consultant, Ms Allison Ashby of AM Consulting. Ms Ashby will attend the meeting to present the findings.

In accordance with the 'Performance Evaluation System' outlined in the agreement and under the facilitation of AM Consulting, a list of 35 KPIs (Key Performance Indicators) were compiled from the KRAs (Key Result Areas) described in Schedule 1 of the Employment Agreement. All Elected Members, the three General Managers, two Managers and three Staff were invited to rank each of these KPIs in accordance with the rating scheme outlined in the Employment Agreement, ranging from 1 for Did not meet Expectations to 5 for Exceeded Expectations.

All respondents were also provided with the ability to furnish commentary on their ratings, plus further general commentary.

Comments were also sought from five external people selected by the CEO Performance Panel and the Elected Members were also offered the opportunity of speaking with the Independent Consultant, Ms Ashby.

The results were compiled by AM Consulting into the CEO Performance Review Report dated June 2022, which forms an attachment to this report.

Discussion

As can be seen from the report, the CEO achieved a very good review with most of the KPIs being rated either Exceeded Expectations or Above Expectations. This has been summarised in the attached report whereby the Independent Consultant states that the CEO received a total Combined average score of 4.29 or 85.8% versus a self-assessment score of 4.06 or 81.1%. This result is another consistent result, and indicates that the 'participants to this survey believe the CEO is doing a good job and that the CEO has good self-awareness and is cognizant of the expectations of both the Staff and Elected Member group'.

The Panel further considered the matter of remuneration as described in Section 16 of the Employment Agreement. A salary benchmarking exercise was undertaken by AM Consulting which was provided to the Committee for their information. A copy of that report is also attached.

Social Implications

There are no social implications with affirming the results of the Performance Review.

Environmental / Climate Change Implications

There are no environmental implications with affirming the results of the Performance Review.

Asset Management Implications

There are no Asset Management implications with affirming the results of the Performance Review.

Governance / Risk Management

There are no risk management implications with affirming the results of the Performance Review. The only risk identified is the potential for the CEO to depart the organisation if he is not satisfied with his salary package or other work conditions.

Community Engagement

There are no Community engagement implications in relation to this report.

Regional Implications

There are no regional implications with affirming the results of the Performance Review.

Economic Development Implications

There are no economic development implications in relation to this report.

Financial Implications

There are no financial implications as the cost of the Performance Review can be accommodated from within the existing budget

Recommendation

That:

1. **Council receives this report and the Chief Executive Officer's Appraisal document prepared by AM Consulting**

2. **Council advises the Chief Executive Officer that his performance in the review period has achieved an Above Expectation result and that there are no performance deficiencies to be addressed**

3. **Council congratulates the Chief Executive Officer for achieving an Above Expectation result, thanks him for his contribution and recognises his 30 year contribution to the Council**

4. **Council notes that the Performance Management Panel will meet every quarter to provide the Chief Executive Officer with ongoing feedback**

5. **Council adjusts the base salary of the Chief Executive Officer by Adelaide CPI (6.4%), statutory superannuation as required by legislation and vehicle allowance of $12,000 making a total salary package of $333,666.71 backdated to 1 June 2022**

6. **in accordance with Clause 5 of the current Employment Agreement the Chief Executive Officer's contract be extended by a twelve (12) month period taking the expiry date of the contract to 31 May 2027.**

A|M
CONSULTING

CAMPBELLTOWN
CITY COUNCIL

CEO Performance Review - Paul Di Iulio

June 2022

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Overview

Campbelltown City Council asked AM Consulting to assist with the annual performance review of its Chief Executive Officer, Paul Di Iulio.

Campbelltown City Council sought feedback on the Chief Executive Officer's performance for the year 2021-2022. It also provided an opportunity to make suggestions as to the area(s) of focus for the forthcoming year.

A survey questionnaire was developed which consisted of 35 questions which could be answered using the scoring system of 1 to 5, and U where an answer was unable to be provided. The final 4 questions were answered by comments.

Scoring Scale:

1 - Did not meet Expectations
2 - Below Expectations
3 - Met Expectations
4 - Above Expectations
5 - Exceeded Expectations
U - Unable to Rate

The major headings were:

- Relationships with Council
- Community and Economic Development
- Operational Management
- Representation, Public Relations, and Relationships
- People and Culture
- Financial and Asset Management
- Personal Competencies

The CEO completed a self-assessment and Senior Staff and Elected Members were invited to participate. 20 surveys were distributed with 19 being returned, giving a 95% response rate.

Five External participants were spoken to by Allison Ashby from AM Consulting. Their comments are contained in Appendix 3 (page 40).

General Comments

Summary of results 2022 versus 2021 and 2020

	2022 score	2022 percentage score	2021 score	2021 percentage score	2020 score	2020 percentage score
Self-Assessment	4.06	81.1%	4.05	81.0%	4	80.0%
Staff	4.41	88.2%	4.12	82.4%	4.23	84.7%
Elected Members	4.22	84.4%	4.10	82.0%	3.97	79.4%
Combined	4.29	85.8%	4.10	82.0%	4.05	81.0%

Staff

- The CEO was rated a 5, the highest score, 125 times or 44.64% of the total scores; and a 4, 116 times or 41.43% of the total scores, which is 86.07% of all responses.
- The CEO was rated a 3 or below only 28 times or 10% of the total scores.
- There were 11, or 3.93% of questions that were scored “Unable to Comment”. See Table 2 for the graphical results.
- The highest Staff average score was 4.57 for Personal Competencies versus a self-assessment score of 4.20. The lowest average score was 4.23 for People and Culture. The self-assessment score for this category was a 4.00.
- The staff average score was greater than the self-assessment average score in all categories. Overall, the total staff average score was greater than the total self-assessment average score by 7.1%.
- The greatest difference was for Community and Economic Development where the self-assessment score was a 4.00 or 80% versus the staff average score of 4.54 or 90.8%, a difference of 4.6%.
- The participation rate of Staff in this survey was 88.89% which indicates that staff welcomed the opportunity to participate in the survey. The Staff’s average score of 88.2% is a very high score indicating that the CEO is respected for the job he is doing.
- Some participants chose to elaborate on their scoring by making comments. Some highlight those aspects that have gone well this past year and they also provided feedback and suggestions for the year ahead. All comments are contained in Appendix 1 (page 18).

Elected Members

- The CEO was rated a 5, the highest score, 191 times or 45.48% of the total scores; and a 4, 120 times or 28.57% of the total scores, which is 74.05% of all responses.

- Only 24.05% of the scores were a 3 or below with the CEO being rated a 3, 97 times or 23.10%.

- There were only 8 or 1.90% of questions that were scored "Unable to Comment". See Table 4 for the graphical results.

- The highest Elected Members average was 4.49 for Personal Competencies versus a self-assessment score of 4.20. The lowest average score was 4.06 for Representation, Public Relations and Relationships, and Community and Economic Development. The self-assessment score for both these categories was a 4.00.

- The Elected Members average score was greater than the self-assessment average score in all categories. Overall, the total Elected Members average score was greater than the total self-assessment average score by 3.20%.

- The greatest difference was 5.82% was for both Personal Competencies and Operational Management. The self-assessment score for Personal Competencies was a 4.20 or 84% versus the Elected Member average score of 4.49 or 89.82%, with the self-assessment score for Operational Management being a 4.00 or 80% versus the Elected Member average score of 4.29 or 85.82%.

- The participation rate of the Elected Members in this survey was again 100% which indicates that the Elected Members appreciate the importance of the CEO Performance Review and also welcomed the opportunity to participate.

- The total Elected Members' average score of 4.22 or 84.38% is again an improvement on last year's score. The self-assessment score of 81.14% indicates that the CEO has good self-awareness and is cognizant of the expectations of the Elected Member group.

- Again, some participants chose to elaborate on their scoring by making comments. Some highlight those aspects that have gone well this past year and they also provided feedback and suggestions for the year ahead. All comments are contained in Appendix 2 (page 28).

General Comments continued…

Combined

- Overall, the CEO was rated a 5, the highest score, 314 times or 47.22% of the total scores; and a 4, 203 times or 30.53% of the total scores, which is 77.74% of all responses.

- Only 19.4% of the scores were a 3 or below, with the CEO being rated a 3, 124 times or 18.65%.

- Overall, the number of "Unable to Comment" scores in this survey was 19 or 2.86% of all responses. See Table 6 for the graphical results.

- The highest combined average score was 4.52 for Personal Competencies versus a self-assessment score of 4.20. The lowest average score being 4.20 for Representation, Public Relations, and Relationships. The self-assessment score for this category was also 4.00.

- The combined average score was greater than the self-assessment average score in all categories. Overall, the total combined average score was greater than the total self-assessment average score by 4.63%.

- The greatest difference was for Personal Competencies where the self-assessment score was a 4.20 or 84% versus the combined average score of 4.52 or 90.44%, a difference of 6.44%.

- The combined average score of 85.77% versus the self-assessment score of 81.14% indicates that participants to this survey believe the CEO is doing a good job and that the CEO has good self-awareness and is cognizant of the expectations of both the Staff and the Elected Member group.

Self-Assessment versus Staff

TABLE 1: Average Response by Category

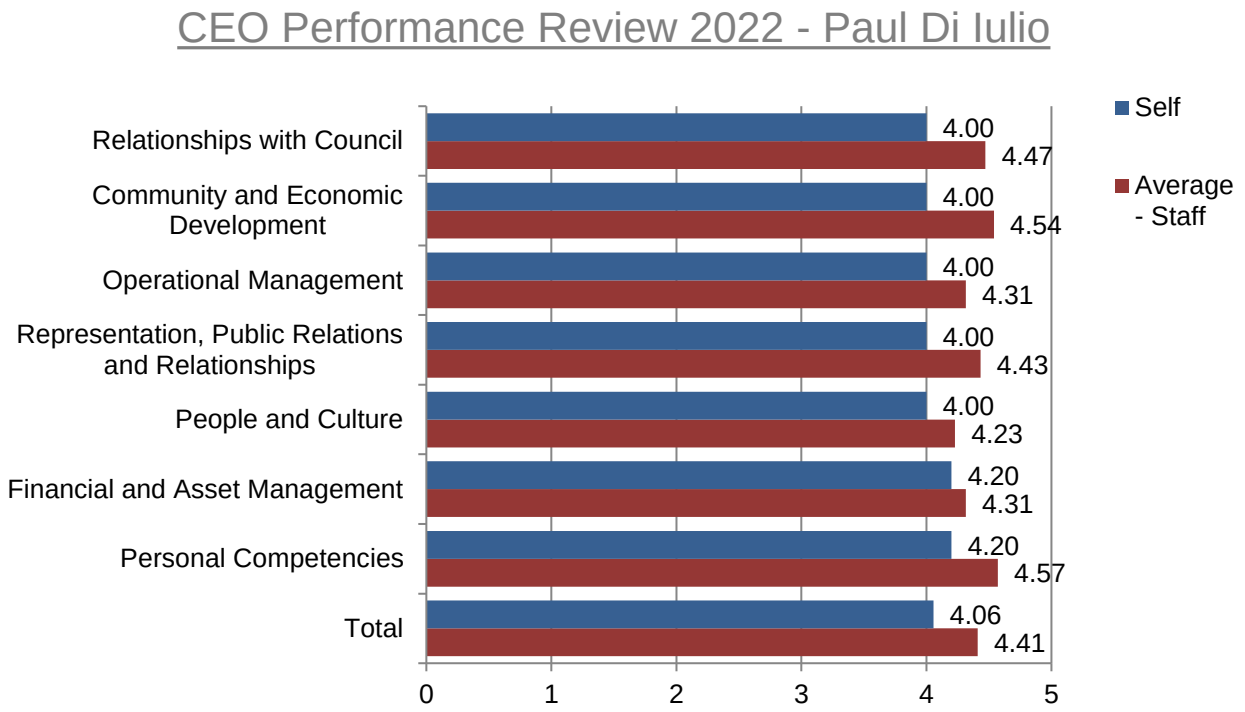
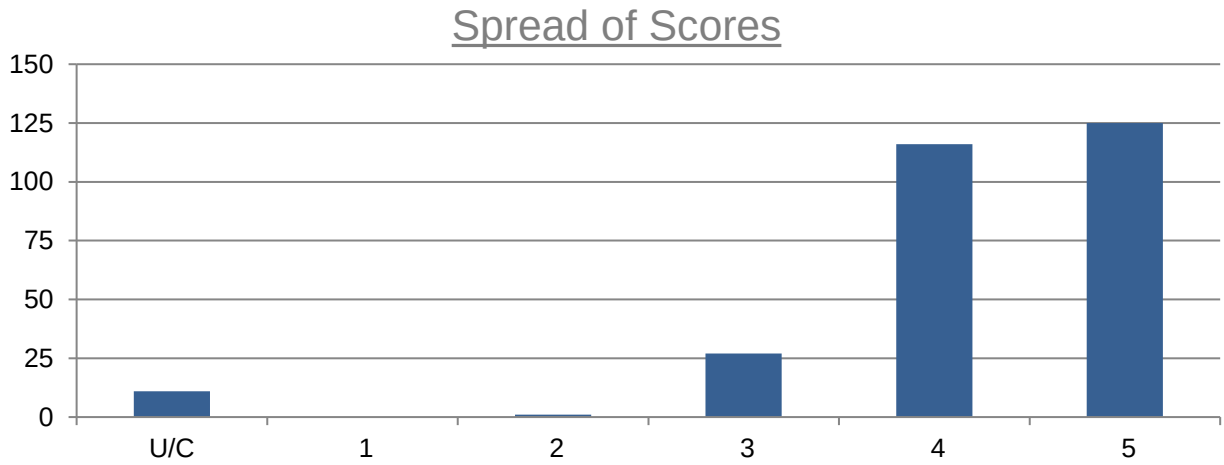


TABLE 2: Spread of Scores

Spread of Scores	**Total # of U/Cs**	**Total # of 1s**	**Total # of 2s**	**Total # of 3s**	**Total # of 4s**	**Total # of 5s**	**Total**
Spread of Scores	11	0	1	27	116	125	280
Spread of Scores %'s	3.93%	0.00%	0.36%	9.64%	41.43%	44.64%	100%



Self-Assessment versus Elected Members

TABLE 3: Average Response by Category

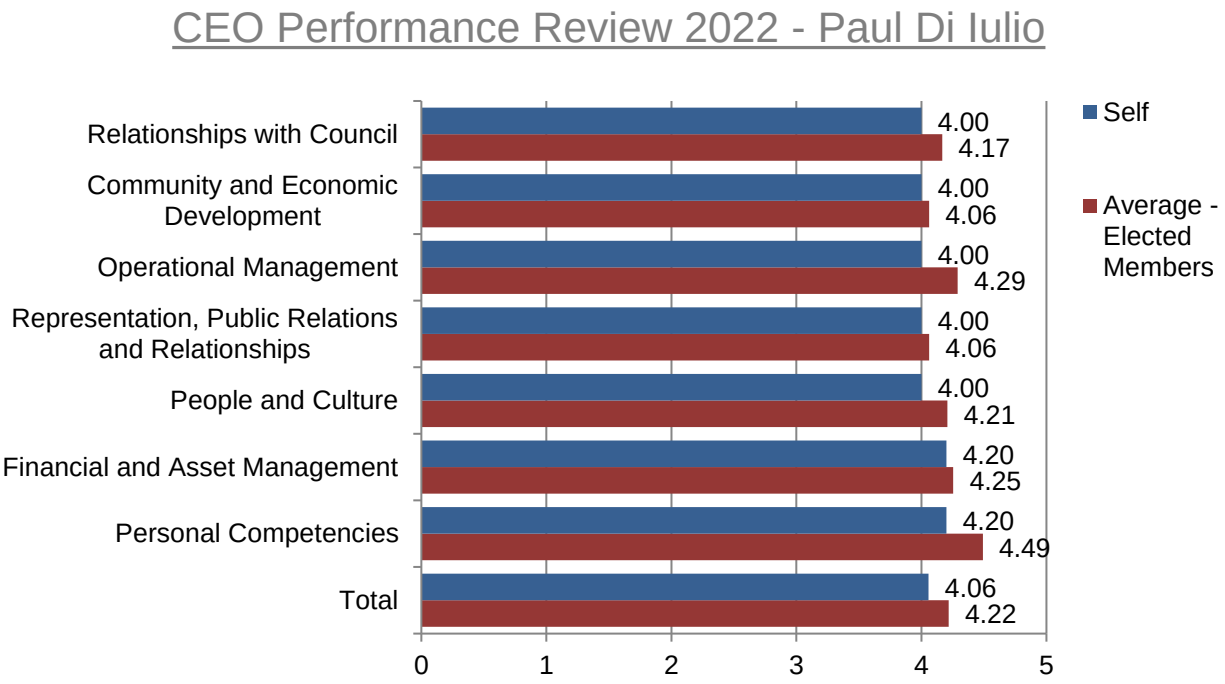
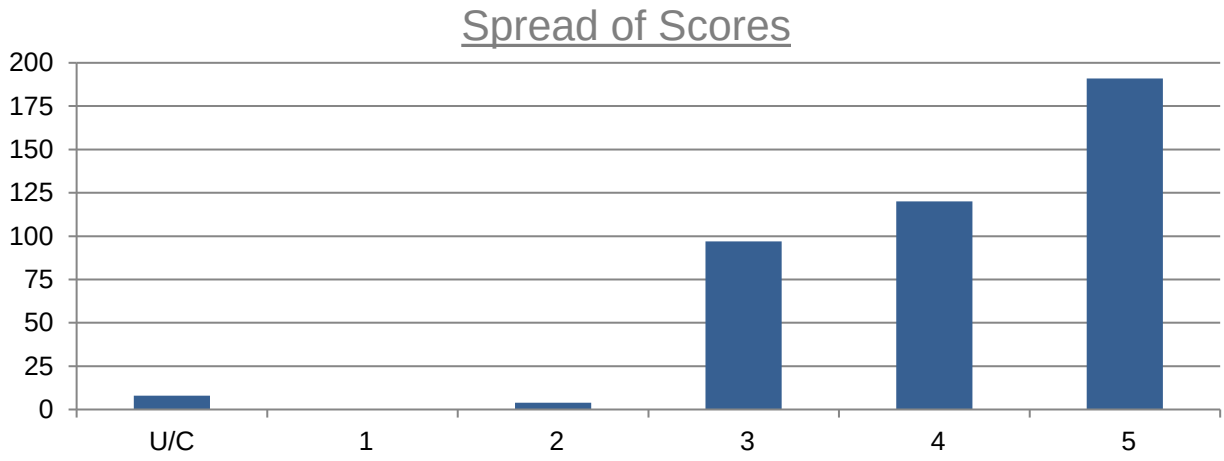


TABLE 4: Spread of Scores

Spread of Scores	**Total # of U/Cs**	**Total # of 1s**	**Total # of 2s**	**Total # of 3s**	**Total # of 4s**	**Total # of 5s**	**Total**
Spread of Scores	8	0	4	97	120	191	420
Spread of Scores %'s	1.90%	0.00%	0.95%	23.10%	28.57%	45.48%	100%



Self-Assessment versus Combined

TABLE 5: Average Response by Category

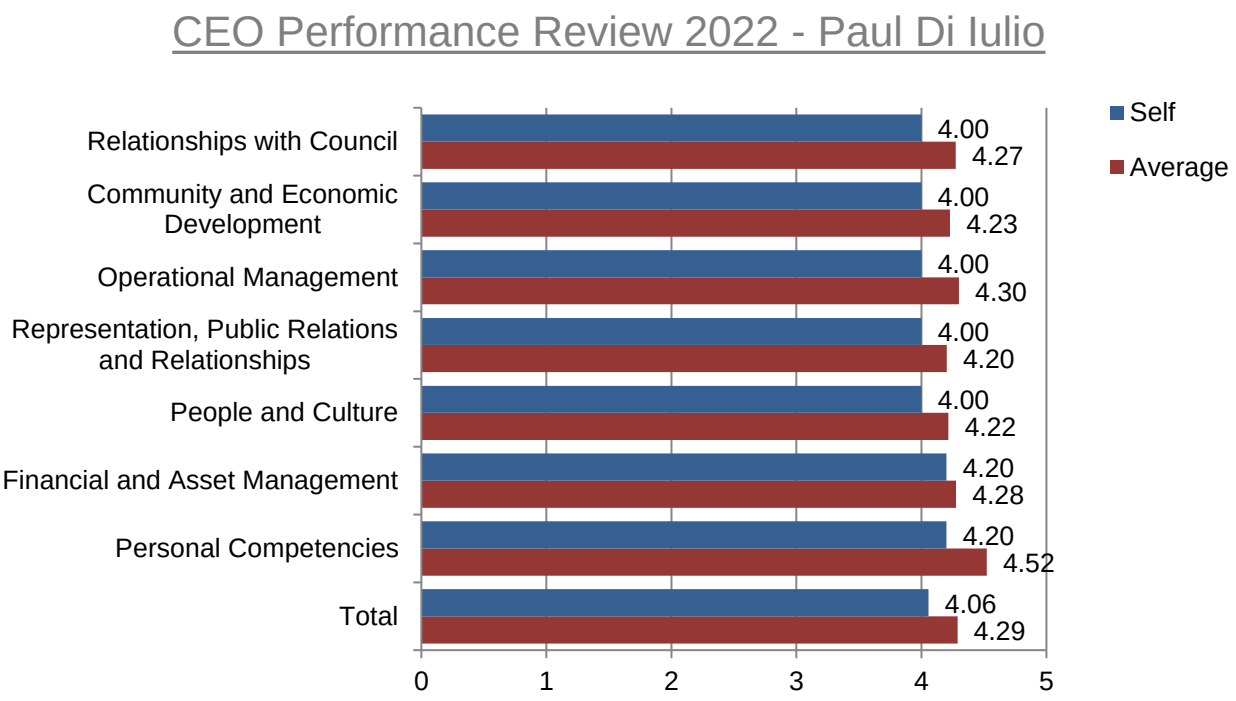
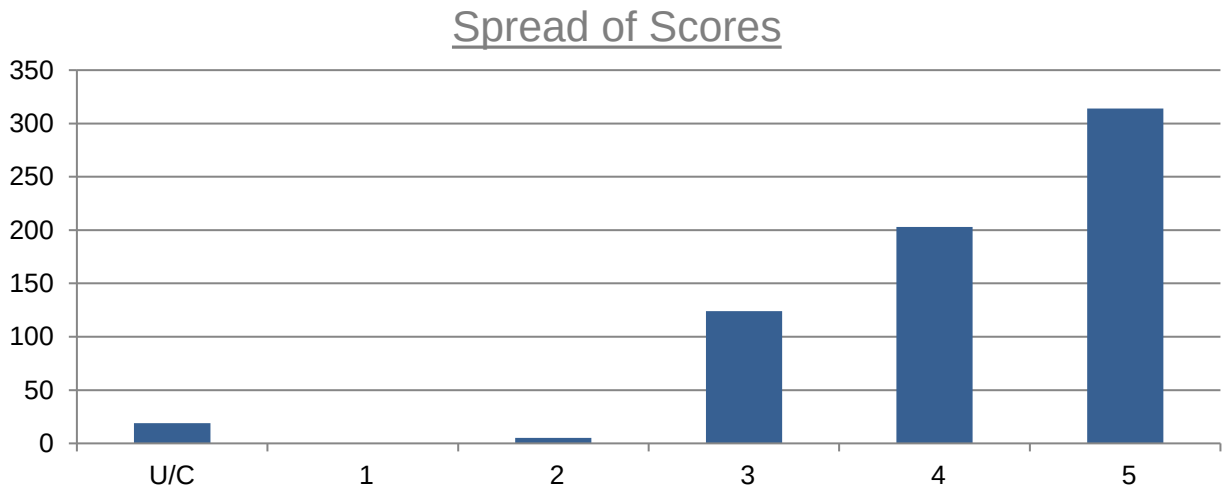


TABLE 6: Spread of Scores

Spread of Scores	**Total # of U/Cs**	**Total # of 1s**	**Total # of 2s**	**Total # of 3s**	**Total # of 4s**	**Total # of 5s**	**Total**
Spread of Scores	19	0	5	124	203	314	665
Spread of Scores %'s	2.86%	0.00%	0.75%	18.65%	30.53%	47.22%	100%



Results by KPI: Self-Assessment versus Staff and Elected Members

Heading	Question	Self-Assessment	Average Staff	Average Elected Members
Relationships with Council	**1.** The CEO establishes and maintains a climate of trust, confidence and teamwork with Council as well as fair and equal treatment of Council Members.	**4**	**4**	**4.09**
	2. The CEO keeps Council informed on all significant issues.	**4**	**4.83**	**4**
	3. The CEO provides concise and informative reports to Council with recommended actions which clearly identify financial and policy implications.	**4**	**4.33**	**4.18**
	4. The CEO supports Council Members in decision making role by providing good quality and timely information and direction.	**4**	**4.67**	**4.45**
	5. The CEO implements Council resolutions with speed and accuracy.	**4**	**4.17**	**4**
	6. The CEO works effectively with Council Members to develop a shared vision and plans for the future of Campbelltown City Council.	**4**	**4.83**	**4.27**
Community and Economic Development	**7.** The CEO develops positive responses to the environmental, social and cultural issues of strategic importance to the future development of the City.	**4**	**4.29**	**4.36**
	8. The CEO ensures the Community Engagement Strategy and Policy is effective and continually reviewed.	**4**	**4.33**	**3.82**
	9. The CEO identifies and pursues Economic Development initiatives to ensure the City continues to grow and prosper.	**4**	**5**	**4**

Results by KPI: Self-Assessment versus Staff and Elected Members cont'd...

Heading	Question	Self-Assessment	Average Staff	Average Elected Members
Operational Management	**10.** The CEO develops and implements strategic initiatives identified in Council's Strategic Plan and other strategic documentation.	**4**	**4.43**	**4.27**
	11. The CEO develops, maintains and implements a robust Governance Framework for the organisation.	**4**	**4.43**	**4.18**
	12. The CEO displays strong leadership and direction to the organisation while co-operative team relationships are developed and sustained.	**4**	**4.29**	**4.45**
	13. The CEO ensures policies and procedures are developed and implemented to enable Council directions to be met.	**4**	**4.29**	**4.18**
	14. The CEO ensures the efficient and effective management of the resources (human, financial, physical) of Council to ensure sustainable performance and high level of service delivery.	**4**	**4.14**	**4.36**
Representation, Public Relations and Relationships	**15.** The CEO builds and maintains strong and effective relationships with local key stakeholders.	**4**	**4.71**	**4.18**
	16. The CEO ensures Council's vision and strategy are communicated to all key stakeholders.	**4**	**4.50**	**3.80**
	17. The CEO creates and maintains productive and strategic relationships with all other levels of Government.	**4**	**4.57**	**4.36**
	18. The CEO actively participates and networks within the Local Government Sector.	**4**	**4.50**	**4.20**
	19. The CEO proactively grows Councils profile and promotes its positive image and achievements.	**4**	**4.14**	**3.82**
	20. The CEO ensures that Council's media liaison is timely, responsive and professional.	**4**	**4.17**	**4**

Results by KPI: Self-Assessment versus Staff and Elected Members cont'd...

Heading	Question	Self-Assessment	Average Staff	Average Elected Members
People and Culture	**21.** The CEO ensures the vision of the Council is communicated to and owned by staff.	**4**	**3.86**	**4.10**
	22. The CEO ensures the organisational structure is flexible and responsive to meet Councils goals and objectives whilst maintaining high service levels.	**4**	**4.29**	**4.27**
	23. The CEO leads Council's administration through effective coaching and mentoring.	**4**	**4.43**	**4**
	24. The CEO promotes an organisational culture that encourages employees to engage in continuous process improvement, greater productivity and professional development.	**4**	**4.29**	**4.22**
	25. The CEO ensures compliance with Equal Employment Opportunity and Work Health and Safety requirements throughout the organisation.	**4**	**4.29**	**4.44**
Financial and Asset Management	**26.** The CEO implements and reinforces long term financial management strategies for the Council.	**4**	**4.43**	**4.36**
	27. The CEO maintains sound financial and asset management practices.	**4**	**4.57**	**4.36**
	28. The CEO provides appropriate and accurate financial reports to Council, identifying significant variations and recommending actions which enable Council to make informed decisions.	**4**	**4.29**	**4.18**
	29. The CEO ensures the delivery or programs within budget targets and financial constraints, including grant funding opportunities.	**5**	**4.29**	**4.18**
	30. The CEO establishes and monitors risk management policies, procedures and programs.	**4**	**4**	**4.18**

Results by KPI: Self-Assessment versus Staff and Elected Members cont'd...

Heading	Question	Self-Assessment	Average Staff	Average Elected Members
Personal Competencies	**31.** The CEO displays high energy levels and a proactive approach to identifying and seizing opportunities.	**5**	**4.71**	**4.55**
	32. The CEO demonstrates adaptability, flexibility and resilience which enables personal performance and productivity levels to be maintained in stressful situations.	**4**	**4.57**	**4.45**
	33. The CEO displays strength of presence, with strong persuasive communication skills.	**4**	**4.57**	**4.55**
	34. The CEO gives evidence of consistent and effective problem solving and decision-making skills.	**4**	**4.43**	**4.36**
	35. The CEO demonstrated professional competence and commitment to the Council and Community.	**4**	**4.57**	**4.55**

Results by KPI: Self-Assessment versus Combined Respondents

Heading	Question	Self-Assessment	Average Respondents
Relationships with Council	**1.** The CEO establishes and maintains a climate of trust, confidence and teamwork with Council as well as fair and equal treatment of Council Members.	**4**	**4.06**
	2. The CEO keeps Council informed on all significant issues.	**4**	**4.29**
	3. The CEO provides concise and informative reports to Council with recommended actions which clearly identify financial and policy implications.	**4**	**4.24**
	4. The CEO supports Council Members in decision making role by providing good quality and timely information and direction.	**4**	**4.53**
	5. The CEO implements Council resolutions with speed and accuracy.	**4**	**4.06**
	6. The CEO works effectively with Council Members to develop a shared vision and plans for the future of Campbelltown City Council.	**4**	**4.47**
Community and Economic Development	**7.** The CEO develops positive responses to the environmental, social and cultural issues of strategic importance to the future development of the City.	**4**	**4.33**
	8. The CEO ensures the Community Engagement Strategy and Policy is effective and continually reviewed.	**4**	**4**
	9. The CEO identifies and pursues Economic Development initiatives to ensure the City continues to grow and prosper.	**4**	**4.35**

Results by KPI: Self-Assessment versus Combined Respondents cont'd...

Heading	Question	Self-Assessment	Average Respondents
Operational Management	**10.** The CEO develops and implements strategic initiatives identified in Council's Strategic Plan and other strategic documentation.	**4**	**4.33**
	11. The CEO develops, maintains, and implements a robust Governance Framework for the organisation.	**4**	**4.28**
	12. The CEO displays strong leadership and direction to the organisation while co-operative team relationships are developed and sustained.	**4**	**4.39**
	13. The CEO ensures policies and procedures are developed and implemented to enable Council directions to be met.	**4**	**4.22**
	14. The CEO ensures the efficient and effective management of the resources (human, financial, physical) of Council to ensure sustainable performance and high level of service delivery.	**4**	**4.28**
Representation, Public Relations, and Relationships	**15.** The CEO builds and maintains strong and effective relationships with local key stakeholders.	**4**	**4.39**
	16. The CEO ensures Council's vision and strategy are communicated to all key stakeholders.	**4**	**4.06**
	17. The CEO creates and maintains productive and strategic relationships with all other levels of Government.	**4**	**4.44**
	18. The CEO actively participates and networks within the Local Government Sector.	**4**	**4.31**
	19. The CEO proactively grows Councils profile and promotes its positive image and achievements.	**4**	**3.94**
	20. The CEO ensures that Councils media liaison is timely, responsive and professional.	**4**	**4.06**

Results by KPI: Self-Assessment versus Combined Respondents cont'd...

Heading	Question	Self-Assessment	Average Respondents
People and Culture	**21.** The CEO ensures the vision of the Council is communicated to and owned by staff.	**4**	**4**
	22. The CEO ensures the organisational structure is flexible and responsive to meet Councils goals and objectives whilst maintaining high service levels.	**4**	**4.28**
	23. The CEO leads Council's administration through effective coaching and mentoring.	**4**	**4.18**
	24. The CEO promotes an organisational culture that encourages employees to engage in continuous process improvement, greater productivity and professional development.	**4**	**4.25**
	25. The CEO ensures compliance with Equal Employment Opportunity and Work Health and Safety requirements throughout the organisation.	**4**	**4.38**
Financial and Asset Management	**26.** The CEO implements and reinforces long term financial management strategies for the Council.	**4**	**4.39**
	27. The CEO maintains sound financial and asset management practices.	**4**	**4.44**
	28. The CEO provides appropriate and accurate financial reports to Council, identifying significant variations and recommending actions which enable Council to make informed decisions.	**4**	**4.22**
	29. The CEO ensures the delivery or programs within budget targets and financial constraints, including grant funding opportunities.	**5**	**4.22**
	30. The CEO establishes and monitors risk management policies, procedures and programs.	**4**	**4.11**

Results by KPI: Self-Assessment versus Combined Respondents cont'd...

Heading	Question	Self-Assessment	Average Respondents
Personal Competencies	**31.** The CEO displays high energy levels and a proactive approach to identifying and seizing opportunities.	**5**	**4.61**
	32. The CEO demonstrates adaptability, flexibility and resilience which enables personal performance and productivity levels to be maintained in stressful situations.	**4**	**4.50**
	33. The CEO displays strength of presence, with strong persuasive communication skills.	**4**	**4.56**
	34. The CEO gives evidence of consistent and effective problem solving and decision-making skills.	**4**	**4.39**
	35. The CEO demonstrated professional competence and commitment to the Council and Community.	**4**	**4.56**

APPENDIX 1 – Comments by Category: Staff

Comments on Relationships with Council

1. **The CEO establishes and maintains a climate of trust, confidence, and teamwork with Council as well as fair and equal treatment of Council Members.**
    - **S/A -** Always open and honest in my dealings with Council/Elected Members and provide them with as much information as possible. In addition, I pride myself on treating Elected Members fairly whilst being very comfortable in contacting an individual Member to discuss a matter in detail.
    - It is my view that the required standard is met and anything higher would be perceived as being too eager or trying too hard.

2. **The CEO keeps Council informed on all significant issues.**
    - **S/A -** Continually provide Elected Members with updates on key issues through Memos, Briefing Sessions, Council Meetings or through general discussions with specific Elected Members. In addition to this I meet with the Mayor every fortnight to discuss a range of matters and advise her of any significant items that might be on the horizon.
    - Paul is dedicated to this point in raising all significant issues as they come to hand and ensures the information is complete and accurate.

3. **The CEO provides concise and informative reports to Council with recommended actions which clearly identify financial and policy implications.**
    - **S/A -** The Reports provided to Council are concise and informative with the vast majority (I would estimate greater than 95%) of the time, Council supporting the recommendations presented. In addition, the feedback received following each meeting confirms that Council believes the reports are appropriate, however whenever an opportunity for improvement is identified, it is discussed with EMT and the appropriate Staff Member.
    - Given some of the comments made by EM's exceed is not possible, however I think this is the wrong question. The CEO is meticulous in the process and preparation of reports, but because there are so many different authors there is going to be a range of styles irrespective of the set format.

4. **The CEO supports Council Members in decision making role by providing good quality and timely information and direction.**
    - **S/A** - I believe due to the high level of Staff recommendations supported by Council throughout the year and the genuine lack of adverse media attention that Council receives, that the Members receive good quality and timely information/direction that assists their decision-making process.
    - Paul is clear in Council sessions and his excellent grasp and knowledge ensures this is the case.

Comments on Relationships with Council cont'd….

5. The CEO implements Council resolutions with speed and accuracy.

- **S/A** - This has become a real focus of mine with the Table of Motions (which contains all outstanding decisions of Council not yet completed) being discussed at each EMT meeting and/or directly with the specific General Manager responsible for the matter. Also, an update is provided to all Elected Members each month with detailed information as to progress on the matter and the likely completion date.
- Within his control yes, and again this should be about the processes in place as at times the result is derailed by a range of external influences including who it is assigned to complete.

6. The CEO works effectively with Council Members to develop a shared vision and plans for the future of Campbelltown City Council.

- **S/A** - I believe that we developed a shared vision with the Strategic Plan and all our decisions are being made with that in mind which is proving to be very successful.

Comments on Community and Economic Development

7. The CEO develops positive responses to the environmental, social, and cultural issues of strategic importance to the future development of the City.

- **S/A** - This has become a real focus of Council with the direction of the new Strategic Plan. There has been a significant emphasis on the environment and the things being achieved through the Climate Solutions Advisory Committee, tree planting programs and commitment to ESD principles in new buildings have had a significant positive impact on our environment. In regard to social and cultural items of significance there has been a massive effort in ensuring all decisions take this into consideration and also to ensure that our organisation is inclusive and supports diversity whilst having a greater understanding of the different cultures and needs of Staff and the broader Community.

8. The CEO ensures the Community Engagement Strategy and Policy is effective and continually reviewed.

- **S/A -** This is continually reviewed to ensure that we are communicating and engaging with our Community in as many ways as possible and in the effective and efficient manner. We use multiple different ways to engage the Community which provides a range of opportunities for everyone's views being considered, these can range from on-site discussions to a coffee chat, monthly columns in the East Adelaide Herald, social media, and website posts, right through to a formal statistically validated phone survey process that is currently being undertaken for the Cat By-law consultation process.

Comments on Community and Economic Development cont'd….

9. The CEO identifies and pursues Economic Development initiatives to ensure the City continues to grow and prosper.

- **S/A -** The work and focus in this area has significantly increased and there is some great work being undertaken in supporting and growing the local economy either through Council directly, ERA or Propel SA. The programs that have continued to support local businesses (e.g., business grants, buy local campaign, business visits, grant guru membership, Food Trail, networking events) have all been very well supported and appreciated.
- With the discussion on structure all EMT supported that the CEO does an excellent job in this space and that it should remain as a direct report.

Comments on Operational Management

10. The CEO develops and implements strategic initiatives identified in Council's Strategic Plan and other strategic documentation.

- **S/A -** This is an on-going focus for me and Staff and there is no doubt that the items identified in Council's Strategic Plan form the basis of our annual work programs and budget deliberations.

11. The CEO develops, maintains, and implements a robust Governance Framework for the organisation.

- **S/A -** Working within the appropriate Governance Framework is a key focus and driver for me and whenever we look to explore new innovative ideas we always seek advice to ensure that it can be undertaken in accordance with the legislative parameters that exist.
- Particularly strong in this area which is an excellent outcome for Council.
- Current restructure focuses on this.

12. The CEO displays strong leadership and direction to the organisation while co-operative team relationships are developed and sustained.

- **S/A –** This is something that I pride myself on and something that I take very seriously. I am prepared to make the right decision for both Council and the Community however am always prepared to work through the matter with the relevant people to ensure good working relationships are continually maintained.
- Paul is a great communicator; he cares for his team and staff and meets regularly on a number of levels to ensure this happens and not left to chance.
- Positive team orientated working environment.

Comments on Operational Management cont'd….

13. The CEO ensures policies and procedures are developed and implemented to enable Council directions to be met.

- **S/A -** All Policies and Procedures are reviewed on a regular basis to ensure they are contemporary and reflect best practice, and if necessary, presented the Audit & Governance Advisory and Council. The implementation of both Policies and Procedures is a very important component in ensuring good Governance practices are maintained at all times.
- The CEO drives a continual improvement and review process in this area.

14. The CEO ensures the efficient and effective management of the resources (human, financial, physical) of Council to ensure sustainable performance and high level of service delivery.

- **S/A -** This is a constant focus of mine as I believe it's important to continually review what we do, how we do it to ensure we continue to provide effective and efficient services. The recent review of the Organisational Structure is a good example of changing the way we do things to ensure we continually provide our Community with the best possible services.
- The ongoing structure review is a great CEO initiative that drives this point.
- Always looking at ways of doing business better with efficiencies.

Comments on Representation, Public Relations, and Relationships

15. The CEO builds and maintains strong and effective relationships with local key stakeholders.

- **S/A** – I believe this this is very important to the on-going success of Council and therefore is something that I prioritise in my activities. I take any opportunity I can to meet with local stakeholders and be involved in the local community, as having good working relationships with local stakeholders provides the best opportunity to achieve great Community outcomes.
- Paul is always in the community and attends numerous functions, events, meetings to champion Council within the community.

16. The CEO ensures Council's vision and strategy are communicated to all key stakeholders.

- **S/A** - I believe we do this successfully through numerous communications mediums.

Comments on Representation, Public Relations, and Relationships cont'd….

17. The CEO creates and maintains productive and strategic relationships with all other levels of Government.

- **S/A** - I continually work hard to maintain strong working relationships with the local State and Federal Members of Parliament (e.g., through regular meetings and discussions). Since the recent elections, I have met with the new Local Government Minister, Education Minister, the leader of the Opposition and will continue to meet with other Politician's when appropriate.
- Once again, a champion in this regard.

18. The CEO actively participates and networks within the Local Government Sector.

- **S/A** - Continue to participate in the ERA CEO's and ERA Mayors & CEO's meetings, Industry Associations, and general Local Government forums/seminars.
- High visibility within the ERA networks and a highly regarded and respected CEO.

19. The CEO proactively grows Council's profile and promotes its positive image and achievements.

- **S/A** - Always look to promote Council whenever possible and have been involved in providing advice to other Councils on a number of issues. More recently, I presented at the PLA Conference which has led to me providing advice to TTG Council on their Governance Structure around their redevelopment at Golden Grove and being asked to speak to the Executive Team from Whyalla Council. I was also invited to be a Member of the Walkerville Oval Redevelopment Committee by the Walkerville Council due to the successes we have achieved in Campbelltown, and I also have the opportunity to promote the great work we do in Community Services through the Child Development Council.
- Campbelltown Council is certainly the quiet achiever. Our Council area knows our success, but we don't extend out too much further in terms of profile/achievements. Do we need to though?
- I think Campbelltown achieves incredible outcomes for a relatively small metro Council, but I'm not sure how many people outside of Campbelltown would know that as we all tend to keep a humble profile and just 'get on with it'.

20. The CEO ensures that Council's media liaison is timely, responsive, and professional.

- **S/A** - I always pride myself to responding to the Media in a timely manner and ensuring that we respond within the timeframes we are given. I believe a good working relationship with the media provides the best opportunity for balance reports to be published or at least provides Council with an opportunity to be heard.

Comments on People and Culture

21. The CEO ensures the vision of the Council is communicated to and owned by staff.

- **S/A -** I believe the Councils vison is now firmly entrenched in Councils communication and narrative.
- We have adopted a new Vision but as it has changed more could be done to get it cemented to staff as many still embrace the old.
- The vision is spoken of from time to time, but I doubt.it is front and centre for most staff

22. The CEO ensures the organisational structure is flexible and responsive to meet Councils goals and objectives whilst maintaining high service levels.

- **S/A -** This is something I constantly consider and review, with the recent changes to the Organisational Structure an excellent example of how we are refocusing our resources to achieve a better outcome fop the Community.
- We are a very flexible Council often doing more with less, but we always deliver, and this is led from the top.
- Paul is supportive to consider structural changes to meet business needs.

23. The CEO leads Council's administration through effective coaching and mentoring.

- **S/A -** This is a continual focus and has been high on the priorities since the newly appointed People & Culture Manager has commenced. There are also a number of staff that I meet with on a regular basis to coach and/or mentor. Personally, I continue to take every opportunity to benefit from both formal and informal mentoring or coaching.
- The last 12 months has seen some highly valued coaching for a range of managers/supervisors and this has been invaluable to the organisation.
- I have said met expectations, because there is no expectation that this is part of our culture. I don't think we do any coaching and mentoring at Campbelltown.

24. The CEO promotes an organisational culture that encourages continuous improvement and innovation.

- **S/A -** One of our key values/behaviours is to 'challenge the norm' and personally one of my mantra's is "I can’t see why not".
- We have an innovation process in place which is more ideas than innovation. True innovation is organic, and Paul is very supportive in this thought and success.

25. The CEO ensures compliance with Equal Employment Opportunity and Work Health and Safety requirements throughout the organisation.

- **S/A -** This is a constant focus of mine one that I regularly discuss with the People & Culture Manager and Risk Management coordinator.
- COVID 19 and the CV Team and compulsory vaccination are all excellent examples of the importance of WHS principles for staff.

Comments on Financial and Asset Management

26. The CEO implements and reinforces long term financial management strategies for the Council.

- **S/A -** One of my key drivers is to ensure that we continually meet the targets of the LTFP, in my opinion this is the best way to continually provide quality cost effective services for our Community. The recommendation regarding the 2022/23 Budget is a recent example of making the right decisions to meet the targets of the LTFP whilst still providing quality services to the Community whilst meeting new emerging needs and trends.
- This is a constant focus and of high importance.

27. The CEO maintains sound financial and asset management practices.

- **S/A -** The review and management of Council's Assets in an effective way has ensured that we continue have a strong financial position and enables Council to continually explore needs initiatives (e.g., Performing Arts Centre) without being constrained by the pressures of maintaining/renewing our existing assets.

28. The CEO provides appropriate and accurate financial reports to Council, identifying significant variations and recommending actions which enable Council to make informed decisions.

- **S/A -** Reports are provided on a monthly basis and quarterly budget reviews are undertaken in a timely manner. In addition to these formal mechanisms, I will always make Council aware of any upcoming financial pressures and/or anything that is likely to adversely impact the long-term financial viability of Council.

29. The CEO ensures the delivery or programs within budget targets and financial constraints, including grant funding opportunities.

- **S/A -** This is something that Council has been very successful at considering the large amounts of grant funding they we have received and continued to receive. A great strength of Council is the ability to actually complete the works earmarked for the grant funding in the timeframes required by the State or Federal Government.
- To the best of his ability in a difficult market.

30. The CEO establishes and monitors risk management policies, procedures, and programs.

- **S/A -** This is a continual process we undertake, and we are currently reviewing our Risk Management Framework (including Risk Appetite) which will be further discussed with the Audit & Governance Advisory Committee.

Comments on Personal Competencies

31. The CEO displays high energy levels and a proactive approach to identifying and seizing opportunities.

- **S/A –** This is something that I really enjoy. I pride myself on always looking for the best outcome for Council and how we can leverage the good working relationships we have established for the betterment of our Community.
- This is one of Paul's strengths in being energetic and passing that energy onto staff.
- When Paul is enthusiastic or inspired by a project he definitely displays energy and will work really hard to achieve it and more often than not he will. On the flipside if he isn't as engaged it is harder to get traction for a project - this may be due to timing, but he doesn't always communicate where he sits on his opinion about something so staff are left to guess.

32. The CEO demonstrates adaptability, flexibility and resilience which enables personal performance and productivity levels to be maintained in stressful situations.

- **S/A -** I pride myself on being flexible and adaptable and meet every difficult situation as an opportunity rather than a challenge.

33. The CEO displays strength of presence, with strong persuasive communication skills.

- **S/A** – I believe that I display a strong and confident presence on behalf of Council and can confidently prosecute an argument for Council in an attempt to achieve the desired outcome for Council and the Community.
- He is a confident leader who makes decisions quickly and can easily influence people to his way of thinking. He always seeks to understand another perspective, not to change the outcome but just to understand the other person and communicate that he has heard them.

34. The CEO gives evidence of consistent and effective problem solving and decision-making skills.

- **S/A –** I believe this is a key strength of mine whereby I can consider all the information presented, consider as many options as possible and then provide clear concise advice (whether that be strategic or operational).
- His knowledge and skills excel in this area.

35. The CEO demonstrates professional competence and commitment to the Council and Community.

- **S/A** - I pride myself on always presenting in a manner that reflects positively on Council and our Community.

General Comments

Overall, what in your view have been the positive achievements of the CEO in the past year? And why?

- **S/A** - The delivery of so many projects and initiatives which will enhance the life of our Community. Whether they have been small or large, there have been so many initiatives, programs, or projects, that have had such a positive impact on our Community. It has been very humbling for me to have been able to play my part in making Campbelltown a better place to live, work and recreate over the past 12 months.
- Maintains productive and strategic relationships with all levels of Government which resulted on significant grant funding received and or other partnership i.e., PAC, Strategic thinking, Strong financial management skills help maintaining Council's financial position during pandemic period. Achieving the development of Council's Climate Solution Strategy.
- Continued management of a workforce and services impacted by COVID. Continued push in financial management, in particular, maintaining the long-term financial plan vision. His continued generosity of his time and advice.
- Paul has been in Campbelltown for a long time so his knowledge and commitment to the Community and Council is extraordinary. Council has completed or started big infrastructure projects with several new projects at master plan stage. He is always supportive to try new ideas.
- Delivery and the progression of major projects together with a high percentage of the capital works program under the very trying construction circumstances brought about through Covid. The implementation and delivery of projects with significant funding support (Max Amber Sports field, Magill Village, Thorndon Park Super Playground, Athelstone Recreation Plaza, and others). Continuing to foster an innovative, professional team that deliver quality outcomes with a positive attitude under strong leadership. Leading Council successfully within a changing environment and continuing to seek opportunity.

Have you any suggestions for the CEO in relation to areas in which he may develop in the year ahead?

- **S/A** – No comment.
- Seek out stakeholders or managers to gain a second view on matters, in particular subject matter experts. This will ensure consultative decision making.
- Be present. Walk the floor, chat to all staff. Be prepared to have open, honest conversations and express how he is feeling.
- Immense respect for our CEO and the way he approaches both our business and the diverse challenges the environment produces is inspiring to me and others.

General Comments cont'd….

Have you any suggestions in relation to where the CEO should focus his attention in the year ahead?

- **S/A** – No comment.
- Continue developing and empowering his Staff. Build strong relationship with the new governments (State and Federal).
- The timeliness, costs, relevance of the PAC versus a new admin building and the implications on staff. Continued financial management in an unknown fiscal period.
- I trust Paul's direction as I know it is in the best interests of the Community.
- With the economic environment in front of us, innovation, and drive for doing things differently and better would be a suggested focus. Removing unnecessary process and red tape to enable Staff to confidently deliver will be an important consideration.

Any other comments:

- **S/A** – I would just like to take this opportunity to sincerely thank the Elected Members and all Staff for their support and assistance over the last 12 months, it's been very much appreciated and there is no doubt our collective approach of working together has achieved some great outcomes for our Community.
- Paul is a rare person and CEO, and it is a pleasure both professionally and personally working with him.
- Very proud to be a member of the Campbelltown team, a team that has a family atmosphere fostered under Paul's leadership that is admired and respected by many.

APPENDIX 2 – Comments by Category: Elected Members

Comments on Relationships with Council

1. **The CEO establishes and maintains a climate of trust, confidence, and teamwork with Council as well as fair and equal treatment of Council Members.**
    - **S/A -** Always open and honest in my dealings with Council/Elected Members and provide them with as much information as possible. In addition, I pride myself in treating Elected Members fairly whilst being very comfortable in contacting an individual Member to discuss a matter in detail.
    - Always available.
    - A great team builder to achieve best results for City and EMs.

2. **The CEO keeps Council informed on all significant issues.**
    - **S/A -** Continually provide Elected members with updates on key issues through Memos, Briefing Sessions, Council Meetings or through general discussions with specific Elected Members. In addition to this I meet with the Mayor every fortnight to discuss a range of matters and advise her of any significant items that might be on the horizon.
    - Essential in today's environment.
    - Regular updates inside and outside core business hours always.

3. **The CEO provides concise and informative reports to Council with recommended actions which clearly identify financial and policy implications.**
    - **S/A -** The Reports provided to Council are concise and informative with the vast majority (I would estimate greater than 95%) of the time, Council supporting the recommendations presented. In addition, the feedback received following each meeting confirms that Council believes the reports are appropriate, however, whenever an opportunity for improvement is identified, it is discussed with EMT and the appropriate Staff Member.
    - Through workshops and detailed reports.
    - Cr Noble pushed hard for a report to Council which ended up identifying an error in the accounting which is a bit concerning. Would that have been identified without Cr Noble's determined effort?
    - Reports are of a great quality and always address Council strategic objectives and policies.

4. **The CEO supports Council Members in decision making role by providing good quality and timely information and direction.**
    - **S/A -** I believe, that due to the high level of Staff recommendations supported by Council throughout the year and the genuine lack of adverse media attention that Council receives, the Members receive good quality and timely information/direction that assists their decision-making process.
    - As above.

Comments on Relationships with Council cont'd….

5. The CEO implements Council resolutions with speed and accuracy.

- **S/A** - This has become a real focus of mine with the Table of Motions (which contains all outstanding decisions of Council not yet completed) being discussed at each EMT meeting and/or directly with the specific General Manager responsible for the matter. Also, an update is provided to all Elected Members each month with detailed information as to progress on the matter and the likely completion date.
- Always when able, Covid has caused some headaches.
- While I feel this is achieved on a general level, I do feel that some Council resolutions aren't implemented in a timely manner. I think this should be looked at further.

6. The CEO works effectively with Council Members to develop a shared vision and plans for the future of Campbelltown City Council.

- **S/A** - I believe that we developed a shared vision with the Strategic Plan and all our decisions are being made with that in mind which is proving to be very successful.
- All Council members.
- A progressive and forward-looking EM Team which flows onto wider Council.

Comments on Community and Economic Development

7. The CEO develops positive responses to the environmental, social, and cultural issues of strategic importance to the future development of the City.

- **S/A** - This has become a real focus of Council with the direction of the new Strategic Plan. There has been a significant emphasis on the environment and the things being achieved through the Climate Solutions Advisory Committee, tree planting programs and commitment to ESD principles in new buildings have had a significant positive impact on our environment. In regard to social and cultural items of significance there has been a massive effort in ensuring all decisions take this into consideration and also to ensure that our organisation is inclusive and supports diversity whilst having a greater understanding of the different cultures and needs of Staff and the broader Community.
- Very receptive to community needs.
- CEO always addresses Enviro, Social, Cultural issues to help future proof the City.
- Our CEO is always well informed and up to date with what is happening locally and nationally and how this may impact our City.
- In particular, I am very pleased with the CEO's approach and attitude to the Council's declaration of a climate emergency and subsequent changes to the way council conducts itself. The CEO has done a brilliant job at building a high-quality climate solutions strategy committee as well.

APPENDIX 2 – Comments by Category: Elected Members continued….

Comments on Community and Economic Development cont'd….

8. The CEO ensures the Community Engagement Strategy and Policy is effective and continually reviewed.

- **S/A -** This is continually reviewed to ensure that we are communicating and engaging with our Community in as many ways as possible and in the effective and efficient manner. We use multiple different ways to engage the Community which provides a range of opportunities for everyone's views being considered, these can range from on-site discussions to a coffee chat, monthly columns in the East Adelaide Herald, social media, and website posts, right through to a formal statically validated phone survey process that his currently being undertaken for the Cat By-law consultation process.
- Regular review.
- More involvement from elected members is required.

9. The CEO identifies and pursues Economic Development initiatives to ensure the City continues to grow and prosper.

- **S/A -** The work and focus in this area has significantly increased and there is some great work being undertaken in supporting and growing the local economy either through Council directly, ERA or Propel SA. The programs that have continued to support local businesses (e.g., business grants, but local campaign, business visits, grant guru membership, Food Trail, networking events) have all been very well supported and appreciated.
- Continual basis.
- We have many projects in train and others programmed for the future. This approach ensures the City remains relevant from an Eco Dev perspective.
- The CEO actively encourages economic development and how we can incorporate our local businesses in what we do as a Council.

Comments on Operational Management

10. The CEO develops and implements strategic initiatives identified in Council's Strategic Plan and other strategic documentation.

- **S/A -** This is an on-going focus for me and Staff and there is no doubt that the items identified in Council's Strategic Plan form the basis of our annual work programs and budget deliberations.
- Always.
- More so in areas that he is enthusiastic about and feels comfortable in.

Comments on Operational Management cont'd….

11. The CEO develops, maintains, and implements a robust Governance Framework for the organisation.

- **S/A -** Working within the appropriate Governance Framework is a key focus and river for me and whenever we look to explore new innovative ideas, we always seek advice to ensure that it can be undertaken in accordance with the legislative parameters that exist.
- Has done for years.
- We constantly review our policies to ensure they are current and aim to cover a wide range of issues and potential ones.

12. The CEO displays strong leadership and direction to the organisation while co-operative team relationships are developed and sustained.

- **S/A –** This is something that I pride myself on and something that I take very seriously. I am prepared to make the right decision for both Council and the Community however am always prepared to work through the matter with the relevant people to ensure good working relationships are continually maintained.
- True Campbelltown man.

13. The CEO ensures policies and procedures are developed and implemented to enable Council directions to be met.

- **S/A -** All Policies and Procedures are reviewed on a regular basis to ensure they are contemporary and reflect best practice and, if necessary, presented the Audit & Governance Advisory and Council. The implementation of both Policies and Procedures is a very important component in ensuring good Governance practices are maintained at all times.
- Yes.

14. The CEO ensures the efficient and effective management of the resources (human, financial, physical) of Council to ensure sustainable performance and high level of service delivery.

- **S/A -** This is a constant focus of mine as I believe it's important to continually review what we do, how we do it to ensure we continue to provide effective and efficient services. The recent review of the Organisational Structure is a good example of changing the way we do things to ensure we continually provide our Community with the best possible services.
- Very high level.
- The City is in a great shape as a result of effective management of our assets, finances and people. The CEO always looks at opportunities with the EMT to present to EMs.
- Again, while I feel this is not a major problem, I do very much get the impression that our Council runs on "skeleton staff' and that can delay some things from progressing quickly. Requests I make as an Elected Member are usually dealt with in a timely manner, but resident feedback indicates things don't move so quickly.

Comments on Representation, Public Relations, and Relationships

15. The CEO builds and maintains strong and effective relationships with local key stakeholders.

- **S/A** – I believe this is very important to the on-going success of Council and therefore is something that I prioritise in my activities. I take any opportunity I can to meet with local stakeholders and be involved in the local community, as having good working relationships with local stakeholders provides the best opportunity to achieve great Community outcomes.
- Excellent at this.
- Continues to have and build great relationships with a variety of stakeholders in business and political arenas.
- Absolutely, we are fortunate to have a CEO that is held in high regard not only amongst staff but with his Peers & the Community alike.

16. The CEO ensures Council's vision and strategy are communicated to all key stakeholders.

- **S/A** - I believe we do this successfully through numerous communications mediums.
- Always.
- CEO always provides updates to EMs and broader community through the various channels.
- A marketing framework needs to be developed to effectively communicate with residents and stakeholders. Many of Council's achievements and initiatives are kept inadvertently under the radar. Historical negatives are still at the forefront of perception of Campbelltown which greatly highlights the inefficiency of our marketing strategies. An example is rampant infill which was an initiative developed by Labour Minister Rau, now many years ago, however there is a strong misconception in the Community that Council initiated this.
- No knowledge but would assume so, based on other situations.

17. The CEO creates and maintains productive and strategic relationships with all other levels of Government.

- **S/A** - I continually work hard to maintain strong working relationships with the local State and Federal Members of Parliament (e.g., through regular meetings and discussions). Since the recent elections, I have met with the new Local Government Minister, Education Minister, the leader of the Opposition and will continue to meet with other Politician's when appropriate.
- In regular contact with all levels of government.
- Continues to have and build great relationships with a variety of stakeholders in business and political arenas.
- CEO appears to have a very good working relationship with our state and federal MPs.

18. The CEO actively participates and networks within the Local Government Sector.

- **S/A** - Continue to participate in the ERA CEO's and ERA Mayors & CEO's meetings, Industry Associations, and general Local Government forums/seminars.
- Well-known and respected.
- I believe that the CEO needs better engagement with the LG sectors and groups and better promotion to the EM's.
- I cannot comment on this, I do not have any insight into this matter whatsoever.

APPENDIX 2 – Comments by Category: Elected Members continued….

Comments on Representation, Public Relations, and Relationships cont'd….

19. The CEO proactively grows Council's profile and promotes its positive image and achievements.

- **S/A** - Always look to promote Council whenever possible and have been involved in providing advice to other Councils on a number of issues. More recently, I presented at the PLA Conference which has led to me providing advice to TTG Council on their Governance Structure around their redevelopment at Golden Grove and being asked to speak to the Executive Team from Whyalla Council. I was also invited to be a Member of the Walkerville Oval Redevelopment Committee by the Walkerville Council due to the successes we have achieved in Campbelltown, and I also have the opportunity to promote the great work we do in Community Services through the Child Development Council.
- Always.
- We have a strong presence within the State and Nationally and CEO always strives to ensure the Council image is promoted through the relevant channels.
- As per previous comments.
- Again, while I don't think this is a problem, I do think the CEO can be far more proactive in growing our Council's profile and promoting our achievements and positive image.

20. The CEO ensures that Council's media liaison is timely, responsive, and professional.

- **S/A** - I always pride myself to responding to the Media in a timely manner and ensuring that we respond within the timeframes we are given. I believe a good working relationship with the media provides the best opportunity for balance reports to be published or at least provides Council with an opportunity to be heard.
- Very professional.
- The CEO is timely with all responses no matter the time.

Comments on People and Culture

21. The CEO ensures the vision of the Council is communicated to and owned by staff.

- **S/A -** I believe the Councils vison is now firmly entrenched in Councils communication and narrative.
- Communicates with staff regularly.
- To the best of my knowledge.

Comments on People and Culture cont'd….

22. The CEO ensures the organisational structure is flexible and responsive to meet Councils goals and objectives whilst maintaining high service levels.

- **S/A -** This is something I constantly consider and review, with the recent changes to the Organisational Structure is an excellent example of how we are refocusing our resources to achieve a better outcome fop the Community.
- Paul is very good at this.
- Although we do seem to have quite a bit of turnover in the community development section, which appears to be related to contract arrangements as staff seem to be moving for offers of more permanent/secure tenure. This must be disruptive to some degree.
- The EMT has been provided opportunities to fill in for the CEO when required. This provides cross skilling and continuity within the organisation.
- From a personal experience I've always found that Council has high service levels, but I have varying feedback from ratepayers, so I believe that leaves me firmly in the middle.

23. The CEO leads Council's administration through effective coaching and mentoring.

- **S/A -** This is a continual focus and has been high on the priorities since the newly appointed People & Culture manager has commenced. There are also a number of staff that I meet with on a regular basis to coach and/or mentor. Personally, I continue take very opportunity to benefit from both formal and informal mentoring or coaching.
- Yes, whenever necessary.
- To the best of my knowledge.
- The EMT and staff are provided with various programs to help them enhance delivery for the City.

24. The CEO promotes an organisational culture that encourages continuous improvement and innovation.

- **S/A -** One of our key values/behaviours is to 'challenge the norm' and personally one of my mantra's is "I can't see why not".
- It is a pleasure to promote an excellent organisation, Paul is in his element here.
- To the best of my knowledge.

25. The CEO ensures compliance with Equal Employment Opportunity and Work Health and Safety requirements throughout the organisation.

- **S/A -** This is a constant focus of mine one that I regularly discuss with the People & Culture Manager and Risk Management coordinator.
- Always.
- To the best of my knowledge.

Comments on Financial and Asset Management

26. The CEO implements and reinforces long term financial management strategies for the Council.

- **S/A** – One of my key drivers is to ensure that we continually meet the targets of the LTFP, in my opinion this is the best way to continually provide quality cost effective services for our Community. The recommendation regarding the 2022/23 Budget is a recent example of making the right decisions to meet the targets of the LTFP whilst still providing quality services to the Community whilst meeting new emerging needs and trends.
- Good skills here.
- Refer to my previous comment about the report sought by Cr Noble.
- For many years as the CEO, the Council has been in a sound position financially which has facilitated a sustainable future.
- It is because of this that in recent years we have been able to redevelop our major assists (ARC, Reggie's, Heccies, CMO, etc) and still remain virtually debt free.

27. The CEO maintains sound financial and asset management practices.

- **S/A -** The review and management of Council's Assets in an effective way has ensured that we continue have a strong financial position and enables Council to continually explore needs initiatives (e.g., Performing Arts Centre) without being constrained by the pressures of maintaining/renewing our existing assets.
- Yes, and they are reviewed annually.
- Refer to my previous comment about the report sought by Cr Noble.
- Our City has assets that are managed efficiently and effectively and at a high standard.

28. The CEO provides appropriate and accurate financial reports to Council, identifying significant variations and recommending actions which enable Council to make informed decisions.

- **S/A -** Reports are provided on a monthly basis and quarterly budget reviews are undertaken in a timely manner. In addition to these formal mechanisms, I will always make Council aware of any upcoming financial pressures and/or anything that is likely to adversely impact the long-term financial viability of Council.
- On a regular basis.
- Refer to my previous comment about the report sought by Cr Noble.

Comments on Financial and Asset Management cont'd….

29. The CEO ensures the delivery or programs within budget targets and financial constraints, including grant funding opportunities.

- **S/A -** This is something that Council has been very successful at considering the large amounts of grant funding they we have received and continued to receive. A great strength of Council is the ability to actually complete the works earmarked for the grant funding in the timeframes required by the State or Federal Government.
- Continually.
- The CEO has financial management and budgeting as a key priority. Always aiming to deliver within budget where practicable.

30. The CEO establishes and monitors risk management policies, procedures, and programs.

- **S/A -** This is a continual process we undertake, and we are currently reviewing our Risk Management Framework (including Risk Appetite) which will be further discussed with the Audit & Governance Advisory Committee.
- A necessary skill in today's environment.
- We have had a couple of issues with cyber security. I hope that appropriate procedures and staff training will ensure that risk has been addressed.

Comments on Personal Competencies

31. The CEO displays high energy levels and a proactive approach to identifying and seizing opportunities.

- **S/A –** This is something that really enjoy, I pride myself on always looking for the best outcome for Council and how we can leverage the good working relationships we have established for the betterment of our Community.
- Does this very well.
- As mentioned earlier the CEO leads a proactive group that is forward thinking and future proofing the City when possible.

32. The CEO demonstrates adaptability, flexibility and resilience which enables personal performance and productivity levels to be maintained in stressful situations.

- **S/A -** I pride myself on being flexible and adaptable and meet every difficult situation as an opportunity rather than a challenge.
- Paul handles stressful situations in a competent manner.
- Through the pandemic, the CEO has driven great results for the City and its residents. Our clubs and groups were and have been supported through this time as with Staff.

Comments on Personal Competencies cont'd….

33. The CEO displays strength of presence, with strong persuasive communication skills.

- **S/A** – I believe that I display a strong and confident presence on behalf of Council and can confidently prosecute an argument for Council in an attempt to achieve the desired outcome for Council and the Community.
- He is a likeable fellow, he is multi skilled in many areas of management with his strength of character the result is effective communication in all situations.

34. The CEO gives evidence of consistent and effective problem solving and decision-making skills.

- **S/A –** I believe this is a key strength of mine whereby I can consider all the information presented, consider as many options as possible and then provide clear concise advice (whether that be strategic or operational).
- On a regular basis.

35. The CEO demonstrates professional competence and commitment to the Council and Community.

- **S/A** - I pride myself on always presenting in a manner that reflects positively on Council and our Community.
- Always. He is a valued member of the Campbelltown community.
- The CEO is extremely dedicated to the City.

General Comments

Overall, what in your view have been the positive achievements of the CEO in the past year? And why?

- **S/A** – The delivery of so many projects and initiatives which will enhance the life of our Community. Whether they have been small or large, there have been so many initiatives, programs, or projects, that have had such a positive impact on our Community. It has been very humbling for me to have been able to play my part in making Campbelltown a better place to live, work and recreate over the past 12 months.
- The CEO has tackled a broad range of issues including staff who have resisted the need for vaccination. He has continued to provide guidance to the Council and solid, consistent advice. Whilst acting professionally he is able to provide alternatives to those seeking to get Council involved in matters outside Council's responsibilities. He has ensured that consultations are conducted on many topics. The ability to manage several major projects at once in trying conditions and managing community expectations.
- Paul's leadership in managing his team in dealing with all the impacts related to Covid - in dealing with challenges such as spiralling costs to projects and future impacts to the LTFP.
- Coping with the aftermath of the Covid pandemic. Maintain Campbelltown as a number one council.
- Better relationship with Elected Members overall.
- Through a year of continued pressures and adversity with the pandemic, wars overseas impacting inflation, staffing shortages at times, the services to Community have been seamless.
- Our Council has always benefited immensely because of our CEO's expertise, level of professionalism and good standing amongst his peers. It is with his guidance that our Council continues to perform well and deliver good outcomes for our residents and community.
- As touched on earlier, I was impressed with how the CEO took the declaration of a climate emergency in his stride and worked to incorporate the climate as a consideration in all areas of council business. The sincere effort is noted and very much appreciated.
- Highly intelligent, capable senior administrator, active across all Council activities.

Have you any suggestions for the CEO in relation to areas in which he may develop in the year ahead?

- **S/A** – No comment.
- The CEO will need to manage the challenges produced by a new Council to help the development of a high performing team to build on the team performance measures negotiated with Elected Members this term. New councillors will need support.
- Paul has been performing at a high level for many years. He hasn't shown that he has lost any energy, but the time will come when his energy will be tested. A good healthy active mind and body is important when these challenges arise.
- Every so often have a short break to recharge your batteries.
- Keep on learning how to work with Councillors who are 'other' in any way.

GENERAL COMMENTS cont'd….

Have you any suggestions in relation to where the CEO should focus his attention in the year ahead?

- **S/A** – No comment.
- The proposed Performing Arts Centre, continuing to manage the Boundary Reform process, work on mainstreaming environmental initiatives.
- Strategies on how to keep construction costs down on projects.
- Care in coping with cost blow outs caused by the skyrocketing cost of both energy and living in general.
- With both State and Federal governments changing stripes it will be important to develop strong relationships with Labor people despite all the local representatives being Liberal. We have been the beneficiaries of Liberal largesse for some time. It will be something of a test to see if we will be able to attract grants for worthy projects under the changed circumstances.
- Speed to market is key. Whilst procurement process is important what has been evident through the pandemic and wars is that supply chains are disrupted resulting in cost pressures for projects. If we as a group can be quicker, the speed benefits will outweigh the higher costs.
- Marketing and the removal of negative myths about Campbelltown and the better promotion of its achievements. Be a driver of innovation particularly in the area of effective communication to all stakeholders.
- Taking more vocal pride in our Council, focusing on appropriate staff resourcing allocation (ensuring roles are not vacant for extended periods of time) and that residents are responded to in a timely manner.
- Explore innovative, collaborative, inter-sector initiatives on affordable housing of different sizes, tenures, and target residents. When housing is secure, residents can flourish. Without it, life is a huge struggle.

Any other comments:

- **S/A** – I would just like to take this opportunity to sincerely thank the Elected Members and all Staff for their support and assistance over the last 12 months, it's been very much appreciated and there is no doubt our collective approach of working together has achieved some great outcomes for our Community.
- Overall, a solid performance consistent with previous years. Campbelltown is spoken of with respect across the City and the CEO can take credit for that as he works well and respectfully with others.
- Good job Paul.
- Campbelltown is fortunate to have a CEO of the calibre of Paul.
- I have great respect for Paul as a CEO. I do believe he genuinely wants the best for our Community.
- Well done over the last 2 months!
- Foster better relations from the Mayor to the EM's.
- An admirable leader.

APPENDIX 3 – External Respondent Comments

External Respondent Questions

1. Please describe the nature of your interaction with the CEO.

- I am involved in a number of organisations and roles that see me interact with Paul, so I have seen him operate at different levels and with different groups of people.
- I interact with him in my capacity as President of a sporting club and as a custodian of sssets of the Council and have known him for as long as he has been CEO.
- We have worked on our first project together and so I dealt with Paul post tender and have been in communication with the staff mostly since that time but there were occasions when I dealt with Paul directly.
- I interact with Paul as a colleague within the Local Government sector.
- I have known him for 14 years when I became a candidate for my seat. The CEO advocates with the Mayor so they have an understanding of the political environment. They are thoroughly diligent and astute.

2. How do you perceive that the CEO is perceived in the community?

- He is held in high regard by volunteers, groups, and residents. Campbelltown City Council is well regarded. The Mayor has a higher profile than the CEO which is the way it should be.
- I can comment on how he is perceived within the sector. He is seen as being a fiercely parochial, commercial operator who is in it for Campbelltown City Council and will promote Campbelltown on any occasion. He is known as someone who does things effectively and always with the best interests of Campbeltown at the heart of what he is doing. He is a straight shooter, gifted with engineering, infrastructure, and outdoor areas. He is not a corporate guy. He is a capital deliverer.
- Campbelltown City Council is one of the most successful Councils in SA. He is well regarded by people who know a little about how Council works and by the Community as the Council delivers and it is in a good position. The results are the results, and you cannot fudge the excellent financial position of the Council.
- Paul is well regarded. On a per capita basis, I get more compliments and less complaints about Campbelltown City Council than I do for the other Councils in my electorate. There is a level of confidence that if he is looking into it, it will get his attention. He is well respected by groups that engage with Council. He is held in higher regard than the other CEOs in my electorate.
- He is perceived reasonably well by the Community. He is approachable and Council is well run, and community focussed.

3. How would you describe your relationship with the CEO?

- Professional, friendly and courteous. He is outcome focussed.
- Very professional. He had a very good understanding of the project and understood the issues that we were dealing with.
- It is reasonably good. He is approachable and nothing is a problem.
- Excellent. I can phone him at any stage. I can seek clarification to discuss significant things.
- It is a good working relationship, and he is a valuable colleague. He is willing to share ideas and experience.

4. How would you describe:

His understanding of your needs

- Paul understands the needs of ERA and has a strong sense of the context in which we operate within ERA. He brings his expertise in capital and operational areas.
- He really understands my needs and that of my club. I had an issue and we met and together we had the issue sorted within an hour.

  I deal with another Council in another capacity and the Mayor just wants to claim the limelight. This does not happen at Campbelltown.
- 100%. We told him of our issues, and he understood, and we worked together to achieve a solution.
- Pretty good. He is very professional; he works well with the Committee and the community. I have not heard a bad word spoken about him.
- Very strong; extraordinarily responsive and he will either look at it himself or pass onto a senior staff member. I may not like always like the answer though!

His responsiveness to issues raised

- Pretty good regardless of the issue or my role. He gets back to me quickly.
- He has a good understanding of the issues within the region and will share his knowledge.
- Timely
- He always responds straight away.
- Very responsive. He is always accessible.

5. What would say have been some positive achievements of the CEO and Council?

- ARC, Hectorville; doing stuff without massive debt or increases in rate. The needs of the residents are listened to. Council acts for the benefit of the community.
- Staff are fantastic and the culture within the Council is very good and that comes from the top. As stated before Campbelltown is the best performing Council in the state and if I was a rate payer I would be very happy with the performance of the Council.
- The ability to deliver the new soccer facility in the current environment using reliable contractors and getting it on time and in budget. The financial management for CCC to enable it to fund the developments with little or no debt and low rates is impressive.
- The impact of Covid. I appreciated the openness and his availability. The Council is community focused and it harnesses Community groups to assist Council.
- Council's debt free status. Council's engagement is constructive and community building. Success in engaging Federal and State Governments. Plans are always detailed and there is the confidence that they will be delivered. It has punched above its weight in getting funding for projects and they are innovative.

APPENDIX 3 – External Respondent Comments continued….

6. Are there any areas you would like to see the CEO focus on?

- I am not in a position to comment.
- DAs is where the complaints are, but I don't think they can do anything about that as they just follow the legislation.
- None in particular. It is a stable ship. The financials are good. Continue to look after the Community.
- Keep doing what he is doing.
- We are all busy and have competing issues, but it would be good if Paul would take the time to just "shoot the breeze" and be proactive in getting together to share issues.

7. Are there any areas that the CEO needs to further develop in to be a better CEO?

- Keep doing what he is doing. He is visible when he needs to be, and he talks to people so he is informed.
- Not that I have witnessed. He manages the Elected Members well and does not get in the way. He guides the ship very well.
- I hope he gets some work life balance as he works very hard.
- He has been a CEO for some time and his style has worked well to date. He is direct and to the point and not the warm and fuzzy type, but it may pay at time to recognise that a less direct style may be appropriate.
- I am not in a position to comment.

8. Have you any other comments you would like to make?

- He is a good operator and a good CEO. I love how he operates and enjoy working with him.
- He is the right fit and the results are there. He is doing the job well and he is looking to the future.
- He is a great operator. He is doing a great job. Campbelltown stands out. He lobbies well and is ahead of the game. He will not promise what he cannot deliver.
- Council is in good shape and Paul is well respected in the Community and the sector.
- He is effective, liked, and respected. He does his job well and CCC is fortunate to have him.

A|M CONSULTING

CEOs Local Government Councils G6 & Other Metro Highest to Lowest

Council	Cash $	Super $	Basis of Super calculation	MV $	Total Cash, Super & Car $
City of Adelaide	363,636	36,364	10% on cash		400,000
City of Onkaparinga	305,809.55	29,059.60	10% on cash	20,000	354,950.15
City of Salisbury	318,308	31,831	10% on cash	Not applicable	350,139
City of West Torrens	323,062	21,002	Minimum super contribution base (MSCB)	Car provided no cost	344,064 +5 weeks leave
City of Port Adelaide Enfield	292,758	33,696	10% on total package	10,514	336,968
City of Charles Sturt Increase super 2 July 22	289,572.36	35,321.34	10.5 % on total package	11,500	336,393.70
City of Tea Tree Gully	279,334	25,978	9.3% on cash	22,854	328,166
Campbelltown City Council	276,595	25,723.40	9.3% on cash	12,000	314,319

City of Mitcham	272,729	27,273	10% on cash	10,000	310,002
City of Holdfast Bay	269,242.95	26,924.30	10% on cash	12,450	308,617.25
City of Unley	272, 718	27,909	10% on cash + car	6,373	307,000
City of Playford	279,414	25,986	9.3% on cash	Zero as salary sacrifice	305,400
City of Norwood Payneham and St Peters	265,000	24,645	9.3% on cash	12,000	301,645
City of Marion	260,000	26,000	10% on cash	12,000	298,000
City of Burnside	251,142	25,114	10% on cash	7,492	283,748

Overview

- CPI for Adelaide for the year March 2021 to March 2022 was 4.7%
- CPI weighted average of the 8 capital cities for the year March 2021 to March 2022 was 5.1%.
- CPI for Adelaide for the year June 2022 to June 2022 was 6.4%.
- CPI weighted average of the 8 capital cities for the year June 2021 to June 2022 was 6.1%.
- The GMs will receive an increase equal to the June CPI for Adelaide of 6.4%.
- The Managers will receive an increase equal to the September CPI.
- ASU staff will receive the June CPI increase of 6.4% as it is higher than 2%.
- AWU staff will receive 3% or the September CPI increase whichever is higher
- The Local Government CEO reviews that were finalised post July 2021 were in the range 1.7% to 2.8%.
- Salaries listed are post July 2021 increases unless noted.

1 August 2022

11.7 Steve Woodcock Female Change Room Improvements

General Manager Infrastructure Services, Andrian Wiguna's Report

Purpose of Report

To consider a request from the CCSC (Campbelltown City Soccer Club) for funding assistance to upgrade the existing senior change room facility to be a female compliant change room.

Strategic Plan Link

Focus Area 1.2.3 Provide services that deliver a wide range of sporting, leisure and recreational opportunities

Focus Area 1.6.1 Partnering with groups, clubs and organisations

Previous Council/Committee Resolution

Nil.

Background

CCSC has been shortlisted to host a training venue for the upcoming FIFA Women's World Cup which will be held in July and August 2023.

The approval was given with a provision that the change room facilities need to meet the FIFA specification. As the current change room does not meet the specification, FIFA has offered grant funding of $182,000 excluding GST to upgrade the change rooms to be female compliant.

CCSC now have 555 members, consisting of 435 juniors and 120 seniors which include two senior women's teams and three junior women teams. Therefore the upgrade of the change room facility will not only benefit the upcoming FIFA Women's World Cup, it will also support the increase demand of female participation in soccer.

The CCSC sees there is an opportunity to also upgrade the away change room as part of this project, however the current grant funding will not be sufficient for the Club to upgrade both change rooms. Hence the CCSC is seeking Council's support to assist with funding the remainder of the project cost. A letter from the CCSC is attached for Members' information.

Discussion

The CCSC has engaged an architect to prepare plans for the proposed change room (attached). The scope of work and the current building layout of the change room is shown in shaded colour in Figure 1 below:

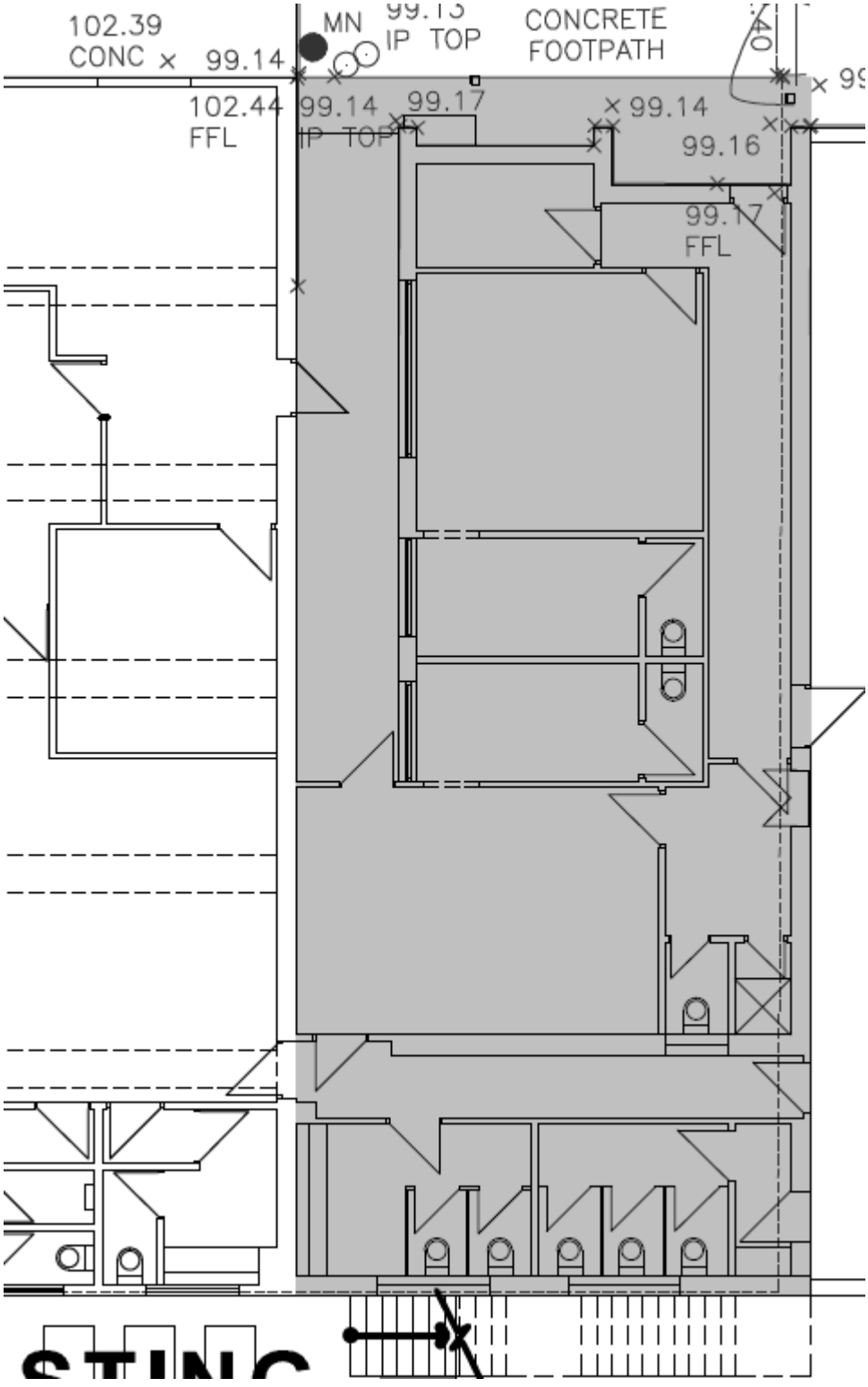


Figure 1. Current change room layout (grey area)

The proposed new change room for both home and away teams is shown in Figure 2 below:

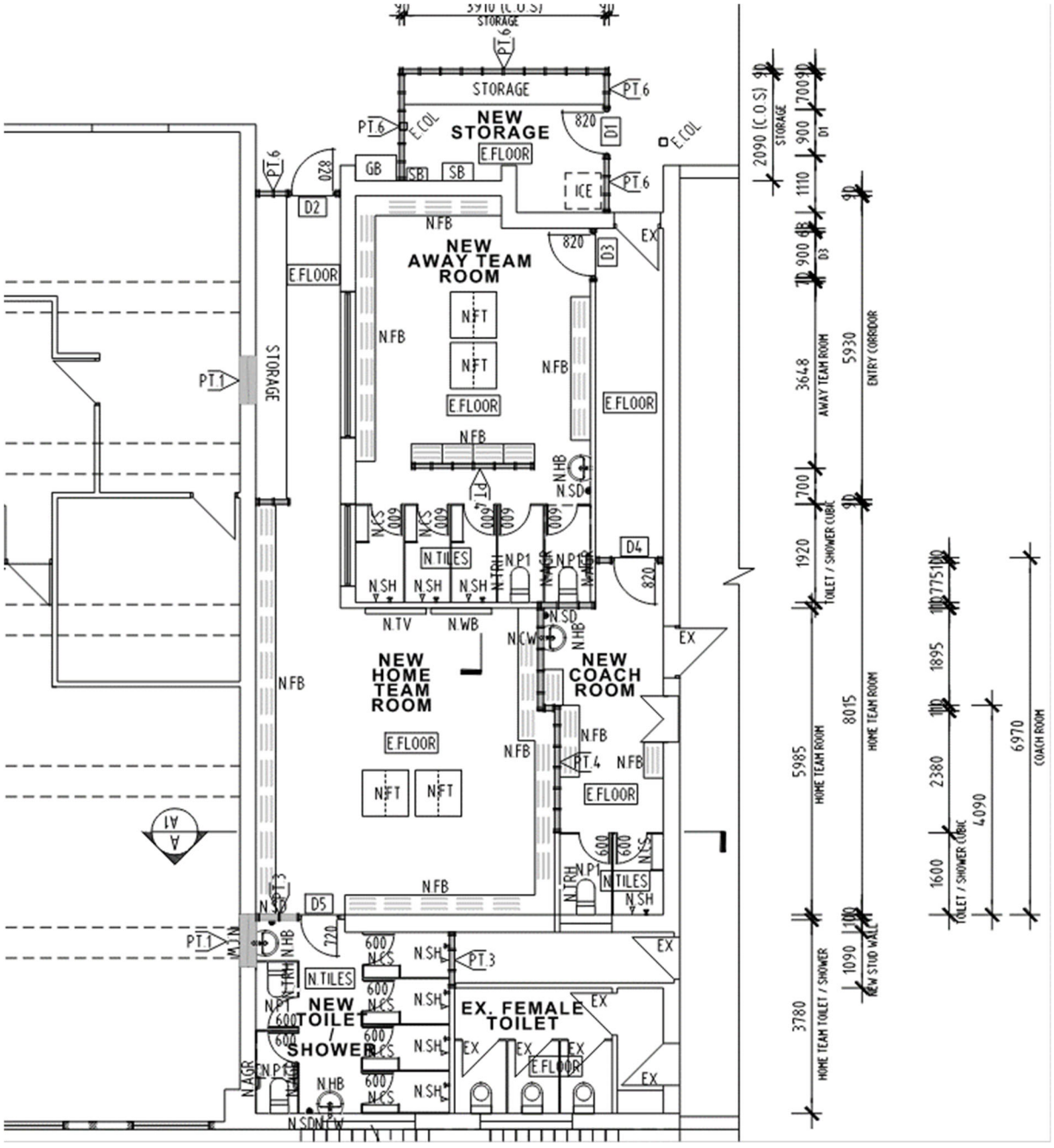


Figure 2. New proposed change rooms

The CCSC has sought a quote from a builder to provide a cost estimation to undertake the whole project. The total cost to undertake the work (based on a quote sought by CCSC) is approximately $265,000 (excluding GST). The breakdown of the quote supplied by CCSC between the home and away change room is listed below:

- Upgrade Home change room: $ 145,000 (excluding GST)
- Upgrade Away change room: $ 120,000 (excluding GST)

As the Club has been granted with $182,000 (excluding GST) by FIFA to upgrade their facility, there is approximately an $83,000 shortfall to allow the work to be undertaken.

As can be seen from the proposed building layout, the work will involve removing a number of existing internal walls inside the change rooms, adding a new storage area, removing some of the existing wet areas to create better shower and toilet facilities in the new change rooms as well as the referees' room. Therefore, Staff believe there is merit in all these works being undertaken at the same time.

However, Staff do have concerns with the estimated quote provided by CCSC as this cost seems low, particularly in the current market. Staff also foresee some potential cost increases with the quote, namely:

- volatility of the current market
- engaging a consultant to finalise the construction documentation (eg services etc)
- number of exclusions from the quotes provided
- the proposed upgrade of the change rooms will require building rules consent and that the proposed plans have not been granted this approval at this time (hence there is still a risk to the project cost)
- no allowance for contingencies.

Therefore, should Council support the request from CCSC, Staff are recommending that Council consider allocating up to $182,000 to accommodate the potential work to reconfigure the existing change rooms to be female compliant. This contribution will match CCSC's contribution (through the FIFA grant funding) whilst meeting Council's policy of at least 50% contribution for any new Capital requests, albeit this work will be classified as Renewal and Replacement.

Council could consider funding this amount through the Renewal & Replacement Reserve as there is sufficient funds in the total accumulated depreciation for the Steve Woodcock club room and the proposed works are renewing an existing asset that will extend its useful life.

As this project needs to be completed by March 2023 in the preparation of FIFA Women's World Cup, the project needs to be undertaken as soon as the soccer season finishes in September 2022. Therefore, the CCSC is now seeking a contribution from Council to fund the remaining cost of the project to ensure they can meet the grant funding requirements.

Social Implications

The upgrade of the existing change room facility to be a female compliant change room will further increase women's participation in sport at this venue.

Environmental / Climate Change Implications

There are no environmental / climate change implications in relation to this report.

Asset Management Implications

The proposed upgrades will have different type of assets with different useful lives, thus impacting depreciation differently. Should Council support the upgrade of the change rooms, the replacement assets will be recorded and depreciated accordingly. Currently, the outgoings for this building are borne by the Club and hence the ongoing maintenance costs for the change rooms (cleaning, electricity) will continue to be borne by the Club.

Governance / Risk Management

There are no governance / risk management implications in relation to this report.

Community Engagement

No Community engagement has been undertaken on this proposal. However, Staff have met with the Club's representatives to discuss their proposed upgrade to the change rooms.

Regional Implications

The proposed change room facility upgrade to be a female compliant change room will further improve this facility and may increase female participation in soccer from the surrounding region.

Economic Development Implications

There are no economic development implications in relation to this report.

Financial Implications

Currently, there is no budget allocated for the upgrade of the change rooms. Should Council support the proposed upgrade of the change rooms, Council should consider allocating up to $182,000 from the Renewal & Replacement Reserve at the First Budget Review for 2022/2023.

Recommendation

That Council support the upgrade of the Steve Woodcock Sports Centre existing change room to be a fully female compliant change room and allocate up to $182,000 from the Renewal & Replacement Reserve at the First Budget Review for 2022/2023 to match the Campbelltown City Soccer Club's contribution of $182,000.

Mr Paul Dilulio
CEO Campbelltown City Council
August 1st, 2022

Dear Paul

Re: Campbelltown City Soccer Club – Steve Woodcock Reserve

I write to you on the behalf of the Board and members of Campbelltown City Social and Soccer Club, with a request for assistance with funding for upgrades of the Senior away change rooms at Steve Woodcock reserve, with a view of making them compliant for female participation.

FIFA Womens World Cup

CCSC is one of four venues that have been approved as a training venue for the upcoming FIFA Womens World Cup which will be held in Australia July/August 2023.

Part of this approval is on the provision that our home change room facilities are up to the specifications of FIFA, of which currently, they are not. Subsequently, CCSC has been offered funding of $182,000 plus gst to enable us to bring this facility up to standard.

We feel this is a great opportunity to upgrade the facilities of the away rooms, whilst home rooms are being upgraded. The funding we will be receiving from FIFA unfortunately won't be enough to cover the cost of both change rooms, so we are seeking funding of the balance from Council.

CCSC will be celebrating 60 years in 2023. We have seen much growth over the past 2-3 years (currently 555 members – 435 juniors and 120 seniors) in particular with female participation. This year CCSC has two senior women's teams and 3 junior teams. Female participation in Soccer is growing constantly and our commitment to women's soccer is extremely important to the growth and development of our club. We have a designated board member and committee to facilitate this growing part of the club. Next year we will be fielding an extra 3 teams and moving forward, the aim is to make CCSC a preferred club for female players to aspire to play at, as with our Senior Men's team, which are the most successful in the past 10 years in the state.

In fact our current Senior Men's Coach, Michael Matricciani, has been heavily invested in the Womens game and development in the past. Michael spent three years as head coach of Football SA NTC Girls and was awarded the 2018 Bob Bush Trophy, recognising the Women's National Premier League's Coach of the Year. The commitment to growing women's soccer at CCSC is supported by ALL.

Whilst it is very exciting to potentially be hosting a top 10 country at our club for training, the most important part of this upgrade will mean that we will be a go to venue for Womens soccer at all levels for training and playing games including A League. This is also an amazing opportunity to not only showcase our club and women's soccer but to showcase the Campbelltown City area and all it has to offer.

I have attached the quotes to upgrade both change rooms and umpires rooms for your information.

Upgrade Home Change rooms	$144,481 plus gst	$158,929
Upgrade Away Change rooms	$119,875 plus gst	$131,863
FIFA Funding	$182,000 plus gst	$200,200
Shortfall we are seeking fund for	$ 82,356 plus gst	$ 90,592

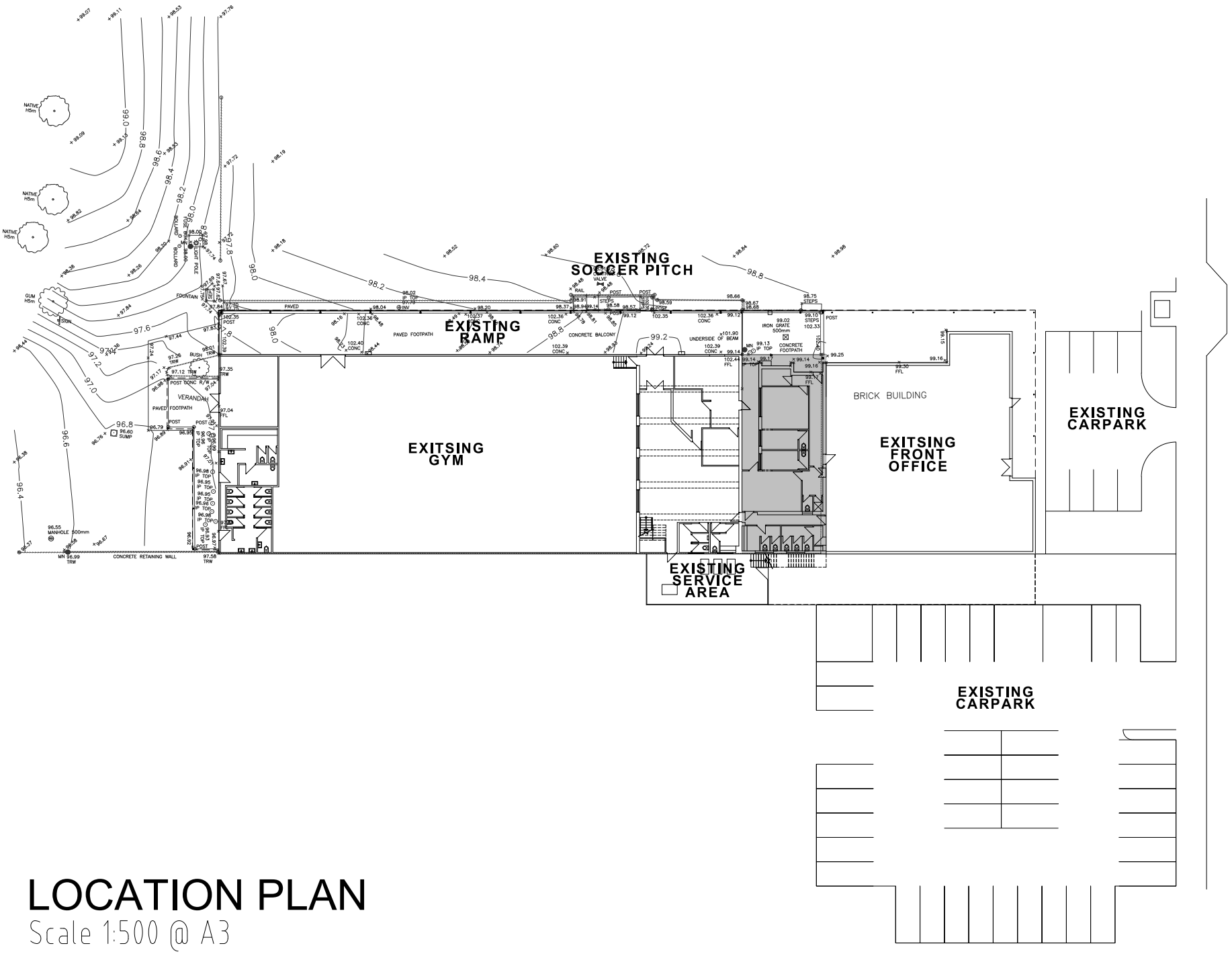
This project is also very time-sensitive, with the change rooms having to be finished by March 2023, therefore, there is a matter of urgency for this request. The builder who has quoted can start the project in September once the soccer season has finished, so we will need councils support by September.

….cont. page 2…….

We look forward to hearing back from council; please feel free to contact me should you require any further information.

Yours sincerely

Mary Centofanti
Board Member
Campbelltown City Soccer Club



LOCATION PLAN

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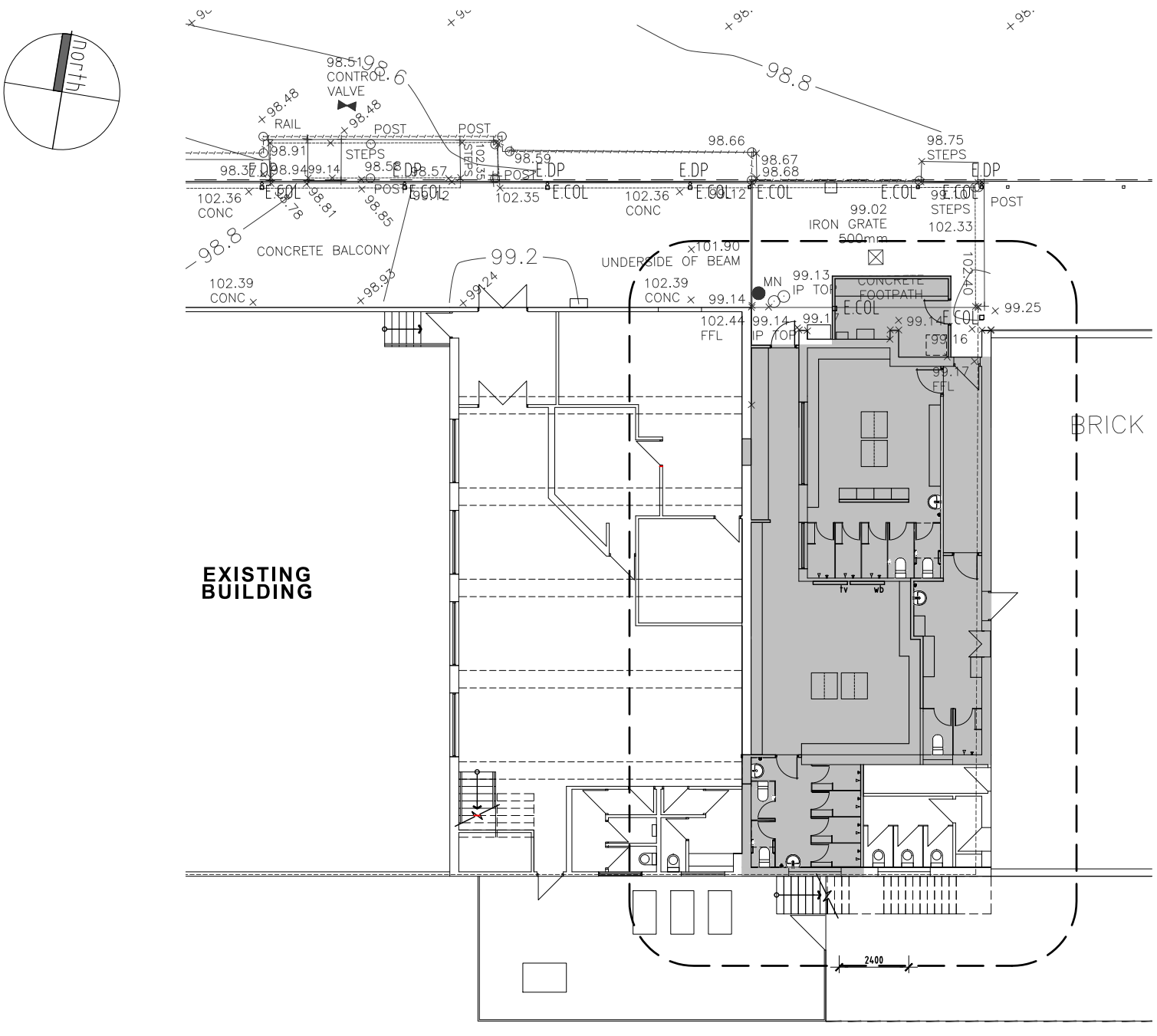

PROPOSED SITE PLAN

Scale 1:200 @ A3

JOB TITLE
CAMPBELLTOWN CITY SOCCER CLUB
SENIOR CHANGEROOMS UPGRADES

CLIENT
CAMPBELLTOWN CITY COUNCIL

ADDRESS
2/72 STRADBROKE ROAD
NEWTON SA 5074

DRAWING TITLE
LOCATION PLAN & PROPOSED SITE PLAN

AMENDMENTS

FOR APPROVAL

ANTHONYDONATOARCHITECTS
Suite 5/59 Fullarton Road | Kent Town SA 5087
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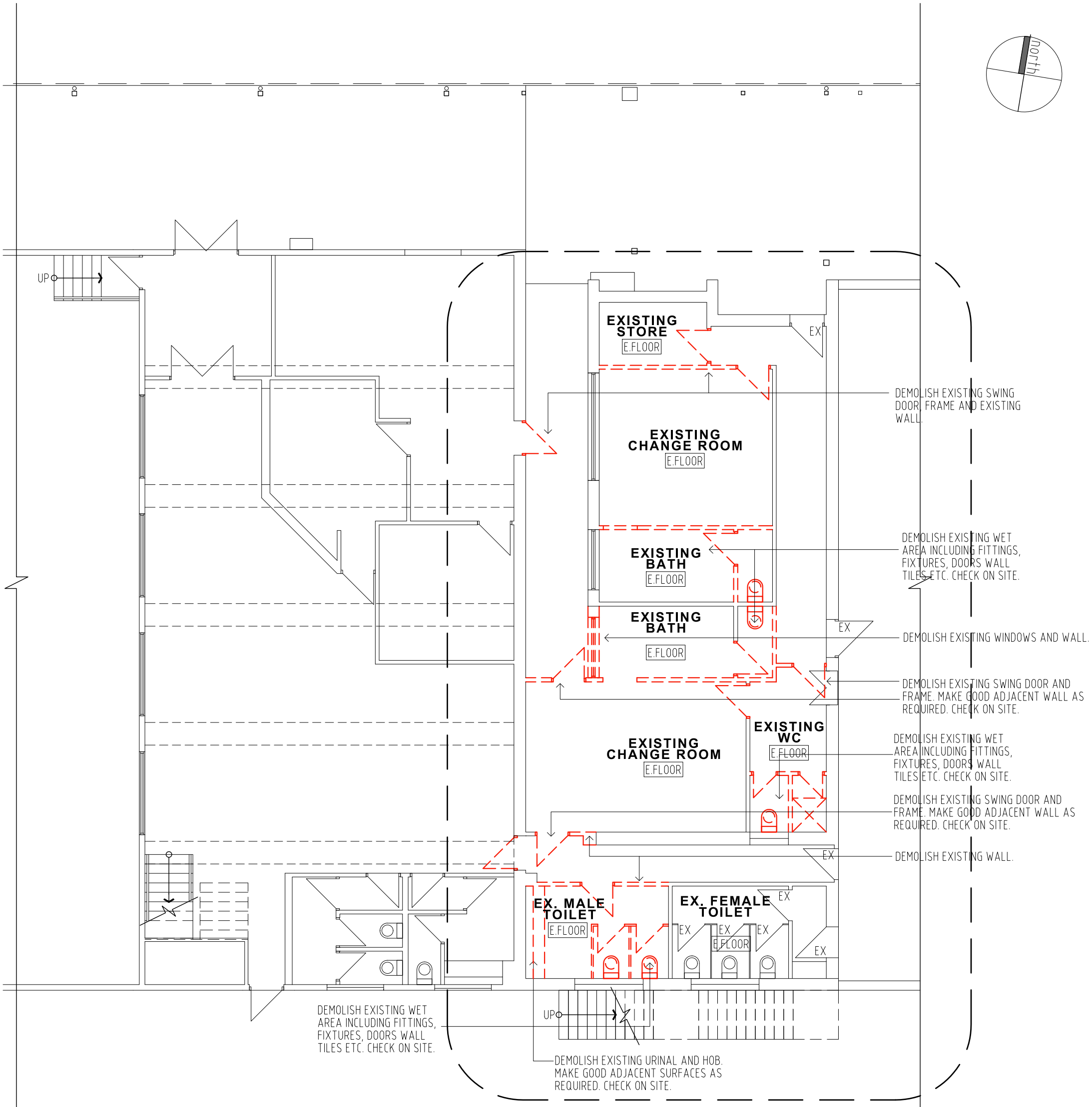
SCALE	PAGE	DATE	DRAWN	CHECKED
1:200	A3	AUG '22	VL	

JOB NO.	SHEET NO.	REVISION
5072-22	A01	739



DEMOLITION GROUND FLOOR PLAN

Scale 1:100 @ A3

AMENDMENTS

FOR APPROVAL

JOB TITLE
CAMPBELLTOWN CITY SOCCER CLUB
SENIOR CHANGEROOMS UPGRADES

CLIENT
CAMPBELLTOWN CITY COUNCIL

ADDRESS
2/72 STRADBROKE ROAD
NEWTON SA 5074

DRAWING TITLE
DEMOLITION GROUND FLOOR PLAN

ANTHONYDONATOARCHITECTS
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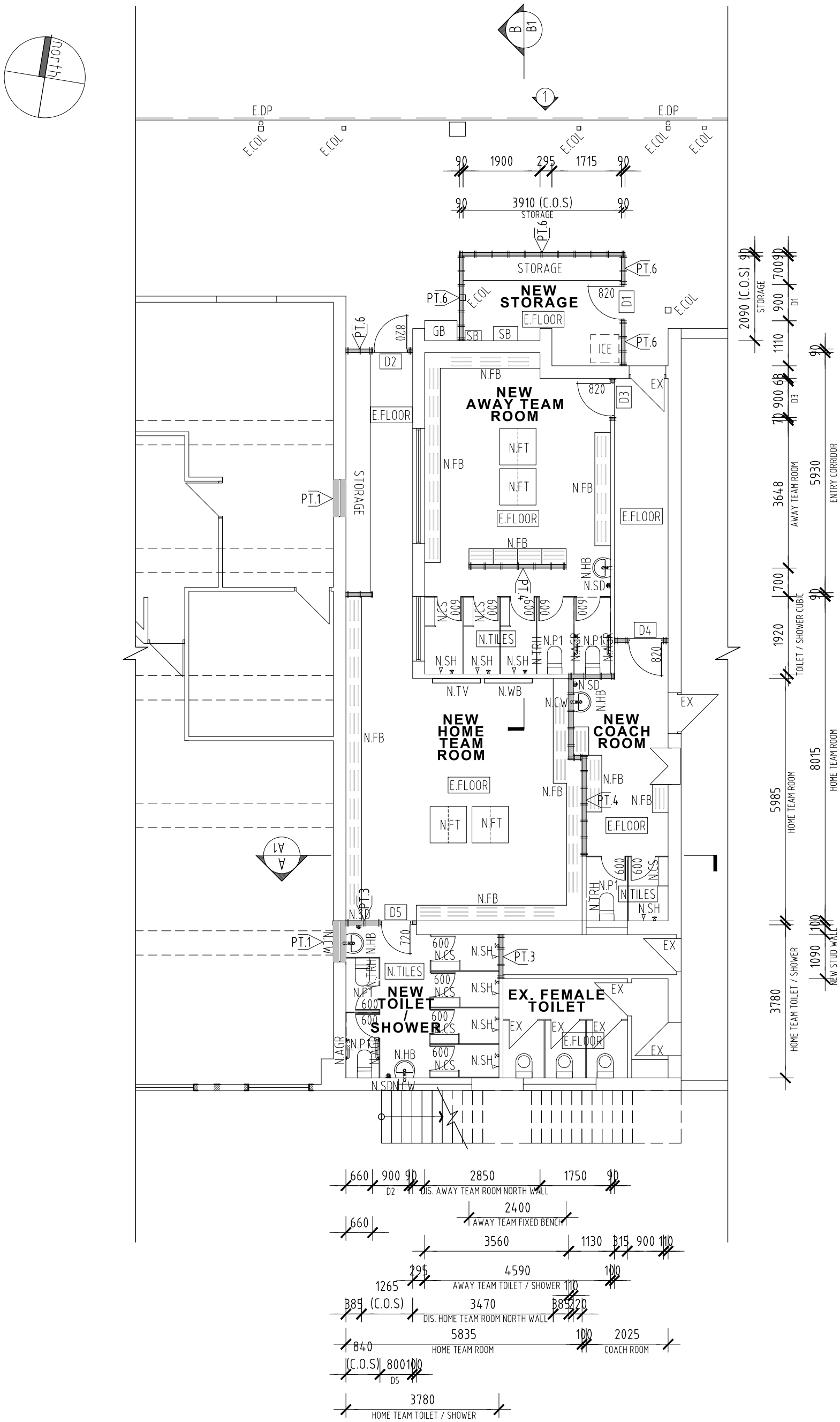
JOB NO.	SHEET NO.	REVISION
5072-22	A02	



PROPOSED GROUND FLOOR PLAN

Scale 1:100 @ A3

JOB TITLE
CAMPBELLTOWN CITY SOCCER CLUB
SENIOR CHANGEROOMS UPGRADES

CLIENT
CAMPBELLTOWN CITY COUNCIL

ADDRESS
2/72 STRADBROKE ROAD
NEWTON SA 5074

DRAWING TITLE
PROPOSED GROUND FLOOR PLAN

AMENDMENTS

FOR APPROVAL

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SCALE	PAGE	DATE	DRAWN	CHECKED
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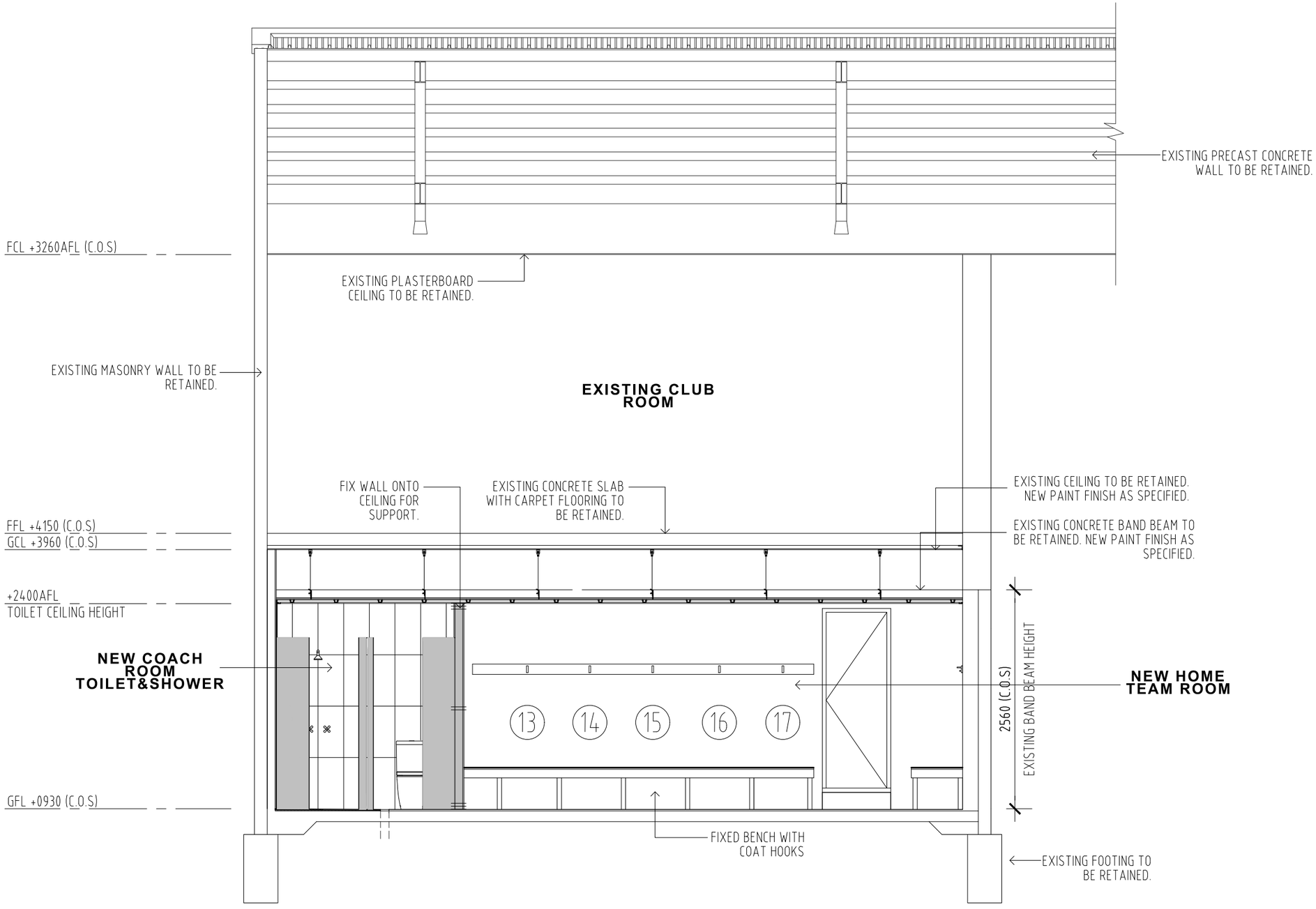
JOB NO.	SHEET NO.	REVISION
5072-22	A03	741



SECTION AA

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JOB TITLE
CAMPBELLTOWN CITY SOCCER CLUB
SENIOR CHANGEROOMS UPGRADES

CLIENT
CAMPBELLTOWN CITY COUNCIL

ADDRESS
2/72 STRADBROKE ROAD
NEWTON SA 5074

DRAWING TITLE
SECTION AA

AMENDMENTS

FOR APPROVAL

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SCALE	PAGE	DATE	DRAWN	CHECKED
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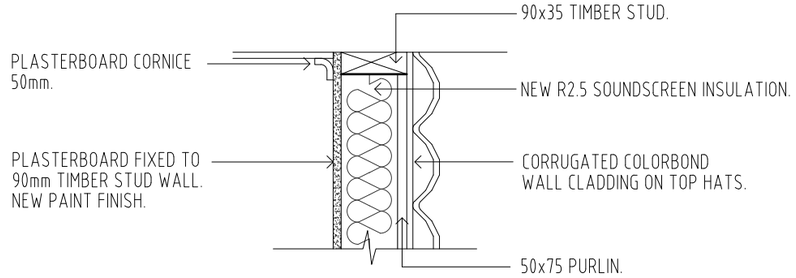
JOB NO.		SHEET NO.		REVISION
5072-22		A04		



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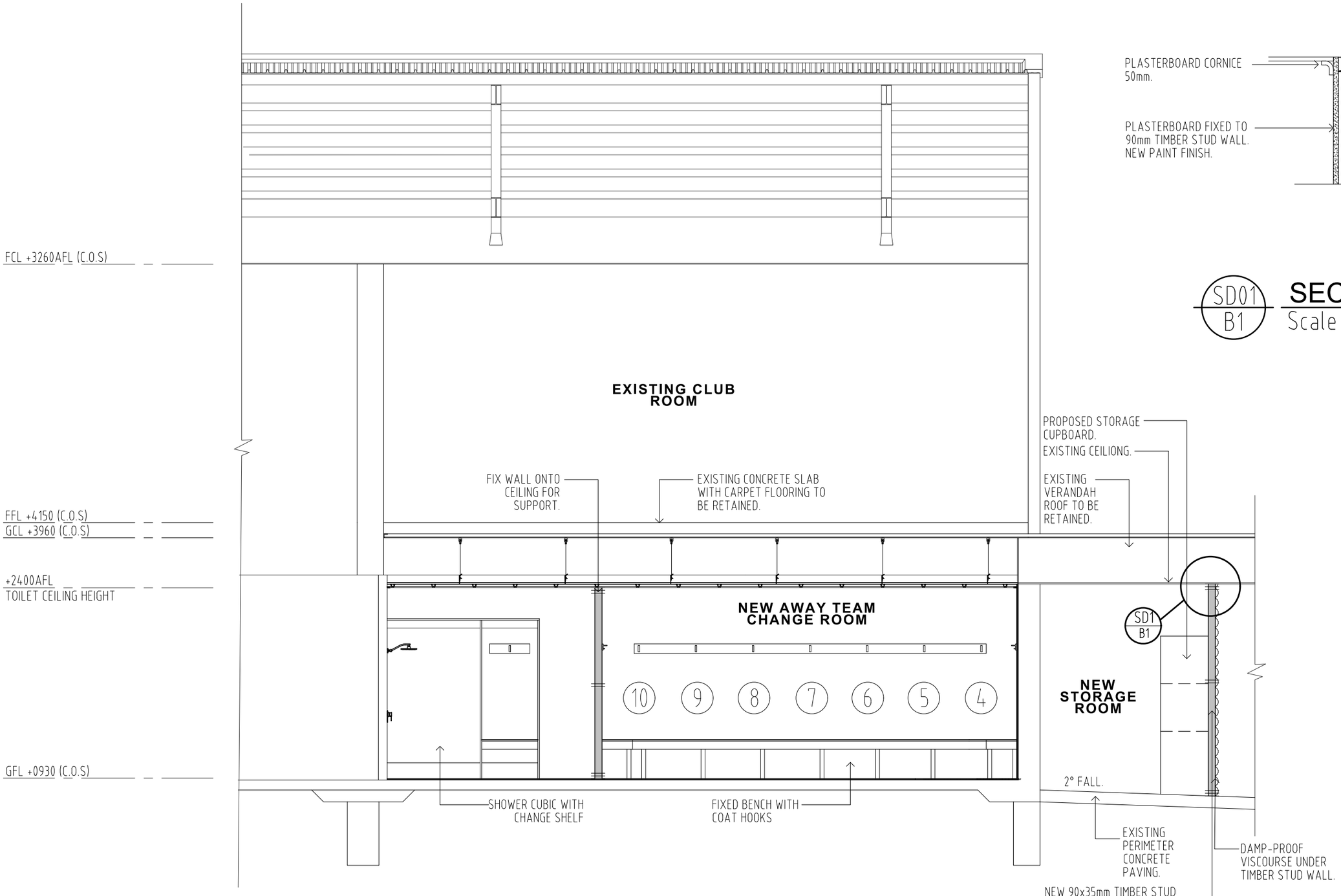

SECTION BB
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JOB TITLE
CAMPBELLTOWN CITY SOCCER CLUB
SENIOR CHANGEROOMS UPGRADES

CLIENT
CAMPBELLTOWN CITY COUNCIL

ADDRESS
2/72 STRADBROKE ROAD
NEWTON SA 5074

DRAWING TITLE
SECTION BB

AMENDMENTS

FOR APPROVAL

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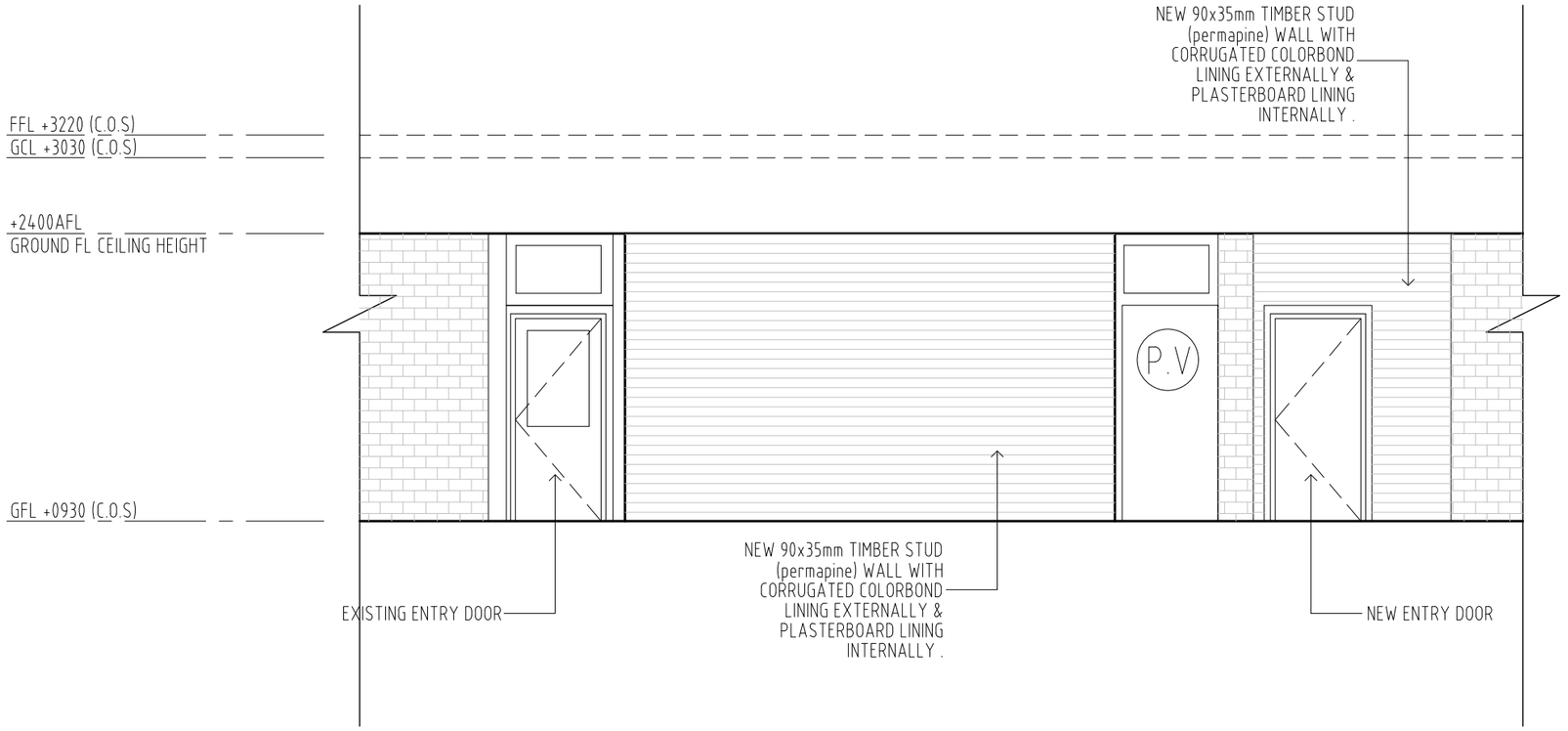

ELEVATION 1

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JOB TITLE
CAMPBELLTOWN CITY SOCCER CLUB
SENIOR CHANGEROOMS UPGRADES

CLIENT
CAMPBELLTOWN CITY COUNCIL

ADDRESS
2/72 STRADBROKE ROAD
NEWTON SA 5074

DRAWING TITLE
ELEVATION 1

AMENDMENTS

FOR APPROVAL

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JOB NO.	SHEET NO.	REVISION
5072-22	A06	

PROPOSED NOTES

1. FOR EXIT SIGNS / LIGHTS AND EMERGENCY LIGHTING REFER TO SERVICES CONSULTANTS DRAWINGS.
2. NEW FITTINGS AND FIXTURES IDENTIFIED ARE TO BE SUPPLIED AND INSTALLED BY BUILDER UNLESS NOTED OTHERWISE.
3. REFER TO SERVICE CONSULTANTS DRAWINGS FOR ALL LIGHTING, DATA, POWER, HYDRAULIC AND MECHANICAL UPGRADE.
4. INSTALLATION OF ALL NEW FIXTURES TO COMPLY WITH AS1428.1. PLUMBER TO CONFIRM THAT NEW PANS WILL SUIT EXISTING PLUMBING PRIOR TO ORDERING.
5. ALL NEW SANITARY FIXTURES TO BE CONNECTED INTO EXISTING PLUMBING AND DRAINAGE SYSTEMS AS REQUIRED. REFER TO SERVICE ENGINEERS DOCUMENTATION FOR DETAILS.
6. ALL PAVING LEVELS TO BE CHECKED ON SITE PRIOR TO COMMENCEMENT OF WORKS. ENSURE ALL NO STEP TRANSITIONS ARE ACHIEVED BEFORE PROCEEDING. CONTACT ARCHITECT IMMEDIATELY IF THERE ARE ANY ISSUES.
7. REPAINT ALL EXISTING WALL AND CEILING.
8. CHANGE ROOM FLOOR TO APPLY NON-SLIP EPOXY RESIN TO EXISTING CONCRETE FLOOR.
9. TOILET&SHOWER ROOM FLOOR CHANGE TO NON-SLIP TILES.
10. ONE TILE SKIRTING FOR GENERAL &1800H FOR SHOWERS.
11. SHOWER&TOILET CUBIC: (DURACUBE 3000 SERIES.)
12. FIXED BENCH SEATING: (DURACUBE BENCH SEATING 3BS.)

N.XX -NEW ITEM OR FIXTURE.
E.XX -EXISTING FIXTURE OR ITEM RETAINED.
L.XX -RELOCATED EXISTING ITEM OR FIXTURE.

PROPOSED LEGEND

XX -NEW SWING DOOR TO SELECTION. AD INDICATES ACTIVE DOOR WHERE SPECIFIED.

EX -EXISTING SWING DOOR/GATE RETAINED.

E.COL -EXISTING STEEL COLUMN RETAINED.
E.DP -EXISTING PVC DOWNPIPE TO BE RETAINED.
N.HB -NEW WALL MOUNTED HAND BASIN WITH OVERFLOW KIT AND MIXER TAP TO SERVICE ENGINEERS SPECIFICATION. MIRROR ABOVE AS SELECTED. CONNECT INTO CONCEALED WASTE IN STUD WALL (REFER TO INTERNALS FOR ADDITIONAL DETAILS).
N.SD -NEW WALL MOUNTED SOAP DISPENSER AS SPECIFIED.
N.CW -NEW CONCEALED WASTE IN STUD WALL REFER TO SERVICE CONSULTANTS DRAWINGS FOR DETAILS.
N.TRH -NEW TOILET ROLL HOLDER AS SPECIFIED.
N.HD -NEW HAND DRYER AS SPECIFIED. ALLOW POWER.
N.AGR -NEW AMBULANT GRAB RAILS AS SPECIFIED. INSTALL TO COMPLY WITH AS1428.1.
N.P1 -NEW TOILET SUITE TO SERVICE ENGINEERS SPECIFICATION. ENSURE THAT NEW PAN WILL SUIT EXISTING PLUMBING WHERE APPLICABLE PRIOR TO ORDERING.
N.FB -NEW FIXED BENCH DIMENSIONS REFER TO DURACUBE BENCH SEATING. LOOK DURACUBE BENCH SEATING (3BS) FOR DETAILS.
N.SH -NEW SHOWER ROSE AS SPECIFIED.
N.CS -NEW CHANGE SHELF AS PART OF DURACUBE FLOOR MOUNT FREE STANDING 3000 SERIES (3FFS).
N.FT -NEW FOLDING TABLE AS SPECIFIED.
N.TV -NEW WALL MOUNTED TELEVISION AS SPECIFIED.
N.WB -NEW WALL MOUNTED WHITE BOARD AS SPECIFIED.
E.FT -EXISTING FLOOR TRAP TO BE RETAINED. NEW CHROME WASTE GRATE TO MATCH EXISTING.
N.FT -NEW FLOOR TRAP WITH GRATE AS SPECIFIED.

NEW WALL TYPE LEGEND

PT.1 -NEW 140mm (CHECK ON SITE) MASONRY WALL TO BEST MATCH EXISTING.
-NEW RENDERED FINISH TO MATCH EXISTING. CHECK ON SITE. (INTERNAL SIDE OF WALL ONLY)
-NEW PAINT FINISH AS SPECIFIED.
-NEW TILED SKIRTING. REFER TO INTERNAL ELEVATIONS FOR DETAILS.

PT.2 -NEW RONDO 29mm BETAGRIP STANDARD DFC (BG01) FIXED TO EXSTING MASONRY WALL WITH RONDO 129 FURRING CHANNELS. INSTALL TO MANUFACTURERS DETAILS. FURRING CHANNELS AT MAX 600mm CENTRES.
-NEW 13mm FLUSHED AQUACHEK PLASTERBOARD (INTERNAL SIDES)
-NEW PAINT FINISH AS SPECIFIED.
-NEW WALL TILES AND TILED SKIRTING AS SPECIFIED. SEE INTERNAL ELEVATIONS FOR FURTHER DETAILS.

PT.3 -NEW 90x35mm TIMBER STUD PARTITION WALL. STUDS AT MAX. 600mm CENTRES. FROM FLOOR TO CEILING (VARIES - CHECK ON SITE).
-NEW 13mm FLUSHED PLASTERBOARD (BOTH SIDES OF INTERNAL WALLS)
-NEW 13mm AQUACHEK PLASTERBOARD (INTERNAL SIDE OF WET AREAS ONLY)
-NEW PAINT FINISH AS SPECIFIED.
-NEW WALL TILES AND TILED SKIRTING AS SPECIFIED (WET AREAS ONLY). SEE INTERNAL ELEVATIONS FOR FURTHER DETAILS.
-NEW 100mm ALUMINIUM SKIRTING AS SPECIFIED ELSEWHERE.
-NEW R2.5 SOUND SCREEN INSULATION.

PT.4 -NEW 90x35mm TIMBER STUD PARTITION WALL. STUDS AT MAX. 600mm CENTRES. FROM FLOOR TO CEILING (CHECK ON SITE).
-NEW 13mm FLUSHED PLASTERBOARD (INTERNAL SIDE OF WALL)
-NEW PAINT FINISH AS SPECIFIED.
-NEW 100mm ALUMINIUM SKIRTING AS SPECIFIED.
-NEW R2.5 SOUND SCREEN INSULATION.

PT.5 -NEW 150mm 1.1BMT STEEL STUD PARTITION WALL SURROUNDING LIFT SHAFT. STUDS AT MAX 450mm CENTRES. NOGGINGS TO MANUFACTURERS DETAILS.
-NEW 13mm FLUSH PLASTERBOARD (EXTERNAL SIDE OF SHAFT)
-NEW PAINT FINISH AS SPECIFIED
-NEW 100mm ALUMINIUM SKIRTING AS SPECIFIED.
-NO INSULATION

PT.6 -NEW 90x35mm PERMAPINE TIMBER STUD WALL. STUDS AT MAX. 600mm CENTRES. NEW 13mm FLUSH PLASTERBOARD=INTERNAL. NEW MONUMENT COLORBOND CORRUGATED CLADDING (HORIZONTAL LAY) ON 50x75 TIMBER PURLINS=EXTERNAL.

PROPOSED FLOOR TYPE LEGEND

E.FLOOR -EXISTING FLOOR COVERING TO BE RETAINED.
E.TILES -EXISTING FLOOR TILES TO BE RETAINED.
N.TILES -NEW FLOOR TILES AS SPECIFIED. SEE APPENDIX A - INTERNAL & EXTERNAL FINISHES SCHEDULE FOR SELECTION DETAILS.
E.VINYL -EXISTING VINYL FLOORING AND UNDERLAY TO BE RETAINED.
L.PAVER -INSTALL EXISTING RETAINED INTERLOCKING CONCRETE PAVERS AT NEW FLOOR LEVEL AS INDICATED. CHECK ON SITE TO ENSURE NO STEP TRANSITIONS AS REQUIRED. INSTALL ON COMPACT SOIL BASE TO ENGINEERS DETAILS.
N.CONC -NEW WOOD FLOAT FINISH CONCRETE FLOORING. REFER TO STRUCTURAL ENGINEERS DOCUMENTATION FOR DETAILS.
N.PCONC -NEW WOOD FLOAT FINISH CONCRETE. PROVIDE CEMENT RENDER WITH DULUX ACRATEX RENDERED ACRYLIC TEXTURE COAT. COLOUR AS SPECIFIED.
N.MATT -NEW ENTRANCE MATTING AS SPECIFIED.

DEMOLITION LEGEND

-DEMOLISH ALL ITEMS SHOWN DASHED.
EX -EXISTING SWING DOOR RETAINED.
-REMOVE EXISTING SWING DOOR.

E.COL -EXISTING STEEL COLUMN RETAINED.
E.DP -EXISTING PVC DOWNPIPE TO BE RETAINED.
R.HB -REMOVE EXISTING WALL MOUNTED HAND BASIN, MIXER AND MIRROR (IF REQUIRED - CHECK ON SITE). MAKE GOOD EXISTING WALL AS REQUIRED. CHECK ON SITE.
R.P1 -REMOVE EXISTING TOILET SUITE AND ANY ASSOCIATED HAND RAILS OR TOILET ROLL HOLDERS. MAKE GOOD ADJACENT WALL AND FLOOR AS REQUIRED FOR INSTALLATION OF NEW PAN (IF REQUIRED). CHECK ON SITE.
R.HD -REMOVE EXISTING WALL MOUNTED HAND DRYER. MAKE GOOD WALL AS REQUIRED. CHECK ON SITE.
-EXTENT OF PAVING TO BE REMOVED AND RETAINED FOR RE-INSTALLATION.
L.TB -REMOVE EXISTING WALL MOUNTED TIMBER BENCH AND STORE FOR RELOCATION. REFER TO PROPOSED SITE PLAN FOR DETAILS.

DEMOLITION FLOOR TYPE LEGEND

E.FLOOR -EXISTING FLOOR COVERING TO BE RETAINED.
E.TILES -EXISTING FLOOR TILES TO BE RETAINED.
R.TILES -REMOVE EXISTING FLOOR TILES.
E.VINYL -EXISTING VINYL FLOORING AND UNDERLAY TO BE RETAINED.
R.VINYL -REMOVE EXISTING VINYL FLOORING AND UNDERLAY.
L.PAVER -REMOVE AND RETAIN EXISTING INTERLOCKING CONCRETE PAVERS FOR RE-INSTALLATION. SEE PROPOSED FLOOR PLAN FOR DETAILS. AFTER REMOVAL COMPACT SOIL BELOW IN PREPARATION FOR RE-INSTALLATION.
E.CONC -EXISTING CONCRETE FLOORING TO BE RETAINED.

DEMOLITION NOTES

1. CONFIRM ON SITE EXTENT OF WORK PRIOR TO COMMENCEMENT OF ANY DEMOLITION WORKS.
2. REFER TO ALL CONSULTANTS DRAWINGS, NOTES AND SPECIFICATION FOR EXTENT OF DEMOLITION, RETENTION OR RELOCATION OF EXISTING FITTING OR FIXTURES.
3. DISCONNECT AND TERMINATE ALL SERVICES AS REQUIRED PRIOR TO DEMOLITION. WHERE FIXTURES REMOVED, REMOVE ALL REDUNDANT SERVICES TO THEIR POINT OF ORIGIN. MAKE GOOD WALLS, FLOORS, CEILING ETC. AS REQUIRED.
4. REFER TO SERVICE CONSULTANTS DRAWINGS AND SPECIFICATION FOR ALL FIRE SERVICES TO BE RELOCATED / REMOVED.
5. NOTE: ALL CONSULTANT DEMOLITION DRAWINGS TO BE READ IN CONJUNCTION WITH ARCHITECTURAL DEMOLITION PLAN.
6. SUPPORT AND PROP ALL LOADS/STRUCTURAL ELEMENTS AS REQUIRED PRIOR TO DEMOLITION.

R.XX -REMOVE EXISTING ITEM OR FIXTURE.
E.XX -EXISTING FIXTURE OR ITEM RETAINED.
L.XX -RELOCATE EXISTING ITEM OR FIXTURE.

JOB TITLE
CAMPBELLTOWN CITY SOCCER CLUB
SENIOR CHANGEROOMS UPGRADES

CLIENT
CAMPBELLTOWN CITY COUNCIL

ADDRESS
2/72 STRADBROKE ROAD
NEWTON SA 5074

DRAWING TITLE
LEGEND & NOTES

AMENDMENTS

FOR APPROVAL

ANTHONYDONATOARCHITECTS
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	A3	AUG '22	VL	
JOB NO.		SHEET NO.		REVISION
5072-22		A07		

11.8 Section 184 Process – Request to Engage a Real Estate Agent

Manager Finance, Simon Zbierski's Report

Purpose of Report

To seek Council's approval to appoint a real estate agent to commence the sale process for properties with rates in arrears for more than three years.

Strategic Plan Link

Focus Area 5.3.5 Provide a fair and equitable rating system

Previous Council/Committee Resolution

At its meeting on 5 April 2022, Council resolved:

'That, in accordance with Section 184 of the Local Government Act 1999:

1. Council authorise the appointment of Brenton Ward Real Estate to proceed to sale for Property 16, Hectorville

2. Council authorises the Chief Executive Officer to set:

   - the reserve price should the property proceed to auction, and
   - a minimum price to be accepted should the property proceed to sale by private contract (if the auction is unsuccessful)

3. Staff prepare a further report to Council should it need to commence the sale process by public auction for:

   - Property 13, Magill
   - Property 15, Athelstone.'

At its meeting on 18 January 2022, Council resolved:

'That:

1. Council authorise Staff to appoint Oakbridge Lawyers to continue the Section 184 process for the following properties should payment in full not be received or an acceptable payment arrangement not be agreed to in accordance with the timeframe to be set by the lawyers:

   - Property 13, Magill
   - Property 14, Newton
   - Property 15, Athelstone
   - Property 16, Hectorville
   - Property 17, Paradise
   - Property 20, Rostrevor
   - Property 21, Rostrevor

2. Staff prepare a further report for Council's consideration should it need to commence the sale process by public auction.

3. Council authorise Staff to appoint Oakbridge Lawyers to commence the Section 184 process for the following properties should payments not be received in accordance with the approved payment arrangement:

    - Property 18, Paradise
    - Property 19, Athelstone.'

Background

Following the resolution from the 5 April 2022 meeting, Staff engaged Brenton Ward Real Estate to undertake the next stage in the Section 184 process for Property 16, Hectorville. This action resulted in the sale of this property, with settlement occurring on 8 August 2022.

In regards to the other properties referenced in the resolution, payment was received to clear any arrears for Property 13, Magill. Therefore Staff ceased any further action in relation to this property.

In regards to Property 15, Athelstone, Staff are now seeking endorsement to engage a real estate agent to continue the Section 184 process.

Discussion

In accordance with Section 184 of the Act and Council's Rating Policy, the next stage of the process after engaging lawyers, is to consider appointing a real estate agent to commence the sale of the property by auction.

Council's Rating Policy confirms the next steps to be undertaken under the Section 184 process:

> 'Should the actions in Step 3 still fail to result in payment being received, Staff will seek a resolution from Council authorising the commencement of the sale process by public auction. Once approved, a real estate agent will be appointed, with the affected property being advertised on at least two separate occasions.
>
> If all amounts in arrears and costs incurred by Council relating to the Section 184 action are paid prior to the auction date, Council must call off the auction.
>
> Should Council proceed to auction, however it not result in a sale, Council is able to sell the property by private contract for the best price it can reasonably obtain. Following the sale it may be necessary, in exceptional circumstances, for Council to apply to the court for vacant possession.'

In response to the situation identified in the previous paragraph, Staff have incorporated in the proposed resolution the delegation for the Chief Executive Officer to set the reserve price for the auction stage and the minimum acceptable amount for the private contract stage if required. The Rating Policy provides guidance in regards to setting a reserve by relying on the property's capital value or an independent valuation.

Ratepayers continue to be afforded further opportunities to put a stop to the sale process should payment be made in full before the auction commences.

Engaging a real estate agent has been an effective step in the past to successfully recover all outstanding rates prior to the auction date.

At this time, there is only one property that is at this stage in the Section 184 process:

Property 15, Athelstone

Amount Outstanding (as at 27 July 2022): $7,491.90
In Arrears Since: 4 September 2018
Mortgage on Property: No

Council's lawyers issued its Section 184 Notice on 18 February 2022, with confirmation received that it was collected by the ratepayer. The ratepayer/homeowner living in the house is a pensioner, and as there is a Power of Attorney in place. Staff and the lawyers have had contact with the ratepayer's son, who is acting as Power of Attorney.

The son indicated that he was applying to withdraw superannuation funds to clear the arrears and in the interim, offered a payment arrangement of $500 per fortnight, which Staff accepted in March 2022.

Since this time, Council has only received a total of $300 in rates payments. Since May 2022, Staff have attempted to contact the son on 5 occasions with only one response in early May advising that they had recently had surgery and was still working through the process to access superannuation funds.

Staff's recommendation from the April 2022 Council meeting was to place any further action on hold for three months until further advice is received on the ratepayer's superannuation status and subject to the payment arrangement is maintained.

Due to the lack of communication and action by the ratepayers and their son and as there is no consistent payment arrangement in place, nor an update on accessing superannuation funds, the engagement of a Real Estate agent may be an effective way to formulate a resolution in regards to the outstanding rates balance for this property.

To provide the ratepayer with another opportunity to resolve the outstanding debt, Staff have sent a letter to the property and also emailed the son on 1 August 2022 advising them that if a suitable arrangement is not in place by the end of August 2022, approval has been sought from Council to engage a Real Estate agent to continue the Section 184 process.

It is expected that this action will help establish a regular payment arrangement or confirm that superannuation funds are available to cover the outstanding rates balance.

Social Implications

Council is committed to working with ratepayers to meet their financial commitments to Council and to support them remaining in their houses. Council has developed consistent and effective processes to support people experiencing financial difficulties and actively encourages people to talk to Council if they require a suitably negotiated payment plan.

There are a number of agencies and organisations who can also provide financial support and advice to people who require it. The earlier people seek support from Council or other organisations the better the outcome is likely to be.

Environmental / Climate Change Implications

There are no environmental / climate change implications in relation to this report.

Asset Management Implications

There are no asset management implications in relation to this report.

Governance / Risk Management

To be able to sell a property to recover rates, Council must adhere to the requirements of Section 184 of the Act.

Council has undertaken all steps necessary leading up to this stage, with Staff now recommending that a real estate agent be appointed. Should the ratepayer in this case decide not to repay the outstanding amount and Council sells the property, there may be some negative feedback regarding Council following through with the sale process.

This power is not delegated to any member of Staff, therefore any decision to appoint a real estate agent to commence the sale process must be approved by Council.

Community Engagement

There is no requirement to consult with the Community except for the ratepayer/s, mortgagee and caveat holders (where applicable) associated with the property. Documentation seeking payment has been developed in accordance with the requirements of the Act, with no payments being received by the stated deadline.

Regional Implications

There are no regional implications in relation to this report.

Economic Development Implications

There are no economic development implications in relation to this report.

Financial Implications

Taking action to recover these outstanding rates is one of the last courses of action available to Council and sends a strong message that non-payment of rates will not be tolerated.

Following this process ensures that the whole Community is being treated fairly and equitably. Council is able to recover costs associated with any rates in arrears (eg including fines, interest, debt collection fees and the non-GST component of any real estate agent fees).

Should a property proceed to sale, Council is the first creditor to receive payment to clear any debts owed to it.

Recovery of these amounts will improve Council's cash flow and reduce the level of outstanding amounts owing for rates.

Recommendation

That, in accordance with Section 184 of the Local Government Act 1999:

1. **Council authorise the appointment of Brenton Ward Real Estate to proceed to sale for Property 13, Magill should the outstanding rates balance is not paid in full or a suitable payment arrangement is not established by 31 August 2022**

2. **Council authorises the Chief Executive Officer to set:**

    - **the reserve price should the property proceed to auction, and**

    - **the reserve price is the minimum price to be accepted should the property proceed to sale by private contract (if the auction is unsuccessful).**

11.9 Consent Items

Items within this section have been included for information and where it was considered that little discussion was foreshadowed.

These items have been listed together to allow the Members more time to consider the strategic and operational issues facing Council.

Members still have the opportunity to ask questions regarding these reports and to move alternative recommendations should they wish.

11.9A The Gums Landcare and Campbelltown Landcare Group Calendar of Events for 2022

Environmental Projects Officer, Sue Graham's Report

Purpose of Report

To provide Council with the Work Program for consideration from The Gums and Campbelltown Landcare Groups for the remainder of 2022.

Strategic Plan Link

Focus Area 2.1.4 Provide support to local environmental action groups and initiatives

Focus Area 2.2.3 Provide opportunities for the Community to engage with nature

Previous Council/Committee Resolution

Nil.

Background

The Gums Landcare Group and The Campbelltown Landcare Group both play an important role at The Gums and WPPW (Wadmore Park/Pulyonna Wirra) respectively, managing weeds and enhancing biodiversity through plantings, as well as other activities. Each year they provide Council with a copy of their Works Plan for consideration and endorsement.

Discussion

The attached documents provide Council with both The Campbelltown Landcare and The Gums Landcare Group's Work Agenda for 2022. As in previous years, Council Staff will continue to liaise with the Landcare Groups and provide support to assist them in achieving their goals in the conservation of biodiversity in their respective Parks.

The Campbelltown Landcare Group will be concentrating their efforts on caring for previous plantings as well as weed control and planting native grasses in some sections. The group has also been actively involved and working with Staff in relation to exploring alternative approaches to managing native grass areas in WPPW, in particular Aboriginal Land Management Practices and have utilised a grant from Green Adelaide to host several Kaurna walks including one on cultural burns with Green Adelaide representatives and a renowned cultural burn expert. Staff will be progressing this further as a key part of the Management Plan. Campbelltown Landcare have undertaken a lot of the preliminary work in helping to instigate progress in this area.

The Gums Landcare Group Work Plan involves some weed control, one planting event, and hosting a number of events including a native bee expert, fungi expert and several larger events including Green Adelaide volunteer celebration and Nature Fest. The Gums Landcare Group have also commissioned a Fauna study within that section of Third Creek which was completed in June and are currently working with Council Staff on the Third Creek erosion control project that recently received a Water Sustainability Grant.

Social Implications

Both Landcare Groups are made up of volunteers who have looked after local parks for many years. They encourage participation at their working bees by interested Community members, encouraging social interaction and often communicate with residents about their work whilst out and about in the park.

Through the events run by The Gums Landcare Group, increased opportunity for social participation and involvement with nature based events is encouraged.

Environmental / Climate Change Implications

The Landcare Groups' primary activities focus on enhancing biodiversity within the parks through planting and weed control activities, as well as Community engagement opportunities and getting people connected to nature.

Asset Management Implications

There are no asset management implications in relation to this report.

Governance / Risk Management

There are no governance / risk management implications in relation to this report.

Community Engagement

There are no Community engagement implications in relation to this report.

Regional Implications

There are no regional implications in relation to this report.

Economic Development Implications

There are no economic development implications in relation to this report.

Financial Implications

There are no financial implications in relation to this report.

Recommendation

That Council note the report and support the Work Plan provided for the remainder of 2022.

11.9B Appointment of Independent Member to the Audit & Governance Advisory Committee

General Manager Corporate & Community Services, Michelle Hammond's Report

Purpose of Report

To recommend the appointment of Mr Roberto Bria as an Independent Member to the Audit & Governance Advisory Committee for a period of three years.

Strategic Plan Link

Focus Area 5.3.3 Provide corporate and financial governance that meets the needs of our Community and legislative requirements

Previous Council/Committee Resolution

At its meeting on 21 December 2021, Council resolved:

'That Council

1. appoint the following Independent Members to the Audit & Governance Advisory Committee for the following terms:

    - Mr Roberto Bria until 30 November 2022
    - Mr Phil Vincent until 30 November 2023
    - Dr Andrew Johnson until 30 November 2024, and

2. thank Mr Leigh Hall for his long term contribution, commitment, and wise advice to the Committee since its inception.'

Background

In November 2021, a recruitment process was undertaken to recruit Independent Members for the AGAC (Audit and Governance Advisory Committee). The positions were also advertised on the AICD (Australian Institute of Company Directors) and Women on Boards Board positions websites, as well as promoted via the Adelaide East Herald, social media and Council's website.

The Terms of Reference for the AGAC contained a transition year which enabled appointees to be appointed for one, two and three year terms. The purpose of this staggered appointment was to ensure continuity of Independent Committee Members going forward, rather than all Independent Members finishing their terms at the same time.

Discussion

Mr Roberto Bria, current chairperson of the AGAC was appointed for a one year term which expires on 30 November 2022. Mr Bria has capably served the Committee for two terms, and continues to be an excellent contributor who provides both practical and contemporary advice and support.

Staff consider it would be prudent and sensible to appoint Mr Bria for a three year term given the upcoming Council election and the potential change in Elected Member representation on the Committee. In addition, the recruitment of Independent Members was only completed in December 2021 and the only reason Mr Bria was given a one year term was to enable this staggered appointment arrangement.

In accordance with the Terms of Reference for the Committee, the AGAC Chairperson must be an Independent Member and will be appointed by the AGAC. Mr Bria's term as Chairperson also expires on 30 November 2022. The Committee will be responsible for appointing a Chairperson at this time.

Social Implications

Providing opportunities for Community participation on relevant Committees enables improved outcomes for the wellbeing of residents within the area.

Environmental / Climate Change Implications

There are no environmental / climate change implications in relation to this report.

Asset Management Implications

There are no asset management implications in relation to this report.

Governance / Risk Management

The appointment of Independent Members aligns to the requirements of the Terms of Reference for the Committee. This Committee forms a vital role in overseeing Governance and Risk Management issues for Council.

Community Engagement

There are no Community engagement implications in relation to this report.

Regional Implications

There are no regional implications in relation to this report.

Economic Development Implications

There are no economic development implications in relation to this report.

Financial Implications

Current fees for Independent Members are $400 per meeting, and $500 for the Chairperson. These fees can be funded from existing budgets.

Recommendation

That Council appoint Mr Roberto Bria as an Independent Member to the Audit & Governance Advisory Committee for the following terms for the period ending 30 November 2025.

11.9C Cat Enclosure Acquisition and Support Options

Team Leader Administration & Regulation, Shauna Geyer's Report

Purpose of Report

To report on options to assist low-income households with the acquisition of appropriate cat enclosures to safely contain their cats within their property.

Strategic Plan Link

Focus Area 1.4.5 Promote responsible animal ownership

Previous Council/Committee Resolution

At its meeting on 05 July 2022, Council resolved:

> 'That Staff prepare a report exploring options to assist low-income households with the acquisition of appropriate cat enclosures to safely contain their cats within their property'.

Background

Some residents have raised concern over the potential cost of containing their cats so this report will outline the lower cost RSPCA endorsed options available and what forms of financial assistance are available.

Discussion

When reading the RSPCA's online document 'Safe and Happy Cats' (www. safeandhappycats.com.au) they advise that the cheapest and easiest option is to contain pet cats inside. The RSPCA recommends the owner of the cat should supply enough space, mental and physical enrichment and at least two litter trays per cat. They should set up different sleeping, hiding and scratching areas in the home as well as access to food and clean water. The majority of cat owners would already have this system in place in some form.

The RSPCA also acknowledges that having a secure outdoor enclosure is a great way to expand a cat's environment. This can be achieved by building a freestanding enclosure or having an enclosure that is linked to the house, enabling the cat to choose whether to be inside or out and have the option to return inside if something outside scares them. A freestanding enclosure is an affordable way for cats to have outside time in a safe way, there are many on the market, available locally or via delivery, and while doing a quick search the average costs range from $350 to $1,100 each.

Below are some examples at the lower end of this range:

Premium Portable Cat Enclosure
Size: 1.2m (length) by 1.2m (wide) by 1.2m (height)
Cost $399 excluding shipping.

Cabana Cat Enclosure Run
Size: 2.7m (L) by .95m (W) by 1.27m (H)
Cost $320 excluding shipping.

For residents wanting more freedom for their cats, more expensive options are available, including fence rollers and more comprehensive netting systems, however costs would vary depending on the various back or side yard set ups.

When considering these costs it is important to understand the investment already made or being committed to owning a cat. Animal Medicines Australia released a report called Pets and the Pandemic: A social research snapshot of pets and people in the COVID-19 era at www.animalmedicinesaustralia.org.au. In this report they identified that on average cat owners are spending $2,100 each year including food, veterinary services and pet healthcare products. This is a considerable commitment with the addition of a simple cat run being a one off expense equivalent to 14% of the total cost of the annual ownership cost of owning a cat.

Council has reached out to other Councils already managing a Cats By-Law and they provide no assistance to residents for the setup of cat enclosures. Support instead was provided to reduce the cost of cat ownership, with special opportunities and prices ($10) for microchipping organised by Councils. Campbelltown City Council has run these days in the past and this would be a great initiative to facilitate in the future if the By-Law is implemented, and provide some financial relief to owners.

Council currently has no financial assistance programs in place, nor do organisations such as the Dog and Cat Management Board. Assistance is provided for the initial ownership of cats with various adoption and de-sexing programs in place, however nothing after the initial adoption/purchase.

Social Implications

For many people pet cats can offer companionship, having a pet can bring joy, prevent loneliness and improve their mood. Keeping your cat safe inside with an enriched life can be beneficial for everyone.

Environmental / Climate Change Implications

Keeping pet cats inside is a great way for our native species to be protected. Research shows that owned cats that are allowed to roam kill a large number of reptiles, birds and mammals per year with 59% of theses native species. Keeping cats contained also protects them from parasites and disease, feral animals such as foxes, and other associated environmental issues and from indiscriminate soiling of gardens and play areas.

Asset Management Implications

There are no asset management implications in relation to this report.

Governance / Risk Management

There are no governance / risk management implications in relation to this report.

Community Engagement

There are no Community engagement implications in relation to this report.

Regional Implications

There are no regional implications in relation to this report.

Economic Development Implications

There are no economic development implications in relation to this report.

Financial Implications

There are no financial implications in relation to this report.

Recommendation

That the Cat Enclosure Acquisition and Support Options report be received.

11.9D Elected Members' Training and Development Plan 2022/2023 and December 2022 Council Meeting

Manager Governance & Community Interaction, Lyn Barton's Report

Purpose of Report

To provide Council with a draft Elected Members' Training and Development Plan for consideration and adoption and to cancel the 20 December 2022 Council meeting.

Strategic Plan Link

Focus Area 5.1.1 Grow our leaders at all levels to drive leadership excellence and capability

Focus Area 5.3.3 Provide corporate and financial governance that meets the needs of our Community and legislative requirements

Previous Council/Committee Resolution

Nil.

Background

Section 80A of the *Local Government Act 1999* states:

(1) A Council must prepare and adopt a Training and Development Policy for its members.

(2) The Policy must

(a) be aimed at assisting members in the performance and discharge of their functions and duties; and

(b) comply with any requirements prescribed by the regulations.

(3) A Council may from time to time alter its Policy, or substitute a new Policy.

Council's Elected Members' Training and Development Policy requires an Elected Members' Training and Development Plan to be developed and reviewed annually.

Staff have prepared a draft Elected Members' Training and Development Plan (attached) that considers training and development activities required from a legislative, professional development and operational perspective, particularly with regard to the upcoming 2022 Local Government elections and the requirement for all Elected Members to complete the LGA Training Standards.

With this in mind, Staff propose to conduct Leading Campbelltown, its annual Training Program in late November to enable some of the legislative training modules to be delivered prior to the first meeting of the new Council term. This will support Elected Members develop an effective working relationship and share a consistent level of knowledge to fulfil their roles from the outset of the term.

Staff have arranged an off-site Residential Training Program on Friday 25 November and Saturday 26 November and will encourage all Elected Members to attend. Staff will advertise the Program at Candidate Briefing Sessions and correspondence with Candidates in the lead up to the Council elections to assist candidates 'save the date' for the planned training, should they be elected.

It should also be noted that following the Local Government Elections in November and delivery of the first suite of training, Staff will survey the new Council for further training and development needs.

Key dates for induction and training following the November 2022 elections are as follows:

14-24 November	Individual Elected Member Inductions by the Chief Executive Officer
22 November	Elected Member Training workshop and Swearing in of Elected Members
25 and 26 November	Leading Campbelltown (Residential Training Program)
3 December	Tour of Council area and facilities
6 December	First Council Meeting
13 December	Elected Member Training Workshop
20 December	Elected Member Training Workshop

Due to the expanded training requirements associated with the Draft LGA Training Standards, Staff recommend that the 20 December 2022 Council meeting be cancelled and replaced with an Elected Member Training workshop. A revision to Clause 31A of the Code of Practice for Meeting Procedures has been prepared to accommodate this change and ensure that there is a smooth transition to the new Council term (revised Procedures attached for consideration).

Social Implications

Implementation of a training and development package for Elected Members assists Members undertake their role within the Community in an effective and confident manner.

Environmental / Climate Change Implications

There are no environmental / climate change implications in relation to this report.

Asset Management Implications

There are no asset management implications for Council from this report.

Governance / Risk Management

Preparation of an Elected Members' Training and Development Plan assists Members to obtain and maintain skills and knowledge relevant to their role.

It is a legislative obligation for Elected Members to complete the LGA Training Standard requirements within the first 12 months of the Council term. In addition, it is consistent with best practice expectations for corporate governance with respect to Elected Members' training and development and a Focus Area within Council's Strategic Plan.

To facilitate effective training arrangements, Staff have prepared a Draft Training and Development Plan that includes a range of training processes over an extended period of time to ensure that Elected Members have maximum opportunity to comprehend the vast amount of information involved.

Members should note that for Council to update its Code of Practice for Meeting Procedures, the amendment needs to be supported by at least two-thirds of the Elected Members entitled to vote on the resolution as per Clause 6 of the Code of Practice for Meeting Procedures.

Community Engagement

Senior Staff were consulted in the development of the draft Plan.

Regional Implications

Staff are working with the Eastern Region Alliance Councils in relation to delivering Election processes in a similar way. As part of these processes, Staff will discuss regional delivery of training opportunities where appropriate.

Economic Development Implications

There are no economic development implications in relation to this report.

Financial Implications

The draft Elected Members' Training and Development Plan is funded through the 2022/2023 Annual Business Plan and Budget. Costs associated with the Plan are related to the engagement of guest speakers for specific modules and provision of a Residential Training Program for the new Council.

Recommendation

That Council:

1. **adopt the draft Elected Members' Training and Development Plan 2022/2023 as presented**
2. **cancel the Council meeting scheduled for Tuesday 20 December 2022**
3. **adopt the revised Code of Practice for Meeting Procedures with updated Clause 31A.**

11.9E Monthly Finance Report

The Monthly Finance Report for the period 1 July 2022 to 31 July 2022 is attached to this report.

Recommendation

That the Monthly Finance Report for the period 1 July 2022 to 31 July 2022 be received.

11.9F CWMS Management Committee – Call for Nominations

Recommendation

That the correspondence from the Local Government Association dated 8 August 2022 be received.

Recommendation

That the Consent Items be received and the recommendations contained therein be adopted.

12. Member's Reports

13. Closure of Meeting

The Gums LANDCARE GROUP INC.

SUPPORTED BY:

CAMPBELLTOWN CITY COUNCIL

Government of South Australia
Green Adelaide

Gerry Butler, Chairman
Phone: 0407 972 149
Email: gbutler@landcaresa.asn.au

The Gums Landcare Group

Landcare Association of South Australia

Works Calendar 2022

Date	Activity
Saturday March 5 0900-1100	**Olive control with Peter Clark** (meet at Brookside Cellars - entrance to The Gums) RSVP Ian Johnson 0416 528 387 if weather is inclement
Sunday, March 27 1800 - 2000	**Kaurna Welcome to 2022 – Ivan 'Tiwu' Copley** **Ivan will launch our 2022 Calendar and Welcome us to Country.** Brookside Cellars - The Gums – BBQ dinner provided **RSVP to Gerry 0407972149 for catering and COVID safe planning**
Tuesday April 12 (prior to Easter) *Dinner 1830-1900* *AGM - 1900-1930* *Talk - 1930-2030* *Supper -2030-2100*	**'Native Bee and Wasp Taxonomy' Dr Kit Prendergast (@BeeBabette) including impact on our biodiversity by feral bees. (Presentation will be via Zoom:** *link to be advised***)** **Preceded by The Gums Landcare Group Annual General Meeting showcasing the work of our volunteer group over the last 12 mths.** Brookside Cellars - The Gums – Speaker, dinner and supper provided **RSVP to Gerry 0407972149 for catering and COVID safe planning**
Sunday, April 24 1000 - 1130	**Mulching and Weed Control** (Fourth Street entrance - The Gums). Priority Targets: Olive seedlings and grasses (i.e. Kikuyu, Couch) and broadleaf weeds **Spreading of mulch supplied by Council.**
Friday, May 6th 1000 – 1130	**Weed Control** (meet at Brookside Cellars - entrance to The Gums) **Spreading of mulch supplied by Council.**
Saturday May 14th 1000 – 1500	**Green Adelaide Annual Volunteer Recognition Event** Brookside Cellars - The Gums – Speakers, workshops and catering provided, **organised by Green Adelaide Volunteer Support team** **RSVP Amy Anderson (amy.anderson@sa.gov.au)**
Thursday June 5th *(tbc)* 1000 - 1130	**World Environment Day: Landcare information session and planting with school children (St Joseph's Tranmere) and members of The Gums Landcare Group** (meet Fourth Street entrance to The Gums).
Friday July 1 *(tbc)* 1000 – 1130	**Weed Control** (meet at Brookside Cellars - entrance to The Gums) **Spreading of mulch supplied by Council.**

Tuesday, July 12th (School Holidays) *(tbc)* 1900-2030 (Talk)	**'Fungi in The Gums - Talk' Information session by expert on fungi – Dr Teresa Lebel, State Herbarium .** (Meet at Brookside Cellars, Moore Street). Event entry by donation. **RSVP to Gerry 0407972149 – numbers limited to 30 as per our COVID Safe plan**
Sunday, July 16th *(tbc)* 1100 – 1230 (Walk)	**'Fungi in The Gums - Walk' Information session by expert on fungi – Dr Teresa Lebel, State Herbarium.** (Meet at Brookside Cellars, Moore Street).
Friday, Aug 5th *(tbc)* 1000 – 1200	**Weed Control** (meet at Fourth Street entrance to The Gums) **Spreading of mulch supplied by Council.**
Friday, Sep 2 *(tbc)* 1000 - 1130	**Weed Control** (meet at Moore Street entrance to The Gums) Planning day for the Nature Festival
A Day at The Gums – Nature Festival: Saturday, Oct 8 1000-1500	**A Day at The Gums – Nature Festival** at Brookside Cellars, Moore Street, Tranmere). Displays by Campbelltown Landcare & Environment groups and other affiliated organisations and schools. Free family-friendly event including a light lunch, tea/coffee/soft drinks supplied courtesy Athelstone Kiwanis, supported by Campbelltown City Council. **Enquiries to Gerry Butler 0407972149**
School Holidays: *(tbc)* Wed, October 12 1100-1300	**Spiders, Ants, termites and other insects that we find in The Gums.** Expert Speaker *to be confirmed* (Meet at Brookside Cellars, Moore Street, Tranmere). Event entry by donation, please bring a light lunch, tea/coffee/soft drinks supplied**. RSVP required – numbers limited to 50**
Saturday, Oct 15 *(tbc)* 0800 - 0930	**Bird watching walk and information session** (meet at Fourth Street entrance to The Gums). Expert Speaker *to be confirmed*. **Reminder: Aussie Backyard Bird Count (17-23 October 2022)**
Friday, Nov 4 *(tbc)* 1000 – 1130	**Weed Control** (meet at Moore Street entrance to The Gums) **Spreading of mulch**
Sunday, Dec 4 *(tbc)* The Gums (South side near the log hut) (tbc) 1800-2000	**End of year BBQ:** 6pm details TBA (jointly with Campbelltown Landcare Group) BYO, please RSVP to Secretary (Marina)

All Working Bees generally commence at 10:00am, meeting at Fourth or Moore Street end of Third Creek (unless advised otherwise). We will continue a social opportunity with the Working Bees, followed by morning tea and coffee at 11.30am (BYO to share).

This project has received grant funding from the Australian Government Volunteer Support Program and Campbelltown City Council.

The project agenda for 2022 may be subject to change, due to weather or unforeseen circumstances. For example, weed control is dictated by weather and may need to be planned just before the activity. For more information about The Gums Landcare Group or to confirm program details closer to the date please phone:

Gerry Butler, Chairman
Phone: 0407 972 149
Email: gbutler@landcaresa.asn.au
Or
Marina Walker 0415 418 637, Libby Bartram 0427 555 196, John Bartram 0400 404 132 or Ian Johnson 0416 528 387

Meeting Agenda 2022

The Committee's bi-monthly meetings will be held on a regular basis usually early in the months of April, June, August, October and December to ensure that issues can be brought to the Working Bees for wider discussion. Please contact our Secretary (Marina Walker) if you wish to attend.

The Annual General Meeting will be held on Tuesday April 12, 2022, as an evening meeting with a guest speaker, in Brookside Cellars Hall. The Membership Year is the Calendar Year and membership fees **($30/year for Families & Corporate Members and $20/year for Individual members**) can be paid to our Treasurer Ian Johnson at Working Bees or by arrangement.

Get Involved!

A number of local residents who were concerned about conserving and rehabilitating The Gums Reserve in the Campbelltown City Council area came together in 2016 to form The Gums Landcare Group. From those small beginnings we are now an incorporated body of interested members.

With the support of the Campbelltown City Council, our group has put together a program of practical hands-on Landcare projects within the Campbelltown Council boundaries.

In coming months the group's members will be undertaking maintenance of the recent plantings of local native species and weed control in The Gums. All local residents are invited to come along and join us - come for the morning or just an hour - whatever suits you!

Members of The Gums Landcare Group will generally be on site each day from 10.00am to noon, unless otherwise specified. Come along between those times if you would like to take part.

You will need to wear suitable work clothes and bring work gloves, hat, strong footwear, sun block, a drink and, if necessary, waterproof clothing.

Tools and plants will be supplied by the group, funded in previous years by our sponsors, Campbelltown City Council, Federal Member for Sturt and Green Adelaide Landscape Board, in conjunction with our peak body the Landcare Association of SA. Our 2022 activities are made possible by grant funding from the Australian Government's Volunteer Support Program and Campbelltown City Council.

Please come along and …

- Plant native seedlings to rehabilitate local reserves & riparian zones of local creeks
- Learn to recognise and identify native plants
- Learn to recognise weeds and their effective control
- Learn about the environment - the problems and what you can do to help!
- Help to conserve our local heritage for our children
- Share your knowledge with others

For more information about The Gums Landcare Group or to confirm program details closer to the date please phone:

Gerry Butler, Chairman
Phone: 0407 972 149
Email: gbutler@landcaresa.asn.au
Or
Marina Walker 0415 418 637, Libby Bartram 0427 555 196, John Bartram 0400 404 132
or Ian Johnson 0416 528 387

EXPRESSION OF INTEREST FOR MEMBERSHIP OF THE GUMS LANDCARE GROUP

NAME:					
SCHOOL / ORGANISATION		**Age (if less than 16 years a parent MUST sign below:**			
ADDRESS:					
SUBURB:		**Post code**		**STATE**	
PHONE:					
EMAIL: please print					
SIGNATURE:		**DATE:**			

The Gums Landcare Group Vision:

i. To assist in improving the hydrology and biodiversity of Third Creek through The Gums in association with Aboriginal groups, volunteer community groups and individuals and the City of Campbelltown who are interested in land and water management activities in natural resource management;

ii. To facilitate the exchange of ideas, skills, information and resources between volunteer community groups/individuals and the City of Campbelltown to improve and enjoy The Gums.

MEMBERSHIP FEE: **A Membership Fee of $30 per calendar year for Families and Corporate Members and $20 per calendar year for Individual members. Donations are welcome to assist in the work of the group. These can be forwarded to The Gums Landcare Group Inc., as below.**	
Fee of **$30/year for Families** & **Corporate Members** and **$20/year** for **Individual** members	$
Donation:	$
TOTAL ENCLOSED:	**$**

The Gums Landcare Group Inc is a not for profit organisation and is not registered for GST.

Please forward payment to (**Do you require a receipt?** Yes/No):

- Treasurer, The Gums Landcare Group, C/- PO Box 2019, Magill North S.A. 5072
- EFT. Please include your school / name in the advice box **and POST this form to the above address or EMAIL a PDF copy to: Treasurer Ian Johnson** ian.johnson44@gmail.com

BSB: **313140**; A/c #: **12179822;** Bank: **Bank Australia**; Account Name: **The Gums Landcare Group**

(Office Use: Date payment received: Receipt No.: Date posted: ……..)

KONICA MINOLTA

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Campbelltown Landcare Group Inc.

Supported by

CAMPBELLTOWN CITY COUNCIL

GREEN ADELAIDE

Campbelltown Landcare Group Inc.

Works Calendar 2022

Date	Activity
Sunday, February 20	**Watering** Water planting sites
Sunday, March 20	**Watering** Water planting sites
Sunday, April 10	**Weed Control** Priority Targets: Woody weeds (i.e. Olive, Buckthorn, Boxthorn, Cotton Bush, Flinders Ranges Wattle)
Sunday, May 15	**Weed Control** Priority Targets: Perennial and annual grasses and spray planting sites
Saturday, June 4 Sunday, June 5	Site preparation and hole digging (TBA – only a few people required) **Planting Bee #1** Planting of native grasses & understory species
Saturday, June 18 Sunday, June 19	Site preparation and hole digging (TBA – only a few people required) **Planting Bee #2** Planting of native grasses & understory species
Sunday, July 17	**Weed Control** Priority Targets: bulbous weeds, broad-leaf weeds, perennial and annual grasses
Sunday, Aug 21	**Weed Control** Priority Targets: bulbous weeds, broad-leaf weeds, perennial and annual grasses and compliment work of expert contractor
Sunday, Sep 11	**Weed Control** Priority Targets: bulbous weeds, broad-leaf weeds, perennial and annual grasses and compliment work of expert contractor
Sunday, Oct 16	**Weed Control** Priority Targets: bulbous weeds, broad-leaf weeds, perennial and annual grasses and compliment work of expert contractor
Sunday, Nov 13	**Seed & cutting collection / watering if required** Collection of seed for future plantings & walk to admire its beauty and the Group's efforts
Sunday, Dec 11	**End of year BBQ,** time to TBA
Sundays in late Dec; Jan and Feb 2021 – Dates TBA	**Watering** Watering of plantings (dependent on Spring and Summer rainfall)
TBD	**Trip** A trip to another vegetation site in SA, e.g. Nature Glenelg Trust.

All Working Bees commence at 9:00am meeting at Foxfield Oval Playground and Hall Carpark, Maryvale Road, Athelstone (unless advised otherwise). Working bees are followed by morning tea and coffee at 11.30am.

The project agenda may be subject to change, due to weather or unforeseen circumstances, e.g. COVID. For example, planting, seed collection times and weed control are dictated weather and may need to be planned just before the activity. For more information about the Campbelltown Landcare Group or to confirm program details closer to the date please phone:

Email: campbelltown.landcare@gmail.com
Facebook: @campbelltown.landcare

Get Involved!

Several local residents, who were concerned about preserving and rehabilitating reserves in the Campbelltown area, came together in 1994 to form the Campbelltown Landcare Group. From those small beginnings we are now an incorporated body of interested members, numbering around 25.

With the support of the Campbelltown City Council, this group has put together a program of practical hands-on Landcare projects within the Campbelltown Council boundaries.

In coming months, the group's members will be undertaking planting of local native species, weed control and seed collecting in Wadmore Park. All residents are invited to come along and join us - come for the morning or just an hour - whatever suits you!

Members of the Campbelltown Landcare Group will be on site at each working bee from 9.00am to 11.30am, unless otherwise specified. Come along between those times if you would like to take part.

You will need to wear suitable work clothes and bring work gloves, hat, strong footwear, sun block a drink and waterproof clothing.

Tools and plants will be supplied by the group, funded in previous years by our sponsors, Campbelltown City Council and Greening Adelaide. Plants are grown by our volunteers from local seed.

Please come along and ...

- Plant native seedlings to rehabilitate local reserves & riparian zones of local creeks
- Learn to recognise and identify native plants
- Learn about local animals and birds of the area
- Learn about mapping, technology, and environment planning
- Learn about the environment - the problems and what you can do to help!
- Help to preserve our local heritage for future generations to admire and enjoy
- Share your knowledge with others

We have access to a good range of training, e.g. bushland care, snake awareness, seed collection, plant identification, and first aid. These are all free to volunteers.

We encourage our volunteers to assist other Landcare groups, such as the Tarcowie Landcare group in the mid-north of SA, the Morialta Biolink Landcare Group in the Hills, or the Gums Landcare Group here locally in Campbelltown.

Elected Members' Training and Development Plan 2022 - 2023

CAMPBELLTOWN CITY COUNCIL

Background

Council adopts an Elected Members' Training and Development Plan annually. The Plan facilitates:

- Scheduling of legislative training requirements and other discretionary training anticipated for the financial year
- A clear framework for management of other training opportunities available to Elected Members.

The Training Program supports Elected Members to develop their sector knowledge, general professional development and relationship building skills.

All Elected Members should attend the proposed full Training Program.

Scheduled Training and Development

Council's Training Program for 2022/2023 is principally centred around supporting Elected Members to meet their legislative requirements associated with the LGA Training Standard. The Training Program will consist of:

- An Induction Program led by the Chief Executive Officer and delivered individually to all Elected Members prior to the first Council meeting.
- Leading Campbelltown (a 1.5 day residential training program) and several Elected Member Training Workshops held during the first year of the Council term to assist Members to meet all 4 competencies required by the LGA Training Standard. Where Members don't attend the Council provided session, they will be obligated to attend catch up LGA training sessions to ensure they meet the required standard to retain Office.
- A bus tour of the area and key Council facilities
- A Council Leadership Workshop in December 2022 to meet the requirements of the LGA Training Standard
- The Mayor attending training offered by the LGA for Principal Members to facilitate meeting particular requirements of the LGA Training Standard
- Additional training and conferences being offered to Elected Members from time to time to facilitate ongoing personal and professional development.

Where appropriate, Council is committed to working with other Eastern Region Alliance Councils to deliver shared training sessions on topics of combined interest. Section 41 Committee and Council Assessment Panel Members may also be invited to attend relevant training and development sessions applicable to their roles and responsibilities.

All Elected Members will need to meet the competency requirements associated with the LGA Training Standards within the first 12 months of their Council term.

Training topics to be delivered during 2022/2023 are listed at Appendix 1.

Additional Training and Conferences

Staff will offer relevant opportunities to Elected Members as they become available (either through Council reports or email as appropriate).

Elected Members wishing to attend additional training or conferences need to be mindful of the requirements of Council's Elected Members' Training and Development Policy:

- A maximum allowance of $5,000 (excluding registration costs) is allocated to each Elected Member per Council term to attend training activities interstate with Council approval. Costs accrued in excess of this amount will be recovered or met by the Member concerned (from their allowance) except where Council resolves to support the expense on a two-thirds majority vote of the Council.
- Elected Members attending an interstate conference need to submit a conference report to the Chief Executive Officer within 4 weeks of attending the conference.

Attendance at Training and Development sessions

Attendance at Training and Development sessions will be noted by Staff in Council's Annual Report, the Elected Members' Training Register and in the Elected Members' Register of Expenses.

Payments and Reimbursements

Where Council has approved an Elected Member's attendance at a training activity, the Elected Member may seek reimbursement of expenses in accordance with Council's Elected Members' Allowances and Support Policy. Where expenditure is not able to be reimbursed, the Elected Member will be responsible for paying associated expenses.

Elected Members Input to the Plan

Elected Members are regularly invited to provide feedback and ideas in relation to Council's Training Program. Information received will be considered by Staff along with other requirements identified from sources including but not limited to information provided by the LGA, legislation changes, advice provided by Council's solicitors and refresher training needs identified by Staff.

Appendix 1 - Training Topics

In addition to LGA Training Standard competencies 1-4, Council's Training Program for 2022/2023 includes the following topics:

- Child Safe Environment Training
- Climate Solutions
- Community Engagement
- ID Profile (demographics)
- Media Training
- Policy Framework and Reviews
- Risk Management and WHS
- Social Media Training

Refer Item 11.9E

Campbelltown City Council

Cash, Investments and Borrowings Report

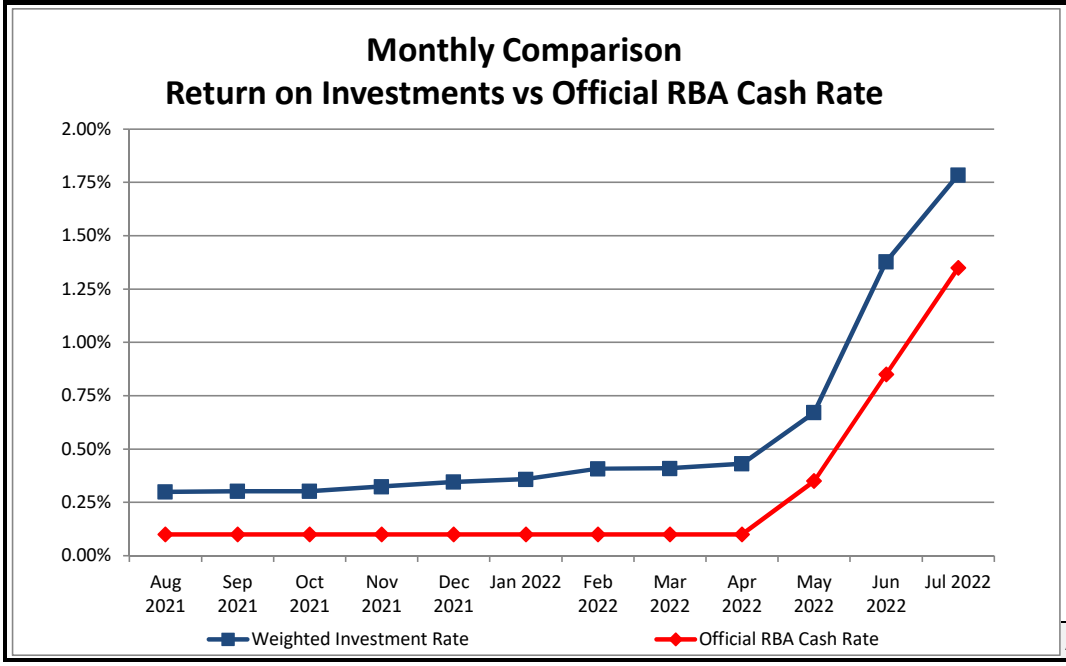
For the Period Ending July 2022

Bank Reconciliation	
Balance as per Bank Statement - 31 July 2022	**$50,000.00**
Outstanding Deposits	$193,694.84
Outstanding Withdrawals	($8,778.46)
Balance as per General Ledger	**$234,916.38**

Cash and Investments

Invested With & Term	Interest Rate	Maturity Date (if applicable)	Closing Balance 31 July 2022
Cash at Bank	Variable		$50,000.00
NAB Short Term Deposit	1.75%	24hrs	$1,278,248.29
LGFA Short Term Investments	1.55%	24hrs	$2,461,882.71
LGFA Fixed Term Investments - 120 days	0.55%	1/08/2022	$4,000,000.00
LGFA Fixed Term Investments - 120 days	1.20%	1/09/2022	$3,000,000.00
LGFA Fixed Term Investments - 120 days	1.65%	22/09/2022	$4,000,000.00
LGFA Fixed Term Investments - 90 days	2.31%	26/09/2022	$6,000,000.00
LGFA Fixed Term Investments - 120 days	1.68%	29/09/2022	$4,000,000.00
LGFA Fixed Term Investments - 120 days	2.23%	14/10/2022	$4,000,000.00
LGFA Fixed Term Investments - 120 days	2.64%	11/11/2022	$4,000,000.00
* All interest rates shown for LGFA investments exclude the annual bonus interest rate.			
TOTAL CASH & INVESTMENTS			**$32,790,131.00**

Investment Performance



Margin on Official RBA Cash Rate - Previous 12 Months

Month	Margin
Aug 2021	0.20%
Sep 2021	0.20%
Oct 2021	0.20%
Nov 2021	0.22%
Dec 2021	0.25%
Jan 2022	0.26%
Feb 2022	0.31%
Mar 2022	0.31%
Apr 2022	0.33%
May 2022	0.32%
Jun 2022	0.53%
Jul 2022	0.43%
Average	**0.28%**

Borrowings

There are no loans currently held by Campbelltown City Council

CWMS Management Committee - call for nominations

8th August 2022

The Community Wastewater Management Systems (CWMS) Management Committee is seeking nominations for a local government representative.

The LGA is seeking nominations from suitably qualified employees of a council to fill the **Sector Member** and **proxy Sector Member** positions with a term of three years.

The CWMS Management Committee is established in accordance with the Funding Deed between the Minister for Local Government and the LGA. The Committee operates as an independent and objective advisory committee to the LGA Board regarding governance and operations of the LGA CWMS Program, and to discharge the functions as determined by the Board and contained in the Funding Agreement. The CWMS Management Committee operate in accordance with the endorsed Terms of Reference. Further information is available on the CWMS Management Committee page on the LGA Website.

The Committee

- Is responsible for providing oversight of funding distribution through the CWMS program. The Committee's key functions include to assess applications for CWMS Scheme funding from councils, establish funding priorities, and monitor funding deed requirements; and
- Provides advice to the LGA Board and the responsible State Government Minister(s) in accordance with the SWMS Funding Deed.

Membership of the CWMS Management Committee comprises

- One Director of the LGA Board (Director Member)
- One representative of the Office of Local Government
- One representative of the Environment Protection Authority
- One representative of the Department of Health
- One representative of the Department for Environment and Water
- One representative of the local government sector (**Sector Member**).

Each member of the CWMS Management Committee has a proxy member.

Collectively the members of the CWMS Management Committee are required to have:

- Sound business, financial management, procurement and governance skills;
- An understanding of local government and the operations of councils;
- High levels of common sense, integrity, independent judgement, dedication and commitment;
- Significant industry experience in project management, environmental health, environmental management, legislative issues relating to CWMS, construction projects, CWMS operations and management and stakeholder engagement.

The **Sector Member** and **proxy Sector Member** will ideally have extensive skills and experience in project management, construction and operations of CWMS schemes, local government, financial management and governance.

The CWMS Management Committee meets at least quarterly at a venue and time determined by the Committee Chair. No remuneration is payable to CWMS Committee members.

How to nominate

The Call for Nominations Information Sheet (Part A) provides further information regarding the role, as well as any selection criteria to be addressed by the nominee.

The nominee is required to complete the Nomination Form (Part B) and forward to nominationscoordinator@lga.sa.gov.au by **5pm 29 August 2022.**

An up-to-date curriculum vitae and a response to the selection criteria (no more than 2 pages) must be supplied by the nominee – these may be submitted with the Nomination Form or forwarded separately by **5pm 29 August 2022.**

For further information, please contact the Nominations Coordinator,

Phone: 08 8224 2000 • Email: lgasa@lga.sa.gov.au
148 Frome St Adelaide SA 5000 • GPO Box 2693 Adelaide SA 5001
ABN: 83 058 386 353

PART A

CWMS Management Committee — Call for Nominations

CWMS Management Committee	
Governing Statute (if applicable)	established in accordance with the Funding Deed between the Minister for Local Government and the LGA
Purpose/Objective	The Committee: • Is responsible for providing oversight of funding distribution through the CWMS program. The Committee's key functions include to assess applications for CWMS Scheme funding from councils, establish funding priorities, and monitor funding deed requirements; and • Provides advice to the LGA Board and the responsible State Government Minister(s) in accordance with the SWMS Funding Deed.
Administrative Details	• Meets at least quarterly at venue and time determined by the Chair • No remuneration is payable to CWMS Committee members • Ideally the Sector Member and proxy Sector Member will be known to each other to facilitate information provision • Nomination must be endorsed by Council CEO
Selection Criteria (*to be addressed by applicant)*	• extensive skills and experience in project management, construction and operations of CWMS schemes, local government, financial management and governance

In accordance with the LGA Appointments and Nominations to Outside Bodies Policy, selection for appointment or nomination to this Outside Body may include the conduct of interviews and checking of referees by the LGA. By applying, the applicant accepts that the LGA may request an interview and/or the details of referees.

Liability and indemnity cover

The LGA requires that persons appointed to Outside Bodies be appropriately insured throughout the period of their appointment and seeks to collect details of the insurances provided by the Outside Body on an annual basis.

For more information contact: LGA Nominations Coordinator at nominationscoordinator@lga.sa.gov.au or 8224 2000

PART B

CWMS Management Committee — Nomination Form

Instructions

This form:

- *Must be emailed in PDF format to nominationscoordinator@lga.sa.gov.au*
- *Receipt of nomination will be acknowledged by return email*
- *CV and response to selection criteria (if applicable) may be emailed separately by the nominee and will be treated confidentially*

Nomination must be supported/endorsed by the Chief Executive Officer of the nominee's council.

SECTION 1 to be completed by Council, SECTION 2 to be completed by Nominee.

Please refer to the *Call for Nominations* information sheet (PART A) for details of the Outside Body and the selection criteria to be met by the nominee.

SECTION 1: COUNCIL to complete

CWMS Management Committee	
Council Details	
Name of Council submitting the nomination	
Contact details of council officer submitting this form	**Name:** **Position:** **Email:** **Phone:**
CEO Endorsement	
Nominee Full Name	
Nominee Position Title	
Note: by submitting this nomination the CEO is recommending the nominee as suitable for the role.	

PART B

SECTION 2: NOMINEE to complete

CWMS Management Committee			
Nominee Details			
Name in full		**Gender**	
Postal Address			
Phone		**Mobile**	
Email			
Why are you interested in this role?			
CV	attached ☐ OR forwarding separately ☐		
Response to selection criteria *(if applicable)* *Please refer to the Call for Nominations information sheet for the selection criteria to be addressed.*	*Nominee to provide response to selection criteria (of no more than 2 pages) for consideration by the LGA Board of Directors.* attached ☐ OR forwarding separately ☐		

Undertaking:

The LGA Board resolved in January 2015 to ensure that appointees to external Boards and Committees remain current local government members or officers. If you leave local government for any reason during the term of your appointment, are you prepared to resign your appointment if requested to do so by the LGA?

Yes ☐ No ☐

Signature of Nominee: _____