



CITY OF HOBART

AGENDA

Planning Committee Meeting
Open Portion
Wednesday, 1 February 2023
at 5:00 pm
Council Chamber, Town Hall



City of **HOBART**

THE MISSION

Working together to make Hobart a better place for the community.

THE VALUES

The Council is:

People	We care about people – our community, our customers and colleagues.
Teamwork	We collaborate both within the organisation and with external stakeholders drawing on skills and expertise for the benefit of our community.
Focus and Direction	We have clear goals and plans to achieve sustainable social, environmental and economic outcomes for the Hobart community.
Creativity and Innovation	We embrace new approaches and continuously improve to achieve better outcomes for our community.
Accountability	We are transparent, work to high ethical and professional standards and are accountable for delivering outcomes for our community.

ORDER OF BUSINESS

Business listed on the agenda is to be conducted in the order in which it is set out, unless the committee by simple majority determines otherwise.

APOLOGIES AND LEAVE OF ABSENCE

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**Planning Committee Meeting (Open Portion) held Wednesday, 1 February 2023
at 5:00 pm in the Council Chamber, Town Hall.**

This meeting of the Planning Committee is held in accordance with a Notice issued by the Premier on 31 March 2022 under section 18 of the *COVID-19 Disease Emergency (Miscellaneous Provisions) Act 2020*.

The title Chief Executive Officer is a term of reference for the General Manager as appointed by Council pursuant s.61 of the *Local Government Act 1993* (Tas).

COMMITTEE MEMBERS

Alderman S Behrakis (Chairman)
Lord Mayor Councillor A M Reynolds
Deputy Lord Mayor Councillor H Burnet
Alderman M Zucco
Councillor W F Harvey
Councillor M Dutta
Councillor Dr Z Sherlock
Councillor J Kelly
Councillor L Elliot
Alderman L Bloomfield
Councillor R Posselt
Councillor B Lohberger

Apologies:

Leave of Absence: Nil.

1. CONFIRMATION OF MINUTES

The minutes of the Open Portion of the Planning Committee meeting held on [Wednesday, 18 January 2023](#), are submitted for confirming as an accurate record.

2. CONSIDERATION OF SUPPLEMENTARY ITEMS

Ref: Part 2, Regulation 8(6) of the *Local Government (Meeting Procedures) Regulations 2015*.

Recommendation

That the Committee resolve to deal with any supplementary items not appearing on the agenda, as reported by the Chief Executive Officer.

3. INDICATIONS OF PECUNIARY AND CONFLICTS OF INTEREST

Ref: Part 2, Regulation 8(7) of the *Local Government (Meeting Procedures) Regulations 2015*.

Members of the Committee are requested to indicate where they may have any pecuniary or conflict of interest in respect to any matter appearing on the agenda, or any supplementary item to the agenda, which the Committee has resolved to deal with.

4. TRANSFER OF AGENDA ITEMS

Regulation 15 of the *Local Government (Meeting Procedures) Regulations 2015*.

A Committee may close a part of a meeting to the public where a matter to be discussed falls within 15(2) of the above regulations.

In the event that the Committee transfer an item to the closed portion, the reasons for doing so should be stated.

Are there any items which should be transferred from this agenda to the closed portion of the agenda, or from the closed to the open portion of the agenda?

5. PLANNING AUTHORITY ITEMS - CONSIDERATION OF ITEMS WITH DEPUTATIONS

In accordance with the requirements of Part 2 Regulation 8(3) of the *Local Government (Meeting Procedures) Regulations 2015*, the Chief Executive Officer is to arrange the agenda so that the planning authority items are sequential.

In accordance with Part 2 Regulation 8(4) of the *Local Government (Meeting Procedures) Regulations 2015*, the Committee by simple majority may change the order of any of the items listed on the agenda, but in the case of planning items they must still be considered sequentially – in other words they still have to be dealt with as a single group on the agenda.

Where deputations are to be received in respect to planning items, past practice has been to move consideration of these items to the beginning of the meeting.

RECOMMENDATION

That in accordance with Regulation 8(4) of the *Local Government (Meeting Procedures) Regulations 2015*, the Committee resolve to deal with any items which have deputations by members of the public regarding any planning matter listed on the agenda, to be taken out of sequence in order to deal with deputations at the beginning of the meeting.

5.1 APPLICATIONS UNDER THE SULLIVANS COVE PLANNING SCHEME 1997

5.1.1 27/1 COLLINS STREET, HOBART AND COMMON LAND OF PARENT TITLE - CHANGE OF USE TO VISITOR ACCOMMODATION PLN-22-842 - FILE REF: F23/7985

Address:	27/1 Collins Street, Hobart and Common Land of Parent Title
Proposal:	Change of Use to Visitor Accommodation
Expiry Date:	5 February 2023
Extension of Time:	Not applicable
Author:	Michale McClenahan

RECOMMENDATION

That pursuant to the *Sullivans Cove Planning Scheme 1997*, the Council approves the application for change of use to visitor accommodation, at 27/1 Collins Street, Hobart 7000 and the Common Land of the Parent Title for the reasons outlined in the officer's report and a permit containing the following conditions be issued:

GEN

The use and/or development must be substantially in accordance with the documents and drawings that comprise PLN-22-842 - 27/1 COLLINS STREET HOBART TAS 7000 - Final Planning Documents except where modified below.

Reason for condition

To clarify the scope of the permit.

PLN 18

Prior to the commencement of the approved use, a management plan for the operation of the visitor accommodation must be submitted and approved as a Condition Endorsement, to the satisfaction of the Council's Director City Life. The management plan must include measures to limit, manage and mitigate unreasonable impacts upon

the amenity of long term residents. These measures must include, but are not limited to, the following requirements:

1. To limit, manage, and mitigate noise generated as a result of the visitor accommodation.
2. To limit, manage, and mitigate behaviour issues caused as a result of the visitor accommodation.
3. To maintain the security of the building where the visitor accommodation would be located, including managing and/or limiting access to shared areas and facilities.
4. To specify the maximum permitted occupancy of the visitor accommodation.
5. To specify that guests must utilise the site for the parking of vehicles, that the maximum number of vehicles to be parked on the site (1), and detail where the parking spaces are located and how the spaces are to be accessed. Additionally, at the booking stage, guests should be discouraged from bringing more than 1 vehicles and the parking of any additional vehicles in nearby streets should also be discouraged.
6. To provide a name and contact phone number of a person who will respond to any complaints regarding behaviour of guests. If the property is sold the Visitor Accommodation Management Plan (VAMP) must be updated with new contact details.

Once approved, the management plan must be implemented prior to the commencement of the approved use and must be maintained for as long as the visitor accommodation is in operation. The VAMP must be provided to adjacent property owners and occupiers within 14 days of being approved. If the property is sold, the updated VAMP (in accordance with 6. above) must be provided to adjacent property owners and occupiers within 10 business days of settlement.

Advice:

This condition requires further information to be submitted as a Condition Endorsement. Refer to the Condition Endorsement advice at the end of this permit.

Reason for condition

To ensure that visitor accommodation does not cause an unreasonable loss of residential amenity.

ADVICE

The following advice is provided to you to assist in the implementation of the planning permit that has been issued subject to the conditions above. The advice is not exhaustive and you must inform yourself of any other legislation, by-laws, regulations, codes or standards that will apply to your development under which you may need to obtain an approval. Visit the Council's [website](#) for further information.

Prior to any commencement of work on the site or commencement of use the following additional permits/approval may be required from the Hobart City Council.

CONDITION ENDORSEMENT

If any condition requires that further documents are submitted and approved, you will need to submit the relevant documentation to satisfy the condition via the Condition Endorsement Submission on Council's [online services e-planning portal](#). Detailed instructions can be found [here](#).

Once approved, the Council will respond to you via email that the condition has been endorsed (satisfied).

Where building approval is also required, it is recommended that documentation for condition endorsement be submitted well before submitting documentation for building approval. Failure to address condition endorsement requirements prior to submitting for building approval may result in unexpected delays.

NOISE REGULATIONS

Click [here](#) for information with respect to noise nuisances in residential areas.

FEES AND CHARGES

Click [here](#) for information on the Council's fees and charges.

VISITOR ACCOMMODATION

More information on visitor accommodation, including when building approval is required, can be found [here](#).

In all cases, check with your insurance company that you have



adequate cover.

If you are in a bushfire prone area there may be a need to create/review the Bushfire Management Hazard Plan for your property.

If you have a spa or a pool at your property then you are required to test for microbiological quality and chemical parameters on a monthly basis, under the *Public Health Act 1997*. If you have any questions about this then please call our Environmental Health team on 6238 2711.

If you are providing food for consumption on the property, you may require a food business registration in accordance with the *Food Act 2003*. Click [here](#) for more information, or call our Environmental Health team on 6238 2711.

Visitor accommodation is also considered to be a commercial use and also not eligible to residential parking permits. Under the current policy for the issuing of residential parking permits, the proposed change of use to visitor accommodation would not entitle the property to a residential parking permit, or a transferable “bed and breakfast” parking permit.

- | | |
|---------------|---|
| Attachment A: | PLN-22-842 - 27/1 COLLINS STREET HOBART
TAS 7000 - Planning Committee or Delegated
Report ↓  |
| Attachment B: | PLN-22-842 - 27/1 COLLINS STREET HOBART
TAS 7000 - PC Agenda Documents ↓  |

**APPLICATION UNDER SULLIVANS COVE PLANNING SCHEME 1997**

Type of Report: Committee
Committee: 26 January 2023
Expiry Date: 5 February 2023
Application No: PLN-22-842
Address: 27 / 1 COLLINS STREET , HOBART
COMMON LAND OF PARENT TITLE
Applicant: Gregory Hurford
14 Clarence Street
Proposal: Change of Use to Visitor Accommodation
Representations: Six
Performance criteria: Planning Directive No.6

1. Executive Summary

- 1.1 Planning approval is sought for Change of Use to Visitor Accommodation, at 27/1 Collins Street, Hobart and the Common Land of the Parent Title.
- 1.2 More specifically the proposal includes:
 - Complete change of use two bedroom multiple dwelling to Visitor Accommodation
 - One on-site car parking space will be provided for the use
- 1.3 The proposal relies on performance criteria to satisfy the following standards and codes:
 - 1.3.1 Planning Directive No. 6 – Exemption and Standards for Visitor Accommodation in Planning Schemes - Visitor Accommodation
- 1.4 Six (6) representations objecting to the proposal were received within the statutory advertising period between 19/12/22 - 09/01/23.
- 1.5 The proposal is recommended for approval subject to conditions.
- 1.6 The final decision is delegated to the Planning Committee, because six (6) objections were received during the statutory advertising period.

2. Site Detail

- 2.1 The application site is one of 65 lots on the strata title for 1 Collins Street, Hobart, on the corner of Collins Street and Brooker Avenue on the eastern fringe of the Hobart CBD. Of these lots there are six approved visitor accommodation lots, and the remainder are residential. The subject dwelling is a ground floor unit and has 1-2 bedrooms (one bedroom and a study), an open kitchen dining living area, and a courtyard for private open space, which is walled from the street and accessible only to the unit.. Access to the dwelling is via a common lobby and corridor area, with car parking provided in a shared, secure parking area at ground level.
- 2.2 A visit to the site was undertaken, however, due to security doors, this was only in the form of a walk around the perimeter of the complex, not an internal inspection of the dwelling and shared spaces.



Figure 1: Aerial image of the subject site (parent title bordered in red) and the specific unit (highlighted in blue).

3. Proposal

- 3.1 Planning approval is sought for Change of Use to Visitor Accommodation, at 27/1 Collins Street, Hobart and the Common Land of the Parent Title.
- 3.2 More specifically the proposal is for:
- Complete change of use two bedroom multiple dwelling to Visitor Accommodation
 - One on-site car parking space will be provided for the use

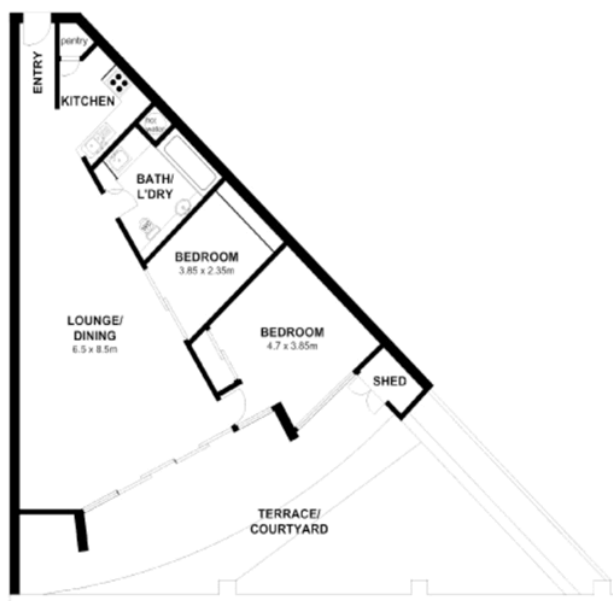


Figure 2: Floor plan of existing unit.

4. Background

- 4.1 Council has issued planning permits for Visitor Accommodation Use to operate within several other apartments on the property.
- 4.2 Three of these apartments are those at 8, 9, and 29 /1 Collins Street (PLN-17-541, PLN-17-963, and PLN-18-250 respectively). All of these approvals were permitted and issued in accordance with section 58 of the *Land Use Planning and Approvals Act 1993* when the previous Interim Planning Directive No. 2 Exemption and Standards for Visitor Accommodation in Planning Schemes was in effect.

- 4.3 Council has also issued three approvals for visitor accommodation to operate from 37, 53, and 51 / 1 Collins Street (PLN-19-30, PLN-20-762, and PLN-21-63 respectively). These approvals were discretionary and issued in accordance with section 57 of the *Land Use Planning and Approvals Act 1993* under the current Planning Directive 6 Exemption and Standards for Visitor Accommodation in Planning Schemes.
- 4.4 A further approval for a change of use to Visitor Accommodation has recently been granted again for 53/1 Collins Street, (PLN-22-775).

5. Concerns raised by representors

- 5.1 Six (6) representations objecting to the proposal were received within the statutory advertising period between 19/12/22 - 09/01/23.
- 5.2 The following table outlines the concerns raised in the representations received. Those concerns which relate to a discretion invoked by the proposal are addressed in Section 6 of this report.

Residential Dwellings:
Representors are unhappy that the visitor accommodation is proposed in what they feel is a residential complex, not a hotel complex.
Representors state that the building is not fit for purpose for overnight accommodation and was built for owner and renter long term stays. There is no on site management and if the unit is let to overnight there is no available assistance.
Security:
Representors are concerned that guests will not ensure that the security doors and gates are closed properly.
Communal Facilities:
Representors have suggested that the body corporate by-laws are ignored and that common facilities, such as the swimming pool are being offered to visitor accommodation guests in spite of the rules prohibiting this.
Residential Amenity:

One representor is concerned that the visitor accommodation guests will treat the property like a hotel, leaving their luggage in the foyer unattended for extended periods of time.
Representors are concerned that the visitor accommodation guests will not use the appropriate bins when disposing of their rubbish, and in some cases will not even dispose of the rubbish, rather leaving it in the common areas when they leave
One representor has suggested that the visitor accommodation guests will throw cigarette butts on the ground in common areas, and over balconies into adjoining courtyards, littering without regard for residents.
Representors are concerned that the visitor accommodation will be used to host parties, and that the noise, associated mess, and additional people will compromise the residential amenity for long term residents.
Property Damage:
Representors are concerned that short term accommodation users are not residents and therefore are not concerned when they damage things in the building. It is suggested that this is currently occurring as a result of the existing visitor accommodation approved within the complex.
One representor has suggested that the foyer is being damaged by keys and other objects by unfamiliar visitor accommodation guests.
Parking and Vehicle Safety:
Representors are concerned that visitor accommodation guests currently park in the wrong parking bay, and that this will continue for future guests.
Representors are concerned that guests do not follow traffic directions both on the site, and in the surrounding one way streets. They suggest that this is unsafe and undesirable.
Planning Directive No. 6
One representor state that an approval of this application will bring the total approvals of known short term accommodation to 5 units on the site which they believe is not accordance with Planning Directive No 6, and that the performance criteria of this directive are not being satisfied.
Response to Previous Approvals and Conditions

One representor has suggested that Council Planning Committee are not taking their concerns or objections seriously, and that the continued approvals are changing a safe and secure residential building to Hotel type accommodation which often results in disruption, noise and damage to this property.
One representor has objected to the application of management plans in previous approvals in the building. The objection is that there is an assumption that the Unit will operate in a similar fashion compared to a permanent/long term residential Unit but that this operation cannot be predicted or guaranteed. This assumption has not been based on any comprehensive study to indicate the impact on amenity and characteristics and that there is no official data available to support the number of visitor nights
The same representor has stated that the management plans continue to allow for unacceptable impacts on residential amenity and that most short term visitors do not consider the management plan let alone respect the bi-laws in place.
Housing Availability:
Representors are concerned that the conversion of long term housing to short term visitor accommodation will result in a reduction in available house in the city in a time where housing is already in short supply.
One representor has stated that previously, Councillors have argued that was no relationship between the increasing number of short term visitors accommodation being made available and the decreasing number of residential housing for people in Hobart. The representor states that this is untrue and that state and federal governments have provided evidence to the contrary, and that short-term facilities not only reduce the availability of longer-term accommodation , but they also cause the overall rental and leasing rates to increase significantly.
Potential Conditions:
One Representor has requested that any approval is limited to 12 months as if there is no time cap on the approval then this goes on indefinitely regardless of change of situation or owner.

6. Assessment

6.1 The *Sullivans Cove Planning Scheme 1997* is a performance based planning

scheme. This approach recognises that there are in many cases a number of ways in which a proposal can satisfy desired environmental, social and economic standards. In some cases a proposal will be 'permitted' subject to specific 'deemed to comply' provisions being satisfied. Performance criteria are established to provide a means by which the objectives of the planning scheme may be satisfactorily met by a proposal. Where a proposal relies on performance criteria, the Council's ability to approve or refuse the proposal relates only to the performance criteria relied on.

- 6.2 The site is located in the Inner City Residential (Wapping) Activity Area of the *Sullivans Cove Planning Scheme 1997*.
- 6.3 The existing use is Residential (multiple dwelling). The proposed use is Visitor Accommodation. The existing use is a permitted use in the Activity Area. The proposed use is a permitted use in the Activity Area.
- 6.4 The proposal has been assessed against:
 - 6.4.1 Planning Directive No. 6 – Exemption and Standards for Visitor Accommodation in Planning Schemes
- 6.5 The proposal relies on the following performance criteria to comply with the applicable standards:
 - 6.5.1 Planning Directive No.6 Exemption and Standards for Visitor Accommodation in Planning Schemes Clause 3.3 (e)
- 6.6 Each performance criterion is assessed below.
- 6.7 Planning Directive No. 6 ("PD6") Exemption and Standards for Visitor Accommodation in Planning Schemes Clause 3.3 (e)
 - 6.7.1 The permitted standard at clause 3.3(d) allows a total of 200sqm of visitor accommodation use per parent strata lot.
 - 6.7.2 The proposal includes the change of use of a 149 sqm unit in Activity Area 1 of the *Sullivans Cove Planning Scheme 1997* from Residential to Visitor Accommodation. There are already other units operating as Visitor Accommodation use, the floor area in use at the address of 1 Collins Street for Visitor Accommodation exceeds 200sqm.
 - 6.7.3 The proposal does not comply with the acceptable solution; therefore assessment against the performance criterion is relied on.

- 6.7.4 The performance criterion at clause 3.3 (e) provides as follows:

Unless 3.3(a) applies, Bed and Breakfast Establishment and Visitor Accommodation that does not comply with the provisions in 3.3(d) is 'Discretionary' in Activity Area 1.0 Inner City Residential (Wapping) subject to the following conditions:

Bed and Breakfast Establishment and Visitor Accommodation must:

(i) not cause an unreasonable loss of privacy to adjoining properties;

(ii) not likely to cause an unreasonable increase in noise;

(iii) be of a scale that respects the character and use of the area;

(iv) not adversely impact the safety and efficiency of the local road network;

(v) not unreasonably disadvantage owners and users of rights of way;

(vi) not be located on the same site as a dwelling providing long term residential accommodation, unless:

a. it has a separate ground level pedestrian access to a road; or

b. there is an existing mix of uses on the site;

and the impact on the amenity of the long term residents within the site is not unreasonable

- 6.7.5 Clause 3.3(a) of PD6 does not apply as the dwelling in question is not used by the owner as their main place of residence. The proposal does not comply with clause 3.3(d) as the proposal would result in there being a floor area used for visitor accommodation greater than 200m² on the lot. Therefore, the proposed visitor accommodation is discretionary and requires justification against the above conditions.

Privacy clause 3.3(e)(i)

- 6.7.6 The proposed visitor accommodation would be contained within an existing apartment. No additional features that may affect privacy such as windows or elevated decks are proposed. Therefore, the proposal is

considered unlikely to cause a loss of privacy. The proposed use may have an impact upon areas on the site such as lifts, corridors, and entry spaces. However, these spaces are already shared spaces that are not considered to provide privacy.

Noise clause 3.3(e)(ii)

- 6.7.7 While it is recognised that some guests may use visitor accommodation in a manner that generates unreasonable noise, it is also considered that visitor accommodation provides for sleeping and occupancy in a similar manner as a permanent residence, albeit on a short term basis. It is also recognised that a permanent residence can also be used in a manner that generates unreasonable noise. Therefore, provided that arrangements are put in place to manage what are likely to be limited instances of increased noise, the proposed visitor accommodation is not considered likely to cause an overall unreasonable increase in noise.
- 6.7.8 Given the representor concerns and the potential for impact upon long term residents, it is considered appropriate to require that a visitor accommodation management plan be implemented, providing contact details for residents should there be any issues arising from visitor accommodation guests.

Representor concerns over the effectiveness of management plans is noted and understood, but Council officers cannot predict or foresee all the complexities and variabilities of the short stay accommodation environment. In the absence of legislative means to further control the length of stay and management of a Visitor Accommodation use on individual properties, it is recommended that application of management plans will continue to be conditioned to approvals. Further monitoring of these plans within the site specific Body Corporate environment would likely prove beneficial in ensuring noise and residential amenity is maintained.

Scale clause 3.3(e)(iii)

- 6.7.9 The performance criteria requires the proposed visitor accommodation use to be of a scale that respects the character and use of the area.
- 6.7.10 The proposal is for a change of use of a two bedroom dwelling, to a visitor accommodation unit, in an apartment building that contains 65 units. Of these, six have approval to operate as visitor accommodation, and that total would rise by one, to seven, if this application is approved.

- 6.7.11 It is likely that the performance criteria's reference to 'area' means Activity Area. On that basis, it is noted that the Wapping Activity Area has been specified under the *Sullivans Cove planning Scheme 1997* as an Activity Area with unique characteristics in the inner city area of Hobart. Under clause 15.2, the objectives of the Activity Area make clear that the area is to "provide for the development of an inner city residential neighbourhood" and "to ensure that residential development is the primary focus throughout the Activity Area" whilst also allowing "nonresidential uses to be developed on a flexible performance approach based on the amenity and characteristics of specific site." It is further noted that in the Wapping Activity Area there already exists a mix of uses, including visitor accommodation. The nature of existing visitor accommodation uses include hotels, and whole apartments/dwellings to be rented out on platforms like AirBnB. To that end, the proposed visitor accommodation use of a two bedroom dwelling is clearly consistent, compatible, and respectful of the existing character and use of the area.
- 6.7.12 The question is really whether the scale of the proposal is respectful of the existing character and use of the area.
- 6.7.13 The scale of this individual property, in other words, the scale of a two bedroom visitor accommodation unit, is considered to be of itself at a scale respectful of the character and use of the area. That is, it is a relatively small sized visitor accommodation unit, that is similar in size to others already operating.
- 6.7.14 In terms of the cumulative impact of this proposal, in conjunction with other existing approvals for the area, remaining respectful of the scale of the character and use of the area, it is pertinent to note that the website insideairbnb.com shows that there are less than 10 visitor accommodation units available in the Wapping Activity Area. This is also supported by a search of the [AirBnB website](#) itself. Although the exact number of dwellings in the Wapping Activity Area is not known, given the number of apartment buildings in the Activity Area, such as the subject apartment building, 10 visitor accommodation units is unlikely to represent a large percentage.

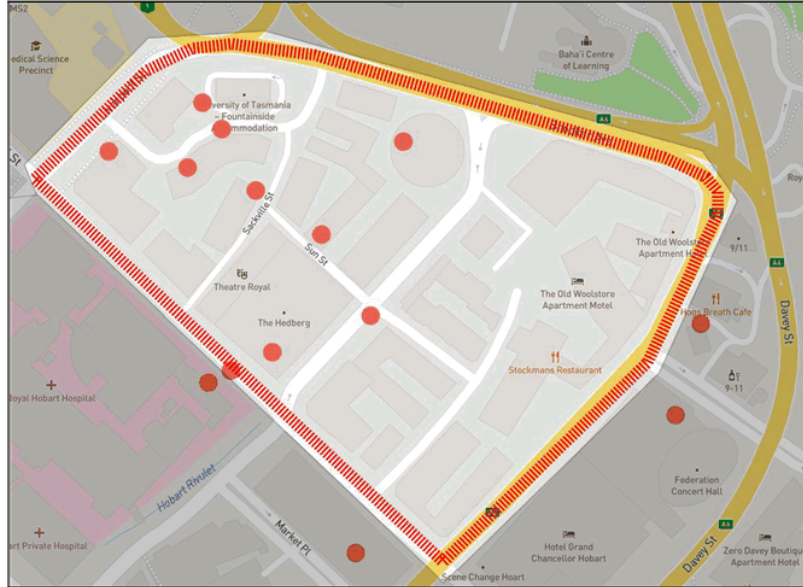


Figure 3: Listings in the Wapping Activity Area according to insideairbnb.com.

- 6.7.15 The website insideairbnb.com also provides detail on the average number of nights booked for the last 12 months. For entire homes in the Hobart municipal area, the average is 122 nights. This represents an occupancy of 33%.



Figure 4: Information from the insideairbnb.com website demonstrating the average nights booked for the last 12 months in the Hobart minicipal area.

- 6.7.16 The combination of the character and scale of the existing mix of uses in the Activity Area, the relatively low number of visitor accommodation units currently operating in the Activity Area, as well as the low occupancy rate of listings in the Hobart municipal area, means that the cumulative impact of this proposal should properly be considered as being of a scale that is respectful of the character and use of the area.
- 6.7.17 (This conclusion is the same if 'the area' referenced in the performance criteria is taken to be the suburb of Hobart, within which the Wapping Activity Area falls. Council's [statistics](#) indicate that 92 visitor accommodation approvals were issued between 2014 and June 2022. The [ABS data](#) indicates that there are 1457 dwellings in the suburb of Hobart. The percentage of visitor accommodation units (assuming all approvals are being acted on) is 6%. Again, the low number of visitor accommodation units, and the low occupancy rate, means that the cumulative impact of this proposed visitor accommodation use is not disrespectful of the character and use of the (wider) area.)

Impact on road network clause 3.3(e)(iv)

- 6.7.18 The building is existing, along with car parking allocated for the use of the individual residences. As such, there is limited scope for vehicles associated with the proposed visitor accommodation use. Given the vehicles associated with the existing approved residential use of the site, it is considered that there will be little or no impact on the safety and efficiency of the road networks resulting from the proposed change of use.

Rights of Way clause 3.3(e)(v)

- 6.7.19 There are no rights of way relied upon to facilitate access to the site.

Impact on amenity of long term residents clause 3.3(e)(vi)

- 6.7.20 There is an existing mix of uses on the site, such that separate ground floor access is not required for the unit to facilitate its proposed change of use.
- 6.7.20 The representations assert that the existing Visitor Accommodation use on the site is creating issues for long term resident amenity through noise, disturbance, repairs, and security concerns. While those concerns have not been raised with the Council in relation to any specific approved visitor accommodation unit to date, they have apparently been raised with the Body Corporate. In assessing this potential impact, it is relevant that if a permit is granted, this will be only one of two ground floor units in the main building approved to operate as a Visitor Accommodation use (the other is the recently approved 53/1 Collins St). All other units which already have Visitor Accommodation are on different floors of the tower and on the wings. This should minimise the impact from visitor accommodation guests for any specific residents. Being on the ground floor this approved use will also not see exacerbation of existing concerns over disturbances and littering from rubbish tossed off upper floor balconies. It is considered that a Visitor Management Plan is adequate to manage the risks posed to the amenity of long term residents within the sites, so that any impacts will not be unreasonable.
- 6.7.22 Correctly following the directions of this plan, it could reasonably be considered the proposed use would be able to operate in a manner respectful of the Activity Area character and use. In the absence of other regulatory options for management of the use, the recommendation will be that a condition for a visitor management plan to a similar standard with the previous approvals under PLN-19-30, PLN-20-762, PLN-22-63,

and PLN-22-775 be included in the permit of approval. This will seek to guarantee that the operation and scale of the use is appropriately managed to the satisfaction of Council, long term residents, as well as ensuring the character and use of the Amenity Area is respected.

6.7.23 The proposal complies with the performance criterion.

7. Discussion

- 7.1 Planning approval is sought for Change of Use to Visitor Accommodation, at 27/1 Collins Street, Hobart and the Common Land of the Parent Title.
- 7.2 The application was advertised and received six representations. The representations raised concerns including Residential Dwellings, Security, Residential Amenity, Building Damage, Parking and Vehicle Safety, Garbage Disposal, Communal Facilities, Previous Council Advice, Housing Shortage, and Planning Directive 6.
- 7.3 The proposal has been assessed against the relevant provisions of the planning scheme and is considered to perform well.
- 7.4 The proposal has not been assessed by any other Council officers.
- 7.5 The proposal is recommended for approval.

8. Conclusion

- 8.1 The proposed Change of Use to Visitor Accommodation, at 27/1 Collins Street, Hobart and the Common Land of the Parent Title satisfies the relevant provisions of the *Sullivans Cove Planning Scheme 1997*, and as such is recommended for approval.

9. Recommendations

That: Pursuant to the *Sullivans Cove Planning Scheme 1997*, the Council approves the application for Change of Use to Visitor Accommodation, at 27/1 Collins Street, Hobart and the Common Land of the Parent Title for the reasons outlined in the officer's report and a permit containing the following conditions be issued:

GEN

The use and/or development must be substantially in accordance with the documents and drawings that comprise PLN-22-842 - 27 1 COLLINS STREET HOBART TAS 7000 - Final Planning Documents except where modified below.

Reason for condition

To clarify the scope of the permit.

PLN 18

Prior to the commencement of the approved use, a management plan for the operation of the visitor accommodation must be submitted and approved as a Condition Endorsement, to the satisfaction of the Council's Director City Life. The management plan must include measures to limit, manage and mitigate unreasonable impacts upon the amenity of long term residents. These measures must include, but are not limited to, the following requirements:

1. **To limit, manage, and mitigate noise generated as a result of the visitor accommodation.**
2. **To limit, manage, and mitigate behaviour issues caused as a result of the visitor accommodation.**
3. **To maintain the security of the building where the visitor accommodation would be located, including managing and/or limiting access to shared areas and facilities.**
4. **To specify the maximum permitted occupancy of the visitor accommodation.**
5. **To specify that guests must utilise the site for the parking of vehicles, that the maximum number of vehicles to be parked on the site (1), and detail where the parking spaces are located and how the spaces are to be accessed. Additionally, at the booking stage, guests should be discouraged from bringing more than 1 vehicles and the parking of any additional vehicles in nearby streets should also be discouraged.**
6. **To provide a name and contact phone number of a person who will**

respond to any complaints regarding behaviour of guests. If the property is sold the Visitor Accommodation Management Plan (VAMP) must be updated with new contact details.

Once approved, the management plan must be implemented prior to the commencement of the approved use and must be maintained for as long as the visitor accommodation is in operation. The VAMP must be provided to adjacent property owners and occupiers within 14 days of being approved. If the property is sold, the updated VAMP (in accordance with 6. above) must be provided to adjacent property owners and occupiers within 10 business days of settlement.

Advice:

This condition requires further information to be submitted as a Condition Endorsement. Refer to the Condition Endorsement advice at the end of this permit.

Reason for condition

To ensure that visitor accommodation does not cause an unreasonable loss of residential amenity.

ADVICE

The following advice is provided to you to assist in the implementation of the planning permit that has been issued subject to the conditions above. The advice is not exhaustive and you must inform yourself of any other legislation, by-laws, regulations, codes or standards that will apply to your development under which you may need to obtain an approval. Visit the Council's [website](#) for further information.

Prior to any commencement of work on the site or commencement of use the following additional permits/approval may be required from the Hobart City Council.

CONDITION ENDORSEMENT

If any condition requires that further documents are submitted and approved, you will need to submit the relevant documentation to satisfy the condition via the Condition Endorsement Submission on Council's [online services e-planning portal](#). Detailed instructions can be found [here](#).

Once approved, the Council will respond to you via email that the condition has been endorsed (satisfied).

Where building approval is also required, it is recommended that documentation for condition endorsement be submitted well before submitting documentation for building approval. Failure to address condition endorsement requirements prior to submitting for building approval may result in unexpected delays.

NOISE REGULATIONS

Click [here](#) for information with respect to noise nuisances in residential areas.

FEES AND CHARGES

Click [here](#) for information on the Council's fees and charges.

VISITOR ACCOMMODATION

More information on visitor accommodation, including when building approval is required, can be found [here](#).

In all cases, check with your insurance company that you have adequate cover.

If you are in a bushfire prone area there may be a need to create/review the Bushfire Management Hazard Plan for your property.

If you have a spa or a pool at your property then you are required to test for microbiological quality and chemical parameters on a monthly basis, under the *Public Health Act 1997*. If you have any questions about this then please call our Environmental Health team on 6238 2711.

If you are providing food for consumption on the property, you may require a food business registration in accordance with the *Food Act 2003*. Click [here](#) for more information, or call our Environmental Health team on 6238 2711.

Visitor accommodation is also considered to be a commercial use and also not eligible to residential parking permits. Under the current policy for the issuing of residential parking permits, the proposed change of use to visitor accommodation would not entitle the property to a residential parking permit, or a transferable "bed and breakfast" parking permit.



(Michael McClenahan)

Development Appraisal Planner

As signatory to this report, I certify that, pursuant to Section 55(1) of the Local Government Act 1993, I hold no interest, as referred to in Section 49 of the Local Government Act 1993, in matters contained in this report.



(Ben Ikin)

Senior Statutory Planner

As signatory to this report, I certify that, pursuant to Section 55(1) of the Local Government Act 1993, I hold no interest, as referred to in Section 49 of the Local Government Act 1993, in matters contained in this report.

Date of Report: 17 January 2023

Attachment(s):

Attachment B - Planning Committee Agenda Documents

Planning: #270630

Property

27/1 COLLINS STREET HOBART TAS 7000

People**Applicant ***

Gregory Hurford
14 Clarence Street
BELLERIVE TAS 7018
0402069397
ghurford@gmail.com

Owner *

Toni Hurford
14 Clarence Street
BELLERIVE TAS 7018
0402069397
toni000hurford@gmail.com

Owner *

Gregory Hurford
14 Clarence Street
BELLERIVE TAS 7018
0402069397
ghurford@gmail.com

Entered By

GREGORY HURFORD
0402 069 397
ghurford@gmail.com

Use

Visitor accomodation

Details

Have you obtained pre application advice?

☒ No

If YES please provide the pre application advice number eg PAE-17-xx

Are you applying for permitted visitor accommodation as defined by the State Government Visitor Accommodation Standards? Click on help information button for definition. *

☒ Yes

Is the application for SIGNAGE ONLY? If yes, please enter \$0 in the cost of development, and you must enter the

number of signs under Other Details below. *

☐ No

If this application is related to an enforcement action please enter Enforcement Number

Details

What is the current approved use of the land / building(s)? *

Residential

Please provide a full description of the proposed use or development (i.e. demolition and new dwelling, swimming pool and garage) *

The proposal is to permit short term visitor accommodation at the premises, in addition to its current use as residential..

Estimated cost of development *

0.00

Existing floor area (m2)

86.00

Proposed floor area (m2)

86.00

Site area (m2)

Carparking on Site

Total parking spaces

1

Existing parking spaces

1

N/A

☒ Other (no selection chosen)

Other Details

Does the application include signage? *

☐ No

How many signs, please enter 0 if there are none involved in this application? *

0

Tasmania Heritage Register

Is this property on the Tasmanian Heritage Register?

☐ No

Documents

Required Documents

Title (Folio text and Plan and FolioText-143029-27.pdf
Schedule of Easements) *

Plans (proposed, existing) * FolioPlan-143029-27.pdf

Covering Letter Hurford 27-1 Cover Letter 20221214.pdf

Building self assessment Hurford 27-1 Visitor Accommodation application 20221214.pdf
Form permitted visitor accommodation

GDH Super
14 Clarence Street
Bellerive TAS 7018

14 December 2022

Planning Department
City of Hobart
16 Elizabeth Street
Hobart TAS 7000

Re: Application for Visitor Accommodation permit at 27/1 Collins St Hobart

We wish to apply for a Visitor Accommodation permit for our property at 27/1 Collins Street Hobart. The current rental lease on the property expires early next year, and we are hoping to have all options available to us to occupy the property once it becomes vacant.

If you require further information, please contact me at gdhurford@gmail.com or 0402 069 397.

Kind Regards



Greg Hurford
Trustee for GDH Super

GDH Super
14 Clarence Street
Bellerive TAS 7018

14 December 2022

Michael McClenahan
Planning Department
City of Hobart
16 Elizabeth Street
Hobart TAS 7000

Re: Further Information re PLN-22-842 planning application

Dear Michael

Thank you for our phone discussion this afternoon re the planning application for our property at 27/1 Collins Street Hobart – as a result, I have attached additional information as requested to progress this application, as follows:

- Folio text for the common property (CT 143029/0)
- Written advice to the Strata Manager for 1 Collins Street (and their response) that this planning application is being made.
- A marked-up copy of the plan to clarify the location of the apartment (on the ground floor) and associated carpark in the basement. The relevant pages are #6 (carpark) and #10 (apartment), with markups in red.

We have also paid the advertising fee as advised..

If you require further information, please contact me at gdhurford@gmail.com or 0402 069 397.

Kind Regards



Greg Hurford
Trustee for GDH Super

12/14/22, 4:45 PM

Gmail - FYI: Planning application to be lodged for 27/1 Collins Street



Greg Hurford <ghurford@gmail.com>

FYI: Planning application to be lodged for 27/1 Collins Street**TSPG Info** <info@taspropertygroup.com.au>
To: Greg Hurford <ghurford@gmail.com>

14 December 2022 at 14:37

Good Afternoon Greg,

Thank you, we will make note of this.

Kind Regards,

**Emma Taylor**

Receptionist

Phone: 03 6223 1701

Fax: 03 6223 1959

Email: info@taspropertygroup.com.au

Level 2/29 Salamanca Place

Battery Point TAS, 7004

www.taspropertygroup.com.auOffice Hours: Tuesday to Thursday 9.00am to
5.00pm

Please note, I will be on leave from 12pm Friday 23rd December 2022 and back in the office Tuesday 3rd January 2023 at 9.00am.

I will have no access to my emails during this time, however they will be monitored by a team member in the office and you will be responded to accordingly.

If your matter is urgent please call 6223 1701

12/14/22, 4:45 PM

Gmail - FYI: Planning application to be lodged for 27/1 Collins Street



From: Greg Hurford <ghurford@gmail.com>
Sent: Wednesday, 14 December 2022 11:52 AM
To: TSPG Info <info@taspropertygroup.com.au>
Subject: FYI: Planning application to be lodged for 27/1 Collins Street

Good morning

I write to advise that we will be submitting a planning application to the City of Hobart for our property at 27/1 Collins Street - this application will seek permission to allow the property to be used for Visitor Accommodation in addition to its existing permitted use as Residential.

If you have any questions or need further information please let me know.

Kind regards

Greg Hurford

MB: 0402 069 397



FOLIO PLAN

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1990



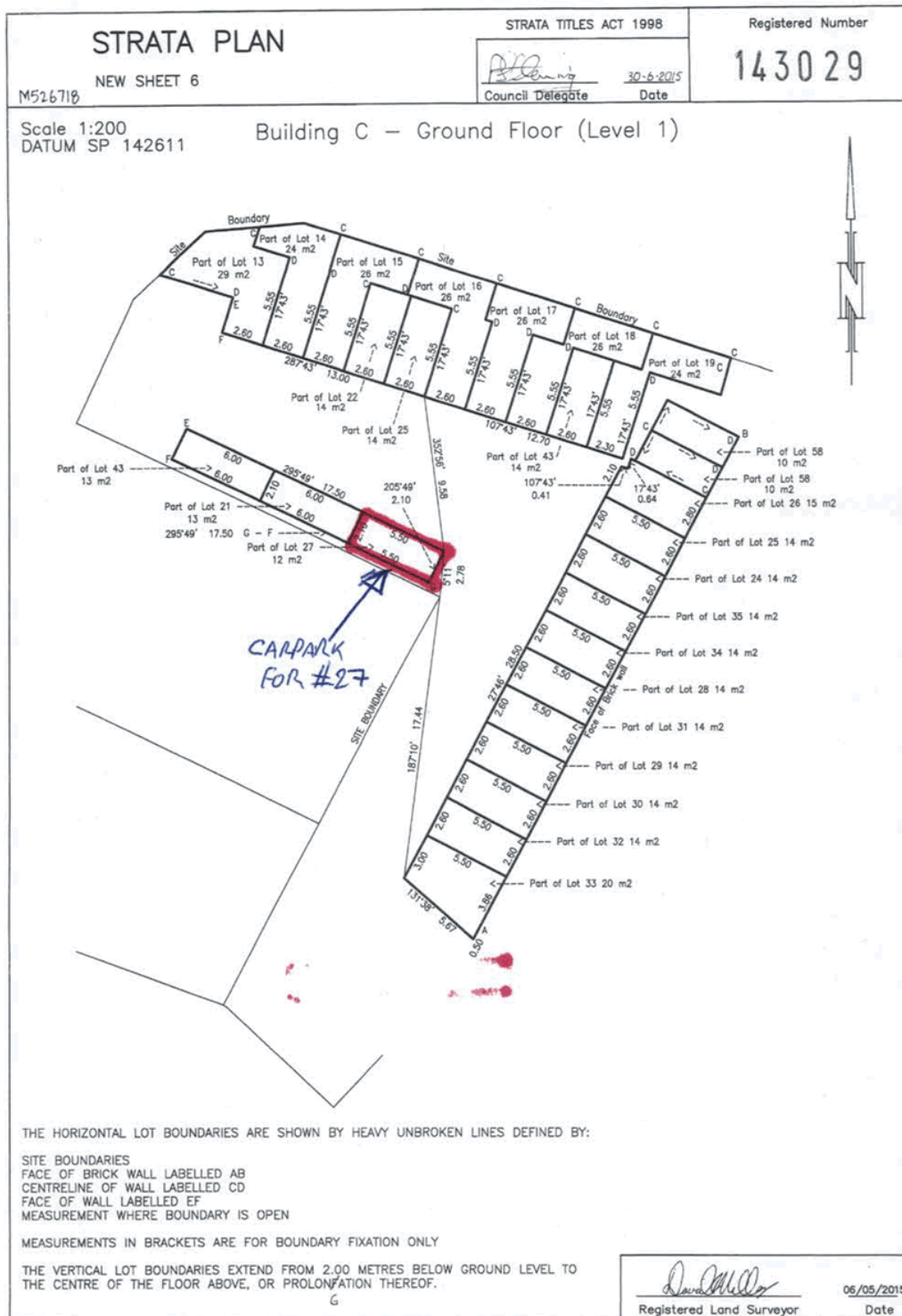
STRATA PLAN NEW SHEET 5 C 72B33B				STRATA TITLES ACT 1998		Registered Number 143029	
NAME OF BODY CORPORATE: ONECOLLINS, STRATA CORPORATION No. 143029 ADDRESS FOR THE SERVICE OF NOTICES: * The Body Corporate SP-143029 C/- Tas Strata & Property Group Pty Ltd Level 2/29 Salamanca Place Battery Point TAS 7004				* The Body Corporate, Strata Plan No. 143029 C/- Tas Strata & Property Group Pty Ltd Level 2/29 Salamanca Place Battery Point TAS 7004			
SURVEYORS CERTIFICATE I, <u>Anthony Owen Carrick</u> of <u>Hobart</u> a surveyor registered under the Land Surveyors Act 1909 certify that the building erected on the site and drawn on sheet 1 of this plan is within the external boundaries of the folio stated on sheet 1. <u>Ray Carrick</u> 21/06/06 04244 Registered Land Surveyor Date Ref No.				Council Certificate I certify that the <u>Sullivan's Cove Waterfront Authority</u> has: (a) approved the lots shown in this plan and (b) issued this certificate of approval in accordance with section 31 of the Strata Titles Act 1998. <u>[Signature]</u> 21.07.06 CHIEF EXECUTIVE date ref no			
GENERAL UNIT ENTITLEMENTS							
LOT	UNIT ENTITLEMENT	LOT	UNIT ENTITLEMENT	LOT	UNIT ENTITLEMENT	LOT	UNIT ENTITLEMENT
1.	480	18	469	35	379	52	496
2.	479	19	489	36	499	53	579
3	479	20	519	37	495	54	585
4	479	21	499	38	489	55	599
5	450	22	509	39	509	56	589
6	450	23	499	40	529	57	529
7	450	24	509	41	489	58	509
8	450	25	499	42	479	59	535
9	450	26	519	43	519		
10	450	27	395	44	489	68	1450
11	450	28	499	45	509	6970	2845
12	475	29	449	46	529	71	1495
13	389	30	459	47	539	72	1474
14	489	31	489	48	529	73	1598
15	469	32	499	49	519	100	2
16	469	33	509	50	489		
17	469	34	499	51	499		
TOTAL ENTITLEMENTS FOR STRATA PLAN = 37910							



FOLIO PLAN

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980



STRATA PLAN

NEW Sheet 10

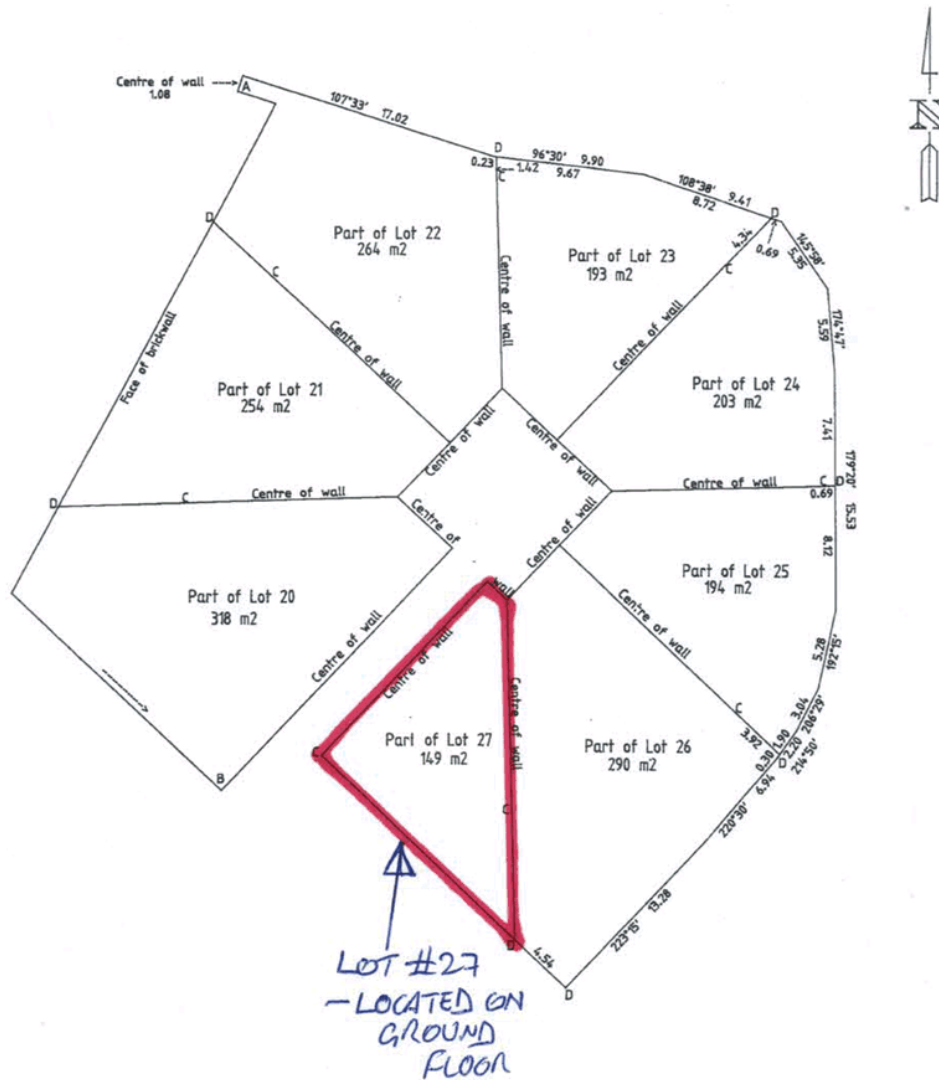
STRATA TITLES ACT 1998

Registered Number

143029

Scale 1:250

Building B - Ground Floor - (Level 1)



The horizontal lot boundaries are shown by heavy unbroken lines defined by:

- Open boundary defined by bearing & distance.
- Face of brick wall labelled AB
- Centre of fence line labelled CD
- Centre of wall

The vertical boundaries of the lot extend vertically from 2.00 metre below ground level to the centre of the floor, or prolongation thereof, above.

**RESULT OF SEARCH**

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980



SEARCH OF TORRENS TITLE

VOLUME 143029	FOLIO 27
EDITION 8	DATE OF ISSUE 13-Dec-2017

SEARCH DATE : 21-Jan-2020

SEARCH TIME : 04.19 PM

DESCRIPTION OF LAND

City of HOBART

Lot 27 on Strata Plan 143029 and a general unit entitlement
operating for all purposes of the Strata Scheme being a 395
undivided 1/37910 interest

Derived from Strata Plan 143029

Derivation : For grantees see Sealed Plan No. 142611

SCHEDULE 1M668307 TRANSFER to GREGORY DAVID HURFORD, TONI LEE HURFORD
and KATE ALEXANDRA HURFORD Registered 13-Dec-2017
at noonSCHEDULE 2Reservations and conditions in the Crown Grant if any
The registered proprietor holds the lot and unit entitlement
subject to any interest noted on common property
Folio of the Register volume 143029 folio 0

SP 142611 EASEMENTS in Schedule of Easements

SP 142611 COVENANTS in Schedule of Easements

A164683 FENCING CONDITION in Transfer

C579899 FENCING CONDITION in Transfer

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

**RESULT OF SEARCH**

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980



SEARCH OF TORRENS TITLE

VOLUME 143029	FOLIO 0
EDITION 3	DATE OF ISSUE 29-Aug-2005

SEARCH DATE : 21-Jan-2020

SEARCH TIME : 04.19 PM

DESCRIPTION OF LAND

City of HOBART

The Common Property for Strata Scheme 143029

Derivation : For grantees see Sealed Plan No. 142611

Prior CT 142611/1

SCHEDULE 1

STRATA CORPORATION NUMBER 143029, ONE COLLINS

SCHEDULE 2

Reservations and conditions in the Crown Grant if any
 143029 FIRST BY-LAWS lodged with the strata plan
 SP 142611 EASEMENTS in Schedule of Easements
 SP 142611 COVENANTS in Schedule of Easements
 A164683 FENCING CONDITION in Transfer
 C579899 FENCING CONDITION in Transfer
 C606279 DECLARATION pursuant to Section 75CA of the
 Conveyancing and Law of Property Act 1884 Registered
 04-Jan-2005 at noon
 C559634 APPLICATION by body corporate to amend strata plan
 Registered 01-Mar-2005 at noon
 C617228 DECLARATION pursuant to Section 75CA of the
 Conveyancing and Law of Property Act 1884 Registered
 01-Mar-2005 at noon
 C628834 BURDENING EASEMENT: Pipeline Easement for the Hobart
 City Council over the Pipeline Easement shown on
 Strata Plan No.143029 Registered 29-Aug-2005 at noon
 C866786 APPLICATION by owners to amend strata plan 143029 by
 deleting area of Lot 100 and increasing area of Lot
 23 Registered 06-Aug-2009 at 12.01 PM
 C947677 APPLICATION by owners to amend strata plan 143029 by
 amending Lots 31 & 33 by exchanging car parks
 Registered 09-Jun-2010 at noon
 C987724 APPLICATION for registration of change of by-laws
 Registered 01-Nov-2010 at noon
 C949798 APPLICATION by owners to amend strata plan 143029 by
 decreasing area of Lot 100 & increasing areas of Lots

**RESULT OF SEARCH**

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980

39 & 58 Registered 25-May-2011 at noon
D110502 ORDER FOR RELIEF by the Recorder of Titles
Registered 10-Jan-2014 at noon
D160965 APPLICATION for registration of change of by-laws
Registered 14-Apr-2015 at noon
M526718 APPLICATION by owners to amend strata plan 143029 by
transferring car park space from Lot 23 to Lot 25
Registered 01-Dec-2015 at noon
E81379 ORDER of the Recorder of Titles under Part 9 Strata
Titles Act 1998 Registered 12-Apr-2017 at noon
C628684 APPLICATION to amend strata by adding new lots 20 to
59 Registered 29-Aug-2005 at noon
C630415 APPLICATION by lot owners to amend strata plan by
amending Lot 100 and adding Lots 68, 71 & 6970
Registered 13-Jan-2006 at noon
C728338 APPLICATION by body corporate to amend strata plan by
amending Lot 100, adding Lots 72 & 73 and increasing
common property Registered 06-Mar-2007 at noon

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations



FOLIO PLAN

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980



CITY/TOWN HOBART SUBURB/LOCALITY HOBART FOLIO REFERENCE C.T.142611/1 SITE COMPRISES THE WHOLE OF LOT 1 ON PLAN No. S.P.142611		STRATA PLAN NEW SHEET 1 OF 16		Registered Number 143029
		NAME OF STRATA SCHEME ONECOLLINS		STRATA TITLES ACT 1998 REGISTERED 4 JAN 2005 <i>Kiss Kawa</i> Recorder of Titles.
MAPSHEET MUNICIPAL CODE No. 114 (5225-42)	LAST UP1 No.	SCALE 1: 500	LENGTHS IN METRES	

SITE PLAN

NOTES: (i) ALL BUILDINGS ON THE SITE TO BE SHOWN ON SHEET 1.
(ii) BUILDING TO SITE BOUNDARY OFFSETS OF LESS THAN 2.00 METRES TO BE SHOWN ON SHEET 1.

 Council Delegate	19/8/2005 Date	 Registered Land Surveyor	04/08/05 Date
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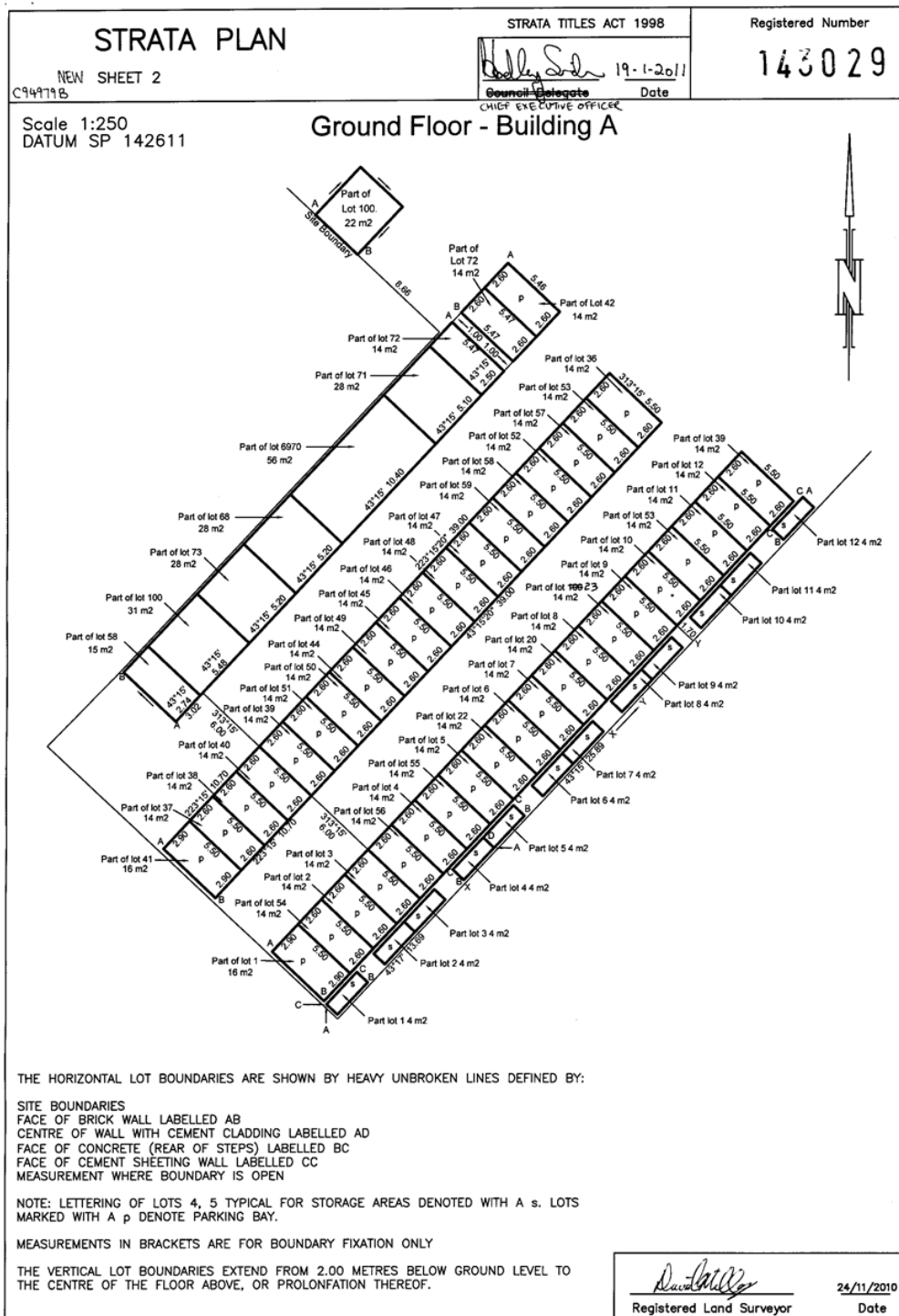
LODGED BY : Wong, McDermott & White



FOLIO PLAN

RECORDER OF TITLES

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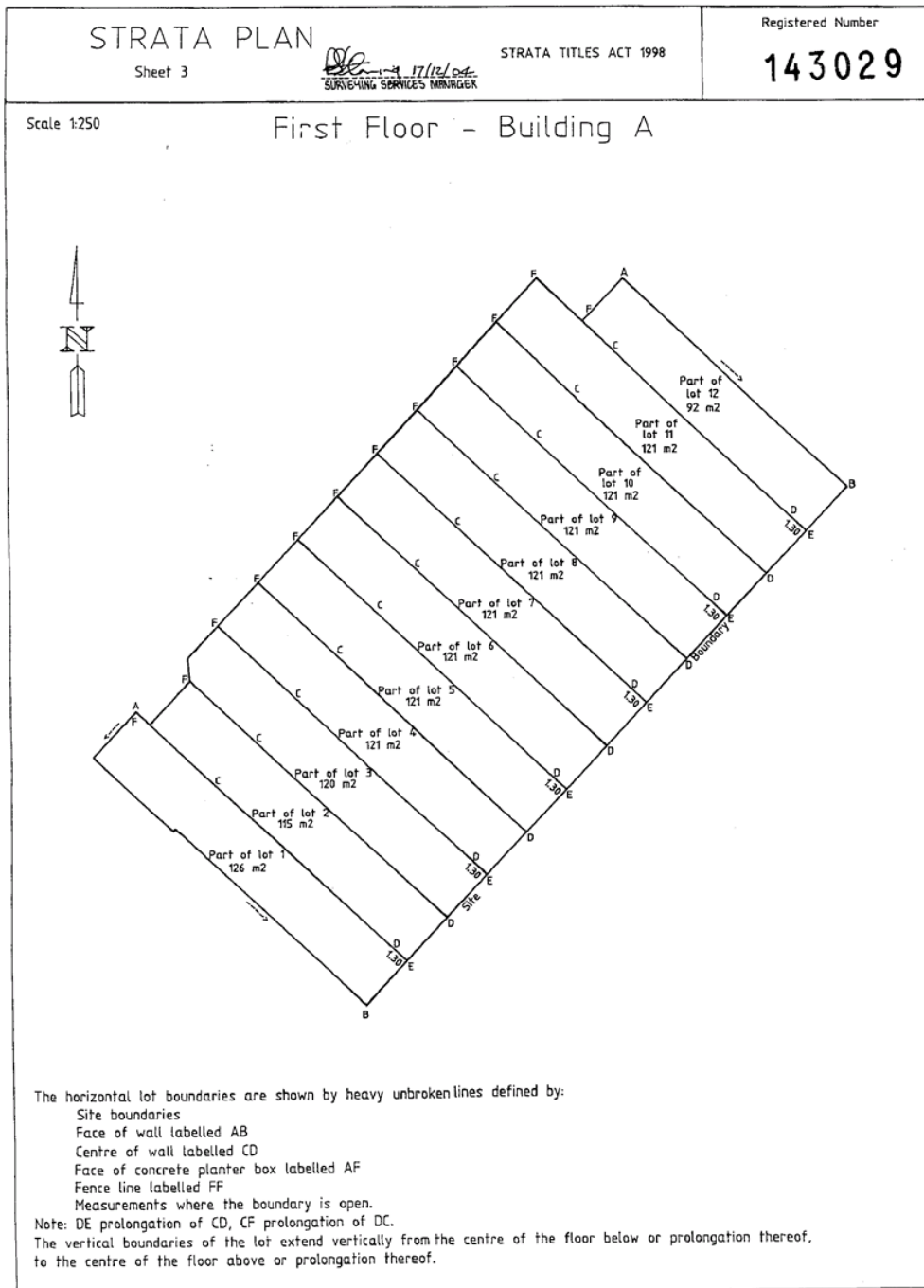




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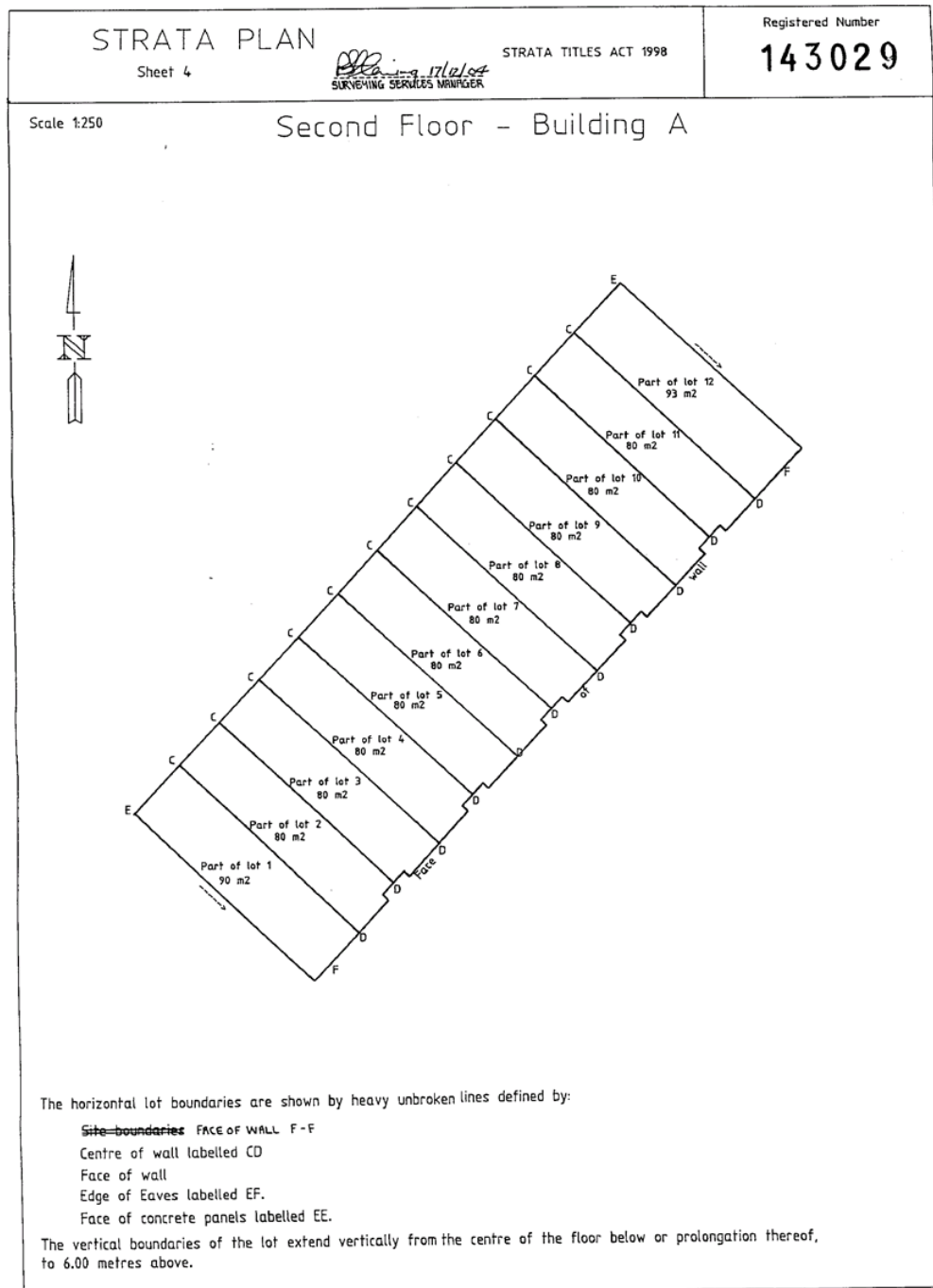




FOLIO PLAN

RECORDER OF TITLES

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FOLIO PLAN

RECORDER OF TITLES

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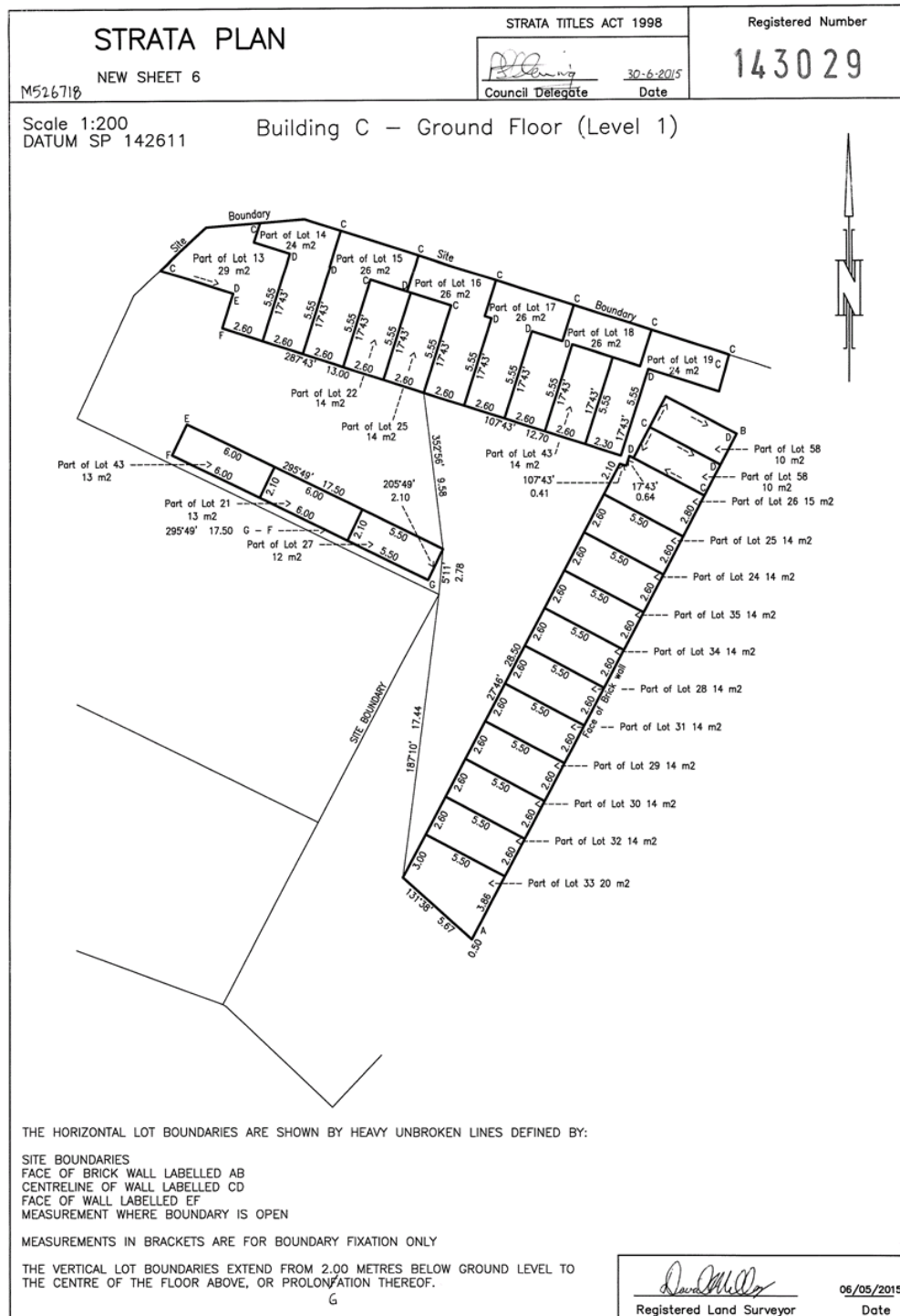
STRATA PLAN NEW SHEET 5 C718335		STRATA TITLES ACT 1998		Registered Number 143029			
NAME OF BODY CORPORATE: ONECOLLINS, STRATA CORPORATION No. 143029 ADDRESS FOR THE SERVICE OF NOTICES: * The Body Corporate SP-143029 C/- Tas Strata & Property Group Pty Ltd Level 2/29 Salamanca Place Battery Point TAS 7004 * MCGONAH TAS 7004				* The Body Corporate, Strata Plan No. 143029 C/- Tas Strata & Property Group Pty Ltd Level 2/29 Salamanca Place Battery Point TAS 7004			
SURVEYORS CERTIFICATE I, <u>Anthony Owen Carrick</u> of <u>Hobart</u> a surveyor registered under the Land Surveyors Act 1909 certify that the building erected on the site and drawn on sheet 1 of this plan is within the external boundaries of the folio stated on sheet 1. <u>Ray Carrick</u> 21/06/06 04244 Registered Land Surveyor Date Ref No.			Council Certificate I certify that the <u>Sullivan Cove Waterfront Authority</u> has: (a) approved the lots shown in this plan and (b) issued this certificate of approval in accordance with section 31 of the Strata Titles Act 1998. <u>[Signature]</u> 21/07/06 date ref no CHIEF EXECUTIVE				
GENERAL UNIT ENTITLEMENTS							
LOT	UNIT ENTITLEMENT	LOT	UNIT ENTITLEMENT	LOT	UNIT ENTITLEMENT	LOT	UNIT ENTITLEMENT
1.	480	18	469	35	379	52	496
2.	479	19	489	36	499	53	579
3	479	20	519	37	495	54	585
4	479	21	499	38	489	55	599
5	450	22	509	39	509	56	589
6	450	23	499	40	529	57	529
7	450	24	509	41	489	58	509
8	450	25	499	42	479	59	535
9	450	26	519	43	519		
10	450	27	395	44	489	68	1450
11	450	28	499	45	509	6970	2845
12	475	29	449	46	529	71	1495
13	389	30	459	47	539	72	1474
14	489	31	489	48	529	73	1598
15	469	32	499	49	519	100	2
16	469	33	509	50	489		
17	469	34	499	51	499		
TOTAL ENTITLEMENTS FOR STRATA PLAN = 37910							



FOLIO PLAN

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980





FOLIO PLAN

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980



STRATA PLAN SHEET 7	STRATA TITLES ACT 1998 <div style="display: flex; justify-content: space-between;"> <div> <i>David Mills</i> Council Delegate </div> <div> 8/2/2005 Date </div> </div>	Registered Number <div style="font-size: 1.5em; font-weight: bold;">143029</div>
-------------------------------	---	---

Scale 1:200 Building C – First Floor (Level 2)

The horizontal lot boundaries are shown by heavy unbroken lines defined by:

- Site Boundaries
- Outside face of wall labelled AB
- Centreline of wall labelled CD
- Fence line labelled BE
- CF is the prolongation of DC

Measurements where the boundary is open.

The vertical boundaries of the lot extend vertically from the centre of the ceiling below or prolongation thereof to the centre of the ceiling above or the prolongation thereof

Measurements in brackets are for boundary fixation only.

Roy Bauwick
 Registered Land Surveyor

12/6/05
 Date



FOLIO PLAN

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980



STRATA PLAN SHEET 8	STRATA TITLES ACT 1998 <div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;"> Council Delegate </div> <div style="text-align: center;"> 8/2/2005 Date </div> </div>	Registered Number <div style="font-size: 1.5em; font-weight: bold;">143029</div>
-------------------------------	--	---

Scale 1:200 Building C – Second Floor (Level 3)

The horizontal lot boundaries are shown by heavy unbroken lines defined by:
 Face of wall
 Centreline of wall labelled CD
 Face of deck labelled DD

Measurements where the boundary is open.
 The vertical boundaries of the lot extend vertically from the centre of the ceiling below or prolongation thereof
 to the centre of the ceiling above or the prolongation thereof
 Measurements in brackets are for boundary fixation only.

Registered Land Surveyor

12/01/05
 Date



FOLIO PLAN

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980



STRATA PLAN SHEET 9	STRATA TITLES ACT 1998 Council Delegate	Registered Number <div style="font-size: 1.5em; font-weight: bold;">143029</div>
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Scale 1:200 Building C – Third Floor (Level 4)

The horizontal lot boundaries are shown by heavy unbroken lines defined by:

- Face of wall
- Centreline of wall

Measurements where the boundary is open.

The vertical boundaries of the lot extend vertically from the centre of the ceiling below or prolongation thereof to 6.00 metres above.

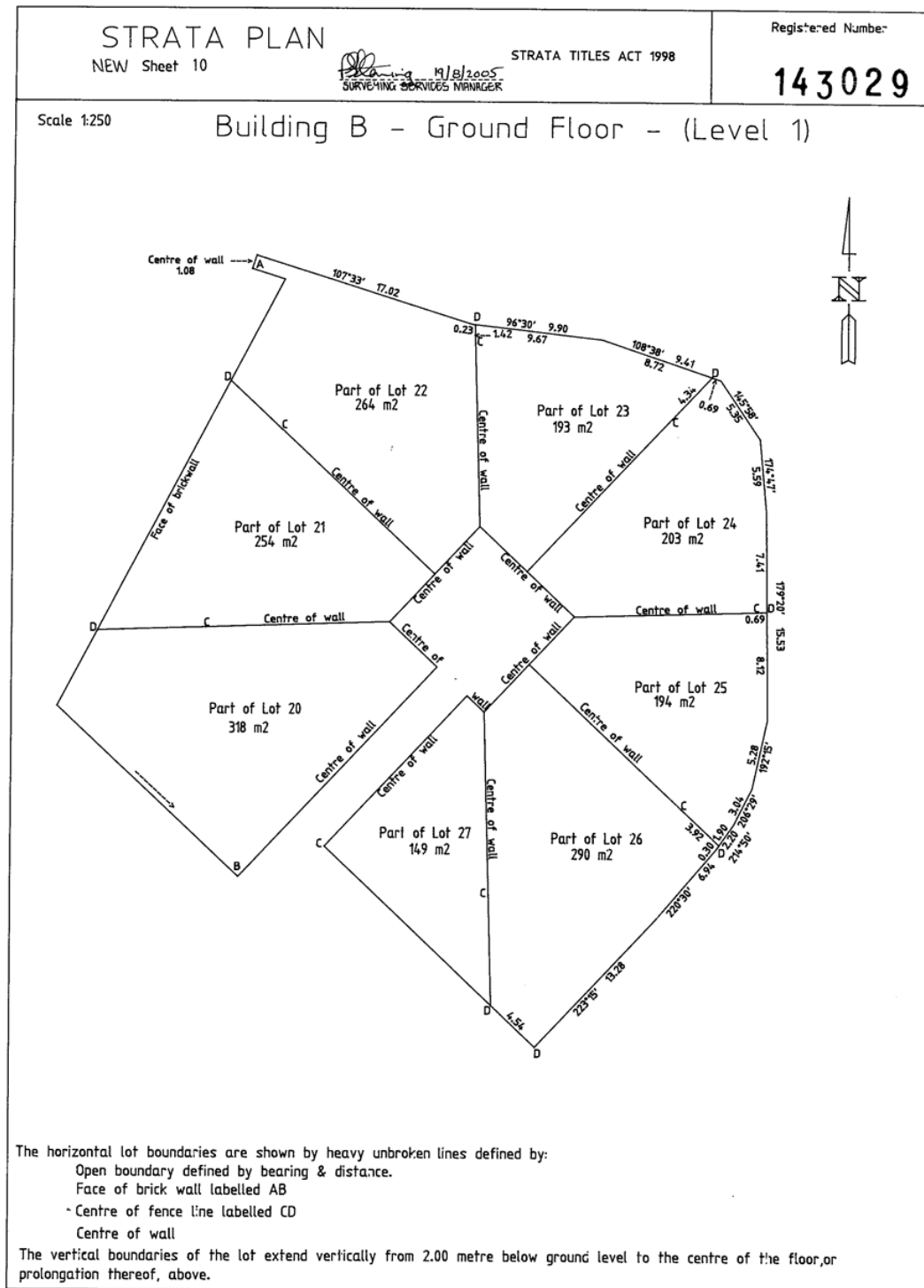
Measurements in brackets are for boundary fixation only.

Registered Land Surveyor 12/01/05
 Date

FOLIO PLAN

RECORDED OF TITLES

Issued Pursuant to the Land Titles Act 1980

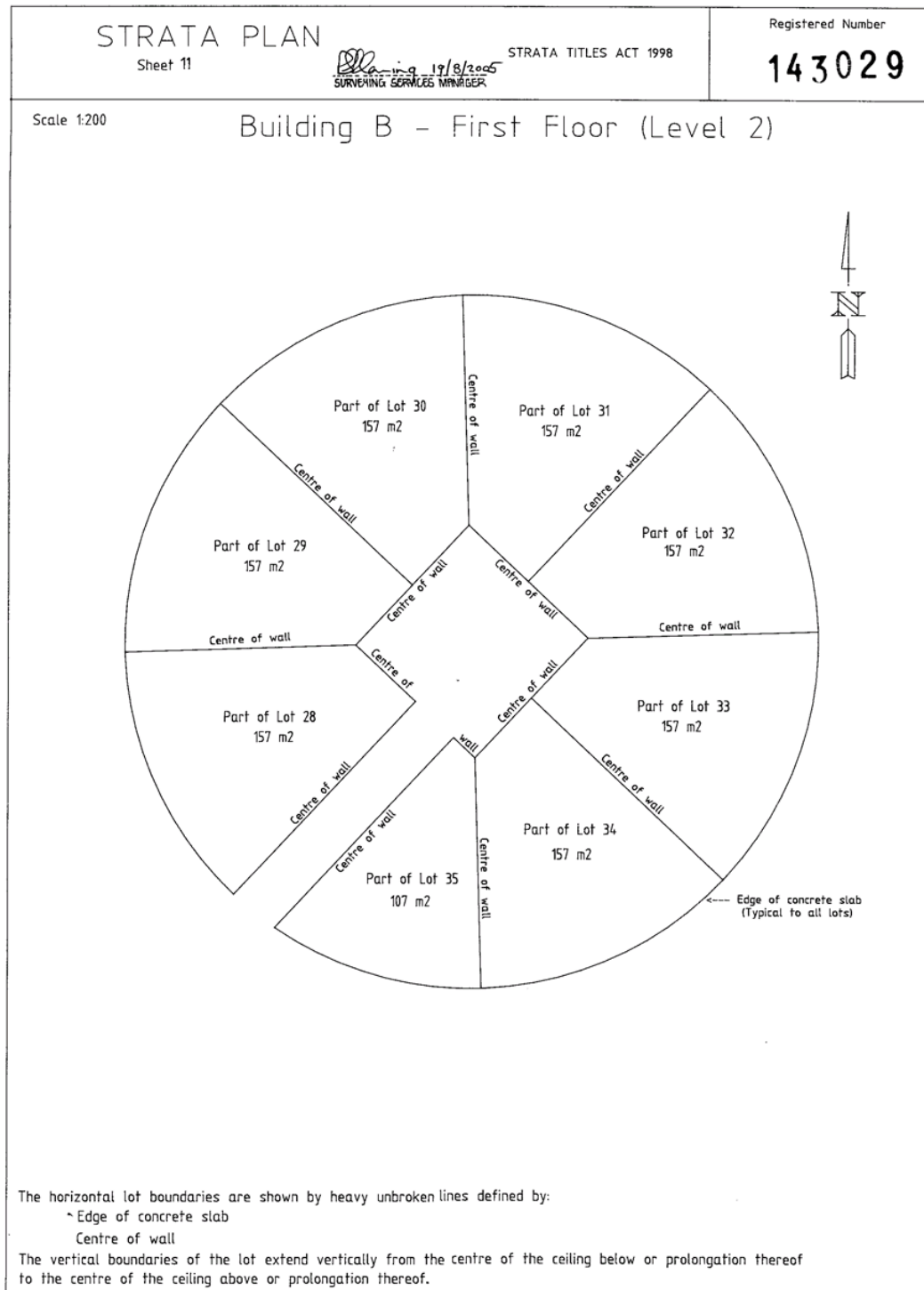




FOLIO PLAN

RECORDER OF TITLES

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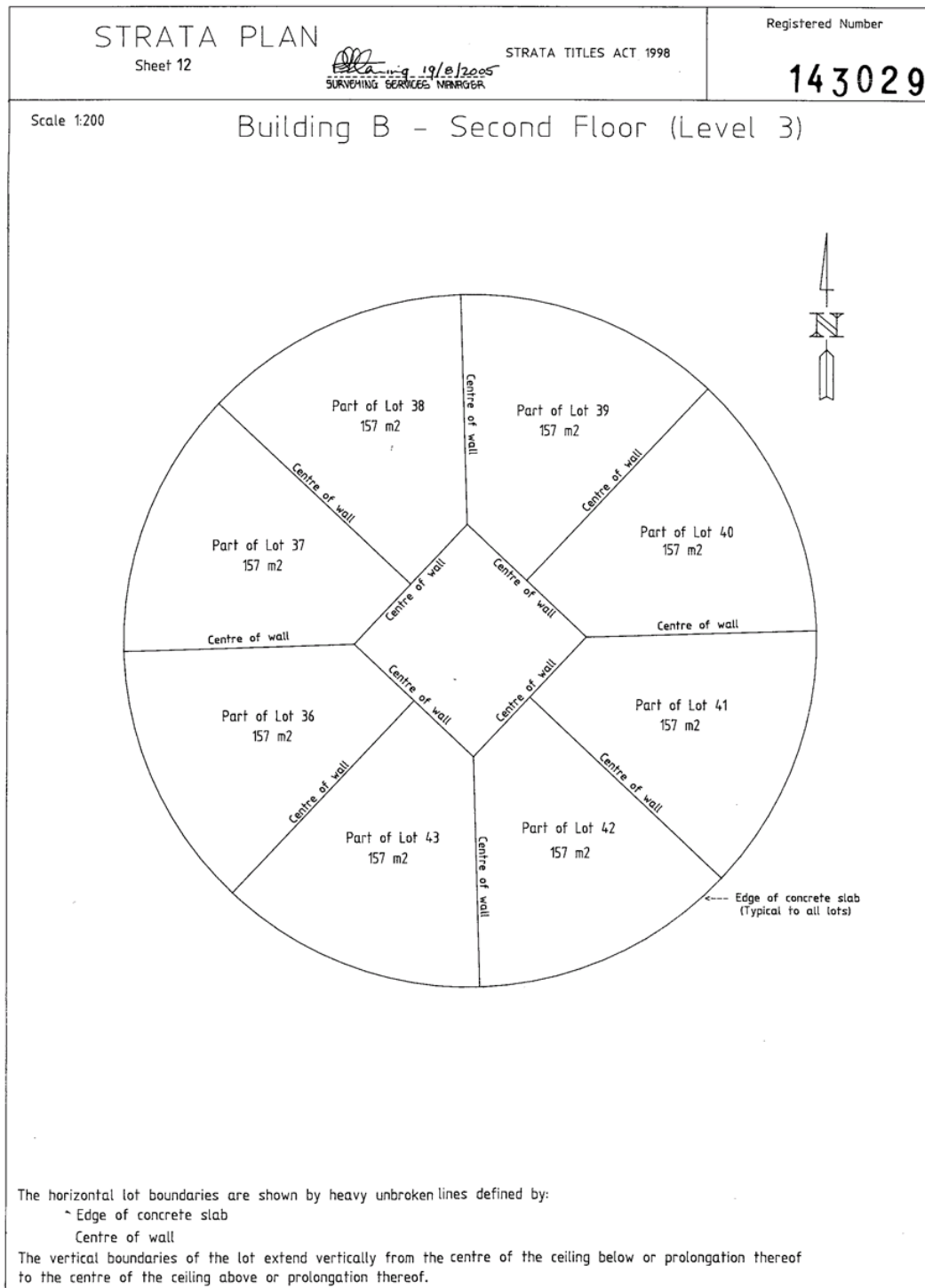




FOLIO PLAN

RECORDER OF TITLES

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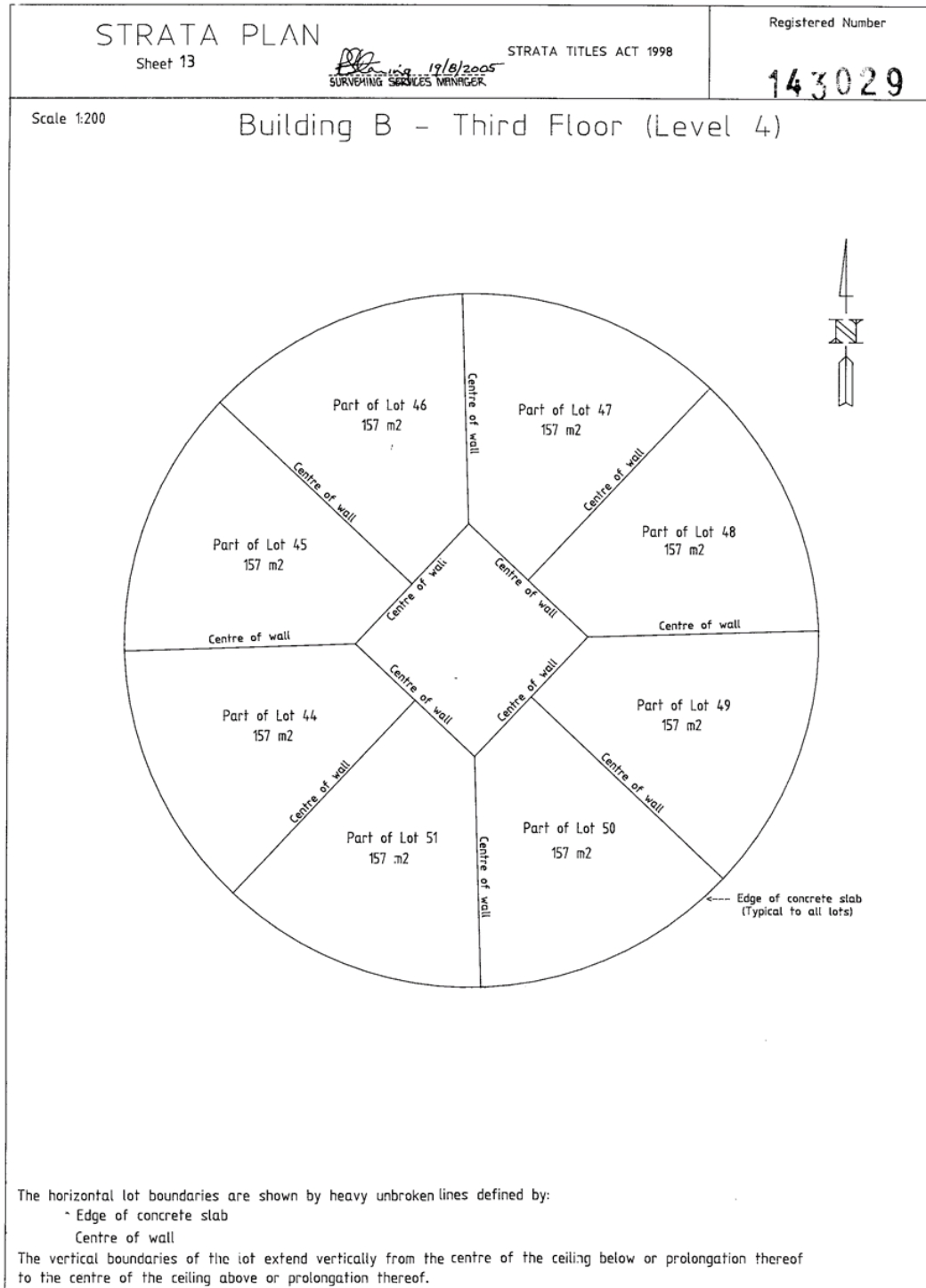




FOLIO PLAN

RECORDER OF TITLES

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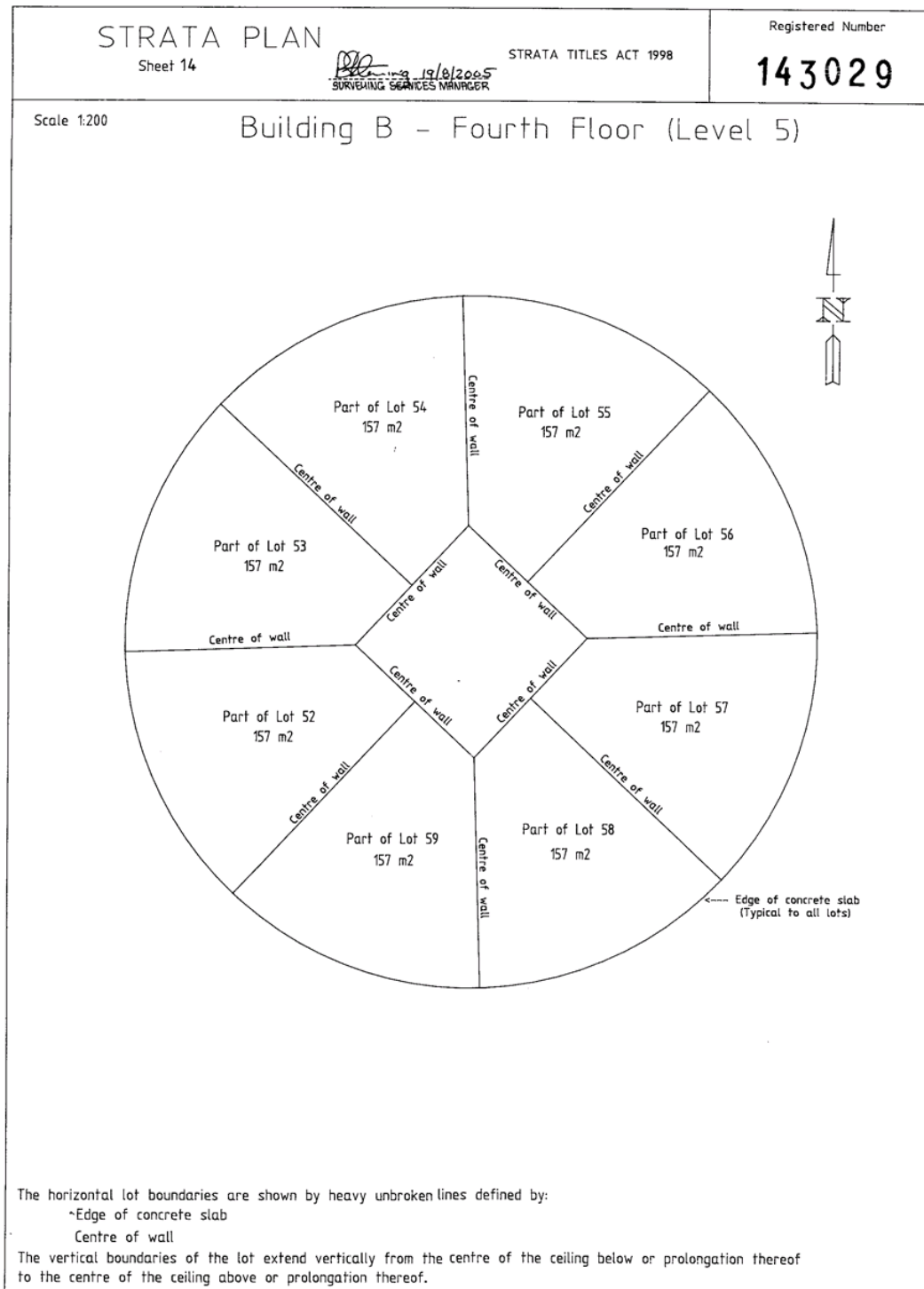




FOLIO PLAN

RECORDER OF TITLES

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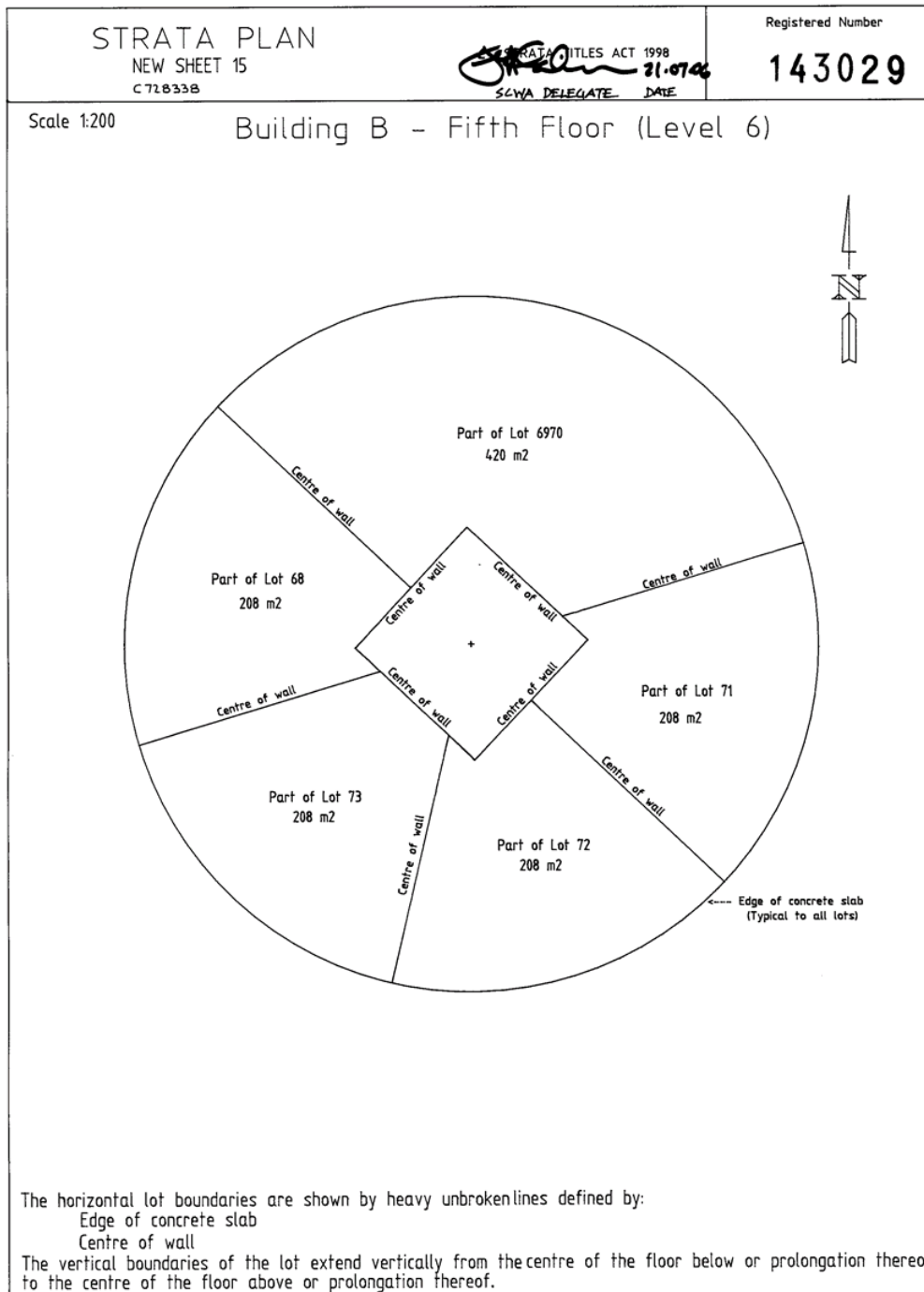




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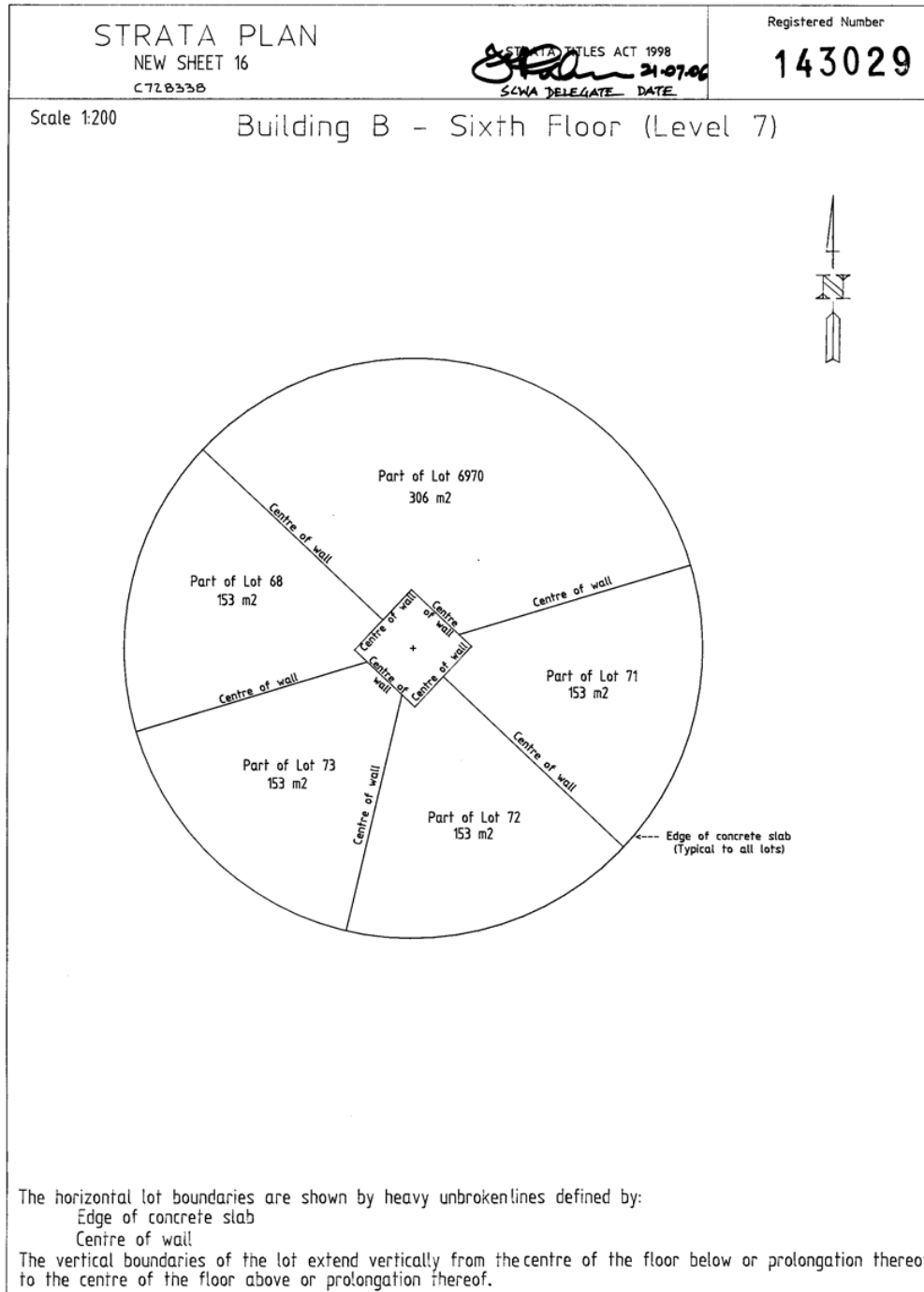




FOLIO PLAN

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980



Office Use Only
[insert council branding and contact details]
Application no.
Date received:
Fee:
Paid:

Guidance Information

Visitor Accommodation Use in Existing Habitable Buildings Standard Application Package

The Standard Application Package has been approved by the Minister for Planning to provide a simple pathway for seeking approval for the use of existing homes or habitable buildings for Visitor Accommodation as prescribed below. It comprises an Application for Planning Permit and a building self-assessment Form.

Completed forms must be lodged with the relevant planning/permit authority.

Application for Planning Permit

The Application for Planning Permit form relates to *Planning Directive No.6 – Exemption and Standards for Visitor Accommodation in Planning Schemes*, issued by the Minister for Planning under former sections 13(1)(a) and (4) of the *Land Use Planning and Approvals Act 1993*, and effective from 1 July 2018 and as modified on 1 August 2018.

The Application for Planning Permit form applies to the change of use of an existing habitable building where it is 'Permitted' under Planning Directive No. 6, as set out below:

Planning Scheme	Requirements
Interim planning schemes	<p>Change of use to Visitor Accommodation if:</p> <ul style="list-style-type: none"> located within the General Residential Zone; Inner Residential Zone, Low Density Residential Zone, Rural Living Zone, Environmental Living Zone, or Village Zone; not located within the Battery Point Heritage Precinct (BP1); guests are accommodated within existing habitable buildings; the use occupies not more than 200m² gross floor area per lot; the use is not within a strata scheme¹ that includes another lot, as defined in section 3 of the <i>Strata Titles Act 1998</i>, that is used for Residential use; and all other requirements in the planning scheme are met that are necessary for a 'Permitted' use.
Sullivans Cove Planning Scheme 1997	<p>Change of use to Bed and Breakfast Establishment or Visitor Accommodation if:</p> <ul style="list-style-type: none"> located within Activity Area 1.0 Inner City Residential (Wapping); guests are accommodated within existing habitable buildings; the use occupies not more than 200m² floor area per lot; and all other requirements in the planning scheme are met that are necessary for a 'Permitted' use.

¹ Strata scheme is defined in section 3 of the *Strata Titles Act 1998*.

The Application for Planning Permit form does not apply if:

- the use is exempt from requiring a planning permit under Planning Directive No.6, as set out below:

Planning Scheme	Exempt Qualification	
Interim planning schemes	Visitor Accommodation use in a dwelling (including an ancillary dwelling) if...	(i) it is used by the owner or occupier as their main place of residence, and only let while the owner or occupier is on vacation or temporarily absent; or (ii) it is used by the owner or occupier as their main place of residence, and visitors are accommodated in not more than 4 bedrooms.
<i>Flinders Planning Scheme 2000</i>	Visitor Accommodation use in a House, House and Ancillary Apartment or Grouped House if...	
<i>Sullivans Cove Planning Scheme 1996</i>	Bed and Breakfast Establishment or Visitor Accommodation uses in a dwelling if...	

- the use requires a 'Discretionary' planning permit under the planning scheme. For example, a change of use to Visitor Accommodation that does meet the requirements for a 'Permitted' use under Planning Directive No. 6, or other provisions in the planning scheme apply requiring discretionary assessment, such as off-street parking, bushfire planning, heritage, or non-residential use standards in zones (e.g. external lighting requirements).

Applicants should use the standard Council planning application form.

- other uses or if any development (not otherwise exempt) is proposed, in addition to the change of use to Visitor Accommodation.

Applicants should use the standard Council planning application form.

Building self-assessment form

The building self-assessment form is mandated under the *Director's Determination – Short or Medium Term Visitor Accommodation*, issued by the Director of Building Control under section 20(1)(e) of the *Building Act 2016*, and effective from 1 July 2018.

This Determination applies only to existing dwellings or residential premises where a fee is being charged for the use of short or medium term visitor accommodation.

The building self-assessment form must be completed in the following situations where the property is used or intended to be used as visitor accommodation:

- owner occupiers of residential premises of more than four bookable rooms, or
- investment properties or shacks (not occupied by the owner) that have a gross floor area of not more than 200m² used for visitor accommodation.

The building self-assessment form requires the owner or occupier to declare that the property meets the minimum building standards with respect to an occupancy permit, plumbing, and essential building services.

The Determination and the building self-assessment form apply, irrespective of the planning requirements. The planning and building requirements are mutually exclusive. If any premises intended to be let for short-term visitor accommodation is a lot in a strata title scheme, and any other premises in that scheme are occupied as a residence by long term residents, the proponent is not permitted to use the building self-assessment process, unless the premises is located within Activity Area 1.0 Inner City Residential (Wapping) under the Sullivans Cove Planning Scheme 1997.

**APPLICATION FOR PLANNING PERMIT
CHANGE OF USE TO VISITOR ACCOMMODATION****Section 58 of Land Use Planning and Approvals Act 1993**To:

Planning Authority

The Proposal:

(Must tick one)

**Interim Planning Schemes:**

Change of use to Visitor Accommodation if:

- guests are accommodated in existing habitable buildings;
- the use has a gross floor area of not more than 200m² per lot;
- the use is not within a strata scheme² that includes another lot, as defined in section 3 of the *Strata Titles Act 1998*, that is used for Residential use; and
- the land is within one of the following zones:
 - General Residential;
 - Inner Residential, excluding land within the Battery Point Heritage Precinct 1 (BP1);
 - Low Density Residential;
 - Rural Living;
 - Environmental Living;
 - Village.

**Sullivans Cove Planning Scheme 1997:**

Change of use to Bed and Breakfast Establishment or Visitor Accommodation, where guests are accommodated in existing habitable buildings and the use has a floor area of not more than 200m² per lot, and the land is within the Activity Area 1.0 Inner City Residential (Wapping).

Description:

Brief description of the proposed change of use, including whether the whole or part of the building(s) are to be used:

This proposal is to permit the use of the apartment at 27/1 Collins Street Hobart as Visitor Accommodation.

Applicant: Who is making the application?Applicant Name: Business /
Company Name: Postal Address: Phone
No: Email address:

² Strata scheme means the complex of lots and common property (together with the system of administration and management) created on the registered strata plan.

The Land: Detail address and title particulars of the land for the proposed change of use

Street Address: Unit 27, 1 Collins Street

Hobart TAS

7000

Certificate of Title
Reference No. 143029/27

Describe the way the land is used now:

The property is currently leased to the Royal Hobart Hospital, who accommodate staff there - this lease expires end-January 2023.

The Owner: Owner's name and address, if land is not in applicant's ownership

(If more than one owner, all names and addresses must be provided)

Owner Name: Gregory David Hurford and Toni Lee Hurford and

Business /
Company Name: Trustees for GDH Super

Postal Address: 14 Clarence Street

Phone
No: 0402069397

Bellerive TAS

7018

Email address: qdhurford@gmail.com

The Applicant: Is the applicant the owner of the land?

(Must tick one)



Yes - please complete Section A below.



No - please complete Section B below, and if relevant Sections C and D.

Section A: Owner's Verification

I/we am/are the owner(s) of the land.

Owner(s): Gregory David Hurford and Toni Lee

Signed: Date
14/12/2022**Section B: Applicant's Verification**

I/we, the applicant declare that the owner /each of the owners of the land have been notified of the intention to make this application.

Applicant: Name: [print] Signed Date **Section C: If the application involves land owned or administered by a council**The consents to the making of this permit application.General Manager: Name: [print] Signed Date

Section D: If the application involves land owned or administered by the Crown

The application must be signed by the Minister or relevant delegate responsible for the land and accompanied with written permission.

Declaration (to be completed for all applications)

I declare that the information I have given in this permit application to be true and correct to the best of my knowledge.

Applicant: Name: [print] Signed Date
Gregory David Hurford  14/12/2022

Personal Information Protection Statement

As required under the *Personal Information Protection Act 2004*

1. Personal information is managed in accordance with the *Personal Information Protection Act 2004* and may be accessed by the individual to whom it relates, on request to the relevant planning authority.
2. Information can be used for other purposes permitted by the *Local Government Act 1993* and regulations made by or under that Act, and, if necessary, may be disclosed to other public sector bodies, agents or contractors of the relevant planning authority.

Planning Application Checklist

The Planning Authority requires the following to assess this Planning Application, with all documentation provided as required by the planning authority:

- (a) Completed Planning Application Form - all relevant sections filled in and signed by land owner (if required) and applicant.
- (b) A copy of the current certificate of title for all land to which the permit sought is to relate (available from Service Tasmania or from www.thelist.tas.gov.au).
- (c) Either:
 - (i) a basic floor plan of the existing habitable building(s) to scale, including identification of the gross floor area for the proposed change of use to visitor accommodation, or
 - (ii) a signed declaration by the applicant confirming the area of the existing habitable building(s) for the proposed change of use to visitor accommodation has a gross floor area³ of not more than 200m²
- (d) Payment of the prescribed fee (up to \$250.00).

Failure to provide the required information may result in your application not being able to be accepted or processed.

³ Or floor area in the case of the Sullivans Cove Planning Scheme 1997.

BUILDING SELF-ASSESSMENT FORM**Director's Determination – Short or Medium Term Visitor Accommodation****Section 20(1)(e) of Building Act 2016**

This building self-assessment form must be completed in the following situations where the property is used or intended to be used for visitor accommodation, and a fee is being charged for such use:

- owner occupiers of residential premises of more than four bookable rooms, or
- investment properties or shacks (not occupied by the owner) that have a gross floor area of not more than 200m² per lot used for visitor accommodation.

The completed form must be lodged with the relevant Permit Authority.

If any premises intended to be let for short-term visitor accommodation is a lot in a strata title scheme, and any other premises in that scheme are occupied as a residence by long term residents, the proponent is not permitted to use the building self-assessment process, unless the premises is located within Activity Area 1.0 Inner City Residential (Wapping) under the Sullivans Cove Planning Scheme 1997.

To: Permit Authority
 Address
 Suburb/postcode

Owner / Occupier details:

(Only an owner or occupier may complete this form)

Owner / Occupier:
(Delete one not applicable)
Postal Address: Phone No:

Email address:

Address of Property used or intended to be used for Visitor Accommodation:

Street Address:

Certificate of Title
Reference No.

Owner / Occupier Declaration:

I/we, as the owner / occupier of the property, declare that the property meets the following minimum building requirements, as set out below:

Owner/Occupier: Signed Date
(Delete one not applicable)

Occupancy Permit:

(Must tick one)

The owner or occupier is to declare that –

- ☒ (a) if an occupancy permit has been issued, the premises is fit for occupation consistent with that permit, and the maximum number of occupants stated on the permit will not be exceeded;

OR

- ☐ (b) an occupancy permit or occupancy certificate was not required (as the premises was constructed / altered before 1994).

Plumbing:

(Must tick (a) or (b) and (c) or (d))

The owner or occupier is to declare that –

- ☒ (a) the premises is connected to a reticulated sewerage system;

OR

- ☐ (b) the premises is connected to an on-site wastewater management system that:
- is in good working order and will be maintained to perform to the same standard as it was designed; and
 - has a land application distribution area designed, installed and in good serviceable condition; and
 - the maximum number of occupants of the premises the system is designed for is not exceeded; and
 - there is a maintenance contract in place for the servicing of the system.

- ☒ (c) the premises is connected to a reticulated drinking water supply system;

OR

- ☐ (d) a private drinking water supply (including from a tank, well, dam, etc.) is provided for the premises that meets the requirements of the *Public Health Act 1997*.

Essential Building Services:

(Must tick one)

The owner or occupier is to declare that –

- ☒ (a) regarding Essential Building Services, the premises has an approved schedule of maintenance, and fire safety features are maintained in accordance with Part 7 (regulations 72 to 78) of the *Building Regulations 2016* and the Director's Maintenance of Prescribed Essential Building Services Determination;

OR

- ☐ (b) the premises is not required to have an approved essential maintenance schedule, but the following fire safety features are installed and maintained in accordance with manufacturer's instructions:
- a smoke alarm with a 10-year non-removable lithium battery, or
 - a hard wired smoke alarm (and are interconnected where there is more than one alarm fitted);
- (a) if any storey of the premises contains a bedroom –
- (i) installed in every corridor, or hallway, situated in the storey, that is associated with a bedroom; and

- (ii) if there is no corridor, or hallway, situated in the storey, that is associated with a bedroom, between that part of the premises containing the bedroom and the remainder of the premises; and
- (b) in any other storey of the premises that does not contain a bedroom.
- If multistorey premises are let for visitor accommodation:
 - i. emergency evacuation lighting is provided; and
 - ii. exits are provided that are clearly marked and mapped for the visitor.

5.2 APPLICATIONS UNDER THE HOBART INTERIM PLANNING SCHEME 2015

5.2.1 73A NEW TOWN ROAD, NEW TOWN AND ADJACENT ROAD RESERVE - DEMOLITION, 22 MULTIPLE DWELLINGS, FRONT FENCING AND ASSOCIATED WORKS PLN-22-282 - FILE REF: F23/8028

Address:	73a New Town Road, New Town and Adjacent Road Reserve
Proposal:	Demolition, 22 Multiple Dwellings, Front Fencing and Associated Works
Expiry Date:	2 February 2023
Extension of Time:	Not applicable
Author:	Michael McClenahan

RECOMMENDATION

That pursuant to the *Hobart Interim Planning Scheme 2015*, the Planning Committee approve the application for demolition, 22 multiple dwellings, front fencing, and associated works, at 73A New Town Road 7008 and adjacent road reserve for the reasons outlined in the officer's report and a permit containing the following conditions be issued:

GEN

The use and/or development must be substantially in accordance with the documents and drawings that comprise PLN-22-282 - 73A NEW TOWN ROAD NEW TOWN TAS 7008 - Final Planning Documents except where modified below.

Advice:

The approved use is multiple dwellings for social housing, which will be managed as a collective by one entity. Social housing is housing that is provided for individuals that would otherwise face financial hardship if required to secure housing on the open market, or would be unable to secure such housing. The use of this site is not suitable for a strata scheme to create individual lots for each multiple dwelling.

Further planning permission would be required to support the creation of a strata scheme of this nature.

Reason for condition

To clarify the scope of the permit.

TW

The use and/or development must comply with the requirements of TasWater as detailed in the form Submission to Planning Authority Notice, Reference No. TWDA 2022/00684-HCC dated 27/10/2022 as attached to the permit.

Reason for condition

To clarify the scope of the permit.

PLN 19

Cranes or other temporary structures used in the construction of the approved development must not create an obstruction or hazard for the operation of aircraft.

Advice:

Further advice about whether the development will or will not create an obstruction or hazard can be obtained by contacting the Civil Aviation Safety Authority, the Department of Health and Human Services (rhhfmeadmin@ths.tas.gov.au, (03) 6166 8832) and the helipad/helicopter operator (Rotorlift, chiefpilot@rotorlift.com.au, (03) 6248 4117

Please be aware of the possibility of downdraft conditions in the Royal Hobart Hospital Heli Airspace / flightpath area from operating helicopters on any crane lifts when any crane operation is taking place and consider this in Job Safety Analysis / Safe Work Method Statements.

Please consider the use of boom illumination or warning lights when operating in the Royal Hobart Hospital Heli Airspace / flightpath area as part of Job Safety Analysis / Safe Work Method Statements.

Reason for condition

To ensure that buildings do not interfere with safe aircraft operations in the vicinity of the Royal Hobart Hospital helipad.

PLN 2

Screening with no more than 30% uniform transparency and a minimum height of 1.5m above floor level of the vehicle ramp, must be installed and maintained along the western elevation of the vehicle ramp adjacent to 67 and 69 New Town Road prior to the first occupation.

Prior to the issue of any approval under the *Building Act 2016*, revised plans must be submitted and approved as a Condition Endorsement showing screening in accordance with the above requirement.

All work required by this condition must be undertaken in accordance with the approved revised plans.

Advice:

This condition requires further information to be submitted as a Condition Endorsement. Refer to the Condition Endorsement advice at the end of this permit.

Reason for condition

To provide reasonable opportunity for privacy for dwellings.

PLN 9

The fencing and front gate on New Town Road front boundary must be no more than 1.8m high above natural ground level and with a minimum uniform transparency of 33%.

Prior to the issue of any approval under the *Building Act 2016*, revised plans must be submitted and approved as a Condition Endorsement showing the front fence in accordance with the above requirement.

Advice:

This condition requires further information to be submitted as a Condition Endorsement. Refer to the Condition Endorsement advice at the end of this permit.

Reason for condition

To provide reasonable opportunity for privacy for dwellings and to maintain the streetscape.

ENG sw1

All stormwater from the proposed development (including but not limited to: roofed areas, ag drains, retaining wall ag drains and impervious surfaces such as driveways and paved areas) must be drained to the Council's stormwater infrastructure prior to first occupation or commencement of use (whichever occurs first).

Advice:

Under section 23 of the Urban Drainage Act 2013 it is an offence for a property owner to direct stormwater onto a neighbouring property.

Reason for condition

To ensure that stormwater from the site will be discharged to a suitable Council approved outlet.

SW 7

Prior to occupancy or the commencement of the use (whichever occurs first), any new stormwater connection must be constructed and existing redundant connection(s) be abandoned and sealed at the owner's expense.

Prior to the issuing of any approval under the *Building Act 2016* or commencement of works (whichever occurs first), detailed engineering drawings must be submitted via the City of Hobart's online request form which is available on its [website](#) and approved. The detailed engineering drawings must include:

1. the location of the proposed connections and all existing connections;
2. the size and design of the connection such that it is appropriate to safely service the development;
3. clearances from any nearby obstacles (eg services, crossovers, trees, poles, walls);
4. long-sections of the proposed connection clearly showing cover, size, material, grade and delineation of public and private

infrastructure;

5. connections which are free-flowing gravity driven;
6. be in general accordance with Council's departures from the LGAT Tasmanian Standard Drawings, available from [our website](#).

All work required by this condition must be undertaken in accordance with the approved detailed engineering drawings.

Advice:

Upgraded or new connections can be approved either via the CEP process or via the Application for New Connection form available from [here](#). The approved stormwater connection documents must be included in your plumbing permit application document set and listed in accompanying forms.

A single connection for the property is required under the Urban Drainage Act 2013.

SW 9

Prior to occupancy or the commencement of the approved use (whichever occurs first), stormwater pre-treatment and detention for stormwater discharges from the development must be installed.

A stormwater management report and design must be submitted and approved as a Condition Endorsement, prior to the issue of any approval under the *Building Act 2016* or the commencement of work on the site (whichever occurs first). The stormwater management report and design must be prepared by a suitably qualified engineer and must:

1. include detailed design of the proposed treatment train, including final estimations of contaminant removal;
2. include detailed design and supporting calculations of the detention tank showing:
 1. detention tank sizing such that there is no increase in flows from the developed site up to 5% AEP event and no worsening of flooding;
 2. the layout, the inlet and outlet (including long section),

- outlet size, overflow mechanism and invert level;
 - 3. the discharge rates and emptying times; and
 - 4. all assumptions must be clearly stated;
3. include a supporting maintenance plan, which specifies the required maintenance measures to check and ensure the ongoing effective operation of all systems, such as: inspection frequency; cleanout procedures; descriptions and diagrams of how the installed systems operate; details of the life of assets and replacement requirements.

All work required by this condition must be undertaken and maintained in accordance with the approved stormwater management report and design.

Advice:

This condition requires further information to be submitted as a Condition Endorsement. Refer to the Condition Endorsement advice at the end of this permit.

SW 13

The major stormwater drainage system including ponding area, kerb freeboard and pathway swale must be constructed and maintained to cater for 1%AEP as at 2100 in accordance with the engineering reports and plans submitted.

Certification from a suitably qualified and accredited engineer that the works has been constructed in accordance with the accepted design must be provided to the City of Hobart prior to occupancy or commencement of use (whichever occurs first).

ENG tr2

A construction traffic and parking management plan must be implemented prior to the commencement of work on the site (including demolition).

The construction traffic (including cars, public transport vehicles, service vehicles, pedestrians and cyclists) and parking management

plan must be submitted and approved as a Condition Endorsement, prior to commencement work (including demolition). The construction traffic and parking management plan must:

1. Be prepared by a suitably qualified person.
2. Develop a communications plan to advise the wider community of the traffic and parking impacts during construction.
3. Include a start date and finish dates of various stages of works.
4. Include times that trucks and other traffic associated with the works will be allowed to operate.
5. Nominate a superintendent, or the like, to be responsible for the implementation of the approved traffic management plan and available as a direct contact to Council and/or members of the community regarding day to day construction traffic operations at the site, including any immediate traffic issues or hazards that may arise.

All work required by this condition must be undertaken in accordance with the approved construction traffic and parking management plan.

Advice:

This condition requires further information to be submitted as a Condition Endorsement. Refer to the Condition Endorsement advice at the end of this permit.

Reason for condition

To ensure the safety of vehicles entering and leaving the development and the safety and access around the development site for the general public and adjacent businesses.

ENG 2a

Prior to first occupation or commencement of use (whichever occurs first), vehicular barriers compliant with the Australian Standard AS/NZS 1170.1:2002 must be installed to prevent vehicles running off the edge of an access driveway or parking module (parking spaces, aisles and manoeuvring area) where the drop from the edge of the trafficable area to a lower level is 600mm or greater, and wheel stops (kerb) must be installed for drops between 150mm and 600mm.

Barriers must not limit the width of the driveway access or parking and turning areas approved under the permit.

Advice:

The Council does not consider a slope greater than 1 in 4 to constitute a lower level as described in AS/NZS 2890.1:2004 Section 2.4.5.3. Slopes greater than 1 in 4 will require a vehicular barrier or wheel stop.

Designers are advised to consult the [National Construction Code 2016](#) to determine if pedestrian handrails or safety barriers compliant with the Code are also required in the parking module this area may be considered as a path of access to a building.

Reason for condition

To ensure the safety of users of the access driveway and parking module and compliance with the standard.

ENG 2b

Further detailed designs are required for vehicle barriers in the following locations:

1. Both sides of the access ramp

This documentation must be submitted and approved as a condition endorsement, prior to the issuing of any approval under the *Building Act 2016*.

The detailed designs must:

1. be prepared and certified by a suitably qualified engineer;
2. be in accordance with the Australian Standard AS/NZS 1170.1:2002, if possible; and
3. show [dimensions, levels, gradients and transitions], and other details as Council deem necessary to satisfy the above requirement.

The vehicle barriers must be installed in accordance with the

approved detailed designs prior to first occupation.

Advice:

This condition requires further information to be submitted as a Condition Endorsement. Refer to the Condition Endorsement advice at the end of this permit.

Reason for condition

To ensure the safety of users of the access driveway and parking module and compliance with the standard.

ENG 2c

Prior to the first occupation, a suitably qualified engineer must certify that the vehicle barriers have been installed in accordance design drawings approved by Condition ENG 2b.

Advice:

An example certificate is available on our [website](#).

Reason for condition

To ensure the safety of users of the access driveway and parking module and compliance with the relevant standards.

ENG 3a

The access driveway and parking areas must be constructed in accordance with the following documentation which forms part of this permit:

RARE documentation received by the Council on the 5 December 2022.

Any departure from that documentation and any works which are not detailed in the documentation must be either:

- a) approved by the Director City Life, via a condition endorsement application; or
- b) designed and constructed in accordance with Australian

Standard AS/NZ 2890.1:2004.

The works required by this condition must be completed prior to first occupation.

Reason for condition

To ensure the safety of users of the access and parking module, and compliance with the relevant Australian Standard.

ENG 3c

Prior to the first occupation, a suitably qualified engineer must certify that the access driveway and parking area has been constructed in accordance with design drawings approved by Condition ENG 3a.

Advice:

We strongly encourage you to speak to your engineer before works begin so that you can discuss the number and nature of the inspections they will need to do during the works in order to provide this certification. It may be necessary for a surveyor to also be engaged to ensure that the driveway will be constructed as approved.

The reason this condition has been imposed as part of your planning permit is that the driveway is outside the Australian Standard gradients or design parameters. If the driveway is not constructed as it has been approved then this may mean that the driveway will either be unsafe or will not function properly.

An example certificate is available on our [website](#).

Reason for condition

To ensure the safety of users of the access and parking module, and compliance with the relevant Australian Standard.

ENG 4

The access driveway and parking module (car parking spaces, aisles and manoeuvring area) approved by this permit must be constructed to a sealed standard (spray seal, asphalt, concrete, pavers or

equivalent Council approved) and surface drained to the Council's stormwater infrastructure prior to the first occupation.

Reason for condition

To ensure the safety of users of the access driveway and parking module, and that it does not detract from the amenity of users, adjoining occupiers or the environment by preventing dust, mud and sediment transport.

ENG 5

The number of car parking spaces approved to be used on the site is twelve (12).

All parking spaces must be delineated by means of white or yellow lines 80mm to 100mm wide, or white or yellow pavement markers in accordance with Australian Standards AS/NZS 2890.1 2004, prior to first occupation.

Reason for condition

To ensure the provision of parking for the use is safe and efficient.

ENG 5b

The number of motorcycle parking spaces approved to be used on the site is two (2).

All parking spaces must be delineated by means of white or yellow lines 80mm to 100mm wide, or white or yellow pavement markers in accordance with Australian Standards AS/NZS 2890.1 2004, prior to first occupation.

Reason for condition

To ensure the provision of parking for the use is safe and efficient.

ENG 6

The bicycle parking area (to accommodate six bicycles within the common area) generally compliant with the Australian Standards

AS/NZS 2890.3:2015 and must be constructed on the site in accordance with the Hubble Traffic documentation received by the Council on the 9th May 2022 prior to the first occupation.

Reason for condition

To ensure safe and efficient parking adequate to provide for the use.

ENG 8

The use of the car parking spaces is restricted to User Class 1A (residential) in accordance with Australian Standards AS/NZS 2890.1 2004 Table 1.1.

A sign, approved by council, and in accordance with Australian Standards AS/NZS 1742.11:2016, must be erected at the entry of the parking access to indicate the parking area is for residents only prior to first occupation.

Reason for condition

In the interests of vehicle user safety and the amenity of the development.

ENG 1

Any damage to council infrastructure resulting from the implementation of this permit, must, at the discretion of the Council:

1. Be met by the owner by way of reimbursement (cost of repair and reinstatement to be paid by the owner to the Council); or
2. Be repaired and reinstated by the owner to the satisfaction of the Council.

A photographic record of the Council's infrastructure adjacent to the subject site must be provided to the Council prior to any commencement of works.

A photographic record of the Council's infrastructure (e.g. existing property service connection points, roads, buildings, stormwater, footpaths, driveway crossovers and nature strips, including if any, pre-existing damage) will be relied upon to establish the extent of

damage caused to the Council's infrastructure during construction. In the event that the owner/developer fails to provide to the Council a photographic record of the Council's infrastructure, then any damage to the Council's infrastructure found on completion of works will be deemed to be the responsibility of the owner.

Reason for condition

To ensure that any of the Council's infrastructure and/or site-related service connections affected by the proposal will be altered and/or reinstated at the owner's full cost.

ENG r1

The excavation and staircase structures within or supporting the highway reservation must not undermine the stability and integrity of the highway reservation and its infrastructure.

Detailed design drawings, structural certificates and associated geotechnical assessments) of the staircase structures near the Paviour Street highway reservation must be submitted and approved as a Condition Endorsement, prior to the commencement of work and must:

1. Be prepared and certified by a suitable qualified person and experienced engineer;
2. Not undermine the stability of the highway reservation;
3. Be designed in accordance with AS 4678, with a design life in accordance with table 3.1 typical application major public infrastructure works;
4. Take into account any additional surcharge loadings as required by relevant Australian Standards;
5. Take into account and reference accordingly any Geotechnical findings;
6. Detail any mitigation measures required; and
7. Detail the design and location of the footing adjacent to the Paviour Street highway reservation.

The structure certificated and/or drawings should note accordingly the above

All work required by this condition must be undertaken in accordance

with the approved select design drawing and structural certificates.

Advice:

This condition requires further information to be submitted as a Condition Endorsement. Refer to the Condition Endorsement advice at the end of this permit.

Reason for condition

To ensure that the stability and integrity of the Council's highway reservation is not compromised by the development.

ENG r3

Prior to the commencement of use, the proposed driveway crossover on the Sunnyside Road highway reservation must be designed and constructed in accordance with:

- Urban - TSD-R09-v3 – Urban Roads Driveways and TSD R14-v3 Type KC vehicular crossing;
- Footpath - Urban Roads Footpaths TSD-R11-v3.

Design drawings must be submitted and approved as a Condition Endorsement prior to any approval under the Building Act 2016. The design drawings must:

1. Show the cross and long section of the driveway crossover within the highway reservation and onto the property;
2. Detail any services or infrastructure (ie light poles, pits, awnings) at or near the proposed driveway crossover;
3. Be designed for the expected vehicle loadings. A structural certificate to note that driveway is suitable for heavy vehicle loadings;
4. Show swept path templates in accordance with AS/NZS 2890.1 2004(B85 or B99 depending on use, design template);
5. If the design deviates from the requirements of the TSD, then demonstrate that a B85 vehicle or a B99 depending on use (AS/NZS 2890.1 2004, section 2.6.2), can access the driveway from the road pavement into the property without scraping the vehicle's underside;

6. Show that vehicular and pedestrian sight lines are met as per AS/NZS 2890.1 2004.
7. Demonstrate that the proposed driveway crossover is designed and constructed in such a way as to convey flows safely and adequately within the road reserve with no decrease in capacity.
8. Show access provided by a concrete plinth to Councils standard. A grated wedge may be permitted on highly used bike routes, and details of the grate (i.e. mass) must be provided. Otherwise, grated wedge, asphalt wedge and the standard open wedge driveway crossovers are not permitted. Note: A drawing of a standard concrete plinth can be obtained from Councils Program Leader Road Services. Note also that the agreement of the Council's is required to adjust footpath levels; and
9. Be prepared and certified by a suitable qualified person, to satisfy the above requirements.

All work required by this condition must be undertaken in accordance with the approved drawings.

Advice:

This condition requires further information to be submitted as a Condition Endorsement. Refer to the Condition Endorsement advice at the end of this permit.

Please note that your proposal does not include adjustment of footpath levels. Any adjustment to footpath levels necessary to suit the design of proposed floor, parking module or driveway levels will require separate agreement from Council's Program Leader Road Services and may require further planning approvals. It is advised to place a note to this effect on construction drawings for the site and/or other relevant engineering drawings to ensure that contractors are made aware of this requirement.

Council notes the kerb on Sunnyside Rd conveys discharge from the upstream piped network, and a non-standard crossover design to return these flows to the kerb will be required. Should this not be feasible, alterations to the public stormwater system will be required.

Reason for condition

To ensure that works will comply with the Council's standard requirements.

HER 16

The boundary treatment along the Sunnyside Street boundary must be 2.0m in height above natural ground level.

Prior to the issue of any approval under the *Building Act 2016*, revised plans must be submitted and approved as a Condition Endorsement showing the Sunnyside Street boundary treatment in accordance with the above requirement.

Advice:

This condition requires further information to be submitted as a Condition Endorsement. Refer to the Condition Endorsement advice at the end of this permit.

Reason for condition

To ensure that development at a heritage precinct is undertaken in a sympathetic manner which does not cause loss of historic cultural heritage significance.

HER 17a

The palette of exterior colours, materials, finishes and boundary treatments must reflect the palette of colours, utilisation of materials, finishes and boundary treatments within the local streetscape and precinct.

Prior to the issue of any approval under the *Building Act 2016*, revised plans must be submitted and approved as a Condition Endorsement showing the omission of colorbond as an elevation treatment and the exterior colours, utilisation of materials, finishes and boundary treatments in accordance with the above requirement.

All work required by this condition must be undertaken in accordance with the approved plans.

Advice:

This condition requires further information to be submitted as a Condition Endorsement. Refer to the Condition Endorsement advice at the end of this permit.

Reason for condition

To ensure that development at a heritage precinct is undertaken in a sympathetic manner which does not cause loss of historic cultural heritage significance.

HER s2

Details of how the history and social cultural heritage of the site will be reflected and interpreted within the site must be submitted and approved.

Plans and written documentation showing the intended methods of heritage interpretation provided where possible in a publicly accessible location and which includes information regarding the site's history, historical and contemporary images and other relevant information must be submitted and approved as a Condition Endorsement, prior to the commencement of works.

All work required by this condition must be undertaken in accordance with the approved plans and written documentation, prior to completion.

Advice:

This condition requires further information to be submitted as a Condition Endorsement. Refer to the Condition Endorsement advice at the end of this permit.

Reason for condition

To enhance the understanding and enjoyment of the site to the satisfaction of the Council.

ENVHE 4

A Construction Environmental Management Plan, prepared by suitably qualified persons, must be implemented.

A Construction Environmental Management Plan must be submitted and approved prior to the commencement of works and prior to the issue of any approval under the *Building Act 2016*, whichever occurs first.

The plan must include, but is not limited to, the following:

1. Details of the proposed construction methodologies and expected likely timeframes.
2. The proposed days and hours of work and proposed hours of activities likely to generate significant noise emissions (including volume and timing of heavy vehicles entering and leaving the site, rock breaking and concrete pours)
3. Details of potential environmental impacts associated with the construction works including noise, vibration, erosion and pollution (air, land and water).
4. Details of proposed measures to avoid or mitigate all identified potential environmental impacts during construction works including, but not limited to:
 - a. A noise management plan certified by a suitably qualified person as being generally consistent with AS 2436-2010 - *Guide to Noise and Vibration Control on Construction, Demolition and Maintenance Sites* and the *Interim Construction Noise Guidelines* (New South Wales Department of Environment and Climate Change, July 2009), and with any relevant guidelines or standards referenced by those documents.
 - b. A soil and water management plan including:
 - i. measures to minimise erosion and the discharge of contaminated stormwater off-site;
 - ii. measures to minimise dust emissions from the site;
 - iii. measures to manage the disposal of surface and groundwater from excavations (if relevant); and
 - iv. measures to prevent soil and debris being carried

onto the street.

- c. Measures detailing and demonstrating compliance with the recommendations of any environmental site assessment or contamination management plan relevant to the site or the development, or required as a condition of approval.
5. Details of proposed responsible persons, public communication protocols, compliance, recording and auditing procedures and complaint handling and response procedures.

Once approved the Construction Environmental Management Plan forms part of this permit and must be implemented and complied with.

A copy of the approved Construction Environmental Management Plan must be kept on site for the duration of the works and be available for inspection.

Advice:

This condition requires further information to be submitted as a Condition Endorsement. Refer to the Condition Endorsement advice at the end of this permit.

Reason for condition

To minimise the impact of construction works.

Part 5 r1

Part 5 agreement and/or legal agreement during construction and after for private structures supporting or within the highway reservation.

Part 5 1 The owner(s) of the property must enter into an agreement with the Council pursuant to Part 5 of the *Land Use Planning and Approvals Act 1993* with respect to the protection of embankment adjacent to the Paviour Street highway reservation prior to the commencement of work.

The owner must not undertake any works at any time (including

excavation and building) that will have any effect on the integrity of the Pavement

Street highway reservation or the road formation themselves or undermine the structural integrity of the highway reservation.

All costs for the preparation and registration of the Part 5 Agreement must be met by the owner.

The owner must comply with the Part 5 Agreement which will be placed on the property title.

Advice:

For further information with respect to the preparation of a Part 5 Agreement please contact Council Development Engineering Unit.

Reason for condition

To ensure the protection of Council are retained.

ADVICE

The following advice is provided to you to assist in the implementation of the planning permit that has been issued subject to the conditions above. The advice is not exhaustive and you must inform yourself of any other legislation, by-laws, regulations, codes or standards that will apply to your development under which you may need to obtain an approval. Visit the Council's [website](#) for further information.

Prior to any commencement of work on the site or commencement of use the following additional permits/approval may be required from the Hobart City Council.

CONDITION ENDORSEMENT

If any condition requires that further documents are submitted and approved, you will need to submit the relevant documentation to satisfy the condition via the Condition Endorsement Submission on Council's [online services e-planning portal](#). Detailed instructions can be found [here](#).

Once approved, the Council will respond to you via email that the

condition has been endorsed (satisfied).

Where building approval is also required, it is recommended that documentation for condition endorsement be submitted well before submitting documentation for building approval. Failure to address condition endorsement requirements prior to submitting for building approval may result in unexpected delays.

BUILDING PERMIT

You may need building approval in accordance with the *Building Act 2016*. Click [here](#) for more information.

This is a Discretionary Planning Permit issued in accordance with section 57 of the *Land Use Planning and Approvals Act 1993*.

PLUMBING PERMIT

You may need plumbing approval in accordance with the *Building Act 2016*, *Building Regulations 2016* and the National Construction Code. Click [here](#) for more information.

OCCUPATION OF THE PUBLIC HIGHWAY

You will require an occupational license for structures in the Hobart City Council highway reservation, in accordance with conditions to be established by the Council. Click [here](#) for more information.

You will require a Permit to Open Up and Temporarily Occupy a Highway (for work in the road reserve). Click [here](#) for more information.

GENERAL EXEMPTION (TEMPORARY) PARKING PERMITS

You may qualify for a General Exemption permit for construction vehicles i.e. residential or meter parking/loading zones. Click [here](#) for more information.

PERMIT TO CONSTRUCT PUBLIC INFRASTRUCTURE

You will require a permit to construct public infrastructure, with a 12 month maintenance period and bond (please contact the Hobart City Council's City Life Division to initiate the permit process).

PLANNING

It is recommended that boundary fences with adjacent New Town Road properties be installed to a height of 2.1m above existing ground level.

STORMWATER

Please note that in addition to a building and/or plumbing permit, development must be in accordance with the Hobart City Council's Infrastructure By law. Click [here](#) for more information.

WORK WITHIN THE HIGHWAY RESERVATION

Please note development must be in accordance with the Hobart City Council's Infrastructure by law. Click [here](#) for more information.

DRIVEWAY SURFACING OVER HIGHWAY RESERVATION

If a coloured or textured surface is used for the driveway access within the Highway Reservation, the Council or other service provider will not match this on any reinstatement of the driveway access within the Highway Reservation required in the future.

REDUNDANT CROSSEOVERS

Redundant crossovers are required to be reinstated under the Hobart City Council's Infrastructure By law. Click [here](#) for more information.

WEED CONTROL

Effective measures are detailed in the Tasmanian Washdown Guidelines for Weed and Disease Control: Machinery, Vehicles and Equipment (Edition 1, 2004). The guidelines can be obtained from the Department of Primary Industries, Parks, Water and Environment [website](#).

WORK PLACE HEALTH AND SAFETY

Appropriate occupational health and safety measures must be employed during the works to minimise direct human exposure to potentially-contaminated soil, water, dust and vapours. Click [here](#) for more information.

PROTECTING THE ENVIRONMENT

In accordance with the *Environmental Management and Pollution Control Act 1994*, local government has an obligation to "use its best endeavours to prevent or control acts or omissions which cause or are capable of causing pollution." Click [here](#) for more information.

NOISE REGULATIONS

Click [here](#) for information with respect to noise nuisances in residential areas.

WASTE DISPOSAL

It is recommended that the developer liaise with the Council's City Resilience Unit regarding reducing, reusing and recycling materials associated with demolition on the site to minimise solid waste being directed to landfill.




Further information regarding waste disposal can also be found on the Council's [website](#).

FEES AND CHARGES

Click [here](#) for information on the Council's fees and charges.

DIAL BEFORE YOU DIG

Click [here](#) for dial before you dig information.

- | | |
|---------------|--|
| Attachment A: | PLN-22-282 - 73A NEW TOWN ROAD NEW TOWN TAS 7008 - Planning Committee or Delegated Report ↓  |
| Attachment B: | PLN-22-282 - 73A NEW TOWN ROAD NEW TOWN TAS 7008 - CPC Agenda Documents ↓  |
| Attachment C: | PLN-22-282 - 73A NEW TOWN ROAD NEW TOWN TAS 7008 - Planning Referral Officer Reports (Heritage, Development Engineering, and Stormwater) ↓  |

**APPLICATION UNDER HOBART INTERIM PLANNING SCHEME 2015**

Type of Report:	Committee
Committee:	1 February 2023
Expiry Date:	2 February 2023
Application No:	PLN-22-282
Address:	73 A NEW TOWN ROAD , NEW TOWN ADJACENT ROAD RESERVE
Applicant:	Monica Cameron (ERA Planning and Environment) Level 1, 125A Elizabeth Street
Proposal:	Demolition, 22 Multiple Dwellings, Front Fencing, and Associated Works
Representations:	31
Performance criteria:	Inner Residential Zone Development Standards, Road and Railways Asset: Code, Parking and Access Code, Stormwater Management Code, Historic Heritage Code

1. Executive Summary

- 1.1 Planning approval is sought for Demolition, 22 Multiple Dwellings, Front Fencing, and Associated Works, at 73A New Town Road and Adjacent Road Reserve.

1.2 More specifically the proposal includes:

- Demolition of two existing tennis courts, chain wire mesh fencing, weatherboard clubhouse and shed, paved walkways, and crossover to New Town Road
- Construction of a three storey apartment building which will contain 11 one bedroom units on the ground floor and 11 two bedroom units across the second and third floors. An external car parking area for 12 cars and two motorcycle spaces. Bicycle parking is also incorporated.
- Construction of a new crossover along the Sunnyside Road frontage and construction of vehicle ramp and driveway to provide access to parking on site
- A covered communal bbq area will be provided on site
- Construction of a new elevated concrete walkway and stairs along the Sunnyside Road and Paviour Street frontages, part of which will be located within Paviour Street Road Reserve
- Construction of new timber fencing to and concrete block wall along Sunnyside Road and Paviour Street frontages, part of which will be located within Paviour Street Road Reserve
- New concrete path along access path to New Town Road which will include a 1.8m high gate at the New Town Road site boundary, low level garden planting, and low level lighting bollards
- Landscaping throughout site including along within the Paviour Street Road Reserve and access path to the New Town Road frontage

1.3 The proposal relies on performance criteria to satisfy the following standards and codes:

- 1.3.1 Inner Residential Zone - Residential Density for Multiple Dwellings, Setbacks and Building Envelope, Site Coverage and Private Open Space for all Dwellings, Sunlight to Private Open Space of Multiple Dwellings, Frontage Fences for all Dwellings, Waste Storage for Multiple Dwellings
- 1.3.2 Road and Railway Assets Code - Sight Distance and Accesses, Junctions and Level Crossings
- 1.3.3 Parking and Access Code - Number of Parking Spaces, Design of Vehicular Accesses, Vehicle Passing Areas along an Access, Layout of Parking Areas
- 1.3.4 Stormwater Management Code - Stormwater Drainage and Disposal
- 1.3.5 Historic Heritage Code - Demolition in a Heritage Precinct, Building and Works other than Demolition in a Heritage Precinct

1.4 Thirty One (31) representations objecting to the proposal were received within the statutory advertising period between 17/12/22 - 04/01/23.

- 1.5 The proposal is recommended for approval subject to conditions.
- 1.6 The final decision is delegated to the Planning Committee, because more than six representations objecting to the proposal were received during the statutory advertising period.

2. Site Detail

- 2.1 The subject site is located at 73A New Town Road, New Town and comprises an irregular shaped lot approximately 1872m² in size containing two separate titles. The site has a frontage to New Town Road and accessible via an access laneway, with the majority of the site positioned to the east, on the corner of Sunnyside Road and Paviour Street. The site historically operated as a quarry, and features a rock wall and steep incline along the frontages with Paviour Street and Sunnyside Road. The land is partially cleared of vegetation and contains two single storey outbuildings along the western boundary, which served as supporting structures for the most recent operating use, a tennis club. The immediate surrounding area is characterised by residential uses.

A site visit was undertaken following the conclusion of the statutory advertising period.



Figure 1: Aerial image of the subject site (bordered in blue) and surrounding area.



Figure 2: Zoning of the subject site (bordered in blue) under the *Hobart Interim Planning Scheme 2015* and surrounding area. Maroon denotes the Inner Residential Zone and yellow denotes the Utilities Zone.

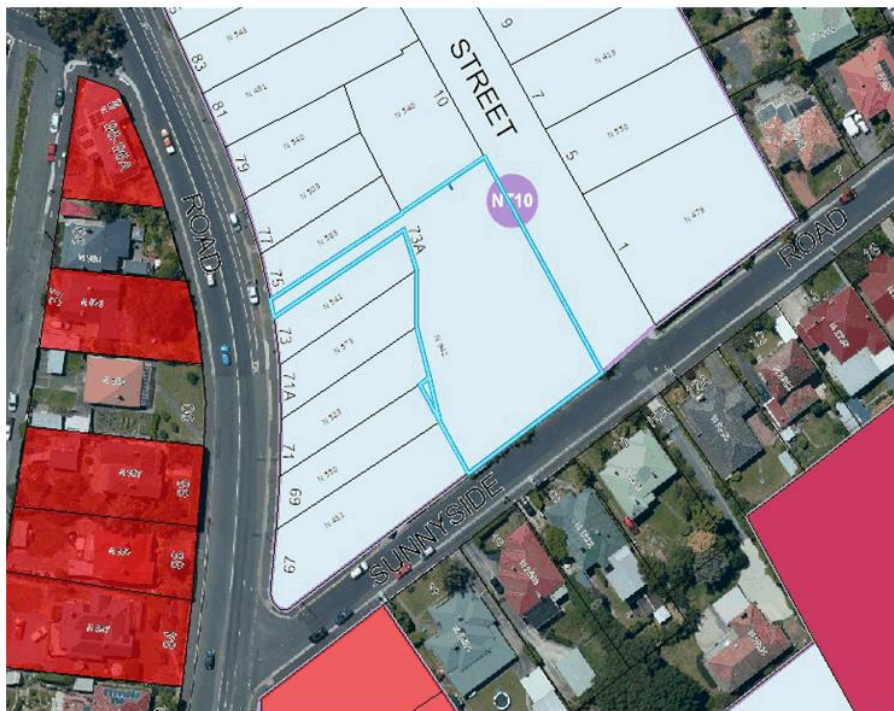


Figure 3: Heritage listings for the surrounding area. Red denotes listing only under the *Hobart Interim Planning Scheme 2015*. Light blue denotes a Heritage Precinct under the *Hobart Interim Planning Scheme 2015*. Magenta denotes listing under the Tasmanian Heritage Council.



Figure 4: View of subject site from corner of Sunnyside Road and Paviour Street



Figure 5: View of subject site from Paviour Street boundary looking south.



Figure 6: View of subject site from Sunnyside Road boundary looking north.

3. Proposal

- 3.1 Planning approval is sought for Demolition, 22 Multiple Dwellings, Front Fencing, and Associated Works, at 73A New Town Road and Adjacent Road Reserve.

3.2 More specifically the proposal is for:

- Demolition of two existing tennis courts, chain wire mesh fencing, weatherboard clubhouse and shed, paved walkways, and crossover to New Town Road
- Construction of a three storey apartment building which will contain 11 one bedroom units on the ground floor and 11 two bedroom units across the second and third floors. An external car parking area for 12 cars and two motorcycle spaces. Bicycle parking is also incorporated.
- Construction of a new crossover along the Sunnyside Road frontage and construction of vehicle ramp and driveway to provide access to parking on site
- A covered communal bbq area will be provided on site
- Construction of a new elevated concrete walkway and stairs along the Sunnyside Road and Paviour Street frontages, part of which will be located within Paviour Street Road Reserve
- Construction of new timber fencing to and concrete block wall along Sunnyside Road and Paviour Street frontages, part of which will be located within Paviour Street Road Reserve
- New concrete path along access path to New Town Road which will include a 1.8m high gate at the New Town Road site boundary, low level garden planting, and low level lighting bollards
- Landscaping throughout site including along within the Paviour Street Road Reserve and access path to the New Town Road frontage

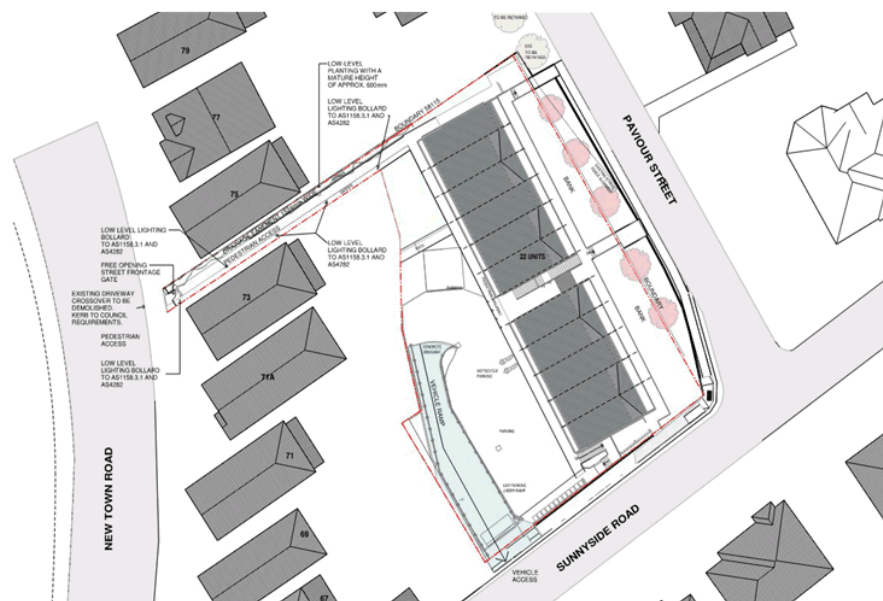


Figure 7: Site plan of proposed development



Figure 8: Eastern elevation of proposal

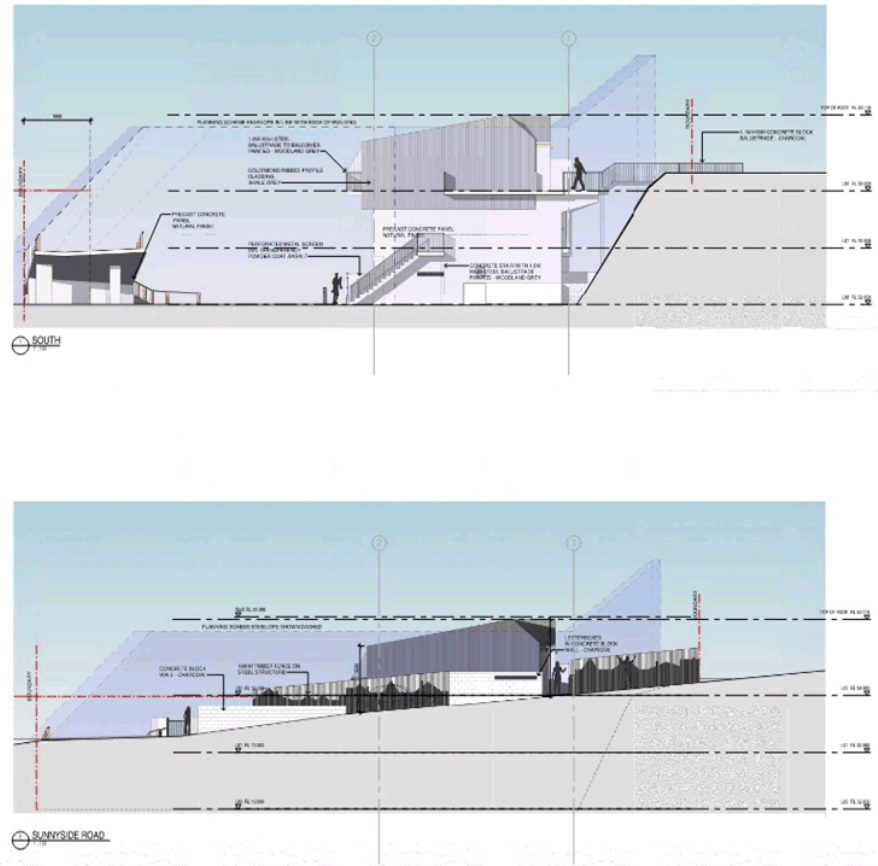


Figure 9: Southern elevation of the proposal



Figure 10: Photo-render of proposed development when viewed from Sunnyside Road.

4. Background

- 4.1 The site has historically operated as a tennis courts for the New Town Catholic Tennis Club under a Sports and Recreation use. The property was sold in 2020 to the State Government. Clearing of vegetation and removal of existing court fencing and lighting was undertaken in January 2022 to allow for a geo-technical assessment of the site prior to lodgement of a development application.
- 4.2 General Manager Consent was granted by Council in September 2022 for works in the adjacent road reserve.

5. Concerns raised by representors

- 5.1 Thirty One (31) representations objecting to the proposal were received within the statutory advertising period between 17/12/22 - 04/01/23.
- 5.2 The following table outlines the concerns raised in the representations received. Those concerns which relate to a discretion invoked by the proposal are addressed in Section 6 of this report.

Building Envelope and Overshadowing

- Adjoining properties will have sunlight restricted with overshadowing from the proposed development
- Unreasonable increase to overshadowing of adjacent backyards during winter months
- Shadows from frontage fencing needs to be considered
- Proposed Japanese Maple trees in landscape plan will result in further overshadowing to several New Town Road homes and block mountain views for properties along Paviour Street

Density

- 22 units would potentially house at least 50 people on the site which is too high considering the existing surrounding area
- Dwelling size and density does not take into account the nature of the existing community or the families on social housing waitlist
- Not in character with the low-density residential street
- Recommended that unit numbers reduced and living space and open space increased

Privacy

- Overlooking from proposed dwellings into backyards of New Town Road properties
- Loss of privacy from access strip into adjoining properties
- Permanent screening of ramp along boundary with 67 and 69 New Town Road should be provided, cannot rely on vegetation
- Suggestion to increase boundary fence heights with New Town Road properties to 2.1 metres or higher to ensure ground level privacy and security

Open Space

- The design should be amended to reduce the building footprint to increase the open space available to residents
- The communal open space is grossly inadequate
- Concern at the level of sunlight to private open space and living space of ground floor units

Waste Storage

- Having 44 bins for collection on the footpath will lead to impacts on pedestrians and traffic
- There is insufficient space along the frontage to have all required bins available to collection, when following Council guidelines

Acoustics and Noise Impacts

- The Development includes both rear (on all units) and forward-facing balconies (on 11 of the units). This will result in a substantial increase in the amount of noise experienced by all adjacent properties
- Concern over noise impacts of vehicles using ramp ,and whether an acoustic study has been undertaken to determine impacts to nearby dwellings

Traffic Generation

- Will increase congestion on an already busy area, particularly the intersections of Sunnyside Road with Argyle Street and New Town Road
- Disagreement with Traffic Impact Assessment regarding on-street parking use and crash statistics
- Further increase in traffic generation for Paviour Street which does not have an adequate turning circle at cul-de-sac and already has limited on-street parking
- Increase in traffic will conflict with existing residents use of Paviour Street for recreation

Parking and Road Infrastructure

- Insufficient parking provided on-site for proposed multiple dwellings
- Justification for lower parking numbers relies on existing inner-city developments which is not comparable to the subject site. There is no reason to believe that residents will also have one or two cars.
- Existing on-street parking along Sunnyside Road and Paviour Street already at capacity and not sufficient to accommodate any further vehicles of residents and/or guests of proposed development
- Proximity to the planned development of the New Town Hospital and Practice will exacerbate these parking impacts - this development not taken into account in supplied Traffic Assessment
- Management of on-street parking around vehicle ramp needs to be managed for safety, existing parking arrangement would create unsafe visibility
- Safeguards to protect on-street parking for New Town Road residents should be implemented such as parking pass restrictions or footpath signage
- The entire ground floor should change from liveable space to car parks

Stormwater

- The proposed vehicle crossover is not adequate to cope with the level of waterflow coming down the hill of Sunnyside Road
- Historical ground water issues originating from subject site - hopeful that proposed drainage plan and flooding plan will address situation and not compound it.

Heritage

- The proposal does not present as a building that is compatible with and sympathetic to the height, bulk, setback, materials, and finished and general character of contributory and heritage listed place.
- The proposed social development on this site changes the fabric of the area- it is difficult to see how modern, high density housing fits within the Heritage Precinct plan
- The proposal does not maintain a curtilage of usable open space

Public Notification Period

- Having the public notification period stretch across the Christmas and New Year holiday period makes it difficult to reach all interested residents and parties
- Claims that the decision to have notification during this period was a deliberate delay on behalf of the applicant

General Comments

- the proposal is attempting to do too much with too little. The space available is inadequate for what is proposed, and has led to penny-pinching, design mistakes, and, if it is approved, poor outcomes for its residents and neighbours.
- The lack of social housing in Hobart should not be the excuse for short term solutions that are likely to create significant problems in the mid-to long term. The overriding principle for this development should be long-term, strategic thinking considering the needs of the community as it currently stands and as it will be once the development is completed
- this design should be scaled back in size and ambition. It should not impose unreasonable costs on those nearby.
- Insufficient provision of sustainable energy features to lessen environmental impact of the development
- Plans do not appear to outline disability access and these standards are not referenced
- Concern over impacts during construction phase - regarding noise, vehicle parking, contact details, dust mitigation, safeguards from construction damage
- Loss of a community sporting venue
- Development will lead to loss of value of surrounding properties
- The primary frontage should be considered to be Paviour Street

6. Assessment

- 6.1 The *Hobart Interim Planning Scheme 2015* is a performance based planning scheme. To meet an applicable standard, a proposal must demonstrate compliance with either an acceptable solution or a performance criterion. Where a proposal complies with a standard by relying on one or more performance criteria, the Council may approve or refuse the proposal on that basis. The ability to approve or refuse the proposal relates only to the performance criteria relied on.

- 6.2 The site is located within the Inner of the *Hobart Interim Planning Scheme 2015*.
- 6.3 The existing use is Sports and Recreation. The proposed use is Residential (multiple dwelling). The existing use is a discretionary use in the zone. The proposed use is a permitted use in the zone.
- 6.4 The proposal has been assessed against:
- 6.4.1 D11.0 Inner Residential Zone
 - 6.4.2 E5.0 Road and Railway Assets Code
 - 6.4.3 E6.0 Parking and Access Code
 - 6.4.4 E7.0 Stormwater Management Code
 - 6.4.5 E13.0 Historic Heritage Code
- 6.5 The proposal relies on the following performance criteria to comply with the applicable standards:
- 6.5.1 Inner Residential Zone:
 - Residential Density for Multiple Dwellings - D11.4.1 P1*
 - Setbacks and Building Envelope - D11.4.2 P1; P3*
 - Site Coverage and Private Open Space for all Dwellings - D11.4.3 P1; P2*
 - Sunlight to Private Open Space of Multiple Dwellings - D11.4.4 P1*
 - Frontage Fences for all Dwellings - D11.4.7 P1*
 - Waste Storage for Multiple Dwellings - D11.4.8 P1*
 - 6.5.2 Road and Railway Assets Code
 - Sight Distance and Accesses, Junctions and Level Crossings - E5.6.4 P1*
 - 6.5.3 Parking and Access Code:
 - Number of Parking Spaces - E6.6.1 P1*
 - Design of Vehicular Accesses - E6.7.2 P1*
 - Vehicle Passing Areas along and Access - E6.7.3 P1*
 - Layout of Parking Areas - E6.7.5 P1*

- 6.5.4 Stormwater Management Code
- Stormwater Drainage and Disposal - E7.7.1 P2*
- 6.5.5 Historic Heritage Code:
- Demolition in a Heritage Precinct - E13.8.1 P1*
Building and Works other than Demolition in a Heritage Precinct - E13.8.2 P1; P4; P5
- 6.6 Each performance criterion is assessed below.
- 6.7 Residential Density for Multiple Dwellings - D11.4.1 P1
- 6.7.1 The acceptable solution at clause 11.4.1 A1 requires that multiple dwellings must have a site area per dwelling of not less than 200m².
- 6.7.2 The proposal includes twenty two (22) dwellings on a total assessable site area of 1849m², creating a site area per dwelling of 84m².
- 6.7.3 The proposal does not comply with the acceptable solution; therefore assessment against the performance criterion is relied on.
- 6.7.4 The performance criterion at clause 11.4.1 P2 provides as follows:
- Multiple dwellings must only have a site area per dwelling less than 200m² if:*
- (a) the development contributes to a range of dwelling types and sizes appropriate to the surrounding area; or*
- (b) the development provides for a specific accommodation need with significant social or community benefit.*
- 6.7.5 The proposal includes 11 one bedroom units and 11 two bedroom units, all 22 units will be for social housing provided by Housing Tasmania and managed by Centacare Evolve Housing. The units will provide long term and secure affordable housing for singles, couples and small families (such as a parent with 1 child). A provision of housing for this specific accommodation is considered to be a of a significant social or community benefit and therefore the discretion to provide housing at the proposed density is assessed as acceptable in accordance with (b).

- 6.7.6 The proposal complies with the performance criterion.
- 6.8 Setbacks and Building Envelope - D11.4.2 P1
- 6.8.1 The acceptable solution at clause 11.4.2 A1 requires that a dwelling must have a setback from a frontage that is not less than 3m from the primary frontage and not less than 2m, if the frontage is not a primary frontage.
- 6.8.2 The proposal includes construction of staircases and walkways which will be setback approximately 0m from the frontage with Sunnyside Road and Paviour Street (both secondary frontages).
- 6.8.3 The proposal does not comply with the acceptable solution; therefore assessment against the performance criterion is relied on.
- 6.8.4 The performance criterion at clause 11.4.2 P1 provides as follows:
- A dwelling must have a setback from a frontage that is compatible with the streetscape having regard to any topographical constraints.*
- 6.8.5 The proposed structures within the frontage setbacks include walkways and stairs that provide access from the lower levels to the street frontage. These staircases and walkways will be largely obscured by the proposed boundary fencing along both Paviour Street and Sunnyside Road frontages and will have limited visual prominence when viewed from the street or nearby properties. The height of these structures is assessed as remaining compatible with the streetscape. The topography of the site along both of these secondary frontages is a steep incline and wall and the location of these structures is considered to be a direct response to the topographic constraints of the site.
- 6.8.6 The proposal complies with the performance criterion.
- 6.9 Setbacks and Building Envelope - D11.4.2 P3
- 6.9.1 The acceptable solution at clause 11.4.2 A3 requires that a dwelling must be contained within a building envelope determined by a distance equal to the frontage setback; and projecting a line at an angle of 45 degrees from the horizontal at a height of 3m above existing ground level at the side and rear boundaries to a building height of not more than 9.5m above existing ground level.

- 6.9.2 The proposal includes a minor encroachment of the top corner of Unit 12 and part of the roofline beyond the three dimensional building envelope.
- 6.9.3 The proposal does not comply with the acceptable solution; therefore assessment against the performance criterion is relied on.
- 6.9.4 The performance criterion at clause 11.4.2 P3 provides as follows:

The siting and scale of a dwelling must:

(a) not cause an unreasonable loss of amenity to adjoining properties, having regard to:

(i) reduction in sunlight to a habitable room (other than a bedroom) of a dwelling on an adjoining property;

(ii) overshadowing the private open space of a dwelling on an adjoining property;

(iii) overshadowing of an adjoining vacant property; and

(iv) visual impacts caused by the apparent scale, bulk or proportions of the dwelling when viewed from an adjoining property; and

(b) provide separation between dwellings on adjoining properties that is consistent with that existing on established properties in the area.

6.9.5 Reduction in sunlight to a habitable room

With respect assessment under clause 11.4.2 P3 (a) (i), the proposed development will only see additional overshadowing that will restrict sunlight to a habitable room of the property at 71A New Town Road at 11am on 21 June. Specifically this will be to two windows along the rear elevation of the dwelling which open into an undefined room and to a kitchen. The sunlight reduction will only be for an additional hour on 21 June with the rooms to have otherwise unrestricted sunlight for the rest of the day. The impact is assessed as not being to an extent that would cause an unreasonable loss of amenity.

Overshadowing private open space

Due to the alignment of the subject site and proposed development

location, overshadowing and sunlight reduction impacts to the adjoining properties along the New Town Road frontage are being considered, that is 67, 69, 71, 71A, and 73 New Town Road. Extensive shadow diagrams have been provided as part of the application to demonstrate the existing shadow and anticipated shadow impacts on surrounding properties on 21 June and 21 March / September (refer to plans DA 18 to DA 53).

Shadow diagrams provided as part of the assessed documents illustrate that in existing circumstances the subject site and all adjoining dwellings on the New Town Road frontage will be in shadow at 9am and 10am on 21 June, there will be no change with the inclusion of the proposed development. From 11am on 21 June the shadow impact to 67 and 69 New Town Road are comparable to the existing circumstances with additional overshadowing to the backyards of 71, 71A, and 73 New Town Road and sunlight restricted to windows on the rear elevation of number 71A. The diagrams illustrate that from midday to 3pm on 21 June, overshadowing and sunlight access to the dwellings and private open space of 67, 69, 71, 71A and 73 New Town Road is comparable to the existing shadowing circumstances on the site, with only some minor increases in shadows along the shared boundary.

A review of shadow diagrams for 21 March and September illustrate that access to sunlight for dwellings and private open space for the adjoining properties along New Town Road remains largely comparable to existing circumstances. Additional overshadowing is noted along the shared boundaries of the properties at 71A and 73 New Town Road at 10am and 11am.

The proposed development will see an increase, of varying extent, in overshadowing of the private open space of the properties at 67, 69, 71, 71A, and 73 New Town Road, as noted above this will be between 11am to 3pm on 21 June. The overshadowing to the rear yards of 67, 69, 71, and 73 New Town Road remain largely unchanged, with some minor increase in shadows due to the inclusion of the new vehicle ramp. Over 50% of these rear yards will be unimpacted by the proposed development from at least 11:30am until 3pm on 21 June. Likewise, 71A New Town Road will have a substantial increase to overshadowing of the rear yard at 11am on 21 of June which will reduce to less than half of the yard at 12pm and no impacts from shortly after 1pm until 3pm. As with the other adjoining New Road properties, over 50% of the rear yard will remain unimpacted by overshadowing from the development for at least 3 hours from midday until late afternoon.

In summary:

- 67 New Town Road - no change to overshadowing of private open space.
- 69 New Town Road - on 21 June, there will be further overshadowing of the backyard at 10am, but this will no longer be present by 11am and the overshadowing for the balance of the day is no greater than existing. On 21 March / September, the overshadowing will be no greater than existing.
- 71 New Town Road - on 21 June, there will be further overshadowing of the backyard at 10am, largely reduced to the existing situation by 11am and completely by 12 noon, with the overshadowing for the balance of the day being a slight improvement on the existing from 1pm. On 21 March / September, the overshadowing will be no greater than existing, except for a slight increase in overshadowing at 9am.
- 71A New Town Road - on 21 June, there will be greater overshadowing for a period of about 1.5 hours around 11am, reverting to the existing by about 12 noon and for the balance of the day. On 21 March / September, there will be a slight increase in overshadowing but this will revert to the existing by 11am.
- 73 New Town Road - on 21 June, there will be overshadowing which is similar to existing, with some minor increases during the morning at 11am for about an hour in the rear corner of the property. On 21 March / September, there will be further overshadowing to the private open space for this property. This is the largest overshadowing impact of the development. This will reduce by 11am so that only a small part of the rear corner is overshadowed.

The overshadowing of all private open spaces of dwellings on an adjoining property is assessed as remaining appropriate, and would not result in an unreasonable loss of amenity.

Overshadowing adjoining vacant property

There is no adjoining vacant properties and therefore clause 11.4.2 P3 (a) (iii) was not assessed.

Visual impacts

With respect to the visual impacts of the proposed development, it is assessed that there will be no unreasonable loss of amenity due to the visual appearance and scale of the building. The building has been set into the unique topography of the site, positioned to maximise the setback from the shared boundaries with the adjacent properties along New Town

Road with a minimum distance from the boundary of 7.7m and a maximum distance of 19.5m. The proposed building and boundaries will be separated by parking areas, landscaping, and communal outdoor open space which will contribute towards minimising the bulk and scale of the building when viewed from adjoining lots to the west. Being built into the topography of the site, the views from both Paviour Street and Sunnyside Road will see a reduced visual impact the majority of the proposed building sited lower than the existing street levels. The visual appearance will remain similar to that of existing dwellings on these streets, with the entire development having a low level of visual impact when viewed from properties adjacent or opposite to the subject site. Further screening from fencing and boundary walls will screen the proposed dwelling, leaving a visible roofline that has incorporated pitches intended to echo, and contribute to, the existing visual character of the area.

Views of the proposed development from the adjoining property at 10 Paviour Street will not lead to any unreasonable visual impacts. There will be a setback of 2.4m from the side boundary and an approximate distance of 15m between dwellings whilst also siting at a higher elevation. This setback alongside the proposed side on view of the building will minimise perceived bulk and scale and will not present a visually intrusive to this adjoining dwelling.

Separation between dwellings on adjoining properties

The setback of the proposed development to the boundaries of adjoining properties on Paviour Street and New Town Road is considered to remain consistent and compatible with established properties in the surrounding area.

Representation issues

Several objections raised during the statutory advertising period have raised concerns about the potential amenity impacts caused by the proposed development due to overshadowing and visual impact. Concerns were specifically raised about overshadowing to backyards of the adjoining New Town Road properties during the winter months as well as the visual impact of the proposed vehicle ramp on the directly adjoining properties of 67 and 69 New Town Road. As assessed above, whilst there will be an increase in overshadowing of the private open space of adjoining properties during the June the planning assessment remains that the extent of this overshadowing will be limited and not contribute

towards an unreasonable loss of amenity.

Another specific concern was that the reliance by the applicant on existing vegetation directly against the proposed vehicle ramp to reduce visual impacts was inappropriate and that a permanent screening should be included in the final plans. Further discussions with the applicant have lead to a condition requiring that further screening along this shared boundary be included as part of the final endorsed plans, this will reduce the visual intrusion of the ramp, minimise noise, and further reduce overlooking from vehicles using the access. It has also been recommended that the applicant engage with the boundary neighbours along New Town Road about increasing the boundary fence to a height of 2.1m which will further reduce visual intrusion from the proposed development and increase privacy on adjoining properties.

6.9.6 The proposal complies with the performance criterion.

6.10 Site Coverage and Private Open Space for all Dwellings - D11.4.3 P1

6.10.1 The acceptable solution at clause 11.4.3 A1 requires that multiple dwellings must have a total area of private open space of not less than 40m² associated with each dwelling, unless the dwelling has a finished floor level that is entirely more than 1.8m above the finished ground level (excluding a garage, carport or entry foyer).

6.10.2 The proposal includes ground floor multiple dwellings with a total area of private open space less than 40m².

6.10.3 The proposal does not comply with the acceptable solution; therefore assessment against the performance criterion is relied on.

6.10.4 The performance criterion at clause 11.4.3 P1 provides as follows:

Dwellings must have:

(a) site coverage consistent with that existing on established properties in the area;

(b) private open space that is of a size and with dimensions appropriate for the size of the dwelling and is able to accommodate:

(i) outdoor recreational space consistent with the projected requirements of the occupants and, for multiple dwellings, take

into account any common open space provided for this purpose within the development; and

(ii) operational needs, such as clothes drying and storage; and

(c) reasonable space for the planting of gardens and landscaping.

- 6.10.5 With respect to site coverage, the proposal will have a total footprint of 636m² which equates to a coverage of 34.4%. This coverage remains consistent with the acceptable solution under clause 11.4.3 A1. This extent of coverage remains consistent with that existing on established properties in the area.

The proposed one bedroom dwellings will have a total area of private open space of 13.1m² which includes two terraces that are 7.6m² and 5.5m² in area. The proposed open space for the dwellings is considered to be of a size and dimension which will be appropriate for the size of the dwelling and are capable of accommodating the projected requirements of the occupants and provide space for their operational needs. The proposed development also includes elements of common open space which will supplement the provided private balconies and terraces on the site, further contributing towards the available outdoor recreational areas.

A number of representations received during the statutory advertising period raised objection to the size of the private open space for each dwelling and commented the provided communal space was inadequate for the number of dwellings (and residents on the site). For a one bedroom and two bedroom unit, within a medium density complex in an inner city residential location, the provision of between 12.8 and 13.1m² of total private open space is considered to be an appropriate size and would reflect the requirements of occupants that would wish to live in dwellings of this size. The proposed development has provided some elements of communal space on the site, that is assessed as being on benefit towards to operational needs of residents. Representors raised concern that residents will spill out into the adjoining streets to due to the lack of open space on the site. Whilst the performance assessment does not account for other public space nearby, the subject site is within 150m of two public parks, at Stoke Street and Seymour Street. It is also noted that other representors expressed concern for the approval of the development as it will compromise the local residents use of the Paviour Street cul-de-sac for recreational activity.

- 6.10.6 The proposal complies with the performance criterion.

6.11 Site Coverage and Private Open Space for all Dwellings - D11.4.3 P2

6.11.1 The acceptable solution at clause 11.4.3 A2 requires that a dwelling must have private open space that is in one location and is not less than 24m²; or 12 m², if the dwelling is a multiple dwelling with a finished floor level that is entirely more than 1.8m above the finished ground level (excluding a garage, carport or entry foyer); and has a minimum horizontal dimension of 4m; or 2m, if the dwelling is a multiple dwelling with a finished floor level that is entirely more than 1.8m above the finished ground level (excluding a garage, carport or entry foyer).

6.11.2 The proposal includes 22 multiple dwellings that provide between 5.5m² - 7.6m² of private open space in one location.

6.11.3 The proposal does not comply with the acceptable solution; therefore assessment against the performance criterion is relied on.

6.11.4 The performance criterion at clause 11.4.3 P2 provides as follows:

A dwelling must have private open space that includes an area capable of serving as an extension of the dwelling for outdoor relaxation, dining, entertaining and children's play and is:

(a) conveniently located in relation to a living area of the dwelling; and

(b) orientated to take advantage of sunlight.

6.11.5 Each proposed unit will have private open space in the form of a terrace or balcony which will be located on both eastern and western elevations of the building. Whilst the open space provided will be no greater 7.6m² of area in one location, the space is considered adequate in size to have the capability to serve as an extension of the dwelling for outdoor relaxation, dining, entertaining, or children's play. Each of the terraces will have a minimum horizontal dimension of 3.8m. Both the one and two bedroom units will have private open space which will be directly accessible from a living area of the dwelling. The applicant has advised that in addition to this open space further communal area is provided on the site.

With respect to access to sunlight, the orientation of the building and location of the balconies and terraces on both eastern and western elevations is considered an appropriate design response to take advantage of sunlight. The ground floor units will include terraces which

will receive morning and afternoon sunlight across both east and west facing sides. Similarly, the upper floor units will include terraces on the eastern side which will take advantage of sunlight from morning to early afternoon, whilst the west facing balconies will obtain afternoon sunlight.

Objections received during the statutory notification period raised concern for the size of each unit's private open space as well as the adequacy of sunlight into these spaces, particularly those units on the ground floor. As addressed above in the assessment response to clause 11.4.3 P1, the proposed open space is assessed as remaining capable of serving as an extension of the dwelling and that there is additional communal space as well as nearby public open space that would benefit residents. The access to sunlight for the one bedroom units on the northern end of the building are identified as being the most in shadow during 21 June, with the topography of the site creating the most issues with this access. In direct response to the performance criterion though, the design has included open space that is appropriately oriented to take advantage of afternoon sunlight, which does improve outside of the winter months.

6.11.6 The proposal complies with the performance criterion.

6.12 Sunlight to Private Open Space of Multiple Dwellings - D11.4.4 P1

6.12.1 The acceptable solution at clause 11.4.4 A1 requires that a multiple dwelling that is to the north of the private open space of another dwelling on the same site, required to satisfy A2 or P2 of clause 11.4.3, must be contained within a line projecting at a distance of 3m from the northern edge of the the private open space; and vertically to a height of 3m above existing ground level and then at an angle of 45 degrees from the horizontal. The multiple dwelling must not also cause 50% of the private open space to receive less than 3 hours of sunlight within the hours of 9.00am to 3.00pm on 21st June.

6.12.2 The proposal includes the location of dwellings and private open space which will lie to the north of the private open space of other proposed multiple dwellings and which causes the ground floor unit private open space to receive less than 3 hours of sunlight on June 21st.

6.12.3 The proposal does not comply with the acceptable solution; therefore assessment against the performance criterion is relied on.

6.12.4 The performance criterion at clause 11.4.4 P1 provides as follows:

A multiple dwelling must be designed and sited to not cause an unreasonable loss of amenity by overshadowing the private open space, of another dwelling on the same site, which is required to satisfy A2 or P2 of clause 11.4.3 of this planning scheme.

- 6.12.5 The proposal has created units with two separate areas of private open space which have been appropriately oriented to take advantage of the available sunlight, in spite of topographical constraints of the site. The private open space to each of dwellings has been assessed as remaining compliant with clause 11.3.4 P2 of this planning scheme. The proposed building will be located in a previously operating quarry with a steep face that runs along the eastern and southern boundaries and as a vacant block, does not present as a site with a high standard of access to sunlight during winter months. The proposal will see the the ground floor units sited 6.5m below the footpath along the Paviour Street boundary which will significantly contribute to the access of sunlight to some elements of the site during the winter months. The provided documentation illustrates there will be a large amount of overshadowing of the ground floor units open space caused, in part, by the upper floor dwellings and structures, but also as a cause of the existing topography of the site along the Paviour Street boundary.

Despite being part of the same building, the proposal does not meet acceptable solution at clause 11.4.4 A1 in that the some of the proposed upper floor dwellings will be to the north of the private open space of the ground floor dwellings due to the north-south orientation of the structure. Whilst elements of this overshadowing will be due to the upper floor dwellings, as there are no overhanging elements of the upper floor dwellings beyond the footprint of the lower floors, the strict interpretation of circumstances is that overshadowing would also be caused by the structure of the lower floor dwellings themselves.

Examining circumstances on the 21st of June, is clear in the provided documentation that there will be overshadowing of the private open space to all ground floor dwellings on both western and eastern elevations. On the western elevation, from the morning until 2pm the terraces on the ground floor will be in shadow due to the building structure . On the eastern elevation, the building structure will overshadow the private open space to all ground floor dwellings from 3pm until sunset. In addition to this, from 9:00am until 3:00pm, the terraces on the eastern elevation will largely be overshadowed by the existing topography, the quarry face wall along the Paviour Street boundary.

The design response to the site orientation and topography has lead to an unfortunate outcome whereby there will be minimal direct sunlight to the private open space of ground floor units, particularly those on the northern end of the site, during the winter months. These ground floor terraces will see partial sunlight for up to 1 hour, shared between the east and west facing sides. Any restrictions to the specific terraces can be potentially supplemented by the provided directly adjacent communal open space which will have much greater direct sunlight opportunities. The opportunity for direct sunlight greatly improves during the March, September, and December months, where each terrace will have several hours of sunlight across both east and west elevations of the building. Solely based on the illustrated circumstances on 21 of June, the proposal does not present as being problematic against the performance criterion. Making a cumulative assessment of opportunity for sunlight to all private open space on the site across the entire year though, it is evident that the level of overshadowing will be to an appropriate level consistent with existing dwellings in the area. The proposal is making concerted effort to provide housing in a difficult location, in spite of poor sunlight outcomes during the winter period, the overall degree of overshadowing and sunlight access is assessed as not being to an extent that results in an unreasonable loss of amenity.

6.12.6 The proposal complies with the performance criterion.

6.13 Frontage Fences for all Dwellings - D11.4.7 P1

6.13.1 There is no acceptable solution at clause 11.4.7 A1.

6.13.2 The proposal includes timber fencing along the Paviour Street and part of the Sunnyside Road frontage to a height of 1.8m and a concrete block wall between 1.3 and 1.8m along the Sunnyside Road frontage. These do not meet the exemptions under clause 5.6.2.

6.13.3 There is no acceptable solution; therefore assessment against the performance criterion is relied on.

6.13.4 The performance criterion at clause 11.4.7 P1 provides as follows:

A fence (including a free-standing wall) for a dwelling within 4.5m of a frontage must:

(a) provide for security and privacy while allowing for passive surveillance of the road; and

(b) be compatible with the height and transparency of fences in the street, having regard to:

(i) the topography of the site; and

(ii) traffic volumes on the adjoining road.

- 6.13.5 The proposed timber fencing and concrete block walls along Paviour Street and Sunnyside Road will provide security and privacy for the residents of the site, the waste storage area, and exterior walkways as well as allowing for passive surveillance of the road frontages.

The height will reach a maximum of 1.8m, which will remain compatible with the height and transparency of other fences and walls along Sunnyside Road and established hedges and fencing along Paviour Street. Due to the topography of the site along the boundary, the fencing height will appear to be of a smaller scale due to the height of the roadway as well as footpaths and properties in an elevated position on opposite sides of the road.

- 6.13.6 The proposal complies with the performance criterion.

6.14 Waste Storage for Multiple Dwellings - D11.4.8 P1

- 6.14.1 The acceptable solution at clause 11.4.8 A1 requires that a multiple dwelling must have a storage area for waste and recycling bins, that is not less than 1.5m² per dwelling and is within a common storage area with an impervious surface that has a setback of not less than 4.5m from a frontage and not less than 5.5m from any dwelling.

- 6.14.2 The proposal includes a common storage area for waste and recycling which is setback 0m from the Sunnyside Road frontage and 0m from proposed dwellings.

- 6.14.3 The proposal does not comply with the acceptable solution; therefore assessment against the performance criterion is relied on.

- 6.14.4 The performance criterion at clause 11.4.8 P1 provides as follows:

A multiple dwelling must have storage for waste and recycling bins that is:

(a) capable of storing the number of bins required for the site;

(b) screened from the frontage and any dwellings; and

(c) if the storage area is a common storage area, separated from any dwellings to minimise impacts caused by odours and noise.

- 6.14.5 The proposal includes two screened waste storage areas located on a raised platform between the Sunnyside Road frontage and the southern end of the proposed multiple dwelling block which will have space for twelve (12) rubbish bins each, to contain a total for 24 bins on the site for the 22 proposed multiple dwellings. Council's Waste Unit requires at least 120 litres of waste and recycling for each dwelling, which is 2640 litres for waste and recycling for the 22 proposed multiple dwellings on the site. The provision of at least eleven (11) 240 litre waste and eleven (11) 240 recycling bins which will operate in a shared arrangement and will provide adequate waste storage for the site. Council's 240 litre bins have a width of 582mm and depth of 740mm, the proposal has demonstrated adequate space across both waste storage areas for these bins.

Objections to the advertised proposal raised concern that bin collection would not be feasible on the frontage footpath, with the assumption of 44 bins proposed (two for each dwelling). The proposed plans and accompanying planning report states that there will be 24 units for the entire site. Council's Waste Unit have not raised any concerns with the collection of waste from this site.

- 6.14.6 The proposal complies with the performance criterion.

6.15 Sight Distance and Accesses, Junctions and Level Crossings - E5.6.4 P1

- 6.15.1 The acceptable solution at clause 5.6.4 A1 requires that sight distances at an access must comply with the Safe Intersection Sight Distance shown in Table E5.1, which is a requirement of 80 metres.
- 6.15.2 The proposed access visibility exceeds the required 80 metres except during times when cars are parked adjacent to the site.
- 6.15.3 The proposal does not comply with the acceptable solution; therefore assessment against the performance criterion is relied on.
- 6.15.4 The performance criterion at clause 5.6.4 P1 provides as follows:

The design, layout and location of an access, junction or rail level crossing must provide adequate sight distances to ensure the safe

movement of vehicles, having regard to:

- (a) the nature and frequency of the traffic generated by the use;*
- (b) the frequency of use of the road or rail network;*
- (c) any alternative access;*
- (d) the need for the access, junction or level crossing;*
- (e) any traffic impact assessment;*
- (f) any measures to improve or maintain sight distance; and*
- (g) any written advice received from the road or rail authority.*

- 6.15.5 Referral was made to Council's Development Engineer who has provided the following assessment:

The design, layout and location of an access, junction or rail level crossing must provide adequate sight distances to ensure the safe movement of vehicles, having regard to:

- (a) the nature and frequency of the traffic generated by the use;
- All traffic generated by the proposed development will be residential in nature.
- (b) the frequency of use of the road or rail network;
- Sunnyside Road is a minor collector road that has a relatively low traffic volume near the site. It provides access to a residential catchment that is relatively stable and closed in nature. The general urban speed limit of 50-km/h applies to Sunnyside Road. This speed limit is appropriate for the residential nature of the development.
- (c) any alternative access;
- No alternative access is possible for the proposed development.
- (d) the need for the access, junction or level crossing;
- The applicant's traffic engineer stated the following;

*"The current development site has no vehicular access.
The development will create a new vehicular access onto Sunnyside*

Road, that will be a standard concrete kerb crossover and comply with LGAT standard drawing TSD-R09-V1 for an urban road driveway. The entry of this vehicular access ramp will be six metres wide and provide for two-way traffic movements through a passing bay layout; the ramp will be designed to accommodate the swept path of B99 vehicles entering and leaving Sunnyside Road, servicing the 12 on-site parking spaces for the tenants."

(e) any traffic impact assessment;

- A Traffic Impact Assessment was submitted.

- The applicant's traffic engineer stated the following;

"The new access off Sunnyside Road will provide for two-way traffic movements and motorists leaving the development site will have available sight distance of 80 metres in both directions, which satisfies the planning scheme requirement for Safe Intersection Sight Distance for a 50 km/h speed limit.

This development will comply with the acceptable solution for Safe Intersection Sight Distance, and motorists will be able to enter Sunnyside Road in a safe manner, without disrupting the current road users."

(f) any measures to improve or maintain sight distance; and

- The available sight distance generally exceeds the required 80 metres except during times when cars are parked adjacent to the site.

"The speed limit along Sunnyside Road is the urban 50 km/h speed limit.

The available sight distance from the proposed development access has been measured on site, and a driver leaving the site has at least 100 metres of sight distance to the left, and 80 metres to the right."

(g) any written advice received from the road or rail authority.

- No written advice was requested by the road authority (Council) relating to the access.

Council's traffic engineer and Development Engineering has concluded based on the documentation submitted to date and given the above assessment, the sight distance is accepted as meeting the *Performance Criteria P1:E5.6.4* of the Planning Scheme.

6.15.6 The proposal complies with the performance criterion.

6.16 Number of Parking Spaces - E6.6.1 P1

6.16.1 The acceptable solution at clause 6.6.1 A1 requires that the number of on-site car parking spaces no less than and no greater than the number specified in Table E6.1, which is a requirement of 39 car parking spaces for the eleven 1 bedroom units and eleven 2 bedroom units as well as necessary visitor spaces.

6.16.2 The proposal includes twelve on-site car parking spaces.

6.16.3 The proposal does not comply with the acceptable solution; therefore assessment against the performance criterion is relied on.

6.16.4 The performance criterion at clause 6.6.1 P1 provides as follows:

The number of on-site car parking spaces must be sufficient to meet the reasonable needs of users, having regard to all of the following:

(a) car parking demand;

(b) the availability of on-street and public car parking in the locality;

(c) the availability and frequency of public transport within a 400m walking distance of the site;

(d) the availability and likely use of other modes of transport;

(e) the availability and suitability of alternative arrangements for car parking provision;

(f) any reduction in car parking demand due to the sharing of car parking spaces by multiple uses, either because of variation of car parking demand over time or because of efficiencies gained from the consolidation of shared car parking spaces;

(g) any car parking deficiency or surplus associated with the existing use of the land;

(h) any credit which should be allowed for a car parking demand deemed to have been provided in association with a use which existed

before the change of parking requirement, except in the case of substantial redevelopment of a site;

(i) the appropriateness of a financial contribution in lieu of parking towards the cost of parking facilities or other transport facilities, where such facilities exist or are planned in the vicinity;

(j) any verified prior payment of a financial contribution in lieu of parking for the land;

(k) any relevant parking plan for the area adopted by Council;

(l) the impact on the historic cultural heritage significance of the site if subject to the Local Heritage Code;

(m) whether the provision of the parking would result in the loss, directly or indirectly, of one or more significant trees listed in the Significant Trees Code.

6.16.5 Referral was made to Council's Development Engineer who has provided the following assessment:

The number of on-site car parking spaces must be sufficient to meet the reasonable needs of users, having regard to all of the following:

(a) car parking demand;

- The applicant's traffic engineer stated the following;

"The planning scheme specifies that 38 parking spaces are required for the 22 units. The development is providing 12 on-site parking spaces. As demonstrated in this assessment the parking demand for one and two bedroom social housing units is significantly reduced, the 12 spaces being provided by this development is expected to meet the reasonable demand generated by the tenants."

"Based on the Queensland social housing standard, the proposed New Town site could be considered as site category A, due to the proximity to a high frequency bus route, and local community facilities. Based on this standard, the 22 units could generate a parking demand of 14 spaces."

"In addition to the Queensland standard for social housing, the RTA also has parking standards for high density residential units located in close proximity to a high frequency public transport route, the RTA

Guide indicates the following parking requirements.

- *0.6 parking spaces per one bedroom unit*
- *0.9 spaces per two bedroom unit*
- *1.4 spaces per three bedroom unit*
- *1 space per five units (visitor parking)*

Based on the RTA guide, this development could generate a parking demand of 17 parking spaces for the tenants, not including visitor parking."

A substantial number of consultant traffic engineers engaged by developers seek the use of the Roads and Traffic Authority (RTA) guide as a refuge to justify car parking deficiency against the Planning Scheme. One must remember this is a guide and is not meant to be a standard that is rigidly applied, also the RTA guide should be viewed as a minimum desirable position.

- Council's traffic engineer stated the following;

"I support the TIA's estimated peak parking demand rates calculated from the Queensland social housing standard of 14 spaces. I also support the conclusion that the parking demand does not require the need to satisfy the Planning Scheme requirements as the development is located close to a frequent bus service on New Town Road and the intercity cycleway which accommodates all levels of riders and therefore there are alternate transport options available.

The TIA outlined that 12 of the 14 spaces expected to be generated from the development can be accommodated on-site and the remaining 2 parking spaces can be absorbed within the on-street parking. Usually the preference is that parking demand is contained within the site, however, given a parking survey indicated that there are spaces available on-street and the previous tennis court development was operating without spaces and relied on on-street parking, the shortfall parking could be accommodated on the street without having a negative impact on amenity."

Evidence has been provided to Hobart City Council by the Department of Communities Tasmania on the actual car parking demand of new social housing developments. The examples provided show that the developments experience a significant reduction in car ownership for residents, with a formal car parking survey undertaken by a qualified traffic engineer for the Department of Communities Tasmania indicating a maximum rate of 0.55 parked cars / unit. Tenancy allocations to these unit

developments are based on a suitability assessment to ensure that the location and type of housing suits the individual needs of the resident. Effective allocations and tenancy management is a further mechanism used to manage the parking demand. Given the evidence provided, Hobart City Council is generally willing to accept the reduced car parking ownership rate, and hence demand for car parking, for Social Housing Developments. On this basis the proposal is considered to have met E6.6.1 P1 a) car parking demand.

(b) the availability of on-street and public car parking in the locality;

- The applicant's traffic engineer stated the following;

"A recent parking supply and demand survey of Paviour Street and Sunnyside Road found there is 96 spaces available, within 200 metres of the development site. The patrolled parking survey found these spaces have a low occupancy rate of less than 20 percent, mainly because the surrounding residential properties have suitable off-street facilities, and along the western side of Paviour Street there is only a few property accesses, as these properties have their access off New Town Road. The survey found there is sufficient supply of on-street parking spaces to meet any overflow or visitor demand likely to be generated by this development. The development site has 70 metres of road frontage, this length of road frontage can accommodate 8 to 10 vehicles, and these vehicles would not adversely impact surrounding properties."

"To evaluate the impact of visitor parking on surrounding properties, it is important to understand the supply and demand for on-street parking spaces along the surrounding streets, that could be used to assist with any visitor parking demand. A parking supply and demand survey was conducted on the two adjacent streets to the development site, Sunnyside Road, and Paviour Street, with the results of the surveys shown in table 5.1.

The survey found along the two adjacent streets to the development site, there is sufficient kerb space to accommodate up to 96 parallel parked vehicles. The survey found the demand for these parking spaces to be low, less than 20 percent, based on three patrolled survey times, at 9:00am, 12 noon and 5:00pm (weekday)."

- Council's traffic engineer stated the following;

"Usually the preference is that parking demand is contained within the site, however, given a parking survey indicated that there are spaces available on-street and the previous tennis court development was

operating without spaces and relied on on-street parking, the shortfall parking could be accommodated on the street without having a negative impact on amenity."

(c) the availability and frequency of public transport within a 400m walking distance of the site;

- The applicant's traffic engineer stated the following;

"METRO Tasmania runs a high frequency bus service between Glenorchy and Hobart via New Town Road, with a bus operating every ten minutes between 7:00am and 7:00pm, Monday to Friday. With bus stops located within 250 metres of the development site, this provides the unit tenants with a convenient and viable alternative transport mode."

"The development site is located adjacent to a high frequency public transport route, which is very important, as public transport is usually a significant transport mode for social housing tenants, reduces the reliance on private motor vehicles and parking demand.

METRO Tasmania runs a high frequency bus service from Hobart to Glenorchy along New Town Road, with a bus operating every ten minutes between 7:00am to 7:00pm, Monday to Friday, every twenty minutes on Saturday, and every thirty minutes on Sunday.

A southbound bus stop is located on New Town Road within 50 metres of Sunnyside Road, and a northbound bus stop located within 250 metres. This development site is well positioned to take advantage of the high frequency public bus service, and provides tenants with an accessible, convenient, and viable alternative transport mode."

- Council's traffic engineer stated the following;

"I also support the conclusion that the parking demand does not require the need to satisfy the Planning Scheme requirements as the development is located close to a frequent bus service on New Town Road and the intercity cycleway which accommodates all levels of riders and therefore there are alternate transport options available."

(d) the availability and likely use of other modes of transport;

- The applicant's traffic engineer stated the following;

"The development site is located within three kilometres of the Hobart CBD, and this makes bicycle riding a viable option, particularly with on-road cycle lanes operating along Argyle Street, extending into New

Town Road. The intercity cycleway is also located within 1.2 kilometres from the development site, providing a flat and easy cycling path between Hobart and the northern suburbs."

"The development site is located in the vicinity of the intercity shared cycleway, which is an off-road facility that operates between Hobart and the northern suburbs, using the old railway corridor, the route is flat and accommodates riders of all skill levels.

In addition, there are on-road cycle lanes operating along Argyle Street that can be easily accessed from the development site, with these lanes connecting to Hobart.

Overall, the development site is well located to formal cycling facilities, which provides excellent connectivity to both Hobart and Glenorchy, providing a real alternative transport mode, reducing the reliance on private motor vehicles."

- Council's traffic engineer stated the following;

"I also support the conclusion that the parking demand does not require the need to satisfy the Planning Scheme requirements as the development is located close to a frequent bus service on New Town Road and the intercity cycleway which accommodates all levels of riders and therefore there are alternate transport options available."

(e) the availability and suitability of alternative arrangements for car parking provision;

- The applicant's traffic engineer stated the following;

"The development is located within an inner residential suburb, there are a range of commercial and retail businesses within walking distance, including a range of medical services, supermarkets, and other community facilities, reducing the need for car ownership."

(f) any reduction in car parking demand due to the sharing of car parking spaces by multiple uses, either because of variation of car parking demand over time or because of efficiencies gained from the consolidation of shared car parking spaces;

- The applicant's traffic engineer stated the following;

"There is evidence provided in section 4 of this assessment that social housing units located in close proximity to a high frequency bus route and community facilities, reduces the car ownership. Based on Queensland Government design standard of new social housing units,

the tenants of these one and two bedroom units are expected to generate a parking demand of 14 vehicles."

(g) any car parking deficiency or surplus associated with the existing use of the land;

- Not applicable.

(h) any credit which should be allowed for a car parking demand deemed to have been provided in association with a use which existed before the change of parking requirement, except in the case of substantial redevelopment of a site;

- Not applicable.

(i) the appropriateness of a financial contribution in lieu of parking towards the cost of parking facilities or other transport facilities, where such facilities exist or are planned in the vicinity;

- The applicant's traffic engineer stated the following;

"No financial contribution is considered necessary, as the level of on-site parking spaces will more than meet the needs of the development, without any adverse impact to the surrounding road network."

(j) any verified prior payment of a financial contribution in lieu of parking for the land;

- The City's current position is not to support a financial contribution in lieu of parking for developments.

(k) any relevant parking plan for the area adopted by Council;

- Not applicable.

(l) the impact on the historic cultural heritage significance of the site if subject to the Local Heritage Code; and

- Not applicable.

(m) whether the provision of the parking would result in the loss, directly or indirectly, of one or more significant trees listed in the Significant Trees Code.

- No impact.

Council's traffic engineer and Development Engineering has concluded based on the documentation submitted to date and given the above assessment, the parking provision is accepted as meeting the *Performance Criteria P1:E6.6.1* of the Planning

Scheme. This is particularly due to the actual parking demands that will be generated by the development.

6.16.6 The proposal complies with the performance criterion.

6.17 Design of Vehicular Accesses - E6.7.2 P1

6.17.1 The acceptable solution at clause 6.7.2 A1 requires that in the case of non-commercial vehicle access; the location, sight distance, width and gradient of an access must be designed and constructed to comply with section 3 – “Access Facilities to Off-street Parking Areas and Queuing Areas” of AS/NZS 2890.1:2004 Parking Facilities Part 1: Off-street car parking.

6.17.2 The proposal includes plans indicating a 2m x 2.5m sight triangle abutting the driveway (western side) which is not kept clear of obstructions to visibility due to proposed ramp wall and therefore not in compliance with the Australian Standards.

6.17.3 The proposal does not comply with the acceptable solution; therefore assessment against the performance criterion is relied on.

6.17.4 The performance criterion at clause 6.7.2 P1 provides as follows:

Design of vehicle access points must be safe, efficient and convenient, having regard to all of the following:

- (a) avoidance of conflicts between users including vehicles, cyclists and pedestrians;*
- (b) avoidance of unreasonable interference with the flow of traffic on adjoining roads;*
- (c) suitability for the type and volume of traffic likely to be generated by the use or development;*
- (d) ease of accessibility and recognition for users.*

6.17.5 Referral was made to Council's Development Engineer who has provided the following assessment:

(a) avoidance of conflicts between users including vehicles, cyclists and pedestrians;

- Acceptable, Development Engineering has concluded the documentation submitted to date is able to meet this requirement

by accepting the analysis / statements provided by the applicant's traffic engineer contained within the Traffic Impact Assessment. Council's traffic engineer is also supportive.

(b) avoidance of unreasonable interference with the flow of traffic on adjoining roads;

- Acceptable, Development Engineering has concluded the documentation submitted to date is able to meet this requirement by accepting the analysis / statements provided by the applicant's traffic engineer contained within the Traffic Impact Assessment. Council's traffic engineer is also supportive.

(c) suitability for the type and volume of traffic likely to be generated by the use or development; and

- Acceptable, Development Engineering has concluded the documentation submitted to date is able to meet this requirement by accepting the analysis / statements provided by the applicant's traffic engineer contained within the Traffic Impact Assessment. Council's traffic engineer is also supportive.

(d) ease of accessibility and recognition for users.

- Acceptable, Development Engineering has concluded the documentation submitted to date is able to meet this requirement by accepting the analysis / statements provided by the applicant's traffic engineer contained within the Traffic Impact Assessment. Council's traffic engineer is also supportive.

- The applicant's traffic engineer stated the following;

"Along the northern side of Sunnyside Road, the existing concrete footpath terminates prior to reaching the development site due to the steep embankment, with no existing footpath along the development site.

The development will provide a new footpath along the northern side of Sunnyside Road, and the new vehicle ramp will cross the new footpath. The design will incorporate a pedestrian sight triangle of 2.5 x 2 metres on the left hand side of the ramp, ensuring suitable sight distance between drivers leaving the ramp and pedestrians approaching on the footpath."

"The development is providing new footpaths where practicable, having consideration to the cutting of the quarry face. A central stairwell is being provided within the development to provide connection between all floors and Pavior Street. There are also stairs connecting the development with Sunnyside Road."

"The current development site has no vehicular access. The development will create a new vehicular access onto Sunnyside Road, that will be a standard concrete kerb crossover and comply with LGAT standard drawing TSD-R09-V1 for an urban road driveway. The entry of this vehicular access ramp will be six metres wide and provide for two-way traffic movements through a passing bay layout; the ramp will be designed to accommodate the swept path of B99 vehicles entering and leaving Sunnyside Road, servicing the 12 on-site parking spaces for the tenants."

"The speed limit along Sunnyside Road is the urban 50 km/h speed limit. The available sight distance from the proposed development access has been measured on site, and a driver leaving the site has at least 100 metres of sight distance to the left, and 80 metres to the right."

"In both directions, the available sight distance is expected to exceed the Safe Intersection Sight Distance prescribed in the planning scheme for a 50 km/h speed limit, and is sufficient for vehicles to enter the road in a safe manner, without causing traffic disruption to current users."

"A new development in urban areas can be concerning to local residents, and it can be difficult to argue that a traffic increase is reasonable. The RTA Guide to Traffic Generating Developments has considered this matter and provided an environmental performance standard, that can be used to evaluate the likely impact on residential amenity. Table 8.4 is an extract from the RTA Guide and relates to urban environment, providing maximum peak hour goals."

For Sunnyside Road being a local residential street, the maximum peak hour goal is 300 vehicles per peak hour (two-way traffic flow). Combining the current maximum two-way peak hour traffic flow of 80 vehicles, with the expected increase of six vehicles generated by the development, the new two-way peak hour traffic flow is expected to be substantially less than the environmental goal. This indicates that the traffic generated from this development, is not expected to create any adverse amenity impact to the surrounding residential properties."

- No objections were notated by the former Senior Development Engineer who was allocated the development for assessment originally and attended pre application discussions.

Council's traffic engineer and Development Engineering has concluded based on the documentation submitted to date and given the above assessment, the sight lines are accepted as meeting the Performance Criteria P1:E6.7.2 of the Planning Scheme. Given the location of the access and driveway, and the volume of traffic on the road from which the property gains access.

6.17.6 The proposal complies with the performance criterion.

6.18 Vehicle Passing Areas Along an Access - E6.7.3 P1

6.18.1 The acceptable solution at clause 6.7.3 A1 requires that vehicle passing areas must be at intervals of no more than 30m along the access.

6.18.2 It is not feasible to provide passing areas due to the proposed design and site layout.

6.18.3 The proposal does not comply with the acceptable solution; therefore assessment against the performance criterion is relied on.

6.18.4 The performance criterion at clause 6.7.3 P1 provides as follows:

Vehicle passing areas must be provided in sufficient number, dimension and siting so that the access is safe, efficient and convenient, having regard to all of the following:

- (a) avoidance of conflicts between users including vehicles, cyclists and pedestrians;*
- (b) avoidance of unreasonable interference with the flow of traffic on adjoining roads;*
- (c) suitability for the type and volume of traffic likely to be generated by the use or development;*
- (d) ease of accessibility and recognition for users.*

6.18.5 Referral was made to Council's Development Engineer who has provided the following assessment:

- (a) avoidance of conflicts between users including vehicles, cyclists and

pedestrians;

- Acceptable, Development Engineering has concluded the documentation submitted to date is able to meet this requirement by accepting the analysis / statements provided by the applicant's traffic engineer contained within the Traffic Impact Assessment. Council's traffic engineer is also supportive.

(b) avoidance of unreasonable interference with the flow of traffic on adjoining roads;

- Acceptable, Development Engineering has concluded the documentation submitted to date is able to meet this requirement by accepting the analysis / statements provided by the applicant's traffic engineer contained within the Traffic Impact Assessment. Council's traffic engineer is also supportive

(c) suitability for the type and volume of traffic likely to be generated by the use or development;

- Acceptable, Development Engineering has concluded the documentation submitted to date is able to meet this requirement by accepting the analysis / statements provided by the applicant's traffic engineer contained within the Traffic Impact Assessment. Council's traffic engineer is also supportive

(d) ease of accessibility and recognition for users;

- Acceptable, Development Engineering has concluded the documentation submitted to date is able to meet this requirement by accepting the analysis / statements provided by the applicant's traffic engineer contained within the Traffic Impact Assessment. Council's traffic engineer is also supportive

- The applicant's traffic engineer stated the following;

"The access ramp will reduce to a single lane as it reaches the ground floor, passing bays will be provided at both ends of the ramp to ensure vehicles can pass efficiently. The passing bays will be a minimum of 5.5 metres wide and six metres long, and are shown in diagram 9.14.

A traffic mirror adjacent to parking space numbered 1 will be provided, this mirror will enable motorists leaving the parking spaces to ensure the

ramp is clear before proceeding up the ramp. Otherwise, the driver should wait within the ground floor passing bay area for the entering vehicle to clear the ramp. Vehicles entering the ramp from Sunnyside Road should have priority over vehicles leaving, and a traffic sign could be installed on the ground floor to reinforce this priority.

The parking spaces are expected to generate a low turnover, and users will become familiar with the arrangement, with no adverse impact expected."

- No objections were notated by the former Senior Development Engineer who was allocated the development for assessment originally and attended pre application discussions.

Council's traffic engineer and Development Engineering has concluded based on the documentation submitted to date and given the above assessment, the vehicle passing areas are accepted as meeting the Performance Criteria P1:E6.7.3 of the Planning Scheme. Given the driveway configuration, and the low volume of traffic.

6.18.6 The proposal complies with the performance criterion.

6.19 Layout of Parking Areas - E6.7.5 P1

6.19.1 The acceptable solution at clause 6.7.5 A1 requires that the layout of car parking spaces, access aisles, circulation roadways and ramps must be designed and constructed to comply with section 2 "Design of Parking Modules, Circulation Roadways and Ramps" of AS/NZS 2890.1:2004 Parking Facilities Part 1: Off-street car parking and must have sufficient headroom to comply with clause 5.3 "Headroom" of the same Standard.

6.19.2 The proposal includes a new parking area which includes an aisle width of the manoeuvring area which is not compliant with the Australian Standards.

6.19.3 The proposal does not comply with the acceptable solution; therefore assessment against the performance criterion is relied on.

6.19.4 The performance criterion at clause 6.7.5 P1 provides as follows:

The layout of car parking spaces, access aisles, circulation roadways and ramps must be safe and must ensure ease of access, egress and

manoeuvring on-site.

- 6.19.5 Referral was made to Council's Development Engineer who has provided the following assessment:

- Acceptable, Development Engineering has concluded the documentation submitted to date is able to meet this requirement by accepting the analysis / statements provided by the applicant's traffic engineer contained within the Traffic Impact Assessment

• Car Parking Space Dimensions (AS2890.1 Fig 2.2 = 2.4x5.4m Class 1A):

- Development Engineering has concluded the documentation submitted to date is able to meet this requirement by accepting the analysis / statements provided by the applicant's traffic engineer contained within the Traffic Impact Assessment

• Car Parking Space Design Envelope (AS2890.1 Fig 5.2 300mm clearance on side):

- Development Engineering has concluded the documentation submitted to date is able to meet this requirement by accepting the analysis / statements provided by the applicant's traffic engineer contained within the Traffic Impact Assessment

- The applicant's traffic engineer stated the following;

"As specified in table 1.1 of AS/NZS 2890.1:2004 the user class of the parking spaces will be designed as user class 1A, for residential use. Section B4.8 of the above standard allows for user class 1A, that the aisle width can be reduced to 5.8 metres, and vehicles may need to use a 3-point turn when entering or leaving the spaces. This concession assists where space is limited and recognises that such developments will have a low turnover and users are generally prepared to accept some inconvenience when entering and leaving the spaces. Vehicles larger than a B85 vehicle may need to make a 5-point turn.

The on-site parking spaces will have the following attributes:

- *• Parking bays will be user class 1A for residential parking, allowing for 3-point turn entry and exit into ninety degree parking spaces.*
- *• Parking bays will be a minimum of 2.6 metres wide and 5.4 metres long.*
- *• All parking spaces to be ninety degrees to the parking aisle with wheel stops.*

- *At the end of the blind aisle, there will be an extension to the aisle to aid with vehicle manoeuvrability.*
- *The length of the parking aisle will be short in length, limiting operating speeds to an acceptable level of less than 30 km/h."*

• Headroom: (AS2890.1 Fig 5.3 = 2.2m clearance):

- Development Engineering has concluded the documentation submitted to date is able to meet this requirement by accepting the analysis / statements provided by the applicant's traffic engineer contained within the Traffic Impact Assessment

- The applicant's traffic engineer stated the following;

"The Australian Standards 2890 section 5.3 specifies for both cars and light vans, the height between the floor and an overhead obstruction shall be a minimum of 2.2 metres.

The underside of the vehicle access ramp will house four parking spaces, and a minimum 2.2 metre headroom height will be provided to meet this standard. Part of the footpath along Sunnyside Road will be cantilevered over the parking area and this structure will have a minimum headroom clearance of 2.2 metres. The other eight parking spaces within the ground floor parking area will not be covered by an overhead structure."

• Parking Space Gradient (5%):

- Development Engineering has concluded the documentation submitted to date is able to meet this requirement

• Aisle Width (AS2890.1 Fig 2.2 = 5.8m Class 1A):

- Development Engineering has concluded the documentation submitted to date is able to meet this requirement however, assessed under Performance Criteria

- The applicant's traffic engineer stated the following;

"The on-site parking spaces have been designed for tenant use only, swept path diagrams for a B85 vehicle entering and leaving each space is shown in appendix A of this assessment, demonstrating that vehicles can enter and leave each of the spaces, some vehicles may require to undertake a 3-point turn.

Overall, the swept path diagrams demonstrate there is adequate area within the ground floor layout to accommodate vehicle manoeuvring, and also allows for a B85 vehicle to turnaround"

- Garage Door Width & Apron (AS2890.1 Fig 5.4 = 2.4m wide => 7m wide apron):

- N/A

- Parking Module Gradient (manoeuvring area 5% Acceptable Soln, 10% Performance):

- **Development Engineering has concluded the documentation submitted to date is able to meet this requirement by accepting the analysis / statements provided by the applicant's traffic engineer contained within the Traffic Impact Assessment**

- Ramp Gradient & Width (AS2890.1 Section 2.6 = 25% and 3m):

- **Development Engineering has concluded the documentation submitted to date is able to meet this requirement by accepting the analysis / statements provided by the applicant's traffic engineer contained within the Traffic Impact Assessment**

- **The applicant's traffic engineer stated the following;**

"The ramp has been designed to comply with section 3.3 of AZ/NZS 2890.1:2004.

The ramp will have a downgrade from Sunnyside Road; across the footpath the grade will be 5 percent, then increase to 7 percent for the first 2 metres (transitional ramp), then increasing to a maximum gradient of 15.4 percent, and transitioning back to 7 percent by a 2-metre-long transitional ramp. This means the maximum change in gradient for both crest and sag curves will be 8.4 percent, and this is not expected to create any adverse scraping or bottoming of vehicles using the ramp."

and

"The access ramp will reduce to a single lane as it reaches the ground floor, passing bays will be provided at both ends of the ramp to ensure vehicles can pass efficiently. The passing bays will be a minimum of 5.5 metres wide and six metres long, and are shown in diagram 9.14.

A traffic mirror adjacent to parking space numbered 1 will be provided, this mirror will enable motorists leaving the parking spaces to ensure the ramp is clear before proceeding up the ramp. Otherwise, the driver should wait within the ground floor passing bay area for the entering vehicle to clear the ramp. Vehicles entering the ramp from Sunnyside Road should have priority over vehicles leaving, and a traffic sign could

be installed on the ground floor to reinforce this priority. The parking spaces are expected to generate a low turnover, and users will become familiar with the arrangement, with no adverse impact expected."

- Transitions (AS2890.1 Section 2.5.3 = 12.5% summit, 15% sag => 2m transition):

- Development Engineering has concluded the documentation submitted to date is able to meet this requirement by accepting the analysis / statements provided by the applicant's traffic engineer contained within the Traffic Impact Assessment

- The applicant's traffic engineer stated the following;

"The entrance to the ground floor parking area will not be gated. There is sufficient length and width of the ramp to accommodate two vehicles entering at a time. Given the parking area supports 12 spaces, the risk of vehicles queuing on Sunnyside Road waiting to enter the ramp would be very low."

- Vehicular Barriers (AS2890.1 Section 2.4.5.3 = 600mm drop, 1:4 slope):

- Development Engineering has concluded the documentation submitted to date is able to meet this requirement by accepting the analysis / statements provided by the applicant's traffic engineer contained within the Traffic Impact Assessment

- The applicant's traffic engineer stated the following;

"Vehicle barriers are being provided to both sides of the access ramp. Within the ground floor parking area, parking spaces are located adjacent to a pedestrian walkway, with wheel stops and bollards to provide adequate separation between the vehicles and pedestrian movement."

- Blind Aisle End Widening (AS2890.1 Fig 2.3 = 1m extra):

- N/A

- "Jockey Parking" (Performance Assessment):

- N/A

- No objections were notated by the former Senior Development Engineer who was allocated the development for assessment

originally and attended pre application discussions.

Development Engineering has concluded based on the documentation submitted to date and given the above assessment, the layout of parking areas is accepted as meeting the *Performance Criteria P1:E6.7.5* given the driveway configuration.

6.19.6 The proposal complies with the performance criterion.

6.20 Stormwater Drainage and Disposal - E7.7.1 P2

6.20.1 The acceptable solution at clause 7.7.1 A1 requires that a stormwater system for a new development must incorporate water sensitive urban design principles for the treatment and disposal of stormwater where the size of new impervious area is more than 600m² and new car parking is provided for more than 6 cars.

6.20.2 The proposal includes a new development which increase the impervious area on the site to more than 600m² and car parking for more than 6 cars is provided.

6.20.3 The proposal does not comply with the acceptable solution; therefore assessment against the performance criterion is relied on.

6.20.4 The performance criterion at clause 7.7.1 P2 provides as follows:

A stormwater system for a new development must incorporate a stormwater drainage system of a size and design sufficient to achieve the stormwater quality and quantity targets in accordance with the State Stormwater Strategy 2010, as detailed in Table E7.1 unless it is not feasible to do so.

6.20.5 Referral was made to Council's Development Engineer and Waterways Unit who have provided the following assessment:

Referred to the Waterways Unit for determination and conditioning.

Waterways Unit has concluded based on the documentation submitted to date and given the above assessment, the stormwater disposal is accepted by Development Engineering as meeting the Performance Criteria E7.7.1 (P2) of the Planning Scheme.

6.20.6 The proposal complies with the performance criterion.

6.21 Historic Heritage Code E13.0

6.21.1 The subject site is located within a Historic Heritage Precinct and as such was referred to Council's Cultural Heritage Officer who has provided the following assessment:

This application relates to 73a New Town Road, better known as the previous site of the 'New Town Catholic Tennis Club'. At present the site contains the remnants of two tennis courts including floodlights, along with ancillary buildings associated with its former operation, in this instance a club house and a storage shed. The proposal seeks the demolition of these buildings and the last remnants of the courts to facilitate the erection of a 3 storey residential development providing 22 dwellings with associated car parking, car maneuvering space, vehicular access ramp to Sunnyside Street and pedestrian access to New Town Road and Paviour Street, privacy boundary treatments, landscaping and shared community space within the site.

The site is not individually heritage listed but does form part of the Paviour Street Heritage Precinct (NT10) as set out in the *Hobart Interim Planning Scheme 2015*.

This precinct is made up of properties on a section of the north side of New Town Road and those within Paviour Street. It is identified in Table E13.2 as being significant for reasons including:

- 1. The collections of largely intact Federation Bungalow and Federation Queen Anne residences contribute to the understanding of the pattern of development within New Town.*
- 2. A general uniformity of form, scale and orientation, together with a distinctive late nineteenth century/early twentieth century subdivision pattern, has created a consistent and strong streetscape.*

Representations

In total, some 31 representations have been received in the course of the consultation stage of the proposal, all of whom object to the development on various grounds. In relation to issues dealing specifically with heritage, these can be summarised and commented upon as follows-

- a) The proposal does not comply with various aspects of the 'Design criteria/Conservation policy' HOB-C6.2.8.11 which deals with the

Paviour Street Heritage Precinct (NT10).

Response – It should be noted that the 'Design criteria/Conservation policy' HOB-C6.2.8.11, whilst displayed on the Councils website, is described as being intended to form part of C6.0 Heritage Code of the Tasmanian Planning Scheme State Planning Provision when the Statewide plan is formally adopted. As such, prior to the introduction of the Statewide Scheme, HOB-C6.2.8.11 carries no weight in the consideration of applications under the *Hobart Interim Planning Scheme 2015*.

- b) The proposal, as a high density development, is not in character with the low density of the heritage precinct.

Response – The density of development is not described as a characteristic of the Precinct and is not considered to be a heritage consideration in this instance.

- c) The proposed development, due to its height, bulk and modernist design is not sympathetic to the single storey scale or architectural style of the heritage precinct.

Response - The appropriateness of the style, scale, height and design with regard to the Heritage Precinct are discussed in the main body of this report.

- d) The proposed materials, such as Colorbond cladding and precast concrete are appropriate more to warehouses and factories than to dwellings and would not reflect the use of brick and weatherboard within the heritage precinct.

Response - The appropriateness of the proposed cladding materials with regard to the character of the Heritage Precinct are discussed within the main body of the report.

Paviour Heritage Precinct

It is noted that the site has an interesting physical and social history. The land formed part of a later addition to the early 'Belle Vue' Estate of prominent early European settler and influential merchant and sea captain, John Bell (1790-1841). Its distinctive form was created due to it being quarried for sandstone in association with works of improvement to the nearby New Town Road in the 1840's, which at the time had a reputation for flooding and required stone and rubble to create a solid base over the then marshy land. The land then remained largely unaltered

and unused given its poor viability to provide an arable or residential use whilst the surrounding land was increasingly sub-divided and developed into the present street and townscape of today. In the late 1920's however, it was purchased and a small tennis club established, becoming the 'New Town Catholic Tennis Club' in the 1930's which operated continually on the site until relatively recently.

Notwithstanding the above however, it is notable that the site has not been considered for individual heritage listing either at the City or State level and is not specifically mentioned or remarked upon within the above identified characteristics of significance that contribute to the historic cultural heritage values of the Paviour Street Heritage Precinct. As these stated characteristics relate to the residential development of New Town, specifically the architectural style and conformity of the built form and the clear pattern of sub-divisions in terms of the associated streetscape qualities, it is considered that the site exhibits none of the above. It can therefore be argued that its principal contribution is merely to play a natural role within the wider Heritage Precinct, which it successfully does by virtue of the fact that it sits behind the surrounding built form, is set at a lower level to the surrounding streetscapes and contains only minor buildings of the small club house and storage shed. Indeed, it is noted that from the public realm, whilst some limited views of the site are afforded from Sunnyside Road which overlooks the site, from New Town Road and Paviour Street, the only visual evidence of the site is the very tops of the floodlighting polls and the vegetation that has grown up around the site.

Nonetheless, the site falls within the Paviour Street Heritage Precinct, and as such is subject to the relevant heritage policies. In this instance, these are considered to be –

E13.8.1 Demolition

Objective:

To ensure that demolition in whole or in part of buildings or works within a heritage precinct does not result in the loss of historic cultural heritage values unless there are exceptional circumstances.

Performance Criteria 1

Demolition must not result in the loss of any of the following:

- (a) buildings or works that contribute to the historic cultural heritage significance of the precinct;*
- (b) fabric or landscape elements, including plants, trees, fences, paths, outbuildings and other items, that contribute to the historic*

cultural heritage significance of the precinct;

unless all of the following apply;

- (i) there are, environmental, social, economic or safety reasons of greater value to the community than the historic cultural heritage values of the place;*
- (ii) there are no prudent or feasible alternatives;*
- (iii) opportunity is created for a replacement building that will be more complementary to the heritage values of the precinct.*

E13.8.2 Buildings and Works other than Demolition

Objective:

To ensure that development undertaken within a heritage precinct is sympathetic to the character of the precinct.

Performance Criteria 1

Design and siting of buildings and works must not result in detriment to the historic cultural heritage significance of the precinct, as listed in Table E13.2.

Performance Criteria 4

New front fences and gates must be sympathetic in design, (including height, form, scale and materials), and setback to the style, period and characteristics of the precinct.

Demolition

Based on the above, it is considered that the site and the buildings associated with its former use of the site as a Tennis Club do not to play an active positive role within the Heritage Precinct. Whilst the proposal would remove what could be viewed as buildings that have played a notable social role within the community of New Town, along with small elements of established trees and shrubs to the boundaries of Sunnyside and Paviour Streets, it is considered that these elements play a neutral role and do not make an active positive contribute to the historic cultural heritage significance of the precinct as described above. As such it is considered that the proposed demolition would not result in the loss of historic cultural heritage values of the wider Precinct and would therefore comply with Performance Criteria 1 of E13.8.1 'Demolition'.

Proposed Development

The proposal, by virtue of its size, associated vehicular access, parking

and elements of landscaping would represent a significant increase in the built form of the site. In all considerations of impact to the visual impact of proposals upon the cultural characteristics of Heritage Precincts however, the degree to which works and the final built form would be visible from the public realm is paramount. In this instance, the site and the proposed development would be visible within the public realm from three distinct areas; from the roadside of New Town Road; from the roadside of Paviour Street and from the roadside of Sunnyside Street.



View of subject site from Sunnyside Road. Source: Council image



View of subject site from Sunnyside Road. Source: Council image

Taking each in turn, with regard to New Town Road, due to the existing built form of single storey residential properties set reasonable close to each other, views through to the site are markedly reduced. However, despite the proposal sitting within a former quarry and thus low within the immediate landscape, due to its three storey height, the upper elements of proposed buildings would be partially visible from the public realm, especially through the gaps between the existing houses on New Town Road. However, it is acknowledged that the development would be viewed against the context of residential properties that occupy the higher

ground of Paviour Street and Swanston Street, primarily in the form of roof slopes and typical residential features such as chimneys and mature trees within garden settings. In response, the proposed development has adopted a contemporary interpretation of a traditional roof form interspersed by flat roofed alternatively coloured finished parts, breaking up the visual appearance of the built form, or at least in a superficial way, into a regular pattern of distinct elements. This has the result from New Town Road of making the proposed development appear more reflective of the surrounding townscape than its scale would suggest. Given also that it would sit at some distance back from the existing built form of New Town Road, and would read as a separate element of townscape to these existing residential properties, it is considered that it would appear as a relatively sympathetic addition to the townscape and would not detract from the character of the Heritage Precinct.

With regard to views from the public realm of Paviour Street, again, despite the three storey scale of the proposed development, due to its setting within a former quarry, only the upper parts of the development would be visible. From Paviour Street, although not exclusively, the development would primarily be viewed in the context of views out of the Heritage Precinct, across to Mount Stuart, Lenah Valley and beyond to kunanyi/Mount Wellington. Again, from this location, only the upper parts of the built form would be visible in the public realm, although in this instance it would stand relatively close to the boundary of the site. As stated above, the proposed development has adopted a contemporary interpretation of a traditional roof form, in this instance a series of gabled elements interspersed by flat roofed, recessed and or alternatively coloured finished parts, which again breaks up the visual appearance of the built form into a regular pattern of distinct roof forms. Whilst not wholly successful in appearing as clearly separate buildings and being far smaller than the actual sub-division pattern of the precinct, nonetheless it does have the impact of breaking up the built form and providing a pleasing articulation. This part of the site would also be enclosed by appropriately scaled paling fencing and provided with new planting that would soften and eventually partially obscure the proposed built form. As such, it is considered that from Paviour Street, it would appear as a relatively sympathetic addition to the townscape given its scale and would not detract from the character of the Heritage Precinct. However, it is acknowledged that much would depend on the appropriateness of the proposed materials and their colouration to the roof and upper levels of the development for the proposal to be fully successful.

With regard to the visual impact from Sunnyside Street, it should firstly be

noted that the boundary of the Heritage Precinct runs along the boundary of the site and as such, Sunnyside Street does not form part of the Heritage Precinct. Nonetheless, views into Heritage Precincts have been judged to be relevant in the determination of such proposals.

Unlike the other two locations, the proposal would be far more visible from the public realm of Sunnyside Street, due in part to the lack of enclosing built form and that the vehicular access ramp would be from Sunnyside Street. The proposed boundary treatment would be a mixture of 1.8m wooden paling fencing and lower unfinished concrete block containing the individual post boxes for each property. Whilst this fencing would reduce visibility into the interior of the site to a degree, views directly in front of the proposed ramp would provide largely unhindered views across the site, allowing the scale, form and associated land treatment of the development to be fully readable. Indeed, from this location, the general uniformity of the development would be notable. Whilst the use of different colouration of materials successfully breaks up the form from New Town Road, from this perspective it would not have the same impact and any sense of implied articulation of the inward facing elevation of the development would be largely lost. Given that one of the characteristics identified as being significant within the Heritage Precinct is 'A general uniformity of form, scale and orientation together with a distinctive late nineteenth century/early twentieth century subdivision pattern', it is considered that the proposal would clearly not conform to this definition.

With regard to the above, as noted within the representations received, it is the opinion of representors that the proposed development, due to its height, bulk and modernist design is not sympathetic to the single storey scale or architectural style of the heritage precinct. It should be noted that the term 'sympathetic' is not specifically defined within the terms and definitions of the *Hobart Interim Planning Scheme 2015*. However, it is generally taken that it means to be designed in a sensitive or appropriate way. Whilst each proposal and sites have individual attributes, it generally does not require that development simply replicate all aspects of the existing townscape. It is considered that it could be argued that given the clear discrepancy between the characteristics of the site in its present form, in particular the significant difference in the general ground level between the site and the surrounding Paviour and Sunnyside Street, it would be largely impossible to create a built form that would strictly comply with the characteristics as set out above unless the quarry was effectively infilled. This is coupled with the difficulties in creating a streetscape presence in the form of separate driveways and traditional gardens. It is noted that the proposed design does attempt to respond to the built form and sub-division pattern notwithstanding the physical

attributes of the site in a manner that at least shows a sympathetic understanding of the surrounding townscape. It is also noted that from certain positions, it successfully achieves the breaking up of its visual form and provides a sense of articulation. This articulation into a regular pattern responds, if not strictly replicates the residential sub-division of the precinct, and is most notable from New Town Road and Paviour Street. As discussed above, this could also be reduced in impact from Sunnyside Street by an increase in the boundary height facing onto the street. As stated above, it is considered that the existing buildings and physical attributes of the site does not represent a positive contribution to the character of the Precinct, but rather acts as a neutral component. To state that the proposal does not meet Performance Criteria 1 of E13.8.2, it must be demonstrated that the resulting development would be to the detriment of its historic cultural heritage significance. Given that 'sympathetic' means to be designed in a sensitive or appropriate way and not solely as a direct copy, and that the visual impact of the proposal from the public realm is limited and can be further reduced by way of increasing the boundary treatment in Sunnyside Street, it is considered that whilst finely balanced, the development in principle would broadly comply with the intent of E13.8.2 'Buildings and Works other than Demolition' and would not result in development that could clearly be argued to result in detriment to the historic cultural significance of the precinct. However, it is considered that the colouration of appropriate facing materials would play an important role in allowing the development to sit comfortably within the immediate streetscape.

With regard to the above, it is noted that the development makes significant use of Colorbond sheeting in a variety of colours as its cladding to both roof and walls. Whilst the use of Colorbond to roofs is well established within the precinct, its use as a wall cladding is not. Indeed it is noted that no building within the precinct appears to utilise what is more commonly viewed as a roofing material in such a way, and that front facades all are either constructed in red brick or weatherboard with the occasional use of rendered sheeting to small elements. This has been raised as a matter of concern within the representations received. Similarly, unfinished concrete blocks are generally not used as boundary treatments.

As such, it is considered that the final pallet of external materials, finishes and colours to both the building and boundary treatments should be appropriate and in keeping with those of the surrounding Heritage Precinct. As such, it is considered reasonable to require this finalisation of materials by way of condition to the satisfaction of the Council should

planning permission be granted.

Additional Considerations

With regard to the history of the site and its important role in the social history of New Town and the wider Hobart area, it is considered that an opportunity exists to acknowledge and explain its historical background and widen understanding of its role in the development and life of the City. It is considered that this could be undertaken in a number of ways, including interpretation panels, landscaping treatments such as the inclusion of quarried boulders or the choice of the name given to the site. As such, it is therefore considered reasonable to seek by way of condition the inclusion of features that highlight the history of the site at suitable locations within the site to the satisfaction of the Council.

Conclusion

It is considered that given the particular limitations and physicality's of the site, achieving development that strictly accords with the described characteristics of the Paviour Street Heritage Precinct would be difficult to achieve. Nonetheless, the proposal attempts to provide some degree of articulation, rhythm and utilises a contemporary take on the traditional roof forms found within the streetscape. It also proposes the use of landscaping to the Paviour Street boundary to soften its appearance and it is acknowledged that the proposal would be partially obscured from views from the public realm.

Notwithstanding the above, it is acknowledged that the form, scale, cladding materials and the relatively functional treatment to the shared spaces within the site would not wholly reflect the characteristics of the precinct as described. As such, it is considered that the acceptability of the proposal is finely balanced. However, given the individual circumstances of the site, it is considered that subject to a suitable conditions relating to the increase in height of the Sunnyside Street boundary treatment from 1.8 to 2.0m, use of materials more akin to those used within the Precinct, and the inclusion of features that help to explain and widen understanding of the development and social history of the site, it would be difficult to categorically argue that the proposal would cause detriment to the characteristics of the Precinct to warrant the refusal of the proposal in this instance.

Given the above, it is therefore considered that subject to condition the proposal would comply with Clauses E.13.8.1 P1 and E.13.8.2 P1 and P4 of the HIPS.

6.21.2 The proposal complies with the performance criterion.

7. Discussion

- 7.1 Planning approval is sought for Demolition, 22 Multiple Dwellings, Front Fencing, and Associated Works, at 73A New Town Road and Adjacent Road Reserve.
- 7.2 The application was advertised and received thirty one (31) representations. The representations raised concerns including building envelope and overshadowing, density, privacy, open space, waste storage, noise impacts, traffic generation, parking, heritage, construction risks as well as general comments on the notification period and design intent.

With respect to waste storage concerns, Council's Waste Unit was engaged to review the proposal and confirmed that the collection of the proposed number of bins is feasible along the Paviour Street and Sunnyside Road frontages. It is noted that the proposal includes 22 waste bins, 11 for general rubbish and 11 for recycling, these would be shared between the residents. The proposal does not intend to provide up to 44 bins, which several representations alluded to.

Several representations raised concern about overlooking and privacy from the proposed development. The proposal remains compliant with the acceptable solutions of the Inner Residential Zone privacy clauses. Balconies and windows of the proposed dwellings will be over 6m from the nearest rear boundary. Whilst there may be some overlooking potential, the setbacks remain acceptable under planning assessment. The applicant has agreed to install higher boundary fences, to the satisfaction of adjoining landowners of the New Town Road properties. The applicant has also agreed to install further screening along the boundary with 67 and 69 New Town Road to minimise visual intrusion and improve privacy from vehicles using the proposed access ramp.

With respect to concerns from noise, disturbance and access during the construction process, these are not matters for assessment under the planning scheme. However, conditions with respect to a soil and water management plan, a construction traffic management plan, and a construction management plan are all included.

- 7.3 The proposal has been assessed against the relevant provisions of the planning scheme and is considered to perform well.

7.4 The proposal has been assessed by other Council officers, including the Council's Development Engineer, Cultural Heritage Officer, Roads Engineer, Traffic Engineer, and Stormwater Engineer. The officers have raised no objection to the proposal, subject to conditions.

7.5 The proposal is recommended for approval.

8. Conclusion

8.1 The proposed Demolition, 22 Multiple Dwellings, Front Fencing, and Associated Works, at 73A New Town Road and Adjacent Road Reserve satisfies the relevant provisions of the *Hobart Interim Planning Scheme 2015*, and as such is recommended for approval.

9. Recommendations

That: Pursuant to the *Hobart Interim Planning Scheme 2015*, the Council approve the application for Demolition, 22 Multiple Dwellings, Front Fencing, and Associated Works, at 73A New Town Road and Adjacent Road Reserve for the reasons outlined in the officer's report and a permit containing the following conditions be issued:

GEN

The use and/or development must be substantially in accordance with the documents and drawings that comprise PLN-22-282 - 73A NEW TOWN ROAD NEW TOWN TAS 7008 - Final Planning Documents except where modified below.

Advice: The approved use is multiple dwellings for social housing, which will be managed as a collective by one entity. Social housing is housing that is provided for individuals that would otherwise face financial hardship if required to secure housing on the open market, or would be unable to secure such housing. The use of this site is not suitable for a strata scheme to create individual lots for each multiple dwelling. Further planning permission would be required to support the creation of a strata scheme of this nature.

Reason for condition

To clarify the scope of the permit.

TW

The use and/or development must comply with the requirements of TasWater as detailed in the form Submission to Planning Authority Notice, Reference No. TWDA 2022/00684-HCC dated 27/10/2022 as attached to the permit.

Reason for condition

To clarify the scope of the permit.

PLN 19

Cranes or other temporary structures used in the construction of the approved development must not create an obstruction or hazard for the operation of aircraft.

Advice:

Further advice about whether the development will or will not create an obstruction or hazard can be obtained by contacting the Civil Aviation Safety Authority, the Department of Health and Human Services (rhhfmeadmin@ths.tas.gov.au, (03) 6166 8832) and the helipad/helicopter operator (Rotorlift, chiefpilot@rotorlift.com.au, (03) 6248 4117

Please be aware of the possibility of downdraft conditions in the Royal Hobart Hospital Heli Airspace / flightpath area from operating helicopters on any crane lifts when any crane operation is taking place and consider this in Job Safety Analysis / Safe Work Method Statements.

Please consider the use of boom illumination or warning lights when operating in the Royal Hobart Hospital Heli Airspace / flightpath area as part of Job Safety Analysis / Safe Work Method Statements.

Reason for condition

To ensure that buildings do not interfere with safe aircraft operations in the vicinity of the Royal Hobart Hospital helipad.

PLN 2

Screening with no more than 30% uniform transparency and a minimum height of 1.5m above floor level of the vehicle ramp, must be installed and maintained along the western elevation of the vehicle ramp adjacent to 67 and 69 New Town Road prior to the first occupation.

Prior to the issue of any approval under the *Building Act 2016*, revised plans must be submitted and approved as a Condition Endorsement showing screening in accordance with the above requirement.

All work required by this condition must be undertaken in accordance with the approved revised plans.

Advice:

This condition requires further information to be submitted as a Condition Endorsement. Refer to the Condition Endorsement advice at the end of this permit.

Reason for condition

To provide reasonable opportunity for privacy for dwellings.

PLN 9

The fencing and front gate on New Town Road front boundary must be no more than 1.8m high above natural ground level and with a minimum uniform transparency of 33%.

Prior to the issue of any approval under the *Building Act 2016*, revised plans must be submitted and approved as a Condition Endorsement showing the front fence in accordance with the above requirement.

Advice:

This condition requires further information to be submitted as a Condition Endorsement. Refer to the Condition Endorsement advice at the end of this permit.

Reason for condition

To provide reasonable opportunity for privacy for dwellings and to maintain the streetscape.

ENG sw1

All stormwater from the proposed development (including but not limited to: roofed areas, ag drains, retaining wall ag drains and impervious surfaces such as driveways and paved areas) must be drained to the Council's stormwater infrastructure prior to first occupation or commencement of use (whichever occurs first).

Advice:

Under section 23 of the Urban Drainage Act 2013 it is an offence for a property owner to direct stormwater onto a neighbouring property.

Reason for condition

To ensure that stormwater from the site will be discharged to a suitable Council approved outlet.

SW 7

Prior to occupancy or the commencement of the use (whichever occurs first),

any new stormwater connection must be constructed and existing redundant connection(s) be abandoned and sealed at the owner's expense.

Prior to the issuing of any approval under the *Building Act 2016* or commencement of works (whichever occurs first), detailed engineering drawings must be submitted via the City of Hobart's online request form which is available on its [website](#) and approved. The detailed engineering drawings must include:

1. the location of the proposed connections and all existing connections;
2. the size and design of the connection such that it is appropriate to safely service the development;
3. clearances from any nearby obstacles (eg services, crossovers, trees, poles, walls);
4. long-sections of the proposed connection clearly showing cover, size, material, grade and delineation of public and private infrastructure;
5. connections which are free-flowing gravity driven;
6. be in general accordance with Council's departures from the LGAT Tasmanian Standard Drawings, available from [our website](#).

All work required by this condition must be undertaken in accordance with the approved detailed engineering drawings.

Advice: Upgraded or new connections can be approved either via the CEP process or via the Application for New Connection form available from [here](#). The approved stormwater connection documents must be included in your plumbing permit application document set and listed in accompanying forms.

A single connection for the property is required under the Urban Drainage Act 2013.

SW 9

Prior to occupancy or the commencement of the approved use (whichever occurs first), stormwater pre-treatment and detention for stormwater discharges from the development must be installed.

A stormwater management report and design must be submitted and approved as a Condition Endorsement, prior to the issue of any approval under the *Building Act 2016* or the commencement of work on the site (whichever occurs first). The stormwater management report and design must be prepared by a suitably qualified engineer and must:

1. include detailed design of the proposed treatment train, including final estimations of contaminant removal;

2. include detailed design and supporting calculations of the detention tank showing:
 1. detention tank sizing such that there is no increase in flows from the developed site up to 5% AEP event and no worsening of flooding;
 2. the layout, the inlet and outlet (including long section), outlet size, overflow mechanism and invert level;
 3. the discharge rates and emptying times; and
 4. all assumptions must be clearly stated;
3. include a supporting maintenance plan, which specifies the required maintenance measures to check and ensure the ongoing effective operation of all systems, such as: inspection frequency; cleanout procedures; descriptions and diagrams of how the installed systems operate; details of the life of assets and replacement requirements.

All work required by this condition must be undertaken and maintained in accordance with the approved stormwater management report and design.

Advice:

This condition requires further information to be submitted as a Condition Endorsement. Refer to the Condition Endorsement advice at the end of this permit.

SW 13

The major stormwater drainage system including ponding area, kerb freeboard and pathway swale must be constructed and maintained to cater for 1%AEP as at 2100 in accordance with the engineering reports and plans submitted.

Certification from a suitably qualified and accredited engineer that the works has been constructed in accordance with the accepted design must be provided to the City of Hobart prior to occupancy or commencement of use (whichever occurs first).

ENG tr2

A construction traffic and parking management plan must be implemented prior to the commencement of work on the site (including demolition).

The construction traffic (including cars, public transport vehicles, service

vehicles, pedestrians and cyclists) and parking management plan must be submitted and approved as a Condition Endorsement, prior to commencement work (including demolition). The construction traffic and parking management plan must:

1. Be prepared by a suitably qualified person.
2. Develop a communications plan to advise the wider community of the traffic and parking impacts during construction.
3. Include a start date and finish dates of various stages of works.
4. Include times that trucks and other traffic associated with the works will be allowed to operate.
5. Nominate a superintendent, or the like, to be responsible for the implementation of the approved traffic management plan and available as a direct contact to Council and/or members of the community regarding day to day construction traffic operations at the site, including any immediate traffic issues or hazards that may arise.

All work required by this condition must be undertaken in accordance with the approved construction traffic and parking management plan.

Advice:

This condition requires further information to be submitted as a Condition Endorsement. Refer to the Condition Endorsement advice at the end of this permit.

Reason for condition

To ensure the safety of vehicles entering and leaving the development and the safety and access around the development site for the general public and adjacent businesses.

ENG 2a

Prior to first occupation or commencement of use (whichever occurs first), vehicular barriers compliant with the Australian Standard AS/NZS 1170.1:2002 must be installed to prevent vehicles running off the edge of an access driveway or parking module (parking spaces, aisles and manoeuvring area) where the drop from the edge of the trafficable area to a lower level is 600mm or greater, and wheel stops (kerb) must be installed for drops between 150mm and 600mm. Barriers must not limit the width of the driveway access or parking and turning areas approved under the permit.

Advice:

The Council does not consider a slope greater than 1 in 4 to constitute a lower level as described in AS/NZS 2890.1:2004 Section 2.4.5.3. Slopes greater than 1 in 4 will require a vehicular barrier or wheel stop.

Designers are advised to consult the [National Construction Code 2016](#) to determine if pedestrian handrails or safety barriers compliant with the Code are also required in the parking module this area may be considered as a path of access to a building.

Reason for condition

To ensure the safety of users of the access driveway and parking module and compliance with the standard.

ENG 2b

Further detailed designs are required for vehicle barriers in the following locations:

1. Both sides of the access ramp

This documentation must be submitted and approved as a condition endorsement, prior to the issuing of any approval under the *Building Act 2016*.

The detailed designs must:

- 1. be prepared and certified by a suitably qualified engineer;**
- 2. be in accordance with the Australian Standard AS/NZS 1170.1:2002, if possible; and**
- 3. show [dimensions, levels, gradients & transitions], and other details as Council deem necessary to satisfy the above requirement.**

The vehicle barriers must be installed in accordance with the approved detailed designs prior to first occupation.

Advice:

This condition requires further information to be submitted as a Condition Endorsement. Refer to the Condition Endorsement advice at the end of this permit.

Reason for condition

To ensure the safety of users of the access driveway and parking module and compliance with the standard.

ENG 2c

Prior to the first occupation, a suitably qualified engineer must certify that the vehicle barriers have been installed in accordance design drawings approved by Condition ENG 2b.

Advice:

An example certificate is available on our [website](#).

Reason for condition

To ensure the safety of users of the access driveway and parking module and compliance with the relevant standards.

ENG 3a

**The access driveway and parking areas must be constructed in accordance with the following documentation which forms part of this permit:
RARE documentation received by the Council on the 5th December 2022.**

Any departure from that documentation and any works which are not detailed in the documentation must be either:

- (a) approved by the Director City Life, via a condition endorsement application; or**
- (b) designed and constructed in accordance with Australian Standard AS/NZ 2890.1:2004.**

The works required by this condition must be completed prior to first occupation.

Reason for condition

To ensure the safety of users of the access and parking module, and compliance with the relevant Australian Standard.

ENG 3c

Prior to the first occupation, a suitably qualified engineer must certify that the access driveway and parking area has been constructed in accordance with design drawings approved by Condition ENG 3a.

Advice:

We strongly encourage you to speak to your engineer before works begin so that you can discuss the number and nature of the inspections they will need to do during the works in order to provide this certification. It may be necessary for a surveyor to also be engaged to ensure that the driveway will be constructed as approved.

The reason this condition has been imposed as part of your planning permit is that the driveway is outside the Australian Standard gradients or design parameters. If the driveway is not constructed as it has been approved then this may mean that the driveway will either be unsafe or will not function properly.

An example certificate is available on our [website](#).

Reason for condition

To ensure the safety of users of the access and parking module, and compliance with the relevant Australian Standard.

ENG 4

The access driveway and parking module (car parking spaces, aisles and manoeuvring area) approved by this permit must be constructed to a sealed standard (spray seal, asphalt, concrete, pavers or equivalent Council approved) and surface drained to the Council's stormwater infrastructure prior to the first occupation.

Reason for condition

To ensure the safety of users of the access driveway and parking module, and that it does not detract from the amenity of users, adjoining occupiers or the environment by preventing dust, mud and sediment transport.

ENG 5

The number of car parking spaces approved to be used on the site is twelve (12).

All parking spaces must be delineated by means of white or yellow lines 80mm to 100mm wide, or white or yellow pavement markers in accordance with Australian Standards AS/NZS 2890.1 2004, prior to first occupation.

Reason for condition

To ensure the provision of parking for the use is safe and efficient.

ENG 5b

The number of motorcycle parking spaces approved to be used on the site is two (2).

All parking spaces must be delineated by means of white or yellow lines 80mm to 100mm wide, or white or yellow pavement markers in accordance with Australian Standards AS/NZS 2890.1 2004, prior to first occupation.

Reason for condition

To ensure the provision of parking for the use is safe and efficient.

ENG 6

The bicycle parking area (to accommodate six bicycles within the common area) generally compliant with the Australian Standards AS/NZS 2890.3:2015 and must be constructed on the site in accordance with the Hubble Traffic documentation received by the Council on the 9th May 2022 prior to the first occupation.

Reason for condition

To ensure safe and efficient parking adequate to provide for the use.

ENG 8

The use of the car parking spaces is restricted to User Class 1A (residential) in accordance with Australian Standards AS/NZS 2890.1 2004 Table 1.1.

A sign, approved by council, and in accordance with Australian Standards AS/NZS 1742.11:2016, must be erected at the entry of the parking access to indicate the parking area is for residents only prior to first occupation.

Reason for condition

In the interests of vehicle user safety and the amenity of the development.

ENG 1

Any damage to council infrastructure resulting from the implementation of this

permit, must, at the discretion of the Council:

1. **Be met by the owner by way of reimbursement (cost of repair and reinstatement to be paid by the owner to the Council); or**
2. **Be repaired and reinstated by the owner to the satisfaction of the Council.**

A photographic record of the Council's infrastructure adjacent to the subject site must be provided to the Council prior to any commencement of works.

A photographic record of the Council's infrastructure (e.g. existing property service connection points, roads, buildings, stormwater, footpaths, driveway crossovers and nature strips, including if any, pre-existing damage) will be relied upon to establish the extent of damage caused to the Council's infrastructure during construction. In the event that the owner/developer fails to provide to the Council a photographic record of the Council's infrastructure, then any damage to the Council's infrastructure found on completion of works will be deemed to be the responsibility of the owner.

Reason for condition

To ensure that any of the Council's infrastructure and/or site-related service connections affected by the proposal will be altered and/or reinstated at the owner's full cost.

ENG r1

The excavation and staircase structures within or supporting the highway reservation must not undermine the stability and integrity of the highway reservation and its infrastructure.

Detailed design drawings, structural certificates and associated geotechnical assessments) of the staircase structures near the Paviour Street highway reservation must be submitted and approved as a Condition Endorsement, prior to the commencement of work and must:

1. **Be prepared and certified by a suitable qualified person and experienced engineer;**
2. **Not undermine the stability of the highway reservation;**
3. **Be designed in accordance with AS 4678, with a design life in accordance with table 3.1 typical application major public infrastructure works;**
4. **Take into account any additional surcharge loadings as required by**

- relevant Australian Standards;
5. Take into account and reference accordingly any Geotechnical findings;
 6. Detail any mitigation measures required; and
 7. Detail the design and location of the footing adjacent to the Paviour Street highway reservation.

The structure certificated and/or drawings should note accordingly the above

All work required by this condition must be undertaken in accordance with the approved select design drawing and structural certificates.

Advice:

This condition requires further information to be submitted as a Condition Endorsement. Refer to the Condition Endorsement advice at the end of this permit.

Reason for condition

To ensure that the stability and integrity of the Council's highway reservation is not compromised by the development.

ENG r3

Prior to the commencement of use, the proposed driveway crossover on the Sunnyside Road highway reservation must be designed and constructed in accordance with:

- Urban - TSD-R09-v3 – Urban Roads Driveways and TSD R14-v3 Type KC vehicular crossing;
- Footpath - Urban Roads Footpaths TSD-R11-v3.

Design drawings must be submitted and approved as a Condition Endorsement prior to any approval under the Building Act 2016. The design drawings must:

1. Show the cross and long section of the driveway crossover within the highway reservation and onto the property;
2. Detail any services or infrastructure (ie light poles, pits, awnings) at or near the proposed driveway crossover;
3. Be designed for the expected vehicle loadings. A structural certificate to note that driveway is suitable for heavy vehicle loadings;
4. Show swept path templates in accordance with AS/NZS 2890.1 2004(B85 or B99 depending on use, design template);

5. If the design deviates from the requirements of the TSD, then demonstrate that a B85 vehicle or a B99 depending on use (AS/NZS 2890.1 2004, section 2.6.2), can access the driveway from the road pavement into the property without scraping the vehicle's underside;
6. Show that vehicular and pedestrian sight lines are met as per AS/NZS 2890.1 2004.
7. Demonstrate that the proposed driveway crossover is designed and constructed in such a way as to convey flows safely and adequately within the road reserve with no decrease in capacity.
8. Show access provided by a concrete plinth to Council's standard. A grated wedge may be permitted on highly used bike routes, and details of the grate (i.e. mass) must be provided. Otherwise, grated wedge, asphalt wedge and the standard open wedge driveway crossovers are not permitted. Note: A drawing of a standard concrete plinth can be obtained from Council's Program Leader Road Services. Note also that the agreement of the Council's is required to adjust footpath levels; and
9. Be prepared and certified by a suitable qualified person, to satisfy the above requirements.

All work required by this condition must be undertaken in accordance with the approved drawings.

Advice:

This condition requires further information to be submitted as a Condition Endorsement. Refer to the Condition Endorsement advice at the end of this permit.

Please note that your proposal does not include adjustment of footpath levels. Any adjustment to footpath levels necessary to suit the design of proposed floor, parking module or driveway levels will require separate agreement from Council's Program Leader Road Services and may require further planning approvals. It is advised to place a note to this effect on construction drawings for the site and/or other relevant engineering drawings to ensure that contractors are made aware of this requirement.

Council notes the kerb on Sunnyside Rd conveys discharge from the upstream piped network, and a non-standard crossover design to return these flows to the kerb will be required. Should this not be feasible, alterations to the public stormwater system will be required.

Reason for condition

To ensure that works will comply with the Council's standard requirements.

HER 16

The boundary treatment along the Sunnyside Street boundary must be 2.0m in height above natural ground level.

Prior to the issue of any approval under the *Building Act 2016*, revised plans must be submitted and approved as a Condition Endorsement showing the Sunnyside Street boundary treatment in accordance with the above requirement.

Advice:

This condition requires further information to be submitted as a Condition Endorsement. Refer to the Condition Endorsement advice at the end of this permit.

Reason for condition

To ensure that development at a heritage precinct is undertaken in a sympathetic manner which does not cause loss of historic cultural heritage significance.

HER 17a

The palette of exterior colours, materials, finishes and boundary treatments must reflect the palette of colours, utilisation of materials, finishes and boundary treatments within the local streetscape and precinct.

Prior to the issue of any approval under the *Building Act 2016*, revised plans must be submitted and approved as a Condition Endorsement showing the omission of colorbond as a elevation treatment and the exterior colours, utilisation of materials, finishes and boundary treatments in accordance with the above requirement.

All work required by this condition must be undertaken in accordance with the approved plans.

Advice:

This condition requires further information to be submitted as a Condition Endorsement. Refer to the Condition Endorsement advice at the end of this permit.

Reason for condition

To ensure that development at a heritage precinct is undertaken in a sympathetic

manner which does not cause loss of historic cultural heritage significance.

HER s2

Details of how the history and social cultural heritage of the site will be reflected and interpreted within the site must be submitted and approved.

Plans and written documentation showing the intended methods of heritage interpretation provided where possible in a publicly accessible location and which includes information regarding the site's history, historical and contemporary images and other relevant information must be submitted and approved as a Condition Endorsement, prior to the commencement of works.

All work required by this condition must be undertaken in accordance with the approved plans and written documentation, prior to completion.

Advice: This condition requires further information to be submitted as a Condition Endorsement. Refer to the Condition Endorsement advice at the end of this permit.

Reason for condition

To enhance the understanding and enjoyment of the site to the satisfaction of the Council.

ENVHE 4

A Construction Environmental Management Plan, prepared by suitably qualified persons, must be implemented.

A Construction Environmental Management Plan must be submitted and approved prior to the commencement of works and prior to the issue of any approval under the *Building Act 2016*, whichever occurs first.

The plan must include, but is not limited to, the following:

1. **Details of the proposed construction methodologies and expected likely timeframes.**
2. **The proposed days and hours of work and proposed hours of activities likely to generate significant noise emissions (including volume and timing of heavy vehicles entering and leaving the site, rock breaking and concrete pours)**

3. Details of potential environmental impacts associated with the construction works including noise, vibration, erosion and pollution (air, land and water).
4. Details of proposed measures to avoid or mitigate all identified potential environmental impacts during construction works including, but not limited to:
 - a. A noise management plan certified by a suitably qualified person as being generally consistent with AS 2436-2010 - *Guide to Noise and Vibration Control on Construction, Demolition and Maintenance Sites* and the *Interim Construction Noise Guidelines* (New South Wales Department of Environment and Climate Change, July 2009), and with any relevant guidelines or standards referenced by those documents.
 - b. A soil and water management plan including:
 - i. measures to minimise erosion and the discharge of contaminated stormwater off-site;
 - ii. measures to minimise dust emissions from the site;
 - iii. measures to manage the disposal of surface and groundwater from excavations (if relevant); and
 - iv. measures to prevent soil and debris being carried onto the street.
 - c. Measures detailing and demonstrating compliance with the recommendations of any environmental site assessment or contamination management plan relevant to the site or the development, or required as a condition of approval.
5. Details of proposed responsible persons, public communication protocols, compliance, recording and auditing procedures and complaint handling and response procedures.

Once approved the Construction Environmental Management Plan forms part of this permit and must be implemented and complied with.

A copy of the approved Construction Environmental Management Plan must be kept on site for the duration of the works and be available for inspection.

Advice: This condition requires further information to be submitted as a Condition Endorsement. Refer to the Condition Endorsement advice at the end of this permit.

Reason for condition

To minimise the impact of construction works.

Part 5 r1

Part 5 agreement and/or legal agreement during construction and after for private structures supporting or within the highway reservation.

Part 5 1 The owner(s) of the property must enter into an agreement with the Council pursuant to Part 5 of the *Land Use Planning and Approvals Act 1993* with respect to the protection of embankment adjacent to the Paviour Street highway reservation prior to the commencement of work.

The owner must not undertake any works at any time (including excavation and building) that will have any effect on the integrity of the Paviour Street highway reservation or the road formation themselves or undermine the structural integrity of the highway reservation.

All costs for the preparation and registration of the Part 5 Agreement must be met by the owner.

The owner must comply with the Part 5 Agreement which will be placed on the property title.

Advice:

For further information with respect to the preparation of a Part 5 Agreement please contact Council Development Engineering Unit.

Reason for condition

To ensure the protection of Council are retained.

ADVICE

The following advice is provided to you to assist in the implementation of the planning permit that has been issued subject to the conditions above. The advice is not exhaustive and you must inform yourself of any other legislation, by-laws, regulations, codes or standards that will apply to your development under which you may need to obtain an approval. Visit the Council's [website](#) for further information.

Prior to any commencement of work on the site or commencement of use the following additional permits/approval may be required from the Hobart City Council.

CONDITION ENDORSEMENT

If any condition requires that further documents are submitted and approved, you will need to submit the relevant documentation to satisfy the condition via the Condition Endorsement Submission on Council's [online services e-planning portal](#). Detailed instructions can be found [here](#).

Once approved, the Council will respond to you via email that the condition has been endorsed (satisfied).

Where building approval is also required, it is recommended that documentation for condition endorsement be submitted well before submitting documentation for building approval. Failure to address condition endorsement requirements prior to submitting for building approval may result in unexpected delays.

BUILDING PERMIT

You may need building approval in accordance with the *Building Act 2016*. Click [here](#) for more information.

This is a Discretionary Planning Permit issued in accordance with section 57 of the *Land Use Planning and Approvals Act 1993*.

PLUMBING PERMIT

You may need plumbing approval in accordance with the *Building Act 2016*, *Building Regulations 2016* and the National Construction Code. Click [here](#) for more information.

OCCUPATION OF THE PUBLIC HIGHWAY

You will require an occupational license for structures in the Hobart City Council highway reservation, in accordance with conditions to be established by the Council. Click [here](#) for more information.

You will require a Permit to Open Up and Temporarily Occupy a Highway (for work in the road reserve). Click [here](#) for more information.

GENERAL EXEMPTION (TEMPORARY) PARKING PERMITS

You may qualify for a General Exemption permit for construction vehicles i.e. residential or meter parking/loading zones. Click [here](#) for more information.

PERMIT TO CONSTRUCT PUBLIC INFRASTRUCTURE

You will require a permit to construct public infrastructure, with a 12 month maintenance period and bond (please contact the Hobart City Council's City Life Division to initiate the permit process).

PLANNING

It is recommended that boundary fences with adjacent New Town Road properties be installed to a height of 2.1m above existing ground level.

STORMWATER

Please note that in addition to a building and/or plumbing permit, development must be in accordance with the Hobart City Council's Infrastructure By law. Click [here](#) for more information.

WORK WITHIN THE HIGHWAY RESERVATION

Please note development must be in accordance with the Hobart City Council's Infrastructure by law. Click [here](#) for more information.

DRIVEWAY SURFACING OVER HIGHWAY RESERVATION

If a coloured or textured surface is used for the driveway access within the Highway Reservation, the Council or other service provider will not match this on any reinstatement of the driveway access within the Highway Reservation required in the future.

REDUNDANT CROSSEOVERS

Redundant crossovers are required to be reinstated under the Hobart City Council's Infrastructure By law. Click [here](#) for more information.

WEED CONTROL

Effective measures are detailed in the Tasmanian Washdown Guidelines for Weed and Disease Control: Machinery, Vehicles and Equipment (Edition 1, 2004). The guidelines can be obtained from the Department of Primary Industries, Parks, Water and Environment [website](#).

WORK PLACE HEALTH AND SAFETY

Appropriate occupational health and safety measures must be employed during the works to minimise direct human exposure to potentially-contaminated soil, water, dust and vapours. Click [here](#) for more information.

PROTECTING THE ENVIRONMENT

In accordance with the *Environmental Management and Pollution Control Act 1994*, local government has an obligation to "use its best endeavours to prevent or control acts or omissions which cause or are capable of causing pollution." Click [here](#) for more information.

NOISE REGULATIONS

Click [here](#) for information with respect to noise nuisances in residential areas.

WASTE DISPOSAL

It is recommended that the developer liaise with the Council's City Resilience Unit regarding reducing, reusing and recycling materials associated with demolition on the site to minimise solid waste being directed to landfill.

Further information regarding waste disposal can also be found on the Council's [website](#).

FEES AND CHARGES

Click [here](#) for information on the Council's fees and charges.

DIAL BEFORE YOU DIG

Click [here](#) for dial before you dig information.



(Michael McClenahan)

Development Appraisal Planner

As signatory to this report, I certify that, pursuant to Section 55(1) of the Local Government Act 1993, I hold no interest, as referred to in Section 49 of the Local Government Act 1993, in matters contained in this report.



(Ben Ikin)

Senior Statutory Planner

As signatory to this report, I certify that, pursuant to Section 55(1) of the Local Government Act 1993, I hold no interest, as referred to in Section 49 of the Local Government Act 1993, in matters contained in this report.

Date of Report: 23 January 2023

Attachment(s):

Attachment B - CPC Agenda Documents

Attachment C - Planning Referral Officer Reports (Heritage, Development Engineering, and Stormwater)

Planning: #256392

Property

73A NEW TOWN ROAD NEW TOWN TAS 7008

People**Applicant ***

ERA Planning and Environment
Monica Cameron
Level 1, 125A Elizabeth Street
HOBART TAS 7000
0400712023
monica@eraplanning.com.au

Owner *

Director of Housing, Housing Tasmania

C/- Chris Jacobson, Fairbrother
59 Sandy Bay Road
BATTERY POINT TAS 7004
0411877286
cjacobson@fairbrother.com.au

Entered By

MONICA CAMERON
0400 712 023
monica@eraplanning.com.au

Use

Multiple dwellings

Details

Have you obtained pre application advice?

☒ Yes

If YES please provide the pre application advice number eg PAE-17-xx

Are you applying for permitted visitor accommodation as defined by the State Government Visitor Accommodation Standards? Click on help information button for definition. If you are not the owner of the property you MUST include signed confirmation from the owner that they are aware of this application. *

☒ No

Is the application for SIGNAGE ONLY? If yes, please enter \$0 in the cost of development, and you must enter the number of signs under Other Details below. *

☒ No

If this application is related to an enforcement action please enter Enforcement Number

Details

What is the current approved use of the land / building(s)? *

Sports and recreation

Please provide a full description of the proposed use or development (i.e. demolition and new dwelling, swimming pool and garage) *

Three storey development comprising multiple dwellings. Refer to attached supporting documentation.

Estimated cost of development *

6700000.00

Existing floor area (m2)

Proposed floor area (m2)

636.00

Site area (m2)

1849

Carparking on Site

Total parking spaces

12

Existing parking spaces

0

N/A

☒ Other (no selection chosen)

Other Details

Does the application include signage? *

☐ No

How many signs, please enter 0 if there are none involved in this application? *

0

Tasmania Heritage Register

Is this property on the Tasmanian Heritage Register?

☐ No

Documents

Required Documents

Title (Folio text and Plan and Appendix B_Certificates of Titles.pdf
Schedule of Easements) *

Plans (proposed, existing) * Appendix C_Architectural plans_22 Apr 2022.pdf

GM or Crown consent Appendix A_Land Owner Consent_DCT.pdf

Covering Letter Appendix H_Centacare letter_5 Apr 2022.pdf

Supporting Documents

Concept Servicing Plan Appendix F_Rare cover letter_25 Mar 2022.pdf

Concept Servicing Plan Appendix F_Civil infrastructure concept design_24 Mar 2022.pdf

Traffic Impact Assessment Appendix E_Traffic Impact Assessment V2_5 May 2022.pdf

Planning Report Supporting planning report_73a New Town Road, New Town_Final_6.5.22.pdf

Heritage Report Appendix G_Heritage Impact Assessment_16 Mar 2022.pdf

Geotechnical Report Appendix D_Geotechnical Report V02_Feb 2022.pdf



Submission to Planning Authority Notice

Council Planning Permit No.	PLN-22-282	Council notice date	5/09/2022
TasWater details			
TasWater Reference No.	TWDA 2022/00684-HCC	Date of response	27/10/2022
TasWater Contact	Anthony Cengia	Phone No.	0474 933 293
Response issued to			
Council name	CITY OF HOBART		
Contact details	coh@hobartcity.com.au		
Development details			
Address	73A NEW TOWN RD, NEW TOWN	Property ID (PID)	5515409
Description of development	Demolition, 22 Multiple Dwellings, Front Fencing, and Associated Works		
Schedule of drawings/documents			
Prepared by	Drawing/document No.	Revision No.	Date of Issue
Philp Lighton	092.21144 Sheets DA02, DA10, DA11, DA12, DA14, DA15	C	17/10/2022
Philp Lighton	092.21144 Sheets DA09, DA15, DA16, DA17	B	17/10/2022
Rare	220008 Sheets C501, C601	3	11/10/2022
Rare	220008 Sheet C701	4	11/10/2022
Conditions			
SUBMISSION TO PLANNING AUTHORITY NOTICE OF PLANNING APPLICATION REFERRAL			
Pursuant to the <i>Water and Sewerage Industry Act 2008</i> (TAS) Section 56P(1) TasWater imposes the following conditions on the permit for this application:			
CONNECTIONS, METERING & BACKFLOW			
<ol style="list-style-type: none"> 1. A suitably sized water supply with metered connection and sewerage system and connection to the development must be designed and constructed to TasWater's satisfaction and be in accordance with any other conditions in this permit. 2. Any removal/supply and installation of water meters and/or the removal of redundant and/or installation of new and modified property service connections must be carried out by TasWater at the developer's cost. 3. Prior to commencing construction/use of the development, any water connection utilised for construction/the development must have a backflow prevention device and water meter installed, to the satisfaction of TasWater. 			
DEVELOPMENT ASSESSMENT FEES			
<ol style="list-style-type: none"> 4. The applicant or landowner as the case may be, must pay a development assessment fee of \$723.84 to TasWater, as approved by the Economic Regulator and the fee will be indexed, until the date paid to TasWater. The payment is required within 30 days of the issue of an invoice by TasWater. 			



Advice

Water Sub Metering

As of July 1 2022, TasWater's Sub-Metering Policy no longer permits TasWater sub-meters to be installed for new developments. Please ensure plans submitted with the application for Certificate(s) for Certifiable Work (Building and/or Plumbing) reflect this. For clarity, TasWater does not object to private sub-metering arrangements. Further information is available on our website (www.taswater.com.au) within our Sub-Metering Policy and Water Metering Guidelines.

General

For information on TasWater development standards, please visit <https://www.taswater.com.au/building-and-development/technical-standards>

For application forms please visit <https://www.taswater.com.au/building-and-development/development-application-form>

Service Locations

Please note that the developer is responsible for arranging to locate the existing TasWater infrastructure and clearly showing it on the drawings. Existing TasWater infrastructure may be located by a surveyor and/or a private contractor engaged at the developers cost to locate the infrastructure.

- (a) A permit is required to work within TasWater's easements or in the vicinity of its infrastructure. Further information can be obtained from TasWater.
- (b) TasWater has listed a number of service providers who can provide asset detection and location services should you require it. Visit www.taswater.com.au/Development/Service-location for a list of companies.
- (c) Sewer drainage plans or Inspection Openings (IO) for residential properties are available from your local council.

Declaration

The drawings/documents and conditions stated above constitute TasWater's Submission to Planning Authority Notice.

TasWater Contact Details

Phone	13 6992	Email	development@taswater.com.au
Mail	GPO Box 1393 Hobart TAS 7001	Web	www.taswater.com.au



**092.21144 FAIRBROTHER
TOWNHOUSE DEVELOPMENT
73A NEW TOWN ROAD NEW TOWN**



PhilpLighton Architects

Print Date 04.05.22 11:41am

REV B

DA00



SITE INFORMATION

ADDRESS 73a NEW TOWN ROAD NEW TOWN TAS 7008
CBOS NOMINATED PETER GAGGIN CC 997A
PHILP LIGHTON ARCHITECTS PTY LTD

SITE DETAILS

SITE AREA 1849m²
SITE COVERAGE 636m²
LOT NUMBER 1a
TITLE REFERENCE 205058-1
ZONING INNER RESIDENTIAL
OVERLAY HERITAGE PRECINCT
LOCAL AUTHORITY HOBART CITY COUNCIL

APARTMENTS

11 x 1 BED APARTMENTS
11 x 2 BED APARTMENTS
22 TOTAL

PARKING

12 TOTAL

DRAWING LIST

DA00	COVER
DA01	LOCATION PLAN
DA02	SITE PLAN
DA03	IMAGE 01
DA04	IMAGE 02
DA05	IMAGE 03
DA06	LEVEL 00 LANDSCAPE
DA07	LEVEL 02 LANDSCAPE
DA08	SITE CROSS SECTIONS
DA09	EXISTING PLAN
DA10	LEVEL 00
DA11	LEVEL 01
DA12	LEVEL 02
DA13	ROOF PLAN
DA14	SECTIONS
DA15	ELEVATIONS
DA16	ELEVATIONS
DA17	ELEVATIONS
DA18	SHADOW DIAGRAM EXIST 9AM - 21 JUNE
DA19	SHADOW DIAGRAM EXIST 10AM - 21 JUNE
DA20	SHADOW DIAGRAM EXIST 11AM - 21 JUNE
DA21	SHADOW DIAGRAM EXIST 12PM - 21 JUNE
DA22	SHADOW DIAGRAM EXIST 1PM - 21 JUNE
DA23	SHADOW DIAGRAM EXIST 2PM - 21 JUNE
DA24	SHADOW DIAGRAM EXIST 3PM - 21 JUNE
DA25	SHADOW DIAGRAM EXIST 9AM - 21 MAR&SEPT
DA26	SHADOW DIAGRAM EXIST 10AM - 21 MAR&SEPT
DA27	SHADOW DIAGRAM EXIST 11AM - 21 MAR&SEPT
DA28	SHADOW DIAGRAM EXIST 12PM - 21 MAR&SEPT
DA29	SHADOW DIAGRAM EXIST 1PM - 21 MAR&SEPT
DA30	SHADOW DIAGRAM EXIST 2PM - 21 MAR&SEPT
DA31	SHADOW DIAGRAM EXIST 3PM - 21 MAR&SEPT
DA32	SHADOW DIAGRAM 9AM - 21 JUNE
DA33	SHADOW DIAGRAM 10AM - 21 JUNE
DA34	SHADOW DIAGRAM 11AM - 21 JUNE
DA35	SHADOW DIAGRAM 12PM - 21 JUNE
DA36	SHADOW DIAGRAM 1PM - 21 JUNE
DA37	SHADOW DIAGRAM 2PM - 21 JUNE
DA38	SHADOW DIAGRAM 3PM - 21 JUNE
DA39	SUNLIGHT & SHADOW DIAGRAMS JUNE 21 (WINTER) EAST FACING
DA40	SUNLIGHT & SHADOW DIAGRAMS JUNE 21 (WINTER) EAST FACING
DA41	SUNLIGHT & SHADOW DIAGRAMS JUNE 21 (WINTER) WEST FACING
DA42	SUNLIGHT & SHADOW DIAGRAMS JUNE 21 (WINTER) WEST FACING
DA43	SUNLIGHT & SHADOW DIAGRAMS SEPT 21 (SPRING) EAST FACING
DA44	SHADOW DIAGRAM 9AM - MARCH & SEPT
DA45	SHADOW DIAGRAM 10AM - MARCH & SEPT
DA46	SHADOW DIAGRAM 11AM - MARCH & SEPT
DA47	SHADOW DIAGRAM 12PM - MARCH & SEPT
DA48	SHADOW DIAGRAM 1PM - MARCH & SEPT
DA49	SHADOW DIAGRAM 2PM - MARCH & SEPT
DA50	SHADOW DIAGRAM 3PM - MARCH & SEPT
DA51	SUNLIGHT & SHADOW DIAGRAMS SEPT 21 (SPRING) WEST FACING
DA52	SUNLIGHT & SHADOW DIAGRAMS DEC 21 (SUMMER) EAST FACING
DA53	SUNLIGHT & SHADOW DIAGRAMS DEC 21 (SUMMER) WEST FACING
DA54	DETAIL FLOOR PLANS
DA56	PARKING ACCESS
DA57	PARKING ACCESS
DA90	BYCICLE PARKING
DA93	NEW TOWN ROAD STREET MONTAGE

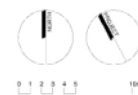
**092.21144 FAIRBROTHER
TOWNHOUSE DEVELOPMENT
73A NEW TOWN ROAD NEW TOWN**



PhilpLighton Architects

Print Date 17.10.22 2:50pm

REV C DA01



Scale 1: 200 @ A1 Print Date Project 092.21144
1: 400 @ A3 17.10.22 2:50pm
Drawing No **DA02** Rev **C**
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VIEW ALONG PAVIOUR STREET


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www.fairbrother.com.au

PhilpLighton Architects
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hobart@philplighton.com.au
HOBART / LAunceston

FAIRBROTHER
TOWNHOUSE DEVELOPMENT
73A NEW TOWN ROAD
NEW TOWN TAS 7008

IMAGE 01

Scale	NTS	© All Rights Reserved	Project	602 21144
Drawing No	DA03	Rev	B	

Architectural Services Pty Ltd is a registered architect (No. 12144) and a registered landscape architect (No. 12144).



VIEW WITHIN SITE TOWARD
SUNNYSIDE ROAD


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**FAIRBROTHER
TOWNHOUSE DEVELOPMENT**
73A NEW TOWN ROAD
NEW TOWN TAS 7008

IMAGE 02

Scale	NTS	@ A1	Print Date	06/02/22 11:42am	Project	002.21144
Drawing No	DA04			Rev	B	

Architect: David Fairbrother, Registered Architect (1988) David Lighton, Registered Architect (1998)



VIEW FROM SUNNYSIDE RD TOWARD
THE SITE



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TOWNHOUSE DEVELOPMENT
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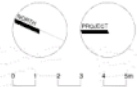
IMAGE 03

Scale NTS @ A1 Print Date 06/02/22 11:42am Project 602.21144
Drawing No DA05 Rev B
Architectural Services Pty Ltd is a registered architect (No. 12148) under the Architects Act 1997.



SYMBOL	ITEM	IMAGE	NOTES
	<i>Asar-Japonicum 'Yodofur'</i> Japanese Maple		Mature Size: 5 x 5m Species: <i>Japonicum</i> Foliage: Deciduous Units: 2 NOTE: 35 per site, to be maintained and protected during construction
	<i>Prunus Bixana</i> Purple Leaf Gum		Mature Size: 5 x 3m Species: <i>X Bixana</i> Foliage: Deciduous Units: 6 NOTE: 35 per site, to be maintained and protected during construction
	<i>Nandina Domestica 'Nana'</i> Dwarf Sacred Bamboo		Mature Size: 0.6 x 0.6m Species: <i>Berberidaceae</i> Foliage: Ornamental Flower Units: approx. 260 Notes: 400 centres
	<i>Myoporum parvifolium</i> Creeping Boobies		Mature Size: 0.2 x 2m Species: <i>Myrsinaceae</i> Foliage: Evergreen Units: 12 Notes: 1000 centres
	<i>Lomandra Longifolia</i> Tankie		Mature Size: 0.6 x 0.6m Species: <i>Liliaceae</i> Foliage: Evergreen Units: approx. 90 Notes: 500 centres 300mm topsoil 75mm mulch
	<i>Juniperus Conferta</i> Emerald Sea Shore Juniper		Mature Size: 0.6 x 3m Species: <i>Cupressaceae</i> Foliage: Ornamental Units: ground cover - 180m ² Notes: 1000 centres
	Decorative Gravel River Pebbles		Size: 20 - 40mm Species: <i>Foliage:</i> Units: ground cover - 40m ²

LANDSCAPED AREAS
ASTROTURF: 10.8m²
PLANTED AREAS: 166m²
(EXCLUDES EMBANKMENT)
TOTAL: 177m²
PERCENTAGE OF SITE: 9.9%



PhilpLightham Architects

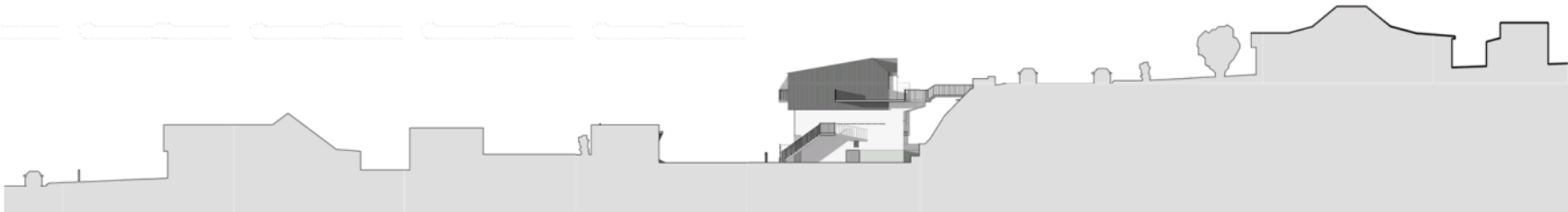
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LEVEL 00 LANDSCAPE

Scale 1:100 B-A1 Print Date Project 08/21/14
1:200 B-A3 17/10/22 B-09a
Drawing No DA06 Rev C



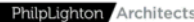


PAVOUR STREET ELEVATION



SUNNY SIDE ROAD ELEVATION


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SITE CROSS SECTIONS

Scale 1:200 B-A1 Print Date 17/10/22 Project 692.21144
Drawing No **DA08** Rev **B**



ALL NEW ROADS, CARPARKING AND PEDESTRIAN PATHS TO BE REVIEWED BY TRAFFIC ENGINEER

SITE PLAN LEGEND

--- PROPOSED SAP BOUNDARY
--- TITLE BOUNDARY

EXISTING BUILDING
PROPOSED BUILDING



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EXISTING PLAN

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1:400 @ A3 17/10/22 2:50pm
Drawing No **DA09** Rev **B**

Architects (Civil) - Hobart, Tasmania (01/10/2014) - Development Approval



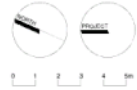
NOTES

THE LAYOUT OF CAR PARKING SPACES, ACCESS ALLEYS, CIRCULATION ROADWAYS AND RAMPERS WILL BE DETERMINED AND CONSTRUCTED TO COMPLY WITH SECTION 2.1.2 (LAYOUT OF PARKING SPACES), CIRCULATION ROADWAYS AND RAMPERS OF ASSESSMENT 1.2 (CAR PARKING) PART 1. OFF-STREET CAR PARKING AND MUST HAVE SUFFICIENT HEADROOM WITH A MINIMUM 2.1M HEADROOM OF THE SAME STANDARD.

LOCATION, HEIGHT, DISTANCE, WIDTH AND GRADIENT OF ALL ACCESS RAMPERS WILL BE DETERMINED AND CONSTRUCTED TO COMPLY WITH SECTION 2.1.2 (LAYOUT OF PARKING SPACES), CIRCULATION ROADWAYS AND RAMPERS OF ASSESSMENT 1.2 (CAR PARKING) PART 1. OFF-STREET CAR PARKING AND MUST HAVE SUFFICIENT HEADROOM WITH A MINIMUM 2.1M HEADROOM OF THE SAME STANDARD.



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FAIRBROTHER
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73A NEW TOWN ROAD
NEW TOWN TAS 7008

LEVEL 00

Scale 1:100 @ A1 Print Date Project 09/21/14
1:200 @ A3 17/02/22 2:51pm
Drawing No DA10 Rev C
Additional Notes: Hobart Approval No. 22146 Development Approval No.



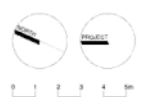
NOTES

THE LAYOUT OF CAR PARKING SPACES, ACCESS ALLEYS, CIRCULATION ROADWAYS AND RAMP WILL BE DETERMINED AND CONSTRUCTED TO COMPLY WITH SECTION 2.1.2.2. OF PARKING REGULATIONS, CIRCULATION ROADWAYS AND RAMP WILL BE DETERMINED AND CONSTRUCTED TO COMPLY WITH SECTION 2.1.2.2. OF PARKING REGULATIONS PART 1. OFF-STREET CAR PARKING AND MUST HAVE SUFFICIENT HEADROOM WITH 2.2. ABOVE ALL HEADROOM OF THE SAME STANDARD.

LOCATION, HEIGHT, DISTANCE, WIDTH AND GRADIENT OF ALL ACCESS RAMP WILL BE DETERMINED AND CONSTRUCTED TO COMPLY WITH SECTION 2.1.2.2. OF PARKING REGULATIONS PART 1. OFF-STREET CAR PARKING AND MUST HAVE SUFFICIENT HEADROOM WITH 2.2. ABOVE ALL HEADROOM OF THE SAME STANDARD.

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LEVEL 01

Scale 1:100 @ A1 Print Date 17/02/2023 Project 09221144
Drawing No **DA11** Rev **C**





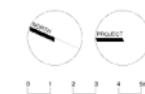
NOTES

THE LAYOUT OF CAR PARKING SPACES, ACCESS AISLES, CIRCULATION ROADWAYS AND RAMPS WILL BE DESIGNED AND CONSTRUCTED TO COMPLY WITH SECTION 3 - ACCESS FACILITIES FOR PEOPLE WITH PHYSICALLY LIMITING DISABILITIES, CIRCULATION ROADWAYS AND RAMPS OF ADOPTED 2893 1/2 2004 PARKING FACILITIES PART 1: OFF-STREET CAR PARKING AND MUST HAVE SUFFICIENT HEADROOM OF 20 FEET OR 6.1 "HEADROOM OF THE SAME STANDARD.

LOCATION, HEIGHT, DISTANCE, WIDTH AND GRADUITY OF AN OVERPASS SHALL BE DESIGNED AND CONSTRUCTED TO COMPLY WITH SECTION 3 - ACCESS FACILITIES TO OFF-STREET PARKING AREAS AND QUEUING AREAS, SPACES 2893 1/2 2004 PARKING FACILITIES PART 1: OFF-STREET CAR PARKING.



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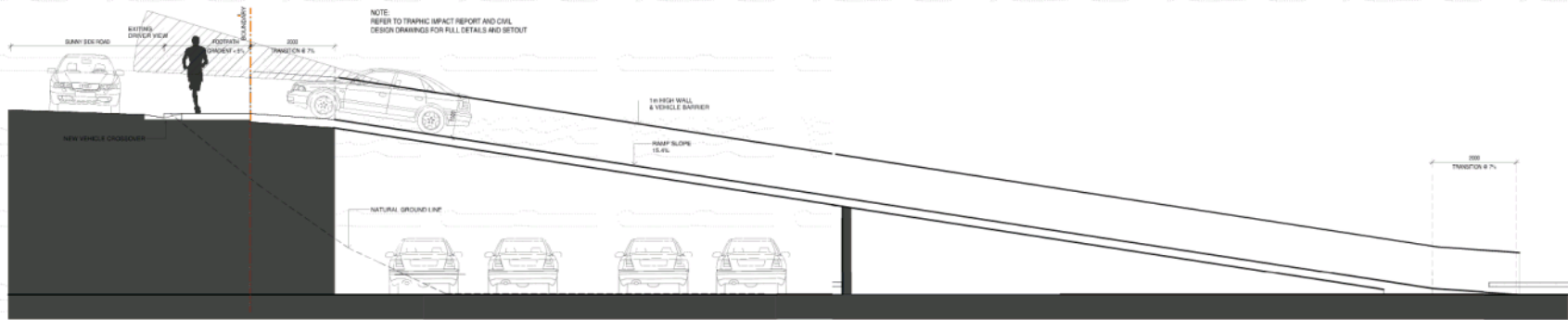
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ROOF PLAN

Scale 1 : 100 @ A1 Print Date 17.10.22 2:51pm Project 092.21144
Drawing No **DA13** Rev **B**

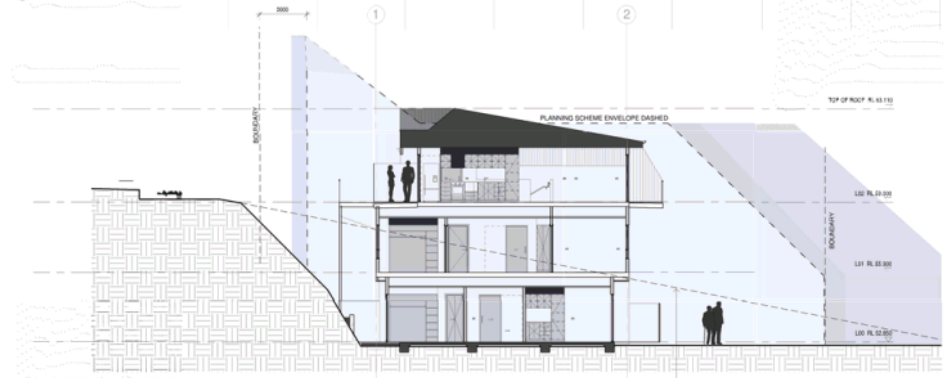


RAMP CROSS SECTION
1:50

Ramp Cross Section 02
1:50



SECTION A-A
1:100



SECTION B-B
1:100

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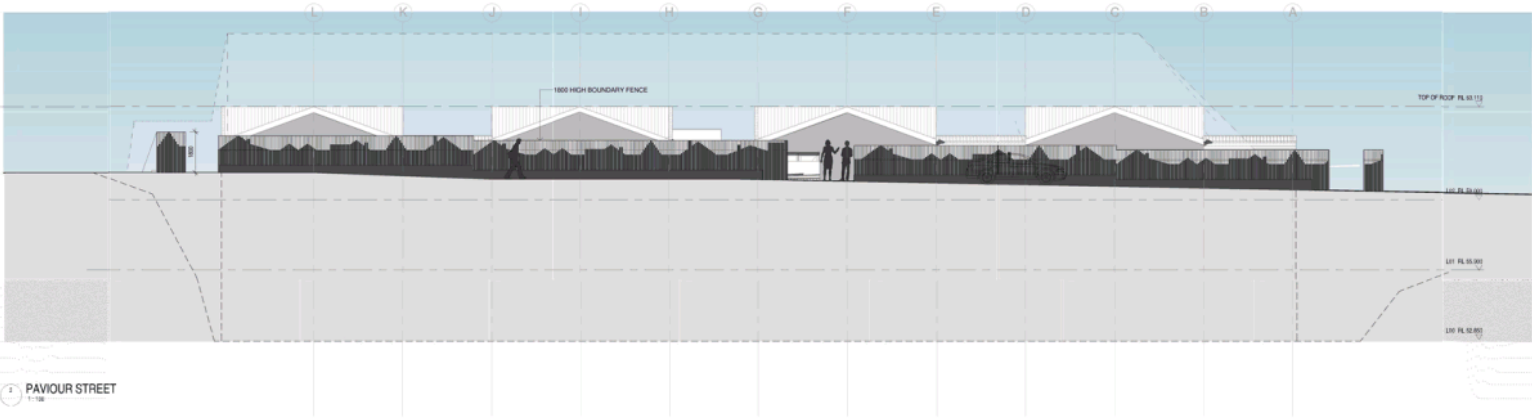
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SECTIONS

Scale As Indicated Print Date 1:300 @ A3 17/10/22 5:15pm Project 69221144

Drawing No **DA14** Rev **C**

Architect's Office - Hobart - Registered under the 2014 Development Approval Act



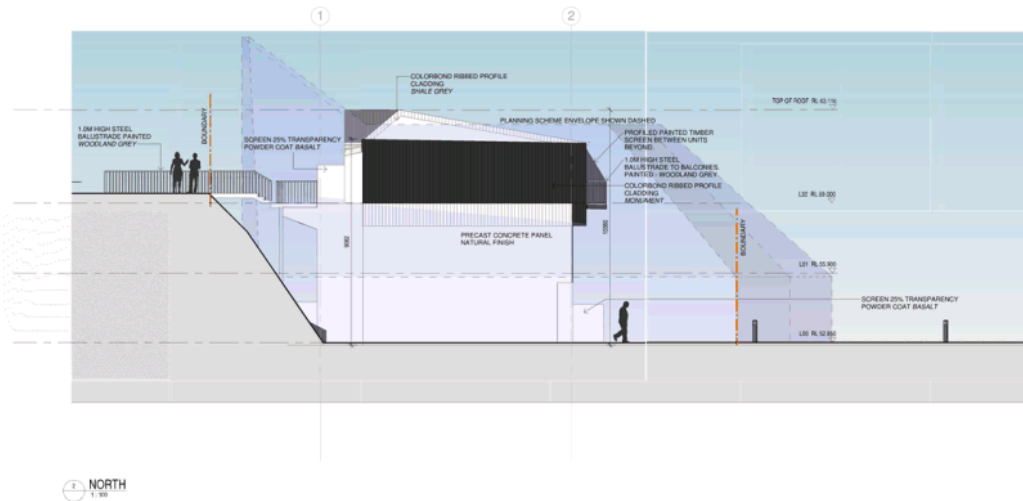
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ELEVATIONS

Scale 1:100 B-A1 Print Date Project 09/2/21/14
1:200 B-A2 17/02/22 \$515m
Drawing No DA15 Rev B
Architect (Civil) - Hobart Registered No. 21146 Development Approval No.



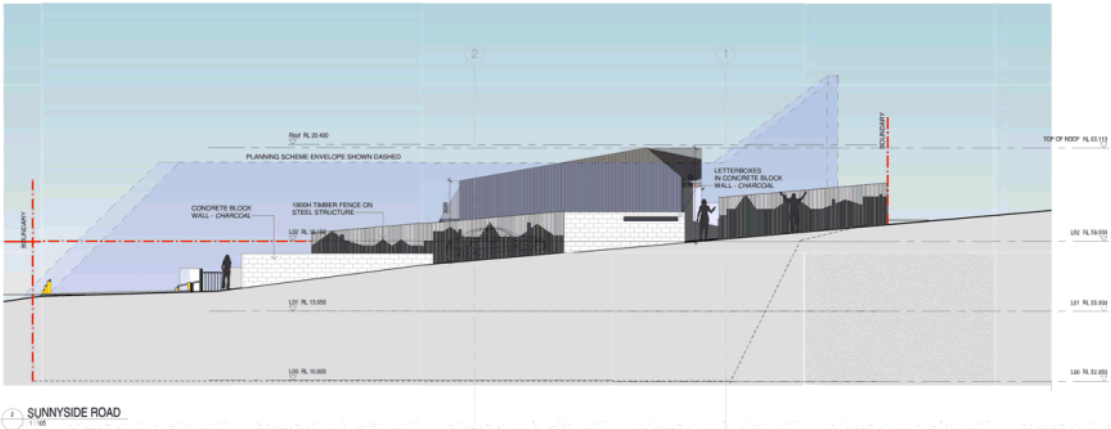
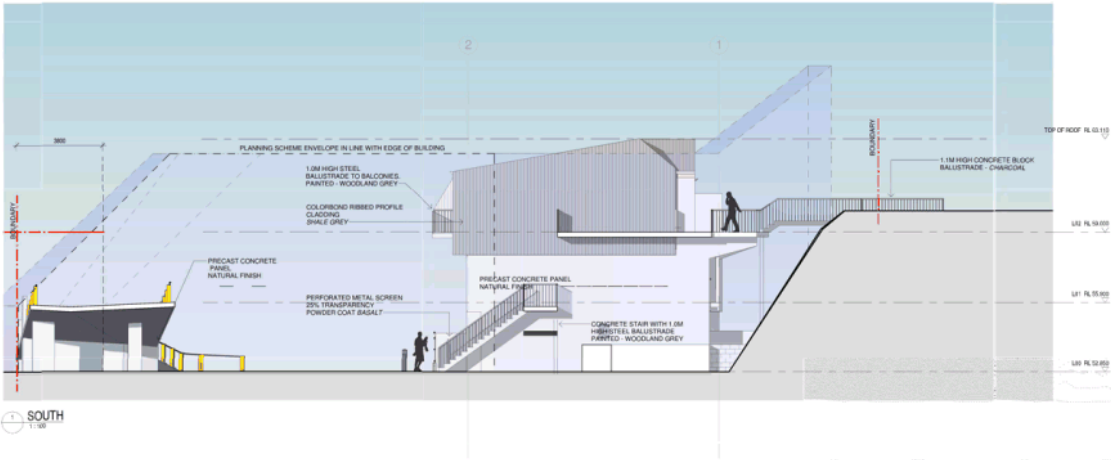
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ELEVATIONS

Scale 1:100 @ A1 Print Date Project 092.21144
1:200 @ A3 17.10.22 2:51pm
Drawing No **DA16** Rev **B**



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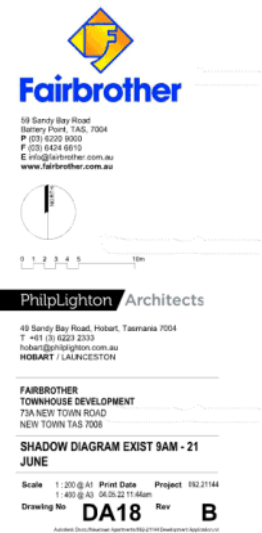
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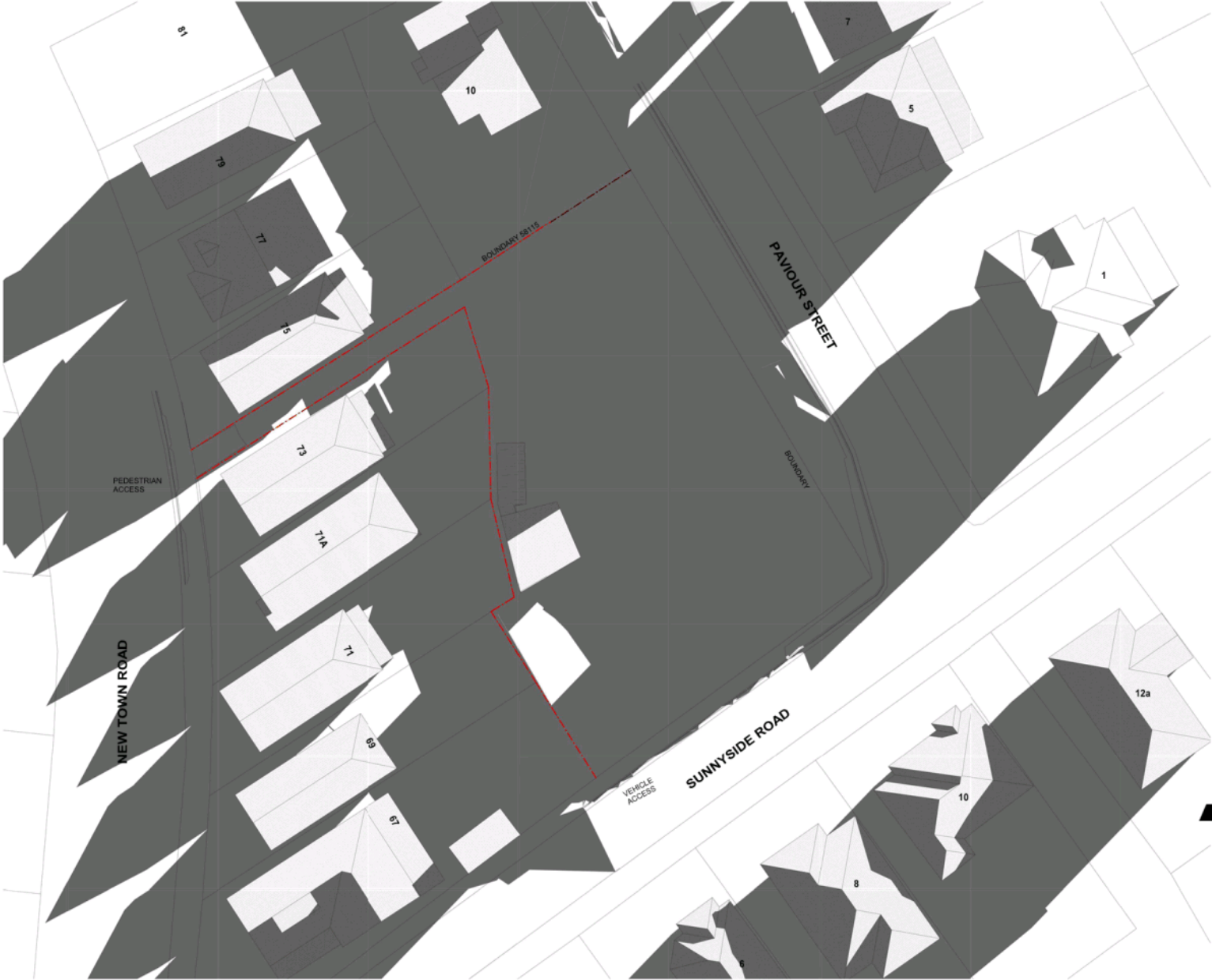
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ELEVATIONS

Scale 1:100 @ A1 Print Date Project 09/21/14
1:200 @ A3 17/10/22 2:45pm
Drawing No DA17 Rev B

Architectural Services Agreement 2014 (Architects) Approved by the Architects Board of Tasmania





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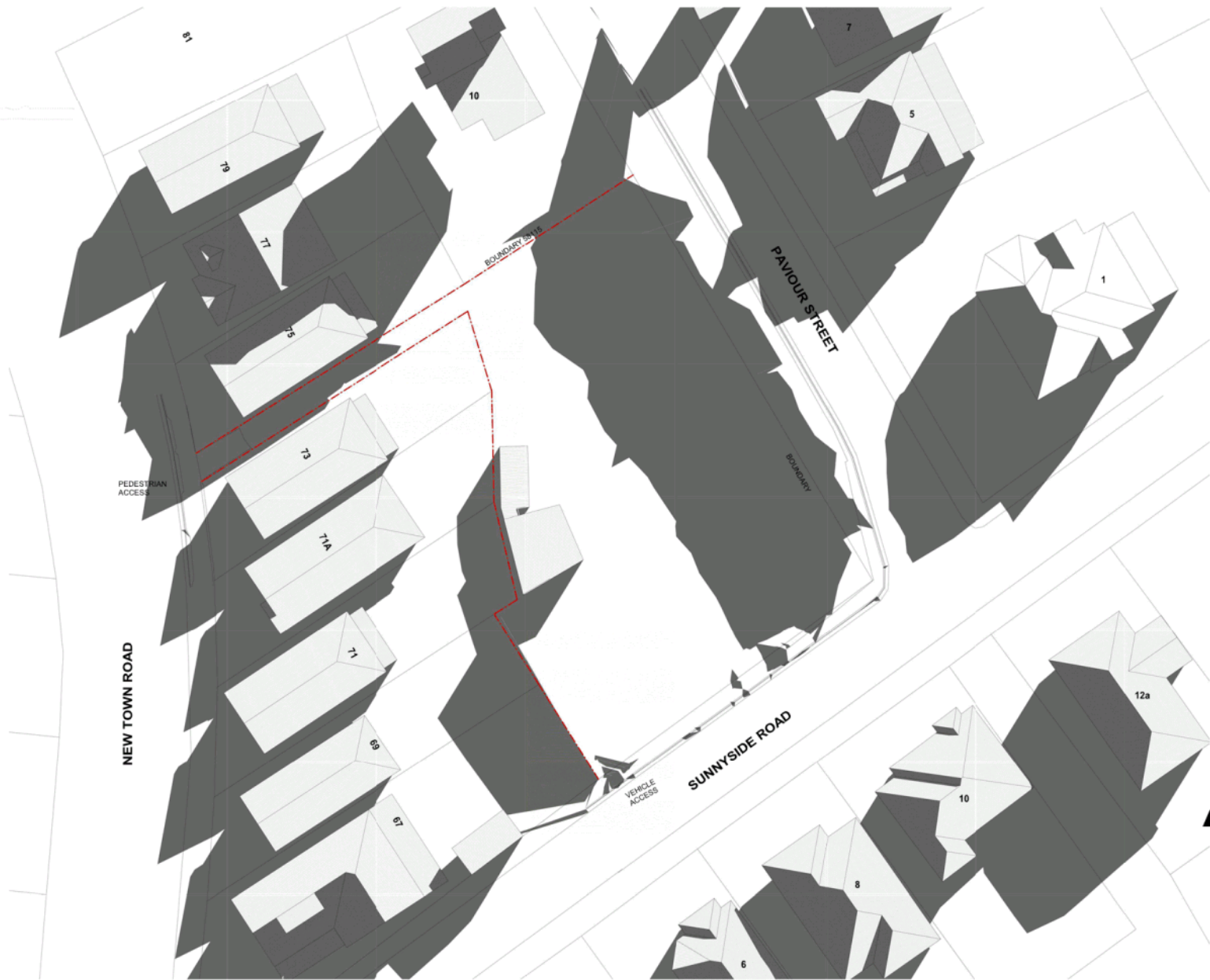
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SHADOW DIAGRAM EXIST 10AM - 21
JUNE

Scale 1:200 (G-1) Print Date Project 602.21144
1:400 (G-2) 06/02/22 11:46am

Drawing No DA19 Rev B

Architect: David Fairbrother, Registered Architect (0194) David Lighton, Registered Architect



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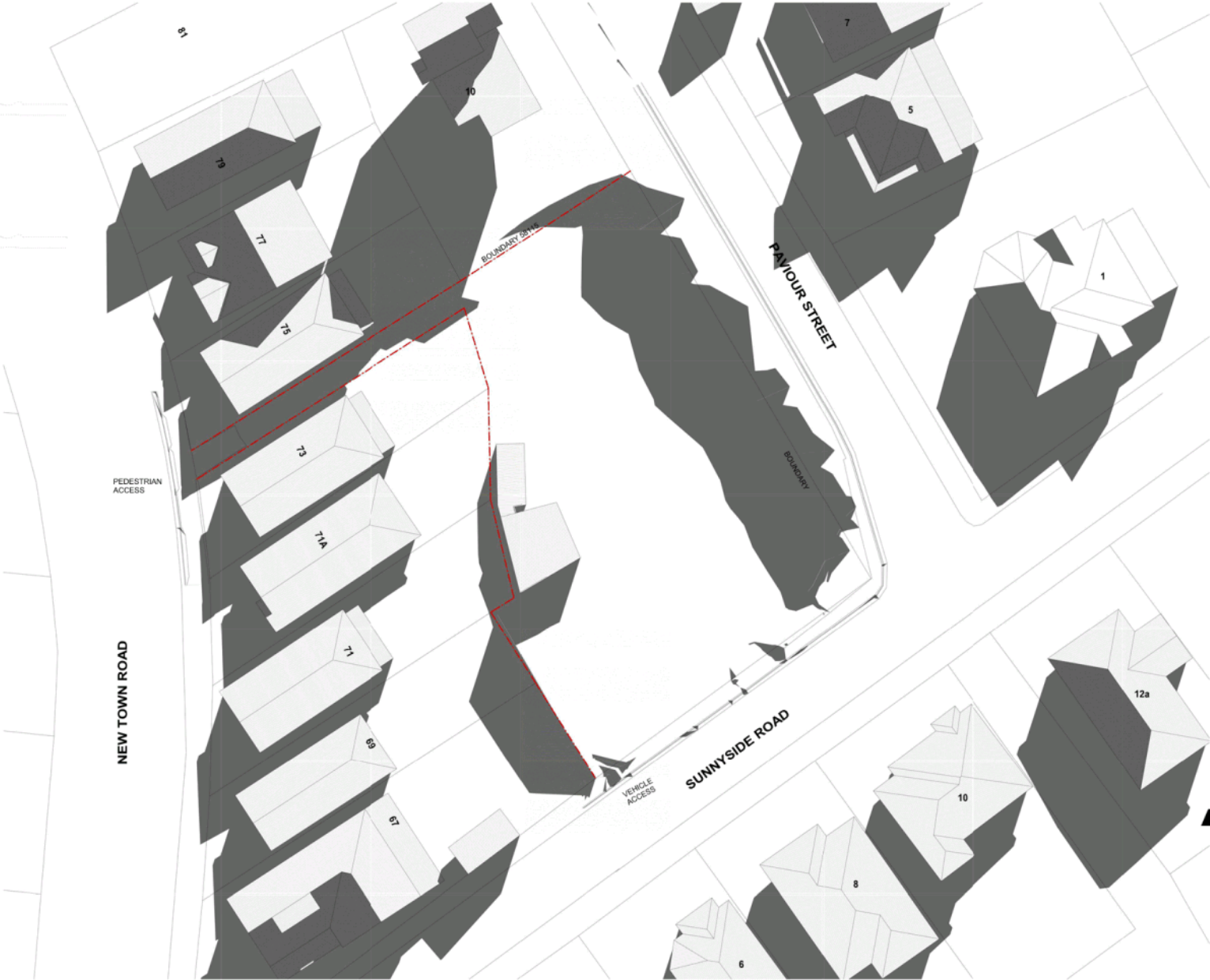
FAIRBROTHER
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SHADOW DIAGRAM EXIST 11AM - 21
JUNE

Scale 1:200 (A1) Print Date Project 602.21144
1:400 (A3) 06/20/22 11:46am

Drawing No DA20 Rev B

Architect: David Fairbrother, Registered Architect (01943) David Lighton, Registered Architect (01943)



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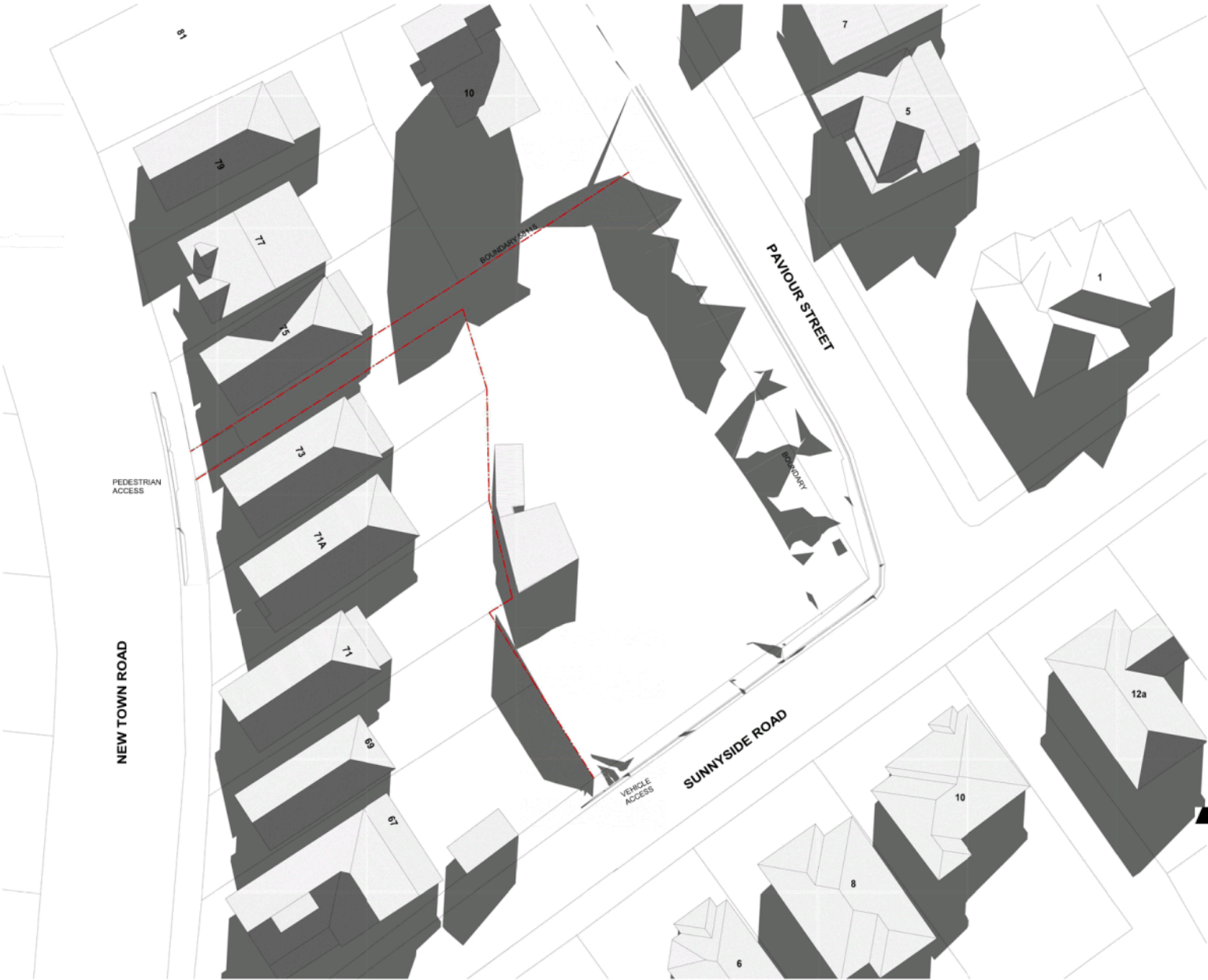
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SHADOW DIAGRAM EXIST 12PM - 21
JUNE

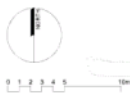
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1:400 (G+3) 06/05/22 11:46am

Drawing No DA21 Rev B

Architect: David Fairbrother, Registered Architect (1988) David Lighton, Registered Architect (1998)




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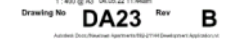
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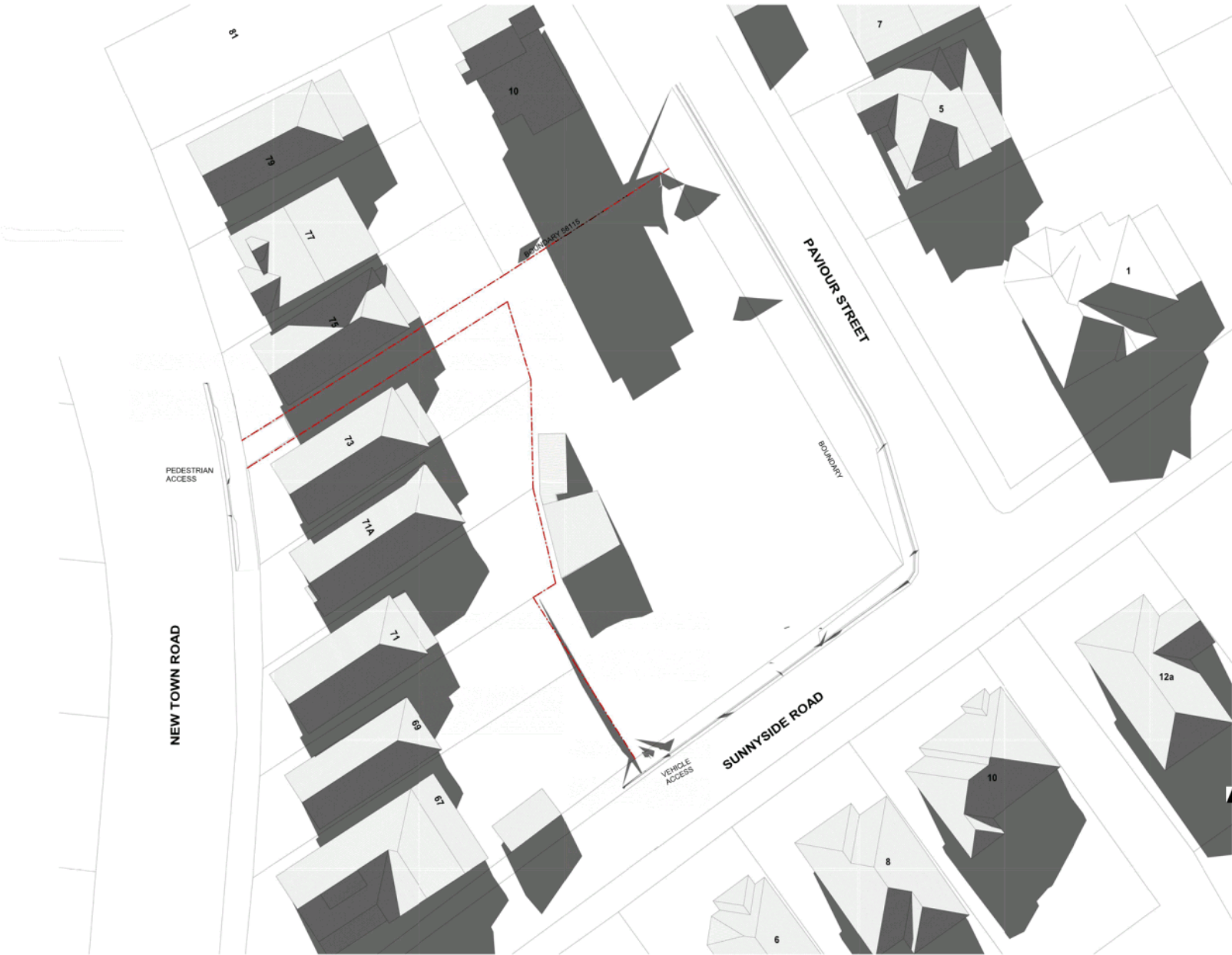
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**SHADOW DIAGRAM EXIST 1PM - 21
JUNE**

Scale 1:200 (G-A1) Print Date Project 692.21144
1:400 (G-A3) 06/05/22 11:46am
Drawing No **DA22** Rev **B**
Architect: David Fairbrother, Registered Architect (17148) David PhilpLighton, Registered Architect (17149)

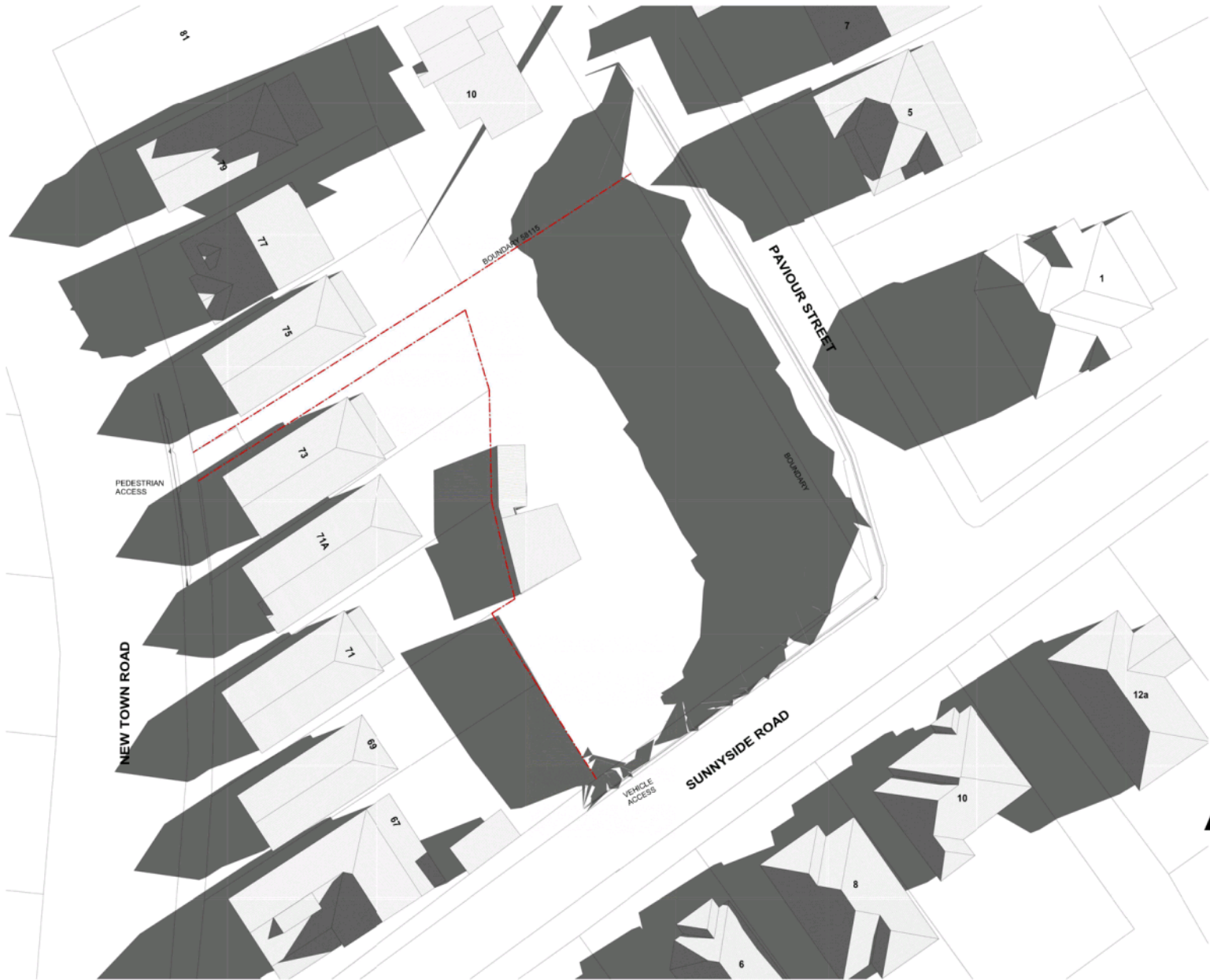




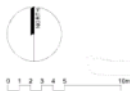

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SHADOW DIAGRAM EXIST 3PM - 21 JUNE
Scale 1:200 (G-41) Print Date Project 692.21144
1:400 (G-43) 06/05/22 11:05am
Drawing No **DA24** Rev **B**
Architect: David Fairbrother, Registered Architect (1988) David Lighton, Registered Architect (1998)




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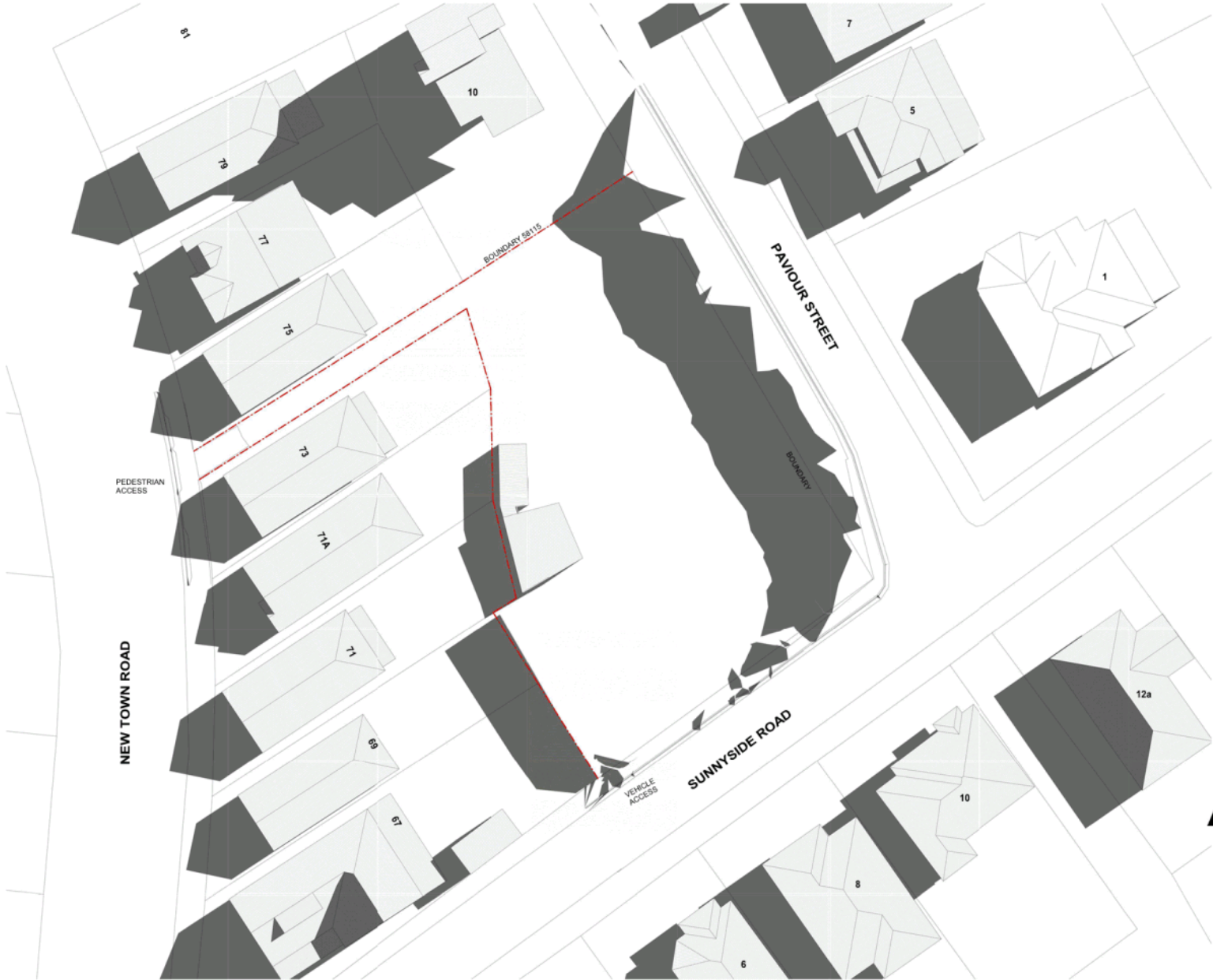
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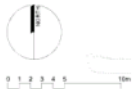
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**SHADOW DIAGRAM EXIST 9AM - 21
MAR&SEPT**

Scale 1:200 (G-A1) Print Date Project 092.21144
1:400 (G-A3) 06/20/22 11:05am
Drawing No **DA25** Rev **B**
Architect: David Fairbrother, registered architect (0148) David PhilpLighton, registered architect




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**SHADOW DIAGRAM EXIST 10AM - 21
MAR&SEPT**

Scale 1:200 (G-A1) Print Date Project 092.21144
1:400 (G-A3) 06/20/22 11:00am
Drawing No **DA26** Rev **B**
Architect: David Fairbrother, Registered Architect (0148) David Lighton, Registered Architect



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SHADOW DIAGRAM EXIST 11AM - 21
MAR&SEPT

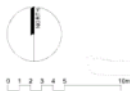
Scale 1:200 (S-A) Print Date Project 092.21144
1:400 (S-A) 06/05/22 11:00am

Drawing No **DA27** Rev **B**

Architect: Shire of Hobart, approved on 17/04/2022 (Shire of Hobart)




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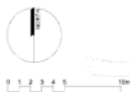
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**SHADOW DIAGRAM EXIST 12PM - 21
MAR&SEPT**

Scale 1:200 (G-A1) Print Date Project 002.21144
1:400 (G-A3) 06/05/22 11:00am
Drawing No **DA28** Rev **B**
Architect: David Fairbrother, Registered Architect (0148) David PhilpLighton, Registered Architect




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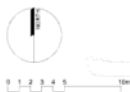
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SHADOW DIAGRAM EXIST 1PM - 21
MAR&SEPT

Scale 1:200 (A1) Print Date Project 002.21144
1:400 (A3) 06/05/22 11:00am
Drawing No **DA29** Rev **B**
Architect: David Fairbrother, Registered Architect (0000000000) (0000000000) (0000000000)




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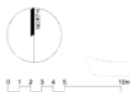
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**SHADOW DIAGRAM EXIST 2PM - 21
MAR&SEPT**

Scale 1:200 (G+1) Print Date Project 692.21144
1:400 (G+2) 06/02/22 01-08m
Drawing No **DA30** Rev **B**
Architect: David Fairbrother, registered architect (0148) David Lighton, registered architect




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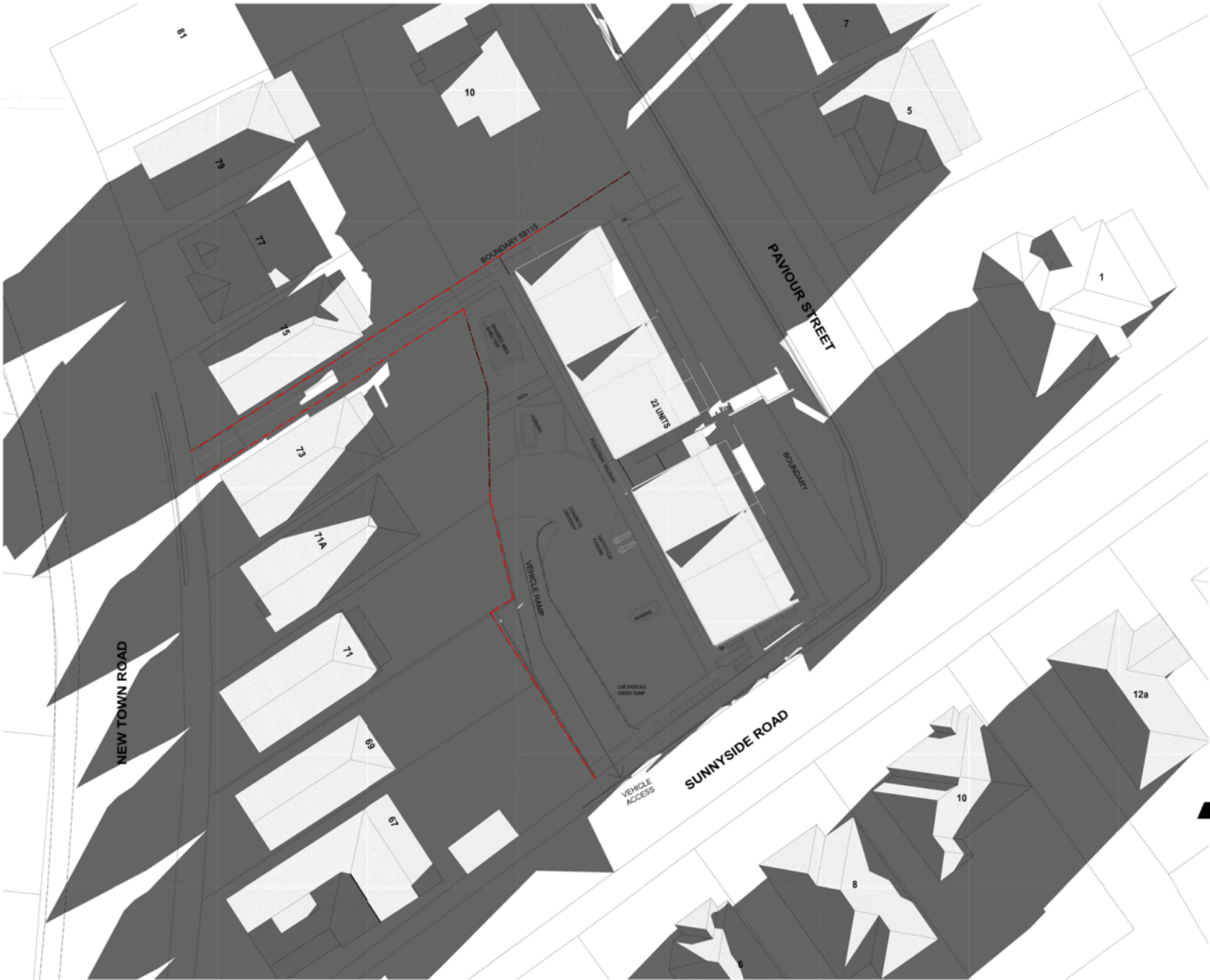
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**SHADOW DIAGRAM EXIST 3PM - 21
MAR&SEPT**

Scale 1:200 (G+1) Print Date Project 692.21144
1:400 (G+2) 06/05/22 01:00pm
Drawing No **DA31** Rev **B**

Architect: David Fairbrother, registered architect (01945) David Lighton, registered architect (01945)






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SHADOW DIAGRAM 10AM - 21 JUNE

Scale	1:200 (G-A1)	Print Date	Project
Drawing No	1:400 (G-A3)	Rev	B




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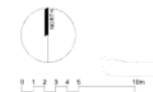
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SHADOW DIAGRAM 11AM - 21 JUNE

Scale 1:200 (A1) Print Date Project 692.21144
1:400 (A3) 06/20/22 11:47am
Drawing No **DA34** Rev **B**
Architect: David Macdonald, registered architect (1998) David Macdonald Architects Pty Ltd



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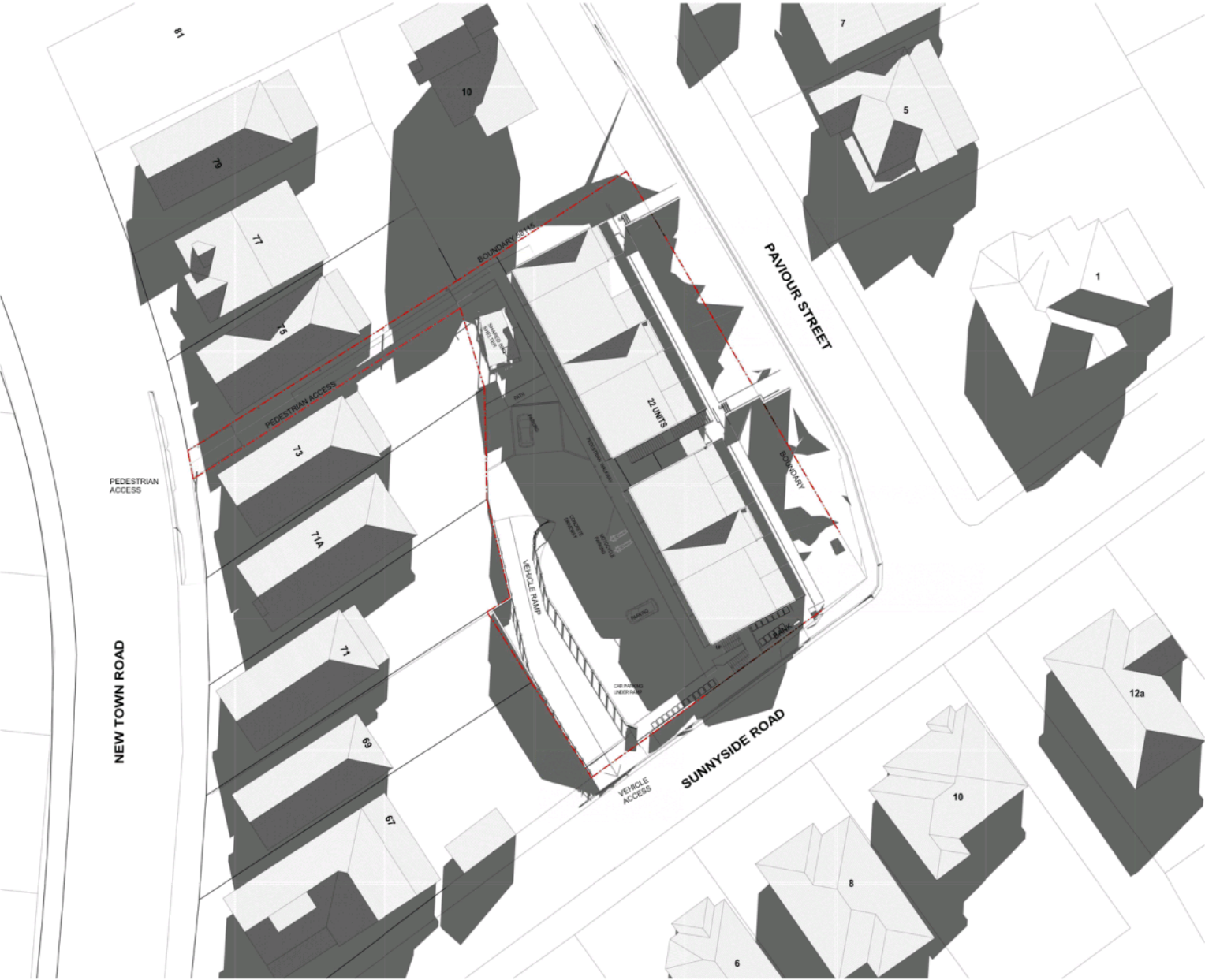
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SHADOW DIAGRAM 12PM - 21 JUNE

Scale 1:200 @ A1 Print Date Project 092.21144
1:400 @ A3 06.05.22 11:45am
Drawing No DA25 Rev B

Autodesk Docs/Bluebeam Apartments 950-27144 Development Application.




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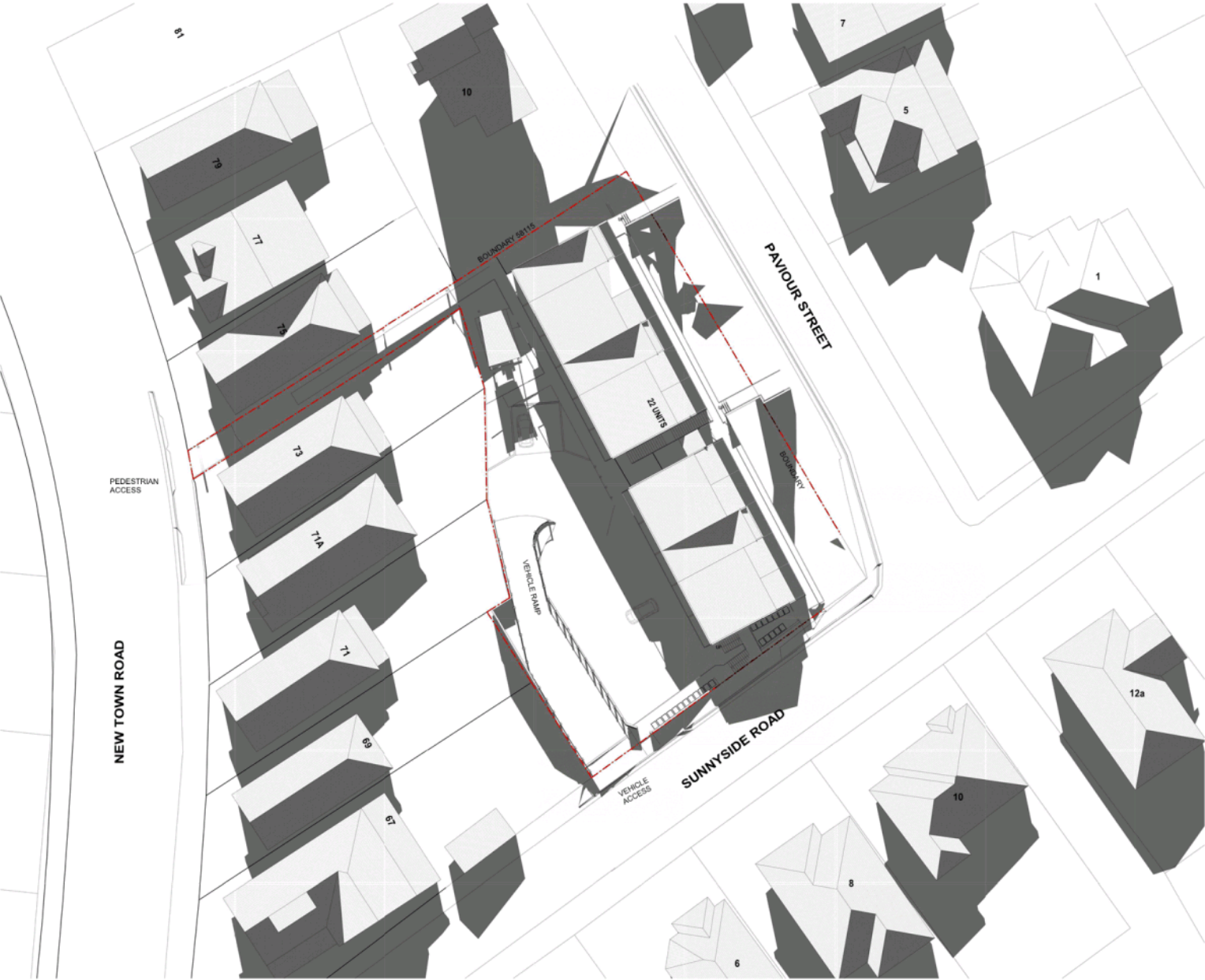
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SHADOW DIAGRAM 1PM - 21 JUNE

Scale 1:200 @ A1 Print Date Project 692.21144
1:400 @ A3 06/20/22 11:48am
Drawing No **DA36** Rev **B**

Architect: Shire of Hobart, approved on 14/04/2022 (Shire of Hobart)




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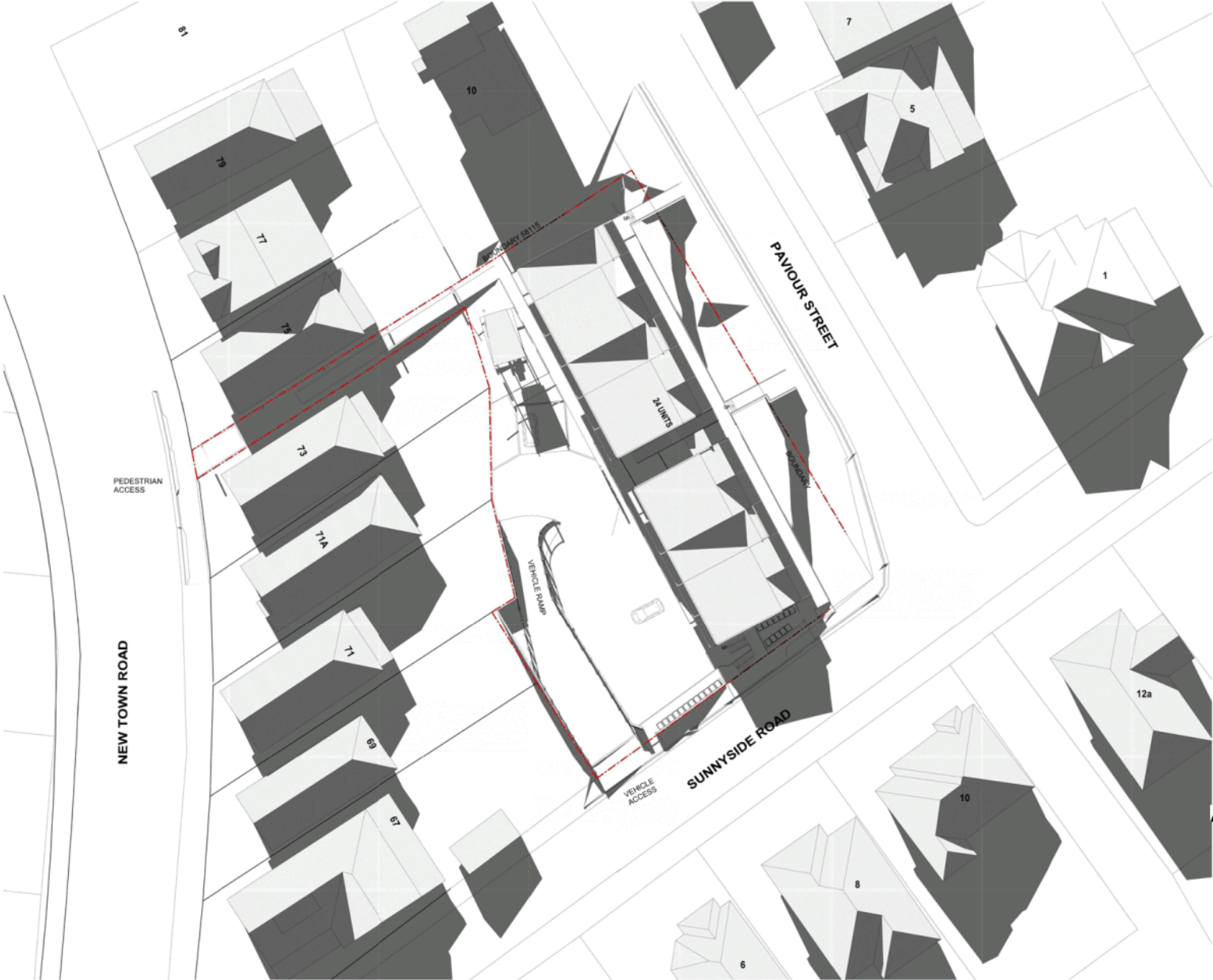
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HOBART / LAUNCESTON

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SHADOW DIAGRAM 2PM - 21 JUNE

Scale 1:200 @ A1 Print Date Project 692.21144
1:400 @ A3 06/02/22 11:00am
Drawing No **DA37** Rev **B**

Architect: David Macdonald, registered architect (21948) David Macdonald Architects Pty Ltd



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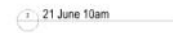
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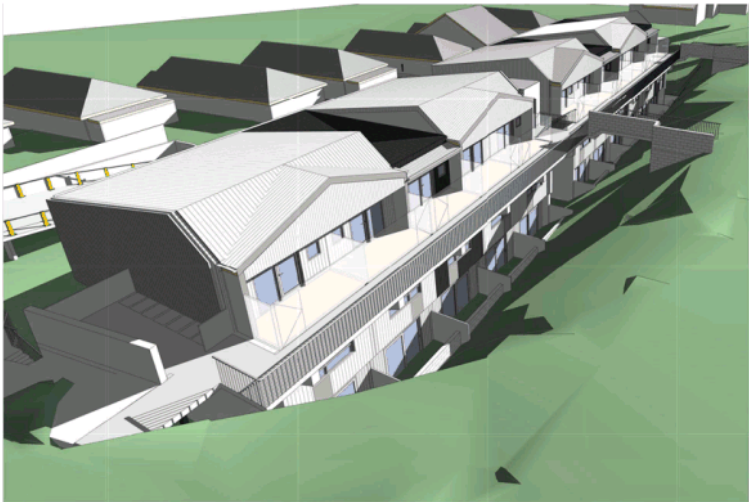
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SHADOW DIAGRAM 3PM - 21 JUNE

Scale 1:200 @ A1 Print Date Project 602.21144
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Drawing No DA38 Rev B
Architect David Fairbrother registered in the U.K. and the U.S.A.

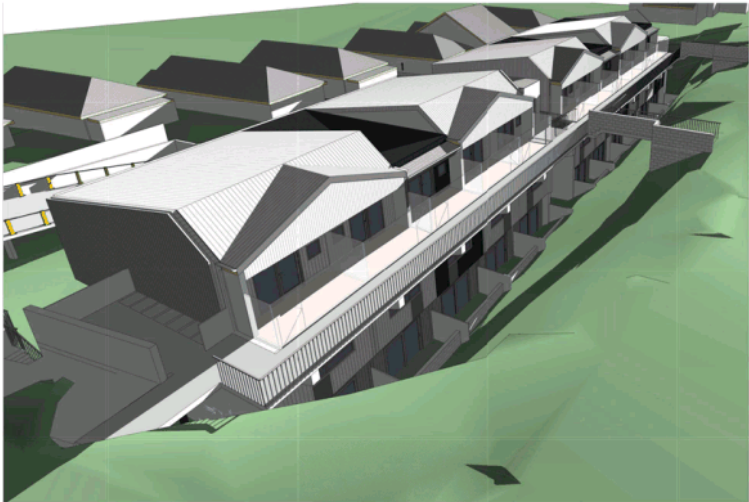




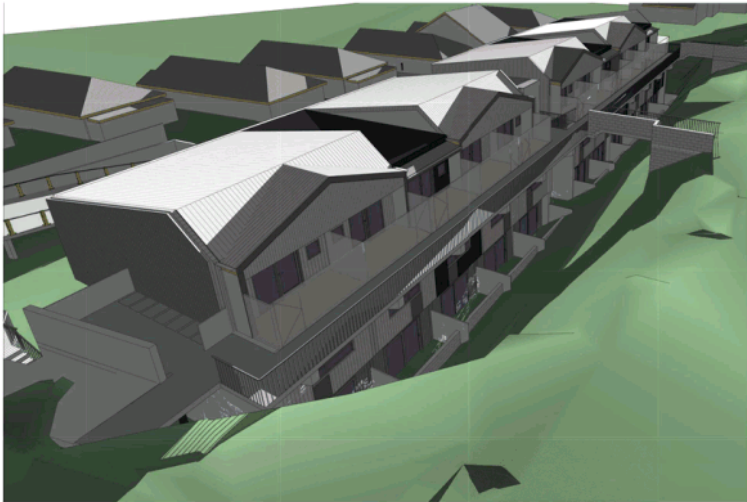
21 June 1pm (EAST)



21 June 2pm (EAST)



21 June 3pm (EAST)



21 June 4pm (EAST)

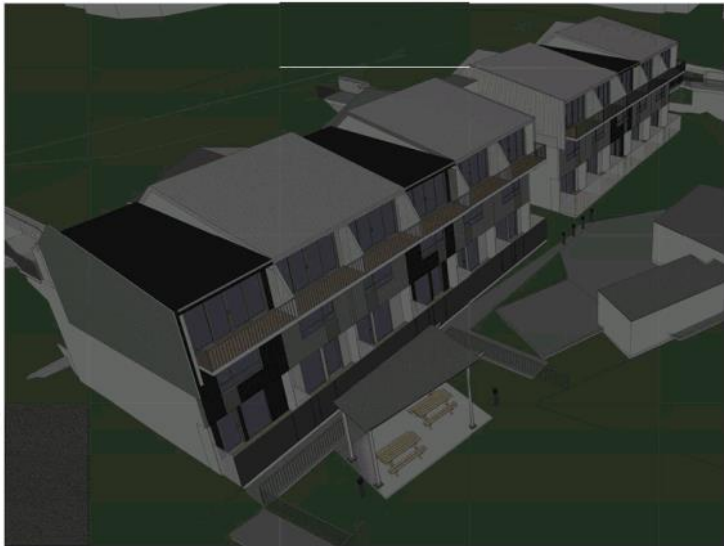

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**SUNLIGHT & SHADOW DIAGRAMS
JUNE 21 (WINTER) EAST FACING**

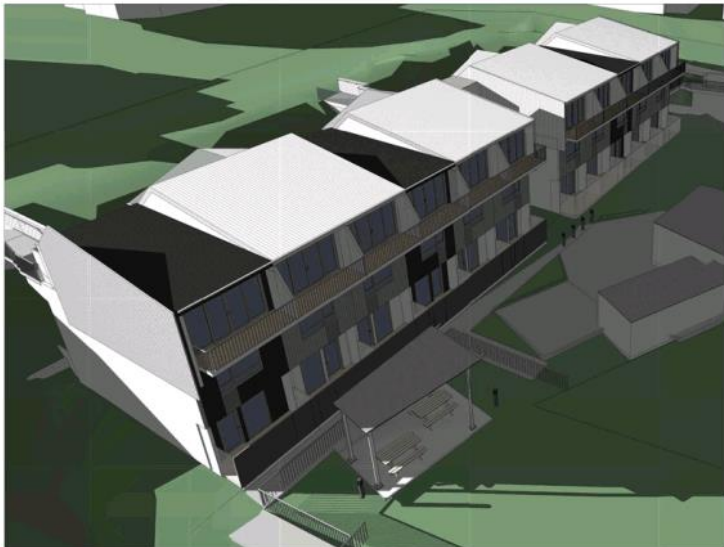
Scale NTS Print Date 06/05/22 11:51am Project 692.21144
Drawing No **DA40** Rev **B**
Architect: David Phillipson, Registered Architect (1998) (David Phillipson Architects Pty Ltd)



21 June 9am (WEST)



21 June 10am (WEST)



21 June 11am (WEST)



21 June 12noon (WEST)

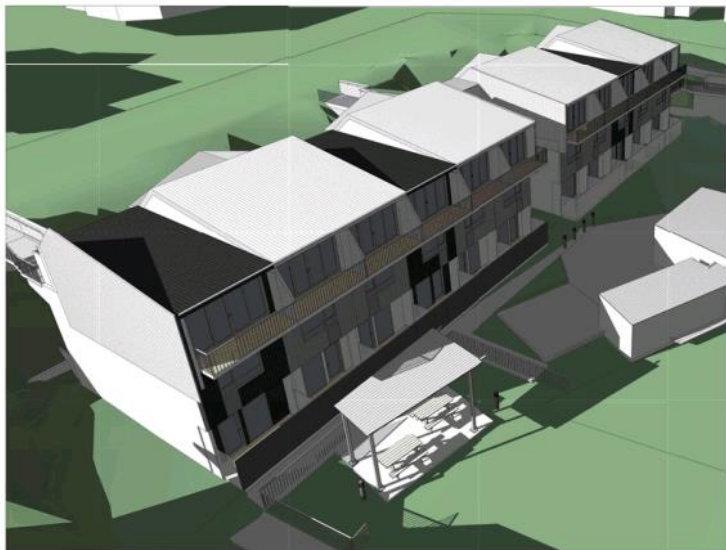

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**SUNLIGHT & SHADOW DIAGRAMS
JUNE 21 (WINTER) WEST FACING**

Scale	NTS	Print Date	06/05/23 11:32am	Project	192.21144
Drawing No	DA41	Rev	B		

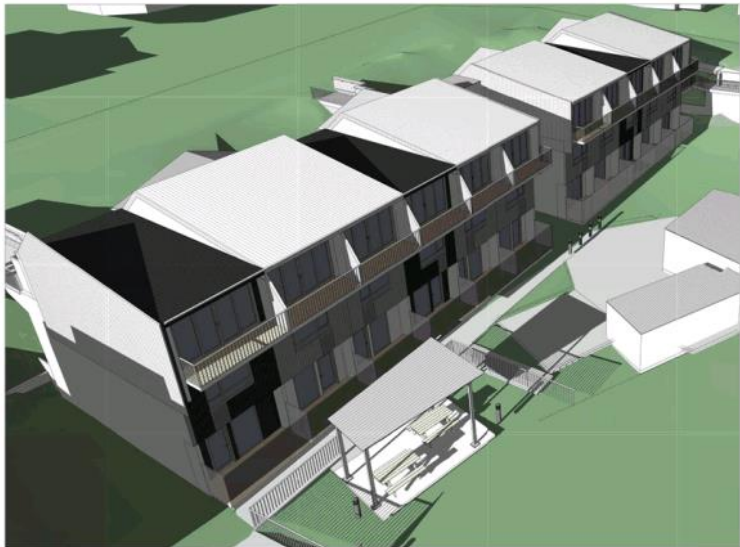
Architect: PhilpLighton Architects Pty Ltd (192.21144) (192.21144) (192.21144)



21 June 1pm (WEST)



21 June 2pm (WEST)



21 June 3pm (WEST)



21 June 4pm (WEST)


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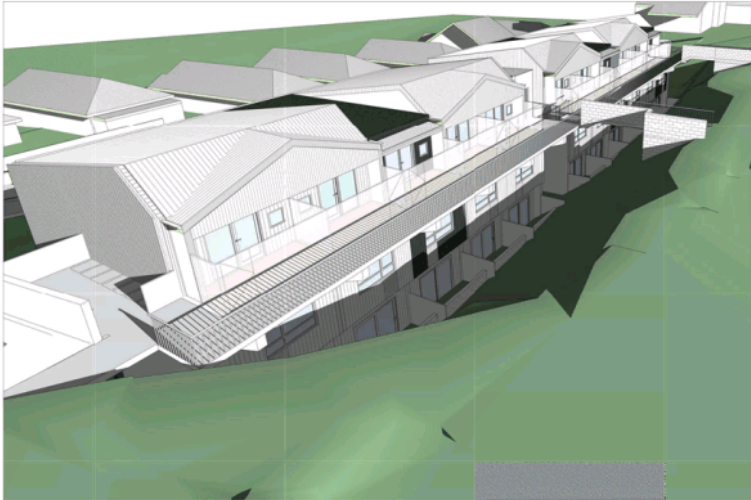
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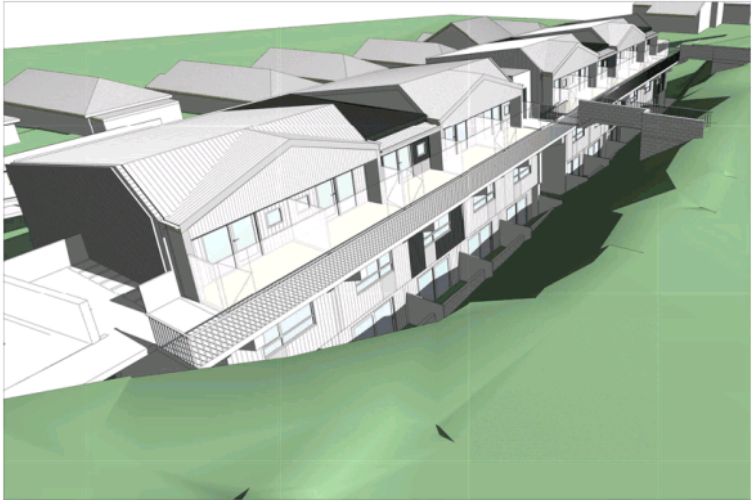
SUNLIGHT & SHADOW DIAGRAMS
JUNE 21 (WINTER) WEST FACING

Scale	NTS	Print Date	06/25/21 11:52am	Project	002 21144
Drawing No	DA42	Rev			B

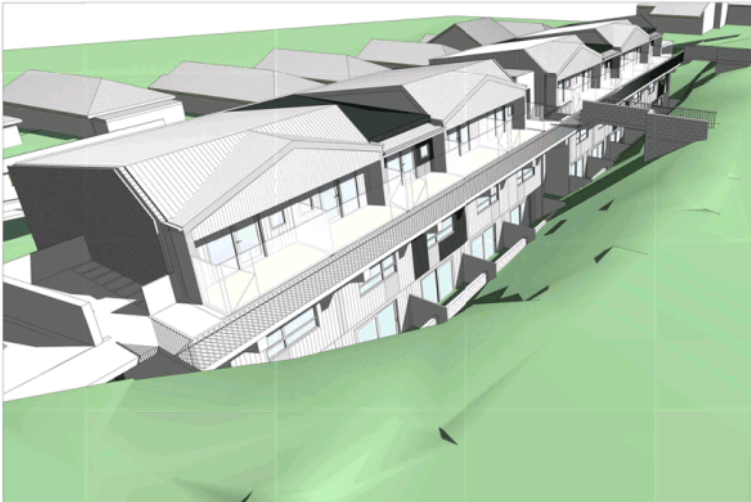
Architect: David Lighthon, Registered Architect (1988) David Lighthon Architects Pty Ltd



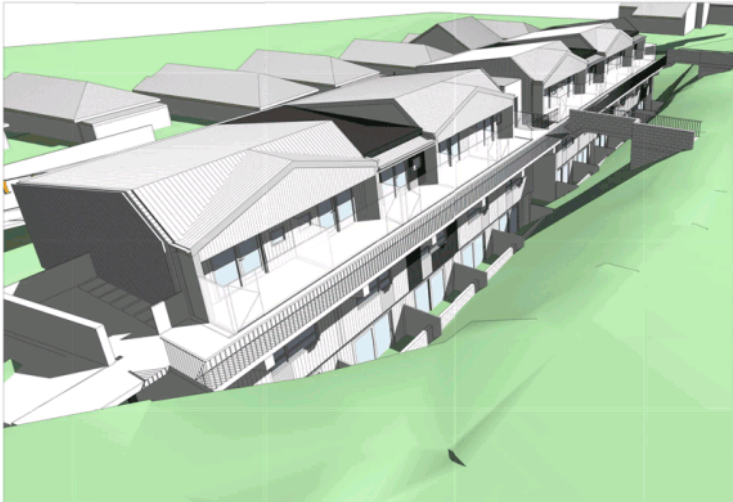
21 Sept 9am



21 Sept 10am



21 Sept 11am



21 Sept 12noon



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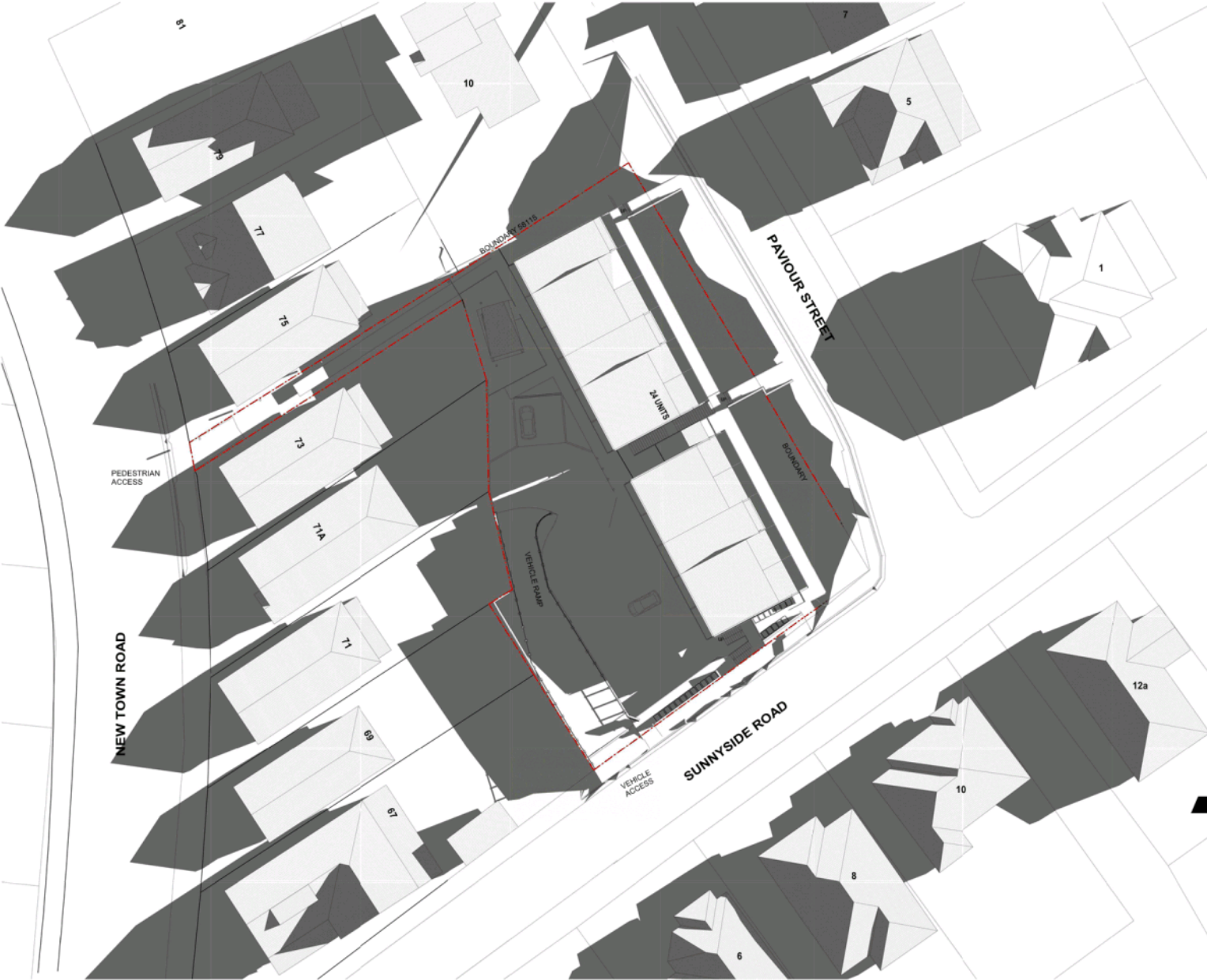
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**SUNLIGHT & SHADOW DIAGRAMS
SEPT 21 (SPRING) EAST FACING**

Scale	NTS	Print Date	06/09/22 11:53am	Project	692.21144
Drawing No	DA43	Rev	B		

Architect: David Fairbrother, Registered Architect (01488) David Fairbrother Architects Pty Ltd



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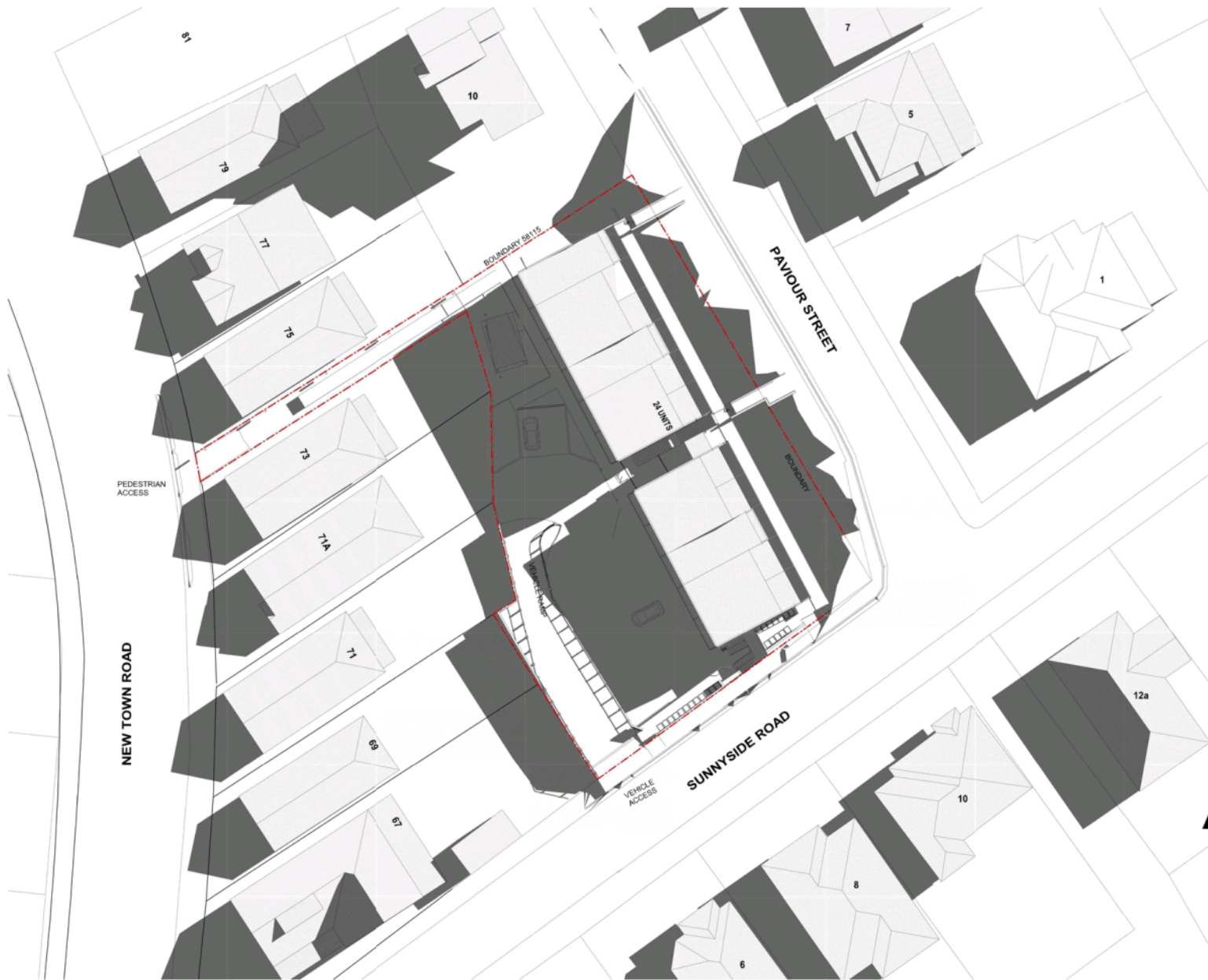
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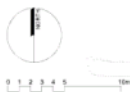
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SEPT

Scale 1:200 (A1) Print Date 06/02/22 Project 692.21144
1:400 (A3) 06/02/22 11:56am
Drawing No **DA44** Rev **B**

Architect: David Fairbrother, Registered Architect (0148) David Philp, Registered Architect



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**SHADOW DIAGRAM 10AM - MARCH &
SEPT**

Scale 1:200 (G-A1) Print Date Project 002.21144
1:400 (G-A3) 06/05/22 01:56am
Drawing No **DA45** Rev **B**

Architect: David Fairbrother, Registered Architect (01948) David Lighton, Registered Architect (01948)





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SHADOW DIAGRAM 12PM - MARCH &
SEPT

Scale 1:200 (S-A) Print Date Project 692.21144
1:400 (S-A) 06/05/22 11:55am
Drawing No **DA47** Rev **B**
Architect: David Fairbrother, Registered Architect (0194) David Lighton, Registered Architect




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**SHADOW DIAGRAM 1PM - MARCH &
SEPT**

Scale 1:200 (G-A1) Print Date 06/02/22 Project 692.21144
1:400 (G-A3) Rev B
Drawing No **DA48**

Architect: David Fairbrother, Registered Architect (0000000000) (0000000000)





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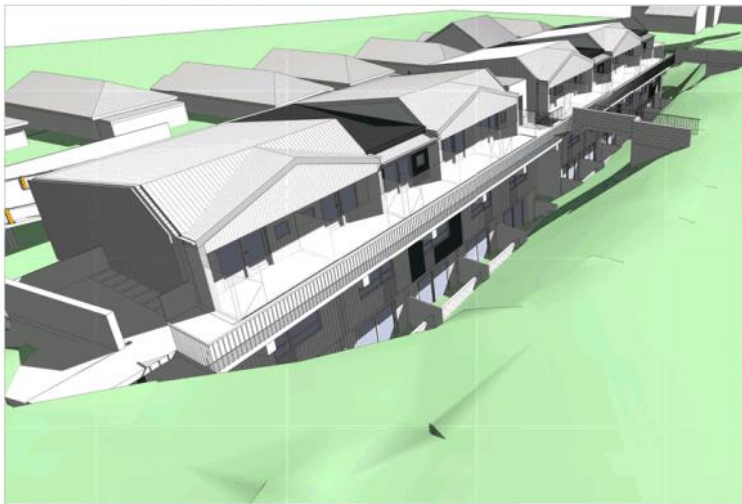
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SHADOW DIAGRAM 3PM - MARCH &
SEPT

Scale 1:200 (G-A1) Print Date Project 692.21144
1:400 (G-A3) 06/02/22 11:57am
Drawing No **DA50** Rev **B**

Architect: David Fairbrother, Registered Architect (0194) David Lighton, Registered Architect (0194)



21 Sept 1pm



21 Sept 2pm



21 Sept 3pm



21 Sept 4pm


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0 1 2 3 4 5 10m

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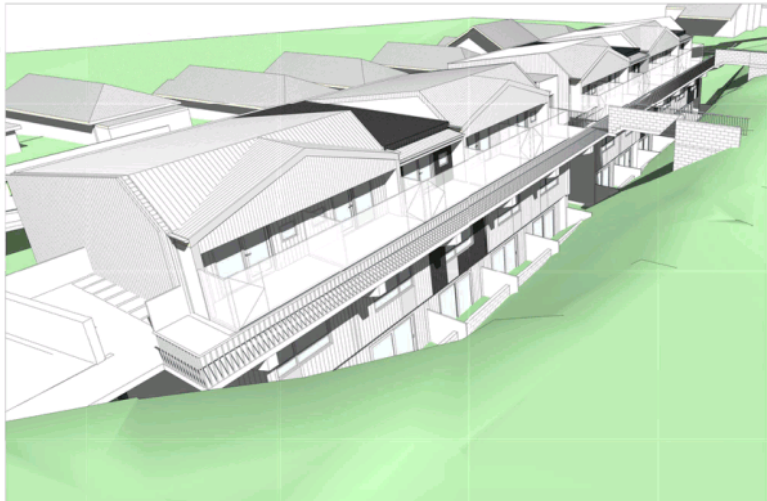
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**SUNLIGHT & SHADOW DIAGRAMS
SEPT 21 (SPRING) WEST FACING**

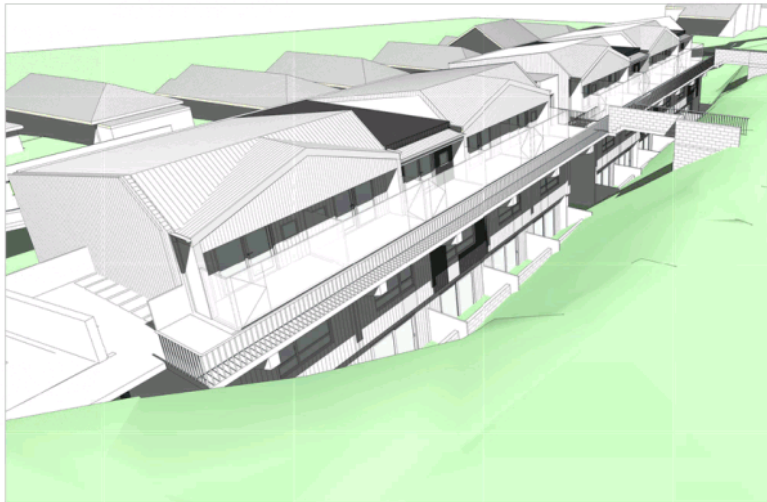
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Drawing No **DA51** Rev **B**



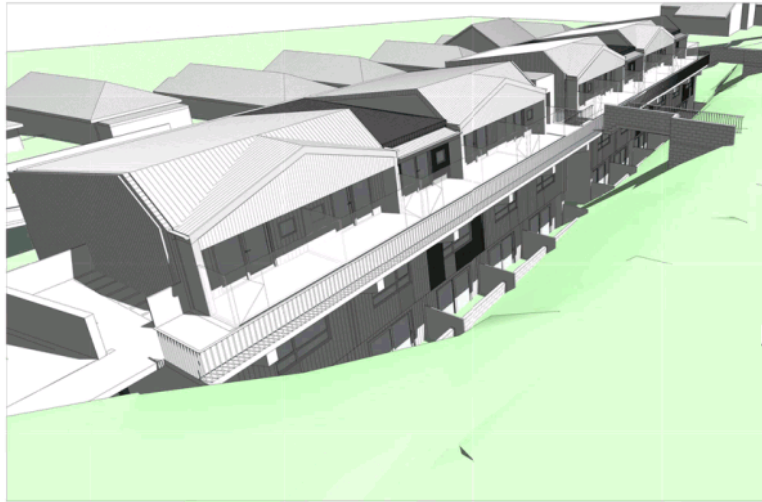
21 Dec 9am



21 Dec 10am



21 Dec 11am



21 Dec 12noon


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**SUNLIGHT & SHADOW DIAGRAMS
DEC 21 (SUMMER) EAST FACING**

Scale 1:400 @ A3 Print Date 06/10/22 Project 692.21/144
Drawing No **DA52** Rev **B**

Architect: David Fairbrother, Registered Architect (0148) David Philp, Registered Architect



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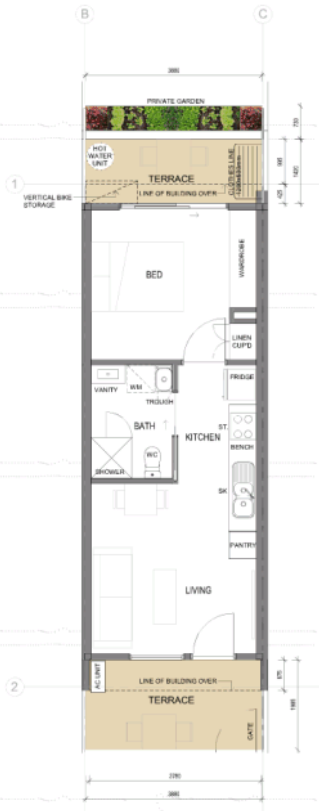
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SUNLIGHT & SHADOW DIAGRAMS
DEC 21 (SUMMER) WEST FACING

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1:400 @ A3 04.06.22 11:58am

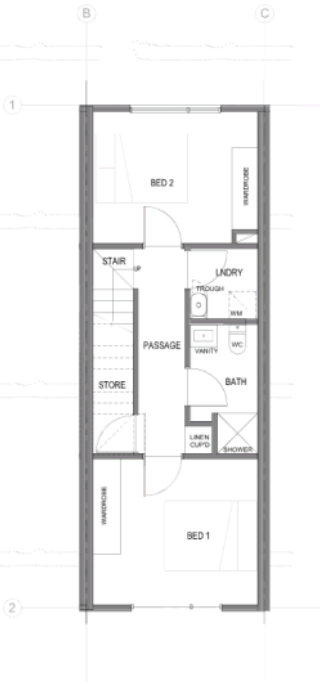
Drawing No **DA53** Rev **B**

NOTES
PLAN LAYOUTS SHOWN ON THIS SHEET APPLY
TO UNITS 2, 4, 6, 7, 9 & 11.
MIRRORRED PLAN LAYOUT FOR UNITS: 1, 3, 5, 8
& 10.



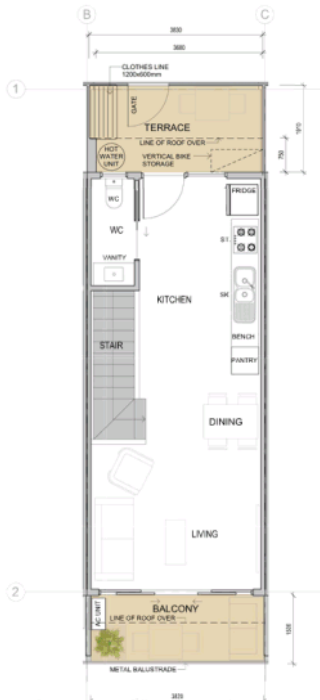
1 BEDROOM UNIT
AREAS
TERRACES - ENTRY: 7.6m²
REAR: 5.5m² (EXCL GARDEN)
INTERNAL STORAGE
WARDROBE: 3.10m³
LINEN CUPBOARD: 1.15m³

L00 DETAIL PLAN
SCALE: 1:50



2 BEDROOM UNIT
AREAS
INTERNAL STORAGE
LINEN CUPBOARD: 0.89m³
STORE (UNDER STAIR): 4.89m³
BED 1 WARDROBE: 3.02m³
BED 2 WARDROBE: 2.60m³

L01 DETAIL PLAN
SCALE: 1:50

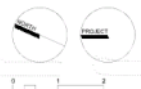


2 BEDROOM UNIT
AREAS
TERRACES - ENTRY: 7.3m²
REAR: 5.6m²

L02 DETAIL PLAN
SCALE: 1:50



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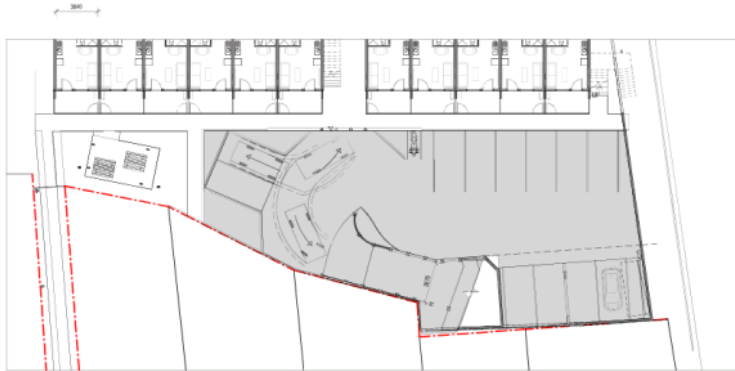
DETAIL FLOOR PLANS

Scale 1:50 (G/A) Print Date Project 692.21144
1:100 (G/A3) 06/05/22 11:59am
Drawing No DA54 Rev B

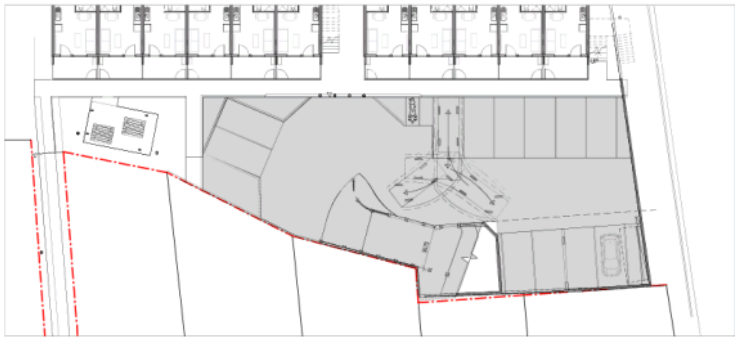
Architect: David Fairbrother, registered architect (01416) David@fairbrother.com.au



TURN PATH 01
Scale 1:200



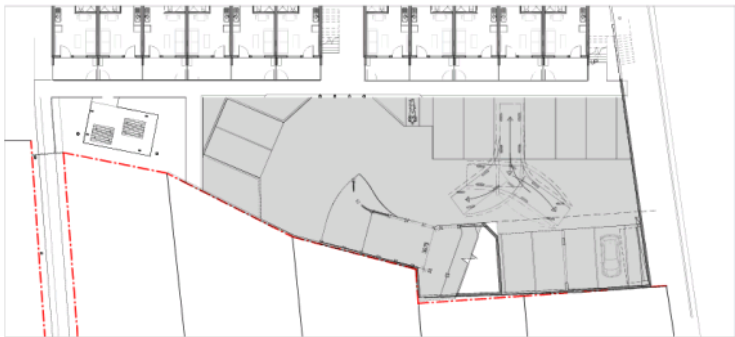
TURN PATH 02
Scale 1:200



TURN PATH 03
Scale 1:200



TURN PATH 04
Scale 1:200



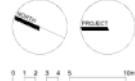
TURN PATH 05
Scale 1:200



TURN PATH 06
Scale 1:200



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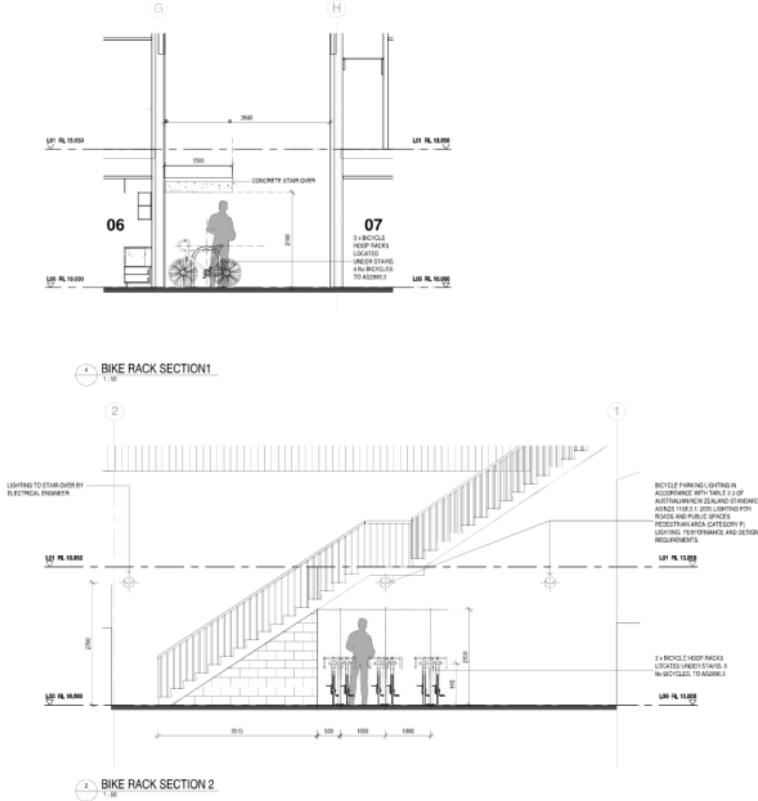
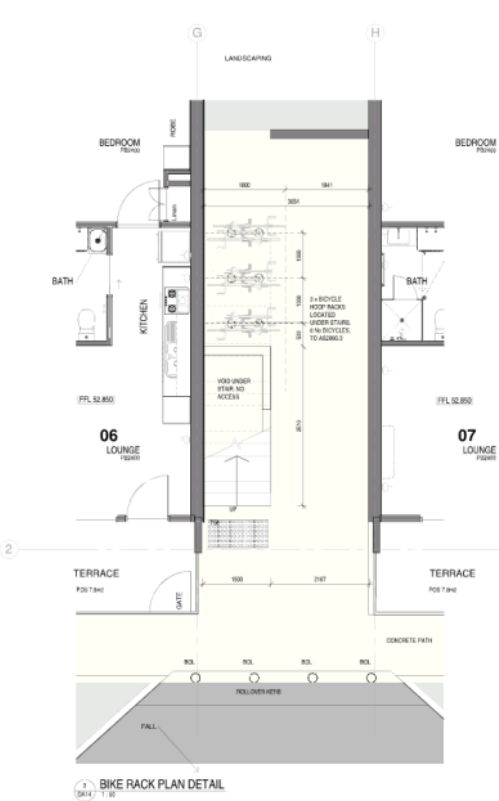
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PARKING ACCESS

Scale 1:200 (A1) Print Date Project 692.21144
1:400 (A3) 06/20/22 11:55am
Drawing No DA56 Rev B

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BIKE RACK PARKING

Scale 1:200 @ A1 Print Date 17/10/22 Project 692.21144
Drawing No **DA90** Rev **D**



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NEW TOWN ROAD STREET MONTAGE

Scale: 1" = 200' @ A3 Print Date: 17.10.22 2:51pm Project: 092.21144
Drawing No: **DA93** Rev: **A**

Edited (see Author Instructions) for publication



73A New Town Road, New Town Development application

Supporting planning report

6 May 2022



ERA Planning Pty Ltd trading as ERA Planning and Environment

ABN 67 141 991 004

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Job Number: 2122-007

Document Status

Document Version	Date	Author	Reviewer
Draft V1	6 April 2022	Monica Cameron Georgina Young	Clare Hester
Final draft – for client review	3 May 2022	Monica Cameron Claire Watt	Clare Hester
Final	6 May 2022	Monica Cameron Claire Watt	Clare Hester

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1 Introduction

1.1 Purpose of the report

ERA Planning and Environment (ERA) has been engaged by Fairbrother on behalf of Housing Tasmania and Centacare Evolve Housing to seek a planning permit for the use and development of multiple dwellings at 73A New Town Road, New Town. This report provides a supporting planning submission providing relevant background material, project details and an assessment against the relevant planning scheme provisions.

1.2 Name of Planning Authority

The Planning Authority is the Hobart City Council.

1.3 Statutory controls

The site is subject to the provisions of the *Hobart Interim Planning Scheme 2015* (planning scheme).

1.4 Subject site

The subject site is known as 'New Town Catholic Tennis Club' – 73A New Town Road, New Town, and is contained within two lots formally known as CT 252210/1 and CT 205058/1. Both land parcels are under the ownership of the Director of Housing, Housing Tasmania.

The Certificate of Title is provided in Appendix B.

1.5 Enquiries

Enquiries relating to this planning report should be directed to:

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2 The proposal

2.1 Overview

The site is approximately 1849 m² in size and currently contains two tennis courts, a storage shed and a small tennis club house building; all existing buildings are to be demolished. The proposal is for a three storey multiple dwelling development consisting of 22 dwellings, 12 carparking spaces, 2 motorbike spaces, landscaping and an outdoor shared space.

Pedestrian access will be provided to the development via New Town Road, Paviour Street and Sunnyside Road; while vehicular access will be via a new ramp from Sunnyside Road. There are 12 carparking spaces and two motorbike spaces provided on site for use by residents and visitors. A bicycle rack with capacity for six bicycles is also provided on site.

The site is in the Inner Residential Zone and is close to a major public transport corridor along New Town Road and shops and community services in the New Town area. The scale and location of the site is well-suited to the provision of a new multiple dwelling development and the proposal accords with the zone purpose statements of the Inner Residential Zone to provide a variety of residential development at higher densities in locations within walkable distance of services, facilities, employment and high frequency public transport corridors.

Architectural plans prepared by Philp Lighton Architects are at Appendix C.



Figure 1: Render of proposed development, viewed from Sunnyside Road, prepared by Philp Lighton Architects

2.2 Development summary

A development summary is provided below.

Table 1: Development summary

Item	Provision
Site area	1849 m ²
Site coverage	636 m ² / 34.4 %
Overall building height	10.36 m
Dwellings	22
Car parking spaces	12
Motorbike spaces	2
Bicycle parking spaces	6

2.3 Demolition

It is proposed to demolish the following from the subject site:

- Two tennis courts
- Chain wire mesh fencing enclosing the tennis courts
- Weatherboard clubhouse and shed
- Paved walkways within the site
- Crossover to New Town Road

2.4 Replacement and retention

The following is to be retained or replaced:

- The crossover to New Town Road will be removed and replaced with kerb and channel to Council requirements.
- The existing chain wire mesh fencing with dense vegetation cover on the western boundary will be retained and protected during construction.



Figure 2: Demolition and retention plan prepared by Philp Lighton Architects

2.5 Built form

The proposed development comprises a three-storey apartment building with 22 apartments, including 11 one-bedroom apartments and 11 two-bedroom apartments.

There are two dwelling types proposed:

- 11 one-bedroom units which will be single-storey and located at ground level. The dwellings comprise one bedroom, an open plan kitchen/dining/living area, combined bathroom/laundry and two terraces on either of the dwelling.
- 11 two-bedroom units which will be two-storey and located across Levels 01 and 02 (directly above the one-bedroom units). The dwellings comprise of two bedrooms, two bathrooms, an open plan kitchen/living/dining area, laundry and two terraces on the either side of the building located on Level 02. Access to the units is from a shared walkway on Level 02. The main kitchen/living/dining area is located on Level 02 and the bedrooms and main bathroom are located on Level 01.

Each of the units are accessed via an entry terrace. The one-bedroom units will be accessed from the western side of the building from the ground level carpark area and the two-bedroom dwellings will be accessed from the eastern side of the building from Pavior Street or via central stairs and a future lift from the ground level.

Private open space is provided for each unit by two terraces on the eastern and western sides of the building. The total area of private open space for each one-bedroom units is 13.1 m² and for each two-bedroom unit is

12.8 m². Each east-facing terrace includes vertical bicycle storage and a clothesline. An outdoor shared space is incorporated at ground level in front of the building, consisting of a BBQ shelter, park benches and a bicycle storage rack for visitor use with capacity for six bicycles.



Figure 3: View within the site towards Sunnyside Road, prepared by Philp Lighton Architects

2.6 Parking and access

The site does not currently have vehicle access. The proposal includes a new 6.0 m wide vehicle access ramp from Sunnyside Road that extends to a new carpark at ground level. The ramp will provide vehicle movements as detailed in the Traffic Impact Assessment (Appendix E) and accommodate the swept path of B99 vehicles entering and leaving Sunnyside Road. The carpark is located directly in front of the dwellings and will accommodate 12 vehicle parking spaces and two motorbike parking spaces for use by residents. Visitor parking will be accommodated by on-street parking, noting that ample on-street parking is currently available in the area, as detailed in the Traffic Impact Assessment (Appendix E). Due to the site topography, the carpark will be set below the level of Sunnyside Road and will have minimal impact on the visual amenity of the area. Two screened waste storage areas will be located at the southern end of the site and will be accessible for Council waste collection from Sunnyside Road. Letterboxes will be located on Sunnyside Road.

Pedestrian access to the site will be provided from New Town Road, Pavior Street (2 access points) and Sunnyside Road. The access to New Town Road is via an existing laneway which is part of the subject site that will be upgraded to provide a footpath and gated access to the development.

3 Subject site and surrounds

3.1 Site description

The subject site has a battle-axe shape, with an access handle providing frontage to New Town Road. The site has three road frontages, to New Town Road, Sunnyside Road and Paviour Street (Figure 4). The central part of the site is relatively flat with a slight slope to the west. There is a significant level difference near the perimeter of the site with Sunnyside Road and Paviour Street (see further geotechnical information below). The site is located on the lower slope of a hillside with a western aspect with views towards New Town, Mount Stuart and kunanyi/Mt Wellington.

The property is known as the 'New Town Catholic Tennis Club' site and contains two clay tennis courts, a tennis club house, storage shed and fencing. The site is thought to have been used for tennis courts since the late 1920s (refer to Appendix G). Vegetation is present on the eastern and southern perimeters of the site. The land is predominately surrounded by residential development. The site is located close to a bus stop near the intersection of New Town Road and Sunnyside Road that is serviced by high-frequency bus routes.



Figure 4: Aerial image of subject site and surrounds (Source: www.thelist.tas.gov.au, April 2022)

3.2 Geotechnical investigation

An initial geotechnical investigation was commissioned for the development due to the significant level difference and earth batters near the perimeter of the site with Paviour Street and Sunnyside Road. This investigation was undertaken by GES in February 2022 and considered the soil and geotechnical conditions of the site. The report classifies the site as Class P. It identifies potential geotechnical impediments to construction and the need for appropriate engineering design for stabilisation of earth batters on site and retainment systems for areas of overhanging sandstone. Refer to the full report and recommendations at Appendix D.

3.3 Title information

The Certificates of Title for the subject site are attached at Appendix B. The details for this property are outlined below.

Table 2: Certificate of Title details

Address	Title reference	Landowner	Total Area
73A New Town Road, New Town	CT 252210/1	Director of Housing, Housing Tasmania	1849 m ²
73A New Town Road, New Town	CT 205058/1	Director of Housing, Housing Tasmania	

CT 252210/1 is burdened by drainage easement that is 1.5m wide and situated along the access handle to New Town Road. CT 205058/1 is not subject to any restrictions, easements, or covenants.

3.4 Servicing

The subject site has full reticulated services, as detailed within the Civil Engineering drawings in Appendix F.

3.5 Site photos





73A New Town Road, New Town
Development application



73A New Town Road, New Town
Development application



4 Planning controls

4.1 Statutory controls

The site is subject to the provisions of the *Hobart Interim Planning Scheme 2015* (planning scheme).

The site is in the Inner Residential Zone and is within the Paviour Street Heritage Precinct (NT10) under the planning scheme. Refer to Figure 5 and Figure 6 below. The site is not on the state heritage register.

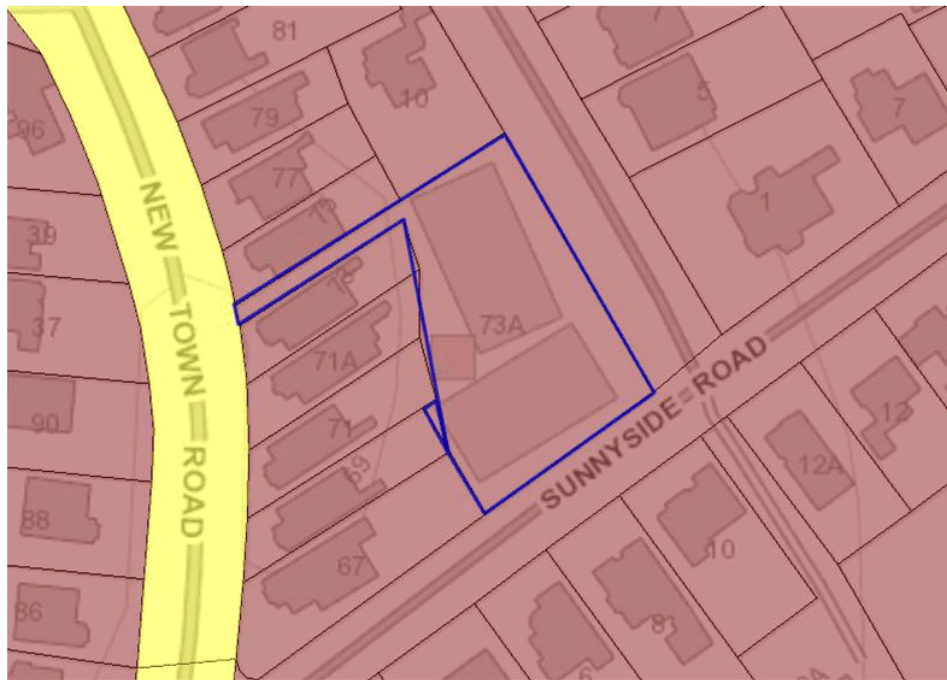


Figure 5: Site (highlighted with blue border) is zoned Inner Residential (Source: www.thelist.tas.gov.au, April 2022)

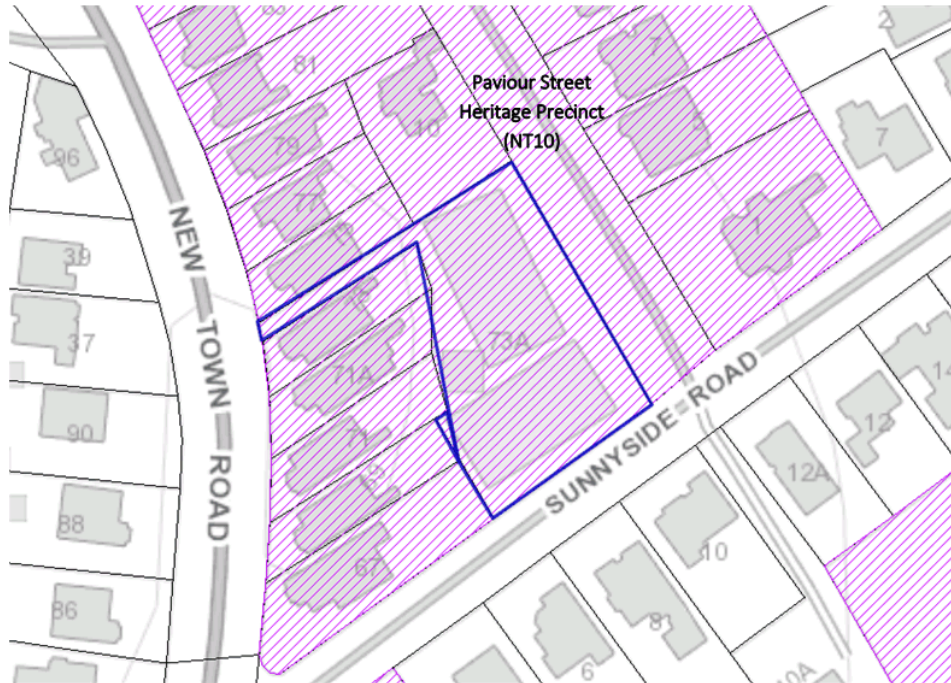


Figure 6: Site (highlighted with blue border) is within the Paviour Street Heritage Precinct
(Source: www.thelist.tas.gov.au, April 2022)

4.2 Specific Area Plan

The site is subject to the Royal Hobart Hospital Helipad Airspace Specific Area Plan (outer area 100 m AHD).

The Specific Area Plan has restrictions around building height, requiring buildings to not interfere with safe aircraft operations in the vicinity of the Royal Hobart Hospital helipad. Given the site is located within the outer area, the building height, including minor protrusions, masts or aerials must be no more than 100 m AHD.

4.3 Relevant codes

The following codes from the interim planning scheme are applicable to the application:

- E5.0 Road and Railway Assets Code
- E6.0 Parking and Access Code
- E7.0 Stormwater Management Code
- E13.0 Historic Heritage Code

5 Inner Residential zone

5.1 Zone purpose statements

- 11.1.1.1 *To provide for a variety of residential uses and dwelling types close to services and facilities in inner urban and historically established areas, which uses and types respect the existing variation and pattern in lot sizes, set back, and height.*
- 11.1.1.2 *To provide for compatible non-residential uses that primarily serve the local community.*
- 11.1.1.3 *To encourage residential development at higher densities in locations within walkable distance of services, facilities, employment and high frequency public transport corridors.*
- 11.1.1.4 *To encourage residential development that respects the neighbourhood character.*
- 11.1.1.5 *To provide a high standard of residential amenity.*
- 11.1.1.6 *To allow commercial uses which provide services for the needs of residents of a neighbourhood and do not displace an existing residential use or adversely affect their amenity particularly through noise, traffic generation and movement, and the impact of demand for on-street parking.*

Planner Response

It is considered that the proposal is in accordance with the zone purpose statements, specifically Clauses 11.1.1.1, 11.1.1.3 and 11.1.1.5 for the following reasons:

- The proposal is for multiple dwellings in the form of social housing, allowing for a variety of dwelling types in proximity to services and facilities in an inner urban established area which would respect the existing variation and pattern in lot sizes, set back and height.
- The proposal would be for residential development at higher densities within walkable distance of services, facilities, employment and high-frequency public transport corridors.
- The design of the proposed dwellings would enable a high standard of residential amenity.

5.2 Local area objectives

There are no Local Area Objectives for this Zone.

5.3 Desired future character statements

There are no Desired Future Character Statements for this Zone.

5.4 Use status

The proposed use is residential (multiple dwellings). Pursuant to Table 11.2 of the Inner Residential Zone in the planning scheme, residential (multiple dwellings) is classified as a permitted use.

5.4.1 Use standards

The use standards only apply to non-residential use and visitor accommodation. Therefore, the standards are not applicable to this application which is for a residential use (multiple dwellings).

5.4.2 Development standards for dwellings

PLANNING SCHEME REQUIREMENT	
Acceptable Solutions	Performance Criteria
11.4.1 Residential density for multiple dwellings	
A1 Multiple dwellings must have a site area per dwelling of not less than 200 m ² .	P1 Multiple dwellings must only have a site area per dwelling less than 200 m ² if: <ul style="list-style-type: none"> (a) The development contributes to a range of dwelling types and sizes appropriate to the surrounding area; or (b) The development provides for a specific accommodation need with significant social or community benefit.
<p><u>Planner Response</u></p> <p>There are 22 dwellings proposed on the subject site, which has a total site area of 1849 m². This results in a density of 84 m² per dwelling. As this is less than 200 m² per dwelling, the proposal requires assessment against the performance criteria.</p> <p>The proposal is for two different dwelling types (11 one bedroom units and 11 two bedroom units). This will contribute to providing a range of dwelling types that are compatible with the zone purpose statements and the existing variation and pattern of housing in the New Town area. The proposal is for social housing provided by Housing Tasmania which will have a significant community benefit by providing housing for those in need that is well-located close to a high-frequency public transport corridor, shops and community facilities.</p> <p>Refer to the statement in Appendix H prepared by Centacare Evolve Housing which details the significant benefits this social housing provision will have.</p> <p>The performance criterion (P1) is satisfied.</p>	
11.4.2 Setbacks and building envelope for all dwellings	
A1 Unless within a building area on a sealed plan, a dwelling, excluding garages, carports and protrusions that extend not more than 0.9m into the frontage setback, must have a setback from a frontage that is: <ul style="list-style-type: none"> (a) if the frontage is a primary frontage, not less than 3m, or, if the setback from the primary frontage is less than 3m, not less than the setback, 	P1 A dwelling must have a setback from a frontage that is compatible with the streetscape having regard to any topographical constraints.

PLANNING SCHEME REQUIREMENT	
<p>from the primary frontage, of any existing dwelling on the site;</p> <p>(b) if the frontage is not a primary frontage, not less than 2m, or, if the setback from the frontage is less than 2m, not less than the setback, from a frontage that is not a primary frontage, of any existing dwelling on the site;</p> <p>(c) if for a vacant site and there are existing dwellings on adjoining properties on the same street, not more than the greater, or less than the lesser, setback for the equivalent frontage of the dwellings on the adjoining sites on the same street; or</p> <p>(d) if located above a non-residential use at ground floor level, not less than the setback from the frontage of the ground floor level.</p>	
<p><u>Planner Response</u></p> <p>The subject site has three road frontages with the following setbacks:</p> <ul style="list-style-type: none"> • New Town Road (primary frontage): more than 40 m • Sunnyside Road (secondary frontage): 0 m for access ramp walkways/stairs, min. 2.4 m for building facade • Paviour Street (secondary frontage): 0 m for access ramp walkways, min. 4.7 m for building facade <p>The proposal complies with A1(a) but not with A1(b) due to the walkways connecting the building to the public footpaths on Paviour Street and Sunnyside Road. The proposal must therefore be assessed against the performance criteria.</p> <p>Due to the site topography and the large level difference along the rear of the site, the building design has been required to incorporate access walkways and stairs to connect the building to the Paviour Street and Sunnyside Road frontages. These walkways provide important access to the dwellings from these streets and level access to the two bedroom units on Level 02. The walkways and stairs result in 0m setbacks to both the eastern and southern secondary frontages, however the building facade itself is within the frontage setbacks required under the acceptable solutions. The walkways will include balustrades with heights of approximately 1.2 - 1.5 m (refer to plans for details). It is considered that the walkways and balustrades are compatible with the streetscape given their limited use and low visual prominence as they will be largely screened by the 1.8 m high boundary fencing. The walkways are a direct response to the topographic constraints of the site and the access requirements of the building.</p> <p>The performance criterion (P1) is satisfied.</p>	
A2	P2

PLANNING SCHEME REQUIREMENT	
<p>A garage or carport for a dwelling must have a setback from a primary frontage of not less than:</p> <ul style="list-style-type: none"> (a) 4 m, or alternatively 1 m behind the building line; (b) the same as the building line, if a portion of the dwelling gross floor area is located above the garage or carport; or (c) 1 m, if the existing ground level slopes up or down at a gradient steeper than 1 in 5 for a distance of 10 m from the frontage. 	<p>A garage or carport must have a setback from a primary frontage that is compatible with the setbacks of existing garages or carports in the street, having regard to any topographical constraints.</p>
<p><u>Planner Response</u></p> <p>There are no garages or carports proposed.</p> <p>Not applicable.</p>	
<p>A3</p> <p>A dwelling, excluding outbuildings with a building height of not more than 2.4 m and protrusions that extend not more than 0.9 m horizontally beyond the building envelope, must:</p> <ul style="list-style-type: none"> (a) be contained within a building envelope (refer to Figures 11.1, 11.2 and 11.3) determined by: <ul style="list-style-type: none"> (i) a distance equal to the frontage setback or, for an internal lot, a distance of 3 m from the rear boundary of a property with an adjoining frontage; and (ii) projecting a line at an angle of 45 degrees from the horizontal at a height of 3 m above existing ground level at the side and rear boundaries to a building height of not more than 9.5 m above existing ground level; and (b) only have a setback within 1.5 m of a side or rear boundary if the dwelling: <ul style="list-style-type: none"> (i) does not extend beyond an existing building built on or within 0.2 m of the boundary of the adjoining property; or 	<p>P3</p> <p>The siting and scale of a dwelling must:</p> <ul style="list-style-type: none"> (a) not cause unreasonable loss of amenity to adjoining properties, having regard to: <ul style="list-style-type: none"> (i) reduction in sunlight to a habitable room (other than a bedroom) of a dwelling on an adjoining property; or (ii) overshadowing the private open space of a dwelling on an adjoining property; or (iii) overshadowing of an adjoining vacant lot; or (iv) visual impacts caused by the apparent scale, bulk or proportions of the dwelling when viewed from an adjoining property; and (b) provide separation between dwellings on adjoining properties that is consistent with that existing on established properties in the area.

PLANNING SCHEME REQUIREMENT	
<p>(ii) does not exceed a total length of 9 m or one-third the length of the side boundary (whichever is the lesser).</p> <p>This acceptable solution does not apply to Battery Point Heritage Precinct (BP1).</p>	
<p><u>Planner Response</u></p> <p>The proposal is outside of the building envelope due to small encroachments, including the top corner of Unit 12 and part of the roofline (refer to sections and elevations at Appendix C).</p> <p>The extent of the building located outside of the building envelope is relatively minor. The boundary setbacks of the building façade are within the building envelope and provide a separation between buildings on adjoining properties that is compatible with the surrounding area. The roofline peaks that lie outside the building envelope are positioned towards the rear of the site and are well set back from the rear boundaries of the properties along New Town Road.</p> <p>It is considered that the proposal will not lead to an unreasonable loss of amenity due to a reduction in sunlight to a habitable room of a dwelling or the overshadowing of private open space of an adjoining property in accordance with performance criteria P1(i)&(ii). The shadow diagrams prepared by Philp Lighton Architects (Appendix C) indicate there is existing overshadowing of the dwellings along New Town Road at 9am and 10am on 21 June. There is existing overshadowing of the rear of the gardens of 67, 69, 71 and 71A New Town Road at 11am on 21 June. The shadow diagrams for the proposed development indicate that overshadowing of the dwellings at 9am and 10am on 21 June will remaining largely unchanged, except for a small area of the backyard of 69 New Town Road at 10am. By 11am on 21 June, sunlight to the dwellings and majority of the backyards of 67, 69, 71 and 71A New Town Road are comparable to existing sunlight access at that time of year, except for the backyards of 71 and 71A New Town Road. From midday to 3pm on 21 June, sunlight access to the dwellings and private open space of 67, 69, 71 and 71A New Town Road is comparable to existing sunlight access at that time of year.</p> <p>The shadow diagrams for 21 March/September indicate that access to sunlight for dwellings and private open space for properties along New Town Road is comparable to existing sunlight access for the majority of the day. There is some additional overshadowing at 9am of the properties at 71A and 73 New Town Road. The rear part of the backyards of these properties are overshadowed at 10am but the dwellings and front part of the backyards are not impacted. By 11am, sunlight to these properties is comparable to existing sunlight access at this time of year. This level of overshadowing of adjacent properties is not considered to lead to an unreasonable loss of amenity.</p> <p>There is no overshadowing of an adjacent vacant lot, therefore P1(iii) is not applicable.</p> <p>It is considered that the proposal will not lead to an unreasonable loss of amenity to adjoining properties due to the visual appearance and scale of the building in accordance with P1(iv). The proposed design sets the building into the topography at the rear of the site which maximises the distance from adjacent dwellings on New Town Road. The minimum distance from the apartment building to the rear boundary of 73 New Town Road, the closest of these properties, is approximately 7.7 m. The proposed building is separated from the rear boundaries of these properties by the carpark and outdoor shared space areas which will minimise the apparent bulk of the building. A block retaining wall is proposed along the western</p>	

PLANNING SCHEME REQUIREMENT	
<p>boundary with the properties 67, 69 and 71 New Town Road. Views of the vehicle ramp will be screened by existing vegetation along the fence line with 67 and 69 New Town Road. A new 1.8 m high timber paling fence is proposed along the boundary with the properties at 71, 71A and 73 New Town Road.</p> <p>The building will be setback 2.4 m from the side boundary of 10 Paviour Street. A new 1.8 m high timber paling fence is proposed along the boundary beside the proposed building, connecting to the existing boundary fence. The existing residence at 10 Paviour Street is located to the north of the property (away from the side boundary) and is in an elevated position above the subject site due to the site topography. This elevation and the boundary fencing will reduce the apparent bulk of the side of the proposed building from this angle.</p> <p>The visual appearance of the proposed building at street level from Paviour Street will be of low impact. The roofline of the proposed building will be set at a level that is comparable to and compatible with other dwellings in the street. The roof design incorporates roof pitches which echo the character of housing in the area and provide a visual variation from street level. The visual appearance of the building from Sunnyside Road will also be relatively low due to the significant change in level of the subject site which positions the majority of the ground level below road level. The building will be screened by retaining walls and fencing along Sunnyside Road. The nearest dwellings are located on the opposite side of Sunnyside Road and the main bulk of the building will be hidden from view from this angle.</p> <p>As noted above, the setback of the proposed building at the rear of the site allows for separation between dwellings on adjoining properties that is consistent and compatible with established properties in the area in accordance with P1(b).</p> <p>The performance criterion (P3) is satisfied.</p>	
<p>A4</p> <p>No trees of high conservation value will be impacted.</p>	<p>P4</p> <p>Buildings and works are designed and located to avoid, minimise, mitigate and offset impacts on trees of high conservation value.</p>
<p><u>Planner Response</u></p> <p>No tree removal is proposed.</p> <p>Not applicable.</p>	
11.4.3 Site coverage and private open space for all dwellings	
<p>A1</p> <p>Dwellings must have:</p> <ul style="list-style-type: none"> (a) a site coverage of not more than 65% (excluding eaves up to 0.6m); (b) for multiple dwellings, a total area of private open space of not less than 40m² associated with each dwelling, unless the dwelling has a finished floor level that is entirely more than 	<p>P1</p> <p>Dwellings must have:</p> <ul style="list-style-type: none"> (a) site coverage consistent with that existing on established properties in the area; (b) private open space that is of a size and dimensions that are appropriate for the size of the dwelling and is able to accommodate:

PLANNING SCHEME REQUIREMENT	
1.8m above the finished ground level (excluding a garage, carport or entry foyer).	<ul style="list-style-type: none"> (i) outdoor recreational space consistent with the projected requirements of the occupants and, for multiple dwellings, take into account any communal open space provided for this purpose within the development; and (ii) operational needs, such as clothes drying and storage; and (c) reasonable space for the planting of gardens and landscaping.
<p><u>Planner Response</u></p> <p>The proposed building has a total footprint of 636 m² and the site area is 1849 m². This results in a site coverage of 34.4% which is within the required coverage and meets acceptable solution A1(a).</p> <p>The one bedroom units located on the ground floor incorporate two terraces which provide a total of 13.1 m² of private open space (7.6 m² and 5.5 m²). The two bedroom units incorporate a terrace and balcony on Level 02 that provide a total of 12.8 m² of private open space (7.2 m² and 5.6 m²) (refer to floor plan DA54). The private open space for the ground level one bedroom units does not comply with A1(b) and needs to be assessed against performance criterion P1(b) and P1(c). The private open space for the two bedroom units is located over 1.8 m above the finished ground level and A1(b) does not apply.</p> <p>The private open space for the one-bedroom units is considered to meet the requirements of performance criterion P1(b) and P1(c). The two terraces are 3.8 m wide and are of a size and dimension that can accommodate utility needs (clothesline, bike storage and a hot water cylinder) and outdoor relaxation. The proposed development incorporates an outdoor shared space that will include a BBQ shelter and seating this is easily accessible at ground level from the one bedroom units. A planting bed is provided for each of the one bedroom units on the site embankment adjacent to the eastern facing terraces. It is considered that the terrace and planting bed areas would provide reasonable space for the planting of gardens and landscaping.</p> <p>The performance criterion (P1) is satisfied.</p>	
<p>A2</p> <p>A dwelling must have an area of private open space that:</p> <ul style="list-style-type: none"> (a) is in one location and is at least <ul style="list-style-type: none"> (i) 24 m²; or (ii) 12 m², if the dwelling is a multiple dwelling with a finished floor level that is entirely more than 1.8 m above the finished ground level (excluding a garage, carport or entry foyer); and 	<p>P2</p> <p>A dwelling must have private open space that includes an area that is capable of serving as an extension of the dwelling for outdoor relaxation, dining, entertaining and children's play and is:</p> <ul style="list-style-type: none"> (a) conveniently located in relation to a living area of the dwelling; and (b) orientated to take advantage of sunlight.

PLANNING SCHEME REQUIREMENT	
<p>(b) has a minimum horizontal dimension of:</p> <ul style="list-style-type: none"> (i) 4 m or (ii) 2 m, if the dwelling is a multiple dwelling with a finished floor level that is entirely more than 1.8 m above the finished ground level (excluding a garage, carport or entry foyer); and <p>(c) is located between the dwelling and the frontage, only if the frontage is orientated between 30 degrees west of true north and 30 degrees east of true north; and</p> <p>(d) has a gradient not steeper than 1 in 10.</p>	
<p><u>Planner Response</u></p> <p>The one bedroom units located on the ground floor incorporate two terraces which provide a total of 13.1 m² of private open space (7.6 m² and 5.5 m²). The two bedroom units incorporate two terraces on Level 02 that provide a total of 12.8 m² of private open space (7.2 m² and 5.6 m²). Refer to floor plan DA54 at Appendix C. The private open space for the dwellings does not meet the acceptable solution as the terraces do not provide one location with an area of 24 m² or 12 m² respectively and requires assessment against the performance criteria.</p> <p>The one bedroom units located on the ground floor incorporate a terrace for private open space on the western side of the building that is directly accessible from the living/dining/kitchen area and can provide an extension for outdoor recreation (utilities for the unit are all located in the terrace on the other side of the building). The west-facing terraces are oriented to take advantage of afternoon sunlight. The east-facing terraces of the one bedroom units provide an additional outdoor space which receives morning sunlight and additional space for planting beds. In addition, the one-bedroom units have ground level access to the outdoor shared space with BBQ shelter and seating. Each of the terraces has a minimum horizontal dimension of 3.8 m. Combined, this is considered sufficient space for residents for outdoor relaxation, dining, entertaining and children's play.</p> <p>The two bedroom units comprise a terrace and balcony on Level 02. The terrace provides an area of private open space that is directly accessible from the living/dining/kitchen area and is east facing and can provide an extension for outdoor recreation. The terraces obtain sunlight from approximately 9am to 3pm during winter (refer to plan DA40 at Appendix C). The units also all have a west-facing balcony that obtains afternoon sun in winter. The terrace and balcony each have a minimum horizontal dimension of 3.8 m. Residents of the two bedroom units can also take advantage of the shared outdoor space at ground level. This is considered sufficient space for the residents.</p> <p>The performance criterion (P2) is satisfied.</p>	
11.4.4 Sunlight to private open space of multiple dwellings	
A1	P1

PLANNING SCHEME REQUIREMENT	
<p>A multiple dwelling, that is to the north of the private open space of another dwelling on the same site, required to satisfy A2 or P2 of clause 11.4.3, must satisfy (a) or (b), unless excluded by (c):</p> <p>(a) The multiple dwelling is contained within a line projecting (see Figure 11.4):</p> <ul style="list-style-type: none"> (i) at a distance of 3 m from the northern edge of the private open space; and (ii) vertically to a height of 3 m above natural ground level and then at an angle of 45 degrees from the horizontal. <p>(b) The multiple dwelling does not cause 50% of the private open space to receive less than 3 hours of sunlight between 9.00 am and 3.00 pm on 21st June.</p> <p>(c) This acceptable solution excludes that part of a multiple dwelling consisting of:</p> <ul style="list-style-type: none"> (i) an outbuilding with a building height no more than 2.4 m; or (ii) protrusions that extend not more than 0.9 m horizontally from the multiple dwelling. 	<p>A multiple dwelling must be designed and sited to not cause an unreasonable loss of amenity by overshadowing the private open space, of another dwelling on the same site, which is required to satisfy A2 or P2 of clause 11.4.3 of this planning scheme.</p>
<p><u>Planner Response</u></p> <p>The main length of the proposed building is aligned approximately 20-30 degrees west of north. This means that some dwellings and private open space will lie to the north of the private open space of the terraces and balconies of other dwellings.</p> <p>With regard to the two bedroom units, more than 50% of the east-facing private open space of the two bedroom units will receive over 3 hours of sunlight between 11am and 3pm on 21 June (refer to shadow diagrams DA39 & DA40 at Appendix C). The balconies will partially receive sunlight at 4pm on 21 June (refer to shadow diagrams DA41 & DA42 Appendix C). The acceptable solution A1(b) is met for the two bedroom units.</p> <p>The one bedroom units contain terraces on the western and eastern sides of the building. The west-facing terraces will receive sun from 4pm on 21 June (refer to shadow diagrams DA41 & DA42 at Appendix C). The east-facing terraces will partially receive sunlight from 2pm on 21 June (refer to shadow diagrams DA39 & DA40 at Appendix C). This does not meet the acceptable solutions and requires assessment against the performance criteria.</p> <p>The apartment building has been efficiently designed to align with the orientation and topography of the site, which includes an existing significant level difference at the rear of the site. The difficulty in obtaining over 3 hours of sunlight for the ground level one bedroom units in winter is partially the result of the site topography and the level difference between the ground level and Paviour Street. Paviour Street extends</p>	

PLANNING SCHEME REQUIREMENT	
<p>along the north-eastern boundary of the site at a height of approximately 6m above the ground level in the centre of the site and equivalent to the floor height of Level 02 of the building (refer to sections at DA14 at Appendix C). The subject site is also located on a hillside which contributes to additional overshadowing of the site in the morning in winter (refer to diagrams DA18 to DA21 at Appendix C). The proposed design has sought to maximise access to sunlight throughout the year by incorporating two areas of private open space for each unit on the eastern and western sides of the building. As noted above, the private open space for the one bedroom units will receive some direct sunlight during the day in winter in the afternoon. The proposal also incorporates an outdoor shared space that is easily accessible for residents of the ground floor units that receives over 3 hours of sunlight between 9.00 am and 3.00 pm on 21 June.</p> <p>It is considered that the proposed dwellings have been designed and sited to not cause an unreasonable loss of amenity by overshadowing the private open space of other dwellings on the site. The design incorporates two areas of private open space for each apartment, and an outdoor shared area to maximise the availability of sunlight for residents during winter.</p> <p>The acceptable solution A1(b) is met for the two bedroom units. The performance criteria (P1) is satisfied for the one bedroom units.</p>	
11.4.5 Width of openings for garages and carports for all dwellings	
<p>A1</p> <p>A garage or carport within 12 m of a primary frontage (whether the garage or carport is free-standing or part of the dwelling) must have a total width of openings facing the primary frontage of not more than 6 m or half the width of the frontage (whichever is the lesser).</p>	<p>P1</p> <p>A garage or carport must be designed to minimise the width of its openings that are visible from the street, so as to reduce the potential for the openings of a garage or carport to dominate the primary frontage.</p>
<p><u>Planner Response</u></p> <p>There are no garages or carports proposed.</p> <p>Not applicable.</p>	
11.4.6 Privacy for all dwellings	
<p>A1</p> <p>A balcony, deck, roof terrace, parking space, or carport for a dwelling (whether freestanding or part of the dwelling), that has a finished surface or floor level more than 1 m above existing ground level must have a permanently fixed screen to a height of not less than 1.7 m above the finished surface or floor level, with a uniform transparency of not more than 25%, along the sides facing a:</p> <p>(a) side boundary, unless the balcony, deck, roof terrace, parking space, or carport has</p>	<p>P1</p> <p>A balcony, deck, roof terrace, parking space or carport for a dwelling (whether freestanding or part of the dwelling) that has a finished surface or floor level more than 1 m above existing ground level, must be screened, or otherwise designed, to minimise overlooking of:</p> <p>(a) a dwelling on an adjoining lot or its private open space; or</p>

PLANNING SCHEME REQUIREMENT	
<p>a setback of not less than 3 m from the side boundary;</p> <p>(b) rear boundary, unless the balcony, deck, roof terrace, parking space, or carport has a setback of not less than 4 m from the rear boundary; and</p> <p>(c) dwelling on the same site, unless the balcony, deck, roof terrace, parking space, or carport is not less than 6 m:</p> <p>(i) from a window or glazed door, to a habitable room of the other dwelling on the same site; or</p> <p>(ii) from a balcony, deck, roof terrace or the private open space, of the other dwelling on the same site.</p>	<p>(b) another dwelling on the same site or its private open space.</p>
<p><u>Planner Response</u></p> <p>The terraces and balconies for the two bedroom units are located on Level 02 of the building, more than 1 m above existing ground level. The east-facing terraces will have 1.7 m high fences which will screen views to and from Paviour Street. In addition, they will also be screened by the 1.8 m high fencing on the Paviour Street boundary line. There will be 1.7 m high privacy fencing between the terraces of adjoining units. The side of the terrace of Unit 12 will be screened from the side boundary with 10 Paviour Street by a 1.7 m high metal screen. The west-facing balconies will have 1.0m high balustrades that will be located a minimum of 6.2 m from the rear boundary of dwellings with frontages to New Town Road. The balcony of Unit 12 will be less than 3m from the side boundary with 10 Paviour Street and will be screened on this side by a retaining wall.</p> <p>The acceptable solution (A1) has been met.</p>	
<p>A2</p> <p>A window or glazed door, to a habitable room, of a dwelling, that has a floor level more than 1 m above the existing ground level, must satisfy (a), unless it satisfies (b):</p> <p>(a) The window or glazed door:</p> <p>(i) is to have a setback of at least 3 m from a side boundary; and</p> <p>(ii) is to have a setback of at least 4 m from a rear boundary; and</p> <p>(iii) if the dwelling is a multiple dwelling, is to be at least 6 m from a window or glazed</p>	<p>P2</p> <p>A window or glazed door, to a habitable room of dwelling, that has a floor level more than 1 m above the natural ground level, must be screened, or otherwise located or designed, to minimise direct views to:</p> <p>(a) window or glazed door, to a habitable room of another dwelling; and</p> <p>(b) the private open space of another dwelling.</p>

PLANNING SCHEME REQUIREMENT	
<p>door, to a habitable room, of another dwelling on the same site; and</p> <p>(iv) if the dwelling is a multiple dwelling, is to be at least 6 m from the private open space of another dwelling on the same site.</p> <p>(b) The window or glazed door:</p> <p>(i) is to be offset, in the horizontal plane, at least 1.5 m from the edge of a window or glazed door, to a habitable room of another dwelling; or</p> <p>(ii) is to have a sill height of at least 1.7 m above the floor level or has fixed obscure glazing extending to a height of at least 1.7 m above the floor level; or</p> <p>(iii) is to have a permanently fixed external screen for the full length of the window or glazed door, to a height of at least 1.7 m above floor level, with a uniform transparency of not more than 25%.</p>	
<p><u>Planner Response</u></p> <p>All windows or glazed doors to the two bedroom units with a finished floor level more than 1 m above existing ground level are set back over 4 m from the rear boundary and comply with Clause A2(a).</p> <p>The acceptable solution (A2) is met.</p>	
<p>A3</p> <p>A shared driveway or parking space (excluding a parking space allocated to that dwelling) must be separated from a window, or glazed door, to a habitable room of a multiple dwelling by a horizontal distance of not less than:</p> <p>(a) 2.5 m; or</p> <p>(b) 1 m if:</p> <p>(i) it is separated by a screen of at least 1.7 m in height; or</p> <p>(ii) the window, or glazed door, to a habitable room has a sill height of at least 1.7 m above the shared driveway or parking space, or has fixed obscure glazing</p>	<p>P3</p> <p>A shared driveway or parking space (excluding a parking space allocated to that dwelling), must be screened, or otherwise located or designed, to minimise unreasonable impact of vehicle noise or vehicle light intrusion to a habitable room of a multiple dwelling.</p>

PLANNING SCHEME REQUIREMENT	
extending to a height of at least 1.7 m above the floor level.	
<p><u>Planner Response</u></p> <p>The shared driveway and parking spaces are separated by a horizontal distance of over 2.5 m from a window or glazed door of the units on the ground level of the building. In addition, there is a 1.7 m high batten fence between the front terraces on ground level and the shared driveway and parking spaces.</p> <p>The acceptable solution (A3) is met.</p>	
11.4.7 Frontage fences for all dwellings	
<p>A1</p> <p>No acceptable solution.</p>	<p>P1</p> <p>A fence (including a free-standing wall) for a dwelling within 4.5 m of a frontage must:</p> <ul style="list-style-type: none"> (a) provide for security and privacy while allowing for passive surveillance of the road; and (b) be compatible with the height and transparency of fences in the street, having regard to: <ul style="list-style-type: none"> (i) the topography of the site; and (ii) traffic volumes on the adjoining road.
<p><u>Planner Response</u></p> <p>There is no acceptable solution so the proposal must be considered against the performance criteria.</p> <p>There is no fencing proposed within 4.5 m of the primary frontage to New Town Road. A section of 1.8 m high fencing with a gate will be located at the end of the access laneway (refer to DA55 at Appendix C). This fencing will be consistent with the proposed 1.8 m high fencing along the site boundary at the rear of adjacent properties along New Town Road.</p> <p>Fencing is proposed with a 0 m setback along the boundary line of the secondary frontages to Pavior Street and Sunnyside Road. A new 1.8 m high fence is proposed along the boundary line to Pavior Street (refer to DA12 and DA15 at Appendix C). There will be two sections of 1.8 m high fence on the boundary line of Sunnyside Road to screen the stairway and the front edge of the waste storage area). A concrete block wall is proposed along the remaining sections of the boundary line to Sunnyside Road for the letterbox area and adjacent to the ramp entry (refer to DA12 and DA17).</p> <p>The fencing along Paviour Street will provide for security and safety of pedestrian given the steep topography of the site along the boundary. The fencing height is similar to the front hedging of the property on the opposite side of the street. Due to the topography of the hillside, the fencing will have a lower visual appearance when viewed from dwellings on the opposite side of the road which are elevated above the subject site.</p>	

PLANNING SCHEME REQUIREMENT	
<p>The fencing along Sunnyside Road will provide for safety of pedestrians given the steep topography of the site along the boundary. It will provide security and will screen the waste storage area from street level. There are no windows proposed on the southern façade of the building but there will be opportunities for passive surveillance by residents during the day when accessing the letterboxes, the waste storage area and stairway. The fencing is compatible with other fences in the street which range from timber fencing to solid brick walls. The height of the fencing is comparable to front brick wall on the opposite side of the street and the shrub hedging that is currently along the boundary of the site. Due to the topography of the hill, the habitable rooms of dwellings on the opposite side of the street have an elevated position in comparison to the fencing and proposed development. The use of timber fencing and concrete walls will create visual variation along the Sunnyside Road and is compatible with the traffic speed of the street. The fencing (concrete wall) near the exit of the ramp has been angled to allow for unobstructed views to the left when exiting the site which is compatible with the traffic volumes on Sunnyside Road.</p> <p>The performance criteria (P1) is satisfied.</p>	
11.4.8 Waste storage for multiple dwellings	
<p>A1</p> <p>A multiple dwelling must have a storage area, for waste and recycling bins, that is not less than 1.5 m² per dwelling and is within one of the following locations:</p> <ul style="list-style-type: none"> (a) in an area for the exclusive use of each dwelling, excluding the area in front of the dwelling; or (b) in a common storage area with an impervious surface that: <ul style="list-style-type: none"> (i) has a setback of at least 4.5 m from a frontage; and (ii) is at least 5.5 m from any dwelling; and (iii) is screened from the frontage and any dwelling by a wall to a height not less than 1.2 m above the finished surface level of the storage area. 	<p>P1</p> <p>A multiple dwelling development must have storage for waste and recycling bins that is:</p> <ul style="list-style-type: none"> (a) capable of storing the number of bins required for the site; and (b) screened from the frontage and dwellings; and (c) if the storage area is a common storage area, separated from dwellings on the site to minimise impacts caused by odours and noise.

PLANNING SCHEME REQUIREMENTPlanner Response

The proposed waste storage area is within 4.5m from a frontage and is within 5.5m of a dwelling and therefore does not meet the acceptable solutions and must be assessed against the corresponding performance criteria.

The proposal includes two waste storage areas adjacent to Sunnyside Road. The eastern area is accessible from the two-bedroom units and the western area is accessible via stairs from the ground floor one bedroom units. The two areas can store the number of bins required for the 24 units. The two waste storage areas will be screened from the road. The bins will be moved to the roadside on the day of collection. The western waste storage area is separated from the nearest dwelling (Unit 22) by the stairway. The eastern area is adjacent to the outer wall of Unit 22. This façade does not contain any windows which will minimise any impacts by odour and noise to the unit.

The performance criteria (P1) is satisfied.

6 Codes

The following codes are applicable to the application:

- Road and Railway Assets Code
- Parking and Access Code
- Stormwater Management Code

6.1 Road and Railway Assets Code

The Road and Railway Assets Code applies to the proposed development as it will require a new vehicle crossing to Sunnyside Road. The vehicle access will consist of a new 6.0m wide vehicular access ramp with a standard concrete kerb crossover. A Traffic Impact Assessment prepared by Hubble Traffic is provided at Appendix E. It includes an assessment of proposal against the requirements of the code (refer to Section 10.1 of the report) and finds that the proposal meets the requirements of the Road and Railway Assets Code.

6.1.1 Use standards

The use standards do not apply as the proposal does not involve an existing road access, junction or level crossing.

6.1.2 Development standards

The proposal requires assessment against the development standards (E5.6). As Sunnyside Road has a speed limit of 50km/h, E5.6.1 does not apply. The proposal meets acceptable solution A2 of E5.6.2 as only one access providing both entry and exit is proposed for the development and Sunnyside Road has a speed limit of less than 60km/h. The proposal meets acceptable solution A1 of E5.6.4 as the sight distances at the proposed access meet the Safe Intersection Sight Distance specified in Table E5.1. The Traffic Impact Assessment measures the sight distance for a driver leaving the site onto Sunnyside Road as at least 100m to the left and 80 metres to the right. These sight distances meet and exceed the Safe Intersection Sight Distance for a 50km/h speed limit road in Table E5.1.

The proposal is consistent with the requirements of the Road and Railway Assets Code as outlined in Appendix E.

6.2 Parking and Access Code

The Parking and Access Code applies to all use and development. The current site has no vehicular access or on-site parking. The proposal includes the provision of 12 on-site vehicle parking spaces for residents. The parking spaces will be at ground level and will be accessed from Sunnyside Road via a 6.0 m vehicle ramp which will accommodate the swept path of B99 vehicles entering and leaving the site.

The Traffic Impact Assessment prepared by Hubble Traffic (Appendix E) provides an assessment of the proposal against the code. A summary is provided below. The report finds that the proposal meets the requirements of the Parking and Access Code.

6.2.1 Use standards

The proposal includes provision for 12 vehicle parking spaces and two motorcycle parking spaces for residents at ground level. There are no accessible parking spaces proposed. The number of vehicle parking spaces is less than the number of spaces specified under Table E6.1 of 38 parking spaces (1 spaces per one-bedroom unit; 2 spaces per two-bedroom unit; and 1 visitor space per 4 dwellings) and requires assessment against performance criteria P1 of E.6.6.1.

Section 4 of the Traffic Impact Assessment includes analysis of the likely parking requirements for the development based on relevant guidelines and examples of similar social housing developments. The TIA finds that the *Queensland Government – Design Standards for New Construction of Social Housing: Houses and Apartments* provides an appropriate model for parking requirements for this particular development given the high level of access to public transport, availability of on-street parking in the neighbourhood and the expected low car ownership of future residents. The TIA calculates that based a Category A site location (with a high level of access to public transport) under the Queensland Design Standards, 22 units could be expected to generate a parking demand of 14 spaces. The parking deficiency will be readily absorbed however into the network of on-street parking in surrounding streets. Visitor parking would similarly be accommodated by on-street parking.

An assessment against performance criteria P1 of E6.6.1 of the use standards is provided in Section 10.2 of the TIA prepared by Hubble Traffic. There are no accessible parking spaces required for this building type under E6.2.2 of the code. There are two on-site motorcycle parking spaces provided in the ground level parking area which exceeds acceptable solution A1 of E6.6.3. There are no bicycle parking spaces required for a multiple dwelling development under Table E6.2 of the code, E6.6.4 is not applicable. Each unit will be provided with adequate space for bicycle storage within the security of the unit and a bicycle storage rack will be provided in the common area with capacity for 6 bicycles for visitors. Additional visitor motorcycle and bicycle parking would be accommodated by on-street parking.

6.2.2 Development standards

An assessment against the development standards is provided in Section 10.2 of the TIA prepared by Hubble Traffic. The proposal relies on assessment against performance criteria P1 of E6.7.12 as the siting of the car parking is not behind the building line of a proposed building in the Inner Residential Zone. The proposal meets the performance criteria due to topographical constraints and a lack of space behind the building line to enable compliance with A1. The car park will be located at ground level (below the street level of Sunnyside Road) and will have minimal visibility from surrounding areas. The parking layout will be compact and incorporate sections of landscaping and common space that will break up its visual appearance. Due to the low expected level of use (12 parking spaces) and location of the carpark below the adjoining road level it is not expected to result in a poor quality of visual or audio amenity for the occupants of immediately adjoining properties. The entry/exit of the proposed carpark and windows on the upper level of the dwellings will allow passive surveillance of the street. Passive surveillance of the carpark will be provided by the proposed dwellings on the site.

The proposal is consistent with the requirements of the Parking and Access Code.

6.3 Stormwater Management Code

The Stormwater Management Code applies to all development requiring management of stormwater.

6.3.1 Use standards

There are no use standards in this code.

6.3.2 Development standards

PLANNING SCHEME REQUIREMENT	
Acceptable Solutions	Performance Criteria
7.7.1 Stormwater Drainage and Disposal	
A1 Stormwater from new impervious surfaces must be disposed of by gravity to public stormwater infrastructure.	P1 Stormwater from new impervious surfaces must be managed by any of the following: <ul style="list-style-type: none"> (a) disposed of on-site with soakage devices having regard to the suitability of the site, the system design and water sensitive urban design principles; (b) collected for re-use on the site; (c) disposed of to public stormwater infrastructure via a pump system which is designed, maintained and managed to minimise the risk of failure to the satisfaction of the Council.
<u>Response</u> Stormwater is proposed to be disposed of via a new stormwater connection to the existing stormwater main on New Town Road in accordance with acceptable solution A1. Refer to cover letter, plans and sections prepared by Rare Innovation Pty Ltd at Appendix F for details.	
A2 A stormwater system for a new development must incorporate water sensitive urban design principles for the treatment and disposal of stormwater if any of the following apply: <ul style="list-style-type: none"> (a) the size of new impervious area is more than 600 m²; (b) new car parking is provided for more than 6 cars; (c) a subdivision is for more than 5 lots. 	P2 A stormwater system for a new development must incorporate a stormwater drainage system of a size and design sufficient to achieve the stormwater quality and quantity targets in accordance with the State Stormwater Strategy 2010, as detailed in Table E7.1 unless it is not feasible to do so.
<u>Response</u> Appendix F outlines the proposed stormwater system for the development. The existing site has a large area (approximately 80%) of pre-existing impervious surfaces due to the clay/gravel tennis courts and concrete hard stand. The proposed development will also have a large area of impervious surfaces	

PLANNING SCHEME REQUIREMENT

(estimated at 90%), including a carpark. Stormwater detention is proposed to detain runoff above pre-existing conditions. This is to be achieved through containment within the courtyard and carpark area. Stormwater treatment is also proposed via a SPEL system or similar.

Refer to cover letter, plans and sections at Appendix F for details.

6.4 Historic Heritage Code

The subject site does not contain any listed heritage places but is situated within the Paviour Street Heritage Precinct (NT10) under the planning scheme.

6.4.1 Use standards

There are no use standards in this code.

6.4.2 Development standards for Heritage Precincts

A comprehensive Heritage Impact Assessment of the proposed development against the Historic Heritage Code has been undertaken by John Wadsley Planning and Heritage Consultancy (Appendix G). This includes analysis of the historical context of subject site and the association between the previous use of the site as the New Town Catholic Tennis Club and its connection to the New Town community.

The assessment found that, noting the local community connections to the tennis club, there is nothing significant about the subject site that precludes the proposed development. It finds that the demolition of the previous tennis club infrastructure will not result in the loss of heritage fabric or have an adverse impact on the heritage character of the Paviour Street Heritage Precinct. The report notes the importance of the club memorabilia and records being properly recorded, stored and archived to ensure the club's contribution to the social history of the area is appropriately recorded. The report finds that the proposed design and siting of the building has addressed the requirements of the Paviour Street Heritage Precinct under the planning scheme and will not have an adverse impact on the heritage significance of the heritage precinct. Refer to Appendix G for the full assessment of the proposal against the requirements of the code.

7 Specific Area Plan

7.1 Royal Hobart Hospital Helipad Airspace Specific Area Plan

The site is subject to the Royal Hobart Hospital Helipad Airspace Specific Area Plan and is located in the Outer Area 100m AHD.

PLANNING SCHEME REQUIREMENT	
Acceptable Solutions	Performance Criteria
F4.3.1 Building Height	
A1 Building height including minor protrusions, masts or aerals within the areas shown on Figure F4.1 must be no more than: (a) 64.5m AHD if within the Inner Area; (b) 100m AHD if within the Outer Area	P1 Buildings that exceed the specified height must not create an obstruction or hazard for the operation of aircraft, having regard to any advice from the Civil Aviation Safety Authority, the Department of Health and Human Services and the helipad operator.
<u>Planner Response</u> The site is located in the Outer Area 100m AHD and the proposed building height will be under 100m AHD. Refer to the architectural plans for further details. The acceptable solution (A1) is met.	

8 Conclusion

The proposal is use and development of the subject site at 73A New Town Road for a new three-storey multiple dwelling development. The development will include 22 dwellings (including 11 one bedroom units and 11 two bedroom units), a carpark and outdoor shared space and landscaping. All dwellings will be provided with two areas of private open space and access to a communal open space area to meet the anticipated needs of future residents. Vehicle access to the site will be via a new access ramp from Sunnyside Road. Pedestrian access to the site will be via the primary frontage from New Town Road (via the existing laneway) and from Paviour Street and Sunnyside Road. The building design utilises the steep level change at the rear of the site to achieve a single storey roofline along Paviour Street, in keeping with the character of the local area and the Paviour Street Historic Precinct.

The proposal relies upon the following performance criteria:

- 11.4.1 Residential density for multiple dwellings, P1
- 11.4.2 Setbacks and building envelope for all dwellings, P1 and P3
- 11.4.3 Site coverage and private open space for all dwellings, P1 and P2
- 11.4.4 Sunlight to private open space of multiple dwellings, P1
- 11.4.7 Frontage fences for all dwellings, P1
- 11.4.8 Waste storage for multiple dwellings, P1
- E6.6.1 Number of Car Parking Spaces, P1
- E6.7.12 Siting of Car Parking, P1

The proposal will provide 22 new dwellings that contribute to providing a range of dwelling types in the area that is compatible with the zone purpose statements and the existing variation and pattern of housing in the New Town area. The proposal is for social housing which will have a significant community benefit by providing housing for those in need that is well-located close to a high-frequency public transport corridor and is walking distance to shops and community facilities.

The proposal is consistent with the requirements of the *Hobart Interim Planning Scheme 2015* and is recommended for approval.

Appendix A DCT Land owner consent

Department of Communities Tasmania

GPO Box 65, HOBART TAS 7001 Australia
Ph: 1300 135 513
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Contact: Kristy Warren
Phone: (03) 6166 3617
Email: kristy.warren@communities.tas.gov.au

City of Hobart
GPO Box 503
Hobart TAS 7001

Subject: Development Application Pursuant to S.52(1F) of the *Land Use Planning and Approvals Act 1993* – 73A New Town Road, New Town

Pursuant to S.52(1F) of the *Land Use Planning and Approvals Act 1993* I, Richard Gilmour, as an authorised delegate under Section 6AB of the *Homes Act 1935*, hereby give permission for Philp Lighton Architects and/or Fairbrother Pty Ltd on behalf and for Centacare Evolve Housing to lodge development application over 73A New Town Road, New Town, being land in the ownership of the Director of Housing.

The subject land at 73A New Town Road is comprised of;

Certificates of Title:	252210/1, and
PIDs	5515409

If you have any questions regarding this letter, please don't hesitate to contact me via telephone on 6166 3616.

Yours sincerely

A handwritten signature in blue ink, appearing to read "R. Gilmour".

Richard Gilmour
Director, Portfolio and Supply
Communities Tasmania

10 November 2021

Department of Communities Tasmania

**HOMES ACT 1935****INSTRUMENT OF
DELEGATION**

I, Michael Pervan, being and as the Director of Housing under the *Homes Act 1935* (the Act), pursuant to section 6AB(1) of the Act and section 23AA of the *Acts Interpretation Act 1931*, hereby:

- Terminate the delegation of powers and functions under the Act issued on 24 September 2019, and
- Delegate the powers and functions under the provisions of the Act set out in Column 3 of the below Schedule, to the person or persons holding the offices or positions with the position number or numbers set out in Column 1 of the below Schedule and the office or position title set out in Column 2 of the below Schedule, subject to the conditions set out in Column 4 of the below Schedule:

SCHEDULE			
Column 1	Column 2	Column 3	Column 4
500018	Deputy Secretary – Housing, Disability and Community Services	Sections 3(3), 11, 11A, 12(1), 12(2), 12A(1), 12A(2), 13, 14, 14A, 15AA, 15AB, 15AC, 15AD, 17, 17AB, 17AC, 17A, 17B, 18, 18B, 18G, 19, 19B, 20(5), 21(1), 22, 27A, 31, 32, 34, 37, 37B, 37C, 37D, 37E, 39, 40 and 43(1)	
		Section 30	The delegation does not extend to receiving payment from the borrower or purchaser to cover expenses incurred in effecting repairs which the Director of Housing deems necessary under section 30(2)(b).
		Section 35	The delegation does not extend to taking action in a court of competent jurisdiction against the owner of land or land and dwelling house to which section 35(1) applies.

SCHEDULE			
Column 1	Column 2	Column 3	Column 4
517891	Director Portfolio and Supply	Sections 11, 11A, 12(1), 12(2), 12A(1), 12A(2), 13, 14, 14A, 17, 17AB, 17AC, 17A, 17B, 18, 18B, 19, 20(5), 21(1), 22, 27A, 31, 32, 34, 37, 37B, 37C, 37D, 37E, 39 and 40	
		Section 30	The delegation does not extend to receiving payment from the borrower or purchaser to cover expenses incurred in effecting repairs which the Director of Housing deems necessary under section 30(2)(b).
		Section 35	The delegation does not extend to taking action in a court of competent jurisdiction against the owner of land or land and dwelling house to which section 35(1) applies.
512430	Director Housing Programs	Sections 15AA, 15AB, 15AC, 15AD, 19, 37 and 39	
		18G	The Director Housing Programs can only exercise the delegation when the Deputy Secretary Housing Disability and Community Services is on leave, is uncontactable, or is unable for any reason to perform the relevant function
		Section 30(2)	<p>The delegation does not extend to:</p> <ul style="list-style-type: none"> • Authorising a person to enter and take possession of land, or land and dwelling house under section 30(2)(b), or • Entering upon land or land and dwelling housing under section 30(2)(b), or • Receiving payment from the borrower or purchaser to cover expenses incurred in effecting repairs which the Director of Housing deems necessary under section 30(2)(b).

SCHEDULE			
Column 1	Column 2	Column 3	Column 4
513958	Director Tenancy Services	Sections 15AA, 15AB, 15AC, 15AD, 19, 37 and 39	
		18G	The Director Tenancy Services can only exercise the delegation when the Deputy Secretary Housing Disability and Community Services and Director Housing Programs are on leave, are uncontactable, or are both unable for any reason to perform the relevant function
		30(2)	<p>The delegation does not extend to:</p> <ul style="list-style-type: none"> • Authorising a person to enter and take possession of land, or land and dwelling house under section 30(2)(b), or • Entering upon land or land and dwelling housing under section 30(2)(b), or • Receiving payment from the borrower or purchaser to cover expenses incurred in effecting repairs which the Director of Housing deems necessary under section 30(2)(b).
520545	General Manager Portfolio Maintenance	Sections 14, 30(1) and 37C	
		Section 14A	The delegation does not extend to selling or leasing, or entering into other transactions in respect of, land or any buildings or works thereon.
		Section 30(2)	The delegation does not extend to receiving payment from the borrower or purchaser to cover expenses incurred in effecting repairs which the Director of Housing deems necessary under section 30(2)(b).

SCHEDULE			
Column 1	Column 2	Column 3	Column 4
		Section 35	<p>The delegation does not extend to:</p> <ul style="list-style-type: none"> • Taking action in a court of competent jurisdiction against the owner of land or land and dwelling house to which section 35(1) applies, or • Letting any land or land and dwelling house that is subject to section 35(2) pending the sale of the land or land and dwelling house under section 35(2A).
517007, 514263	Manager Portfolio Maintenance	Section 37C	
		Section 30(2)	<p>The delegation does not extend to:</p> <ul style="list-style-type: none"> • Giving a borrower or purchaser one month's notice in writing if the purchaser or borrower has not complied with the requirements of section 30, or • Receiving payment from the borrower or purchaser to cover expenses incurred in effecting repairs which the Director of Housing deems necessary under section 30(2)(b).
		Section 35(1)	<p>The delegation does not extend to:</p> <ul style="list-style-type: none"> • Taking action in a court of competent jurisdiction against the owner of land or land and dwelling house to which section 35(1) applies, or • Letting any land or land and dwelling house that is subject to section 35(2) pending the sale of the land or land and dwelling house under section 35(2A).
513352	Manager Portfolio Planning	Section 31(1)	
501768	Manager Program	Sections 15AA, 15AB, 15AC and 15AD	

SCHEDULE			
Column 1	Column 2	Column 3	Column 4
	Delivery, Housing Programs	Section 30(2)	<p>The delegation does not extend to:</p> <ul style="list-style-type: none"> • Authorising a person to enter and take possession of land, or land and a dwelling house under section 30(2)(a), or • Entering upon land or land and a dwelling house under section 30(2)(b), or • Receiving payment from the borrower or purchaser to cover expenses incurred in effecting repairs which the Director of
			Housing deems necessary under section 30(2)(b).
500029	Principal Housing Advisor, Housing Programs	Sections 15AA, 15AB, 15AC and 15AD	
		Section 30(2)	<p>The delegation does not extend to:</p> <ul style="list-style-type: none"> • Authorising a person to enter and take possession of land, or land and a dwelling house under section 30(2)(a), or • Entering upon land or land and a dwelling house under section 30(2)(b), or • Receiving payment from the borrower or purchaser to cover expenses incurred in effecting repairs which the Director of Housing deems necessary under section 30(2)(b).
520546	Principal Performance Advisor, Housing Programs	Sections 15AA, 15AB, 15AC and 15AD	
		Section 30(2)	<p>The delegation does not extend to:</p> <ul style="list-style-type: none"> • Authorising a person to enter and take possession of land, or land and a dwelling house under section 30(2)(a), or • Entering upon land or land and a dwelling house under section 30(2)(b), or <p>Receiving payment from the borrower or purchaser to cover expenses incurred in effecting repairs which the Director of Housing deems necessary under section 30(2)(b).</p>

SCHEDULE			
Column 1	Column 2	Column 3	Column 4
512470	Housing Advisor, Housing Programs	Sections 15AA, 15AB, 15AC and 15AD	
		Section 30(2)	<p>The delegation does not extend to:</p> <ul style="list-style-type: none"> • Authorising a person to enter and take possession of land, or land and a dwelling house under section 30(2)(a), or • Entering upon land or land and a dwelling house under section 30(2)(b), or • Receiving payment from the borrower or purchaser to cover expenses incurred in effecting repairs which the Director of Housing deems necessary under section 30(2)(b).
500026 500212 517112 517113 524732 524733	Program Officer, Housing Programs	Sections 15AA, 15AB, 15AC and 15AD	
		Section 30(2)	<p>The delegation does not extend to:</p> <ul style="list-style-type: none"> • Authorising a person to enter and take possession of land, or land and a dwelling house under section 30(2)(a), or
			<ul style="list-style-type: none"> • Entering upon land or land and a dwelling house under section 30(2)(b), or • Receiving payment from the borrower or purchaser to cover expenses incurred in effecting repairs which the Director of Housing deems necessary under section 30(2)(b).
		Section 30(2)	<p>The delegation does not extend to:</p> <ul style="list-style-type: none"> • Authorising a person to enter and take possession of land, or land and a dwelling house under section 30(2)(a), or
			<ul style="list-style-type: none"> • Entering upon land or land and a dwelling house under section 30(2)(b), or

SCHEDULE			
Column 1	Column 2	Column 3	Column 4
			<ul style="list-style-type: none"> Receiving payment from the borrower or purchaser to cover expenses incurred in effecting repairs which the Director of Housing deems necessary under section 30(2)(b).
518040	Manager Community Housing Programs	Sections 15AA, 15AB, 15AC and 15AD	
		Section 30(2)	<p>The delegation does not extend to:</p> <ul style="list-style-type: none"> Authorising a person to enter and take possession of land, or land and a dwelling house under section 30(2)(a), or Entering upon land or land and a dwelling house under section 30(2)(b), or Receiving payment from the borrower or purchaser to cover expenses incurred in effecting repairs which the Director of Housing deems necessary under section 30(2)(b).
510953	Area Manager – Greater North	Sections 15AA, 15AB, 15AC and 15AD	
510951	Area Manager – Greater South	Sections 15AA, 15AB, 15AC and 15AD	
517101	Assistant Area Manager	Sections 15AA, 15AC and 15AD	
522447	Operations Officer	Sections 15AA, 15AB, 15AC and 15AD	
522445	Tenancy Intervention Officer (Greater South)	Sections 15AA, 15AB, 15AC and 15AB	
522444	Tenancy Intervention Officer (Greater North)	Sections 15AA, 15AB, 15AC and 15AD	

SCHEDULE			
Column 1	Column 2	Column 3	Column 4
516992, 516996, 516997, 516998, 516999, 517000, 517002, 517003, 517005, 517006, 517021, 517024, 517025, 517029, 517056, 517058, 517059, 517060, 517061, 517064, 517065, 517085, 517088, 517089, 517090, 517091, 517093, 517094, 517105	Property Officer	Sections 15AA 15AB, 15AC and 15AD	
511146, 511147, 511151,	Administrative Support Officer	Sections 15AA, 15AB, 15AC and 15AD	
511153, 516153, 517010, 517043, 517074, 517105, 517106, 522515, 522516, 522811, 522812			
517038	Community Housing Programs Contract Officer	Sections 15AA, 15AB, 15AC and 15AD	

SCHEDULE			
Column 1	Column 2	Column 3	Column 4
522453, 522454, 522455, 522456	Zone Coordinator (Greater South)	Sections 15AA15AB, 15AC and 15AD	
522449, 522452, 522448, 522451	Zone Coordinator (Greater North)	Sections 15AA, 15AB, 15AC and 15AD	

Dated this 7th day of August 2020



Michael Pervan
Director of Housing

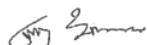
LAND USE PLANNING AND APPROVALS ACT 1993**INSTRUMENT OF DELEGATION**

I, Guy Barnett MP, being the Minister for Housing and the Minister of the Crown administering land administered or owned by the Director of Housing by or under, or for the purposes of the *Homes Act 1935* for and on behalf of the Crown, pursuant to section 52(1F) of the *Land Use Planning and Approval Act 1993* and section 23AA of the *Acts Interpretation Act 1931*, hereby:

1. Revoke the delegation made by Michael Darrel Joseph Ferguson of functions under section 52(1B) of the *Land Use Planning and Approvals Act 1993* on 21 September 2021, and
2. Delegate my functions under section 52(1B) of the *Land Use Planning Approval Act 1993* to the person or persons for the time being holding, occupying or acting in the offices or positions with the position number set out in Column 1 of the below Schedule and the office or position title set out in Column 2 of the below Schedule:

SCHEDULE	
Column 1	Column 2
	Secretary Department of Communities
	Director of Housing
500018	Deputy Secretary – Community Services, Infrastructure and Housing
517891	Director - Community Infrastructure
520545	State Manager - Maintenance Services
513352	Manager - Asset Management and Planning

Dated this 1st day of August 2022



Guy Barnett MP

Minister for Housing

Appendix B Certificate of title

**RESULT OF SEARCH**

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980

SEARCH OF TORRENS TITLE

VOLUME 205058	FOLIO 1
EDITION 4	DATE OF ISSUE 08-Oct-2020

SEARCH DATE : 29-Apr-2022

SEARCH TIME : 11.03 AM

DESCRIPTION OF LAND

City of HOBART

Lot 1 on Plan 205058

Derivation : Part of 109A-3R-0Ps. Gtd. to J. Bell

Prior CT 2307/19

SCHEDULE 1M829817 TRANSFER to DIRECTOR OF HOUSING Registered
08-Oct-2020 at noonSCHEDULE 2

Reservations and conditions in the Crown Grant if any

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations



FOLIO PLAN

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980



ORIGINAL - NOT TO BE REMOVED FROM TITLES OFFICE

R.P. 1470

TASMANIA

REAL PROPERTY ACT, 1862, as amended



CERTIFICATE OF TITLE

Register Book

Vol. Fol.

2307 19

I certify that the person described in the First Schedule is the registered proprietor of an estate in fee simple in the land within described together with such interests and subject to such encumbrances and interests as are shown in the Second Schedule. In witness whereof I have hereunto signed my name and affixed my seal.

Recorder of Titles.
DESCRIPTION OF LAND

CITY OF HOBART

SIX TENTHS OF A PERCH on the Plan hereon

FIRST SCHEDULE (continued overleaf)

THE TRUSTEES OF THE PROPERTY OF THE ROMAN CATHOLIC CHURCH IN TASMANIA

SECOND SCHEDULE (continued overleaf)

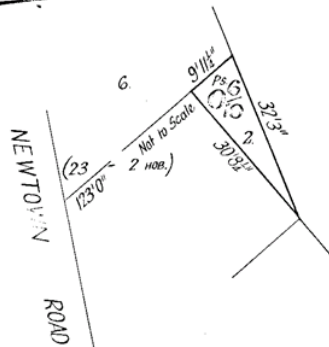
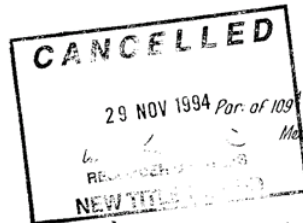
NIL

F THE RECORDER OF TITLES ARE NO LONGER SUBSISTING.

Lot 1 of this plan consists of all the land comprised in the above-mentioned cancelled folio of the Register.

REGISTERED NUMBER

205058



1st Edition. Registered 23 JAN 1993

Derived from C.T.Vol. 828 Fol. 52- Transfer A257199- F.E.Scurrah.

**RESULT OF SEARCH**

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980

SEARCH OF TORRENS TITLE

VOLUME 252210	FOLIO 1
EDITION 3	DATE OF ISSUE 08-Oct-2020

SEARCH DATE : 29-Apr-2022

SEARCH TIME : 11.03 AM

DESCRIPTION OF LAND

City of HOBART
Lot 1 on Plan 252210
Derivation : Part of 109A-3R-0P Gtd. to J. Bell
Prior CT 2395/12

SCHEDULE 1

M829817 TRANSFER to DIRECTOR OF HOUSING Registered
08-Oct-2020 at noon

SCHEDULE 2

Reservations and conditions in the Crown Grant if any
BURDENING EASEMENT a right of drainage (appurtenant to Lot 1
on Sealed Plan No. 61817) over the drainage easement
passing through the said land within described

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations



FOLIO PLAN

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980



ORIGINAL - NOT TO BE REMOVED FROM TITLES OFFICE

R.P. 1470

TASMANIA

REAL PROPERTY ACT, 1862, as amended



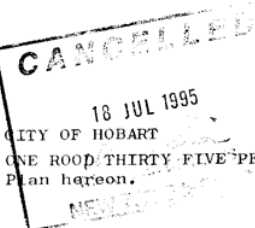
CERTIFICATE OF TITLE

Register Book

Vol. Fol.

2395 12

I certify that the person described in the First Schedule is the registered proprietor of an estate in fee simple in the land within described together with such interests and subject to such encumbrances and interests as are shown in the Second Schedule. In witness whereof I have hereunto signed my name and affixed my seal.



Recorder of Titles.

DESCRIPTION OF LAND



CITY OF HOBART

ONE ROOD THIRTY FIVE PERCHES AND NINE TENTHS OF A PERCH on the Plan hereon.

FIRST SCHEDULE (continued overleaf)

THE TRUSTEES OF THE PROPERTY OF THE ROMAN CATHOLIC CHURCH IN
TASMANIA

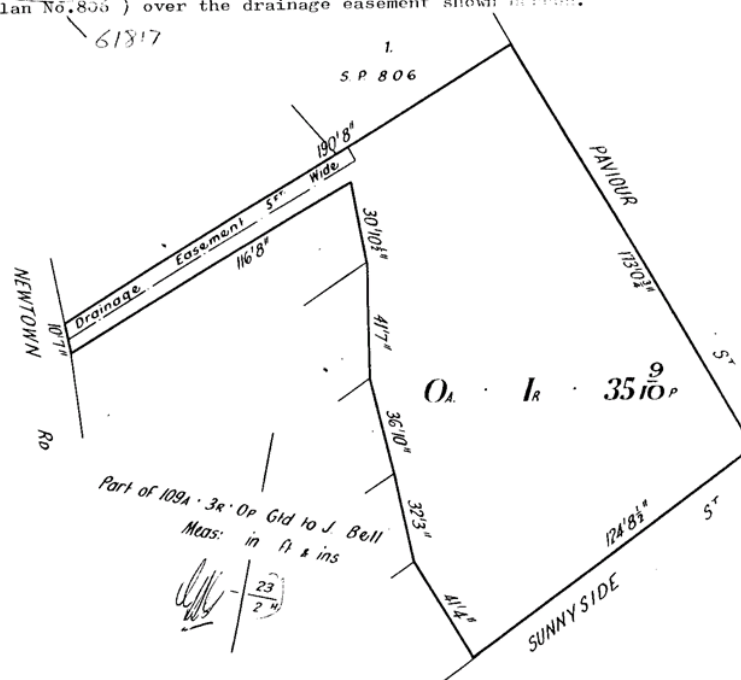
SECOND SCHEDULE (continued overleaf)

SUBJECT TO a right of drainage (appurtenant to Lot 1 on Sealed Plan No. 806) over the drainage easement shown hereon.

Let 1 of this plan consists of all the land comprised in the above-mentioned use of the Recorder of Titles are no longer subsisting.

REGISTERED NUMBER

252210



FIRST Edition. Registered 20 SEP 1968

Derived from C.T.Vol.311 Fol.189. TRANSFER NO.93075- C.R.Barnett.

Appendix C Development plans

Appendix D Preliminary geotechnical investigation

GEOTECHNICAL SITE ASSESSMENT

73A New Town Road

New Town

February 2022



Disclaimer: The author does not warrant the information contained in this document is free from errors or omissions. The author shall not in any way be liable for any loss, damage or injury suffered by the User consequent upon, or incidental to, the existence of errors in the information.

73A New Town Road, New Town – Geotechnical Site Assessment

Introduction

Client: Philp Lighton Architects P/L
Date of inspection: 02/02/2022
Location: 73a New Town Road, New Town, Tasmania
Land Zoning: 11.0 Inner Residential
Building type: Unit Block
Investigation: Excavation
Inspected by: JP Cumming

Background information

Map: Mineral Resources Tasmania map 1:25 000
Rock type: Triassic Sediment Deposits
Soil depth: ~1.2 - 4.5m
Planning Overlays: Heritage Precinct Paviour Street Area, Royal Hobart Hospital Helipad Airspace Specific Area Plan,
Local meteorology: Annual rainfall approx. 750 mm
Local services: Reticulated water and services on site.

Site conditions

Slope and aspect: Original slopes SE wall ~10-14°, NE wall ~35-75°, to flat on courts.
Site drainage: Moderately drained
Vegetation: Previously some small shrubs & gardens. Area striped at present.
Weather conditions: Fine, approx. 5mm rainfall received in preceding 7 days.
Ground surface: Grassed areas with some gardens. Area excavated and striped at present.

73A New Town Road, New Town – Geotechnical Site Assessment

Investigation

Geo-Environmental Solutions Pty. Ltd. (GES) were engaged by Philp Lighton Architects P/L ("the Client") to undertake a Geotechnical Investigation at 73A New Town Road (hereby referred to as 'The Site'), as shown in Figure 1. This report presents the findings of the Geotechnical Investigation undertaken by GES at the investigation site in New Town, Tasmania.

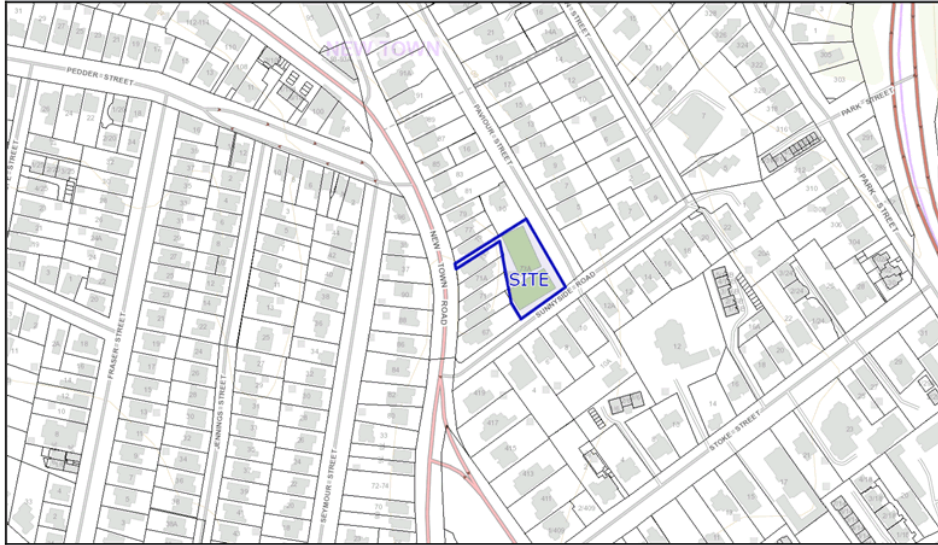


Figure 1. Location of the site, outlined in blue (The LIST).

A number of test pits were completed to identify the distribution of, and variation in soil materials on the site. Representative profiles at the location indicated in Appendix 1 were logged and chosen for classification according to AS1726-1993

The purpose of the investigation was to:

- Provide factual data from the soil material encountered on site.
- Provide information on the geotechnical conditions encountered.
- Provide advice on the bearing capacities of the material encountered
- Provide 'Site Classification' according to AS2870-2011.

73A New Town Road, New Town – Geotechnical Site Assessment

Site Summary

The underlying geology on site is part of the New Town Coal Measures formation formed during the Triassic period, *Interbedded cross-bedded white quartzose sandstone, quartz-rich lithic sandstone, siltstone, and mudstone; Hobart area- upper interval with much dark grey carbonaceous mudstone, thin lenticular coal seams and fossil plants in place.* (The LIST 1:25,000). The site was previously a quarry (possibly for building/road material with a coal sub-commodity), prior to being a tennis court (Figure 2).

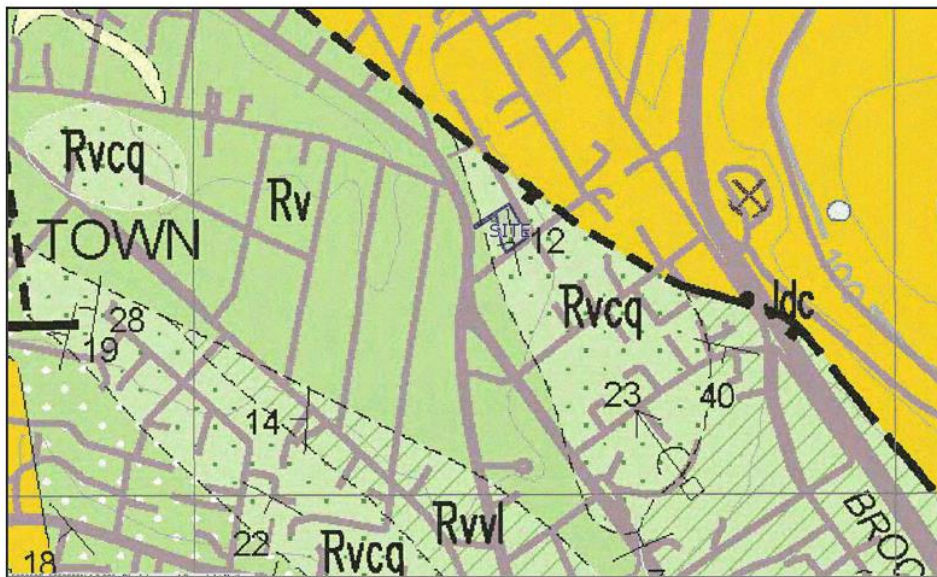


Figure 2. Mapped Geology of the area with the site outlined in blue (The LIST).

73A New Town Road, New Town – Geotechnical Site Assessment

North-eastern Wall

The long north-eastern wall has been excavated to create an embankment with a steep batter angle. The embankment has two trenches cut vertically into the wall (see Figure 3 & Appendix 2 for locations).



Figure 3. View of the north-eastern embankment with Trench 1 (LHS), showing sandy topsoil and sand/mudstone base. The sand/mudstone outcrop of the south-eastern wall is visible (RHS).

The exposed topsoil is extremely dry, friable, highly weathered, and non-coherent. The soil becomes more coherent and consolidated with depth. Some intermittent sections of the embankments base show outcropping sand/mudstone and loose floating rock.

The loss of vegetation on the north-eastern embankment and the recent excavations may have exacerbated any potential for slope failure or soil creep. This slope may require some form of slope consolidation such as wire netting and replanting of suitable flora to help stabilise the slope.

73A New Town Road, New Town – Geotechnical Site Assessment

South-eastern Wall

The highly weathered outcrop on the south-eastern side of the site has a textbook example of the New Town Coal Measure. The outcrop comprises cross bedded sandstone/mudstone, steeply dipping towards the south, overlying a lens of extremely weathered and eroded coal (Figure 4).



Figure 4. Highly weathered outcrop of New Town Coal Measure, located on the South-eastern side of the site

The nature of the cross/interbedded mud/sandstone means that the outcrop will have natural lines of partition along the cleavage, foliation, and bedding that are susceptible to separation by physical and chemical weathering. These beds are also dipping at a steep direction towards the south which is increasing pressure upon the overhang units.

The underlying coal measure is a comparable soft rock and is continually being weathered and eroded away at a greater rate and undermining the overlying mud/sandstone beds.

73A New Town Road, New Town – Geotechnical Site Assessment

These factors are combining to create increasing stress and strain upon the overlying mud/sandstone unit.

This outcrop has the potential to become highly unstable in the future and may result in localised catastrophic failure of the overhanging outcrop.

Civil geotechnical engineering will be required to mitigate any potential wall and slope failure. This may require rock bolting, or some type of retaining structure (such as an engineered retaining wall or mass concrete blocks with appropriate backfill to support the rock). This should be completed prior to any further substantial earthworks.

Soil Profile Notes

The subsurface conditions encountered during field excavation were dominated by various mixed fill types with variations of depth across the site. The subsoil is generally consistent with available geological mapping of the Triassic aged deposits (MRT 1:25 000 sheets) but is only proximal to the bedrock. See Figure 2. The soil profile across the site is dominated by an upper mixed fill containing varying amounts of surface gravelly sands (tennis court base), overlying a sandy gravelly clay mixed fill. This overlies a parent rock subsoil consisting of sandy gravels (Table 1 & Appendix 1).

Table 1 – TP3 only see appendix 1 for full soil bore hole logs.

Depth (m)	USCS	Description
0 – 2.50	SC	FILL - SANDY GRAVEL: with clay, trace building materials, orange to brown to pale grey, slightly moist, medium dense, water ingress at 1m.
2.50 – 3.30	CH	FILL - Sandy CLAY: medium to high plasticity, dark brown to pale grey, moist, stiff.
3.50 – 4.50	Rock	SANDSTONE: grey/orange/yellow, dry, low strength, highly weathered, bedding & joint spacing 10-100mm; interbedded mudstone & coal measures, dark grey/yellow, very low to low strength, extremely to highly weathered, laminations spaced 5-15mm. New Town Coal Measures. REFUSAL

Geotechnical Testing

Soil and Rock Descriptions

The bore holes and cut landscape were logged in accordance with Australian Standard AS 1726 – 2017 'Geotechnical Site Investigations'.

73A New Town Road, New Town – Geotechnical Site Assessment

Point Load Strength Index

PLSI testing conducted on lumps was converted to $I_s(50)$. Bad breaks through healed defects were not included in the results. Nine (9) PLSI tests were carried out on sandstone bedrock samples with results summarised in Table 2.

Table 2 Summary of Point Load Strength Index Test Results

Strength Classification $I_s(50)$ (MPa)	Class	Number of test results within this strength classification
0 to 0.03	Extremely Low	-
0.03 to 0.1	Very Low	2
0.1 to 0.3	Low	6
0.3 to 1	Medium	1
1 to 3	High	-
3 to 10	Very High	-
>10	Extremely High	-

The results indicate the sandstone rock is highly variable. Rock strength ranges from very low to medium strength ranging from 1.2 to 4.5 m depth.

The results of the PLSI are presented on the engineering logs in Appendix 1.

It should be noted the PLSI results provide an indication of the strength of the rock that was encountered during the investigation and that rock with higher or lower strengths than tested may be present at the site.

Groundwater

Groundwater was encountered in test pits 1, 3, & 5 at an approximate depth of one (~1) metre the time of this site investigation.

Site Excavation Conditions

Excavation of all soil material across the site is likely to be achieved with relative ease with conventional hydraulic excavation machinery at all locations depending on required excavation depths, which have not been provided to GES at the time this report was written. Given the groundwater ingress was encountered at relatively shallow depths below current ground surface at the time of this investigation, dewatering techniques are likely to be required to facilitate excavations for foundation preparations across the site.

73A New Town Road, New Town – Geotechnical Site Assessment

Bearing Capacities

The soil and fill material on site exhibited variable bearing capacities generally increasing with depth, there were some low bearing capacities encountered during field testing within the fill material, it is imperative that all foundations be placed into the underlying weathered sandstone. The weathered sandstone has an assigned allowable end bearing capacity of 200kPa. It must be noted this is based upon point load testing of sandstone and the rock mass view on site. No foundations should be placed in the coal seams present within the sandstone as the coal has a much lower strength.

Bearing capacities of natural soils underlying the proposed development will also exhibit a small degree of heterogeneity across the site. Localised water inflows are also likely to be encountered during excavation which may cause softening of the founding material. Therefore, it is recommended that all loose or water affected material be removed from the base of all excavations prior to construction. It is also recommended that the foundation/pavement excavations be inspected by an engineer or GES in order to confirm the foundations conditions are consistent with engineering design parameters.

Site Classification

The site has been assessed and classified in accordance with AS2870.2011 "Residential Slabs and Footings".

The site has been classified as:

Class P due to:

1. Significant volumes of uncontrolled fill material across the entire site.
2. The variability of the soil profile across the site which is anticipated to exhibit considerable differential settlement due to the nature of the fill.
3. Elevated moisture conditions including free water ingress through the fill is likely to cause additional impediments to design and construction.
4. The cutting landform/unsupported subvertical embankment also has the potential for failure and requires design and implementation of appropriate retainment structures.

Y's range: 20-40mm

NOTE: All foundations must be socketed into the underlying weathered bedrock.

73A New Town Road, New Town – Geotechnical Site Assessment

Construction Recommendations

Conventional foundation designs are likely to be suitable for the proposed structure on this site provided sufficient founding depth and bearing capacities.

It is recommended that:

- For areas of proposed shallow foundations all foundations **must penetrate through ALL fill material & any topsoils** and socketed into the highly weathered rock with bearing capacities >150kPa.
- Conventional pad footings are likely to be suitable only if excavated to sufficient depth and bearing.
- Dependent upon the final foundation design chosen and the loads supported, pile foundations may be required, and all piles should be driven or bored into underlying natural material with sufficient bearing capacities for the proposed design. If loads are high, further detailed site investigations will be required to obtain specific geotechnical parameters.
- Levelling and compaction of footprints with either natural rock fill or imported Class 1 fill should follow AS 1289 5.1.1
- All earthworks onsite be compliant with AS3798-2007 "Guidelines for Earthworks on commercial and residential subdivision"
- Pavements should be designed with an estimated CBR value of **1%** (based upon controlled compaction of existing layers or natural soils) although this may be increased with further stabilisation of the subgrade using lime or cement, further testing and 4-day soaked CBR analysis may provide greater CBR % value.
- Stormwater be connected as soon as any roofing is sealed.
- Drainage of the site pertinent to foundation and pavements be designed to flow away from footing areas and towards stormwater discharge points.

73A New Town Road, New Town – Geotechnical Site Assessment

Conclusions


The above geotechnical investigation has found that overall, the ground conditions across the proposed areas of development may be problematic with potential geotechnical impediments to construction. Conventional foundation designs are likely to be suitable for the proposed structure provided all footings are founded in the sandstone bedrock with adequate bearing capacities for the load required for the proposed development.

It is also recommended that:


- Appropriate engineering design for stabilisation of earth batters on site must be implemented.
- Appropriate engineering design of retainment systems for the overhanging sandstone in the SE corner of the site must be undertaken.
- Further geotechnical investigations may be required to provide relevant information for foundation design once loads and depths are confirmed.
- All earthworks onsite be compliant with AS3798-2007 *"Guidelines for Earthworks on commercial and residential developments"*
- Levelling and compaction of footprints with either natural soil or imported Class 1 fill should follow AS1289 5.1.1
- Drainage of the site pertinent to foundation and pavements be designed to flow away from footing areas and towards stormwater discharge points.

73A New Town Road, New Town – Geotechnical Site Assessment


Appendix 1 – Test hole logs

 GEO-ENVIRONMENTAL SOLUTIONS		PROJECT: 73A New Town Road		Log of TP1																				
		CLIENT: Philp Lighton Architects P/L		EASTING (GDA94):																				
		LOCATION: New Town		NORTHING (GDA94):																				
CONTRACTOR: Fairbrother Group		EXCAVATOR: 14T		ELEVATION (m AHD):																				
PIT WIDTH: 0.7m		PIT LENGTH: 1.5m		TOTAL DEPTH (m): 1.2																				
EXCAVATOR REACH: 2.9m		DATE: 26/10/2021		NATURAL GROUND (m): 0.6																				
LOGGED BY: JP. Cumming				DEPTH WATER STRUCK (m):																				
DEPTH (m)	<table border="1"> <tr> <th colspan="2">FIELD STRENGTH</th> <th rowspan="2">SAMPLE</th> <th rowspan="2">DCP</th> <th rowspan="2">HAND PEN</th> <th rowspan="2">SHEAR VANE</th> <th rowspan="2">Point Load (IS 50)</th> <th rowspan="2">Moisture</th> <th rowspan="2">Geology Unit</th> <th rowspan="2">Pit Wall % Integrity</th> <th rowspan="2">Lithology</th> </tr> <tr> <th>SOIL</th> <th>ROCK</th> </tr> </table>										FIELD STRENGTH		SAMPLE	DCP	HAND PEN	SHEAR VANE	Point Load (IS 50)	Moisture	Geology Unit	Pit Wall % Integrity	Lithology	SOIL	ROCK	ELEVATION (m AHD)
	FIELD STRENGTH		SAMPLE	DCP	HAND PEN	SHEAR VANE	Point Load (IS 50)	Moisture	Geology Unit	Pit Wall % Integrity	Lithology													
SOIL	ROCK																							
V LOOSE / V SOFT LOOSE / SOFT MEDIUM DENSE / STIFF V DENSE / V STIFF HARD VERY LOW LOW MEDIUM HIGH VERY-EXT. HIGH	CBR (%) Swell (%) Blow Count Allowable Bearing Capacity (kPa) CBR UCS (kPa) Sand Friction Angle Undrained Shear (kPa) Cohesion (kPa) Allowable Bearing Capacity (kPa)	0 20 40 60 80 100	D FILL SM Rvcq Rock	GW CH GW Rock	0.27 D																			
0.0 0.2 0.4 0.6 0.8 1.0 1.2	FILL - Sandy GRAVEL: orange to brown, slightly dry, medium dense. FILL - Sandy CLAY: with gravel, medium to high plasticity, dark grey to yellow brown, slightly moist, stiff. Sandy GRAVEL: extremely weathered Sandstone, yellow brown to grey, slightly moist, dense SANDSTONE: grey/orange/yellow, dry, low strength, highly weathered, bedding & joint spacing 10-100mm; interbedded mudstone & coal measures, dark grey/yellow, very low to low strength, extremely to highly weathered, laminations spaced 5-15mm. New Town Coal Measures. REFUSAL																							

73A New Town Road, New Town – Geotechnical Site Assessment

 GEO-ENVIRONMENTAL SOLUTIONS		PROJECT: 73A New Town Road		Log of TP2								
		CLIENT: Philp Lighton Architects P/L		EASTING (GDA94):								
		LOCATION: New Town		NORTHING (GDA94):								
CONTRACTOR: Fairbrother Group		EXCAVATOR: 14T		ELEVATION (m AHD):								
PIT WIDTH: 0.7m		PIT LENGTH: 1.5m		TOTAL DEPTH (m): 3.5								
EXCAVATOR REACH: 2.9m		DATE: 26/10/2021		NATURAL GROUND (m): 3								
LOGGED BY: JP. Cumming				DEPTH WATER STRUCK (m): 1								
DEPTH (m)	FIELD STRENGTH		SAMPLE	DGP	HAND PENO	SHEAR VANE	Point Load (IS 50)	Moisture	Geology Unit	Pit Wall % Integrity	Lithology	ELEVATION (m AHD)
	SOIL	ROCK										
0.0	V LOOSE / V SOFT											
0.2	V MEDIUM											
0.4	V DENSE / V STIFF											
0.6	HARD											
0.8	VERY LOW											
1.0	LOW											
1.2	VERY LOW											
1.4	MEDIUM											
1.6	HIGH											
1.8	VERY-EXT. HIGH											
2.0												
2.2												
2.4												
2.6												
2.8												
3.0												
3.2												
3.4												
<p>FILL - Sandy GRAVEL: orange to brown, slightly dry, medium dense.</p> <p>FILL - Clayey SAND: with gravel, dark grey to pale grey, slightly moist to moist, stiff, water ingress at 1m.</p> <p>SANDSTONE: grey/orange/yellow, dry, low strength, highly weathered, bedding & joint spacing 10-100mm; interbedded mudstone & coal measures, dark grey/yellow, very low to low strength, extremely to highly weathered, laminations spaced 5-15mm. New Town Coal Measures. REFUSAL</p>												
<p>GEO-ENVIRONMENTAL SOLUTIONS - 29 KIRKSWAY PLACE, BATTERY POINT 7004 - T: 03 6223 1839</p>												

73A New Town Road, New Town – Geotechnical Site Assessment

 GEO-ENVIRONMENTAL SOLUTIONS		PROJECT: 73A New Town Road		Log of TP3								
		CLIENT: Philp Lighton Architects P/L		EASTING (GDA94):								
		LOCATION: New Town		NORTHING (GDA94):								
CONTRACTOR: Fairbrother Group		EXCAVATOR: 14T		ELEVATION (m AHD):								
PIT WIDTH: 0.7m		PIT LENGTH: 1.5m		TOTAL DEPTH (m): 4.5								
EXCAVATOR REACH: 2.9m		DATE: 26/10/2021		NATURAL GROUND (m): 2.5								
LOGGED BY: JP. Cumming				DEPTH WATER STRUCK (m): 1								
DEPTH (m)	FIELD STRENGTH		SAMPLE	DGP	HAND PENO	SHEAR VANE	Point Load (IS 50)	Moisture	Geology Unit	Pit Wall % Integrity	Lithology	ELEVATION (m AHD)
	SOIL	ROCK										
0.0	V LOOSE / V SOFT											
0.2	V MEDIUM											
0.4	V DENSE / V STIFF											
0.6	HARD											
0.8	VERY LOW											
1.0	LOW											
1.2	VERY LOW											
1.4	MEDIUM											
1.6	HIGH											
1.8	VERY-EXT. HIGH											
2.0												
2.2												
2.4												
2.6												
2.8												
3.0												
3.2												
3.4												
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3.8												
4.0												
4.2												
4.4												

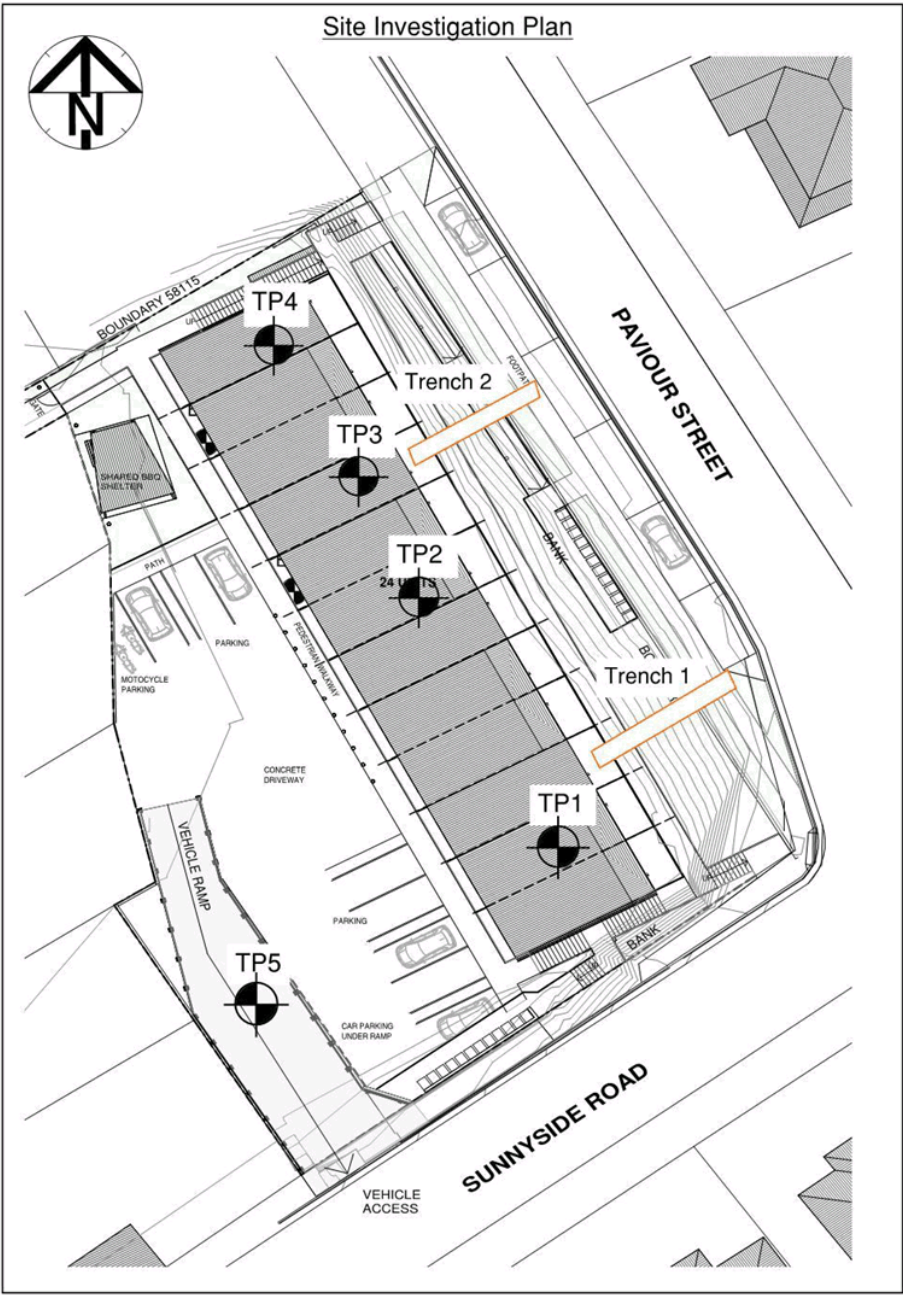
GEO-ENVIRONMENTAL SOLUTIONS - 29 KIRKSWAY PLACE, BATTERY POINT 7004 - T: 03 6223 1839										Page 1 of 1
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GEO-ENVIRONMENTAL SOLUTIONS		PROJECT: 73A New Town Road		Log of TP4		
		CLIENT: Philp Lighton Architects P/L		EASTING (GDA94):		
		LOCATION: New Town		NORTHING (GDA94):		
CONTRACTOR: Fairbrother Group		EXCAVATOR: 14T		ELEVATION (m AHD):		
PIT WIDTH: 0.7m		PIT LENGTH: 1.5m		TOTAL DEPTH (m): 1.2		
EXCAVATOR REACH: 2.9m		DATE: 26/10/2021		NATURAL GROUND (m): 1		
LOGGED BY: JP. Cumming				DEPTH WATER STRUCK (m):		
FIELD STRENGTH SOIL ROCK		SAMPLE	DCP	HAND PENETRO	SHEAR VANE	Lithology
CBR (%)						
Swell (%)						
Blow Count						
Allowable Bearing Capacity (kPa)						
CBR						
UCS (kPa)						
Sand Friction Angle						
Undrained Shear (kPa)						
Cohesion (kPa)						
Allowable Bearing Capacity (kPa)						
Point Load (IS 50)						
Moisture						
Geology Unit						
Pit Wall % Integrity						
D						
SM						
D Rvca						
Rock						
FILL - Sandy GRAVEL: orange to brown, dry, medium dense.						
FILL - Sandy GRAVEL: with boulders, pale brown-dark brown to grey, slightly moist, dense.						
SANDSTONE: grey/orange/yellow, dry, low strength, highly weathered, bedding & joint spacing 10-100mm; interbedded mudstone & coal measures, dark grey/yellow, very low to low strength, extremely to highly weathered, laminations spaced 5-15mm. New Town Coal Measures. REFUSAL						

[illegible]

73A New Town Road, New Town – Geotechnical Site Assessment

Appendix 2 - Site Plan



73A New Town Road, New Town – Geotechnical Site Assessment

Explanatory Notes

1 Scope of Works

The methods of description and classification of soils used in this report are based largely on Australian Standard 1726 – Geotechnical Site Investigations (AS1726:2017), with reference to Australian Standard 1289 – Methods for testing soils for engineering purposes (AS1289), for eventual Site Classification according to Australian Standard 2870 (AS2870:2011) – Residential Slabs and Footings and Australian Standard 1547 (AS1547:2012) On-site domestic wastewater management.

1.1 Site Classification AS2870:2011

Site classification with reference to the above Australian Standards are based on site reactivity.

Class	Foundation Conditions	Characteristic Surface Movement
A	Most sand and rock sites with little or no ground movement from moisture changes.	0mm
S	Slightly reactive clay sites, which may experience only slight ground movement from moisture changes.	0 – 20mm
M	Moderately reactive clay or silt sites, which may experience moderate ground movement from moisture changes.	20 – 40mm
H-1	Highly reactive clay sites, which may experience high ground movement from moisture changes.	40 – 60mm
H-2	Highly reactive clay sites, which may experience very high ground movement from moisture changes.	60 – 75mm
E	Extremely reactive sites, which may experience extreme ground movement from moisture changes.	>75mm

*Note: Soils where foundation performance may be significantly affected by factors other than reactive soil movement are classified as **Class P**.*

A site is classified as **Class P** when:

- The bearing capacity of the soil profile in the foundation zone is generally less than 100kpa
- If excessive foundation settlement may occur due to loading on the foundation.
- The site contains uncontrolled fill greater than 0.8m in depth for sandy sites and 0.4m in depth for other soil materials.
- The site is subject to mine subsidence, landslip, collapse activity or coastal erosion.
- The site is underlain by highly dispersive soils with significant potential for erosion
- If the site is subject to abnormal moisture conditions which can affect foundation performance

73A New Town Road, New Town – Geotechnical Site Assessment

1.2 Soil Characterisation

This information explains the terms of phrase used within the soil description area of the report.

It includes terminology for cohesive and non-cohesive soils and includes information on how the Unified Soil Classification Scheme (USCS) codes are determined.

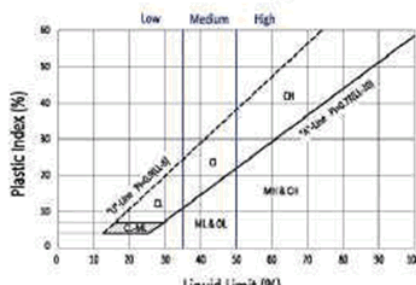
NON COHSIVE – SAND & GRAVEL		
Consistency Description	Field Test	Dynamic Cone Penetrometer blows/100 mm
Very loose (VL)	Easily penetrated with 13 mm reinforcing rod pushed by hand.	0 - 1
Loose (L)	Easily penetrated with 13 mm reinforcing rod pushed by hand. Can be excavated with a spade; 50 mm wooden peg can be easily driven.	1 - 3
Medium dense (MD)	Penetrated 300 mm with 13 mm reinforcing rod driven with 2 kg hammer, - hard shovelling.	3 - 8
Dense (D)	Penetrated 300 mm with 13 mm reinforcing rod driven with 2 kg hammer, requires pick for excavation; 50 mm wooden peg hard to drive.	8 - 15
Very dense (VD)	Penetrated only 25 - 50 mm with 13 mm reinforcing rod driven with 2 kg hammer.	>15

COHESIVE - SILT & CLAY		
Consistency Description	Field Test	Indicative undrained shear strength kPa
Very soft	Easily penetrated >40 mm by thumb. Exudes between thumb and fingers when squeezed in	<12
Soft	Easily penetrated 10 mm by thumb. Moulded by light finger pressure	>12 and <25
Firm	Impression by thumb with moderate effort. Moulded by strong finger pressure	>25 and <50
Stiff	Slight impression by thumb cannot be moulded with finger.	>50 and <100
Very Stiff	Very tough. Readily indented by thumbnail.	>100 and <200
Hard	Brittle. Indented with difficulty by thumbnail.	>200

73A New Town Road, New Town – Geotechnical Site Assessment

1.3 USCS Material Descriptions

Soils for engineering purposes are the unconsolidated materials above bedrock, they can be residual, alluvial, colluvial or aeolian in origin.

Major Divisions		Particle size mm	USCS Group Symbol	Typical Names	Laboratory Classification				
COARSE GRAINED SOILS (more than half of material less than 63 mm is larger than 0.075 mm)	BOULDERS	_____200			% < 0.075 mm (2)	Plasticity of fine fraction	$C_u = \frac{D_{60}}{D_{10}}$	$C_c = \frac{(D_{30})^2}{(D_{10})(D_{60})}$	NOTES
	COBBLES	_____63							
	GRAVELS (more than half of coarse fraction is larger than 2.36 mm)	coarse _____20	GW	Well graded gravels and gravel-sand mixtures, little or no fines	0-5	—	>4	Between 1 and 3	(1) Identify fines by the method given for fine-grained soils. (2) Borderline classifications occur when the percentage of fines (fraction smaller than 0.075 mm size) is greater than 5% and less than 12%. Borderline classifications require the use of SP-SM, GW-GC.
		medium _____6	GP	Poorly graded gravels and gravel-sand mixtures, little or no fines, uniform gravels	0-5	—	Fails to comply with above		
		fine _____2.36	GM	Silty gravels, gravel-sand-silt mixtures (1)	12-60	Below 'A' line or $PI < 4$	—	—	
			GC	Clayey gravels, gravel-sand-clay mixtures (1)	12-60	Above 'A' line and $PI > 7$	—	—	
	SANDS (more than half of coarse fraction is smaller than 2.36 mm)	coarse _____0.6	SW	Well graded sands and gravelly sands, little or no fines	0-5	—	>6	Between 1 and 3	
		medium _____0.2	SP	Poorly graded sands and gravelly sands, little or no fines	0-5	—	Fails to comply with above		
		fine 0.075	SM	Silty sands, sand silt mixtures (1)	12-60	Below 'A' line or $PI < 4$	—	—	
			SC	Clayey sands, sand-clay mixtures (1)	12-60	Above 'A' line and $PI > 7$	—	—	
FINE GRAINED SOILS (more than half of material less than 63 mm is smaller than 0.075 mm)	SILTS & CLAYS (Liquid Limit $\leq 50\%$)	ML	Inorganic silts, very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity	<div>Plasticity Chart</div> <div>For classification of fine grained soils and fine fraction of coarse grained soils.</div> 					
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays						
		OL	Organic silts and clays of low plasticity						
	SILTS & CLAYS (Liquid Limit $> 50\%$)	MH	Inorganic silts, micaceous or diatomaceous fine sands or silts, elastic silts						
		CH	Inorganic clays of high plasticity, fat clays						
		OH	Organic silts and clays of high plasticity						
	HIGHLY ORGANIC SOILS	PT	Peat and other highly organic soils						

73A New Town Road, New Town – Geotechnical Site Assessment

Grain size analysis is performed by two processes depending on particle size. Sand silt and clay particles are assessed using a standardised hydrometer test, and coarse sand and larger is assessed through sieving by USCS certified sieves. For more detail see the following section.

Soil Classification	Particle Size
Clay	Less than 0.002mm
Silt	0.002 – 0.06mm
Fine/Medium Sand	0.06 – 2.0mm
Coarse Sand	2.0mm – 4.75mm
Gravel	4.75mm – 60.00mm

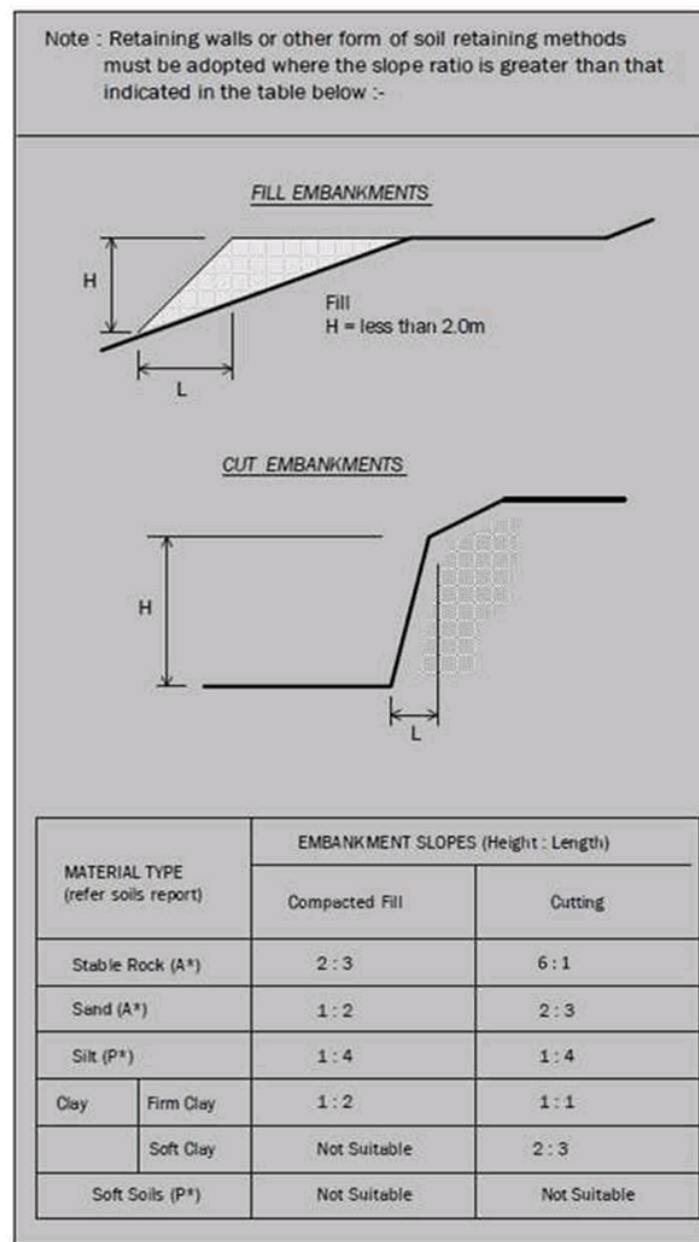
1.4 Bearing Capacities and DCP testing.

DCP and PSP weighted penetrometer tests – Dynamic Cone Penetrometer (DCP) and Perth Sand Penetrometer (PSP) tests are carried out by driving a rod into the ground with a falling weight hammer and measuring the blows for successive 100mm increments of penetration. Normally, there is a depth limitation of 1.2m but this may be extended in certain conditions by the use of extension rods. The methods for the two tests are quite similar.

- Dynamic Cone Penetrometer – a 16mm rod with a 20mm diameter cone end is driven with a 9kg hammer dropping 510mm (AS 1289, Test 6.3.2).
- Perth Sand Penetrometer – a 16mm diameter flat-ended rod is driven with a 9kg hammer, dropping 600mm (AS 1289 Test 6.3.3). This test was developed for testing the density of sands and is mainly used in granular soils and filling.

Site Anomalies – During construction GES will need to be notified of any major variation to the foundation conditions as predicted in this report.

73A New Town Road, New Town – Geotechnical Site Assessment

1.5 Batter Angles for Embankments *(Guide Only)*

Glossary of Terms

Bearing Capacity – Maximum bearing pressure that can be sustained by the foundation from the proposed footing system under service loads which should avoid failure or excessive settlement.

Clay – (Mineral particles less than 0.002mm in diameter). Fine grained cohesive soil with plastic properties when wet. Also includes sandy clays, silty clays, and gravelly clays.

Dynamic Cone Penetrometer (DCP) – Field equipment used to determine underlying soil strength and therefore bearing capacity (kPa) by measuring the penetration of the device into the soil after each hammer blow.

Dispersive soil – A soil that has the ability to pass rapidly into suspension in water. **Footing** –

Construction which transfers the load from the building to the foundation. **Foundation** –

Ground which supports the building

Landslip – Foundation condition on a sloping site where downhill foundation movement or failure is a design consideration.

Qualified Engineer – A professional engineer with academic qualifications in geotechnical or structural engineering who also has extensive experience in the design of the footing systems for houses or similar structures.

Reactive Site – Site consisting of clay soil which swells on wetting and shrinks on drying by an amount that can damage buildings on light strip footings or unstiffened slabs. Includes sites classified as S, M, H-1, H-2 & E in accordance with AS2870-2011.

Sand – (Mineral particles greater than 0.02mm in diameter). Granular non-cohesive, non- plastic soil that may contain fines including silt or clay up to 15%.

Services – Means all underground services to the site including but not limited to power, telephone, sewerage, water & storm water.

Silt – (Mineral particles 0.002 – 0.02mm in diameter). Fine grained non-cohesive soil, non- plastic when wet. Often confers a silky smoothness of field texture, regularly includes clay and sand to form clayey silts, sandy silts and gravelly silts.

Site – The site title, as denoted by address, lot number, or Certificate of Title (CT) number, or Property Identification Number (PID).

Surface Movement (Ys) – Design movement (mm) at the surface of a reactive site caused by moisture changes.

Disclaimer

This Report has been prepared in accordance with the scope of services between Geo-Environmental Solutions Pty. Ltd. (GES) and the Client. To the best of GES's knowledge, the information presented herein represents the client's requirements at the time of printing of the Report. However, the passage of time, manifestation of latent conditions or impacts of future events may result in findings differing from that discussed in this Report. In preparing this Report, GES has relied upon data, surveys, analyses, designs, plans and other information provided by the Client and other individuals and organisations referenced herein. Except as otherwise stated in this Report, GES has not verified the accuracy or completeness of such data, surveys, analyses, designs, plans and other information.

The scope of this study does not allow for the review of every possible geotechnical parameter or the soil conditions over the whole area of the site. Soil and rock samples collected from the investigation area are assumed to be representative of the areas from where they were collected and not indicative of the entire site. The conclusions discussed within this report are based on observations and/or testing at these investigation points.

This report does not purport to provide legal advice. Readers of the report should engage professional legal practitioners for this purpose as required.

No responsibility is accepted for use of any part of this report in any other context or for any other purpose by third a party.

Appendix G Heritage impact assessment

Fairbrother Pty Ltd



Heritage Impact Assessment

Proposed Centacare Social Housing,
73a New Town Road, New Town

John Wadsley Planning and Heritage Consultancy



Heritage Impact Assessment
Proposed Centacare Social Housing,
73a New Town Road, New Town

Prepared for Fairbrother Pty Ltd

Document Version:

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1 Introduction

1.1 Project outline

Centacare Evolve has engaged Fairbrother Pty Ltd to provide Communities Tasmania with 22 one- and two-bedroom units, located on the New Town Catholic Tennis Club site at 73a New Town Road, New Town, Tasmania (the project site). The proposed development is for a three-storey accommodation block.

The entire project site is within the Paviour Street Heritage Precinct (NT10) of the Hobart Interim Planning Scheme 2015. There are several properties in the vicinity of the project site that are listed in Table E13.1 Heritage Places in the Historic Heritage Code of the Hobart Interim Planning Scheme 2015 and some listed on the Tasmanian Heritage Register. As such, John Wadsley Planning and Heritage Consultancy has been commissioned to prepare a Heritage Impact Assessment (HIA), which will form part of documentation to be submitted to the City of Hobart as Planning Authority.

1.2 Project location

The project site is located at 73a New Town Road in the suburb of New Town, Hobart, Tasmania (see Figure 1). It comprises 1,905 m² of land on the eastern side of New Town Road, accessed by a narrow right of way, with the south-eastern boundary along Sunnyside Road and the north-eastern boundary along Paviour Street. Pedestrian access is by stairs off Sunnyside Road. The land is flat, within a former quarry cutting, with steep vegetated rock faces on the Paviour Street and Sunnyside Road boundaries. The site currently has two clay tennis courts with light poles, a small weatherboard clubroom building and a weatherboard toilet block. Each court is surrounded by steel chain mesh fencing supported on steel posts. The project site is surrounded by private residential and rental residential properties on all sides.



Figure 1 - Project Site Location Map (photo taken from The LIST)

1.3 Project scope

The scope of works to undertake this project is as follows:

- Become familiar with the site and the proposed development to ascertain the extent of works and potential impact on heritage values and elements.
- Establish the historic context of the site and adjoining areas to understand the historical background and identify any key places and associations.
- Undertake stakeholder consultation as necessary.
- Prepare a heritage impact assessment of the proposed development and identify heritage management prescriptions to ensure mitigation or removal of any adverse impacts.
- Prepare a report that includes the findings and recommendations arising from the above to comply with any requirements of the Planning Authority, as well as any matter that may require further investigation.

This assessment has been prepared in accordance with *The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance 2013* (Australia ICOMOS, 2013), and associated ICOMOS Practice Notes, as well as the *Works Guidelines for Historic Heritage Places* (Heritage Tasmania, November 2015).

1.4 Limitations

This assessment is limited to the consideration of historic cultural heritage values and significance. The assessment of Aboriginal cultural heritage values is not covered by this report. This assessment is based upon visual inspections of the subject site, its buildings and surrounding area. No intrusive or archaeological investigations were carried out as part of this assessment. While investigations have been undertaken of government archives and discussion with Council staff and local residents to better understand the history of the site, the assessment and recommendations contained in this report are limited by the nature of such research, particularly where access to material or local knowledge is restricted, and/or where the location of archival material is not known.

1.5 Acknowledgements

John Wadsley would like to thank the following individuals and organisations for their assistance in undertaking this project:

- City of Hobart - Sarah Waight
- Philp Lighton Architects - Peter Gaggin, Richard Headlam and Shane Cox
- Heritage Tasmania - John Stephenson
- Tasmanian Archives
- David Brown and Malcolm Ward - New Town Catholic Tennis Club members and local residents
- Brendan Lennard - local resident and former heritage officer
- Perry Foster, former local resident

2 Planning Instruments

2.1 World Heritage and National Heritage Listings

There are no places in the vicinity that are inscribed on the World Heritage List or registered on the National Heritage List or Commonwealth Heritage List.

2.2 Tasmanian Heritage Register

The Tasmanian Heritage Register (THR) is a register of places recognised as having historic cultural heritage significance to the whole of Tasmania. The THR is maintained by the Tasmanian Heritage Council under the *Historic Cultural Heritage Act 1995* (HCHA).

Several places nearby to the project site are listed in the THR (and identified through the LIST). It is considered that none of these will be impacted by the proposed development. However, it is worth noting those within 100m of the project site:

- Sunnyside, 7 Swanston Street (ID 2757)
- Stoke House, 12 Stoke Street (ID 2743)
- The Gables, 2-2B Stoke Street (ID 2752)
- House, 413 Argyle Street (ID 2644)
- House, 80 New Town Road (ID 2692)



Figure 2 - Sunnyside, New Town ca1880. Viewed from near Cleary's Gates looking west.
(Tasmanian Archives, LPIC102-1-36)

2.3 Hobart Interim Planning Scheme 2015

Under the Hobart Interim Planning Scheme 2015, the project site and all properties surrounding it are zoned 'Inner Residential'. Properties along New Town Road further to the north from the Pedder Street junction are zoned 'Urban Mixed Use'. There is a park zoned 'Recreation' at the intersection of New Town Road and Argyle Street.

The entire project site is within the Paviour Street Heritage Precinct (NT10), listed in Table E13.2 of the Historic Heritage Code of the Hobart Interim Planning Scheme 2015 (see Figure 3). This precinct extends from the northern side of Sunnyside Road and includes properties on the eastern side of New Town Road as far north as the boundary with 91 New Town Road. It includes all properties with a Paviour Street address up to the boundary with 25 Paviour Street.



Figure 3 - Paviour Street Heritage Precinct Map (from iplan.tas.gov.au)

In Table 13.2, the Paviour Street Heritage Precinct is described as having historic cultural heritage significance because:

- a) *The collections of largely intact Federation Bungalow and Federation Queen Anne residences contribute to the understanding of the pattern of development within New Town.*
- b) *A general uniformity of form, scale and orientation, together with a distinctive late nineteenth century/early twentieth century subdivision pattern, has created a consistent and strong streetscape.*

Several places within 100m of the project site are listed in Table E13.1 of the Historic Heritage Code in the Hobart Interim Planning Scheme 2015 and are shown below. Note these places are all outside the Paviour Street Heritage Precinct and there are no listed properties on Sunnyside Road or Paviour Street.

- Houses at 5, 7, 8 and 12 Swanston Road (Refs 3056, 3057, 3058 and 3059)
- Houses at 413, 415, 4117 and 419 Argyle Street (Refs 120, 121, 122 and 123)
- Houses at 84, 86 and 88 New Town Road (Refs 2280, 2281 and 2282)
- Public reserve at junction of New Town Road and Argyle Street (Ref 2274)
- House at 37 Seymour Street (Ref 2904)
- Houses at 2-2B and 12 Stoke Street (Refs 3018 and 3023)

2.4 City of Hobart Local Heritage Precincts (2019)

This document provides a description of each precinct's heritage character based on the building stock, architectural styles, views and vistas and scale. The contributory and non-contributory elements within each precinct are identified. A statement of local historic heritage significance and a series of design criteria and conservation policies are defined for each precinct (see below).

This document is designed to provide guidance and advice on the Development Standards for Heritage Precincts in the Historic Heritage Code in the Hobart Interim Planning Scheme 2015. However, at this time there is no statutory requirement to comply with the design criteria and conservation policies listed here. But they are included here to show how the proposed development addresses the heritage characteristics of the Paviour Street area.

2.4.1 Paviour Street Heritage Precinct - precinct character and features

Streetscape and townscape

Design and topography

Paviour Street reflects the topography of the area, with houses set above the street oriented towards the expansive views. The area is characterised by substantial late nineteenth and early 20th century dwellings. The few houses on the southern side of Paviour Street are generally set well below street level and do not feature prominently in the streetscape. The western side of the precinct includes houses on the southern side of the New Town Road, these residences are smaller in scale and have more modest setbacks from the road. Laneways provide pedestrian links between New Town Road and Swanston Street.

Vegetation

Houses in Paviour Street are set back off the road with front gardens featuring established trees, mass planting and hedges. The western side of Paviour Street features a grassed nature strip with mature eucalypts trees, wattles, and maple trees. The houses along New Town Road have small cottage gardens providing a buffer from the road.

Views and vistas

The precinct features westerly views over New Town, Mount Stuart, and Lenah Valley. There are also prominent views of kunanyi / Mount Wellington.

Built form

Materials

Houses are primarily of brick construction, and a small number clad in weatherboard, smooth stucco and roughcast. A number of houses have rusticated sandstone foundations. The majority of roofs are corrugated iron, however Marseille tiles also feature in the precinct.

Architectural styles and scales

Architectural styles present within the precinct include; Victorian Georgian, Federation Queen Anne, Federation Arts and Crafts, Federation Bungalow and Inter-War Californian Bungalow. Buildings are single storey, however some feature attic rooms with traditional dormers.

Orientation

Buildings are primarily orientated towards the street. A number of residences are set back from the street with front gardens partially obscuring views of buildings. Earlier major houses are sited for views and the houses on the northern side of Paviour Street are elevated above the street. The residences on New Town Road are set closer to the street.

Building stock

Number 1 Paviour Street is a large Federation Queen Anne brick residence that is positioned on the corner of Sunnyside Road and Paviour Street. It has a large garden and the house features projecting gables, a large veranda, prominent brick chimneys, circular 'port hole' windows, and dormer windows. Number 21 Paviour Street is a Federation Queen Anne red face brick residence with a sandstone base a projecting front gable, a tower with decorative timber detailing and a 'candle snuffer' roof. Number 23 Paviour Street is a Federation Arts and Crafts residence featuring roughcast chimneys, a tiled roof, eave brackets and veranda with sandstone and brick columns. The two houses of 81 and 83 New Town Road are matching and feature red face brick exterior and chimneys, a front dormer window, projecting gables, and 3 panel bay windows.

Fencing

Fences vary in height from low to mid-level and have a degree of transparency. Hedges and mass planting also feature as do sandstone retaining walls. Higher, solid fences interrupt views of the front gardens and the houses. The desired fencing type is low-level Federation timber picket, or Federation brick fencing. There are also a number of Inter-War brick and iron fences within the precinct.

2.4.2 Paviour Street Heritage Precinct - statement of local historic heritage significance

Significance because of the collective heritage value of individual places as a group for their streetscape or townscape values and the precinct's role in, representation of, or potential for contributing to the understanding of:

For contributing to the understanding of local history:

- The area contributes to an understanding of the pattern of development and early subdivisions of the suburb of New Town with pedestrian laneways linking residential streets.*
- The precinct is a collection of largely intact Federation Bungalow and Federation Queen Anne residences which contribute to the understanding of the pattern of development within New Town.*

For the representation of aesthetic characteristics:

- The precinct demonstrates a strong relationship of houses designed and sited to capture views, with residences visually prominent in the street, precinct and outside the precinct.*
- A general uniformity of form, scale and orientation, together with a distinctive late nineteenth century/early twentieth century subdivision pattern, has created a consistent and strong streetscape.*
- The established front gardens and street plantings are aesthetic features that reinforce and contribute to the residential character of the precinct.*
- Low and transparent front fences allow an appreciation of houses in their garden setting.*

For the representation of a class of building or place:

- The precinct has a fine collection of late nineteenth, early twentieth century, and Inter-War houses with established gardens that form a coherent and largely intact streetscape and demonstrate the key design features, styles and forms of the time.*

2.4.3 Paviour Street Heritage Precinct - design criteria / conservation policy

NOTE: these are non-statutory requirements.

1. *Elements which contribute to the precinct must be retained.*
2. *Non-contributory elements may be removed to enhance the character of the precinct.*
3. *Alterations and additions are not to dominate or detract from the original building.*
4. *New buildings, extensions or structures must be compatible with and sympathetic to the height, bulk, setback, materials and finishes, and general character of contributory and heritage listed places.*
5. *New buildings and extensions to contributory and heritage listed buildings must be compatible and visually subservient when viewed from any road or public open space.*
6. *Alterations and additions are to respect the uniformity of properties which form part of a consistent row, semi-pair or group of buildings.*
7. *Established and/or significant planted garden settings, hedges, and visually prominent trees must be retained.*
8. *Unpainted and unrendered masonry and brick exterior surfaces must remain as such.*
9. *Garages, carports, and ancillary structures are to be setback from the principal facade to enable the original building form to remain unobscured and prominent within the streetscape.*
10. *Driveways and hard stand areas are to be located at the side of the house.*
11. *Fences and gates should be appropriate in form, scale, height and materials appropriate to the architecture of the main building. Styles include Federation/Victorian timber picket, Inter-War masonry, brick and ironwork fences and gates. Detailed design guidance may be found in City of Hobart publication, New fences for old houses.*
12. *Maintain a curtilage of usable open space to provide an appropriate setting to the scale of the house.*
13. *New development must not interrupt building patterns where a subdivision pattern has resulted in a distinctive built form.*
14. *Lot boundary changes should not occur in areas where the original subdivision pattern is significant and remains intact.*



Figure 4 - View of the project site from Paviour Street/Sunnyside Road junction

3 Historic Context

3.1 Early settlement

It appears that the project site was adjacent to a large grant of 109 acres made to Captain John Bell, probably around 1830. The grant extended from where Sunnyside Road is now in the south to the shore of Stainsforth Cove (New Town Bay) in the north, bounded on the east by the Government Domain and to the west by a large land grant made to Captain Charles Swanston.

John Bell (1790-1841) was a ships master and merchant, born in Scotland. In command of the *Minerva*, he transported convicts to New South Wales in 1818. After further sailings, he was granted 1200 acres in NSW. In 1826, he bought the brig *Caledonia* in England and brought out his wife and family. However, after a storm damaged his ship, Bell arrived in Hobart Town in February 1827 for repairs. He decided to stay in Van Diemen's Land and did a deal with Captain JG Briggs where he took ownership of Brigg's wharf store, shipping agency and a fine house at New Town in exchange for the *Caledonia*. Bell became a significant merchant entering trading partnerships and arranged the export of wool and wheat. By 1830 he was a director of the Bank of Van Diemen's Land and was part of a committee established to raise funds for the construction of St John's Church at New Town, which held its first services in 1835. In 1832, he married his second wife, Louisa, daughter of George Meredith, of Swanport. In 1840, Bell retired due to ill health; he had by then accumulated more land including estates in the Midlands of some 12,000 acres. He died on 12 December 1841 at his New Town home, 'Belle Vue'.¹

The project site appears on a map of the Belle Vue estate (dated 1832) as part of a triangular block, annotated as follows: '*Captain Bell: additional grant 2 acres, 3 roods, 20 perches*' (see Figure 5). Several lots have been drawn across the estate, presumably for future sale. Marshalls Lane (later to become Sunnyside Road) has been added later in pencil on the southern side of the triangle.

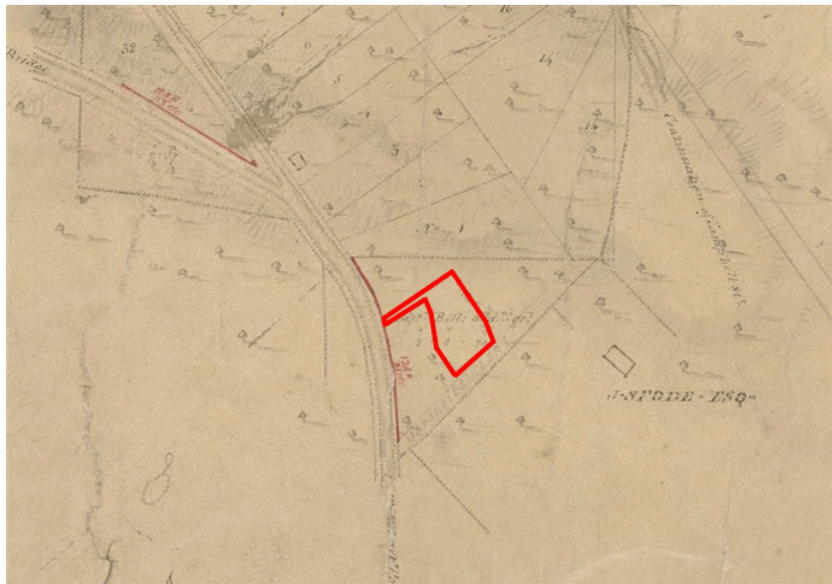


Figure 5 - Map of Belle Vue Estate (detail), dated 1832. The project site is outlined in red.
(Tasmanian Archives, Map - N-23, New Town, AF721-3-2)

¹ F. C. Green, 'Chapman, Thomas Daniel (1815-1884)', Australian Dictionary of Biography, (Australian National University, 1969), accessed online 9 September 2021.

The only two buildings shown on Figure 3 are the residence of Josiah Spode, 'Stoke Cottage', east of the project site and a small building to the north next to the Pirie Street-New Town road junction. There is no development shown on the project site.

Josiah Spode (1790-1858) was the grandson of Josiah Spode, founder of the Staffordshire pottery bearing his name. He arrived in 1821 after leaving the family business. He was originally given a land grant near Hamilton then an additional grant near New Norfolk. He was part of the colonial administration as assistant police magistrate and coroner, later becoming principal superintendent of convicts from 1831 to 1844. He was also a member of the Legislative Council for a time. He built a house known as Stoke Cottage in the 1830s, before returning to England in 1854 where he died in 1858. He was regarded as a highly efficient civil servant by Lt Governor George Arthur.² The Stoke Cottage property would eventually be purchased and a grand new home, 'Stoke House' was built in 1887 by the Lt Governor Sir John Dodd. There would be later subdivision of the Stoke House property in the 1920s, including land on the southern side of Sunnyside Road.

Another grand home built near the project site was 'Sunnyside' in ca.1842, on land originally owned by Samuel Carr. This home was designed by the Government Architect William Porden Kay for the shipping merchant and whaling businessman Thomas Chapman (1815-1884). He came to Van Diemen's Land in 1841 bringing emigrants for the Van Diemen's Land Co. In 1847 he established his own business based on wool, whale oil and timber exports. He was a leading member of the Anti-Transportation League, and in 1851 was elected to the Legislative Council. He was later elected to the first House of Assembly and was treasurer then premier in 1861-63. He was in and out of Parliament until he died in 1884, widely regarded as one of the most able of Tasmania's politicians.³

At some point, the project site was developed as a sandstone quarry. No definitive date has been established for when this occurred or why but, given its proximity to Main Road (later New Town Road), it is likely the quarry provided stone for roadworks along Main Road during the 1840s and 1850s. A nearby section of Main Road was built with retaining walls and became known as the 'causeway' - this would have required a source of stone, possibly met by the project site and the quarry at Cleary's gates.



Figure 6 - Thomas Chapman (TA, N5407-1-19)

Advertisements run in *The Mercury* in 1864 by auctioneers Brent and Westbrook saw most of Chapman's New Town land put up for sale to help the Chapman business out of debt. Under the banner, '*TO CAPITALISTS, MARKET GARDENERS, BUTCHERS AND OTHERS*', 24 lots were offered including, '*A valuable block of ground known as the Quarry Paddock containing 3 acres and 20 perches, and bounded by the road leading to Sunnyside, the main road and the Sunnyside property.*' This included the project site. It is not known if the land was sold at this time⁴.

² F. C. Green, 'Spode, Josiah (1790-1858)', Australian Dictionary of Biography (Australian National University, 1969), accessed online 9 September 2021.

³ F. C. Green, 'Chapman, Thomas Daniel (1815-1884)', Australian Dictionary of Biography (Australian National University, 1969), accessed online 9 September 2021.

⁴ *The Mercury*, 17 September 1864, p4

The road leading to Sunnyside would become known as Marshalls Lane sometime in the 1880s, as is shown in Figure 7 (it is not known who Marshall was). As can be seen, Paviour Street has not yet been created. The project site remained undeveloped through the early years of the 20th century, and the photograph at Figure 8 shows a fenced paddock running on the northern side of Marshalls Lane. The latter is on the edge of the Stoke House property, which was constructed as a magnificent mansion in the Gothic Revival style in 1887 for the Lt Governor of Tasmania, Sir John Dodd. It is located beyond the tree line running up alongside Marshalls Lane.

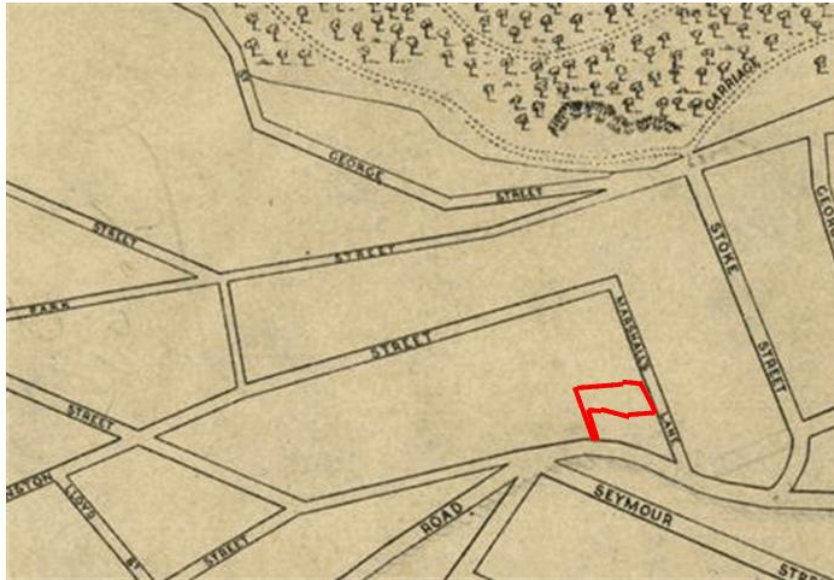


Figure 7 - Plan of Hobart and surrounding suburbs (detail), ca1890. The project site is outlined in red.
(Tasmanian Archives Map 106, AF394-1-108)



Figure 8 - New Town from 'Carolside,' ca1900. The paddock where the project site is circled.
(Tasmanian Archives, PH30-1-5648-1)

3.2 Subdivisions

Around 1907-1908 the New Town Council approved the construction of Paviour Street on private land owned by Henry Cane. He named the street after his mother Jane Paviour. Cane ran a number of successful businesses in Hobart including metal working, insurance and financial services as well as residential development. He was also responsible for subdividing land along Mortimer Avenue and Bellevue Parade.⁵

In February 1911, the land was advertised for sale as 12 allotments '... *having frontages to the Main-Road, Paviour and Swanston Streets, New Town adjoining Sir John Dodd's fine residence* ...' were put up for sale. The notice gave a lot of encouragement, 'EVERY THRIFTY YOUNG MAN CAN AFFORD TO PURCHASE A BLOCK, AND PROVIDE A SOUND INVESTMENT FOR A FUTURE HOME (see Figure 9).

It was expected the land would sell quickly given the views across to kunanyi/Mount Wellington, and its proximity to the tram route along Main Road.

GRAND SUBDIVISION SALE.
ON THE GROUND, ON
SATURDAY AFTERNOON.
FEB. 25, 1911.
AT 3.15 O'CLOCK.
12 MAGNIFICENT ALLOTMENTS. 12
HAVING FRONTAGES TO
THE MAIN-ROAD, PAVIOUR, AND SWANSTON STREETS, NEW TOWN
ADJOINING SIR JOHN DODD'S FINE RESIDENCE.
ALL WELL DRAINED. SPLENDID VIEWS. CONVENIENTLY SITUATED
TO 24 TRAM TERMINUS. ALL ROADS COMPLETED. WATER
AND GAS CLOSE AT HAND.
TERMS: 5 PER CENT CASH, BALANCE IN EQUAL MONTHLY IN-
STALMENTS, SPREAD OVER FIVE YEARS, WITH OPTION OF PAYING
CASH AT ANY TIME.
TITLES: R.P.A.
DARLING & REYNOLDS.
ASSOCIATED WITH
MURDOCH BROS..
AUCTIONEERS.
P.S.—EVERY THRIFTY YOUNG MAN CAN AFFORD TO PURCHASE A
BLOCK, AND PROVIDE A SOUND INVESTMENT FOR A FUTURE HOME.

Figure 9 - Advertisement in *The Mercury*, 16 February 1911, p8

Blocks along Paviour Street did sell, as can be seen in Figure 10. This photograph taken from Mount Stuart in 1917 clearly shows the Federation Queen Anne styled building at No.1 Paviour Street, which is still there today directly above the project site on the corner with Sunnyside Road. There are a couple of other dwellings, but the 'quarry paddock' is still undeveloped. The cutting of the quarry face can be seen below Paviour Street (circled).

Advertisements to sell the 'quarry paddock' had been made in 1912 and again in 1917. Although it was well-located, the fact that it had been a quarry was obviously not a great selling point, even at a cheap price.

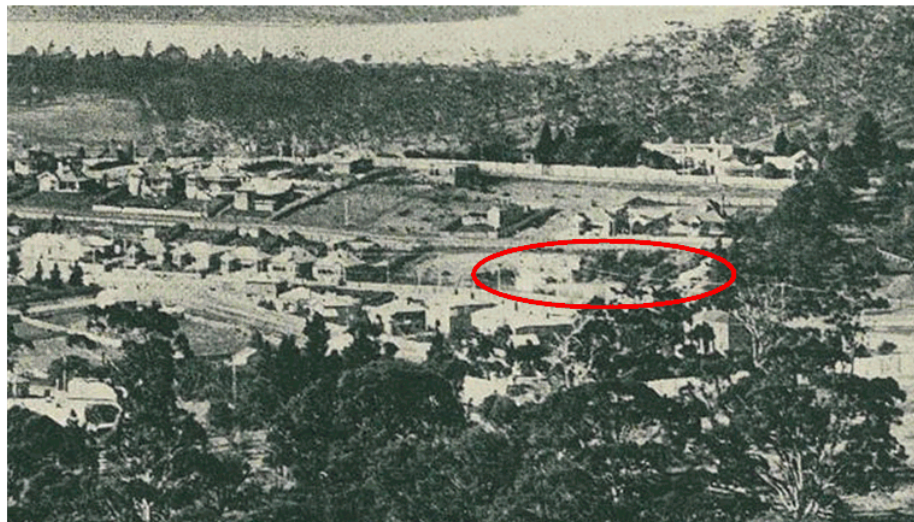


Figure 10 - New Town from St Johns Hill (detail), (*Tasmanian Mail*, 13 December 1917, p.27)

⁵ Howatson, D., (2011) *The Story of New Town Street by Street*, p.71

Sometime during the 1910s, Marshalls Lane was renamed Sunnyside Road. During the 1920s, further subdivisions occurred along Sunnyside Road, Argyle Street and Stoke Street, known as the Stoke Subdivision. A major selling point was promoted as being part of the former Stoke Estate and near to Stoke House. By 1938, there was one block left for sale along Sunnyside Road at the sum of £250.

Land along Paviour Street, Swanston Street and Main Road was also sold as part of New Town's growing importance as a Hobart suburb. It was not only popular to people who worked in the city but also to those who were working at the new industrial sites near Hobart - the Zinc Works at Risdon and the Rosella fruit processing factory near Cornelian Bay.

At some point the quarry paddock was sold to a Mr WG Alberry, a builder and something of a property developer around Hobart and southern Tasmania. Land fronting onto Main Road was sold as lots for housing, but the quarry paddock itself remained undeveloped.

3.3 The tennis courts

In the 1920s, advertisements start appearing from a Mr Roy Crawford offering to give tennis lessons. He was an active member of the growing tennis scene in Hobart. It appears his business partner, a Mr Cyril Barnett, had purchased the quarry paddock and developed tennis courts on the site from at least 1929, when he and Crawford advertised them for hire.⁶

There are references in the local newspapers to tournaments held at the Sunnyside tennis courts (as they were known), including one held by the Romani Club in 1933. The courts were even used by basketball teams for evening training sessions, making use of the lighting system.

Then, in August 1939, the New Town Catholic Tennis Club wrote to the Catholic Archbishop of Tasmania seeking his support to purchase the property next to Sunnyside Road, noting the Club had been offered '*... two tennis courts, a club house, a lighting system for night tennis together with an adjoining block of land for £550.*'⁷ The Club sought the support of the church for a loan to enable purchase of the property, and that although the property would be in the church's name, the loan debt would be paid off by the Tennis Club. In their submission, the Club noted they had 90 members with an annual membership fee of £1 per person, plus the opportunity to lease/hire the courts out to other organisations as well as holding their own club events on weekends and public holidays.

By October 1939, the property had been sold to the Catholic Church and the Tennis Club entered into an agreement where they would pay at least £100 a year until the loan debt had been repaid in full. The Archbishop was invited to carry out the official opening on 17 December 1939. He was also invited to become patron of the Tennis Club.

It appears the Tennis Club was quite active in holding fundraising events to assist church activities as well as social occasions, such as a Grand Ball held at St Peter's Hall, Harrington Street in 1939 and 1940.

In 1943, a ball was held at the Belvedere in Hobart raising £70 to help pay off the loan debt. That event was attended by the Premier, Mr Cosgrove MHR and his wife, Dr Gaha MHR, Mr T Corby, President of the Tasmanian Catholic Tennis Association and Mr E Freeman, President of the New Town Tennis Catholic Club. Committee members listed at the time were Mesdames E Hughes, S Freeman, J Dalton, H Wilson, D Brickhill, Misses T. Jones, L Denholm, L James, R Denholm, P Ogilvie, L Mason, M Denholm, M O' Byrne and Messrs B Denholm, E Freeman, J Brickhill, B Freeman, R Johnstone, I Lowe, J McKercher, A O'Byrne and D Orpwood.

Through the 1940s and 1950s, there are regular reports in newspapers on tennis tournaments at Sunnyside Road, as well as fundraising events, raffles and meetings. Unfortunately, no photographs of the tennis courts during this period have been found.

⁶ Advertisement, *The Mercury*, 19 October 1929, p1

⁷ New Town Catholic Tennis Club file, letter dated 27 August 1939

In 1966, the Tennis Club (through the Catholic Church Trustees) sold a parcel of land on the northern side of the tennis courts to a Mr WH Cox and at the same time, the Church purchased a small triangular parcel of land on the western side from a neighbour, Mr Scurrah; the latter enabling the Club to provide more space for one of the courts.

In 2004, it appears that the Church contemplated selling the tennis courts. However, this does not seem to have eventuated into a sale. At the time, the club looked for other support to purchase the property. The Club also investigated whether they could argue that they owned the courts, not the Church, given that they had paid all costs and outgoings since 1939. However, the legal advice given to them at the time stated that, although they might have a moral claim, the agreement with the Church was clear as to where the ownership resided.

In recent years, the Club's membership has stood at approximately 30-40 members, with club matches most weekends. As the courts are clay-based, they are highly weather dependent. The Club is also an active member of the AYC competition. The project site has continued to be used by the Tennis Club right up to the present day.



Figure 11 - Looking down Sunnyside Road towards the tennis courts during the major snow event of July 1986
(courtesy Perry Foster)

Figure 11 shows the fence above the tennis courts along the Paviour Street and Sunnyside Road boundaries. There is no evidence of significant vegetation on the property boundary. This can be compared with Figure 4.

4 Current Site Condition

4.1 Setting

The project site is located within the Hobart suburb of New Town. It has the address, 73a New Town Road but is effectively an internal block from that frontage with most visibility of the site from the Sunnyside Road and Paviour Street frontages. As the property is within a former quarry cutting, the flat ground level used for the tennis courts is set well down in the landscape and can only be seen when looking directly from the property boundaries on Sunnyside Road and Paviour Street (albeit that the view from the latter is significantly hampered by vegetation on the fence line and growing above the rock face). The outlook from Sunnyside Road and Paviour Street is towards the west across New Town towards Lenah Valley, Mount Stuart and in the distance to kunanyi/Mount Wellington (see Figures 5 and 12).

The project site is surrounded by private residential and rental residential properties on all sides, including Paviour Street and Swanston Street to the northeast; Sunnyside Road, Stoke Street and Argyle Street to the southeast; New Town Road and Seymour Street to the southwest; and New Town Road and Pirie Street to the northwest. The housing stock surrounding the project site is predominantly single storey dwellings (some with dormer rooms in roof spaces or with garages under depending on the ground slope). Most houses are low scale, of brick construction with pitched corrugated steel roofs, and collectively represent many building styles and periods, with a particular emphasis on structures dating from the 1910s to the 1940s (see Figures 12 to 15). There are a smaller number of buildings dating from the 1980s onwards. Virtually all the housing is situated on suburban sized blocks, with houses having a consistent linear frontage to the streets with front gardens and larger backyards.

The overall impression of the area surrounding the project site is very typical of early 20th century suburban development in Tasmania, with a uniformity in housing styles and property layout.



Figure 12 - Looking south from Paviour Street above the site towards Mount Stuart.
The tennis courts are below the vegetation in the foreground.



Figure 13 - Views of nearby housing along Paviour Street



Figure 14 - Views of nearby housing styles along Sunnyside Road

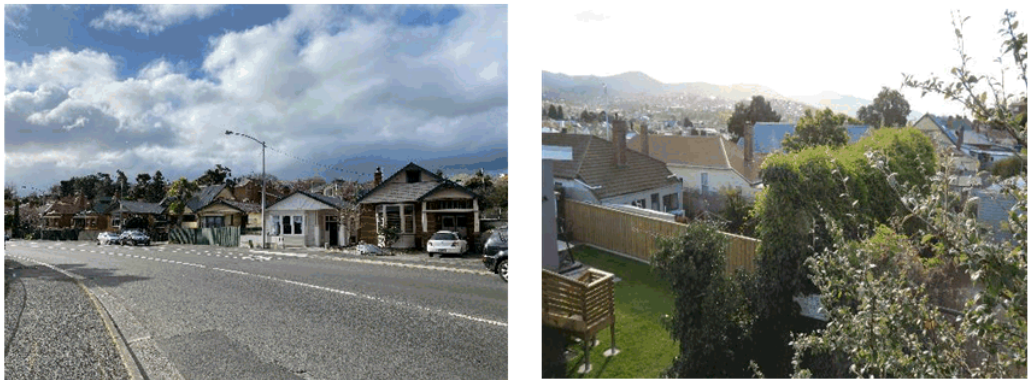


Figure 15 - Views of nearby housing styles along New Town Road

4.2 Site description

The property is within a former quarry cutting, with steep vegetated rock faces on the Paviour Street and Sunnyside Road boundaries. The site currently has two clay tennis courts with light poles, a small weatherboard clubrooms building and a weatherboard toilet block. Each court is surrounded by steel chain mesh fencing supported on steel posts. There is a low timber fence on part of the Sunnyside Road boundary and along the Paviour Street boundary. Vehicle access is via a narrow right of way off New Town Road (little used) and concrete stairs for pedestrians off Sunnyside Road. There are no overhead powerlines or other utilities present.



Figure 16 - View across tennis courts looking south



Figure 17 - Clockwise from top left: clubrooms building, toilet block, access way, interior of clubrooms

The New Town Catholic Tennis Clubrooms and toilet block (possibly dating back to the 1940s) are of weatherboard construction with skillion steel roofing. Internally, they have sheet wall covering and timber ceiling panelling. In the clubrooms, there are several tables, chairs, table tennis table, tv, kitchen bench, sink and kitchen appliances. There are several honour boards, trophies, pennants and photographs on the walls documenting important individuals and events in the Club's history.



Figure 18 - Examples of Club memorabilia held in the clubrooms

4.3 Potential archaeological resources

It is beyond the scope of this report to prepare a detailed Statement of Archaeological Potential; however, through an examination of the site's history and imagery of the site, it is clear that there is little potential for any significant material to be identified given that, apart from the tennis club, there is no evidence of other buildings or significant occupation (apart from the quarry operation) through the site's European history.

5 Proposed Development

The proposed construction of the housing development on the project site will include the following elements:

- A three-storey accommodation block incorporating 22 one- and two-bedroom units;
- Vehicle access via a ramp off Sunnyside Road, with on-site carparking for 12 cars plus motorcycle parking;
- Pedestrian access via staircases off Paviour Street and Sunnyside Road, plus access from New Town Road via the existing right of way; and
- Landscaping and boundary fencing.

The proposed design is based on the concept of reducing the bulk of the structure by breaking the roofline at intervals and using gable roof ends and pitched roof outlines to complement the existing housing character of the area. From the Paviour Street and Sunnyside Road frontages, only the top level and rooflines will be visible from the roadway and nearby housing (see Figures 19 and 20). Given the setback of the development from New Town Road, the accommodation block will be largely hidden behind the existing housing as seen from road level.

The proposed development will not dominate the existing housing stock and given it is set down in the former quarry, the new buildings will be sympathetic in height and bulk to the general character of the precinct. Importantly the new buildings will be visually subservient when viewed from Paviour Street and Sunnyside Road. For those residents on the eastern side of Paviour Street, they will retain their views across New Town to kunanyi/Mount Wellington (see Figure 20).



Figure 19 - View of proposed development from Paviour Street
(Image provided by Philp Lighton)



Figure 20 - View of proposed development from Sunnyside Street
(Image provided by Philp Lighton)

Several materials are proposed for wall and roof finishes, including: colorbond ribbed profile roofing and wall cladding, fibre cement cladding, perforated metal screens, precast concrete panels and powder-coated steel window and door frames. On the Paviour Street and Sunnyside Road boundaries, a 1800mm high timber fence will be erected. The carpark and pedestrian walkways will be concrete. The proposed structure does not seek to imitate existing housing styles (nor should it), but it does complement them in a modern interpretation. The use of several finishes will serve to visually break the overall size of the finished structure.



Figure 21 - View of proposed development from the internal carpark area
(Image provided by Philp Lighton)

6 Impact Assessment

This assessment has been based on best practice guidelines such as the Burra Charter (the Australia ICOMOS Charter for the Conservation of Places of Cultural Significance) and Works Guidelines for Historic Heritage Places (Heritage Tasmania), as well as professional consideration of the heritage significance of New Town and its cultural heritage elements - built, landscape and visual.

As the project site lies within the Paviour Street Heritage Precinct (NT10) listed in Table E13.2 of the Historic Heritage Code in the Hobart Interim Planning Scheme 2015, the following assessment must respond to the Scheme's Development Standards for Heritage Precincts.

Although they are not yet statutory requirements, this assessment takes account of the statement of local historic heritage significance and the design criteria and conservation policies as defined in the 'City of Hobart Local Heritage Precincts, Description, Statement of Local Historic Heritage Significance and Design Criteria/Conservation Policy' (2019).

6.1 Paviour Street Heritage Precinct

In Table 13.2 of the Historic Heritage Code, the Paviour Street Heritage Precinct is described as significant for reasons including:

- a) *The collections of largely intact Federation Bungalow and Federation Queen Anne residences contribute to the understanding of the pattern of development within New Town.*
- b) *A general uniformity of form, scale and orientation, together with a distinctive late nineteenth century/early twentieth century subdivision pattern, has created a consistent and strong streetscape.*

The layout of the houses within the Paviour Street Heritage Precinct reflects the local topography, with views from the majority of houses oriented towards the west across New Town to Lenah Valley and beyond to kunanyi/Mount Wellington. The slope of the ground sees houses on the eastern side of Paviour Street elevated above the roadway, enjoying the vista to the west. As you look up Sunnyside Road, the topography sees houses set above one another, which ensures that most structures have good views, again to the west and northwest.

Housing is mostly early to mid-20th century dwellings, with a limited number of structures built in the last 50 years. The scale of dwellings is residential in scale with most being setback from the roads, with established front gardens, mature trees and hedges. Most houses are of brick construction, with some built in weatherboard. The majority of roofs are corrugated iron. Architectural styles include Federation Queen Anne, Federation Arts and Crafts, Federation Bungalow and Inter-War Californian Bungalow. Buildings are single storey, but often with a garage/basement built underneath due to the ground slope. Some buildings have attic rooms with traditional dormer windows. The residences on New Town Road are set closer to the street and tend to be smaller, with no basement or garage spaces.

6.2 Assessment against the Historic Heritage Code**E13.8 Development Standards for Heritage Precincts****E13.8.1 Demolition**

Objective: To ensure that demolition in whole or in part of buildings or works within a heritage precinct does not result in the loss of historic cultural heritage values unless there are exceptional circumstances.

Performance Criteria	Response
<p>P1 Demolition must not result in the loss of any of the following:</p> <p>(a) buildings or works that contribute to the historic cultural heritage significance of the precinct;</p> <p>(b) fabric or landscape elements, including plants, trees, fences, paths, outbuildings and other items, that contribute to the historic cultural heritage significance of the precinct;</p> <p>unless all of the following apply;</p> <p>(i) there are, environmental, social, economic or safety reasons of greater value to the community than the historic cultural heritage values of the place;</p> <p>(ii) there are no prudent or feasible alternatives;</p> <p>(iii) opportunity is created for a replacement building that will be more complementary to the heritage values of the precinct.</p>	<p>The demolition of the New Town Catholic Tennis Clubrooms, toilet block, tennis courts and associated infrastructure will not result in the loss of heritage fabric, nor will this have any adverse impact on the heritage character of the Paviour Street heritage Precinct.</p> <p>However, it is important that all memorabilia and artefacts from the Tennis Club are properly removed and stored in an appropriate location. If the Club cannot store this material, it should be donated to Tasmanian Archives or another archival repository.</p>

<p>E13.8 Development Standards for Heritage Precincts</p> <p>E13.8.2 Build and Works Other than Demolition</p> <p>Objective: To ensure that development undertaken within a heritage precinct is sympathetic to the character of the precinct.</p>	
Performance Criteria	Response
<p>P1 Design and siting of buildings and works must not result in detriment to the historic cultural heritage significance of the precinct, as listed in Table E13.2.</p>	<p>The proposed design and siting of the accommodation block will not have an adverse impact on the heritage significance of the Paviour Street Heritage Precinct.</p> <p>Utilising the exiting ground level (dug out as part of the former quarry) provides the opportunity to set the building well down in the landscape so that its visual impact will be minimised when viewed from most directions.</p> <p>The proposed design provides a considered and respectful solution to the task of creating a multi-unit accommodation building within a heritage area. While the overall bulk is necessarily larger than ordinary residential housing, it has been reduced visually by breaking the main roofline at intervals and using gable ends and pitched roof outlines to complement the existing heritage character of the area.</p> <p>The use of a variety of materials, colours and finishes also ensure the bulk of the overall design is broken up and will complement the existing housing styles of the Precinct.</p>
<p>P2 Design and siting of buildings and works must comply with any relevant design criteria/ conservation policy listed in Table E13.2, except if a heritage place of an architectural style different from that characterising the precinct.</p>	<p>There is nothing listed in Table E13.2. However, the design does take account of the (non-statutory) design criteria listed for Paviour Street in the <i>City of Hobart Local Heritage Precincts</i> (2019).</p>
<p>P3 Extensions to existing buildings must not detract from the historic cultural heritage significance of the precinct.</p>	<p>Not applicable - there will be no extensions as this is a completely new building.</p>
<p>P4 New front fences and gates must be sympathetic in design, (including height, form, scale and materials), and setback to the style, period and characteristics of the precinct.</p>	<p>New boundary fences will complement the character of the Precinct in terms of height and materials, including visual designs on the fences that reference the mix of existing housing styles.</p>
<p>P5 The removal of areas of landscaping between a dwelling and the street must not result in the loss of elements of landscaping that contribute to the historic cultural significance or the streetscape values and character of the precinct.</p>	<p>The existing vegetation on the rock face and fence lines will be removed. However, appropriate new plantings will be made to contribute to the streetscape values. It may be possible to retain the tree on the corner of Paviour Street if that was deemed important (although it is probably less than 30 years old).</p>

7 Conclusions

This Heritage Impact Assessment has examined the project site and proposed development of a new accommodation block to be constructed at 73a New Town Road in New Town, to assess any impacts on the heritage values and cultural heritage significance of the site and its surrounds.

The project site does not contain any listed heritage places, at the national, state or local level. However, the project site does lie within the Paviour Street Heritage Precinct (NT10) of the Hobart Interim Planning Scheme 2015, which requires that it be assessed under the requirements for that Precinct.

This report has identified the historical context of the land on which the New Town Catholic Tennis Club courts and clubrooms are located in New Town, as well as identifying important associations with New Town's early history and the significance of the tennis club's involvement with the site. While there are some interesting connections with New Town's history, there is nothing significant about the project site that precludes the proposed development. However, the Tennis Club has used the project site since 1939 and that association is considered important from a local perspective. While it does not have a bearing on the proposed development, it is an aspect of the area's social history that needs to be recorded.

It is recommended that the memorabilia of the New Town Catholic Tennis Club be properly recorded and stored to form an archive of the club's activities. If the club is discontinued and there is no appropriate location for long term storage, it is strongly recommended that the club's documents and artefacts be donated to the Tasmanian Archives or another archival repository.

The proposed design has addressed the requirements of the Paviour Street Heritage Precinct under the Hobart Interim Planning Scheme by proposing a three-storey building that utilises a variety of design elements and roof and wall treatments to reduce its bulk and to complement the existing heritage character of the Precinct. While the structure is necessarily large to accommodate the 22 units, it is considered that the proposed design offers a low impact solution by making the best use of the former quarry cutting that reduces any adverse visual impacts on the setting and cultural heritage values within the Precinct.

Therefore, it is the recommendation of this report that the proposed development should be approved under the Hobart Interim Planning Scheme 2015. This will allow for a new housing development to proceed which will help address the increasing demand for low-cost housing in the area.

Appendix E Traffic impact assessment



**SOCIAL HOUSING UNITS
73A NEW TOWN ROAD,
NEW TOWN**

**TRAFFIC
IMPACT
ASSESSMENT**

Hubble Traffic
MAY 2022

SOCIAL HOUSING UNITS 73A NEW TOWN ROAD, NEW TOWN

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1. Introduction

The developer has engaged Hubble Traffic Consulting to prepare an independent Traffic Impact Assessment, to consider the traffic impacts of the construction of a multi-storey building for social housing units at 73a New Town Road, New Town (development site).

This assessment considers the amount of traffic the current site generates, the likely traffic generation of the proposed development, and how traffic movements will integrate into the surrounding road network.

The development site is currently occupied with two tennis courts and related infrastructure.

This report has been prepared to satisfy the requirements of Austroads, Guide to Traffic Management Part 12: Traffic Impacts of Developments, 2019. This assessment has referred to the following information and resources:

- City of Hobart Interim Planning Scheme (planning scheme)
- Road Traffic Authority NSW (RTA) Guide to Traffic Generating Developments
- Australian Standards 2890 parts 1, 2 and 6
- SIDRA 8 intersection modelling software
- Autoturn online vehicle swept path software
- Austroads series of Traffic Management and Road Design
 - Part 4: Intersection and crossings, General
 - Part 4a: Unsignalised and Signalised Intersections
 - Part 12: Traffic Impacts of Development
- Google Earth imagery
- LIST land information database

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2. Site Description

The development site is located at 73a New Town Road behind existing residential properties; the site has direct frontage to both Sunnyside Road and Paviour Street, and a laneway access (around 3.5 metres wide) to New Town Road.

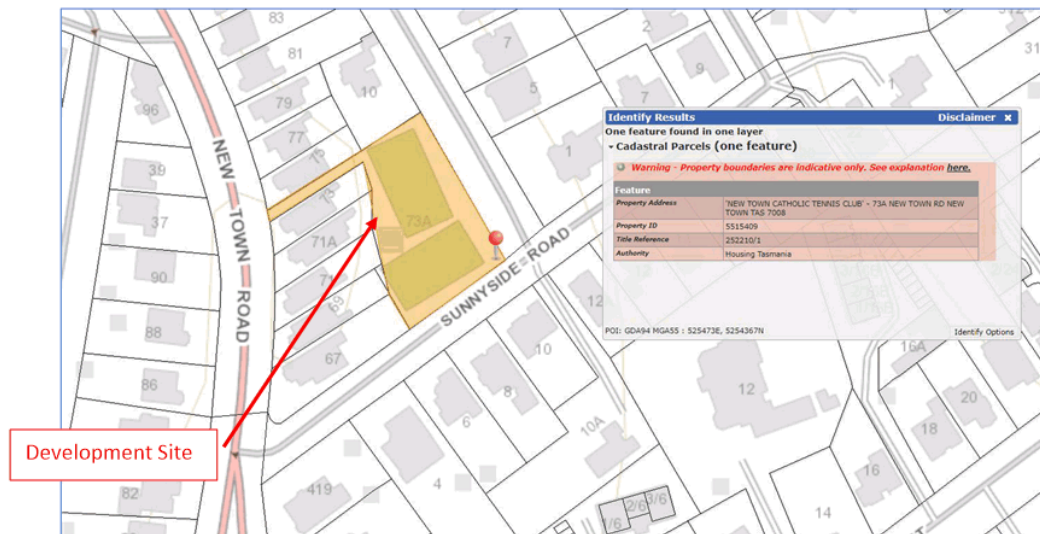
The site has existing tennis courts and associated infrastructure and is situated well below the adjacent roads, approximately 3.5 metres below Sunnyside Road and six metres below Paviour Street.

New Town is an inner-city residential suburb, located about four kilometres north of the central business district of Hobart. The main arterial road through New Town is known as 'New Town Road', and follows on from Elizabeth Street, connecting with the neighbouring city of Glenorchy.

The land-use along New Town Road is zoned Urban Mixed Use, which permits business and professional services, food services, general retail and hire, and residential development, while directly behind this arterial road the land is zoned Inner Residential.

Services within walking distance to the site include, grocery stores (Hill Street Grocer, Woolworths, Coles), cafes, doctors, pharmacies, recreational and cultural facilities. Metro Bus services are available on New Town Road within 250 metres of the site, the intercity cycleway is in close proximity and cycling lanes operate on Argyle Street, providing cycle access into the Hobart CBD. As both public transport and services are easily accessible from the site, tenants can reduce their reliance upon private motor vehicle usage, reducing the demand for on-site car parking.

Diagram 2.0 – Site location (extract from the LIST land information database)



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3. Development proposal

The developer has advised that the development proposal includes a multi-storey (three floor) building to provide 22 social housing units, comprising 11 units with two bedrooms and 11 units with one bedroom.

The two-bedroom units will span two floors, the middle and top floor, while the one bedroom units will be situated on the ground floor.

Vehicular access to the ground floor parking area will be from Sunnyside Road, with the ground floor containing 12 on-site parking spaces, motorcycle parking, bike storage area, and shared garden space.

Pedestrian access will be available from Paviour Street at two locations, and the complex incorporates a central stairwell connecting all floors.

Pedestrian access to New Town Road will be provided by converting the existing narrow laneway to a pedestrian pathway.

Diagram 3.0 – Layout plan



4. Parking requirements for social housing units

4.1 Social housing parking requirements

Car parking is designed to meet the needs for particular occupants, with the primary objective for a development to provide sufficient off-street parking to accommodate the reasonable demand generated. For social housing developments, there is usually a reduced car parking demand based on reduced car ownership of tenants, the location of the development to public transport routes and community and recreational facilities.

The Queensland Government has considered this matter and provided guidance on the parking requirements of social housing developments. The document is 'Design Standards for new Construction of social houses and apartments, December 2015'. This parking standard is based on location categories, and the accessibility to public transport and community facilities.

Table 4.1 – Extract from Queensland Government – Design Standards for new construction of social housing units

TABLE 3: Site location categories	
Category	Site location
A	Major centre Brisbane within 800m walking distance of the pedestrian entry to a train station; or within 600m walking distance of an express bus stop; or within 400m walking distance of an appropriate local bus stop* Excludes neighbourhoods zoned low density in the planning scheme (refer category C)
B	Major centre not meeting requirements of category A for proximity to public transport; or Large regional centres such as Gold Coast, Sunshine Coast, Cairns, Caboolture, Gladstone, Ipswich, Logan, Mackay, Pine Rivers, Redcliffe, Redlands, Rockhampton, Toowoomba, Townsville, Yeppoon etc. and Large towns such as Bundaberg, Maryborough, Hervey Bay within 400 metres of a local bus stop* Excludes neighbourhoods zoned low density in the planning scheme (refer category C)
C	Not located in a major centre, large regional centre or large town meeting category 'A' or 'B' criteria e.g. Beaudesert, Charleville, Dalby, Longreach, Mount Isa, Roma, St George etc. Includes sites zoned low density residential in the planning scheme (including Brisbane Suburbs Improvement Strategy sites or similar zoned low density in the planning scheme)

* Note: an appropriate local bus service constitutes a minimum of 6 days, 7am to 7pm, at least hourly

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TABLE 1: Reduced car parking rates Initial Allocation	
Applies To	Rate (number of covered spaces required)
First 3 Units	1 space per unit

TABLE 2: Reduced car parking rates Rates Applicable to Remaining Units After Initial Allocation (to be rounded up if required)			
Number of bedrooms	Site Location Category (refer table 3) Rate (number of covered spaces required)		
	A	B	C
Studio	1 per 4 units	1 per 2 units	NA
1 Bedroom	1 per 2 units	2 per 3 units	1 per each unit
2 Bedrooms	2 per 3 units	1 per each unit	1 per each unit

Notes: Car parking rates may be varied with approval from the State, to meet identified site conditions, project objectives and service delivery requirements.

Based on the Queensland social housing standard, the proposed New Town site could be considered as site category A, due to the proximity to a high frequency bus route, and local community facilities. Based on this standard, the 22 units could generate a parking demand of 14 spaces.

4.2 RTA Guide for parking requirements for high density residential units

In addition to the Queensland standard for social housing, the RTA also has parking standards for high density residential units located in close proximity to a high frequency public transport route, the RTA Guide indicates the following parking requirements.

- 0.6 parking spaces per one bedroom unit
- 0.9 spaces per two bedroom unit
- 1.4 spaces per three bedroom unit
- 1 space per five units (visitor parking)

Based on the RTA guide, this development could generate a parking demand of 17 parking spaces for the tenants, not including visitor parking.

4.3 Existing social housing apartments – Queens Walk

A recent parking demand survey was undertaken on the Queens Walk high density residential units located in Cornelian Bay. This complex contains a total of 85 social housing units, with a combination of two and one-bedroom units.

The survey found the highest parking demand was 61 vehicles, which is 0.72 parking spaces per unit. This parking survey included visitor parking.

Table 4.3 – Parking demand survey at the Queens Walk social housing units

Time	6am	9am	12noon	3pm	6pm
Number of vehicles	61	57	49	45	55
Rate compared to 85 units	0.72	0.67	0.58	0.53	0.65

Based on the existing Queens Walk social housing units, the proposed development could generate a parking demand of 16 spaces, including visitor parking.

4.4 Summary of social housing parking requirements

Three examples have been used to demonstrate the parking demand for social housing units are lower, and there is good consistency between the different examples, with one example including visitor parking.

It is evident that units located in close proximity to good public transport routes, and within walking distance to community facilities, do not generate a high parking demand. Given the development units are for social housing tenants, the Queensland standard is considered the most relevant, and suitable for this site. This standard requires 14 parking spaces for the tenants.

Table 4.4 – Summary of social housing parking demand

Parking method	Expected peak number of parking spaces
Queensland social housing standard	14 spaces
RTA Guide for high density units	17 spaces
Existing Queens Walk social housing units	16 spaces (includes visitors)

5. Planning scheme parking requirements

The planning scheme table E6.1 specifies the number of on-site parking spaces required for residential developments. For a multiple dwelling development, the planning scheme recommends:

- One bedroom unit – one parking space per bedroom (needs to include all rooms that are capable of being used as a bedroom)
- Two bedroom units – two parking spaces
- One visitor parking space per four units

Based on the planning scheme requirements, the 22 units would need to provide for 38 on-site parking spaces. Due to the constrained site this number of parking spaces is not achievable, and the planning scheme does not take into account the low car ownership for social housing tenants. Also, the planning scheme does not consider that the development site is located in close proximity to a high frequency public transport route, established bicycle facilities, and accessible walking distance to community facilities that includes a range of medical services, supermarkets, retail, and commercial businesses.

As demonstrated in section 4 of this assessment, the expected parking demand generated by these social housing units is estimated to be 14, based on the site location. The development will provide 12 on-site parking spaces for the tenants, and rely on the on-street parking for any overflow parking.

5.1 Supply and demand for on-street car parking

To evaluate the impact of visitor parking on surrounding properties, it is important to understand the supply and demand for on-street parking spaces along the surrounding streets, that could be used to assist with any visitor parking demand. A parking supply and demand survey was conducted on the two adjacent streets to the development site, Sunnyside Road, and Paviour Street, with the results of the surveys shown in table 5.1.

The survey found along the two adjacent streets to the development site, there is sufficient kerb space to accommodate up to 96 parallel parked vehicles. The survey found the demand for these parking spaces to be low, less than 20 percent, based on three patrolled survey times, at 9:00am, 12 noon and 5:00pm (weekday).

Table 5.1 – On-street parking supply and demand survey

Street	Link	Side of street	Supply	Parking demand		
				9:00am	Noon	5:00pm
Sunnyside Road	New Town to Paviour	North	11	0	0	1
	Paviour to Swanston	North	10	1	0	0
	New Town to Swanston	South	22	7	6	7
Paviour Street	Entire Street	West	25	0	0	2
		East	28	7	7	6
Total			96	15	13	16

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On-street parking is a community asset that can be used by visitors to the surrounding properties, as the surrounding residential properties have off-street parking facilities, the demand for on-street parking is low. Along the western side of Paviour Street there is only a few properties with direct access, as most of the properties along this side of the street have vehicular access to New Town Road. Two of the New Town Road properties have been subdivided, with the second property having access to Paviour Street.

The current use (two tennis courts) has no off-street parking facilities, this use has relied on the supply of on-street parking over the years, so on-street parking generated by this development site already exists.

Given the generous supply of on-street parking that is available, and the low on-street parking demand from adjacent properties, any visitor or overflow parking from this development is unlikely to cause any adverse amenity, or traffic flow impact.



6. Trip generation by this development

A trip in this report is defined as a one way vehicular movement from one point to another excluding the return journey. Therefore, a return trip to and from a land use is counted as two trips.

To determine the number of trips likely to be generated by this development, reference has been taken from the RTA Guide to Traffic Generating Developments.

6.1 High density residential building

The RTA Guide specifies a high density residential flat building, is a building containing 20 or more dwellings (units). This does not include aged or disabled persons' housing.

- High density residential flat buildings are usually more than five levels, have basement level car parking and are located in close proximity to public transport services.

With the development site being located in close proximity to a high frequency bus route, the RTA Guide provides no guidance on the number of daily trips, but indicates 0.29 peak hour trips per unit.

To verify the RTA Guide information on trip generation, a traffic survey was conducted on the existing Queens Walk high density residential social housing units, located adjacent to the Brooker Highway at Cornelian Bay. There are 85 social housing units, and during the morning's busiest hour period the complex generated 20 vehicle movements. These 20 vehicle movements equate to a vehicle trip generation rate of 0.23 trips per unit and provides a good level of confidence with the RTA Guide trip generation rate.

Table 6.1 – Queens Walk unit vehicle movements during the AM peak period

Time	Vehicles leaving the units					Vehicles arriving at the units				Total movements	Total vehicles
	Car	Taxi	Bus	Walk	Tradie	Car	Taxi	Bus	Tradie		
7:00- 8:00am	4	0	3	2	1	4	0	0	0	14	11
8:00 -9:00am	4	2	2	4	1	7	0	0	3	18	19
9:00-10:00am	9	1	8	3	1	3	1	0	2	26	20

As determined in section 4 of this assessment, many of the trips generated by this development are not expected to be by private vehicle, but by an alternative transport mode. The number of daily vehicle trips is expected to be low and based on the RTA Guide trip generation rate of 0.29 trips per unit, the 22 residential social housing units are estimated to generate six vehicle trips in the peak hour periods.

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6.2 Existing trips generated from the current site

The existing development site contains two tennis courts, with no off-street parking facilities, and the tennis courts are infrequently used and do not create a regular daily traffic movement.

For the purpose of this traffic assessment, the six peak hour trips will be considered as new trips.

7. Existing traffic Conditions

New Town Road within the surrounding road network operates as an urban collector, to carry substantial movement of traffic between Hobart and Glenorchy. The road supports one traffic lane in each direction, with parallel parking along both sides. The road operates under the 50 km/h urban default speed limit.

The development site is located on the north west corner of the junction of Sunnyside Road and Pavior Street, with direct frontage to both streets. Vehicular access from the development site will be via Sunnyside Road, and pedestrian access will be available from Pavior Street, so it is important to understand the characteristics of both of these streets.

7.1 Sunnyside Road

Sunnyside Road extends off New Town Road in an easterly direction for 200 metres, then turns ninety degrees to the north, changing into Swanston Street.

The road is of an urban construction standard, with bitumen carriageway, concrete kerb and channel, bitumen footpath along the southern side, and street lighting. The street has a maximum uphill vertical grade of seven percent from New Town Road, with a carriageway width of eight metres wide.

Apart from the existing tennis courts located at the development site, there are residential dwellings along both sides of the street. Although this street connects to Swanston Street, it would primarily function as a local residential street, within the surrounding street network.

Photograph 7.1 – Sunnyside Road



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7.2 Pavior Street

Pavior Street is a no through street, 200 metres long, located north from Sunnyside Road, and of an urban construction standard, similar to Sunnyside Road.

The western side of the street is the rear boundary of the New Town Road properties, these properties have vehicular access from New Town Road and not Pavior Street, except for two properties which have been subdivided. On the eastern side of the street, there are residential properties with direct vehicular access to Paviour Street.

The street is 7.5 metres wide, which is suitable for kerb side parking and efficient traffic flow. At the end of the street, the western kerb slightly bulbs to form a formal turnaround area and is supported with no standing restrictions on both kerbs, to enable a B99 vehicle to turnaround using a three-point turn.

Photograph 7.2 – Pavior Street



7.3 Traffic activity at the junction of New Town Road and Sunnyside Road

With the majority of the vehicle movements generated by the development site expected to use New Town Road, it is important to understand the traffic performance of the junction of New Town Road with Sunnyside Road. A traffic survey was conducted on the junction collecting traffic data during the morning and afternoon peak periods.

Table 7.3A – Morning traffic survey results

Time	New Town Road		Sunnyside Road				Total
	North	South	Right-in	Left-In	Left-out	Right-out	
7:30 to 7:45am	90	129	1	3	11	1	235
7:45 to 8:00am	128	141	2	1	11	2	285
8:00 to 8:15am	151	200	2	1	15	0	369
8:15 to 8:30am	167	171	4	3	16	3	364
8:30 to 8:45am	159	178	5	0	14	0	356
8:45 to 9:00am	166	160	6	2	9	0	343
Total peak hour	643	709	17	6	54	3	1432

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During the morning, the peak hour occurred between 8:00am and 9:00am (highlighted in yellow in the above table), where 1,432 vehicles travelled along New Town Road, with Sunnyside Road generating 80 vehicle movements.

Table 7.3B – Evening traffic survey results

Time	New Town Road		Sunnyside Road				Total
	North	South	Right-in	Left-In	Left-out	Right-out	
4:00 to 4:15pm	164	177	4	2	7	1	355
4:15 to 4:30pm	201	179	1	1	14	1	397
4:30 to 4:45pm	186	193	5	2	10	0	396
4:45 to 5:00pm	200	177	4	3	10	1	395
Total	751	726	14	8	41	3	1543

During the evening peak, 1,543 vehicle movements were recorded along New Town Road, while Sunnyside Road generated 66 vehicle movements.

In both of the survey periods, the majority of vehicles leaving Sunnyside Road turned left towards North Hobart.

The junction of Sunnyside Road and New Town Road is located downstream (north) of the traffic lights, located at the Argyle Street junction. Because the two junctions are situated in close proximity to each other, the traffic signals can create vehicle queues extending back to Sunnyside Road, these queues are generated by vehicles heading southbound along New Town Road, while southbound vehicles travelling to Argyle Street are not impeded by the lights, as there is a high-speed slip lane.

Although the traffic signals can create a southbound traffic queue that can extend to Sunnyside Road, observations from the traffic surveys indicated this did not create any adverse impact to vehicles entering or leaving Sunnyside Road. The traffic signals also create small gaps in the northbound traffic flow due to the changing in phasing, which can assist with the few vehicles turning right out of Sunnyside Road.

Overall, the proximity of the Sunnyside Road junction with the Argyle Street traffic signals did not appear to create any notable adverse traffic impact, mainly as most vehicles turned left when leaving Sunnyside Road.

On New Town Road the northbound traffic lane passing Sunnyside Road, has sufficient road width that a stationery right turning vehicle can be passed on the left, as there are standing restrictions located along the western kerb.

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7.4 Traffic performance at the junction of New Town Road and Sunnyside Road

The simplest method to evaluate the impact of vehicles entering and leaving Sunnyside Road, is to use SIDRA traffic modelling software. Level of Service (LOS) is a quantifiable assessment of the factors that contribute to traffic performance, which includes traffic density, gaps in traffic streams, expected delays and queues. There are six levels from A to F, with A providing the highest level for give-way controlled junctions, meaning motorists are not incurring delays, with ample gaps in the traffic stream for vehicles to turn freely and safely without disrupting other users.

A traffic model of the current junction was developed for the morning peak hour, to include 57 vehicles leaving Sunnyside Road and 23 arriving, giving a total of 80 vehicle movements generated by Sunnyside Road.

Overall, the traffic modelling predicts the junction is expected to operate at the highest possible level of service for a give way control. The right turn movement out of Sunnyside Road is expected to be challenging, as drivers must select a gap in two traffic streams and a slight delay is expected. With 95 percent of the traffic choosing to undertake a left turn heading towards North Hobart, the low number of right turning vehicles creates no significant adverse impact.

During the evening peak hour, Sunnyside Road generated 66 vehicle movements, with 22 arriving and 44 leaving. The traffic modelling indicates a similar level of service as the morning peak.

The outputs from the SIDRA model for the morning and afternoon periods are shown in the diagrams below.

Diagram 7.4A – Traffic modelling for the existing traffic flows during the morning peak

MOVEMENT SUMMARY								
▽ Site: 101 [Sunnyside Base - AM Peak]								
New Site								
Site Category: (None)								
Giveaway / Yield (Two-Way)								
Movement Performance - Vehicles								
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m
South: New Town Road								
2	T1	643	0.0	0.339	4.2	LOS A	0.0	0.0
3a	R1	17	0.0	0.339	4.5	LOS A	0.0	0.0
Approach		660	0.0	0.339	4.2	NA	0.0	0.0
NorthEast: Sunny Side								
24a	L1	54	0.0	0.062	6.2	LOS A	0.2	1.6
26b	R3	3	0.0	0.062	24.7	LOS C	0.2	1.6
Approach		57	0.0	0.062	7.1	LOS A	0.2	1.6
North: New Town Road								
7b	L3	6	0.0	0.184	6.5	LOS A	0.0	0.0
8	T1	709	0.0	0.184	4.1	LOS A	0.0	0.0
Approach		715	0.0	0.184	4.2	NA	0.0	0.0
All Vehicles		1432	0.0	0.339	4.3	NA	0.2	1.6

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Diagram 7.4B – Traffic modelling for the existing flows during the evening peak

MOVEMENT SUMMARY								
▽ Site: 101 [Sunnyside Base - PM Peak]								
New Site Site Category: (None) Giveaway / Yield (Two-Way)								
Movement Performance - Vehicles								
Mov ID	Turn	Total veh/h	Demand Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m
South: New Town Road								
2	T1	751	0.0	0.392	4.2	LOS A	0.0	0.0
3a	R1	14	0.0	0.392	4.5	LOS A	0.0	0.0
Approach		765	0.0	0.392	4.2	NA	0.0	0.0
NorthEast: Sunny Side								
24a	L1	41	0.0	0.056	6.2	LOS A	0.2	1.4
26b	R3	3	0.0	0.056	30.2	LOS D	0.2	1.4
Approach		44	0.0	0.056	7.8	LOS A	0.2	1.4
North: New Town Road								
7b	L3	8	0.0	0.189	6.5	LOS A	0.0	0.0
8	T1	726	0.0	0.189	4.1	LOS A	0.0	0.0
Approach		734	0.0	0.189	4.2	NA	0.0	0.0
All Vehicles		1543	0.0	0.392	4.3	NA	0.2	1.4

7.5 Surrounding land-use

The surrounding land-use in Paviour Street and Sunnyside Road is residential properties that have off-street parking available and generate a low demand for on-street parking.

7.6 Public transport

The development site is located adjacent to a high frequency public transport route, which is very important, as public transport is usually a significant transport mode for social housing tenants, reduces the reliance on private motor vehicles and parking demand.

METRO Tasmania runs a high frequency bus service from Hobart to Glenorchy along New Town Road, with a bus operating every ten minutes between 7:00am to 7:00pm, Monday to Friday, every twenty minutes on Saturday, and every thirty minutes on Sunday.

A southbound bus stop is located on New Town Road within 50 metres of Sunnyside Road, and a northbound bus stop located within 250 metres. This development site is well positioned to take advantage of the high frequency public bus service, and provides tenants with an accessible, convenient, and viable alternative transport mode.

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7.7 Cycling facilities

The development site is located in the vicinity of the intercity shared cycleway, which is an off-road facility that operates between Hobart and the northern suburbs, using the old railway corridor, the route is flat and accommodates riders of all skill levels.

In addition, there are on-road cycle lanes operating along Argyle Street that can be easily accessed from the development site, with these lanes connecting to Hobart.

Overall, the development site is well located to formal cycling facilities, which provides excellent connectivity to both Hobart and Glenorchy, providing a real alternative transport mode, reducing the reliance on private motor vehicles.

7.8 Crash performance

The Department of State Growth maintains a database of reported road crashes, and a check of this database found no crashes reported on the streets adjacent to the development site, and no crashes reported at the junction of Sunnyside Road and New Town Road.

This indicates motorists are not encountering any difficulty with the street system.

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8. Impact from traffic generated by this development

As determined in section 6 of this assessment, the proposed social housing units are not expected to generate a high number of vehicle movements, with an estimated average of six trips in the peak hour periods.

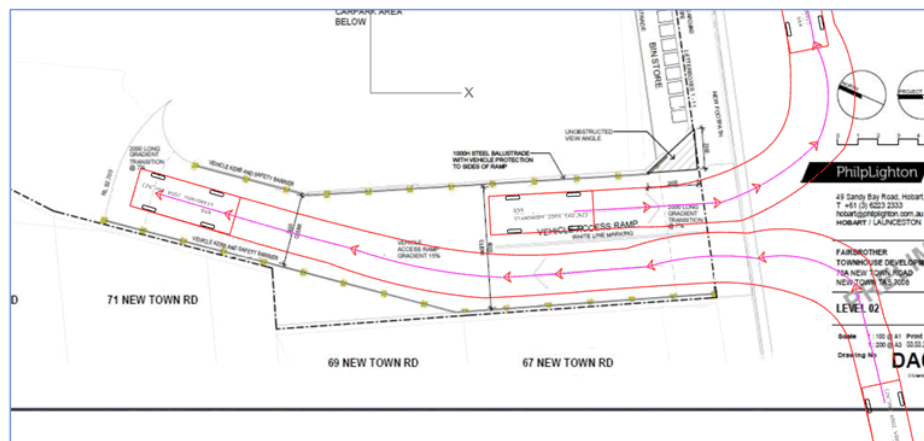
8.1 Traffic entering and leaving the development site

The current development site has no vehicular access.

The development will create a new vehicular access onto Sunnyside Road, that will be a standard concrete kerb crossover and comply with LGAT standard drawing TSD-R09-V1 for an urban road driveway.

The entry of this vehicular access ramp will be six metres wide and provide for two-way traffic movements through a passing bay layout; the ramp will be designed to accommodate the swept path of B99 vehicles entering and leaving Sunnyside Road, servicing the 12 on-site parking spaces for the tenants.

Diagram 8.1 – Swept path of B99 vehicles entering and leaving simultaneously



8.2 Sight distance for vehicles leaving the development site

The speed limit along Sunnyside Road is the urban 50 km/h speed limit.

The available sight distance from the proposed development access has been measured on site, and a driver leaving the site has at least 100 metres of sight distance to the left, and 80 metres to the right.

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In both directions, the available sight distance is expected to exceed the Safe Intersection Sight Distance prescribed in the planning scheme for a 50 km/h speed limit, and is sufficient for vehicles to enter the road in a safe manner, without causing traffic disruption to current users.

Photograph 8.2A – Driver leaving the site viewing left



Photograph 8.2B – Driver leaving the site viewing right



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8.3 Traffic efficiency at the junction of New Town Road and Sunnyside Road

The additional vehicle trips generated by this development, have been assigned to the traffic model replicating the junction of Sunnyside Road and New Town Road for the morning and evening peak periods. It is assumed the six vehicle trips in the morning will be leaving Sunnyside Road with 95 percent turning left.

In the evening period, an additional six vehicle trips arriving to Sunnyside Road, with 65 percent turning right and 35 percent turning left, based on the current turning percentages.

The traffic modelling indicates the additional vehicle trips are not expected to cause any notable deterioration in the level of traffic efficiency at the Sunnyside Road junction.

Diagram 8.3A – Traffic modelling of additional morning trips generated by the development

MOVEMENT SUMMARY								
▽ Site: 101 [Sunnyside Base - AM Peak - with additional development vehicle movements]								
New Site								
Site Category: (None)								
Giveaway / Yield (Two-Way)								
Movement Performance - Vehicles								
Mov ID	Turn	Total veh/h	Demand Flows HV %	Deg. Sain v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m
South: New Town Road								
2	T1	643	0.0	0.339	4.2	LOS A	0.0	0.0
3a	R1	17	0.0	0.339	4.5	LOS A	0.0	0.0
Approach		660	0.0	0.339	4.2	NA	0.0	0.0
NorthEast: Sunny Side								
24a	L1	60	0.0	0.072	6.2	LOS A	0.3	1.8
26b	R3	4	0.0	0.072	24.8	LOS C	0.3	1.8
Approach		64	0.0	0.072	7.3	LOS A	0.3	1.8
North: New Town Road								
7b	L3	6	0.0	0.184	6.5	LOS A	0.0	0.0
8	T1	709	0.0	0.184	4.1	LOS A	0.0	0.0
Approach		715	0.0	0.184	4.2	NA	0.0	0.0
All Vehicles		1439	0.0	0.339	4.3	NA	0.3	1.8

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Diagram 8.3B – Traffic modelling of additional evening trips generated by the development

MOVEMENT SUMMARY								
▽ Site: 101 [Sunnyside Base - PM Peak - with additional development vehicle movements]								
New Site Site Category: (None) Giveaway / Yield (Two-Way)								
Movement Performance - Vehicles								
Mov ID	Turn	Total veh/h	Demand Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m
South: New Town Road								
2	T1	751	0.0	0.395	4.2	LOS A	0.0	0.0
3a	R1	19	0.0	0.395	4.5	LOS A	0.0	0.0
Approach		770	0.0	0.395	4.2	NA	0.0	0.0
NorthEast: Sunny Side								
24a	L1	41	0.0	0.056	6.2	LOS A	0.2	1.4
26b	R3	3	0.0	0.056	30.5	LOS D	0.2	1.4
Approach		44	0.0	0.056	7.8	LOS A	0.2	1.4
North: New Town Road								
7b	L3	10	0.0	0.189	6.5	LOS A	0.0	0.0
8	T1	726	0.0	0.189	4.1	LOS A	0.0	0.0
Approach		736	0.0	0.189	4.2	NA	0.0	0.0
All Vehicles		1550	0.0	0.395	4.3	NA	0.2	1.4

8.4 Residential amenity impact to Sunnyside Road

A new development in urban areas can be concerning to local residents, and it can be difficult to argue that a traffic increase is reasonable. The RTA Guide to Traffic Generating Developments has considered this matter and provided an environmental performance standard, that can be used to evaluate the likely impact on residential amenity. Table 8.4 is an extract from the RTA Guide and relates to urban environment, providing maximum peak hour goals.

For Sunnyside Road being a local residential street, the maximum peak hour goal is 300 vehicles per peak hour (two-way traffic flow). Combining the current maximum two-way peak hour traffic flow of 80 vehicles, with the expected increase of six vehicles generated by the development, the new two-way peak hour traffic flow is expected to be substantially less than the environmental goal. This indicates that the traffic generated from this development, is not expected to create any adverse amenity impact to the surrounding residential properties.

Table 8.4 – Extract from the RTA Guide

Environmental capacity performance standards on residential streets			
Road class	Road type	Maximum Speed (km/hr)	Maximum peak hour volume (veh/hr)
Local	Access way	25	100
	Street	40	200 environmental goal 300 maximum
Collector	Street	50	300 environmental goal 500 maximum

Note: Maximum speed relates to the appropriate design maximum speeds in new residential developments. In existing areas maximum speed relates to 85th percentile speed.

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8.5 Lane capacity and level of service for New Town Road

An additional six vehicle trips in both the morning and afternoon peak periods, represents less than a one percent increase in traffic movements along New Town Road, and is not expected to cause any adverse traffic capacity impact to the road performance.

8.6 Traffic safety impact

With no crashes reported on the surrounding streets in the last five years, this development is not expected to increase the crash risk.



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9. Development layout and access arrangement

9.1 Number of parking spaces

The development is providing 12 on-site parking spaces located on the ground floor accessible by a vehicular ramp from Sunnyside Road, and this number of spaces is expected to meet the reasonable demand generated from the tenants of the social housing units.

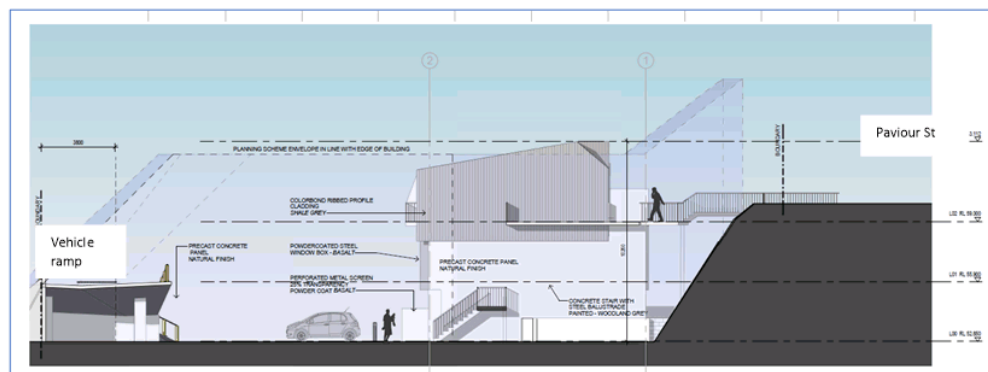
As demonstrated in section 4 of this assessment, tenants of one and two bedroom social housing units located adjacent to a high frequency public bus route, and accessible to commercial and community services generate a low parking demand.

Recent on-street parking surveys found there is a generous supply of on-street parking spaces in both Paviour Street and Sunnyside Road, and the surrounding residential properties generate a low on-street parking demand. Any parking overflow, including visitors to this development using these on-street parking spaces are not expected to cause any adverse amenity or traffic flow impacts. This development site occupies 70 metres for direct road frontage, this length of road frontage can support a minimum of 8 to 10 parked vehicles, with these vehicles not adversely impacting other residential properties

9.2 Vehicular ramp to the ground floor parking spaces

Due to the significant height difference between the natural surface level and Sunnyside Road, a vehicle ramp will be necessary, the ramp will be primarily straight and connect onto Sunnyside Road, with diagram 9.2A demonstrating the height difference between the ground floor and Paviour Street. At Sunnyside Road where the access ramp provides for vehicle movements, the width of the ramp will be a minimum of six metres clear of vertical obstructions at the street entry point, reducing to 3.5 metres wide (clear) at the ground level.

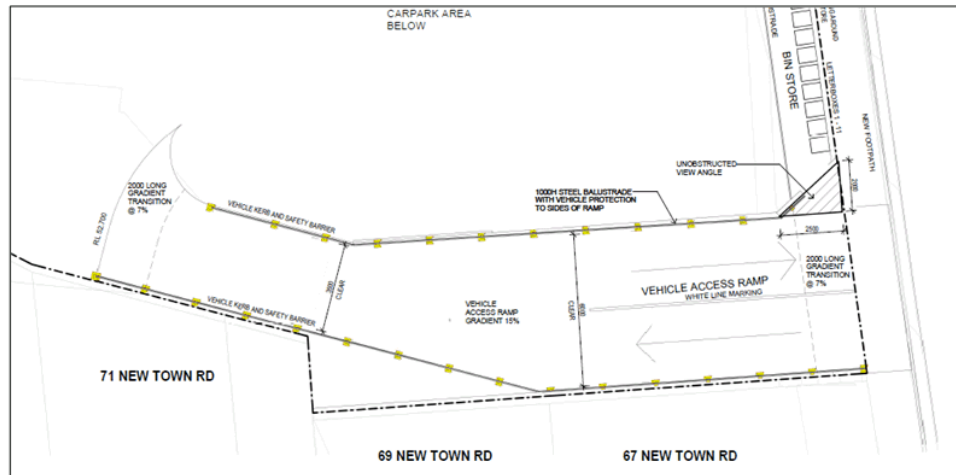
Diagram 9.2A – Height difference between the natural surface and Paviour Street



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The site is constrained and to optimise the number of parking spaces on the ground floor, the access ramp has been designed to allow for two-way vehicle movements at Sunnyside Road, reducing to a single lane at the ground level.

Diagram 9.2 B – Ramp layout

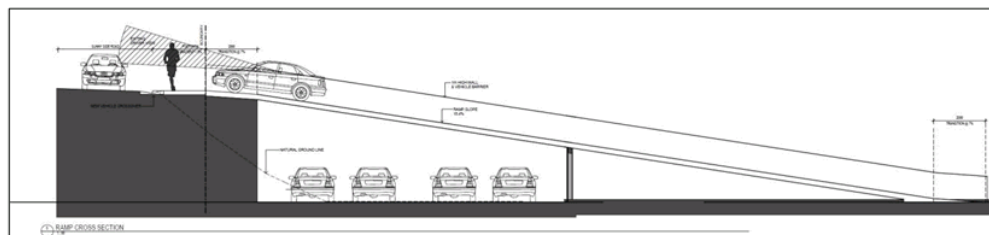


9.3 Ramp gradient

The ramp has been designed to comply with section 3.3 of AZ/NZS 2890.1:2004.

The ramp will have a downgrade from Sunnyside Road; across the footpath the grade will be 5 percent, then increase to 7 percent for the first 2 metres (transitional ramp), then increasing to a maximum gradient of 15.4 percent, and transitioning back to 7 percent by a 2-metre-long transitional ramp. This means the maximum change in gradient for both crest and sag curves will be 8.4 percent, and this is not expected to create any adverse scraping or bottoming of vehicles using the ramp.

Diagram 9.3 – Ramp gradient to Sunnyside Road

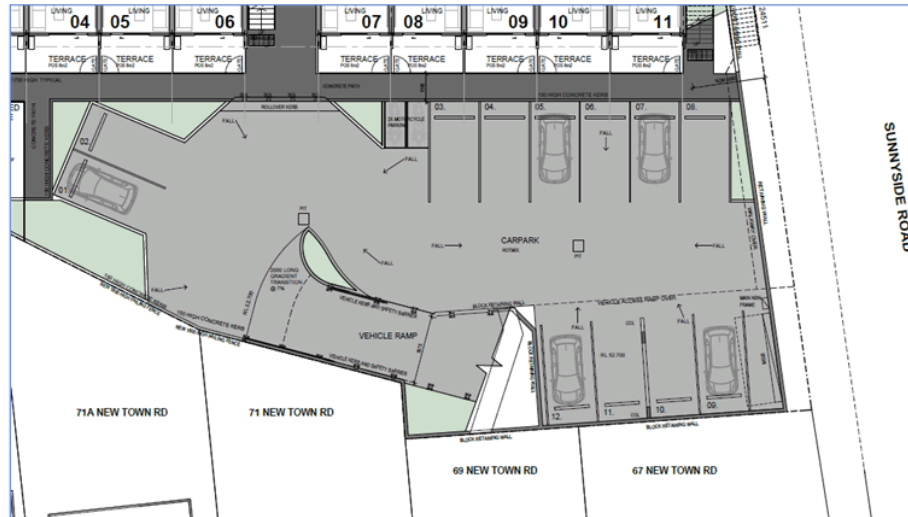


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9.4 Layout of the ground floor parking area

The access to the ground floor parking area is via a relatively straight ramp from Sunnyside Road, where there will be 12 car parking spaces, along with motorcycle parking for tenant use.

Diagram 9.4 – Ground floor parking layout



9.5 Ground floor car park arrangements

As specified in table 1.1 of AS/NZS 2890.1:2004 the user class of the parking spaces will be designed as user class 1A, for residential use. Section B4.8 of the above standard allows for user class 1A, that the aisle width can be reduced to 5.8 metres, and vehicles may need to use a 3-point turn when entering or leaving the spaces. This concession assists where space is limited and recognises that such developments will have a low turnover and users are generally prepared to accept some inconvenience when entering and leaving the spaces. Vehicles larger than a B85 vehicle may need to make a 5-point turn.

The on-site parking spaces will have the following attributes:

- Parking bays will be user class 1A for residential parking, allowing for 3-point turn entry and exit into ninety degree parking spaces.
- Parking bays will be a minimum of 2.6 metres wide and 5.4 metres long.
- All parking spaces to be ninety degrees to the parking aisle with wheel stops.
- At the end of the blind aisle, there will be an extension to the aisle to aid with vehicle manoeuvrability.
- The length of the parking aisle will be short in length, limiting operating speeds to an acceptable level of less than 30 km/h.

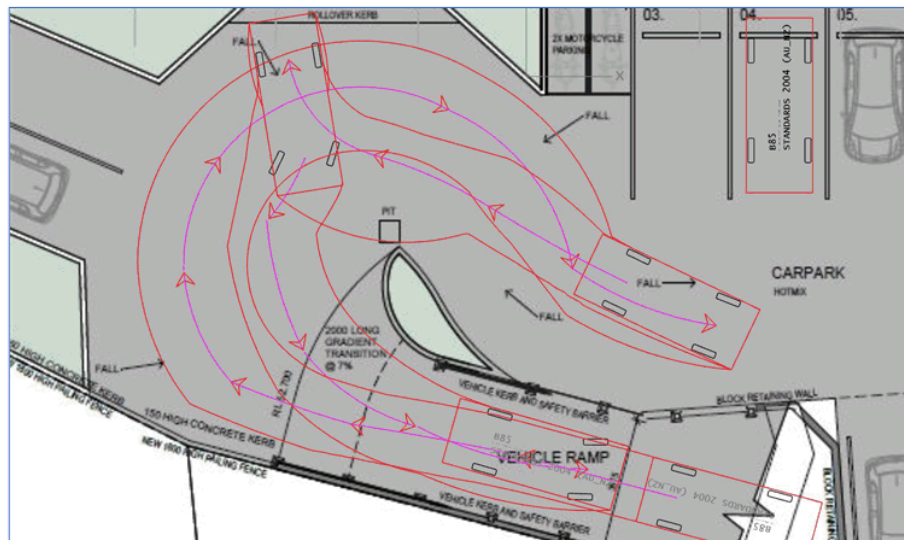
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9.6 Manoeuvrability of vehicles within the on-site parking area

The on-site parking spaces have been designed for tenant use only, swept path diagrams for a B85 vehicle entering and leaving each space is shown in appendix A of this assessment, demonstrating that vehicles can enter and leave each of the spaces, some vehicles may require to undertake a 3-point turn.

Overall, the swept path diagrams demonstrate there is adequate area within the ground floor layout to accommodate vehicle manoeuvring, and also allows for a B85 vehicle to turnaround, as demonstrated in the diagram below.

Diagram 9.6 – Swept path of a B85 vehicle turning around.

**9.7 Queuing area to ground floor parking**

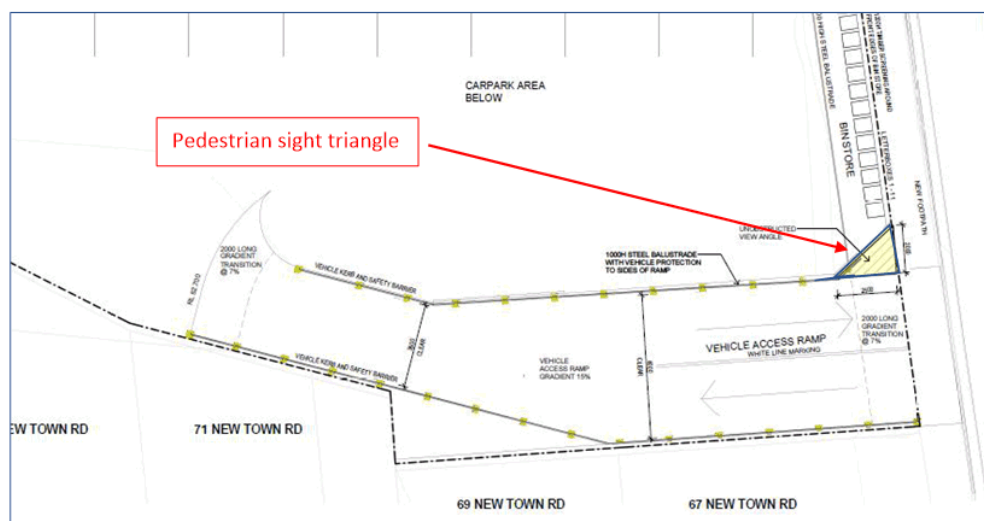
The entrance to the ground floor parking area will not be gated. There is sufficient length and width of the ramp to accommodate two vehicles entering at a time. Given the parking area supports 12 spaces, the risk of vehicles queuing on Sunnyside Road waiting to enter the ramp would be very low.

9.8 Pedestrian sight line for pedestrian safety

Along the northern side of Sunnyside Road, the existing concrete footpath terminates prior to reaching the development site due to the steep embankment, with no existing footpath along the development site.

The development will provide a new footpath along the northern side of Sunnyside Road, and the new vehicle ramp will cross the new footpath. The design will incorporate a pedestrian sight triangle of 2.5 x 2 metres on the left hand side of the ramp, ensuring suitable sight distance between drivers leaving the ramp and pedestrians approaching on the footpath.

Diagram 9.8 – Pedestrian sight triangle



9.9 Pedestrian access to the development site

The development is providing new footpaths where practicable, having consideration to the cutting of the quarry face. A central stairwell is being provided within the development to provide connection between all floors and Pavior Street. There are also stairs connecting the development with Sunnyside Road.

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9.10 Commercial vehicles

The residential units are not expected to generate commercial vehicle activity.

Waste collection

The council waste collection service is expected to be used; a dedicated bin storage area will be provided within the development site located along Sunnyside Road behind the new footpath. This bin storage area has been designed to house the waste bins, with 1.2-metre-high screens, so the bins are hidden from the street and do not obstruct pedestrian movement on the footpaths. The bins will be transferred to the edge of the new footpaths on the waste collection day.

9.11 Headroom clearance

The Australian Standards 2890 section 5.3 specifies for both cars and light vans, the height between the floor and an overhead obstruction shall be a minimum of 2.2 metres.

The underside of the vehicle access ramp will house four parking spaces, and a minimum 2.2 metre headroom height will be provided to meet this standard. Part of the footpath along Sunnyside Road will be cantilevered over the parking area and this structure will have a minimum headroom clearance of 2.2 metres. The other eight parking spaces within the ground floor parking area will not be covered by an overhead structure.

9.12 Motorcycle parking spaces

The ground floor parking area will provide two motorcycle parking spaces.

9.13 Bicycle facilities

The development will provide facilities to promote the use of bicycles as a viable alternative to private vehicles, and each unit will be provided with a space for the storage of a bicycle within the security of the individual's unit.

The development is also providing bike racks within the common area to accommodate six bicycles, be available for visitors and residents that may have a second bicycle.

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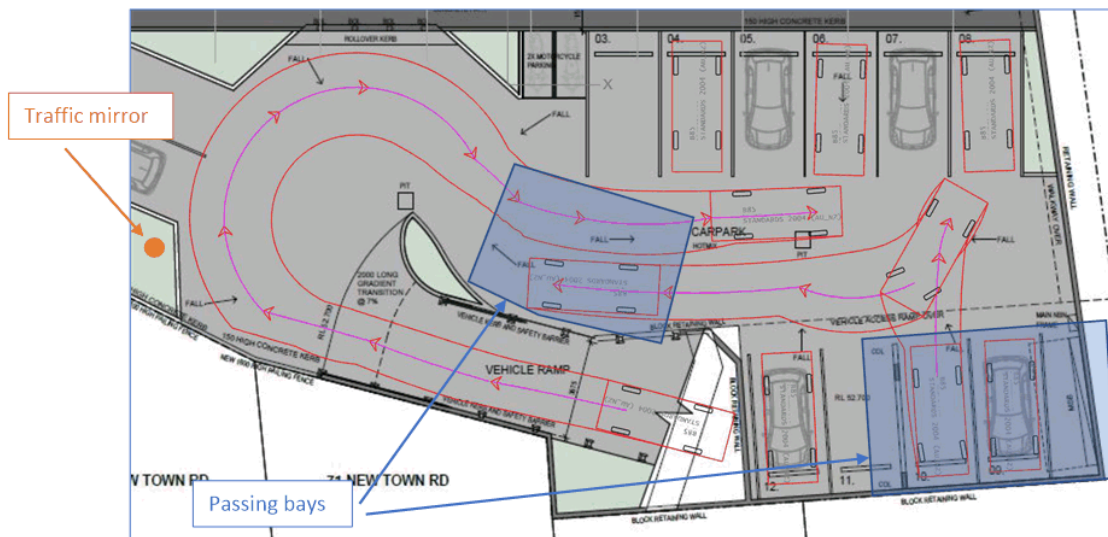
9.14 Passing bays

The access ramp will reduce to a single lane as it reaches the ground floor, passing bays will be provided at both ends of the ramp to ensure vehicles can pass efficiently. The passing bays will be a minimum of 5.5 metres wide and six metres long, and are shown in diagram 9.14.

A traffic mirror adjacent to parking space numbered 1 will be provided, this mirror will enable motorists leaving the parking spaces to ensure the ramp is clear before proceeding up the ramp. Otherwise, the driver should wait within the ground floor passing bay area for the entering vehicle to clear the ramp. Vehicles entering the ramp from Sunnyside Road should have priority over vehicles leaving, and a traffic sign could be installed on the ground floor to reinforce this priority.

The parking spaces are expected to generate a low turnover, and users will become familiar with the arrangement, with no adverse impact expected.

Diagram 9.14 – Passing bays



9.15 Vehicle barriers

Vehicle barriers are being provided to both sides of the access ramp.

Within the ground floor parking area, parking spaces are located adjacent to a pedestrian walkway, with wheel stops and bollards to provide adequate separation between the vehicles and pedestrian movement.

10. Planning scheme

10.1 E5.0 Road and Railway Assets Code

E5.6.2 Road accesses and junctions

The development site will need to create a new access onto Sunnyside Road, located on the northern side, approximately 40 metres west of Paviour Street. This access will be the only vehicular access to the development site. With the urban default 50 km/h speed limit operating on Sunnyside Road, the creation of a single development access meets the acceptable solution A2.

E5.6.4 Sight distance at accesses, junction, and level crossings

The new access off Sunnyside Road will provide for two-way traffic movements and motorists leaving the development site will have available sight distance of 80 metres in both directions, which satisfies the planning scheme requirement for Safe Intersection Sight Distance for a 50 km/h speed limit.

This development will comply with the acceptable solution for Safe Intersection Sight Distance, and motorists will be able to enter Sunnyside Road in a safe manner, without disrupting the current road users.

10.2 E6.0 Parking and Access Code

E6.6.1 Number of parking spaces

It is important to acknowledge that car ownership for social housing developments is generally less, as the tenants have a higher use of public transport. This development site was chosen due to its proximity to a high frequency public bus route, where every ten minutes a bus travels along New Town Road during the weekdays between 7:00am and 7:00pm. While the frequency of buses decreases slightly on weekends and after 7:00pm, there is still a good level of service. The development site is also located in walking distance to various commercial businesses, including supermarkets, medical services, and other community facilities. Cycling will be an alternative transport mode, as the site has good access to the on-road cycle lanes operating along Argyle Street, providing good connectivity to the Hobart City centre.

Section 4 within this assessment provided evidence, that the parking space demand for social housing units is significantly less than the planning scheme requirements, with the development to provide 12 on-site car parking spaces, and this level of parking is considered reasonable to meet the expected demand.

With the number of parking spaces for these social housing units being less than that specified by the planning scheme requirements, the use must be considered under the performance criteria and the following information is provided to support the application.

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Performance criteria	Assessment
To ensure there is enough car parking to meet the reasonable needs of all users of a development, taking into account the level of parking available on or outside of the land and the access afforded of users by other modes of transport. The use or development does not detract from the amenity of users or the locality by preventing regular parking overspill and minimising the impact of car parking on heritage and local character.	
a) car parking demand;	The planning scheme specifies that 38 parking spaces are required for the 22 units. The development is providing 12 on-site parking spaces. As demonstrated in this assessment the parking demand for one and two bedroom social housing units is significantly reduced, the 12 spaces being provided by this development is expected to meet the reasonable demand generated by the tenants.
b) The availability of on-street and public car parking in the locality;	A recent parking supply and demand survey of Paviour Street and Sunnyside Road found there is 96 spaces available, within 200 metres of the development site. The patrolled parking survey found these spaces have a low occupancy rate of less than 20 percent, mainly because the surrounding residential properties have suitable off-street facilities, and along the western side of Paviour Street there is only a few property accesses, as these properties have their access off New Town Road. The survey found there is sufficient supply of on-street parking spaces to meet any overflow or visitor demand likely to be generated by this development. The development site has 70 metres of road frontage, this length of road frontage can accommodate 8 to 10 vehicles, and these vehicles would not adversely impact surrounding properties.
c) The availability and frequency of public transport within 400m walking distance of the site;	METRO Tasmania runs a high frequency bus service between Glenorchy and Hobart via New Town Road, with a bus operating every ten minutes between 7:00am and 7:00pm, Monday to Friday. With bus stops located within 250 metres of the development site, this provides the unit tenants with a convenient and viable alternative transport mode.
d) the availability and likely use of other modes of transport;	The development site is located within three kilometres of the Hobart CBD, and this makes bicycle riding a viable option, particularly with on-road cycle lanes operating along Argyle Street, extending into New Town Road. The intercity cycleway is also located within 1.2 kilometres from the development site, providing a flat and easy cycling path between Hobart and the northern suburbs.
e) the availability and suitability of alternative arrangements for car parking provisions;	The development is located within an inner residential suburb, there are a range of commercial and retail businesses within walking distance, including a range of medical services, supermarkets, and other community facilities, reducing the need for car ownership.
f) any reduction in car parking demand due to the sharing of car parking	There is evidence provided in section 4 of this assessment that social housing units located in close proximity to a high frequency bus route and community facilities, reduces the car

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spaces by multiple uses, either because of variation of car parking demand over time or because of efficiencies gained from the consolidation of shared car parking spaces;	ownership. Based on Queensland Government design standard of new social housing units, the tenants of these one and two bedroom units are expected to generate a parking demand of 14 vehicles.
g) Any car parking deficiencies or surplus associated with the existing use of the land;	None.
h) Any credit which should be allowed for a car parking demand deemed to have been provided in associated with a use which existed before the change of parking requirements, except in the case of substantial redevelopment of a site;	None.
i) The appropriateness of a financial contribution in lieu of parking towards the cost of parking facilities or other transport facilities, where such facilities exist or are planned in the vicinity;	No financial contribution is considered necessary, as the level of on-site parking spaces will more than meet the needs of the development, without any adverse impact to the surrounding road network.
j) Any verified prior payment of a financial contribution in lieu of parking for the land;	None required.
k) Any relevant parking plan for the area adopted by Council;	Not aware of any.
l) The impact on the historic cultural heritage significance of the site if subject to the Local Heritage Code;	None expected.
m) Whether the provision of the parking would result in the loss, directly or indirectly of one or more significant trees listed in the Significant Trees Code.	None.

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E6.7 Development standards

Development standards	Comment
6.7.1 number of vehicular accesses;	This development will create a single two-way vehicular access onto Sunnyside Road.
6.7.2 design of vehicular access;	The vehicular access will be designed to conform with the Australian Standards 2890.1:2004.
6.7.3 vehicular passing areas along an access;	Sufficient passing bays will be included within the ramp design to provide safe and efficient traffic flow between the ground floor parking area and Sunnyside Road. The passing bays will be supplemented with a traffic mirror to ensure safe and efficient traffic flow.
6.7.4 On-site turning;	All vehicles will be able to enter and leave the development site in a forward driving direction. A B85 vehicle will be able to turnaround within the site.
6.7.5 Layout of parking areas;	Designed to conform with the intent of AS 2890.1:2004.
6.7.6 Surface treatment of parking areas;	Concrete or bitumen surface.
6.7.7 Lighting of parking areas;	Lighting will be provided to satisfy the acceptable solution.
6.7.8 Landscaping of parking areas;	Landscaping will be provided within the development site.
6.7.9 Design of Motorcycle parking areas;	Motorcycle parking spaces will be accommodated within the ground floor parking area.
6.7.10 Design of Bicycle Parking facilities;	Bicycle storage facility will be provided within each of the units, and within the common area for visitors.
6.7.11 Bicycle end of trip facilities;	Not required for residential units.
6.7.12 Siting of car parking;	The on-site parking spaces will be accommodated on a ground floor level and not visible to motorists travelling along Paviour Street or Sunnyside Road.
6.7.13 Facilities for commercial vehicles;	Not required for residential units.

11. Conclusion

This development site is an excellent location to create inner suburban unit living, close to a high frequency public transport route, the intercity cycleway and on-road cycle lanes operating along Argyle Street, reducing the need of private motor vehicles, and within walking distance to a range of retail and commercial facilities, including a range of medical services, shopping areas, recreational and cultural facilities.

From a traffic engineering and road safety perspective, this development is expected to generate a low number of additional vehicle movements, and not expected to adversely impact the traffic efficiency of the surrounding road network.

Vehicles entering and leaving the ground floor parking area, are not expected to create any adverse safety or traffic efficiency impacts to pedestrians or existing road users, as there will be suitable sight distance, and entering vehicles are not expected to cause a queuing risk.

The number of on-site parking spaces being provided by this development, is expected to meet the reasonable demand generated by the units, there is sufficient on-street parking supply to support visitor and any overflow parking, without causing adverse impact to surrounding properties.

The development site will provide convenient, safe, and accessible access for pedestrians at street level.

Waste collection will be arranged with the council services, a dedicated bin storage area will be created within the development site along Sunnyside Road, to enable the bins to be transferred to the edge of the footpath on collection day.

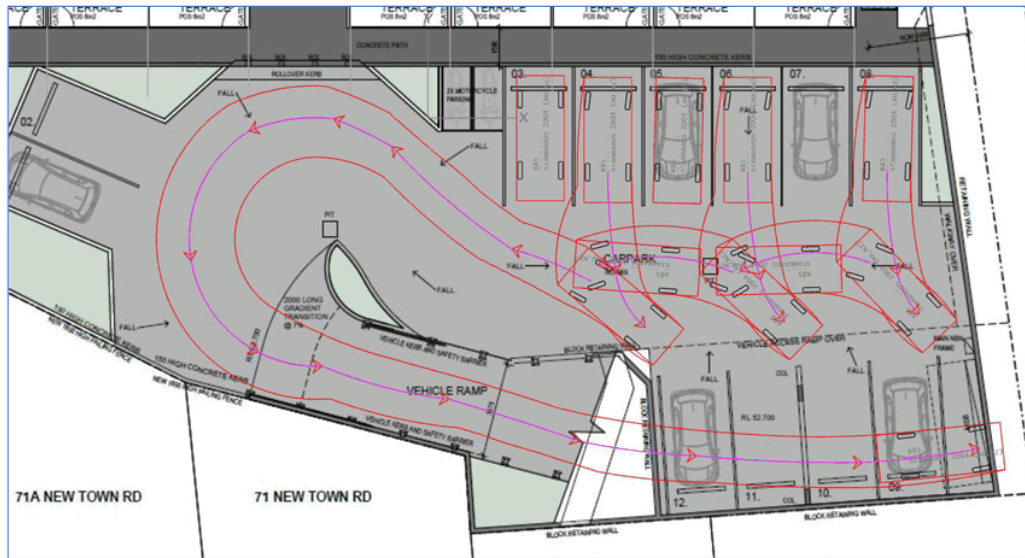
An examination of the geometric internal layout of the ground floor parking area, found general compliance with the planning scheme and the intent of the Australian Standards 2890.1:2004.

This independent Traffic Impact Assessment found no reason for this development not to proceed.

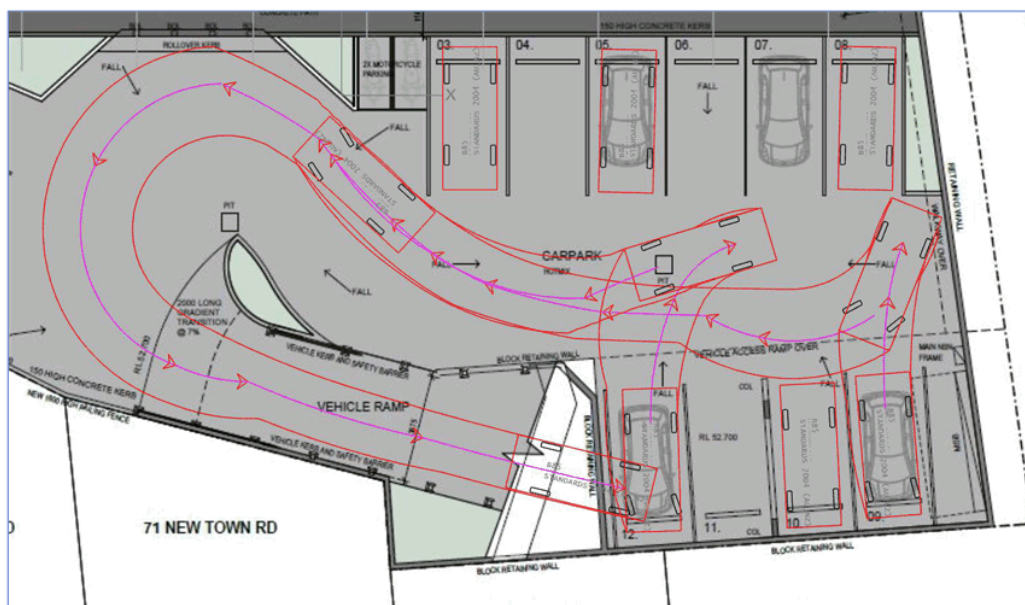
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SOCIAL HOUSING UNITS 73A NEW TOWN ROAD, NEW TOWN

Car parking spaces numbered 4,6 and 8 – B85 swept path of a vehicle leaving

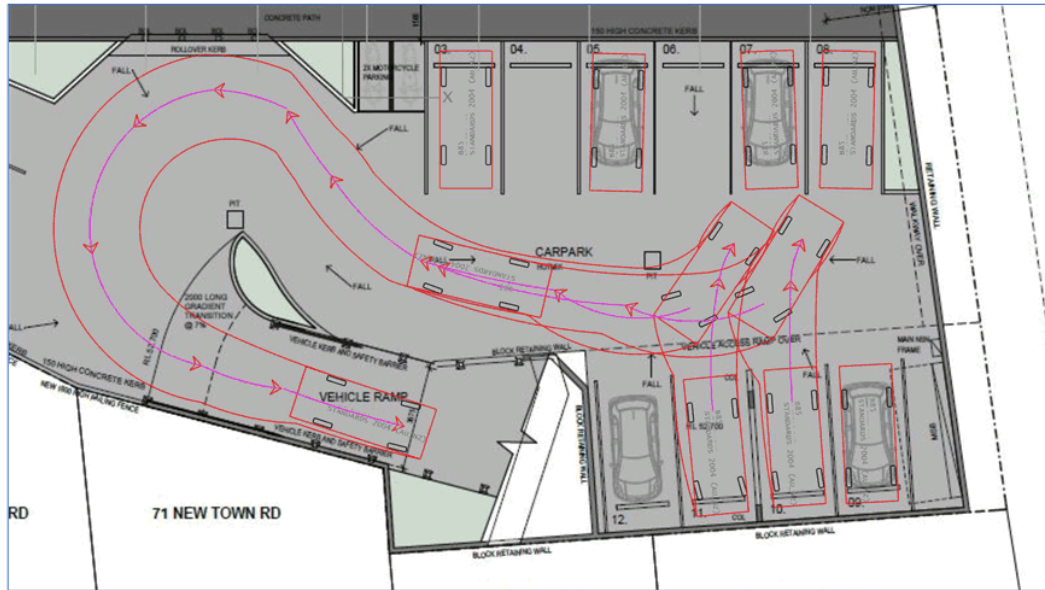


Car parking spaces numbered 9 and 12 – B85 swept path of a vehicle leaving

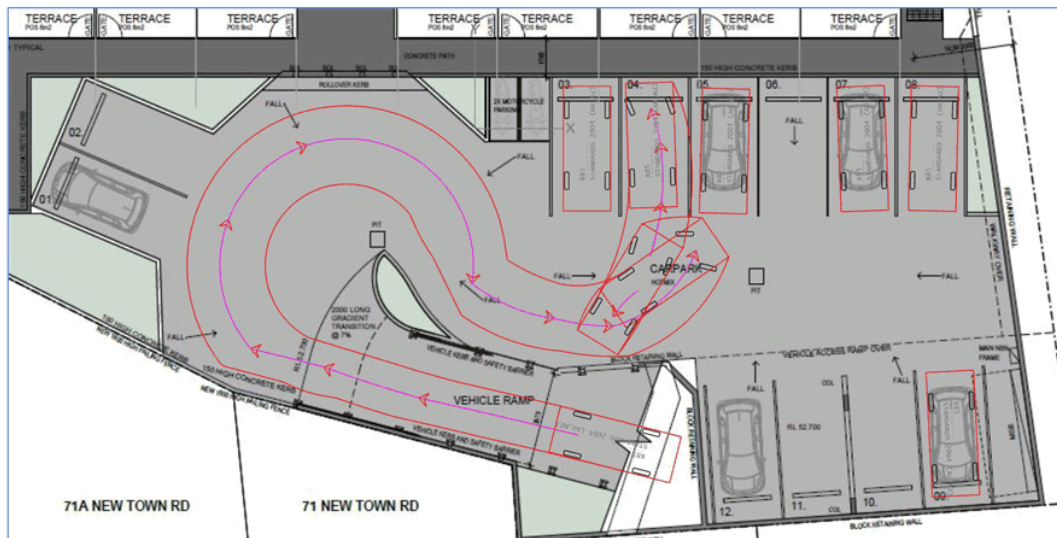


SOCIAL HOUSING UNITS 73A NEW TOWN ROAD, NEW TOWN

Car parking spaces numbered 10 and 11 – B85 swept path of a vehicle leaving

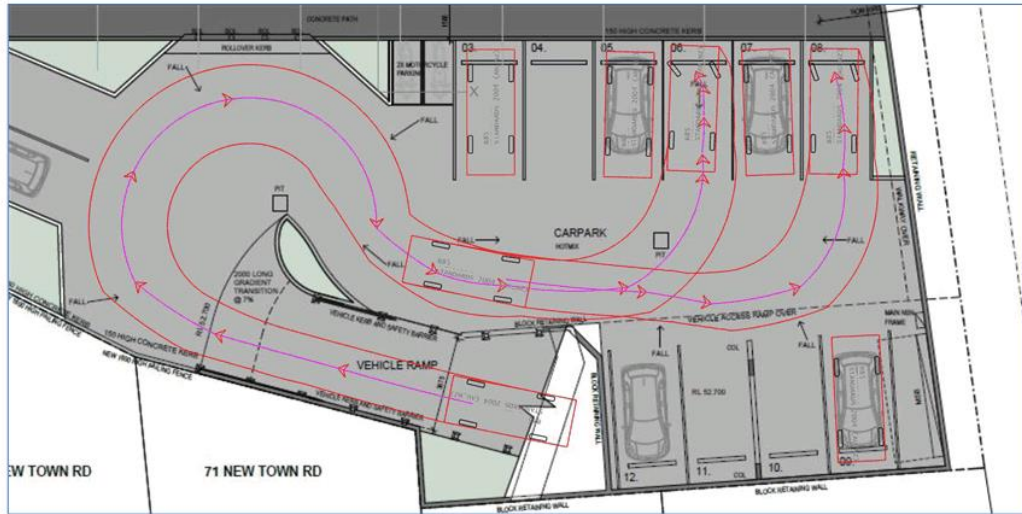


Car parking space numbered 4 – B85 swept path of a vehicle entering

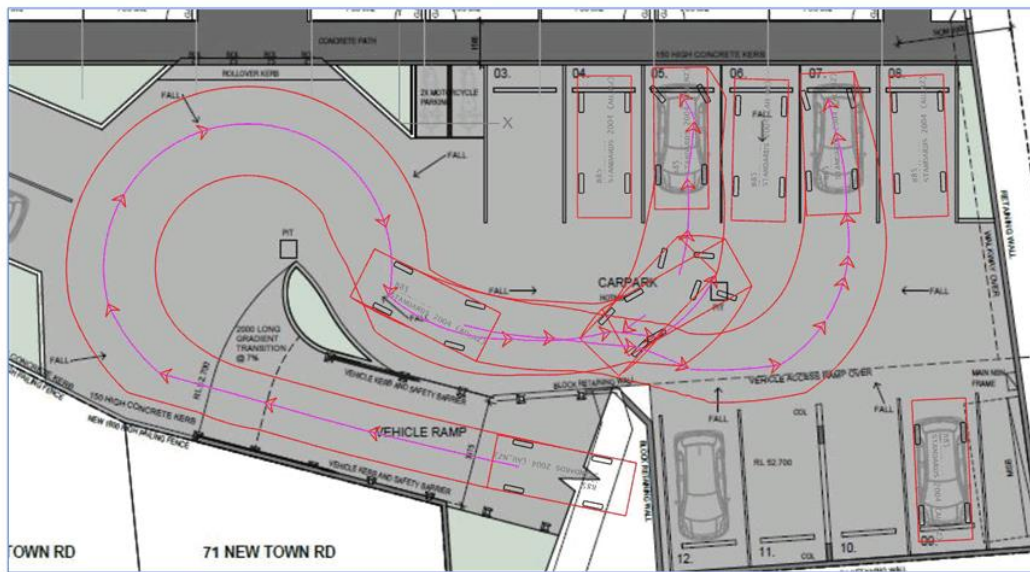


SOCIAL HOUSING UNITS 73A NEW TOWN ROAD, NEW TOWN

Car parking spaces numbered 6 and 8 – B85 swept path of a vehicle entering

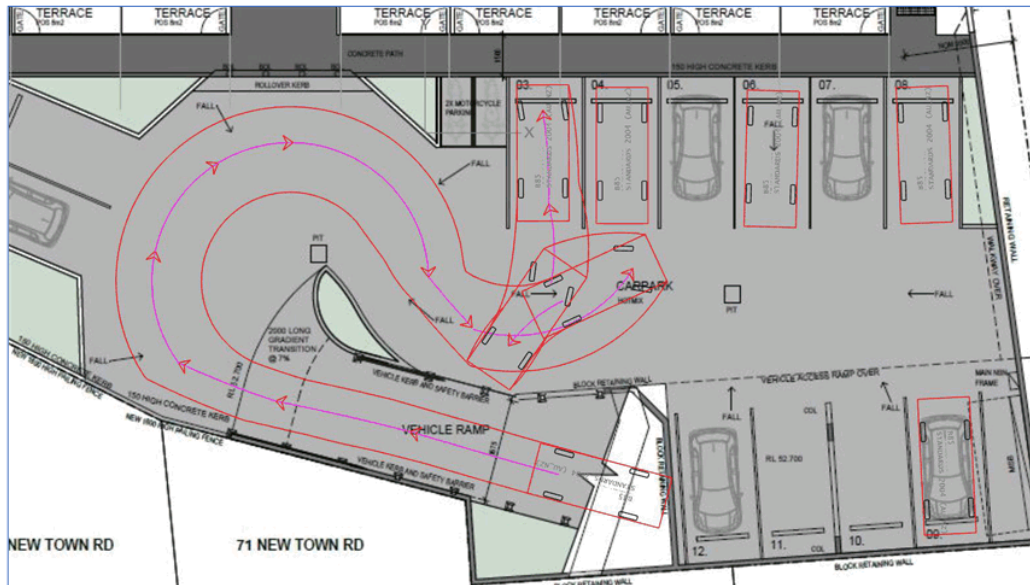


Car parking spaces numbered 5 and 7 – B86 swept path of a vehicle leaving

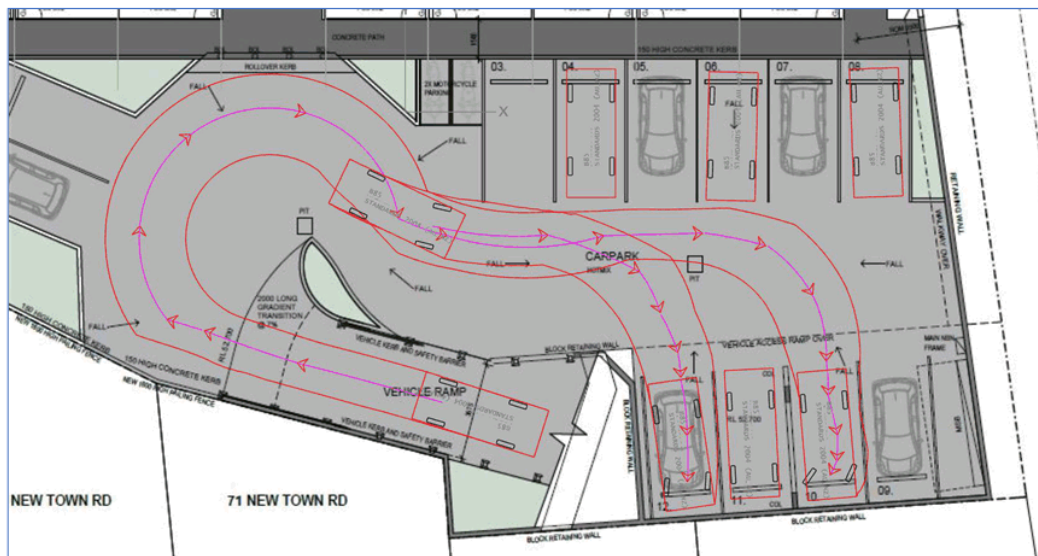


SOCIAL HOUSING UNITS 73A NEW TOWN ROAD, NEW TOWN

Car parking space numbered 3 – B85 swept path of a vehicle entering

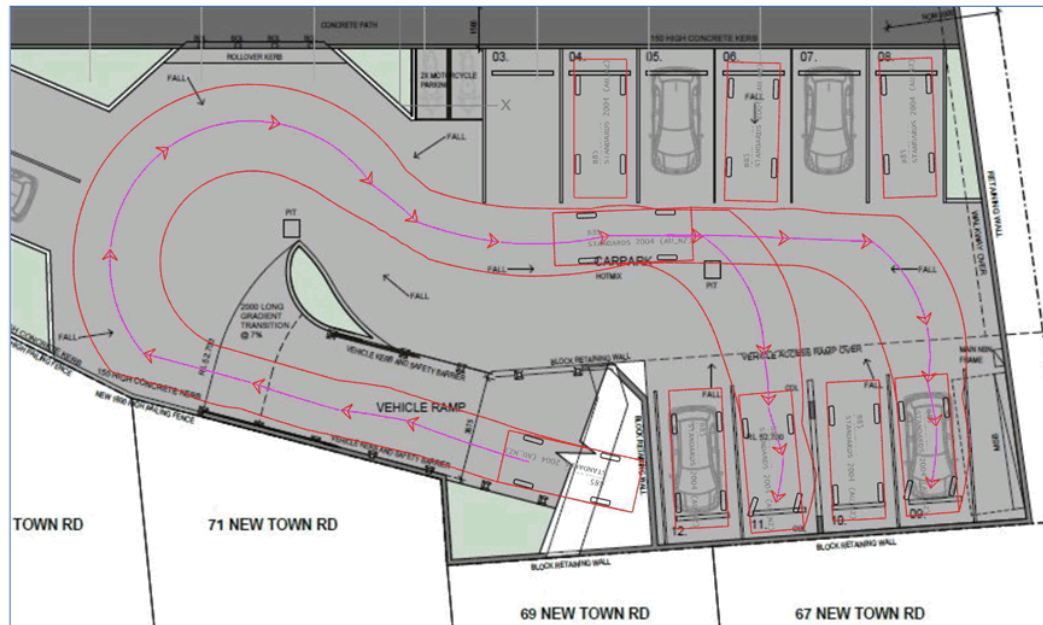


Car parking spaces numbered 10 and 12 - B85 swept path of a vehicle entering



SOCIAL HOUSING UNITS 73A NEW TOWN ROAD, NEW TOWN

Car parking spaces numbered 9 and 11 – B85 swept path of a vehicle entering



Appendix F Civil infrastructure concept design

CLIENT:
COMMUNITIES TASMANIA

PROJECT:
SOCIAL HOUSING

ADDRESS:
73A NEW TOWN RD, NEW TOWN

PROJECT No:
220008

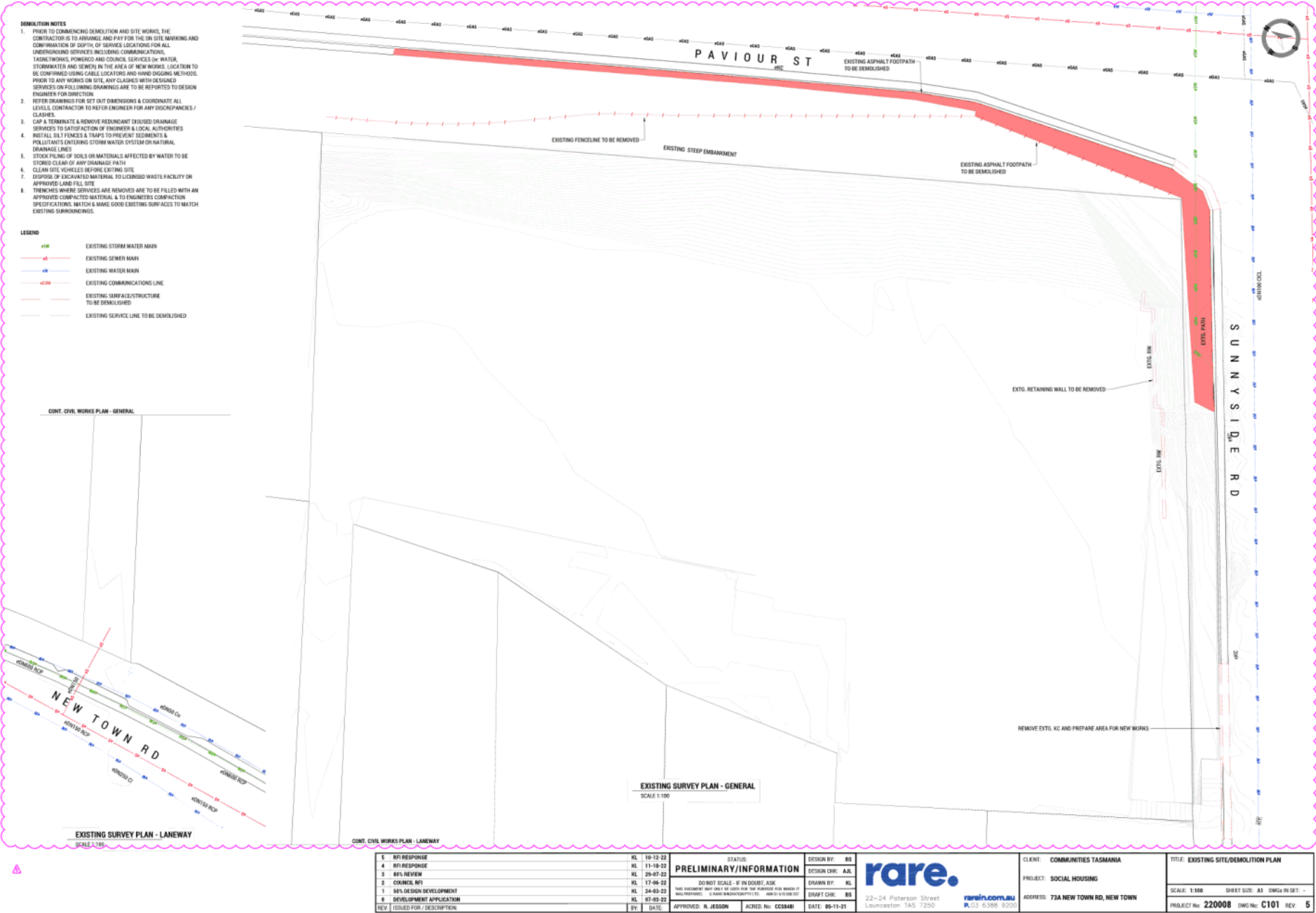
STATUS:
CONTROLLED DOCUMENT

ISSUED FOR / DESCRIPTION:
80% REVIEW

DRAWINGS:

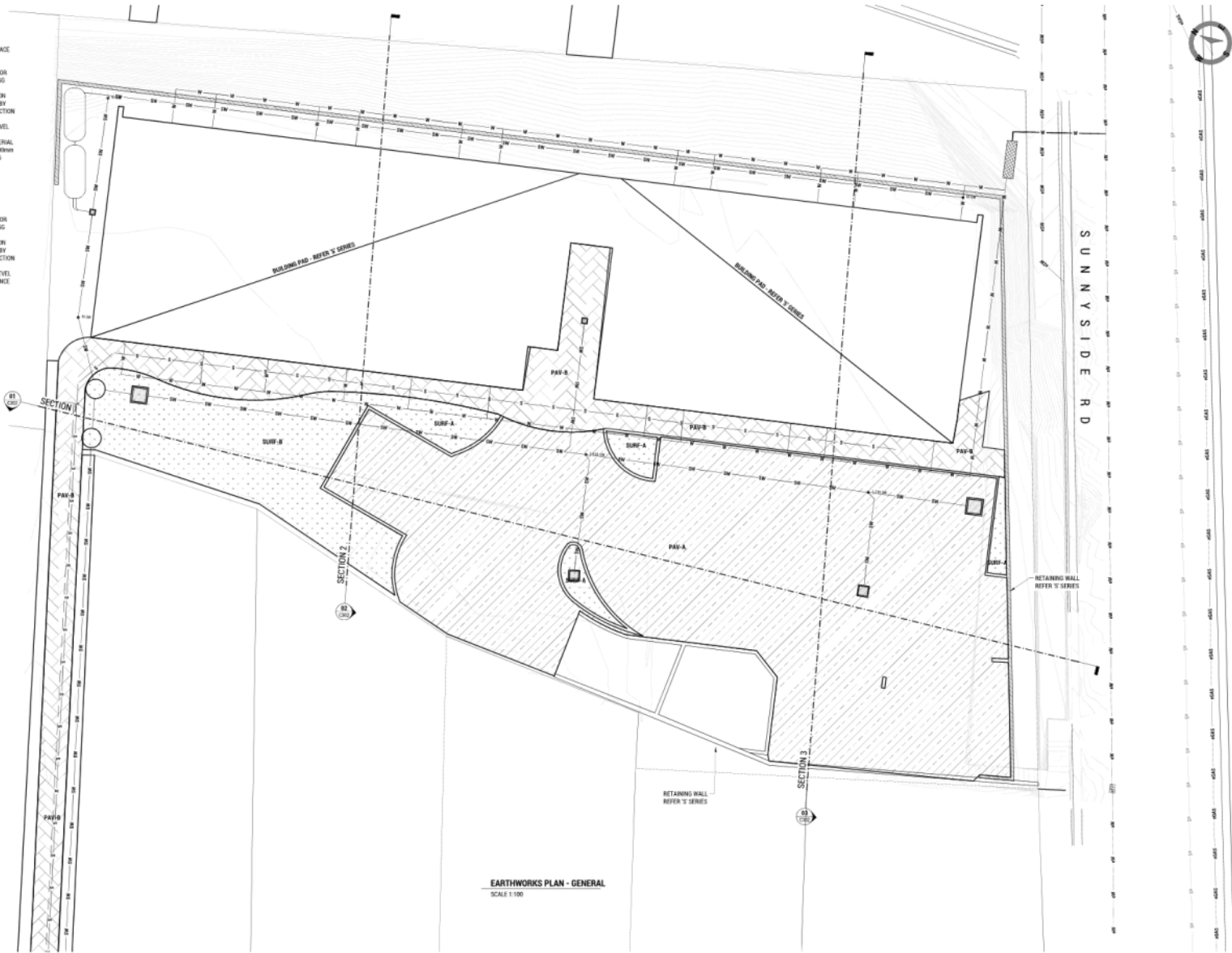
- COV - COVER SHEET
- C000 - CIVIL NOTES
- C101 - EXISTING SURVEY/DEMOLITION PLAN
- C301 - BULK EARTHWORKS PLAN
- C311 - BULK EARTHWORKS SECTIONS
- C401 - CIVIL WORKS PLAN
- C501 - DRAINAGE PLAN
- C511 - STORMWATER LONG SECTIONS
- C512 - SEWER LONG SECTIONS
- C521 - NO LONGER IN USE - FLOOD CONTROL PLAN 1% A.R.L.
- C601 - WATER RETICULATION PLAN
- C611 - FIRE HYDRANT COVERAGE PLAN - UNITS 1-11
- C612 - FIRE HYDRANT COVERAGE PLAN - UNITS 12-22
- C701 - SECTIONS & DETAILS - SHEET 1

		STATUS		DESIGN BY: RS		 rarein.com.au P.O. BOX 9000 22-24 Paterson Street Launceston TAS 7250	CLIENT: COMMUNITIES TASMANIA PROJECT: SOCIAL HOUSING ADDRESS: 73A NEW TOWN RD, NEW TOWN	TITLE: COVER SHEET			
4	RFI RESPONSE	KL	10-10-22	PRELIMINARY/INFORMATION							
3	80% REVIEW	KL	20-07-22	DO NOT SCALE - IF IN DOUBT, ASK							
2	COUNCIL RFI	KL	17-06-22	THIS DOCUMENT MAY ONLY BE USED FOR THE PURPOSES FOR WHICH IT WAS PREPARED - IT IS NOT A CONTRACT DOCUMENT							
1	90% DESIGN DEVELOPMENT	KL	24-03-22	DATE: 09-11-21				SCALE: - SHEET SIZE: A1 DWG IN SET: -			
0	DEVELOPMENT APPLICATION	KL	07-03-21	APPROVED: N. JESSOP				PROJECT No: 220008 DWG No: COV REV: 4			
REV ISSUED FOR / DESCRIPTION		BY	DATE	APPROVED: N. JESSOP							



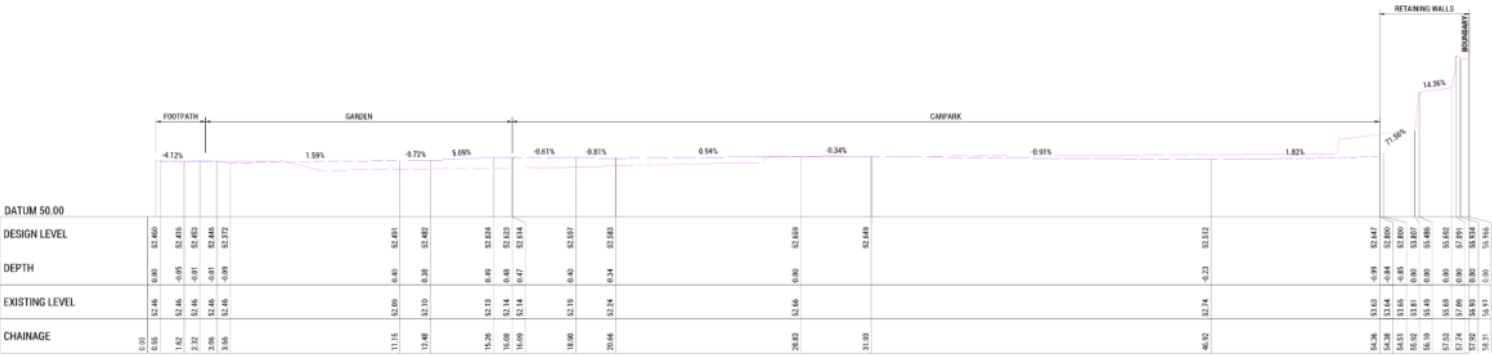
BULK EARTHWORKS LEGEND

- TYPE PAV-A - HOTMIX - ROAD**
- STRIP EXISTING TOP SOIL, VEGETATION, HARD SURFACES AND OTHER MATERIAL TO SUBGRADE LEVEL 300mm NOMINAL BELOW FINISHED SURFACE LEVEL
 - PROOF ROLL EXPOSED SUB-GRADE AND CARRY OUT SUB-GRADE IMPROVEMENT WITH AN APPROVED EMBANKMENT MATERIAL IMPORTED OR STRIPPED FROM SITE AND PLACED AND TESTED IN ACCORDANCE WITH DGS SPEC SECTION 204 FOR EMBANKMENT MATERIAL
 - CUT AND/OR FILL TO 300mm BELOW FINISHED SURFACE LEVELS SHOWN ON THESE DRAWINGS WITH IMPORTED EMBANKMENT MATERIAL APPROVED BY ENGINEER AND PLACED AND TESTED IN ACCORDANCE WITH DGS SPEC SECTION 204 FOR EMBANKMENT MATERIAL
 - FILL OVER EXPOSED SUBGRADE TO 150mm BELOW FINISHED SURFACE LEVEL WITH 200mm SUB-BASE CLASS 3 MATERIAL PLACED AND TESTED IN ACCORDANCE WITH DGS SPEC SECTION 304 FOR SUB-BASE CLASS 3 MATERIAL
 - FILL OVER SUB-BASE TO 35mm BELOW FINISHED SURFACE LEVEL WITH 100mm BASE CLASS 2 MATERIAL PLACED AND TESTED IN ACCORDANCE WITH DGS SPEC SECTION 304 FOR BASE CLASS 2 MATERIAL
- TYPE PAV-B - CONCRETE HARDSTAND - FOOTPATHS**
- STRIP EXISTING TOP SOIL, VEGETATION, HARD SURFACES AND OTHER MATERIAL TO A MINIMUM DEPTH OF 200mm NOMINAL BELOW EXISTING SURFACE LEVEL
 - PROOF ROLL EXPOSED SUB-GRADE AND CARRY OUT SUB-GRADE IMPROVEMENT WITH AN APPROVED EMBANKMENT MATERIAL IMPORTED OR STRIPPED FROM SITE AND PLACED AND TESTED IN ACCORDANCE WITH DGS SPEC SECTION 204 FOR EMBANKMENT MATERIAL
 - CUT AND/OR FILL TO 200mm BELOW FINISHED SURFACE LEVELS SHOWN ON THESE DRAWINGS WITH IMPORTED EMBANKMENT MATERIAL APPROVED BY ENGINEER AND PLACED AND TESTED IN ACCORDANCE WITH DGS SPEC SECTION 304 FOR EMBANKMENT MATERIAL
 - FILL OVER EXPOSED SUB-GRADE TO 100mm BELOW FINISHED SURFACE LEVEL WITH 100mm BASE CLASS 2 MATERIAL PLACED AND TESTED IN ACCORDANCE WITH DGS SPEC SECTION 304 FOR BASE CLASS 2 MATERIAL
- TYPE SURF-A - LANDSCAPING**
- STRIP EXISTING TOP SOIL, VEGETATION, HARD SURFACES AND OTHER MATERIAL TO A MINIMUM DEPTH OF 200mm NOMINAL BELOW FINISHED SURFACE LEVEL & PLACE 200mm TOPSOIL IN BED

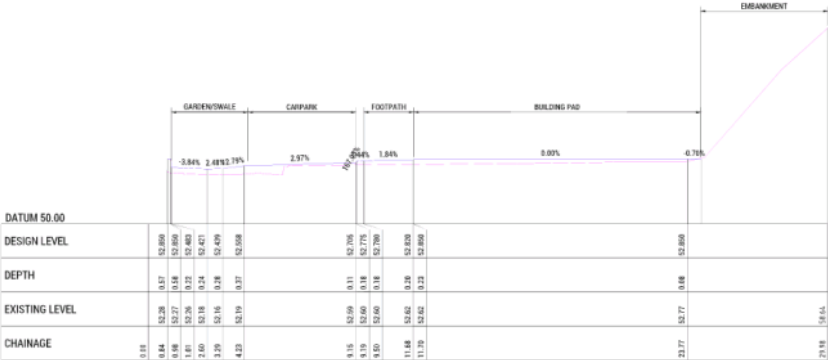


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		DO NOT SCALE - IF IN DOUBT ASK		DRAWN BY: RL		ADDRESS: 73A NEW TOWN RD, NEW TOWN		PROJECT No: 220008 DWG No: C301 REV: 2	
		THIS DOCUMENT MAY ONLY BE USED FOR THE PURPOSES FOR WHICH IT WAS PREPARED - (STATE/REGULATORY/ETC) - AND IS NOT TO BE REPRODUCED		CHECKED BY: RS					
REV		ISSUED FOR / DESCRIPTION	BY	DATE	APPROVED: N. JESSOP	ACRED No: C5348H	DATE: 09-11-21		

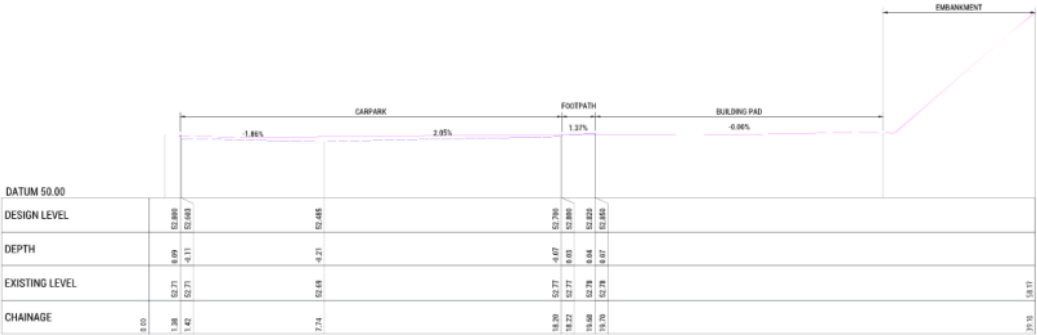
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SECTION 1
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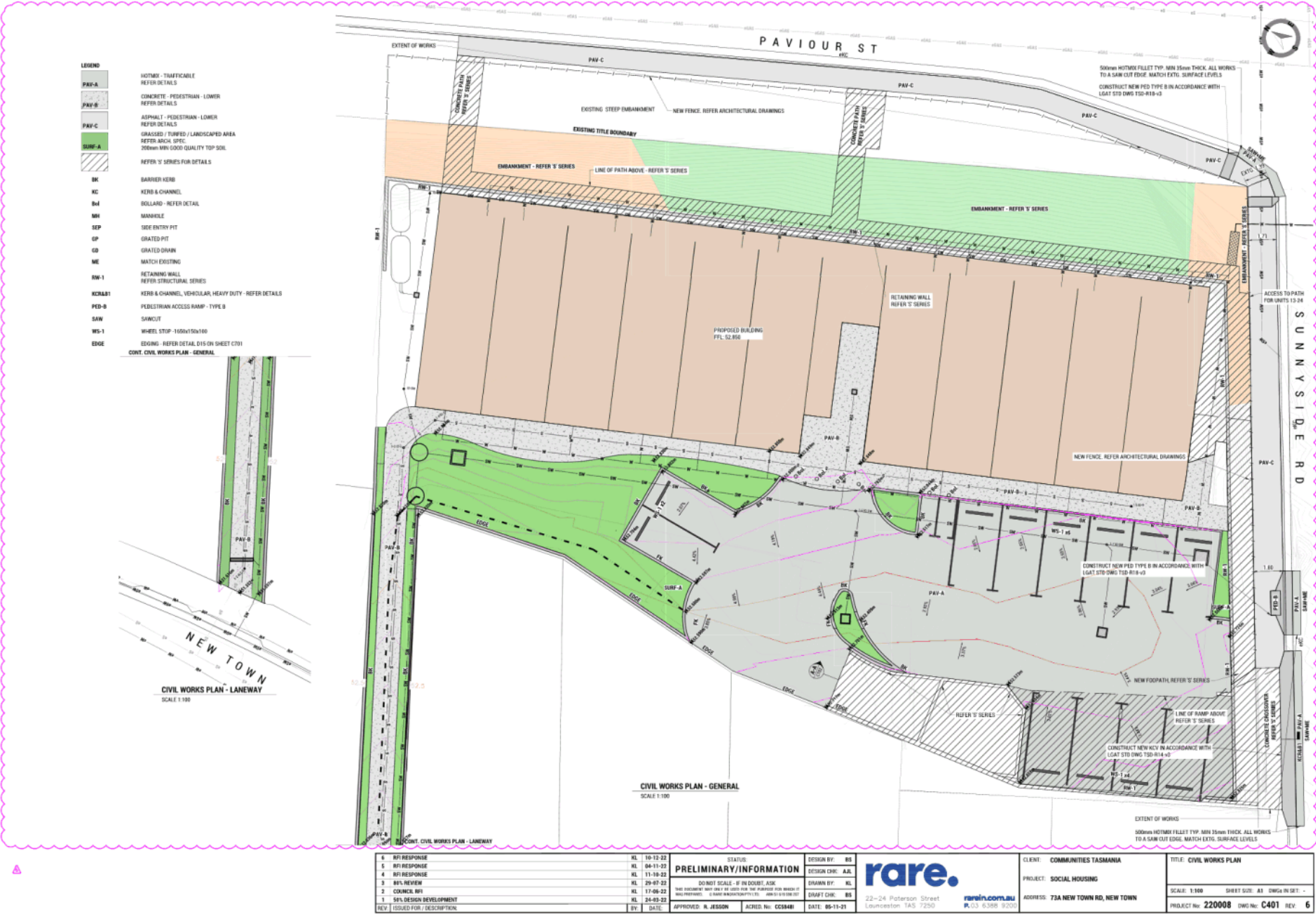


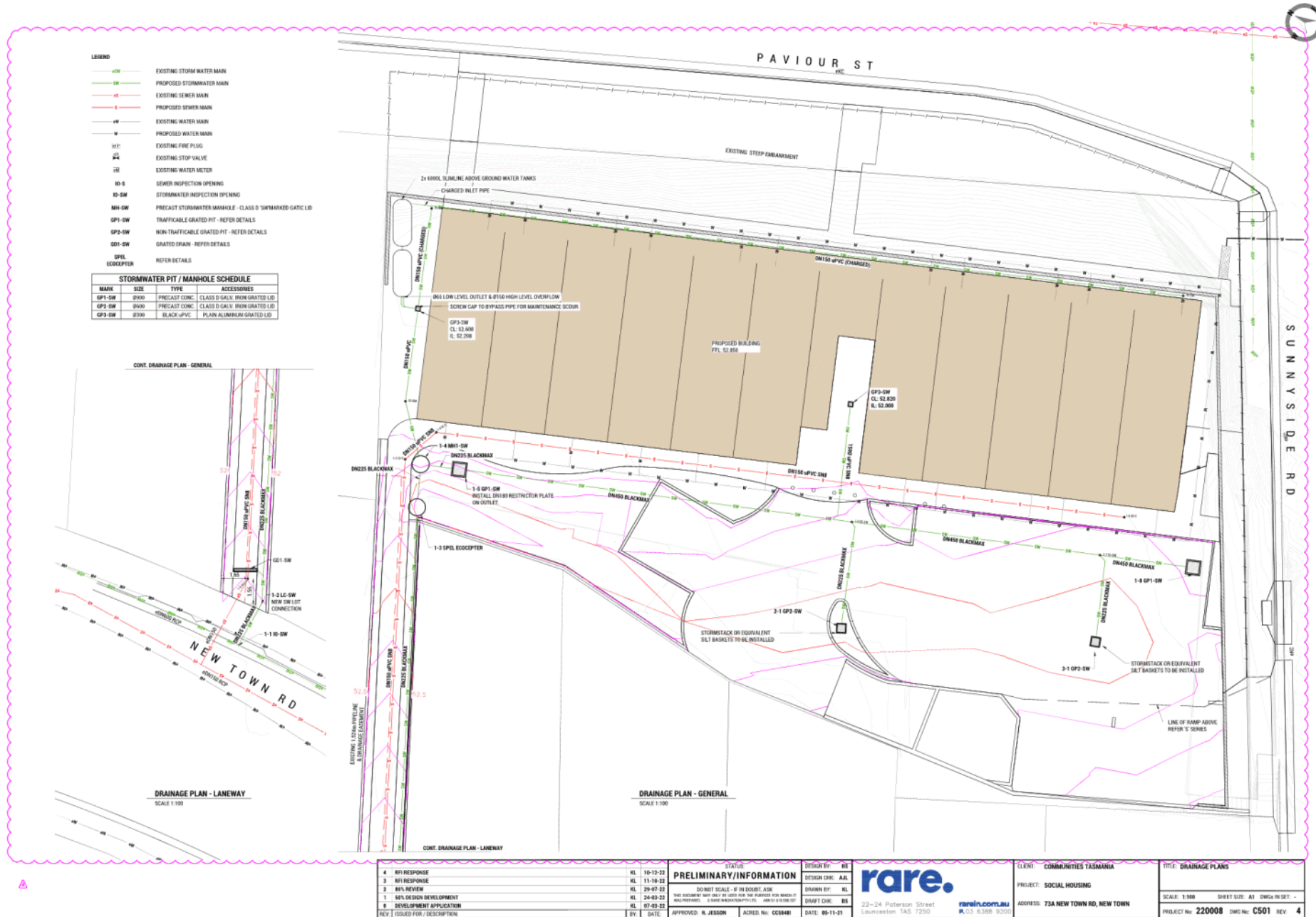
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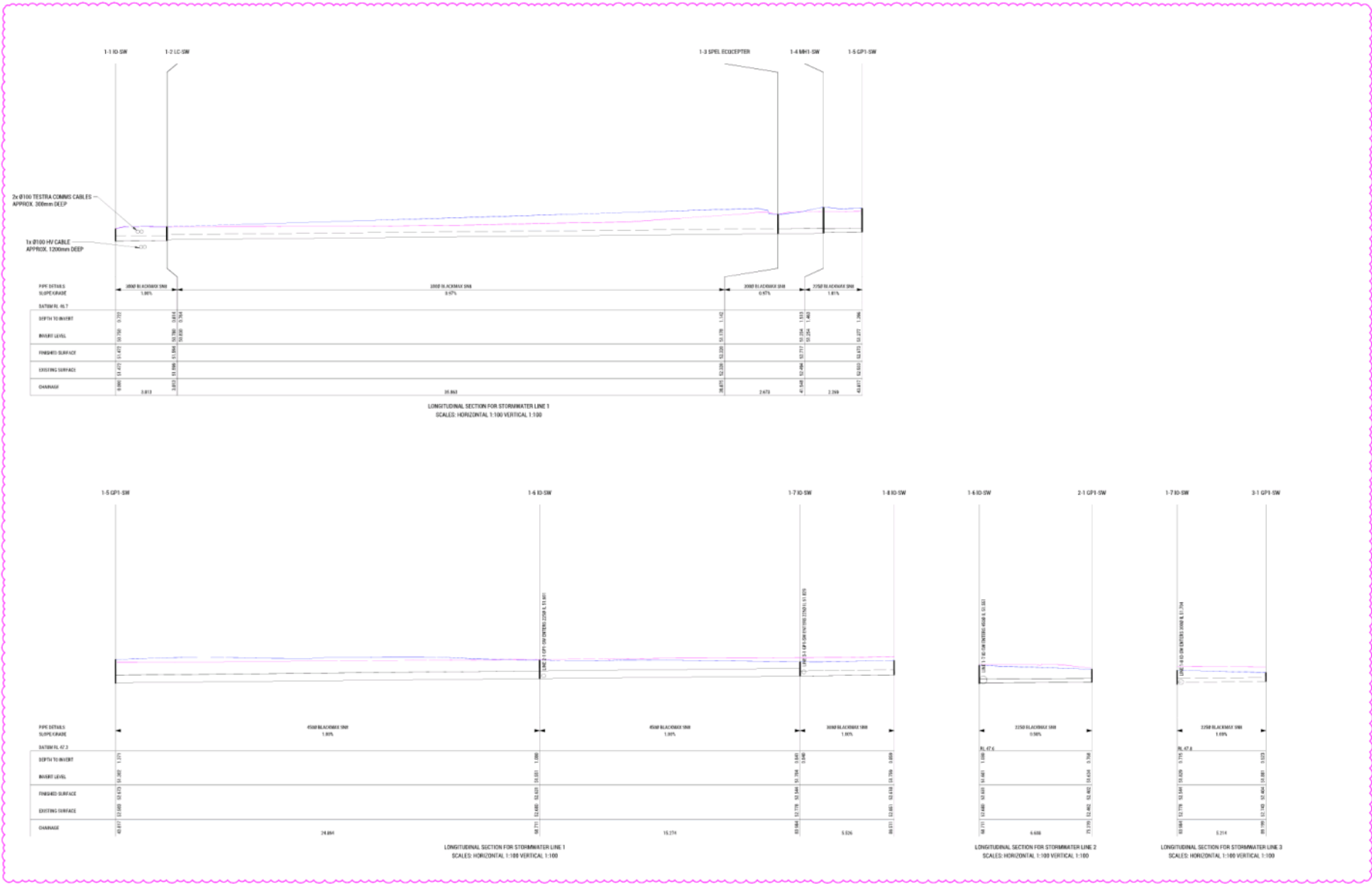


SECTION 3
SCALE: 1:100

3 90% RESPONSE				<div>STATUS</div> <div>PRELIMINARY/INFORMATION</div> <div>DO NOT SCALE - IF IN DOUBT, ASK</div> <div>THIS DOCUMENT MAY ONLY BE USED FOR THE PURPOSES FOR WHICH IT WAS PREPARED. © RARE AND RARE PARTNERS PTY LTD. 2022. ALL RIGHTS RESERVED.</div> <div>APPROVED: N. JESSOP ACRED: N. CEBIAN DATE: 09-11-21</div>	DESIGN BY: RS		<div>rare.</div> <div>22-24 Paterson Street</div> <div>Launceston TAS 7250</div> <div>rarein.com.au</div> <div>P.O. BOX 9000 9200</div>	CLIENT: COMMUNITIES TASMANIA	TITLE: BULK EARTHWORKS SECTIONS
2 90% REVIEW					DESIGN CHK: AL				
1 90% DESIGN DEVELOPMENT					DRAWN BY: ML	PROJECT: SOCIAL HOUSING			
0 DEVELOPMENT APPLICATION					DRAFT CHK: RS	ADDRESS: 73A NEW TOWN RD, NEW TOWN			
REV 1 ISSUED FOR DESCRIPTION					DATE: 09-11-21	SCALE: 1:200 SHEET SIZE: A3 DWG IN SET: -			
REV 1 DATE							PROJECT No: 220008	DWG No: C311	REV: 3



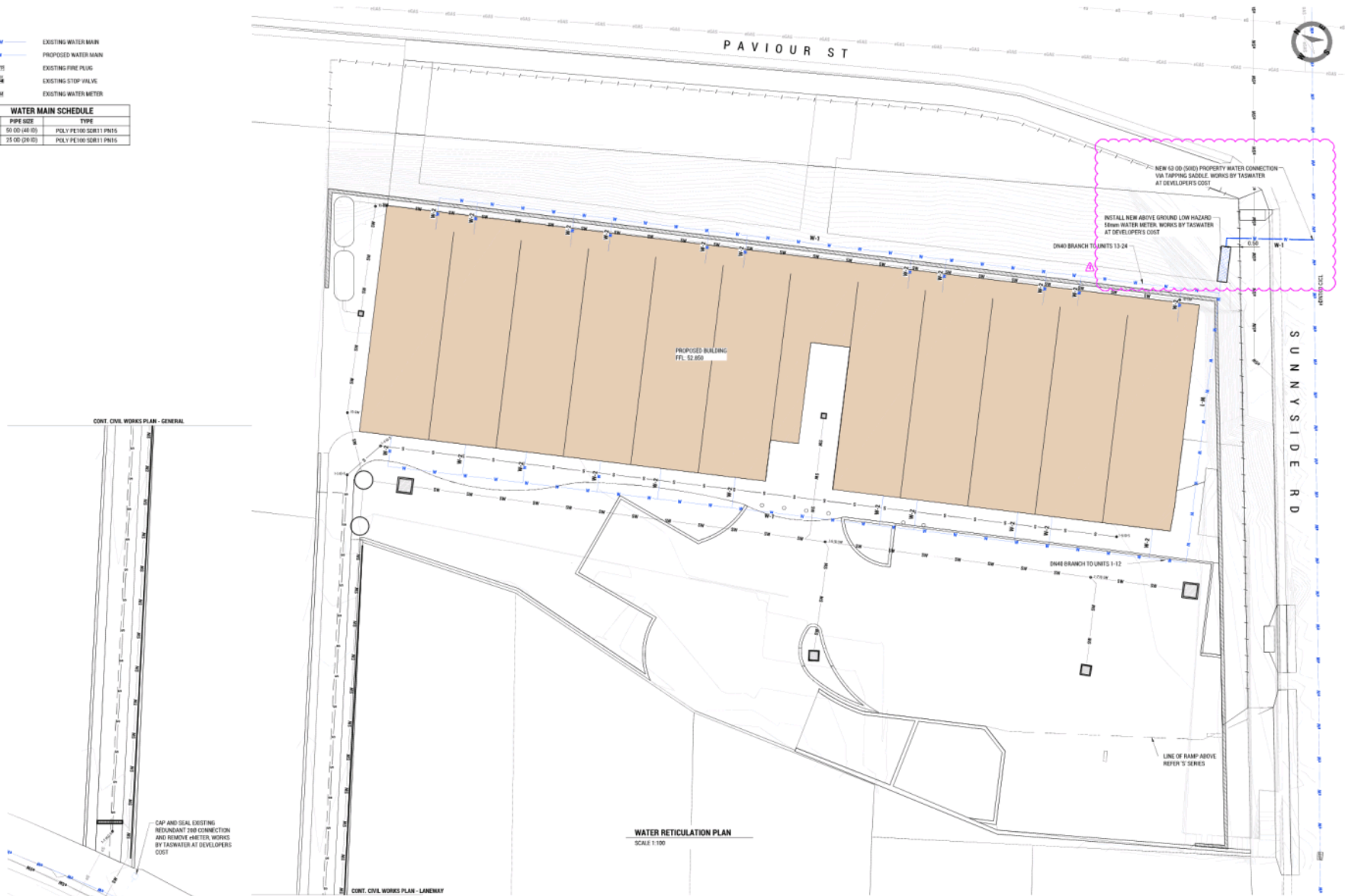




4 RFI RESPONSE		RL	10-12-23	STATUS		DESIGN BY: BS	rare. rarein.com.au 22-24 Paterson Street Launceston TAS 7250	CLIENT: COMMUNITIES TASMANIA PROJECT: SOCIAL HOUSING ADDRESS: 73A NEW TOWN RD, NEW TOWN	TITLE: STORMWATER LONG SECTIONS SCALE: 1:100 SHEET SIZE: A1 DWG# IN SET: - PROJECT No: 220008 DWG No: C511 REV: 4
5 RFI RESPONSE				PRELIMINARY/INFORMATION		DESIGN CHK: ALJ			
6 RFI RESPONSE				DO NOT SCALE - IF IN DOUBT, ASK		DESIGN BY: ML			
7 50% DESIGN DEVELOPMENT				THIS DOCUMENT MAY ONLY BE USED FOR THE PURPOSES FOR WHICH IT WAS PREPARED. - (STATE AND/OR COMMONWEALTH) - AND IS NOT TO BE USED FOR ANY OTHER PURPOSE.		DESIGN CHK: BS			
8 DEVELOPMENT APPLICATION				APPROVED: R. JESSOP		DATE: 09-11-21			
REV ISSUED FOR / DESCRIPTION:		BY:	DATE:	ACRED No: C50446		DATE: 09-11-21			

LEGEND		
—	EXISTING WATER MAIN	
—	PROPOSED WATER MAIN	
—	EXISTING FIRE PLUG	
—	EXISTING STOP VALVE	
—	EXISTING WATER METER	

WATER MAIN SCHEDULE		
MARK	PIPE SIZE	TYPE
W-1	50 OD (48 ID)	POLY PE100 SDR11 PN16
W-2	25 OD (26 ID)	POLY PE100 SDR11 PN16



STATUS		DESIGN BY: BS		CLIENT: COMMUNITIES TASMANIA		TITLE: WATER RETICULATION PLAN	
3	80% RESPONSE	KL	11-10-22	DESIGN CHK: AAL	PROJECT: SOCIAL HOUSING	SCALE: 1:100	SHEET SIZE: A1 DWG IN SET -
2	80% REVIEW	KL	29-07-22	DRAWN BY: KL	ADDRESS: 73A NEW TOWN RD, NEW TOWN	PROJECT No: 220008	DWG No: C601 REV: 3
1	50% DESIGN DEVELOPMENT	KL	24-02-22	DRAFT CHK: BS			
0	DEVELOPMENT APPLICATION	KL	07-03-21				
REV	ISSUED FOR / DESCRIPTION	BY	DATE	APPROVED: N. JESSOP	ACRED No: C604M	DATE: 09-11-21	

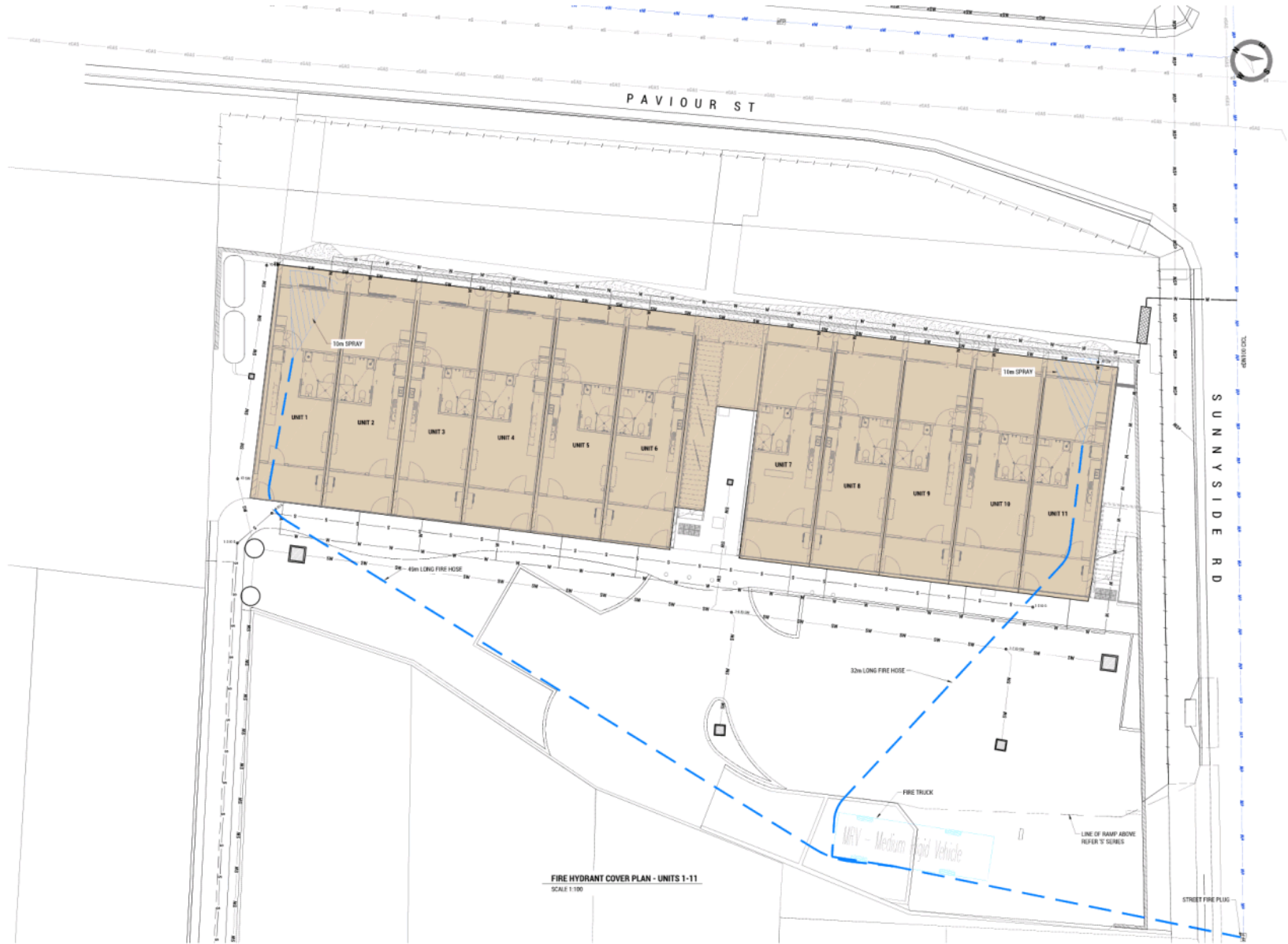
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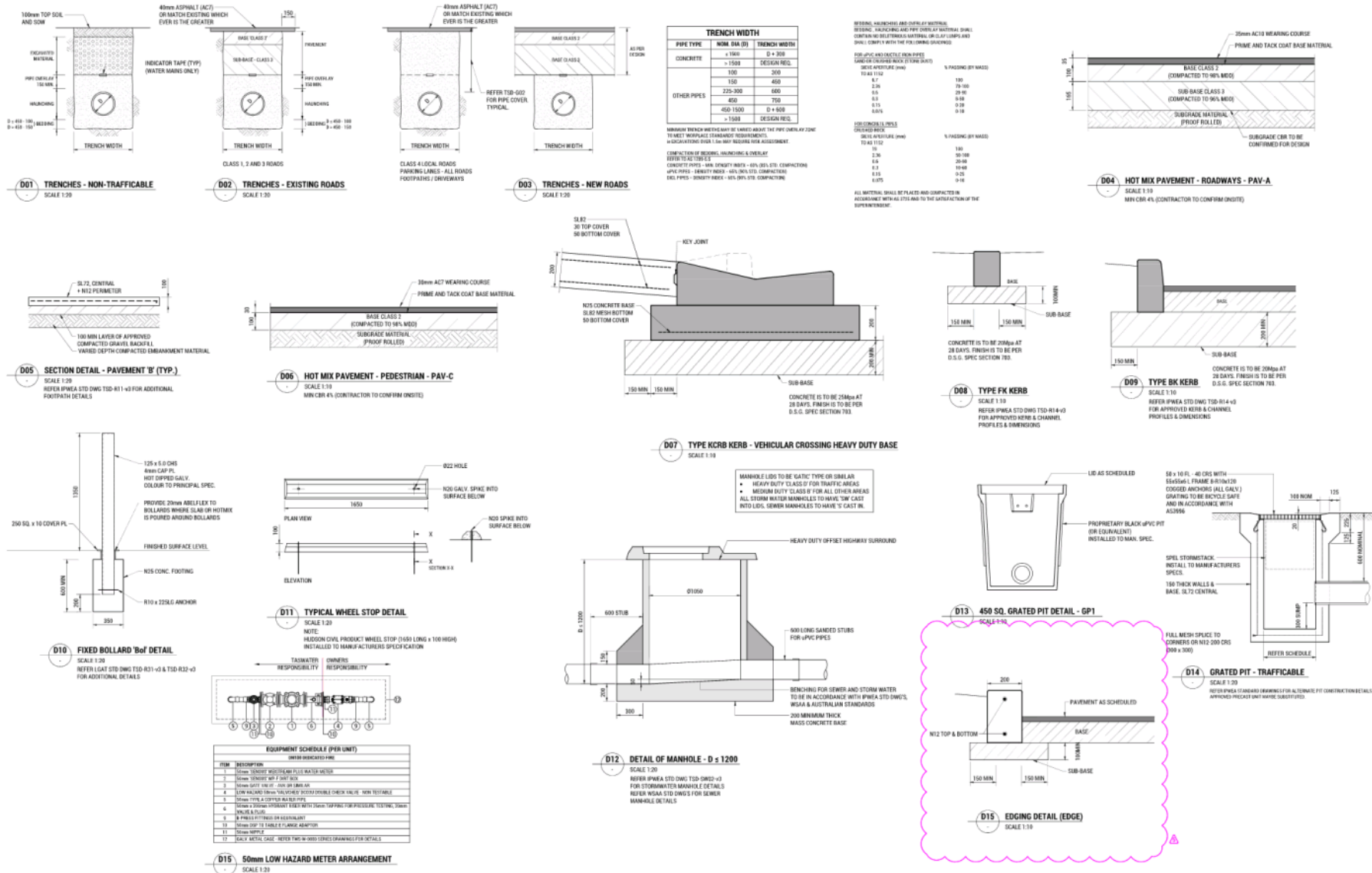
LEGEND
HOSE REACH AREA
FIRE TRUCK HOSE
EXISTING FIRE PLUG



2 80% REVIEW		KL	29-07-22	STATUS		DESIGN BY: BS	rare. rarein.com.au P.O. BOX 9000 22-24 Paterson Street Launceston TAS 7250	CLIENT: COMMUNITIES TASMANIA PROJECT: SOCIAL HOUSING ADDRESS: 73A NEW TOWN RD, NEW TOWN	TITLE: FIRE HYDRANT COVER PLAN - UNITS 1-11 SCALE: 1:100 SHEET SIZE: A1 DWG# IN SET: - PROJECT No: 220008 DWG No: C611 REV: 2
1 90% DESIGN DEVELOPMENT		KL	24-02-22	PRELIMINARY/INFORMATION		DESIGN CHG: AJL			
6 DEVELOPMENT APPLICATION		KL	07-03-21	DO NOT SCALE - IF IN DOUBT, ASK		DESIGN CHG: BS			
REV / ISSUED FOR / DESCRIPTION		BY	DATE	THIS DOCUMENT MAY ONLY BE USED FOR THE PURPOSES FOR WHICH IT WAS PREPARED. - CLARKE ARCHITECTURAL PTY LTD. - 0800 55 55 55		APPROVED: N. JESSOP	ACRED No: C63441	DATE: 09-11-21	



					STATUS		DESIGN BY: BS		 rare. rarein.com.au 22-24 Paterson Street Launceston TAS 7250	CLIENT: COMMUNITIES TASMANIA		TITLE: FIRE HYDRANT COVERAGE PLAN - UNITS 12-22		
					PRELIMINARY/INFORMATION		DESIGN CHG: ALJ			PROJECT: SOCIAL HOUSING		SCALE: 1:100 SHEET SIZE: A3 DWG# IN SET: -		
2 80% REVIEW			HL	29-07-21	DO NOT SCALE - IF IN DOUBT, ASK: THIS DOCUMENT MAY ONLY BE USED FOR THE PURPOSES FOR WHICH IT WAS PREPARED. - CLARKE ARCHITECTS PTY LTD. - 0800 55 10 10					DRAWN BY: NL		ADDRESS: 73A NEW TOWN RD, NEW TOWN		PROJECT No: 220008 DWG No: C612 REV: 2
1 50% DESIGN DEVELOPMENT			HL	24-02-22	APPROVED: N. JESSOP		ACRED No: C63848			DATE: 09-11-21				
6 DEVELOPMENT APPLICATION			HL	07-03-23					DRAFT CHG: BS					
REV / ISSUED FOR / DESCRIPTION			BY	DATE										



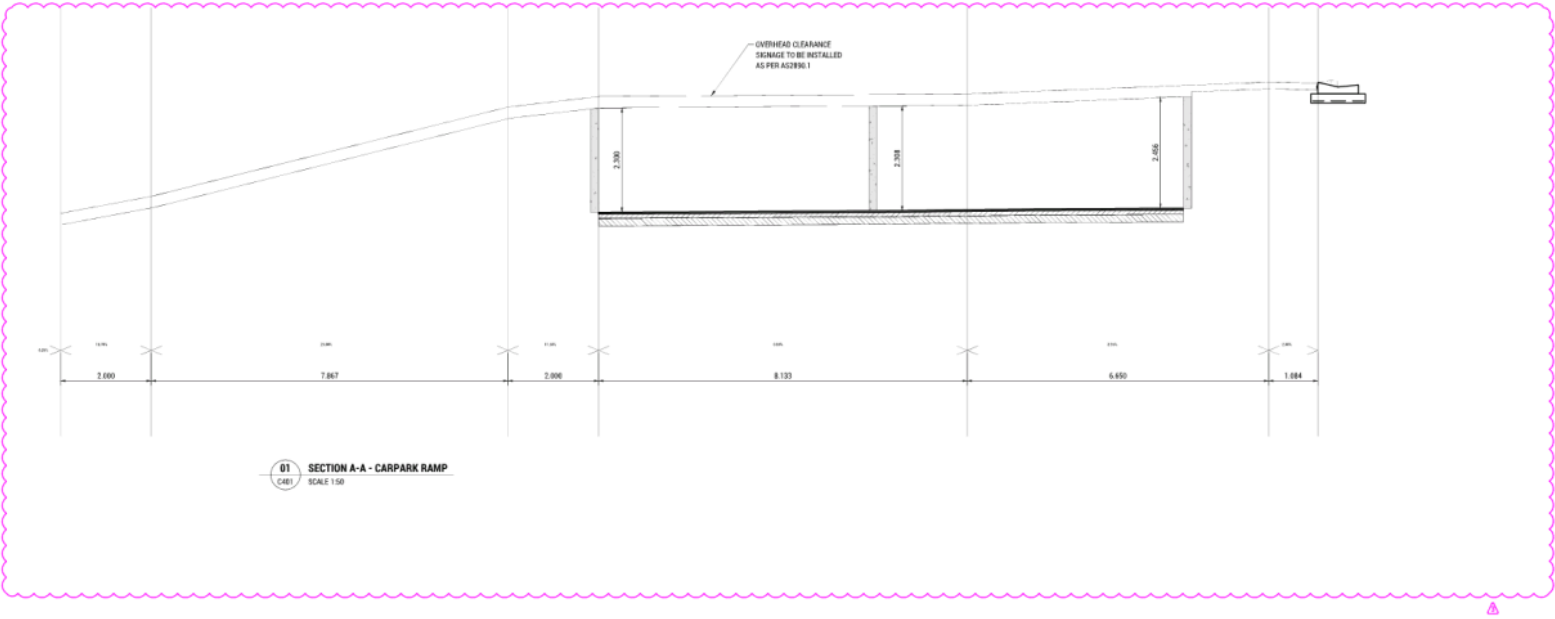
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3	RPI RESPONSE	RL	29-07-22	DESIGN CHG:	ALJ	DESIGN BY:	ALJ
2	RPI RESPONSE	RL	27-06-22	DESIGN CHG:	ALJ	DESIGN BY:	ALJ
1	50% DESIGN DEVELOPMENT	RL	24-02-22	DESIGN CHG:	ALJ	DESIGN BY:	ALJ
0	DEVELOPMENT APPLICATION	RL	07-03-21	DESIGN CHG:	ALJ	DESIGN BY:	ALJ
REV	ISSUED FOR / DESCRIPTION	REV	DATE	APPROVED: A. LEWIS	ACRED NO:	CE5424	DATE: 07-03-22

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CLIENT: COMMUNITIES TASMANIA
PROJECT: SOCIAL HOUSING
ADDRESS: 73A NEW TOWN ROAD, NEW TOWN

TITLE: SECTIONS & DETAILS - SHEET 1
SCALE: 1:10, 1:20 SHEET SIZE: A1 DWG IN SET -
PROJECT No: 220008 DWG No: C701 REV: 5



		STATUS		DESIGN BY: BS		CLIENT: COMMUNITIES TASMANIA		TITLE: SECTIONS & DETAILS - SHEET 2	
3	R/I RESPONSE	KL	10-10-22	PRELIMINARY/INFORMATION	DESIGN CHK: AJL	 22-24 Paterson Street Launceston TAS 7250 rarein.com.au P: 03 6396 9000		ADDRESS: 73A NEW TOWN RD, NEW TOWN	
2	R/I RESPONSE	KL	04-11-22	DO NOT SCALE - IF IN DOUBT, ASK	DESIGN BY: KL				
1	R/I RESPONSE	KL	11-10-22	THIS DOCUMENT MAY ONLY BE USED FOR THE PURPOSE FOR WHICH IT WAS PREPARED. © RARE ARCHITECTURE PTY LTD. 2022	DESIGN CHK: BS				
0	R/I REVIEW	KL	29-07-23		DESIGN CHK: BS				
REV / ISSUED FOR / DESCRIPTION:		BY:	DATE:	APPROVED: N. JESSOP	ACRED: N. JESSOP	DATE: 09-11-23		PROJECT No: 220008	DWG No: C702 REV: 3

SURVEY

1. SURVEY DETAILS

FOLLOWING ARE SURVEY DETAILS USED AS BASIS FOR DESIGN:

- SURVEYOR: JPA SURVEYORS
- SURVEY REF. NO. 4776767-1
- SURVEY DATE: 11-08-21
- SITE LOCATION: 73A NEW TOWN ROAD, NEW TOWN
- COORDINATE SYSTEM: CANADA MARS
- 1/4"=1' DATUM: AD83
- SURVEY MARKER: -

2. SETOUT

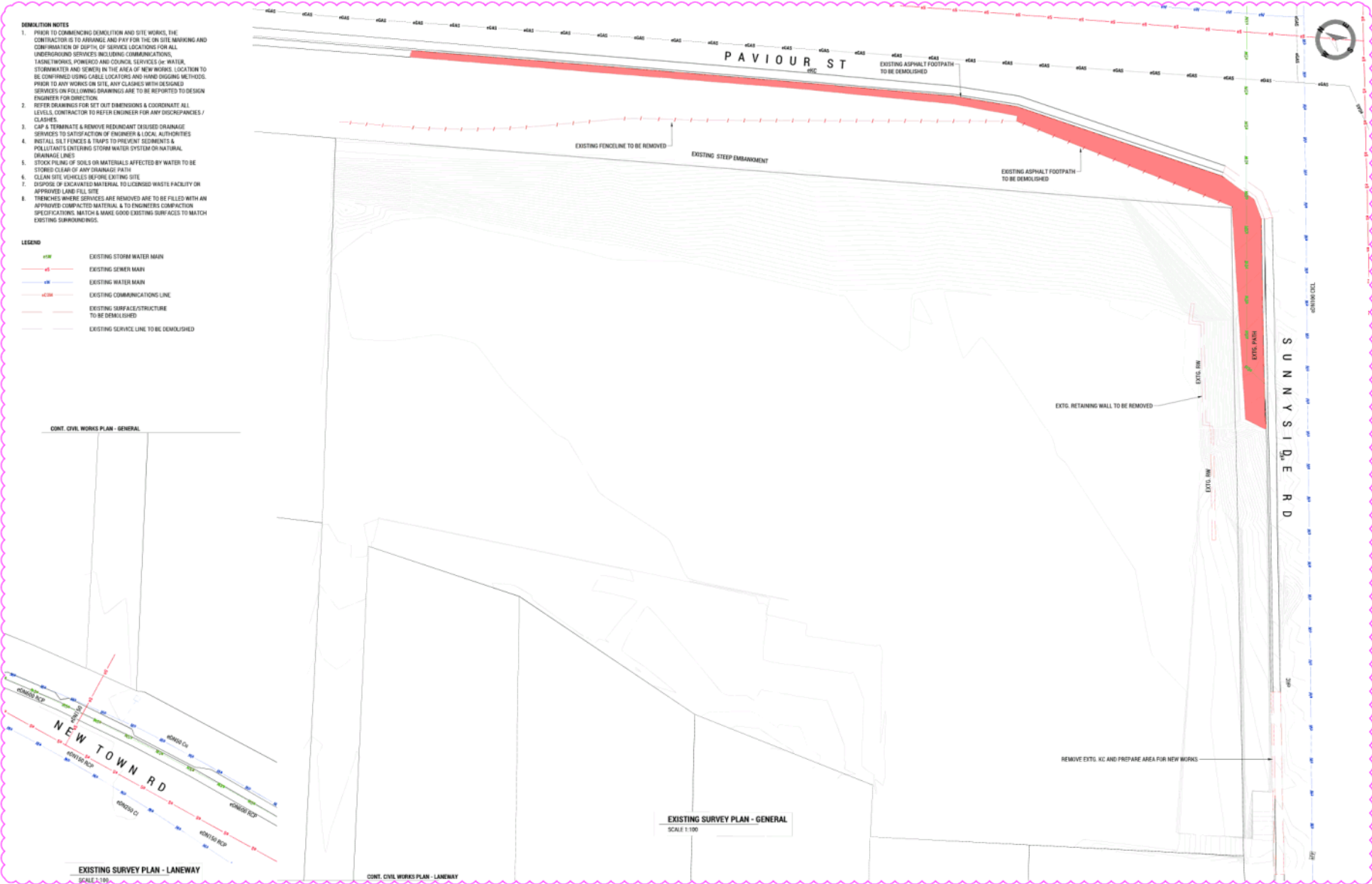
1. SETOUT RESPONSIBILITY

- CONTRACTOR TO ARRANGE AND PAY FOR REGISTERED SURVEYOR TO SETOUT THE PROJECT. SHALL HAVE PREPARED CAD FILES TO ADD.

E: CIVIL NOTES	
FILE: -	SHEET SIZE: A1 DWG IN SET: -
PROJECT No: 220008	DWG No: C000 REV: 2

A COLOUR COPY SHOULD BE RETAINED ON SITE AT ALL TIMES FOR CONTRACTORS COORDINATING WORK.

						STATUS: PRELIMINARY/INFORMATION		DESIGN BY: RS				CLIENT: COMMUNITIES TASMANIA		TITLE: CIVIL NOTES			
								DESIGN CHG: A.J.				PROJECT: SOCIAL HOUSING					
2 8% REVIEW		RL 29-07-22		DO NOT SCALE - IF IN DOUBT: ASK		DRAWN BY: AL		22-24 Paterson Street		rareinc.com.au		ADDRESS: 73A NEW TOWN RD, NEW TOWN		SCALE: _____		SHEET SIZE: A1 DWG IN SET: _____	
1 8% DEVELOPMENT		RL 24-09-22		THIS DOCUMENT MAY ONLY BE USED FOR THE PURPOSES AND SCOPE OF THE PROJECT. IT IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT PERMISSION IN WRITING FROM THE PROJECT TEAM.		CHECKED BY: BS		Launceston TAS 7250		03 6388 8200		PROJECT NO: 220008		DWS NO: C000		REV: 2	
0 DEVELOPMENT APPLICATION		RL 07-03-23		APPROVED: A. JESSON ACRD NO: CC0848		DATE: 08-11-21											
REV ISSUED FOR / DESCRIPTION		BY DATE															

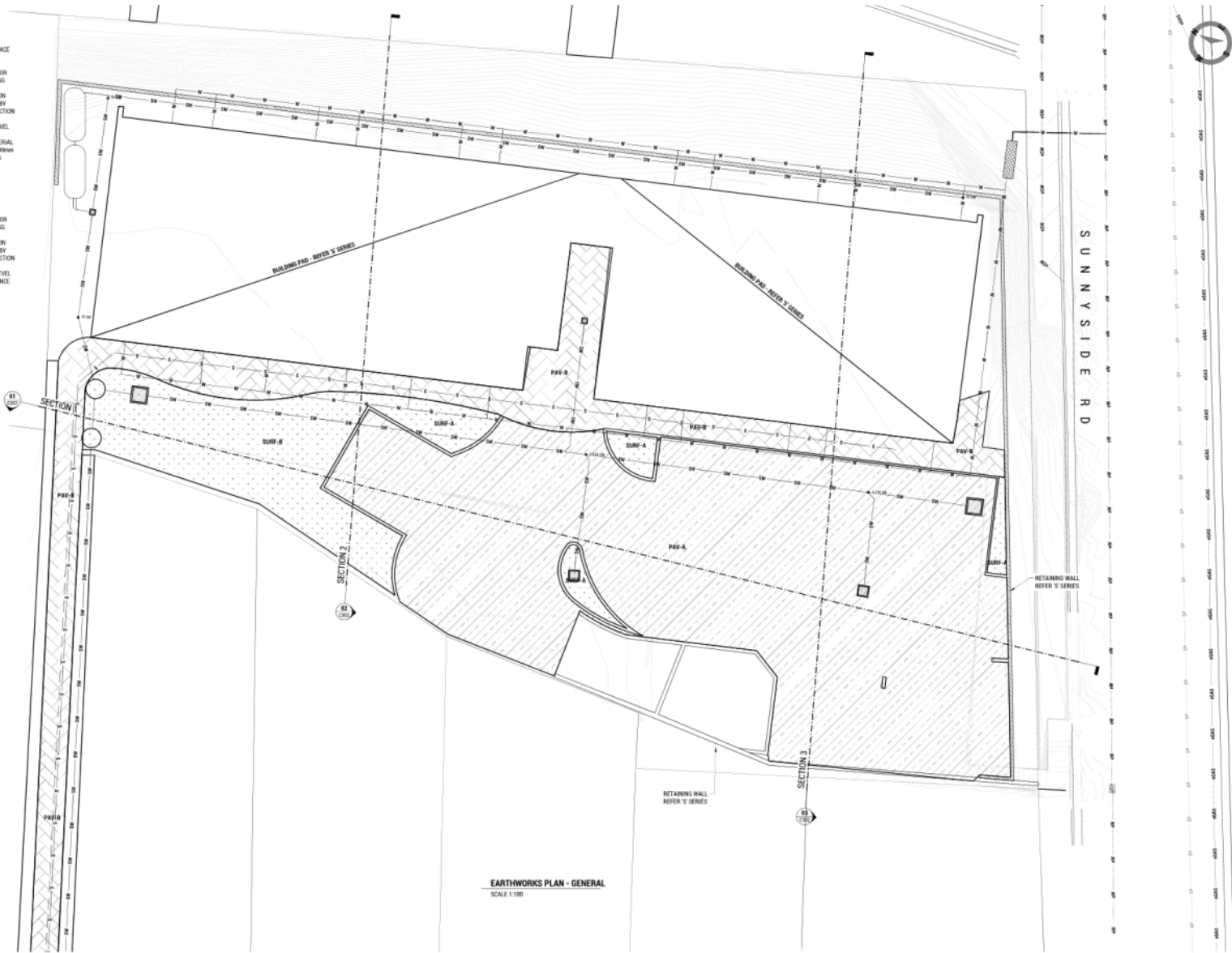


5	RFI RESPONSE	RL	10-12-22	STATUS	DESIGN BY:	RB	CLIENT	COMMUNITIES TASMANIA	TITLE	EXISTING SITE/DEMOLITION PLAN
4	RFI RESPONSE	RL	11-10-22	PRELIMINARY/INFORMATION	DESIGN CHK:	AJL	PROJECT	SOCIAL HOUSING	SCALE:	1:100
3	RFI REVIEW	RL	29-07-22	DO NOT SCALE - IF IN DOUBT, ASK	DRAWN BY:	RL	ADDRESS	73A NEW TOWN RD, NEW TOWN	SHEET SIZE:	A1 DWG IN SET -
2	COUNCIL RFI	RL	17-06-22	THIS DOCUMENT MAY ONLY BE USED FOR THE PURPOSES FOR WHICH IT WAS PREPARED. © RARE ARCHITECTS PTY LTD. 2022	CHECKED BY:	BS			PROJECT No	220008
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0	DEVELOPMENT APPLICATION	RL	07-03-21						REV	5
REV	ISSUED FOR / DESCRIPTION	BY	DATE	APPROVED:	N. JESSOP	ACRED No:	CE3848			

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BULK EARTHWORKS LEGEND

- TYPE PAV-A - HOTMIX - ROAD**
- STRIP EXISTING TOP SOIL, VEGETATION, HARD SURFACES AND OTHER MATERIAL TO SUBGRADE LEVEL 300mm NOMINAL BELOW FINISHED SURFACE LEVEL
 - PROOF ROLL EXPOSED SUB-GRADE AND CARRY OUT SUB-GRADE IMPROVEMENT WITH AN APPROVED EMBANKMENT MATERIAL IMPORTED OR STRIPPED FROM SITE AND PLACED AND TESTED IN ACCORDANCE WITH DGS SPEC SECTION 204 FOR EMBANKMENT MATERIAL
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- TYPE PAV-B - CONCRETE HARDSTAND - FOOTPATHS**
- STRIP EXISTING TOP SOIL, VEGETATION, HARD SURFACES AND OTHER MATERIAL TO A MINIMUM DEPTH OF 200mm NOMINAL BELOW EXISTING SURFACE LEVEL
 - PROOF ROLL EXPOSED SUB-GRADE AND CARRY OUT SUB-GRADE IMPROVEMENT WITH AN APPROVED EMBANKMENT MATERIAL IMPORTED OR STRIPPED FROM SITE AND PLACED AND TESTED IN ACCORDANCE WITH DGS SPEC SECTION 204 FOR EMBANKMENT MATERIAL
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 - FILL OVER EXPOSED SUB-GRADE TO 100mm BELOW FINISHED SURFACE LEVEL WITH 100mm BASE CLASS 2 MATERIAL PLACED AND TESTED IN ACCORDANCE WITH DGS SPEC SECTION 304 FOR BASE CLASS 2 MATERIAL
- TYPE SURF-A - LANDSCAPING**
- STRIP EXISTING TOP SOIL, VEGETATION, HARD SURFACES AND OTHER MATERIAL TO A MINIMUM DEPTH OF 200mm NOMINAL BELOW FINISHED SURFACE LEVEL & PLACE 200mm TOPSOIL IN BED



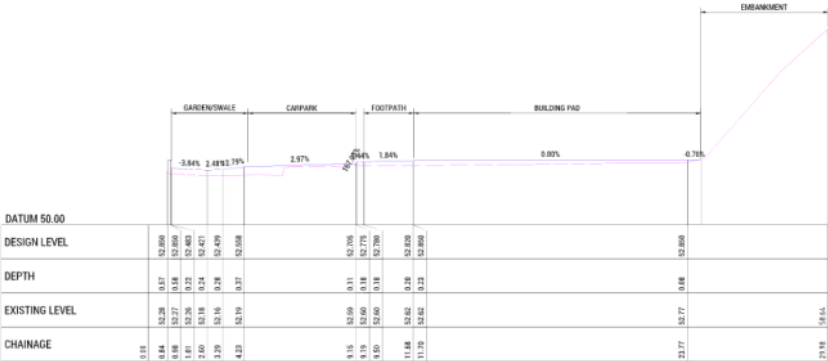
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SCALE 1:100

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			PRELIMINARY/INFORMATION		DESIGN CHK: A/L			PROJECT: SOCIAL HOUSING		SCALE: 1:100 SHEET SIZE: A1 DWG# IN SET: -	
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					CHECK CHK: RB						
			APPROVED: N. JESSOP		ACRED No: C5348H		DATE: 09-11-21				
2 80% REVIEW			KL	29-07-22							
1 50% DESIGN DEVELOPMENT			KL	24-02-22							
0 DEVELOPMENT APPLICATION			KL	07-03-21							
REV ISSUED FOR / DESCRIPTION			BY	DATE							

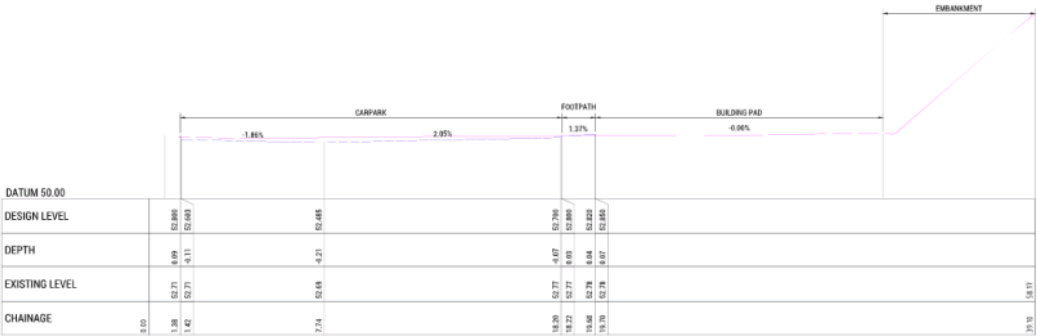
rare.
rarein.com.au
22-24 Paterson Street
Launceston TAS 7250
PH: 03 6396 9000



SECTION 1
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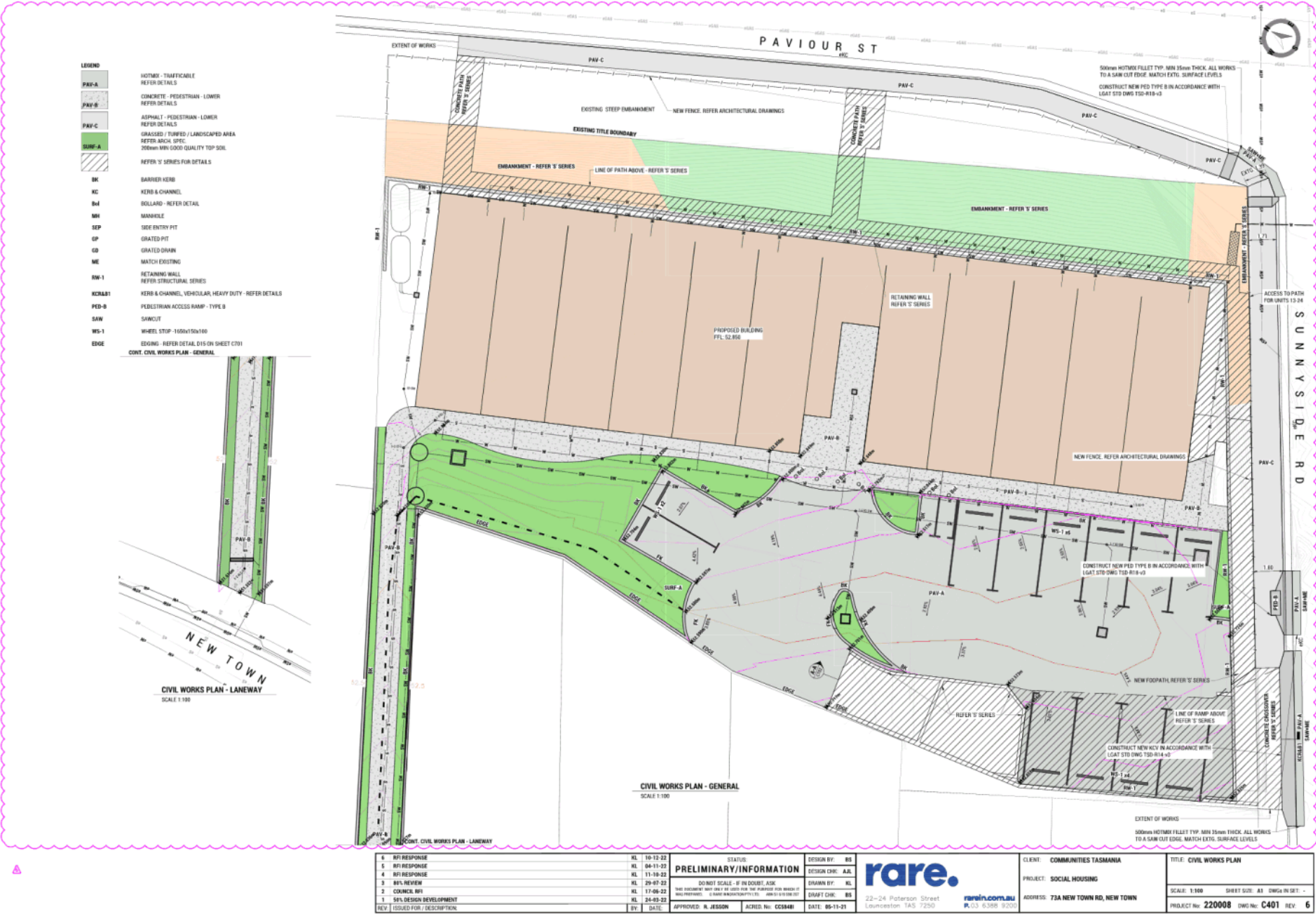
SECTION 2
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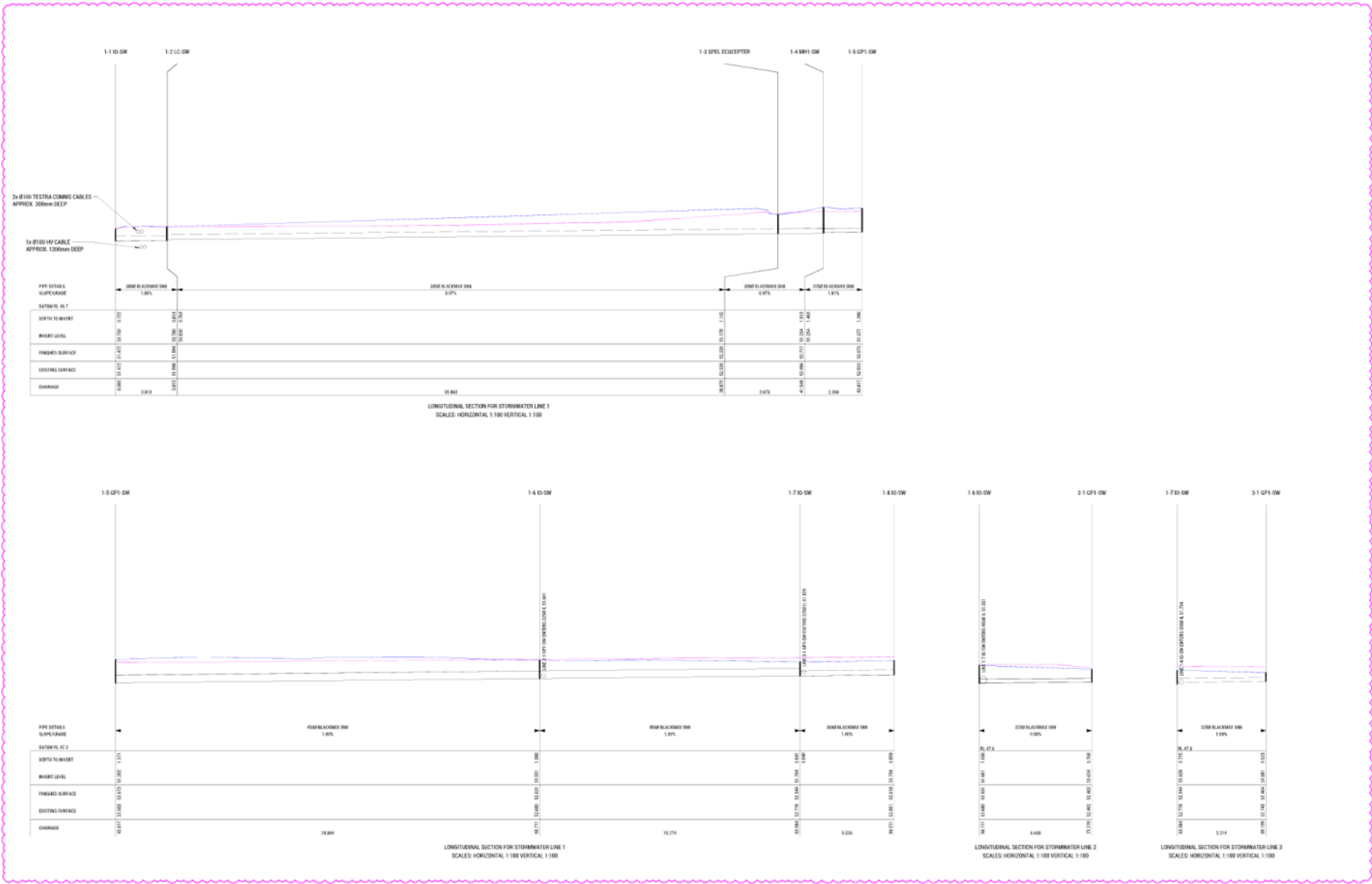
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SCALE: 1:100

3 90% RESPONSE		ML	16-10-22	STATUS PRELIMINARY/INFORMATION DO NOT SCALE - IF IN DOUBT, ASK. THIS DOCUMENT MAY ONLY BE USED FOR THE PURPOSES FOR WHICH IT WAS PREPARED. © RARE AND RARE PARTNERS PTY LTD. 2022. ALL RIGHTS RESERVED.	DESIGN BY: RB	CLIENT: COMMUNITIES TASMANIA PROJECT: SOCIAL HOUSING ADDRESS: 73A NEW TOWN RD, NEW TOWN	TITLE: BULK EARTHWORKS SECTIONS SCALE: 1:200 SHEET SIZE: A3 DWG# IN SET: - PROJECT No: 220008 DWG No: C311 REV: 3
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0 DEVELOPMENT APPLICATION		ML	07-03-22		CHECKED: RB		
REV: ISSUED FOR / DESCRIPTION		30	DATE	APPROVED: N. JESSOP	ACRED No: C5348H	DATE: 09-11-21	









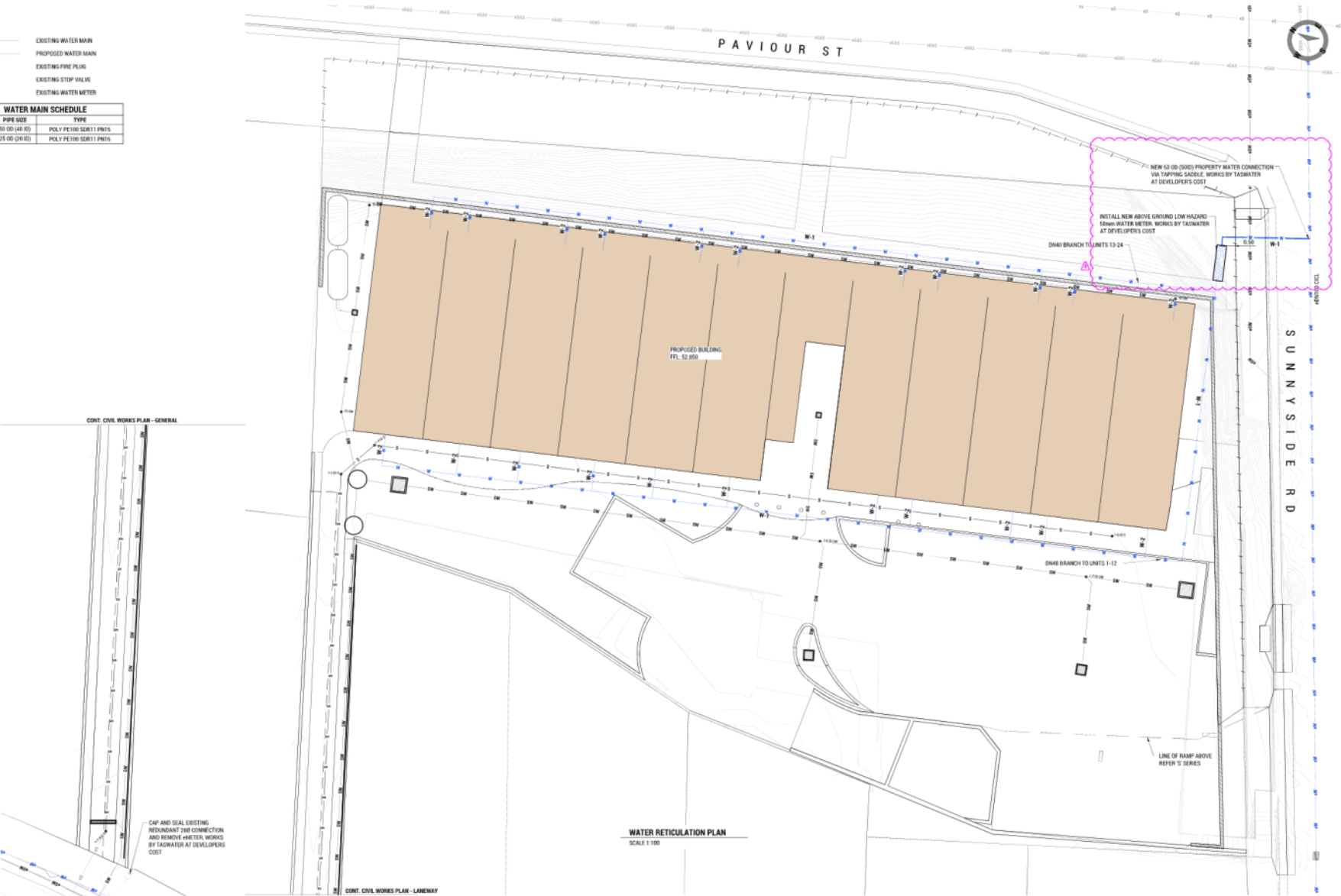
4 RFI RESPONSE		NL	10-12-23	STATUS		DESIGN BY: BS	 rarein.com.au 22-24 Paterson Street Launceston TAS 7250	CLIENT: COMMUNITIES TASMANIA	TITLE: STORMWATER LONG SECTIONS					
5 RFI RESPONSE				PRELIMINARY/INFORMATION		DESIGN CHK: ALJ								
6 RFI RESPONSE				DO NOT SCALE - IF IN DOUBT, ASK		DESIGN BY: NL								
7 RFI RESPONSE				THIS DOCUMENT MAY ONLY BE USED FOR THE PURPOSES FOR WHICH IT WAS PREPARED. - (STATE AND/OR COMMONWEALTH) - AND IS NOT TO BE USED FOR ANY OTHER PURPOSE.		DESIGN CHK: BS								
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REV ISSUED FOR / DESCRIPTION:				PROJECT: SOCIAL HOUSING							PROJECT No: 220008		DWG No: C511	REV: 4
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LEGEND

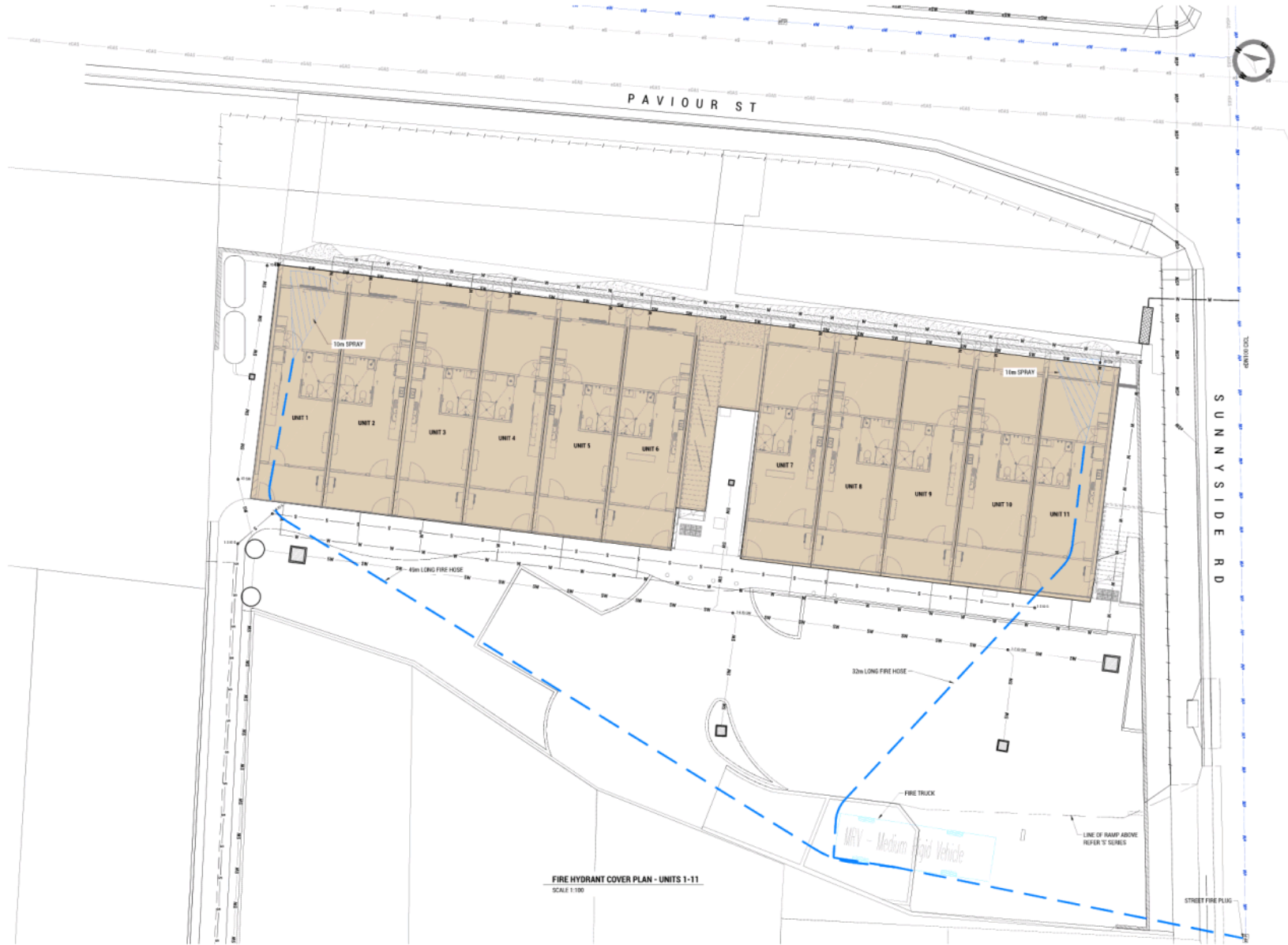
- EXISTING WATER MAIN
- PROPOSED WATER MAIN
- EXISTING FIRE PLUG
- EXISTING STOP VALVE
- EXISTING WATER METER

MARK	PIPE SIZE	TYPE
W-1	50 OD (48 ID)	POLY PE100 SDR11 PN16
W-2	25 OD (26 ID)	POLY PE100 SDR11 PN16



			STATUS		DESIGN BY: BS	 rarein.com.au P.O. 6386 9206	CLIENT: COMMUNITIES TASMANIA PROJECT: SOCIAL HOUSING ADDRESS: 73A NEW TOWN RD, NEW TOWN	TITLE: WATER RETICULATION PLAN	
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1	50% DESIGN DEVELOPMENT	KL	24-02-22	THIS DOCUMENT MAY ONLY BE USED FOR THE PURPOSES FOR WHICH IT WAS PREPARED. - CLARKE/BRAND/PROPERTY LTD. - 0865 510 500	DRAFT CHK: BS				
0	DEVELOPMENT APPLICATION	KL	07-03-21	APPROVED: N. JESSOP	ACRED No: C604M	DATE: 09-11-21			
REV	ISSUED FOR / DESCRIPTION	BY	DATE						

LEGEND
HOSE REACH AREA
FIRE TRUCK HOSE
EXISTING FIRE PLUG

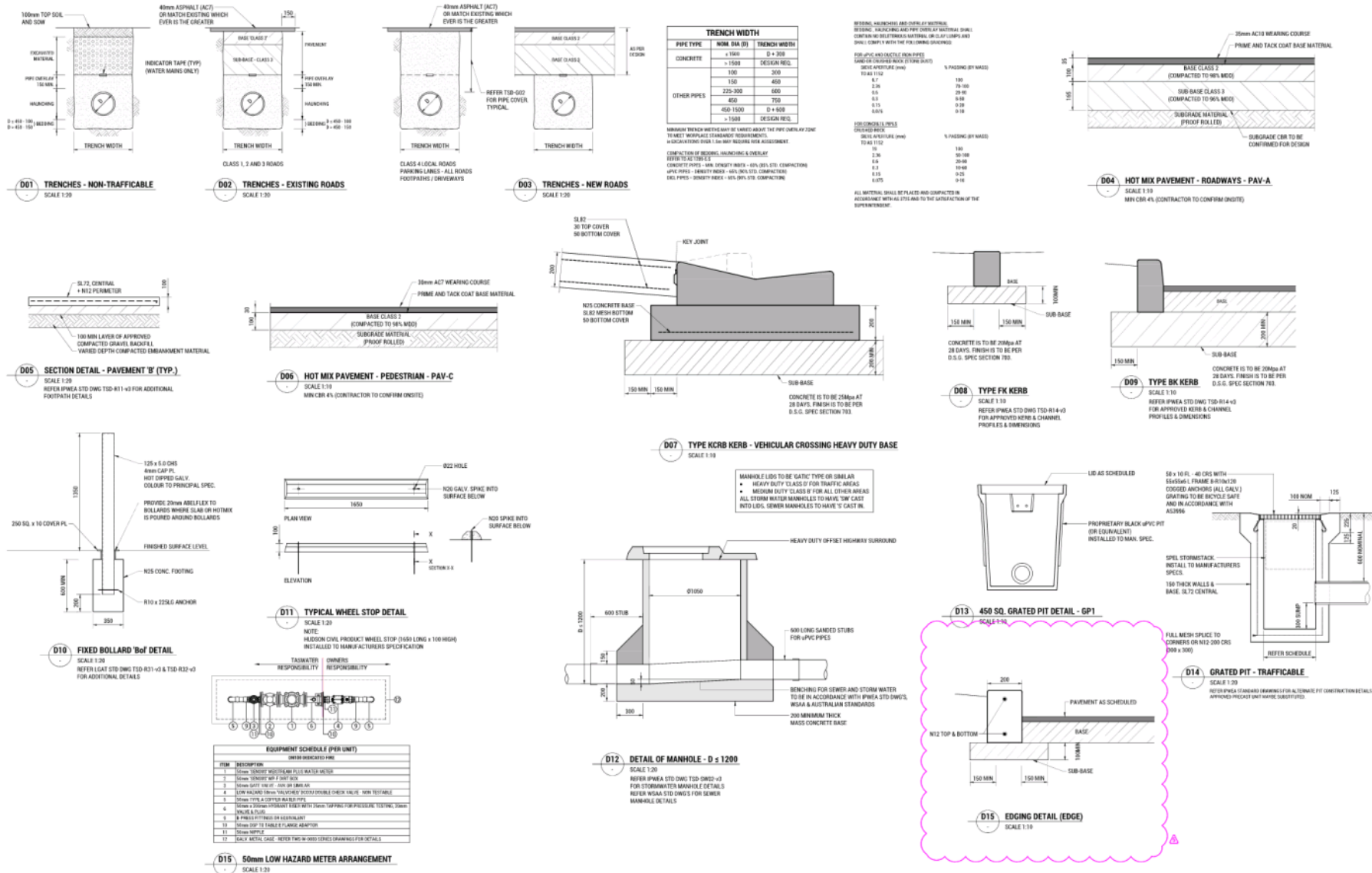


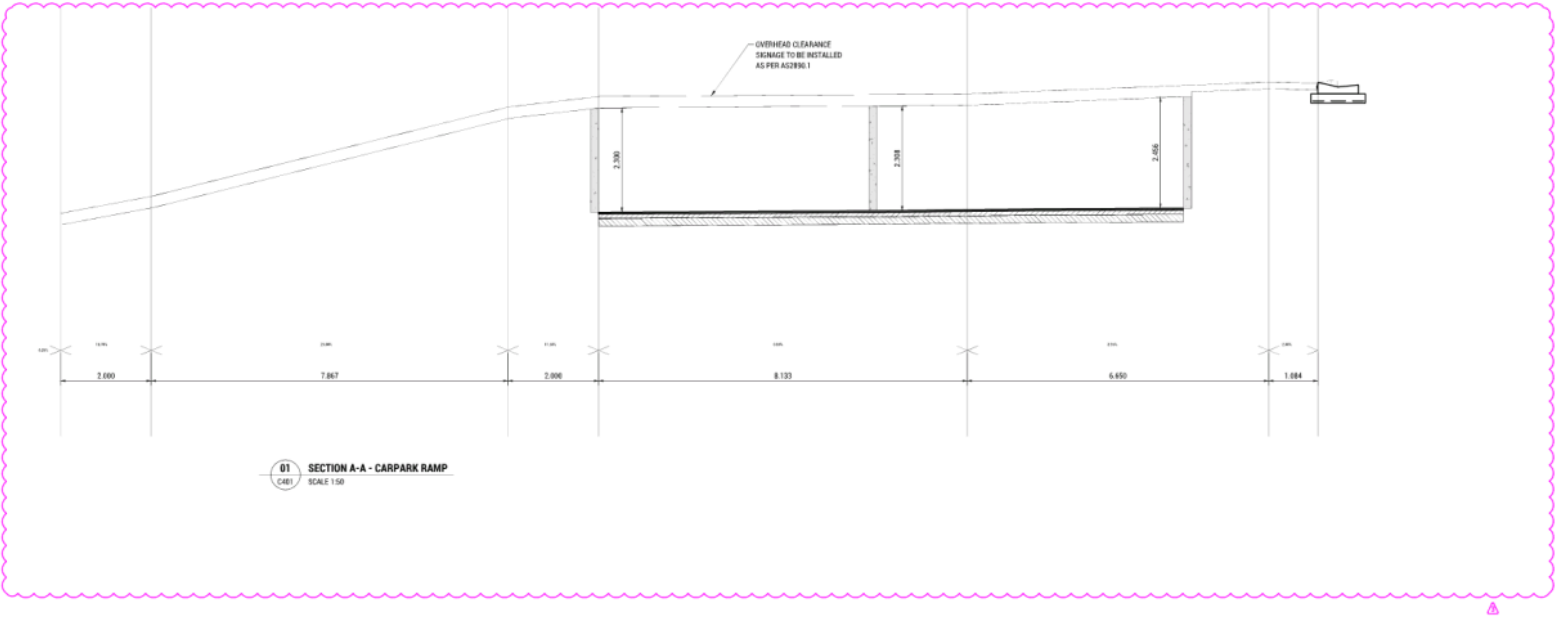
FIRE HYDRANT COVER PLAN - UNITS 1-11
SCALE 1:100

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				PRELIMINARY/INFORMATION		DESIGN CHG: AJL					
2 80% REVIEW				KL	29-07-22	DO NOT SCALE - IF IN DOUBT, ASK					PROJECT: SOCIAL HOUSING
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6 DEVELOPMENT APPLICATION				KL	07-03-21	APPROVED: N. JESSOP ACRED No: C63441					
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											PROJECT No: 220008



					STATUS		DESIGN BY: BS		 rarein.com.au P. 03 4358 9205	CLIENT COMMUNITIES TASMANIA		TITLE FIRE HYDRANT COVERAGE PLAN - UNITS 12-22	
					PRELIMINARY/INFORMATION		DESIGN CHG: AJL			PROJECT SOCIAL HOUSING		SCALE: 1:100 SHEET SIZE: A1 DWG# IN SET: -	
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6 DEVELOPMENT APPLICATION			HL	07-03-23	APPROVED: N. JESSON		ACRED No: C63848			DATE: 09-11-21			
REV / ISSUED FOR / DESCRIPTION			BY	DATE									





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2	R/I RESPONSE	KL	04-11-22	DO NOT SCALE - IF IN DOUBT, ASK	DESIGN BY: KL				
1	R/I RESPONSE	KL	11-10-22	THIS DOCUMENT MAY ONLY BE USED FOR THE PURPOSES FOR WHICH IT WAS PREPARED. © RARE ARCHITECTURE PTY LTD. 2022	DESIGN CHK: BS				
0	R/I REVIEW	KL	29-07-23		DESIGN CHK: BS				
REV / ISSUED FOR / DESCRIPTION:		BY:	DATE:	APPROVED: N. JESSOP	ACRED: N. JESSOP	DATE: 09-11-23		PROJECT No: 220008 DWG No: C702 REV: 3	

Appendix H Centacare Evolve Housing letter



LETTER OF EXPLANATION

73a New Town Road – Centacare Evolve Housing Development

Centacare Evolve Housing wish to provide the following brief description of the proposed project that has been lodged for approval at 73a New Town Road, New Town. The content of this letter is intended to provide an overview and understanding of why the project is being proposed, who it will provide housing for, and how the accommodation will be managed.

The provision of accessible housing options within our community is an issue that persists and continues to grow. All levels of government continue to tackle the issue and seek to support community needs and expectations. The Tasmanian Governments Action Plan on Affordable Housing is one such initiative aimed at breaking down barriers and ensuring access to safe and secure housing.

Centacare Evolve Housing are working closely with the Tasmanian Government to ensure our organisation can assist in serving the community through the provision of safe, secure and accessible housing. Centacare Evolve Housing have been involved in social and community endeavours to address housing stress and support people to find secure accommodation for many years. The proposed New Town Project is one such development that will significantly contribute to providing accessible, safe and secure housing within an established and diverse community.

Who We Are?

Centacare Evolve Housing are a Tier 1 Community Housing Provider who owns or manages over 2100 social and affordable housing properties throughout Tasmania. We believe our business is about much more than managing and building properties. So, as well as providing a comprehensive and responsive tenancy management service, we have a strong social commitment to enhancing the wellbeing of our tenants and the communities in which we work.

Centacare Evolve Housing is committed to relieving housing stress for 4,418 Tasmanians state-wide, and provides tenancy management services in 2,103 individual social and affordable homes. In addition to providing tenancy and community support, Centacare Evolve Housing has a significant new build and construction program, with over 670 new social and affordable homes in the pipeline for construction. A key component of Centacare Evolve Housing is our maintenance division, who are continually overseeing major upgrades and refurbishments to existing homes. By increasing both the quality and supply of available housing options, our property development work is having a positive impact on the lives and wellbeing of thousands of Tasmanians.



Community minded, Community driven

Shop 2, 28 Green Point Rd
Bridgewater TAS 7030
(next to Centrelink)

Affordable Community Housing Alliance Tasmania Limited
trading as Centacare Evolve Housing ABN 23 154 824 969

General enquiries: 6173 0060

Maintenance enquiries: 6173 0061

www.centacareevolve.com.au

centacareevolve @centacareevolve



We believe our business and opportunity to contribute, is about much more than managing and building properties, we have a strong social commitment to enhancing the wellbeing of our tenants and the communities in which we work. Centacare Evolve Housing runs a range of Community Wellbeing initiatives to support tenants and community members to thrive. A key community program is Build Up Tassie our unique pre-employment and job coaching program which supports local young job seekers with an interest in the construction industry and provides significant pathways to apprenticeships and other work opportunities. Build Up Tassie works with our construction partners to increase the number of employees who are life-ready, skill-ready, and work-ready.

*For more information on what we do, please see below link to our website:
<https://centacareevolve.com.au/>*

Our Proposed New Town Road Development

Our proposed New Town Road development is considered a key building initiative that has arisen directly from the identified need in the local area and wider New Town precinct.

New Town and the wider area have seen considerable pressure on accessible housing. Increasing property prices and rental market stress has meant many people are no longer able to continue to live and work in the local area.

The proposed New Town Road development looks to create a specific accommodation option and long-term housing solution. The development will allow people to access secure homes within a vibrant local community.

Who will be the residents?

New Town is centrally located and provides excellent access to several key Hobart central zones. The proximity to New Town Road provides residents with access to the busiest public transport corridor in Hobart, servicing south into Hobart CBD and north to Glenorchy City. The location is well positioned to provide walkability to places of employment, shopping, and entertainment areas. This project provides secure housing options that support people to live in their local community and maintain conveniently sustainably access to services, places of employment and leisure activities.

The development proposal aims to provide housing for individuals who would benefit most from living in a well-connected centralised Hobart suburb.



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The residents proposed would typically be within the following broad demographic cohorts:

- Young individuals and couples who are looking to live and work within the areas of Hobart CBD, North Hobart, Moonah, and surrounding areas. Typically, we have seen this cohort have reliance on public transport rather than committing to the expense of private vehicle ownership
- Single middle aged or older people who require secure affordable homes that can offer certainty of affordability. The develop supports this type of assistance and allows individuals to establish long term home life with certainty
- Small families comprising a parent with 1 child would suit the development. The central location allows access to schools and places of employment. We typically expect low car ownership in this group and the ease of access to public transport and active transport options make this development well suited to establish a long-term home certainty
- The development is not suited to larger family units and is not a project that aims to cater for this demographic

The development aims to provide long term homes for a broad mix of individuals and couples. The development does not form part of a transitional housing complex and will not be used to support this type of community service. Further to this, Centacare Evolve Housing is proud of our in-depth property allocation process which ensures that tenants suit the complexes and communities they are allocated to.

How will the site be managed?

Centacare Evolve Housing provide a range of community and social support networks in conjunction with the housing and tenancy management services.

For the New Town Road project, we will establish several programs to assist in enabling resident engagement programs. These aim to strengthen connections to neighbours within the complex and engagement with groups in the wider community.

We achieve this through our network of established support and community program initiatives including:

- Community wellbeing supports – offering individual assistance in a range of services to meet needs including household management, establishing support networks, and building individual capacities to develop a home in a community
- Tenant engagement groups – used to establish a high level of resident engagement in the day-to-day operations of the development including decisions around the use, maintenance, and function of the common spaces of the development.
- Community leadership programs – these assist resident groups and individuals in developing community connection and linking leadership/mentoring for individual development and group initiatives



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- Employment and training programs – these assist local young people to gain skills and identify pathways to meaningful employment, including apprenticeships in building and construction

Centacare Evolve Housing will remain the management team responsible for the entirety of the development's operation and tenant suitability management. We have an extensive maintenance and building services team and would undertake all the usual property owner responsibilities from enforcement of development rules, building up-keep, and garden maintenance.

Our tenancy management allow the flexibility to have a 'hands on' approach to the allocation of tenants to dwellings to ensure a tenant group that compliments the development and fellow tenants. Our management of some 3000 properties throughout Tasmania provides us certainty and expertise to support and grow communities. The New Town Road development is a key project that Centacare can achieve sustained and meaningful assistance to individuals to achieve a secure and affordable home that supports building community networks and enriching lives.

We would welcome the opportunity to discuss any aspects of the proposed project and our vision for its contribution to providing homes and growing communities.



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Launceston TAS 7250

P. 6388 9200

rarein.com.au

Our Ref: 220008

25th March 2022

Philplighton Architects
49 Sandy Bay Road
Hobart TAS 7004

ATTENTION: P GAGGIN

Dear Peter

**CENTACARE EVOLVE – 73A NEW TOWN ROAD – SITE INFRASTRUCTURE CONCEPT DESIGN FOR
DEVELOPMENT APPLICATION**

We are writing to you to provide you concept site civil infrastructure for the submission of the Development Application.

Attached to this letter are the following drawings: -

- COV – Cover Sheet
- C000 – Civil Notes
- C101 – Existing Survey Plan
- C301 – Bulk Earthworks Plan
- C311 – Bulk Earthworks Sections
- C401 – Civil Works Plan
- C501 – Drainage Plan
- C511 – Drainage Long Sections
- C521 – Flood Control Plan 1% AEP
- C601 – Water Reticulation Plan
- C611 – Fire Hydrant Coverage Plan – Units 1-11
- C612 – Fire Hydrant Coverage Plan – Units 12-22
- C701 – Sections and Details – Sheet 1

Please review the above drawings with the following comments: -

- Stormwater
 1. The existing site stormwater connection was not identified on site, it is believed that the existing stormwater drains through the back yards of the adjacent properties. This development proposes providing a new stormwater connection to the existing DN600 RCP stormwater in the street. This connection will need to cross a number of services including comms, LV, HV and water. We have mapped these services into long sections based on invert level information provided however we recommend that this area is potholed to positively located all services (including the DN600 RCP stormwater main) to ensure that the risk around this connection is managed.
 2. The existing site has been nominated to have a pre-existing 80% impervious surfaces area by virtue of the clay/gravel tennis courts and concrete hard stand. The proposed development will

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similarly be concrete hardstand and roofed areas. As is proposed that the impervious area will increase up to 90% impervious as such, Stormwater detention will be required to detain runoff above pre-existing conditions. This can be achieved through containment within the courtyard and carpark area. From our assessment we require ~10 kL with a restricted outfall pipe in the manhole downstream of the containment area.

3. The site will require stormwater treatment via a SPEL system of similar. We have engaged with SPEL to ascertain a treatment train that will achieve current practice water quality targets of 100% GP \ 80% TSS/ 45% TP /45% TN at the point of discharge by introducing 2 x SPEL Stormsack pits for Primary Treatment in the carpark and 1 x Hydrosystem 400/1 Secondary Treatment downstream prior to discharge.
 4. Any runoff that cannot be contained within the pipe network for the 1% AEP will be contained within the site using kerbing and retaining walls along the Western boundary set to a level of RL 52.80 along the Southern Boundary. There will be an overland flow path from the carpark to the laneway which will discharge from the site at a spill level of RL 52.65. A minimum freeboard of 150mm in containment areas will be maintained under these conditions.
- Sewer
 1. The existing site has an existing sewer connection, this is expected to be reused. We have mapped the likely Sewer alignment as a longsection and found adequate depth to service the proposed building block.
 - Water
 1. The existing site has a water connection, this water connection was not located on site. During demolition the contractors will be required to identify and cap the existing connection.
 2. The proposed development will require a new connection and water meter arrangement. TasWater GIS database indicates that there is a DN50 copper and a DN250 Cast Iron main in the vicinity of the existing property connection. There is also a DN100 CICL water main on Sunnyside Road and Paviour Street respectively which is above the cutting level. We have determined that the property will require a min. DN40 water connection which we propose to take off the DN100 main in Sunnyside Road at the N-E corner of the property. Noting that this is the most sensible location from our perspective for an accessible above ground meter assembly to current TasWater standards that is within the property bounds.
 - Fire fighting
 1. There are two street fire plugs (one on Sunnyside Road and one on Paviour Street). 60m radius adequately cover the proposed building. We have also mapped detailed alignments for hose lay and truck locations to comply with AS2419 using only the street fire plugs as feed hydrants. These arrangements work based on our present understanding of the design but we note that this does need to be refined with final architectural floor layouts as there is little margin for error.
 2. It is understood that there will be no internal firefighting equipment such as hose reels based on the building surveyors report.

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Should you have any further queries please do not hesitate to contact us.

Yours faithfully,

A handwritten signature in black ink, appearing to be 'B. Stanborough', with a long horizontal line extending to the right.

Brendan Stanborough
Senior Structural Engineer
Infrastructure Manager



Enquiries to: City Life
Phone: (03) 6238 2711
Email: coh@hobartcity.com.au

5 September 2022

MONICA CAMERON
L1 125A ELIZABETH STREET
HOBART TAS 7000

mailto:monica@eraplanning.com.au

Dear Sir/Madam

**73 A NEW TOWN ROAD, NEW TOWN & ADJACENT ROAD RESERVE
GMC- 22 DWELLINGS, 12 CARPARKING SPACES, 2 MOTORBIKE SPACES,
LANDSCAPING NOTICE OF LAND OWNER CONSENT TO LODGE A PLANNING
APPLICATION - GMC-22-36**

Site Address:

73A New Town Road and Adjacent Road Reserve

Description of Proposal:

Demolition, 22 Multiple Dwellings, Front Fencing and Associated Works

Applicant Name:

Monica Cameron

PLN (if applicable):

PLN-22-282

I write to advise that pursuant to Section 52 of the *Land Use Planning and Approvals Act 1993*, I grant my consent on behalf of the Hobart City Council as the owner/administrator of the above land for you to make application to the City for a planning permit for the development described above and as per the attached documents. I granted consent pursuant to delegation, a copy of which is enclosed.

Please note that the granting of the consent is only for the making of the application and in no way should such consent be seen as prejudicing any decision the Council is required to make

Hobart Town Hall
50 Macquarie Street
Hobart TAS 7000

Hobart Council Centre
16 Elizabeth Street
Hobart TAS 7000

City of Hobart
GPO Box 503
Hobart TAS 7001

T 03 6238 2711
F 03 6234 7109
E coh@hobartcity.com.au
W hobartcity.com.au

CityofHobartOfficial
ABN 39 055 343 428
Hobart City Council

as the statutory planning authority.

This consent does not constitute an approval to undertake any works and does not authorise the owner, developer or their agents any right to enter or conduct works on any Council managed land whether subject to this consent or not.

If planning approval is granted by the planning authority, you will be required to seek approvals and permits from the City as both landlord, land manager, or under other statutory powers (such as other legislation or City By-Laws) that are not granted with the issue of a planning permit under a planning scheme. This includes the requirement for you to reapply for a permit to occupy a public space under the City's Public Spaces By-law if the proposal relates to such an area.

Accordingly, I encourage you to continue to engage with the City about these potential requirements.

Yours faithfully



(Glenn Doyle)

HEAD OF CITY PROJECTS

Relevant documents/plans:

Letter dated 23/08/2022.

Drawings COV, C000, C101, C301, C311, C401, C501, C511, C521, C601, C611, C612 & C701 from Rare Architecture.

Summary of interface to road verge x 2.



City of Hobart

INSTRUMENT OF DELEGATION

General Delegation

Head of City Projects


Section 64 of the Local Government Act 1993

I, Kelly Grigsby, Chief Executive Officer, being the General Manager as appointed by Council pursuant to Section 61 of the *Local Government Act 1993 (Tas)* ("the Act") hereby delegate pursuant to Section 64 of the Act, the following powers and functions to the Head of City Projects:

1. to sign an application; and
2. to provide written permission to make an application;

pursuant to section 52(1B) of the *Land Use Planning and Approvals Act 1993*, except where an application pursuant to that section is recommended for refusal by Council officers.

Dated this 24th day of February 2022



SIGNED

Kelly Grigsby
(Chief Executive Officer)

Being the General Manager as appointed by Council pursuant to section 61 of the *Local Government Act 1993 (Tas)*



23/08/22

Hobart City Council
 Planning assessment and General Manager Consent

ATTENTION: The Assessment Officer

REFERENCE: 73A New Town Road – General Manager Consent

A meeting was held on the 03/08/22 to discuss further information council was seeking to allow the provision of General Managers Consent for the planning submission concerning 73A New Town Road, New Town. The area of further information discussed in the meeting was pertaining to the Paviour Street frontage and interfaces.

In response to this meeting, we have compiled the following letter and referenced sketches to illustrate the projects intent regarding the interface of the development with Paviour Street. These designs are to illustrate the developments intent and provide the basis for realistic detailed design solutions. These detailed design solutions will be developed further upon achieving a development approval and would be subject to the usual condition consent processes and development approvals.

The details in this letter and attached sketches, were developed, and provided conjointly by the project team and with the technical guidance and expertise of Alan Leake (structural engineer of RARE engineering consultants) and John Paul Cummings (geotechnical expert of (GES) Geo-Environmental Solutions)

Item 1 – Structural footings within the Paviour Street road reserve

It is proposed to install two linking walkways that allow pedestrian connection from the new Paviour Street foot path onto the balcony areas of the building. These walkways will be supported on the building and bridge to Paviour Street. The walkways are proposed to be founded on a bored pier foundation in the road reserve (this is illustrated in the attached markup plan). There are two walkways, one at the far northern end of the building and one at the centre of the building.

The northern walkway is illustrated in section A and is likely to founded onto rock at a shallow level (this is consistent with the geotechnical assessment and the visible rock within the northern end of the embankment)

The central walkway is illustrated in section C and is likely to require a deeper pier to found onto suitable bearing capacity (this is consistent with the geotechnical trenching that was done in the embankment close to this location).



Construction, Joinery & Facility Management

Devonport

12 Stony Rise Road
 Devonport Tasmania 7310
 P 03 6420 7000

Launceston

55 Gleadow Street
 Launceston Tasmania 7248
 P 03 6333 2500

Hobart

59 Sandy Bay Road
 Battery Point Tasmania 7004
 P 03 6220 9000

Bendigo

PO Box 5076
 Sandhurst East Victoria 3550
 P 03 5445 9700

Warrnambool

PO Box 571
 Warrnambool Victoria 3280
 P 03 5565 2800

Geelong

Level 1, 80 Pakington Street
 Geelong West Victoria 3218
 P 03 5223 4900

info@fairbrother.com.au
www.fairbrother.com.au

ABN 51 009 510 561





Neither of these foundations will undermine or cause weakness in the embankment and there is no additional risk to the stability of the existing condition in founding the walkways as proposed.

Item 2 – Proposed ground levels, embankment and shaping

Attached to this letter are a series of 4 sections illustrating the conceptual approach to treatment of the embankment along Paviour Street. These sections A, B, C & D, illustrate typical locations and show how the profiling and support of the embankment changes along the length of the site. The conceptual design is to provide:

- At the northern end, an existing rockface is visible in the embankment. It is proposed to assess this with geotechnical detailed site inspection during the works to retain this face as the supporting structure of the embankment (as is the current situation). This is illustrated in section A.
- From the geotechnical investigations undertaken on the site it is evident that the central zone of the embankment comprises sandy topsoil and sand/mudstone base. Typical this area is proposed to be retained at the base by a built retaining structure and then using a 1v:2h slope for the remainder of the embankment. As illustrated in sections B and C this has only minor shaping impact on the ground levels within the road reserve.
- At the extreme southern end of the building, it is proposed to fill the existing embankment to flatten the existing grade (illustrated in section D). this treatment terminates at the proposed retaining wall along Sunnyside Road as illustrated in plan

The above items are conceptual approaches that have been proposed in conjunction with the projects structural engineer and geotechnical expertise. The above assumptions will need detailed resolution and assessment through out detailed design and construction to confirm inground conditions remain consistent with initial investigations. The detailed design will occur as part of verifying condition endorsements for the project and achieving relevant building approvals for the works.

Item 3 – Landscape intent and approach

The retention of the embankment is described above, and the finished graded surface is intended to be landscaped to provide both a planted edge to the development as well as assist with long term weathering of the surface. The landscape surface typical remain no steeper than 1v:2h and provide suitable base for planting of ground covers and shrubs. It is anticipated the planting will require the use of an organic fibre blanket to provide surface cover whilst the plants are established. The landscaped area will be serviced with an automated irrigation system to ensure best establishment conditions.

It is proposed to include several trees within the road reserve area these are placed at the upper part of the embankment (as illustrated in the sections) and planting would occur consistent with landscaping practices for the slope. It is proposed these trees match the existing trees along this side of paviour street which are also located within a similarly sloped road verge.



Details on final species and planting densities will be prepared following the development approval processes and expected to be part of the condition endorsement phase.

Item 4 – Current embankment stability and integrity

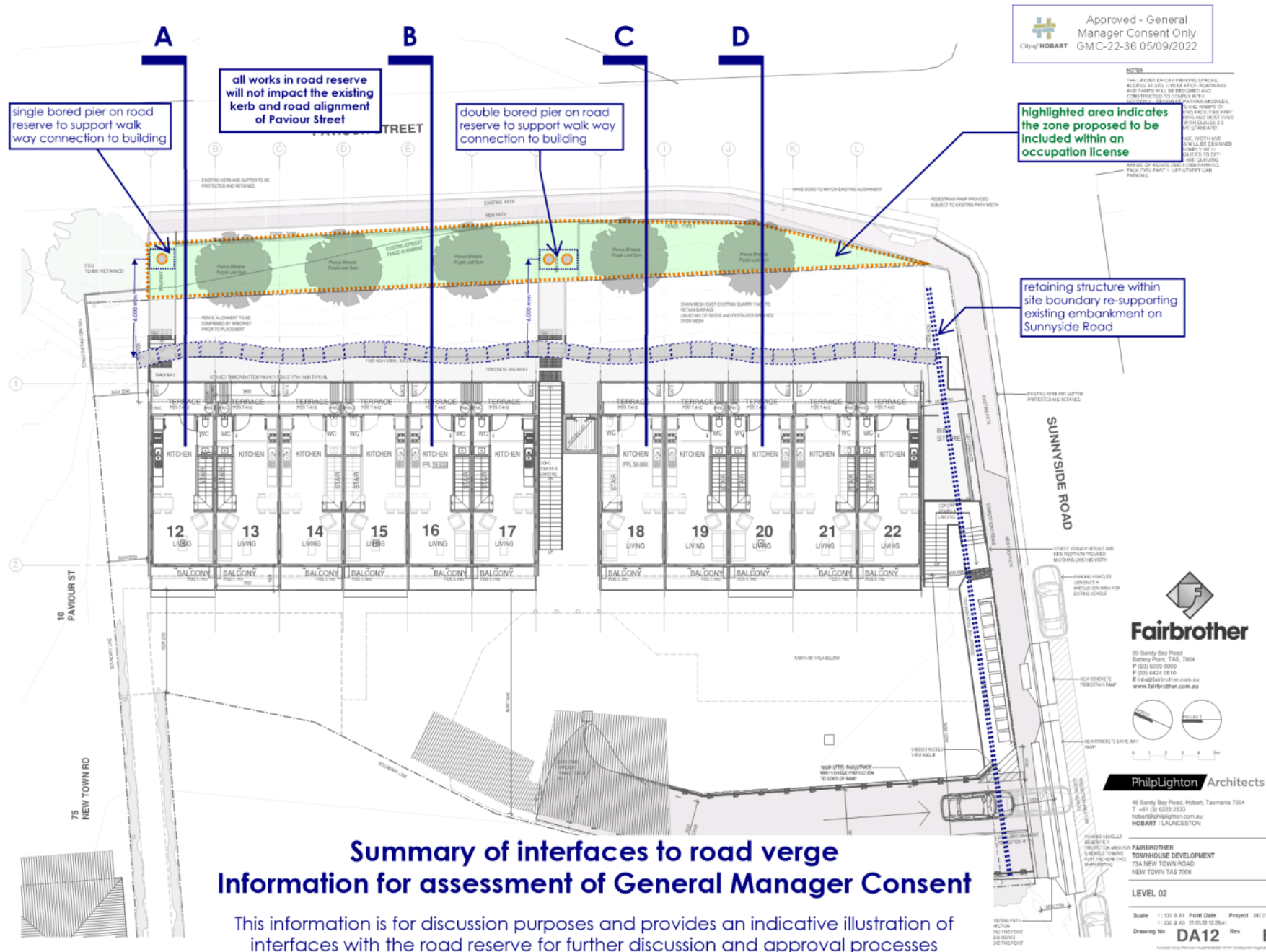
The existing embankment was cleared of vegetation during geotechnical inspection works. These works were undertaken with the supervision of geotechnical experts GES, who provided a geotechnical report on the investigation. Within the embankment area facing Paviour Street 2 trenches were excavated. These were taken to only a shallow level and do not present a risk to the stability of the bank. The embankment facing Sunnyside Road comprises a sandstone/mudstone outcrop and several concrete retaining structures (these structures are within the road reserve). The structures were not affected by the geotechnical investigation and remain stable to the degree of their original construction.

The rock outcrop and embankments are subject to ongoing erosion (as has always been the case) and whilst minor displacement of material will occur the embankments are not at any increased risk of significant failure than would be expected from their original construction. It is anticipated the embankments will remain in their existing condition for the near future but should be regularly inspected for signs of change.

As part of the detailed engineering and civil design works a slope stability assessment will be completed. This will be validated and amended as needed during the works as inground conditions are revealed and to provide site specific context yielded from excavation activities. The final embankment civil, structural and landscape composition will be subject to future design detail and approvals/endorsements.

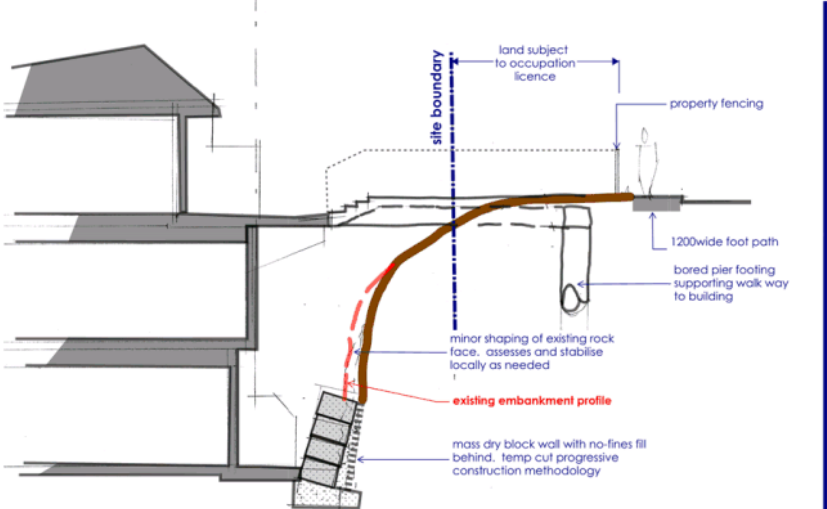
Item 5 – area of future occupation licence

On the attached plan sketch the area that would be subject to a future 'occupation licence' with council and the landowner has been identified. It is anticipated that licence would be negotiated during the development of condition endorsements prior to use of the development.

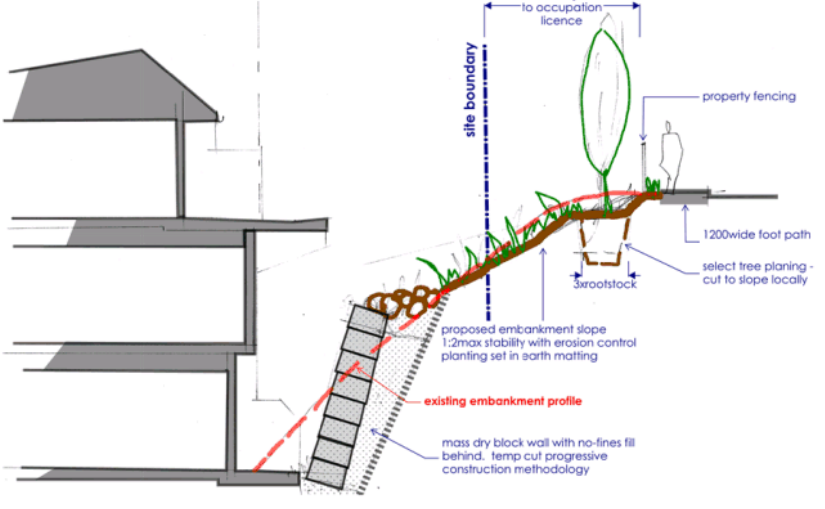


Summary of interfaces to road verge
Information for assessment of General Manager Consent

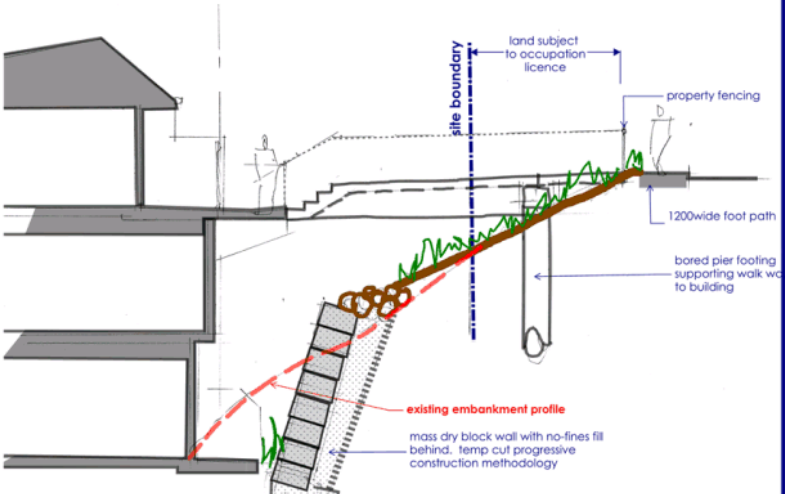
City of HOBART
Approved - General Manager Consent Only
GMC-22-36 05/09/2022



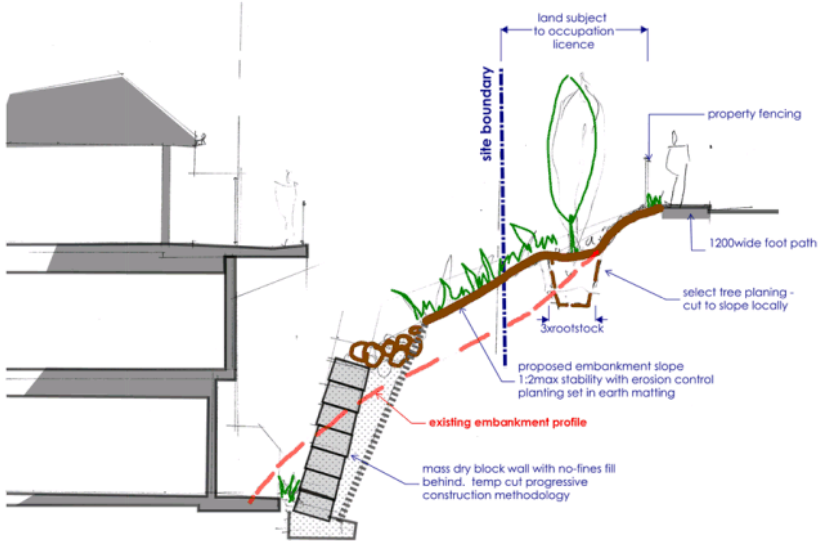
embankment section A



embankment section B



embankment section C



embankment section D



CLIENT:
COMMUNITIES TASMANIA

PROJECT:
SOCIAL HOUSING

ADDRESS:
73A NEW TOWN RD, NEW TOWN

PROJECT No:
220008

STATUS:
CONTROLLED DOCUMENT

ISSUED FOR / DESCRIPTION:
50% DESIGN DEVELOPMENT

DRAWINGS:

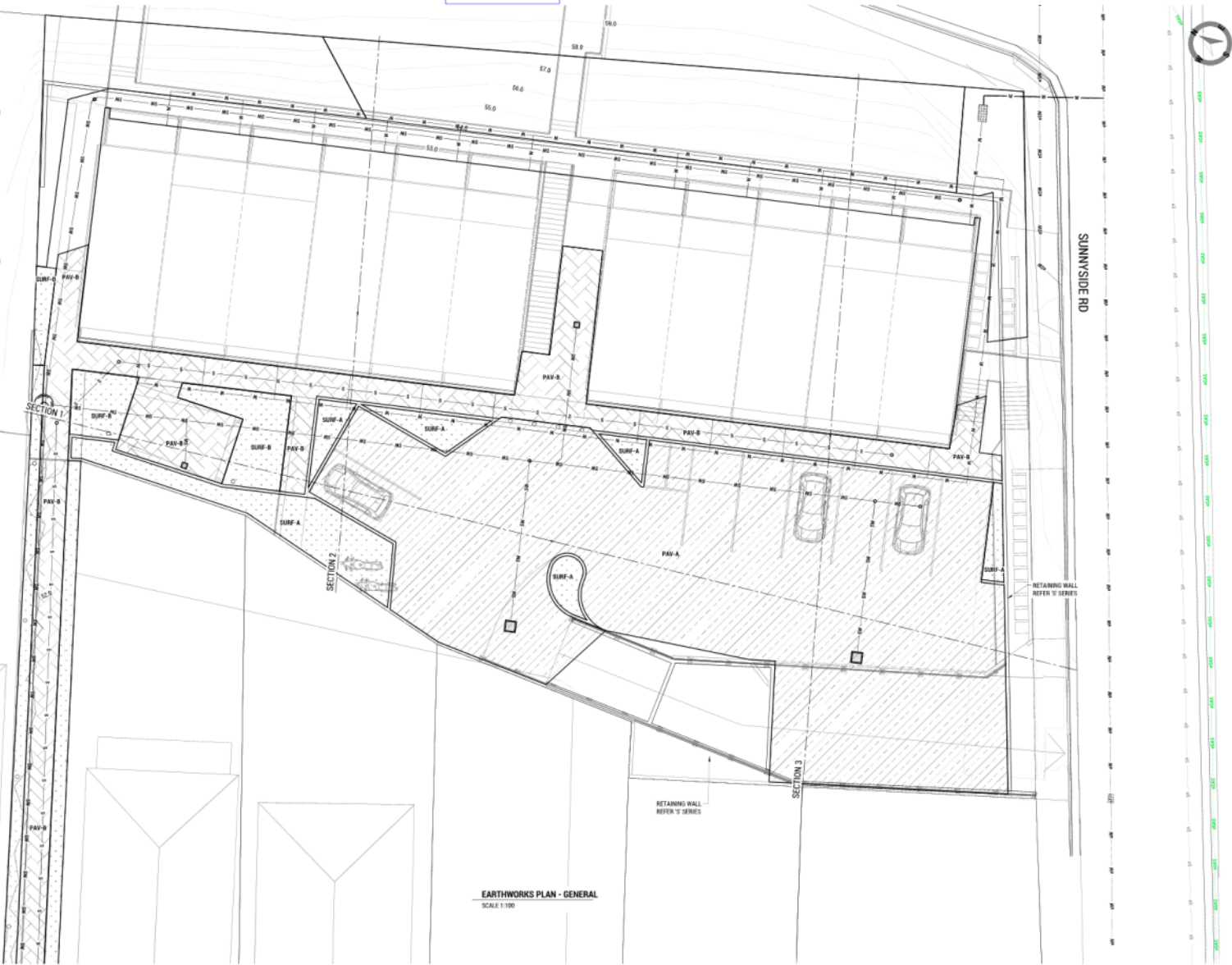
- COV - COVER SHEET
- C000 - CIVIL NOTES
- C101 - EXISTING SURVEY/DEMOLITION PLAN
- C301 - BULK EARTHWORKS PLAN
- C311 - BULK EARTHWORKS SECTIONS
- C401 - CIVIL WORKS PLAN
- C501 - DRAINAGE PLAN
- C511 - DRAINAGE LONG SECTIONS
- C521 - FLOOD CONTROL PLAN 1% A.R.I.
- C601 - WATER RETICULATION PLAN
- C611 - FIRE HYDRANT COVERAGE PLAN - UNITS 1-11
- C612 - FIRE HYDRANT COVERAGE PLAN - UNITS 12-22
- C701 - SECTIONS & DETAILS - SHEET 1

		STATUS		DESIGN BY: RB	 22-24 Paterson Street Launceston TAS 7250 rarein.com.au P 03 6386 9000	CLIENT: COMMUNITIES TASMANIA	TITLE: COVER SHEET
		PRELIMINARY/INFORMATION		DESIGN CHG: AJL		PROJECT: SOCIAL HOUSING	
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		THIS DOCUMENT MAY ONLY BE USED FOR THE PURPOSE FOR WHICH IT WAS PREPARED - (STATE ORIGINATOR'S USE) - (DATE 15/10/2018)		CHECKED BY: RS		ADDRESS: 73A NEW TOWN ROAD, NEW TOWN	PROJECT No: 220008 DWG No: COV REV: 1
2	COUNCIL REF	KL	17-06-22	APPROVED: A. LEANE	ACRED No: C63462A	DATE: 07-09-22	
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0	DEVELOPMENT APPLICATION	KL	07-03-22				
REV	ISSUED FOR / DESCRIPTION	BY	DATE				



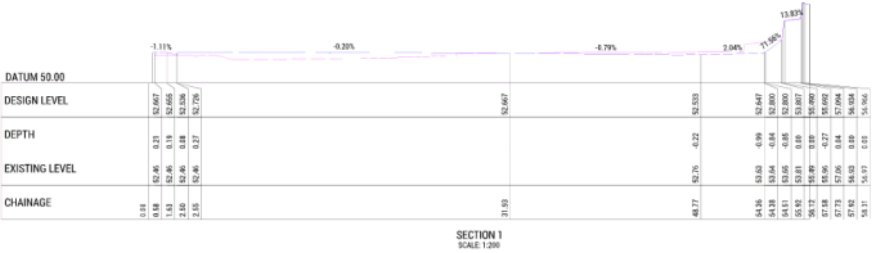
BULK EARTHWORKS LEGEND

- TYPE PAV-A - HOTMIX - ROAD**
- STRIP EXISTING TOP SOIL, VEGETATION, HARD SURFACES AND OTHER MATERIAL TO SUBGRADE LEVEL 300mm NOMINAL BELOW FINISHED SURFACE LEVEL
 - PROOF ROLL EXPOSED SUB-GRADE AND CARRY OUT SUB-GRADE IMPROVEMENT WITH AN APPROVED EMBANKMENT MATERIAL IMPORTED ON STRIPPED FROM SITE AND PLACED AND TESTED IN ACCORDANCE WITH DSG SPEC SECTION 204 FOR EMBANKMENT MATERIAL
 - CUT AND/OR FILL TO 300mm BELOW FINISHED SURFACE LEVELS SHOWN ON THESE DRAWINGS WITH IMPORTED EMBANKMENT MATERIAL APPROVED BY ENGINEER AND PLACED AND TESTED IN ACCORDANCE WITH DSG SPEC SECTION 204 FOR EMBANKMENT MATERIAL
 - FILL OVER EXPOSED SUBGRADE TO 150mm BELOW FINISHED SURFACE LEVEL WITH 200mm SUB-BASE CLASS 3 MATERIAL PLACED AND TESTED IN ACCORDANCE WITH DSG SPEC SECTION 304 FOR SUB-BASE CLASS 3 MATERIAL
 - FILL OVER SUB-BASE TO 35mm BELOW FINISHED SURFACE LEVEL WITH 100mm BASE CLASS 2 MATERIAL PLACED AND TESTED IN ACCORDANCE WITH DSG SPEC SECTION 304 FOR BASE CLASS 2 MATERIAL
- TYPE PAV-B - CONCRETE HARDSTAND - FOOTPATHS**
- STRIP EXISTING TOP SOIL, VEGETATION, HARD SURFACES AND OTHER MATERIAL TO A MINIMUM DEPTH OF 200mm NOMINAL BELOW EXISTING SURFACE LEVEL
 - PROOF ROLL EXPOSED SUB-GRADE AND CARRY OUT SUB-GRADE IMPROVEMENT WITH AN APPROVED EMBANKMENT MATERIAL IMPORTED ON STRIPPED FROM SITE AND PLACED AND TESTED IN ACCORDANCE WITH DSG SPEC SECTION 204 FOR EMBANKMENT MATERIAL
 - CUT AND/OR FILL TO 200mm BELOW FINISHED SURFACE LEVELS SHOWN ON THESE DRAWINGS WITH IMPORTED EMBANKMENT MATERIAL APPROVED BY ENGINEER AND PLACED AND TESTED IN ACCORDANCE WITH DSG SPEC SECTION 304 FOR EMBANKMENT MATERIAL
 - FILL OVER EXPOSED SUB-GRADE TO 100mm BELOW FINISHED SURFACE LEVEL WITH 100mm BASE CLASS 2 MATERIAL PLACED AND TESTED IN ACCORDANCE WITH DSG SPEC SECTION 304 FOR BASE CLASS 2 MATERIAL
- TYPE SURF-A - LANDSCAPING**
- STRIP EXISTING TOP SOIL, VEGETATION, HARD SURFACES AND OTHER MATERIAL TO A MINIMUM DEPTH OF 200mm NOMINAL BELOW FINISHED SURFACE LEVEL & PLACE 200mm TOPSOIL IN BED
- TYPE SURF-B - ASTROTUFF**
- REFER ARCH. SPEC.

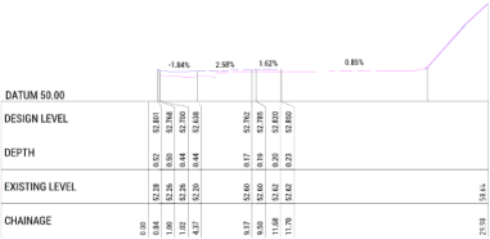


EARTHWORKS PLAN - GENERAL
SCALE 1:100

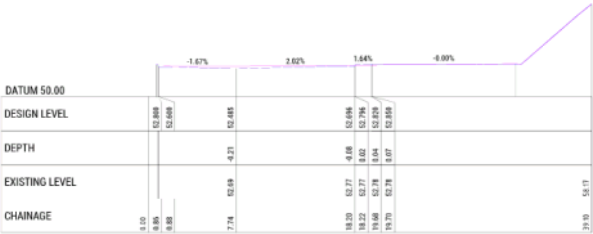
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2 DEVELOPMENT APPLICATION		KL 07-03-22	DO NOT SCALE - IF IN DOUBT, ASK THIS DOCUMENT MAY ONLY BE USED FOR THE PURPOSES FOR WHICH IT WAS PREPARED. IT IS NOT A CONTRACT. IT IS NOT A GUARANTEE OF PERFORMANCE. IT IS NOT A GUARANTEE OF VALUE.		DESIGN CHK: ALB			SCALE: 1:100 SHEET SIZE: A1 DWG IN SET: -	
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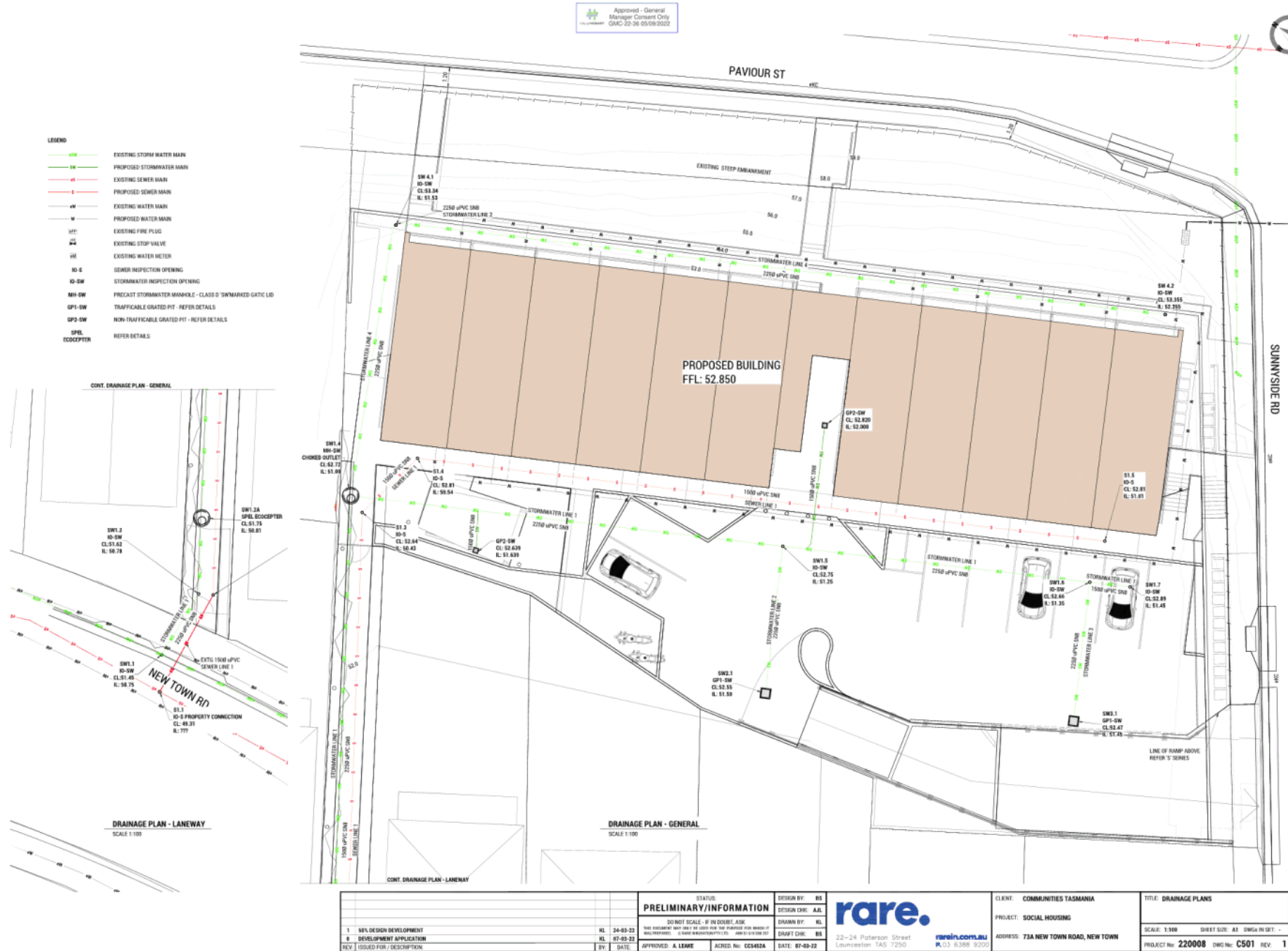
SECTION 1
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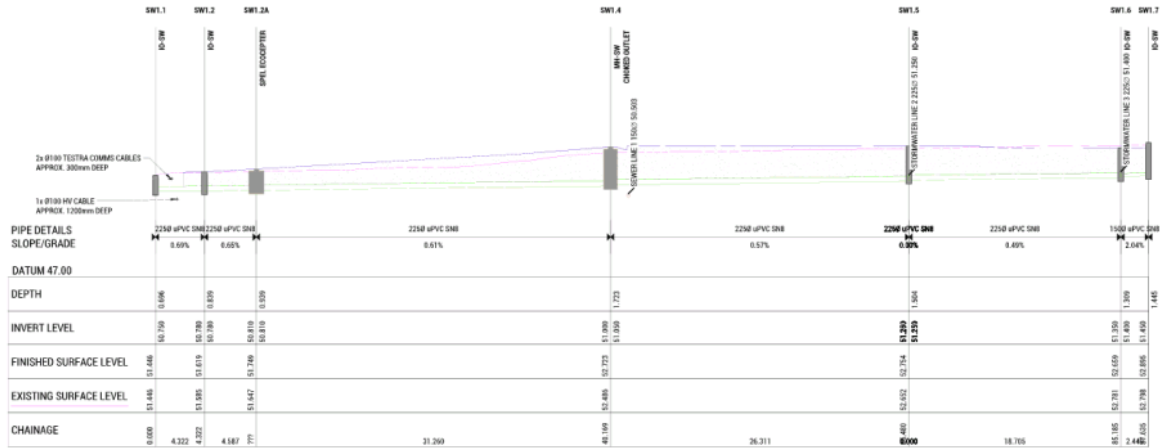
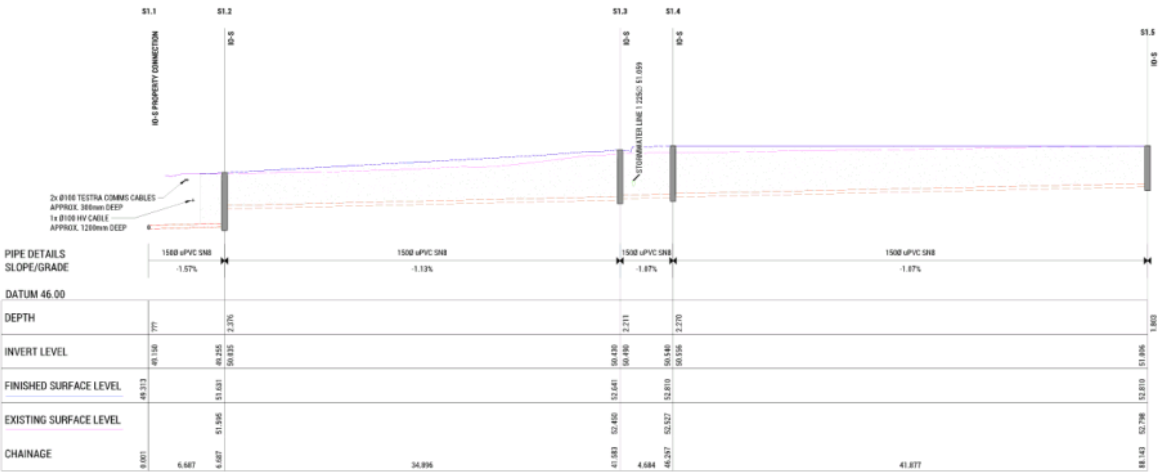


SECTION 2
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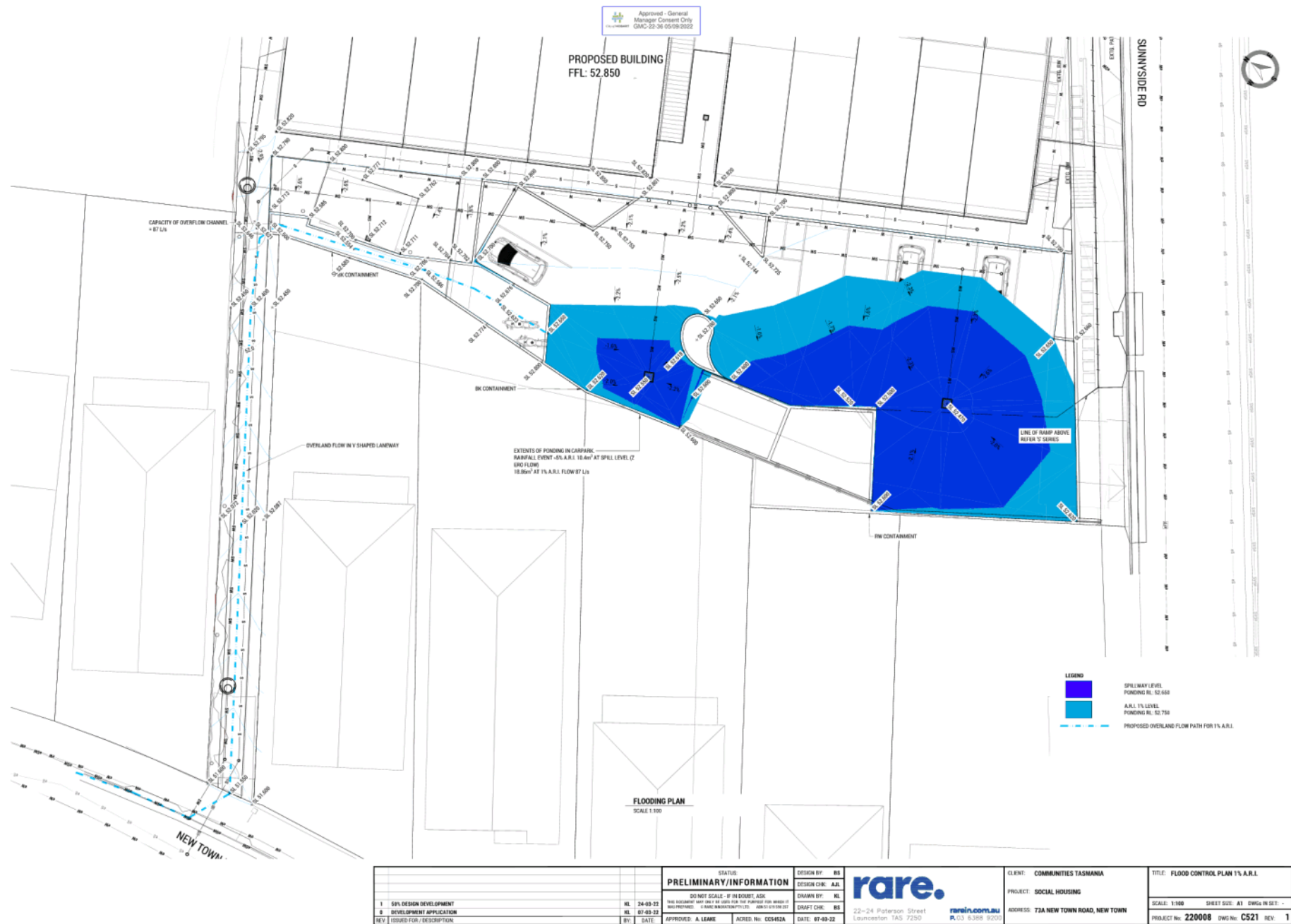




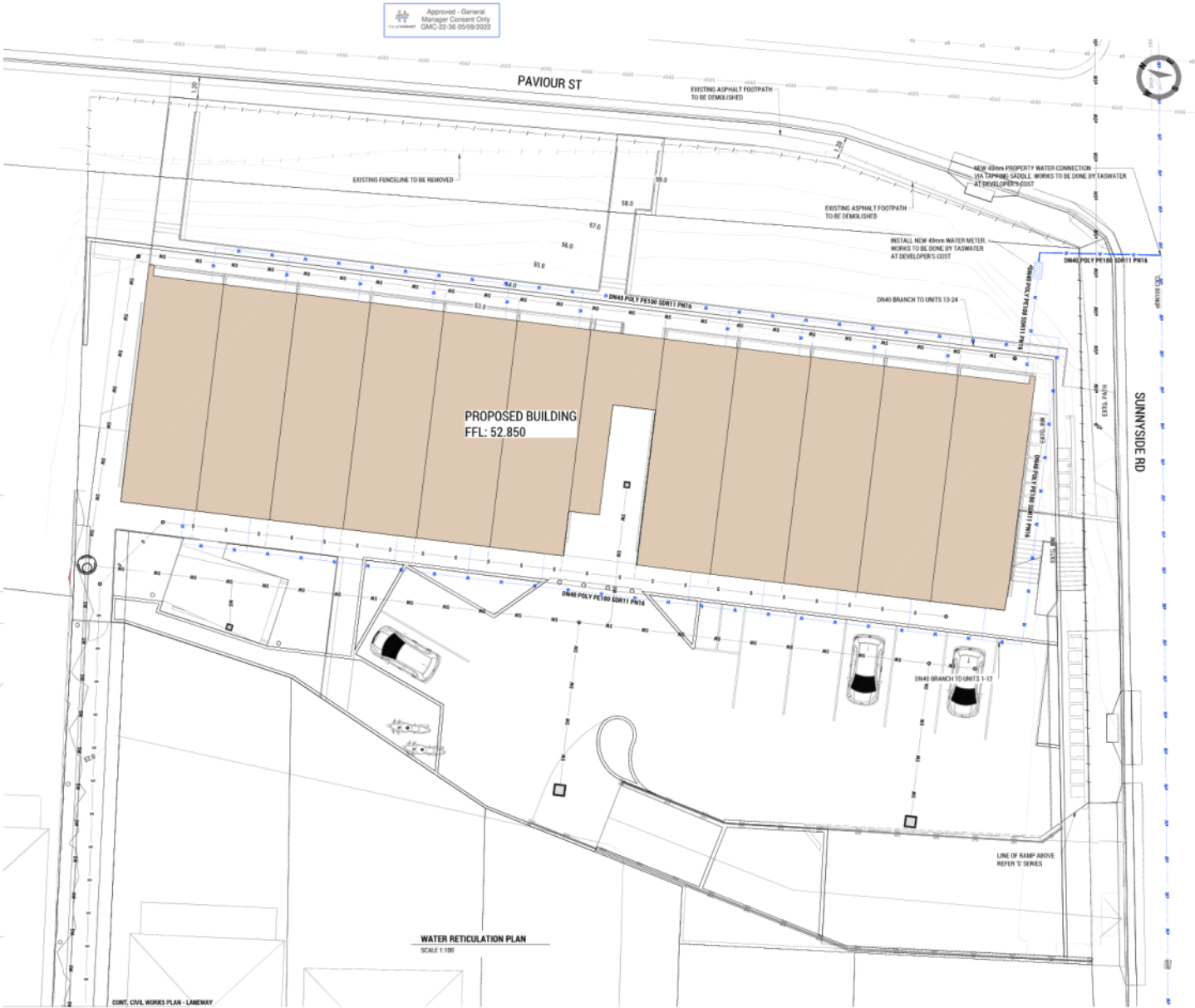
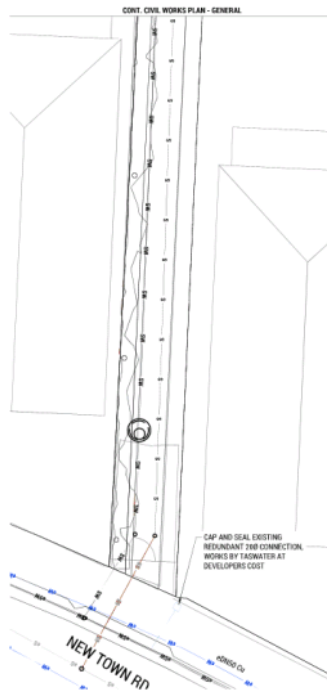




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				PRELIMINARY/INFORMATION		DESIGN CHK: ALB			PROJECT: SOCIAL HOUSING			
				DO NOT SCALE - IF IN DOUBT, ASK		DRAWN BY: RL						
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2 DEVELOPMENT APPLICATION		ML	07-03-22								PROJECT No: 220008	
REV 1 ISSUED FOR DESCRIPTION		BY:	DATE:	APPROVED: A. LEANE		ACRED: Nn: C5462A		DATE: 07-03-22				



- LEGEND
- EXISTING WATER MAIN
 - PROPOSED WATER MAIN
 - EXISTING FIRE PLUG
 - EXISTING STOP VALVE
 - EXISTING WATER METER

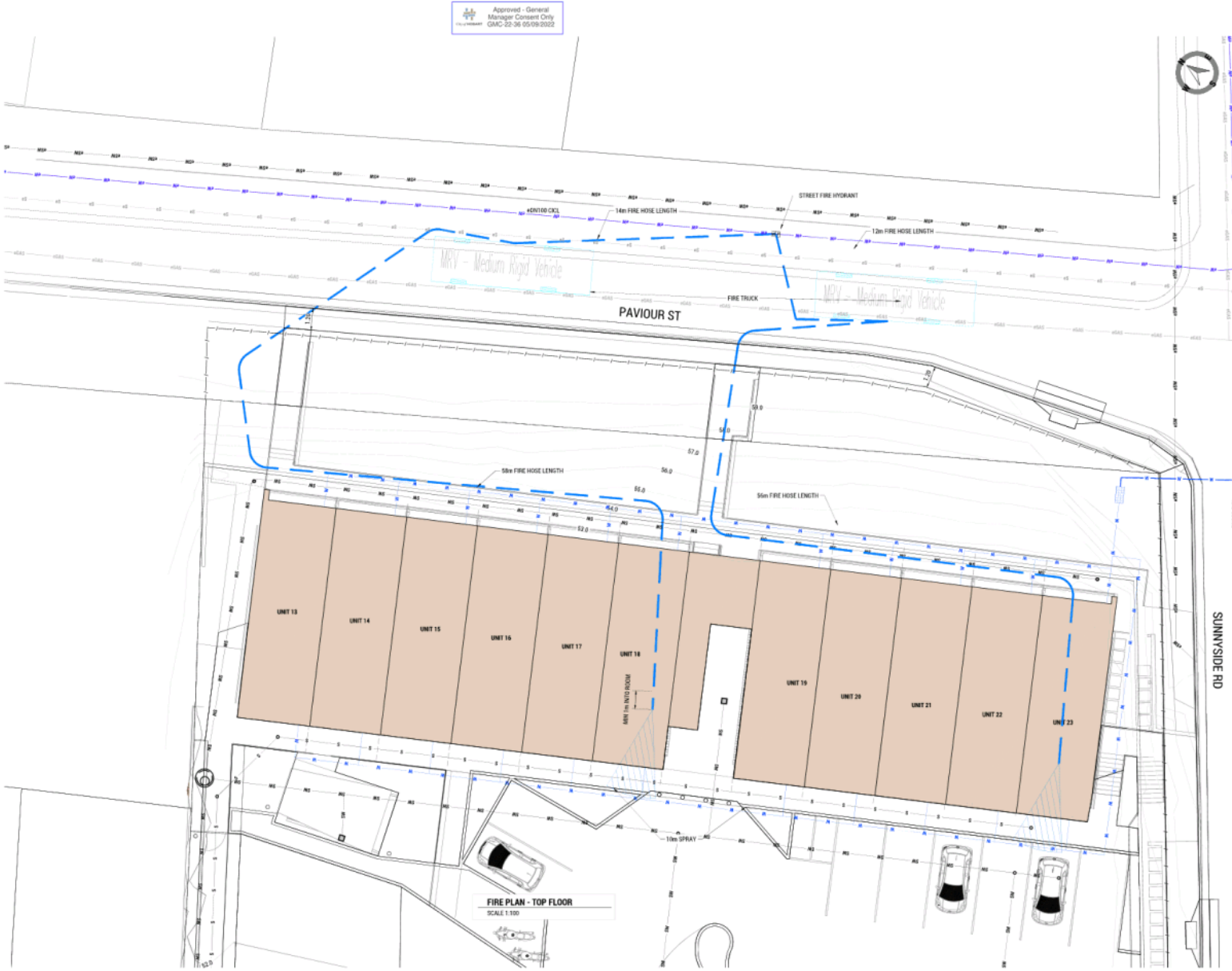


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PRELIMINARY/INFORMATION		DESIGN CHK: A/L		PROJECT: SOCIAL HOUSING		SCALE: 1:100 SHEET SIZE: A1 DWG# IN SET: -	
DO NOT SCALE - IF IN DOUBT, ASK		DRAWN BY: KL		ADDRESS: 73A NEW TOWN ROAD, NEW TOWN		PROJECT No: 220008 DWG No: C601 REV: 1	
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2 DEVELOPMENT APPLICATION		07-03-22		Launceston TAS 7250			
REV / ISSUED FOR / DESCRIPTION		BY DATE		APPROVED: A. LEANE		ACRED No: C6402A	
				DATE: 07-03-22			

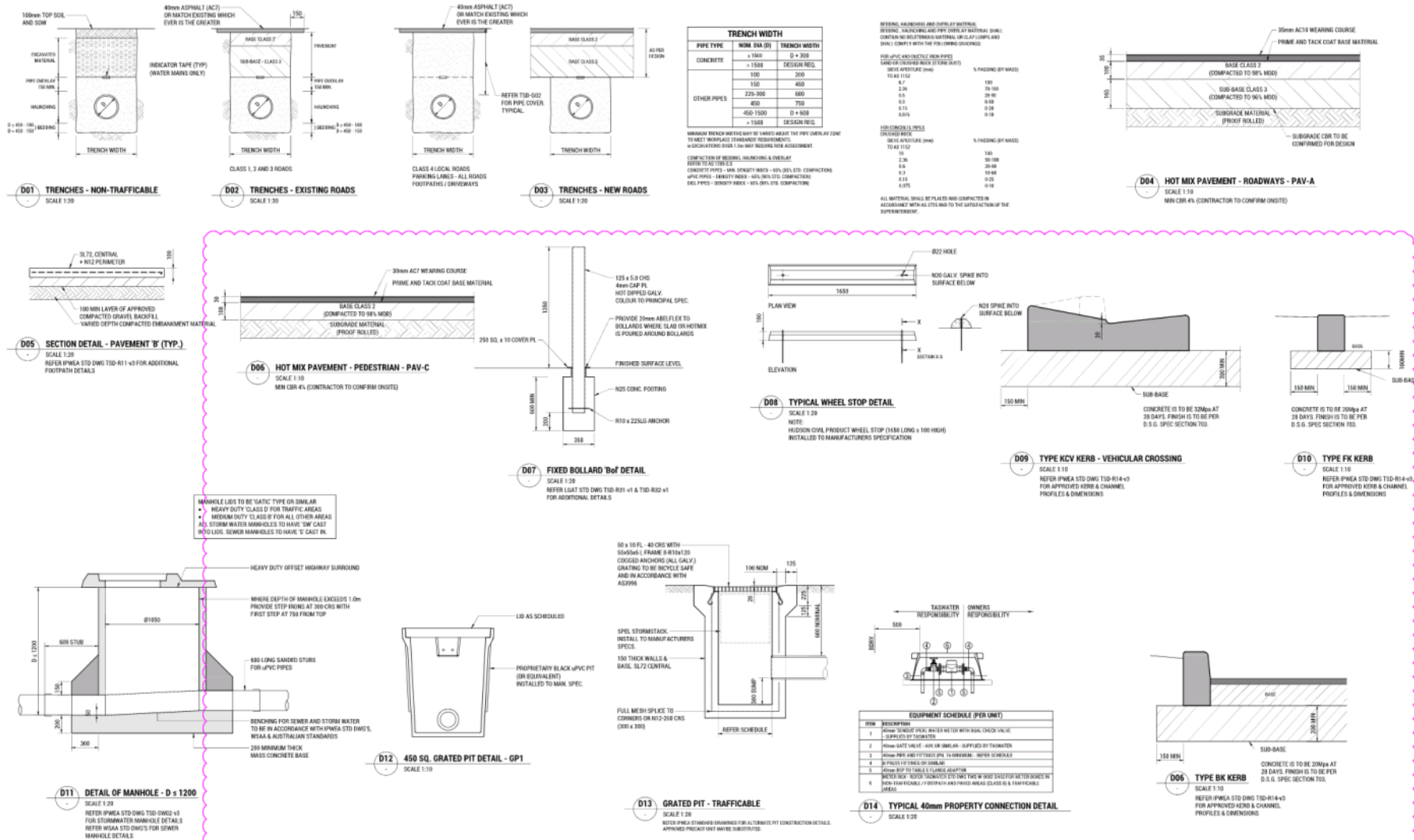


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PRELIMINARY/INFORMATION		DESIGN CHK: A/L		PROJECT: SOCIAL HOUSING		SCALE: 1:100 SHEET SIZE: A1 DWG# IN SET: -	
DO NOT SCALE - IF IN DOUBT, ASK		DRAWN BY: KL		ADDRESS: 73A NEW TOWN ROAD, NEW TOWN		PROJECT No: 220008 DWG No: C611 REV: 1	
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REV ISSUED FOR / DESCRIPTION		APPROVED: A. LEWIS		rare. rarein.com.au P. 03 6386 9200			
		ACRED No: C63424					

LEGEND
HOSE REACH AREA
FIRE TRUCK HOSE
EXISTING FIRE PLUG



STATUS		DESIGN BY: RB		CLIENT: COMMUNITIES TASMANIA		TITLE: FIRE HYDRANT COVERAGE PLAN - UNITS 12-22	
PRELIMINARY/INFORMATION		DESIGN CHK: AL		PROJECT: SOCIAL HOUSING		SCALE: 1:100 SHEET SIZE: A1 DWG IN SET: -	
DO NOT SCALE - IF IN DOUBT, ASK		DRAWN BY: RL		ADDRESS: 73A NEW TOWN ROAD, NEW TOWN		PROJECT No: 220008 DWG No: C612 REV: 1	
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2 DEVELOPMENT APPLICATION	RL 07-03-22	DATE: 07-03-22		22-24 Paterson Street Launceston TAS 7250			
REV: ISSUED FOR / DESCRIPTION	BY: DATE	APPROVED: A. LEANE		ACRED No: GS4624			



3 COUNCIL RFI RESPONSE		KL	17-04-22	STATUS		DESIGN BY: RB		CLIENT: COMMUNITIES TASMANIA		TITLE: SECTIONS & DETAILS - SHEET 1	
1 50% DESIGN DEVELOPMENT		KL	24-03-22	PRELIMINARY/INFORMATION		DESIGN CHK: ALB		PROJECT: SOCIAL HOUSING		SCALE: 1:10, 1:20	
6 DEVELOPMENT APPLICATION		KL	07-03-22	DO NOT SCALE - IF IN DOUBT, ASK		DESIGN BY: KL		ADDRESS: 73A NEW TOWN ROAD, NEW TOWN		SHEET SIZE: A1	
REV: ISSUED FOR / DESCRIPTION		BY:	DATE:	THIS DOCUMENT MAY ONLY BE USED FOR THE PURPOSES FOR WHICH IT WAS PREPARED. IT IS NOT TO BE USED FOR ANY OTHER PURPOSE.		DATE CHK: RB		PROJECT No: 220008		DWG No: C701	
		APPROVED: A. LEWIS	DATE: 07-03-22	AGRD No: C6402A		DATE: 07-03-22		22-24 Paterson Street Launceston TAS 7250		REV: 2	



Michael McClenahan
Development Appraisal Unit
Hobart City Council
HOBART TAS 7001

Re: 73a New Town Road, New Town – Car Ownership

Dear Michael,

I refer to our Planning Application for the above address and wish to provide some data relating to car ownership across several social housing developments.

Please see below table, representing car ownership across numerous developments managed by Centacare Evolving Housing throughout Southern Tasmania. The developments are a typical cross-section of our portfolio and vary in terms of density and bedroom configurations and are representative of the 3000+ homes that we manage state wide as a Tier 1 Community Housing Provider.

Property	Number of Dwellings	Time period the properties have been managed by CEH	Car Ownership on site over management period
A	9	1.5 years	3-4 cars
B	55	2 years	20-24 cars
C	15	2 years	6-7 cars
D	8	3 years	2-3 cars
E	9	3 years	2-3 cars
F	7	25 years	1-2 cars

The data would indicate a trend of vehicle ownership of approximately one third of tenancies. Based on the 22 tenancies proposed for 73a New Town Road, the data would indicate 10-12 tenancies would require and utilise parking facilities, the proposed 12 carparking spaces would provide adequate parking to suit these requirements.

Please see below a table demonstrating the Priority Social Housing Waitlist data for the New Town area as at week ending 18th August 2022.

**Priority Housing wait list for
New Town**

Age	1 bed	2 bed
16-24	185	76
55+	92	63



Community minded, Community driven

Shop 2, 28 Green Point Rd
Bridgewater TAS 7030
(next to Centrelink)

Affordable Community Housing Alliance Tasmania Limited
trading as Centacare Evolve Housing ABN 23 154 824 969

General enquiries: 6173 0060
Maintenance enquiries: 6173 0061
www.centacareevolve.com.au

centacareevolve @centacareevolve



Please let me know if you have any questions relating to car ownership and our observations across our portfolio.

Yours sincerely

A handwritten signature in blue ink, appearing to read "Ben Wilson".

Ben Wilson
Chief Executive Officer
Centacare Evolve Housing



Community minded, Community driven

Shop 2, 28 Green Point Rd
Bridgewater TAS 7030
(next to Centrelink)

Affordable Community Housing Alliance Tasmania Limited
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@centacareevolve

Department of Communities Tasmania

GPO Box 65, HOBART TAS 7001 Australia
Ph: 1300 135 513
Web: www.communities.tas.gov.au



Contact: Anna Balmforth – Manager Community Partners and Projects
Phone: 0438 067 960
Email: anna.balmforth@communities.tas.gov.au

Attention:

Development Appraisal Unit

City of Hobart
GPO Box 503

HOBART TAS 7001

Subject: Car parking demand – 73A New Town Rd, New Town

The Director of Housing, constituted as a corporation's sole by Section 6A of the *Homes Act 1935* owns the land at 73A New Town Rd, New Town. This land is being developed by Centacare Evolve Housing on behalf of the Director to provide 22 new social housing dwellings under the Community Housing Growth Program. This development will provide much needed housing supply in the Hobart municipality and is due to be delivered in early 2024.

To support City of Hobart's assessment of this development application, I provide the following evidence to reiterate the reduced demand for car parking in social housing developments in inner-Hobart sites.

The New Town Rd development will provide a total of 12 car parking spaces for 22 units. The majority of these are single bedroom units. Communities Tasmania has successfully completed a number of comparable social housing developments in the Hobart municipality. This includes multi-unit complexes at Goulburn Street, Brisbane Street, Bathurst Street, Harrington Street and Campbell Street. All developments have been approved with a reduction in the number of car parking spaces provided, reflective of the low car ownership rates among tenants of these inner-Hobart dwellings.

Most recently, the Wintringham social housing development at 23-25 Goulburn Street provided 25 residential apartments, and a total of 15 car parking spaces. This site is fully tenanted and less than 30 per cent of residents own a car. Anecdotally, the occupation of the car park averages 50% of its total capacity. Close proximity and accessibility of the CBD, accessible public transport and affordability of car ownership are all key factors contributing to low car ownership rates amongst residents of these developments. The New Town Rd development will be no exception to this.

Further evidence is documented in a formal car parking survey undertaken by a qualified traffic engineer for the Department regarding the Walford Apartments (216 Harrington Street). This is a 53 unit complex comprising 40 two bedroom and 13 one bedroom units. The comprehensive survey found the parking demand was a maximum of 0.55 parked cars/unit and 0.31 parked cars/bedroom. The average number of parked vehicles on site over the period of the survey was 24 (around 53% of capacity) while the maximum number of parked vehicles at any point in time was 29 or 65% of the total car park capacity. The car park was never more than 2/3 occupied at any point in the survey period. The site is located where there are no passing bus services, but it is within one-kilometre walking distance of the Hobart CBD main city block.

Tenancy allocations to these unit developments are based on a suitability assessment to ensure that the location and type of housing suits the individual needs of the resident. Effective allocations and tenancy management is a further mechanism used to manage car parking demand.

I would strongly encourage Council to observe the existing social housing unit complexes within the Hobart municipality and evidence confirming low car ownership rates and parking demand at these sites.

If you have any further questions regarding this matter, please don't hesitate to contact Anna Balmforth, Manager Community Partners and Projects via telephone on 0438 067 960.

Yours sincerely



Richard Gilmour
Director, Community Infrastructure
Communities Tasmania

19 September 2022



a: L1, 125A Elizabeth Street, Hobart, 7000

p: (03) 6165 0443

e: enquiries@eraplanning.com.au

abn: 67 141 991 004

19 October 2022

Michael McClenahan
Development Appraisal Planner, City Life
City of Hobart

By email: mcclenahanm@hobartcity.com.au

Dear Michael,

**73A NEW TOWN ROAD, NEW TOWN
RESPONSE TO FURTHER INFORMATION REQUEST**

ERA Planning and Environment continue to act on behalf of Fairbrother in relation to the proposed use and development of 22 multiple dwellings at 73A New Town Road, New Town. Please find below responses to both the City of Hobart's and TasWater's requests for additional information in relation to this development application.

City of Hobart RFI

Item no.	Council request	Planner Response
Planning		
PLN Fi1	To enable Council to assess the application against the development standards of the Inner Residential Zone of the <i>Hobart Interim Planning Scheme 2015</i> , please provide the following:	
1	Details regarding security and entry process through laneway to New Town Road frontage	At New Town Road it is proposed to provide a fence and gate to delineate the entry to the site. The gate will not be locked or have any access control, it will be always free opening. Lighting is proposed for the walkway into the site, will be low-level, baffled and provided with a timer control for activation during night-time hours. It is anticipated that a small gate mounted sign/street number will be provided to the gate facing New Town Road.
2	Explanation of the hours of operation and level of visibility of security lighting in this laneway and the proposed heights of vegetation planting along the pathway	Lighting is proposed to be provided in the lane way to allow safe use of the areas during all hours. Lighting will be provided from low level bollards and in compliance with AS1158.3.1 as well as control of obtrusive lighting per AS4282. The lighting will be controlled both on a time clock and PE-cell activation. The landscape vegetation proposed

p2

		includes only low-level planting with a mature height of approx. 600mm. Refer to the external lighting plan prepared by Coordinated Engineering Services and the architectural and landscaping plans prepared by PhilpLighton Architects.
Parking and Access		
PA1	To enable the Council to assess the application against the relevant provisions of the Parking and Access Code of <i>Hobart Interim Planning Scheme 2015</i> , please provide the following:	
1	Plan of the bicycle parking facilities demonstrating dimensions of the space as well as a cross section showing the height of the space under the stairs that either meet the class specified in table 1.1 of AS2890.3-1993 Parking facilities Part 3: Bicycle parking facilities in compliance with section 2 "Design of Parking Facilities" and clauses 3.1 "Security" and 3.3 "Ease of Use" of the same Standard, or which are sufficient to serve users without conflicting with vehicular or pedestrian movements or the safety of building occupants.	A plan and two sections have been provided showing the dimensions and compliance with Table 1.1 of AS2890.31993. Refer to Sheet DA90 of the architectural plans prepared by PhilpLighton Architects.
2	Details on lighting and security of bicycle parking area.	Bicycle parking is provided in the form of three hoop racks under the stairs. They are not visible from the streets, and bikes can be securely attached to the hoops. Lighting is provided over the bike racks in accordance with Table 2.3 of <i>Australian/New Zealand Standard AS/NZS 1158.3.1: 2005 Lighting for roads and public spaces – Pedestrian area (Category P) lighting – Performance and design requirements</i> . Refer to Sheet DA90 of the architectural plans prepared by PhilpLighton Architects.
Heritage Code		
HER Fi	To enable the Council to assess the application against the relevant provisions of the Historic Heritage Code of the <i>Hobart Interim Planning Scheme 2015</i> please provide:	
1	Please provide montages of the proposal as viewed from the streetscape of New Town Road.	A streetscape montage is provided from 'eye level' directly across the street on New Town Road. Refer to Sheet DA93 of the architectural plans prepared by PhilpLighton Architects.

p3

2	Please confirm if the two Paviour Street pedestrian entrances are to be open or if pedestrian gates within the fencing are proposed.	There are two pedestrian access points to the site proposed from Paviour Street. These entrances are proposed to be free openings without any gate.
Stormwater Code		
	To enable Council to assess the application against the relevant provisions of the Stormwater Management Code of <i>Hobart Interim Planning Scheme 2015</i> , please provide:	
SW 1	A site plan to demonstrate how stormwater from the proposed development (including roofed areas and impervious surfaces - driveways etc) will be disposed of via gravity to public stormwater infrastructure or to a Council approved system.	Refer to the civil engineering drawings, accompanying cover letter, and Stormwater Management Report prepared by Rare Innovation.
SW 6	A stormwater drainage design prepared by a suitable qualified person which demonstrates compliance with the following: <ul style="list-style-type: none"> a. accommodate a storm with an ARI of 20 years when the land serviced by the system is fully developed b. stormwater runoff will be no greater than pre-existing runoff or any increase can be accommodated within existing or upgraded public stormwater infrastructure. 	Refer to the Stormwater Management Report prepared by Rare Innovation.
SW 5	A report prepared by a suitable qualified person, demonstrating <ul style="list-style-type: none"> a. that the stormwater system for the new development incorporates water sensitive urban principle for the treatment and disposal of stormwater. 	Refer to the Stormwater Management Report prepared by Rare Innovation.
SW 7	A stormwater drainage design prepared by a suitable qualified person which demonstrates compliance with the following: <ul style="list-style-type: none"> a. designed to accommodate a storm with an ARI of 100 years. 	Refer to the Stormwater Management Report prepared by Rare Innovation.
Roads		
1	Please update the pedestrian ramp to the approved one (type B at the corner).	DA12 REV C has been amended to include the approved council pedestrian crossing type B. Refer to the civil engineering drawings and accompanying cover letter prepared by Rare

p4

		Innovation, and the architectural drawings prepared by Philp Lighton Architects.
2	Please correct the vehicle crossing to type KC (KCV doesn't exist), without the invert lip in the gutter.	DA12 REV C has been amended to include a highlighted area indicating the zone proposed to be included within an occupation license. Refer to the civil engineering drawings and accompanying cover letter prepared by Rare Innovation, and the architectural drawings prepared by Philp Lighton Architects.
Note	If there will be truck access, type KCR&B1 or KCRB&B1 will be required.	Noted.

TasWater RFI

Item no.	TasWater request	Planner Response
1	<p>The title documents submitted outline that there is a "BURDENING EASEMENT a right of drainage (appurtenant to Lot 1 on Sealed Plan No. 61817) over the drainage easement passing through the said land within described" which is indicated as being 5 feet wide (approximately 1.524 metres wide). The proposal plans outline a number of private assets to be placed inside of this easement land such as Lighting Bollards, Trees and Stormwater assets.</p> <p>It is not considered appropriate to place these private assets inside of the existing easement land unless there is a proposal to re-organise the easement land and or the assets contained inside this easement.</p> <p>It is recommended that the proposed 150mm sewer and the 225mm stormwater line, subject to council endorsement, be installed as TasWater/Council assets so that they can service the subject development as well as 10 PAVIOUR ST, NEW TOWN (Volume/Folio: 178616/1).</p> <p>TasWater would accept a 3.00 wide easement, of course subject to council endorsement. The easement and services should be positioned so that there are no private assets occupying the easement land unless crossing the easement at 90 degrees a required.</p>	<p>All services for the development have been relocated clear outside of the easement in the line so as to retain any future rights of the beneficiary(s).</p> <p>Refer to the civil engineering drawings and accompanying cover letter prepared by Rare Innovation.</p>

p5

2	Please provide an amended concept servicing plan for water & sewer services which shows the following:	Refer to the civil engineering drawings and accompanying cover letter prepared by Rare Innovation, and the architectural drawings prepared by Philp Lighton Architects.
a	Indicative location of sewer main extension, as described in request point 1, required to service the development.	All services for the development have been relocated clear outside of the easement in the line so as to retain any future rights of the beneficiary(s).
b	Indicative location of proposed TasWater easements in accordance with the relevant TasWater supplement (outline the minimum widths);	All services for the development have been relocated clear outside of the easement in the line so as to retain any future rights of the beneficiary(s).
c	<p>The required location of property water & sewer connection(s) accurately dimensioned relative to the existing/proposed boundaries noting that:</p> <p>i. The proposed meter assembly must be sized appropriately (currently it is not) and located 500mm inside property boundary and be 500mm from the edge of the driveway or alternatively 500mm from the edge of the walking entrance on Paviour Street.</p> <p>ii. The property sewer connection point should be connected to a point on the proposed main in a similar position to S1.3.</p>	This has been addressed with the new proposed location of the water meter (near the South-East pedestrian access) clearly dimensioned.

Conclusion

It is considered that the above adequately addresses both requests for additional information, however, should you require anything additional please do not hesitate to contact me on 03 6135 0443 or at monica@eraplanning.com.au.

Yours sincerely,

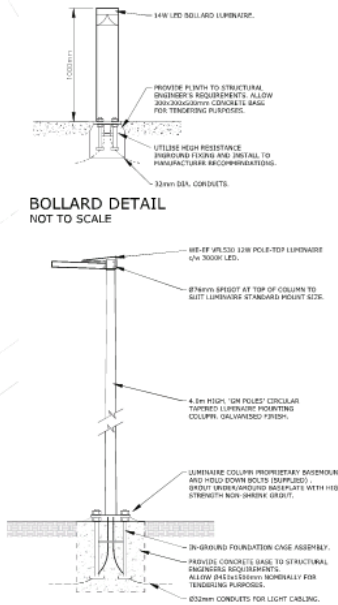


Monica Cameron
Senior Planner

Attachments *Appendix C_Architectural plans_18 October 2022*
 Appendix F_Civil infrastructure concept design_Rev3_29 July 2022
 Appendix F_Rare Cover Letter_11 October 2022
 Appendix I_External lighting plan_Rev4_17 March 2022
 Appendix J_Stormwater Management Report_Rev1_11 October 2022

NOTES:

1. DRAWING TO BE READ IN CONJUNCTION WITH ELECTRICAL SPECIFICATION, ARCHITECTURAL, CIVIL & LANDSCAPE ARCHITECTURE DRAWINGS AND DETAILS.
2. ALLHARD TO ELECTRICAL LOW VOLTAGE LAMP LATHINGS FOR CHAIRS, REELS AND LOGS OF SYMBOLS NOT SHOWN ON THIS DRAWING.
3. NOMINAL LOCATIONS OF ANY EXISTING EQUIPMENT SHALL CORRESPOND EXACT LOCATION ON ETE/ANALYSIS PLAN DRAWING.
4. THE EXACT LOCATION OF ANY NEW EQUIPMENT SHALL BE CONFIRMED ON SITE PRIOR TO COMMENCING ANY TRACING, POLE POSITIONING OR CABLE INSTALLATION.
5. PRIOR TO TRACING, LOCATION OF ANY EXISTING UNDERGROUND SERVICES OR RE-ROUTED UNDERGROUND SERVICES USING SHARED TRACING METHOD WHERE POSSIBLE, REVIEW DETAIL.
6. CO-ORDINATE NEW RISE ABOVE GROUND INFRASTRUCTURE SERVICES/ EQUIPMENT WITH EXISTING AND ALL APPLICABLE STANDARDS.
7. REMOVE TRACING SUFFICIENTLY CLEAR OF RISERS TO PERMIT NEW RISE.
8. ALL WORKS TO BE COMPLETED IN ACCORDANCE WITH NEC AND ALL RELEVANT STANDARDS AND IN PARTICULAR BS 6330.
9. ALL CONDUITS TO BE SIZED WITH 30% SPARE CAPACITY. HAVE DRAW RINGS FITTED, LONG RADIUS BENDS UTILISED AND BE DESIGNED TO PREVENT FIRE PROPAGATION.



POLE LUMINAIRE
MOUNTING DETAIL
NOT TO SCALE

PRELIMINARY DRAWING
NOT TO BE USED FOR TENDER OR CONSTRUCTION

F1	PRELIMINARY	17/03/2022	CS
F3	PRELIMINARY	16/03/2022	EW
F2	PRELIMINARY	15/03/2022	EW
F1	PRELIMINARY	09/03/2022	CS
ISSUE	REVISION	DATE	BY



FAIRBROTHER
TOWN HOUSE DEVELOPMENT
73A NEW TOWN ROAD, NEW TOWN, TAS 7008

Electrical Services Architects

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Email: info@fairbrother.com.au
Website: www.fairbrother.com.au

ELECTRICAL SERVICES
SITE ROADWAY, CARPARK,
PATHWAY & PERIMETER
EXTERIOR LIGHTING.

Title: Legend: P = Preliminary T = Tender C = Construction A = As-Built			
Drawn: EW As-Built: SCK Plot Date: 17/03/2022 Scale/Gap: 1:100 @ A1 Print Date: 17/03/2022	PROJECT & SHEET No: 216098-E4		ISSUE: P4 SET OF: 4

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Our Ref: 220008

11th October 2022Philp Lighton Architects
49 Sandy Bay Road
Hobart TAS 7004**ATTENTION: P GAGGIN**

Dear Peter

**PHILP LIGHTON - COMMUNITIES TASMANIA - SOCIAL HOUSING - 73A NEW TOWN RD, NEW TOWN –
SITE INFRASTRUCTURE DESIGN DETAILS FOR DEVELOPMENT APPLICATION**

We are writing to you to provide details of the site civil infrastructure, to support the Development Application.

Attached to this letter are the following drawings and documents: -

- COV – Cover Sheet
- C000 – Civil Notes
- C101 – Existing Survey Plan
- C301 – Bulk Earthworks Plan
- C311 – Bulk Earthworks Sections
- C401 – Civil Works Plan
- C501 – Drainage Plan
- C511 – Drainage Long Sections
- C521 – Flood Control Plan 1% AEP
- C601 – Water Reticulation Plan
- C611 – Fire Hydrant Coverage Plan – Units 1-11
- C612 – Fire Hydrant Coverage Plan – Units 12-22
- C701 – Sections and Details – Sheet 1
- 220008 - SMR-001 - Stormwater Management Report

Please review the above drawings with the following comments: -

- Stormwater
 1. Details for the stormwater design and management in accordance with WSUD principals has been provided within the attached report 220008 – SMR-001.
 2. The existing site stormwater connection was not identified on site, it is believed that the existing stormwater drains through the back yards of the adjacent properties. This development proposes providing a new stormwater connection to the existing DN600 RCP stormwater in the street. This connection will need to cross a number of services including comms, LV, HV and water. We have mapped these services into long sections based on invert level information provided however we recommend that this area is potholed to positively located all services (including the DN600 RCP stormwater main) to ensure that the risk around this connection is managed.

Distribution

- Architect Philp Lighton - bfenton@philplighton.com.au ; pgaggin@philplighton.com.au
- Contractor Fairbrother - cjacobson@fairbrother.com.au
- File Copy Launceston



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- Sewer
 1. The existing site has an existing sewer connection, this is expected to be reused. We have mapped the likely Sewer alignment as a long section and found adequate depth to service the proposed building block.
- Water
 1. The existing site has a water connection, this water connection was not located on site. During demolition the contractors will be required to identify and cap the existing connection.
 2. The proposed development will require a new connection and water meter arrangement. TasWater GIS database indicates that there is a DN50 copper and a DN250 Cast Iron main in the vicinity of the existing property connection. There is also a DN100 CICL water main on Sunnyside Road and Paviour Street respectively which is above the cutting level. We have determined that the property will require a min. DN50 water connection which we propose to take off the DN100 main in Sunnyside Road at the N-E corner of the property.
- Fire fighting
 1. There are two street fire plugs (one on Sunnyside Road and one on Paviour Street). 60m radius adequately cover the proposed building. We have also mapped detailed alignments for hose lay and truck locations to comply with AS2419 using only the street fire plugs as feed hydrants. These arrangements work based on our present understanding of the design, but we note that this does need to be refined with final architectural floor layouts as there is little margin for error.
 2. It is understood that there will be no internal firefighting equipment such as hose reels based on the building surveyors report.

With regard to the recently received planning RAI I respond to each line item as follows:

TW1 - TasWater's RAI has been addressed as follows

1. All services for the development have been relocated clear outside of the easement in the line so as to retain any future rights of the beneficiary(s).
2. a) and b) are generally covered by the above and no longer relevant. c) has been addressed with the new proposed location of the water meter (near the South-East pedestrian access) clearly dimensioned.

SW1 – Had already been addressed in our drawings

SW6a) – Details are provided in the SMR

SW6b) – Details are provided in the SMR

SW5 – Details are provided in the SMR

SW7 – Details are provided in the SMR

ROADS 1 – We have amended drawings to reflect the pedestrian ramp previously negotiated with HCC by C. Jacobson.

ROADS 2 – We have adopted the KCR&B1 kerbing to accommodate fire trucks.

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Should you have any further queries please do not hesitate to contact us.

Yours faithfully,



Brendan Stanborough
Senior Structural Engineer
Infrastructure Manager

Distribution

- Architect
- Contractor
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11 November 2022

Michael McClenahan
 Development Appraisal Planner, City Life
 City of Hobart

By email: mcclenahanm@hobartcity.com.au

Dear Michael,

73A NEW TOWN ROAD, NEW TOWN
RESPONSE TO SECOND FURTHER INFORMATION REQUEST

ERA Planning and Environment continue to act on behalf of Fairbrother in relation to the proposed use and development of 22 multiple dwellings at 73A New Town Road, New Town. Please find below responses to the City of Hobart's second request for additional information in relation to this development application.

Item no.	Initial request	Further Council comments
SW 1	A site plan to demonstrate how stormwater from the proposed development (including roofed areas and impervious surfaces - driveways etc) will be disposed of via gravity to public stormwater infrastructure or to a Council approved system.	<p>Council notes that there is a private drainage easement 5ft wide in the laneway. It is a suggestion that stormwater main be laid in drainage easement as a public stormwater main, so that it benefit any future development in the vicinity. Please discuss any obstacles to this.</p> <p>Show water main in long section for stormwater connection. Clarify why 1% gradient cannot be achieved. Detailed engineering drawings can be submitted as Condition Endorsement Process.</p>
	<p><u>Response</u></p> <p>Obstacles against running a public drain within the laneway: The primary consideration here is the potential loss of land tenure and amenity that comes with running a public drain. Bearing in mind that this would likely also be run with a public sewer which means that the easement would by default need to be enlarged to cover the entire laneway to contain a sewer (3.0m width as per usual TasWater and Council requirements on easement sizing) which ultimately will limit what the developer can/cannot do within this area. As illustrated in the design, services for this development can be accommodated along the laneway while maintaining the drainage easement in favour of the adjoining land. Considering this practical design solution this development does not propose altering land titles to include an authority easement.</p>	

p2

	<p>The long section has been updated on Sheet C511 to show the stormwater connection, and also that a minimum 1% gradient can be achieved, as required.</p> <p>Please refer to the civil infrastructure concept design and stormwater management report prepared by Rare Innovation.</p>	
SW 6	<p>A stormwater drainage design prepared by a suitable qualified person which demonstrates compliance with the following:</p> <ul style="list-style-type: none"> a) accommodate a storm with an ARI of 20 years when the land serviced by the system is fully developed b) stormwater runoff will be no greater than pre-existing runoff or any increase can be accommodated within existing or upgraded public stormwater infrastructure. 	<p>Detention calculations does not state the event durations modelled or examine other 5% AEP durations for overflow/ surcharging. The proposed ponding in the carpark in events less than 5% AEP to provide the detention storage is not accepted as meeting E7.7.1 A3. Please show an alternate location for the ~10kL storage volume proposed. Full engineering drawings, revised calculations and a maintenance plan will be required as Condition Endorsement Process.</p>
	<p><u>Response</u></p> <p>Notes on drawing C521 have been revised to remove confusion relating to the basis of design. Some refinements have been made to the model and the edging has been raised. To clarify the analysis/extent of ponding has been determined based on the 5 % AEP / 20 yr ARI (all durations refer the revised SMR) not on any other higher probability / lower interval occurrence.</p> <p>Please refer to the civil infrastructure concept design and stormwater management report prepared by Rare Innovation.</p>	
SW 7	<p>A stormwater drainage design prepared by a suitable qualified person which demonstrates compliance with the following:</p> <ul style="list-style-type: none"> a) designed to accommodate a storm with an ARI of 100 years. 	<p>Section A-A on Drawing C702 Rev1 shows removal of the kerb with no positive fall back to the road. This is not accepted. There is 225mm public stormwater main on Sunnyside Road that drains (upstream for the proposed ramp/driveway) to kerb. The design of driveway needs to take this into account, so that the runoff from road does not go down the driveway and is contained in the kerb channel.</p> <p>Council requires use of a climate change loading factor of 18% as per Council's published document. Please also clarify how the 87L/s Overland Flow Path was calculated, including the rainfall intensity and duration modelled.</p> <p>Council notes the ponding depth on Drawing C521Rev2 is stated as 52.75. The report says a 150mm freeboard in the water-proofed kerbing is required, however this is not reflected in the proposed SL on this drawing. Council also notes the level stated in the report is less than 150mm</p>

p3

	<p>above 52.75m. As it appears a height greater than a standard kerb is required, please provide indicative sections.</p> <p>Please clarify the proposed v-drain in the laneway, including indicative sections and calculation demonstrating adequate capacity and freeboard. Council notes the laneway currently appears to slope towards third-party dwelling.</p>
	<p><u>Response</u></p> <p>The driveway profile has been updated as noted. Footpath now slopes back to kerb with the road reserve.</p> <p>Please refer to the civil infrastructure concept design and stormwater management report prepared by Rare Innovation.</p>

It is considered that the above adequately addresses the request for additional information, however, should you require anything additional please do not hesitate to contact me on 03 6135 0443 or at monica@eraplanning.com.au.

Yours sincerely,



Monica Cameron

Senior Planner

Attachments *Appendix F_Civil infrastructure concept design_Rev3_29 July 2022*

Appendix J_Stormwater Management Report_Rev1_11 October 2022

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Stormwater Management Report

Multi-Unit Development
73A Newtown Road, Newtown

Prepared for:	Catholic Care
Project No:	220008
Document No:	220008 SMR – 001
Issue No:	01
Revision No:	B

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DOCUMENT CONTROL

Project	Centacare Evolve – Multi-unit development, 73A Newtown Road, Newtown
Report Title	Stormwater Management Report
Project No	220008
Document ID	220008 SMR - 001
File Path	R:\Projects\2022\220000 Buildings\220008 - PL - Communities Tasmania - Social Housing - 73A New Town Rd, New Town\03 Internal Design\04 File Notes
Client	Philp Lighton Architects

Record of Report					
Issue	Reason	Revision	Date	Prepared By	Approved By
01	Client Issue	-	11/10/2022	BS	AL
01	For HCC RAI	A	2/11/2022	BS	AL
01	For HCC RAI 2	B	1/12/2022	BS	AL

Distribution of Report			
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1. INTRODUCTION

Rare Innovation have been engaged to prepare an engineering design to address stormwater management for the proposed multi-unit development at 73A Newtown Road, Newtown.
This report has been prepared based on available data for the site at the time of investigation.

2. SITE EVALUATION

2.1. Site Description

The site is a battle-axe shape with level access from Newtown Road. The site has been previously excavated and developed as tennis courts. The pre-existing site coverage consists predominantly of granular surfaces with strips of vegetation. The topography within the lot proper is predominately flat with the battle-axe leg falling generally towards the West at approximately 3%.

2.2. Existing Services

An existing easement (approximately 1.5m width) exists within the battle-axe leg. No public assets are located within the lot or within the easement. There is an existing water connection from Newtown Road. Piped stormwater, sewer and water are available in Newtown Road and also within Sunnyside Road and Pavior Street.

2.3. Flood Risk

The proposed site is identified as not subject to risk of flooding under the flood prone areas code, nor subject to risk under the coastal inundation hazard bands

3. STORMWATER ASSESSMENT

3.1. Water Sensitive Urban Design

The design of the stormwater must adhere to water sensitive urban design principals required by Hobart City Council. These are:

- Discharge from the site must not exceed pre-development levels for ARI 1:20 (AEP 5%)
- Climate Change Factor 18%
- Stormwater must be treated to achieve a reduction target as set out in the Derwent Estuary Program Design Guidelines of:
 - TSS 80%
 - TP 45%
 - TN 45%

3.2. Analysis

Multiple methods have been used to design/assess the proposed development to be in accordance with relevant design standards.

Stormwater has been analysed using AR&R 2019 along with the rational method and established engineering hydraulic principals to determine peak site discharge (PSD), pipework flows, capacity, flow restrictions, on-site detention for AEP 5%. All stormwater is required to be contained within the site and conveyed through below ground pipework in this scenario. The site and system has also been analysed to accommodate a the AEP 1% storm scenario which it achieves within the below ground piped system but

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also has an overland flow path within the surface topography to relieve excess water build up in the case of blockage.

eWATER's *MUSICX* is a software package for water sensitive urban design (WSUD) that analyses the effectiveness of treatment solutions incorporated into a development's drainage design by providing measures of reductions in key pollutants. *MUSICX* has been used to design/assess the proposed treatment measures for this development.

The results provided by both methods are discussed in the subsequent relevant sections of this report.

3.3. Proposed Drainage Infrastructure

Refer to Rare project drawings 220008-C for plans and details of the proposed drainage infrastructure for the site.

3.3.1. 5% AEP Storm Event

The minor drainage (piped stormwater drainage system) for the proposed development has been designed to accommodate flows for a rainfall event with an ARI of 20 years (5% AEP). A climate change factor of 1.018 has been applied to all rainfall data (including the 1% AEP event) using HCC's published value.

The piped drainage system consists of:

- Roof drainage directed via gutters to a charged downpipe system feeding two slimline storage tanks. The tanks provide temporal storage to attenuate the downstream flow using restricted outlet pipes.
- Carpark and hardstand drainage directed into three grated pits feeding the main internal pipe drainage line. The main pipe is oversized to provide inherent storage and an orifice plate is provided to attenuate downstream flow.
- The piped system flows through multiple water quality treatment devices prior to discharging to the lot connection at Newtown Road.

The total catchment for the site consists of the proposed development area. The catchments are identified as follows:

Catchment	Area (m ²)	Permeability	Run-Off (l/s)
Ex. Granular	975	0.9	26
Ex Vegetated	975	0.3	9
Total	1950	0.6	35

Table 1 – Pre-Development Catchment Analysis

Catchment	Area (m ²)	Permeability	Run-Off (l/s)
Roofs	800	0.95	23
Carpark/ Hardstand	800	0.95	23
Landscape	350	0.3	3
Total	1950	0.6	49

Table 2 – Post-Development Catchment Analysis

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By inspection comparing pre-development total to post-development total there is an increase in runoff generated by the development and therefore on-site detention is required to restrict discharge flows.

Roof Attenuation

The following chart shows the analysis of the roof run-off catchment for the 5% AEP rainfall event, with intensity $^{20}I_{15min} = 52.40$ mm/hr (i.e. peak inflow flow $Q = 13.05$ l/s), for the worst case storage scenario of 15 min duration. The analysis is based on a restricted outlet of 65 dia. pipe and two 'in series' slimline 6000 L tanks.

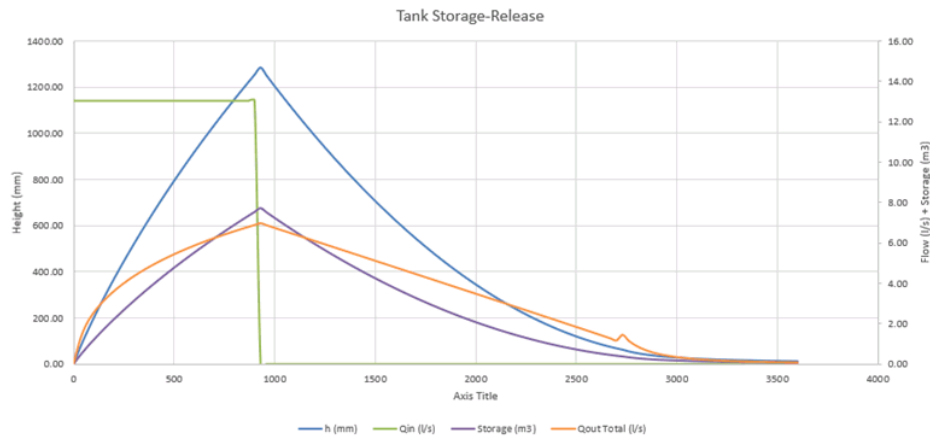


Figure 1 – Tank Discharge-Storage Curve –5% AEP rainfall event 15min Duration

The volume utilised is 7,700 L to a depth of 1300 mm resulting in an attenuated peak outflow of 7.0 l/s.

Carpark/Hardstand Attenuation

Similarly the following chart shows the analysis of the carpark/hardstand run-off catchment for the 5% AEP rainfall event, with intensity $^{20}I_{15min} = 52.40$ mm/hr (i.e. peak inflow $Q=18.8$ l/s), for the worst case storage scenario of 15 min duration. The analysis is based on a restricted outlet of 150 dia. pipe and with oversized pipes of 450 dia. x 50m long providing inherent storage (utilising max 80% of the pipe cross section) of 7,900 L.

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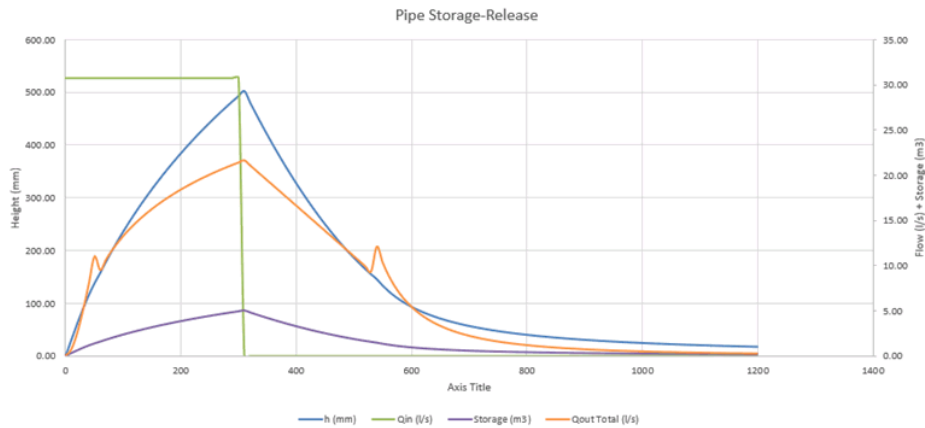


Figure 1 – Pipe Discharge-Storage Curve –5% AEP rainfall event 5min Duration

The volume utilised is 4,900 L to a depth of ~320 mm resulting in an attenuated peak outflow of 23.1 l/s.

The same conditions have been applied to other durations with the results summarised as per the below table.

Duration	Intensity (mm/hr)	Tank Storage Utilisation (kL)	Pipe Storage Utilisation (kL)	Attenuated Outflow (l/s)
5 min	85.90	5.5	5.5	28.9
10 min	64.6	7.2	4.4	28.3
15 min	52.4	7.7	2.6	25.7
20 min	44.6	7.7	2.4	22.9
30 min	35.1	7.2	2.0	19.3
1 hr	23.0	4.8	1.6	13.7
2 hr	15.4	2.5	1.3	9.34
>2 hr	<15.4	-	-	Negligible Attenuation

Bold Indicates Local Maximum

Table 3 – Summary of Attenuated Flows vs Duration 5% AEP

The conclusion is that both these systems combined are able to accommodate the AEP 5% flows for the full range of durations and limit the discharge to the lot connection to below pre-development levels with a peak attenuated outflow rate of 28.9 L/s (<35 l/s) occurring for the 5 min duration expected to discharge at the lot connection.

The peak combined storage utilisation of 11.6 kL (<18.9 kL provided) occurs in the 10 min duration. This is achieved by providing at least 12 kL of above ground and 6.9 kL of inherent pipe storage below ground with a 65 dia. and 150 dia. choked outlet respectively (e.g. using an orifice plate or similar).

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It is notable that the peaks within the system occur under different durations. Notwithstanding it is observed that no ponding occurs for any duration as all storage is contained below ground.

A small amount of run-off (<2l/s) is generated by the laneway which will spill directly into the drainage system, making the total peak site discharge at the boundary ~27.8 L/s. As the attenuation effect controlling runoff from the development proper is more than needed the design intent is unaffected.

Calculation spreadsheets and IFD values have been provided for the critical duration(s) in Appendix A.

3.3.2. 1% AEP Storm Event

Given the constrained nature of the site and the desire to maintain practical surface levels and grades in the near vicinity between carpark and the main entry the approach for the major drainage system for the development is to convey a stormwater event for ARI of 100 years (1% AEP) contained within the below ground piped network. Overland flow drainage routes have been identified but are not required for normal operational circumstances, rather to provide an alternative route to alleviate flows in the case of blockage.

Following a similar rationale to the analysis in section 3.3.1 the following table summarises the storage utilisation to demonstrate that the system does not become inundated or surcharge under the AEP 1% condition:

Duration	Intensity (mm/hr)	Tank Storage Utilisation (kL)	Pipe Storage Utilisation (kL)	Water Level Above Orifice Invert (mm)
5 min	118	7.4	7.0	470
10 min	91.9	10.7	7.1	470
15 min	74.9	11.9	5.8	390
20 min*	63.5	12.0	4.7	320
30 min	49.2	11.5	2.5	170
1 hr	31.1	8.1	1.9	130
2 hr	15.4	4.1	1.3	90
6 hr	11.3	1.4	-	-
>6 hr	<11.3	-	-	-

Bold Indicates Local Maximum

* Indicates that the above ground tank overflow activates in this duration but with negligible flow (<0.5 l/s)

Table 3 – Summary of Storage and Level vs Duration 1% AEP

The conclusion is that both these systems combined are able to accommodate the AEP 1% flows for the full range of durations without surcharging or ponding occurring above ground. This maintains a minimum free board of >> 300mm to the building FFL (~1.08m freeboard Based on RL of 51.300 at orifice and FFL of 52.850) under these conditions thereby satisfying the requirements of AS3500.3 for on-site detention.

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3.3.3. Overland Flow Path

As discussed in section 3.3.2 the overland flow path is only required in the event of blockage. Therefore the system is not reliant on the overland flow path. It is however provided as a measure of resilience in the case of blockage.

Carpark

The scenario considered most critical/susceptible for blockage is the carpark pavement area, calculated at 600 m² of hardstand, as identified below:

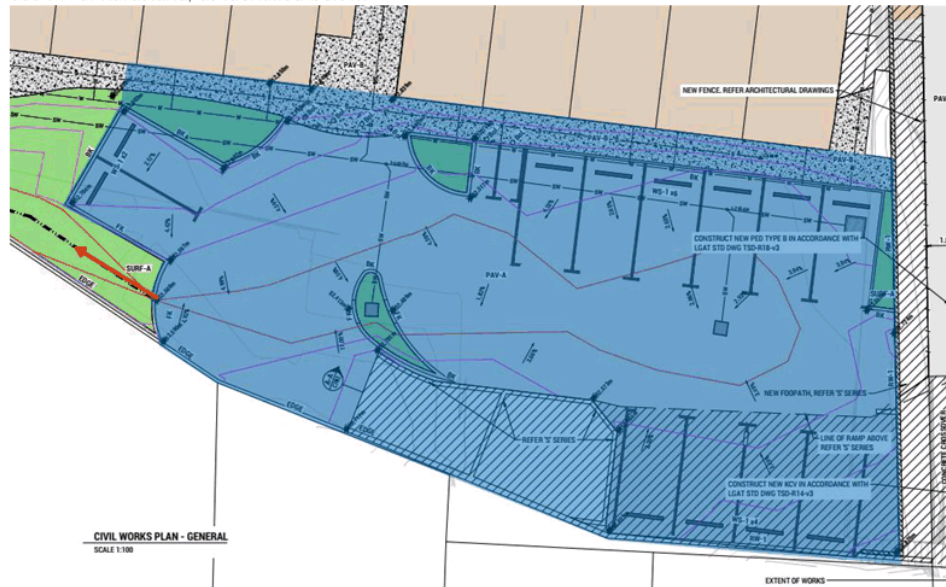


Figure 2 – Catchment Area for Critical Blockage Scenario

This area is drained by grated inlets at local sag points which can be blocked by detritus and debris under significant rainfall events. The crest to the overland flow path is marked accordingly which is the point at which any water build-up will be relieved.

From this the critical PSD considered from the 1% AEP 5min duration event can be calculated for the site using the rational method, with $^{20}I_{5min} = 118$ mm/hr over the carpark pavement area (600m² with 0.95 runoff coefficient). From this the PSD is calculated as 23 l/s.

The critical cross section occurs at the weir crest point as the top water level under these conditions should not contravene 300mm freeboard to FFL. The cross section at this location (to TWL = 52.550) is a v-shaped channel section 2.25m wide with an IL=52.500 and ~50mm depth as indicated in the model cross section diagram below:

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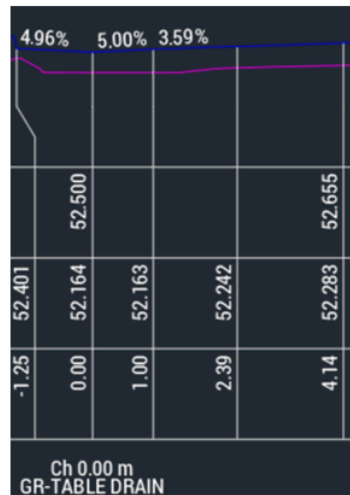


Figure 2 – Carpark Overflow V-channel Cross Section

Using the mannings equation with a coefficient of friction = 0.014 and a longitudinal gradient of 1% the capacity of this critical cross section is $Q_{cap}=34.4$ l/s which is adequate to convey flows from the carpark catchment area in the case of 100% blockage. All other cross sections through the landscape corridor have greater capacity than this section. Further to this there is ample resilience in the system as the capacity increases dramatically with only small changes of depth as the cross section becomes considerably wider as depth increases.

Laneway

In the case of full site blockage (which is considered highly improbable) the laneway has been designed to carry the full site overland flow to the road reserve. The PSD considered from the 1% AEP 5min duration event can be calculated for the site using the rational method, with $^{20}I_{5min} = 118$ mm/hr over the entire site (1950m² with 0.95 runoff coefficient). From this the PSD is calculated as 75 l/s.

The laneway is regular and the typical cross section is characterised by a v-shaped channel section 2.60m wide with a depth of ~150mm (includes 100mm barriers kerbs) as indicated in the model cross section diagram below:

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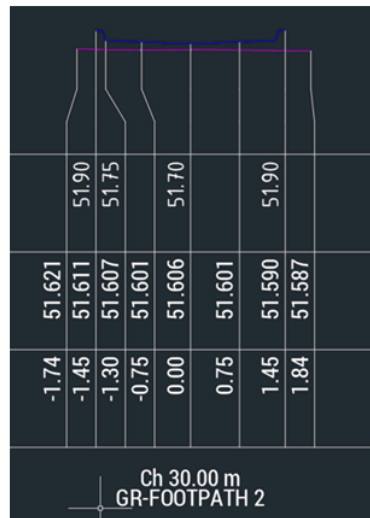


Figure 2 – Laneway Cross Section

Using the mannings equation with a coefficient of friction = 0.014 and a longitudinal gradient of 3.0% the capacity of the typical cross section is $Q_{cap} = 423$ l/s which is adequate to convey flows from the entire site to catchment area in the case of 100% blockage in both roof and carpark areas. All other cross sections through the landscape corridor have greater capacity than this section.

In conclusion there is considerable redundancy in the drainage system to cover the AEP 1% / ARI 1:100 yr event following the hierarchy as follows:

- Design Conditions: All drainage is piped
- Blockage in carpark: Overland flow can convey flow without contravening 300mm freeboard to FFL
- Site wide blockage: Overland flows can be conveyed through the laneway

In addition to this an edging shall be provided along the Western internal boundary to provide further protection to the adjacent properties.

3.4. Maintenance of Detention/Storage Systems

Above ground storage systems are provided in the design. These consist of a charged drainage system discharging into above ground tanks with restricted outflows. These items are maintainable as follows:

- The charged system has been provided with a bypass and scour line draining into a dispersion pit which allows for period emptying and cleanout
- Tanks are normally fitted with an inlet grate to inhibit ingress of leaves and other coarse matter and a scour point at the base. The tanks are inspectable from surface and are normally empty in dry periods so they are able to be visually inspected periodically by removing the inlet grate and viewing the internal of the tanks. Any internal blockages can then be cleaned out by jetting or vacuum.
- The below ground pipe storage system has been provided with a grated pit at each end which facilitates visibility, accessibility and ventilation. It also provides an alternative means of surcharging in the case of blockage. The downstream pit (which contains the orifice restrictor plate) is the most

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likely location for blockage. This pit and the plate are always visible through the grate and can be easily maintained by removing the grate and cleaning out.

- Upstream pipework can be periodically maintained by jetting from the upstream pit.

3.5. Stormwater Quality

The proposed development has been modelled using MUSICX software to design and analyse the effectiveness of proposed stormwater treatment measures to achieve the acceptable stormwater quality targets.

The proposed treatment measures for the development include installation of 3x SPEL Stormacks within the Grated Pits in the carpark in train with a SPEL Ecoceptor. Node data for these elements has been obtained from SPEL and input into the MUSICX model.

The following results have been obtained from the model:

	Sources	Residual Load	% Reduction
Flow (ML/yr)	0.8168	0.8168	2.718E-14
Total Suspended Solids (kg/yr)	145.8	26.59	81.76
Total Phosphorus (kg/yr)	0.2917	0.08409	71.17
Total Nitrogen (kg/yr)	1.883	0.8552	54.57
Gross Pollutants (kg/yr)	27.27	1.317	95.17

Table 3 – MUSICX Analysis Results

MUSICX modelling has determined that the proposed treatment train meets the required annual targets.

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4. SUMMARY

The proposed development incorporates a piped stormwater drainage system with on-site detention that is capable of conveying flows from the 5% AEP event whilst limiting peak discharge to pre-development levels. The piped drainage system is also able to accommodate the 1% AEP event without any surcharge or inundation under normal operating conditions. There is further resilience provided in the event of blockage with overland overflow routes provide to safely convey any bypassed flows for the 1% AEP event to the road reserve.

The proposed treatment train for the development is capable to provide stormwater treatment which meets the required reduction targets for stormwater quality.

The full proposed stormwater solution is documented in Rare project drawings 220008-C and should be viewed in conjunction with this report.

Should you have any further queries please do not hesitate to contact us.

Yours faithfully,



Brendan Stanborough
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BEng(Civil) (Hons) MIEAust CPEng
Tasmanian BSP Accreditation 951733914

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Appendix A – Calculation Sample and Input Data



11/10/2022, 12:36

Rainfall IFD Data System: Water Information: Bureau of Meteorology

Australian Government
Bureau of Meteorology

Location

Label: Not provided**Latitude:** -42.8627 [Nearest grid cell: 42.8625 (S)]**Longitude:** 147.3113 [Nearest grid cell: 147.3125 (E)]

IFD Design Rainfall Intensity (mm/h)

Issued: 11 October 2022

Rainfall intensity for Durations, Exceedance per Year (EY), and Annual Exceedance Probabilities (AEP).

[FAQ for New ARR probability terminology](#)

Unit: mm/h ▼

Duration	Annual Exceedance Probability (AEP)						
	63.2%	50%#	20%*	10%	5%	2%	1%
1 min	61.3	69.6	97.6	118	140	171	196
2 min	52.8	59.5	81.1	96.1	111	130	145
3 min	46.7	52.7	72.3	86.2	100	118	133
4 min	42.1	47.6	65.9	78.9	92.3	110	125
5 min	38.4	43.6	60.7	73.1	85.9	104	118
10 min	27.8	31.6	44.6	54.3	64.6	79.4	91.9
15 min	22.5	25.6	36.2	44.1	52.4	64.7	74.9
20 min	19.3	21.9	30.8	37.5	44.6	54.9	63.5
25 min	17.0	19.4	27.2	33.0	39.1	47.9	55.3
30 min	15.4	17.5	24.5	29.7	35.1	42.8	49.2
45 min	12.3	14.0	19.4	23.3	27.4	33.0	37.6
1 hour	10.5	11.9	16.5	19.7	23.0	27.5	31.1
1.5 hour	8.45	9.57	13.1	15.6	18.1	21.4	24.0
2 hour	7.25	8.22	11.3	13.3	15.4	18.1	20.2
3 hour	5.86	6.65	9.12	10.8	12.4	14.5	16.0
4.5 hour	4.73	5.39	7.42	8.76	10.1	11.7	13.0
6 hour	4.05	4.63	6.41	7.59	8.71	10.2	11.3
9 hour	3.24	3.72	5.20	6.18	7.13	8.40	9.37
12 hour	2.74	3.15	4.45	5.31	6.15	7.29	8.17
18 hour	2.13	2.46	3.51	4.23	4.93	5.90	6.66
24 hour	1.76	2.04	2.92	3.54	4.15	5.00	5.66
30 hour	1.50	1.74	2.51	3.05	3.59	4.34	4.93
36 hour	1.32	1.52	2.20	2.68	3.17	3.83	4.36
48 hour	1.06	1.22	1.77	2.16	2.55	3.09	3.53
72 hour	0.761	0.878	1.26	1.54	1.83	2.20	2.51
96 hour	0.598	0.688	0.983	1.19	1.41	1.69	1.92
120 hour	0.495	0.569	0.806	0.973	1.14	1.37	1.54

11/10/2022, 12:36

Rainfall IFD Data System: Water Information: Bureau of Meteorology

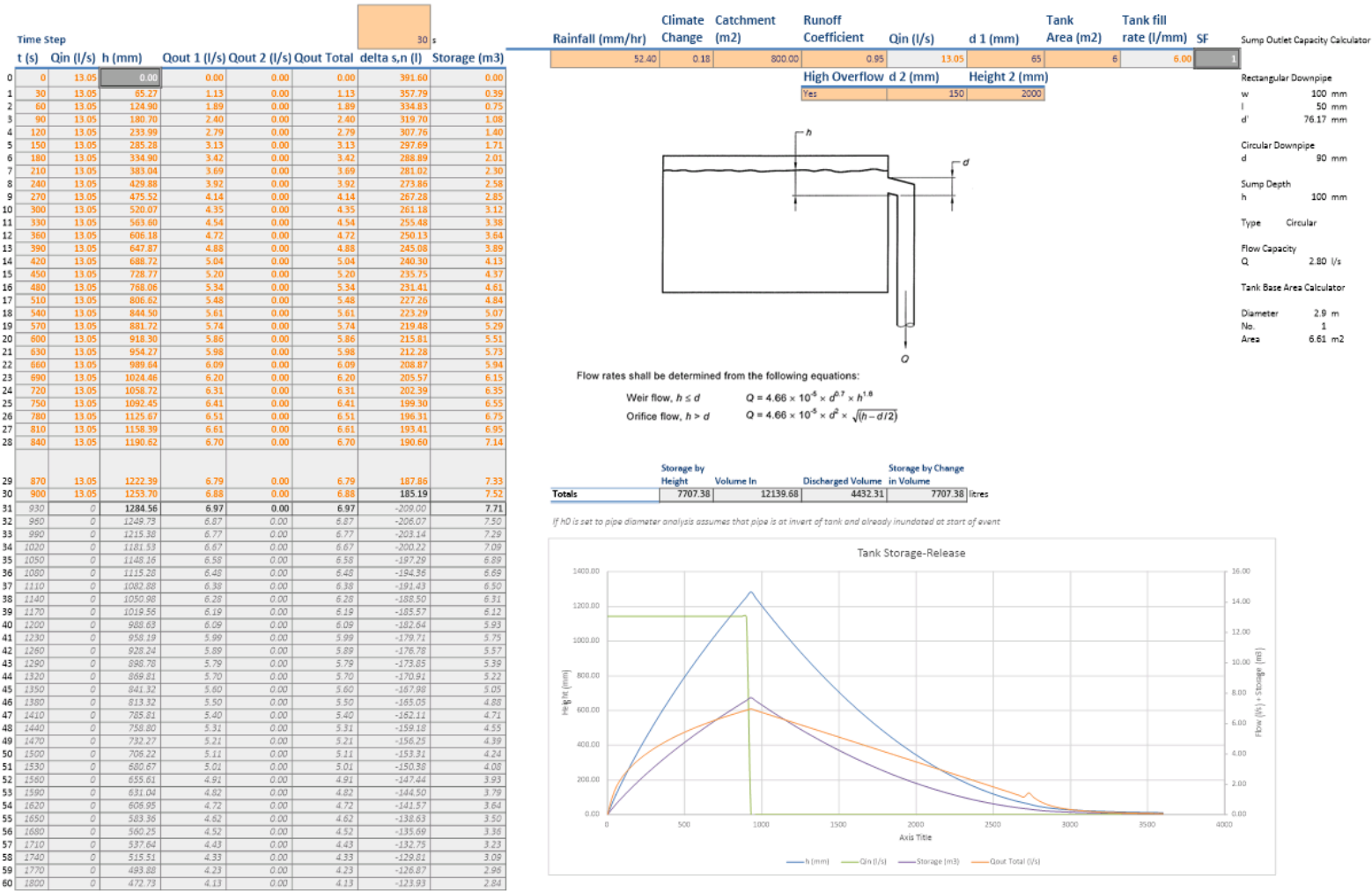
144 hour	0.425	0.487	0.685	0.823	0.960	1.14	1.29
168 hour	0.375	0.429	0.599	0.715	0.829	0.983	1.10

Note:
The 50% AEP IFD **does not** correspond to the 2 year Average Recurrence Interval (ARI) IFD.
Rather it corresponds to the 1.44 ARI.
* The 20% AEP IFD **does not** correspond to the 5 year Average Recurrence Interval (ARI) IFD.
Rather it corresponds to the 4.48 ARI.

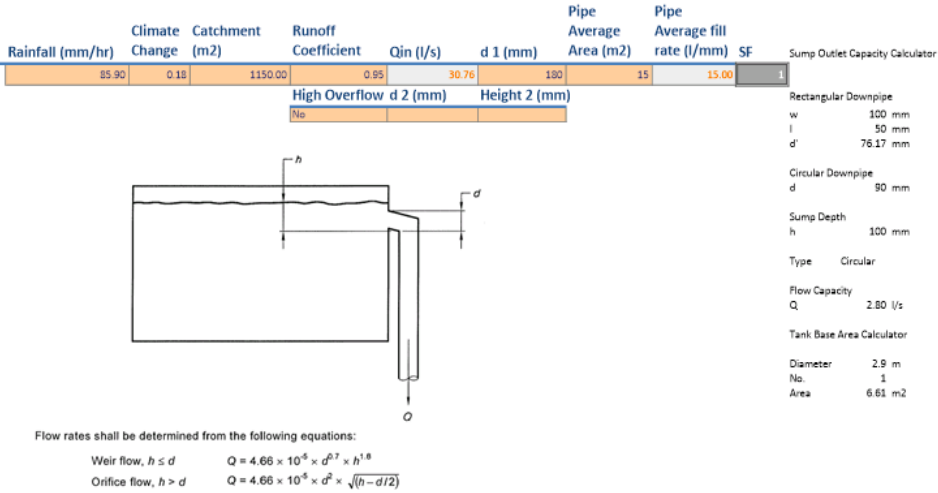


This page was created at 12:34 on Tuesday 11 October 2022 (AEDT)

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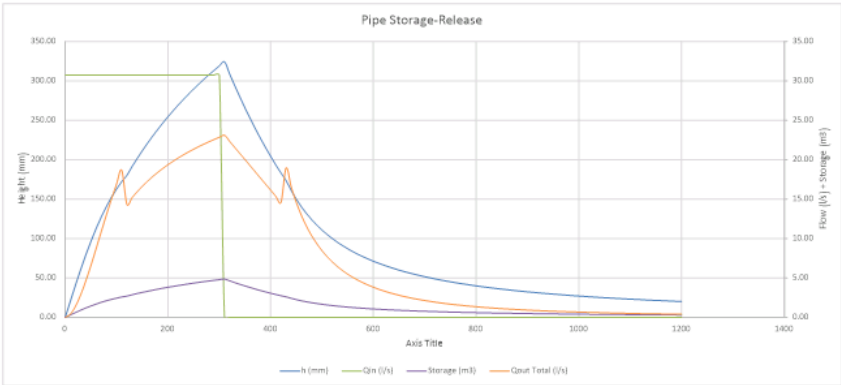


Time Step								10 s
t (s)	Qin (l/s)	h (mm)	Qout 1 (l/s)	Qout 2 (l/s)	Qout Total	delta s,n (l)	Storage (m3)	
0	0	30.76	0.00	0.00	0.00	0.00	307.61	0.00
1	10	30.76	20.51	0.41	0.00	0.41	303.55	0.31
2	20	30.76	40.74	1.40	0.00	1.40	293.64	0.61
3	30	30.76	60.32	2.83	0.00	2.83	279.30	0.90
4	40	30.76	78.94	4.59	0.00	4.59	261.66	1.18
5	50	30.76	96.38	6.58	0.00	6.58	241.89	1.45
6	60	30.76	112.50	8.69	0.00	8.69	220.67	1.69
7	70	30.76	127.21	10.85	0.00	10.85	198.15	1.91
8	80	30.76	140.49	12.97	0.00	12.97	177.93	2.11
9	90	30.76	152.35	15.00	0.00	15.00	157.56	2.29
10	100	30.76	162.86	16.92	0.00	16.92	138.43	2.44
11	110	30.76	172.09	18.68	0.00	18.68	120.79	2.58
12	120	30.76	180.14	14.33	0.00	14.33	164.26	2.70
13	130	30.76	191.09	15.18	0.00	15.18	155.80	2.87
14	140	30.76	201.48	15.94	0.00	15.94	148.19	3.02
15	150	30.76	211.36	16.63	0.00	16.63	141.28	3.17
16	160	30.76	220.77	17.27	0.00	17.27	134.95	3.31
17	170	30.76	229.77	17.85	0.00	17.85	129.11	3.45
18	180	30.76	238.38	18.39	0.00	18.39	123.69	3.58
19	190	30.76	246.62	18.90	0.00	18.90	118.65	3.70
20	200	30.76	254.53	19.37	0.00	19.37	113.94	3.82
21	210	30.76	262.13	19.81	0.00	19.81	109.52	3.93
22	220	30.76	269.43	20.22	0.00	20.22	105.36	4.04
23	230	30.76	276.45	20.62	0.00	20.62	101.44	4.15
24	240	30.76	283.22	20.99	0.00	20.99	97.73	4.25
25	250	30.76	289.73	21.34	0.00	21.34	94.22	4.35
26	260	30.76	296.01	21.67	0.00	21.67	90.89	4.44
27	270	30.76	302.07	21.99	0.00	21.99	87.73	4.53
28	280	30.76	307.92	22.29	0.00	22.29	84.72	4.62
29	290	30.76	313.57	22.58	0.00	22.58	81.85	4.70
30	300	30.76	319.03	22.85	0.00	22.85	79.11	4.79
31	310	0	324.30	23.11	0.00	23.11	-231.11	4.86
32	320	0	308.89	22.34	0.00	22.34	-213.36	4.63
33	330	0	294.00	21.56	0.00	21.56	-218.65	4.41
34	340	0	278.63	20.79	0.00	20.79	-207.91	4.19
35	350	0	265.76	20.02	0.00	20.02	-200.17	3.99
36	360	0	252.42	19.24	0.00	19.24	-192.42	3.79
37	370	0	238.59	18.47	0.00	18.47	-184.67	3.59
38	380	0	227.28	17.69	0.00	17.69	-176.90	3.41
39	390	0	215.49	16.91	0.00	16.91	-169.13	3.23
40	400	0	204.21	16.14	0.00	16.14	-161.36	3.06
41	410	0	193.46	15.36	0.00	15.36	-153.57	2.90
42	420	0	183.22	14.58	0.00	14.58	-145.77	2.75
43	430	0	173.50	13.86	0.00	13.86	-139.59	2.60
44	440	0	160.86	13.55	0.00	13.55	-135.46	2.41
45	450	0	148.23	14.56	0.00	14.56	-145.60	2.25
46	460	0	140.12	12.91	0.00	12.91	-129.06	2.10
47	470	0	131.52	11.51	0.00	11.51	-115.13	1.97
48	480	0	123.84	10.33	0.00	10.33	-103.33	1.86
49	490	0	118.95	9.32	0.00	9.32	-93.22	1.75
50	500	0	110.74	8.45	0.00	8.45	-84.49	1.66
51	510	0	105.11	7.69	0.00	7.69	-76.91	1.58
52	520	0	99.98	7.03	0.00	7.03	-70.29	1.50
53	530	0	95.29	6.45	0.00	6.45	-64.47	1.43
54	540	0	90.99	5.93	0.00	5.93	-59.33	1.36
55	550	0	87.04	5.48	0.00	5.48	-54.77	1.31
56	560	0	83.39	5.07	0.00	5.07	-50.71	1.25
57	570	0	80.01	4.71	0.00	4.71	-47.07	1.20
58	580	0	76.87	4.38	0.00	4.38	-43.40	1.15
59	590	0	73.95	4.08	0.00	4.08	-40.85	1.11
60	600	0	71.23	3.82	0.00	3.82	-38.18	1.07



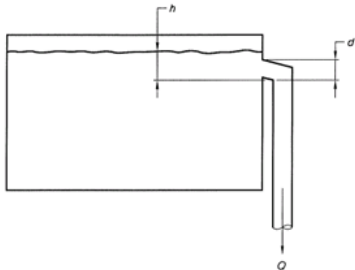
Totals	Storage by Height		Volume In		Discharged Volume		Storage by Change	
	Height	Volume In	Discharged Volume	In Volume	Height	Volume In	Discharged Volume	In Volume
	4864.53	9535.77	4671.24	4864.53	4864.53	9535.77	4671.24	4864.53

If h0 is set to pipe diameter analysis assumes that pipe is at invert of tank and already inundated at start of event



Time Step								40 s
t (s)	Qin (l/s)	h (mm)	Qout 1 (l/s)	Qout 2 (l/s)	Qout Total	delta s,n (l)	Storage (m3)	
0	0	15.82	0.00	0.00	0.00	0.00	632.74	0.00
1	40	15.82	105.46	1.68	0.00	1.68	565.47	0.63
2	80	15.82	199.70	2.55	0.00	2.55	530.91	1.20
3	120	15.82	288.19	3.15	0.00	3.15	506.81	1.73
4	160	15.82	372.66	3.63	0.00	3.63	487.49	2.24
5	200	15.82	453.91	4.04	0.00	4.04	471.07	2.72
6	240	15.82	533.42	4.40	0.00	4.40	456.66	3.19
7	280	15.82	608.53	4.73	0.00	4.73	443.73	3.65
8	320	15.82	682.48	5.02	0.00	5.02	431.96	4.09
9	360	15.82	754.48	5.29	0.00	5.29	421.13	4.53
10	400	15.82	824.66	5.54	0.00	5.54	411.09	4.95
11	440	15.82	893.18	5.78	0.00	5.78	401.70	5.36
12	480	15.82	960.13	6.00	0.00	6.00	392.88	5.76
13	520	15.82	1025.61	6.20	0.00	6.20	384.56	6.15
14	560	15.82	1089.70	6.40	0.00	6.40	376.68	6.54
15	600	15.82	1152.48	6.59	0.00	6.59	369.18	6.91
16	640	15.82	1214.01	6.77	0.00	6.77	362.04	7.28
17	680	15.82	1274.35	6.94	0.00	6.94	355.21	7.65
18	720	15.82	1333.55	7.10	0.00	7.10	348.68	8.00
19	760	15.82	1391.67	7.26	0.00	7.26	342.40	8.35
20	800	15.82	1448.73	7.41	0.00	7.41	336.37	8.69
21	840	15.82	1504.79	7.55	0.00	7.55	330.56	9.03
22	880	15.82	1559.89	7.69	0.00	7.69	324.96	9.36
23	920	15.82	1614.05	7.83	0.00	7.83	319.55	9.68
24	960	15.82	1667.31	7.96	0.00	7.96	314.32	10.00
25	1000	15.82	1719.69	8.09	0.00	8.09	309.26	10.32
26	1040	15.82	1771.23	8.21	0.00	8.21	304.35	10.63
27	1080	15.82	1821.96	8.33	0.00	8.33	299.60	10.93
28	1120	15.82	1871.89	8.44	0.00	8.44	294.98	11.23
29	1160	15.82	1921.06	8.56	0.00	8.56	290.50	11.53
30	1200	15.82	1969.47	8.67	0.00	8.67	286.14	11.82
31	1240	0	2017.16	8.77	0.14	8.92	-356.62	12.10
32	1280	0	1957.75	8.54	0.00	8.54	-345.55	11.75
33	1320	0	1900.19	8.51	0.00	8.51	-340.34	11.40
34	1360	0	1843.41	8.38	0.00	8.38	-335.14	11.06
35	1400	0	1787.55	8.25	0.00	8.25	-329.93	10.73
36	1440	0	1732.57	8.12	0.00	8.12	-324.72	10.40
37	1480	0	1678.45	7.99	0.00	7.99	-319.51	10.07
38	1520	0	1625.19	7.86	0.00	7.86	-314.30	9.75
39	1560	0	1572.81	7.73	0.00	7.73	-309.08	9.44
40	1600	0	1521.30	7.60	0.00	7.60	-303.87	9.13
41	1640	0	1470.65	7.47	0.00	7.47	-298.66	8.82
42	1680	0	1420.88	7.34	0.00	7.34	-293.44	8.53
43	1720	0	1371.97	7.21	0.00	7.21	-288.23	8.23
44	1760	0	1323.93	7.08	0.00	7.08	-283.01	7.94
45	1800	0	1276.76	6.94	0.00	6.94	-277.80	7.66
46	1840	0	1230.46	6.81	0.00	6.81	-272.58	7.38
47	1880	0	1185.09	6.68	0.00	6.68	-267.36	7.11
48	1920	0	1140.47	6.55	0.00	6.55	-262.14	6.84
49	1960	0	1096.78	6.42	0.00	6.42	-256.92	6.58
50	2000	0	1053.98	6.29	0.00	6.29	-251.70	6.32
51	2040	0	1012.01	6.16	0.00	6.16	-246.48	6.07
52	2080	0	970.93	6.03	0.00	6.03	-241.25	5.83
53	2120	0	930.72	5.90	0.00	5.90	-236.03	5.58
54	2160	0	891.38	5.77	0.00	5.77	-230.80	5.35
55	2200	0	852.92	5.64	0.00	5.64	-225.57	5.12
56	2240	0	815.32	5.51	0.00	5.51	-220.35	4.89
57	2280	0	778.60	5.38	0.00	5.38	-215.11	4.67
58	2320	0	742.74	5.25	0.00	5.25	-209.86	4.46
59	2360	0	707.76	5.12	0.00	5.12	-204.65	4.25
60	2400	0	673.66	4.99	0.00	4.99	-199.41	4.04

Rainfall (mm/hr)	Climate Change	Catchment (m2)	Runoff Coefficient	Qin (l/s)	d 1 (mm)	Tank Area (m2)	Tank fill rate (l/mm)	SF	Sump Outlet Capacity Calculator
63.50	0.18	800.00	0.95	15.82	65	6	6.00	1	
High Overflow d 2 (mm)					Height 2 (mm)				
Yes					150 2000				

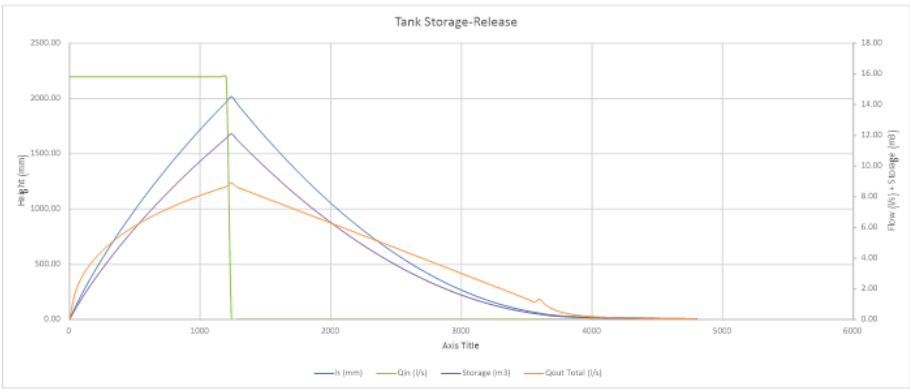


Flow rates shall be determined from the following equations:

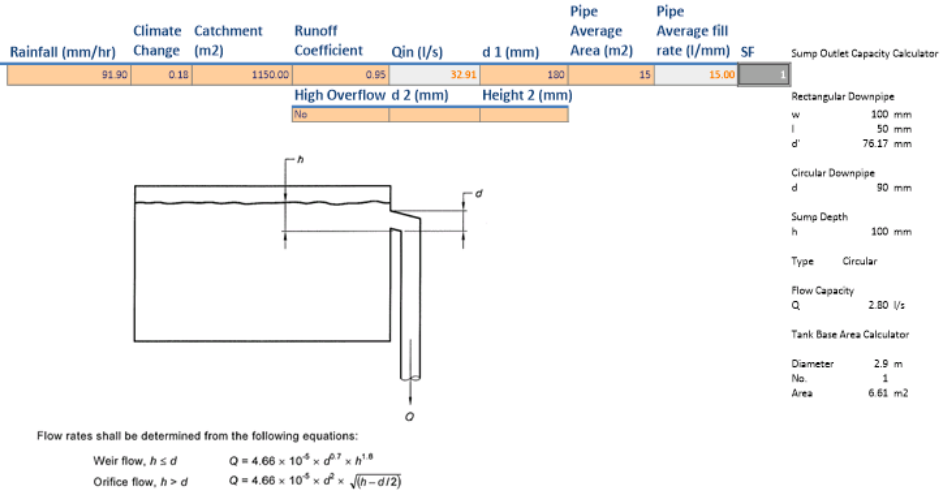
Weir flow, $h \leq d$ $Q = 4.66 \times 10^{-6} \times d^{3/2} \times h^{1.8}$
Orifice flow, $h > d$ $Q = 4.66 \times 10^{-6} \times d^2 \times \sqrt{h - d/2}$

Totals	Storage by Height		Volume In		Discharged Volume		Storage by Change	
	Height	Volume In	Volume In	Volume In	Volume In	Volume In	Volume In	Volume In
	12102.97	19615.01	7512.03	12102.97	12102.97	12102.97	12102.97	12102.97

If h0 is set to pipe diameter analysis assumes that pipe is at invert of tank and already inundated at start of event

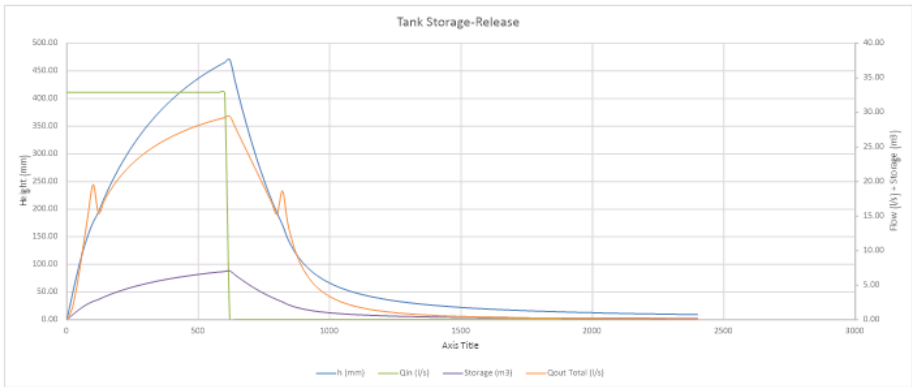


Time Step								20 s
t (s)	Qin (l/s)	h (mm)	Qout 1 (l/s)	Qout 2 (l/s)	Qout Total	delta s,n (l)	Storage (m3)	
0	0	32.91	0.00	0.00	0.00	0.00	658.18	0.00
1	20	32.91	43.88	1.60	0.00	1.60	626.26	0.66
2	40	32.91	85.63	5.32	0.00	5.32	551.81	1.28
3	60	32.91	122.42	10.12	0.00	10.12	455.78	1.84
4	80	32.91	152.80	15.08	0.00	15.08	356.51	2.29
5	100	32.91	176.57	19.57	0.00	19.57	266.84	2.65
6	120	32.91	194.36	23.42	0.00	23.42	189.70	2.92
7	140	32.91	217.67	27.06	0.00	27.06	116.98	3.27
8	160	32.91	238.80	30.42	0.00	30.42	289.83	3.58
9	180	32.91	258.13	33.58	0.00	33.58	266.64	3.87
10	200	32.91	275.90	36.59	0.00	36.59	246.46	4.14
11	220	32.91	292.33	39.48	0.00	39.48	228.65	4.38
12	240	32.91	307.58	42.27	0.00	42.27	212.77	4.61
13	260	32.91	321.76	44.99	0.00	44.99	198.48	4.83
14	280	32.91	334.99	47.63	0.00	47.63	185.54	5.02
15	300	32.91	347.36	50.22	0.00	50.22	173.75	5.21
16	320	32.91	358.94	52.76	0.00	52.76	162.97	5.38
17	340	32.91	369.81	55.26	0.00	55.26	153.07	5.55
18	360	32.91	380.01	57.71	0.00	57.71	143.94	5.70
19	380	32.91	389.61	60.13	0.00	60.13	135.50	5.84
20	400	32.91	398.64	62.53	0.00	62.53	127.68	5.98
21	420	32.91	407.15	64.89	0.00	64.89	120.41	6.11
22	440	32.91	415.18	67.23	0.00	67.23	113.65	6.23
23	460	32.91	422.76	69.54	0.00	69.54	107.34	6.34
24	480	32.91	429.92	71.84	0.00	71.84	101.45	6.45
25	500	32.91	436.68	74.11	0.00	74.11	95.94	6.55
26	520	32.91	443.07	76.37	0.00	76.37	90.78	6.65
27	540	32.91	449.13	78.61	0.00	78.61	85.93	6.74
28	560	32.91	454.86	80.84	0.00	80.84	81.39	6.82
29	580	32.91	460.28	83.05	0.00	83.05	77.12	6.90
30	600	32.91	465.42	85.25	0.00	85.25	73.10	6.98
31	620	0	470.30	87.44	0.00	87.44	-585.87	7.05
32	640	0	431.04	87.88	0.00	87.88	-557.65	6.47
33	660	0	393.86	86.32	0.00	86.32	-526.38	5.91
34	680	0	358.77	84.75	0.00	84.75	-493.05	5.38
35	700	0	325.76	83.18	0.00	83.18	-463.66	4.89
36	720	0	294.85	81.61	0.00	81.61	-432.20	4.42
37	740	0	266.04	80.03	0.00	80.03	-400.65	3.99
38	760	0	239.33	78.45	0.00	78.45	-369.01	3.59
39	780	0	214.73	76.86	0.00	76.86	-337.25	3.22
40	800	0	192.25	75.27	0.00	75.27	-305.34	2.88
41	820	0	171.89	73.64	0.00	73.64	-272.87	2.56
42	840	0	147.03	71.07	0.00	71.07	-241.48	2.21
43	860	0	128.27	68.51	0.00	68.51	-210.15	1.92
44	880	0	113.59	65.84	0.00	65.84	-176.90	1.70
45	900	0	101.80	63.26	0.00	63.26	-145.22	1.53
46	920	0	92.12	60.67	0.00	60.67	-113.91	1.38
47	940	0	84.03	58.14	0.00	58.14	-82.82	1.26
48	960	0	77.17	55.41	0.00	55.41	-52.22	1.16
49	980	0	71.29	52.82	0.00	52.82	-26.49	1.07
50	1000	0	66.19	50.35	0.00	50.35	-6.92	0.99
51	1020	0	61.73	47.95	0.00	47.95	-19.02	0.93
52	1040	0	57.80	45.62	0.00	45.62	-31.42	0.87
53	1060	0	54.30	43.34	0.00	43.34	-43.86	0.81
54	1080	0	51.18	41.11	0.00	41.11	-56.12	0.77
55	1100	0	48.37	38.90	0.00	38.90	-68.05	0.73
56	1120	0	45.83	36.73	0.00	36.73	-79.53	0.69
57	1140	0	43.53	34.61	0.00	34.61	-90.57	0.65
58	1160	0	41.44	32.54	0.00	32.54	-101.10	0.62
59	1180	0	39.51	30.51	0.00	30.51	-111.14	0.59
60	1200	0	37.75	28.62	0.00	28.62	-120.69	0.57



Totals	Storage by Height		Storage by Change	
	Volume In	Discharged Volume	in Volume	
	7054.43	20403.66	13349.24	7054.43 litres

If h0 is set to pipe diameter analysis assumes that pipe is at invert of tank and already inundated at start of event



For a Trapezoidal channel

Top Width	2250	mm
Base Width	0	mm
Depth	50	mm
Angle	2.55	deg
Freeboard	0	mm
Flow Depth	50	mm
Slope	1.00%	
mannings		
co-efficient	0.014	

Ah	5.62E+04	mm2
	0.056176	m2

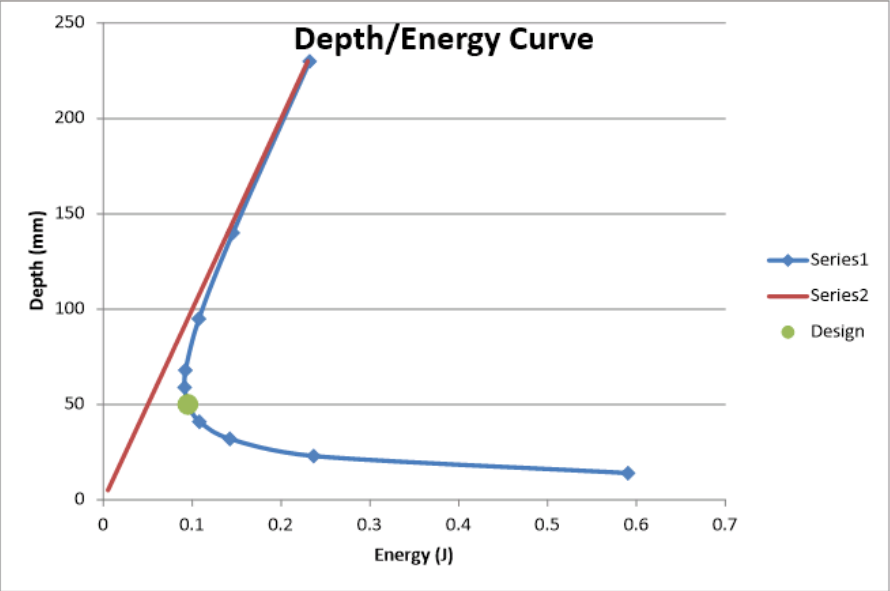
Rh	24.975	mm
	0.025	m

Velocity (V)	0.61	m/s
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Flow (Q)	0.03428	m3/s
	34.28	l/s

Froude (Fr)	0.87
Sub-Critical	

Chart Scaling	0.18
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For a Trapezoidal channel

Top Width	2600	mm
Base Width	0	mm
Depth	150	mm
Angle	6.64	deg
Freeboard	0	mm
Flow Depth	150	mm
Slope	3.00%	
mannings		
co-efficient	0.014	

Ah	1.93E+05	mm2
	0.193264	m2

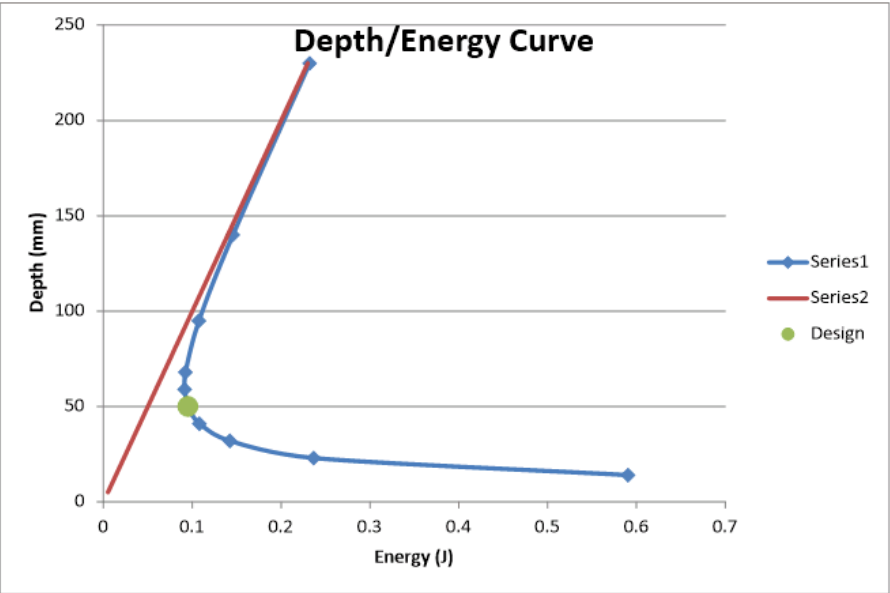
Rh	74.497	mm
	0.074	m

Velocity (V)	2.19	m/s
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Flow (Q)	0.42333	m3/s
	423.33	l/s

Froude (Fr)	1.81
	Super-Critical

Chart Scaling	0.18
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Application Referral Cultural Heritage - Response

From:	Nick Booth
Recommendation:	Proposal is acceptable subject to conditions.
Date Completed:	
Address:	73 A NEW TOWN ROAD, NEW TOWN ADJACENT ROAD RESERVE
Proposal:	Demolition, 22 Multiple Dwellings, Front Fencing, and Associated Works
Application No:	PLN-22-282
Assessment Officer:	Michael McClenahan,

Referral Officer comments:

This application relates to 73a New Town Road, better known as the previous site of the 'New Town Catholic Tennis Club'. At present the site contains the remnants of two tennis courts including floodlights, along with ancillary buildings associated with its former operation, in this instance a club house and a storage shed. The proposal seeks the demolition of these buildings and the last remnants of the courts to facilitate the erection of a 3 storey residential development providing 22 dwellings with associated car parking, car maneuvering space, vehicular access ramp to Sunnyside Street and pedestrian access to New Town Road and Paviour Street, privacy boundary treatments, landscaping and shared community space within the site.

The site is not individually heritage listed but does form part of the Paviour Street Heritage Precinct (NT10) as set out in the *Hobart Interim Planning Scheme 2015*.

This precinct is made up of properties on a section of the north side of New Town Road and those within Paviour Street. It is identified in Table E13.2 as being significant for reasons including:

1. *The collections of largely intact Federation Bungalow and Federation Queen Anne residences contribute to the understanding of the pattern of development within New Town.*
2. *A general uniformity of form, scale and orientation, together with a distinctive late nineteenth century/early twentieth century subdivision pattern, has created a consistent and strong streetscape.*

Representations

In total, some 31 representations have been received in the course of the consultation stage of the proposal, all of whom object to the development on various grounds. In relation to issues dealing specifically with heritage, these can be summarised and commented upon as follows-

- a) The proposal does not comply with various aspects of the 'Design criteria/Conservation policy' HOB-C6.2.8.11 which deals with the Paviour Street Heritage Precinct (NT10).

Response – It should be noted that the 'Design criteria/Conservation policy' HOB-C6.2.8.11, whilst displayed on the Councils website, is described as being intended to form part of C6.0 Heritage Code of the Tasmanian Planning Scheme State Planning Provision when the Statewide plan is formally adopted. As such, prior to the introduction of the Statewide Scheme,

HOB-C6.2.8.11 carries no weight in the consideration of applications under the *Hobart Interim Planning Scheme 2015*.

- b) The proposal, as a high density development, is not in character with the low density of the heritage precinct.

Response – The density of development is not described as a characteristic of the Precinct and is not considered to be a heritage consideration in this instance.

- c) The proposed development, due to its height, bulk and modernist design is not sympathetic to the single storey scale or architectural style of the heritage precinct.

Response - The appropriateness of the style, scale, height and design with regard to the Heritage Precinct are discussed in the main body of this report.

- d) The proposed materials, such as Colorbond cladding and precast concrete are appropriate more to warehouses and factories than to dwellings and would not reflect the use of brick and weatherboard within the heritage precinct.

Response - The appropriateness of the proposed cladding materials with regard to the character of the Heritage Precinct are discussed within the main body of the report.

Paviour Heritage Precinct

It is noted that the site has an interesting physical and social history. The land formed part of a later addition to the early 'Belle Vue' Estate of prominent early European settler and influential merchant and sea captain, John Bell (1790-1841). Its distinctive form was created due to it being quarried for sandstone in association with works of improvement to the nearby New Town Road in the 1840's, which at the time had a reputation for flooding and required stone and rubble to create a solid base over the then marshy land. The land then remained largely unaltered and unused given its poor viability to provide an arable or residential use whilst the surrounding land was increasingly sub-divided and developed into the present street and townscape of today. In the late 1920's however, it was purchased and a small tennis club established, becoming the 'New Town Catholic Tennis Club' in the 1930's which operated continually on the site until relatively recently.

Notwithstanding the above however, it is notable that the site has not been considered for individual heritage listing either at the City or State level and is not specifically mentioned or remarked upon within the above identified characteristics of significance that contribute to the historic cultural heritage values of the Paviour Street Heritage Precinct. As these stated characteristics relate to the residential development of New Town, specifically the architectural style and conformity of the built form and the clear pattern of sub-divisions in terms of the associated streetscape qualities, it is considered that the site exhibits none of the above. It can therefore be argued that its principal contribution is merely to play a natural role within the wider Heritage Precinct, which it successfully does by virtue of the fact that it sits behind the surrounding built form, is set at a lower level to the surrounding streetscapes and contains only minor buildings of the small club house and storage shed. Indeed, it is noted that from the public realm, whilst some limited views of the site are afforded from Sunnyside Road which overlooks the site, from New Town Road and Paviour Street, the only visual evidence of the site is the very tops of the floodlighting polls and the vegetation that has grown up around the site.

Nonetheless, the site falls within the Paviour Street Heritage Precinct, and as such is subject to the relevant heritage policies. In this instance, these are considered to be –

E13.8.1 Demolition

Objective:

To ensure that demolition in whole or in part of buildings or works within a heritage precinct does not result in the loss of historic cultural heritage values unless there are exceptional circumstances.

Performance Criteria 1

Demolition must not result in the loss of any of the following:

- (a) buildings or works that contribute to the historic cultural heritage significance of the precinct;*
- (b) fabric or landscape elements, including plants, trees, fences, paths, outbuildings and other items, that contribute to the historic cultural heritage significance of the precinct;*

unless all of the following apply;

- (i) there are, environmental, social, economic or safety reasons of greater value to the community than the historic cultural heritage values of the place;*
- (ii) there are no prudent or feasible alternatives;*
- (iii) opportunity is created for a replacement building that will be more complementary to the heritage values of the precinct.*

E13.8.2 Buildings and Works other than Demolition

Objective:

To ensure that development undertaken within a heritage precinct is sympathetic to the character of the precinct.

Performance Criteria 1

Design and siting of buildings and works must not result in detriment to the historic cultural heritage significance of the precinct, as listed in Table E13.2.

Performance Criteria 4

New front fences and gates must be sympathetic in design, (including height, form, scale and materials), and setback to the style, period and characteristics of the precinct.

Demolition

Based on the above, it is considered that the site and the buildings associated with its former use of the site as a Tennis Club do not to play an active positive role within the Heritage Precinct. Whilst the proposal would remove what could be viewed as buildings that have played a notable social role within the community of New Town, along with small elements of established trees and shrubs to the boundaries of Sunnyside and Paviour Streets, it is considered that these elements play a neutral role and do not make an active positive contribute to the historic cultural heritage significance of the precinct as described above. As such it is considered that the proposed demolition would not result in the loss of historic cultural heritage values of the wider Precinct and would therefore comply with Performance Criteria 1 of E13.8.1 'Demolition'.

Proposed Development

The proposal, by virtue of its size, associated vehicular access, parking and elements of landscaping would represent a significant increase in the built form of the site. In all considerations of impact to the visual impact of proposals upon the cultural characteristics of Heritage Precincts however, the degree to which works and the final built form would be visible from the public realm is paramount. In this instance, the site and the proposed development would be visible within the public realm from three distinct areas; from the roadside of New Town Road; from the roadside of Paviour Street and from the roadside of Sunnyside Street.



View of subject site from Sunnyside Road. Source: Council image



View of subject site from Sunnyside Road. Source: Council image

Taking each in turn, with regard to New Town Road, due to the existing built form of single storey residential properties set reasonable close to each other, views through to the site are markedly reduced. However, despite the proposal sitting within a former quarry and thus low within the immediate landscape, due to its three storey height, the upper elements of proposed buildings would be partially visible from the public realm, especially through the gaps between the existing houses on New Town Road. However, it is acknowledged that the development would be viewed against the context of residential properties that occupy the higher ground of Paviour Street and Swanston Street, primarily in the form of roof slopes and typical residential features such as chimneys and mature trees within garden settings. In response, the proposed development has adopted a contemporary interpretation of a traditional roof form interspersed by flat roofed alternatively coloured finished parts, breaking up the visual appearance of the built form, or at least in a superficial way, into a regular pattern of distinct elements. This has the result from New Town Road of making the proposed development appear more reflective of the surrounding townscape than its scale would suggest. Given also that it would sit at some distance back from the existing built form of New Town Road, and would read as a separate element of townscape to these existing residential properties, it is considered that it would appear as a relatively sympathetic addition to the townscape and would not detract from the character of the Heritage Precinct.

With regard to views from the public realm of Paviour Street, again, despite the three storey scale of the proposed development, due to its setting within a former quarry, only the upper parts of the development would be visible. From Paviour Street, although not exclusively, the development would primarily be viewed in the context of views out of the Heritage Precinct, across to Mount Stuart, Lenah Valley and beyond to kunanyi/Mount Wellington. Again, from this location, only the upper parts of the built form would be visible in the public realm, although in this instance it would stand relatively close to the boundary of the site. As stated above, the

proposed development has adopted a contemporary interpretation of a traditional roof form, in this instance a series of gabled elements interspersed by flat roofed, recessed and or alternatively coloured finished parts, which again breaks up the visual appearance of the built form into a regular pattern of distinct roof forms. Whilst not wholly successful in appearing as clearly separate buildings and being far smaller than the actual sub-division pattern of the precinct, nonetheless it does have the impact of breaking up the built form and providing a pleasing articulation. This part of the site would also be enclosed by appropriately scaled paling fencing and provided with new planting that would soften and eventually partially obscure the proposed built form. As such, it is considered that from Paviour Street, it would appear as a relatively sympathetic addition to the townscape given its scale and would not detract from the character of the Heritage Precinct. However, it is acknowledged that much would depend on the appropriateness of the proposed materials and their colouration to the roof and upper levels of the development for the proposal to be fully successful.

With regard to the visual impact from Sunnyside Street, it should firstly be noted that the boundary of the Heritage Precinct runs along the boundary of the site and as such, Sunnyside Street does not form part of the Heritage Precinct. Nonetheless, views into Heritage Precincts have been judged to be relevant in the determination of such proposals.

Unlike the other two locations, the proposal would be far more visible from the public realm of Sunnyside Street, due in part to the lack of enclosing built form and that the vehicular access ramp would be from Sunnyside Street. The proposed boundary treatment would be a mixture of 1.8m wooden paling fencing and lower unfinished concrete block containing the individual post boxes for each property. Whilst this fencing would reduce visibility into the interior of the site to a degree, views directly in front of the proposed ramp would provide largely unhindered views across the site, allowing the scale, form and associated land treatment of the development to be fully readable. Indeed, from this location, the general uniformity of the development would be notable. Whilst the use of different colouration of materials successfully breaks up the form from New Town Road, from this perspective it would not have the same impact and any sense of implied articulation of the inward facing elevation of the development would be largely lost. Given that one of the characteristics identified as being significant within the Heritage Precinct is 'A general uniformity of form, scale and orientation together with a distinctive late nineteenth century/early twentieth century subdivision pattern', it is considered that the proposal would clearly not conform to this definition.

With regard to the above, as noted within the representations received, it is the opinion of representors that the proposed development, due to its height, bulk and modernist design is not sympathetic to the single storey scale or architectural style of the heritage precinct. It should be noted that the term 'sympathetic' is not specifically defined within the terms and definitions of the *Hobart Interim Planning Scheme 2015*. However, it is generally taken that it means to be designed in a sensitive or appropriate way. Whilst each proposal and sites have individual attributes, it generally does not require that development simply replicate all aspects of the existing townscape. It is considered that it could be argued that given the clear discrepancy between the characteristics of the site in its present form, in particular the significant difference in the general ground level between the site and the surrounding Paviour and Sunnyside Street, it would be largely impossible to create a built form that would strictly comply with the characteristics as set out above unless the quarry was effectively infilled. This is coupled with the difficulties in creating a streetscape presence in the form of separate driveways and traditional gardens. It is noted that the proposed design does attempt to respond to the built form and sub-division pattern notwithstanding the physical attributes of the site in a manner that at least shows a sympathetic understanding of the surrounding townscape. It is also noted that from certain positions, it successfully achieves the breaking up of its visual form and provides a sense of articulation. This articulation into a regular pattern responds, if not strictly replicates the residential sub-division of the precinct, and is most notable from New Town Road and Paviour Street. As discussed above, this could also be reduced in impact from Sunnyside Street by an increase in the boundary height facing onto the street.

As stated above, it is considered that the existing buildings and physical attributes of the site does not represent a positive contribution to the character of the Precinct, but rather acts as a neutral component. To state that the proposal does not meet Performance Criteria 1 of E13.8.2, it must be demonstrated that the resulting development would be to the detriment of its historic cultural heritage significance. Given that 'sympathetic' means to be designed in a sensitive or appropriate way and not solely as a direct copy, and that the visual impact of the proposal from the public realm is limited and can be further reduced by way of increasing the boundary treatment in Sunnyside Street, it is considered that whilst finely balanced, the development in principle would broadly comply with the intent of E13.8.2 'Buildings and Works other than Demolition' and would not result in development that could clearly be argued to result in detriment to the historic cultural significance of the precinct. However, it is considered that the colouration of appropriate facing materials would play an important role in allowing the development to sit comfortably within the immediate streetscape.

With regard to the above, it is noted that the development makes significant use of Colorbond sheeting in a variety of colours as its cladding to both roof and walls. Whilst the use of Colorbond to roofs is well established within the precinct, its use as a wall cladding is not. Indeed it is noted that no building within the precinct appears to utilise what is more commonly viewed as a roofing material in such a way, and that front facades all are either constructed in red brick or weatherboard with the occasional use of rendered sheeting to small elements. This has been raised as a matter of concern within the representations received. Similarly, unfinished concrete blocks are generally not used as boundary treatments.

As such, it is considered that the final pallet of external materials, finishes and colours to both the building and boundary treatments should be appropriate and in keeping with those of the surrounding Heritage Precinct. As such, it is considered reasonable to require this finalisation of materials by way of condition to the satisfaction of the Council should planning permission be granted.

Additional Considerations

With regard to the history of the site and its important role in the social history of New Town and the wider Hobart area, it is considered that an opportunity exists to acknowledge and explain its historical background and widen understanding of its role in the development and life of the City. It is considered that this could be undertaken in a number of ways, including interpretation panels, landscaping treatments such as the inclusion of quarried boulders or the choice of the name given to the site. As such, it is therefore considered reasonable to seek by way of condition the inclusion of features that highlight the history of the site at suitable locations within the site to the satisfaction of the Council.

Conclusion

It is considered that given the particular limitations and physicality's of the site, achieving development that strictly accords with the described characteristics of the Paviour Street Heritage Precinct would be difficult to achieve. Nonetheless, the proposal attempts to provide some degree of articulation, rhythm and utilises a contemporary take on the traditional roof forms found within the streetscape. It also proposes the use of landscaping to the Paviour Street boundary to soften its appearance and it is acknowledged that the proposal would be partially obscured from views from the public realm.

Notwithstanding the above, it is acknowledged that the form, scale, cladding materials and the relatively functional treatment to the shared spaces within the site would not wholly reflect the characteristics of the precinct as described. As such, it is considered that the acceptability of the proposal is finely balanced. However, given the individual circumstances of the site, it is considered that subject to a suitable conditions relating to the increase in height of the Sunnyside Street boundary treatment from 1.8 to 2.0m, use of materials more akin to those used within the Precinct, and the inclusion of features that help to explain and widen

understanding of the development and social history of the site, it would be difficult to categorically argue that the proposal would cause detriment to the characteristics of the Precinct to warrant the refusal of the proposal in this instance.

Given the above, it is therefore considered that subject to condition the proposal would comply with Clauses E.13.8.1 P1 and E.13.8.2 P1 and P4 of the HIPS.

Nick Booth
Heritage Officer
18 January 2023

reviewed
SW
SCHO
20 Jan 2023
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Application Referral Development Engineering - Response

From:	Stefan Gebka - Development Engineering
Recommendation:	Proposal is acceptable subject to conditions.
Date Completed:	
Address:	73 A NEW TOWN ROAD, NEW TOWN ADJACENT ROAD RESERVE
Proposal:	Demolition, 22 Multiple Dwellings, Front Fencing, and Associated Works
Application No:	PLN-22-282
Assessment Officer:	Michael McClenahan,

Referral Officer comments:

ASSESSMENT SUMMARY:

• E5.0 Road and railway access code - DOES APPLY

- Clause E5.5.1 Existing road accesses and junctions - Not Applicable
- Clause E5.5.2: Existing level crossings - Not Applicable
- Clause E5.6.1: Development adjacent to roads and railways - Not Applicable
- Clause E5.6.2: Road accesses and junctions - Acceptable Solution
- Clause E5.6.3: New level crossings - Not Applicable
- Clause E5.6.4: Sight distance at accesses, junctions and level crossings - Performance Criteria

The sight distance at access and junctions must satisfy either Acceptable Solutions or Performance Criteria for each clause of the *Hobart Interim Planning Scheme 2015 (HIPS 2015)*.

Development Engineering has concluded the documentation submitted to date does not comply with the Acceptable Solution; therefore assessment against the Performance Criterion is relied on for clause E5.6.4.

Acceptable solution - A1: - **NOT MET**

Sight distances at:

- (a) an access or junction must comply with the Safe Intersection Sight Distance shown in Table E5.1; and
- (b) rail level crossings must comply with AS1742.7 Manual of uniform traffic control devices - Railway crossings, Standards Association of Australia. - **N/A**

In this case, the required SISD is 80 metres, noting that the vehicle speed has been assumed to be equal to the posted speed limit of 50-km/h.

The available sight distance generally exceeds the required 80 metres except during times when cars are parked adjacent to the site.

Based on the available sight distances exceeding the minimum Planning Scheme requirements except during times when cars are parked adjacent to the site, the

access does not comply with Acceptable Solution A1 of Clause E5.6.4.

Performance Criteria – P1: - MET

The design, layout and location of an access, junction or rail level crossing must provide adequate sight distances to ensure the safe movement of vehicles, having regard to:

(a) the nature and frequency of the traffic generated by the use;

- All traffic generated by the proposed development will be residential in nature.

(b) the frequency of use of the road or rail network;

- Sunnyside Road is a minor collector road that has a relatively low traffic volume near the site. It provides access to a residential catchment that is relatively stable and closed in nature. The general urban speed limit of 50-km/h applies to Sunnyside Road. This speed limit is appropriate for the residential nature of the development.

(c) any alternative access;

- No alternative access is possible for the proposed development.

(d) the need for the access, junction or level crossing;

- The applicant's traffic engineer stated the following;

"The current development site has no vehicular access.

The development will create a new vehicular access onto Sunnyside Road, that will be a standard concrete kerb crossover and comply with LGAT standard drawing TSD-R09-V1 for an urban road driveway.

The entry of this vehicular access ramp will be six metres wide and provide for two-way traffic movements through a passing bay layout; the ramp will be designed to accommodate the swept path of B99 vehicles entering and leaving Sunnyside Road, servicing the 12 on-site parking spaces for the tenants."

(e) any traffic impact assessment;

- A Traffic Impact Assessment was submitted.

- The applicant's traffic engineer stated the following;

"The new access off Sunnyside Road will provide for two-way traffic movements and motorists leaving the development site will have available sight distance of 80 metres in both directions, which satisfies the planning scheme requirement for Safe Intersection Sight Distance for a 50 km/h speed limit.

This development will comply with the acceptable solution for Safe Intersection Sight Distance, and motorists will be able to enter Sunnyside Road in a safe manner, without disrupting the current road users."

(f) any measures to improve or maintain sight distance; and

- The available sight distance generally exceeds the required 80 metres except during times when cars are parked adjacent to the site.

"The speed limit along Sunnyside Road is the urban 50 km/h speed limit.

The available sight distance from the proposed development access has been measured on site, and a driver leaving the site has at least 100 metres of sight distance to the left, and 80 metres to the right."

(g) any written advice received from the road or rail authority.

- No written advice was requested by the road authority (Council) relating to the access.

Council's traffic engineer and Development Engineering has concluded based on the documentation submitted to date and given the above assessment, the sight distance is accepted as meeting the *Performance Criteria P1:E5.6.4* of the Planning Scheme.

• **E6.0 Parking and Access Code - DOES APPLY**

- Clause(s) E6.6's: Are all to do with parking number assessment - Performance Criteria
The parking number assessment must satisfy either Acceptable Solutions or Performance Criteria for each clause of the *Hobart Interim Planning Scheme 2015 (HIPS 2015)*.
Development Engineering has concluded the documentation submitted to date does not comply with the Acceptable Solution; therefore assessment against the Performance Criterion is relied on for clause E6.6.1 (a).

Acceptable solution - A1: - **NOT MET**: The proposal includes twelve (12x) on-site car parking spaces, which is twenty seven (27x) less than required by Table E6.1.

The number of on-site car parking spaces must be:

(a) no less than and no greater than the number specified in Table E6.1;

- Table E6.1 requires: Multiple dwelling containing 1 bedroom or studio (including allrooms capable of being used as a bedroom) = One (1x) on-site car parking space per dwelling.

- Table E6.1 requires: Multiple dwelling containing 2 or more bedrooms (including allrooms capable of being used as a bedroom) = Two (2x) on-site car parking space per dwelling.

- Table E6.1 requires: 1 dedicated visitor parking space per 4 dwellings (rounded up to the nearest whole number).

Dwellings (1 bedroom);

A (dwellings) x B (Table E6.1 requirement) = AB car parking spaces

11 (dwellings) x 1 (Table E6.1 requirement) = Eleven (11x) car parking spaces required

and

Dwellings (2 bedroom);

A (dwellings) x C (Table E6.1 requirement) = AC car parking spaces

11 (dwellings) x 2 (Table E6.1 requirement) = Twenty two (22x) car parking spaces required

Visitor;

A (dwellings) divided by D (Table E6.1 requirement) = AD visitor car parking spaces required

22 (dwellings) divided by 4 (Table E6.1 requirement) = 5.5 therefore, rounded up to six (6x) visitor car parking spaces required

A total of thirty nine (39x) car parking spaces required for the development.

Performance Criteria - P1: - **MET**

The number of on-site car parking spaces must be sufficient to meet the reasonable needs of users, having regard to all of the following:

(a) car parking demand;

- The applicant's traffic engineer stated the following;

"The planning scheme specifies that 38 parking spaces are required for the 22 units. The development is providing 12 on-site parking spaces. As demonstrated in this assessment the parking demand for one and two bedroom social housing units is significantly reduced, the 12 spaces being provided by this development is expected to meet the reasonable demand generated by the tenants."

"Based on the Queensland social housing standard, the proposed New Town site could be considered as site category A, due to the proximity to a high frequency bus route, and local community facilities. Based on this standard, the 22 units could generate a parking demand of 14 spaces."

"In addition to the Queensland standard for social housing, the RTA also has parking standards for high density residential units located in close proximity to a high frequency public transport route, the RTA Guide indicates the following parking requirements.

- 0.6 parking spaces per one bedroom unit*
- 0.9 spaces per two bedroom unit*
- 1.4 spaces per three bedroom unit*
- 1 space per five units (visitor parking)*

Based on the RTA guide, this development could generate a parking demand of 17 parking spaces for the tenants, not including visitor parking."

A substantial number of consultant traffic engineers engaged by developers seek the use of the Roads and Traffic Authority (RTA) guide as a refuge to justify car parking deficiency against the Planning Scheme. One must remember this is a guide and is not meant to be a standard that is rigidly applied, also the RTA guide should be viewed as a minimum desirable position.

- Council's traffic engineer stated the following;

"I support the TIA's estimated peak parking demand rates calculated from the Queensland social housing standard of 14 spaces. I also support the conclusion that the parking demand does not require the need to satisfy the Planning Scheme requirements as the development is located close to a frequent bus service on New Town Road and the intercity cycleway which accommodates all levels of riders and therefore there are alternate transport options available.

The TIA outlined that 12 of the 14 spaces expected to be generated from the development can be accommodated on-site and the remaining 2 parking spaces can be absorbed within the on-street parking. Usually the preference is that parking demand is contained within the site, however, given a parking survey indicated that there are spaces available on-street and the previous tennis court development was operating without spaces and relied on on-street parking, the shortfall parking could be accommodated on the street without having a negative impact on amenity."

- No objections were notated by the former Senior Development Engineer who was allocated the development for assessment originally and attended pre application discussions.

~~Also no representations were received during the advertising period. Council is unaware of issues with respect to parking within the surrounding area.~~

(b) the availability of on-street and public car parking in the locality;

- The applicant's traffic engineer stated the following;

"A recent parking supply and demand survey of Paviour Street and Sunnyside Road found there is 96 spaces available, within 200 metres of the development site. The patrolled

parking survey found these spaces have a low occupancy rate of less than 20 percent, mainly because the surrounding residential properties have suitable off-street facilities, and along the western side of Paviour Street there is only a few property accesses, as these properties have their access off New Town Road. The survey found there is sufficient supply of on-street parking spaces to meet any overflow or visitor demand likely to be generated by this development. The development site has 70 metres of road frontage, this length of road frontage can accommodate 8 to 10 vehicles, and these vehicles would not adversely impact surrounding properties."

"To evaluate the impact of visitor parking on surrounding properties, it is important to understand the supply and demand for on-street parking spaces along the surrounding streets, that could be used to assist with any visitor parking demand. A parking supply and demand survey was conducted on the two adjacent streets to the development site, Sunnyside Road, and Paviour Street, with the results of the surveys shown in table 5.1. The survey found along the two adjacent streets to the development site, there is sufficient kerb space to accommodate up to 96 parallel parked vehicles. The survey found the demand for these parking spaces to be low, less than 20 percent, based on three patrolled survey times, at 9:00am, 12 noon and 5:00pm (weekday)."

- Council's traffic engineer stated the following;

"Usually the preference is that parking demand is contained within the site, however, given a parking survey indicated that there are spaces available on-street and the previous tennis court development was operating without spaces and relied on on-street parking, the shortfall parking could be accommodated on the street without having a negative impact on amenity."

(c) the availability and frequency of public transport within a 400m walking distance of the site;

- The applicant's traffic engineer stated the following;

"METRO Tasmania runs a high frequency bus service between Glenorchy and Hobart via New Town Road, with a bus operating every ten minutes between 7:00am and 7:00pm, Monday to Friday. With bus stops located within 250 metres of the development site, this provides the unit tenants with a convenient and viable alternative transport mode."

"The development site is located adjacent to a high frequency public transport route, which is very important, as public transport is usually a significant transport mode for social housing tenants, reduces the reliance on private motor vehicles and parking demand. METRO Tasmania runs a high frequency bus service from Hobart to Glenorchy along New Town Road, with a bus operating every ten minutes between 7:00am to 7:00pm, Monday to Friday, every twenty minutes on Saturday, and every thirty minutes on Sunday. A southbound bus stop is located on New Town Road within 50 metres of Sunnyside Road, and a northbound bus stop located within 250 metres. This development site is well positioned to take advantage of the high frequency public bus service, and provides tenants with an accessible, convenient, and viable alternative transport mode."

- Council's traffic engineer stated the following;

"I also support the conclusion that the parking demand does not require the need to satisfy the Planning Scheme requirements as the development is located close to a frequent bus service on New Town Road and the intercity cycleway which accommodates all levels of riders and therefore there are alternate transport options available."

- No objections were notated by the former Senior Development Engineer who was allocated the development for assessment originally.

- (d) the availability and likely use of other modes of transport;
- The applicant's traffic engineer stated the following;

"The development site is located within three kilometres of the Hobart CBD, and this makes bicycle riding a viable option, particularly with on-road cycle lanes operating along Argyle Street, extending into New Town Road. The intercity cycleway is also located within 1.2 kilometres from the development site, providing a flat and easy cycling path between Hobart and the northern suburbs."

"The development site is located in the vicinity of the intercity shared cycleway, which is an off-road facility that operates between Hobart and the northern suburbs, using the old railway corridor, the route is flat and accommodates riders of all skill levels. In addition, there are on-road cycle lanes operating along Argyle Street that can be easily accessed from the development site, with these lanes connecting to Hobart. Overall, the development site is well located to formal cycling facilities, which provides excellent connectivity to both Hobart and Glenorchy, providing a real alternative transport mode, reducing the reliance on private motor vehicles."

- Council's traffic engineer stated the following;**

"I also support the conclusion that the parking demand does not require the need to satisfy the Planning Scheme requirements as the development is located close to a frequent bus service on New Town Road and the intercity cycleway which accommodates all levels of riders and therefore there are alternate transport options available."

- (e) the availability and suitability of alternative arrangements for car parking provision;
- The applicant's traffic engineer stated the following;

"The development is located within an inner residential suburb, there are a range of commercial and retail businesses within walking distance, including a range of medical services, supermarkets, and other community facilities, reducing the need for car ownership."

- (f) any reduction in car parking demand due to the sharing of car parking spaces by multiple uses, either because of variation of car parking demand over time or because of efficiencies gained from the consolidation of shared car parking spaces;
- The applicant's traffic engineer stated the following;

"There is evidence provided in section 4 of this assessment that social housing units located in close proximity to a high frequency bus route and community facilities, reduces the car ownership. Based on Queensland Government design standard of new social housing units, the tenants of these one and two bedroom units are expected to generate a parking demand of 14 vehicles."

- (g) any car parking deficiency or surplus associated with the existing use of the land;
- Not applicable.

- (h) any credit which should be allowed for a car parking demand deemed to have been provided in association with a use which existed before the change of parking requirement, except in the case of substantial redevelopment of a site;
- Not applicable.

- (i) the appropriateness of a financial contribution in lieu of parking towards the cost of parking facilities or other transport facilities, where such facilities exist or are planned in the vicinity;
- The applicant's traffic engineer stated the following;

"No financial contribution is considered necessary, as the level of on-site parking spaces will more than meet the needs of the development, without any adverse impact to the surrounding road network."

(j) any verified prior payment of a financial contribution in lieu of parking for the land;

- **The City's current position is not to support a financial contribution in lieu of parking for developments.**

(k) any relevant parking plan for the area adopted by Council;

- **Not applicable.**

(l) the impact on the historic cultural heritage significance of the site if subject to the Local Heritage Code; and

- **Not applicable.**

(m) whether the provision of the parking would result in the loss, directly or indirectly, of one or more significant trees listed in the Significant Trees Code.

- **No impact.**

Council's traffic engineer and Development Engineering has concluded based on the documentation submitted to date and given the above assessment, the parking provision is accepted as meeting the *Performance Criteria P1:E6.6.1* of the Planning Scheme. This is particularly due to the actual parking demands that will be generated by the development.

- Clause E6.7.1: Number of vehicle accesses - **Acceptable Solution**

- Clause E6.7.2: Design of vehicle accesses - **Performance Criteria**

The design of the vehicle access must satisfy either Acceptable Solutions or Performance Criteria for each clause of the *Hobart Interim Planning Scheme 2015 (HIPS 2015)*.

Development Engineering has concluded the documentation submitted to date does not comply with the Acceptable Solution; therefore assessment against the Performance Criterion is relied on for clause E6.7.2 (a).

Submitted plans indicate 2m x 2.5m sight triangle abutting the driveway (western side) is not kept clear of obstructions to visibility due to proposed ramp wall.

Acceptable Solution - A1: - NOT MET: Sight distance: 2m x 2.5m sight triangle (western side) - This area is to be kept clear of obstructions to visibility and as such, shall be assessed under Performance Criteria.

Design of vehicle access points must comply with all of the following:

(a) in the case of non-commercial vehicle access; the location, sight distance, width and gradient of an access must be designed and constructed to comply with section 3 – "Access Facilities to Off-street Parking Areas and Queuing Areas" of AS/NZS 2890.1:2004 Parking Facilities Part 1: Off-street car parking.

Performance Criteria - P1: - MET

Design of vehicle access points must be safe, efficient and convenient, having regard to all of the following:

(a) avoidance of conflicts between users including vehicles, cyclists and pedestrians;

- **Acceptable, Development Engineering has concluded the documentation submitted to date is able to meet this requirement by accepting the analysis / statements provided by the applicant's traffic engineer contained within the Traffic Impact Assessment. Council's traffic engineer is also supportive.**

(b) avoidance of unreasonable interference with the flow of traffic on adjoining roads;
- **Acceptable, Development Engineering has concluded the documentation submitted to date is able to meet this requirement by accepting the analysis / statements provided by the applicant's traffic engineer contained within the Traffic Impact Assessment. Council's traffic engineer is also supportive.**

(c) suitability for the type and volume of traffic likely to be generated by the use or development;
and
- **Acceptable, Development Engineering has concluded the documentation submitted to date is able to meet this requirement by accepting the analysis / statements provided by the applicant's traffic engineer contained within the Traffic Impact Assessment. Council's traffic engineer is also supportive.**

(d) ease of accessibility and recognition for users.
- **Acceptable, Development Engineering has concluded the documentation submitted to date is able to meet this requirement by accepting the analysis / statements provided by the applicant's traffic engineer contained within the Traffic Impact Assessment. Council's traffic engineer is also supportive.**

- **The applicant's traffic engineer stated the following;**

"Along the northern side of Sunnyside Road, the existing concrete footpath terminates prior to reaching the development site due to the steep embankment, with no existing footpath along the development site.

The development will provide a new footpath along the northern side of Sunnyside Road, and the new vehicle ramp will cross the new footpath. The design will incorporate a pedestrian sight triangle of 2.5 x 2 metres on the left hand side of the ramp, ensuring suitable sight distance between drivers leaving the ramp and pedestrians approaching on the footpath."

"The development is providing new footpaths where practicable, having consideration to the cutting of the quarry face. A central stairwell is being provided within the development to provide connection between all floors and Pavior Street. There are also stairs connecting the development with Sunnyside Road."

"The current development site has no vehicular access.

The development will create a new vehicular access onto Sunnyside Road, that will be a standard concrete kerb crossover and comply with LGAT standard drawing TSD-R09-V1 for an urban road driveway.

The entry of this vehicular access ramp will be six metres wide and provide for two-way traffic movements through a passing bay layout; the ramp will be designed to accommodate the swept path of B99 vehicles entering and leaving Sunnyside Road, servicing the 12 on-site parking spaces for the tenants."

"The speed limit along Sunnyside Road is the urban 50 km/h speed limit.

The available sight distance from the proposed development access has been measured on site, and a driver leaving the site has at least 100 metres of sight distance to the left, and 80 metres to the right."

"In both directions, the available sight distance is expected to exceed the Safe Intersection Sight Distance prescribed in the planning scheme for a 50 km/h speed limit, and is sufficient for vehicles to enter the road in a safe manner, without causing traffic disruption to current users."

"A new development in urban areas can be concerning to local residents, and it can be difficult to argue that a traffic increase is reasonable. The RTA Guide to Traffic Generating

Developments has considered this matter and provided an environmental performance standard, that can be used to evaluate the likely impact on residential amenity. Table 8.4 is an extract from the RTA Guide and relates to urban environment, providing maximum peak hour goals.

For Sunnyside Road being a local residential street, the maximum peak hour goal is 300 vehicles per peak hour (two-way traffic flow). Combining the current maximum two-way peak hour traffic flow of 80 vehicles, with the expected increase of six vehicles generated by the development, the new two-way peak hour traffic flow is expected to be substantially less than the environmental goal. This indicates that the traffic generated from this development, is not expected to create any adverse amenity impact to the surrounding residential properties."

- No objections were notated by the former Senior Development Engineer who was allocated the development for assessment originally and attended pre application discussions.

Council's traffic engineer and Development Engineering has concluded based on the documentation submitted to date and given the above assessment, the sight lines are accepted as meeting the *Performance Criteria P1:E6.7.2* of the Planning Scheme. Given the location of the access and driveway, and the volume of traffic on the road from which the property gains access.

- Clause E6.7.3: Vehicle passing area along an access - Performance Criteria
Vehicle passing must satisfy either Acceptable Solutions or Performance Criteria for each clause of the *Hobart Interim Planning Scheme 2015 (HIPS 2015)*.

Development Engineering has concluded the documentation submitted to date does not comply with the Acceptable Solution; therefore assessment against the Performance Criterion is relied on for clause E6.7.3.

Acceptable solution - A1: - NOT MET: (ai) and (aii)

Vehicular passing areas must:

- (a) be provided if any of the following applies to an access:
 - (i) it serves more than 5 car parking spaces; - **YES**
 - (ii) is more than 30 m long; - **YES**
 - (iii) it meets a road serving more than 6000 vehicles per day; - **N/A**
- (b) be 6 m long, 5.5 m wide, and taper to the width of the driveway; - **YES**
- (c) have the first passing area constructed at the kerb; - **YES**
- (d) be at intervals of no more than 30 m along the access. - **Not feasible**

Performance Criteria - P1: - MET

Vehicular passing areas must be provided in sufficient number, dimension and siting so that the access is safe, efficient and convenient, having regard to all of the following:

(a) avoidance of conflicts between users including vehicles, cyclists and pedestrians;
- Acceptable, Development Engineering has concluded the documentation submitted to date is able to meet this requirement by accepting the analysis / statements provided by the applicant's traffic engineer contained within the Traffic Impact Assessment. Council's traffic engineer is also supportive.

(b) avoidance of unreasonable interference with the flow of traffic on adjoining roads;
- Acceptable, Development Engineering has concluded the documentation submitted to date is able to meet this requirement by accepting the analysis / statements provided by the applicant's traffic engineer contained within the Traffic Impact Assessment. Council's traffic engineer is also supportive

(c) suitability for the type and volume of traffic likely to be generated by the use or development;

- **Acceptable, Development Engineering has concluded the documentation submitted to date is able to meet this requirement by accepting the analysis / statements provided by the applicant's traffic engineer contained within the Traffic Impact Assessment. Council's traffic engineer is also supportive**

(d) ease of accessibility and recognition for users;

- **Acceptable, Development Engineering has concluded the documentation submitted to date is able to meet this requirement by accepting the analysis / statements provided by the applicant's traffic engineer contained within the Traffic Impact Assessment. Council's traffic engineer is also supportive**

- **The applicant's traffic engineer stated the following;**

"The access ramp will reduce to a single lane as it reaches the ground floor, passing bays will be provided at both ends of the ramp to ensure vehicles can pass efficiently. The passing bays will be a minimum of 5.5 metres wide and six metres long, and are shown in diagram 9.14.

A traffic mirror adjacent to parking space numbered 1 will be provided, this mirror will enable motorists leaving the parking spaces to ensure the ramp is clear before proceeding up the ramp. Otherwise, the driver should wait within the ground floor passing bay area for the entering vehicle to clear the ramp. Vehicles entering the ramp from Sunnyside Road should have priority over vehicles leaving, and a traffic sign could be installed on the ground floor to reinforce this priority.

The parking spaces are expected to generate a low turnover, and users will become familiar with the arrangement, with no adverse impact expected."

- **No objections were notated by the former Senior Development Engineer who was allocated the development for assessment originally and attended pre application discussions.**

Council's traffic engineer and Development Engineering has concluded based on the documentation submitted to date and given the above assessment, the vehicle passing areas are accepted as meeting the Performance Criteria P1:E6.7.3 of the Planning Scheme. Given the driveway configuration, and the low volume of traffic.

- Clause E6.7.4: On-site turning - Not Applicable

- Clause E6.7.5: Layout of parking areas - Performance Criteria

The layout of the parking area must satisfy either Acceptable Solutions or Performance Criteria for each clause of the Hobart Interim Planning Scheme 2015 (HIPS 2015).

Development Engineering has concluded the documentation submitted to date does not comply with the Acceptable Solution; therefore assessment against the Performance Criterion is relied on for clause E6.7.5.

Acceptable Solution A1: - NOT MET: (aisle width manoeuvring area)

The layout of car parking spaces, access aisles, circulation roadways and ramps must be designed and constructed to comply with section 2 "Design of Parking Modules, Circulation Roadways and Ramps" of AS/NZS 2890.1:2004 Parking Facilities Part 1: Off-street car parking and must have sufficient headroom to comply with clause 5.3 "Headroom" of the same Standard.

Performance Criteria - P1: - MET

The layout of car parking spaces, access aisles, circulation roadways and ramps must be safe and must ensure ease of access, egress and manoeuvring on-site.

- Acceptable, Development Engineering has concluded the documentation submitted to date is able to meet this requirement by accepting the analysis / statements provided by the applicant's traffic engineer contained within the Traffic Impact Assessment

• Car Parking Space Dimensions (AS2890.1 Fig 2.2 = 2.4x5.4m Class 1A):

- Development Engineering has concluded the documentation submitted to date is able to meet this requirement by accepting the analysis / statements provided by the applicant's traffic engineer contained within the Traffic Impact Assessment

• Car Parking Space Design Envelope (AS2890.1 Fig 5.2 300mm clearance on side):

- Development Engineering has concluded the documentation submitted to date is able to meet this requirement by accepting the analysis / statements provided by the applicant's traffic engineer contained within the Traffic Impact Assessment

- The applicant's traffic engineer stated the following;

"As specified in table 1.1 of AS/NZS 2890.1:2004 the user class of the parking spaces will be designed as user class 1A, for residential use. Section B4.8 of the above standard allows for user class 1A, that the aisle width can be reduced to 5.8 metres, and vehicles may need to use a 3-point turn when entering or leaving the spaces. This concession assists where space is limited and recognises that such developments will have a low turnover and users are generally prepared to accept some inconvenience when entering and leaving the spaces. Vehicles larger than a B85 vehicle may need to make a 5-point turn.

The on-site parking spaces will have the following attributes:

- *• Parking bays will be user class 1A for residential parking, allowing for 3-point turn entry and exit into ninety degree parking spaces.*
- *• Parking bays will be a minimum of 2.6 metres wide and 5.4 metres long.*
- *• All parking spaces to be ninety degrees to the parking aisle with wheel stops.*
- *• At the end of the blind aisle, there will be an extension to the aisle to aid with vehicle manoeuvrability.*
- *• The length of the parking aisle will be short in length, limiting operating speeds to an acceptable level of less than 30 km/h."*

• Headroom: (AS2890.1 Fig 5.3 = 2.2m clearance):

- Development Engineering has concluded the documentation submitted to date is able to meet this requirement by accepting the analysis / statements provided by the applicant's traffic engineer contained within the Traffic Impact Assessment

- The applicant's traffic engineer stated the following;

"The Australian Standards 2890 section 5.3 specifies for both cars and light vans, the height between the floor and an overhead obstruction shall be a minimum of 2.2 metres. The underside of the vehicle access ramp will house four parking spaces, and a minimum 2.2 metre headroom height will be provided to meet this standard. Part of the footpath along Sunnyside Road will be cantilevered over the parking area and this structure will have a minimum headroom clearance of 2.2 metres. The other eight parking spaces within the ground floor parking area will not be covered by an overhead structure."

• Parking Space Gradient (5%):

- Development Engineering has concluded the documentation submitted to date is able to meet this requirement

- Aisle Width (AS2890.1 Fig 2.2 = 5.8m Class 1A):
- **Development Engineering has concluded the documentation submitted to date is able to meet this requirement however, assessed under Performance Criteria**

- The applicant's traffic engineer stated the following;

*"The on-site parking spaces have been designed for tenant use only, swept path diagrams for a B85 vehicle entering and leaving each space is shown in appendix A of this assessment, demonstrating that vehicles can enter and leave each of the spaces, some vehicles may require to undertake a 3-point turn.
Overall, the swept path diagrams demonstrate there is adequate area within the ground floor layout to accommodate vehicle manoeuvring, and also allows for a B85 vehicle to turnaround"*

- Garage Door Width & Apron (AS2890.1 Fig 5.4 = 2.4m wide => 7m wide apron):

- **N/A**

- Parking Module Gradient (manoeuvring area 5% Acceptable Soln, 10% Performance):
- **Development Engineering has concluded the documentation submitted to date is able to meet this requirement by accepting the analysis / statements provided by the applicant's traffic engineer contained within the Traffic Impact Assessment**

- Ramp Gradient & Width (AS2890.1 Section 2.6 = 25% and 3m):
- **Development Engineering has concluded the documentation submitted to date is able to meet this requirement by accepting the analysis / statements provided by the applicant's traffic engineer contained within the Traffic Impact Assessment**

- The applicant's traffic engineer stated the following;

*"The ramp has been designed to comply with section 3.3 of AZ/NZS 2890.1:2004.
The ramp will have a downgrade from Sunnyside Road; across the footpath the grade will be 5 percent, then increase to 7 percent for the first 2 metres (transitional ramp), then increasing to a maximum gradient of 15.4 percent, and transitioning back to 7 percent by a 2-metre-long transitional ramp. This means the maximum change in gradient for both crest and sag curves will be 8.4 percent, and this is not expected to create any adverse scraping or bottoming of vehicles using the ramp."*

and

*"The access ramp will reduce to a single lane as it reaches the ground floor, passing bays will be provided at both ends of the ramp to ensure vehicles can pass efficiently. The passing bays will be a minimum of 5.5 metres wide and six metres long, and are shown in diagram 9.14.
A traffic mirror adjacent to parking space numbered 1 will be provided, this mirror will enable motorists leaving the parking spaces to ensure the ramp is clear before proceeding up the ramp. Otherwise, the driver should wait within the ground floor passing bay area for the entering vehicle to clear the ramp. Vehicles entering the ramp from Sunnyside Road should have priority over vehicles leaving, and a traffic sign could be installed on the ground floor to reinforce this priority.
The parking spaces are expected to generate a low turnover, and users will become familiar with the arrangement, with no adverse impact expected."*

- Transitions (AS2890.1 Section 2.5.3 = 12.5% summit, 15% sag => 2m transition):
- **Development Engineering has concluded the documentation submitted to date is able to meet this requirement by accepting the analysis / statements provided by the applicant's traffic engineer contained within the Traffic Impact Assessment**

- The applicant's traffic engineer stated the following;

"The entrance to the ground floor parking area will not be gated. There is sufficient length and width of the ramp to accommodate two vehicles entering at a time. Given the parking area supports 12 spaces, the risk of vehicles queuing on Sunnyside Road waiting to enter the ramp would be very low."

- Vehicular Barriers (AS2890.1 Section 2.4.5.3 = 600mm drop, 1:4 slope):

- Development Engineering has concluded the documentation submitted to date is able to meet this requirement by accepting the analysis / statements provided by the applicant's traffic engineer contained within the Traffic Impact Assessment

- The applicant's traffic engineer stated the following;

"Vehicle barriers are being provided to both sides of the access ramp. Within the ground floor parking area, parking spaces are located adjacent to a pedestrian walkway, with wheel stops and bollards to provide adequate separation between the vehicles and pedestrian movement."

- Blind Aisle End Widening (AS2890.1 Fig 2.3 = 1m extra):

- N/A

- "Jockey Parking" (Performance Assessment):

- N/A

- No objections were notated by the former Senior Development Engineer who was allocated the development for assessment originally and attended pre application discussions.

Development Engineering has concluded based on the documentation submitted to date and given the above assessment, the layout of parking areas is accepted as meeting the *Performance Criteria P1:E6.7.5* given the driveway configuration.

- Clause E6.7.6: Surface treatment of parking areas - **Acceptable Solution**
- Clause E6.7.7: Lighting of parking areas - By planner
- Clause E6.7.8: Landscaping of parking areas - By planner
- Clause E6.7.9: Design of motorcycle parking areas - Not Applicable
- Clause E6.7.10: Design of bicycle parking areas - Not Applicable
- Clause E6.7.11: Bicycle end trip facilities (Planner assessment) - Not Applicable
- Clause E6.7.12: Siting of car parking (Planner assessment based on DE no.'s) - By planner
- Clause E6.7.13: Facilities for commercial vehicles - Not Applicable
- Clause E6.7.14: Access to a road - **Acceptable Solution**
- Clause E6.7.15: Access to Niree Lane Sandy Bay - Not Applicable

• E7.0 Stormwater - DOES APPLY

- Clause E7.7.1 - 1: Stormwater drainage and disposal - **Acceptable Solution**

- Clause E7.7.1 - 2: Stormwater drainage and disposal - **Performance Criteria**

The stormwater drainage and disposal must satisfy either Acceptable Solutions or Performance Criteria for each clause of the Hobart Interim Planning Scheme 2015 (HIPS 2015).

Development Engineering has concluded the documentation submitted to date does not comply with the Acceptable Solution; therefore assessment against the

Performance Criterion is relied on for clause E7.7.1 (P2).

Acceptable Solution A2: - **NOT MET: Water Sensitive Urban Design - WSUD not proposed**

A stormwater system for a new development must incorporate water sensitive urban design principles R1 for the treatment and disposal of stormwater.

- Unacceptable, Development Engineering has concluded the documentation submitted to date indicates the proposed stormwater treatment is unable to meet this requirement

A stormwater system for a new development must incorporate water sensitive urban design principles R1 for the treatment and disposal of stormwater if any of the following apply:

(a) the size of new impervious area is more than 600 m2;

- Yes

(b) new car parking is provided for more than 6 cars; and

- YES

(c) a subdivision is for more than 5 lots

- No

Performance Criteria – P2: - **MET: (Mechanical treatment)**

A stormwater system for a new development must incorporate a stormwater drainage system of a size and design sufficient to achieve the stormwater quality and quantity targets in accordance with the State Stormwater Strategy 2010, as detailed in Table E7.1 unless it is not feasible to do so.

Referred to the Waterways Unit for determination and conditioning.

Waterways Unit has concluded based on the documentation submitted to date and given the above assessment, the stormwater disposal is accepted by Development Engineering as meeting the *Performance Criteria E7.7.1 (P2)* of the Planning Scheme.

- Clause E7.7.1 - 3: Stormwater drainage and disposal - **Acceptable Solution**
- Clause E7.7.1 - 4: Stormwater drainage and disposal - **Acceptable Solution**

COMMENTS:

In a council related engineering context, the proposal can be supported in principal subject to the following conditions and advice however, due to the scope of the proposal, the application has been referred to the Council's Manager Bushland, Biodiversity & Waterways, Manager City Infrastructure, Manager City Mobility. The delegated officers' responses, including recommendations are inserted in the respective referral reports.

GENERAL CONDITIONS:

ENG1

ENG 2a

ENG 2b: Both sides of the access ramp

ENG 2c

ENG 3a: RARE documentation received by the Council on the 5th December 2022

ENG 3c

ENG 4

ENG 5: The number of car parking spaces approved to be used on the site is twelve (12)

ENG 5b: The number of motorcycle parking spaces approved to be used on the site is two (2)

ENG 6: The bicycle parking area (to accommodate six bicycles within the common area) generally compliant with the Australian Standards AS/NZS 2890.3:2015 and must be constructed on the site in accordance with the Hubble Traffic documentation received by the Council on the 9th May 2022 prior to the first occupation

ENG 8: The use of the car parking spaces is restricted to User Class 1A (residential) in accordance with Australian Standards AS/NZS 2890.1 2004 Table 1.1.

ENG r3: (Roads Imposed)

ENG r1: (Roads Imposed)

Part 5 r1: (Roads Imposed)

ENG tr2: (City Mobility Imposed)

ENG sw1: (Waterways Imposed)

SW 7: (Waterways Imposed)

SW 9: (Waterways Imposed)

SW 13: (Waterways Imposed)

ENV 2: (Waterways Imposed)

ADVICE:

- Dial before you dig
- Fees and charges
- Building Permit
- Plumbing Permit
- Occupation of the Public Highway
- Driveway surfacing over highway reservation
- Condition endorsement engineering
- Work in the highway reservation
- New Service Connection

REPRESENTATIONS:

Multiple - To be directed to each responsible referral unit for a detailed response, e.g. Traffic, Roads, Waterways.

Representations have been received regarding traffic generation, parking, road infrastructure and waste.

Development Engineering response to representations regarding traffic generation, parking and road infrastructure:

- The applicant's traffic engineer stated the following;

"The planning scheme specifies that 38 parking spaces are required for the 22 units. The development is providing 12 on-site parking spaces. As demonstrated in this assessment the parking demand for one and two bedroom social housing units is significantly reduced, the 12 spaces being provided by this development is expected to meet the reasonable demand generated by the tenants."

"Based on the Queensland social housing standard, the proposed New Town site could be considered as site category A, due to the proximity to a high frequency bus route, and local community facilities. Based on this standard, the 22 units could generate a parking demand of 14 spaces."

"In addition to the Queensland standard for social housing, the RTA also has parking

standards for high density residential units located in close proximity to a high frequency public transport route, the RTA Guide indicates the following parking requirements.

- 0.6 parking spaces per one bedroom unit
- 0.9 spaces per two bedroom unit
- 1.4 spaces per three bedroom unit
- 1 space per five units (visitor parking)

Based on the RTA guide, this development could generate a parking demand of 17 parking spaces for the tenants, not including visitor parking."

"The new access off Sunnyside Road will provide for two-way traffic movements and motorists leaving the development site will have available sight distance of 80 metres in both directions, which satisfies the planning scheme requirement for Safe Intersection Sight Distance for a 50 km/h speed limit.

This development will comply with the acceptable solution for Safe Intersection Sight Distance, and motorists will be able to enter Sunnyside Road in a safe manner, without disrupting the current road users."

"A recent parking supply and demand survey of Paviour Street and Sunnyside Road found there is 96 spaces available, within 200 metres of the development site. The patrolled parking survey found these spaces have a low occupancy rate of less than 20 percent, mainly because the surrounding residential properties have suitable off-street facilities, and along the western side of Paviour Street there is only a few property accesses, as these properties have their access off New Town Road. The survey found there is sufficient supply of on-street parking spaces to meet any overflow or visitor demand likely to be generated by this development. The development site has 70 metres of road frontage, this length of road frontage can accommodate 8 to 10 vehicles, and these vehicles would not adversely impact surrounding properties."

"To evaluate the impact of visitor parking on surrounding properties, it is important to understand the supply and demand for on-street parking spaces along the surrounding streets, that could be used to assist with any visitor parking demand. A parking supply and demand survey was conducted on the two adjacent streets to the development site, Sunnyside Road, and Paviour Street, with the results of the surveys shown in table 5.1. The survey found along the two adjacent streets to the development site, there is sufficient kerb space to accommodate up to 96 parallel parked vehicles. The survey found the demand for these parking spaces to be low, less than 20 percent, based on three patrolled survey times, at 9:00am, 12 noon and 5:00pm (weekday)."

"METRO Tasmania runs a high frequency bus service between Glenorchy and Hobart via New Town Road, with a bus operating every ten minutes between 7:00am and 7:00pm, Monday to Friday. With bus stops located within 250 metres of the development site, this provides the unit tenants with a convenient and viable alternative transport mode."

"The development site is located adjacent to a high frequency public transport route, which is very important, as public transport is usually a significant transport mode for social housing tenants, reduces the reliance on private motor vehicles and parking demand. METRO Tasmania runs a high frequency bus service from Hobart to Glenorchy along New Town Road, with a bus operating every ten minutes between 7:00am to 7:00pm, Monday to Friday, every twenty minutes on Saturday, and every thirty minutes on Sunday. A southbound bus stop is located on New Town Road within 50 metres of Sunnyside Road, and a northbound bus stop located within 250 metres. This development site is well positioned to take advantage of the high frequency public bus service, and provides tenants with an accessible, convenient, and viable alternative transport mode."

"The development site is located within three kilometres of the Hobart CBD, and this makes bicycle riding a viable option, particularly with on-road cycle lanes operating along Argyle

Street, extending into New Town Road. The intercity cycleway is also located within 1.2 kilometres from the development site, providing a flat and easy cycling path between Hobart and the northern suburbs."

"The development site is located in the vicinity of the intercity shared cycleway, which is an off-road facility that operates between Hobart and the northern suburbs, using the old railway corridor, the route is flat and accommodates riders of all skill levels. In addition, there are on-road cycle lanes operating along Argyle Street that can be easily accessed from the development site, with these lanes connecting to Hobart. Overall, the development site is well located to formal cycling facilities, which provides excellent connectivity to both Hobart and Glenorchy, providing a real alternative transport mode, reducing the reliance on private motor vehicles."

"A new development in urban areas can be concerning to local residents, and it can be difficult to argue that a traffic increase is reasonable. The RTA Guide to Traffic Generating Developments has considered this matter and provided an environmental performance standard, that can be used to evaluate the likely impact on residential amenity. Table 8.4 is an extract from the RTA Guide and relates to urban environment, providing maximum peak hour goals.

For Sunnyside Road being a local residential street, the maximum peak hour goal is 300 vehicles per peak hour (two-way traffic flow). Combining the current maximum two-way peak hour traffic flow of 80 vehicles, with the expected increase of six vehicles generated by the development, the new two-way peak hour traffic flow is expected to be substantially less than the environmental goal. This indicates that the traffic generated from this development, is not expected to create any adverse amenity impact to the surrounding residential properties."

- Council's traffic engineer stated the following;

"I support the TIA's estimated peak parking demand rates calculated from the Queensland social housing standard of 14 spaces. I also support the conclusion that the parking demand does not require the need to satisfy the Planning Scheme requirements as the development is located close to a frequent bus service on New Town Road and the intercity cycleway which accommodates all levels of riders and therefore there are alternate transport options available.

The TIA outlined that 12 of the 14 spaces expected to be generated from the development can be accommodated on-site and the remaining 2 parking spaces can be absorbed within the on-street parking. Usually the preference is that parking demand is contained within the site, however, given a parking survey indicated that there are spaces available on-street and the previous tennis court development was operating without spaces and relied on on-street parking, the shortfall parking could be accommodated on the street without having a negative impact on amenity."

"Usually the preference is that parking demand is contained within the site, however, given a parking survey indicated that there are spaces available on-street and the previous tennis court development was operating without spaces and relied on on-street parking, the shortfall parking could be accommodated on the street without having a negative impact on amenity."

"I also support the conclusion that the parking demand does not require the need to satisfy the Planning Scheme requirements as the development is located close to a frequent bus service on New Town Road and the intercity cycleway which accommodates all levels of riders and therefore there are alternate transport options available."

Council's traffic engineer and Development Engineering has concluded based on the

documentation submitted to date the development meets the relevant Performance Criteria of the Planning Scheme.

Development Engineering response to representations regarding waste:

Council's Waste Services Officer has provided the following comment:

"I would say we would only supply a maximum of 11 waste and 11 recycle, its fine they have room for more bins (FOGO for instance would be an opt-in choice).
No issues with the bins being kerbside as there is plenty of room.
It would only be an issues if bins weren't returned to the property within 24hours of being placed out (place out night before collection and then taken in the next day)."

Application Referral Enviro - City Amenity - Response

From:	MM and JS
Recommendation:	Proposal is acceptable without conditions.
Date Completed:	
Address:	73 A NEW TOWN ROAD, NEW TOWN ADJACENT ROAD RESERVE
Proposal:	Demolition, 22 Multiple Dwellings, Front Fencing, and Associated Works
Application No:	PLN-22-282
Assessment Officer:	Michael McClenahan,

Referral Officer comments:

CODE	Applicable	Exempt	Permitted (If acceptable solutions are met)	Discretionary (Identify the relevant performance criteria)
E7.0 Stormwater Management Code	Y	N	A1, A2, A3, A4	P2
E11.0 Waterway and Coastal Protection Code	N			
E15.0 Inundation Prone Areas Code	N			
Protection of Infrastructure	N			
Subdivision (LG(BMP) / Zone provisions)	N			

Please advise REEU at any stage if:

- Changes to the original proposed development are made
- Requested reports are submitted

Stormwater Management Code

Clause E7.7.1	Discussion
A1/P1 – Disposal	New stormwater connection into public main proposed.

A2/P2 – Treatment	Treatment proposed
A3/P3 – Capacity	Detention proposed
A4/P4 – OFP	Stormwater report submitted to demonstrate overland flow path in case of 1% AEP

Assessment Notes:

JS 24/10/2022

22 Multiple Dwellings, Front Fencing, and Associated Works

Drainage easement 5ft wide in laneway. No stormwater infrastructure in drainage easement.

detention doesn't state event durations modelled (or adequate volume in others), insufficient climate change loading applied

2019 street view suggests the vdrain in the pathway to the NW does not currently exits, and the neighbors floor levels are below the land

Landscaping plan doesn't show much permeable

Stormwater report shows Ex. Granular 975 (C=0.9) and Ex vegetated 975 (C=0.3), however most the land is covered by 2 tennis courts and some roof structures as seen from aerial imagery. Needs clarification.

Driveway ramp into Sunny side road - no rise up above spoon drain height. DN225 drains to kerb upstream of this driveway.

JS 20/12/2022

Above ground detention tank proposed for roofed area and below ground in form of DN450 pipe for carpark. Stormwater management report shows no ponding in case of 5% AEP event and has demonstrated safe overland flow path in case of 1% AEP event.

JS 06/01/2023

Representation received regarding stormwater:

DA-23-36 representation from 67 New Town Road

Only conquest from 67 New Town related to SW was from 2010:

<http://conquest/Link.aspx?Connection=Conquest&RequestID=98659>

Reported that gutter flows were leaking through cracks in the kerb. Kerb was repaired. I do see that it is kerb and then retaining wall into private property, and a spot where it appears the kerb was repaired.

The applicant was already advised to raise the level (to match with level of kerb) of the driveway to fall towards the road, so that road run off stays in road and kerb and gutter capacity is not reduced. Roads was requested to add clause to condition ENG R3 regarding driveway crossover that " Proposed driveway crossover must be designed and constructed in such a way as to convey flows safely and adequately within the road reserve with no decrease in capacity."

If they are not able to achieve the required outcome of ENG R3 as explained above the only option left will be to capture flows upstream (by laying a new public stormwater infrastructure) into piped system. Advice added to this condition.

Sunnyside Road lacks piped stormwater infrastructure and all stormwater flows above ground near this site from the upstream catchment.

Proposed development does not drain towards Sunnyside Road and it not contributing to

existing flows on this Road. Applicant has submitted a plan to convey 1%AEP flows through the site safely and the overland flow would be contained within the overland flow path, discharging through the laneway towards New Town Road as per the submitted stormwater report, thus protecting neighboring properties from any nuisance flows.

Assessment and conditions remains same.

Recommended Conditions:

ENG1, ENGSW1, SW7, SW9, SW13, ENV2, ENGr3

Recommended Advice:

**5.2.2 83 MELVILLE STREET, 80 MELVILLE STREET HOBART -
ALTERATIONS TO PREVIOUSLY APPROVED DEVELOPMENT FOR
PEDESTRIAN BRIDGE
PLN-22-790 - FILE REF: F23/8491**

Address: 83 Melville Street, 80 Melville Street, Hobart

Proposal: Alterations to Previously Approved Development
for Pedestrian Bridge

Expiry Date: 3 February 2023

Extension of Time: Not applicable

Author: Michael McClenahan

RECOMMENDATION

That pursuant to the *Hobart Interim Planning Scheme 2015*, the Planning Committee, in accordance with the delegations contained in its terms of reference, approves the application for alterations to previously approved development for pedestrian bridge, at 83 Melville Street and 80 Brisbane Street, Hobart for the reasons outlined in the officer's report and a permit containing the following conditions be issued:

GEN

The use and/or development must be substantially in accordance with the documents and drawings that comprise PLN-22-790 - 83 MELVILLE STREET HOBART TAS 7000 - Final Planning Documents except where modified below.

Reason for condition

To clarify the scope of the permit.

THC

The use and/or development must comply with the requirements of the Tasmanian Heritage Council as detailed in the Notice of Heritage Decision, THC Works Ref: 8058 dated 25 January 2023, as attached to the permit.

Reason for condition

To clarify the scope of the permit.

PLN s1

This permit is subject to and conditional upon the substantial commencement of planning permit PLN-21-869.

Reason for condition

To clarify the scope of the permit

PLN s2

If any departure is proposed from the landscaping plans which are required to be complied with by condition PLN s4 in planning permit PLN-21-869 (as varied by condition HER 8 of the same permit), then revised plans must be submitted and approved by the Director City Life.

All landscaping must be carried out in accordance with the plans approved pursuant to this permit and permit PLN-21-869 prior to the commencement of the use.

The vegetation which is planted on the site pursuant to the approved plans must be maintained and must not be disturbed. If any vegetation dies or is destroyed, replacement vegetation of a similar size must be planted within 30 days of the death or destruction.

Advice:

This condition may require further information to be submitted as a Condition Endorsement. Refer to the Condition Endorsement advice at the end of this permit.

ENG sw1

All stormwater from the proposed development must be drained to the Council's stormwater infrastructure prior to first occupation or commencement of use (whichever occurs first).

Advice:

Under section 23 of the Urban Drainage Act 2013 it is an offence for a property owner to direct stormwater onto a neighbouring property.

Reason for condition

To ensure that stormwater from the site will be discharged to a suitable Council approved outlet.

SW 1

Prior to the issue of any approval under the *Building Act 2016* or the commencement of work on the site (whichever occurs first), a pre-

construction structural condition assessment and visual record (eg video and photos) of the Hobart City Council's stormwater infrastructure adjacent to the proposed development must be submitted to the City of Hobart as a Condition Endorsement.

The condition assessment must include at least:

1. a site plan clearly showing the location of the investigation, with access points and all segments and nodes shown and labelled, with assets found to have a different alignment from that shown on the City of Hobart's plans to be marked on the ground and on the plan;
2. a digital recording of a CCTV inspection and written condition assessment report in accordance with WSA 05-2013 Conduit Inspection Reporting Code of Australia, in a 'Wincan' compatible format; and
3. photos of any existing drainage structures connected to or modified as part of the development.

The pre-construction condition assessment will be relied upon to establish the extent of any damage caused to Hobart City Council's stormwater infrastructure during construction. If the owner/developer fails to provide the City of Hobart with an adequate pre-construction condition assessment then any damage to the City of Hobart's infrastructure identified in the post-construction condition assessment will be the responsibility of the owner/developer.

Advice:

This condition requires further information to be submitted as a Condition Endorsement. Refer to the Condition Endorsement advice at the end of this permit. Council notes the timing of the proposed development may be such that these pre and post-work CCTVs requirements may be covered by those within PLN-21-869 and associated Permit to Construct Public Infrastructure.

SW 2

Prior to occupancy or the commencement of the approved use (whichever occurs first), a post-construction structural condition assessment and visual record (eg video and photos) of the Hobart City Council's stormwater infrastructure adjacent to the proposed development must be submitted to the City of Hobart.

The condition assessment must include at least:

a site plan clearly showing the location of the investigation, with access points and all segments and nodes shown and labelled, with assets found to have a different alignment from that shown on the City of Hobart's plans shall be marked on the ground and on the plan;

a digital recording of a CCTV inspection and written condition assessment report in accordance with WSA 05-2013 Conduit Inspection Reporting Code of Australia, in a 'Wincan' compatible format; and photos of any existing drainage structures connected to or modified as part of the development.

The post-construction condition assessment will be relied upon to establish the extent of any damage caused to the Hobart City Council's stormwater infrastructure during construction. If the owner/developer fails to provide the City of Hobart with an adequate pre-construction condition assessment then any damage to the Hobart City Council's infrastructure identified in the post-construction CCTV will be deemed to be the responsibility of the owner/developer.

Advice:

Council notes the timing of the proposed development may be such that these pre and post-work CCTVs requirements may be covered by those within PLN-21-869 and associated Permit to Construct Public Infrastructure.

SW 3

The proposed development (including foundations and overhangs) must be designed to ensure the protection and access to the Hobart City Council's stormwater main and overland flow path.

Prior to the issuing of any approval under the *Building Act 2016* or commencement of works (whichever occurs first), a detailed design must be submitted and approved as a Condition Endorsement. The detailed design must:

- a. Demonstrate how the design will maintain the overland flow path, provide adequate access to the main, impose no additional loads onto the main and that the structure will be fully independent of the main and its trenching.
- b. include final detailed design plan, cross-sections and long-section which clearly demonstrate the relationship both vertically and horizontally between the proposed Council stormwater infrastructure and easement, and the proposed works (including overhang and footings). The plans must state the minimum setbacks from the works to the nearest external surface of the infrastructure, vertical clearance, and minimum work zone width.
- c. include an associated report discussing how the design provides adequate access to the main including assessment of working space required for future renewals, and details of how any demountable elements can be removed
- d. Be certified by a suitably qualified engineer

Prior to issue of any Certificate of Completion a suitably qualified

engineer must confirm the installation of the works within two metres of Council's stormwater main is in accordance with the approved drawings and complies with this condition. Should any remediation works be required, these must be carried out at the developer's cost.

All work required by this condition must be undertaken in accordance with the approved detailed design.

Advice:

This condition requires further information to be submitted as a Condition Endorsement. Refer to the Condition Endorsement advice at the end of this permit.

You will need separate permission under s73/74 of the Building Act 2016 and s13 of the Urban Drainage Act 2013 for any works within one metre horizontally of the nearest external surface of the stormwater main or within the easement.

It is not currently apparent that this permission will be granted due to the restricted access.

Please contact Hobart City Council's Bushland, Biodiversity and Waterways Unit to discuss.

SW 5

Construction of the development must not adversely impact the public stormwater infrastructure (ie the newly diverted piped rivulet down the laneway).

A construction management plan (CMP) must be submitted and approved prior to commencement of works. The CMP must be prepared by a suitably qualified and experienced engineer and must:

1. detail the proposed construction methodology /timing and identify all potential risks to the stormwater infrastructure during construction including but not limited to construction loading, traffic loading, excavation works, footing construction, vibrations, undermining, flood, and environmental harm;
2. provide treatment measures to eliminate or otherwise mitigate to as low as reasonably practicable all identified risks;
3. include a monitoring regime.

All work required by this condition must be undertaken in accordance with the approved CMP.

SW 11

The structure must be constructed and maintained to mitigate flood risk

from the critical 1% AEP at 2100 event.

No additional intrusion into the floodwaters beyond that modelled in the JMG Flood Report submitted as part of this application is approved.

Plans submitted for issue of any approval under the *Building Act 2016* must be certified by an accredited and qualified structural engineer that all proposed structures within the flood zone are designed to resist inundation, erosion, undermining and likely forces from a flood event (including debris loading with support columns).

ENG tr2

A construction traffic and parking management plan must be implemented prior to the commencement of work on the site (including demolition).

The construction traffic (including cars, public transport vehicles, service vehicles, pedestrians and cyclists) and parking management plan must be submitted and approved as a Condition Endorsement, prior to commencement work (including demolition). The construction traffic and parking management plan must:

1. Be prepared by a suitably qualified person.
2. Develop a communications plan to advise the wider community of the traffic and parking impacts during construction.
3. Include a start date and finish dates of various stages of works.
4. Include times that trucks and other traffic associated with the works will be allowed to operate.
5. Nominate a superintendent, or the like, to be responsible for the implementation of the approved traffic management plan and available as a direct contact to Council and/or members of the community regarding day to day construction traffic operations at the site, including any immediate traffic issues or hazards that may arise.

All work required by this condition must be undertaken in accordance with the approved construction traffic and parking management plan.

Advice:

This condition requires further information to be submitted as a Condition Endorsement. Refer to the Condition Endorsement advice at the end of this permit.

Reason for condition

To ensure the safety of vehicles entering and leaving the development and the safety and access around the development site for the general public and adjacent businesses.

ENG 1

Any damage to council infrastructure resulting from the implementation of this permit, must, at the discretion of the Council:

Be met by the owner by way of reimbursement (cost of repair and reinstatement to be paid by the owner to the Council); or
Be repaired and reinstated by the owner to the satisfaction of the Council.

A photographic record of the Council's infrastructure adjacent to the subject site must be provided to the Council prior to any commencement of works.

A photographic record of the Council's infrastructure (e.g. existing property service connection points, roads, buildings, stormwater, footpaths, driveway crossovers and nature strips, including if any, pre-existing damage) will be relied upon to establish the extent of damage caused to the Council's infrastructure during construction. In the event that the owner/developer fails to provide to the Council a photographic record of the Council's infrastructure, then any damage to the Council's infrastructure found on completion of works will be deemed to be the responsibility of the owner.

Reason for condition

To ensure that any of the Council's infrastructure and/or site-related service connections affected by the proposal will be altered and/or reinstated at the owner's full cost.

ENV 1

Sediment and erosion control measures sufficient to prevent sediment from leaving the site must be installed prior to any disturbance of the site, and maintained until all areas of disturbance have been stabilized or re-vegetated.

Advice:

For further guidance in preparing a Soil and Water Management Plan – in accordance with Fact sheet 3 Derwent Estuary Program [click here](#).

Reason for condition

To avoid the sedimentation of roads, drains, natural watercourses, Council land that could be caused by erosion and runoff from the development, and to comply with relevant State legislation.

ENVHE 1

Recommendations in the report Environmental Site Assessment for DA, Old Forestry Building - 79-83 Melville Street and 80 Brisbane Street, Hobart (GHD) must be implemented, for the duration of the site development.

Specifically:

1. Management and handling (PPE and hygiene practices) of soil onsite during excavation is to be in accordance with Section 7 of the Environmental Site Assessment (page 25-26).
2. No soil should be removed from site until it has been characterised under EPA Bulletin 105 Soils for Disposal by a suitably qualified person (as per Section 7, pages 25-26).
3. The material to be excavated from the area in carpark at Brisbane Street near the Freedom Furniture loading bay should be segregated from the other spoil generated and retested to determine disposal options due to an elevated lead reading in one sample (as per Section 7, pages 25-26).
4. If USTs are encountered during excavation, works are to cease until advice is sought from a suitably qualified person (the author of the ESA). If tanks are to be removed, they must be removed in accordance with EPA UPSS and Council requirements.

Reason for condition

To ensure that the risk to site workers, the environment and future occupants of the building remain low and acceptable.

OPS 4

Two *Platanus x acerifolia* (London plane) trees in Brisbane Street must be protected from damage during the works, as per planning approval PLN-21-869. Therefore, prior to works commencing, all of the tree protection zones of both trees are to be fenced off and signs erected stating that the fencing is for tree protection. Where works encroach into the tree protection zones, the fencing should be erected as close to the edge of the zone as possible, to the satisfaction of the Project Arborist. No works are to occur within the fenced areas.

Reason for condition

To maintain the amenity value of street trees as per the City of Hobart Street Tree Strategy.

OPS 5

Details of the street tree protection measures specified in permit condition OPS 4 must be clearly notated on any plans submitted to the Council under the *Building Act 2016*.

Advice:

Once the plans showing tree protection measures have been approved, the City will issue a condition endorsement (see general advice on how to obtain condition endorsement). It is recommended that documentation for condition endorsement be submitted well before submitting documentation for building approval. Failure to address condition endorsement requirements prior to submitting for building approval may result in unexpected delays.

Reason for condition

To maintain the amenity value of street trees as per the City of Hobart Street Tree Strategy.

ADVICE

The following advice is provided to you to assist in the implementation of the planning permit that has been issued subject to the conditions above. The advice is not exhaustive and you must inform yourself of any other legislation, by-laws, regulations, codes or standards that will apply to your development under which you may need to obtain an approval. Visit the Council's website for further information.

Prior to any commencement of work on the site or commencement of use the following additional permits/approval may be required from the Hobart City Council.

CONDITION ENDORSEMENT

If any condition requires that further documents are submitted and approved, you will need to submit the relevant documentation to satisfy the condition via the Condition Endorsement Submission on Council's online services e-planning portal. Detailed instructions can be found [here](#).

Once approved, the Council will respond to you via email that the condition has been endorsed (satisfied).

Where building approval is also required, it is recommended that documentation for condition endorsement be submitted well before submitting documentation for building approval. Failure to address condition endorsement requirements prior to submitting for building approval may result in unexpected delays.

BUILDING PERMIT

You may need building approval in accordance with the *Building Act 2016*. [Click here](#) for more information.

This is a Discretionary Planning Permit issued in accordance with section 57 of the *Land Use Planning and Approvals Act 1993*.

PLUMBING PERMIT

You may need plumbing approval in accordance with the *Building Act 2016*, *Building Regulations 2016* and the National Construction Code. [Click here for more information.](#)

OCCUPATION OF THE PUBLIC HIGHWAY

You may require a permit for the occupation of the public highway for construction or special event (e.g. placement of skip bin, crane, scissor lift etc). [Click here for more information.](#)

You may require a road closure permit for construction or special event. [Click here for more information.](#)

GENERAL EXEMPTION (TEMPORARY) PARKING PERMITS

You may qualify for a General Exemption permit for construction vehicles i.e. residential or meter parking/loading zones. [Click here for more information.](#)

CBD AND HIGH VOLUME FOOTPATH CLOSURES

Please note that the City of Hobart does not support the extended closure of public footpaths or roads to facilitate construction on adjacent land.

It is the developer's responsibility to ensure that the proposal as designed can be constructed without reliance on such extended closures.

In special cases, where it can be demonstrated that closure of footpaths in the CBD and/or other high volume footpaths can occur for extended periods without unreasonable impact on other businesses or the general public, such closures may only be approved by the full Council.

For more information about this requirement please contact the Council's Mobility Unit on 62382711.

WORK PLACE HEALTH AND SAFETY

Appropriate occupational health and safety measures must be employed during the works to minimise direct human exposure to potentially-contaminated soil, water, dust and vapours. [Click here for more information.](#)

PROTECTING THE ENVIRONMENT

In accordance with the *Environmental Management and Pollution Control Act 1994*, local government has an obligation to "use its best endeavours to prevent or control acts or omissions which cause or are capable of causing pollution." [Click here for more information.](#)

NOISE REGULATIONS

[Click here for information with respect to noise nuisances in residential areas.](#)

WASTE DISPOSAL

It is recommended that the developer liaise with the Council's City Resilience Unit regarding reducing, reusing and recycling materials associated with demolition on the site to minimise solid waste being directed to landfill.





Further information regarding waste disposal can also be found on the Council's website.

FEES AND CHARGES

[Click here for information on the Council's fees and charges.](#)

DIAL BEFORE YOU DIG

[Click here for dial before you dig information.](#)

- | | |
|---------------|--|
| Attachment A: | PLN-22-790 - 83 MELVILLE STREET HOBART
TAS 7000 - Planning Committee or Delegated
Report ↓  |
| Attachment B: | PLN-22-790 - 83 MELVILLE STREET HOBART
TAS 7000 - Planning Committee Agenda
Documents ↓  |
| Attachment C: | PLN-22-790 - 83 MELVILLE STREET HOBART
TAS 7000 - Planning Referral Officer Cultural
Heritage Report ↓  |
| Attachment D: | PLN-22-790 - 83 MELVILLE STREET HOBART
TAS 7000 - Applicant Submission on Passive
Surveillance ↓  |

**APPLICATION UNDER HOBART INTERIM PLANNING SCHEME 2015**

Type of Report:	Committee
Committee:	1 February 2023
Expiry Date:	3 February 2023
Application No:	PLN-22-790
Address:	83 MELVILLE STREET , HOBART 80 BRISBANE STREET , HOBART
Applicant:	(University of Tasmania) C/- All Urban Planning Pty Ltd 19 Mawhera Avenue
Proposal:	Alterations to Previously Approved Development for Pedestrian Bridge
Representations:	Thirteen
Performance criteria:	Central Business Zone Development Standards, Potentially Contaminated Land Code, Inundation Prone Areas Code

1. Executive Summary

- 1.1 Planning approval is sought for Alterations to Previously Approved Development for Pedestrian Bridge, at 83 Melville Street and 80 Brisbane Street, Hobart.
- 1.2 More specifically the proposal includes:
 - Construction of a pedestrian bridge along eastern side of laneway to link Brisbane Street footpath to Level 2 of the previously approved building extension
 - The bridge is to be constructed with mass timber fins and patterned brick paving. Metal mesh stretched between the fins will provide a visually permeable balustrade
 - Five concrete columns will support the bridge and the new understory area will be landscaped with low level planting. Several spotlights and recessed downlights will be installed beneath the bridge to provide additional secure lighting of the laneway space
- 1.3 The proposal relies on performance criteria to satisfy the following standards and codes:
 - 1.3.1 Central Business Zone - Passive Surveillance

- 1.3.2 Potentially Contaminated Land Code - Excavation
- 1.3.3 Inundation Prone Areas Code - Riverine Inundation Hazard Areas, Riverine, Coastal Investigation Area, Low, Medium, High Inundation Hazard Areas
- 1.4 Thirteen (13) representations objecting to the proposal were received within the statutory advertising period between 22/12/22 - 12/01/23.
- 1.5 The proposal is recommended for approval subject to conditions.
- 1.6 The final decision is delegated to the Planning Committee, because more than six (6) objections were received within the statutory advertising period.

2. Site Detail

- 2.1 The subject site is located at 83 Melville Street, Hobart (also known as 79-83 Melville Street) and 80 Brisbane Street, Hobart and comprises a two strata lots and the parent title lot, with an area of approximately 7873m² in area in the Hobart Central Business District. The site spans the width of the block and has frontages to both Melville and Brisbane Streets. The site presently comprises of a large two storey building (Forestry Building) on the Melville Street frontage and a large furniture showroom with understorey parking on the Brisbane Street frontage. The approved uses on the site are Business and Professional Services, General Retail and Hire, and Bulky Goods Sales. The surrounding area is characterised by wide variety of uses including Business and Professional Services, General Retail and Hire, Residential, Vehicle Parking, and Community Meeting and Entertainment. The site has two vehicle crossovers, both on the Brisbane Street frontage including a driveway and laneway along the north eastern side boundary. A site visit was undertaken following the conclusion of the statutory advertising period.



Figure 1: Aerial image of the subject site (bordered in blue) and surrounding area.



Figure 2: View of existing laneway. Note brick wall at center of photograph to be removed, previous approvals will see rear extension and building entrance located approximately at red line.

3. Proposal

- 3.1 Planning approval is sought for Alterations to Previously Approved Development for Pedestrian Bridge, at 83 Melville Street and 80 Brisbane Street, Hobart.
- 3.2 More specifically the proposal is for:
 - Construction of a pedestrian bridge along eastern side of laneway to link Brisbane Street footpath to Level 2 of the previously approved building extension
 - The bridge is to be constructed with mass timber fins and patterned brick paving. Metal mesh stretched between the fins will provide a visually permeable balustrade
 - Five concrete columns will support the bridge and the new understory area will be landscaped with low level planting. Several spotlights and recessed downlights will be installed beneath the bridge to provide additional secure lighting of the laneway space

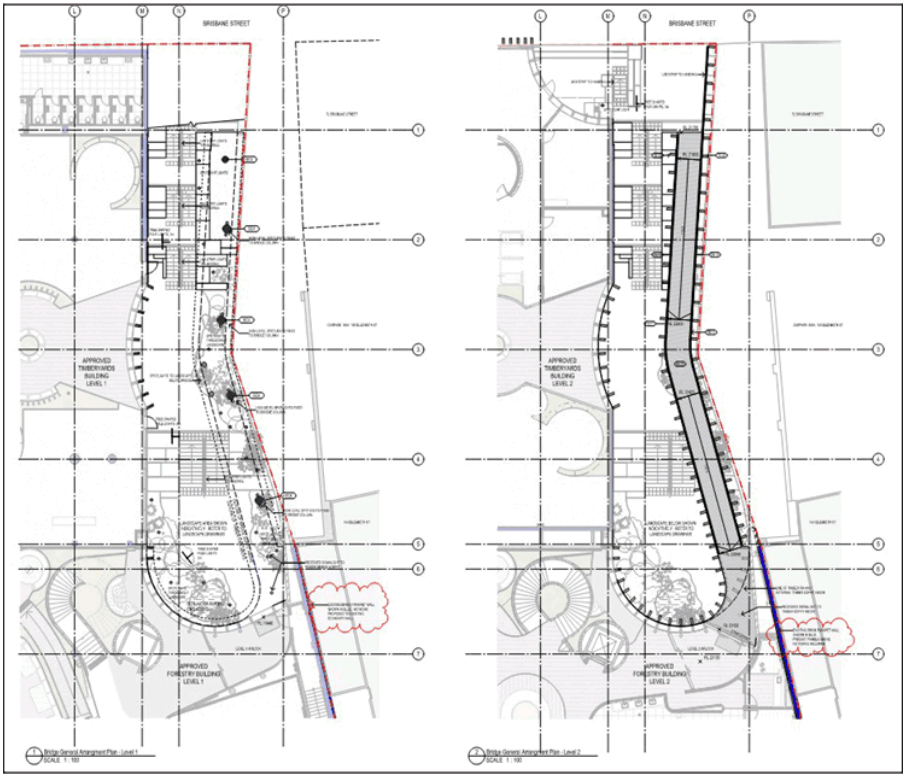


Figure 3: Ground and upper floor plan of laneway and proposed pedestrian bridge.

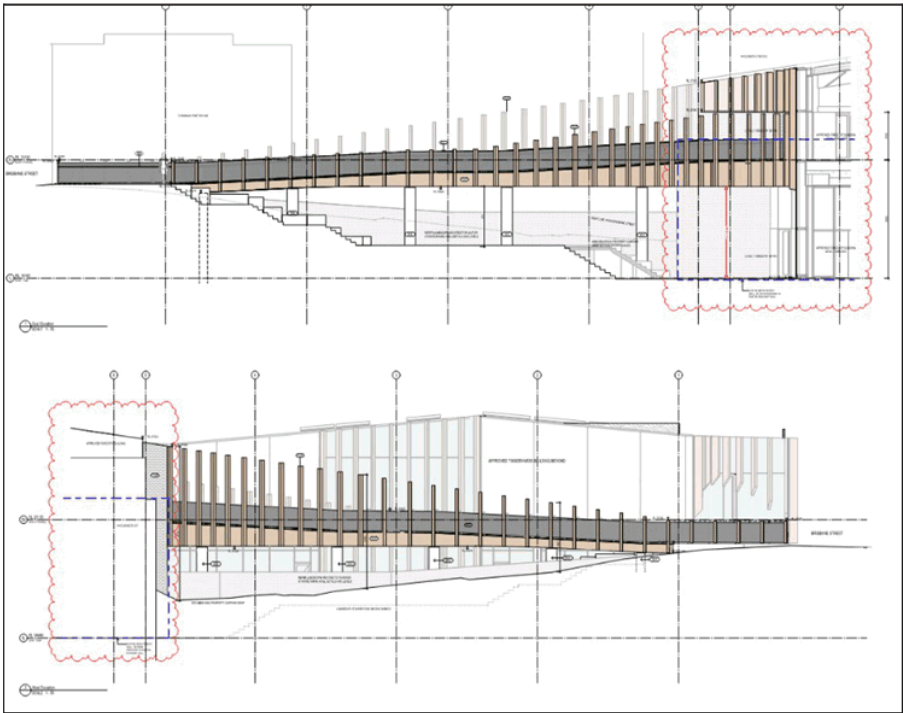


Figure 4: Elevations of proposed pedestrian bridge.

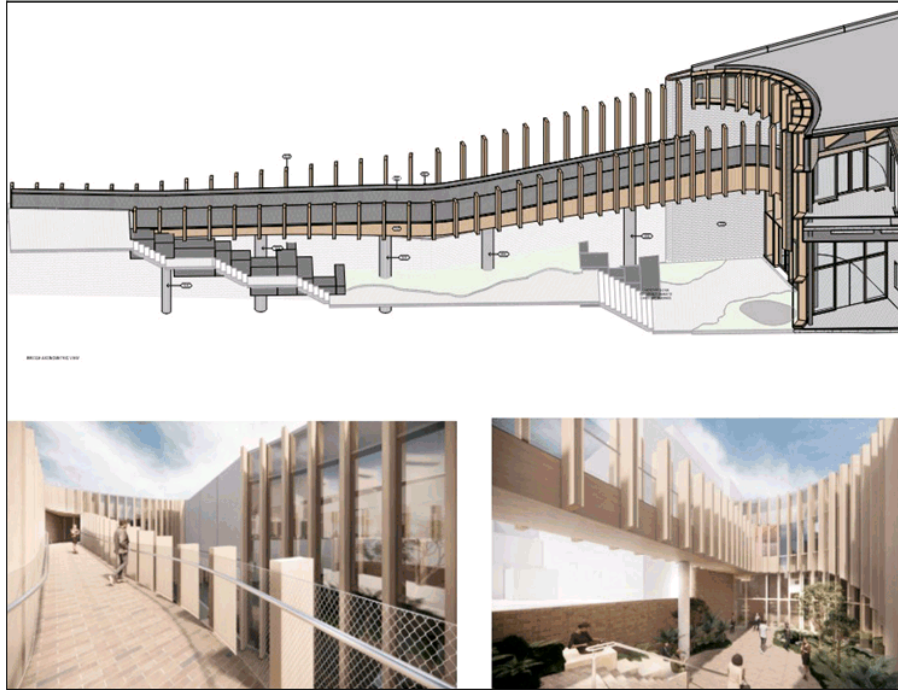


Figure 5: Axonometric View and Photo-Renders of proposed pedestrian bridge.

4. Background

- 4.1 Approval was granted in 2022 under PLN-21-869 for Partial Demolition, Alterations, Extension, and Change of Use to Educational and Occasional Care. The images below show the Brisbane Street entry as approved under this previous planning permit.

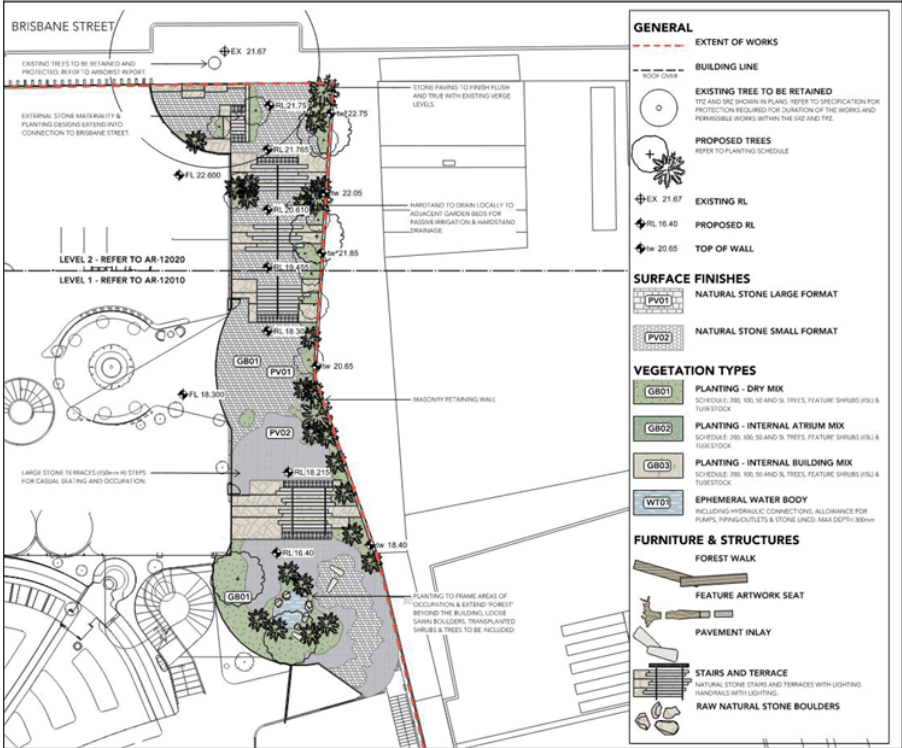


Figure 6: Approved landscaped plan under PLN-21-869.

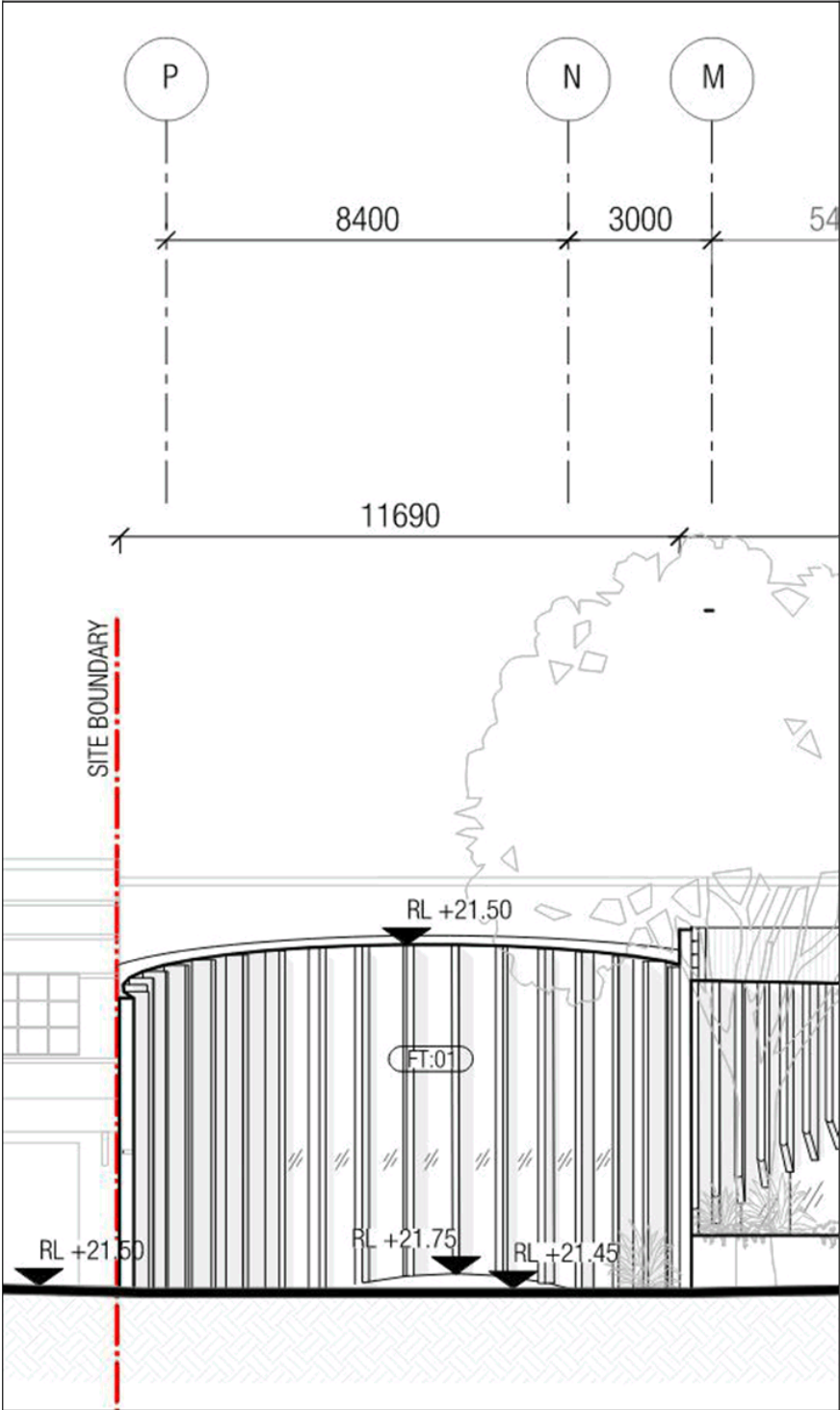


Figure 7: Approved elevation of Brisbane Street access point under PLN-21-869.



Figure 8: Approved render of access into new building off Brisbane Street under PLN-21-869.



Figure 9: Approved render of access point on Brisbane Street under PLN-21-869.

5. Concerns raised by representors

- 5.1 Thirteen (13) representations objecting to the proposal were received within the statutory advertising period between 22/12/22 - 12/01/23.
- 5.2 The following table outlines the concerns raised in the representations received. Those concerns which relate to a discretion invoked by the proposal are addressed in Section 6 of this report.

Design and Visual Impact <ul style="list-style-type: none"> - The bridge will block light to the neighboring property - The bridge will block views to the mountain from the neighboring property
Access <ul style="list-style-type: none"> - The laneway below does not allow for disabled access. - The bridge is too narrow for two-way pedestrian traffic. - The bridge seems like it is intended to allow disabled access, however there are no disabled car parks included at the entrance to the bridge.

Entrapment and Visibility

- The bridge could lead to entrapment as it leads to building doors which will be locked at times unknown to the public
- The bridge cannot rely on safety sight lines from the neighboring property as this site may well be developed and change
- The proposed pedestrian bridge does not comply with the requirements for Passive Surveillance (Clause 22.4.4 of the Hobart Interim Planning Scheme 2015).
- Concealed spaces will be created underneath the proposed pedestrian bridge
- The drawings show that sight-lines from the boundary with Brisbane St to the pedestrian entrances of the building will be blocked by the angled boundary wall, the columns supporting the bridge above, the proposed landscaping and the vertical timber fins at the sides of the bridge.
- The perspectives and views shown on the drawings are highly selective and are views from well within the site, and are not shown from Brisbane St

Landscaping

- Proposed landscaping will be inconsistent with conditions of 2022 approval and will create sight line issues

Construction

- I am gravely concerned that the additional information provided by UTAS regarding the underlying issues with any excavations and ground works continue to NOT take into account any affect this may have on the conjoined buildings (e.g. 61, 63, 65 and 67 Melville Street).
- I can find no evidence that the amended application details includes any details of how UTAS's considerable excavations and building works WILL NOT affect the integrity and structure of my building.

Opening Hours

- The application states that the building is to be open for "extended hours" to staff and students – the final opening hours will vary depending on the university calendar. These "extended hours" are not defined, so it is highly likely that the building itself will not be accessible to the public on weekends, after hours and during semester breaks. However, the bridge and laneway, as designed, will still be accessible to the public at those times, and the lack of through traffic at those times will make it an unsafe area.

Parking

- Little consideration appears to be given to the impact from the proposal on on-street parking for the 3000 students and staff who will be utilising this site

General Comment

- The bridge does not appear to serve any purpose as the site already has level access from Brisbane Street.

- The original DA for 83 Melville St did not provide access for people with disabilities from Brisbane St as required by the Disability Discrimination Act and the National Construction Code

- Risks of Council liability for damages if incident occurs in laneway

- I question whether the increased amount of rates UTAS is now paying the Hobart City Council is sufficient to clean up the ever increasing mess left in the city streets overnight by students (and staff) who have over indulged.

- A 'reasonableness' test of the Environmental Management and Pollution Control Act 1994, Section 53, must be applied to the running of UTAS functions on this site.

This should include a ban on live music or bands on this site – limiting noise to acoustic operations kept to a reasonable level in a manner that prevents sound from being heard from my premises adjacent to the UTAS site.

- I believe that advertising proposals just before Christmas and providing such a short period for representations over the Christmas-New Year period, when people are focused on other matters and/or on holiday is poor practice.

6. Assessment

- 6.1 The *Hobart Interim Planning Scheme 2015* is a performance based planning scheme. To meet an applicable standard, a proposal must demonstrate compliance with either an acceptable solution or a performance criterion. Where a proposal complies with a standard by relying on one or more performance criteria, the Council may approve or refuse the proposal on that basis. The ability to approve or refuse the proposal relates only to the performance criteria relied on.
- 6.2 The site is located within the Central Business Zone of the *Hobart Interim Planning Scheme 2015*.
- 6.3 The existing use is Business and Professional Services, Bulky Goods Sales, and General Retail and Hire. The previously approved use is Education and Occasional Care. The existing use is a discretionary use in the zone. The proposed use is a discretionary use in the zone.
- 6.4 The proposal has been assessed against:
- 6.4.1 D22.0 Central Business Zone
 - 6.4.2 E2.0 Potentially Contaminated Land Code
 - 6.4.3 E6.0 Parking and Access Code
 - 6.4.4 E7.0 Stormwater Management Code
 - 6.4.6 E13.0 Historic Heritage Code
 - 6.4.7 E15.0 Inundation Prone Areas Code
- 6.5 The proposal relies on the following performance criteria to comply with the applicable standards:
- 6.5.1 Central Business Zone
 - Passive Surveillance - D22.4.4 P1*
 - 6.5.2 Potentially Contaminated Land Code
 - Excavation - E2.6.2 P1*
 - 6.5.3 Inundation Prone Areas Code

Riverine Inundation Hazard Areas- E15.7.4 P3

*Riverine, Coastal Investigation Area, Low, Medium, High Inundation
Hazard Areas - E15.7.5 P1*

6.6 Each performance criterion is assessed below.

6.7 Passive Surveillance - D22.4.4 P1

6.7.1 The acceptable solution at clause 22.4.4 A1 requires the following:

Building design must comply with all of the following:

(a) provide the main pedestrian entrance to the building so that it is clearly visible from the road or publicly accessible areas on the site;

(b) for new buildings or alterations to an existing facade provide windows and door openings at ground floor level in the front façade which amount to no less than 40 % of the surface area of the ground floor level facade;

(c) for new buildings or alterations to an existing facade provide windows and door openings at ground floor level in the façade of any wall which faces a public space or a car park which amount to no less than 30 % of the surface area of the ground floor level facade;

(d) avoid creating entrapment spaces around the building site, such as concealed alcoves near public spaces;

(e) provide external lighting to illuminate car parking areas and pathways;

(f) provide well-lit public access at the ground floor level from any external car park.

6.7.2 The planning scheme does not provide a definition of 'entrapment space'. Erring on the side of caution, it is considered prudent to assess the proposal against the performance criterion on the basis that it may create an entrapment space, contrary to the acceptable solution subclause (d), in bold above.

It is acknowledged that the applicant's planning report assesses the proposal as complying with the above acceptable solution on the basis that:

- the new pedestrian bridge will maintain a clear line of sight to the pedestrian entry to the atrium door; and
- the space below the bridge will be treated with landscaped sandstone blocks and landscaping to avoid the creation of a potential entrapment space.

6.7.3 The proposal does not comply with the acceptable solution; therefore assessment against the performance criterion is relied on.

6.7.4 The performance criterion at clause 22.4.4 P1 provides as follows:

Building design must provide for passive surveillance of public spaces by satisfying all of the following:

(a) provide the main entrance or entrances to a building so that they are clearly visible from nearby buildings and public spaces;

(b) locate windows to adequately overlook the street and adjoining public spaces;

(c) incorporate shop front windows and doors for ground floor shops and offices, so that pedestrians can see into the building and vice versa;

(d) locate external lighting to illuminate any entrapment spaces around the building site;

(e) provide external lighting to illuminate car parking areas and pathways;

(f) design and locate public access to provide high visibility for users and provide clear sight lines between the entrance and adjacent properties and public spaces;

(g) provide for sight lines to other buildings and public spaces.

6.7.5 The proposed pedestrian bridge will extend the length of the eastern side of the existing laneway. The bridge will provide new level access into 'Level 2' of the building, which is the Brisbane Street level of the building.

The PLN-21-869 approved a new ground floor (called Level 1 on the plans) entrance to the building off Brisbane Street. This entrance was at the end of the laneway, and down a number of stairs. The entrance approved by the 2021 planning permit moved the pedestrian entrance to

the building around 16m closer to Brisbane Street than the currently existing situation for the building (refer Figure 4 above). The location of the new entrance was assessed as being compliant with the performance criterion as the it would remain clearly visible from nearby buildings and public spaces. Further conditions were imposed to have a landscaping plan endorsed that would ensure all vegetation would be at a low level and that lighting would be sufficient to minimise and dark area at night. This plan was supplied and endorsed by officers following the approval of the application.

As noted above, the intent of the new pedestrian bridge is to enable level access into the building off Brisbane Street, which currently does not exist. In doing so, it creates a new pedestrian entrance into the building, which will be visible from Brisbane Street. That is, the new bridge doesn't impede visibility of the new entrance.

In terms of the visibility of the ground floor (noted on the plans as Level 1) entrance, it is considered that the proposal will still allow it to be seen from Brisbane Street, in the same way as approved under PLN-21-869. The advertised plans demonstrate that the bridge will provide a clearance of between 3.4m and 5.1m which would be sufficient to provide a line of sight between the footpath and both the airlock entrance and internal doorway into the building. Representation repeated concerns that the timber battens from the proposed pedestrian bridge would obscure visibility. Whilst they may increase the visual and bulk of the bridge structure, the battens will not extend lower than the bridge itself, minimising any intrusion into the line of sight between the building entrance and the footpath. Additional photo renders were supplied by the applicant following the conclusion of advertising which are supplied below in Figure 6 and Figure 7, and at Attachment D to this report. These renders demonstrate the extent of visibility between the entrance and public footpath.

It should also be noted that there is no change to the pedestrian access off Melville Street, which is most likely to be the 'main' pedestrian access point to the building.

With respect to subclauses (b) and (c) there will be no change to the existing windows approved under PLN-21-869 which will be located along the length of the laneway and facing the Brisbane Street frontage.

Addressing subclauses (d) and (e), additional external lighting in the form of spotlights and recessed downlights will be positioned beneath the

bridge to illuminate any potential entrapment spaces along the entire length. This is in addition to external lighting which extends throughout the laneway space and pathways which was already approved under PLN-21-869. The extent of this lighting will aid in the provision of passive surveillance throughout the space and appropriately illuminate any perceived entrapment spaces and alcoves.

With respect to subclause (f) and (g), public access remains unchanged on the site, as above there will remain clear sight lines between entrance and public spaces which will provide for high visibility for users of the space. As addressed above, the inclusion of the pedestrian bridge does not compromise or impede the sight lines from the entrance to adjacent public spaces. The bridge itself will have chain mesh balustrading which will also allow for visibility of the laneway space, in addition to the visibility from buildings on the site.

Representations have also repeated concerns over the additional creation of concealed spaces and the management of the space. As evident in the advertised plans, the entire space will be lit by floodlights and downlights to minimise concealment space. Landscaping will also be provided alongside and underneath the bridge to either limit access to the area between the bridge and laneway floor or make the space open and useable. Noting the previous conditions for landscaping under the 2021 approval, and the advertised documentation for the current application, there is limited opportunity for the creation of concealed spaces or entrapment. A condition is proposed for the current application for any variation in the landscaping approved by the previous permit must be approved by the Director City Life and will take into account the potential for concealed spaces. CCTV coverage will be available across the entire laneway and as already noted in the advertised documents, a 24 hour manned security office will be located on-site overseeing those cameras and conducting patrols. The creation of the laneway allows for the extension of the public realm into an otherwise space of limited engagement or use, appropriate efforts have been taken by the applicant to ensure that the design of the space and buildings provides for the safety of the public.

The advertised documentation included a submission from the architect in relation to passive surveillance (refer plans 3.04 Sightlines and Safety), and the accompany planning report assessed the proposal as compliant with the acceptable solution. In light of the lack of clarity around what an entrapment space is, and given the number of representations raising this issue as a concern, the applicant was afforded the opportunity to address

the above performance criteria. That response is provided in full at Attachment D to this report. It concludes that the proposal satisfies the performance criteria. Officers support this conclusion.



Figure 10: View from adjacent to Brisbane Street frontage looking towards proposed pedestrian bridge and both upper floor (a) and ground floor (in red) entrances. *Note landscaping illustrated does not reflect landscaping approval under PLN-21-869 - Landscape Laneway Design (Rev C) dated 7 July 2022.*



Figure 11: View of the laneway space from the first floor looking towards

the Brisbane Street frontage. *Note landscaping illustrated does not reflect landscaping approval under PLN-21-869 - Landscape Laneway Design (Rev C) dated 7 July 2022.*

6.7.6 The proposal complies with the performance criterion.

6.8 Excavation - E2.6.2 P1

6.8.1 There is no acceptable solution at clause 2.6.2 A1.

6.8.2 The proposal includes excavation of a potentially contaminated site greater than 1m².

6.8.3 There is no acceptable solution; therefore assessment against the performance criterion is relied on.

6.8.4 The performance criterion at clause 2.6.2 P1 provides as follows:

Excavation does not adversely impact on health and the environment, having regard to:

(a) an environmental site assessment that demonstrates there is no evidence the land is contaminated; or

(b) a plan to manage contamination and associated risk to human health and the environment that includes:

(i) an environmental site assessment;

(ii) any specific remediation and protection measures required to be implemented before excavation commences; and

(iii) a statement that the excavation does not adversely impact on human health or the environment.

6.85 Referral was made to Council's Environmental Health Officer who has assessed the proposal and deemed the proposal as meeting the performance criterion subject to a condition requiring compliance with the recommendations of the supplied Environmental Site Assessment.

6.8.6 The proposal complies with the performance criterion.

6.9 Riverine Inundation Hazard Areas - E15.7.4 P3

- 6.9.1 The acceptable solution at clause 15.7.4 A3 requires that the total floor area of all non-habitable buildings, outbuildings and Class 10b buildings under the Building Code of Australia, on a site must be no more than 60 m².
- 6.9.2 The proposal includes a pedestrian bridge which is assessed as a non-habitable building with a floor area greater than 60m².
- 6.9.3 The proposal does not comply with the acceptable solution; therefore assessment against the performance criterion is relied on.
- 6.9.4 The performance criterion at clause 15.7.4 P3 provides as follows:

A non-habitable building, an outbuilding or a Class 10b building under the Building Code of Australia, must satisfy all of the following:

(a) risk to users of the site, adjoining or nearby land is acceptable;

(b) risk to adjoining or nearby property or public infrastructure is acceptable;

(c) need for future remediation works is minimised;

(d) provision of any developer contribution required pursuant to policy adopted by Council for riverine flooding protection works;

- 6.9.5 Referral was made to Council's Stormwater Engineer who has provided the following assessment:

The proposed works do not substantially alter the risk to users of the site due to inundation- the slight constriction at the top of the ramp does not increase the pre-existing hazard rating. Whilst several representations note the risk to the building proper, this is unchanged by the works and cannot be assessed under this application. P3(a) is considered to be satisfied.

The flood report did not find any impact on third-party land from the additional works. P3(b) is considered to be satisfied.

The structural elements of the works within the flood zone are built of flood-resistant materials (concrete pillars). Any damage to the fins or siding in such a major flood event would be minor significance. P3(c) is

considered to be satisfied.

Council has no such policy - P3(d) is not applicable.

6.9.5 The proposal complies with the performance criterion.

6.10 Riverine, Coastal Investigation Area, Low, Medium, High Inundation Hazard Areas - E15.7.5 P1

6.10.1 The acceptable solution at clause 15.7.5 A1 requires that for landfill, or solid walls greater than 5 m in length and 0.5 m in height, there is no acceptable solution.

6.10.2 Whilst starting at Brisbane St level, the air bridge rapidly rises above ground level, with only the 5 supporting columns in the floodpath. The initial 7m has no solid balustrade, and as such does not trigger A1. There is some fill at the Brisbane ST entrance - it is not clear if this has 0.5m depth for 10m2 as required to trigger A1. As such a pre-cautionary approach was taken

6.10.3 The proposal does not comply with the acceptable solution; therefore assessment against the performance criterion is relied on.

6.10.4 The performance criterion at clause 15.7.5 P1 provides as follows:

Landfill, or solid walls greater than 5 m in length and 0.5 m in height, must satisfy all of the following:

- (a) no adverse affect on flood flow over other property through displacement of overland flows;*
- (b) the rate of stormwater discharge from the property must not increase;*
- (c) stormwater quality must not be reduced from pre-development levels.*

6.10.5 Referral was made to Council's Stormwater Engineer who has provided the following assessment:

As above, the report did not find any impact on third-party land. Due to the hard nature of the works, no decrease in water quality is expected. No increase in runoff or flood velocities (beyond a small local effect within the property itself) is expected from the current fully impervious site. P1 is considered to be satisfied.

6.10.6 The proposal complies with the performance criterion.

7. Discussion

- 7.1 Planning approval is sought for Alterations to Previously Approved Development for Pedestrian Bridge, at 83 Melville Street and 80 Brisbane Street, Hobart.
- 7.2 The application was advertised and received thirteen (13) representations. The representations raised concerns including visual impact, restrictions to passive surveillance, entrapment risk, compliance with previous landscaping conditions, construction impacts, public access hours, flooding risk, parking, timing of public advertising, and liabilities risk to Council.
- 7.3 The proposal has been assessed against the relevant provisions of the planning scheme and is considered to perform well.
- 7.4 The proposal has been assessed by other Council officers, including the Council's Development Engineer, Cultural Heritage Officer, Stormwater Engineer, and Environmental Health Officer. The officers have raised no objection to the proposal, subject to conditions.
- 7.5 In relation to heritage, it is noted that this application is for works that are located outside the heritage listing in the planning scheme, so the heritage provisions do not apply. The Tasmanian Heritage Council has approved the proposal. Their decision is included at Attachment B to this report.
- 7.6 The proposal is recommended for approval.

8. Conclusion

- 8.1 The proposed Alterations to Previously Approved Development for Pedestrian Bridge, at 83 Melville Street and 80 Brisbane Street, Hobart satisfies the relevant provisions of the *Hobart Interim Planning Scheme 2015*, and as such is recommended for approval.

9. Recommendations

That: Pursuant to the *Hobart Interim Planning Scheme 2015*, the Planning Committee, in accordance with the delegations contained in its terms of reference, approves the application for Alterations to Previously Approved Development for Pedestrian Bridge, at 83 Melville Street and 80 Brisbane Street, Hobart for the reasons outlined in the officer's report and a permit containing the following conditions be issued:

GEN

The use and/or development must be substantially in accordance with the documents and drawings that comprise PLN-22-790 - 83 MELVILLE STREET HOBART TAS 7000 - Final Planning Documents except where modified below.

Reason for condition

To clarify the scope of the permit.

THC

The use and/or development must comply with the requirements of the Tasmanian Heritage Council as detailed in the Notice of Heritage Decision, THC Works Ref: 8058 dated 25 January 2023, as attached to the permit.

Reason for condition

To clarify the scope of the permit.

PLN s1

This permit is subject to and conditional upon the substantial commencement of planning permit PLN-21-869.

Reason for condition

To clarify the scope of the permit

PLN s2

If any departure is proposed from the landscaping plans which are required to be complied with by condition PLN s4 in planning permit PLN-21-869 (as

varied by condition HER 8 of the same permit), then revised plans must be submitted and approved by the Director City Life.

All landscaping must be carried out in accordance with the plans approved pursuant to this permit and permit PLN-21-869 prior to the commencement of the use.

The vegetation which is planted on the site pursuant to the approved plans must be maintained and must not be disturbed. If any vegetation dies or is destroyed, replacement vegetation of a similar size must be planted within 30 days of the death or destruction.

Advice:

This condition may require further information to be submitted as a Condition Endorsement. Refer to the Condition Endorsement advice at the end of this permit.

ENG sw1

All stormwater from the proposed development must be drained to the Council's stormwater infrastructure prior to first occupation or commencement of use (whichever occurs first).

Advice:

Under section 23 of the Urban Drainage Act 2013 it is an offence for a property owner to direct stormwater onto a neighbouring property.

Reason for condition

To ensure that stormwater from the site will be discharged to a suitable Council approved outlet.

SW 1

Prior to the issue of any approval under the *Building Act 2016* or the commencement of work on the site (whichever occurs first), a pre-construction structural condition assessment and visual record (eg video and photos) of the Hobart City Council's stormwater infrastructure adjacent to the proposed development must be submitted to the City of Hobart as a Condition Endorsement.

The condition assessment must include at least:

1. a site plan clearly showing the location of the investigation, with access

- points and all segments and nodes shown and labelled, with assets found to have a different alignment from that shown on the City of Hobart's plans to be marked on the ground and on the plan;
2. a digital recording of a CCTV inspection and written condition assessment report in accordance with WSA 05-2013 Conduit Inspection Reporting Code of Australia, in a 'Wincan' compatible format; and
 3. photos of any existing drainage structures connected to or modified as part of the development.

The preconstruction condition assessment will be relied upon to establish the extent of any damage caused to Hobart City Council's stormwater infrastructure during construction. If the owner/developer fails to provide the City of Hobart with an adequate pre-construction condition assessment then any damage to the City of Hobart's infrastructure identified in the postconstruction condition assessment will be the responsibility of the owner/developer.

Advice:

This condition requires further information to be submitted as a Condition Endorsement. Refer to the Condition Endorsement advice at the end of this permit. Council notes the timing of the proposed development may be such that these pre and post-work CCTVs requirements may be covered by those within PLN-21-869 and associated Permit to Construct Public Infrastructure.

SW 2

Prior to occupancy or the commencement of the approved use (whichever occurs first), a post-construction structural condition assessment and visual record (eg video and photos) of the Hobart City Council's stormwater infrastructure adjacent to the proposed development must be submitted to the City of Hobart.

The condition assessment must include at least:

1. a site plan clearly showing the location of the investigation, with access points and all segments and nodes shown and labelled, with assets found to have a different alignment from that shown on the City of Hobart's plans shall be marked on the ground and on the plan;
2. a digital recording of a CCTV inspection and written condition assessment report in accordance with WSA 05-2013 Conduit Inspection Reporting Code of Australia, in a 'Wincan' compatible format; and
3. photos of any existing drainage structures connected to or modified as

part of the development.

The post-construction condition assessment will be relied upon to establish the extent of any damage caused to the Hobart City Council's stormwater infrastructure during construction. If the owner/developer fails to provide the City of Hobart with an adequate pre-construction condition assessment then any damage to the Hobart City Council's infrastructure identified in the post-construction CCTV will be deemed to be the responsibility of the owner/developer.

Advice: Council notes the timing of the proposed development may be such that these pre and post-work CCTVs requirements may be covered by those within PLN-21-869 and associated Permit to Construct Public Infrastructure.

SW 3

The proposed development (including foundations and overhangs) must be designed to ensure the protection and access to the Hobart City Council's stormwater main and overland flow path.

Prior to the issuing of any approval under the Building Act 2016 or commencement of works (whichever occurs first), a detailed design must be submitted and approved as a Condition Endorsement. The detailed design must:

- a) Demonstrate how the design will maintain the overland flow path, provide adequate access to the main, impose no additional loads onto the main and that the structure will be fully independent of the main and its trenching.
- b) include final detailed design plan, cross-sections and long-section which clearly demonstrate the relationship both vertically and horizontally between the proposed Council stormwater infrastructure and easement, and the proposed works (including overhang and footings). The plans must state the minimum setbacks from the works to the nearest external surface of the infrastructure, vertical clearance, and minimum work zone width.
- c) include an associated report discussing how the design provides adequate access to the main including assessment of working space required for future renewals, and details of how any demountable elements can be removed
- d) Be certified by a suitably qualified engineer

Prior to issue of any Certificate of Completion a suitably qualified engineer must confirm the installation of the works within two metres of Council's stormwater main is in accordance with the approved drawings and complies with this condition. Should any remediation works be required, these must be carried out at the developer's cost.

All work required by this condition must be undertaken in accordance with the approved detailed design.

Advice:

This condition requires further information to be submitted as a Condition Endorsement. Refer to the Condition Endorsement advice at the end of this permit.

You will need separate permission under s73/74 of the Building Act 2016 and s13 of the Urban Drainage Act 2013 for any works within one metre horizontally of the nearest external surface of the stormwater main or within the easement.

It is not currently apparent that this permission will be granted due to the restricted access.

Please contact Hobart City Council's Bushland, Biodiversity and Waterways Unit to discuss.

SW 5

Construction of the development must not adversely impact the public stormwater infrastructure (ie the newly diverted piped rivulet down the laneway).

A construction management plan (CMP) must be submitted and approved prior to commencement of works. The CMP must be prepared by a suitably qualified and experienced engineer and must:

- 1. detail the proposed construction methodology /timing and identify all potential risks to the stormwater infrastructure during construction including but not limited to construction loading, traffic loading, excavation works, footing construction, vibrations, undermining, flood, and environmental harm;**
- 2. provide treatment measures to eliminate or otherwise mitigate to as low as reasonably practicable all identified risks;**
- 3. include a monitoring regime.**

All work required by this condition must be undertaken in accordance with the approved CMP.

SW 11

The structure must be constructed and maintained to mitigate flood risk from the critical 1% AEP at 2100 event.

No additional intrusion into the floodwaters beyond that modelled in the JMG

Flood Report submitted as part of this application is approved.

Plans submitted for issue of any approval under the *Building Act 2016* must be certified by an accredited and qualified structural engineer that all proposed structures within the flood zone are designed to resist inundation, erosion, undermining and likely forces from a flood event (including debris loading with support columns).

ENG tr2

A construction traffic and parking management plan must be implemented prior to the commencement of work on the site (including demolition).

The construction traffic (including cars, public transport vehicles, service vehicles, pedestrians and cyclists) and parking management plan must be submitted and approved as a Condition Endorsement, prior to commencement work (including demolition). The construction traffic and parking management plan must:

1. Be prepared by a suitably qualified person.
2. Develop a communications plan to advise the wider community of the traffic and parking impacts during construction.
3. Include a start date and finish dates of various stages of works.
4. Include times that trucks and other traffic associated with the works will be allowed to operate.
5. Nominate a superintendent, or the like, to be responsible for the implementation of the approved traffic management plan and available as a direct contact to Council and/or members of the community regarding day to day construction traffic operations at the site, including any immediate traffic issues or hazards that may arise.

All work required by this condition must be undertaken in accordance with the approved construction traffic and parking management plan.

Advice:

This condition requires further information to be submitted as a Condition Endorsement. Refer to the Condition Endorsement advice at the end of this permit.

Reason for condition

To ensure the safety of vehicles entering and leaving the development and the safety and access around the development site for the general public and adjacent

businesses.

ENG 1

Any damage to council infrastructure resulting from the implementation of this permit, must, at the discretion of the Council:

1. **Be met by the owner by way of reimbursement (cost of repair and reinstatement to be paid by the owner to the Council); or**
2. **Be repaired and reinstated by the owner to the satisfaction of the Council.**

A photographic record of the Council's infrastructure adjacent to the subject site must be provided to the Council prior to any commencement of works.

A photographic record of the Council's infrastructure (e.g. existing property service connection points, roads, buildings, stormwater, footpaths, driveway crossovers and nature strips, including if any, pre-existing damage) will be relied upon to establish the extent of damage caused to the Council's infrastructure during construction. In the event that the owner/developer fails to provide to the Council a photographic record of the Council's infrastructure, then any damage to the Council's infrastructure found on completion of works will be deemed to be the responsibility of the owner.

Reason for condition

To ensure that any of the Council's infrastructure and/or site-related service connections affected by the proposal will be altered and/or reinstated at the owner's full cost.

ENV 1

Sediment and erosion control measures sufficient to prevent sediment from leaving the site must be installed prior to any disturbance of the site, and maintained until all areas of disturbance have been stabilized or re-vegetated.

Advice:

For further guidance in preparing a Soil and Water Management Plan – in accordance with Fact sheet 3 Derwent Estuary Program click [here](#).

Reason for condition

To avoid the sedimentation of roads, drains, natural watercourses, Council land that could be caused by erosion and runoff from the development, and to comply with relevant State legislation.

ENVHE 1

Recommendations in the report Environmental Site Assessment for DA, Old Forestry Building - 79-83 Melville Street and 80 Brisbane Street, Hobart (GHD) must be implemented, for the duration of the site development.

Specifically:

1. **Management and handling (PPE and hygiene practices) of soil onsite during excavation is to be in accordance with Section 7 of the Environmental Site Assessment (page 25-26).**
2. **No soil should be removed from site until it has been characterised under EPA Bulletin 105 Soils for Disposal by a suitably qualified person (as per Section 7, pages 25-26).**
3. **The material to be excavated from the area in carpark at Brisbane Street near the Freedom Furniture loading bay should be segregated from the other spoil generated and retested to determine disposal options due to an elevated lead reading in one sample (as per Section 7, pages 25-26).**
4. **If USTs are encountered during excavation, works are to cease until advice is sought from a suitably qualified person (the author of the ESA). If tanks are to be removed, they must be removed in accordance with EPA UPSS and Council requirements.**

Reason for condition

To ensure that the risk to site workers, the environment and future occupants of the building remain low and acceptable.

OPS 4

Two Platanus x acerifolia (London plane) trees in Brisbane Street must be protected from damage during the works, as per planning approval PLN-21-869. Therefore, prior to works commencing, all of the tree protection zones of both trees are to be fenced off and signs erected stating that the fencing is for tree protection. Where works encroach into the tree protection zones, the fencing should be erected as close to the edge of the zone as possible, to the satisfaction of the Project Arborist. No works are to occur within the fenced areas.

Reason for condition

To maintain the amenity value of street trees as per the City of Hobart Street Tree Strategy.

OPS 5

Details of the street tree protection measures specified in permit condition OPS 4 must be clearly notated on any plans submitted to the Council under the Building Act 2016.

Advice: Once the plans showing tree protection measures have been approved, the City will issue a condition endorsement (see general advice on how to obtain condition endorsement). It is recommended that documentation for condition endorsement be submitted well before submitting documentation for building approval. Failure to address condition endorsement requirements prior to submitting for building approval may result in unexpected delays.

Reason for condition

To maintain the amenity value of street trees as per the City of Hobart Street Tree Strategy.

ADVICE

The following advice is provided to you to assist in the implementation of the planning permit that has been issued subject to the conditions above. The advice is not exhaustive and you must inform yourself of any other legislation, by-laws, regulations, codes or standards that will apply to your development under which you may need to obtain an approval. Visit the Council's [website](#) for further information.

Prior to any commencement of work on the site or commencement of use the following additional permits/approval may be required from the Hobart City Council.

CONDITION ENDORSEMENT

If any condition requires that further documents are submitted and approved, you will need to submit the relevant documentation to satisfy the condition via the Condition Endorsement Submission on Council's [online services e-planning portal](#). Detailed instructions can be found [here](#).

Once approved, the Council will respond to you via email that the condition has been endorsed (satisfied).

Where building approval is also required, it is recommended that documentation for

condition endorsement be submitted well before submitting documentation for building approval. Failure to address condition endorsement requirements prior to submitting for building approval may result in unexpected delays.

BUILDING PERMIT

You may need building approval in accordance with the *Building Act 2016*. Click [here](#) for more information.

This is a Discretionary Planning Permit issued in accordance with section 57 of the *Land Use Planning and Approvals Act 1993*.

PLUMBING PERMIT

You may need plumbing approval in accordance with the *Building Act 2016*, *Building Regulations 2016* and the National Construction Code. Click [here](#) for more information.

OCCUPATION OF THE PUBLIC HIGHWAY

You may require a permit for the occupation of the public highway for construction or special event (e.g. placement of skip bin, crane, scissor lift etc). Click [here](#) for more information.

You may require a road closure permit for construction or special event. Click [here](#) for more information.

GENERAL EXEMPTION (TEMPORARY) PARKING PERMITS

You may qualify for a General Exemption permit for construction vehicles i.e. residential or meter parking/loading zones. Click [here](#) for more information.

CBD AND HIGH VOLUME FOOTPATH CLOSURES

Please note that the City of Hobart does not support the extended closure of public footpaths or roads to facilitate construction on adjacent land.

It is the developer's responsibility to ensure that the proposal as designed can be constructed without reliance on such extended closures.

In special cases, where it can be demonstrated that closure of footpaths in the CBD and/or other high volume footpaths can occur for extended periods without

unreasonable impact on other businesses or the general public, such closures may only be approved by the full Council.

For more information about this requirement please contact the Council's Mobility Unit on 62382711.

WORK PLACE HEALTH AND SAFETY

Appropriate occupational health and safety measures must be employed during the works to minimise direct human exposure to potentially-contaminated soil, water, dust and vapours. Click [here](#) for more information.

PROTECTING THE ENVIRONMENT

In accordance with the *Environmental Management and Pollution Control Act 1994*, local government has an obligation to "use its best endeavours to prevent or control acts or omissions which cause or are capable of causing pollution." Click [here](#) for more information.

NOISE REGULATIONS

Click [here](#) for information with respect to noise nuisances in residential areas.

WASTE DISPOSAL

It is recommended that the developer liaise with the Council's City Resilience Unit regarding reducing, reusing and recycling materials associated with demolition on the site to minimise solid waste being directed to landfill.

Further information regarding waste disposal can also be found on the Council's [website](#).

FEES AND CHARGES

Click [here](#) for information on the Council's fees and charges.

DIAL BEFORE YOU DIG

Click [here](#) for dial before you dig information.



(Michael McClenahan)

Development Appraisal Planner

As signatory to this report, I certify that, pursuant to Section 55(1) of the Local Government Act 1993, I hold no interest, as referred to in Section 49 of the Local Government Act 1993, in matters contained in this report.



(Ben Ikin)

Senior Statutory Planner

As signatory to this report, I certify that, pursuant to Section 55(1) of the Local Government Act 1993, I hold no interest, as referred to in Section 49 of the Local Government Act 1993, in matters contained in this report.

Date of Report: 23 January 2023

Attachment(s):

Attachment B - Planning Committee Agenda Documents

Attachment C - Planning Referral Officer Cultural Heritage Report

Attachment D - Applicant Submission on Passive Surveillance



Tasmanian Heritage Council
GPO Box 618 Hobart Tasmania 7000
Tel: 1300 850 332
enquiries@heritage.tas.gov.au
www.heritage.tas.gov.au

PLANNING REF: PLN-22-790
THC WORKS REF: 8058
REGISTERED PLACE NO: 12028
APPLICANT: University of Tasmania
DATE: 25 January 2023

NOTICE OF HERITAGE DECISION

(*Historic Cultural Heritage Act 1995*)

Registered Place: Crisp & Gunn offices and workshop, and Forestry Tasmania dome, 79-83 Melville Street, 83 Melville Street and 80 Brisbane Street, Hobart.
Proposed Works: New pedestrian bridge and landscaping work.

Under section 39(6)(b) of the *Historic Cultural Heritage Act 1995*, the Heritage Council gives notice that it consents to the discretionary permit being granted in accordance with the documentation submitted with Development Application PLN-22-790, advertised on 22/12/2022, subject to the following conditions:

1. **The historic brick parapet wall, which forms part of Tasmanian Heritage Register Place #12028, must be protected during the works. A detailed description of the proposed protective measures must be submitted to Heritage Tasmania and must be to the satisfaction of the Works Manager, prior to the commencement of works.**

Reason for condition

To ensure the heritage elements of the place are protected during the development works.

2.
 - (i) **A communication protocol must be developed and implemented to ensure that all persons working on the site understand and appreciate the heritage values of the site and the obligations arising from the Tasmanian Heritage Register listing and this approval.**
 - (ii) **For all persons involved in excavation work or ground disturbance the protocol must include a briefing about the reporting requirements related to the discovery of any unanticipated archaeological remains, such as cesspits and building footings.**
 - (iii) **Evidence that this communication protocol has been developed and that procedures are in place for its communication to all persons working on the site must be submitted to Heritage Tasmania and must be to the satisfaction of the Works Manager, prior to the commencement of works.**

Reason for condition

To ensure that all persons working on the site are aware of the heritage values of the site and their responsibilities, and to ensure that heritage fabric is protected and conserved during the works.

- 3. Works must cease immediately where unanticipated archaeological deposits are encountered. An archaeologist must be engaged to assess, record, and make recommendations for the management of the deposits in consultation with Heritage Tasmania's Works Manager.**

Reason for condition

To ensure that sub-surface heritage information is considered and appropriately managed.

Advice

This advice is a reiteration of the advice provided with the Heritage Council's Replacement Notice of Heritage Decision dated 18/07/2022. It is recommended that the University of Tasmania engages with the neighbours of the adjacent historic buildings on Melville Street and Murray Street, to ensure any concerns these neighbours may have about potential impacts to their properties are appropriately addressed.

Please note that no permanent signage is to be erected or installed on the site without the approval of the Tasmanian Heritage Council. Proposals for new signs will require additional approval.

Should you require clarification of any matters contained in this notice, please contact Deirdre Macdonald on 0419 589 283 or on 1300 850 332.



Ian Boersma

Works Manager – Heritage Tasmania
Under delegation of the Tasmanian Heritage Council

Planning #269594

Property

83 MELVILLE STREET HOBART TAS 7000

**People****Applicant ***

University of Tasmania
C/- All Urban Planning Pty Ltd
19 Mawhera Avenue
SANDY BAY TAS 7005
0400109582
frazer@allurbanplanning.com.au

Owner *

University of Tasmania
C/- Justin Hanlon, Senior Project Manager, Capital
Projects Delivery
Private Bag 35
HOBART TAS 7001
0428606304
justin.hanlon@utas.edu.au

Entered By

FRAZER ERIC READ
0400 109 582
frazer@allurbanplanning.com.au

Use

Educational facility

Details

Have you obtained pre application advice?

☒ Yes

If YES please provide the pre application advice number eg PAE-17-xx

Are you applying for permitted visitor accommodation as defined by the State Government Visitor Accommodation Standards? Click on help information button for definition. *

☒ No

Is the application for SIGNAGE ONLY? If yes, please enter \$0 in the cost of development, and you must enter the number of signs under Other Details below. *

☒ No

If this application is related to an enforcement action please enter Enforcement Number

Details

What is the current approved use of the land / building(s)? *

tertiary education

Please provide a full description of the proposed use or development (i.e. demolition and new dwelling, swimming pool and garage) *

proposed pedestrian bridge

Estimated cost of development *

1000000.00

Existing floor area (m2)

Proposed floor area (m2)

Site area (m2)

Carparking on Site

Total parking spaces

Existing parking spaces

N/A

☒ Other (no selection chosen)

Other Details

Does the application include signage? *

☒ No

How many signs, please enter 0 if there are none involved in this application? *

0

Tasmania Heritage Register

Is this property on the Tasmanian Heritage Register?

☒ Yes

Documents

Required Documents

Title (Folio text and Plan and Certificate of title.pdf
Schedule of Easements) *

Plans (proposed, existing) * Appendix A - Architectural.pdf

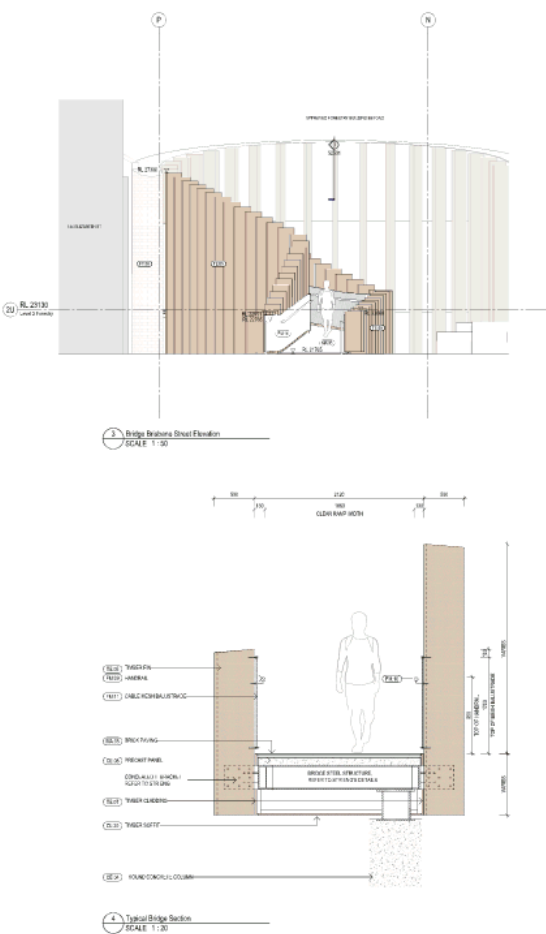
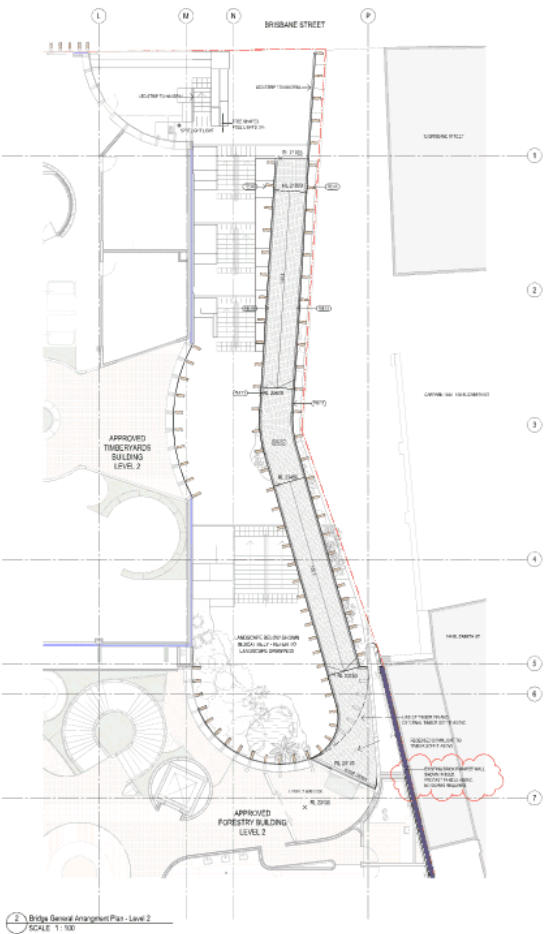
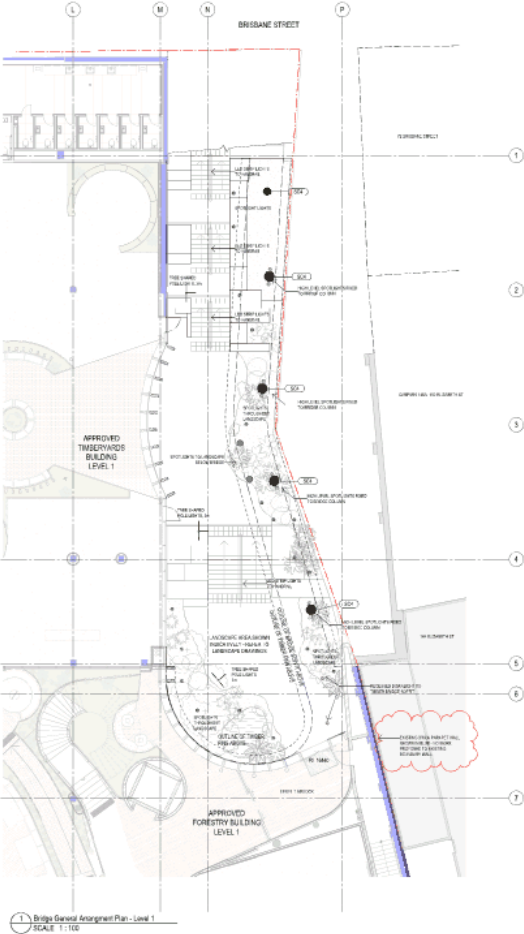
Supporting Documents

Landscape Plan	Appendix B - Landscape.pdf
Planning Report	Planning Report - Pedestrian walkway for Forestry Building Redevelopment.pdf
Heritage Report	Appendix E - Heritage Report.pdf
Architectural report	UTas DA Report_Bridge rev C.pdf
civil engineering plans	Appendix C - Civil.pdf
Structural Drawings	Appendix D - Structural.pdf
environmental site assessment	Appendix F - Site Contamination Report.pdf

A

Appendix A:

Architectural Drawings



PERSPECTIVE 1 - ACTUAL VIEW OF BRIDGE CONNECTING FORESTRY BUILDING



PERSPECTIVE 2 - LEVEL ONE ENTRY TO FORESTRY BUILDING



PERSPECTIVE 3 - OVERALL AERIAL VIEW OF BRIDGE

Revision History

Rev	Description	Date
1	Initial Design	10/10/2022
2	Revised Design	10/10/2022
3	Revised Design	10/10/2022

Notes

- 1. Bridge Structure
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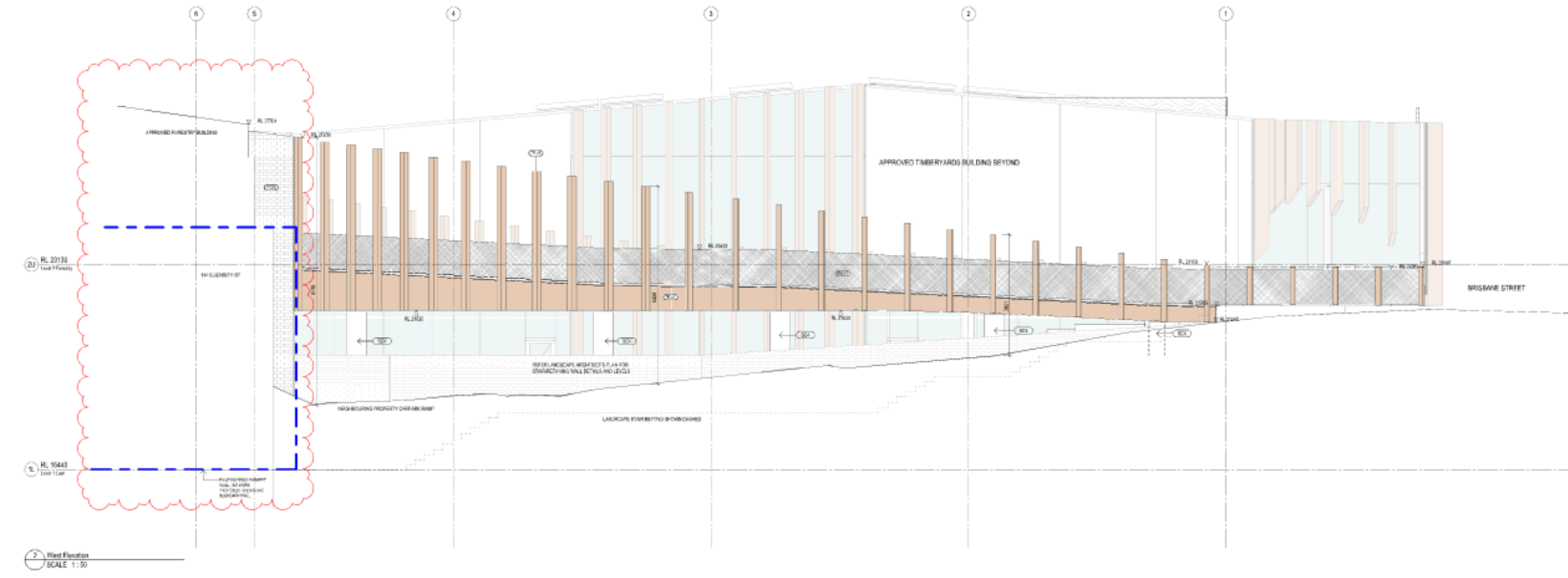
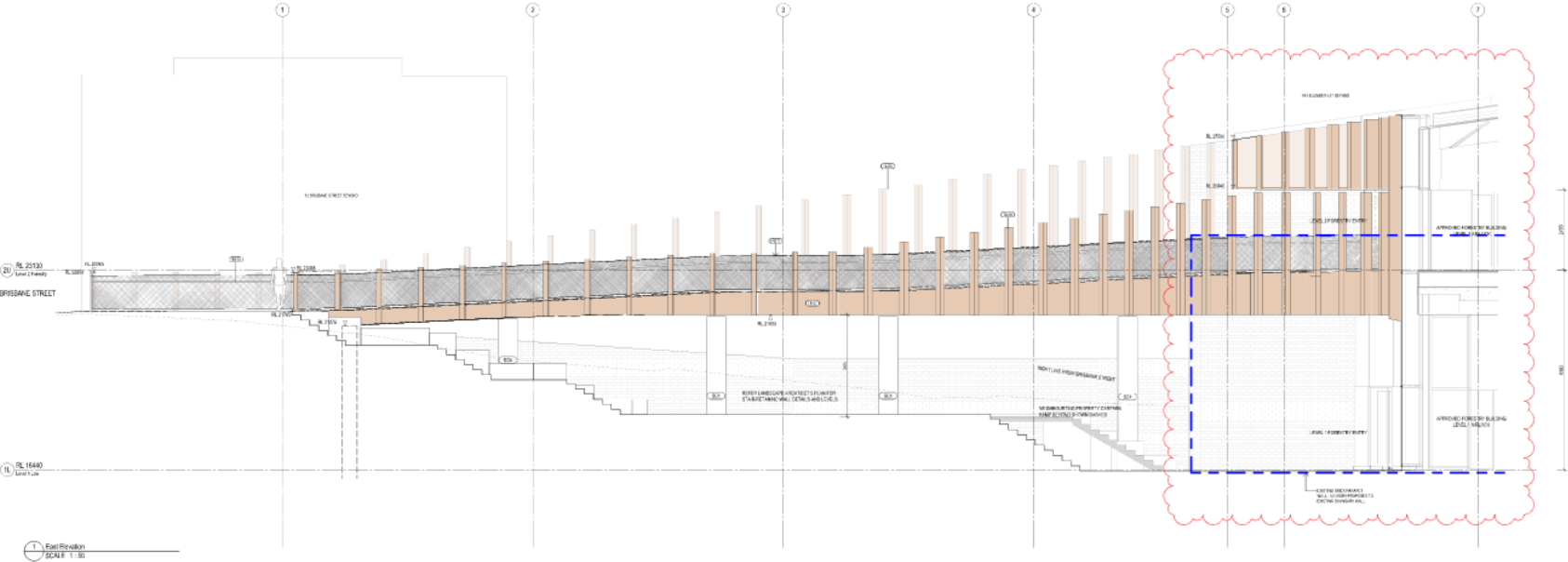
Client: University of Tasmania

Project: W-B WOODEN BRIDGE

Scale: 1:100

Author: AR-4430

For Information



Project Information

Project Name: W-B WOODEN BRIDGE

Client: University of Tauranga

Location: 80 Brisbane Street / 79-83 Middle Street, Hobart

Project Number: AR-44331

Scale: 1:50

Author: W-B WOODEN BRIDGE

For Information

Legend

- Existing
- Proposed
- Removal
- Retain
- Rebuild
- Re-roof
- Re-clad
- Re-pave
- Re-plant
- Re-land
- Re-locate
- Re-align
- Re-configure
- Re-construct
- Re-develop
- Re-use
- Re-purpose
- Re-brand
- Re-image
- Re-market
- Re-promote
- Re-engage
- Re-connect
- Re-integrate
- Re-harmonise
- Re-balance
- Re-strengthen
- Re-revitalise
- Re-renew
- Re-rejuvenate
- Re-revitalize
- Re-renewal
- Re-rejuvenation
- Re-revitalization
- Re-renewal
- Re-rejuvenation
- Re-revitalization



An architectural rendering of a modern building's courtyard. The building features a curved facade with vertical wooden slats and large glass windows. A central walkway leads through the courtyard, flanked by greenery and a low wall. Several people are shown walking and sitting, providing a sense of scale and activity. The sky is blue with light clouds.

W-B
WOODS BROSOT

Publications: 130387
Covers: 130387
Accessed: 130387
DOI: 130387

Cover title:
Bridstone Street Pedestrian on Bridge,
DA Street City

Notes:
AR-44332 A

For INFORMATION

B

Appendix B:
Landscape Plan

DRAWING NO.	REVISION
-------------	----------

B

Appendix B:
Landscape Plan



University of Tasmania Redevelopment of 79-83 Melville Street and 80 Brisbane Street Planning Report for Pedestrian Bridge



Date 24 November 2022



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1. Introduction

All Urban Planning Pty Ltd has been engaged by the University of Tasmania to provide a planning assessment of the proposed alterations to the approved but not yet commenced redevelopment of the former Forestry and Freedom buildings for educational use under planning permit PLN-21-869. The proposed alterations are for the addition of a new pedestrian bridge from the Brisbane Street frontage of the site to level 2 of the central atrium space.

The following assessment has been prepared to accompany a new application for a planning permit for these alterations that addresses the relevant provisions of the *Hobart Interim Planning Scheme 2015* (planning scheme).

1.1 Site

The site is shown in Figure 1 below and has a combined area of 7873m². The site is strata titled and includes the former Forestry building as Lot 2 (CT 149231/2) and the current Freedom building on the Brisbane Street frontage known as Lot 1 (CT 149231/1).



Figure 1 – the site (source: theList)



The proposed alterations do not involve any works outside the site including within the Brisbane Street road reservation.

2. Proposal

The proposal is for alterations to the approved redevelopment of the site for educational use under PLN-21-869. The alterations are detailed in the accompanying plans prepared by Woods Bagot and are for a pedestrian bridge linking the Brisbane Street footpath level to Level 2 of the approved building.

The purpose of the proposal is to ensure the University is providing equal access for people of all abilities and maintaining their intent to be a highly connected, porous campus that welcomes students, staff and the community into their facilities.

The bridge is to be constructed with mass timber fins and patterned brick paving consistent with the materials of the approved building. Metal mesh stretched between the fins is intended to be lightweight and visually permeable. The concrete columns supporting the bridge are consistent with the existing and new concrete columns throughout the building.

The landscape concept for the overall project is for the landscaping to act as a link through the building into the atrium.

The landscaping to the terrace adjacent to the bridge is conceptually consistent with the landscape proposal approved as part of condition PLN s4 of the planning permit, with some adjustments to suit the bridge structure, for safety and to enable passive surveillance. The landscape design, concept lighting and plant selections are further detailed in the accompanying landscape plan by Realm.

3. The Planning Scheme

Under Clause 8.10.1 of the planning scheme the planning authority must, in addition to the matters required by ss51(2) of the Act, take into consideration:

- (a) all applicable standards and requirements in this planning scheme; and
- (b) any representations received pursuant to and in conformity with ss57(5) of the Act,

but in the case of the exercise of discretion, only insofar as each such matter is relevant to the particular discretion being exercised.

Relevantly, a standard is applicable if the site is within the relevant zone and the standard deals with a matter that could affect or be affected by the proposed development; cl.7.5.2.

A standard is defined to mean the objective for a particular planning issue and the means for satisfying that objective through either an acceptable solution or corresponding performance criterion.

Compliance with a standard is achieved by complying with either the acceptable solution or corresponding performance criterion; cl.7.5.3.

The objective of the standard may be considered to help determine whether the proposed use or development complies with the performance criterion of that standard; cl.7.5.4. The acceptable solution is not relevant to the assessment of the corresponding performance criteria.

3.1 Central Business Zone

The site is zoned Central Business.

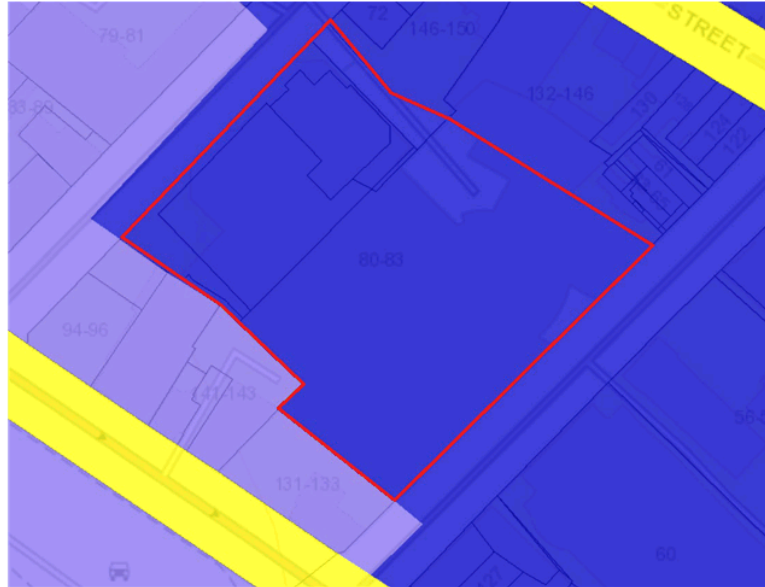


Figure 2 - Zoning plan (Source: iplan)

The Zone Purpose Statements under Clause 22.1.1 are as follows:

- 22.1.1.1 To provide for business, civic and cultural, community, food, hotel, professional, retail and tourist functions within a major centre serving the region or sub-region.
- 22.1.1.2 To maintain and strengthen Hobart's Central Business District and immediate surrounds including, the waterfront, as the primary activity centre for Tasmania, the Southern Region and the Greater Hobart metropolitan area with a comprehensive range of and highest order of retail, commercial, administrative, community, cultural, employment areas and nodes, and entertainment activities provided.
- 22.1.1.3 To provide a safe, comfortable and pleasant environment for workers, residents and visitors through the provision of high quality urban spaces and urban design.
- 22.1.1.4 To facilitate high density residential development and visitor accommodation within the activity centre above ground floor level and surrounding the core commercial activity centre.
- 22.1.1.5 To ensure development is accessible by public transport, walking and cycling.
- 22.1.1.6 To encourage intense activity at pedestrian levels with shop windows offering interest and activity to pedestrians.
- 22.1.1.7 To encourage a network of arcades and through-site links characterised by bright shop windows, displays and activities and maintain and enhance Elizabeth Street Mall and links to it as the major pedestrian hub of the CBD.

- 22.1.1.8 To respect the unique character of the Hobart CBD and maintain the streetscape and townscape contribution of places of historic cultural heritage significance.
- 22.1.1.9 To provide a safe, comfortable and enjoyable environment for workers, residents and visitors through the provision of high quality spaces and urban design.

These zone Purpose Statements are no relevant to this proposal that does not alter the Permitted, educational use. However, in any case the proposal can be seen to further the above Purposes for improved accessibility, pedestrian interest and connectivity.

3.2 Use Table

The proposal does not alter the use of the approved building.

Tertiary education falls within the *Educational and occasional care* Use Class. Educational and occasional care is a Permitted Use under the Use Table 22.2 for a site such as this that is outside the Active Frontage Overlay shown in Figure 22.1 of the planning scheme (Figure 3 below).

The approved administration offices are also Permitted in the zone whether they are treated as ancillary to the educational use or separately classed as a *Business and professional services* use.

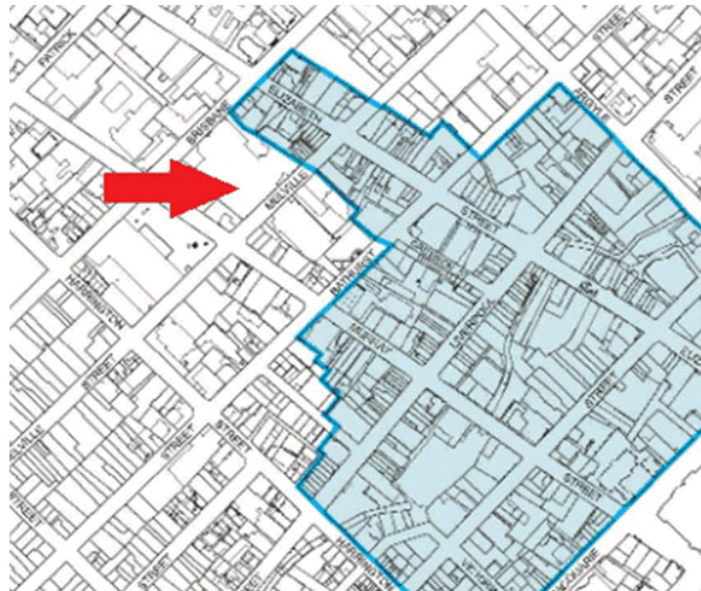


Figure 3 –The site is located outside the Active Frontage Area (Figure 22.1 of the planning scheme)

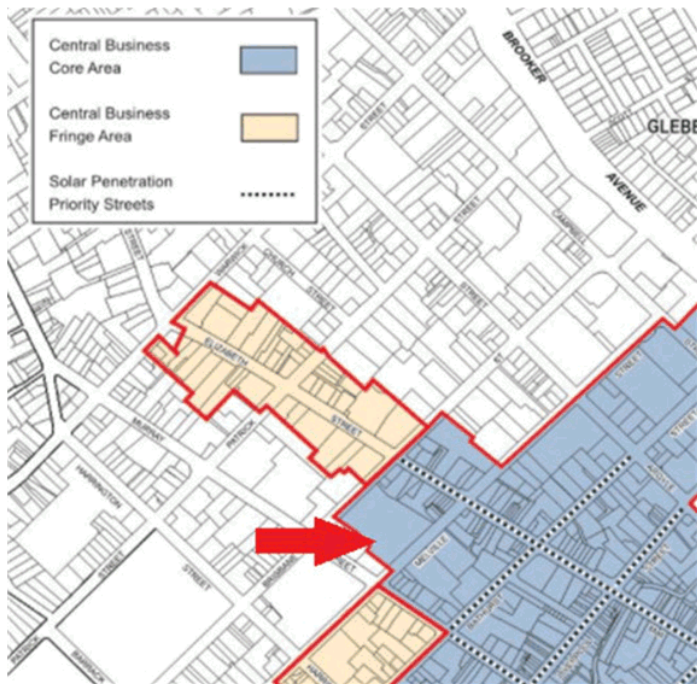


Figure 4 –The site is located outside the Pedestrian Priority Area (Figure 22.2 of the planning scheme)

3.3 Use Standards

Hours of Operation (22.3.1)

Use Standard	Assessment
A1 Hours of operation of a use within 50 m of a residential zone must be within: (a) 6.00 am to 10.00 pm Mondays to Saturdays inclusive; (b) 7.00 am to 9.00 pm Sundays and Public Holidays. except for office and administrative tasks.	The site is not within 50m of a Residential Zone. This Standard therefore does not apply.

Noise (22.3.2)

Use Standard	Assessment
<p>A1</p> <p>Noise emissions measured at the boundary of a residential zone must not exceed the following:</p> <p>(a) 55dB(A) (LAeq) between the hours of 7.00 am to 7.00 pm;</p> <p>(b) 5dB(A) above the background (LA90) level or 40dB(A) (LAeq), whichever is the lower, between the hours of 7.00 pm to 7.00 am;</p> <p>(c) 65dB(A) (LAm_{ax}) at any time.</p> <p>Measurement of noise levels must be in accordance with the methods in the Tasmanian Noise Measurement Procedures Manual, issued by the Director of Environmental Management, including adjustment of noise levels for tonality and impulsiveness.</p> <p>Noise levels are to be averaged over a 15 minute time interval.</p>	<p>Complies.</p> <p>The proposal will not involve significant noise emissions that would exceed these limits at the boundary of a residential zone.</p> <p>In this case the closest area of residential zoning is approximately 190m west on the upper side of Harrington Street.</p>

External Lighting (22.3.3)

Use Standard	Assessment
<p>A1</p> <p>External lighting within 50 m of a residential zone must comply with all of the following:</p> <p>(a) be turned off between 11:00 pm and 6:00 am, except for security lighting;</p> <p>(b) security lighting must be baffled to ensure they do not cause emission of light outside the zone.</p>	<p>The site is not within 50m of a Residential Zone. This Standard does not apply.</p>

Commercial Vehicle Movements (22.3.4)

Use Standard	Assessment
<p>A1</p> <p>Commercial vehicle movements, (including loading and unloading and garbage removal) to or from a</p>	<p>The site is not within 50m of a Residential Zone. This Standard does not apply.</p>

<p>site within 50 m of a residential zone must be within the hours of:</p> <p>(a) 6.00 am to 10.00 pm Mondays to Saturdays inclusive;</p> <p>(b) 7.00 am to 9.00 pm Sundays and Public Holidays.</p>	
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The proposal does not involve a take Away Food Premises, Hotel Industry, Manufacturing, Processing Use or an Adult Entertainment Venue. The Uses Standards under 22.3.5 and 22.3.8 therefore do not apply.

3.4 Development Standards for Buildings and Works

The Development Standards for the Central Business Zone apply differently depending on whether a site is within the Core or Fringe Area, on a Solar Penetration Priority Street or within the Active Frontage Overlay.

In this case the site is:

- located within the Central Business Core Area (Figure 3);
- not located on a Solar Penetration Priority Street (Figure 3); and
- located outside the Active Frontage Overlay (Figure 4).

Having regard to these overlays the following Development Standards apply to height and setback on the land.

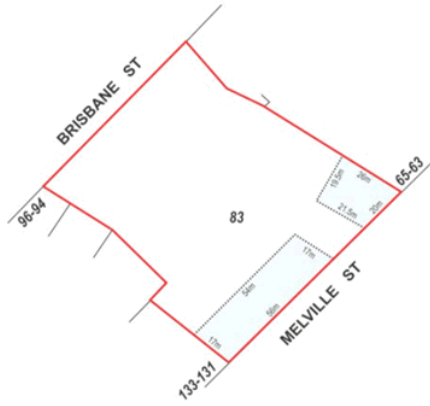
22.4.1 Building Height

Objective

That building height:

- (a) contributes positively to the streetscape and townscape;
- (b) does not unreasonably impact on historic heritage character;
- (c) does not unreasonably impact on important views within the urban amphitheatre;
- (d) does not unreasonably impact on residential amenity of land in a residential zone; and
- (e) provides significant community benefits if outside the Amenity Building Envelope.

Acceptable Solutions	Performance Criteria
<p>A1</p> <p>Building height within the Central Business Core Area in Figure 22.2 must be no more than:</p> <p>(a) 15m if on, or within 15m of, a south-west or south-east facing frontage;</p> <p>(b) 20m if on, or within 15m of, a north-west or north-east facing frontage;</p> <p>(c) 30m if set back more than 15m from a frontage;</p>	<p>The proposal complies with A1 as follows:</p> <p>a) the proposal does not exceed 15m in height within 15m of the south east facing Melville Street frontage of the site.</p> <p>b) The proposal does not exceed 20m in height within 15m of the north west facing Brisbane Street frontage.</p>

<p>unless an extension to an existing building that:</p> <p>(i) is necessary solely to provide access, toilets, or other facilities for people with disabilities;</p> <p>(ii) is necessary to provide facilities required by other legislation or regulation.</p>	<p>c) The proposal is well below the 30m maximum height for other areas of the site that are setback more than 15m from either frontage.</p>
<p>A4</p> <p>Building height of development on the same title as a place listed in the Historic Heritage Code, where the specific extent of the heritage place is specified in Table E13.1, and directly behind that place must:</p> <p>(a) not exceed 2 storeys or 7.5m higher (whichever is the lesser) than the building height of any heritage building within the place, and be set back between 5m and 10m from the place (refer figures 22.4 i and 22.4 ii); and</p> <p>(b) not exceed 4 storeys or 15m higher (whichever is the lesser) than the building height of any heritage building within the place, and be set back more than 10m from the place (refer figures 22.4 i and 22.4 ii);</p> <p>or</p> <p>(c) comply with the building height in clauses 22.4.1 A1 and A2;</p> <p>whichever is the lesser.</p>	<p>The specific extent of the heritage place is defined as the shaded blue areas in Figure E13.1.11 of the planning scheme as shown below. These represent the two redbrick heritage buildings on the Melville Street frontage.</p> <p>The proposed pedestrian bridge is located outside of these specific extents.</p> <p>The proposal complies with A4 in that it will not exceed 2 storeys or 7.5m (whichever is lesser) within 10m of the heritage place or 4 storeys or 15m higher than the heritage buildings.</p> 
<p>A5</p> <p>Building height of development within 15m of a frontage and not separated from a place listed in the Historic Heritage Code by another building, full lot (excluding right of ways and lots less than 5m width) or road (refer figure 22.5 i), must:</p> <p>(a) not exceed 1 storey or 4m (whichever is the lesser) higher than the facade building height</p>	<p>The proposal complies with A5.</p>

<p><i>of a heritage building on the same street frontage (refer figure 22.5 ii); and</i></p> <p><i>(b) not exceed the facade building height of the higher heritage building on the same street frontage if the development is between two heritage places (refer figure 22.5 ii);</i></p> <p><i>or</i></p> <p><i>(c) comply with the building height in Clauses 22.4.1 A1 and A2;</i></p> <p><i>whichever is the lesser.</i></p>	
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22.4.2 Setback

Objective:

To ensure that building setback contributes positively to the streetscape and does not result in unreasonable impact on residential amenity of land in a residential zone.

Acceptable Solutions	Performance Criteria
<p>A1</p> <p><i>Building setback from frontage must be parallel to the frontage and must be no more than:</i></p> <p>0 m</p>	<p>The approved building aligns the Brisbane Street frontage and complies with A1.</p>

Design (22.4.3)

Objective

To ensure that building design contributes positively to the streetscape, the amenity and safety of the public and adjoining land in a residential zone.

Development Standard	Assessment
<p>A1</p> <p><i>Building design must comply with all of the following:</i></p> <p><i>(a) provide the main pedestrian entrance to the building so that it is clearly visible from the road or publicly accessible areas on the site;</i></p> <p><i>(b) for new building or alterations to an existing façade provide windows and door openings at ground floor level in the front façade no less than 40% of the surface area of the ground floor level façade;</i></p>	<p>The proposal complies with A1 as follows:</p> <p>a) the main pedestrian entrances to the building will continue to be provided to Melville and Brisbane Streets. The proposal will also enhance visibility to the proposed Level 2 atrium entry at the end of the bridge.</p> <p>b) the proposed new bridge will not alter the approved street facing, building facade to Brisbane Street and will continue to satisfy criterion b);</p>

<p>(c) for new building or alterations to an existing facade ensure any single expanse of blank wall in the ground level front facade and facades facing other public spaces is not greater than 30% of the length of the facade;</p> <p>(d) screen mechanical plant and miscellaneous equipment such as heat pumps, air conditioning units, switchboards, hot water units or similar from view from the street and other public spaces;</p> <p>(e) incorporate roof-top service infrastructure, including service plants and lift structures, within the design of the roof;</p> <p>(f) not include security shutters over windows or doors with a frontage to a street or public place.</p>	<p>c) the proposal will not alter the approved Brisbane Street facade that is articulated and avoids the creation of blank walls on the ground floor frontage;</p> <p>d) the proposal does not involve new mechanical plant and complies with criterion d);</p> <p>e) the proposal does not involve new roof top infrastructure and complies with criterion e);</p> <p>f) the proposal does not include security shutters.</p>
<p>A2</p> <p>Walls of a building facing a residential zone must be coloured using colours with a light reflectance value not greater than 40 percent.</p>	<p>The proposal complies with A2 in that the external colours and finishes of timber, brick and steel mesh will have a light reflectance value not greater than 40 percent and do not face a residential zone.</p>
<p>A3</p> <p>The facade of buildings constructed within 15m of a frontage and not separated from a place listed in the Historic Heritage Code by another building, full lot (excluding right of ways and lots less than 5m width) or road (refer figure 22.5 i), must:</p> <p>(a) include building articulation to avoid a flat facade appearance through evident horizontal and vertical lines achieved by setbacks, fenestration alignment, design elements, or the outward expression of floor levels; and</p> <p>(b) have any proposed awnings the same height from street level as any awnings of the adjacent heritage building.</p>	<p>A3 is not considered relevant in that the proposal does not involve a new facade constructed within 15m of the frontage.</p>
<p>A4</p> <p>For new buildings or alterations to existing facades within the Active Frontage Overlay (Figure 22.1) provide windows with clear glazing and door openings at ground floor level in the front facade and facades facing other public space boundaries no less than 80% of the surface area;</p>	<p>The site is not within the Active Frontage Overlay area. This Standard does not apply.</p>

A5 <i>For new buildings or alterations to existing façades within the Active Frontage Overlay (Figure 22.1) awnings must be provided over public footpaths.</i>	The site is not within the Active Frontage Overlay area. This Standard does not apply.
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Passive Surveillance (22.4.4)

Objective:

To ensure that building design provides for the safety of the public.

Development Standard	Assessment
<p>A1</p> <p><i>Building design must comply with all of the following:</i></p> <p>(a) <i>provide the main pedestrian entrance to the building so that it is clearly visible from the road or publicly accessible areas on the site;</i></p> <p>(b) <i>for new buildings or alterations to an existing facade provide windows and door openings at ground floor level in the front façade which amount to no less than 40 % of the surface area of the ground floor level facade;</i></p> <p>(c) <i>for new buildings or alterations to an existing facade provide windows and door openings at ground floor level in the façade of any wall which faces a public space or a car park which amount to no less than 30 % of the surface area of the ground floor level facade;</i></p> <p>(d) <i>avoid creating entrapment spaces around the building site, such as concealed alcoves near public spaces;</i></p> <p>(e) <i>provide external lighting to illuminate car parking areas and pathways;</i></p> <p>(f) <i>provide well-lit public access at the ground floor level from any external car park.</i></p>	<p>The proposal satisfies A1 in that:</p> <p>a) the main pedestrian entrances to the site will be clearly visible from the street;</p> <p>b) complies</p> <p>c) complies</p> <p>d) the proposal avoids the creation of concealed spaces and the courtyard space, bridge and landscaping has been designed to avoid the creation of entrapment spaces;</p> <p>e) the courtyard and pedestrian bridge will be safely lit to accepted standards.</p> <p>f) this criterion is not relevant in that it does not involve a new carpark.</p>

Landscaping (22.4.5)

Clause 22.4.5 confirms that landscaping is not regulated in this zone in this planning scheme. It is not considered necessary in the Hobart context.

Notwithstanding the above, the proposal includes a concept for integrated landscaping enhancements.

Outdoor Storage Areas (22.4.6)*Objective:*

To ensure that outdoor storage areas for non-residential use do not detract from the appearance of the site or the locality.

Development Standard	Assessment
<p>A1</p> <p>Outdoor storage areas for non-residential uses must comply with all of the following:</p> <p>(a) be located behind the building line;</p> <p>(b) all goods and materials stored must be screened from public view;</p> <p>(c) not encroach upon car parking areas, driveways or landscaped areas.</p>	<p>Not applicable. The proposal does not include any outdoor storage areas.</p>

Fencing (22.4.7)

No fences are proposed and this Standard therefore does not apply.

Pedestrian Links (22.4.8)

The proposed pedestrian bridge will enhance the approved pedestrian link of the redevelopment proposal with improved level access between Brisbane and Melville Streets via the glazed dome of the former Forestry building. The proposal complies with this standard.

4. Planning Scheme Codes

The site is not within any specific mapped planning scheme overlays. The proposal is considered in relation to the relevant codes below.

4.1 Potentially Contaminated land Code

The accompanying environmental site assessment addresses the requirements of this code.

4.2 Stormwater Management Code

The application is supported by an updated engineering assessment by JMG of the stormwater requirements of the site to address this code.

4.3 Historic Heritage Code

The requirements of this Code are assessed in the accompanying Heritage Impact Assessment prepared by Praxis.



4.4 Inundation Prone Areas Code

An updated flood assessment accompanies the application and confirms at the proposal does not conflict with the requirements of this code.

4.5 Signage

No signage is proposed as part of this application.

5. Conclusion

The proposal is for alterations to the approved redevelopment of the former Forestry and Freedom buildings to include a new pedestrian bridge from Brisbane Street to the central atrium space and Melville Street.

The proposal complies with the relevant use and development standards for the Central Business Zone. It is also supported by environmental, heritage and civil engineering assessments that demonstrate that the relevant planning scheme codes are met.

The proposal demonstrates a high degree of compliance with the relevant planning scheme provisions and is recommended for approval following public advertisement pursuant to Section 57 of the Act.

Frazer Read

Principal

24 November 2022



22.11.2022

University of Tasmania Forestry / Timber Yards Pedestrian Bridge Planning Report

REVISION C



Contents

Issue Register

Issue Date	Revision	Issued For	Comments	Issued To:
26.08.22	A	Review	Draft Issue - for review	UTas
05.09.22	B	Review	Final draft - for review	UTas
22.11.22	C	Lodgement	Submission to Council	City of Hobart (via AUP)

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Woods Bagot acknowledges Australia's Aboriginal and Torres Strait Islander peoples as the Traditional Custodians of the land on which we live and work and pay our respects to their Elders past, present and emerging. We believe each and every project is an opportunity to engage and respond to Indigenous Australians' cultural connections to country. By respecting and celebrating the value and significance of both the heritage and contemporary culture of Indigenous Australians, our built environment is enriched and anchored into its location, its story, and varied experience.

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01

Introduction

01.01 Introduction

01.01 Introduction

Overview

This report has been prepared by Woods Bagot on behalf of The University of Tasmania (UTAS).

It provides the rationale for the design, architecture and urban response to public realm and landscape to support the planning application for the pedestrian bridge at 80 Brisbane street. This forms part of the approved development at 79 - 83 Melville St / 80 Brisbane Street, Hobart, title reference 149231 (lots 1 & 2). The site is zoned 22.0 Central Business under the Hobart Interim Planning Scheme 2015.

The development at 79-83 Melville Street / 80 Brisbane Street was approved in July 2022 (application number PLN-21-869. This planning application should be read in conjunction with the approval and endorsed documents relating to PLN-21-869.

The report includes commentary, images, plans and diagrams to illustrate the basis for the proposed scheme.

The report demonstrates the design as it responds to UTAS' aspiration to ensure the Forestry and Timber Yards building's provide equal access into the campus from both Melville Street and Brisbane Street.

The broad themes explored in the report include:

- Site conditions and context
- Design rationale
- Architectural planning
- Facade strategy, palette and materials

Relationship to Approved DA

This new application is for a pedestrian bridge linking the Brisbane Street footpath level to Level 2 of the proposed Forestry building. This ensures the University is providing equal access for people of all abilities and maintaining their intent to be a highly connected, porous campus that welcomes students, staff and the community into their facilities.

Given the significant elevation change between Melville Street and Brisbane Street, this bridge is necessary to ensure a direct accessible path into the campus from Brisbane Street.

Contributors and Consultation

This Development Application is underpinned by a collaborative process that has involved input across all disciplines. This process has resulted in a design that has been rigorously tested and developed to meet the client brief and create a contextual response that builds upon the design of the wider development on this site. The entire project team is listed below.

Prior to submission of the original DA, a rigorous consultation process took place with City of Hobart, the Tasmanian Heritage Council, TasWater, TasNetworks and the Tasmanian Fire Service, as well as engagement with Robert Morris-Nunn, the original architect of the Dome. The consultation process continued post-submission, throughout the design phases of the project.

Consultation specific to the pedestrian bridge has also taken place as required - namely with TasWater and the Tasmanian Fire Service. A lengthy process of stakeholder engagement within the university has also taken place.

Project Team

The design team consists of:	
Architect:	Woods Bagot
Landscape Architect:	Realm
Town Planning:	All Urban Planning
Heritage:	Praxis Environment
Services, ESD & Facades:	Arup
Fire Engineering:	Arup
Civil & Structure Engineering:	JMG
Traffic Engineering:	GHD
Access Consultant:	Equality Building
Building Code Certification:	Lee Tyers & Associates
Quantity Surveyor:	Exsto Management / Slattery



02

Site and Context

02.01 Forestry & Timber Yards Site

02.01 Forestry & Timber Yards Site

The Forestry / Timber Yards project forms part of the Southern Futures Program, which will deliver on the long-term plan to move the University's campus from Sandy Bay to the Hobart CBD, in turn activating the University's properties across the city.

The project site is situated on a hill, with a level change of approximately five metres between the street frontages of Melville Street and Brisbane Street. Equal access for all building occupants and visitors is a significant part of the success of the building and the wider campus, and the addition of the bridge is a key way to achieve this for this project.

Key Concepts

The key concepts for development of the University's city campus, as outlined in their urban design framework and the Forestry / Timber Yards project brief, are:

- A university of and for the City, not just in the City
- A university for the Southern Region
- A campus that is easy to access, close to employment, and close to partners
- A university where we do distinctive things for Tasmania and from Tasmania
- A university that gives expression to Hobart's unique qualities of place
- A university that enriches the civic, social, cultural and economic life of the city.

Urban Design Principles

The Southern Campus Urban Design Framework clearly articulates the following four guiding principles:

The Place Principle: Enhance the distinctive natural and human qualities of nipaluna/Hobart

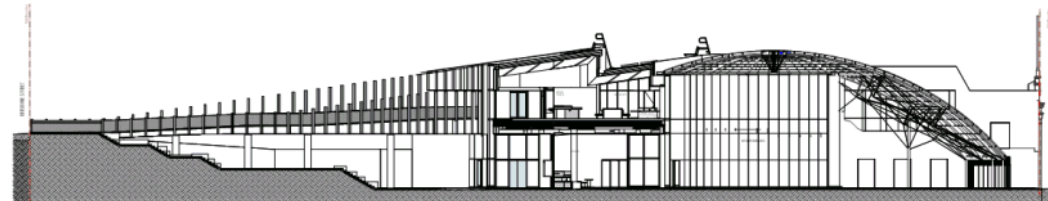
The Sustainability Principle: Bring nature into the city as an integral part of a sustainable campus

The Accessibility Principle: Create a highly accessible campus that enhances connections across the city and from the Southern Region

The Community Principle: Create an inviting heart to a connected series of University and city communities



Site plan showing key connection from Melville Street to Brisbane Street



Section through campus showing elevation change from Melville Street (right) to Brisbane Street (left)

03

Design Response

03.01 Project Vision & Concept
03.02 Design Response
03.02 Built Fabric / Materiality
03.04 Sightlines and Safety

03.01 Project Vision & Concept

The vision for the pedestrian bridge is for it to be an extension of the building, adopting the materiality of the original bridge located within the Forestry atrium and the design language of the new facade and paving treatment.

The three key design ideas informing the bridge are:

Materiality / Conceptual re-use

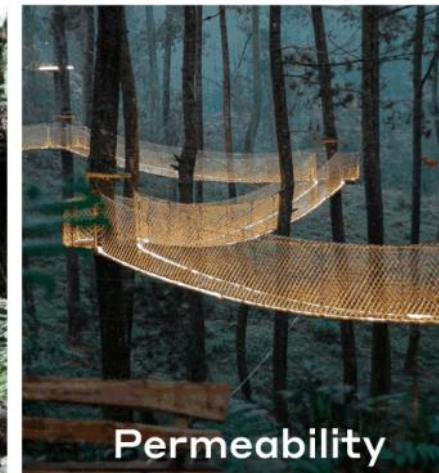
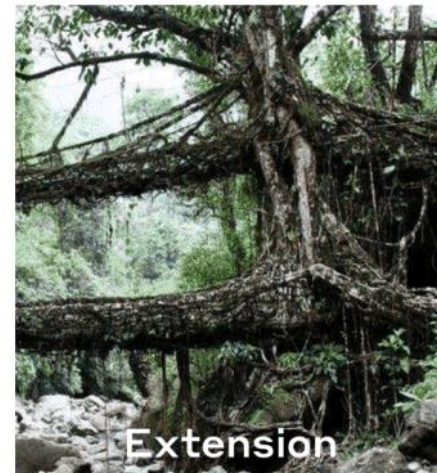
A material connection to the original site is created through the use of mass timber and brick pavers, which link to the previous uses of the site as well as the materiality of the existing bridge within the atrium.

Extension of the building

The bridge is designed to read as part of the building facade rather than as a separate element. The facade treatment to the overall building is intended as a uniform element to link existing and new facades and create visual consistency. In a civic gesture, the bridge acts as a link between the public realm and the building itself.

Visual and solar permeability

The use of mesh to form a skin to the balustrade balances a lightweight, delicate aesthetic that encourages permeation while connecting to the found condition of the original bridge.



03.02 Design Response

Design Response

The design principles informing our approach to the pedestrian bridge are underpinned by the overarching principles of the wider campus:

The Place Principle: This is articulated through integration of architecture and landscape, as well as the adaptive reuse of materials and consistency of design language.

The Sustainability Principle: The ambitious carbon reduction target set by the university ties into this principle and informs the material choices of the bridge, as does the idea behind extensive planting through out the site connecting the exterior and interiors and anchoring the buildings to site.

The Accessibility Principle: The landscaped path through the Forestry building creates a new through-block pedestrian link between Melville and Brisbane Streets. The pedestrian bridge is an extension of this link ensuring a porous and activated campus.

The Community Principle: The campus is of and for the city of Hobart. Clear navigation into a welcoming environment is a critical part of the success of the campus. The bridge links the student-accessible areas of the building to Brisbane Street in an accessible way.



MERGING TWO CONDITIONS



03.03 Built Fabric / Materiality

Our intent for the main building is to create a unified, consistent experience across Forestry and Timber Yards. Our approach to the external materiality of the building, which extends to the bridge, centres around two key concepts:

- Working with found conditions
- Consistency of materials

The circular geometry of the courtyard the bridge sits within is an echo of the existing geometry of the dome. The form of the bridge is conceptually a peeling off of this circular, vertically fenestrated facade to create a direct link with the public realm.

The built fabric of the bridge is also an extension of the building. The paving treatment throughout the public areas of the building is patterned brick, locally sourced and carbon neutral. The horizontal surface of the bridge is an extension of this groundplane. The bridge balustrade structure is mass timber fins, consistent with the unifying facade treatment. The metal mesh stretched between the fins is intended to be lightweight and visually permeable. Timber is the key new material used externally, and the bridge celebrates this.

The concrete columns supporting the bridge are consistent with the existing and new concrete columns throughout the building.



Brisbane Street entry showing new glazing and mass timber fins



Stainless steel mesh - built example showing detailing

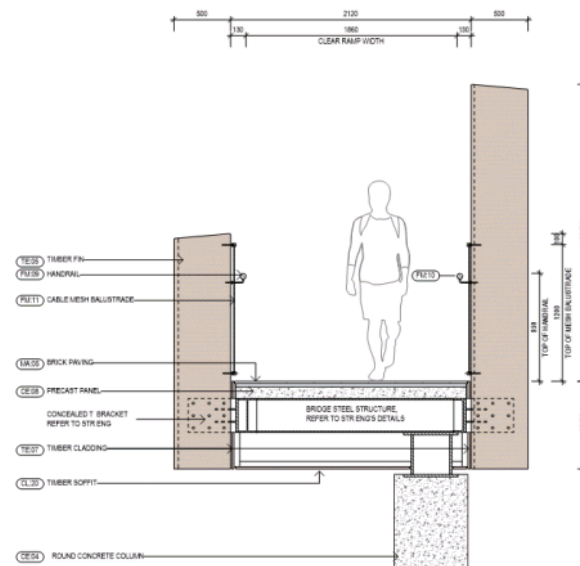
03.03 Built Fabric / Materiality

The landscape concept for the overall project is for the landscaping to act as a link through the building into the atrium.

The landscaping to the terrace adjacent to the bridge is conceptually consistent with the landscape proposal approved as part of the overall building DA, with some adjustments to suit the bridge structure, for safety and to enable passive surveillance. The landscape design and plant selections are further detailed in the accompanying landscape plan by Realm.



Diagrammatic elevation showing consistent facade treatment unifying the building and bridge



Typical section showing materiality and proportion

03.04 Sightlines & Safety

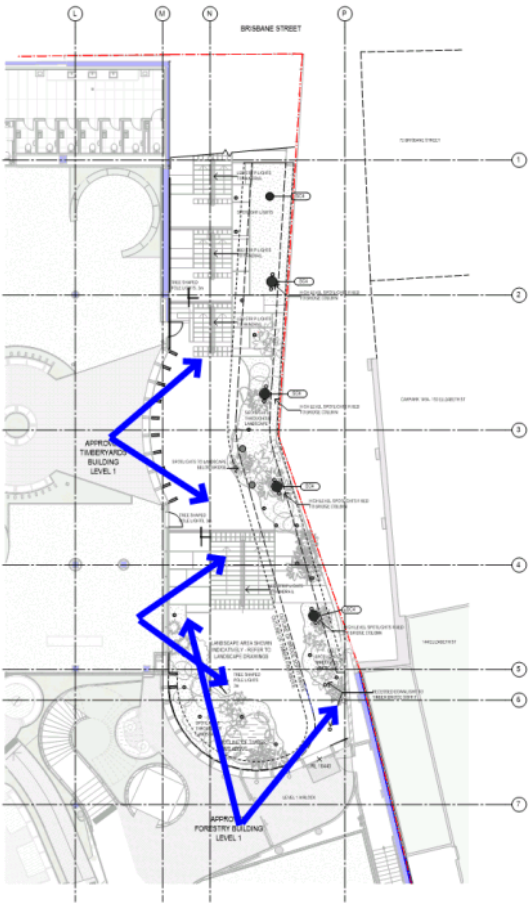
Clause 22.4.4 of the relevant planning scheme addresses passive surveillance. Our specific response to these performance requirements is described in detail in the accompanying planning report.

The wider strategy for safety and security within the Forestry / Timber Yards building is as follows:

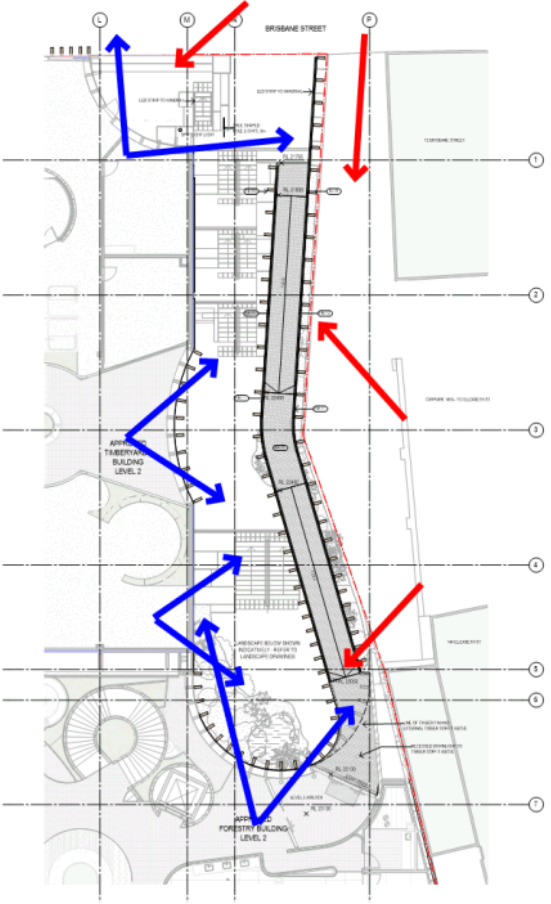
- The building is to be open for 'extended hours' to staff and students - final open hours will vary depending on the university calendar
- The external landscaped areas, wintergarden and learning landscape across levels one and two will be accessible to the public during these 'extended hours'
- Outside of these hours, the building will be accessible to staff and students via proximity card
- There is a security control centre within the building, which will be staffed 24 hours a day.

Passive surveillance and visibility have been considered during the design process for the wider project, and particularly in the context of the pedestrian bridge.

Diagrams on this page show sightlines from the building to the bridge and landscaped terrace (in blue), and sightlights from the street and the neighbouring building to the east (in red). Sightlines along the landscaped terrace itself are demonstrated in the visualisations in section 4 of this report.



Level 1 Floor Plan



Level 2 Floor Plan

04

Visualisation

04.01 Renders

04.01 Renders



Aerial view of the pedestrian bridge



Building facade unwrapping to create the structure of the pedestrian bridge



View from Forestry



Lower entry into Forestry through landscaped connection from Brisbane Street



View from the pedestrian bridge

E

Appendix E:
Heritage Report



On behalf of the University of Tasmania
May 2021

HISTORIC HERITAGE MANAGEMENT STRATEGY

79-83 Melville Street, HOBART, TASMANIA

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This document was written by Brad Williams (BA.Hons Archaeology, MA Cultural Heritage Management, G.Dip Environmental Planning) Director – Praxis Environment, with historical research part of Section 3 authored by Alan Townsend, Consultant Historian.

Unless otherwise stated, all photographs were taken by Brad Williams, 2021

Unless otherwise stated, the north point (or approximate) of maps and plans is to the top of the page – project north is designated as the Elizabeth Street frontage.

Cadastral information depicted in this document must not be relied upon without verification by a Surveyor. Rectified aerial imagery has not been used; therefore, the actual location as depicted in aerial images may differ to that of actual survey. Floor and roof plans are not necessarily to scale and indicative only. Unless expressly stated, measurements are only indicative.

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1. INTRODUCTION

1.1. RATIONALE, PROJECT BRIEF AND SCOPE

This document has been commissioned by the University of Tasmania, via Morrison Breytenbach Architects (Hobart) and Woods Bagot Architects (Melbourne) in order to comprehensively and strategically manage any historic heritage values of the subject site at 79-83 Melville Street, Hobart (the *site*) in an any future development of that site. Praxis Environment were commissioned to undertake this project, further to the brief of providing a staged process of heritage guidance, that of the provision of preliminary heritage advice to assist in any broad feasibility studies and concepts of future development, followed by a more detailed and specific project to further guide the design of a more detailed development scheme followed by a heritage impact assessment of that scheme. Specifically, the brief for this project was:

1. **A detailed review and confirmation of heritage requirements** - Undertake a review of all statutory historic heritage and archaeological requirements associated with the proposed development (e.g. site and surrounds) and provide a detailed framework of those requirements as early as possible in the planning process. Also, undertake a review of all non-statutory policy/guidelines which may provide a framework for understanding the heritage issues, significance and requirements relevant to the subject site and surrounds (including a review of the client-provided heritage assessment).
2. **An overview site history** - which is the essential basis for (3) and (4) below.
3. **Statement of Historical Archaeological Potential** for the place which would involve a review of historic documents and secondary source material with the aim of gaining a detailed understanding of the development of the site and therefore gaining a detailed understanding of the site formation processes acting upon that site. This would also include a regional, thematic and temporal analysis of any identified/likely archaeological remains in order to gain a thorough understanding of the significance of such as well as a detailed title history search. This (and other archaeological approaches) would be in accordance with the relevant industry standards, namely the Tasmanian Heritage Council's Practice Note 2 (Managing Historical Archaeological Significance in the Works Application Process) which is considered to be the industry benchmark for sites of historical archaeological potential. The results of this exercise would be used to guide the design process with the aim of minimising/avoiding impact upon significant archaeological remains, or to provide a substantive understanding of the site sufficient to guide the management and mitigation strategies in points (5b) and (5c) below if impact is not feasibly avoidable.

4. **A Conservation Brief for the listed portion of the site (i.e. refined by the results of (1)).** An assessment of the form and fabric of the listed portion of the site as a means of determining, potentially limiting and ranking the significance of the various portions of the building(s). This would also include a review of the significance, setting and context of the heritage building(s) within the wider townscape attributes of the vicinity, which seeks to set policy for appropriate (re)development of the site consistent with ICOMOS Australia Burra Charter process and the applicable statutory heritage requirements. This policy should be used to guide the development design to respond to any significant heritage values of adjacent places/areas.

Note that part-way through the project, the brief was extended to include the portion of the strata-titles place known as the 'Freedom' building facing Brisbane Street.

1.2. DEFINITION OF PLACE

The *subject site* is comprised of 79-83 Melville Street, Hobart, Tasmania, which includes the following broad site features as considered here:

- The former Crisp and Gunn warehouse/store (a 2-3 storey c1923 building facing Melville Street).
- The former Crisp and Gunn office (a 2 storey c1923 building facing Melville Street).
- The 'Forestry Dome' – a large glass dome between the two above buildings, built in 1997.
- The 'Freedom' building, a late 1990s showroom with a near full-footprint basement carpark, facing Brisbane Street.
- The 1997 Forestry offices, carpark etc. between the two building complexes (i.e. central portion of the site)

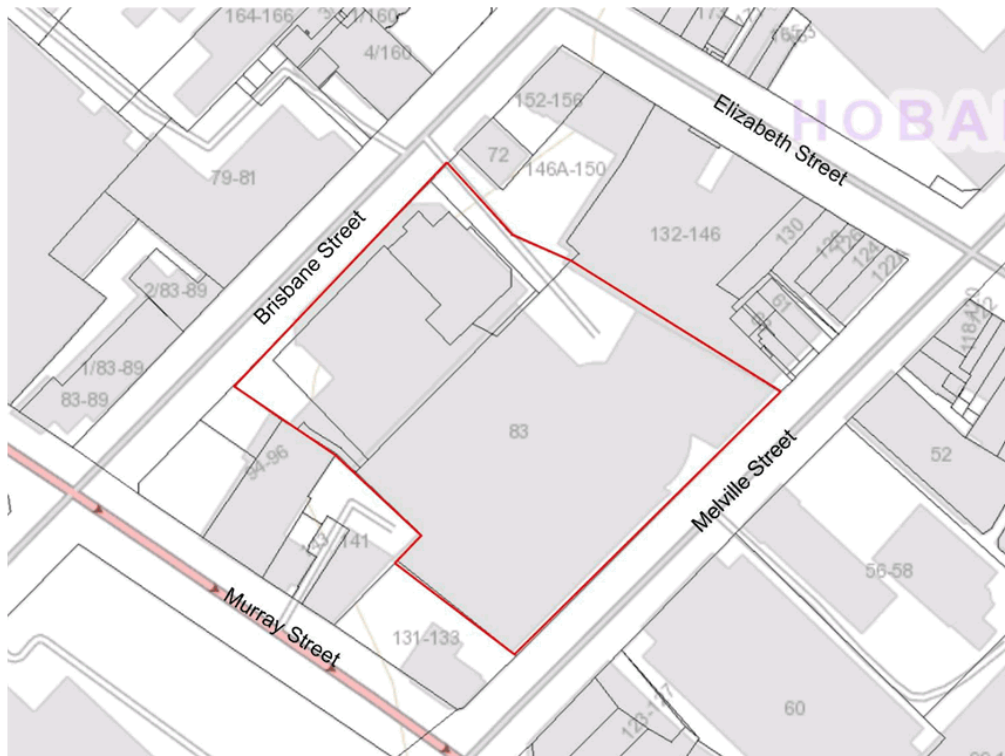


Figure 1.1 – The cadastral parcels comprising the subject site (depicted in red) and surrounds (www.thelist.tas.gov.au).

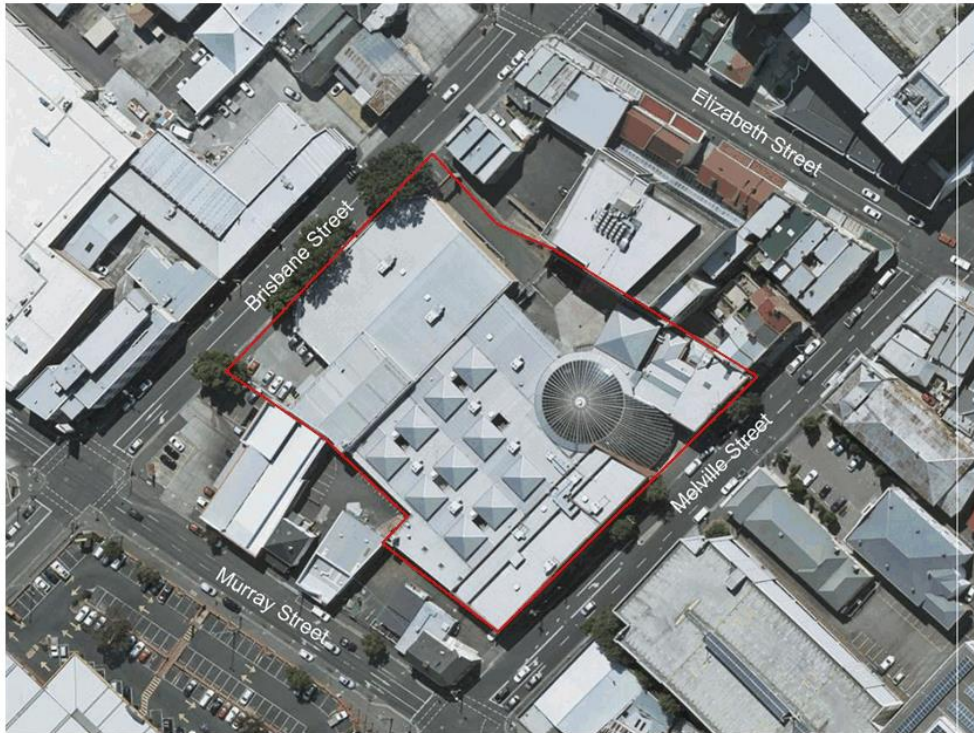


Figure 1.2 – A recent aerial image of the site and immediate surrounds– the subject site outlined in red. www.thelist.tas.gov.au

1.3. METHODOLOGY

This assessment has been undertaken in accordance with the ICOMOS Australia **Burra Charter**, which is considered to be the Australian heritage industry's benchmark for assessing, understanding and managing heritage values. Figure 1.3 depicts this process:

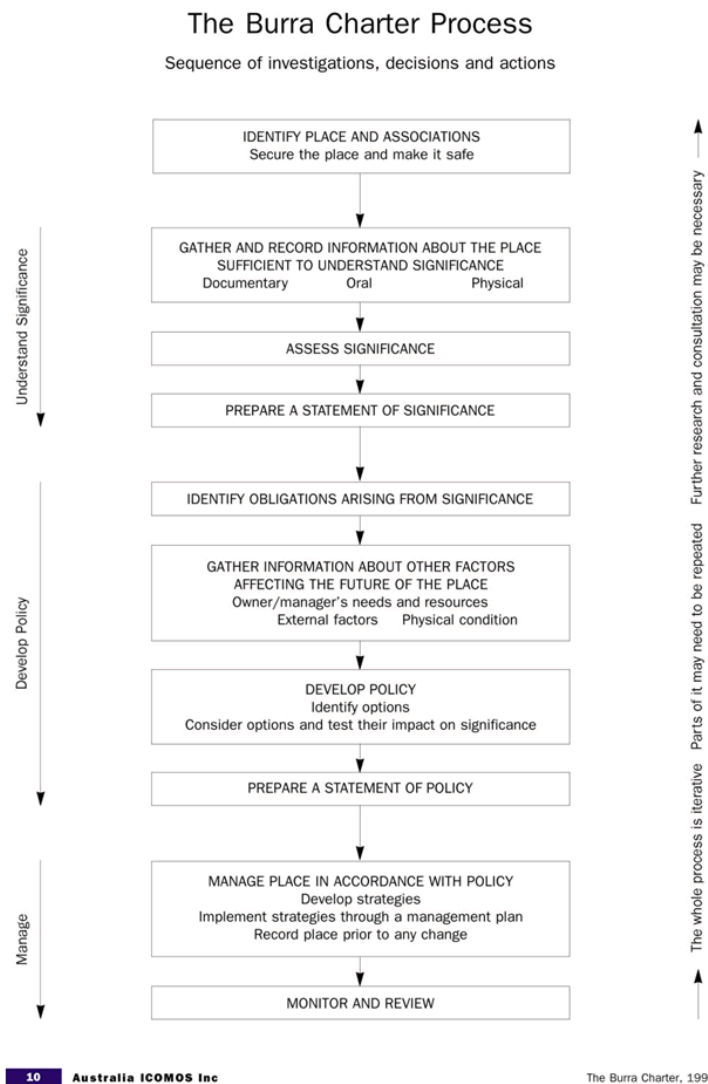


Figure 1.4 – The Burra Charter Process. ICOMOS Australia.

The statutory provisions and consequent responsibilities as outlined in Section 1.2 have also been considered in formulating this document.

This document takes the principles of conservation planning, as outlined in J.S. Kerr's *The Conservation Plan*¹, in order to develop the policies upon which the conservation of the place (and assessment of development impact) is based. This document has also been developed with regard to the standard content of conservation management plans as detailed by the New South Wales Heritage Office's *A Suggested Table of Contents for a Conservation Management Plan*², as well as the New South Wales Heritage Office guidelines for the preparation of brief conservation management strategies.³

It is intended that this document be used by the design team in any forthcoming development of the place and this sets the benchmark of understanding the significance of the place against which a heritage impact assessment for any proposed development can be undertaken. Figure 1.5 depicts this process:

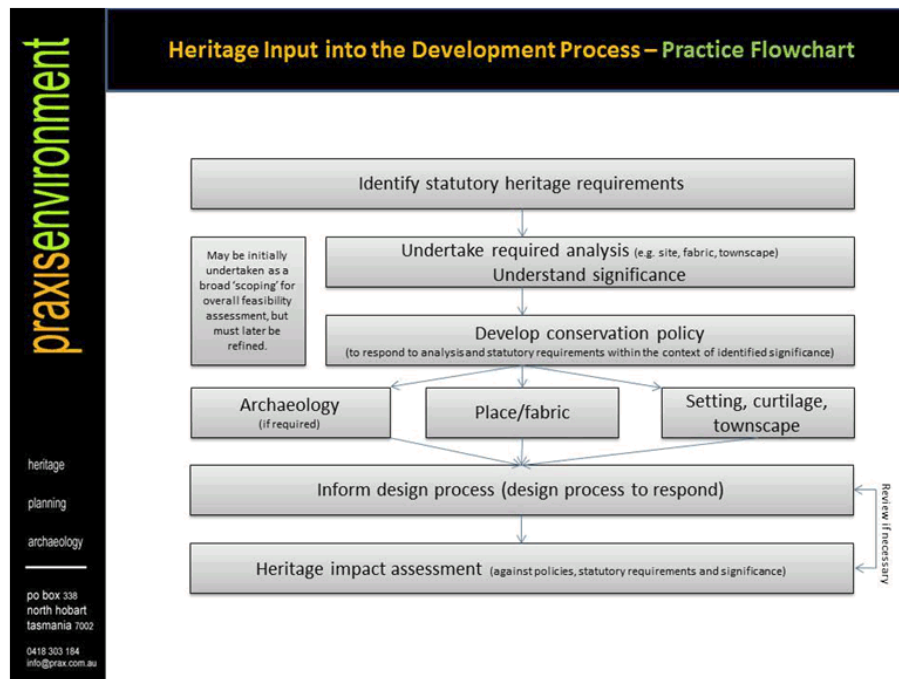


Figure 1.5 – Practice flowchart for the application of this conservation planning document.

Note that this document does not include any heritage impact assessment, as per the brief above.

¹ KERR, J. (2000): *The Conservation Plan*. National Trust of NSW, Sydney.

² http://www.heritage.nsw.gov.au/docs/cmp_contents2.pdf

³ http://www.heritage.nsw.gov.au/docs/CMS_part1Investigation.pdf

1.4. PROJECT TEAM AND ACKNOWLEDGEMENTS

This document as written by Brad Williams, heritage consultant and historical archaeologist, Praxis Environment – a division of Praxis Synergy Pty. Ltd. (Hobart and Melbourne). Historical research assistance was provided by Alan Townsend, sub-consultant historian. The author would like to acknowledge the following for their assistance in this project:

- James Morrison and Yvette Breytenbach – Morrison Breytenbach Architects
- William Thiessen, Fernanda Eusebio and Alistair Flynn – Woods Bagot Architects
- Justin Hanlon – University of Tasmania
- Sarah Waight, Hobart City Council

2. STATUTORY HERITAGE REQUIREMENTS

The following heritage listings and overarching legislative provisions are relevant to the management of the historic cultural heritage values of the place:

2.1. HOBART INTERIM PLANNING SCHEME 2015 (HIPS15)

HERITAGE PLACE

83 Melville Street is listed as a *Heritage Place* on Table E13 of the scheme (as defined in Figure E.13.1.11 ‘Specific Extent 83 Melville Street’, which basically includes only the footprint of the two former Crisp and Gunn (1923) buildings:

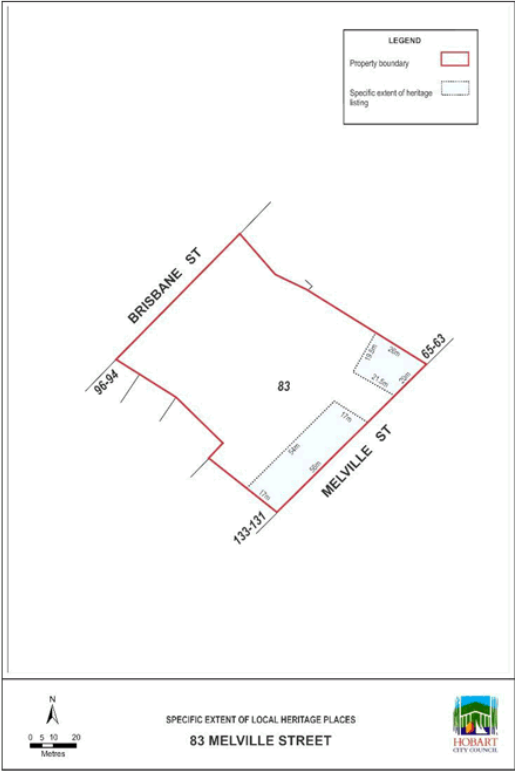


Figure 2.1 – Area affected by Table E.13 of the HIPS15 (Fig. E.13.1.11)

Any demolition, development or subdivision of the place must be in accordance with the provisions of Part E13.7 of the Scheme (Development Standards for Heritage Places):

	Acceptable Solution	Performance Criteria
E.13.7.1 - Demolition	A1. No Acceptable Solution.	Demolition must not result in the loss of significant fabric, form, items, outbuildings or landscape elements that contribute to the historic cultural heritage significance of the place unless all of the following are satisfied; <ul style="list-style-type: none"> (a) there are, environmental, social, economic or safety reasons of greater value to the community than the historic cultural heritage values of the place; (b) there are no prudent and feasible alternatives; (c) important structural or façade elements that can feasibly be retained and reused in a new structure, are to be retained; (d) significant fabric is documented before demolition.
E.13.7.2 – Building and Works other than Demolition	A1. No Acceptable Solution.	P1. Development must not result in any of the following: <ul style="list-style-type: none"> (a) loss of historic cultural heritage significance to the place through incompatible design, including in height, scale, bulk, form, fenestration, siting, materials, colours and finishes; (b) substantial diminution of the historic cultural heritage significance of the place through loss of significant streetscape elements including plants, trees, fences, walls, paths, outbuildings and other items that contribute to the significance of the place.
	A2. No Acceptable Solution.	P2. Development must be designed to be subservient and complementary to the place through characteristics including: <ul style="list-style-type: none"> (a) scale and bulk, materials, built form and fenestration; (b) setback from frontage; (c) siting with respect to buildings, structures and listed elements; (d) using less dominant materials and colours.
	A3. No Acceptable Solution.	P3. Materials, built form and fenestration must respond to the dominant heritage characteristics of the place, but any new fabric should be readily identifiable as such.
	A4. No Acceptable Solution.	P4. Extensions to existing buildings must not detract from the historic cultural heritage significance of the place.

E.13.7.3 - Subdivision	A5. New front fences and gates must accord with original design, based on photographic, archaeological or other historical evidence.	P5. New front fences and gates must be sympathetic in design, (including height, form, scale and materials), to the style, period and characteristics of the building to which they belong.
	A6. Areas of landscaping between a dwelling and the street must be retained.	P6. The removal of areas of landscaping between a dwelling and the street must not result in the loss of elements of landscaping that contribute to the historic cultural significance of the place.
	A3. No Acceptable Solution.	P1. A proposed plan of subdivision must show that historic cultural heritage significance is adequately protected by complying with all of the following: <ul style="list-style-type: none"> (a) ensuring that sufficient curtilage and contributory heritage items (such as outbuildings or significant plantings) are retained as part of any title containing heritage values; (b) ensuring a sympathetic pattern of subdivision; (c) providing a lot size, pattern and configuration with building areas or other development controls that will prevent unsympathetic development on lots adjoining any titles containing heritage values, if required.

PLACE OF ARCHAEOLOGICAL POTENTIAL

The site is included in Table E.13.4 (Places of Archaeological Potential), as defined by Figure E.13.4.1 of the scheme, therefore Clause E.13.10.1 of the scheme applies to the entire site. This means that any development on the subject site will need to be informed by a *statement of historical archaeological potential* (SoHAP) which will consider the site history, past development, the research potential of such (along a range of regional, thematic and temporal lines), and the disturbance history and propose an *archaeological zoning plan* for the site.

Any future development will require an *archaeological impact assessment* to be undertaken as informed by the SoHAP. If impact is likely, this will require consideration of design amendments to avoid or minimise that impact (particularly on very significant remains) – unless there are no prudent or feasible alternatives to that impact. If impact is likely and unavoidable, then an *archaeological method statement* will be required.

	Acceptable Solution	Performance Criteria
<i>E.13.10.1 – Building and Works other than Demolition</i>	<i>A1. Building and works do not involve excavation or ground disturbance.</i>	<p><i>P1. Buildings, works and demolition must not unnecessarily impact on archaeological resources at places of archaeological potential, having regard to:</i></p> <ul style="list-style-type: none"> <i>a) the nature of the archaeological evidence, either known or predicted;</i> <i>b) measures proposed to investigate the archaeological evidence to confirm predictive statements of potential;</i> <i>c) strategies to avoid, minimise and/or control impacts arising from building, works and demolition;</i> <i>d) where it is demonstrated there is no prudent and feasible alternative to impacts arising from building, works and demolition, measures proposed to realise both the research potential in the archaeological evidence and a meaningful public benefit from any archaeological investigation;</i> <i>(a) measures proposed to preserve significant archaeological evidence 'in situ'.</i>
<i>E.13.10.2 – Subdivision</i>	<i>A1. Subdivision provides for building restriction envelopes on titles over land defined as the Place of Archaeological Potential in Table E13.4.</i>	<p><i>P1. Subdivision must not impact on archaeological resources at Places of Archaeological Potential through demonstrating either of the following:</i></p> <ul style="list-style-type: none"> <i>(a) that no archaeological evidence exists on the land;</i> <i>(b) that there is no significant impact upon archaeological potential.</i>

HERITAGE PRECINCT

The subject site is not within any Heritage Precinct as defined by Table E13.2 and depicted on Map E13.3 of the Scheme, therefore the provisions of Clause E13.8 do not apply.

SUBMISSION REQUIREMENTS

Further to Clause E13.5.1 of the Scheme, the Planning Authority **may** require the following to accompany any application for use or development of a Heritage Place:

- (a) a conservation plan;

- (b) *photographs, drawings or photomontages necessary to demonstrate the impact of the proposed development on the heritage values of the place;*
- (c) *a statement of significance;*
- (d) *a heritage impact statement;*
- (e) *a statement of compliance;*
- (f) *a statement of archaeological potential;*
- (g) *an archaeological impact assessment;*
- (h) *an archaeological method statement;*

2.2. HISTORIC CULTURAL HERITAGE ACT 1995

83 Melville Street (the former Crisp and Gunn buildings) is listed on the Tasmanian Heritage Register (ID#2507); therefore, the place is subject to the provisions of the *Historic Cultural Heritage Act 1995* (HCHA).

At the outset of this project, only a basic datasheet for the place existed, and no Central Plan Registry registered plan existed to explicitly define the registered area, therefore the listing deferred to the cited title (C/T 149231/2).

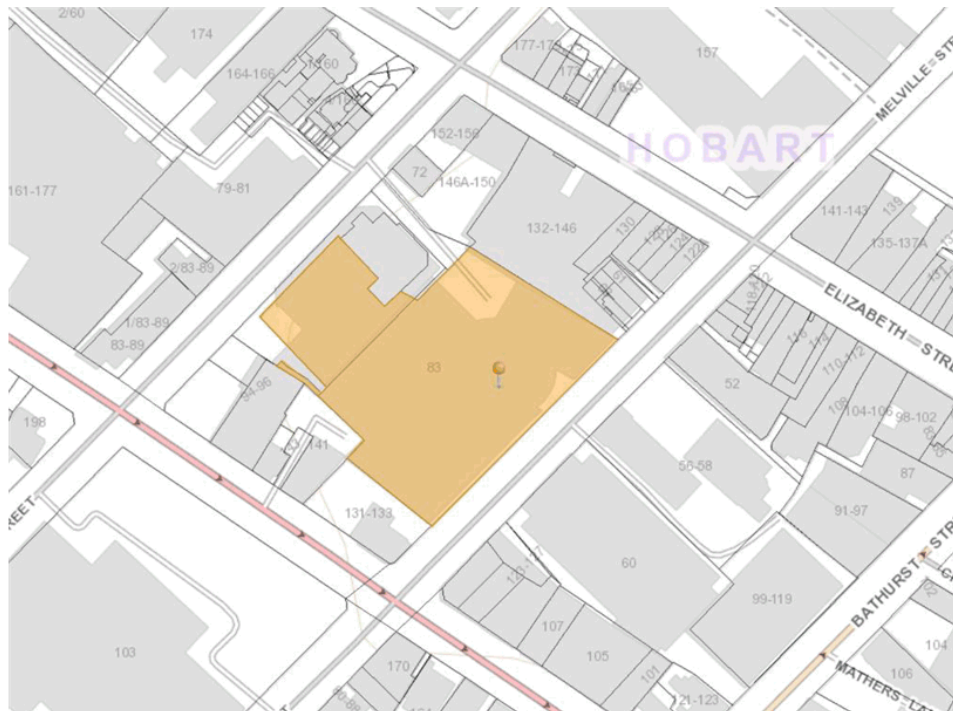


Figure 2.2 – Area affected by the Tasmanian Heritage Register entry at the time of project inception (i.e. C/T 149231/2).

That area the area includes the buildings on the Melville Street frontage (i.e. the two brick former Crisp and Gunn buildings – the stated intent of the listing) however the land affected also includes the 1997 Forestry dome and associated buildings, as well as the basement carpark of the Freedom building (not the building itself though, which has a separate C/T reference as part of a strata title).

In mid-2021, the Tasmanian Heritage Council provided a replacement entry for the place, which added C/T's 149231/1 and 149231/0 to the registered area (i.e. the entire subject site here). That datasheet (provided here as Appendix A) also explicitly adds reference to the Forestry Dome and a sandstone wall on the Brisbane Street frontage of the site.

Part 6 of the HCHA (Heritage Works) sets the process by which approvals for works may be gained from the Tasmanian Heritage Council (THC):

35. Heritage works require heritage approval

(1) A person must not carry out any heritage works unless those heritage works have heritage approval.

(2) For the purposes of subsection (1), heritage works are taken to have heritage approval if, and only if –

(a) in a case where a certificate of exemption has been issued, the heritage works are carried out in accordance with –

(i) that certificate of exemption; and

(ii) if a discretionary permit or other permit is required for the heritage works under the Planning Act, that discretionary permit or other permit; or

(b) in a case where a certificate of exemption has not been issued, the heritage works are carried out in accordance with a discretionary permit.

(3) It is a defence in proceedings for an offence under subsection (1) if the defendant establishes that –

(a) the heritage works were carried out in response to an emergency; and

(b) the heritage works were, both as to nature and extent, reasonably necessary for the purposes of responding to the emergency; and

(c) in the circumstances, it was not practicable to seek a certificate of exemption; and

(d) the defendant, before, while or as soon as practicable after carrying out the heritage works, notified the Heritage Council, in writing, of the emergency and the details of the heritage works.

Sections 36-41 set the process for the lodgement and assessment of applications for a heritage works permit, via a Discretionary Development Application under the Land Use Planning and Approvals Act 1993. Section 42 describes the process whereby certain works may be exempt from the requirement of s.35:

42. Certificates of exemption for heritage works

(1) A person may apply to the Heritage Council for a certificate of exemption for heritage works.

(2) The exemption certificate application –

(a) is to be in a form provided or approved by the Heritage Council; and

(b) is to be supported by such information as the Heritage Council requires, either at the time of lodgment or subsequently.

(3) The Heritage Council may –

(a) approve the exemption certificate application; or

(b) refuse the exemption certificate application.

(4) Without limiting its discretion, the Heritage Council must approve the exemption certificate application if it is reasonably satisfied that the heritage works –

(a) are identified in the works guidelines as works that will have no impact or only negligible impact on the historic cultural heritage significance of the relevant registered place or heritage area; and

(b) are capable of being carried out in accordance with the works guidelines.

Whilst the HCHA provides no specific detail as to how particular proposals are considered, nor does it provide any indicative thresholds of what may be considered to have *no or negligible* heritage impact, the THC/Tasmanian Government publication *Works Guidelines for Historic Heritage Places* (November 2015)⁴ provides further detail on the application process, guiding principles and the basis for decisions made by the THC. In addition, the THC has a series of practice notes and technical guides, available via www.heritage.tas.gov.au which provide useful guiding principles for how the THC are expected to assess and determine applications for heritage works.

2.3. ENVIRONMENT PROTECTION & BIODIVERSITY CONSERVATION ACT 1999

The place is not included on the National or Commonwealth Heritage Lists, therefore the historic cultural heritage provisions of the Environment Protection and Biodiversity Conservation Act 1999 are not applicable.

2.4. ABORIGINAL HERITAGE ACT 1975 (AMENDED 2017)

An assessment of any possible Aboriginal heritage values is not part of the brief for this report; nonetheless the provisions of the *Aboriginal Heritage Act 1975* are applicable to the place. A search of the Tasmanian Aboriginal Heritage sites register (Job # 21898847) did not identify any registered Aboriginal relics nor apparent risk of impacting Aboriginal relics (search valid until 28/12/21). The Tasmanian Government *Unanticipated Discovery Plan*

⁴ http://heritage.tas.gov.au/Documents/Works_Guidelines_FINAL_Nov2015.pdf

– *Procedure for the management of unanticipated discoveries of Aboriginal relics in Tasmania* must be adhered to in the event that any Aboriginal heritage items are discovered during the course of any works.

2.5. PREVIOUS CONSERVATION PLANNING DOCUMENTS

Although not having any statutory standing, there are two relevant previous conservation planning documents relating to the former Crisp and Gunn buildings:

- A Statement of Cultural Significance of Crisp and Gunn Buildings, Melville Street, Hobart. Michael Court and Kerry Edwards, Historical Interpretation Consultants. (1990).
- 79 Melville Street, Fabric Assessment & Retention of Significance Study. Robert Vincent and Mike Grant, April 1995.

Both of these documents relate to the office building as part of the wider complex. The latter document appears to be intended to guide the redevelopment of the building post-Tasmanian Fire Service divestment and appears to have strongly guided the 1997 Forestry redevelopment of the site.

The Court and Edwards document provided some conservation policy for the buildings, noting that this was before they had any form of statutory heritage protection. Those policies have been considered here in the formulation of conservation policies in Section 8.

The Vincent and Grant document goes into a great deal more detail and was informed by the Court and Edwards document (which was included in the later report as Appendix 2). That document provided a thorough photographic survey of the building, a detailed fabric analysis and statement of significance. The report ranks the significance of the various forms, fabric and spaces of the building. The recommendations arising from that report and relative significance of the various elements have been used here in the formulation of conservation policies in Section 8 and the heritage impact assessment.

3. DOCUMENTARY EVIDENCE – HISTORICAL BACKGROUND

As outlined in the methodology in Section 1.3, the key to assessing historic heritage significance is to gain an understanding of the history of the place, the context of it within its surrounds, associated thematic contexts, and other intangible values (e.g. community value, value associated with people, events etc.). To enable this assessment, this research will focus on the physical development of the subject area, in order to provide the most detailed possible account of the structures erected on this site, their purposes, and their fate since European settlement in 1804.

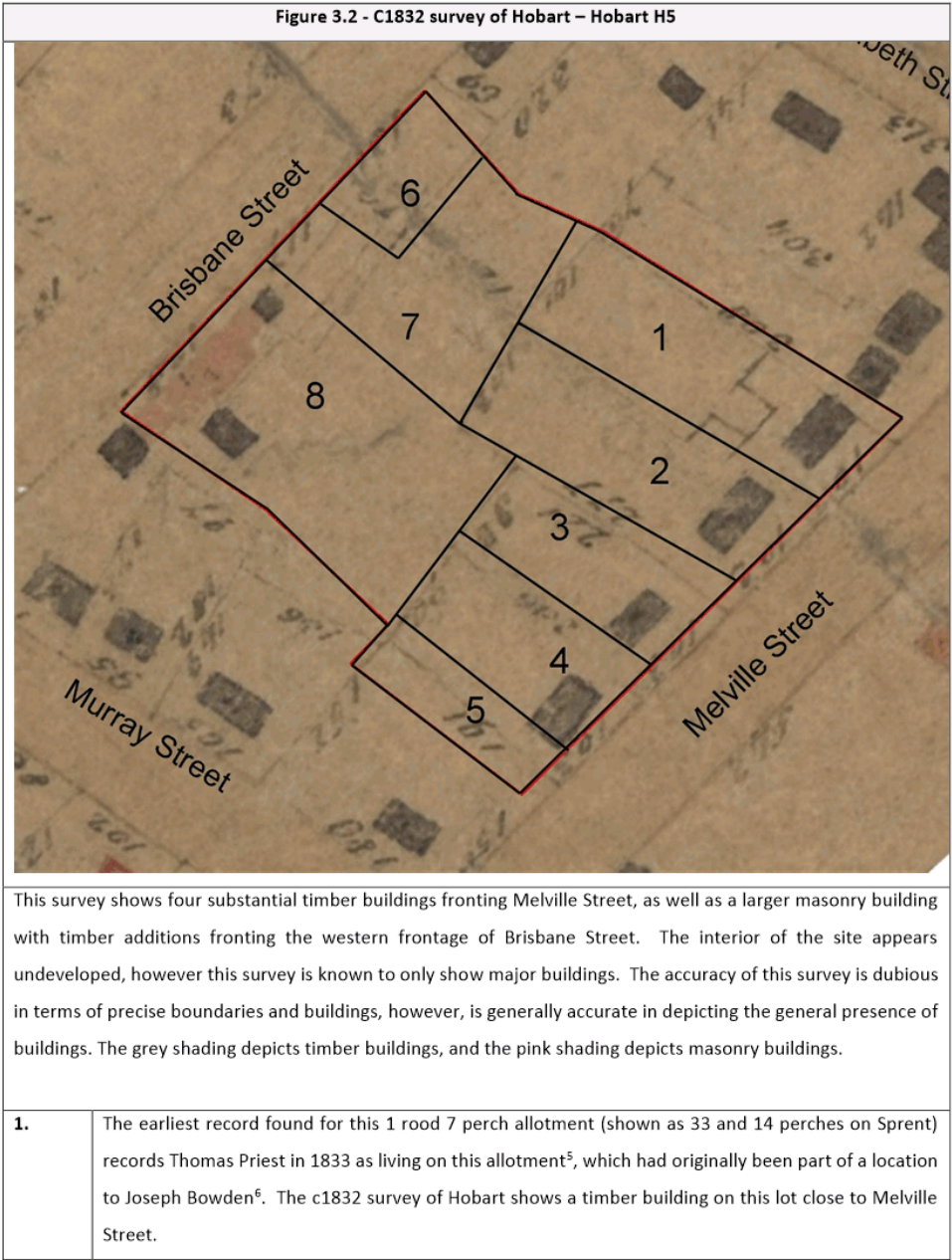
3.1. PRE THE 1886 CRISP AND GUNN OCCUPATION

The subject site is comprised of eight early grants – for the sake of the early history of the site (at least) the narrative will follow each of those grants, as their dates of development, later subdivision and functional uses all vary. Following the 1886 Crisp and Gunn acquisition, these were progressively adhered – as the narrative further below will follow. Figure 3.1 provides this arrangement:

Figure 3.1 – Configuration of early land grants comprising the subject site, showing the early tenure of parcels comprising the subject site (largely based on Sprent's c1845 survey).



1	1 rood, 7 perches	Originally granted to Joseph Bowden, recorded as being owned by Thomas Priest prior to 1833.
2	1 rood, 6.5 perches	Originally granted to Thomas Hoskisson, gained by debtors judgment by William Lindsay in 1833.
3	25 2/10 perches	Originally located to John Swan, formally granted to Andrew Bent in 1828.
4	31 perches	In 1838 Joseph Barker addigend the land to his daughter Elizabeth Ibbotson, and granted to Henry Wilks as trustee for Ibbotson in 1840.
5	15 perches	Claimed by William Morgan prior to 1857, not formally granted until 1924 to Crisp and Gunn.
6	17 perches	Granted to Joseph Molloy pre-1845.
7	27 & 6/10 Perches	Claimed by William Willet and Bryant Webb pre-1845. Not formally granted until 1919 when granted to Emma and Frederick Crisp.
8	1 rood, 37 perches	Originally granted to Lewis Riley in 1867 apparantly after an earlier claim by Joseph Bowden that was cancelled in 1846.



⁵ The Colonist & Van Diemen's Land Commerce and Agricultural Advertiser, 8 March 1833 p1
⁶ Cornwall Chronicle 10 March 1875 p.4

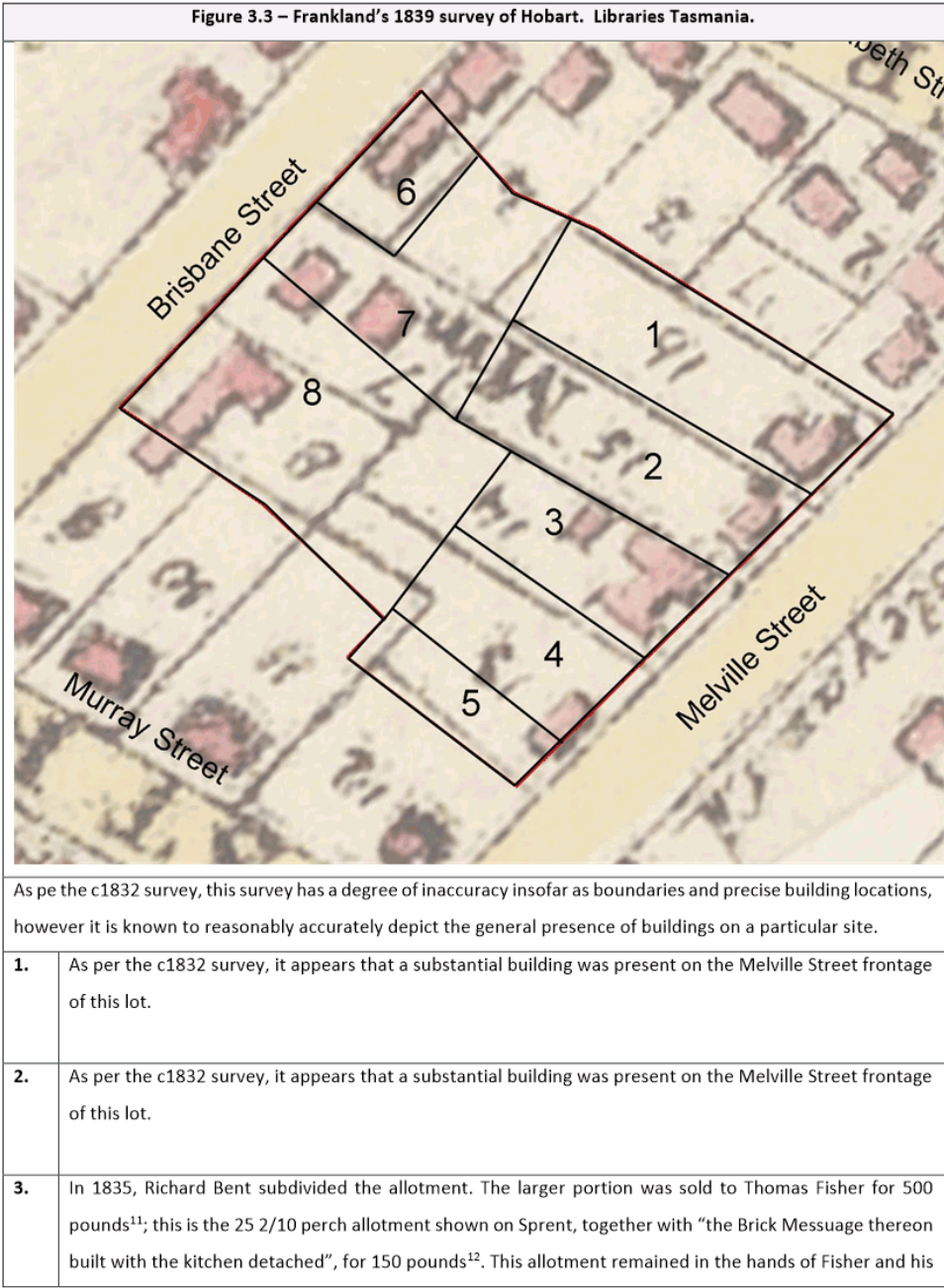
2.	This allotment was originally granted to Thomas Hoskisson (date unknown). By August 1833, Hoskisson was indebted to William Lindsay for 200 pounds. The debt fell into arrears and in June 1839 Lindsay gained a judgement against Hoskisson from the Supreme Court. Eventually, Hoskisson conveyed the allotment to Lindsay in August 1843 in satisfaction of the debt ⁷ . The c1832 survey depicts a large timber building fronting Melville Street on this allotment.
3.	This allotment was originally located to John Swan, date unknown. ⁸ The first recorded transaction on this allotment occurs in May 1828, at which point Andrew Bent conveyed the property to Richard Bent for 70 pounds. The memorial for this transaction states that the property included “the weatherboarded house and other erections now thereupon standing” ⁹ , which is consistent with the c1832 depiction. The boundaries described appear to correspond to the block shown on Sprent including the smaller division labelled “claimed by S.A. Shirley”.
4.	The first recorded transaction on this land occurs in February 1838, when Joseph Barker, a farmer from New Norfolk, assigned the land to his daughter, Elizabeth Ibbotson ¹⁰ . The c1832 survey shows a timber building on the site fronting Melville Street.
5.	The site is shown as undeveloped on this survey.
6.	
7.	
8.	Ownership of this part of the site at this time is unclear, however a large masonry building is depicted, which appears to be larger than domestic scale, with two timber outbuildings nearby. The precise purpose of this building is not known although it is known that the site was later (at least) owned by Joseph Bowden who was the proprietor of the Lamb Inn in Brisbane Street. Sprent’s survey of Hobart does not show Bowden as owning any other land in Brisbane Street, therefore this building <i>may</i> represent the Lamb Inn.

⁷ DPIPWE The LIST Mem 2/6453

⁸ *The Mercury* 24 August 1876 p.4

⁹ DPIPWE The LIST Mem 1/657

¹⁰ DPIPWE The LIST Mem 2/1939



¹¹ DPIPWE The LIST Mem 1/4461
¹² DPIPWE The LIST Mem 1/4460

	heirs until June 1897, when William Fisher sold it to Frederick Henry Crisp for 400 pounds ¹³ . Frankland's 1839 survey shows a larger complex of buildings on this site than the c1832 survey. See below for the divergent history of the smaller portion of the subdivision, sold to a Sarah Ann Shirley.
4.	The 1839 survey shows what is likely to be the same building as per the c1832 survey.
5.	This site is shown as undeveloped on this survey.
6.	A pair of houses had been developed on the Molloy lot by this time – likely only one (and a part of another) of these was within the subject site.
7.	A dwelling and rear outbuilding had been developed by this time. The ownership at the time is unclear.
8.	The earlier buildings are depicted on this survey, again the ownership and function is unclear but it is possibly that this Joseph Bowden's Lamb Inn.

¹³ DPI/PWE The LIST Mem 9/7771

Figure 3.4 – Sprent’s c1843 survey of Hobart.



The c1843 Sprent survey of Hobart is known to have a very high degree of accuracy in terms of building locations, boundaries and materials (i.e. grey = timber, pink = masonry). This survey has been relied upon here for the designation of the early allotments comprising the subject site – note however Sprent only recorded portions of buildings that were visible from the public domain, therefore may not represent a comprehensive dossier of all buildings on any particular site, and in the case of area 8 only depicts the front (i.e. publicly visible) portion of that building.

- | | |
|---|--|
| 1 | The large timber building fronting Melville Street is seen on this survey, with a subdivision of the lot having occurred which passed through the building. Priest died in Hobart in December 1874 ¹⁴ leaving the property to Henry and William Priest. This structure is bisected by later additions to Sprent showing a shared roadway passing through the location of the wooden structure. In March 1875, William Priest applied for and was granted 14 perches of Thomas’ allotment. ¹⁵ |
|---|--|

¹⁴ TAHO RGD 35/1/8 No 2372
¹⁵ Cornwall Chronicle 10 March 1875 p.4

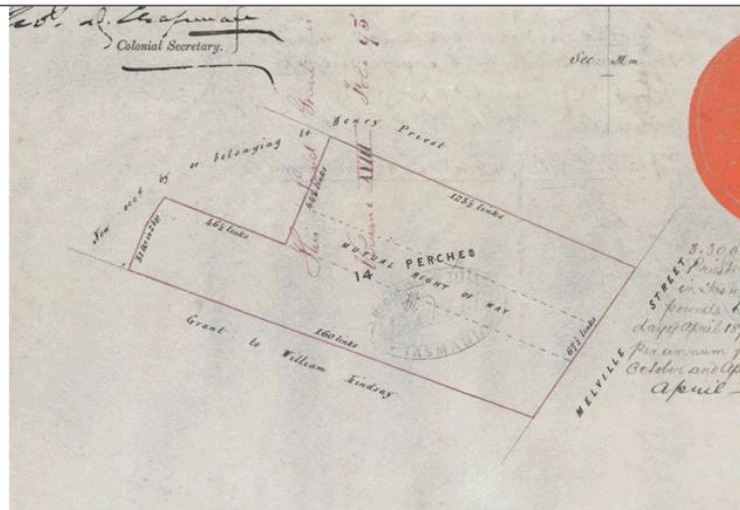


Figure 3.4a - Detail from Purchase Grant 25/121 showing William Priests' 14 perches

In October 1875, Priest sold the 14 perches to William Bezett, a licensed victualler, for 300 pounds¹⁶; in April 1885 Bezett sold to George Salier and George James¹⁷. In September 1885, Salier and James further subdivided the 14 perch block by dividing it in two:

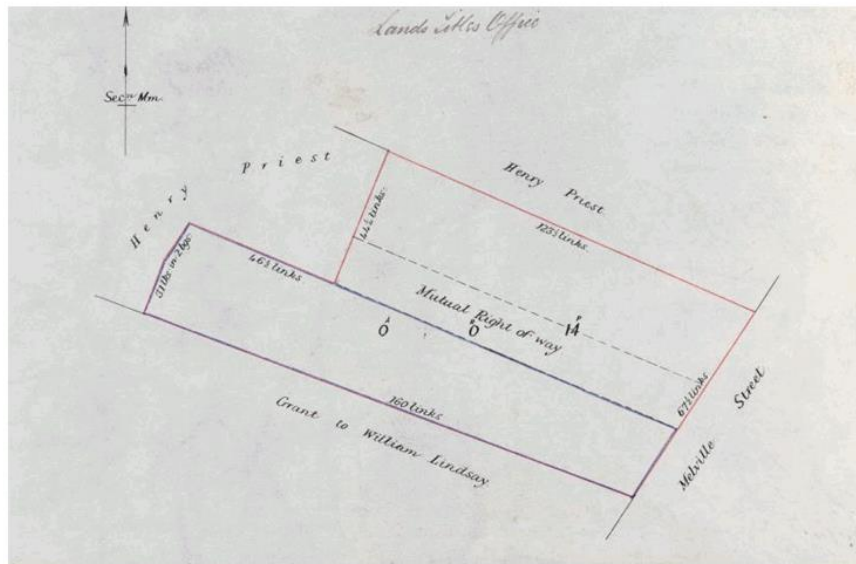


Figure 3.4b - Detail from DPIPWE CT47/8

¹⁶ DPIPWE The LIST PG25/121 Purchase Grant

¹⁷ DPIPWE The LIST CT18/93

The Murray Street side, measured at 7 perches (see blue outline above) was sold to William Langford, a licensed victualler, for 100 pounds¹⁸. In December 1894, Langford sold this 7 perch block to Frederick Henry Crisp for 135 pounds¹⁹. By 1914, this had been absorbed into the 32.9 perch Crisp block²⁰ which eventually enlarged to include the entire subject area.

The remaining portion of William Priests' 14 perch allotment (outlined in red above) sold to George Grey in May 1886 for 425 pounds²¹. The survey diagram from this sale (see below) depicts "old brick houses" at the front of this allotment²². Grey sold to Joshua Simmons in June 1891 for 400 pounds²³. The allotment was purchased by Frederick Henry Crisp in May 1903²⁴.

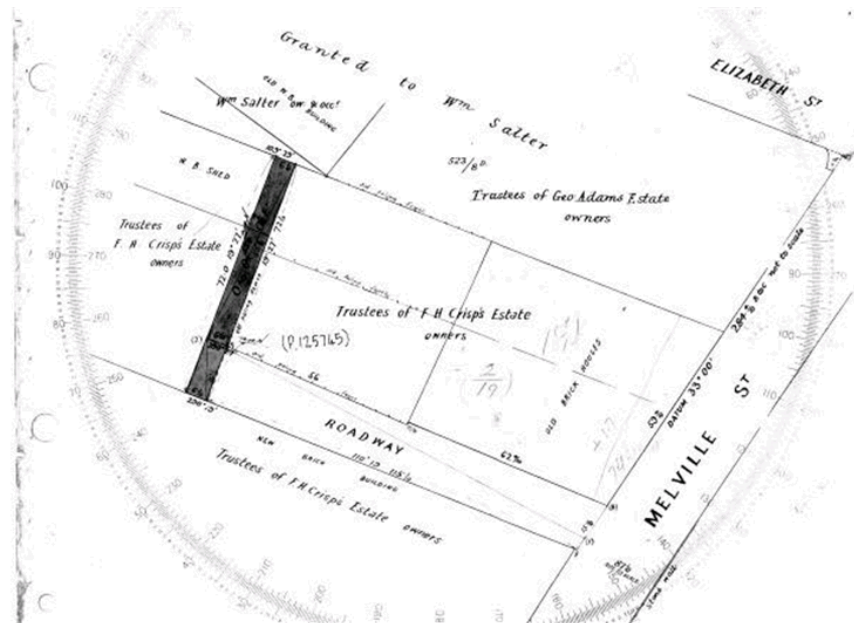


Figure 3.4c - Detail from DPIPWE Survey Diagram Hobart 13/13 (90323): The 8 perch portion of William Priest's grant

The remaining 33 perch portion of Thomas Priest's original allotment was granted to Henry Priest in August 1893²⁵ (see below). In April 1900, Henry Priest sold this allotment to Frederick Henry Crisp for 575 pounds²⁶.

¹⁸ DPIPWE The LIST CT47/8

¹⁹ DPIPWE The LIST CT49/72

²⁰ DPIPWE The LIST CT218/118

²¹ DPIPWE The LIST CT47/8

²² DPIPWE Survey Diagram Hobart 13/13

²³ DPIPWE The LIST CT54/96

²⁴ DPIPWE The LIST CT110/23

²⁵ DPIPWE The LIST PG67/74

²⁶ DPIPWE The LIST CT115/106

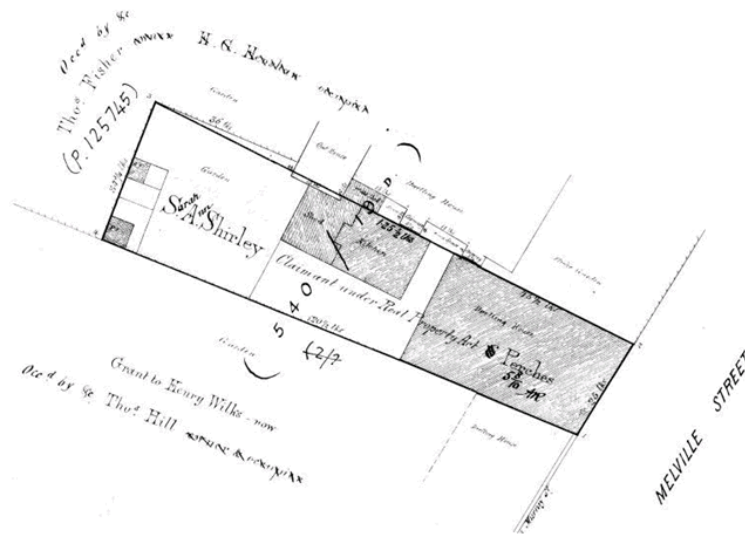


Figure 3.4e - Detail from Survey Diagram Hobart 2/21 showing the dwelling, detached kitchen and offices and privies.

Sarah Ann Shirley was granted this land in September 1876 and retained it until November 1892, at which point she sold it to William George Ibbotson for 400 pounds³². In 1922, Crisp and Gunn Co-Operative Ltd became the owners through the will of William George Ibbotson³³. In January 1925, this allotment was subsumed by the larger Crisp & Gunn Co-Operative Ltd title.³⁴

- | | |
|---|--|
| 4 | The Sprent survey shows a single timber building on the site as well as a small timber outbuilding forward of the main building. The property was used in a series of mortgages until it was eventually conveyed to Elizabeth's son William George Ibbotson in July 1883. By this time, the property included a blacksmith's shop and a house ³⁵ (possibly those buildings depicted on Sprent?). By 1922, the property was still in William George Ibbotson's hands, and at this point he mortgaged it to James Isherwood ³⁶ . This research was unable to trace the title history further, other than to state that it had become subsumed into the amalgamated Crisp & Gunn Co-Operative block by 1923 ³⁷ . |
| 5 | In 1923, Crisp & Gunn applied for 15 perches fronting Melville Street. The Lands Titles Office queried the Surveyor General as to "whether any portion of the land has been granted" and were advised that it did seem |

³² DPIPW The LIST PG28/160 Purchase Grant

³³ DPIPW The LIST CT85/177

³⁴ DPIPW The LIST CT326/126

³⁵ DPIPW The LIST Mem 7/1384

³⁶ DPIPW The LIST Mem 15/8213

³⁷ DPIPW The LIST CT 326/126

	<p>to be part of a larger claim for grant by John Morgan in July 1857³⁸. A notation on Sprent records that it was also claimed by William L Morgan under the Real Property Act.</p> <p>Crisp & Gunn Co-operative Limited were granted the 15 perches in November 1924³⁹.</p>
6	The earlier Molloy houses are shown in greater detail and accuracy on this survey, one and a part of another being within the subject site.
7	Although the earlier (1839) survey shows two buildings on this lot – the Sprent survey shows it as vacant. Ownership at the time is unclear.
8	This survey shows the earlier large masonry building, with an adjacent building earlier depicted as timber now being depicted as masonry. The annotations state that the site was granted to Joseph Bowden, but that grant being cancelled in 1846 in favour of Lewis Riley, who did not receive a formal grant until 1867. The detail of these early transactions requires further research beyond the scope of the current investigations. It is possible that this is the Lamb Inn of which Bowden was the proprietor through the 1830s.

³⁸ DPIPWE The LIST Survey Notes 67825 (re Hobart 25/5)

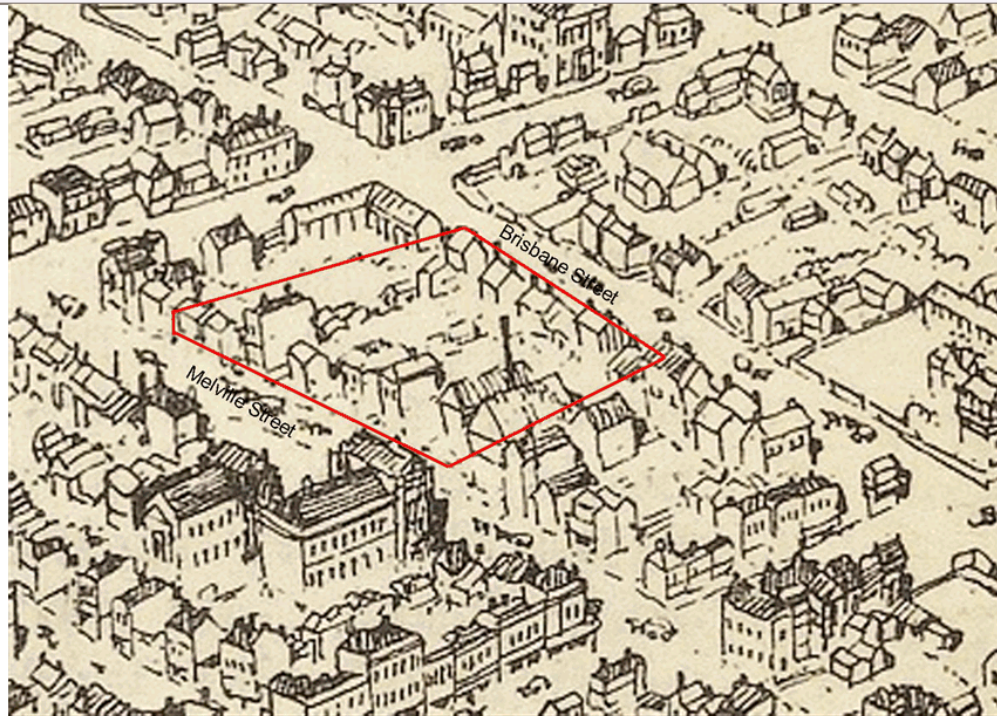
³⁹ DPIPWE The LIST PG 165/97 Purchase Grant

Figure 3.5 – Layout of the Riley (formerly Bowden) lot (Area 8) in 1867 DPIWE The LIST PG11/86.



This survey plan shows the pre-1832 larger building fronting Brisbane Street of unknown function, as well as an adjacent building shown on that early map also. Another rear building shown on the 1832 map has been removed by this time and another rear building added to the north. This again shows the internal portion of the site as vacant.

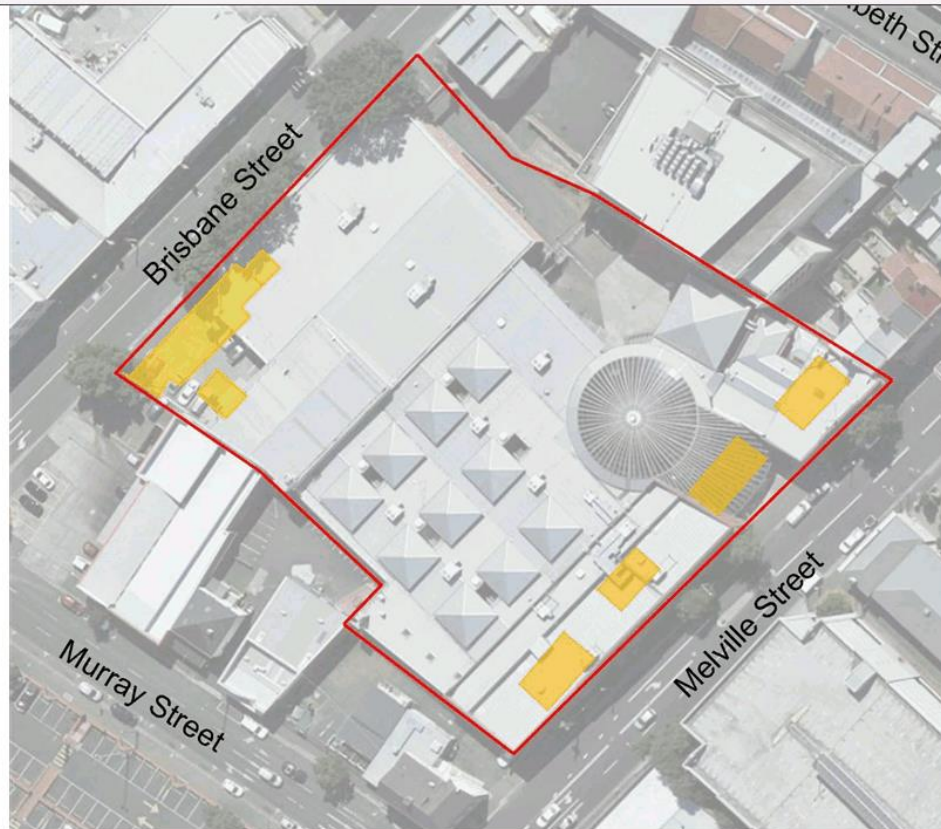
Figure 3.6— Birds Eye View of Hobart, The Town and Country Journal, 17/11/1894:26-27.



This image depicts the site following the first Crisp acquisitions, with buildings fronting Brisbane and Melville Streets and a generally open area in the central part of the site – note however the chimney depicting the change to industrialisation of the site. Whilst the 'artistic licence' of this image makes it difficult to ascertain individual buildings on each earlier allotment, it suggests that by this time some of the presumably ephemeral timber buildings fronting Melville Street had been removed in favour of larger commercial buildings.

The following figures depict the pre-Crisp acquisition historical evolution of the site based on the (most reliable depictions) from the historical overview above:

Figure 3.7 – Locations of pre-1832 buildings, based on the 1832 survey over a recent aerial photograph.



The orange areas represent the presence of buildings on the c1832 survey of Hobart. This survey is known to not be highly accurate in terms of the precise size and location of building but is generally accurate in the depiction of the presence of buildings – therefore is likely to reliably depict the presence of a building on each lot at that time. That survey also did not necessarily pick up all minor site features (e.g. sheds, privies etc.). What this does show however is that development was likely concentrated on the Melville and Brisbane Street frontages.

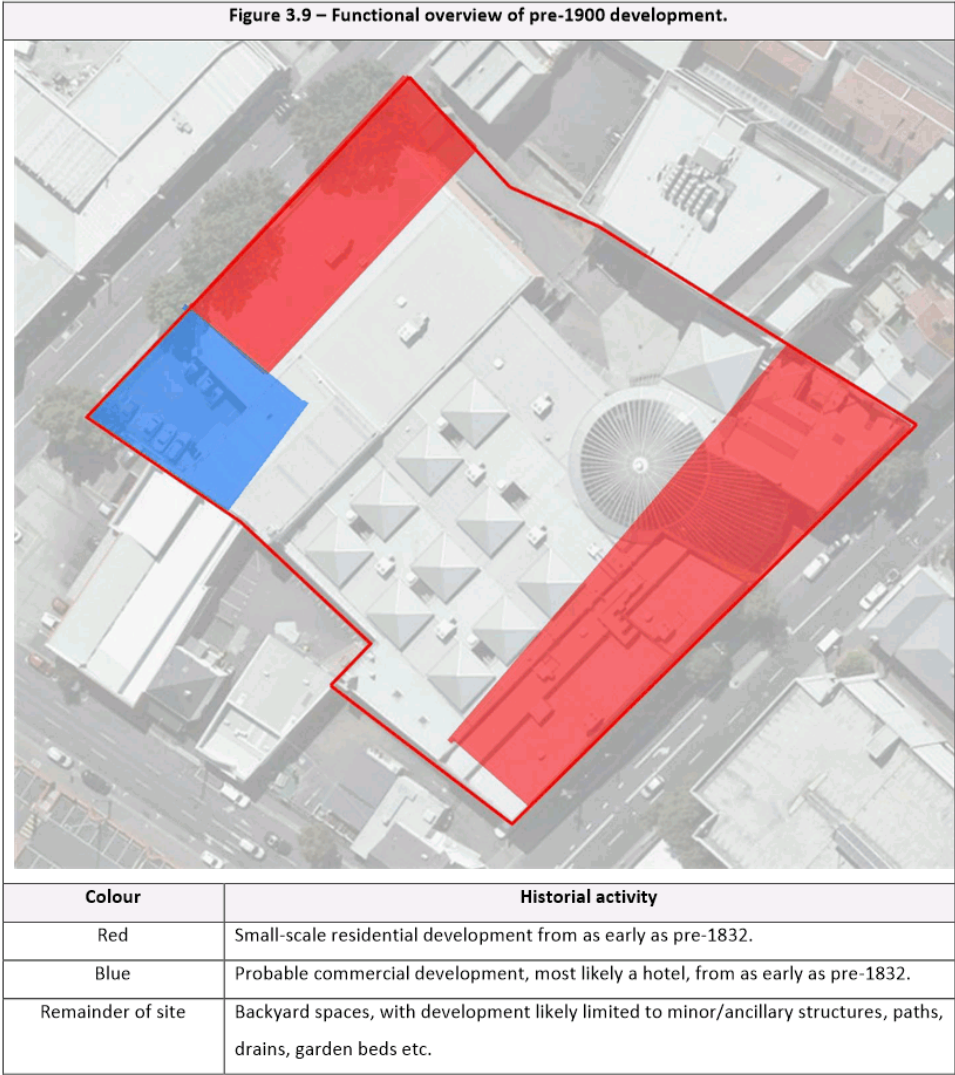
Figure 3.8 – Locations of pre-c1843 buildings, based on the Sprent survey over a recent aerial photograph.



The yellow areas depict the location of building footprints as per the c1843 Sprent survey, which is known to be a very accurate, yet possibly incomplete depiction of the development of the site by that time. Again, this indicates that development was concentrated on the Melville and Brisbane Street frontages. The above has been supplemented by the 1867 Riley survey in the north-western corner of the subject site (purple).

There are no known depictions of the site layout in the later c19th – see below for some distant panoramic images which give some indication of the post 1886 Crisp development, and the later 1908 depiction being the next known depiction of site layout.

The following Figure provides an overview of nineteenth century function of the various parts of the site that will lead the later discussion on archaeological potential (note that twentieth century development has been omitted here, as this is not considered to have any archaeological significance, however will be discussed below in terms of possible disturbance of earlier archaeological remains).



3.2. 3826POST-1886 CRISP AND GUNN OWNERSHIP & EXPANSION OF THE SITE

Samuel Crisp arrived in Van Diemen's Land the 1830s from Suffolk, England and established a timber business in Campbell Street around 1850. His son George served his apprenticeship in the business and later set up a timber business in the Old Market Place – taking over his father's business c1853. By 1865 he was trading with his brother, Alfred Crisp at 3 Campbell Street. Both George and Alfred each served terms as Mayor of Hobart. Alfred's sons, Ernest and Samuel eventually assumed the business, with Ernest later buying his brother out. George's son, Frederick established a sawmill and offices in Melville Street in 1886 (part of the subject site) and successfully imported timber from America, the Baltic and New Zealand. In 1902, cousins Ernest and Frederick merged, trading as F and E Crisp from the Melville Street premises. Around 1900, the cousins built elaborate Victorian Italianate style premises fronting Melville Street (likely in area 3 as described here) and had a timber yard extending rearward to Brisbane Street (on area 7 as described here).



Figure 3.10 - The original Crisp and Gunn building, c1900. The 'Shirley' residence can be seen to the far left of this image. Libraries Tasmania AUTAS001139594071.



Figure 3.11 - Crisp and Gunn offices and showroom, c1910. State Library of Victoria, H27134.



Figure 3.12 - The Crisp and Gunn timber yard, Brisbane Street, c1910. State Library of Victoria a11526.



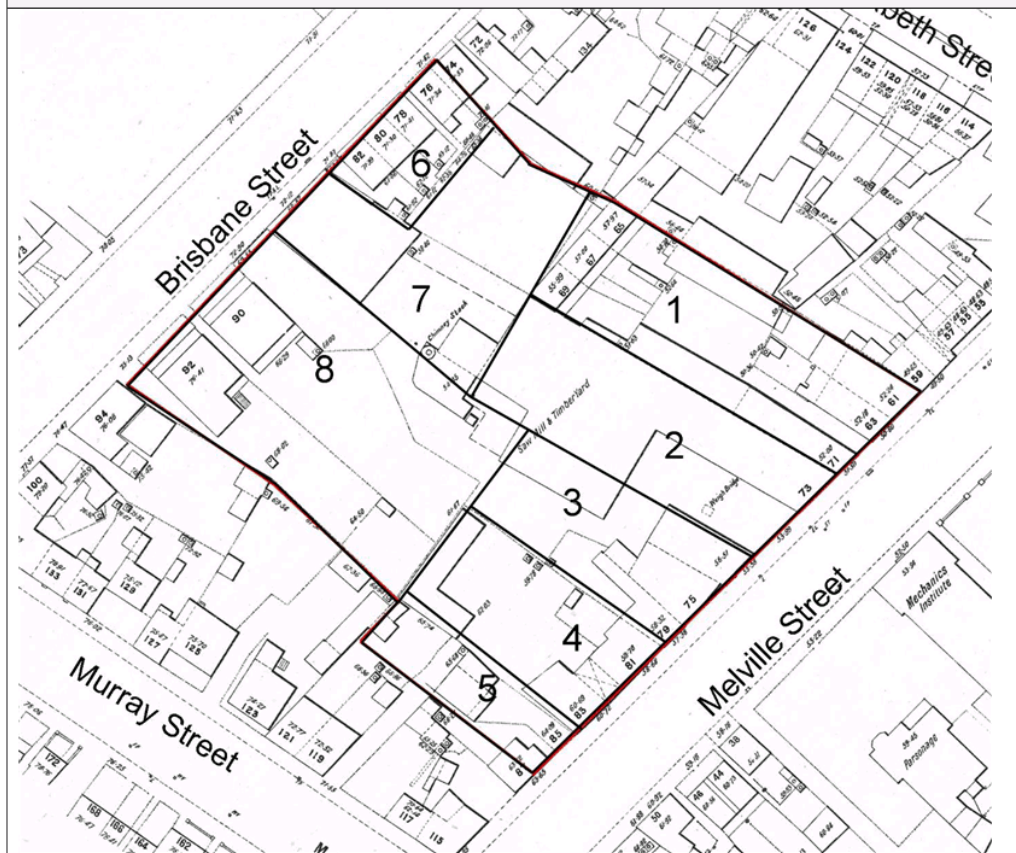
Figure 3.13 - Crisp's Timber Yard Brisbane Street frontage from the north-west c1900 (within area 7 as discussed here. Tasmanian Archive and Heritage Office NS1013/1/522.



Figure 3.14 – The c1900 Crisp-occupied parts of the subject site. Note that Crisp's ownership was wider, however it seems that his earlier occupation phase retained many of the residential buildings and small backyards, whilst the timber yard operations filled excess backyard spaces.

In 1908, the Crisp cousins went into partnership with the southern interests of J & T Gunn and formed the Crisp and Gunn Cooperative Ltd, continuing their operation from their Melville Street offices and Brisbane Street timber yard.

Figure 3.15 - Metropolitan Drainage Board survey 1907. Libraries Tasmania SD_ILS:553788.



The Metropolitan Drainage Board plan is probably the most accurate and detailed depiction of the circa-1900 layout of the site.

1	The narrow lot on the Murray Street side of this area had been acquired by Crisp in 1894, but appears not to have been developed. The Melville Street frontage closer to Elizabeth Street of this area had been bought by Crisp in 1903, however appears to have still retained the 'old brick houses' (i.e. then 61 and 63 Melville Street) as described on that transfer until after 1907 – these are likely to have been post-1845 construction relating the earlier timber building in that area). The rear portion accessed by the right-of-way to Melville Street had been developed as three cottages, probably after the 1893 sale to Henry Priest and sold to Crisp in 1900. Overall, the 1907 survey depicts this area still as residential, owned by Crisp, but not yet incorporated into the timber yard operations.
2	Owned by Crisp at the time, the was the main Melville Street entrance to the timber yards.

3	Owned by Crisp at the time, this was the site of the elaborate Victorian Italianate office building and adjacent showroom. One earlier (1830s/40s) residence remained standing to the immediate west.
4	Residential, owned by the Ibbottson family.
5	Residential, owned by Morgan at the time.
6	Crisp owned these buildings at the time, which presumably remained as tenanted residences, but with almost all of their backyard space occupied by timber yard operations.
7	Owned by Crisp by this time, this was the primary Brisbane Street frontage of the timber yard site.
8	Lewis Riley died in 1906 and his estate was devised to Edward Mulhearin, who sold the property to a Mr. Lilley who undertook a complex series of subdivisions. Of relevance to the current considerations is that by 1908 the earlier large masonry building (and others) had been cleared and two houses had been built facing Brisbane Street. The interior of the lot appears relatively undeveloped. Crisp and Gunn eventually acquired all of these titles between 1919 and 1957. Note that the westernmost house survived on a remnant lot until purchased by Crisp and Gunn in 1957 as the last domestic building in the entire subject site.

A 1921 oblique aerial photograph of Hobart shows the peak of the earliest form of the Crisp and Gunn site, with the Victorian Italianate offices facing Melville Street, two large workshops in the central part of the site and the timberyard sales office fronting Brisbane Street. At that time, the current subject site included at least 10 residential properties which were not owned /occupied by Crisp and Gunn at the time. By that time, substantial buildings had been erected within the central portion of the site.

Figure 3.16 – 1921 excerpt of a panorama of Hobart. Tasmanian Archive and Heritage Office NS5748-1-78



On the 13th May 1922, a fire tore through the Crisp and Gunn timber yard and joinery works causing £25,000 damage. The following report from *The Daily Telegraph* (15/5/1922:4) gives an account of the total destruction:

BIG BLAZE IN HOBART: CRISP & GUNN'S TUBER YARDS WOKS, OFFICES, ETC., DESTROYED) DAMAGES ESTIMATED AT £25,000

HOBART, Sunday. — It is but comparatively a short time back since Risby's timber yards at the bottom of Elizabeth-street was devastated by fire, and it has now to be reported that an outbreak on a similarly large scale occurred just before midnight on Saturday, when Crisp and Gunn's timber yard, joinery, works, show-rooms and offices were completely destroyed.

For years, there has been considerable talk as to the danger of having timber yards so close to the city business establishments, and this was exemplified on Saturday night. Crisp and Gunn's premises were practically in the heart of the city, located in the centre of a block surrounded by Elizabeth, Murray, Brisbane and Melville Streets. The premises in Elizabeth Street in the vicinity of Crisp and Gunn's consist of about ten new business places and three or four shops that have been there for a very long time. In the Melville and Murray Streets block they are mainly cottages. Opposite where the fire occurred are situated the Temperance Hall, Methodist Church, and Mechanics' Institute. The fire broke out so suddenly that it was a foregone conclusion that the whole of the timber premises would be destroyed. The only question that had to be solved was would the brigade be able to save the surrounding properties and for a long time a satisfactory answer was not forthcoming. At the outset the night was calm, and it was this fact that really saved the situation so far as contiguous premises were concerned. The flames rose to a great height and sparks travelled a considerable distance, even with the wind as light as it was. The reflection lit up the heavens for miles around and this had the effect of drawing a huge crowd to witness the conflagration, and each street of the block had its large coterie of onlookers. The fire was assailed from every side by a large number of hoses pouring copious supplies of water onto the adjoining properties, but it is a matter for regret that so many of the hoses were in such a state of disrepair that leakages were of common occurrence. Looking down on the outbreak from Brisbane-street, the seat of fire from this aspect being some 10 or 15ft below the roadway, it presented a miniature Dante's Inferno. Right to Melville Street, with a width of around 200ft, was a veritable block of fire throwing off heat, and considerably hampering efforts of firemen. At one o'clock a little wind arose, and in confluence sparks and burning paper were carried onto the roofs of the Mechanics' Institute and Wesleyan Church, and water was promptly played on to the shingles and prevented a spread of the outbreak in that direction. This performance had to be repeated at intervals. The changing of hoses from one side of the road to the other had the effect of completely dousing a large number of spectators, and this provided a humorous side to otherwise a very serious matter.

A pathetic site to the picture was the removal of furniture from the houses in the immediate danger zone and keeping guard thereof by women. Murray, Brisbane and Elizabeth-street accommodating all kinds of furniture, some of which had suffered materially in handling.

By 1.30 a.m. although the fire was still raging heavily, yet it could be seen that it was quickly burning itself out to such a degree that the work of members of the fire brigade was made a degree lighter, because it was apparent that with no increase in the strength of the wind and the surrounding places as yet untouched would be saved. And this proved to be the case. Gradually the flames got less and less, while more water could be directed at the fire until it was reduced to a smouldering heap. The firemen maintained their efforts throughout the night, and when the scene of outbreak was visited this morning, water was still being played on the smoking debris. The daylight revealed, the havoc that had been made during the few hours the fire had raged. The whole of the interior of the block had been gutted. The offices and stables were left with but brick walls and chimney standing, and that was all. that remained of Crisp and Gunn's hive of industry of a few short hours previously. The fire is believed to have occurred near the boiler, right in the centre of the yards. It is somewhat significant that three months ago a lad was found lighting some shavings near a pine stack, when some boards were charred, and he was dealt with at the Juvenile Court.

Several householders; reported that looters had taken away some goods that had been placed in the streets, while Mr Nat Edwards states that his shop was deliberately broken into and articles of clothing taken.

Mr E.T. Crisp, one of the principals of the firm, said he. estimated the damage at about £25,000, although he was unable to make an absolutely accurate estimate. The plant and stock were well insured. Mr Crisp said there were about 150 men employed in the different yards and mill, and the majority worked at the premises which had been destroyed. The men included carpenters, joiners, mill hands, machinists, engine drivers and yardmen. There were 13 horses in the stables, and they were all saved. Carts and harness were also safely removed. The plant, which included planing, sandpapering, and other timber-dressing machines, was one of the most up to date in the Commonwealth and considerable delay must ensue before it can be replaced; Mr Crisp added that the origin of the fire was a complete mystery. When he left the premises at 12.45 p.m. on Saturday everything was all right. He was asleep when the fire broke out. Superintendent Trousselot said the alarm was given 11:51; and when the brigade arrived immediately after, the whole premises were well alight.



Figure 3.17 – Headline from *The World*, 15/5/1922:5.

Newspaper articles in the following month discussed the disaster in terms of the ability of the city's fire brigade to deal with such occurrences, as well as the suitability of such businesses in the central city. The 1922 Crisp and Gunn fire followed the disastrous Risby Bros. fire in Elizabeth Street 15 months before, and the Chesterman's fire in Campbell Street nine months before. Noting also that the earlier Crisp's timber yard in Macquarie Street had been destroyed by fire in 1890. Crisp and Gunn however had a quick recovery, with plans submitted to the City Council in July of that year for new premises. *The World*, 11/7/1922:6 reported:

CRISP AND GUNN: Plans for New Building Approved by City Council

Messrs Crisp and Gunn Co-operative limited submitted tentative plans to last night's meeting of the City Council, for their proposed new buildings in Melville Street. The plans show brick parapet walls on all boundary lines; and all buildings with the exception of the mill proper, which are of brick. Each block is separated from another with solid brick walls and fire, proof doors, where openings occur. Alderman Valentine moved the adoption of the report and said the layout was one which would give satisfaction. Alderman Shield seconded; and said the plans complied with the Act. Alderman Lord said the Superintendent of the Fire Brigade was well satisfied with the plans. Alderman Williams said he thought that before any attempt was made to re-build the premises that were destroyed, they should have had the report of the committee which recently took evidence regarding fire risks to the city. He was rather surprised that the report had not been furnished. Alderman Rogers was of opinion that they should delay approving of the plans if possible. There was a big diversity of opinion regarding the matter, which was one they should not hurriedly agree to. Alderman Wignall: The plans comply with the Act, and we have no power to hold them up. Alderman Martin: If the Superintendent of the Fire Brigade was satisfied with the plans there was no reason why the scheme should be retarded. He could not see why the Council should attempt to hold up the work. Alderman Valentine said he regretted that the committee had not been able to furnish its report, but nevertheless it was not for the aldermen to anticipate what that document would contain. The recommendation was adopted.

The plans for the new buildings were by Architect George Stanley Crisp (1883-1933) who was the son of Alfred Crisp of Crisp Bros. Crisp was a prominent Hobart architect of the 1920s, designing notable buildings including:

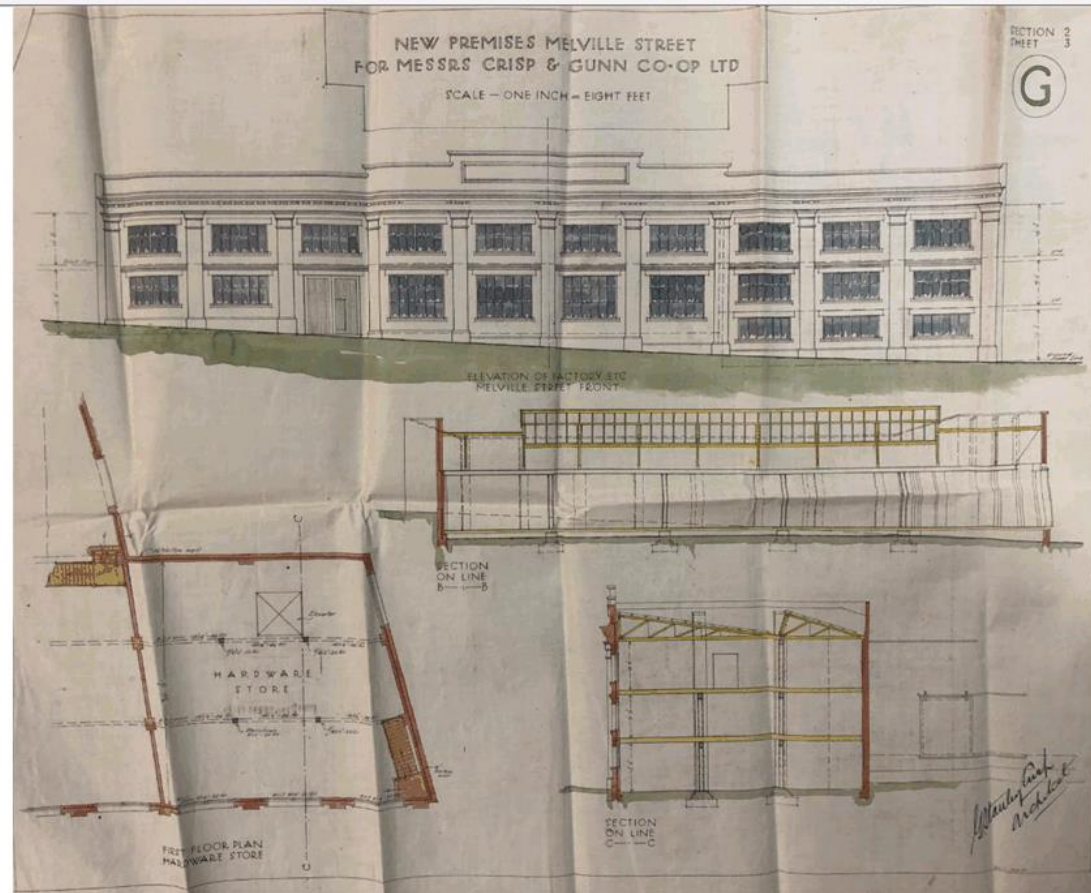
- Waimea and Graystones houses, Sandy Bay.
- The Odeon (formerly His Majesty's and Strand) Theatre, Liverpool Street Hobart.
- The Palace Theatre, 28-32 Elizabeth Street Hobart (demolished)
- Commercial Bank, 75 Wilson Street Burnie.
- Commercial Bank Moonah.
- Fifth floor extension, Kodak Building, 45 Elizabeth Street Hobart.
- Heathorns Garage, Bathurst Street Hobart (largely destroyed by fire 2010).
- Additions to Brownell's Department Store, Liverpool Street Hobart (destroyed by fire 2007).

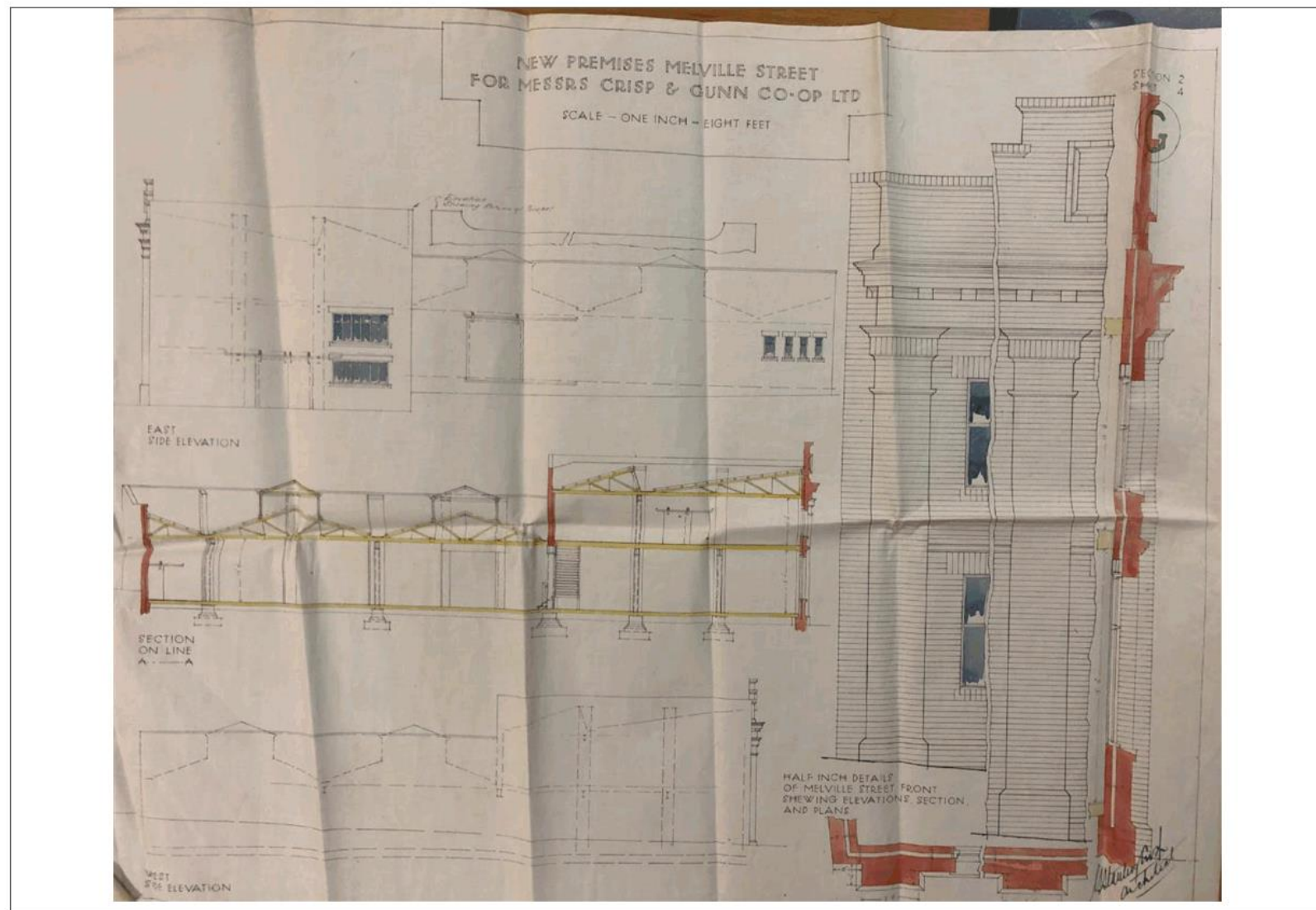
Crisp was the President of the Tasmanian Chapter of the Architect's Institute during 1917, 1918, 1926, 1927 and the year of his death in 1933. Noting his death at age 50 (the result of being hit by a vehicle), Crisp did not have a particularly long architectural career. His nephew Albert Lauriston Crisp worked for him and is perhaps better represented amongst Tasmanian commercial and public architecture, continuing the Crisp family's name in architecture, particularly in the Art-Deco realm, designing buildings such as the Hobart Masonic Temple, Sandy Bay Savings Bank, Motors Garage Launceston, the Paragon Theatre Queenstown and Millbrook Rise at New Norfolk. The Crisp family are therefore prominent not just in building materials in late c19th and early c20th Tasmania, but in architecture through the first half of the c20th also.

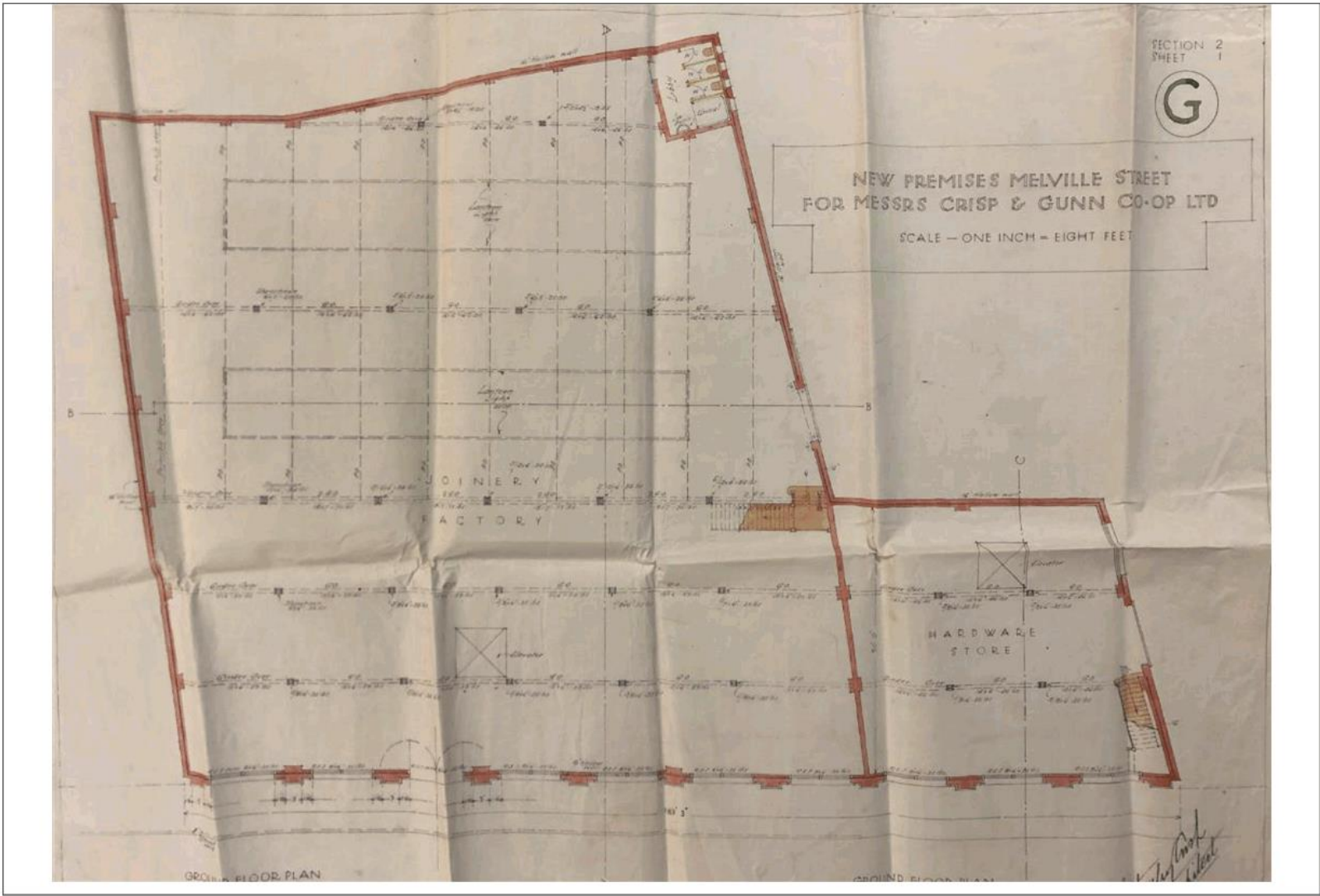
Whilst the former Commercial Bank in Burnie is perhaps the best example of Federation Free-Classical architecture by George Stanley Crisp, the Crisp and Gunn buildings are a more restrained and slightly later example of his commercial work and one of the better-known Hobart examples of his commercial work. The interior of the offices in particular attest to his quality of work and the use of the roof lanterns were perhaps an innovative feature adopted by Crisp.

The buildings were constructed by William Cooper and Sons of Molle Street, Hobart.

Figure 3.18 – 1919 plans for the 1923 Crisp and Gunn workshops and store. Tasmanian Archive and Heritage Office AE417/1/48







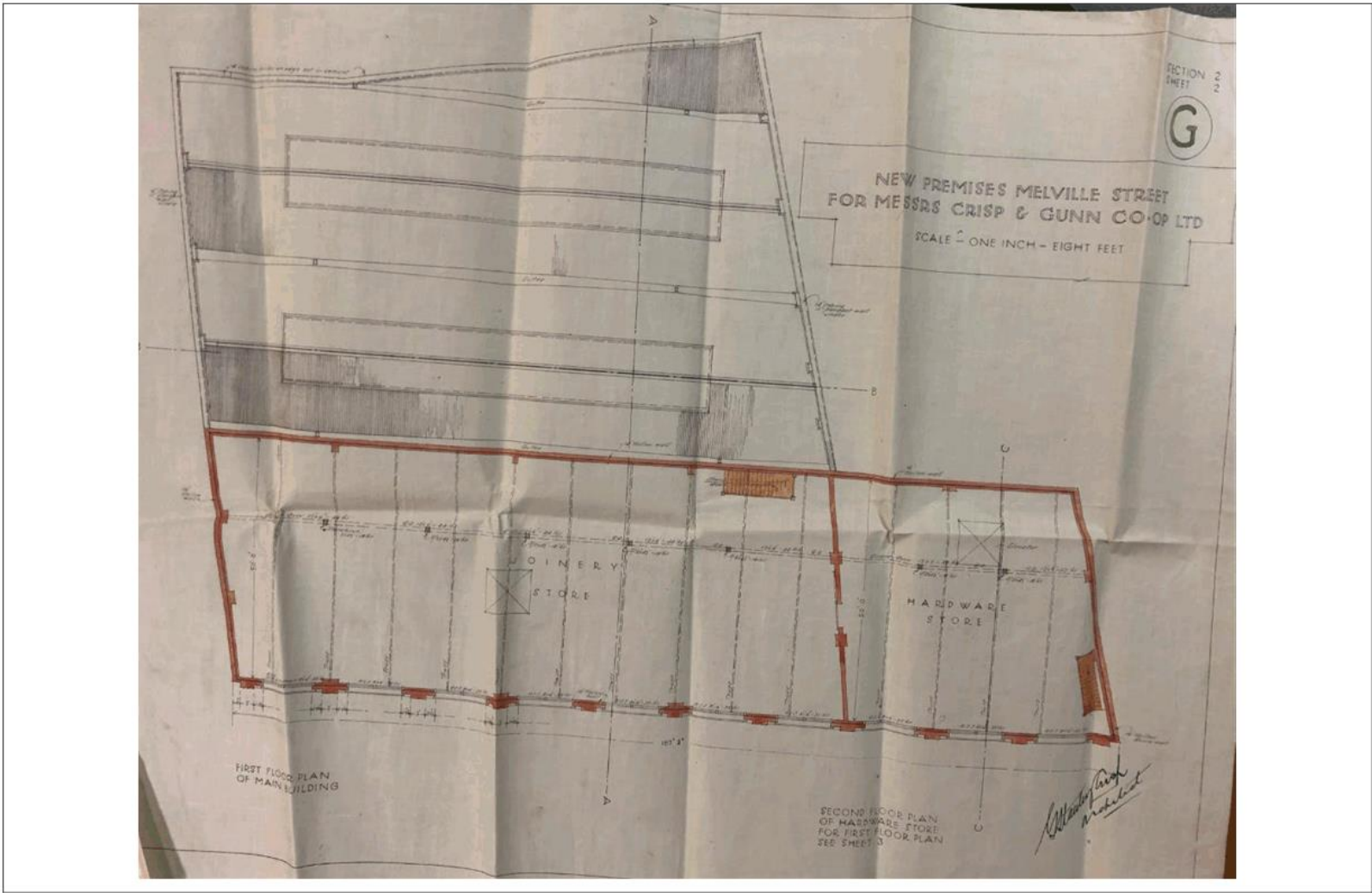
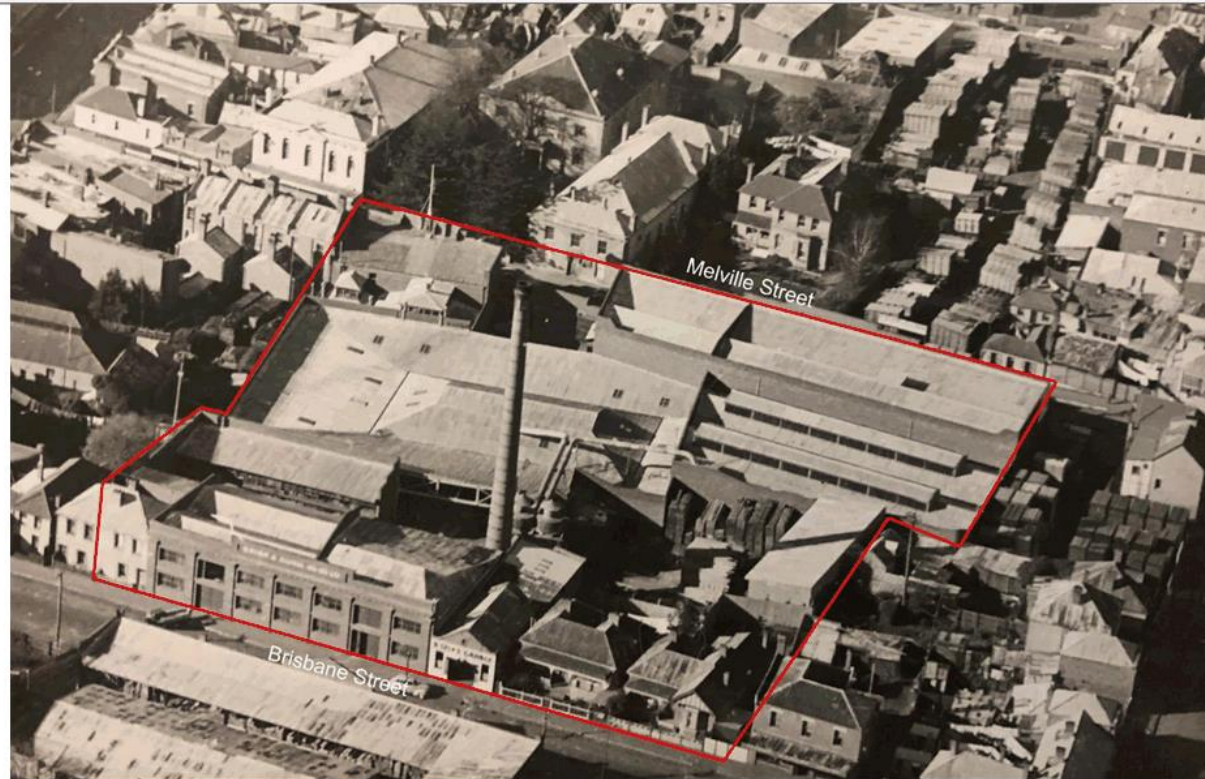


Figure 3.19 – Oblique aerial photograph from the north-west 1940s. Tasmanian Archive and Heritage Office NS3826/1/88.



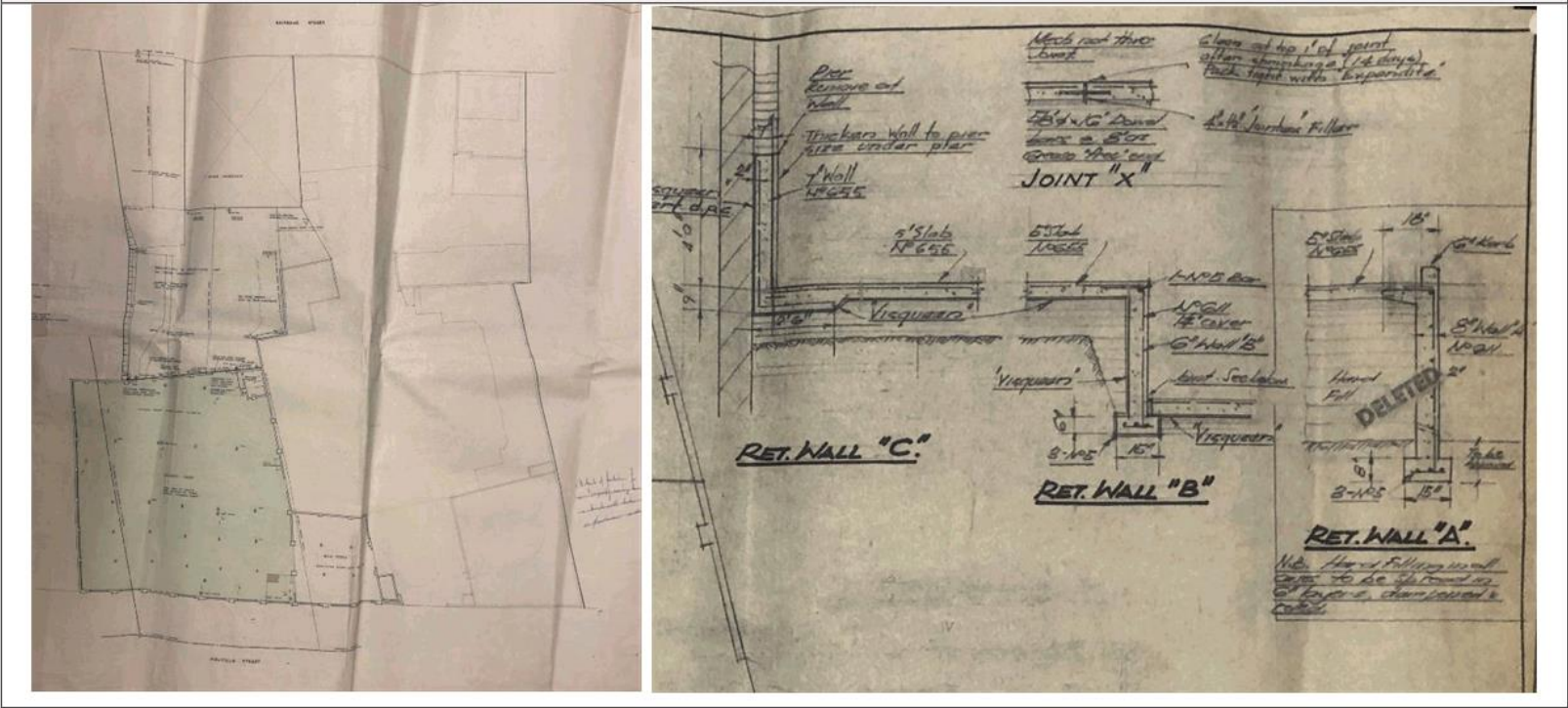
An excerpt from a 1946 panorama of Hobart clearly shows the layout of the site at that time, with the 1923 warehouse, store and office fronting Melville, a similarly styled building fronting Brisbane Street (built c1922 – no plans for this building were found) and several remaining early residential properties fronting Brisbane Street. The central portion of the site including a post-1923 series of large sheds, the chimney (which survived the fire) and open yard space.

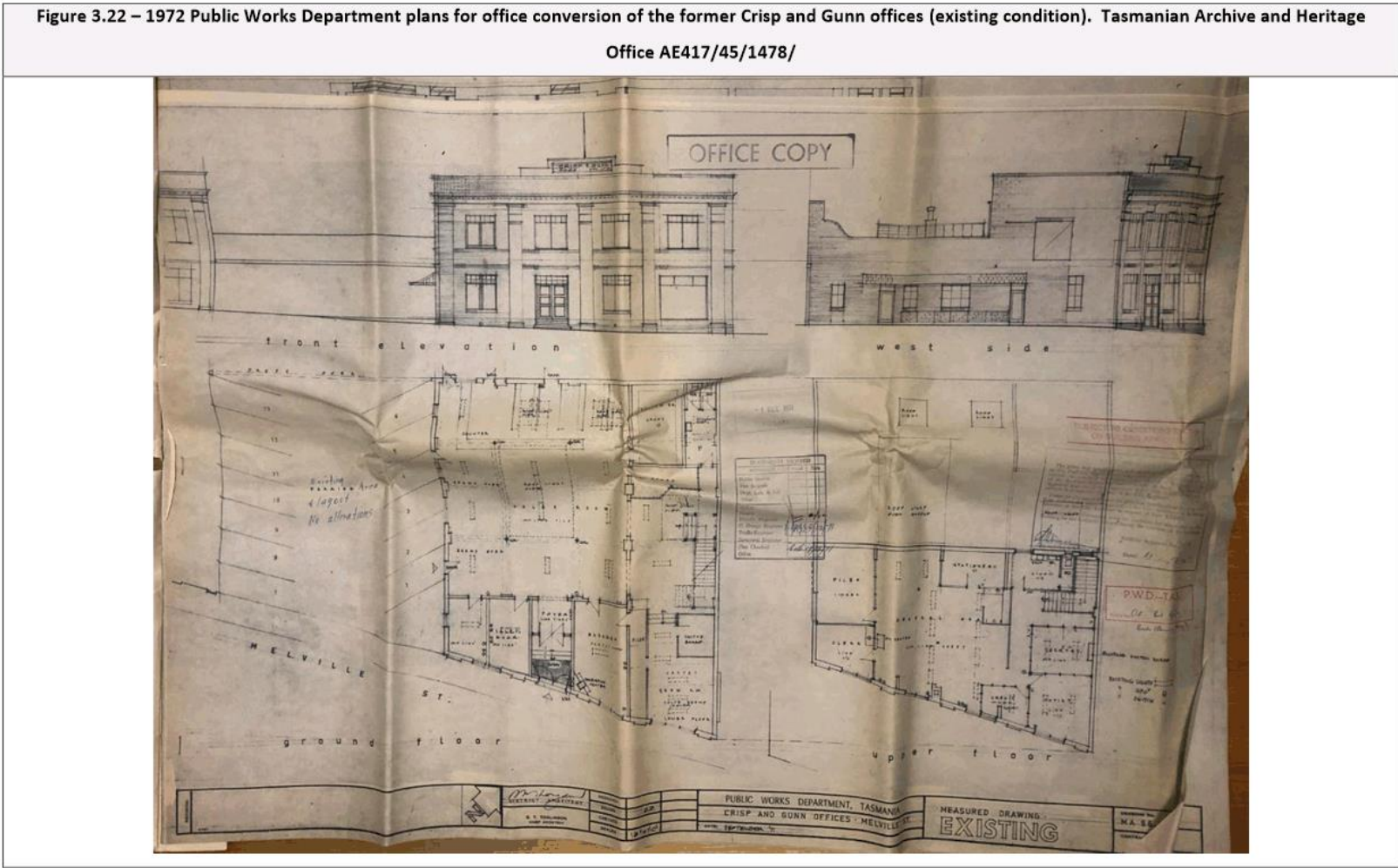
Figure 3.20 - Aerial photograph 1946. Lands Tasmania 1946 Hobart Run 1-10893.

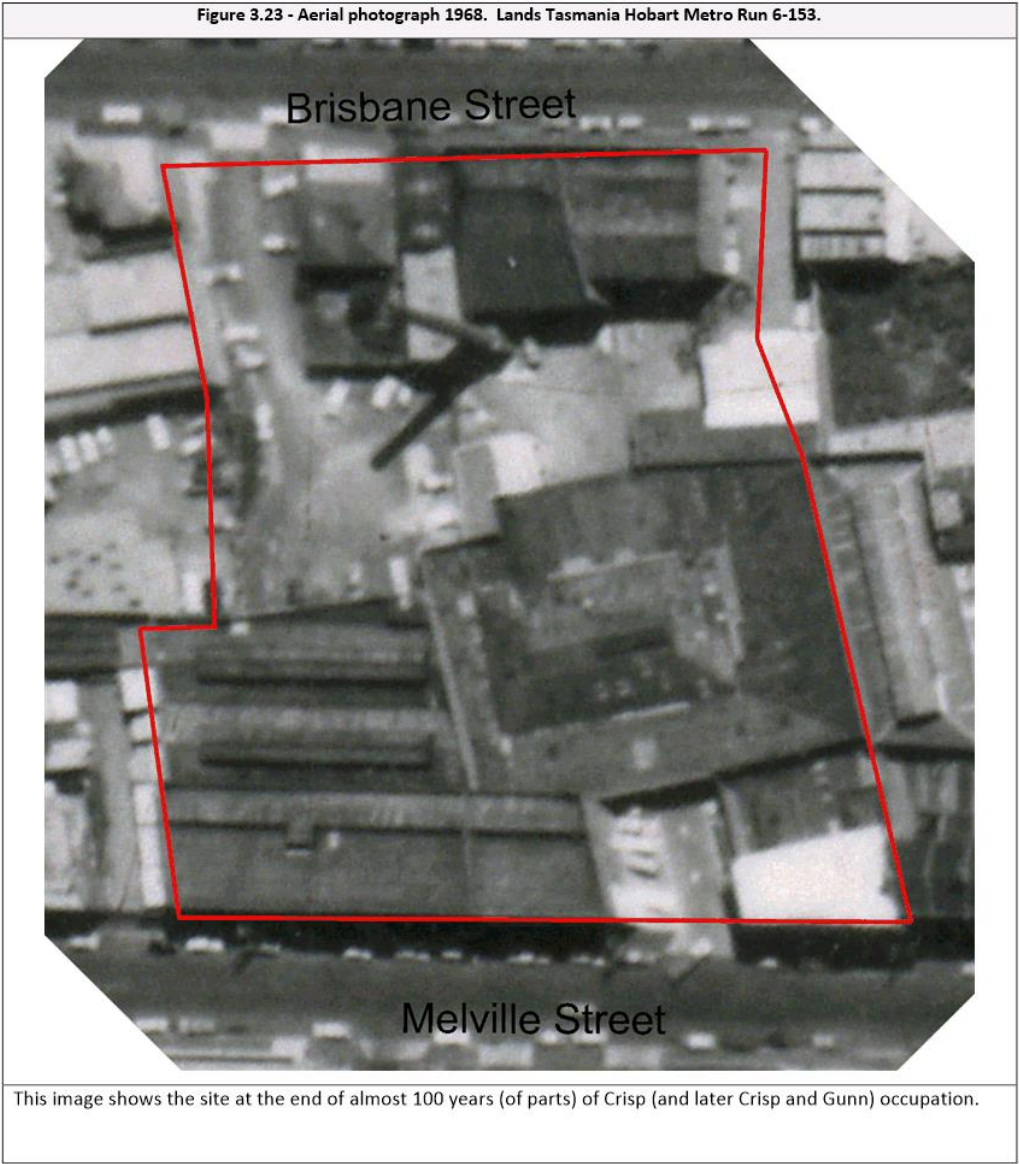


The 1946 aerial photograph shows the layout of the site at that time, with the 1923 warehouse, store and office fronting Brisbane Street, a similarly styled building fronting Brisbane Street and several remaining early residential properties fronting Brisbane Street. The central portion of the site including a post-1923 series of large sheds, the chimney (which survived the fire) and open yard space.

Figure 3.21 – 1964 modifications of Crisp and Gunn workshops in central portion of the site (including retaining walls). Tasmanian Archive and Heritage Office AE417/4/97







3.3. TASMANIAN GOVERNMENT OCCUPATION AND DIVESTMENT

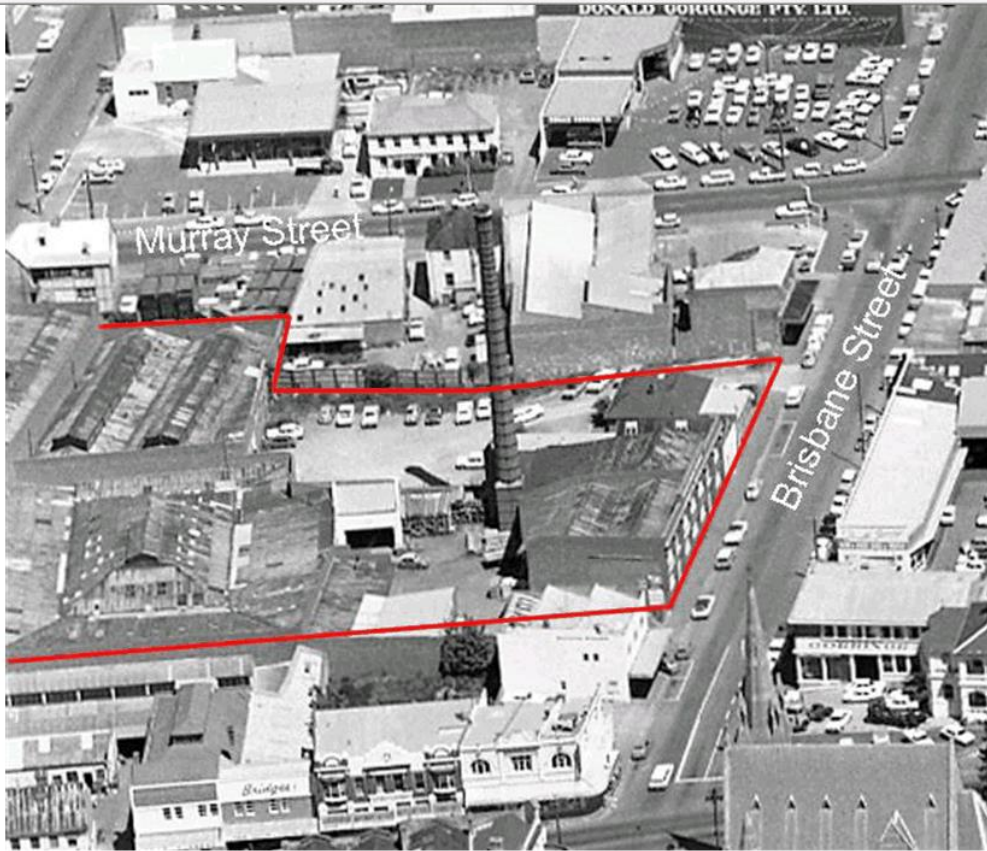
Following the 1960s sale to the Tasmanian Government, a series of works were undertaken to remove the timberyard buildings and to install Government offices into the Melville Street buildings. Modifications were made in 1971 to the former Crisp and Gunn office building including partitioning of the first floor and removal of the blackwood counters in the ground floor chamber.

Since that time the buildings were used for the State Emergency Service and the Tasmanian Fire Service. Various Government departments utilised the former timber yard buildings in the central part of the site.

In 1997 the site was redeveloped, and strata titled. The Brisbane Street frontage was divested and the central portion of the site and former Crisp and Gunn buildings redeveloped for use by Forestry Tasmania. A distinctive domed structure linked the two buildings fronting Melville Street, designed by Morris-Nunn and Associates in conjunction with Gandy and Roberts Engineers. The project was awarded the 1998 BHP Colourbond Award (outstanding use of steel) and the Recycling and Conservation Award by the Australian Institute of Architects.

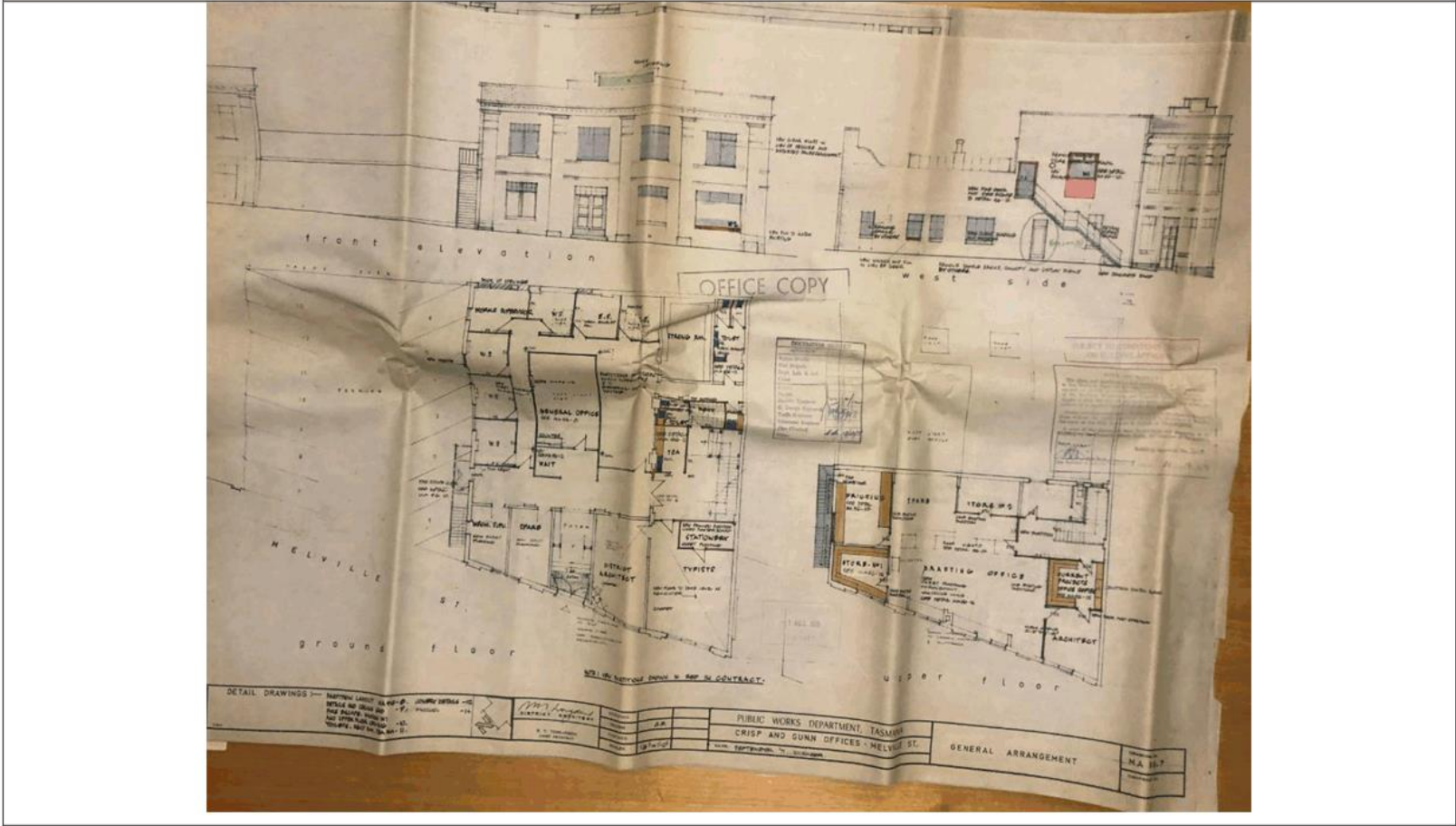
Forestry Tasmania operated from the building until 2017. In 2018 the University of Tasmania purchased the former Crisp and Gunn Buildings and added the Brisbane Street building (Freedom Furniture) back to the holding in mid-2021.

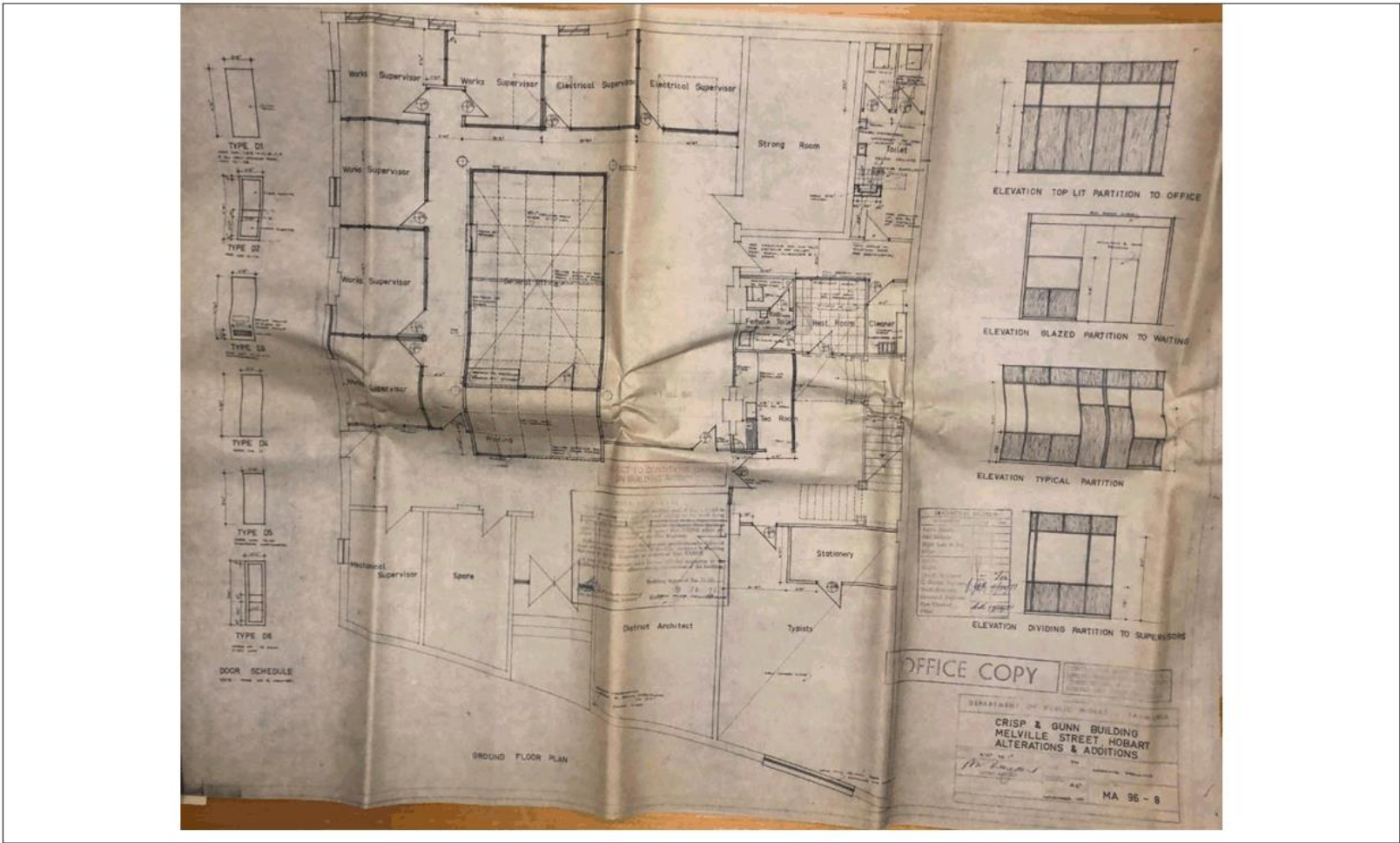
Figure 3.24 – Oblique aerial photograph from the north east c1970. Tasmanian Archive and Heritage Office AB713/1/12044.



Note the retaining wall and cut in the centre of the photograph (with cars parked against) which derives from the 1964 workshop renovations/additions which required bulk excavation of the central portion of the site (see Section 7.3).

Figure 3.25 – 1972 Public Works Department plans for office conversion of the former Crisp and Gunn offices (proposed). Tasmanian Archive and Heritage Office
AE417/45/1478.





Ref. (AE417)	Year	Proposal as per the plans	Use in the current document
4/97	1964	New workshops.	Alterations workshops at the rear of the former rear warehouse behind the Crisp and Gunn workshops (i.e. existing building) in the central portion of the block (i.e. half way between Melville and Brisbane Streets. Also concrete floor to the ground floor level of the workshops. Of use in demonstrating excavation and gravelling in that area (approx. 600mm deep) which would have had archaeological impact – and all now further excavated and removed by the 1997 works. Depicts a site plan at that time.
10/1594	1988	New showers, staff facilities and fire stairs – eastern end of the upper floor of the former workshops. State Emergency Service.	None – demolished as part of the 1997 renovations.
10/1541	1988	New workshop, toilets, general store and tea room, State Emergency Service.	None - presumed demolished as part of the 1997 renovations.

Figure 3.26 – Ground floor plan of the former Crisp and Gunn Offices, c1990. From Court and Edwards (as cited in Section 2.5).

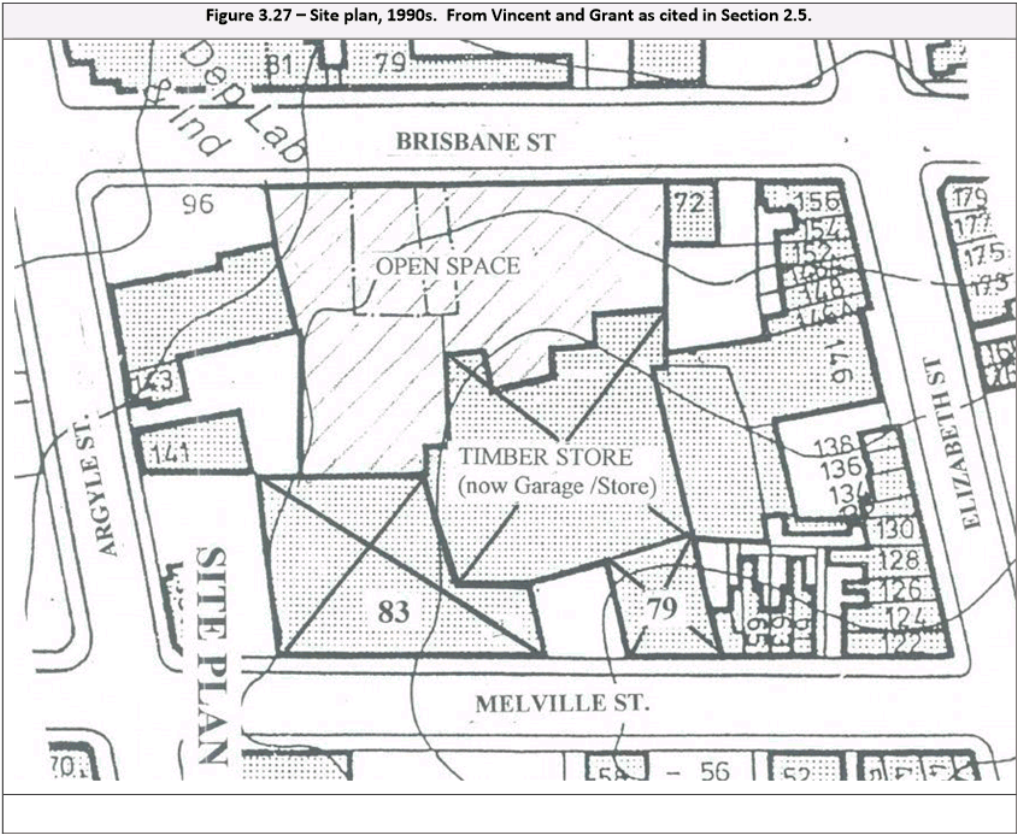
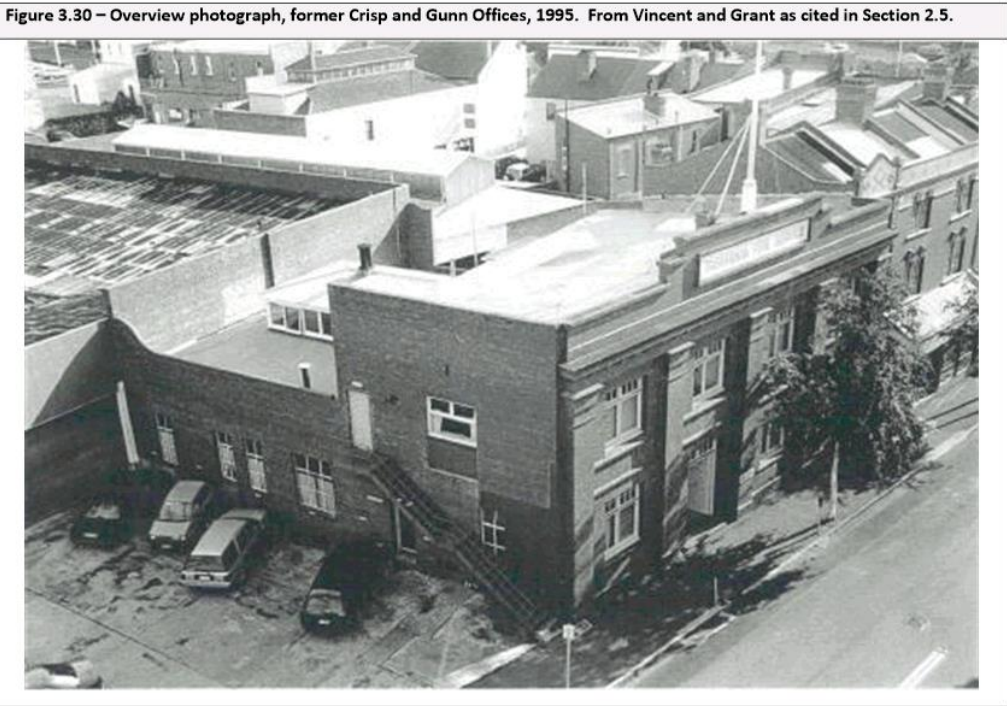


Figure 3.28 – Ground floor plan and southern elevation, former Crisp and Gunn Offices, 1990s. From Vincent and Grant as cited in Section 2.5.



Figure 3.29 – First floor plan and western elevation, former Crisp and Gunn Offices, 1990s. From Vincent and Grant as cited in Section 2.5.





4. DESCRIPTION OF THE CURRENT FORM OF THE PLACE

Note that for the purpose of this assessment, the subject site will be separated into individual buildings as these have invariably evolved in different phases and have had different uses/modifications during their lives, however reference to related buildings will be made where relevant, namely:

1. The former Crisp and Gunn workshops, 1923.
2. The former Crisp and Gunn offices, 1923.
3. The former Forestry dome and offices, 1997
4. The Freedom building, 1997. Not described here as no heritage listings apply to that place (apart from possible underlying archaeology).

Figure 4.1 depicts these buildings annotated as per the numbering above:



Figure 4.1 – Main built features of the subject site (www.thelist.tas.gov.au)

4.1. THE FORMER CRISP AND GUNN WORKSHOPS (1923)




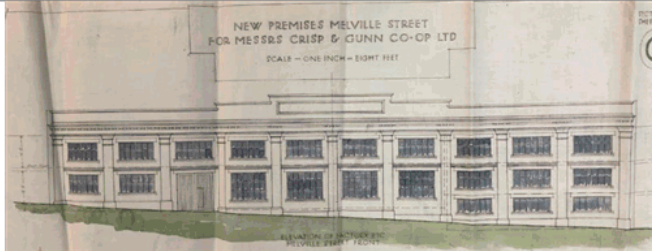
Figure 4.2 – The former Crisp and Gunn workshops and store footprint. Adapted from www.thelist.tas.gov.au





Figure 4.3 – Distinct areas of the workshops and store (adapted from Morrison Breytenbach Architects as-existing drawing, supplied by UTas).

GENERAL FORM, EVOLUTION AND DESCRIPTION	
Development phase	Description, integrity etc.
Crisp and Gunn 1923 - 1968	<p>The building wholly derives from the 1923 construction following the fire which destroyed the earlier Crisp and Gunn buildings. The western end is two storey (former workshops) with the eastern end (former hardware store) being three storey (all under the same line of roof - owing to ground slope and lower floor-to-ceiling heights on the eastern end). This period of development is typified by generally clear floor plates in each of the eastern and western sections (excluding the timber column grid) and raw finishes including painted brick walls, no detailed joinery, lack of ceilings etc. The former single-storey rear warehousing contemporary with this development has been demolished.</p> <p>Particularly the remaining larger and open spaces of the building are very legible in demonstrating a former utilitarian workshop area.</p>
SES and State Fire Commission 1968- 1994	It is likely that some of the office partitioning/fitout on the ground floor of the western end of the building derives from this later phase of use.
Forestry Tasmania 1997-2017	As per above all of that partitioning and fitout on the ground floor of the western of the building derives from the earlier government and Forestry Tasmania use.



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EXTERIOR DESCRIPTION		
Element	Description	Image
Elevations		
Northern	The northern elevation is obscured by the 1997 additions, however is unlikely to have had/have any notable architectural qualities – the western portion formerly leading to the rear warehouse/workshop.	
Eastern	The eastern elevation formerly had three large openings into the Crisp and Gunn driveway (i.e. for goods loading). These have been modified and glazed for a series of windows/doors in later development. This elevation offers no remarkable architectural qualities.	
Southern	The southern elevation is the principal street frontage of the building and is a simply yet effectively detailed treatment of the elevation utilising brick. The elevation features an upper floor row of ten windows, each corresponding with one or two windows below (noting that the eastern end is three storey and the western end two). Each bay of windows are separated by a brick engaged column with simple	


79-83 MELVILLE STREET HOBART – HISTORIC HERITAGE MANAGEMENT PLAN

	<p>brick bases and capitals. There is a brick stringcourse between the major floors and a more substantial capital course beneath the parapet. The centre of the parapet is heightened to include a brick-framed signboard. There is one original door opening in this elevation towards the western end – formerly timber ‘barn’ doors this is now a recessed glazed entrance.</p>	
Western	<p>The western elevation is a completely blank and unarticulated brick party wall .</p>	


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Roof		
Form	The roof retains its original simple sawtooth form with two 'teeth' – the front one being a larger span than the rear.	
Framing	The Oregon timber truss framing can be seen from the upper floor throughout the building.	
Cladding	The cladding is assumed to be either zincalume or corrugated galvanised iron.	
Rainwater goods	The rainwater goods were not inspected due to the roof parapet.	
Walls		
Foundations	The foundations are assumed to be brick and concrete as per the 1920s specifications.	
Masonry	The walls are of hard-fired brick (likely triple—skin and thicker in the areas of the engaged columns). There is a distinctly thicker foundation course, stringcourse at upper floor levels, simple capitals to the columns, and upper dentilled stringcourse, vertically laid brick lintels and a brick-framed top signboard.	


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Exterior doors and windows		
Exterior doors	The original ‘barn’ doors leading to Melville Street have been removed (probably c1968) and replaced with a recessed and glazed porch.	
Exterior windows	The windows on the Melville Street frontage appear to be the originals, matching the depiction on the original plans.	

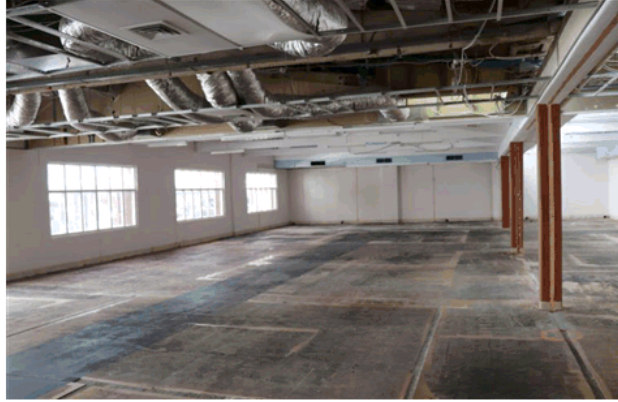
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INTERIOR DESCRIPTION		
Element	Description	Image
Eastern end semi-basement		
Form/spaces	This is a large single room as it originally was as part of the hardware store.	
Ceilings/finishes	The ceiling is the underside of the timber flooring of the first floor.	
Walls/finishes	The walls are unlined painted brick.	
Floors	The floors were concreted in 1964.	
Joinery	The room is generally devoid of joinery as per the utilitarian original nature. Any detailed joinery appears to be post-1960s. Many of the timber posts on this level have been replaced with concrete.	

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Element	Description	Image
Ground floor		
Form/spaces	The eastern end of the building (the former hardware store) is a single large room as it originally was. The larger western end (former workshop) has been partitioned into a large number of rooms, hallways etc. as well as an entrance hall.	
Ceilings/finishes	The ceilings have all been plastered and/or false ceilings added, obscuring the original lack-of ceiling configuration.	
Walls/finishes	Generally, the inside of the exterior walls remain as painted brick, however some linings have been added as part of office partitioning.	
Floors	The floor was concreted in 1964.	
Joinery	The room is generally devoid of joinery as per the utilitarian original nature. Any detailed joinery appears to be post-1960s. Many of the timber posts on this level have been replaced with concrete.	

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Element	Description	Image
First floor		
Form/spaces	Both the eastern and western ends of the building remain as large rooms (although the western end has been partitioned, with these having been removed).	
Ceilings/finishes	The ceilings have had a range of false ceilings added (to obscure ducting) and subsequently removed. Some ceilings have been installed between trusses. Generally, the sawtooth roof form and open trusses are legible.	
Walls/finishes	Generally the inside of the exterior walls remain as painted brick, however some linings have been added as part of office partitioning.	
Floors	The timber floors appear to be all original and largely intact (although obscured by a range of floorcoverings). There is evidence of earlier openings (lifts, hoists etc.).	
Joinery	The room is generally devoid of joinery as per the utilitarian original nature. Any detailed joinery appears to be post-1960s.	

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Summary Descriptive comments

The Exterior envelope of the building largely retains the original 1923 form, however there has been some reconfiguration of openings on the northern (rear) and eastern walls to connect to subsequent development. The façade is practically wholly original with only minor reconfiguration of the main entrance door. The streetscape presence remains unaltered from the time of its construction. Key attributes of the exterior of the building are the sawtooth roof, finely executed brick façade and fenestrative pattern.

The interior of the building retains the ability to read as a simple and utilitarian workshop/store building. There is practically no adornment in the detailing with a lack of linings, decorative joinery etc. Key attributes of the interior are the timber floors, exposed timber structure, lack of linings and larger open spaces. The entire ground floor has been replaced with concrete, some of the structural elements have been replaced with steel and concrete however the construction methods of the building are still evident. If stripped of modern linings, services etc. the building still has the potential to read as an Inter-War commercial/industrial building interior.

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4.2. THE FORMER CRISP AND GUNN OFFICES

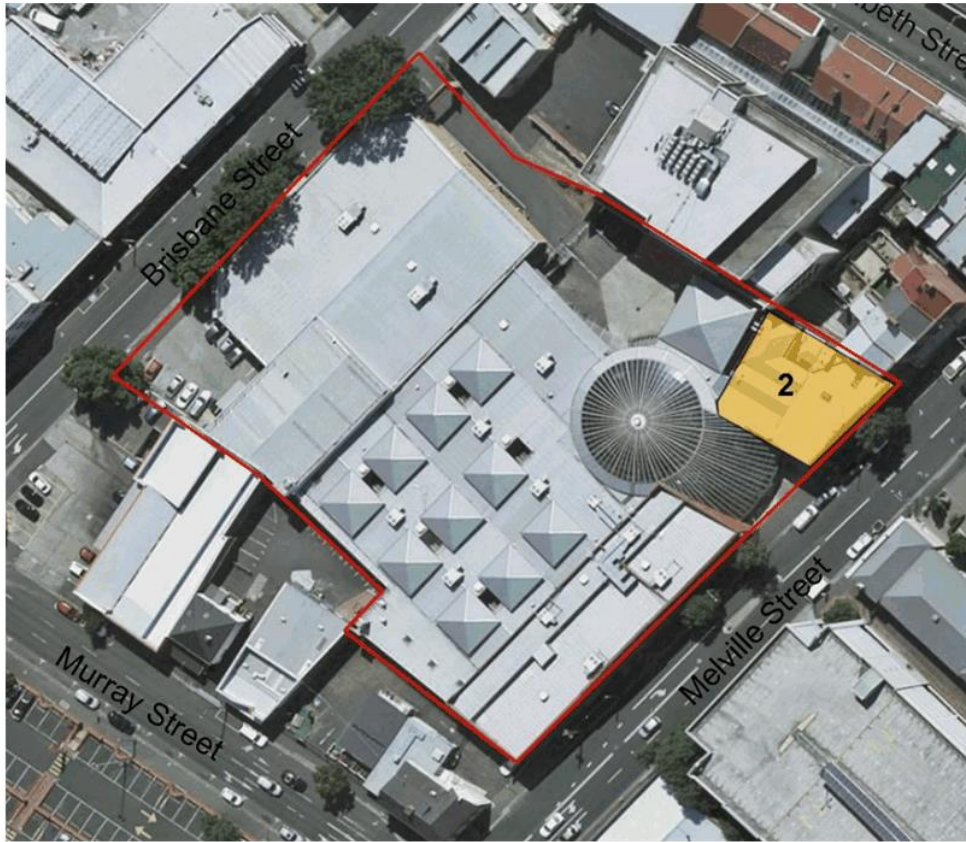


Figure 4.4 – The former Crisp and Gunn offices footprint. Adapted from www.thelist.tas.gov.au

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Figure 4.5 – Ground floor of the former Crisp and Gunn offices with areas as discussed here (adapted from Morrison Breytenbach Architects as-existing drawing, supplied by UTas).

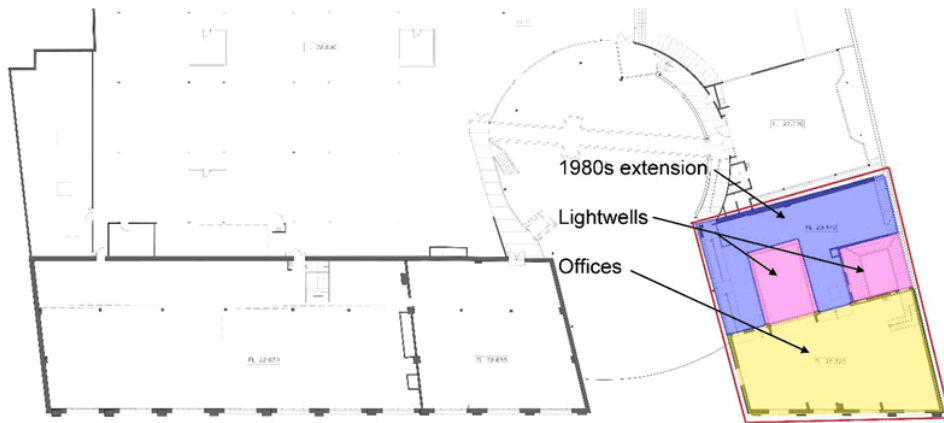



Figure 4.6 – Upper floor of the former Crisp and Gunn offices with areas as discussed here (adapted from Morrison Breytenbach Architects as-existing drawing, supplied by UTas).


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GENERAL FORM, EVOLUTION AND DESCRIPTION	
Development phase	Description, integrity etc.
Crisp and Gunn 1923 - 1968	The building wholly derives from the 1923 construction following the fire which destroyed the earlier Crisp and Gunn buildings. The building has a notable higher level of articulation than the adjacent workshops/store building, in particular the ground floor which would have been the public face of the business.
SES and State Fire Commission 1968-1994	It is likely that minimal change occurred to the ground floor (at least) of the building during this period, with the finely articulated Crisp and Gunn office fitout remaining. The upper floor was substantially modified in the 1980s with a rearward extension which internalised the lightwells.
Forestry Tasmania 1997-2017	As per above it is likely that the ground floor was not substantially modified during this period, with the exception of the opening up of the western wall for connectivity to the new dome structure.


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EXTERIOR DESCRIPTION		
Element	Description	Image
Elevations		
Northern	The ground level of the northern elevation is obscured by the 1997 workshop additions, however is unlikely to have had/have any notable architectural qualities. The original northern elevation of the upper floor has been wholly removed as part of the 1980s additions.	
Eastern	The eastern elevation is a completely blank and unarticulated brick party wall .	
Southern	The southern elevation is the principal street frontage of the building and is a simply yet effectively detailed treatment of the elevation utilising brick. The elevation features an upper floor row of four windows, each corresponding with a window below. Each bay of windows are separated by a brick engaged column with simple brick bases and capitals. There is a brick stringcourse between the floors and a more substantial capital course beneath the parapet with dentilling. There is an intermediate decorative course of brick featuring a chequerboard pattern of a mix of horizontally and vertically laid bricks. The centre of the parapet is heightened to include a brick-framed signboard surmounted by a flagpole. There is one original door opening in this elevation towards the western end with the original timber double doors.	




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Western	The western elevation has been heavily modified with a pair of double doors on the ground level and a large and modern window on the upper floor spanning the original 1920s and 1980s portions of that floor.	
Roof		
Form	The roof retains its original skillion form behind the parapet which has been extended rearwards with a sawtooth and hipped form in the 1990s.	
Framing	The Oregon timber truss framing can be seen from the upper floor throughout the building.	
Cladding	The cladding is assumed to be either zincalume or corrugated galvanised iron.	
Rainwater goods	The rainwater goods were not inspected due to the roof parapet.	
Walls		
Foundations	The foundations are assumed to be brick and concrete.	



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Masonry	The walls are of hard-fired brick (likely triple—skin and thicker in the areas of the engaged columns). There is a distinctly thicker foundation course, stringcourse at upper floor levels, simple capitals to the columns, and upper dentilled stringcourse, vertically laid brick lintels and a brick-framed top signboard.	
Exterior doors and windows		
Exterior doors	The original blackwood double doors	
Exterior windows	The windows on the Melville Street frontage appear to be the originals.	


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INTERIOR DESCRIPTION		
Element	Description	Image
Ground floor offices		
Form/spaces	The four offices and foyer retain their original form.	
Ceilings/finishes	The ceilings are ornate pressed tin.	
Walls/finishes	The walls are rendered in hard plaster.	
Floors	The floors appear to be the original timber floors. The entrance has a tiled mosaic floor which is likely to be original.	
Joinery	These rooms have very high-quality blackwood joinery – clearly exhibiting the products of the original owner (i.e. finely executed joinery from Tasmanian timber. The glazed double doors leading from the entrance hall to the main chamber are very finely executed and retain their original brass hardware and the entrance hall has a panelled timber dado and an ornate entrance arch. The offices feature blackwood three-panel doors, skirtings and architraves as well as chair rails and picture rails.	 

79-83 MELVILLE STREET HOBART – HISTORIC HERITAGE MANAGEMENT PLAN

Ground floor main chamber		
Form/spaces	The main chamber was formerly a single large room, however two smaller offices have been partitioned off the front section. Doors have been added to link this room with the dome and the workshops at rear.	
Ceilings/finishes	The ceiling is elaborate pressed tin with an arched central roof lantern.	
Walls/finishes	The walls are hard plaster rendered onto the masonry.	
Floors	The floors are the original Tasmanian Oak boards.	
Joinery	The room has very high-quality blackwood joinery – clearly exhibiting the products of the original owner (i.e. finely executed joinery from Tasmanian timber). The glazed double doors leading from the entrance hall to the main chamber, as well as those leading to the stair hall, are very finely executed and retain their original brass hardware. The chamber features blackwood three-panel doors, skirtings and architraves and the structural columns are clad in blackwood.	

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Ground floor stair foyer		
Form/spaces	This room retains its original form, entered via a single door from one of the front offices and by double doors from the main chamber. A later door to the rear store has been added.	
Ceilings/finishes	The ceiling is elaborate pressed tin with a roof lantern.	
Walls/finishes	The walls are hard plaster rendered onto the masonry.	
Floors	The floors are the original Tasmanian Oak boards with a modern floating floor installed.	
Joinery	The room has very high-quality blackwood joinery – clearly exhibiting the products of the original owner (i.e. finely executed joinery from Tasmanian timber). The glazed double doors leading from the main chamber, as well as those leading to the stair hall, are very finely executed. The room features blackwood three-panel doors, skirtings and architraves and the structural columns are clad in blackwood. The stairs are very elaborate and Arts and Crafts in styling with oversized panelled newel posts and a decorative balustrade. The panelled understair has been partially infilled for a service room.	

79-83 MELVILLE STREET HOBART – HISTORIC HERITAGE MANAGEMENT PLAN


Ground floor store/kitchen/toilets	
Form/spaces	This area has been divided into several small rooms – a kitchenette, switchboard room, store, toilets and also includes an early safe.
Ceilings/finishes	False ceilings have been installed however it appears that at least part of an earlier ceiling remains above.
Walls/finishes	The walls have been re-lined however it is likely that earlier hard plastered linings remain underneath.
Floors	The floors have modern floorcoverings however there may be some original flooring beneath.
Joinery	No early/original joinery can be seen in these rooms, however it may have survived beneath modern linings.



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Upper floor offices		
Form/spaces	The form of this room has been completely modified to be a single large room (some nibs remain indicating the lines of former walls). The 1972 plans show a series of offices and partitions which are likely to have been original. With that wall removal it appears that all original joinery has also been removed. In the 1980s most of the rear wall was removed for an extension over the former rear rooftop.	
Ceilings/finishes	All ceilings have been removed.	
Walls/finishes	The walls are a combination of painted brick and modern linings.	
Floors	The original timber floor remains with a sheet covering.	
Joinery	Apart from the top railing of the stairs, no original/early joinery remains.	

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Upper floor rear extension		
Form/spaces	This area was added during the State Emergency Service occupation of the building onto the former roospace of the rear of the office building. This enclosed the formerly rooftop lightwells with modern glazed partitions and artificial lighting.	
Ceilings/finishes	Modern plaster with exposed beams.	
Walls/finishes	A variety of painted masonry and modern linings.	
Floors	Compressed sheet.	
Joinery	Modern minimalist joinery.	

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Summary Descriptive comments

The Exterior envelope of the building largely retains the original 1923 form, however there has been some reconfiguration of openings on the northern (rear) and western walls to connect to subsequent development and the upper floor has been extended rearward across former roofspace and enclosing the former roof lanterns. The façade is wholly original. The streetscape presence remains unaltered from the time of its construction. Key attributes of the exterior of the building are the finely executed brick façade and fenestrative pattern.

The interior of the building (ground floor) retains the ability to read as a well-fitted 1920s office building which has utilised fine Tasmanian timber joinery to highlight its original business. The ground floor remains wholly legible and is in largely original condition (although note some earlier and non-original openings around the entrance hall have been re-blocked). Key attributes of the interior are the timber floors, pressed tin ceilings, fine blackwood joinery, tiled entrance hall, impressive stairs, large main chamber and roof lanterns. and larger open spaces. The upper floor has been practically entirely stripped and does not resemble its original form or detailing and has been extended rearward

79-83 MELVILLE STREET HOBART – HISTORIC HERITAGE MANAGEMENT PLAN

4.3. THE FORESTRY DOME AND OFFICES



Figure 4.7 – The 1997 Forestry building footprint. Adapted from www.thelist.tas.gov.au

GENERAL FORM, EVOLUTION AND DESCRIPTION	
Development phase	Description, integrity etc.
1997 -	The dome and associated office building are generally as per their 1997 construction, although the plantings of the dome have recently been removed.

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The following description of the Forestry dome and wider complex is drawn from the Tasmanian Heritage Register datasheet. Note also that the full series of original plans for that building exist in the Tasmanian Archive and Heritage Office (AE417)

Slightly set back from the Brisbane Street footpath, the Forestry Tasmanian dome marks the current formal entrance to the complex and connects the Crisp & Gunn offices and workshop buildings; it was designed to function as a microclimate of Tasmanian rainforest. The 22-metre dome structure is constructed from 16 segments of curved laminated Tasmanian oak beams, with steel rod bracing and faceted glass cladding, and a 'tail' that continues the curved spherical surface a further 15 metres out, and down towards the front entrance. A highly modified natural rivulet runs through stormwater piping beneath the Crisp and Gunns site, including the area of the dome. Internally the structure forms a high open space; the original rainforest plantings were removed in 2018. The Forestry Tasmania dome is of high historic cultural heritage significance.

Structural timbers from the Crisp & Gunn timber store and outbuildings were reused in the 1997 redevelopment of the site, they provide an ongoing connection to the original and evolving use of the site.

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5. ASSESSMENT OF HISTORIC CULTURAL HERITAGE SIGNIFICANCE

The following statements of significance are based on the national HERCON standard for statements of significance, based on the amount of information currently at-hand as detailed in this document. Note that natural history and indigenous heritage values have not been assessed here, as these are beyond the scope of this assessment.

The assessment methodology for each criterion follows the methodology details in the Tasmanian Government's *Assessing Historic Heritage Significance for Application with the Historic Cultural Heritage Act 1995* (October 2011) which is considered to represent a sound approach to assessing values (and from which the expanded definitions in the table below are drawn).

A. IMPORTANCE TO THE COURSE, OR PATTERN OF OUR CULTURAL OR NATURAL HISTORY.
A place is of importance to the course or pattern of Tasmania's history if that place is the product of, or is an example of, or was influenced by, or has influenced, or is associated with, or has a symbolic association with, or is the site of – an event, phase, period, process, function, movement, custom or way of life (including values, aspirations, tastes and fashions) which has made a strong, noticeable or influential contribution to the evolution or pattern of the settlement and development of Tasmania.
THE FORMER CRISP AND GUNN WORKSHOPS, STORE AND OFFICES
The former Crisp and Gunn buildings are of historic heritage significance in their ability to demonstrate a long-running presence (some 80 years) of that business on the site, with these specific buildings being occupied by that business for some 45 years. Crisp and Gunn are a well-known Tasmanian business with strong associations with the forestry industry, timber milling and construction and these buildings represent the public front-face of that business. The buildings represent the Inter-War expansion of such businesses as a suite of such in the Hobart CBD with wider-reaching impacts upon the Tasmanian economy and industry. The continuing use of those buildings by Forestry Tasmania continued that association with the timber industry.
THE FORESTRY BUILDING
The forestry industry, and the Tasmanian Government's involvement with such, is a key historic theme in the development of Tasmania. The 1997 Forestry building represents the corporatisation of that Government enterprise with a city presence and the dome represents a desire for design excellence as an iconic building associated with that use. Please refer to Appendix A for further commentary on the historical association and symbolism of the dome as provided by Adj. Professor Robert Morris-Nunn AM.

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**B. POSSESSION OF UNCOMMON, RARE OR ENDANGERED ASPECTS OF OUR CULTURAL OR
NATURAL HISTORY.**

A place demonstrates rare or uncommon aspects of Tasmania's heritage if that place illustrates in its fabric an event, phase, period, process, function, movement, custom or way of life (including values, aspirations, tastes and fashions) which, or an aspect of which: (i) was considered uncommon or unusual at the time of its origin; (ii) is no longer practised AND is of special interest; or (iii) was once commonplace but for which there is little surviving evidence in Tasmania.

THE OVERALL SITE

The site does not appear to exhibit any particularly rare qualities. Note that the high-quality of the blackwood fitout and intact pressed tin ceiling linings of the former Crisp and Gunn Offices are probably an uncommon survivor of modern office fit outs which may be worthy of some further consideration in their rarity.

**C. POTENTIAL TO YIELD INFORMATION THAT WILL CONTRIBUTE TO AN UNDERSTANDING OF OUR
CULTURAL OR NATURAL HISTORY.**

A place has the potential to yield information that will contribute to an understanding of Tasmania's history if, through analysis and further examination or research of the place and its fabric (including artefacts), it can provide information that could not be derived from any other source. While this criterion in Tasmania is most often used to define archaeological research potential, it may also be used for the research potential of architectural design, construction techniques, historical gardens, etc.

THE OVERALL SITE

As per Section 7 of this document, there are areas of the site that have the potential to yield information about early commercial enterprise and a range of early domestic residences and activity which may enhance knowledge of the site, as well as a range of thematic, regional and temporal lines of archaeological enquiry. Owing to large-scale disturbance on the site, it is likely that these areas are limited to the Melville Street frontage beneath the former Crisp and Gunn buildings and the Forestry dome only.

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D. IMPORTANT IN DEMONSTRATING THE PRINCIPAL CHARACTERISTICS OF A CLASS OF CULTURAL OR NATURAL PLACES OR ENVIRONMENTS.
<p>This criterion is concerned with representativeness. A place included under this criterion should demonstrate the principal characteristics of a particular class of cultural place if that place displays the defining features, qualities or attributes of its type, where type or class of place illustrates a range of human activities including a way of life, a custom, an ideology or philosophy, a process, a land use, a function, a form, a design, a style, a technique or some other activity or achievement. To be considered a good representative example, the place should have a high level of intactness.</p>
THE FORMER CRISP AND GUNN WORKSHOPS AND STORE
<p>The former Crisp and Gunn offices are of historic heritage significance in demonstrating the principal characteristics of an Inter-War Stripped Classical style office building. This is evident in features such as the division of the facade into emphasised vertical bays, use of simplified classical detailing (e.g. columns, entablature and cornice) etc. This style of architecture is considered important in representing the inter-war commercial boom in Hobart with the expansion of many historically established companies and is a distinctive element of the Hobart CBD. The interior of the building is much less distinctive – with significance deriving from its simplicity and warehouse-style large open spaces. The building is an excellent example of the work of G. Stanley Crisp – being one of few known largely intact utilitarian commercial buildings remaining of his design in Hobart.</p>
THE FORMER CRISP AND GUNN OFFICES
<p>The former Crisp and Gunn offices are of historic heritage significance in demonstrating the principal characteristics of an Inter-War Stripped Classical style office building. This is evident in features such as the division of the facade into emphasised vertical bays, use of simplified classical detailing (e.g. columns, entablature and cornice) etc. This style of architecture is considered important in representing the inter-war commercial boom in Hobart with the expansion of many historically established companies and is a distinctive element of the Hobart CBD. The ground-floor interior of this building is particularly important in having a higher degree of ornate detailing which was clearly designed to provide the front public face of the company with an element of style absent in the more industrial areas of the site. The building is an excellent example of the work of G. Stanley Crisp – the ground floor and associated lightwells probably representing the most intact remaining commercial building by his design in Hobart (noting several other of his buildings have been demolished or destroyed by fire).</p>
THE FORESTRY BUILDING
<p>The Forestry dome and building is not considered to demonstrate any particular class of place of importance in the heritage or history of Tasmania, although its architectural and engineering merit is recognised as a somewhat unique approach to a Government office building.</p>

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E. IMPORTANCE IN EXHIBITING PARTICULAR AESTHETIC CHARACTERISTICS

This criterion may be interpreted as a place being important because of its aesthetic significance if that place exhibits sensual qualities that can be judged against various ideals including beauty, picturesqueness, evocativeness, expressiveness, landmark presence, symbolism or some other quality of nature or human endeavour.

THE OVERALL SITE

No part of the subject site is considered to exhibit any particularly notable aesthetic characteristics worthy of the assignment of historic heritage significance.

F. IMPORTANCE IN DEMONSTRATING A HIGH DEGREE OF CREATIVE OR TECHNICAL ACHIEVEMENT AT A PARTICULAR PERIOD.

A place is important in demonstrating a high degree of creative or technical achievement if that place illustrates artistic or technical excellence, innovation, accomplishment, extension or creative adaptation in a variety of fields of human endeavour including but not exclusive to art, engineering, architecture, industrial or scientific design, landscape design, evolved design, construction, fabrication, manufacture, or craftsmanship.

THE OVERALL SITE

It is likely that the former Forestry Dome exhibits a high degree of creative and technical achievement in its unusual and innovative design and construction. Please refer to Appendix A for further commentary on the technical aspects and design thinking of the dome as provided by Adj. Professor Robert Morris-Nunn AM.

The former Crisp and Gunn buildings are not considered to exhibit any distinctive degree of creative or technical achievement.

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G. STRONG OR SPECIAL ASSOCIATION WITH A PARTICULAR COMMUNITY OR CULTURAL GROUP FOR SOCIAL, CULTURAL OR SPIRITUAL REASONS.
A place has a special associational value if it is associated with a person, organisation or group of people who or which is of importance to the history of Tasmania. In this context, importance may relate not only to the great and well-known, but also to the influential, the exemplary, and the innovative.
THE OVERALL SITE
The site is not considered to have any particular special association with any particular community or cultural group for social, cultural nor spiritual reasons.

H. SPECIAL ASSOCIATION WITH THE LIFE OR WORKS OF A PERSON, OR GROUP OF PERSONS, OF IMPORTANCE IN OUR HISTORY.
A place has a special associational value if it is associated with a person, organisation or group of people who or which is of importance to the history of Tasmania. In this context, importance may relate not only to the great and well-known, but also to the influential, the exemplary, and the innovative.
THE OVERALL SITE
<p>The site has links to a number of prominent organisations and persons of importance in our history, including:</p> <ul style="list-style-type: none"> - The Crisp and Gunn empire - G. Stanley Crisp, with the warehouse/store and offices representing a largely intact example of his Hobart commercial work, of which few examples remain. - Tasmanian forestry, government involvement and as a business unit. - And more recently with prominent Architect Robert Morris-Nunn and Engineering firm Gandy and Roberts. <p>The Forestry Dome is the work of well-known architecture firm Morris-Nunn & Associates as well as similarly well-known engineering firm Gandy and Roberts. Please refer to Appendix A for further commentary on the various associations of the dome as provided by Adj. Professor Robert Morris-Nunn AM.</p>

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6. FABRIC ANALYSIS & ABILITY TO DEMONSTRATE SIGNIFICANCE

6.1. DEGREES OF SIGNIFICANCE

Based on the overall statements of significance outlined in Section 8, as informed by the key historic themes and comparative analysis of Section 7 and the analysis of the evolution of the place as detailed in Section 5, individual and collective elements, and other possible heritage values (e.g. intangible values) of the place will be assessed here, in order to assign or rank specific levels of significance, upon which heritage management policies will be formulated in Section 11, to inform the implementation strategy in Section 12.

For the purposes of this section the following scale will be used to assign degrees of significance to individual elements of the fabric and form of the place:

High – Elements, forms or spaces which readily demonstrate important aspects of the significance of the place or related important historic theme.

Medium – Elements, forms or spaces which less-readily demonstrate important aspects of the history of the place, or readily demonstrate aspects of lower significance (or related important historic theme).

Low – Elements, forms or spaces which less demonstrate less important aspects of the history of the place.

Neutral – Elements, forms or spaces which neither contribute to, nor detract from, the significance of the place.

Intrusive – Elements, forms or spaces which obscure the significance or are likely to threaten the longevity/integrity of significant elements, forms or spaces. Examples:

Whilst it is noted that the significance of any place need not necessarily be solely embodied in original fabric (i.e. later modifications can contribute to significance through demonstrating the evolution of the place), it is relevant to consider the impact that later modifications may have had on the integrity of more significant elements and whether that has diminished the significance of such. Similarly, decay of significant elements may also have an impact on their ability to

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demonstrate significance. Accordingly, following scale will be used to rank **levels of integrity** of elements, forms or spaces within the context of the overall significance of the place:

High: Elements which are highly intact and readily demonstrate their respective significance.

Medium: Elements which subsequent modification have obscured or reduced their ability to readily demonstrate their respective significance, however this may be retrievable through restoration without the need for introduction of substantial new fabric which may reduce or obscure significance.

Low: Elements which have lost the ability to demonstrate any significance and could not feasibly be restored without conjecture or substantial addition of new fabric.

The following matrix represents the interplay of integrity and significance and introduces colour coding as used in the following table:

	Integrity		
Significance	High	Medium	Low
High	1	1	2
Medium	2	2	3
Low	3	3	4
Neutral	4	4	4
intrusive	5	5	5

Accordingly, the following colour code has been adopted to consider significance in-light of the integrity of that particular element:

Red – High significance (Rank 1)

Orange – Medium significance (Rank 2)

Green – Low significance (Rank 3)

Grey – Neutral (Rank 4)

Blue – Intrusive (Rank 5)

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The table below will further examine the specific fabric of the former Crisp and Gunn buildings with view of providing such recommendations for the future management of the heritage values of that place.

EXTERIOR – THE FORMER CRISP AND GUNN WORKSHOPS/STORE		
Element	Significance	Recommendation
Northern elevation		Retain the general tenor of the wall however modifications for new attachments/penetrations are likely to be acceptable.
Western elevation		Retain the general tenor of the wall however modifications for new attachments/penetrations are likely to be acceptable (noting however this is a boundary wall).
Eastern elevation		Retain the general tenor of the wall however modifications for new attachments/penetrations are likely to be acceptable.
Southern elevation		Generally retain as existing. Modifications/additions to the door aperture are likely to be acceptable within the existing opening.
Roof (form, cladding, rainwater goods)		Ideally retain as existing, however some modification may be acceptable given the parapet wall generally hides the roof from public view.
Eaves, fascias, barges etc.		Repair as necessary, preferably in like-for-like materials.
Walls generally		The exterior envelope is generally of high significance (noting that the northern and eastern elevations may sustain some modification particularly if that assists in a viable adaptive reuse in connectivity to other development).
Doors		Modify existing doors as desired within existing opening on the southern elevation. Doors on other elevations may be modified as desired and it is likely that rearrangement/enlargement of apertures would be acceptable.
Windows		Retain and repair as necessary. Modification should be limited only to works essential for security, thermal or acoustic improvement.

INTERIOR - THE FORMER CRISP AND GUNN WORKSHOPS/STORE (ALL FLOORS)		
Element	Significance	Recommendation
Form		The form and spatial qualities of the interior – representing large and open commercial/industrial spaces are of some significance in understanding the context of the building. However, in order to facilitate a suitable adaptive reuse it is considered that reconfiguration and subdivision of that form may be acceptable.

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Modern partitioning		This should be removed in favour of either open space or a better resolved approach suited to an adaptive reuse.
Floors		The remaining timber floors should be retained and preferably exposed/polished to highlight the use of timber in the building (associated with its long association with the timber industry). Noting however that there may be thermal/acoustic/functional reasons why this might not be achieved. Some penetrations in the floor are likely to be acceptable (e.g. for new access points etc.).
Walls		The walls should ideally be retained as painted brick, although if linings are required for functional reasons this is likely to be acceptable.
Ceiling		The lack of ceilings reflect the utilitarian nature of the building and allow an unimpeded view of the floor/ceiling structure. Ideally these should remain exposed, however there may be thermal/acoustic/functional reasons why this might not be achieved.
Original structural timber		The original structure reflects the use of timber in the building and the exposure of such is an integral part of interpreting the utilitarian nature of the building. Ideally this should be retained as visible. Note the modern interventions (e.g. concrete posts) would benefit from being better resolved.

EXTERIOR – THE FORMER CRISP AND GUNN OFFICES		
Element	Significance	Recommendation
Northern elevation		Given the extent of prior modification of this wall (particularly the upper level) adapt or modify as desired to promote any necessary connection to any new rear development.
Eastern elevation		Retain the general tenor of the wall however modifications for new attachments/penetrations are likely to be acceptable (noting however this is a boundary wall).
Western elevation		Retain the general tenor of the wall however modifications for new attachments/penetrations are likely to be acceptable.
Southern elevation		Retain as existing.
Roof (form, cladding, rainwater goods)		Ideally retain as existing, however some modification may be acceptable given the parapet wall generally hides the roof from public view. Noting also that the rear portion of the roof is an entirely new structure then this has a higher tolerance to modification.
Eaves, fascias, barges etc.		Repair as necessary, preferably in like-for-like materials.
Walls generally		The exterior envelope is generally of high significance (noting that the northern and western elevations may sustain some modification particularly if that assists in a viable adaptive reuse in connectivity to other development).

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Doors		The front door is of high significance and should be retained as existing. All other doors are of no significance and may be adapted as desired.
Windows (front)		Retain and repair as necessary. Modification should be limited only to works essential for security, thermal or acoustic improvement.

INTERIOR – THE FORMER CRISP AND GUNN OFFICES (GROUND FLOOR)		
Element	Significance	Recommendation
Form		Retain the form of the front rooms, large chamber and stairs hall. Some modification of the rear kitchen, store, safe and toilet area is likely to be acceptable.
Modern partitioning (in the large chamber)		Retain, remove or modify as desired.
Toilets and kitchen fitout		Retain, remove or modify as desired.
Safe		Ideally retain unless this severely inhibits a suitable adaptive reuse.
Floors		The timber floors should be retained and preferably remain exposed/polished to highlight the use of timber in the building (associated with its long association with the timber industry). Remove the floating floor in the stairs hall and assess underlying flooring. Retain the tiled entry foyer.
Walls		The walls should ideally be retained as painted brick, although if linings are required for functional reasons this is likely to be acceptable.
Ceilings		Retain the distinctive pressed tin ceilings.
Joinery (doors, dados, chair rails, architraves, skirtings etc).		Retain all original joinery unless modification is absolutely necessary to facilitate a suitable adaptive reuse. Note that the joinery on the partitioning of the larger chamber is well-executed replica and may be removed or modified as desired (subject to the future of those partitions).
Stairs		Retain. Note that it is likely that a lift will be required, this may be achieved in the rear portion of the building, or possibly outside the footprint of the original building.
Lightwells		Retain and maintain solar access.

INTERIOR – THE FORMER CRISP AND GUNN OFFICES (FIRST FLOOR)		
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Element	Significance	Recommendation
Form (rear addition portion)		Retain as larger open spaces or subdivide as desired.
Form (front original portion)		Retain as larger open spaces or subdivide as desired.
Floors		The timber floors in the front section should be retained and preferably remain exposed/polished to highlight the use of timber in the building (associated with its long association with the timber industry). The rear may be modified as desired.
Walls		The walls should ideally be retained as painted brick, although if linings are required for functional reasons this is likely to be acceptable.
Ceilings		Replace as desired.
Joinery		Retain, remove or modify as desired.
Stairs landing		Retain as existing.
Lightwells		Retain and maintain solar access. Modify enclosures as desired.

EXTERIOR – THE FORESTRY COMPLEX

Element	Significance	Recommendation
General form of the dome		As an iconic entrance statement and circulation space that exhibits a high degree of architectural and engineering excellence, the dome should remain largely unchanged, and its streetscape presence maintained.
Remainder of the 1997 Forestry buildings		Adapt or replace as desired, subject to consideration of impact upon the dome itself and any relevant adjacency/backdropping issues with the former Crisp and Gunn buildings.

INTERIOR – THE FORESTRY COMPLEX

Element	Significance	Recommendation
Form of the dome		Retain the interior form of the dome as a key entry and circulation space. Note that the elevated walkway may be reconfigured or removed if required for an adaptive reuse.

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Plantings within the dome		Although now removed, planting within the dome is a key attribute of its design intent. A reproduced or new planting scheme should be reinstalled.
All other interiors generally		Retain, remove or modify as desired to rationalise for a new use.
Lift, stairs and vertical circulation within/adjacent to the dome		Retain, remove or modify as desired to rationalise for a new use.
Recycled material from earlier buildings within the dome/forestry buildings		Encourage the retention and/or reuse of this elsewhere within the complex.

The analysis and recommendations above are to be read in conjunction with the conservation policy in Section 9. Where the conservation policy is at-odds with these recommendations, e.g. if additional information comes to hand which reveals further information about a particular element, then the conservation policies take precedence over these recommendations and is to be applied in a heritage impact assessment.

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7. STATEMENT OF HISTORICAL ARCHAEOLOGICAL POTENTIAL

7.1. ARCHAEOLOGICAL METHODOLOGY

This statement of archaeological potential is derived from a process which identifies the potential of the site to yield archaeological remains, the significance of any remains, and their potential to yield meaningful information about the site, and which might contribute to relevant key archaeological and historical themes. The following briefly outlines the methodology followed:

Determining general archaeological potential: Through a desktop analysis of historical data and secondary sources, as well as non-invasive site observations, an understanding of the evolution of the site has been gained which has allowed an assessment of the archaeological potential (however significant) of any part of the site - resulting in substantiated predictions of the likelihood of finding something upon any particular part of the site. This has been done by analysing primary source material, summarising the developmental history of the site and developing a chronological narrative detailing an overview of the history of all known features to have ever existed on the site. Where possible, developmental overlays have been developed from historic maps, plans, photographs and other visual documentation. This overlay has been supported by other observations providing supplementary information, and also includes processes such as demolition and disturbance which may have removed or destroyed potential remains – and may have diminished the archaeological potential.

Assessing the significance and potential of any likely archaeological resources to yield meaningful information: Upon understanding the archaeological potential through desktop and site analysis, the next step was to understand its relationship to any aspect of the identified significance of the place – e.g. do the remains have the potential to demonstrate an aspect of the significance of the site or related key historic theme? The potential for any of the archaeological remains to demonstrate important aspects of the history of the site, whether in a state, regional or thematic context, is to be considered.

Understanding possible impact of development and formulation of management strategies: Based on any identified archaeological potential and significance of the site, consideration will be given as to whether the proposed development will impact upon any likely archaeological remains and if necessary broad management strategies will be proposed to manage any impact.

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Table 1 (below) demonstrates the steps of this assessment:

Methodology for formulation of the statement of archaeological potential		
	If 'no'	If 'yes'
1. Archaeological potential. Are you likely to find something if you dig here? (i.e. a <u>Statement of Archaeological Potential</u>).	Further action may not be required, although a contingency plan may be required for unexpected finds.	The significance of the archaeological potential should be investigated.
2. Significance. Could anything you find here greatly contribute to our understanding of the site or related significant theme?	Further action may not be required.	The likely integrity of the archaeological remains should be investigated.
3. Integrity. Are any archaeological remains likely to be intact?	Further action may not be required, although a contingency plan is required for unexpected integrity.	The likelihood of significant archaeological remains is confirmed.
4. Impact Will proposed works impact upon the significant archaeological remains? i.e. an <u>Archaeological Impact Assessment</u> .	Further action may not be required, although a contingency plan may be required for unexpected impacts.	An <u>Archaeological Method Statement</u> will be required to detail how impact will be managed/mitigated.

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7.2. HISTORICAL BACKGROUND AND SUMMARY OF SITE DEVELOPMENT

As per the methodology above, the historical background of the subject site has been provided here in Section 3 – which provides the basis for the formulation of the statement of historical archaeological potential.

The Figures in Section 3 provide a visual indication of the early layout(s) of the site, which are considered here as the first step in understanding archaeological potential – i.e. the physical evolution of the site layout (on a two-dimensional plane at this stage). Figures 7.1 to 7.4 are overlays of site development as depicted on those plans, georeferenced to a range of known reference points both on the site and in the wider environs:

Figure 7.1 depicts the earliest known buildings on the subject site, which may be as early as the 1830s and are likely to have been residential (based on the c1832 and c1845 Sprent surveys). Figure 7.2 depicts these buildings as well as those from the later c19th as depicted on the 1908 Metropolitan Drainage Board plan.



Figure 7.1 – Overlay of the footprint of buildings depicted on the c1832 and c1845 survey (all following figures adapted from GoogleEarth).

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As per Section 3, further development on the site occurred after 1870, when Crisp and Gunn established their timber yard on the Melville Street frontage and progressively acquired further land back towards Brisbane Street.



Figure 7.2 – Overlay of the c1870-c1910 development footprint (blue) in relation to the pre-1845 development (colours as per above).

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7.3. LIKELY DISTURBANCE EVENTS

As per the archaeological methodology above, once the possibility of archaeological remains has been ascertained in a particular location, it is pertinent to consider any possible events which have acted to disturb any such archaeological remains. In the case of this wider site, the 1997 works to create the basement parking are a very obvious event which is likely to have had major and widespread implications for the survival of any archaeological remains – therefore this will first be considered in order to narrow down what part(s) of the site may retain the ability to yield archaeological remains consistent with the historical depictions – put simply, what extent and depth of mass excavation occurred at the end of the c20th which would have destroyed any archaeological remains?

The 1920s fire destroyed most of the built structures on the site – and it is not known how thoroughly the site may have been cleared post-fire. The plans for the existing buildings do not give specific information about site clearance or excavation at the time of their construction.

A 1964 plan for alterations to the Crisp and Gunn workshops is held by the Tasmanian Archive and Heritage Office which depicts excavation of the central (western) portion of the site for those workshops, and also includes specifications for retaining walls (600mm high) along the western edge of that part of the site. This would indicate widespread and moderately deep bulk excavation at the time, affecting the area depicted in the figure below:

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Figure 7.3 – Area affected by bulk excavation and grading, 1964 (blue), as depicted on TAHO AE417/4/97.

Note that the above area of 1964 works would have been further excavated and impacted as part of the 1997 works.

The sources relied upon here to ascertain the extent and depth of 1997 excavation are:

- Civil & Civic, 79-85 Melville Street Hobart, Bulk Excavation Plan, Drawing 950504-C06-01, Issue D 28/8/96.
- Civil & Civic, 79-85 Melville Street Hobart Carpark Layout and Levels, Issue B 10/9/96.

The figure below depicts the depth of bulk excavation undertaken in certain locations to form the basement as part of the 1997 works as depicted on those drawings (noting that the finish level depicts carpark surface – excavation would have been to a greater depth to prepare for that finished surface). Generally, it appears that the Brisbane Street frontage was excavated by around 2.5-3.5 metres, grading down to 1.0-2.0 metres further southward (i.e. following the natural slope of the land).

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Figure 7.4 – Sampling of depth of excavation occurring as part of the 1990s redevelopment of the site (metres).

A civil works plan from c1997 indicates that there was a bowser and underground fuel tank on the Brisbane Street frontage of the site where the current driveway into the undercroft carpark is located. Whether or not this was removed at that time the installation of this tank would have had a major impact upon any archaeological remains in that area of the site which still resembles what is likely to have been historic ground level (i.e. not necessarily disturbed by the 1990s building, but previously disturbed:

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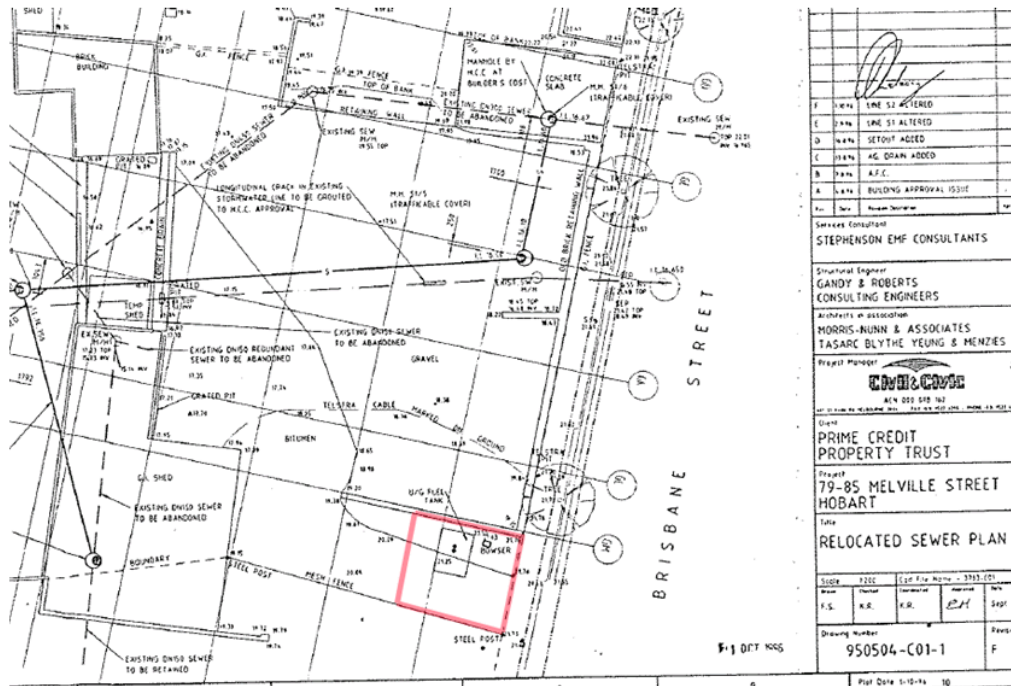


Figure 7.5 – Civil works plan c1997 showing the site of a bowser and underground tank on the Brisbane Street Frontage.

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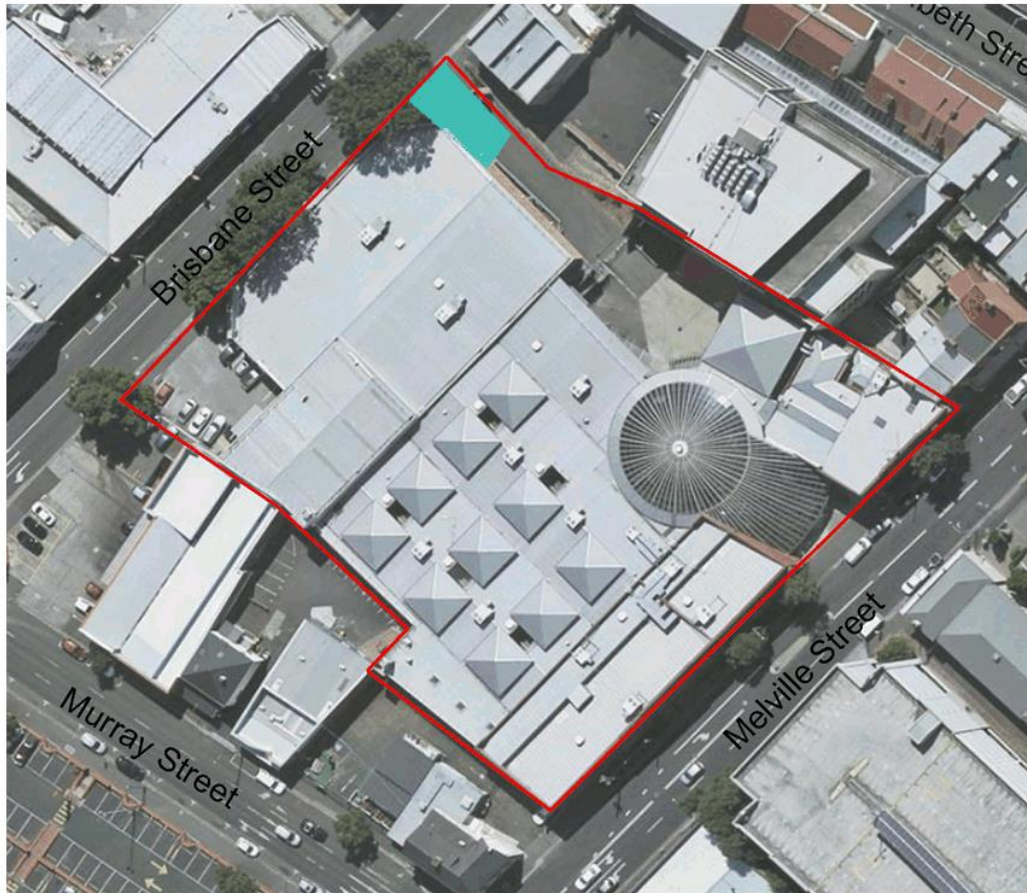


Figure 7.6 – Approximate area of the bowser and fuel tank depicted on Figure 7.5.

Site observations in the current basement parking area indicate that there has been a substantial degree of disturbance as per the levels indicated in Figure 7.4, with what appears to be an earlier wall (used as a retaining wall) having been underpinned by approximately a metre, suggesting that excavation in the late 1990s has exceeded historic ground level. Similarly, the edge of the driveway of the Freedom building to the west has been excavated to the sub-soil shale stone which is typical of sterile ground within some areas of the Hobart CBD:

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Figure 7.7 – Underpinned earlier wall in the basement carpark.



Figure 7.8 – Sterile shale stone ground on the western edge of the Brisbane Street portion of the site.

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Figure 7.9 – Areas of the site that appear to have been substantially disturbed.

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7.5. ARCHAEOLOGICAL SIGNIFICANCE, RESEARCH FRAMEWORK & QUESTIONS

As discussed above, albeit limited to the Melville Street frontage, the subject site has the potential to yield archaeological remains associated with the following historic themes:

- Early (1820s) occupation of the site i.e. the early buildings fronting Melville Street. – albeit buildings of unknown early function, therefore their archaeological signatures are yet to be determined (most likely domestic).
- Late c19th commercial/light industrial development – i.e. the earliest occupation of the timberyard on the site – albeit probably highly disturbed and may only survive in vestiges under/close to the existing 1920s buildings.

Such analysis also has the potential to add depth to other similar such analyses of late Victorian Hobart domestic sites, particularly associated with prominent colonial Tasmanians - such as that undertaken as part of the Menzies Centre (Liverpool/Campbell Streets) excavations, which investigated several prominent 1820s-onwards inner-city residences, including Crowther's (Godden Mackay Logan/Arctas). Other sites such as Judge Pedder's house (173 Macquarie Street – Praxis Environment), Crowther's house/surgery (177 Macquarie Street – Praxis Environment) and Orr's house (3 Montpelier Retreat – Austral Tasmania). Similarly, investigations at Peter Degraives house in Collins Street (Hadleys Hotel development, Godden Mackay Logan), Anthony Fenn Kemp's house at 36 Argyle Street (Praxis Environment) and investigations at the original Hobart Port Officer's residence at 100 Salamanca Place (Praxis Environment) have investigated prominent early inner city residential sites and provide comparative datasets of early and substantial Hobart residences and their associated families.

The Melville Street frontage of the site represents what is likely to be at least eight c1830s-40s small residential buildings. There have been few examples of archaeological investigations into wider communities around the Hobart CBD, i.e. investigations which cover a wide number of adjacent sites representing different functions. Notable examples however are the range of Wapping investigations (e.g. Austral Archaeology 1996, 1998, 2002, 2009), the Whale Fishery Inn and adjacent housing in Watchorn Street (Praxis Environment 2019), 62 Patrick Street (Praxis Environment 2021) and the forthcoming report on the Montpelier Retreat excavations undertaken by Austral Tasmania in 2015.

From a wider regional perspective, archaeological data and remains yielded from the subject site, whether coupled with other Hobart/Tasmanian data, has the potential to strengthen a comparative dataset for research into intra-colonial society through comparison with mainland (and indeed inter-colonial society on an international level). For example early inner-city working-class communities such as Broadway, Cumberland/Gloucester Streets and the Rocks (Sydney) and Little Lonsdale Street (Melbourne) and portside working-class areas such as Port Adelaide, all of which have had substantial archaeological works undertaken, would provide useful datasets for the analysis of any data yielded from the earlier occupation of the current site, which would in-turn add to the depth and scope of the analysis of those collections on the range of themes as outlined above (and others).

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From a temporal perspective, any remains from the earlier occupation of the site (i.e. pre-1830) represent a very formative period of Hobart's European settlement and are likely to be of significance when considering their research potential.

Consistent with the 'Tiered research question' approach outlined in the Tasmanian Heritage Council's *Guidelines for Historical Archaeological Research on Registered Places*⁴⁰, the following questions could be investigated in the archaeological remains expected to be present within the subject site:

Tier 1 Questions: These questions outline the essential knowledge base needed for any site research or significance evaluations. Such questions are often empirical in nature, and straightforward answers can be sought and often identified – generally limited to a physical knowledge of that particular place. Questions relevant to the subject site may include:

- How closely did the buildings and site features (including outbuildings, fences etc.) conform to the historic plans?
- Can the earliest date of occupation of the place be identified? (i.e. known to be earlier than 1830s, but not historically conclusive).
- What construction methods were used in the buildings and other infrastructure (in particular the industrial infrastructure)?
- What evidence of alteration of the natural landscape is archaeologically determinable (e.g. cutting/filling of the site etc.).
- Are the distinct use/development phases of the buildings distinguishable?
- Can the layout and function of the buildings, and indeed individual rooms or yard spaces be ascertained?
- How thoroughly were the buildings demolished? And what subsequent disturbance is evident?

Answers to these questions provide a foundation of information about the structure, type, use and duration of site occupation which enables the researcher to consider a second tier of questions.

Tier 2 Questions: Conclusions that can be drawn about a site that connect the material remains found on a site to specific behavior. For instance:

- How do artifacts relate to the lifeways of the households that lived on the site, or occupations, hobbies or recreation undertaken on the site?
- Do any artifacts represent class, gender, taste and health/hygiene of those living on the site?
- Particularly if artifacts can be specifically dated, and with supplementary historical research, artifact assemblages from this site may contribute knowledge and provide tangible connectedness to known inhabitants and their families, and how they lived.

⁴⁰ <http://www.heritage.tas.gov.au/media/pdf/Archae%20ResGlines%20%20FINAL%20-%20June%202009.pdf>

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- Similarly, do artifacts or structural remains correlate with the known activities and occupations undertaken on the site. The material culture evident through archaeological remains on this site (noting however the possibility of disturbance) has the potential to provide a range of analytical approaches that may supplement, and/or refute, the historical record (particularly industrial heritage) and be a very important research tool.

Tier 3 Questions: These questions represent the highest level of inquiry. Such questions associate the activities and behavior at individual sites with broad social, technological and cultural developments – which can be of interest on local, national or global lines of enquiry. Whilst these questions posed for a single site may not reach conclusions in the short term (as Tier 1 and 2 questions might) – the collection of data can contribute to future research by the provision of a comparable dataset. The goal of such research is to develop increasingly refined and tested understandings of human cultures within broader theoretical or comparative contexts. Lines of wider enquiry that findings from within the subject site may contribute to are:

- Do the conclusions on gender, class, economic and social status of the inhabitants of the buildings conform to the 'normal' Victorian household?
- Are there class or status differences evident in the material culture of the inhabitants of this area (subject to further historical research) when compared to, say, other early Hobart residents or residents in contemporary rural areas and/or other cities.
- Did any changes in material culture through time in the residences coincide with wider Tasmanian or local events or technology (e.g. end of convict labour, urbanisation/development of Hobart, port/railway upgrades, start of rubbish collection etc.)?

7.6. ARCHAEOLOGICAL ZONING PLAN AND POLICIES

As per the methodology outlined above, this section has drawn upon the chronology of site development which has detailed the physical evolution of the site and events/processes which would have acted to build the archaeological record. Above has discussed the likely significance of those archaeological remains and what they may yield in terms of research potential alongside key historic, regional, thematic and temporal lines of enquiry. This has been coupled with provided an assessment of the events which are likely to have impacted upon the integrity of those archaeological remains.

From the above, it is therefore possible to formulate an archaeological zoning plan, which provides an indication of the parts of the site which are likely to yield significant archaeological remains. The spatial reference provided by the zoning plan can then be coupled with archaeological management policies, which are guided by the significance of the particular remains expected and their ability to yield information as per the research questions.

Figure 7.4 depicts the areas of archaeological potential as per the above discussion:

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Figure 7.10 – Archaeological zoning of the subject site, as per the table below (note that the non-shaded areas are considered to have low/no archaeological potential). Adapted from www.thelist.tas.gov.au

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Area	General level of archaeological potential	Management policy
General policies		Where possible, the preference is to not disturb archaeological remains, however it is acknowledged that the feasible redevelopment of the site may not be possible without doing so. Consideration should be given to any development design to minimise potential impact, however if this is not feasible the above policies (and implementation of method statements pursuant to those policies) are considered sufficient to yield the archaeological potential of the site. An archaeologist should be included in the project design team in order to manage archaeology as part of an iterative process between the client, archaeologist, designer(s) and permit authorities.
		Consideration should be given in any redevelopment of the site to incorporate archaeological remains (e.g. as interpretation) however this should not inhibit the feasible redevelopment of the site.
		A test-trenching program, or geophysical investigations may be employed to refine the archaeological judgments outlined in this document and to better guide the design and implementation process (note that test-trenching may require development approval).
		All results from any archaeological work on the site should be made widely available in order to support the ongoing research of the place and associated themes.
Red	High	Any excavation proposed in areas of high archaeological potential (i.e. red) must be preceded by an archaeological impact assessment, and if necessary an archaeological method statement, which details measures to be taken to avoid or mitigate impact upon the archaeological resource. That method statement must be in accordance with industry standard (e.g. the Tasmanian Heritage Council's Practice Note 2 – <i>Managing Historical Archaeological Significance in the Works Application Process</i>) and implemented in the works process (preferably ahead of any construction works program in order to allow rollout of archaeological inputs outside of any immediate critical timelines). Recording and curatorial inputs are to be as per the highest industry practice as per below and consideration should be given to the retention in-situ of any remains for perseveration or interpretation unless this is not considered prudent or feasible in an overall development process or where it is necessary to remove overlying significant remains to investigation those underlying.

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Remainder of site	Low/no	All works crew involved in excavation elsewhere on the site must be brief for precautionary 'call-in' provisions for the site in the event that any unanticipated archaeological remains are present – e.g. wells, cesspits, drains, undocumented outbuildings etc. If any such possible remains are found, works must cease in that area (may continue elsewhere) and an archaeologist called-in to assess significance and manage as per the policies and directions of this document.
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8. CONSERVATION POLICY

8.1. PURPOSE OF POLICY AND DEFINITIONS

It is expected that any administrators and professionals planning and undertaking physical works on site will first familiarise themselves with all general conservation policies, then the specific implementation recommendation (based on these policies) relating to the particular element on which works are being planned.

8.2. ROLE OF STATEMENT OF SIGNIFICANCE

Any conservation policy strongly favours the conservation of elements of primary significance, and the removal of elements which may be of detriment to the conservation or interpretation of elements of a higher significance. A thorough understanding of the statement of significance, and the specific significance of individual items, is therefore essential in appreciating how specific policies have been developed, and how these should be applied to the physical attributes of the place.

The statement of significance has defined and ranked the periods and themes which that place represents, and the analysis of the physical attributes has detailed exactly what has survived to represent such. Each element of the physical fabric has been assigned its own significance level, based on its ability to demonstrate the significance of the place, and thresholds for assignment of this significance have been kept consistent in the assessment of all elements.

The policies below, therefore, broadly guide how this fabric should be treated in order to allow it to better conserve and demonstrate the statement of significance.

8.3. DEVELOPMENT OF POLICY

Having ascertained the ability for fabric to demonstrate the statement of significance, constraints, opportunities and requirements are considered, alongside stakeholder requirements, to develop the broad conservation policies below. Whilst conservation policies may be contrary to the constraints, opportunities or requirements, the policies aim to best address these whilst still maintaining appropriate conservation practice. Any unresolved conflict is then specifically debated in the implementation strategy.

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8.4. POLICIES

The underlying principle, by which all conservation practices should be guided, is the ICOMOS Australia *Burra Charter*. The statement of significance has defined the attributes of the site of which greatest significance is assigned, thereby the priority of conserving attributes associated with such should be considered paramount compared to those of lesser significance. This, however, must be balanced with retention of elements of lesser significance where guided by the conservation policies. With the statement of significance in mind and with the adoption of Burra Charter principles this section will introduce the conservation policies developed specifically for the subject site.

1	General Policies	
1.1	Approach to works	The approach to managing any works on the place must be guided by the principles of the ICOMOS Australia <i>Burra Charter</i> . ⁴¹
1.2	Use/development	Any use or development of the place must not have any unreasonable adverse heritage impact upon identified values of the place. The site requires a suitable use or adaptive reuse in order to sustain its future maintenance.
1.3	Supervision	All works to the significant elements of the place, and planning for such works, must be guided by a conservation architect, heritage consultant or other person(s) qualified and experienced in the conservation of historic heritage places.

2	Significant Buildings and Fabric	
2.1	Significant buildings and fabric	Buildings deemed to be of high significance must be conserved, restored and maintained (namely the former Crisp and Gunn buildings). Significant fabric associated with those buildings must also be conserved, restored and maintained.
2.2	Non-significant buildings and fabric	Buildings and fabric which are of low or no significance may be retained, modified or demolished as desired.
2.3	Intrusive buildings and fabric	Intrusive building and fabric should be removed, unless these are providing critical supporting infrastructure to enable ongoing use of the overall buildings.

⁴¹ <http://australia.icomos.org/wp-content/uploads/The-Burra-Charter-2013-Adopted-31.10.2013.pdf>

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3 The former Crisp and Gunn Workshops and Store		
Exterior		
3.1	Exterior form	The overall exterior form of the building should be maintained.
3.2	Exterior walls and apertures	The northern, eastern and western walls may be adapted for the addition or modification of apertures as desired, however the general line of these walls should be maintained. The form of the southern (Melville Street) wall must be generally maintained.
3.3	New extensions	There is scope for extensions to this building on the eastern and in particular northern walls (as preceded by the 1997 Forestry extensions). The scale of any rear extension is not considered critical from a heritage perspective and is likely to be acceptable as directed by general planning provisions.
3.4	Windows	All original windows must be maintained unless modification is absolutely necessary for thermal, acoustic, fire rating or safety reasons. Any modifications should be retained within existing apertures.
3.5	Doors	The front door arrangement may be modified as desired within the existing aperture (whether flush to the façade or recessed).
3.6	Detailing	Significant exterior detailing should be retained, unless replacement is necessary for repair, weatherproofing or security purposes, in which case compatible styling and materials must be used. New work should be sympathetic to, but not necessarily imitative of, the original form, detailing and materials.
Interior		
3.7	Form	Ideally the interior of the building should retain the ability to read as a large and open form (i.e. one smaller room on the semi-basement level and one large + one smaller room on the ground and first floors). Subdivision of these spaces to suit an adaptive reuse is likely to be acceptable however some legibility of the larger spaces should remain.

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3.8	Detailing	Fitout of the building should respond to the utilitarian nature of the original fitout and take a minimal approach. Do not attempt to introduce 'period' detailing that is false to the context of the building.
3.9	Services	Owing to the low integrity of the interior, installation of modern services (e.g. kitchens, toilets, electrical, fire safety) etc. are likely to be possible without heritage detriment.
3.10	Access	If a lift is required in the future, this is likely to be acceptable given the low integrity of detailing of the interior. Options for an external lift that is discrete and sympathetic to the building may be considered.

4	The former Crisp and Gunn Offices	
Exterior		
4.1	Exterior form	The overall exterior form of the building should be maintained.
4.2	Exterior walls and apertures	<p>The northern, eastern and western walls may be adapted for the addition or modification of apertures as desired, however the general line of these walls should be maintained.</p> <p>The form of the southern (Melville Street) wall must be generally maintained.</p>
4.3	New extensions	<p>There is scope for extensions to this building on the western and in particular northern walls (as preceded by the 1997 Forestry extensions).</p> <p>The scale of any rear extension is not considered critical from a heritage perspective and is likely to be acceptable as directed by general planning provisions.</p>
4.4	Windows	All original windows must be maintained unless modification is absolutely necessary for thermal, acoustic, fire rating or safety reasons. Any modifications should be retained within existing apertures.
4.5	Doors	The front door must be retained.

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4.6	Detailing	Significant exterior detailing should be retained, unless replacement is necessary for repair, weatherproofing or security purposes, in which case compatible styling and materials must be used. New work should be sympathetic to, but not necessarily imitative of, the original form, detailing and materials.
Interior		
4.7	Ground floor form	The interior of the ground floor should be largely retained as existing, with the ability to read the original layout retained. Modification of the kitchen/toilets area may be possible and restoration of the larger volume of the main chamber is desirable.
4.8	Upper floor form	Adapt/refit the upper floor as desired (retain stairs landing and solar access to lightwells).
4.9	Ground floor detailing	Retain all detailing in the front rooms and generally of that in the main chamber and stairs hall (elements identified of low/no significance may be removed/modified).
4.10	Upper floor detailing	Fitout of the upper floor should respond to the utilitarian nature of the original fitout and take a minimal approach. Do not attempt to introduce 'period' detailing that is false to the context of the building.
4.11	Services	Installation of modern services (e.g. kitchens, toilets, electrical, fire safety) etc. are likely to be possible without heritage detriment. Ideally larger service installations should be limited to the existing toilet/kitchen area and/or the upper floor.
4.12	Access	If a lift is required in the future, this is likely to be acceptable given the low integrity of detailing of the rear portion of the interior. Options for an external lift that is discrete and sympathetic to the building may be considered.

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5 The Forestry buildings		
Exterior		
5.1	The Forestry Dome	Although not considered a 'heritage building', given the prominence of the structure as well as the recognised design excellence in its execution, consideration should be given to retaining the dome in any future development as an entry statement to the heritage buildings and any new development at rear. Ideally plantings should be reinstated.
5.2	The rear 1997 building.	This building is not considered to have any heritage value and does not exhibit that same design excellence as the dome itself. Whilst it has an association with the dome, in the absence of that association it would not offer any remarkable qualities that warrant retention. Accordingly this building may be retained/modified/removed as desired.

6 Maintenance of Curtilage, Streetscape Values and New Development Guidelines		
6.1	Curtilage of existing buildings	The important curtilage to the former Crisp and Gunn buildings are their streetscape presence, which is likely to endure any development rearward permissible under the planning scheme (i.e. is not necessarily a heritage issue). The site can sustain higher/larger-scale development internal to the site which retains the streetfront scale of the existing buildings. Overall height of any internalized development becomes more a wider-townscape planning issue rather than a site-specific heritage issue particularly if this maintains the existing heritage buildings as the main streetscape elements.
6.2	Style of new development	New development need not emulate any particular architectural style of any building on the subject site, however if desired architectural form/treatments may 'borrow' stylistic elements from the existing buildings.

7 Archaeology		
7.1	Historical archaeology	Further to Section 8, any proposals for works in the areas of high archaeological potential must be accompanied by an archaeological impact assessment and, if necessary, an archaeological method statement

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		consistent with the requirements of the Tasmanian Heritage Council's Practice Note 2 (archaeology) or other industry standard.
7.2	Interpretation of archaeological values	Further to the statement of archaeological potential, opportunities to interpret the archaeological value (and results of any archaeological work) in any future development should be taken (whether by in-situ interpretation of archaeology, use of artifacts, and or other interpretive devices and publications.

8	Other policies	
8.1	Subdivision	The subdivision pattern of the site is not considered significant, having been reconfigured several times, therefore any future subdivision/consolidation is likely to be acceptable.
8.2	Interpretation	Any development on site should include interpretation of heritage values, in particular the Crisp and Gunn occupation and Forestry occupation – both with wider links to the Tasmanian timber and building industries.

The following tables consider how these policies may be applied in compliance with the performance criteria of the scheme provisions, with additional commentary where necessary. Where possibly relevant to any proposed development of the subject site, the Acceptable Solutions have been included here as initial guidance:

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Clause E.13.7 (1-3) – Heritage Place

	Policy Guidance	Performance Criteria
E.13.7.1 - Demolition	<p>Policy 2.1 – Retain the former Crisp and Gunn buildings.</p> <p>Policies 2.2-3 – Remove any non-significant/intrusive buildings/elements.</p> <p>Policies 3.8 & 4.6-10 – Retain significant interior detailing.</p>	<p><i>Demolition must not result in the loss of significant fabric, form, items, outbuildings or landscape elements that contribute to the historic cultural heritage significance of the place unless all of the following are satisfied;</i></p> <p>(a) <i>there are, environmental, social, economic or safety reasons of greater value to the community than the historic cultural heritage values of the place;</i></p> <p>(b) <i>there are no prudent and feasible alternatives;</i></p> <p>(c) <i>important structural or façade elements that can feasibly be retained and reused in a new structure, are to be retained;</i></p> <p>(d) <i>significant fabric is documented before demolition.</i></p>
E.13.7.2 – Building and Works other than Demolition	<p>Policies 3.1 & 4.1 – maintain the overall original form of the former Crisp and Gunn buildings.</p> <p>Policies 3.2 & 4.2 – limit adaptations to any walls but the façade.</p> <p>Policies 3.3 & 4.3 – Limit new extensions to the rear.</p> <p>Policies 3.4-5 & 4.4-5 – Retain significant doors and windows.</p> <p>Policies 3.8 & 4.9-4.10 – New detailing to respond to context.</p> <p>Policy 6.2 – New development need not emulate existing heritage styles.</p> <p>Policies 3.3 & 4.3 – Limit new extensions to the rear.</p>	<p><i>P1. Development must not result in any of the following:</i></p> <p>(a) <i>loss of historic cultural heritage significance to the place through incompatible design, including in height, scale, bulk, form, fenestration, siting, materials, colours and finishes;</i></p> <p>(b) <i>substantial diminution of the historic cultural heritage significance of the place through loss of significant streetscape elements including plants, trees, fences, walls, paths, outbuildings and other items that contribute to the significance of the place.</i></p> <p><i>P2. Development must be designed to be subservient and complementary to the place through characteristics including:</i></p> <p>(a) <i>scale and bulk, materials, built form and fenestration;</i></p> <p>(b) <i>setback from frontage;</i></p> <p>(c) <i>siting with respect to buildings, structures and listed elements;</i></p> <p>(d) <i>using less dominant materials and colours.</i></p> <p><i>P3. Materials, built form and fenestration must respond to the dominant heritage characteristics of the place, but any new fabric should be readily identifiable as such.</i></p>

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	<p>Policies 3.4-5 & 4.4-5 – Retain significant doors and windows.</p> <p>Policy 6.2 – New development need not emulate existing heritage styles.</p>	<p><i>P4. Extensions to existing buildings must not detract from the historic cultural heritage significance of the place.</i></p>
	Not applicable.	<p><i>P5. New front fences and gates must be sympathetic in design, (including height, form, scale and materials), to the style, period and characteristics of the building to which they belong.</i></p>
		<p><i>P6. The removal of areas of landscaping between a dwelling and the street must not result in the loss of elements of landscaping that contribute to the historic cultural significance of the place.</i></p>
E.13.7.3 - Subdivision	<p>Policy 8.1 – The current title configuration is not considered significant.</p>	<p><i>P1. A proposed plan of subdivision must show that historic cultural heritage significance is adequately protected by complying with all of the following:</i></p> <ul style="list-style-type: none"> <i>(a) ensuring that sufficient curtilage and contributory heritage items (such as outbuildings or significant plantings) are retained as part of any title containing heritage values;</i> <i>(b) ensuring a sympathetic pattern of subdivision;</i> <i>(c) providing a lot size, pattern and configuration with building areas or other development controls that will prevent unsympathetic development on lots adjoining any titles containing heritage values, if required.</i>

C

Appendix C:

Civil Engineering Documentation

FLOOD ANALYSIS AND
STORMWATER REPORT BRISBANE
STREET PEDESTRAIN BRIDGE

UNIVERSITY OF TASMANIA

FORESTRY / TIMBER YARDS & FREEDOM BUILDINGS
DEVELOPMENT

79-83 Melville Street & 80 Brisbane Street, Hobart



September 2022

ARUP

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1. Introduction

This report is provided as an addendum to the Flood Analysis and Stormwater Report (79-83 Melville Street & 80 Brisbane Street - Hobart); Johnstone McGee & Gandy Pty Ltd August 2022, to provide an assessment of the impact on overland flows for the construction of a new footbridge off Brisbane Street into the University of Tasmania's Forestry / Timber Yards and Freedom Building Project (PLN-21-869)

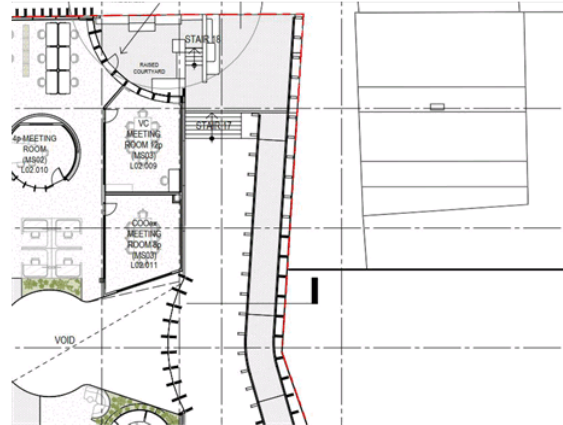


Figure 1 - Brisbane Street Pedestrian Ramp

The proposed ramp is located on the eastern side of the new pedestrian walkway connecting the site from Melville Street to Brisbane Street and will provide compliant DDA pedestrian access from Brisbane Street into level 2 of the new development, as shown in Figure 1.

Overland flows impacting the site from Brisbane Street, for the 1% AEP plus climate change event used in this analysis, are based on those presented in Table 7 of the above mentioned report.

2. Hydraulic Analysis

A new 3D surface has been generated to match the proposed architectural levels at the northern end of the ramp and used for a new hydraulics analysis in HEC-RAS software for the post-development calculations. It is better described in the following paragraph.

The new model has resulted in the same split of post-development flows through the site and along Brisbane Street as was reported in the PLN-21-869 Stormwater Report, Table 7. In addition, the new model's velocity vectors and depths are not affected since the new pedestrian structure is located 7 meters away and below the levels of the back of the footpath on Brisbane Street.

In summary, the overland flow has presented no difference from the previous analysis, and no adjacent or nearby structures/property should be affected per the above development.

Pre-Development (Prior to Utas Forestry Development)		Post Development of Pedestrian Bridge	
Location	m ³ /s	Location	m ³ /s
Inflow	3.100	Inflow	3.100
Brisbane St.	2.100	Brisbane St.	2.340
Top of the Ramp (Forestry Building)	0.460	Top of the Ramp (Forestry Building)	0.410
Top of the Ramp 146A-150 Elizabeth St.	0.450	Top of the Ramp 146A-150 Elizabeth St.	0.310
Bottom of the Forestry Building Ramp	0.870	Bottom of the Forestry Building Pedestrian Access	0.720

Table 1- Comparison of Pre-Development and Post-Development Flows (1% AEP + CC)

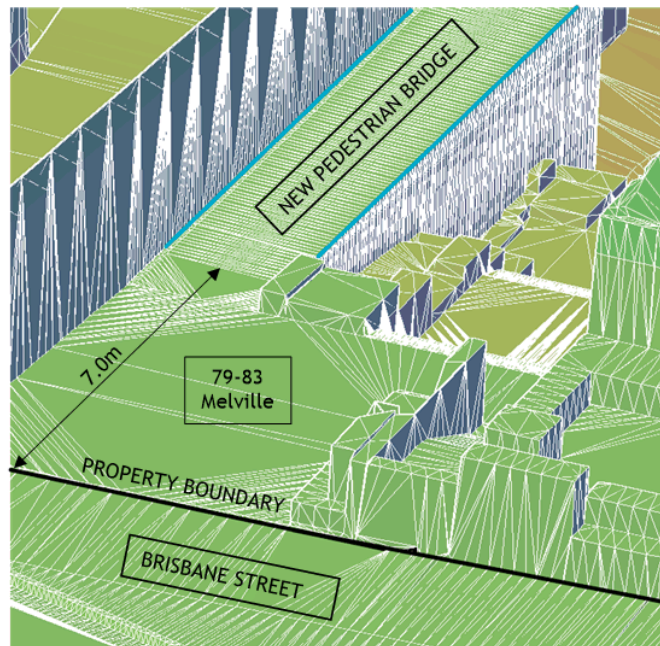


Figure 2 - 3D View of New Surface with the Pedestrian Bridge through the Site for HEC-RAS Site Model

Flow paths and hence velocities and depths are altered marginally within the site at the top of the ramp. New velocities are still generally low, staying well below 2m/s along the pedestrian path ramps and landings. 4 below shows velocities in the updated upper section of the site that includes the pedestrian bridge, steps and courtyard area. A velocity of 2 m/s or higher are shown in yellow, with an increasing rate changing to orange or red, with red

being 5m/s or greater. In addition, as the new bridge grades up to access the upper level of the building, the vector velocity gradually reduces with this changing of grade.

Therefore, as the area around the start of the proposed pedestrian bridge contain a maximum (depth * velocity) no greater than 0.3, the region corresponds to H1 levels according to the Australian Flood Resilience and Design Handbook, not presenting vulnerability constraints.

Finally, the regions with peak velocities of approximately 5.0m/s on the steps, remain with the same explanation of the original report. HEC-RAS software calculates these areas without considering a vertical drop in the cells, rather than representing the actual energy dissipation along the falls. The HEC-RAS velocity labels in these areas can be regarded as lower than presented.

HEC-RAS drawings (depths, velocities, and water surface elevation) are attached in Appendix A

Hazard Classification	Description (and defined limits)
H1	Relatively benign flow conditions. No vulnerability constraints. ($D < 0.3$ m, $V < 2.0$ m/s, or $V \times D < 0.3$)
H2	Unsafe for small vehicles. ($D < 0.5$ m, $V < 2.0$ m/s, or $V \times D < 0.6$)
H3	Unsafe for all vehicles, children and the elderly. ($D < 1.2$ m, $V < 2.0$ m/s, or $V \times D < 0.6$)
H4	Unsafe for all pedestrians and vehicles. ($D < 2.0$ m, $V < 2.0$ m/s, or $V \times D < 1.0$)
H5	Unsafe for all pedestrians and vehicles. Buildings require special engineering design and construction. ($D < 4.0$ m, $V < 4.0$ m/s, or $V \times D < 4.0$)
H6	Unconditionally dangerous. Not suitable for any type of development or evacuation access. All building types considered vulnerable to failure. ($D > 4.0$ m, $V > 4.0$ m/s, or $V \times D > 4.0$)

Figure 3 - Hazard Categories Australian Disaster Resilience Handbook

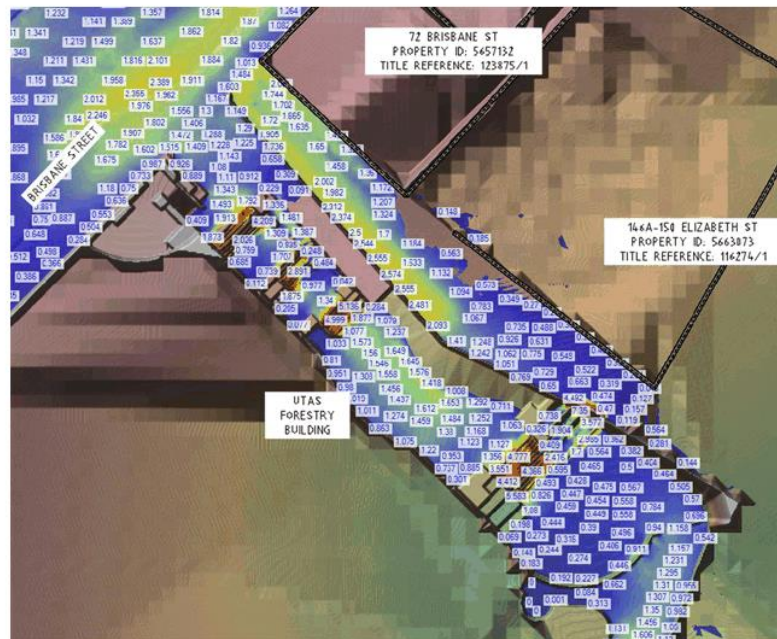


Figure 4 - HEC-RAS Model Results Flow Velocity Upper Site - Overview

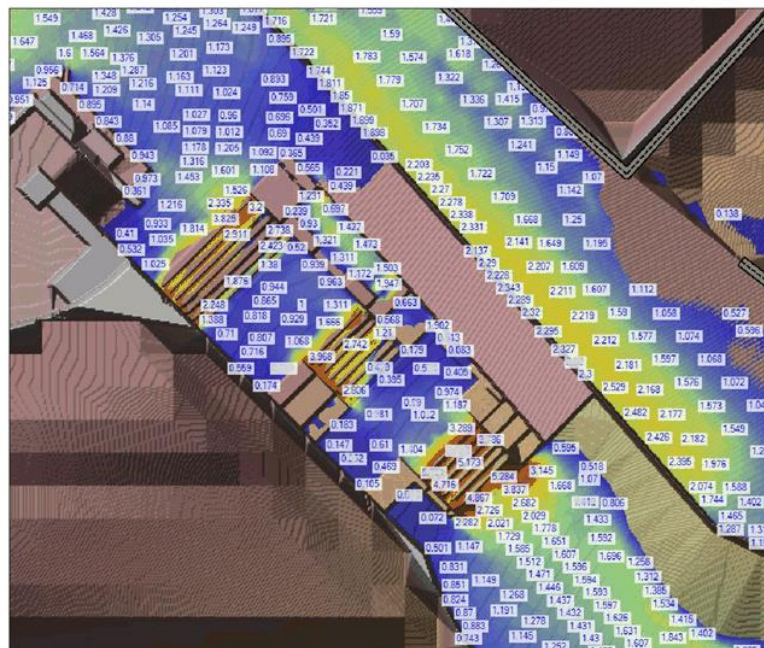


Figure 5 - HEC-RAS Model Results Flow Velocity Upper Site - Bridge and Steps

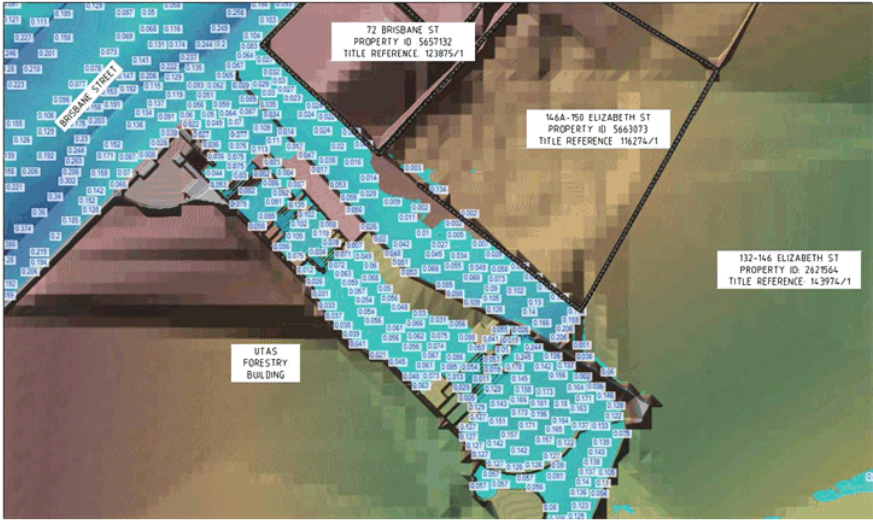


Figure 6 - HEC-RAS Model Results Flow Depth Upper Site - Bridge, Steps and Courtyard

3. Conclusions

This report is submitted as an addendum to update the hydraulic analysis for the inclusion of the new pedestrian bridge as proposed in this development application.

The following conclusions were derived in this report:

- The addition of the pedestrian bridge will not increase the risk of flooding to the neighboring properties.
- Overland flows associated with the 1% plus climate change AEP flood event can be managed through the site safely, including some mitigation measures necessary for traversing the steps.
- Provision is still required to be made in the design of the site boundary wall adjacent to 146A-150 Elizabeth Street and 72 Brisbane Street for overland flow to enter the site from the existing carpark

4. References

Australian Flood Resilience and Design Handbook

APPENDIX A
Architects Drawing





Revised	Revised	Date
1	Initial	21/01/23
2	Revised	21/01/23
3	Revised	21/01/23
4	Revised	21/01/23
5	Revised	21/01/23
6	Revised	21/01/23
7	Revised	21/01/23
8	Revised	21/01/23
9	Revised	21/01/23
10	Revised	21/01/23
11	Revised	21/01/23
12	Revised	21/01/23
13	Revised	21/01/23

Notes:
1. Design of Level 02 is based on the design of Level 01.
2. The design of Level 02 is based on the design of Level 01.
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12. The design of Level 02 is based on the design of Level 01.
13. The design of Level 02 is based on the design of Level 01.

- Legend
- Room Boundary
- Room Name
- Room Number
- Room Area
- Room Volume
- Room Height
- Room Length
- Room Width
- Room Depth
- Room Orientation
- Room Access
- Room Egress
- Room Ventilation
- Room Lighting
- Room Heating
- Room Cooling
- Room Humidity
- Room Air Quality
- Room Noise
- Room Vibration
- Room Electromagnetic Interference
- Room Radio Frequency Interference
- Room Thermal Comfort
- Room Acoustic Comfort
- Room Visual Comfort
- Room Odor
- Room Taste
- Room Touch
- Room Sound
- Room Sight
- Room Smell
- Room Taste
- Room Touch
- Room Sound
- Room Sight
- Room Smell

Project:
Southern Fisheries Forestry / Timber
Yards
80 Brisbane Street / 79-83 Melville
Street, Hobart
Client:
University of Tasmania

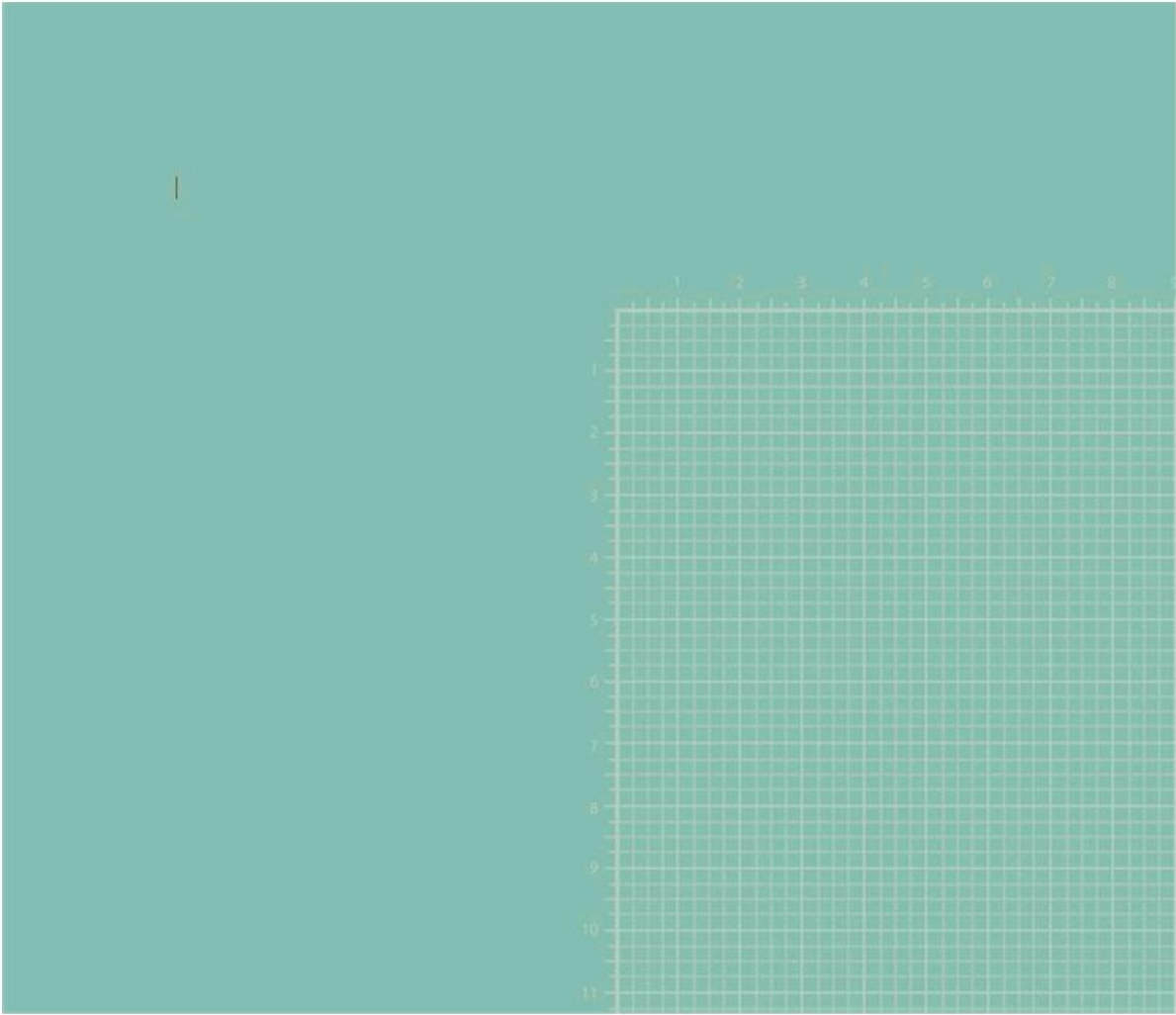
W-B
WOODS BAGOT

Project:
1339/7
Client:
Woods Bagot
Date:
20/01/23
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A1
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1 of 1

Project:
Change Plan
Level 02

Project:
AR-1339/7
Client:
Woods Bagot
Date:
20/01/23
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Sheet:
1 of 1

Project:
Change Plan
Level 02



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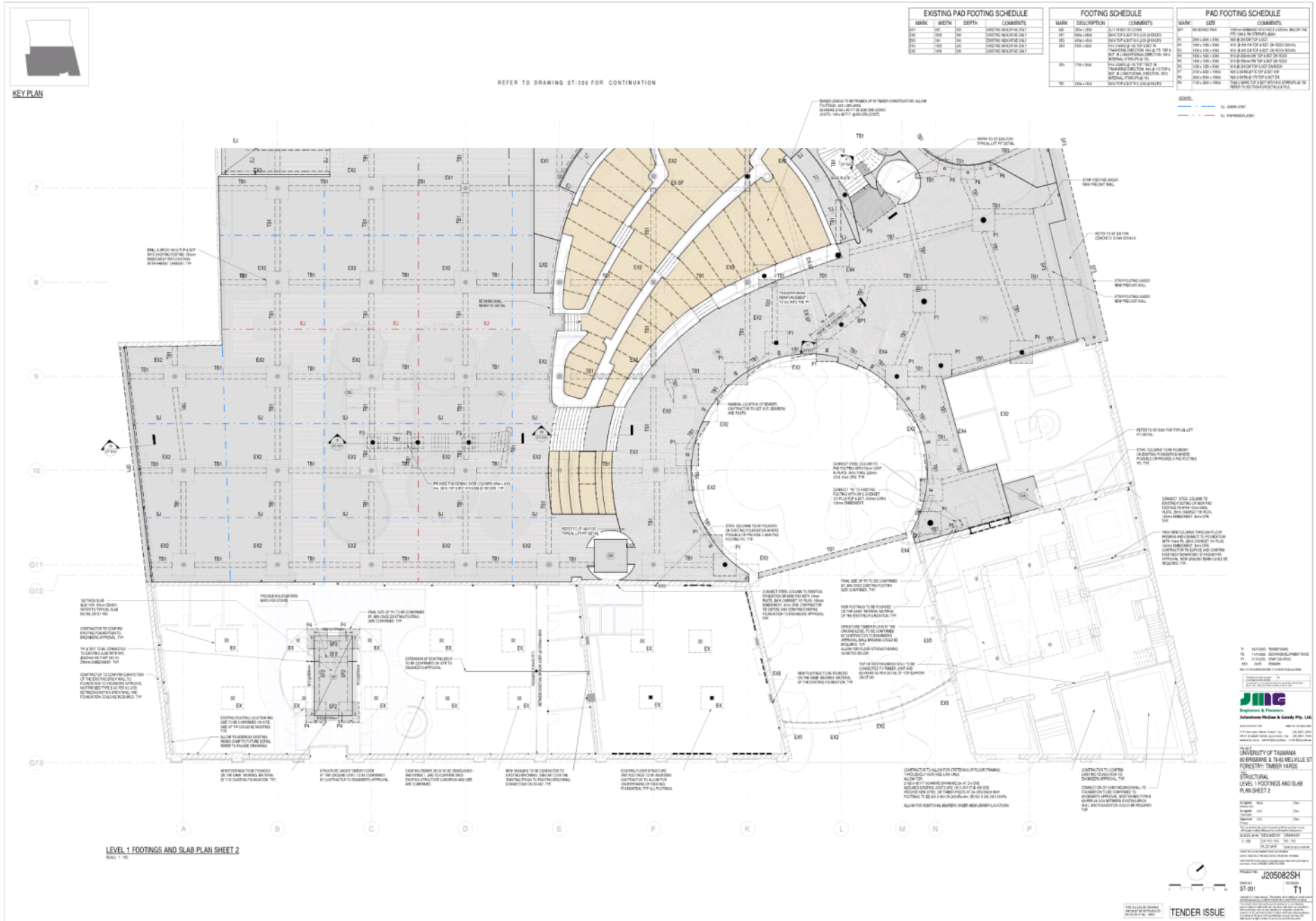


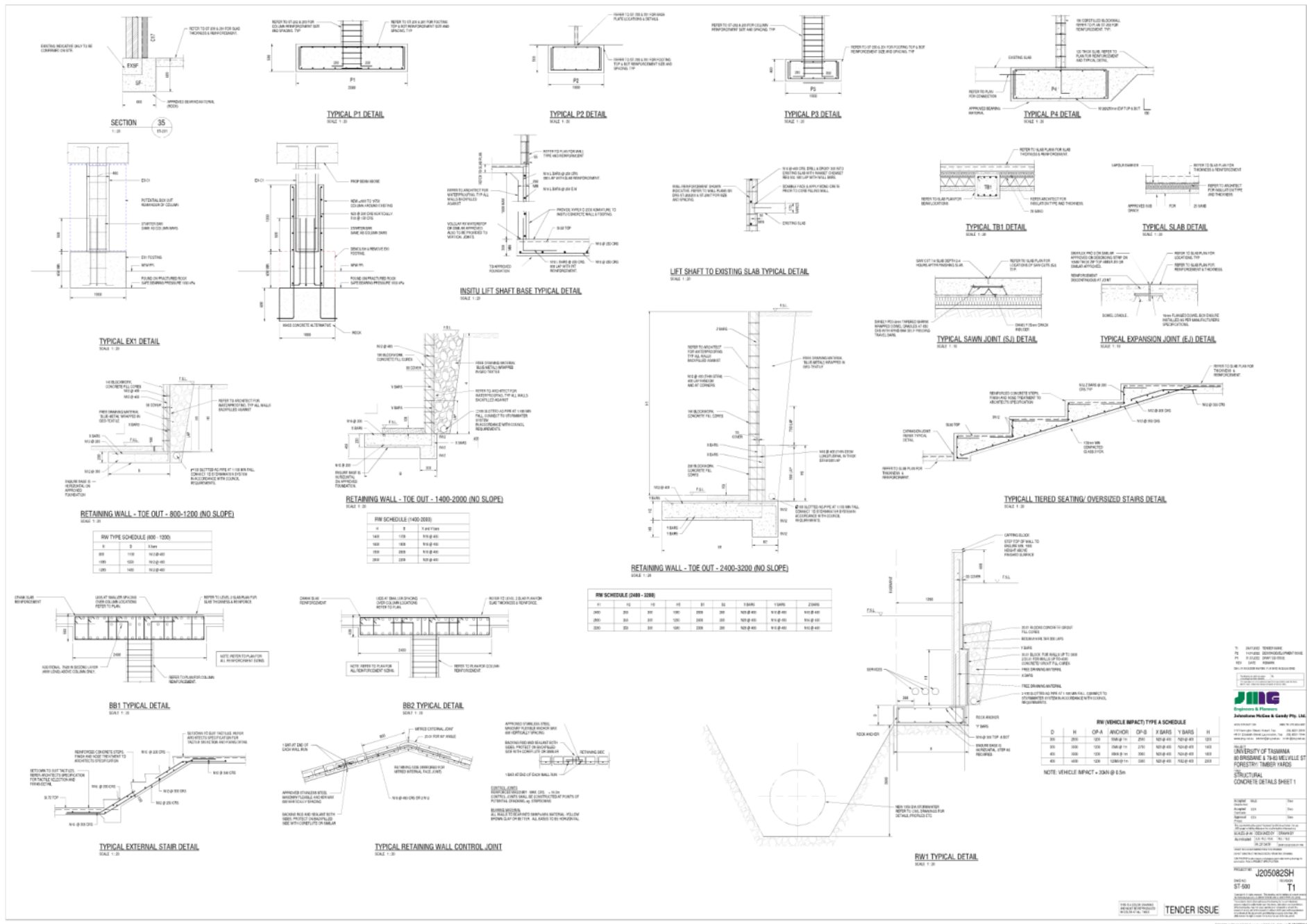
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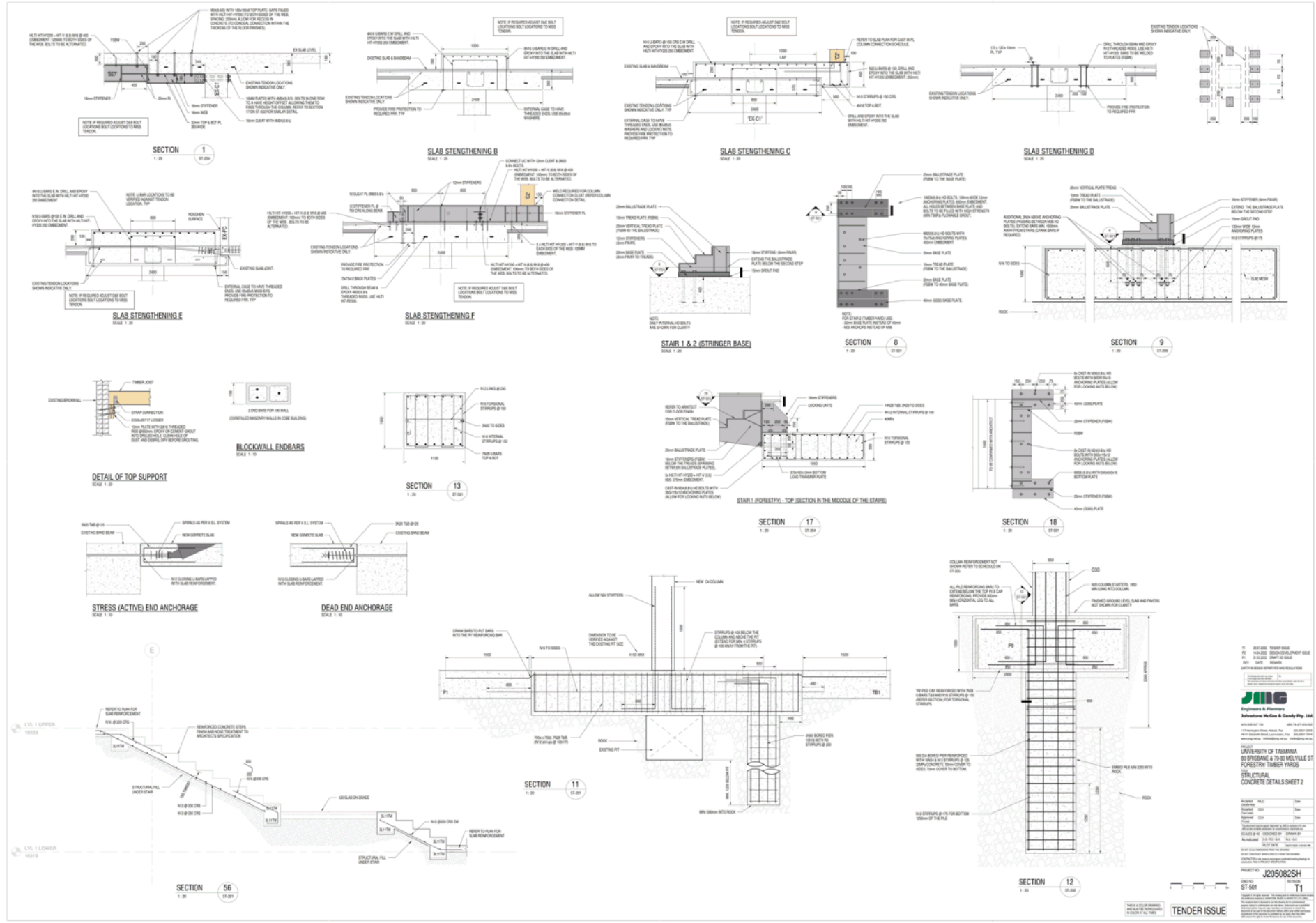
Appendix D:

Structural Documentation









F

Appendix F:

Site Contamination Report



Environmental Site Assessment for DA

Old Forestry Building - 79-83 Melville
Street and 80 Brisbane Street, Hobart

University of Tasmania

7 July 2022

➔ The Power of Commitment



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Project manager	Nicole Reineker
Client name	University of Tasmania
Project name	Contamination Assessment Old Forestry Building
Document title	Environmental Site Assessment for DA Old Forestry Building - 79-83 Melville Street and 80 Brisbane Street, Hobart
Revision version	Rev B
Project number	12574014

Document status

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			Name	Signature	Name	Signature	Date
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S4	A	Nicole Reineker	Peter Topliss 		Peter Topliss		23/06/2022
S4	B	Nicole Reineker	Peter Topliss 		Peter Topliss		07/06/2022

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Appendix C	Bore logs
Appendix D	Chemistry tables
Appendix E	Laboratory documentation
Appendix F	Contamination Assessment Report (GHD, 2022)
Appendix G	Geotechnical report – Brisbane Street

1. Introduction

University of Tasmania (GHD) has engaged GHD Pty Ltd (GHD) to undertake an Environmental Site Assessment (ESA) of 'Old Forestry Building' 83 Melville Street & 80 Brisbane Street and adjacent road reserve (the Site) (Figure 1 Appendix A).

This assessment was commissioned for the Development Application (DA) No. PLN-21-869 83, which required an assessment against the Potentially Contaminated Land Code - E2.6.2. of the Hobart Interim Planning Scheme 2015.

1.1 Background

A Development Application (No. PLN-21-869 83) has been submitted to council for the University of Tasmania to develop the Site and adjacent road reserve. Condition ENVHE1 of the planning permit requires an updated Environmental Site Assessment addressing the requirements of Potentially Contaminated Land Code - E2.6.2. of the Hobart Interim Planning Scheme 2015. This report summarises this assessment.

The scope of works focused of areas of the site subject to ground disturbance as a result of the planned redevelopment program (i.e. sections of the site subject to localised excavation as per the Wood Baggot plans in Appendix B). This is in the context that there would be no material increase in risk to future users of the site for the remainder of the footprint outside of areas of ground disturbance.

This assessment program has been designed, overseen and reviewed by Peter Topliss EIANZ Certified Site Contamination Specialist (CEnvP SC41076).

1.2 Objective

To undertake an Environmental Site Assessment to address the requirements of the Potentially Contaminated Land Code (E2.6.2), and specifically potential risks to redevelopment workers, future users of the site and the environment.

1.3 Scope of works

The was undertaken in general accordance with the National Environment Protection Council (NEPC) (2013) Schedule B2 Guideline on Site Characterisation of the *National Environmental Protection (Assessment of Site Contamination Measure 1999 (as amended April 2013))* (NEPM, 2013), and contained the following components:

- Review of previous investigations at site.
- Soil investigation to assess the contamination status of soils at the Site in the areas marked as to be excavated during construction. As such this scope is a not an assessment for the broader site, but rather a targeted assessment specifically to inform any associated risks relating to the limited ground disturbance required for site development activities. The investigation involved:
 - the advancement of 17 bore holes with samples collected down the soil profile and one grab surface sample.
 - Submission of select samples for analysis for identified chemicals of potential concern (CoPC)
 - Metals (arsenic, cadmium, chromium, copper, nickel, lead, zinc)
 - Total recoverable hydrocarbons (TRH)
 - Benzene, toluene, ethyl-benzene, xylene and naphthalene (BTEXN)
 - Polycyclic aromatic hydrocarbons (PAH)
- Tabulation of soil data and comparison with applied assessment criteria to assess potential risks to construction workers and future site users, and comparison to EPA Tasmania *Information Bulletin No 105 Classification and Management of Contaminated Soil for Disposal* (November 2007)

- Preparation of a Targeted Environmental Site Assessment report, which will describe the investigation and present the findings (this report)

1.4 Limitations

This report: has been prepared by GHD for University of Tasmania and may only be used and relied on by University of Tasmania for the purpose agreed between GHD and University of Tasmania as set out in section 1 of this report.

GHD otherwise disclaims responsibility to any person other than University of Tasmania arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report (refer section(s) 1 of this report). GHD disclaims liability arising from any of the assumptions being incorrect.

GHD has prepared this report on the basis of information provided by University of Tasmania and others who provided information to GHD (including Government authorities), which GHD has not independently verified or checked beyond the agreed scope of work. GHD does not accept liability in connection with such unverified information, including errors and omissions in the report which were caused by errors or omissions in that information.

The opinions, conclusions and any recommendations in this report are based on information obtained from, and testing undertaken at or in connection with, specific sample points. Site conditions at other parts of the site may be different from the site conditions found at the specific sample points.

Investigations undertaken in respect of this report are constrained by the particular site conditions, such as the location of buildings, services and vegetation. As a result, not all relevant site features and conditions may have been identified in this report.

Site conditions (including the presence of hazardous substances and/or site contamination) may change after the date of this Report. GHD does not accept responsibility arising from, or in connection with, any change to the site conditions. GHD is also not responsible for updating this report if the site conditions change.

2. Potentially Contaminated Land Code E2.6.2 – Hobart Interim Planning Scheme 2015

Table 1 Summary of E2.6.2 requirements and

PCL1 ENVIRONMENTAL SITE ASSESSMENT - Excavation	
PCL1 ENVIRONMENTAL SITE ASSESSMENT - Excavation	
A contamination Environmental Site Assessment report prepared by a suitably qualified and accordance with the procedures and practices detailed in the National Environment Protection Contamination) Measure 1999 (NEPM) as amended 2013 must be provided	This report: prepared by GHD Pty Ltd and reviewed by Peter Topliss EIANZ Certified Site Contaminated Specialist [CEnvP No.SC41076]),
<i>The report must address:</i>	
Whether any site contamination presents a risk to workers involved in redevelopment of the as a result of proposed excavation of the site.	Section 6.1.1
Whether any site contamination presents an environmental risk from excavation conducted • Whether any specific remediation and/or protection measures are required to ensure proposed excavation of the site adversely impact human health or the environment before excavation commences.	Section 6.1.1
REMEDATION AND PROTECTION MEASURES	
If the Environmental Site Assessment report concludes that remediation and/or protection measures risks to human health or the environment, a proposed remediation and/or management plan remediation or management plan involving soil disturbance must include a detailed soil and prevent offsite transfer of potentially contaminated soil or stormwater.	No unacceptable risk to human health or environment. No remediation plan required. Sections 6.1.1. Management of soil disturbance: Groundwater and stormwater- Section 7.1 Stockpile Control – Section 7.2 Dust Control – Section 7.3
STATEMENT OF SUITABILITY	
A statement based on the results of the Environmental Site Assessment that the excavation not adversely impact on human health or the environment is to be provided (subject to implementation remediation and/or protection measures as required).	Section 6.4
THE ASSESSMENT - Proposed Use	
A contamination Environmental Site Assessment report prepared by a suitably qualified and accordance with the procedures and practices detailed in the National Environment Protection Contamination) Measure 1999 (NEPM) as amended 2013 must be provided.	This report and the Contamination assessment (Appendix F)
<i>The report must:</i>	
Whether any site contamination presents a risk to the health of users of the development in use. Whether any site contamination presents an environmental risk.	No unacceptable risk to human health or environment from the soils on Site. See Section 5.4 for why ecological criteria not applied to Site
Whether any specific remediation and/or protection measures are required to be implemented commences	No remediation of Site is required. Only standard construction protection measures are required for protection of workers and environment. Section 7 summarises these.
REMEDATION AND PROTECTION MEASURES	

PCL1 ENVIRONMENTAL SITE ASSESSMENT - Excavation	
If the Environmental Site Assessment report concludes that remediation and/or protection measures risks to human health or the environment, a proposed remediation and/or management plan remediation or management plan involving soil disturbance must include a detailed soil and prevent offsite transfer of potentially contaminated soil or stormwater.	No remediation of soils is required. Section 7 summaries the stockpile controls, stormwater and groundwater management and dust control.
STATEMENT OF SUITABILITY A statement based on the results of the Environmental Site Assessment that the proposed use impact on human health or the environment is to be provided (subject to implementation remediation and/or protection measures as required).	Section 6.4

3. Site Setting

3.1 Site identification

Table 2 Site details

Item	Details
Site Address	79 – 83 Melville Street, Hobart, Tasmania, 7000 (including adjacent road reserve) and 80 Brisbane Street, Hobart, Tasmania, 7000 (including adjacent road reserve)
Property Identifiers (Melville St)	Title Reference Number/s: 149231/2 Property ID Number (PID): 2911798
Property Identifiers (Brisbane St)	Title Reference Number/s: 149231/1 Property ID Number (PID): 2811771
Site Area	Approximately 7000 m ²
Site Owner/ Operator	University of Tasmania
Current Zoning	22.0 Central Business (Hobart Interim Planning Scheme 2015)
Current Land Use Melville St: Brisbane St	Not currently in use- previously Forestry Tasmania Freedom Furniture- Home wears retail outlet Underground car parking
Surrounding Land Uses	The site is located approximately 550 m west northwest of the Hobart GPO in the Hobart CBD. Current land uses surrounding the site comprise: North: Brisbane Street -Retail businesses East: Murray Street- Retail, business offices and a mechanics West: Elizabeth Street- retail and lifestyle businesses South: Melville Street- Wesley Centre (Chapel, Hall and Museum), multistorey car parking and retail business.

3.2 Site layout

The site is located on the periphery of Hobart's Central Business District with frontage to Melville Street and vehicle access from Brisbane Street. The layout of the site is shown on Figure 1 Appendix A. It is essentially an irregular rectangular shape with very little open space, apart from a drive-way located on the north-eastern boundary leading to the service yard. Buildings cover the rest of the extent of the site, with two converted redbrick warehouses joined by a large glass atrium along Melville Street. This building extends back to Brisbane Street with car parking on the lower ground floor, a service yard, workshops and laboratory leading to the offices along Melville Street. All ground is covered with buildings or asphalt.

The extent/boundary of the Site and the associated redevelopment activities been extended for this investigation to include work in adjacent road reserves to attach the realigned stormwater and sewage pipes to the mainlines in the road.

3.3 Site environmental setting

3.3.1 Elevation and topography

The site slopes gently from the northeast to the south west and has an approximate elevation ranging from 15 – 20 m AHD. It is considered likely that the rear of the site (northern end) has been excavated into natural ground to facilitate development of the basement car parking.

3.3.2 Soils

In general across the Site the soils are fairly consistent with the exception of the three locations within the dome (SB02-SB04) and the location in the Brisbane Street ground level carpark (SB05). In general the soils across the Site consist mainly of fill comprising of gravel (including sandy gravel and clayey gravel), gravelly clay and clays, with natural clays directly above the bedrock. Refer to the Bore logs in Appendix C for full descriptions of the soils encountered across the Site.

3.3.3 Geology

Geology has been mapped by TheList as comprising four units as follows:

- Northern section of the site mapped as alluvial gravel, sand and clay (Qa).
- South eastern section is mapped as undifferentiated quaternary deposits (Q).
- South western portion of the site is mapped as comprising poorly sorted boulder to pebble grade deposits with boulders up to 3 m length, clasts generally dominantly of dolerite with traces to rarely dominant amounts of Upper Parmeener mudstone and other rocks and less commonly Lower Parmeener rocks, clayey material (Tcbd).
- A small area around the service yard is mapped as dolerite and related rocks (Jd).

3.3.4 Surface water and groundwater

The site is located approximately 900 m northeast of the Sullivans Cove, River Derwent. While the Skolsa 1994 report noted groundwater observed at between 1 and 4 metres below ground level (m bgl) no groundwater was encountered during the field investigations.

On the basis of topography in the vicinity of the site and proximity to the Derwent Estuary, it is anticipated that the groundwater flow direction at the site is towards the Derwent Estuary to the southeast.

4. Site use history

Originally a land grant acquired by the Crisp family, the site, which extends through to Brisbane Street, operated as a sawmill and timber and hardware outlet until 1968. Following a fire at the site in 1922 the two redbrick warehouses on Melville Street were constructed, the eastern one was used as a warehouse store for dry and finished timber products and smaller western one housed the hardware emporium business.

The site was sold to the Tasmanian State Government in the late 1960s and was used as stores and offices including the State Emergency Service, and The State Fire Commission. In 1997 the site was redeveloped to be Forestry Tasmania Office and showroom. This redevelopment retained the two redbrick warehouses and incorporated into the design a glazed, domed foyer joining them together. This development comprised the refurbishment of the two warehouse buildings; construction of new office and amenities areas; a retail showroom and the foyer dome. In 2018 the building was sold to University of Tasmania and has been unoccupied since then.

For a full site history including WorkSafe Dangerous Good Register, City of Hobart Council Records and EPA records see Preliminary Site Investigation Document (GHD 2022) in Appendix F.

4.1.1 Previous contamination assessments at the Site

Site has been subject to various phases of prior contamination assessment including:

- Richard Stoklosa Engineering Practice Pty Ltd (1994) *Screening level Environmental Site Assessment of 79-83 Melville Street, Hobart*. Report prepared for James Douglas & Associates on behalf of Tasmania State Property Services, dated 2 December 1994.
- Stoklosa Engineering Pty Ltd (1996) *Forestry Tasmania Redevelopment Project, 79-83 Melville Street, Hobart*. Letter to Forestry Tasmania, dated 18 September 1996.

- Stoklosa Engineering Pty Ltd (1996) *Environmental Remediation and Validation, December 1996* (report not available for this review).
- GHD (2018) *78-83 Melville St, Limited Preliminary Site Investigation*. Report prepared for the University of Tasmania.
- GHD (2022) Contamination Assessment 79-83 Melville Street Hobart and 80 Brisbane Street Hobart.

In summary, the development site has been subject to extensive background investigation and targeted assessment and remediation (i.e. removal of underground petroleum storage systems [UPSS]). This provides increased confidence that key potential aspects of concern have subsequently been identified and addressed to varying degrees and that this investigation was designed to validate this assumption.

4.1.2 Site contamination and potential risks from the desktop assessment

The site history and potential contamination risk is typical of most urban sites in Hobart and based on available information, has not shown any higher risk issues than other CBD locations. These include:

- Imported fill used across the site generally (and historical use of hydrocarbons on site), and likely representing a low risk, consistent with other urban sites in Hobart (i.e. a mixture of fill material and typically low level contaminated soil)
- A residual risk remains for many streets in central Hobart associated with the potential for buried old town gas infrastructure (pipework), including both Brisbane Street and Melville Street. There is no information to suggest the associated risk is any higher at this location than in any other areas of the city.

For areas of proposed excavation for redevelopment (where potential exposure risk is higher) the following key aspects are to be considered in addition to the two above:

- Former UPSS near Brisbane Street - While unconfirmed, available evidence suggests it was likely removed and possibly remediated (circa 1996).
- Former UPSS near Melville Street - Removed and residual contaminated soil identified as “localised” and “unlikely that the contamination has migrated off site” (Stoklosa 1996).
- Potential localised contamination aspects were identified on-site including the capped oil sump, triple interceptor trap and electrical substation. However, as they are not located in proximity to the proposed areas of excavation, and represents relatively low risk profiles, there is no material increased risk to construction workers, future site users or the environment associated with the proposed development works.
- The residual risk to site from potential off-site contamination risk (i.e. surrounding automotive and fuel storage activities) migrating on-site is primarily relating to scenarios where excavation works are conducted into, or in close proximity to the underlying groundwater.

In context of the broader site footprint outside of proposed areas of excavation, the proposed development represents a low risk profile. As the exposure setting and land use do not materially change (commercial setting to commercial setting) there is no material increased risk to construction workers, future site users or the environment associated with the broader site footprint.

4.1.3 Contaminants of potential concern

From the desktop review of the Site history and previous investigations, the contaminants of potential concern for the Site are related to the two former USTs onsite (one near driveway on Brisbane St and one near the entrance to the building on Melville St), uncontrolled fill across the Site, potential old Hobart Town gas pipes and general hydrocarbon presence.

Based on the site history, the contaminants of potential concern for this site are: Total recoverable hydrocarbons, BTEXN, PAH, and metals.

5. Soil quality assessment

The work was undertaken in general accordance with the National Environment Protection Council (NEPC) (2013) Schedule B2 Guideline on *Site Characterisation of the National Environmental Protection (Assessment of Site Contamination Measure 1999* (as amended April 2013) (NEPM, 2013).

5.1 Target areas identified in GHD (2022¹)

The following areas were identified as representing areas potential site contamination that requires further assessment:

- Area of proposed utility trenching next to the former UPSS near Brisbane Street;
- Area of proposed utility trenching next to the former UPSS near Melville Street;
- Areas of proposed utility trenching in road reservations on both Brisbane and Melville Streets, and accounting for associated potential risks from old town gas;
- General assessment (grid and/or judgemental sampling patterns) for soil characterisation of proposed excavation areas required for the redevelopment including areas of ground levelling, lift pits, and remaining utility trenches not addressed above .

5.2 Areas of investigations

The areas investigated for this assessment were targeted towards areas where excavation are planned to take place. The excavations on site are for either utility trenching for the realignment of the sewage and stormwater pipes across the site and general excavations for building works. For assessment purposes these have been split into the areas that will excavated for utility trenching or general excavation and then grouped within these two main areas into sections that had similar potential sources of potential contamination, similar soils and are in the vicinity of each other. These APECs are summarised in Table 3 below and can be seen on Figure 2 in Appendix A.

Any areas where the excavations were to be less than 0.015 m bgl were not targeted in this investigation due to shallow nature.

The locations sampled within the driveway are discussed both within the driveway and the realignment of sewage and stormwater pipe APECs as these two purposes of excavations occur within the area.

Table 3 Summary of locations sampled, sample recovery method and potential source of contamination

Area	Potential source of contamination	Excavation method	Locations	Comment on location choice
Utility trenching / Sewage and stormwater realignment				
Brisbane Street Road reserve	Decommissioned UST (1000 gallon UST and metered pump) likely removed 1996. General hydrocarbon and uncontrolled fill	Test pits	GTP01, GTP02	GTP02 is assessing both general contamination status of road reserve as well as checking for residual impacts from decommissioned UST from driveway area
Melville Street – entrance of building and road reserve	Decommissioned UST (500 gallon and bowser) removed 1996. General hydrocarbon and uncontrolled fill	Soil bore	SB01	SB01 was drilled near edge of cadastral parcel and the sidewalk. No locations were able to be advanced within the sidewalk or road reserve for this investigation. SB01 is taken as being representative of the soils within this area- front of building, sidewalk and road reserve, in

¹ GHD 2022 Cover Letter to Contamination Assessment submitted to City of Hobart Council (copy in Appendix F)

Area	Potential source of contamination	Excavation method	Locations	Comment on location choice
Utility trenching / Sewage and stormwater realignment				
				addition as to checking residual hydrocarbons from decommissioned UST.
Driveway	Decommissioned UST, general hydrocarbon and uncontrolled fill	Test pits and soil bores	GTP03, GTP04, SB07, SB09, SB10	The driveway has both utility trenching for the pipe realignment and bulk excavation of the area (to a much shallower depth). These bores assess soils from the area being trenched.
Underground carpark	General hydrocarbon and uncontrolled fill	Soil bore	SB11, SB12	Two locations chosen to be accessible and spread across the accessible area.
Inside building	Uncontrolled fill	N/A	N/A	While the utility trench does go into the building between the underground car park and the dome, it was not possible to get the excavator into that area. The soils beneath this section of the building would have been very similar to other soils across the Site and the Site history did not raise any increased risks with these areas. It can be assumed that the soil that will be encountered during trenching will be very similar to those in BH11 and BH12.
Forestry yard	General hydrocarbon and uncontrolled fill	Soil bore	SB06.2	The soil bore in this location is a couple of metres out of the pipe alignment. The location for SB06 was chosen as due to its approximate distance between SB07 and SB04, while maintaining safe distances from all underground services. These samples are representative of the soils along the utility trench within the yard.
Forestry dome	Uncontrolled fill	Soil bore	SB02, SB03, SB04	Three locations chosen to adequately cover the area to be trenched inside the domed area. The soils in this area are expected to be different to those across rest of site due to previous use as greenhouse
Other areas of Site to be excavated during development works				
Driveway	Decommissioned UST, general hydrocarbon and uncontrolled fill	Test pits and soil bores	GTP03, GTP04, SB07, SB08, SB09, SB10.	The driveway has both utility trenching for the pipe realignment and bulk excavation of the area (to a much shallower depth). These bores and test pits assess soils from the area excavated (this area is only excavated to less than 0.8 m bgl).
Workshop/Lift Pit	General hydrocarbon and uncontrolled fill	Soil bore	SB16	The lift pit that is located in the workshop off the forestry yard.
Underground carpark under freedom	General hydrocarbon and uncontrolled fill	Soil bores	SB13, SB14, SB16, SB17	The area of excavation in the underground carpark under Freedom Furniture. SB14 is the lift pit in this area. The third closest to Melville St is being excavated 0.1 m bgl so no samples were taken from this area.

Area	Potential source of contamination	Excavation method	Locations	Comment on location choice
Utility trenching / Sewage and stormwater realignment				
				The rest of this area is to be excavated 0.4 - 1 m bgl.
Lift Pit (main building)	General hydrocarbon and uncontrolled fill	Soil bores	SB18	It was not possible to get the excavator into this area. The soils beneath this section of the building would have been very similar to other soils across the Site and the Site history did not raise any increased risks with these areas. It can be assumed that the soil that will be encountered during trenching will be very similar to those in BH11 and BH12 and across the Site. A previous investigation concrete cut the flooring. A sample was taken of the fill beneath the concrete. No additional samples were recovered.

5.3 Methodology

It was originally intended that each location would be investigated using a combination of Non-destructive drilling (NDD) and push tube drilling, however drill rigs were unavailable to undertake the work until mid-April/early May, so alternative options were investigated.

These options were using an auger attachment on a small excavator or a NDD rig across the Site- the excavator was chosen due to:

- the NDD rig having a maximum depth of 1.5 m bgl, while the excavator with auger attachment has a maximum depth of 3 m bgl.
- limited access into the underground carpark due to the height of the NDD rig (2.9m) and would cause noise disruptions to Freedom Furniture (Building tenant).

The limitations of the auger attachment on the excavator is that the entire soil profile is subject to limited logging, with only samples at target depths to be logged.

This methodology (excavator with auger attachment) is only for SB01-SB18 which are the soil bores advanced by GHD as part of this investigation. In addition to the 18 soil bores advanced during this investigation four (4) test pits (GTP1-GTP4) were advanced as part of the JMG geotechnical investigation. For details on the test pitting methodology of this work see the report in Appendix G. The sampling including density, screening, handling, transport, analysis and QA/QC procedures were undertaken as per Table 4 below.

Table 4 *Field methodology*

Item	Description
Technical guideline	Australian Standard 4482.1:2005 <i>Guide to the investigation and sampling of sites with potentially contaminated soil. Part 1: Non-volatile and semi-volatile compounds (AS 4482.1:2005); and NEPC (2013) National Environmental Protection (Assessment of Site Contamination) Amended Measure (NEPM) No. 1 - Schedule B2, Guideline on Site Characterisation (NEPC 2013)</i>
Sub-contractors	Excavator hire including operator and off sider: Hazel Bros Pty Ltd Service clearance: Protech Underground Clearance Concrete Cutting: Bay Hire (engaged by Hazel Bros for GHD)
Service clearance	Service clearance undertaken on 01/03/2022. 18 locations cleared and marked out in pink paint – 7 in underground car park (2 utility trenching), 1 in forestry yard, 1 in workshop, 3 in dome, 1 out front of building on Melville St, 4 on driveway, 1 in near Freedom loading bay. All locations have been cleared to allow bore to be moved slightly if required due to field conditions. Some locations have more leeway than others due to proximity of services.
Concrete cutting	Slabs in the workshop and forestry yard were concrete cut by Bay Hire on 04/03/2022. They had to be recalled on Sunday 06/03/2022 to open an additional hole in slab after a buried slab was encountered in the Forestry yard. All SB asphalt surfaces were cut except for SB12 to facilitate ease of opening on the Sunday during field works.
Bore advancement	17 soil bores were advanced across the Site on Sunday 06/03/2022. Soil bores were advanced using an excavator with a 200 mm solid flight augur attachment. The maximum depth of this equipment was 3 m bgl. The excavator and driver were supplied by Hazel Bros Pty Ltd.
Sampling density	Soil samples were recovered at approximately 0.0-0.10 metre below ground level (m bgl), 0.4-0.5 m bgl, 0.9-1.0 m bgl 1.4-1.5 m bgl, 2 – 2.1 m bgl and thereafter at 1 m intervals to the until target depth reached or refusal of augur. Soil samples are also to be preferentially targeted to assess for contamination and the sampled intervals are likely to reflect visual and olfactory observations, especially where hydrocarbons are a CoPC. As such, the sampled intervals was adapted on the basis of observations and the potential for vertical contaminant migration.
Screening	Soil samples were screened for volatile hydrocarbons using a calibrated photo-ionisation detector (PID). Results were recorded on field sheets and used to support sample selection.
Sampling	Soil samples were taken using a fresh pair of nitrile gloves, and placed in a clean jar that had been scanned using the ALS Compass App and the job number, sample field identification, date collected and sampler's name were assigned to that jar. Each jar was also clearly marked with sample identification as a secondary check. In summary, investigations were biased to the top metre of the soil profile to address risks associated with surficial leaks and spills and the potential use of imported fill. Deeper sampling was conducted where potential sources included underground infrastructure such as fuel storage tanks (i.e. sampling extended to depths below the likely base of the former tank) in areas where utility trenching is required.
Sample handling and transport	Following collection, soil samples were immediately placed on ice and stored in a insulated chilled, dark environment (cooler/esky) prior to being forwarded to the analytical laboratory within the specified holding times.
Sample analysis	8 metals (arsenic, cadmium, chromium, cobalt, copper, lead, mercury, nickel, and zinc) total recoverable hydrocarbons (TRH); benzene, toluene, ethyl-benzene, xylene and naphthalene (BTEXN); polycyclic aromatic hydrocarbons (PAH) <u>Laboratory results and certificates of analysis are included in Appendix E</u>
Quality assurance and quality control (QA/QC)	A program wide QA/QC sampling procedure was implemented, and further details are detailed in Section 5.5

5.4 Assessment criteria

Site assessment in Australia is generally undertaken in accordance with The National Environment Protection (Assessment of Site Contamination) Measure 2009, as amended 2013 (the NEPM), which presents risk-based assessment criteria that has been developed to protect human health and the environment in various environmental and land-use settings. Soil analytical results have been compared with assessment criteria presented in Schedule B1 Guideline on Investigation Levels for Soil and Groundwater (NEPM, 2013).

Assessment criteria for the protection of ecosystems (soils) are not relevant for this Site as the site is located within an urban area, the surface is predominantly sealed and will remain so. Where a site is predominantly surface sealed, and will remain so (i.e. typical commercial/industrial setting) it is reasonable to assume there is negligible sensitive ecological receptors in the soil requiring protection. However, if groundwater had been encountered during any of the intrusive investigations, then this would have triggered the comparison to the assessment criteria for the protection of ecosystems, as groundwater has the potential to migrate offsite impacting ecosystems downgradient.

Based on the objective of this investigation, the following assessment criteria were selected for comparison with soil quality data for the site. The criteria were selected to identify where concentrations of CoPC in soil pose a potential risk to receptors.

Human health (including ingestion, dermal contact, vapour risk)

- NEPM (2013) Schedule B1: Soil Health Investigation Levels (HILs) - HIL D Commercial/industrial (applies to depth of 3 m bgl)
- NEPM (2013) Schedule B1: Soil Health Screening Levels (HSLs) – HSL D Commercial/industrial; Sand (applies to a depth of 3 m bgl)
- CRC Care (2011) Soil Direct Contact Intrusive Works (all soils that may come in contact workers)
- CRC Care (2011) Soil HSL Vapour Intrusive works (0-<2m and 2-<4m Sand)

Management limits

- NEPM (2013) Management Limits for Commercial/Industrial soils (all soil depths)

Soil for disposal

- Tasmanian EPA (2018) Waste Classifications Guidelines; Information Bulletin No. 105

5.5 Quality assurance and quality control

5.5.1 Data Quality Objectives

A process for establishing DQOs for a site has been defined by the US EPA. That process has been adopted within the Australian Standard: AS 4482.1-2005 and referenced by the National Environmental Protection (Assessment of Site Contamination) Measure (NEPM, 2013).

The purpose of establishing Data Quality Objectives (DQOs) is to ensure that the field investigations and subsequent analyses are undertaken in a way that enables the collection and reporting of reliable data on which to base the assessment. DQOs are aimed at ensuring that a satisfactory level of quality assurance and quality control (QA/QC) is adhered to during the field and laboratory procedures implemented to collect data. This ensures that the data is reliable and that any subsequent conclusions and recommendations can be made with confidence. The DQO process was taken into account in designing the scope of work carried out over the course of the program. See below for a summary of the quality assurance/quality control results for this investigation.

5.5.2 Field program

A program-wide QA/QC sampling procedure was implemented, in order to assess the data for data quality indicators such as accuracy, precision and repeatability. This was done by collecting a number of quality control samples including a primary sample, a field duplicate and a split duplicate sample. The primary samples and field duplicates were analysed at the ALS Melbourne while the split sample was sent to ALS Sydney for analysis.

Three sets of quality control samples were collected during the field works and are summarised below:

- QA1/QA2 was collected in tandem with primary sample BH13_0.6
- QA3/QA4 was collected in tandem with primary sample BH01_0.5
- QA5/QA6 was collected in tandem with primary sample GTP01_2

Laboratory certificates of analysis are included in Appendix E. These laboratories also undertook internal quality control checks, which are detailed in the laboratory documentation.

Relative percent differences (RPDs) between primary and blind duplicate samples typically indicate acceptable precision in the majority of analytical duplicate pairs (within the adopted criteria of 50% for organic, 30% for inorganic analytes). Table 1 in Appendix D presents calculated RPDs for the primary and quality control samples collected during the field program.

In samples where RPD exceedances are identified, the exceedances are disregarded where both results are less than five times the laboratory limit of reporting (LOR). Where an RPD exceedance is measured and the blind/split sample is detected at a higher concentration than the parent, the highest concentration is always compared against the adopted site screening criteria.

There were some issues with sample receipt and analysis at ALS Melbourne, the samples from the geotechnical test pitting were accidentally overlooked for analysis following receipt and placed into refrigerated hold at the laboratory. Unfortunately, this delayed the analysis until it was one day out of holding time. We have included communication from ALS Melbourne with the laboratory documentation in Appendix E explaining their error and that the laboratory doesn't believe that the exceedance of one day of the recommended holding time will have any significant impact on the results.

There were exceedances of the calculated RPDs and Table 5 below summarises these exceedances of the adopted precision criteria. However on the basis that:

- the samples were from a soil horizon that is considered to likely have a heterogeneous chemical distribution (i.e. sample lithography described as FILL comprising of sandy/clayey gravels);
- that metals by their nature, tend to have a heterogeneous distribution within soils; and
- that the highest measured value from both the primary and secondary samples was used to determine soil classifications and potential risks to human health and the environment; it is considered that the results are suitable for decision-making for the site.

No variance in concentration between the duplicates were approaching any of the nominated investigation criteria trigger values.

Table 5 Summary of relative percent differences

Analyte	Primary sample	Field or split duplicate	Primary concentration	Duplicate concentration	RPD
Copper	BH01_0.5	Field	37 mg/kg	26 mg/kg	35
Copper	BH01_0.5	Split	37 mg/kg	18 mg/kg	69
Copper	BH13_0.6	Field	38 mg/kg	57 mg/kg	40
Nickel	BH13_0.6	Split	48 mg/kg	35 mg/kg	31
Zinc	BH01_0.5	Split	48 mg/kg	30 mg/kg	46

5.5.3 Laboratory program

The NATA certified laboratories used for this assessment (ALS Melbourne), implement internal QA/QC procedures during sample analysis, and provide a summary of checks of the adequacy of these in their analytical reports. GHD generally reviews the internal laboratory quality control data provided within the laboratory reports to confirm the data is acceptable for decision-making, before reporting the findings of site assessments. Copies of laboratory analytical reports, including their internal QC reports, are presented in Appendix D.

Review of the laboratory quality control reports indicates that no significant quality issues were identified with regard to the method blanks and control samples, and the frequency of the laboratories internal QC checks. There was some holding time exceedances of one day which was explained above in Section 5.5.2. This occurred at ALS Melbourne.

Review of the potential effects of these issues on the reported concentrations of the relevant analytes indicated that it is unlikely that decision-making for the site has been affected. On this basis, it is considered that the reported data is acceptable for decision making at the site.

5.5.4 Suitability of data

The QA/QC checks implemented both in the field and by the laboratory indicate that while there have been some issues with the data it is of suitable quality to be used for decision-making regarding the composition of the material and potential risks that material poses to human health and the environment.

5.6 Soil sampling - Utility trenching / Sewage and stormwater pipe realignment

5.6.1 Brisbane Street

Sources of potential contamination

- Potential residual hydrocarbon impacts from decommissioned UST (GTP02);
- Uncontrolled fill;
- General hydrocarbon impacts; and
- Old Hobart town gas.

This part of the investigation was carried out in tandem with the William Crommer geotechnical investigation for JMG. For further details of this investigation see Appendix G. GTP01 and GTP02 are Site 1 and Site 2 respectively in this report.

Field observations

- There were no obvious odours including hydrocarbon odours or staining of the soils observed during the field program.
- PID field screening values ranged from 0.0 -1.5 ppm (all PID readings are included in Table 2 in Appendix D)
- GTP01 reached target depth of 5m bgl and GTP02 approximately 15 m across and down the road hit bedrock with refusal of the augur at 1m bgl.
- The majority of the soils in this area are FILL comprised of clay and gravels (see bore logs in Appendix C)
- No asbestos containing material was observed.
- No Old Hobart Town gas infrastructure was observed during any of the soil disturbance.
- Table 6 below summarises the samples recovered, target depth of bore, if bedrock was encountered and depth.

Analytical results

For a full tabulated comparison of all samples analysed from this area compared to all of the nominated assessment criteria see Table 3 in Appendix D. Table 6 below summarises the exceedances of the nominated assessment criteria.

There were no exceedances of the nominated assessment criteria for the protection of human health or management levels.

Table 6 Summary of samples from Brisbane Street

Location	Samples analysed (m bgl)	Target depth (m bgl)	Depth to bedrock (m bgl)	Samples exceeding protection of human health assessment criteria
GTP01	1, 2, 3, 4, 5	5	5	-
GTP02	0.5	5.5	1	-

5.6.2 Driveway

Sources of potential contamination:

- Potential residual hydrocarbon impacts from decommissioned UST
- Uncontrolled fill;
- General hydrocarbon impacts; and
- Old Hobart town gas.

Field observations:

- There were no obvious odours including hydrocarbon odours or staining of the soils observed during the field program.
- PID field screening values ranged from 0.0 – 1.3 ppm (all PID readings are included in Table 2 in Appendix D).
- The majority of the soils in this area are FILL comprised of clay and gravels (see bore logs in Appendix C).
- The bedrock was very shallow with target depths not reached.
- No asbestos containing material was observed.
- No Old Hobart Town gas infrastructure was observed during any of the soil disturbance. A freshly broken edge of a flanged piece of terracotta pipe did come to the surface in BH09. This resulted in short shutdown of site works while the hole was cleared and it was determined that this was a bit of old pipe that was in the fill that had broken during auguring. There was no additional pipework's observed.
- Table 7 below summarises the samples recovered, target depth of bore, if bedrock was encountered.

Analytical results

For a full tabulated comparison of all samples analysed from this area compared to all of the nominated assessment criteria see Table 3 in Appendix D.

- Table 7 below summarises the exceedances of the nominated assessment criteria.
- There were no exceedances of the nominated assessment criteria for the protection of human health or management limits.
- No hydrocarbons or BTEXN were detected in concentrations above the laboratory LOR.
- PAH were detected in the 0.5m bgl sample of both BH07 and BH09. No other samples had concentrations of PAH's above the laboratory LOR

Table 7 Summary of samples from driveway

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Location	Samples analysed (m bgl)	Target depth (m bgl)	Depth to bedrock (m bgl)	Samples exceeding protection of human health assessment criteria
BH07	0.5, 1.3	3	1.3	-
BH09	0.5, 1	3	0.9	-
GTP03	1, 2	5	2.5	
GTP04	0	3	0.65	

5.6.3 Underground carpark area – pipe realignment

Sources of potential contamination

- Uncontrolled fill; and
- General hydrocarbon impacts.

Field observations

- There were no obvious odours including hydrocarbon odours or staining of the soils observed during the field program.
- PID field screening values ranged from 4.6 – 6.9 ppm (all PID readings are included in Table 2 in Appendix D).
- No asbestos containing material was observed.
- The majority of the soils in this area are FILL comprised of clay and gravels (see bore logs in Appendix C)
- The bedrock was very shallow with target depths not reached
- No Old Hobart Town gas infrastructure was observed during any of the soil disturbance (this was unlikely in this location).
- Table 6 below summarises the samples recovered, target depth of bore, if bedrock was encountered.

Analytical results

For a full tabulated comparison of all samples analysed from this area compared to all of the nominated assessment criteria see Table 3 in Appendix D.

- Table 8 below summarises the exceedances of the nominated assessment criteria.
- There were no exceedances of the nominated assessment criteria for the protection of human health or management limits.
- F4 fraction hydrocarbons (>C34-C40 Fraction) were detected at low concentrations in sample BH12_0.8, however were not detected in the above sample (BH12_0.5). However, benz(a)anthracene was detected in this sample (BH12_05) and not in any other samples in this area. This was the only PAH detected above the laboratory LOR.

Table 8 Summary of samples from underground carpark area

Location	Samples analysed (m bgl)	Target depth (m bgl)	Depth to bedrock (m bgl)	Samples exceeding protection of human health assessment criteria
BH11	0.5	3	0.5	-
BH12	0.5, 0.8	3	0.8	-

5.6.4 Forestry yard

Sources of potential contamination

- Uncontrolled fill; and
- General hydrocarbon impacts.

Field observations

- The soil bore was located to the west of the proposed pipe realignment, it was not possible to sample directly above the pipe location due to existing services at the site (mainly current stormwater pipes). This location was chosen as it is located adjacent to the proposed pipe location and was assumed that the soil properties would be relatively consistent across this area.
- There were no obvious odours including hydrocarbon odours or staining of the soils observed during the field program.
- PID field screening values ranged from 0.1 – 4.5 ppm (all PID readings are included in Table 2 in Appendix D)
- No asbestos containing material was observed.
- The majority of the soils in this area are FILL comprised of clay and gravels (see bore logs in Appendix C)
- A buried slab was encountered approximately 0.6m bgl down the augur hole. This slab appeared to be relatively old with uneven edges and breaking up slightly. The slab was across about ½ of the hole. Bay hire had to be called to come and cut another concrete core to allow depth to bedrock to be reached. The new hole was within the cleared area and approximately 0.4m away from the original hole. The new bore hole was called BH6.2
- Table 9 below summarises the samples recovered, target depth of bore, if bedrock was encountered.

Analytical results

For a full tabulated comparison of all samples analysed from this area compared to all of the nominated assessment criteria see Table 3 in Appendix D.

- Table 9 below summarises the exceedances of the nominated assessment criteria.
- There were no exceedances of the nominated assessment criteria for the protection of human health or management limits.
- Elevated metals above the laboratory LOR were recorded, however these were very low and below all assessment criteria.
- No hydrocarbons, BTEXN, or PAHs were detected in concentrations above the laboratory LOR.
- PAH were detected in both the 0.5m bgl and 1 m bgl samples of BH04, however concentrations are below all nominated assessment criteria. No other samples had concentrations any PAH above the laboratory LOR.

Table 9 Summary of samples from forestry yard

Location	Samples analysed (m bgl)	Target depth (m bgl)	Depth to bedrock (m bgl)	Samples exceeding protection of human health assessment criteria
BH6.1		2.1	N/A refusal on buried slab	-
BH6.2	1, 1.5	2.1	1.5	-

5.6.5 Forestry dome

Sources of potential contamination

- Uncontrolled fill; and
- General hydrocarbon impacts.

Field observations

- There were no obvious odours including hydrocarbon odours or staining of the soils observed during the field program.
- PID field screening values ranged from 0.0 – 8.9 ppm (all PID readings are included in Table 2 in Appendix D).
- No asbestos containing material was observed.
- BH04 had to be moved a couple of times within the cleared area due to buried slab for gantry being encountered resulting in refusal at around 1 m bgl.
- The majority of the soils in this area are FILL comprised of sandy clays, clays and gravelly clays (see bore logs in Appendix C)
- No Old Hobart Town gas infrastructure was observed during any of the soil disturbance (this was unlikely in this location).
- Table 10 below summarises the samples recovered, target depth of bore, if bedrock was encountered.

Analytical results

For a full tabulated comparison of all samples analysed from this area compared to all of the nominated assessment criteria see Table 3 in Appendix D.

- Table 10 below summarises the exceedances of the nominated assessment criteria.
- There were no exceedances of the nominated assessment criteria for the protection of human health or management limits.
- No hydrocarbons or BTEXN were detected in concentrations above the laboratory LOR.
- PAH were detected in both the 0.5m bgl and 1 m bgl samples of BH04, however concentrations are below all nominated assessment criteria. No other samples had concentrations any PAH above the laboratory LOR.

Table 10 Summary of samples from dome

Location	Samples analysed (m bgl)	Target depth (m bgl)	Depth to bedrock (m bgl)	Samples exceeding protection of human health assessment criteria
BH02	0.5, 1.5, 2.9	3	N/A Target depth reached	-
BH03	0.5, 2	3	N/A Target depth reached	-
BH04	0.5, 1, 1.5	3	2.5	

5.6.6 Melville Street

Sources of potential contamination:

- Potential residual hydrocarbon impacts from decommissioned UST;
- Uncontrolled fill;
- General hydrocarbon impacts; and
- Old Hobart town gas.

Field observations:

- There were no obvious odours including hydrocarbon odours or staining of the soils observed during the field program.
- PID field screening values ranged from 4.7 – 8.3 ppm (all PID readings are included in Table 2 in Appendix D).
- The majority of the soils in this area are FILL comprised of clay, gravels, and broken bricks/terracotta.
- Target depth reached
- No asbestos containing material was observed.
- No Old Hobart Town gas infrastructure was observed during any of the soil disturbance.
- Table 11 below summarises the samples recovered, target depth of bore, if bedrock was encountered.

Analytical results

For a full tabulated comparison of all samples analysed from this area compared to all of the nominated assessment criteria see Table 3 in Appendix D.

- Table 11 below summarises the exceedances of the nominated assessment criteria.
- There were no exceedances of the nominated assessment criteria for the protection of human health, or management limits.
- No hydrocarbons, BTEXN or PAHs were detected in concentrations above the laboratory LOR.
- Elevated concentrations of metals above the laboratory LOR were recorded, however these were all below the nominated assessment criteria.

Table 11 Summary of samples from Melville Street

Location	Samples analysed (m bgl)	Target depth (m bgl)	Depth to bedrock (m bgl)	Samples exceeding protection of human health assessment criteria
BH01	0.5, 1.5, 3	3	N/A Target depth reached	-

5.7 Other areas to areas to be excavated during site works

5.7.1 Driveway

Sources of potential contamination:

- Potential residual hydrocarbon impacts from decommissioned UST
- Uncontrolled fill;
- General hydrocarbon impacts; and
- Old Hobart town gas.

Field observations:

- There were no obvious odours including hydrocarbon odours or staining of the soils observed during the field program.
- PID field screening values ranged from 0 – 1.1 ppm (all PID readings are included in Table 2 in Appendix D)
- The majority of the soils in this area are FILL comprised of clay, gravels, and broken bricks/terracotta.
- The bedrock was very shallow with target depths not reached.
- No asbestos containing material was observed.
- No Old Hobart Town gas infrastructure was observed during any of the soil disturbance. A freshly broken edge of a flanged piece of terracotta pipe did come to the surface in BH08. This resulted in short shutdown of site works while the hole was cleared and it was determined that this was a bit of old pipe that was in the fill that had broken during auguring. There was no additional pipework's observed.
- Table 12 below summarises the samples recovered, target depth of bore, if bedrock was encountered.

Analytical results

- Table 12 below summarises the exceedances of the nominated assessment criteria.
- There were no exceedances of the nominated assessment criteria for the protection of human health or management limits.
- No hydrocarbons or BTEXN were detected in concentrations above the laboratory LOR.
- PAH were detected in the 0.5m bgl sample of both BH07 and BH09. No other samples had concentrations of PAH's above the laboratory LOR.

Table 12 Summary of samples from driveway

Location	Samples analysed (m bgl)	Target depth (m bgl)	Depth to bedrock (m bgl)	Samples exceeding protection of human health assessment criteria
BH07	0.5, 1.3	3	1.3	
BH08	0.5, 0.9	3	0.9	
BH09	0.5, 1	3	0.9	
BH10	0.5	3	0.7	
GTP03	1, 2	5.5	2.5	
GTP04	0	3	0.65	

5.7.2 Underground carpark area to be excavated

Sources of potential contamination:

- Uncontrolled fill; and
- General hydrocarbon impacts.

Field observations:

- Two of the original soil bore locations had to be adjusted and a location approximately halfway between the two original locations was chosen. The locations were unable to be accessed safely due to combination of overhead pipework and a low ceiling and a parked car. The area where the new soil bore locations (BH17) was in an area that was cleared of services.
- There were no obvious odours including hydrocarbon odours or staining of the soils observed during the field program.
- PID field screening values ranged from 3.9 – 7.1 ppm (all PID readings are included in Table 2 in Appendix D).
- No asbestos containing material was observed.
- The majority of the soils in this area are FILL comprised of clay, gravels, and broken bricks/terracotta.
- The bedrock was very shallow with target depths not reached
- Table 13 below summarises the samples recovered, target depth of bore, if bedrock was encountered.

Analytical results

- Table 13 below summarises the samples recovered, target depth of bore, if bedrock was encountered.
- There were no exceedances of the nominated assessment criteria for the protection of human health or management limits.
- No hydrocarbons, BTEXN or PAHs were detected in concentrations above the laboratory LOR.

Table 13 Summary of samples from underground carpark

Location	Samples analysed (m bgl)	Target depth (m bgl)	Depth to bedrock (m bgl)	Samples exceeding protection of human health assessment criteria
BH13	0.3, 0.6	1	0.6	-
BH14	0.5	1	0.5	-
BH15	0, 0.5	1	0.5	-
BH17	0.3, 0.6	1	0.6	-

5.7.3 Lift pits

There are two lift pits that are described in this section, one in the old workshop area and the other at the base of the stairs. There was access issues with the location inside the building at the base of the stairs with the excavator unable to access this location. A previous investigation at the Site had concrete cored the floor in the approximate location of where the lift pit is planned, and a sample was taken by hand from the fill layer below the concrete surface. The workshop soil bore was advanced by the standard method.

Sources of potential contamination:

- Uncontrolled fill; and
- General hydrocarbon impacts

Field observations:

- There were no obvious odours including hydrocarbon odours or staining of the soils observed.

- PID field screening values ranged from 0.0 – 11.1 ppm (all PID readings are included in Table 2 in Appendix D).
- No asbestos containing material was observed.
- The majority of the soils in this area are FILL comprised of clay, gravels.
- The gravels sampled in BH18 appeared to be identical to the gravels below the ground surface across the majority of the Site, with the exception of BH01-BH04.
- The bedrock was shallow with target depths not reached
- Table 14 below summarises the samples recovered, target depth of bore, if bedrock was encountered.

Analytical results

- Table 14 below summarises the samples recovered, target depth of bore, if bedrock was encountered.
- There were no exceedances of the nominated assessment criteria for the protection of human health or management limits.
- No hydrocarbons, BTEXN or PAHs were detected in concentrations above the laboratory LOR.

Table 14 Summary of samples from lift pits

Location	Samples analysed (m bgl)	Target depth (m bgl)	Depth to bedrock (m bgl)	Samples exceeding protection of human health assessment criteria
BH16	Workshop	0.5, 1	1.5	-
BH18	Inside building near staircase	0	0.05	-

5.7.4 Carpark near Freedom Furniture loading bay**Sources of potential contamination:**

- Uncontrolled fill; and
- General hydrocarbon impacts.

Field observations:

- This sample was taken between the gap/trench between the boundary fence and the concrete slab.
- There were no obvious odours including hydrocarbon odours or staining of the soils observed during the field program.
- PID field screening values ranged from 0 – 0.1 ppm (all PID readings are included in Table 2 in Appendix D).
- There was general debris in the trench including food wrappers, and general rubbish
- No asbestos containing material was observed.
- The majority of the soils in this area are FILL comprised of clay, gravels, and broken bricks/terracotta.
- No Old Hobart Town gas infrastructure was observed during any of the soil disturbance (this was unlikely in this location).
- Table 14 below summarises the samples recovered, target depth of bore, if bedrock was encountered.

Analytical results

- Table 15 below summarises the samples recovered, target depth of bore, if bedrock was encountered.
- There were no exceedances of the nominated assessment criteria for management limits.
- There were exceedances of one of the nominated assessment criteria for the protection of human health with metals (see table 15 below) for the 1 m bgl sample. The shallower sample BH05_0.5 did not exceed any nominated assessment criteria. Lead concentration in the 1 m bgl sample are very high (11,400 mg/kg) and greater than three orders of magnitude higher than the above sample.

- Hydrocarbons in the F3 fraction (>C16-C34) were detected above the laboratory LOR in BH05_1 but not in the shallower sample.
- No BTEXN or PAHs were detected in concentrations above the laboratory LOR.

Table 15 Ground level carpark near Freedom Furniture loading bay

Location	Samples analysed (m bgl)	Target depth (m bgl)	Depth to bedrock (m bgl)	Samples exceeding protection of human health assessment criteria
BH05	0.5, 1	1	N/A Target depth reached	SB01_1

It is likely that the sample BH05_1 is not representative of the soils in this area to be excavated, due to the following reasons:

- The soil bore was taken from a narrow trench between the brick fence between Beaurepaires and Freedom Furniture. It is possible that this location has received runoff from both the slabs at Beaurepaires and Freedom Furniture and may have locally elevated concentrations of some analytes.
- The majority of the soils to be excavated are currently covered by the slab and would not have been exposed to as much potential run off as the soils in this trench.
- The sample taken 0.5 m bgl above this sample was significantly less concentrated in metals.

It is recommended that the spoil from this area be stockpiled separately to the other areas and to be retested prior to disposal.

6. Discussion and risk assessment

6.1 Nominated assessment criteria

6.1.1 Protection of human health

In general, there were no exceedances of any of the nominated assessment criteria for the protection of human health with the exception of lead in the BH05_1 sample (refer Section 5.7.4). This indicates that:

- there is no unacceptable risk to the health of Site users including construction workers from the soils on Site; and
- there is no requirement for additional management or mitigation measures including development of a remediation action plan, is needed to be implemented during the development activities. The requirement management of these soils is summarised below in Section 7.

The lead exceedance was discussed in Section 5.7.4 and is unlikely to be representative of the soils from the broader area and a very localised hot spot. This material from this area should be segregated from the other stockpiled material and retested to determine disposal options.

Protection of construction workers and the environment from the soils in this area would be covered by the measures outlined in Section 7.

6.2 Potential risks

6.2.1 Decommissioned USTs

One of the main potential issues with excavation required for the redevelopment of the Site, including the realignment of the sewage and stormwater pipes and to develop the driveway, was the potential for residual hydrocarbon to remain in the soils from the decommissioned UST's that were located in the driveway area off Brisbane Street and in the front garden on the Melville Street entrance.

Melville Street

BH01 on Melville Street was able to be excavated to the target depth of 3 m bgl, and while it had some of the higher PID readings across the Site they were very low compared to a what would be expected on an hydrocarbon impacted site. In addition the three (3) samples analysed (depths 0.5, 1.5 and 3 m bgl) did not detect any hydrocarbons, BTEXN or PAHs in concentrations above the laboratory LOR.

There is no evidence that there are any residual impacts in the soils from this decommissioned tank.

Brisbane Street

Four locations were used to assess the risk from this UST locations (GTP02, GTP03, SB09, SB10). GTP02 is upgradient of where the decommissioned tank was thought to be, GTP03 and SB09 are down gradient while SB10 is likely across the gradient with these samples surrounding the area.

None of the samples analysed detected any hydrocarbon or BTEXN above the laboratory LOR.

None of the sample targeting the UST in the driveway area off Brisbane Street reached the target depths before refusal on reaching the bedrock. The depth to bedrock in the upgradient (GTP02) and across gradient bore (BH10) ranged between 0.5 and 0.7 m bgl with a target depth of 5.5 m bgl for GTP02 and 3 m bgl for BH10. While target depths for the down gradient locations were not reached, greater depths were able to be advanced (GTP03 to 2 m bgl and SB09 to 1 m bgl). These two locations are on the slope of the driveway and the ground surface is at a lower point than street level (and where UST would have been). If there was significant residual impacts from this UST these two locations would have been picked up at least some trace of hydrocarbon impacts.

There is no evidence that there are any residual impacts in the soils from this decommissioned tank.

6.2.2 Old Hobart Town gas

A residual risk remains for many streets in central Hobart associated with the potential for buried old town gas infrastructure (pipework), including both Brisbane Street and Melville Street. There was no evidence of the pipework's for this encountered during the field works- no pipes were encountered; no excess levels of gas were detected by either the PID; or gas odours noticed by field staff. This along with the other significant works that have occurred on the Site since the 1990's indicate that it is unlikely that there are any Old Town gas pipes in the areas to be excavated.

There is no evidence that there is any Old Town Gas pipework in the areas to be excavated. Standard controls addressing the risk of physical exposure such infrastructure such remain active for the duration of excavation within street area regardless, to manage any residual risk.

6.2.3 Uncontrolled fill

The majority of the soils across the Site are FILL (not natural soils). This comprises of predominantly gravels in the surface layers with clays in the deeper soils. Many of the soils are likely to have been insitu for a long time as indicated by presence of terracotta rubbles at depth. These soils are classified generally as either Fill or Low level contaminated soils (level 2) under the EPA Bulletin 105 Soils for Disposal (Table 4, Appendix D) due to the elevated metal concentrations.

There were no exceedances of any of the nominated assessment criteria for the protection of human health across any areas to be excavated either for utility trenching or general excavation that will require controls summarised below in Section 7. These are controls should be included the Construction Environment Management Plan.

6.3 Broader site (outside of target areas)

In context of the broader site footprint outside of proposed areas of excavation, the Site represents a low risk profile. As the exposure setting and land use do not materially change (commercial setting to commercial setting) there is no material increased risk to construction workers, futures site users or the environment associated with the broader site footprint.

6.4 Statement of suitability

This Environmental Site Assessment has indicated that there is no unacceptable risk to either human health or the environment (i.e. ultimately surface water to groundwater) from either the excavation (workers involved in redevelopment) or proposed future users of the Site. No specific remediation and/or protection measures are required to ensure no adverse impact human health or the environment before excavation commences.

7. Management of soil onsite during excavation

The information in this section of the report should be forwarded to the Contractor, who will be undertaking the excavation works on site and be included in their Construction Environment Management Plan (CEMP) for the project. It will be the responsibility of the Contractor to provide, install and maintain all required environmental control measures required to implement the works.

Specific information relevant to contractor

- No soil should be removed from site until it has been characterised under EPA Bulletin 105 Soils for Disposal. The majority of the soils on site are historic uncontrolled fill (not natural soils) which can be characterised as either Fill or Low level contaminated soils (level 2) under the EPA Bulletin 105 Soils for Disposal due to the elevated metal concentrations.

- The material to be excavated from the area in carpark at Brisbane Street near the Freedom Furniture loading bay should be segregated from the other spoil generated and retested to determine disposal options due to an elevated lead reading in one sample. Gloves should be worn when handling this material.
- Health risks to workers coming in contact with potentially contaminated material generated during excavation is negligible, as long as:
 - industry standard PPE for construction work (long sleeved shirt, long trousers, steel capped boots) is followed; and
 - facilities that allow hygiene practices are in place - i.e. workers can wash hands prior to eating and drinking after handling any soils. If hand washing facilities are not available, then baby wipes should be made available.

7.1 Groundwater and stormwater

Surface water control measures are to be implemented at the site prior to and during construction. These are to include systems for erosion and sediment control, and diversion, containment, and treatment prior to its release from within the Works Area.

The site surface is predominantly comprised of sealed concrete / asphalt with inbuilt stormwater drainage systems that is will be to be disturbed/realigned during site works to segregate the Works Area from its surrounds. Where appropriate, surface water should be diverted around the Works Area to maintain clean flows into formed drainage lines downstream. Suitable diversions drains or embankments should be constructed and maintained to divert clean uncontaminated stormwater from entering the work site and contaminating surface waters or groundwater.

Run off from stockpiled excavated material is unlikely as stockpiles will be covered with tarpaulins or HDPE to prevent rainfall ingress (and erosion, dust generation etc).

Inflow of surface water or rain into excavations, either during works or where they are open overnight, is possible during the works program. Groundwater inflow into excavations is unlikely given that no groundwater was observed during any of the recent intrusive investigations.

7.1.1 Controls

The following measures will be employed to minimise the risk imposed by stormwater run-off from impacted areas:

- Avoid generating contaminated stormwater by diverting stormwater away from areas of exposed soils
- Erosion control devices are to be developed with consideration to Best Practice Erosion and Sediment Control publications², be installed in accordance with manufacturer's instructions, and maintained in such a manner as to prevent sediment transportation to areas outside the site.
 - Sediment build up against barriers and within sediment traps is to be cleaned out on an 'as-needs' basis.
 - Sediment socks will be used as silt fences around drainage grates and across all areas where surface water could flow from the proposed excavation / stockpiles.
- All stockpiles of soil will be covered in order to prevent transport of sediments into the site drainage system.
- Key activities in the construction works such as excavation and stockpiling should be scheduled during periods of fine / dry weather, where possible.
- Off-site disposal of water (stormwater or groundwater), if required, will be conducted following testing and analysis to determine a suitable licensed location for disposal.

7.1.2 Monitoring

No visibly dirty water / sediment will be allowed to migrate from the site as surface water flow, or flow into stormwater drains.

² Best Practice Erosion and Sediment Control (International Erosion Control Association)- The Best Practice Erosion and Sediment Control publication contains strategies and techniques to reduce the degradation of land and water from uncontrolled erosion and sedimentation. Any erosion and sediment control plans and control measures for the Works should be developed in accordance with this publication.

7.2 Stockpile control

Controlling the handling and fate of excavated material is considered to be one of the highest priorities on site during the works, given the risk of dust generation, impact to stormwater and the requirement for off-site disposal.

No long-term storage of stockpiles on-site is anticipated, with all excavated soils being transported off-site following characterisation for disposal. These controls relate to short term management of excavated materials only.

7.2.1 Controls

Short-term control of stockpiles on site are recommended to reduce dust and/or run off (as below), such as:

- All excavated soils will be covered whilst on-site. All stockpiles will be covered with impermeable materials such as tarpaulin or HDPE plastic and weighed down.
- Design and designate an area for stockpiles before site works commence. Locate stockpiles away from stormwater runoff, residential areas, other sensitive receivers, in a location where they are protected from prevailing wind and away from drains and site boundaries, as far as possible.
- Stockpiles will be disposed of / removed from site immediately following receipt of soil classification data.
- Where dust generation becomes an issue, stockpiles can be wetted however, in this event hay bales or filter socks will be emplaced as temporary bunding on the down slope side of the stockpiling area (i.e. adjacent the excavation) to collect possible runoff.
- Shape stockpiles, taking into consideration width to height ratio, nature of stockpiled material, location, access and available area for the stockpile. Limit stockpile heights based on stability, manageability, dust and amenity impacts. More gentle slopes may be required for unstable soils.
- Stockpiled soils with a very high moisture content will be piled upgradient of the excavation on a tarpaulin, with bunded edging to promote any water from the soils to flow back into the excavation.

7.2.2 Monitoring

Any stockpiles placed on site will be monitored for any dust generation and run off. If there is any evidence of run-off or dust generation. If these noted then additional measures may be implemented – wetting down (dust), checking stockpile coverings, repositioning or adding additional stockpile coverings, increase of sedimentation controls (bunding, bales ect).

7.3 Dust

Dust generation from the excavation of the soils is considered unlikely given that the underlying fill material is dominated by gravels and moist clays, however dust is likely to occur during rock.

7.3.1 Controls

Where dust is, or is likely to become, a problem, the following measures should be implemented:

- Apply water spray to disturbed surfaces (including broken concrete/concrete intended to be broken, stockpiles, excavation walls and floors [where practicable]).
- Use dry clean-up techniques (e.g. sweeping) to minimise build-up of loose soils and clean-up dusty areas.
- Reduce speed or power of activity to minimise dust generated (e.g. reduce vehicle or cutting speeds, remove items gently).
- All soil stockpiles at the site will be covered with tarpaulin or HDPE.
- Where high wind conditions cause a potential dust issue, the stockpiles will be wetted.
- Loose material will not be allowed to build up in any portion of the site to minimise dust generated from vehicle movement.
- All vehicles will move at <10 km per hour whilst on site, to minimise potential dust generation as well as enhance safety.

7.3.2 Monitoring

If visible dust is moving over site boundaries, work will be stopped, and control methods revised and reassessed. It should be noted that in times of high wind speeds, it may be necessary to discontinue certain dust generating tasks until the wind calms and the likelihood of significant dust generation is subsequently reduced.

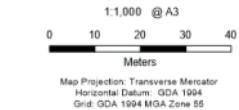
Appendices

Appendix A

Figures

Figure 1 Site location

Figure 2 Sample locations



LEGEND

Project Site

Cadastral parcels



University of Tasmania
UTAS Old Forestry Building Contamination Assessment

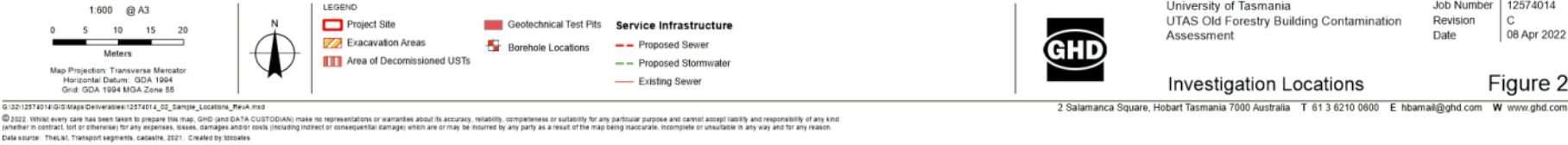
Job Number 12574014
Revision A
Date 08 Apr 2022

Site Location

Figure 1

2 Salamanca Square, Hobart Tasmania 7000 Australia T 61 3 6210 0600 E hbmali@ghd.com W www.ghd.com

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Data source: Thales, Transport segments, cadastre, 2021. Created by Stocates



Appendix B

Woods Bagot – Overall Existing Site Plans



Level 1 Overall Existing Site Investigation

Client number: 12410 Revision: A



Table

Appendix C

Bore logs



BOREHOLE LOG
ENVIRONMENTAL-SOIL BORE

SOIL BORE BH01

Page 1 of 1

Client University of Tasmania Project Contamination Assessment Old Forestry Building Project No. 12574014 Site Old Forestry Building Location 83 Melville st Date Drilled 06/03/2022 - 06/03/2022				Drill Co. Hazel Bros Pty Ltd Driller P. George Rig Type Excavator with augur attachmen Total Depth (m) 3.00 Diameter (mm) 200				Easting Northing Grid Ref GDA2020_MGA_zone_55 Elevation Logged By Nicole Reineker Checked By NKR			
Depth (m)	Drilling Method	PID (ppm)	Sample ID	Water	Graphic Log	LITHOLOGICAL DESCRIPTION Soil Type (Classification Group Symbol); Particle Size; Colour; Secondary / Minor Components.	Moisture	Consistency	COMMENTS/ CONTAMINANT INDICATORS Odours, staining, waste materials, separate phase liquids, imported fill, ash.	Elevation (m)	
0.2	SFA	7.3				TOPSOIL Clayey GRAVEL fine to coarse, poorly graded, subrounded to rounded, brown- (FILL)	D	S	no odour no staining	-0.2	
0.4		8.8	BH-1/ 0.5			Clayey GRAVEL fine to coarse, poorly graded, angular to subangular, dark brown- (FILL)	D	F	no odour no staining	-0.4	
0.6										-0.6	
0.8										-0.8	
1		5.7				Clayey GRAVEL fine to coarse, poorly graded, angular to subangular, dark brown- (FILL)	D	F	no odour no staining	-1	
1.2										-1.2	
1.4		8.3	BH-1/ 1.5			CLAY medium plasticity, poorly graded, grey- brown, with fine to coarse gravel (possible NATURAL - SOIL)	M	VS	no odour no staining	-1.4	
1.6										-1.6	
1.8										-1.8	
2		5.3				Gravelly CLAY medium plasticity, dark brown, angular to subangular, fine to coarse, poorly graded gravel (possible NATURAL - SOIL)	M	F	no odour no staining	-2	
2.2										-2.2	
2.4										-2.4	
2.6										-2.6	
2.8										-2.8	
3		4.7	BH-1/ 3.0			Gravelly CLAY medium plasticity, dark brown, angular to subangular, fine to coarse, poorly graded gravel (possible NATURAL - SOIL)	M	F	no odour no staining	-3	
						Termination Depth at 3.00 m. Target depth achieved.					
Notes											
This log is not intended for geotechnical purposes.											
Drilling Abbreviations						Moisture Abbreviations		Consistency Abbreviations			
AH-Air Hammer, AR-Air Rotary, BE-Bucket Excavation, CC-Concrete Coring, DC-Diamond Core, FH-Foam Hammer, HA-Hand Auger, HE-Hand Excavation (shovel), HFA-Hollow Flight Auger, MR-Mud Rotary, NDD-Non Destructive Drilling, PT-Pushtube, SD-Sonic Drilling, SFA-Solid Flight Auger, SS-Split Spoon, WB-Wash Bore, WS-Window Sampler						D-Dry, SM-Slightly Moist, M-Moist, VM-Very Moist, W-Wet, S-Saturated		Granular Soils VL-Very Loose, L-Loose, MD-Medium Dense, D-Dense, VD - Very Dense Cohesive Soils VS-Very Soft, S-Soft, F-Firm, ST-Stiff, VST-Very Stiff, H-Hard			

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BOREHOLE LOG
ENVIRONMENTAL-SOIL BORE

SOIL BORE BH02
 Page 1 of 1

Client University of Tasmania Project Contamination Assessment Old Forestry Building Project No. 12574014 Site Old Forestry Building Location 83 Melville st Date Drilled 06/03/2022 - 06/03/2022				Drill Co. Hazel Bros Pty Ltd Driller P. George Rig Type Excavator with augur attachmen Total Depth (m) 3.00 Diameter (mm) 200				Easting Northing Grid Ref GDA2020_MGA_zone_55 Elevation Logged By Nicole Reineker Checked By NKR			
Depth (m)	Drilling Method	PID (ppm)	Sample ID	Water	Graphic Log	LITHOLOGICAL DESCRIPTION Soil Type (Classification Group Symbol); Particle Size; Colour; Secondary / Minor Components.	Moisture	Consistency	COMMENTS/ CONTAMINANT INDICATORS Odours, staining, waste materials, separate phase liquids, imported fill, ash.	Elevation (m)	
0.2	SFA	0.1				Sandy CLAY low to medium plasticity, poorly graded, dark brown, with fine to medium gravel (FILL)	D		no odour no staining	-0.2	
0.4		0.1	BH-2/ 0.5			Clayey SAND well graded, angular to subangular, dark brown, with fine to coarse gravel (FILL)	M	MD	no odour no staining	-0.4	
0.6										-0.6	
0.8										-0.8	
1		0.1				Clayey SAND well graded, angular to subangular, dark brown, with fine gravel (FILL)	M	MD	no odour no staining	-1	
1.2										-1.2	
1.4		0.4	BH-2/ 1.5			Sandy CLAY medium to high plasticity, angular to subangular, dark brown mottled black, with brick fragments (possible FILL)	M	S	no odour no staining	-1.4	
1.6										-1.6	
1.8										-1.8	
2		0.1				Sandy CLAY medium plasticity, angular to subangular, dark brown mottled red- black (possible FILL)	M	S	no odour no staining	-2	
2.2									-2.2		
2.4									-2.4		
2.6									-2.6		
2.8			BH-2/ 2.9			Sandy CLAY low to medium plasticity, angular to subangular, dark brown mottled red- black (possible FILL)	M	S	no odour no staining	-2.8	
3	0.1					Termination Depth at 3.00 m. Target depth achieved.				-3	
Notes											
This log is not intended for geotechnical purposes.											
Drilling Abbreviations						Moisture Abbreviations		Consistency Abbreviations			
AH-Air Hammer, AR-Air Rotary, BE-Bucket Excavation, CC-Concrete Coring, DC-Diamond Core, FH-Foam Hammer, HA-Hand Auger, HE-Hand Excavation (shovel), HFA-Hollow Flight Auger, MR-Mud Rotary, NDD-Non Destructive Drilling, PT-Pushtube, SD-Sonic Drilling, SFA-Solid Flight Auger, SS-Split Spoon, WB-Wash Bore, WS-Window Sampler						D-Dry, SM-Slightly Moist, M-Moist, VM-Very Moist, W-Wet, S-Saturated		Granular Soils VL-Very Loose, L-Loose, MD-Medium Dense, D-Dense, VD - Very Dense Cohesive Soils VS-Very Soft, S-Soft, F-Firm, ST-Stiff, VST-Very Stiff, H-Hard			



BOREHOLE LOG
ENVIRONMENTAL-SOIL BORE

SOIL BORE BH03
 Page 1 of 1

Client University of Tasmania Project Contamination Assessment Old Forestry Building Project No. 12574014 Site Old Forestry Building Location 83 Melville st Date Drilled 06/03/2022 - 06/03/2022				Drill Co. Hazel Bros Pty Ltd Driller P. George Rig Type Excavator with augur attachmen Total Depth (m) 3.00 Diameter (mm) 200				Easting Northing Grid Ref GDA2020_MGA_zone_55 Elevation Logged By Nicole Reineker Checked By NKR			
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Depth (m)	Drilling Method	PID (ppm)	Sample ID	Water	Graphic Log	LITHOLOGICAL DESCRIPTION Soil Type (Classification Group Symbol); Particle Size; Colour; Secondary / Minor Components.	Moisture	Consistency	COMMENTS/ CONTAMINANT INDICATORS Odours, staining, waste materials, separate phase liquids, imported fill, ash.	Elevation (m)
0.2	SFA	0.1				Sandy CLAY pale brown, with fine to coarse gravel, angular to subangular, poorly graded gravel (FILL)	D	MD	no odour no staining, Gravels decreasing with depth in size and quantity	-0.2
0.4		0.3	BH-3/ 0.5			Sandy CLAY dark brown white, with fine gravel, poorly graded gravel (FILL)	D	MD	no odour no staining	-0.4
0.6										-0.6
0.8										-0.8
1.0		0.2				Sandy CLAY medium to high plasticity, dark brown (FILL)	M	S	no odour no staining	-1
1.2										-1.2
1.4						Sandy GRAVEL fine to coarse, angular to subangular, brown (possible FILL)	D	VD	no odour no staining	-1.4
1.6										-1.6
1.8										-1.8
2.0		0.3	BH-3/ 2.0			Sandy GRAVEL fine to coarse, angular to subangular, brown (possible FILL)	D	VD	no odour no staining	-2
2.2										-2.2
2.4										-2.4
2.6										-2.6
2.8										-2.8
3.0		0.2				Gravelly CLAY low to medium plasticity, dark brown-black (possible NATURAL - SOIL)	W	S	no odour no staining	-3
Termination Depth at 3.00 m. Target depth achieved.										

Notes										
This log is not intended for geotechnical purposes.										
Drilling Abbreviations						Moisture Abbreviations		Consistency Abbreviations		
AH-Air Hammer, AR-Air Rotary, BE-Bucket Excavation, CC-Concrete Coring, DC-Diamond Core, FH-Foam Hammer, HA-Hand Auger, HE-Hand Excavation (shovel), HFA-Hollow Flight Auger, MR-Mud Rotary, NDD-Non Destructive Drilling, PT-Pushtube, SD-Sonic Drilling, SFA-Solid Flight Auger, SS-Split Spoon, WB-Wash Bore, WS-Window Sampler						D-Dry, SM-Slightly Moist, M-Moist, VM-Very Moist, W-Wet, S-Saturated		Granular Soils VL-Very Loose, L-Loose, MD-Medium Dense, D-Dense, VD - Very Dense Cohesive Soils VS-Very Soft, S-Soft, F-Firm, ST-Stiff, VST-Very Stiff, H-Hard		



BOREHOLE LOG
 ENVIRONMENTAL-SOIL BORE

SOIL BORE BH04
 Page 1 of 1

Client University of Tasmania Project Contamination Assessment Old Forestry Building Project No. 12574014 Site Old Forestry Building Location 83 Melville st Date Drilled 06/03/2022 - 06/03/2022				Drill Co. Hazel Bros Pty Ltd Driller P. GeorgeP. George Rig Type Excavator with augur attachmen Total Depth (m) 2.50 Diameter (mm) 200				Easting Northing Grid Ref GDA2020_MGA_zone_55 Elevation Logged By Nicole Reineker Checked By NKR			
Depth (m)	Drilling Method	PID (ppm)	Sample ID	Water	Graphic Log	LITHOLOGICAL DESCRIPTION Soil Type (Classification Group Symbol); Particle Size; Colour; Secondary / Minor Components.	Moisture	Consistency	COMMENTS/ CONTAMINANT INDICATORS Odours, staining, waste materials, separate phase liquids, imported fill, ash.	Elevation (m)	
0.1	SFA	5.6				GRAVEL medium to coarse, well graded, angular to subangular, white (FILL)	D	H	no odour no staining	-0.1	
0.2										-0.2	
0.3										-0.3	
0.4										-0.4	
0.5		8.5	BH-4/ 0.5			Sandy CLAY dark brown white, with fine gravel, poorly graded gravel (FILL)	D	MD	no odour no staining	-0.5	
0.6										-0.6	
0.7										-0.7	
0.8										-0.8	
0.9										-0.9	
1		7.8	BH-4/ 1.0			Sandy CLAY dark brown, with cobbles (FILL)	D	S	no odour no staining	-1	
1.1										-1.1	
1.2										-1.2	
1.3										-1.3	
1.4										-1.4	
1.5		6.7	BH-4/ 1.5			CLAY dark brown (FILL)	M	F	no odour no staining	-1.5	
1.6										-1.6	
1.7										-1.7	
1.8										-1.8	
1.9										-1.9	
2		5.4				CLAY dark brown mottled green- grey (FILL)	M	F	no odour no staining	-2	
2.1										-2.1	
2.2										-2.2	
2.3										-2.3	
2.4										-2.4	
2.5		1.8				CLAY dark brown mottled green- grey, with fine to medium gravel (FILL)	M	F	no odour no staining	-2.5	
2.6						Termination Depth at 2.50 m. Refusal on bedrock.				-2.6	
Notes This log is not intended for geotechnical purposes.											
Drilling Abbreviations AH-Air Hammer, AR-Air Rotary, BE-Bucket Excavation, CC-Concrete Coring, DC-Diamond Core, FH-Foam Hammer, HA-Hand Auger, HE-Hand Excavation (shovel), HFA-Hollow Flight Auger, MR-Mud Rotary, NDD-Non Destructive Drilling, PT-Pushtube, SD-Sonic Drilling, SFA-Solid Flight Auger, SS-Split Spoon, WB-Wash Bore, WS-Window Sampler						Moisture Abbreviations D-Dry, SM-Slightly Moist, M-Moist, VM-Very Moist, W-Wet, S-Saturated		Consistency Abbreviations Granular Soils VL-Very Loose, L-Loose, MD-Medium Dense, D-Dense, VD - Very Dense Cohesive Soils VS-Very Soft, S-Soft, F-Firm, ST-Stiff, VST-Very Stiff, H-Hard			



BOREHOLE LOG
 ENVIRONMENTAL-SOIL BORE

SOIL BORE BH05
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Client University of Tasmania Project Contamination Assessment Old Forestry Building Project No. 12574014 Site Old Forestry Building Location 83 Melville st Date Drilled 06/03/2022 - 06/03/2022				Drill Co. Hazel Bros Pty Ltd Driller P. George Rig Type Excavator with augur attachmen Total Depth (m) 1.00 Diameter (mm) 200				Easting Northing Grid Ref GDA2020_MGA_zone_55 Elevation Logged By Nicole Reineker Checked By NKR			
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Depth (m)	Drilling Method	PID (ppm)	Sample ID	Water	Graphic Log	LITHOLOGICAL DESCRIPTION Soil Type (Classification Group Symbol); Particle Size; Colour; Secondary / Minor Components.	Moisture	Consistency	COMMENTS/ CONTAMINANT INDICATORS Odours, staining, waste materials, separate phase liquids, imported fill, ash.	Elevation (m)
0.05	SFA	0.1				GRAVEL poorly graded, angular, grey, with organics (FILL)	D	L	no odour no staining	-0.05
0.1										-0.1
0.15										-0.15
0.2										-0.2
0.25										-0.25
0.3										-0.3
0.35										-0.35
0.4						Sandy GRAVEL fine to coarse, poorly graded, angular to subangular, grey- brown (FILL)	D	L	no odour no staining	-0.4
0.45										-0.45
0.5		1	BH-5/ 0.5							-0.5
0.55										-0.55
0.6										-0.6
0.65										-0.65
0.7										-0.7
0.75										-0.75
0.8										-0.8
0.85										-0.85
0.9						Sandy GRAVEL fine to coarse, poorly graded, angular to subangular, grey- brown (FILL)	D	L	no odour no staining	-0.9
0.95										-0.95
1		0	BH-5/ 1.0			Termination Depth at 1.00 m. Target depth achieved.				-1

Notes		
This log is not intended for geotechnical purposes.		
Drilling Abbreviations	Moisture Abbreviations	Consistency Abbreviations
AH-Air Hammer, AR-Air Rotary, BE-Bucket Excavation, CC-Concrete Coring, DC-Diamond Core, FH-Foam Hammer, HA-Hand Auger, HE-Hand Excavation (shovel), HFA-Hollow Flight Auger, MR-Mud Rotary, NDD-Non Destructive Drilling, PT-Pushtube, SD-Sonic Drilling, SFA-Solid Flight Auger, SS-Split Spoon, WB-Wash Bore, WS-Window Sampler	D-Dry, SM-Slightly Moist, M-Moist, VM-Very Moist, W-Wet, S-Saturated	Granular Soils VL-Very Loose, L-Loose, MD-Medium Dense, D-Dense, VD - Very Dense Cohesive Soils VS-Very Soft, S-Soft, F-Firm, ST-Stiff, VST-Very Stiff, H-Hard



BOREHOLE LOG
 ENVIRONMENTAL-SOIL BORE

SOIL BORE BH06
 Page 1 of 1

Client University of Tasmania Project Contamination Assessment Old Forestry Building Project No. 12574014 Site Old Forestry Building Location 83 Melville st Date Drilled 06/03/2022 - 06/03/2022				Drill Co. Hazel Bros Pty Ltd Driller P. George Rig Type Excavator with augur attachmen Total Depth (m) 1.60 Diameter (mm) 200				Easting Northing Grid Ref GDA2020_MGA_zone_55 Elevation Logged By Nicole Reineker Checked By NKR			
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Depth (m)	Drilling Method	PID (ppm)	Sample ID	Water	Graphic Log	LITHOLOGICAL DESCRIPTION Soil Type (Classification Group Symbol); Particle Size; Colour; Secondary / Minor Components.	Moisture	Consistency	COMMENTS/ CONTAMINANT INDICATORS Odours, staining, waste materials, separate phase liquids, imported fill, ash.	Elevation (m)
0.1	SFA				^ v 7 ^ >	CONCRETE				-0.1
0.2										-0.2
0.3										-0.3
0.4										-0.4
0.5		1.5				Clayey GRAVEL fine to coarse, poorly graded, angular to subangular, dark brown (FILL)	M	VD	no odour no staining	-0.5
0.6										-0.6
0.7										-0.7
0.8										-0.8
0.9										-0.9
1.0		4.5	BH-6.2/ 1.0			CLAY red- brown, some fine to coarse gravel (possible NATURAL - SOIL)	M	F	no odour no staining	-1.0
1.1										-1.1
1.2										-1.2
1.3										-1.3
1.4										-1.4
1.5		0.1	BH-6.2/ 1.5			Gravelly CLAY fine to coarse, poorly graded, angular, red- brown (possible NATURAL - SOIL)	M	F	no odour no staining	-1.5
1.6						Termination Depth at 1.60 m. Refusal on bedrock.				-1.6

Notes			
This log is not intended for geotechnical purposes.			
Drilling Abbreviations		Moisture Abbreviations	
AH-Air Hammer, AR-Air Rotary, BE-Bucket Excavation, CC-Concrete Coring, DC-Diamond Core, FH-Foam Hammer, HA-Hand Auger, HE-Hand Excavation (shovel), HFA-Hollow Flight Auger, MR-Mud Rotary, NDD-Non Destructive Drilling, PT-Push tube, SD-Sonic Drilling, SFA-Solid Flight Auger, SS-Split Spoon, WB-Wash Bore, WS-Window Sampler		D-Dry, SM-Slightly Moist, M-Moist, VM-Very Moist, W-Wet, S-Saturated	
		Consistency Abbreviations	
		Granular Soils VL-Very Loose, L-Loose, MD-Medium Dense, D-Dense, VD - Very Dense Cohesive Soils VS-Very Soft, S-Soft, F-Firm, ST-Stiff, VST-Very Stiff, H-Hard	



BOREHOLE LOG
 ENVIRONMENTAL-SOIL BORE

SOIL BORE BH07
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Client University of Tasmania Project Contamination Assessment Old Forestry Building Project No. 12574014 Site Old Forestry Building Location 83 Melville st Date Drilled 06/03/2022 - 06/03/2022				Drill Co. Hazel Bros Pty Ltd Driller P. George Rig Type Excavator with augur attachmen Total Depth (m) 1.30 Diameter (mm) 200				Easting Northing Grid Ref GDA2020_MGA_zone_55 Elevation Logged By Nicole Reineker Checked By NKR			
Depth (m)	Drilling Method	PID (ppm)	Sample ID	Water	Graphic Log	LITHOLOGICAL DESCRIPTION Soil Type (Classification Group Symbol); Particle Size; Colour; Secondary / Minor Components.	Moisture	Consistency	COMMENTS/ CONTAMINANT INDICATORS Odours, staining, waste materials, separate phase liquids, imported fill, ash.	Elevation (m)	
0.1	SFA	0 0.6				ASPHALT Sandy GRAVEL fine to coarse, poorly graded, angular to subangular, brown (FILL)	M	VD	no odour no staining	-0.1	
0.2										-0.2	
0.3										-0.3	
0.4						CLAY red- brown, some fine to coarse gravel (possible NATURAL - SOIL)	M	S	no odour no staining	-0.4	
0.5		0.4 BH-7/ 0.5 BH-8/ 0.5								-0.5	
0.6										-0.6	
0.7										-0.7	
0.8										-0.8	
0.9						CLAY red- brown, some fine to coarse gravel (possible NATURAL - SOIL)	M	F	no odour no staining	-0.9	
1.0		0								-1.0	
1.1										-1.1	
1.2						CLAY red- brown, some fine to coarse gravel (NATURAL - SOIL)	M	F	no odour no staining	-1.2	
1.3		0 BH-7/ 1.3				Termination Depth at 1.30 m. Refusal on bedrock.				-1.3	
Notes This log is not intended for geotechnical purposes.											
Drilling Abbreviations AH-Air Hammer, AR-Air Rotary, BE-Bucket Excavation, CC-Concrete Coring, DC-Diamond Core, FH-Foam Hammer, HA-Hand Auger, HE-Hand Excavation (shovel), HFA-Hollow Flight Auger, MR-Mud Rotary, NDD-Non Destructive Drilling, PT-Push tube, SD-Sonic Drilling, SFA-Solid Flight Auger, SS-Split Spoon, WB-Wash Bore, WS-Window Sampler						Moisture Abbreviations D-Dry, SM-Slightly Moist, M-Moist, VM-Very Moist, W-Wet, S-Saturated		Consistency Abbreviations Granular Soils VL-Very Loose, L-Loose, MD-Medium Dense, D-Dense, VD - Very Dense Cohesive Soils VS-Very Soft, S-Soft, F-Firm, ST-Stiff, VST-Very Stiff, H-Hard			



BOREHOLE LOG
 ENVIRONMENTAL-SOIL BORE

SOIL BORE BH08
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Client University of Tasmania Project Contamination Assessment Old Forestry Building Project No. 12574014 Site Old Forestry Building Location 83 Melville st Date Drilled 06/03/2022 - 06/03/2022				Drill Co. Hazel Bros Pty Ltd Driller P. George Rig Type Excavator with augur attachmen Total Depth (m) 0.90 Diameter (mm) 200				Easting Northing Grid Ref GDA2020_MGA_zone_55 Elevation Logged By Nicole Reineker Checked By NKR			
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Depth (m)	Drilling Method	PID (ppm)	Sample ID	Water	Graphic Log	LITHOLOGICAL DESCRIPTION Soil Type (Classification Group Symbol); Particle Size; Colour; Secondary / Minor Components.	Moisture	Consistency	COMMENTS/ CONTAMINANT INDICATORS Odours, staining, waste materials, separate phase liquids, imported fill, ash.	Elevation (m)
0.05	SFA	0			[ASPHALT SYMBOL]	ASPHALT	M	VD	no odour no staining	-0.05
0.1					[SANDY GRAVEL SYMBOL]	Sandy GRAVEL fine to coarse, poorly graded, angular to subangular, grey- brown (FILL)				-0.1
0.15										-0.15
0.2										-0.2
0.25										-0.25
0.3										-0.3
0.35										-0.35
0.4					[GRAVELLY CLAY SYMBOL]	Gravelly CLAY brown, and cobbles (NATURAL - SOIL)	M	S	no odour no staining	-0.4
0.45										-0.45
0.5		0.1								-0.5
0.55										-0.55
0.6										-0.6
0.65										-0.65
0.7										-0.7
0.75										-0.75
0.8										-0.8
0.85										-0.85
0.9		0	BH-9/ 0.9			Gravelly CLAY brown, and cobbles (NATURAL - SOIL) Termination Depth at 0.90 m. Refusal on bedrock.	M	S	no odour no staining	-0.9

Notes		
This log is not intended for geotechnical purposes.		
Drilling Abbreviations	Moisture Abbreviations	Consistency Abbreviations
AH-Air Hammer, AR-Air Rotary, BE-Bucket Excavation, CC-Concrete Coring, DC-Diamond Core, FH-Foam Hammer, HA-Hand Auger, HE-Hand Excavation (shovel), HFA-Hollow Flight Auger, MR-Mud Rotary, NDD-Non Destructive Drilling, PT-Push tube, SD-Sonic Drilling, SFA-Solid Flight Auger, SS-Split Spoon, WB-Wash Bore, WS-Window Sampler	D-Dry, SM-Slightly Moist, M-Moist, VM-Very Moist, W-Wet, S-Saturated	Granular Soils VL-Very Loose, L-Loose, MD-Medium Dense, D-Dense, VD - Very Dense Cohesive Soils VS-Very Soft, S-Soft, F-Firm, ST-Stiff, VST-Very Stiff, H-Hard



BOREHOLE LOG

ENVIRONMENTAL-SOIL BORE

SOIL BORE BH09
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Client University of Tasmania Project Contamination Assessment Old Forestry Building Project No. 12574014 Site Old Forestry Building Location 83 Melville st Date Drilled 06/03/2022 - 06/03/2022				Drill Co. Hazel Bros Pty Ltd Driller P. George Rig Type Excavator with augur attachmen Total Depth (m) 0.90 Diameter (mm) 200				Easting Northing Grid Ref GDA2020_MGA_zone_55 Elevation Logged By Nicole Reineker Checked By NKR			
Depth (m)	Drilling Method	PID (ppm)	Sample ID	Water	Graphic Log	LITHOLOGICAL DESCRIPTION Soil Type (Classification Group Symbol); Particle Size; Colour; Secondary / Minor Components.	Moisture	Consistency	COMMENTS/ CONTAMINANT INDICATORS Odours, staining, waste materials, separate phase liquids, imported fill, ash.	Elevation (m)	
0.05	SFA	0				ASPHALT	M	VD	no odour no staining	-0.05	
0.1						Sandy GRAVEL fine to coarse, poorly graded, angular to subangular, grey- brown (FILL)				-0.1	
0.15										-0.15	
0.2										-0.2	
0.25										-0.25	
0.3										-0.3	
0.35										-0.35	
0.4						Gravelly CLAY fine to coarse, angular, brown (FILL)	M	L	no odour no staining	-0.4	
0.45										-0.45	
0.5		0.3	BH-9/ 0.5							-0.5	
0.55										-0.55	
0.6										-0.6	
0.65										-0.65	
0.7										-0.7	
0.75										-0.75	
0.8										-0.8	
0.85										-0.85	
0.9						Gravelly CLAY no plasticity, dark brown, trace brick fragments (FILL)	M	F		-0.9	
Notes This log is not intended for geotechnical purposes.											
Drilling Abbreviations AH-Air Hammer, AR-Air Rotary, BE-Bucket Excavation, CC-Concrete Coring, DC-Diamond Core, FH-Foam Hammer, HA-Hand Auger, HE-Hand Excavation (shovel), HFA-Hollow Flight Auger, MR-Mud Rotary, NDD-Non Destructive Drilling, PT-Push tube, SD-Sonic Drilling, SFA-Solid Flight Auger, SS-Split Spoon, WB-Wash Bore, WS-Window Sampler						Moisture Abbreviations D-Dry, SM-Slightly Moist, M-Moist, VM-Very Moist, W-Wet, S-Saturated		Consistency Abbreviations Granular Soils VL-Very Loose, L-Loose, MD-Medium Dense, D-Dense, VD - Very Dense Cohesive Soils VS-Very Soft, S-Soft, F-Firm, ST-Stiff, VST-Very Stiff, H-Hard			



BOREHOLE LOG
 ENVIRONMENTAL-SOIL BORE

SOIL BORE BH10
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Client University of Tasmania Project Contamination Assessment Old Forestry Building Project No. 12574014 Site Old Forestry Building Location 83 Melville st Date Drilled 06/03/2022 - 06/03/2022				Drill Co. Hazel Bros Pty Ltd Driller P. George Rig Type Excavator with augur attachmen Total Depth (m) 0.70 Diameter (mm) 200				Easting Northing Grid Ref GDA2020_MGA_zone_55 Elevation Logged By Nicole Reineker Checked By NKR			
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Depth (m)	Drilling Method	PID (ppm)	Sample ID	Water	Graphic Log	LITHOLOGICAL DESCRIPTION Soil Type (Classification Group Symbol); Particle Size; Colour; Secondary / Minor Components.	Moisture	Consistency	COMMENTS/ CONTAMINANT INDICATORS Odours, staining, waste materials, separate phase liquids, imported fill, ash.	Elevation (m)
0	SFA	0				ASPHALT				-0.05
0.05						Sandy GRAVEL fine to coarse, poorly graded, angular to subangular, grey- brown (FILL)	M	VD	no odour no staining	-0.1
0.1										-0.15
0.15										-0.2
0.2										-0.25
0.25										-0.3
0.3										-0.35
0.35										-0.4
0.4						Gravelly CLAY no plasticity, dark brown, trace brick fragments (FILL)	M	F		-0.45
0.45										-0.5
0.5		0	BH-10/ 0.5							-0.55
0.55										-0.6
0.6						Gravelly CLAY no plasticity, dark brown, trace brick fragments, and cobbles (FILL)	M	F		-0.65
0.65										-0.7
0.7		0	BH-10/0.7			Termination Depth at 0.70 m. Refusal on bedrock.				

Notes			
This log is not intended for geotechnical purposes.			
Drilling Abbreviations		Moisture Abbreviations	
AH-Air Hammer, AR-Air Rotary, BE-Bucket Excavation, CC-Concrete Coring, DC-Diamond Core, FH-Foam Hammer, HA-Hand Auger, HE-Hand Excavation (shovel), HFA-Hollow Flight Auger, MR-Mud Rotary, NDD-Non Destructive Drilling, PT-Pushtube, SD-Sonic Drilling, SFA-Solid Flight Auger, SS-Split Spoon, WB-Wash Bore, WS-Window Sampler		D-Dry, SM-Slightly Moist, M-Moist, VM-Very Moist, W-Wet, S-Saturated	
		Consistency Abbreviations	
		Granular Soils VL-Very Loose, L-Loose, MD-Medium Dense, D-Dense, VD - Very Dense Cohesive Soils VS-Very Soft, S-Soft, F-Firm, ST-Stiff, VST-Very Stiff, H-Hard	



BOREHOLE LOG

ENVIRONMENTAL-SOIL BORE

SOIL BORE BH11

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Client University of Tasmania Project Contamination Assessment Old Forestry Building Project No. 12574014 Site Old Forestry Building Location 83 Melville st Date Drilled 06/03/2022 - 06/03/2022				Drill Co. Hazel Bros Pty Ltd Driller P. George Rig Type Excavator with augur attachmen Total Depth (m) 0.50 Diameter (mm) 200				Easting Northing Grid Ref GDA2020_MGA_zone_55 Elevation Logged By Nicole Reineker Checked By NKR			
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Depth (m)	Drilling Method	PID (ppm)	Sample ID	Water	Graphic Log	LITHOLOGICAL DESCRIPTION Soil Type (Classification Group Symbol); Particle Size; Colour; Secondary / Minor Components.	Moisture	Consistency	COMMENTS/ CONTAMINANT INDICATORS Odours, staining, waste materials, separate phase liquids, imported fill, ash.	Elevation (m)
0.02	SFA	6.5				ASPHALT				-0.02
0.04						Sandy GRAVEL fine to coarse, poorly graded, angular to subangular, grey (FILL)	M	VD	no odour no staining	-0.04
0.06										-0.06
0.08										-0.08
0.1										-0.1
0.12										-0.12
0.14										-0.14
0.16										-0.16
0.18										-0.18
0.2										-0.2
0.22										-0.22
0.24										-0.24
0.26										-0.26
0.28										-0.28
0.3										-0.3
0.32										-0.32
0.34										-0.34
0.36										-0.36
0.38										-0.38
0.4						Clayey GRAVEL dark brown, with fine to coarse sand (possible NATURAL - SOIL)			no odour no staining	-0.4
0.42										-0.42
0.44										-0.44
0.46										-0.46
0.48										-0.48
0.5		5.6	BH-11/ 0.5							-0.5
0.52						Termination Depth at 0.50 m. Refusal on bedrock.				-0.52

Notes		
This log is not intended for geotechnical purposes.		
Drilling Abbreviations	Moisture Abbreviations	Consistency Abbreviations
AH-Air Hammer, AR-Air Rotary, BE-Bucket Excavation, CC-Concrete Coring, DC-Diamond Core, FH-Foam Hammer, HA-Hand Auger, HE-Hand Excavation (shovel), HFA-Hollow Flight Auger, MR-Mud Rotary, NDD-Non Destructive Drilling, PT-Pushtube, SD-Sonic Drilling, SFA-Solid Flight Auger, SS-Split Spoon, WB-Wash Bore, WS-Window Sampler	D-Dry, SM-Slightly Moist, M-Moist, VM-Very Moist, W-Wet, S-Saturated	Granular Soils VL-Very Loose, L-Loose, MD-Medium Dense, D-Dense, VD - Very Dense Cohesive Soils VS-Very Soft, S-Soft, F-Firm, ST-Stiff, VST-Very Stiff, H-Hard



BOREHOLE LOG
 ENVIRONMENTAL-SOIL BORE

SOIL BORE BH12
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Client University of Tasmania Project Contamination Assessment Old Forestry Building Project No. 12574014 Site Old Forestry Building Location 83 Melville st Date Drilled 06/03/2022 - 06/03/2022				Drill Co. Hazel Bros Pty Ltd Driller P. George Rig Type Excavator with augur attachmen Total Depth (m) 0.80 Diameter (mm) 200				Easting Northing Grid Ref GDA2020_MGA_zone_55 Elevation Logged By Nicole Reineker Checked By NKR			
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Depth (m)	Drilling Method	PID (ppm)	Sample ID	Water	Graphic Log	LITHOLOGICAL DESCRIPTION Soil Type (Classification Group Symbol); Particle Size; Colour; Secondary / Minor Components.	Moisture	Consistency	COMMENTS/ CONTAMINANT INDICATORS Odours, staining, waste materials, separate phase liquids, imported fill, ash.	Elevation (m)
0.05	SFA	0.1				ASPHALT	M	VD	no odour no staining	-0.05
0.1						Clayey GRAVEL fine to coarse, poorly graded, angular to subangular, grey (FILL)				-0.1
0.15										-0.15
0.2										-0.2
0.25										-0.25
0.3										-0.3
0.35										-0.35
0.4						Gravelly CLAY dark brown, with brick fragments (FILL)	M	ST	no odour no staining	-0.4
0.45										-0.45
0.5		0.9	BH-12/ 0.5							-0.5
0.55										-0.55
0.6										-0.6
0.65										-0.65
0.7						Gravelly CLAY dark brown mottled red (possible NATURAL - SOIL)	M	ST	no odour no staining	-0.7
0.75										-0.75
0.8		4.6	BH-12/ 0.8			Termination Depth at 0.80 m. Refusal on bedrock.				-0.8

Notes		
This log is not intended for geotechnical purposes.		
Drilling Abbreviations	Moisture Abbreviations	Consistency Abbreviations
AH-Air Hammer, AR-Air Rotary, BE-Bucket Excavation, CC-Concrete Coring, DC-Diamond Core, FH-Foam Hammer, HA-Hand Auger, HE-Hand Excavation (shovel), HFA-Hollow Flight Auger, MR-Mud Rotary, NDD-Non Destructive Drilling, PT-Push tube, SD-Sonic Drilling, SFA-Solid Flight Auger, SS-Split Spoon, WB-Wash Bore, WS-Window Sampler	D-Dry, SM-Slightly Moist, M-Moist, VM-Very Moist, W-Wet, S-Saturated	Granular Soils VL-Very Loose, L-Loose, MD-Medium Dense, D-Dense, VD - Very Dense Cohesive Soils VS-Very Soft, S-Soft, F-Firm, ST-Stiff, VST-Very Stiff, H-Hard



BOREHOLE LOG
ENVIRONMENTAL-SOIL BORE

SOIL BORE BH13
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Client University of Tasmania Project Contamination Assessment Old Forestry Building Project No. 12574014 Site Old Forestry Building Location 83 Melville st Date Drilled 06/03/2022 - 06/03/2022				Drill Co. Hazel Bros Pty Ltd Driller P. George Rig Type Excavator with augur attachmen Total Depth (m) 0.60 Diameter (mm) 200				Easting Northing Grid Ref GDA2020_MGA_zone_55 Elevation Logged By Nicole Reineker Checked By NKR			
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Depth (m)	Drilling Method	PID (ppm)	Sample ID	Water	Graphic Log	LITHOLOGICAL DESCRIPTION Soil Type (Classification Group Symbol); Particle Size; Colour; Secondary / Minor Components.	Moisture	Consistency	COMMENTS/ CONTAMINANT INDICATORS Odours, staining, waste materials, separate phase liquids, imported fill, ash.	Elevation (m)
0	SFA	5.9				ASPHALT				0
0.05						Clayey GRAVEL fine to coarse, poorly graded, angular to subangular, grey (FILL)	M	VD	no odour no staining	-0.05
0.1										-0.1
0.15										-0.15
0.2						Gravelly CLAY poorly graded, angular to subangular, red-brown, with fine to coarse sand (NATURAL - SOIL)	SM	ST	no odour no staining	-0.2
0.25										-0.25
0.3		7.1	BH-13/ 0.3							-0.3
0.35										-0.35
0.4										-0.4
0.45										-0.45
0.5						Gravelly CLAY poorly graded, angular to subangular, red-brown, with fine to coarse sand (NATURAL - SOIL)	M	ST	no odour no staining	-0.5
0.55										-0.55
0.6		6.1	BH-13/ 0.6			Termination Depth at 0.60 m. Refusal on bedrock.				-0.6

Notes				
This log is not intended for geotechnical purposes.				
Drilling Abbreviations AH-Air Hammer, AR-Air Rotary, BE-Bucket Excavation, CC-Concrete Coring, DC-Diamond Core, FH-Foam Hammer, HA-Hand Auger, HE-Hand Excavation (shovel), HFA-Hollow Flight Auger, MR-Mud Rotary, NDD-Non Destructive Drilling, PT-Pushtube, SD-Sonic Drilling, SFA-Solid Flight Auger, SS-Split Spoon, WB-Wash Bore, WS-Window Sampler	Moisture Abbreviations D-Dry, SM-Slightly Moist, M-Moist, VM-Very Moist, W-Wet, S-Saturated	Consistency Abbreviations <table style="width: 100%;"> <tr> <td style="width: 50%;"> Granular Soils VL-Very Loose, L-Loose, MD-Medium Dense, D-Dense, VD - Very Dense </td> <td style="width: 50%;"> Cohesive Soils VS-Very Soft, S-Soft, F-Firm, ST-Stiff, VST-Very Stiff, H-Hard </td> </tr> </table>	Granular Soils VL-Very Loose, L-Loose, MD-Medium Dense, D-Dense, VD - Very Dense	Cohesive Soils VS-Very Soft, S-Soft, F-Firm, ST-Stiff, VST-Very Stiff, H-Hard
Granular Soils VL-Very Loose, L-Loose, MD-Medium Dense, D-Dense, VD - Very Dense	Cohesive Soils VS-Very Soft, S-Soft, F-Firm, ST-Stiff, VST-Very Stiff, H-Hard			



BOREHOLE LOG
 ENVIRONMENTAL-SOIL BORE

SOIL BORE BH14
 Page 1 of 1

Client University of Tasmania Project Contamination Assessment Old Forestry Building Project No. 12574014 Site Old Forestry Building Location 83 Melville st Date Drilled 06/03/2022 - 06/03/2022				Drill Co. Hazel Bros Pty Ltd Driller P. George Rig Type Excavator with augur attachmen Total Depth (m) 0.45 Diameter (mm) 200				Easting Northing Grid Ref GDA2020_MGA_zone_55 Elevation Logged By Nicole Reineker Checked By NKR			
Depth (m)	Drilling Method	PID (ppm)	Sample ID	Water	Graphic Log	LITHOLOGICAL DESCRIPTION Soil Type (Classification Group Symbol); Particle Size; Colour; Secondary / Minor Components.	Moisture	Consistency	COMMENTS/ CONTAMINANT INDICATORS Odours, staining, waste materials, separate phase liquids, imported fill, ash.	Elevation (m)	
0.02	SFA	3.9				ASPHALT				-0.02	
0.04						Clayey GRAVEL fine to coarse, poorly graded, angular to subangular, grey (FILL)	M	VD	no odour no staining	-0.04	
0.06										-0.06	
0.08										-0.08	
0.1										-0.1	
0.12										-0.12	
0.14										-0.14	
0.16						Gravelly CLAY angular to subangular, red- brown, with fine to coarse sand (NATURAL - SOIL)	M	ST	no odour no staining	-0.16	
0.18										-0.18	
0.2										-0.2	
0.22										-0.22	
0.24										-0.24	
0.26										-0.26	
0.28										-0.28	
0.3										-0.3	
0.32										-0.32	
0.34										-0.34	
0.36										-0.36	
0.38										-0.38	
0.4										-0.4	
0.42										-0.42	
0.44										-0.44	
0.46						Termination Depth at 0.45 m. Refusal on bedrock.				-0.46	
Notes											
This log is not intended for geotechnical purposes.											
Drilling Abbreviations						Moisture Abbreviations		Consistency Abbreviations			
AH-Air Hammer, AR-Air Rotary, BE-Bucket Excavation, CC-Concrete Coring, DC-Diamond Core, FH-Foam Hammer, HA-Hand Auger, HE-Hand Excavation (shovel), HFA-Hollow Flight Auger, MR-Mud Rotary, NDD-Non Destructive Drilling, PT-Pushtube, SD-Sonic Drilling, SFA-Solid Flight Auger, SS-Split Spoon, WB-Wash Bore, WS-Window Sampler						D-Dry, SM-Slightly Moist, M-Moist, VM-Very Moist, W-Wet, S-Saturated		Granular Soils VL-Very Loose, L-Loose, MD-Medium Dense, D-Dense, VD - Very Dense Cohesive Soils VS-Very Soft, S-Soft, F-Firm, ST-Stiff, VST-Very Stiff, H-Hard			



BOREHOLE LOG
 ENVIRONMENTAL-SOIL BORE

SOIL BORE BH15
 Page 1 of 1

Client University of Tasmania Project Contamination Assessment Old Forestry Building Project No. 12574014 Site Old Forestry Building Location 83 Melville st Date Drilled 06/03/2022 - 06/03/2022				Drill Co. Hazel Bros Pty Ltd Driller P. George Rig Type Excavator with augur attachmen Total Depth (m) 0.55 Diameter (mm) 200				Easting Northing Grid Ref GDA2020_MGA_zone_55 Elevation Logged By Nicole Reineker Checked By NKR			
Depth (m)	Drilling Method	PID (ppm)	Sample ID	Water	Graphic Log	LITHOLOGICAL DESCRIPTION Soil Type (Classification Group Symbol); Particle Size; Colour; Secondary / Minor Components.	Moisture	Consistency	COMMENTS/ CONTAMINANT INDICATORS Odours, staining, waste materials, separate phase liquids, imported fill, ash.	Elevation (m)	
	SFA	4	BH-15/ 0.0			ASPHALT				0	
0.05						Clayey GRAVEL fine to coarse, poorly graded, angular to subangular, grey (FILL)	M	VD	no odour no staining	-0.05	
0.1										-0.1	
0.15										-0.15	
0.2										-0.2	
0.25										-0.25	
0.3										-0.3	
0.35										-0.35	
0.4						Gravelly CLAY angular to subangular, red- brown, with fine to coarse sand (NATURAL - SOIL)	M	ST	no odour no staining	-0.4	
0.45										-0.45	
0.5		5.1	BH-15/ 0.5							-0.5	
0.55						Termination Depth at 0.55 m. Refusal on bedrock.				-0.55	
Notes This log is not intended for geotechnical purposes.											
Drilling Abbreviations AH-Air Hammer, AR-Air Rotary, BE-Bucket Excavation, CC-Concrete Coring, DC-Diamond Core, FH-Foam Hammer, HA-Hand Auger, HE-Hand Excavation (shovel), HFA-Hollow Flight Auger, MR-Mud Rotary, NDD-Non Destructive Drilling, PT-Pushtube, SD-Sonic Drilling, SFA-Solid Flight Auger, SS-Split Spoon, WB-Wash Bore, WS-Window Sampler						Moisture Abbreviations D-Dry, SM-Slightly Moist, M-Moist, VM-Very Moist, W-Wet, S-Saturated		Consistency Abbreviations Granular Soils VL-Very Loose, L-Loose, MD-Medium Dense, D-Dense, VD - Very Dense Cohesive Soils VS-Very Soft, S-Soft, F-Firm, ST-Stiff, VST-Very Stiff, H-Hard			



BOREHOLE LOG
 ENVIRONMENTAL-SOIL BORE

SOIL BORE BH16
 Page 1 of 1

Client University of Tasmania Project Contamination Assessment Old Forestry Building Project No. 12574014 Site Old Forestry Building Location 83 Melville st Date Drilled 06/03/2022 - 06/03/2022				Drill Co. Hazel Bros Pty Ltd Driller P. George Rig Type Excavator with augur attachmen Total Depth (m) 1.10 Diameter (mm) 200				Easting Northing Grid Ref GDA2020_MGA_zone_55 Elevation Logged By Nicole Reineker Checked By NKR			
Depth (m)	Drilling Method	PID (ppm)	Sample ID	Water	Graphic Log	LITHOLOGICAL DESCRIPTION Soil Type (Classification Group Symbol); Particle Size; Colour; Secondary / Minor Components.	Moisture	Consistency	COMMENTS/ CONTAMINANT INDICATORS Odours, staining, waste materials, separate phase liquids, imported fill, ash.	Elevation (m)	
0.05	SFA	7.8			^	CONCRETE				-0.05	
0.1					v					-0.1	
0.15					7					-0.15	
0.2					>					-0.2	
0.25					>					-0.25	
0.3					>					-0.3	
0.35					>					-0.35	
0.4					>					-0.4	
0.45					>					-0.45	
0.5		11.1	BH-16/ 0.5							-0.5	
0.55										-0.55	
0.6										-0.6	
0.65										-0.65	
0.7										-0.7	
0.75										-0.75	
0.8										-0.8	
0.85										-0.85	
0.9										-0.9	
0.95										-0.95	
1		9.6	BH-16/ 1.0							-1	
1.05										-1.05	
1.1						Termination Depth at 1.10 m. Refusal on unidentified surface.				-1.1	
1.15										-1.15	
Notes											
This log is not intended for geotechnical purposes.											
Drilling Abbreviations						Moisture Abbreviations		Consistency Abbreviations			
AH-Air Hammer, AR-Air Rotary, BE-Bucket Excavation, CC-Concrete Coring, DC-Diamond Core, FH-Foam Hammer, HA-Hand Auger, HE-Hand Excavation (shovel), HFA-Hollow Flight Auger, MR-Mud Rotary, NDD-Non Destructive Drilling, PT-Pushtube, SD-Sonic Drilling, SFA-Solid Flight Auger, SS-Split Spoon, WB-Wash Bore, WS-Window Sampler						D-Dry, SM-Slightly Moist, M-Moist, VM-Very Moist, W-Wet, S-Saturated		Granular Soils VL-Very Loose, L-Loose, MD-Medium Dense, D-Dense, VD - Very Dense Cohesive Soils VS-Very Soft, S-Soft, F-Firm, ST-Stiff, VST-Very Stiff, H-Hard			



BOREHOLE LOG

ENVIRONMENTAL-SOIL BORE

SOIL BORE BH17
Page 1 of 1

Client University of Tasmania Project Contamination Assessment Old Forestry Building Project No. 12574014 Site Old Forestry Building Location 83 Melville st Date Drilled 06/03/2022 - 06/03/2022				Drill Co. Hazel Bros Pty Ltd Driller P. George Rig Type Excavator with augur attachmen Total Depth (m) 0.60 Diameter (mm) 200				Easting Northing Grid Ref GDA2020_MGA_zone_55 Elevation Logged By Nicole Reineker Checked By NKR			
--	--	--	--	--	--	--	--	---	--	--	--

Depth (m)	Drilling Method	PID (ppm)	Sample ID	Water	Graphic Log	LITHOLOGICAL DESCRIPTION Soil Type (Classification Group Symbol); Particle Size; Colour; Secondary / Minor Components.	Moisture	Consistency	COMMENTS/ CONTAMINANT INDICATORS Odours, staining, waste materials, separate phase liquids, imported fill, ash.	Elevation (m)
	SFA	4.8				ASPHALT				0
0.05						Clayey GRAVEL fine to coarse, poorly graded, angular to subangular, grey (FILL)	M	VD	no odour no staining	-0.05
0.1										-0.1
0.15										-0.15
0.2						Gravelly CLAY angular to subangular, brown with white- grey, with fine to coarse sand (NATURAL - SOIL)	M	ST	no odour no staining	-0.2
0.25										-0.25
0.3		6.9	BH-17/ 0.3							-0.3
0.35										-0.35
0.4										-0.4
0.45										-0.45
0.5						Gravelly CLAY angular to subangular, brown with white- grey, with fine to coarse sand (NATURAL - SOIL)	M	ST	no odour no staining	-0.5
0.55										-0.55
0.6		6.3	BH-17/ 0.6			Termination Depth at 0.60 m. Refusal on bedrock.				-0.6

Notes This log is not intended for geotechnical purposes.		
Drilling Abbreviations AH-Air Hammer, AR-Air Rotary, BE-Bucket Excavation, CC-Concrete Coring, DC-Diamond Core, FH-Foam Hammer, HA-Hand Auger, HE-Hand Excavation (shovel), HFA-Hollow Flight Auger, MR-Mud Rotary, NDD-Non Destructive Drilling, PT-Pushtube, SD-Sonic Drilling, SFA-Solid Flight Auger, SS-Split Spoon, WB-Wash Bore, WS-Window Sampler	Moisture Abbreviations D-Dry, SM-Slightly Moist, M-Moist, VM-Very Moist, W-Wet, S-Saturated	Consistency Abbreviations Granular Soils VL-Very Loose, L-Loose, MD-Medium Dense, D-Dense, VD - Very Dense Cohesive Soils VS-Very Soft, S-Soft, F-Firm, ST-Stiff, VST-Very Stiff, H-Hard



BOREHOLE LOG
ENVIRONMENTAL-SOIL BORE

SOIL BORE BH18
 Page 1 of 1

Client University of Tasmania Project Contamination Assessment Old Forestry Building Project No. 12574014 Site Old Forestry Building Location 83 Melville st Date Drilled 06/03/2022 - 06/03/2022				Drill Co. Hazel Bros Pty Ltd Driller P. George Rig Type Excavator with augur attachmen Total Depth (m) 0.10 Diameter (mm) 200				Easting Northing Grid Ref GDA2020_MGA_zone_55 Elevation Logged By Nicole Reineker Checked By NKR			
--	--	--	--	--	--	--	--	---	--	--	--

Depth (m)	Drilling Method	PID (ppm)	Sample ID	Water	Graphic Log	LITHOLOGICAL DESCRIPTION Soil Type (Classification Group Symbol); Particle Size; Colour; Secondary / Minor Components.	Moisture	Consistency	COMMENTS/ CONTAMINANT INDICATORS Odours, staining, waste materials, separate phase liquids, imported fill, ash.	Elevation (m)
			BH-18/ 0			CONCRETE				
0.00					^					-0.005
					v					
0.01					>					-0.01
					<					
0.01					>					-0.015
					<					
0.02					>					-0.02
					<					
0.02					>					-0.025
					<					
0.03					>					-0.03
					<					
0.03					>					-0.035
					<					
0.04					>					-0.04
					<					
0.04					>					-0.045
					<					
0.05					>					-0.05
					<					
0.05					>					-0.055
					<					
0.06					>					-0.06
					<					
0.06					>					-0.065
					<					
0.07					>					-0.07
					<					
0.07					>					-0.075
					<					
0.08					>					-0.08
					<					
0.08					>					-0.085
					<					
0.09					>					-0.09
					<					
0.09					>					-0.095
					<					
0.1					>					-0.1
					<					
0.10						Clayey GRAVEL fine to coarse, poorly graded, angular to subangular, grey (FILL)	M	VD	no odour no staining	-0.1
0.10						Termination Depth at 0.10 m - end sample of fill below				-0.105

Notes			
This log is not intended for geotechnical purposes.			
Drilling Abbreviations	Moisture Abbreviations	Consistency Abbreviations	
AH-Air Hammer, AR-Air Rotary, BE-Bucket Excavation, CC-Concrete Coring, DC-Diamond Core, FH-Foam Hammer, HA-Hand Auger, HE-Hand Excavation (shovel), HFA-Hollow Flight Auger, MR-Mud Rotary, NDD-Non Destructive Drilling, PT-Pushtube, SD-Sonic Drilling, SFA-Solid Flight Auger, SS-Split Spoon, WB-Wash Bore, WS-Window Sampler	D-Dry, SM-Slightly Moist, M-Moist, VM-Very Moist, W-Wet, S-Saturated	Granular Soils VL-Very Loose, L-Loose, MD-Medium Dense, D-Dense, VD - Very Dense	Cohesive Soils VS-Very Soft, S-Soft, F-Firm, ST-Stiff, VST-Very Stiff, H-Hard

Appendix D

Chemistry tables

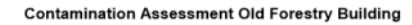
[illegible]

*Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 30 (1 - 10 x EQL); 30 (10 - 30 x EQL); 30 (> 30 x EQL))

Appendix D Table 2 Field_PID readings

ESA Old Forestry Building

	Bore hole	depth	PID
Outside Melville	1	0	7.3
		0.5	8
		1	5.7
		1.5	8.3
		2	5.3
		3	4.7
Sewer forestry dome	2	0	0.1
		0.5	0.1
		1	0.1
		1.5	0.1
		2	0.1
		3	0.1
	3	0	0.1
		0.5	0.3
		1	0.2
		1.5	0.2
		2	0.3
		3	0.2
	4	0	5.6
		0.5	8.9
		1	7.8
		1.5	6.7
		2	5.4
		2.5	1.8
Loading Bay car Park	5	0	0.1
		0.5	0
		1	0
Forestry yard	6	0	no sample
		0.5	1.4
		1	4.5
		1.5	0.1
Driveway brisbane	7	0	0
		0.5	0
		1	0
		1.3	0
	8	0	0
		0.5	0.1
		0.9	0
	9	0	0
		0.5	0.3
		0.9	0.5
	10	0	0
		0.5	0
		0.7	0
car park underground	11	0	6.5
		0.5	5.6
	12	0	6.1
		0.5	6.9
		0.8	4.6
	13	0	5.9
		0.3	7.1
		0.6	6.1
	14	0	3.9
		0.5	5
	15	0	4
		0.5	5.1
	17	0	4.8
		0.3	6.9
		0.6	6.3
Lift shaft	16	0.15	7.8
		0.5	11.1
		1	9.6
Geotest pits	GTP01	0.15	1.5
		0.5	0.8
		1	0.9
		1.5	0
		2	0.2
		3	0.5
		4	0.7
		5	0.4
	GTP2	0.2	0.3
		0.5	0.3
	GTP03	0.05	0.3
		0.5	0.3
		1	0.4
		1.5	0.3
		2	0.3
	GTP04	0.1	1.1
		0.5	0.5

12574014



Appendix D Table 4 Soil classified under EPA 105

ESA Contamination Assessment Old Forestry Building

LOC	Location Code	Field ID	Depth	Inorganics		Metals										BTEXN										YRH - NEPM 2013																																														
				Moisture (%)	As	Cd	Cr	Cu	Pb	Mn	Ni	Zn	Benz	Tol	Eth	Xyl (s)	Xyl (m & p)	Xyl Total	BTX (Sum of Total)	Lab Cat	Naphthalene	F1 (C6-C10 mmol BTEX)	C6-C10 Fraction	F2 (C6-C10 mmol Naphthalene)	C6-C10 Fraction	F3 (C6-C10 mmol Naphthalene)	C6-C10 Fraction	F4 (C6-C10 mmol Naphthalene)	C6-C10 Fraction	F5 (C6-C10 mmol Naphthalene)	C6-C10 Fraction	F6 (C6-C10 mmol Naphthalene)	C6-C10 Fraction																																							
%	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	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg																																					
1	20	40	500	2,500	1,200	30	600	14,000	5	100	100	5	100	100	5	100	100	140	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100																																					
TAS EPA WCG - Max. Conc. Contaminated Soil - Level 3																																				100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100				
TAS EPA WCG - Max. Conc. Fill Material - Level 1																																				100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
TAS EPA WCG - Max. Conc. Low Lev. Contam - Level 2																																				100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Statistics																																																																								
Number of Results																																																																								
Number of Detects																																																																								
Minimum Concentration																																																																								
Minimum Detect																																																																								
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Average Concentration *																																																																								
Geometric Average *																																																																								
Median Concentration *																																																																								
Standard Deviation *																																																																								
Geometric Standard Deviation *																																																																								
95% UCL (Student's-t) *																																																																								
% of Detects																																																																								
% of Non-Detects																																																																								
* A Non Detect Multiplier of 0.5 has been applied																																																																								

12574014

Appendix E

Laboratory documentation



CERTIFICATE OF ANALYSIS

Work Order	: EM2203960-AA	Page	: 1 of 30
Amendment	: 1		
Client	: GHD PTY LTD	Laboratory	: Environmental Division Melbourne
Contact	: MS NICOLE REINEKER	Contact	: Shirley LeCornu
Address	: 2 SALAMANCA SQUARE HOBART TAS, AUSTRALIA 7000	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: ----	Telephone	: +6138549 9630
Project	: 12574014	Date Samples Received	: 08-Mar-2022 10:45
Order number	: 12574014	Date Analysis Commenced	: 09-Mar-2022
C-O-C number	: 34736	Issue Date	: 07-Apr-2022 12:05
Sampler	: NICOLE REINEKER		
Site	: old forestry building		
Quote number	: ME/589/21 v2		
No. of samples received	: 38		
No. of samples analysed	: 38		



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
- 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
Andrew Lu	VOC Section Supervisor	Melbourne Inorganics, Springvale, VIC
Andrew Lu	VOC Section Supervisor	Melbourne Organics, Springvale, VIC
Nikki Stepniewski	Senior Inorganic Instrument Chemist	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Inorganics, Springvale, VIC

Page : 2 of 30
Work Order : EM2203960-AA Amendment 1
Client : GHD PTY LTD
Project : 12574014



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.

- 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.
- 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.
- EG005-T : EM2203960 #39 Poor duplicate precision for total Lead due to sample matrix. Confirmed by re-digestion and re-analysis.
- Amendment (07/04/2022): This report has been amended following the Nicole Reineker request to split report for sample 65 & 66. All analysis results are as per the previous report.
- EG035T: EM2203960 #40 Poor matrix spike recovery for total mercury due to sample matrix. Confirmed by re-extraction and re-analysis.

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Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)		Sample ID		BH-2/ 0.5	----	----	----	----
Sampling date / time		07-Mar-2022 00:00		----	----	----	----	----
Compound	CAS Number	LOR	Unit	EM2203960-008	-----	-----	-----	-----
Result				----	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	7.6	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	----	----	----	----
Cadmium	7440-43-9	1	mg/kg	<1	----	----	----	----
Chromium	7440-47-3	2	mg/kg	20	----	----	----	----
Copper	7440-50-8	5	mg/kg	32	----	----	----	----
Lead	7439-92-1	5	mg/kg	19	----	----	----	----
Nickel	7440-02-0	2	mg/kg	61	----	----	----	----
Zinc	7440-66-6	5	mg/kg	72	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	----	----	----	----
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	----	----	----	----
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	----	----	----	----

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Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	BH-2/ 0.5	----	----	----	----
Sampling date / time					07-Mar-2022 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2203960-008	-----	-----	-----	-----
Result					---	---	---	---	---
EP080/071: Total Petroleum Hydrocarbons - Continued									
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	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		99.6	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		94.3	----	----	----	----
2,4,6-Tribromophenol	118-79-6	0.5	%		85.7	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		97.7	----	----	----	----
Anthracene-d10	1719-06-8	0.5	%		107	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		102	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		101	----	----	----	----
Toluene-D8	2037-26-5	0.2	%		109	----	----	----	----

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Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	BH-2/ 0.5	----	----	----	----
				Sampling date / time	07-Mar-2022 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	EM2203960-008	-----	-----	-----	-----	-----
				Result	---	---	---	---	---
EP080S: TPH(V)/BTEX Surrogates - Continued									
4-Bromofluorobenzene	460-00-4	0.2	%	114	----	----	----	----	----

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Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH-1/ 0.5	BH-1/ 1.5	BH-1/ 3.0	BH-2/ 1.5	BH-2/ 2.9
Sampling date / time					07-Mar-2022 10:07	07-Mar-2022 10:08	07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00
Compound	CAS Number	LOR	Unit		EM2203960-002	EM2203960-004	EM2203960-006	EM2203960-010	EM2203960-012
				Result	Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		7.5	20.6	12.7	23.7	23.3
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		14	10	12	11	17
Copper	7440-50-8	5	mg/kg		37	28	61	33	51
Lead	7439-92-1	5	mg/kg		12	64	32	328	912
Nickel	7440-02-0	2	mg/kg		34	10	20	11	30
Zinc	7440-66-6	5	mg/kg		48	30	60	87	192
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	0.2	<0.1	1.6	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3-cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		0.6	0.6	0.6	0.6	0.6
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		1.2	1.2	1.2	1.2	1.2
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10

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Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH-1/ 0.5	BH-1/ 1.5	BH-1/ 3.0	BH-2/ 1.5	BH-2/ 2.9
Sampling date / time					07-Mar-2022 10:07	07-Mar-2022 10:08	07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00
Compound	CAS Number	LOR	Unit		EM2203960-002	EM2203960-004	EM2203960-006	EM2203960-010	EM2203960-012
Result					Result	Result	Result	Result	Result
EP080/071: Total Petroleum Hydrocarbons - Continued									
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
[^] C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
[^] C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
[^] >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
[^] >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEX									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
[^] Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
[^] Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		102	100	96.5	98.0	98.2
2-Chlorophenol-D4	93951-73-6	0.5	%		96.8	95.5	91.7	93.9	93.6
2,4,6-Tribromophenol	118-79-6	0.5	%		92.0	87.8	85.4	84.9	85.4
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		99.4	97.5	94.7	96.5	97.2
Anthracene-d10	1719-06-8	0.5	%		109	107	104	106	107
4-Terphenyl-d14	1718-51-0	0.5	%		104	102	99.6	101	102
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		106	94.6	92.3	74.0	88.4
Toluene-D8	2037-26-5	0.2	%		112	101	104	73.6	95.8

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Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

				Sample ID	BH-1/ 0.5	BH-1/ 1.5	BH-1/ 3.0	BH-2/ 1.5	BH-2/ 2.9
Sampling date / time					07-Mar-2022 10:07	07-Mar-2022 10:08	07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00
Compound	CAS Number	LOR	Unit		EM2203960-002	EM2203960-004	EM2203960-006	EM2203960-010	EM2203960-012
Result									
EP080S: TPH(V)/BTEX Surrogates - Continued									
4-Bromofluorobenzene	460-00-4	0.2	%		121	106	109	77.8	108

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Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH-3/ 0.5	BH-3/ 2.0	BH-4/ 0.5	BH-4/ 1.0	BH-4/ 1.5
Sampling date / time					07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00
Compound	CAS Number	LOR	Unit		EM2203960-014	EM2203960-016	EM2203960-019	EM2203960-020	EM2203960-021
				Result	Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		17.1	5.0	8.6	10.2	16.3
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		18	3	17	16	12
Copper	7440-50-8	5	mg/kg		41	85	76	71	19
Lead	7439-92-1	5	mg/kg		193	8	71	32	42
Nickel	7440-02-0	2	mg/kg		26	11	39	25	11
Zinc	7440-66-6	5	mg/kg		84	45	108	36	24
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		0.4	<0.1	0.2	<0.1	0.2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	0.5	1.7	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	0.6	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	1.2	2.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	1.3	2.6	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	0.7	1.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	0.7	1.3	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	0.8	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	0.6	1.1	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	0.6	1.1	<0.5
Indeno(1,2,3-cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	5.6	13.7	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	0.7	1.4	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		0.6	0.6	1.0	1.7	0.6
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		1.2	1.2	1.3	2.0	1.2
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10

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Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH-3/ 0.5	BH-3/ 2.0	BH-4/ 0.5	BH-4/ 1.0	BH-4/ 1.5
Sampling date / time					07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00
Compound	CAS Number	LOR	Unit		EM2203960-014	EM2203960-016	EM2203960-019	EM2203960-020	EM2203960-021
					Result	Result	Result	Result	Result
EP080/071: Total Petroleum Hydrocarbons - Continued									
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
[^] C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
[^] C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
[^] >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
[^] >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
[^] Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
[^] Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		97.6	96.5	96.4	97.7	96.6
2-Chlorophenol-D4	93951-73-6	0.5	%		93.0	91.7	91.6	93.5	92.2
2,4,6-Tribromophenol	118-79-6	0.5	%		86.2	83.2	84.1	87.8	85.3
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		96.9	95.8	95.9	97.1	95.3
Anthracene-d10	1719-06-8	0.5	%		106	105	105	106	105
4-Terphenyl-d14	1718-51-0	0.5	%		101	101	100	102	100
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		76.9	105	82.2	75.6	72.1
Toluene-D8	2037-26-5	0.2	%		79.9	106	90.2	85.3	78.8

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Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

				Sample ID	BH-3/ 0.5	BH-3/ 2.0	BH-4/ 0.5	BH-4/ 1.0	BH-4/ 1.5
Sampling date / time					07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00
Compound	CAS Number	LOR	Unit		EM2203960-014	EM2203960-016	EM2203960-019	EM2203960-020	EM2203960-021
Result									
EP080S: TPH(V)/BTEX Surrogates - Continued									
4-Bromofluorobenzene	460-00-4	0.2	%		95.5	119	104	90.8	85.7

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Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH-5/ 0.5	BH-5/ 1.0	BH-6.2/ 1.0	BH-6.2/ 1.5	BH-7/ 0.5
Sampling date / time					07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00
Compound	CAS Number	LOR	Unit		EM2203960-025	EM2203960-026	EM2203960-029	EM2203960-030	EM2203960-032
				Result	Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		12.6	11.9	19.9	16.4	23.6
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		<5	<5	<5	<5	8
Cadmium	7440-43-9	1	mg/kg		<1	2	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		4	16	13	12	12
Copper	7440-50-8	5	mg/kg		11	90	50	56	66
Lead	7439-92-1	5	mg/kg		6	11400	20	62	25
Nickel	7440-02-0	2	mg/kg		6	22	25	24	22
Zinc	7440-66-6	5	mg/kg		37	519	26	48	33
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	1.8	<0.1	0.1	0.5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3-cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		0.6	0.6	0.6	0.6	0.6
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		1.2	1.2	1.2	1.2	1.2
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10

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Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH-5/ 0.5	BH-5/ 1.0	BH-6.2/ 1.0	BH-6.2/ 1.5	BH-7/ 0.5
Sampling date / time					07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00
Compound	CAS Number	LOR	Unit		EM2203960-025	EM2203960-026	EM2203960-029	EM2203960-030	EM2203960-032
					Result	Result	Result	Result	Result
EP080/071: Total Petroleum Hydrocarbons - Continued									
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
[^] C10 - C36 Fraction (sum)	----	50	mg/kg		<50	100	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
[^] C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	140	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
[^] >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	140	<50	<50	<50
[^] >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
[^] Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
[^] Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		----	84.9	98.3	95.8	95.7
2-Chlorophenol-D4	93951-73-6	0.5	%		----	78.7	94.5	91.5	91.7
2,4,6-Tribromophenol	118-79-6	0.5	%		----	65.9	87.0	84.3	83.9
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		97.3	96.3	97.0	94.8	95.3
Anthracene-d10	1719-06-8	0.5	%		102	102	107	104	106
4-Terphenyl-d14	1718-51-0	0.5	%		101	98.7	102	99.6	101
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		86.9	70.5	74.7	76.7	70.4
Toluene-D8	2037-26-5	0.2	%		78.9	72.3	78.4	84.1	73.3

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Analytical Results

Sub-Matrix: SOIL
(Matrix: SOIL)

				Sample ID	BH-5/ 0.5	BH-5/ 1.0	BH-6.2/ 1.0	BH-6.2/ 1.5	BH-7/ 0.5
Sampling date / time					07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00
Compound	CAS Number	LOR	Unit		EM2203960-025	EM2203960-026	EM2203960-029	EM2203960-030	EM2203960-032
Result									
EP080S: TPH(V)/BTEX Surrogates - Continued									
4-Bromofluorobenzene	460-00-4	0.2	%		71.6	77.5	81.9	89.5	86.4

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Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH-7/ 1.3	BH-8/ 0.5	BH-8/ 0.9	BH-18/0	BH-9/ 0.5
Sampling date / time					07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00
Compound	CAS Number	LOR	Unit		EM2203960-034	EM2203960-036	EM2203960-037	EM2203960-038	EM2203960-039
				Result	Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		11.1	8.6	10.6	5.1	10.6
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		5	10	8	32	15
Copper	7440-50-8	5	mg/kg		104	83	71	22	56
Lead	7439-92-1	5	mg/kg		13	21	8	<5	101
Nickel	7440-02-0	2	mg/kg		24	18	21	86	31
Zinc	7440-66-6	5	mg/kg		40	66	35	33	68
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		0.2	<0.1	<0.1	<0.1	0.4
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	1.0	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	1.1	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	0.5
Indeno(1,2,3-cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	3.1	<0.5	<0.5	1.0
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		0.6	0.6	0.6	0.6	0.8
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		1.2	1.2	1.2	1.2	1.2
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10

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Project : 12574014



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH-7/ 1.3	BH-8/ 0.5	BH-8/ 0.9	BH-18/0	BH-9/ 0.5
Sampling date / time					07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00
Compound	CAS Number	LOR	Unit		EM2203960-034	EM2203960-036	EM2203960-037	EM2203960-038	EM2203960-039
					Result	Result	Result	Result	Result
EP080/071: Total Petroleum Hydrocarbons - Continued									
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
[^] C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
[^] C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
[^] >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
[^] >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
[^] Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
[^] Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		94.7	94.5	95.1	96.6	80.8
2-Chlorophenol-D4	93951-73-6	0.5	%		90.5	90.2	91.3	92.4	80.0
2,4,6-Tribromophenol	118-79-6	0.5	%		81.8	84.6	83.4	85.5	57.7
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		93.9	94.7	94.1	97.0	87.0
Anthracene-d10	1719-06-8	0.5	%		103	104	105	107	102
4-Terphenyl-d14	1718-51-0	0.5	%		98.4	98.7	99.7	102	93.8
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		81.1	74.3	73.5	78.3	91.5
Toluene-D8	2037-26-5	0.2	%		85.4	80.5	77.4	83.1	104

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 Project : 12574014



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

				Sample ID	BH-7/ 1.3	BH-8/ 0.5	BH-8/ 0.9	BH-18/0	BH-9/ 0.5
Sampling date / time					07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00
Compound	CAS Number	LOR	Unit		EM2203960-034	EM2203960-036	EM2203960-037	EM2203960-038	EM2203960-039
Result									
EP080S: TPH(V)/BTEX Surrogates - Continued									
4-Bromofluorobenzene	460-00-4	0.2	%		92.9	87.5	83.4	89.4	112

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Client : GHD PTY LTD
Project : 12574014



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH-9/ 1.0	BH-10/ 0.5	BH-11/ 0.5	BH-12/ 0.5	BH-12/ 0.8
Sampling date / time					07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00
Compound	CAS Number	LOR	Unit		EM2203960-040	EM2203960-042	EM2203960-044	EM2203960-046	EM2203960-047
				Result	Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		8.3	10.7	7.6	18.2	9.2
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		17	9	22	11	18
Copper	7440-50-8	5	mg/kg		40	31	54	68	48
Lead	7439-92-1	5	mg/kg		36	92	48	24	12
Nickel	7440-02-0	2	mg/kg		41	10	61	27	47
Zinc	7440-66-6	5	mg/kg		42	72	72	186	71
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		0.2	0.2	0.4	0.3	0.2
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.5	0.9	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	1.1	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	0.8	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	0.8	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	0.6	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	0.9	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	1.2	<0.5
Indeno(1,2,3-cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	0.6	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	0.9	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	7.8	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	1.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		0.6	0.6	0.6	1.8	0.6
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		1.2	1.2	1.2	2.0	1.2
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10

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Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH-9/ 1.0	BH-10/ 0.5	BH-11/ 0.5	BH-12/ 0.5	BH-12/ 0.8
Sampling date / time					07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00
Compound	CAS Number	LOR	Unit		EM2203960-040	EM2203960-042	EM2203960-044	EM2203960-046	EM2203960-047
				Result	Result	Result	Result	Result	Result
EP080/071: Total Petroleum Hydrocarbons - Continued									
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100	<100
[^] C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10	<10
[^] C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100	120
[^] >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50	120
[^] >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
[^] Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
[^] Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%	78.8	81.3	82.7	77.2	79.6	
2-Chlorophenol-D4	93951-73-6	0.5	%	78.4	81.2	82.4	77.2	78.8	
2,4,6-Tribromophenol	118-79-6	0.5	%	53.4	63.2	61.8	58.6	66.9	
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%	85.6	88.9	90.3	84.9	87.6	
Anthracene-d10	1719-06-8	0.5	%	97.1	106	106	98.8	99.7	
4-Terphenyl-d14	1718-51-0	0.5	%	90.4	97.0	96.6	88.7	91.5	
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%	87.4	95.8	76.8	86.0	85.3	
Toluene-D8	2037-26-5	0.2	%	93.7	105	86.6	95.5	97.0	

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Analytical Results

Sub-Matrix: SOIL
(Matrix: SOIL)

				Sample ID	BH-9/ 1.0	BH-10/ 0.5	BH-11/ 0.5	BH-12/ 0.5	BH-12/ 0.8
Sampling date / time					07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00
Compound	CAS Number	LOR	Unit		EM2203960-040	EM2203960-042	EM2203960-044	EM2203960-046	EM2203960-047
Result									
EP080S: TPH(V)/BTEX Surrogates - Continued									
4-Bromofluorobenzene	460-00-4	0.2	%		104	113	89.6	103	103

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Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH-13/ 0.3	BH-13/ 0.6	BH-14/ 0.5	BH-15/ 0.0	BH-15/ 0.5
Sampling date / time					07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00
Compound	CAS Number	LOR	Unit		EM2203960-049	EM2203960-050	EM2203960-051	EM2203960-052	EM2203960-053
				Result	Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		19.5	11.6	5.4	3.8	5.3
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		32	26	24	28	29
Copper	7440-50-8	5	mg/kg		57	38	28	19	26
Lead	7439-92-1	5	mg/kg		<5	<5	8	<5	<5
Nickel	7440-02-0	2	mg/kg		33	48	57	75	75
Zinc	7440-66-6	5	mg/kg		18	23	30	28	33
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3-cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		0.6	0.6	0.6	0.6	0.6
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		1.2	1.2	1.2	1.2	1.2
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10

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Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH-13/ 0.3	BH-13/ 0.6	BH-14/ 0.5	BH-15/ 0.0	BH-15/ 0.5
Sampling date / time					07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00
Compound	CAS Number	LOR	Unit		EM2203960-049	EM2203960-050	EM2203960-051	EM2203960-052	EM2203960-053
					Result	Result	Result	Result	Result
EP080/071: Total Petroleum Hydrocarbons - Continued									
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
[^] C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
[^] C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
[^] >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
[^] >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
[^] Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
[^] Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		98.7	96.3	94.3	95.1	95.7
2-Chlorophenol-D4	93951-73-6	0.5	%		94.8	92.7	90.4	91.9	92.2
2,4,6-Tribromophenol	118-79-6	0.5	%		84.2	82.4	81.5	82.6	80.9
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		97.2	95.7	94.9	94.6	95.6
Anthracene-d10	1719-06-8	0.5	%		107	106	104	105	105
4-Terphenyl-d14	1718-51-0	0.5	%		103	101	97.9	100	100.0
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		69.4	86.3	80.0	90.5	89.9
Toluene-D8	2037-26-5	0.2	%		79.0	95.0	91.8	99.3	97.0

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Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

				Sample ID	BH-13/ 0.3	BH-13/ 0.6	BH-14/ 0.5	BH-15/ 0.0	BH-15/ 0.5
Sampling date / time					07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00
Compound	CAS Number	LOR	Unit		EM2203960-049	EM2203960-050	EM2203960-051	EM2203960-052	EM2203960-053
Result									
EP080S: TPH(V)/BTEX Surrogates - Continued									
4-Bromofluorobenzene	460-00-4	0.2	%		86.0	107	99.6	107	105

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Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH-16/ 0.5	BH-16/ 1.0	BH-17/ 0.3	BH-17/ 0.6	BH10/0.7
Sampling date / time					07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00
Compound	CAS Number	LOR	Unit		EM2203960-055	EM2203960-056	EM2203960-058	EM2203960-059	EM2203960-061
				Result	Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		19.3	19.2	10.1	12.1	7.7
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		22	18	14	24	9
Copper	7440-50-8	5	mg/kg		61	31	59	60	26
Lead	7439-92-1	5	mg/kg		34	43	<5	<5	47
Nickel	7440-02-0	2	mg/kg		39	16	18	36	16
Zinc	7440-66-6	5	mg/kg		44	82	19	27	46
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		0.3	0.3	<0.1	<0.1	0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3-cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		0.6	0.6	0.6	0.6	0.6
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		1.2	1.2	1.2	1.2	1.2
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10

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Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	BH-16/ 0.5	BH-16/ 1.0	BH-17/ 0.3	BH-17/ 0.6	BH10/0.7
Sampling date / time					07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00
Compound	CAS Number	LOR	Unit		EM2203960-055	EM2203960-056	EM2203960-058	EM2203960-059	EM2203960-061
				Result	Result	Result	Result	Result	Result
EP080/071: Total Petroleum Hydrocarbons - Continued									
C10 - C14 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100	<100
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	<10	<10	<10	<10
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	<50	<50	<50	<50	<50
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg	<1	<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%	95.3	92.6	94.2	96.4	95.0	
2-Chlorophenol-D4	93951-73-6	0.5	%	91.5	89.2	91.3	93.1	96.0	
2,4,6-Tribromophenol	118-79-6	0.5	%	81.4	81.0	80.6	81.4	92.6	
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%	94.6	91.6	95.2	97.4	95.5	
Anthracene-d10	1719-06-8	0.5	%	105	106	105	106	110	
4-Terphenyl-d14	1718-51-0	0.5	%	100	100	99.7	101	104	
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%	74.0	90.7	80.3	90.4	93.2	
Toluene-D8	2037-26-5	0.2	%	83.5	99.5	88.2	90.4	86.0	

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Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

				Sample ID	BH-16/ 0.5	BH-16/ 1.0	BH-17/ 0.3	BH-17/ 0.6	BH10/0.7
Sampling date / time					07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00	07-Mar-2022 00:00
Compound	CAS Number	LOR	Unit		EM2203960-055	EM2203960-056	EM2203960-058	EM2203960-059	EM2203960-061
Result									
EP080S: TPH(V)/BTEX Surrogates - Continued									
4-Bromofluorobenzene	460-00-4	0.2	%		95.8	106	98.5	105	92.8

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Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QA1/	QA3/	---	---	---
Sampling date / time					07-Mar-2022 00:00	07-Mar-2022 00:00	---	---	---
Compound	CAS Number	LOR	Unit		EM2203960-063	EM2203960-064	---	---	---
				Result	Result				
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	---	1.0	%		21.9	7.4	---	---	---
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		<5	<5	---	---	---
Cadmium	7440-43-9	1	mg/kg		<1	<1	---	---	---
Chromium	7440-47-3	2	mg/kg		32	13	---	---	---
Copper	7440-50-8	5	mg/kg		57	18	---	---	---
Lead	7439-92-1	5	mg/kg		<5	11	---	---	---
Nickel	7440-02-0	2	mg/kg		35	35	---	---	---
Zinc	7440-66-6	5	mg/kg		19	30	---	---	---
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	0.1	---	---	---
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	---	---	---
^ 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	---	---	---

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Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QA1/	QA3/	----	----	----
Sampling date / time					07-Mar-2022 00:00	07-Mar-2022 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2203960-063	EM2203960-064	-----	-----	-----
					Result	Result	----	----	----
EP080/071: Total Petroleum Hydrocarbons - Continued									
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	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		89.6	90.7	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		82.0	82.7	----	----	----
2,4,6-Tribromophenol	118-79-6	0.5	%		72.9	76.8	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		91.7	88.8	----	----	----
Anthracene-d10	1719-06-8	0.5	%		111	106	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		99.2	95.4	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		87.7	80.5	----	----	----
Toluene-D8	2037-26-5	0.2	%		87.1	78.5	----	----	----

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Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QA1/	QA3/	---	---	---
				Sampling date / time	07-Mar-2022 00:00	07-Mar-2022 00:00	---	---	---
Compound	CAS Number	LOR	Unit		EM2203960-063	EM2203960-064	-----	-----	-----
					Result	Result	---	---	---
EP080S: TPH(V)/BTEX Surrogates - Continued									
4-Bromofluorobenzene	460-00-4	0.2	%		92.8	85.0	---	---	---

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Surrogate Control Limits

Sub-Matrix: SEDIMENT		Recovery Limits (%)	
Compound	CAS Number	Low	High
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: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
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



CERTIFICATE OF ANALYSIS

Work Order	: EM2203960-AB	Page	: 1 of 6
Amendment	: 1		
Client	: GHD PTY LTD	Laboratory	: Environmental Division Melbourne
Contact	: MS NICOLE REINEKER	Contact	: Shirley LeCornu
Address	: 2 SALAMANCA SQUARE HOBART TAS, AUSTRALIA 7000	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: ----	Telephone	: +6138549 9630
Project	: 12574014	Date Samples Received	: 08-Mar-2022 10:45
Order number	: 12574014	Date Analysis Commenced	: 09-Mar-2022
C-O-C number	: 34736	Issue Date	: 07-Apr-2022 12:06
Sampler	: NICOLE REINEKER		
Site	: old forestry building		
Quote number	: ME/589/21 v2		
No. of samples received	: 2		
No. of samples analysed	: 2		



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
- 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
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjjar	Organic Coordinator	Sydney Organics, Smithfield, NSW

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Work Order : EM2203960-AB Amendment 1
Client : GHD PTY LTD
Project : 12574014



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.

- 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.
- 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.
- EG005-T : EM2203960 #39 Poor duplicate precision for total Lead due to sample matrix. Confirmed by re-digestion and re-analysis.
- Amendment (07/04/2022): This report has been amended following the Nicole Reineker request to split report for sample 65 & 66. All analysis results are as per the previous report.
- EG035T: EM2203960 #40 Poor matrix spike recovery for total mercury due to sample matrix. Confirmed by re-extraction and re-analysis.

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Work Order : EM2203960-AB Amendment 1
Client : GHD PTY LTD
Project : 12574014



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QA2/	QA4/	----	----	----
Sampling date / time					07-Mar-2022 00:00	07-Mar-2022 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2203960-065	EM2203960-066	-----	-----	-----
					Result	Result	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		18.4	6.6	----	----	----
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		<5	<5	----	----	----
Cadmium	7440-43-9	1	mg/kg		<1	<1	----	----	----
Chromium	7440-47-3	2	mg/kg		27	16	----	----	----
Copper	7440-50-8	5	mg/kg		51	26	----	----	----
Lead	7439-92-1	5	mg/kg		<5	16	----	----	----
Nickel	7440-02-0	2	mg/kg		38	44	----	----	----
Zinc	7440-66-6	5	mg/kg		14	36	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	0.2	----	----	----
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	----	----	----
^ 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	----	----	----

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Work Order : EM2203960-AB Amendment 1
Client : GHD PTY LTD
Project : 12574014



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QA2/	QA4/	---	---	---
Sampling date / time					07-Mar-2022 00:00	07-Mar-2022 00:00	---	---	---
Compound	CAS Number	LOR	Unit		EM2203960-065	EM2203960-066	---	---	---
				Result	Result		---	---	---
EP080/071: Total Petroleum Hydrocarbons - Continued									
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	---	---	---
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		82.0	80.2	---	---	---
2-Chlorophenol-D4	93951-73-6	0.5	%		85.4	82.7	---	---	---
2,4,6-Tribromophenol	118-79-6	0.5	%		74.9	70.2	---	---	---
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		100	98.7	---	---	---
Anthracene-d10	1719-06-8	0.5	%		103	102	---	---	---
4-Terphenyl-d14	1718-51-0	0.5	%		97.1	96.1	---	---	---
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		82.1	102	---	---	---
Toluene-D8	2037-26-5	0.2	%		82.0	88.2	---	---	---



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Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QA2/	QA4/	---	---	---
				Sampling date / time	07-Mar-2022 00:00	07-Mar-2022 00:00	---	---	---
Compound	CAS Number	LOR	Unit		EM2203960-065	EM2203960-066	-----	-----	-----
					Result	Result	---	---	---
EP080S: TPH(V)/BTEX Surrogates - Continued									
4-Bromofluorobenzene	460-00-4	0.2	%		81.6	94.2	---	---	---



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Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2,4,6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP080S: TPH(V)/BTEX Surrogates			
1,2-Dichloroethane-D4	17060-07-0	73	133
Toluene-D8	2037-26-5	74	132
4-Bromofluorobenzene	460-00-4	72	130

Inter-Laboratory Testing

Analysis conducted by ALS Sydney, NATA accreditation no. 825, site no. 10911 (Chemistry) 14913 (Biology).

(SOIL) EG005(ED093)T: Total Metals by ICP-AES

(SOIL) EG035T: Total Recoverable Mercury by FIMS

(SOIL) EA055: Moisture Content (Dried @ 105-110°C)

(SOIL) EP080/071: Total Petroleum Hydrocarbons

(SOIL) EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions

(SOIL) EP080: BTEXN

(SOIL) EP080S: TPH(V)/BTEX Surrogates

(SOIL) EP075(SIM)B: Polynuclear Aromatic Hydrocarbons

(SOIL) EP075(SIM)S: Phenolic Compound Surrogates

(SOIL) EP075(SIM)T: PAH Surrogates



QUALITY CONTROL REPORT

Work Order	: EM2203960-AA	Page	: 1 of 15
Amendment	: 1		
Client	: GHD PTY LTD	Laboratory	: Environmental Division Melbourne
Contact	: MS NICOLE REINEKER	Contact	: Shirley LeCornu
Address	: 2 SALAMANCA SQUARE HOBART TAS, AUSTRALIA 7000	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: ---	Telephone	: +6138549 9630
Project	: 12574014	Date Samples Received	: 08-Mar-2022
Order number	: 12574014	Date Analysis Commenced	: 09-Mar-2022
C-O-C number	: 34736	Issue Date	: 07-Apr-2022
Sampler	: NICOLE REINEKER		
Site	: old forestry building		
Quote number	: ME/589/21 v2		
No. of samples received	: 38		
No. of samples analysed	: 38		



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
Andrew Lu	VOC Section Supervisor	Melbourne Inorganics, Springvale, VIC
Andrew Lu	VOC Section Supervisor	Melbourne Organics, Springvale, VIC
Nikki Stepniewski	Senior Inorganic Instrument Chemist	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Inorganics, Springvale, VIC

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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

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: 4215743)									
EM2203960-002	BH-1/ 0.5	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	14	15	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	34	30	9.9	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	37	35	4.2	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	12	12	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	48	53	8.8	0% - 50%
EM2203960-020	BH-4/ 1.0	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	16	15	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	25	32	25.9	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	71	56	24.1	0% - 50%
		EG005T: Lead	7439-92-1	5	mg/kg	32	34	4.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	36	40	11.2	No Limit
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4215745)									
EM2203960-039	BH-9/ 0.5	EG005T: Lead	7439-92-1	5	mg/kg	101	# 60	51.1	0% - 20%
EM2203960-039	BH-9/ 0.5	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	15	15	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	31	28	9.7	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	56	65	14.6	0% - 50%
		EG005T: Zinc	7440-66-6	5	mg/kg	68	76	9.9	0% - 50%
EM2203960-052	BH-15/ 0.0	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	28	31	10.7	0% - 50%



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Project : 12574014

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: 4215745) - continued									
EM2203960-052	BH-15/ 0.0	EG005T: Nickel	7440-02-0	2	mg/kg	75	83	9.5	0% - 20%
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	19	20	6.3	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	28	31	10.2	No Limit
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 4217340)									
EM2203960-061	BH10/0.7	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	9	9	0.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	16	15	7.5	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	26	30	13.9	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	47	51	8.8	0% - 50%
		EG005T: Zinc	7440-66-6	5	mg/kg	46	51	11.3	0% - 50%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4216299)									
EM2203960-001	Anonymous	EA055: Moisture Content	----	0.1	%	6.2	6.0	2.5	No Limit
EM2203960-008	BH-2/ 0.5	EA055: Moisture Content	----	0.1	%	7.6	7.8	2.5	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4216300)									
EM2203960-029	BH-6.2/ 1.0	EA055: Moisture Content	----	0.1	%	19.9	18.6	6.9	0% - 50%
EM2203960-044	BH-11/ 0.5	EA055: Moisture Content	----	0.1	%	7.6	7.4	2.2	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4216301)									
EM2203960-058	BH-17/ 0.3	EA055: Moisture Content	----	0.1	%	10.1	15.2	40.1	0% - 50%
EM2204005-009	Anonymous	EA055: Moisture Content	----	0.1	%	9.3	8.9	3.7	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4217350)									
EM2203960-061	BH10/0.7	EA055: Moisture Content	----	0.1	%	7.7	9.5	21.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 4215744)									
EM2203960-002	BH-1/ 0.5	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EM2203960-020	BH-4/ 1.0	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 4215746)									
EM2203960-039	BH-9/ 0.5	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.4	0.5	0.0	No Limit
EM2203960-052	BH-15/ 0.0	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 4217341)									
EM2203960-061	BH10/0.7	EG035T: Mercury	7439-97-6	0.1	mg/kg	0.1	0.2	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4215716)									
EM2203960-002	BH-1/ 0.5	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



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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: 4215716) - continued									
EM2203960-002	BH-1/ 0.5	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
		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	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
			205-82-3						
		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): Dibenzo(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
EM2203960-021	BH-4/ 1.5	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
		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	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
			205-82-3						
		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): Dibenzo(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
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4215718)									
EM2203960-039	BH-9/ 0.5	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
		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



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 Work Order : EM2203960-AA Amendment 1
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 Project : 12574014

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: 4215718) - continued									
EM2203960-039	BH-9/ 0.5	EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
			205-82-3						
		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	0.6	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
EM2203960-053	BH-15/ 0.5	EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	0.5	0.6	0.0	No Limit
		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
		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	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
			205-82-3						
		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
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4217304)									
EM2203960-061	BH10/0.7	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
		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	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
			205-82-3						
		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



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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: 4217304) - continued									
EM2203960-061	BH10/0.7	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: 4215714)									
EM2203960-002	BH-1/ 0.5	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EM2203960-021	BH-4/ 1.5	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4215715)									
EM2203960-039	BH-9/ 0.5	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EM2203960-053	BH-15/ 0.5	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4215717)									
EM2203960-002	BH-1/ 0.5	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
EM2203960-021	BH-4/ 1.5	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 Petroleum Hydrocarbons (QC Lot: 4215719)									
EM2203960-039	BH-9/ 0.5	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
EM2203960-053	BH-15/ 0.5	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 Petroleum Hydrocarbons (QC Lot: 4217299)									
EM2203960-061	BH10/0.7	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4217305)									
EM2203960-061	BH10/0.7	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: 4215714)									
EM2203960-002	BH-1/ 0.5	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EM2203960-021	BH-4/ 1.5	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: 4215715)									
EM2203960-039	BH-9/ 0.5	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EM2203960-053	BH-15/ 0.5	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit



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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 (%)
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4215717)									
EM2203960-002	BH-1/ 0.5	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
EM2203960-021	BH-4/ 1.5	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
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4215719)									
EM2203960-039	BH-9/ 0.5	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
EM2203960-053	BH-15/ 0.5	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
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4217299)									
EM2203960-061	BH10/0.7	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: 4217305)									
EM2203960-061	BH10/0.7	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: 4215714)									
EM2203960-002	BH-1/ 0.5	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
EM2203960-021	BH-4/ 1.5	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

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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: 4215715)											
EM2203960-039	BH-9/ 0.5	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	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
			106-42-3								
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
EM2203960-053	BH-15/ 0.5	EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.0	No Limit		
		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	0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
			106-42-3								
		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		
		EP080: BTEXN (QC Lot: 4217299)									
		EM2203960-061	BH10/0.7	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			0.5	mg/kg	<0.5	<0.5	0.0	No Limit		
	106-42-3										
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		

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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

Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4215743)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	101	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.23 mg/kg	72.1	50.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	110	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.9 mg/kg	98.9	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	97.2	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	103	70.0	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	77.6	70.0	130
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4215745)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	103	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.23 mg/kg	69.3	50.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	112	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.9 mg/kg	99.6	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	100	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	107	70.0	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	80.0	70.0	130
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4217340)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	97.4	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.23 mg/kg	60.8	50.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	104	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.9 mg/kg	94.6	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	97.6	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	95.7	70.0	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	84.1	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4215744)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.64 mg/kg	95.3	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4215746)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.64 mg/kg	93.0	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4217341)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.64 mg/kg	89.8	70.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4215716)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	104	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	103	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	112	83.6	120

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Sub-Matrix: SOIL

Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4215716) - continued								
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	109	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	107	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	109	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	106	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	106	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	104	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	107	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	3 mg/kg	103	70.0	121
	205-82-3							
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	100	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	96.6	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	95.8	67.9	122
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	95.3	65.8	123
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	97.9	65.8	127
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4215718)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	93.8	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	84.2	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	95.9	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	89.1	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	92.4	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	93.4	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	88.9	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	90.5	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	85.0	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	91.8	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	3 mg/kg	83.2	70.0	121
	205-82-3							
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	93.3	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	88.5	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	83.4	67.9	122
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	82.8	65.8	123
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	95.4	65.8	127
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4217304)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	101	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	101	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	114	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	111	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	112	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	113	81.7	127



Sub-Matrix: SOIL					Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
Method: Compound		CAS Number	LOR	Unit		Result	Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4217304) - continued									
EP075(SIM): Fluoranthene		206-44-0	0.5	mg/kg	<0.5	3 mg/kg	109	78.3	124
EP075(SIM): Pyrene		129-00-0	0.5	mg/kg	<0.5	3 mg/kg	109	79.9	128
EP075(SIM): Benz(a)anthracene		56-55-3	0.5	mg/kg	<0.5	3 mg/kg	106	76.9	123
EP075(SIM): Chrysene		218-01-9	0.5	mg/kg	<0.5	3 mg/kg	105	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene		205-99-2 205-82-3	0.5	mg/kg	<0.5	3 mg/kg	98.8	70.0	121
EP075(SIM): Benzo(k)fluoranthene		207-08-9	0.5	mg/kg	<0.5	3 mg/kg	94.4	80.4	130
EP075(SIM): Benzo(a)pyrene		50-32-8	0.5	mg/kg	<0.5	3 mg/kg	101	70.2	123
EP075(SIM): Indeno(1,2,3.cd)pyrene		193-39-5	0.5	mg/kg	<0.5	3 mg/kg	101	67.9	122
EP075(SIM): Dibenzo(a,h)anthracene		53-70-3	0.5	mg/kg	<0.5	3 mg/kg	102	65.8	123
EP075(SIM): Benzo(g,h,i)perylene		191-24-2	0.5	mg/kg	<0.5	3 mg/kg	95.2	65.8	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4215714)									
EP080: C6 - C9 Fraction		----	10	mg/kg	<10	76 mg/kg	70.6	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4215715)									
EP080: C6 - C9 Fraction		----	10	mg/kg	<10	36 mg/kg	103	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4215717)									
EP071: C10 - C14 Fraction		----	50	mg/kg	<50	760 mg/kg	89.8	75.0	128
EP071: C15 - C28 Fraction		----	100	mg/kg	<100	3270 mg/kg	90.5	82.0	123
EP071: C29 - C36 Fraction		----	100	mg/kg	<100	1550 mg/kg	89.8	82.4	121
EP071: C10 - C36 Fraction (sum)		----	50	mg/kg	<50	5580 mg/kg	90.1	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4215719)									
EP071: C10 - C14 Fraction		----	50	mg/kg	<50	760 mg/kg	91.8	75.0	128
EP071: C15 - C28 Fraction		----	100	mg/kg	<100	3270 mg/kg	93.3	82.0	123
EP071: C29 - C36 Fraction		----	100	mg/kg	<100	1550 mg/kg	93.8	82.4	121
EP071: C10 - C36 Fraction (sum)		----	50	mg/kg	<50	5580 mg/kg	93.2	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4217299)									
EP080: C6 - C9 Fraction		----	10	mg/kg	<10	36 mg/kg	94.6	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4217305)									
EP071: C10 - C14 Fraction		----	50	mg/kg	<50	760 mg/kg	95.2	75.0	128
EP071: C15 - C28 Fraction		----	100	mg/kg	<100	3270 mg/kg	98.9	82.0	123
EP071: C29 - C36 Fraction		----	100	mg/kg	<100	1550 mg/kg	103	82.4	121
EP071: C10 - C36 Fraction (sum)		----	50	mg/kg	<50	5580 mg/kg	99.3	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4215714)									
EP080: C6 - C10 Fraction		C6_C10	10	mg/kg	<10	90 mg/kg	72.8	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4215715)									
EP080: C6 - C10 Fraction		C6_C10	10	mg/kg	<10	45 mg/kg	100	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4215717)									



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Client : GHD PTY LTD
Project : 12574014

Sub-Matrix: SOIL

Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report				
					Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High		
Method: Compound	CAS Number	LOR	Unit	Result					
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4215717) - continued									
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1110 mg/kg	95.4	77.0	130	
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	4180 mg/kg	89.2	81.5	120	
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	90.3	73.3	137	
EP071: >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	5580 mg/kg	90.5	70.0	130	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4215719)									
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1110 mg/kg	94.0	77.0	130	
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	4180 mg/kg	93.9	81.5	120	
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	90.6	73.3	137	
EP071: >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	5580 mg/kg	93.5	70.0	130	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4217299)									
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	93.0	59.3	128	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4217305)									
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1110 mg/kg	100	77.0	130	
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	4180 mg/kg	98.5	81.5	120	
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	108	73.3	137	
EP071: >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	5580 mg/kg	99.3	70.0	130	
EP080: BTEXN (QCLot: 4215714)									
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	4 mg/kg	67.1	61.6	117	
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	4 mg/kg	71.7	65.8	125	
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	4 mg/kg	72.5	65.8	124	
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	8 mg/kg	76.6	64.8	134	
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	4 mg/kg	75.2	68.7	132	
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	71.6	61.8	123	
EP080: BTEXN (QCLot: 4215715)									
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	97.2	61.6	117	
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	102	65.8	125	
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	104	65.8	124	
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	106	64.8	134	
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	104	68.7	132	
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	95.7	61.8	123	
EP080: BTEXN (QCLot: 4217299)									
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	99.9	61.6	117	
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	96.9	65.8	125	
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	96.0	65.8	124	
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	4 mg/kg	96.3	64.8	134	

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 Project : 12574014



Sub-Matrix: SOIL

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
EP080: BTEXN (QCLot: 4217299) - continued								
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	100	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	88.2	61.8	123

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

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: 4215743)							
EM2203960-004	BH-1/ 1.5	EG005T: Arsenic	7440-38-2	50 mg/kg	99.6	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	98.7	79.7	116
		EG005T: Chromium	7440-47-3	50 mg/kg	98.4	79.0	121
		EG005T: Copper	7440-50-8	250 mg/kg	98.4	80.0	120
		EG005T: Lead	7439-92-1	250 mg/kg	100	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	97.0	78.0	120
		EG005T: Zinc	7440-66-6	250 mg/kg	94.3	80.0	120
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4215745)							
EM2203960-040	BH-9/ 1.0	EG005T: Arsenic	7440-38-2	50 mg/kg	105	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	101	79.7	116
		EG005T: Chromium	7440-47-3	50 mg/kg	98.7	79.0	121
		EG005T: Copper	7440-50-8	250 mg/kg	109	80.0	120
		EG005T: Lead	7439-92-1	250 mg/kg	102	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	95.6	78.0	120
		EG005T: Zinc	7440-66-6	250 mg/kg	98.8	80.0	120
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4217340)							
EM2203960-063	QA1/	EG005T: Arsenic	7440-38-2	50 mg/kg	92.0	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	86.4	79.7	116
		EG005T: Chromium	7440-47-3	50 mg/kg	88.0	79.0	121
		EG005T: Copper	7440-50-8	250 mg/kg	96.2	80.0	120
		EG005T: Lead	7439-92-1	250 mg/kg	90.0	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	95.5	78.0	120
		EG005T: Zinc	7440-66-6	250 mg/kg	90.3	80.0	120
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4215744)							
EM2203960-004	BH-1/ 1.5	EG035T: Mercury	7439-97-6	0.5 mg/kg	99.0	76.0	116
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4215746)							
EM2203960-040	BH-9/ 1.0	EG035T: Mercury	7439-97-6	0.5 mg/kg	# 117	76.0	116

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 Project : 12574014



Sub-Matrix: SOIL

Sub-Matrix: SOIL				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4217341)							
EM2203960-063	QA1/	EG035T: Mercury	7439-97-6	0.5 mg/kg	97.0	76.0	116
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4215716)							
EM2203960-004	BH-1/ 1.5	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	106	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	107	65.5	136
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4215718)							
EM2203960-040	BH-9/ 1.0	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	92.3	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	97.6	65.5	136
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4217304)							
EM2203960-063	QA1/	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	86.6	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	91.6	65.5	136
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4215714)							
EM2203960-004	BH-1/ 1.5	EP080: C6 - C9 Fraction	----	28 mg/kg	75.5	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4215715)							
EM2203960-040	BH-9/ 1.0	EP080: C6 - C9 Fraction	----	28 mg/kg	76.1	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4215717)							
EM2203960-006	BH-1/ 3.0	EP071: C10 - C14 Fraction	----	760 mg/kg	92.2	71.2	125
		EP071: C15 - C28 Fraction	----	3270 mg/kg	92.6	75.6	122
		EP071: C29 - C36 Fraction	----	1550 mg/kg	91.8	78.0	120
		EP071: C10 - C36 Fraction (sum)	----	5580 mg/kg	91.8	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4215719)							
EM2203960-042	BH-10/ 0.5	EP071: C10 - C14 Fraction	----	760 mg/kg	84.8	71.2	125
		EP071: C15 - C28 Fraction	----	3270 mg/kg	90.1	75.6	122
		EP071: C29 - C36 Fraction	----	1550 mg/kg	91.3	78.0	120
		EP071: C10 - C36 Fraction (sum)	----	5580 mg/kg	89.5	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4217299)							
EM2203960-063	QA1/	EP080: C6 - C9 Fraction	----	28 mg/kg	71.4	33.4	124
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4217305)							
EM2203960-064	QA3/	EP071: C10 - C14 Fraction	----	760 mg/kg	91.0	71.2	125
		EP071: C15 - C28 Fraction	----	3270 mg/kg	90.3	75.6	122
		EP071: C29 - C36 Fraction	----	1550 mg/kg	91.4	78.0	120
		EP071: C10 - C36 Fraction (sum)	----	5580 mg/kg	90.9	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4215714)							
EM2203960-004	BH-1/ 1.5	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	73.5	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4215715)							
EM2203960-040	BH-9/ 1.0	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	73.0	30.8	120

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Sub-Matrix: SOIL

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 Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4215717)							
EM2203960-006	BH-1/ 3.0	EP071: >C10 - C16 Fraction	----	1110 mg/kg	97.8	72.2	128
		EP071: >C16 - C34 Fraction	----	4180 mg/kg	91.2	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	94.0	66.8	138
		EP071: >C10 - C40 Fraction (sum)	----	5580 mg/kg	92.2	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4215719)							
EM2203960-042	BH-10/ 0.5	EP071: >C10 - C16 Fraction	----	1110 mg/kg	88.8	72.2	128
		EP071: >C16 - C34 Fraction	----	4180 mg/kg	91.1	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	84.8	66.8	138
		EP071: >C10 - C40 Fraction (sum)	----	5580 mg/kg	90.5	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4217299)							
EM2203960-063	QA1/	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	66.0	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4217305)							
EM2203960-064	QA3/	EP071: >C10 - C16 Fraction	----	1110 mg/kg	88.2	72.2	128
		EP071: >C16 - C34 Fraction	----	4180 mg/kg	91.2	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	92.5	66.8	138
		EP071: >C10 - C40 Fraction (sum)	----	5580 mg/kg	91.1	70.0	130
EP080: BTEXN (QCLot: 4215714)							
EM2203960-004	BH-1/ 1.5	EP080: Benzene	71-43-2	2 mg/kg	73.7	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	83.3	57.1	131
EP080: BTEXN (QCLot: 4215715)							
EM2203960-040	BH-9/ 1.0	EP080: Benzene	71-43-2	2 mg/kg	80.6	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	85.7	57.1	131
EP080: BTEXN (QCLot: 4217299)							
EM2203960-063	QA1/	EP080: Benzene	71-43-2	2 mg/kg	90.2	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	88.6	57.1	131



QUALITY CONTROL REPORT

Work Order	: EM2203960-AB	Page	: 1 of 6
Amendment	: 1		
Client	: GHD PTY LTD	Laboratory	: Environmental Division Melbourne
Contact	: MS NICOLE REINEKER	Contact	: Shirley LeCornu
Address	: 2 SALAMANCA SQUARE HOBART TAS, AUSTRALIA 7000	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: ---	Telephone	: +6138549 9630
Project	: 12574014	Date Samples Received	: 08-Mar-2022
Order number	: 12574014	Date Analysis Commenced	: 09-Mar-2022
C-O-C number	: 34736	Issue Date	: 07-Apr-2022
Sampler	: NICOLE REINEKER		
Site	: old forestry building		
Quote number	: ME/589/21 v2		
No. of samples received	: 2		
No. of samples analysed	: 2		



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
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW

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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

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: 4217895)									
EM2203960-065	QA2/	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	27	34	21.9	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	38	40	5.6	0% - 20%
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	51	64	22.8	0% - 50%
		EG005T: Lead	7439-92-1	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	14	17	24.2	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4217899)									
ES2207837-001	Anonymous	EA055: Moisture Content	----	0.1	%	45.0	53.3	16.8	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 4217896)									
EM2203960-065	QA2/	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4218475)									
EM2203960-065	QA2/	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
		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



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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: 4218475) - continued									
EM2203960-065	QA2/	EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
			205-82-3						
		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
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP075(SIM): Benzo(a)pyrene TEQ (zero)									
			----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4218474)									
EM2203960-065	QA2/	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
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4218916)									
EM2203960-065	QA2/	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4218474)									
EM2203960-065	QA2/	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
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4218916)									
EM2203960-065	QA2/	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080: BTEXN (QC Lot: 4218916)									
EM2203960-065	QA2/	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	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
			106-42-3						
		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

Method Blank (MB) and Laboratory Control Sample (LCS) Report

Sub-Matrix: SOIL

Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4217895)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	121.1 mg/kg	92.4	88.0	113
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	0.74 mg/kg	101	70.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	19.6 mg/kg	97.7	68.0	132
EG005T: Copper	7440-50-8	5	mg/kg	<5	52.9 mg/kg	99.4	89.0	111
EG005T: Lead	7439-92-1	5	mg/kg	<5	60.8 mg/kg	95.3	82.0	119
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.3 mg/kg	92.0	80.0	120
EG005T: Zinc	7440-66-6	5	mg/kg	<5	139.3 mg/kg	80.6	66.0	133
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4217896)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.087 mg/kg	122	70.0	125
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4218475)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	93.0	77.0	125
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	86.2	72.0	124
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	90.6	73.0	127
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	95.1	72.0	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	95.4	75.0	127
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	87.3	77.0	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	94.4	73.0	127
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	95.4	74.0	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	88.9	69.0	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	92.7	75.0	127
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	6 mg/kg	85.1	68.0	116
	205-82-3							
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	96.2	74.0	126
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	75.8	70.0	126
EP075(SIM): Indeno(1,2,3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	87.5	61.0	121
EP075(SIM): Dibenzo(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	85.1	62.0	118
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	87.4	63.0	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4218474)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	300 mg/kg	88.0	75.0	129
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	450 mg/kg	89.0	77.0	131
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	300 mg/kg	88.7	71.0	129
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4218916)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	98.1	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4218474)								

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Sub-Matrix: SOIL

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
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4218474) - continued								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	375 mg/kg	90.5	77.0	125
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	525 mg/kg	88.1	74.0	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	225 mg/kg	78.3	63.0	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4218916)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	98.6	68.4	128
EP080: BTEXN (QCLot: 4218916)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	98.5	62.0	116
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	93.5	67.0	121
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	95.6	65.0	117
EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	2 mg/kg	97.0	66.0	118
	106-42-3							
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	98.0	68.0	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	87.4	63.0	119

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

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: 4217895)							
EM2203960-065	QA2/	EG005T: Arsenic	7440-38-2	50 mg/kg	84.8	70.0	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	83.0	70.0	130
		EG005T: Chromium	7440-47-3	50 mg/kg	68.2	68.0	132
		EG005T: Copper	7440-50-8	250 mg/kg	92.1	70.0	130
		EG005T: Lead	7439-92-1	250 mg/kg	83.0	70.0	130
		EG005T: Nickel	7440-02-0	50 mg/kg	95.4	70.0	130
		EG005T: Zinc	7440-66-6	250 mg/kg	76.5	66.0	133
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4217896)							
EM2203960-065	QA2/	EG035T: Mercury	7439-97-6	5 mg/kg	93.8	70.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4218475)							
EM2203960-065	QA2/	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	76.8	70.0	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	84.1	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4218474)							
EM2203960-065	QA2/	EP071: C10 - C14 Fraction	----	480 mg/kg	92.8	73.0	137
		EP071: C15 - C28 Fraction	----	3100 mg/kg	94.7	53.0	131

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Sub-Matrix: SOIL

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: 4218474) - continued							
EM2203960-065	QA2/	EP071: C29 - C36 Fraction	----	2060 mg/kg	102	52.0	132
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4218916)							
EM2203960-065	QA2/	EP080: C6 - C9 Fraction	----	32.5 mg/kg	96.6	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4218474)							
EM2203960-065	QA2/	EP071: >C10 - C16 Fraction	----	860 mg/kg	88.0	73.0	137
		EP071: >C16 - C34 Fraction	----	4320 mg/kg	100	53.0	131
		EP071: >C34 - C40 Fraction	----	890 mg/kg	88.2	52.0	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4218916)							
EM2203960-065	QA2/	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	96.3	70.0	130
EP080: BTEXN (QCLot: 4218916)							
EM2203960-065	QA2/	EP080: Benzene	71-43-2	2.5 mg/kg	86.9	70.0	130
		EP080: Toluene	108-88-3	2.5 mg/kg	81.6	70.0	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	89.5	70.0	130
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	90.4	70.0	130
			106-42-3				
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	90.8	70.0	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	86.2	70.0	130



QA/QC Compliance Assessment to assist with Quality Review

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Amendment	: 1		
Client	: GHD PTY LTD	Laboratory	: Environmental Division Melbourne
Contact	: MS NICOLE REINEKER	Telephone	: +6138549 9630
Project	: 12574014	Date Samples Received	: 08-Mar-2022
Site	: old forestry building	Issue Date	: 07-Apr-2022
Sampler	: NICOLE REINEKER	No. of samples received	: 66
Order number	: 12574014	No. of samples analysed	: 40

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 Laboratory Control outliers occur.
- Duplicate outliers exist - please see following pages for full details.
- Matrix Spike outliers exist - please see following pages for full details.
- For all regular sample matrices, NO surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- NO Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- NO Quality Control Sample Frequency Outliers exist.

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Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **SOIL**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Duplicate (DUP) RPDs							
EG005(ED093)T: Total Metals by ICP-AES	EM2203960--039	BH-9/ 0.5	Lead	7439-92-1	51.1 %	0% - 20%	RPD exceeds LOR based limits
Matrix Spike (MS) Recoveries							
EG035T: Total Recoverable Mercury by FIMS	EM2203960--040	BH-9/ 1.0	Mercury	7439-97-6	117 %	76.0-116%	Recovery greater than upper data quality objective

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		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)								
Soil Glass Jar - Unpreserved (EA055)								
BH-1/ 0.5, BH-1/ 3.0, BH-2/ 1.5, BH-3/ 0.5, BH-4/ 0.5, BH-4/ 1.5, BH-5/ 1.0, BH-6.2/ 1.5, BH-7/ 1.3, BH-8/ 0.9, BH-9/ 0.5, QA1/ BH-12/ 0.5, BH-13/ 0.3, BH-14/ 0.5, BH-15/ 0.5, BH-16/ 1.0, BH-17/ 0.6, QA3/ QA2/	BH-1/ 1.5, BH-2/ 0.5, BH-2/ 2.9, BH-3/ 2.0, BH-4/ 1.0, BH-5/ 0.5, BH-6.2/ 1.0, BH-7/ 0.5, BH-8/ 0.5, BH-18/0, BH-9/ 1.0, BH-10/ 0.5, BH-11/ 0.5, BH-12/ 0.8, BH-13/ 0.6, BH-15/ 0.0, BH-16/ 0.5, BH-17/ 0.3, BH10/0.7, QA4/	07-Mar-2022	---	---	---	09-Mar-2022	21-Mar-2022	✓



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Matrix: SOIL

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method	Sample Date		Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG005(ED093)T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved (EG005T)								
BH-1/ 0.5, BH-1/ 3.0, BH-2/ 1.5, BH-3/ 0.5, BH-4/ 0.5, BH-4/ 1.5, BH-5/ 1.0, BH-6.2/ 1.5, BH-7/ 1.3, BH-8/ 0.9, BH-9/ 0.5, QA1/ BH-12/ 0.5, BH-13/ 0.3, BH-14/ 0.5, BH-15/ 0.5, BH-16/ 1.0, BH-17/ 0.6, QA3/	BH-1/ 1.5, BH-2/ 0.5, BH-2/ 2.9, BH-3/ 2.0, BH-4/ 1.0, BH-5/ 0.5, BH-6.2/ 1.0, BH-7/ 0.5, BH-8/ 0.5, BH-18/0, BH-9/ 1.0, BH-10/ 0.5, BH-11/ 0.5, BH-12/ 0.8, BH-13/ 0.6, BH-15/ 0.0, BH-16/ 0.5, BH-17/ 0.3, BH10/0.7,	07-Mar-2022	09-Mar-2022	03-Sep-2022	✓	09-Mar-2022	03-Sep-2022	✓
Soil Glass Jar - Unpreserved (EG005T)								
QA2/	QA4/	07-Mar-2022	09-Mar-2022	03-Sep-2022	✓	10-Mar-2022	03-Sep-2022	✓



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Matrix: SOIL

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved (EG035T)		07-Mar-2022	09-Mar-2022	04-Apr-2022	✔	09-Mar-2022	04-Apr-2022	✔
BH-1/ 0.5,	BH-1/ 1.5,							
BH-1/ 3.0,	BH-2/ 0.5,							
BH-2/ 1.5,	BH-2/ 2.9,							
BH-3/ 0.5,	BH-3/ 2.0,							
BH-4/ 0.5,	BH-4/ 1.0,							
BH-4/ 1.5,	BH-5/ 0.5,							
BH-5/ 1.0,	BH-6.2/ 1.0,							
BH-6.2/ 1.5,	BH-7/ 0.5,							
BH-7/ 1.3,	BH-8/ 0.5,							
BH-8/ 0.9,	BH-18/0,							
BH-9/ 0.5,	BH-9/ 1.0,							
BH-10/ 0.5,	BH-11/ 0.5,							
BH-12/ 0.5,	BH-12/ 0.8,							
BH-13/ 0.3,	BH-13/ 0.6,							
BH-14/ 0.5,	BH-15/ 0.0,							
BH-15/ 0.5,	BH-16/ 0.5,							
BH-16/ 1.0,	BH-17/ 0.3,							
BH-17/ 0.6								
Soil Glass Jar - Unpreserved (EG035T)		07-Mar-2022	09-Mar-2022	04-Apr-2022	✔	10-Mar-2022	04-Apr-2022	✔
BH10/0.7,	QA1/							
QA3/	QA2/							
QA4/								



Page : 5 of 10
 Work Order : EM2203960 Amendment 1
 Client : GHD PTY LTD
 Project : 12574014

Matrix: SOIL

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method	Sample Date		Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved (EP075(SIM))								
BH-1/ 0.5, BH-1/ 3.0, BH-2/ 1.5, BH-3/ 0.5, BH-4/ 0.5, BH-4/ 1.5, BH-5/ 1.0, BH-6.2/ 1.5, BH-7/ 1.3, BH-8/ 0.9, BH-9/ 0.5, QA1/ BH-12/ 0.5, BH-13/ 0.3, BH-14/ 0.5, BH-15/ 0.5, BH-16/ 1.0, BH-17/ 0.6, QA3/	BH-1/ 1.5, BH-2/ 0.5, BH-2/ 2.9, BH-3/ 2.0, BH-4/ 1.0, BH-5/ 0.5, BH-6.2/ 1.0, BH-7/ 0.5, BH-8/ 0.5, BH-18/0, BH-9/ 1.0, BH-10/ 0.5, BH-11/ 0.5, BH-12/ 0.8, BH-13/ 0.6, BH-15/ 0.0, BH-16/ 0.5, BH-17/ 0.3, BH10/0.7,	07-Mar-2022	09-Mar-2022	21-Mar-2022	✔	09-Mar-2022	18-Apr-2022	✔
Soil Glass Jar - Unpreserved (EP075(SIM))								
QA2/ QA4/		07-Mar-2022	10-Mar-2022	21-Mar-2022	✔	10-Mar-2022	19-Apr-2022	✔

Page : 6 of 10
 Work Order : EM2203960 Amendment 1
 Client : GHD PTY LTD
 Project : 12574014



Matrix: SOIL

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved (EP080)								
BH-1/ 0.5, BH-1/ 3.0, BH-2/ 1.5, BH-3/ 0.5, BH-4/ 0.5, BH-4/ 1.5, BH-5/ 1.0, BH-6.2/ 1.5, BH-7/ 1.3, BH-8/ 0.9, BH-9/ 0.5, QA1/ BH-12/ 0.5, BH-13/ 0.3, BH-14/ 0.5, BH-15/ 0.5, BH-16/ 1.0, BH-17/ 0.6, QA3/	BH-1/ 1.5, BH-2/ 0.5, BH-2/ 2.9, BH-3/ 2.0, BH-4/ 1.0, BH-5/ 0.5, BH-6.2/ 1.0, BH-7/ 0.5, BH-8/ 0.5, BH-18/0, BH-9/ 1.0, BH-10/ 0.5, BH-11/ 0.5, BH-12/ 0.8, BH-13/ 0.6, BH-15/ 0.0, BH-16/ 0.5, BH-17/ 0.3, BH10/0.7,	07-Mar-2022	09-Mar-2022	21-Mar-2022	✓	09-Mar-2022	21-Mar-2022	✓
Soil Glass Jar - Unpreserved (EP080)								
QA2/	QA4/	07-Mar-2022	10-Mar-2022	21-Mar-2022	✓	10-Mar-2022	21-Mar-2022	✓

Page : 7 of 10
Work Order : EM2203960 Amendment 1
Client : GHD PTY LTD
Project : 12574014



Matrix: SOIL

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
Soil Glass Jar - Unpreserved (EP080)								
BH-1/ 0.5, BH-1/ 3.0, BH-2/ 1.5, BH-3/ 0.5, BH-4/ 0.5, BH-4/ 1.5, BH-5/ 1.0, BH-6.2/ 1.5, BH-7/ 1.3, BH-8/ 0.9, BH-9/ 0.5, QA1/ BH-12/ 0.5, BH-13/ 0.3, BH-14/ 0.5, BH-15/ 0.5, BH-16/ 1.0, BH-17/ 0.6, QA3/	BH-1/ 1.5, BH-2/ 0.5, BH-2/ 2.9, BH-3/ 2.0, BH-4/ 1.0, BH-5/ 0.5, BH-6.2/ 1.0, BH-7/ 0.5, BH-8/ 0.5, BH-18/0, BH-9/ 1.0, BH-10/ 0.5, BH-11/ 0.5, BH-12/ 0.8, BH-13/ 0.6, BH-15/ 0.0, BH-16/ 0.5, BH-17/ 0.3, BH10/0.7,	07-Mar-2022	09-Mar-2022	21-Mar-2022	✓	09-Mar-2022	21-Mar-2022	✓
Soil Glass Jar - Unpreserved (EP080)								
QA2/	QA4/	07-Mar-2022	10-Mar-2022	21-Mar-2022	✓	10-Mar-2022	21-Mar-2022	✓



Page : 8 of 10
 Work Order : EM2203960 Amendment 1
 Client : GHD PTY LTD
 Project : 12574014

Matrix: SOIL

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080: BTEXN								
Soil Glass Jar - Unpreserved (EP080)		07-Mar-2022	09-Mar-2022	21-Mar-2022	✓	09-Mar-2022	21-Mar-2022	✓
BH-1/ 0.5,	BH-1/ 1.5,							
BH-1/ 3.0,	BH-2/ 0.5,							
BH-2/ 1.5,	BH-2/ 2.9,							
BH-3/ 0.5,	BH-3/ 2.0,							
BH-4/ 0.5,	BH-4/ 1.0,							
BH-4/ 1.5,	BH-5/ 0.5,							
BH-5/ 1.0,	BH-6.2/ 1.0,							
BH-6.2/ 1.5,	BH-7/ 0.5,							
BH-7/ 1.3,	BH-8/ 0.5,							
BH-8/ 0.9,	BH-18/0,							
BH-9/ 0.5,	BH-9/ 1.0,							
QA1/,	BH-10/ 0.5, BH-11/ 0.5,							
BH-12/ 0.5,	BH-12/ 0.8,							
BH-13/ 0.3,	BH-13/ 0.6,							
BH-14/ 0.5,	BH-15/ 0.0,							
BH-15/ 0.5,	BH-16/ 0.5,							
BH-16/ 1.0,	BH-17/ 0.3,							
BH-17/ 0.6,	BH10/0.7,							
QA3/								
Soil Glass Jar - Unpreserved (EP080)		07-Mar-2022	10-Mar-2022	21-Mar-2022	✓	10-Mar-2022	21-Mar-2022	✓
QA2/,	QA4/							

Page : 9 of 10
 Work Order : EM2203960 Amendment 1
 Client : GHD PTY LTD
 Project : 12574014



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 (%)		Evaluation	Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected		
Laboratory Duplicates (DUP)							
Moisture Content	EA055	7	63	11.11	10.00	✔	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	5	38	13.16	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	5	38	13.16	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	6	38	15.79	10.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	5	38	13.16	10.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	5	38	13.16	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	3	38	7.89	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	3	38	7.89	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	3	38	7.89	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	3	38	7.89	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	3	38	7.89	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	3	38	7.89	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	3	38	7.89	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	3	38	7.89	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	3	38	7.89	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	3	38	7.89	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	3	38	7.89	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	3	38	7.89	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	3	38	7.89	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	3	38	7.89	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	3	38	7.89	5.00	✔	NEPM 2013 B3 & ALS QC Standard

Page : 10 of 10
 Work Order : EM2203960 Amendment 1
 Client : GHD PTY LTD
 Project : 12574014



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).
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 APHA 3112 Hg - B (Flow-injection (SnCl ₂) (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 SnCl ₂ 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)
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)
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.
Preparation Methods	Method	Matrix	Method Descriptions
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, Na ₂ SO ₄ 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.

1 of 1

Sunday, March 6, 2022 11:56:43 PM

Ranil Weerakkody

From: Peter Ravlic
Sent: Tuesday, 8 March 2022 11:42 AM
To: COC Melbourne
Subject: FW: [EXTERNAL] - 3 eskies arriving today. all samples on 2 day turnaround or hold. COC 34736 and 34741
Attachments: field old forestry.xlsx

Kind Regards

right solutions.
right partner.Peter Ravlic
Client Services
ALS LimitedPh: +61 3 8549 9600
peter.ravlic@alsglobal.com

2-4 Westall Road, Springvale VIC 3171

alsglobal.com

From: Nicole Reineker <Nicole.Reineker@ghd.com>
Sent: Tuesday, 8 March 2022 9:17 AM
To: Peter Ravlic <peter.ravlic@alsglobal.com>
Subject: [EXTERNAL] - 3 eskies arriving today. all samples on 2 day turnaround or hold. COC 34736 and 34741

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

Hi Peter

These are the samples that I mentioned last week for the 2 day turnaround. WE also need a few eskies and freezer packs sent to the office as we're down to one esky and Im sampling Friday and Tuesday. Can you please also fill these with soil jars as we are starting to get a little low on these.

COC via app 34741
TCLP leach on 7 metals suite.
Analysis on the following samples:
Bulk Upper 0%
Bulk Upper 5%
Bulk Upper 10%
Bulk Upper 15%
Bulk Upper 20%
QA
Upper 0
Lower 0
Hold the Upper 5, 10, 15 and 20%; and Lower 5, 10,15,20

There are also sandwich bags with some additional volume of sample for each sample in the esky.

COC 34736

Please analyse these for the TRH, BTEXN, PAH 8 metals suite. (in sheet 2 of attached- if an excel format is easier for lab)

BH	depth	ALS i.d.
1	0.5	(2)
1	1.5	(4)
1	3	(6)
2	0.5	(8)
2	1.5	(10)
2	3	(12) - received 2.9
3	0.5	(14)
3	2	(16)
4	0.5	(19)
4	1	(20)
4	1.5	(21)
5	0.5	(25)
5	1	(26)
6	1	(29) } → received "BM 6.2"
6	1.5	(30)
7	0.5	(32)
7	1.3	(34)
8	0.5	(36)
8	0.9	(37)
9	0	(38)
9	0.5	(39)
9	0.9	(40) → received 1.0
10	0.5	(42)
10	0.7	→ NOT RECEIVED
11	0.5	(44)
12	0.5	(46)
12	0.8	(47)
13	0.3	(49)
13	0.6	(50)
14	0.5	(51)
15	0	(52)
15	0.5	(53)
17	0.3	(58)
17	0.6	(59)
16	0.5	(55)
16	1	(56)

Please send
QA2 + QA4
to ALS Sydney

QA1 + QA3
on 2 day TAT
as well

Please give me call if there are questions

Cheers

Nicole K Reineker

Environmental Scientist

Please note my working days are Monday to Thursday

GHD

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2 Salamanca Square Hobart Tasmania 7000 Australia


D +61 3 6210 0626 M +61 403 857 681 E nicole.reineker@ghd.com


GREEN H. RECEIVED (8/3)

(ALS 10)

BH1	1	0	BH7	32	1.0	QA2 65	} ES.
	2	0.5		34	1.3	QA4 66	
	3	1.0	BH8	35	0.0		
	4	1.5		36	0.905		
	5	2		37	0.9		
	6	3	BH9	38	1.50.0		
BH2	7	0.0-0.1		39	0.5		
	8	0.5		40	1.0		
	9	1.0	BH10	41	0.0		
	10	1.5		42	0.5		
	11	2.0	BH11	43	0.0		
	12	2.9		44	0.5		
BH3	13	0.1	BH12	45	0.0		
	14	0.5		46	0.5		
	15	1.5		47	0.8		
	16	2.0	BH13	48	0.0		
	17	3.0		49	0.3		
BH4	18	0.0		50	0.6		
	19	0.5	BH14	51	0.5		
	20	1.0	" 15	52	0.0		
	21	1.5		53	0.5		
	22	2.0	16	54	0.15		
	23	2.5		55	0.5		
BH5	24	0.0		56	1.0		
	25	0.5	17	57	0.0		
	26	1.0		58	0.3		
BH6.2	27	0.5		59	0.6		
	28	0.8	18	60	0.0		
	29	1.0	(EXTRAS)				
	30	1.5	BH?	61	1.7/0.7?	} email CSCI	
BH7	31	0.0	BH?	62	1.0		
BH7	32	0.5	QA	163			
			QA	364			

CHAIN OF CUSTODY							RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
 COC#: 34736 ALS Laboratory: EM Melbourne							DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:
CLIENT: GHDSER - GHD PTY LTD PROJECT: 12574014 SITE: old forestry building ORDER NO: 12574014 PROJECT MANAGER: Nicole Reineker PRIMARY SAMPLER: Nicole Reineker EMAIL REPORTS TO: EMAIL INVOICES TO:							TURNAROUND REQUIREMENTS : 2 Days Biohazard info:		LABORATORY USE ONLY (Circle) Custody Seal intact? Yes No N/A Free ice / frozen ice bricks present upon receipt? Yes No N/A Random Sample Temperature on Receipt: °C Other comments:	
									FREIGHT URGENT	
SAMPLE DETAILS							ANALYSIS REQUIRED			
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION	
001	BH-1		07/03/2022 10:07 AM	Soil	ALS: 1 Non ALS: 0	No	-			
002	BH-2		07/03/2022 10:07 AM	Soil	ALS: 1 Non ALS: 0	No	-			
003	BH-3		07/03/2022 10:08 AM	Soil	ALS: 1 Non ALS: 0	No	-			
004	BH-4		07/03/2022 10:08 AM	Soil	ALS: 1 Non ALS: 0	No	-			

Environmental Division
 Melbourne
 Work Order Reference
EM2203960

 Telephone : + 61-3-8549 9600
SCANNED

Received: *8/3, 10:45*
 C/note: *706382*
 Temp: *16.5* °C Seal: *N*
 Ice: *ice* Icebricks: *N/A*


Sunday, March 6, 2022

11:56:43 PM

1 of 1

Sunday, March 6, 2022 11:56:43 PM

Ranil Weerakkody

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Subject: FW: [EXTERNAL] - 3 eskies arriving today. all samples on 2 day turnaround or hold. COC 34736 and 34741
Attachments: field old forestry.xlsx

Kind Regards



Peter Ravlic
Client Services
ALS Limited

Ph: +61 3 8549 9600
peter.ravlic@alsglobal.com

2-4 Westall Road, Springvale VIC 3171

alsglobal.com

From: Nicole Reineker <Nicole.Reineker@ghd.com>
Sent: Tuesday, 8 March 2022 9:17 AM
To: Peter Ravlic <peter.ravlic@alsglobal.com>
Subject: [EXTERNAL] - 3 eskies arriving today. all samples on 2 day turnaround or hold. COC 34736 and 34741

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

Hi Peter

These are the samples that I mentioned last week for **the 2 day turnaround**. WE also need a few eskies and freezer packs sent to the office as we're down to one esky and Im sampling Friday and Tuesday. Can you please also fill these with soil jars as we are starting to get a little low on these.

COC via app 34741

TCLP leach on 7 metals suite.

Analysis on the following samples:

Bulk Upper 0%

Bulk Upper 5%

Bulk Upper 10%

Bulk Upper 15%

Bulk Upper 20%

QA

Upper 0

Lower 0

Hold the Upper 5, 10, 15 and 20%; and Lower 5, 10,15,20

There are also sandwich bags with some additional volume of sample for each sample in the esky.

COC 34736

Please analyse these for the TRH, BTEXN, PAH 8 metals suite. (in sheet 2 of attached- if an excel format is easier for lab)

ALS 1: D.

BH	depth
1	0.5 (2)
1	1.5 (4)
1	3 (6)
2	0.5 (8)
2	1.5 (10)
2	3 (12) - received 2.9
3	0.5 (14)
3	2 (16)
4	0.5 (19)
4	1 (20)
4	1.5 (21)
5	0.5 (25)
5	1 (26)
6	1 (29) } → received "BM 6.2"
6	1.5 (30)
7	0.5 (32)
7	1.3 (34)
8	0.5 (36)
8	0.9 (37)
9	0 (38)
9	0.5 (39)
9	0.9 (40) → received 1.0
10	0.5 (42)
10	0.7 → NOT RECEIVED
11	0.5 (44)
12	0.5 (46)
12	0.8 (47)
13	0.3 (49)
13	0.6 (50)
14	0.5 (51)
15	0 (52)
15	0.5 (53)
17	0.3 (58)
17	0.6 (59)
16	0.5 (55)
16	1 (56)

Please send
QA2 + QA4
to ALS Sydney

QA1 + QA3
on 2 day TAT
as well

Please give me call if there are questions

Cheers

Nicole K Reineker

Environmental Scientist

Please note my working days are Monday to Thursday

GHD

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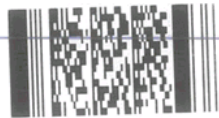
2 Salamanca Square Hobart Tasmania 7000 Australia

D +61 3 6210 0626 M +61 403 857 681 E nicole.reineker@ghd.com

GREEN H. RECEIVED (8/3)

(ALSID)

BH1	1	0	BH7	33	1.0	QA2 65	} ES.
	2	0.5		34	1.3	QA4 66	
	3	1.0	BH8	35	0.0		
	4	1.5		36	0.05		
	5	2		37	0.9		
	6	3	BH9	38	150.0		
BH2	7	0.0-0.1		39	0.5		
	8	0.5		40	1.0		
	9	1.0	BH10	41	0.0		
	10	1.5		42	0.5		
	11	2.0	BH11	43	0.0		
	12	2.9		44	0.5		
BH3	13	0.1	BH12	45	0.0		
	14	0.5		46	0.5		
	15	1.5		47	0.8		
	16	2.0	BH13	48	0.0		
	17	3.0		49	0.3		
BH4	18	0.0		50	0.6		
	19	0.5	BH14	51	0.5		
	20	1.0	" 15	52	0.0		
	21	1.5		53	0.5		
	22	2.0	16	54	0.15		
	23	2.5		55	0.5		
BH5	24	0.0		56	1.0		
	25	0.5	17	57	0.0		
	26	1.0		58	0.3		
BH6.2	27	0.5		59	0.6		
	28	0.8	18	60	0.0		
	29	1.0	(EXTRAS)				
	30	1.5	BH?	61	1.7/0.7?	} email CSCI	
BH7	31	0.0	BH?	62	1.0		
BH7	32	0.5	QA	63			
			QA3	64			

CHAIN OF CUSTODY							RELINQUISHED BY:		RECEIVED BY:		RELINQUISHED BY:		RECEIVED BY:		
ALS COC#: 34736 ALS Laboratory: EM Melbourne							DATE TIME:		DATE TIME:		DATE TIME:		DATE TIME:		
CLIENT: GHD SER - GHD PTY LTD							TURNAROUND REQUIREMENTS: 2 Days		LABORATORY USE ONLY (Circle) Custody Seal intact? Yes No N/A Free ice / frozen ice bricks present upon receipt? Yes No N/A Random Sample Temperature on Receipt: °C Other comments:						
PROJECT: 12574014															
SITE: old forestry building							Biohazard info:								
ORDER NO: 12574014							CONTACT PH:		SAMPLER MOBILE: EM2021GHD SER0036						
PROJECT MANAGER: Nicole Reineker							QUOTE NO: ME/589/21 v2								
PRIMARY SAMPLER: Nicole Reineker															
EMAIL REPORTS TO:															
EMAIL INVOICES TO:															
SAMPLE DETAILS							ANALYSIS REQUIRED			FREIGHT URGENT					
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION						
001	BH-1		07/03/2022 10:07 AM	Soil	ALS: 1 Non ALS: 0	No	-				Environmental Division Melbourne Work Order Reference EM2203960  Telephone : - 61-3-8549 9600 SCANNED				
002	BH-2		07/03/2022 10:07 AM	Soil	ALS: 1 Non ALS: 0	No	-								
003	BH-3		07/03/2022 10:08 AM	Soil	ALS: 1 Non ALS: 0	No	-								
004	BH-4		07/03/2022 10:08 AM	Soil	ALS: 1 Non ALS: 0	No	-								
Received: 8/3, 10:45 C/note: 706362 Temp: 16°C Seal: ON Ice: 3 Icebricks y N/A										Carrier: TAPART					

Sunday, March 6, 2022

11:56:43 PM

Sunday, March 6, 2022 11:56:43 PM

Erin Price

From: Peter Ravlic
Sent: Wednesday, 9 March 2022 9:20 AM
To: Erin Price
Cc: Samples Melbourne
Subject: RE: COC required: EM2203960, Client GHDSER, Project 12574014

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Erin

Further to the below

Please allocate the following ID's

#62 - BH7/1.0
#33 - BH3/10.0
#61 - BH10/0.7
#66 - QA4

I will email through a COC this morning

Thanks

Kind Regards



Peter Ravlic
Client Services
ALS Limited

Ph: +61 3 8549 9600
peter.ravlic@alsglobal.com

2-4 Westall Road, Springvale VIC 3171

alsglobal.com

From: Peter Ravlic
Sent: Wednesday, 9 March 2022 9:00 AM
To: Erin Price <erin.price@alsglobal.com>
Cc: Samples Melbourne <Samples.Melbourne@alsglobal.com>
Subject: RE: COC required: EM2203960, Client GHDSER, Project 12574014

Hi Erin

Please allocate same analysis on the QA samples

I will chase up the other issues

Thanks

Kind Regards



right solutions.
right partner.

Peter Ravlic
Client Services
ALS Limited

Ph: +61 3 8549 9600
peter.ravlic@alsglobal.com

2-4 Westall Road, Springvale VIC 3171

alsglobal.com

From: Erin Price <erin.price@ALSGlobal.com>
Sent: Tuesday, 8 March 2022 5:28 PM
To: ALS Enviro Melbourne <ALSEnviroMelbourne@ALSGlobal.com>
Cc: Samples Melbourne <Samples.Melbourne@alsglobal.com>
Subject: COC required: EM2203960, Client GHDSER, Project 12574014

Hi All,

We've had a few issues with EM2203960 and I was hoping for some clarification.

The WO was created in Compass however only 4 of the 66 samples received were scanned in.

The follow up email listing analysis does not cover all of the samples received.

I have scanned in a list of samples received, but if the client could send a correct COC with all samples and analysis that would be great.

Could the client confirm;

- What analysis is requested for samples QA1 and QA3
- And analysis for samples sent to Sydney (QA2 and QA4)

Analysis has not been logged for these samples.

In addition the following sample was not received

- BH10_0.7

the following client ID could not be deciphered;

- 061 (BH?_1.7) (picture attached)
- Sample 066 was also difficult to decipher but it was assumed to be QA4

We also received X2 jars that appeared to be labelled BH7_1.0 (sample 033 and sample 062)

I have attached pictures of the samples in question, are they the same sample or is one intended to be different?

I have logged analysis for all other samples listed on client email.

Kind Regards,



right solutions.
right partner.

Erin Price
Sample Receipt Officer
ALS Limited

2-4 Westall Road, Springvale VIC 3171

alsglobal.com

**CHAIN OF CUSTODY**

ALS Laboratory: please tick →

☐ Sydney 277 Woodpark Rd, Smithfield NSW 2164
 Ph 02 8784 8555 E samples.sydney@alsenviro.com

☐ Newcastle: 5 Rosegum Rd, Warabrook NSW 2304
 Ph 02 4968 6433 E samples.newcastle@alsenviro.com

☐ Brisbane 32 Shand St, Stafford QLD 4053
 Ph 07 3243 7222 E samples.brisbane@alsenviro.com

☐ Townsville: 14-15 Desma Ct, Bohle QLD 4818
 Ph 07 4796 0600 E townsville.environmental@alsenviro.com

☐ Melbourne 2-4 Westall Rd, Springvale VIC 3171
 Ph 03 8549 9600 E samples.melbourne@alsenviro.com

☐ Adelaide: 2-1 Burma Rd, Pooraka SA 5095
 Ph 08 5359 0890 E adelaide@alsenviro.com

CLIENT: GHD		TURNAROUND REQUIREMENTS : <input type="checkbox"/> Standard TAT (List due date):		FOR LABORATORY USE ONLY (Circle)																																																																																																																																																																																																																																																																																																
OFFICE: Hobart		(Standard TAT may be longer for some tests e.g. Ultra Trace Organics)		Custody Seal Intact? Yes No N/A																																																																																																																																																																																																																																																																																																
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PROJECT MANAGER: Nicole Reineker 403857681		COC SEQUENCE NUMBER (Circle)		Other comment:																																																																																																																																																																																																																																																																																																
SAMPLER: Nicole Reineker N/A		SAMPLER MOBILE: 0403857681		RECEIVED BY:																																																																																																																																																																																																																																																																																																
COC emailed to ALS?		EDD FORMAT (or default):		RELINQUISHED BY:																																																																																																																																																																																																																																																																																																
Email Reports to (will default to PM if no other addresses are listed): don.rockliff@ghd.com		Email Invoice to : ap-fss@ghd.com		DATE/TIME:																																																																																																																																																																																																																																																																																																
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:		RELINQUISHED BY: Nicol Reineker		DATE/TIME:																																																																																																																																																																																																																																																																																																
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	BH6-2-0.5	6/3/22	S	SOIL JAR	1																																																																																																																																																																																																																																																																																															
	BH6-1	6/3/22	S	SOIL JAR	1																																																																																																																																																																																																																																																																																															
	BH6-1.5	6/3/22	S	SOIL JAR	1																																																																																																																																																																																																																																																																																															
	BH7-0	6/3/22	S	SOIL JAR	1																																																																																																																																																																																																																																																																																															
	BH7-0.5	6/3/22	S	SOIL JAR	1																																																																																																																																																																																																																																																																																															
	BH7-1	6/3/22	S	SOIL JAR	1																																																																																																																																																																																																																																																																																															
	BH7-1.5	6/3/22	S	SOIL JAR	1																																																																																																																																																																																																																																																																																															
	BH8-0	6/3/22	S	SOIL JAR	1																																																																																																																																																																																																																																																																																															
	BH8-0.5	6/3/22	S	SOIL JAR	1																																																																																																																																																																																																																																																																																															
	BH8-1	6/3/22	S	SOIL JAR	1																																																																																																																																																																																																																																																																																															

100

COC 34736
Please analyse these for the **TRH, BTEXN, PAH 8** metals suite. (in sheet 2 of attached- if an excel format is easier for tab)

BH	depth	ALS I.D.
1	0.5 (2)	
1	1.5 (4)	
1	3 (1)	
2	0.5 (8)	
2	1.5 (10)	
2	3 (12) - received 2.9	
3	0.5 (14)	
3	2 (16)	
4	0.5 (19)	
4	1 (20)	
4	1.5 (21)	
5	0.5 (25)	
5	1 (26)	
6	1 (29)	
6	1.5 (30) } → received "BH 6.2"	
7	0.5 (32)	
7	1.3 (34)	
8	0.5 (36)	
8	0.9 (37)	
9	0 (38)	
9	0.5 (39)	
9	0.9 (40) → received 1.0	
10	0.5 (42)	
10	0.7 → not received	
11	0.5 (44)	
12	0.5 (46)	
12	0.8 (47)	
13	0.3 (49)	
13	0.6 (50)	
14	0.5 (51)	
15	0 (52)	
15	0.5 (53)	
17	0.3 (58)	
17	0.6 (59)	
16	0.5 (55)	
16	1 (56)	

Please give me call if there are questions

Cheers

Nicole K Reineker

Environmental Scientist

Please note my working days are Monday to Thursday

GHD

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2 Salamanca Square Hobart Tasmania 7000 Australia
D +61 3 6210 0626 M +61 403 857 681 E nicole.reineker@ghd.com

Forwarded to
Secondary Lab
Initials ep Date 8/3

GREEN H. RECEIVED (8/3)

(ALS ID)

BH1	1	0	BH7	33	1.0	QA2 65
	2	0.5		34	1.3	QA4 66
	3	1.0	BH8	35	0.0	} ES.
	4	1.5		36	0.905	
	5	2		37	0.9	
	6	3	BH9	38	1.50.0	
BH2	7	0.0-0.1		39	0.5	
	8	0.5		40	1.0	
	9	1.0	BH10	41	0.0	
	10	1.5		42	0.5	
	11	2.0	BH11	43	0.0	
	12	2.9		44	0.5	
BH3	13	0.1	BH12	45	0.0	
	14	0.5		46	0.5	
	15	1.5		47	0.8	
	16	2.0	BH13	48	0.0	
	17	3.0		49	0.3	
BH4	18	0.0		50	0.6	
	19	0.5	BH14	51	0.5	
	20	1.0		52	0.0	
	21	1.5		53	0.5	
	22	2.0	16	54	0.15	
	23	2.5		55	0.5	
BH5	24	0.0		56	0.0	
	25	0.5	17	57	0.0	
	26	1.0		58	0.3	
BH6.2	27	0.5		59	0.6	
	28	0.8	18	60	0.0	
	29	1.0	(CENTRAS)			
	30	1.5	BH?	61	1.7/0.7?	} email CSCI
BH7	31	0.0	BH?	62	1.0	
BH7	32	0.5	QA1	63		
			QA3	64		



CERTIFICATE OF ANALYSIS

Work Order : **EM2205151**
Client : **GHD PTY LTD**
Contact : **MS NICOLE REINEKER**
Address : **LEVEL 8, 180 LONSDALE ST**
MELBOURNE VIC, AUSTRALIA 3001
Telephone : **----**
Project : **12574014**
Order number : **12574014**
C-O-C number : **35132**
Sampler : **NICOLE REINEKER**
Site : **geo tech test pits**
Quote number : **ME/589/21 v2**
No. of samples received : **21**
No. of samples analysed : **10**

Page : 1 of 12
Laboratory : Environmental Division Melbourne
Contact : Shirley LeCornu
Address : 4 Westall Rd Springvale VIC Australia 3171
Telephone : +6138549 9630
Date Samples Received : 24-Mar-2022 10:00
Date Analysis Commenced : 31-Mar-2022
Issue Date : 01-Apr-2022 14:06



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
- 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
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC
Nikki Stepniewski	Senior Inorganic Instrument Chemist	Melbourne Inorganics, Springvale, VIC

Page : 2 of 12
Work Order : EM2205151
Client : GHD PTY LTD
Project : 12574014



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.

- 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.
- 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.

Page : 3 of 12
Work Order : EM2205151
Client : GHD PTY LTD
Project : 12574014



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)		Sample ID		GTP-1_1.00	----	----	----	----
		Sampling date / time		16-Mar-2022 09:45	----	----	----	----
Compound	CAS Number	LOR	Unit	EM2205151-003	-----	-----	-----	-----
Result				---	---	---	---	---
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	14.8	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	----	----	----	----
Cadmium	7440-43-9	1	mg/kg	<1	----	----	----	----
Chromium	7440-47-3	2	mg/kg	16	----	----	----	----
Copper	7440-50-8	5	mg/kg	7	----	----	----	----
Lead	7439-92-1	5	mg/kg	9	----	----	----	----
Nickel	7440-02-0	2	mg/kg	7	----	----	----	----
Zinc	7440-66-6	5	mg/kg	8	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	----	----	----	----
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	----	----	----	----
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	----	----	----	----

Page : 4 of 12
Work Order : EM2205151
Client : GHD PTY LTD
Project : 12574014



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	GTP-1_1.00	----	----	----	----
Sampling date / time					16-Mar-2022 09:45	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2205151-003	-----	-----	-----	-----
Result						---	---	---	---
EP080/071: Total Petroleum Hydrocarbons - Continued									
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	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		103	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		92.6	----	----	----	----
2,4,6-Tribromophenol	118-79-6	0.5	%		83.8	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		102	----	----	----	----
Anthracene-d10	1719-06-8	0.5	%		107	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		110	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		90.9	----	----	----	----
Toluene-D8	2037-26-5	0.2	%		97.0	----	----	----	----

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Work Order : EM2205151
Client : GHD PTY LTD
Project : 12574014



Analytical Results

Sub-Matrix: SEDIMENT (Matrix: SOIL)				Sample ID	GTP-1_1.00	---	---	---	---
				Sampling date / time	16-Mar-2022 09:45	---	---	---	---
Compound				CAS Number	EM2205151-003	-----	-----	-----	-----
				LOR					
				Unit	Result	---	---	---	---
EP080S: TPH(V)/BTEX Surrogates - Continued									
4-Bromofluorobenzene				460-00-4	0.2	%	95.8	---	---

Page : 6 of 12
Work Order : EM2205151
Client : GHD PTY LTD
Project : 12574014



Analytical Results

Sub-Matrix: SOIL
(Matrix: SOIL)

				Sample ID	GTP-1_2.00	GTP-1_3.00	GTP-1_4.00	GTP-1_5.00	qa5
Sampling date / time					16-Mar-2022 09:48	16-Mar-2022 09:49	16-Mar-2022 09:49	16-Mar-2022 09:50	16-Mar-2022 09:50
Compound	CAS Number	LOR	Unit		EM2205151-005	EM2205151-006	EM2205151-007	EM2205151-008	EM2205151-009
					Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		10.0	12.3	15.5	20.4	7.6
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		<5	<5	<5	<5	<5
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	<1
Chromium	7440-47-3	2	mg/kg		17	28	34	44	16
Copper	7440-50-8	5	mg/kg		88	104	68	49	80
Lead	7439-92-1	5	mg/kg		<5	34	7	<5	<5
Nickel	7440-02-0	2	mg/kg		26	31	32	34	23
Zinc	7440-66-6	5	mg/kg		26	69	26	16	24
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		<0.1	0.2	<0.1	<0.1	<0.1
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1,2,3-cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		0.6	0.6	0.6	0.6	0.6
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		1.2	1.2	1.2	1.2	1.2
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	<10

Page : 7 of 12
Work Order : EM2205151
Client : GHD PTY LTD
Project : 12574014



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	GTP-1_2.00	GTP-1_3.00	GTP-1_4.00	GTP-1_5.00	qa5
Sampling date / time					16-Mar-2022 09:48	16-Mar-2022 09:49	16-Mar-2022 09:49	16-Mar-2022 09:50	16-Mar-2022 09:50
Compound	CAS Number	LOR	Unit		EM2205151-005	EM2205151-006	EM2205151-007	EM2205151-008	EM2205151-009
					Result	Result	Result	Result	Result
EP080/071: Total Petroleum Hydrocarbons - Continued									
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
[^] C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	<10
[^] C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	<10
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	<50
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	<100
[^] >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	<50
[^] >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	<50
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
[^] Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	<0.2
[^] Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	<1
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		105	105	104	101	104
2-Chlorophenol-D4	93951-73-6	0.5	%		94.1	95.4	94.9	91.6	93.4
2,4,6-Tribromophenol	118-79-6	0.5	%		86.3	87.7	85.9	85.9	86.7
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		102	104	104	101	104
Anthracene-d10	1719-06-8	0.5	%		110	102	110	107	103
4-Terphenyl-d14	1718-51-0	0.5	%		110	106	112	107	111
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		97.2	83.8	87.3	94.9	91.6
Toluene-D8	2037-26-5	0.2	%		103	91.5	94.0	103	97.8

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Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

				Sample ID	GTP-1_2.00	GTP-1_3.00	GTP-1_4.00	GTP-1_5.00	qa5
Sampling date / time					16-Mar-2022 09:48	16-Mar-2022 09:49	16-Mar-2022 09:49	16-Mar-2022 09:50	16-Mar-2022 09:50
Compound	CAS Number	LOR	Unit		EM2205151-005	EM2205151-006	EM2205151-007	EM2205151-008	EM2205151-009
Result									
EP080S: TPH(V)/BTEX Surrogates - Continued									
4-Bromofluorobenzene	460-00-4	0.2	%		98.7	90.2	93.5	101	94.4

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Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	GTP-03_1.00	GTP-03_2.00	GTP-4_0.00	GTP-2_0.50	----
Sampling date / time					17-Mar-2022 07:29	17-Mar-2022 07:30	17-Mar-2022 09:11	17-Mar-2022 11:11	----
Compound	CAS Number	LOR	Unit		EM2205151-013	EM2205151-015	EM2205151-016	EM2205151-021	-----
				Result	Result	Result	Result	Result	----
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	1.0	%		12.0	8.5	3.7	18.4	----
EG005(ED093)T: Total Metals by ICP-AES									
Arsenic	7440-38-2	5	mg/kg		<5	<5	<5	<5	----
Cadmium	7440-43-9	1	mg/kg		<1	<1	<1	<1	----
Chromium	7440-47-3	2	mg/kg		14	21	23	57	----
Copper	7440-50-8	5	mg/kg		361	77	17	77	----
Lead	7439-92-1	5	mg/kg		114	<5	<5	<5	----
Nickel	7440-02-0	2	mg/kg		14	28	62	40	----
Zinc	7440-66-6	5	mg/kg		156	27	24	23	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.1	mg/kg		2.6	<0.1	<0.1	<0.1	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Indeno(1,2,3-cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		0.6	0.6	0.6	0.6	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		1.2	1.2	1.2	1.2	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	<10	<10	----

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Client : GHD PTY LTD
Project : 12574014



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	GTP-03_1.00	GTP-03_2.00	GTP-4_0.00	GTP-2_0.50	----
Sampling date / time					17-Mar-2022 07:29	17-Mar-2022 07:30	17-Mar-2022 09:11	17-Mar-2022 11:11	----
Compound	CAS Number	LOR	Unit		EM2205151-013	EM2205151-015	EM2205151-016	EM2205151-021	-----
					Result	Result	Result	Result	----
EP080/071: Total Petroleum Hydrocarbons - Continued									
C10 - C14 Fraction	----	50	mg/kg		<50	<50	<50	<50	----
C15 - C28 Fraction	----	100	mg/kg		<100	<100	<100	<100	----
C29 - C36 Fraction	----	100	mg/kg		<100	<100	<100	<100	----
[^] C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	<10	<10	----
[^] C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	<10	<10	----
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	<50	<50	----
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	<100	<100	----
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	<100	<100	----
[^] >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	<50	<50	<50	----
[^] >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	<50	<50	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	----
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
[^] Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	<0.2	<0.2	----
[^] Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	<0.5	<0.5	----
Naphthalene	91-20-3	1	mg/kg		<1	<1	<1	<1	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		101	102	103	99.0	----
2-Chlorophenol-D4	93951-73-6	0.5	%		91.1	92.6	93.9	88.0	----
2,4,6-Tribromophenol	118-79-6	0.5	%		86.0	84.8	81.6	82.6	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		99.0	101	103	99.9	----
Anthracene-d10	1719-06-8	0.5	%		107	108	105	107	----
4-Terphenyl-d14	1718-51-0	0.5	%		108	108	119	106	----
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		90.4	89.0	93.4	75.9	----
Toluene-D8	2037-26-5	0.2	%		99.0	96.9	97.9	79.7	----

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 Client : GHD PTY LTD
 Project : 12574014



Analytical Results

Sub-Matrix: SOIL
 (Matrix: SOIL)

				Sample ID	GTP-03_1.00	GTP-03_2.00	GTP-4_0.00	GTP-2_0.50	----
				Sampling date / time	17-Mar-2022 07:29	17-Mar-2022 07:30	17-Mar-2022 09:11	17-Mar-2022 11:11	----
Compound	CAS Number	LOR	Unit		EM2205151-013	EM2205151-015	EM2205151-016	EM2205151-021	-----
				Result	Result	Result	Result	Result	----
EP080S: TPH(V)/BTEX Surrogates - Continued									
4-Bromofluorobenzene	460-00-4	0.2	%		94.2	93.7	95.0	85.1	----



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Surrogate Control Limits

Sub-Matrix: SEDIMENT		Recovery Limits (%)	
Compound	CAS Number	Low	High
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: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
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



QUALITY CONTROL REPORT

Work Order	: EM2205151	Page	: 1 of 6
Client	: GHD PTY LTD	Laboratory	: Environmental Division Melbourne
Contact	: MS NICOLE REINEKER	Contact	: Shirley LeCornu
Address	: LEVEL 8, 180 LONSDALE ST MELBOURNE VIC, AUSTRALIA 3001	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: ----	Telephone	: +6138549 9630
Project	: 12574014	Date Samples Received	: 24-Mar-2022
Order number	: 12574014	Date Analysis Commenced	: 31-Mar-2022
C-O-C number	: 35132	Issue Date	: 01-Apr-2022
Sampler	: NICOLE REINEKER		
Site	: geo tech test pits		
Quote number	: ME/589/21 v2		
No. of samples received	: 21		
No. of samples analysed	: 10		



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
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC
Nikki Stepniewski	Senior Inorganic Instrument Chemist	Melbourne Inorganics, Springvale, VIC

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Work Order : EM2205151
Client : GHD PTY LTD
Project : 12574014



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

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: 4260093)									
EM2205151-003	GTP-1_1.00	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	16	18	12.6	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	7	6	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	7	7	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	9	7	26.2	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	8	8	0.0	No Limit
EM2205151-021	GTP-2_0.50	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	57	55	3.5	0% - 20%
		EG005T: Nickel	7440-02-0	2	mg/kg	40	38	5.4	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	77	67	13.0	0% - 50%
		EG005T: Lead	7439-92-1	5	mg/kg	<5	7	37.1	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	23	21	10.7	No Limit
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4260095)									
EM2205151-003	GTP-1_1.00	EA055: Moisture Content	----	0.1	%	14.8	15.4	4.0	0% - 50%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 4260094)									
EM2205151-003	GTP-1_1.00	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EM2205151-021	GTP-2_0.50	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4260091)									
EM2205151-003	GTP-1_1.00	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



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Client : GHD PTY LTD
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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: 4260091) - continued									
EM2205151-003	GTP-1_1.00	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
		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	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
			205-82-3						
		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: 4260090)									
EM2205151-003	GTP-1_1.00	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4260092)									
EM2205151-003	GTP-1_1.00	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: 4260090)									
EM2205151-003	GTP-1_1.00	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: 4260092)									
EM2205151-003	GTP-1_1.00	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: 4260090)									
EM2205151-003	GTP-1_1.00	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	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
			106-42-3						
		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

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Client : GHD PTY LTD
Project : 12574014



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

Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4260093)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	102	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.23 mg/kg	56.0	50.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	106	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.9 mg/kg	94.4	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	92.7	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	98.9	70.0	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	74.3	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4260094)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.64 mg/kg	89.8	70.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4260091)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	104	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	111	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	109	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	107	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	110	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	106	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	110	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	109	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	117	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	119	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	3 mg/kg	120	70.0	121
	205-82-3							
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	109	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	113	70.2	123
EP075(SIM): Indeno(1,2,3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	108	67.9	122
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	104	65.8	123
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	111	65.8	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4260090)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	93.7	58.6	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4260092)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	760 mg/kg	86.7	75.0	128
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	3270 mg/kg	90.6	82.0	123
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1550 mg/kg	88.8	82.4	121
EP071: C10 - C36 Fraction (sum)	----	50	mg/kg	<50	5580 mg/kg	89.6	70.0	130

Page : 5 of 6
Work Order : EM2205151
Client : GHD PTY LTD
Project : 12574014



Sub-Matrix: SOIL

Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4260090)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	97.0	59.3	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4260092)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1110 mg/kg	103	77.0	130
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	4180 mg/kg	85.8	81.5	120
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	290 mg/kg	89.8	73.3	137
EP071: >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	5580 mg/kg	89.2	70.0	130
EP080: BTEXN (QCLot: 4260090)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	102	61.6	117
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	97.8	65.8	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	98.5	65.8	124
EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	4 mg/kg	97.1	64.8	134
	106-42-3							
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	97.6	68.7	132
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	86.6	61.8	123

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


Sub-Matrix: SOIL				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
				Concentration	MS	Low	High
Laboratory sample ID	Sample ID	Method: Compound	CAS Number				
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4260093)							
EM2205151-005	GTP-1_2.00	EG005T: Arsenic	7440-38-2	50 mg/kg	103	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	94.9	79.7	116
		EG005T: Chromium	7440-47-3	50 mg/kg	94.8	79.0	121
		EG005T: Copper	7440-50-8	250 mg/kg	105	80.0	120
		EG005T: Lead	7439-92-1	250 mg/kg	94.8	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	94.1	78.0	120
		EG005T: Zinc	7440-66-6	250 mg/kg	90.0	80.0	120
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4260094)							
EM2205151-005	GTP-1_2.00	EG035T: Mercury	7439-97-6	0.5 mg/kg	103	76.0	116
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4260091)							
EM2205151-005	GTP-1_2.00	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	97.2	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	101	65.5	136
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4260090)							
EM2205151-005	GTP-1_2.00	EP080: C6 - C9 Fraction	----	28 mg/kg	85.9	33.4	124

Page : 6 of 6
 Work Order : EM2205151
 Client : GHD PTY LTD
 Project : 12574014





Sub-Matrix: SOIL

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: 4260092)							
EM2205151-006	GTP-1_3.00	EP071: C10 - C14 Fraction	----	760 mg/kg	86.2	71.2	125
		EP071: C15 - C28 Fraction	----	3270 mg/kg	90.2	75.6	122
		EP071: C29 - C36 Fraction	----	1550 mg/kg	88.1	78.0	120
		EP071: C10 - C36 Fraction (sum)	----	5580 mg/kg	89.1	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4260090)							
EM2205151-005	GTP-1_2.00	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	82.3	30.8	120
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4260092)							
EM2205151-006	GTP-1_3.00	EP071: >C10 - C16 Fraction	----	1110 mg/kg	102	72.2	128
		EP071: >C16 - C34 Fraction	----	4180 mg/kg	85.2	76.5	119
		EP071: >C34 - C40 Fraction	----	290 mg/kg	89.3	66.8	138
		EP071: >C10 - C40 Fraction (sum)	----	5580 mg/kg	88.8	70.0	130
EP080: BTEXN (QCLot: 4260090)							
EM2205151-005	GTP-1_2.00	EP080: Benzene	71-43-2	2 mg/kg	103	54.4	127
		EP080: Toluene	108-88-3	2 mg/kg	106	57.1	131

CHAIN OF CUSTODY		RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
 ALS COC#: 35132 ALS Laboratory: EM Melbourne					
CLIENT: GHDSER - GHD PTY LTD PROJECT: 12574014 SITE: geo tech test pits ORDER NO: 12574014 PROJECT MANAGER: Nicole Reineker PRIMARY SAMPLER: Nicole Reineker EMAIL REPORTS TO: EMAIL INVOICES TO:		DATE TIME: TURNAROUND REQUIREMENTS : 5 Days Biohazard info:	DATE TIME: LABORATORY USE ONLY (Circle) Custody Seal intact? Yes No N/A Free ice / frozen ice bricks present upon receipt? Yes No N/A Random Sample Temperature on Receipt: C Other comments:	DATE TIME: <i>[Signature]</i> DATE TIME:	
		CONTACT PH: SAMPLER MOBILE: QUOTE NO: ME/589/21 v2 / EM2021GHDSER0036		URGENT FREIGHT	

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	GTP-01_0.00		16/03/2022 09:44 AM	Soil	ALS: 1 Non ALS: 0	No	-		
002	GTP-1_0.50		16/03/2022 09:45 AM	Soil	ALS: 1 Non ALS: 0	No	-		
003	GTP-1_1.00		16/03/2022 09:45 AM	Soil	ALS: 1 Non ALS: 0	No	-		
004	GTP-1_1.50		16/03/2022 09:46 AM	Soil	ALS: 1 Non ALS: 0	No	-		
005	GTP-1_2.00		16/03/2022 09:48 AM	Soil	ALS: 1 Non ALS: 0	No	-		
006	GTP-1_3.00		16/03/2022 09:49 AM	Soil	ALS: 1 Non ALS: 0	No	-		
007	GTP-1_4.00		16/03/2022 09:49 AM	Soil	ALS: 1 Non ALS: 0	No	-		
008	GTP-1_5.00		16/03/2022 09:50 AM	Soil	ALS: 1 Non ALS: 0	No	-		
009	qa5		16/03/2022 09:50 AM	Soil	ALS: 1 Non ALS: 0	No	-		

Environmental Division
 Melbourne
 Work Order Reference
EM2205151

 Telephone : + 61-3-8549 9600

Received: 24/3 10:00
 C/note: 906361
 Temp: 9.2°C Seal: Y/N
 Ice / Icebricks: NA


Wednesday, March 23, 2022

4:39:15 AM

1 of 4

CHAIN OF CUSTODY (ALS) COC#: 35132 ALS Laboratory: EM Melbourne							RELINQUISHED BY:		RECEIVED BY:		RELINQUISHED BY:		RECEIVED BY:	
CLIENT: GHD SER - GHD PTY LTD PROJECT: 12574014 SITE: geo tech test pits ORDER NO: 12574014 PROJECT MANAGER: Nicole Reineker PRIMARY SAMPLER: Nicole Reineker EMAIL REPORTS TO: EMAIL INVOICES TO:							DATE TIME:		DATE TIME:		DATE TIME:		DATE TIME: <i>Manu</i>	
							TURNAROUND REQUIREMENTS : 5 Days				LABORATORY USE ONLY (Circle) Custody Seal intact? Yes No N/A Free ice / frozen ice bricks present upon receipt? Yes No N/A Random Sample Temperature on Receipt: °C Other comments:			
							Biohazard info:							
							CONTACT PH:		SAMPLER MOBILE:					
							QUOTE NO: ME/589/21 v2		/ EM2021GHD SER0036					
SAMPLE DETAILS							ANALYSIS REQUIRED							
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION					
010	qa6		16/03/2022 09:51 AM	Soil	ALS: 1 Non ALS: 0	No	-							
011	LP_0.03		17/03/2022 07:28 AM	Soil	ALS: 1 Non ALS: 0	No	-							
012	GTP-03_0.50		17/03/2022 07:29 AM	Soil	ALS: 1 Non ALS: 0	No	-							
013	GTP-03_1.00		17/03/2022 07:29 AM	Soil	ALS: 1 Non ALS: 0	No	-							
014	GTP-03_1.50		17/03/2022 07:30 AM	Soil	ALS: 1 Non ALS: 0	No	-							
015	GTP-03_2.00		17/03/2022 07:30 AM	Soil	ALS: 1 Non ALS: 0	No	-							
016	GTP-4_0.00		17/03/2022 09:11 AM	Soil	ALS: 1 Non ALS: 0	No	-							
017	GTP-4_0.50		17/03/2022 09:12 AM	Soil	ALS: 1 Non ALS: 0	No	-							
018	qa7		17/03/2022 09:25 AM	Soil	ALS: 1 Non ALS: 0	No	-							

Wednesday, March 23, 2022 4:39:15 AM

CHAIN OF CUSTODY		RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
ALS COC#: 35132 ALS Laboratory: EM Melbourne					
CLIENT: GHD SER - GHD PTY LTD PROJECT: 12574014 SITE: geo tech test pits ORDER NO: 12574014 PROJECT MANAGER: Nicole Reineker PRIMARY SAMPLER: Nicole Reineker EMAIL REPORTS TO: EMAIL INVOICES TO:		DATE TIME: TURNAROUND REQUIREMENTS: 5 Days Biohazard info:	DATE TIME: LABORATORY USE ONLY (Circle) Custody Seal intact? Yes No N/A Free ice / frozen ice bricks present upon receipt? Yes No N/A Random Sample Temperature on Receipt: °C Other comments:	DATE TIME: <i>Mon</i> DATE TIME:	DATE TIME:
CONTACT PH: QUOTE NO: ME/589/21 v2		SAMPLER MOBILE: / EM2021GHD SER0036			

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
019	qa8		17/03/2022 09:26 AM	Soil	ALS: 1 Non ALS: 0	No	-		
020	GTP-2_0.00		17/03/2022 11:07 AM	Soil	ALS: 1 Non ALS: 0	No	-		
021	GTP-2_0.50		17/03/2022 11:11 AM	Soil	ALS: 1 Non ALS: 0	No	-		
022	GTP-2_1.00		17/03/2022 11:12 AM	Soil	ALS: 1 Non ALS: 0	No	-		
023	GTP-2_1.50		17/03/2022 11:12 AM	Soil	ALS: 1 Non ALS: 0	No	-		
024	GTP-2_2.00		17/03/2022 11:13 AM	Soil	ALS: 1 Non ALS: 0	No	-		
025	GTP-2_3.00		17/03/2022 11:13 AM	Soil	ALS: 1 Non ALS: 0	No	-		
026	GTP-2_4.00		17/03/2022 11:14 AM	Soil	ALS: 1 Non ALS: 0	No	-		
027	GTP-2_5.00		17/03/2022 11:14 AM	Soil	ALS: 1 Non ALS: 0	No	-		

Wednesday, March 23, 2022


4:39:15 AM

* Not received NP CAS 31/03

CHAIN OF CUSTODY		RELINQUISHED BY:		RECEIVED BY:		RELINQUISHED BY:		RECEIVED BY:	
COC#: 35132 ALS Laboratory: EM Melbourne		DATE TIME:		DATE TIME:		DATE TIME:		DATE TIME:	
CLIENT: GHD SER - GHD PTY LTD		TURNAROUND REQUIREMENTS : 5 Days		LABORATORY USE ONLY (Circle) Custody Seal intact? Yes No N/A Free ice / frozen ice bricks present upon receipt? Yes No N/A Random Sample Temperature on Receipt: °C Other comments:					
PROJECT: 12574014									
SITE: geo tech test pits		Biohazard info:							
ORDER NO: 12574014		CONTACT PH:		SAMPLER MOBILE: / EM2021GHD SER0036					
PROJECT MANAGER: Nicole Reineker		QUOTE NO: ME/589/21 v2							
PRIMARY SAMPLER: Nicole Reineker									
EMAIL REPORTS TO:									
EMAIL INVOICES TO:									

SAMPLE	SAMPLE NAME	BOTTLE NAME	VOLUME	BARCODE	TYPE	FILTERED	REASON
001	GTP-01_0.00	Soil Glass Jar - Unpreserved	250 mL	00260220078206	Orange	No	
002	GTP-1_0.50	Soil Glass Jar - Unpreserved	250 mL	00260220078198	Orange	No	
003	GTP-1_1.00	Soil Glass Jar - Unpreserved	250 mL	00261020021204	Orange	No	
004	GTP-1_1.50	Soil Glass Jar - Unpreserved	250 mL	00260220078243	Orange	No	
005	GTP-1_2.00	Soil Glass Jar - Unpreserved	250 mL	00260220078040	Orange	No	
006	GTP-1_3.00	Soil Glass Jar - Unpreserved	250 mL	00260220077265	Orange	No	
007	GTP-1_4.00	Soil Glass Jar - Unpreserved	250 mL	00260220078216	Orange	No	
008	GTP-1_5.00	Soil Glass Jar - Unpreserved	250 mL	00261020021060	Orange	No	
009	qa5	Soil Glass Jar - Unpreserved	250 mL	00260220078067	Orange	No	
010	qa6	Soil Glass Jar - Unpreserved	250 mL	00260220078239	Orange	No	
011	LP_0.03	Soil Glass Jar - Unpreserved	250 mL	00261020020975	Orange	No	
012	GTP-03_0.50	Soil Glass Jar - Unpreserved	250 mL	00261020020911	Orange	No	
013	GTP-03_1.00	Soil Glass Jar - Unpreserved	250 mL	00261020020918	Orange	No	
014	GTP-03_1.50	Soil Glass Jar - Unpreserved	250 mL	00261020020928	Orange	No	
015	GTP-03_2.00	Soil Glass Jar - Unpreserved	250 mL	00261020021035	Orange	No	
016	GTP-4_0.00	Soil Glass Jar - Unpreserved	250 mL	00261020021033	Orange	No	
017	GTP-4_0.50	Soil Glass Jar - Unpreserved	250 mL	00261020020889	Orange	No	
018	qa7	Soil Glass Jar - Unpreserved	250 mL	00261020020896	Orange	No	
019	qa8	Soil Glass Jar - Unpreserved	250 mL	00261020020803	Orange	No	
020	GTP-2_0.00	Soil Glass Jar - Unpreserved	250 mL	00261020021038	Orange	No	
021	GTP-2_0.50	Soil Glass Jar - Unpreserved	250 mL	00261020021071	Orange	No	
022	GTP-2_1.00	Soil Glass Jar - Unpreserved	250 mL	00261020021070	Orange	No	
023	GTP-2_1.50	Soil Glass Jar - Unpreserved	250 mL	00261020020868	Orange	No	
024	GTP-2_2.00	Soil Glass Jar - Unpreserved	250 mL	00261020020865	Orange	No	
025	GTP-2_3.00	Soil Glass Jar - Unpreserved	250 mL	00261020020821	Orange	No	
026	GTP-2_4.00	Soil Glass Jar - Unpreserved	250 mL	00261020020796	Orange	No	

Wednesday, March 23, 2022 4:39:15 AM

 CHAIN OF CUSTODY COC#: 35132 ALS Laboratory: EM Melbourne		RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
CLIENT: GHDSER - GHD PTY LTD PROJECT: 12574014 SITE: geo tech test pits ORDER NO: 12574014 PROJECT MANAGER: Nicole Reineker PRIMARY SAMPLER: Nicole Reineker EMAIL REPORTS TO: EMAIL INVOICES TO:		DATE TIME:	DATE TIME:	DATE TIME:	DATE TIME:
CONTACT PH: SAMPLER MOBILE: QUOTE NO: ME/589/21 v2 / EM2021GHDSER0036		TURNAROUND REQUIREMENTS : 5 Days Biohazard info:		LABORATORY USE ONLY (Circle) Custody Seal intact? Yes No N/A Free ice / frozen ice bricks present upon receipt? Yes No N/A Random Sample Temperature on Receipt: °C Other comments:	
027	GTP-2_5.00	Soil Glass Jar - Unpreserved	250 mL	00261020020894	Orange No
Total Bottle Count: ALS: 27, Non ALS: 0					

Wednesday, March 23, 2022 4:39:15 AM

Ranil Weerakkody

From: Peter Ravlic
Sent: Thursday, 24 March 2022 8:49 AM
To: COC Melbourne
Cc: Dilani Fernando
Subject: GHDSER - COC 35132 - Incoming 24/3 - URGENT 2 DAY TAT

Hi Team

Below analysis confirmation for 2 day TAT

Thanks

Kind Regards



right solutions.
right partner.

Peter Ravlic
Client Services
ALS Limited

Ph: +61 3 8549 9600
peter.ravlic@alsglobal.com

2-4 Westall Road, Springvale VIC 3171

alsglobal.com

From: Nicole Reineker <Nicole.Reineker@ghd.com>
Sent: Wednesday, 23 March 2022 3:43 PM
To: Peter Ravlic <peter.ravlic@alsglobal.com>
Subject: [EXTERNAL] - esky arriving tomorrow- analysis in email for COC 35132

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

Hi Peter,

Could these please be done under a 2 day turnaround please.

The samples to be analysed for TRH/BTEXN/PAH/8 metals and the rest put on hold.

GTP1_1 #3

GTP1_2 #5

GTP1_3 #6

GTP1_4 #7

GTP1_5 #8

GTP2_0.5 #21

GTP3_1 #12

GTP3_2 #15

GTP4_0.1 #16 ?

QA5 #9

→ QA6 (please send to Sydney) *Als. ✓*

Kind Regards
Nicole

Nicole K Reineker

Environmental Scientist

Please note my working days are Monday to Thursday

GHD

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2 Salamanca Square Hobart Tasmania 7000 Australia

D +61 3 6210 0626 M +61 403 857 681 E nicole.reineker@ghd.com

➔ **The Power of Commitment**

Connect



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CERTIFICATE OF ANALYSIS

Work Order	: ES2211552	Page	: 1 of 6
Client	: GHD PTY LTD	Laboratory	: Environmental Division Sydney
Contact	: MS NICOLE REINEKER	Contact	: Shirley LeCornu
Address	: LEVEL 8, 180 LONSDALE ST MELBOURNE VIC, AUSTRALIA 3001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ---	Telephone	: +6138549 9630
Project	: 12544866	Date Samples Received	: 01-Apr-2022 15:00
Order number	: 12574014	Date Analysis Commenced	: 04-Apr-2022
C-O-C number	: ---	Issue Date	: 05-Apr-2022 17:13
Sampler	: ---		
Site	: geo tech test pits		
Quote number	: ME/589/21 v2		
No. of samples received	: 1		
No. of samples analysed	: 1		



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
- 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
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW

Page : 2 of 6
Work Order : ES2211552
Client : GHD PTY LTD
Project : 12544866



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.

- 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.
- 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.
- EP075(SIM): Surrogate recovery bias low due to sample matrix interferences.

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Work Order : ES2211552
Client : GHD PTY LTD
Project : 12544866



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)		Sample ID		QA6	----	----	----	----
		Sampling date / time		16-Mar-2022 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES2211552-001	-----	-----	-----	-----
Result				---	---	---	---	---
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	7.8	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	<5	----	----	----	----
Cadmium	7440-43-9	1	mg/kg	<1	----	----	----	----
Chromium	7440-47-3	2	mg/kg	13	----	----	----	----
Copper	7440-50-8	5	mg/kg	84	----	----	----	----
Lead	7439-92-1	5	mg/kg	<5	----	----	----	----
Nickel	7440-02-0	2	mg/kg	24	----	----	----	----
Zinc	7440-66-6	5	mg/kg	29	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	----	----	----	----
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	----	----	----	----
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	----	----	----	----

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Work Order : ES2211552
Client : GHD PTY LTD
Project : 12544866



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QA6	----	----	----	----
Sampling date / time					16-Mar-2022 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2211552-001	-----	-----	-----	-----
Result						---	---	---	---
EP080/071: Total Petroleum Hydrocarbons - Continued									
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	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		90.8	----	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		96.3	----	----	----	----
2,4,6-Tribromophenol	118-79-6	0.5	%		87.4	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		108	----	----	----	----
Anthracene-d10	1719-06-8	0.5	%		101	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		103	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	0.2	%		97.4	----	----	----	----
Toluene-D8	2037-26-5	0.2	%		93.2	----	----	----	----

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Work Order : ES2211552
Client : GHD PTY LTD
Project : 12544866



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	QA6	----	----	----	----
Sampling date / time				16-Mar-2022 00:00	----	----	----	----	
Compound	CAS Number	LOR	Unit	ES2211552-001	-----	-----	-----	-----	
				Result	---	---	---	---	
EP080S: TPH(V)/BTEX Surrogates - Continued									
4-Bromofluorobenzene	460-00-4	0.2	%	97.2	----	----	----	----	

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Client : GHD PTY LTD
Project : 12544866



Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2,4,6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP080S: TPH(V)/BTEX Surrogates			
1,2-Dichloroethane-D4	17060-07-0	73	133
Toluene-D8	2037-26-5	74	132
4-Bromofluorobenzene	460-00-4	72	130



QUALITY CONTROL REPORT

Work Order	: ES2211552	Page	: 1 of 6
Client	: GHD PTY LTD	Laboratory	: Environmental Division Sydney
Contact	: MS NICOLE REINEKER	Contact	: Shirley LeCornu
Address	: LEVEL 8, 180 LONSDALE ST MELBOURNE VIC, AUSTRALIA 3001	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +6138549 9630
Project	: 12544866	Date Samples Received	: 01-Apr-2022
Order number	: 12574014	Date Analysis Commenced	: 04-Apr-2022
C-O-C number	: ----	Issue Date	: 05-Apr-2022
Sampler	: ----		
Site	: geo tech test pits		
Quote number	: ME/589/21 v2		
No. of samples received	: 1		
No. of samples analysed	: 1		



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
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjjar	Organic Coordinator	Sydney Organics, Smithfield, NSW

Page : 2 of 6
 Work Order : ES2211552
 Client : GHD PTY LTD
 Project : 12544866



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Where moisture determination has been performed, results are reported on a dry weight basis.

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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

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: 4266915)									
ES2211616-003	Anonymous	EG005T: Chromium	7440-47-3	2	mg/kg	73	71	2.8	0% - 20%
		EG005T: Nickel	7440-02-0	2	mg/kg	84	86	2.7	0% - 20%
		EG005T: Copper	7440-50-8	5	mg/kg	5	<5	0.0	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	1190	1120	5.4	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 4266917)									
ES2211616-001	Anonymous	EA055: Moisture Content	----	0.1	%	44.2	46.0	3.8	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 4266916)									
-----		EG035T: Mercury	7439-97-6	0.1	mg/kg	----	<0.1	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 4266562)									
ES2211616-001	Anonymous	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
		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



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Work Order : ES2211552
Client : GHD PTY LTD
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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: 4266562) - continued									
ES2211616-001	Anonymous	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
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4266563)									
ES2211616-001	Anonymous	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
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 4266937)									
ES2211616-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4266563)									
ES2211616-001	Anonymous	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
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 4266937)									
ES2211616-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.0	No Limit
EP080: BTEXN (QC Lot: 4266937)									
ES2211616-001	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	0.5	mg/kg	<0.5	<0.5	0.0	No Limit
			106-42-3						
		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: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 4266915)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	121.1 mg/kg	100	88.0	113
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	0.74 mg/kg	95.2	70.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	19.6 mg/kg	111	68.0	132
EG005T: Copper	7440-50-8	5	mg/kg	<5	52.9 mg/kg	106	89.0	111
EG005T: Lead	7439-92-1	5	mg/kg	<5	60.8 mg/kg	100.0	82.0	119
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.3 mg/kg	102	80.0	120
EG005T: Zinc	7440-66-6	5	mg/kg	<5	139.3 mg/kg	92.2	66.0	133
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4266916)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.087 mg/kg	114	70.0	125
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4266562)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	105	77.0	125
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	104	72.0	124
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	94.2	73.0	127
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	111	72.0	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	103	75.0	127
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	92.6	77.0	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	109	73.0	127
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	107	74.0	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	104	69.0	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	101	75.0	127
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	6 mg/kg	102	68.0	116
	205-82-3							
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	103	74.0	126
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	89.9	70.0	126
EP075(SIM): Indeno(1,2,3-cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	96.0	61.0	121
EP075(SIM): Dibenzo(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	92.3	62.0	118
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	96.8	63.0	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4266563)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	300 mg/kg	100	75.0	129
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	450 mg/kg	110	77.0	131
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	300 mg/kg	105	71.0	129
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4266937)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	70.2	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4266563)								



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
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4266563) - continued								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	375 mg/kg	95.8	77.0	125
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	525 mg/kg	108	74.0	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	225 mg/kg	99.6	63.0	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4266937)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	71.2	68.4	128
EP080: BTEXN (QCLot: 4266937)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	82.6	62.0	116
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	82.2	67.0	121
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	78.3	65.0	117
EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	2 mg/kg	81.1	66.0	118
	106-42-3							
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	81.8	68.0	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	81.4	63.0	119

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				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: 4266915)							
ES2211616-003	Anonymous	EG005T: Chromium	7440-47-3	50 mg/kg	98.7	68.0	132
		EG005T: Copper	7440-50-8	250 mg/kg	98.6	70.0	130
		EG005T: Lead	7439-92-1	250 mg/kg	97.2	70.0	130
		EG005T: Nickel	7440-02-0	50 mg/kg	91.2	70.0	130
		EG005T: Zinc	7440-66-6	250 mg/kg	70.4	66.0	133
EG035T: Total Recoverable Mercury by FIMS (QCLot: 4266916)							
ES2211616-003	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	97.8	70.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 4266562)							
ES2211616-001	Anonymous	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	86.7	70.0	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	99.0	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4266563)							
ES2211616-001	Anonymous	EP071: C10 - C14 Fraction	----	480 mg/kg	111	73.0	137
		EP071: C15 - C28 Fraction	----	3100 mg/kg	117	53.0	131
		EP071: C29 - C36 Fraction	----	2060 mg/kg	122	52.0	132
EP080/071: Total Petroleum Hydrocarbons (QCLot: 4266937)							

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 Work Order : ES2211552
 Client : GHD PTY LTD
 Project : 12544866



Sub-Matrix: SOIL

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: 4266937) - continued							
ES2211616-001	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	77.6	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4266563)							
ES2211616-001	Anonymous	EP071: >C10 - C16 Fraction	----	860 mg/kg	101	73.0	137
		EP071: >C16 - C34 Fraction	----	4320 mg/kg	121	53.0	131
		EP071: >C34 - C40 Fraction	----	890 mg/kg	128	52.0	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 4266937)							
ES2211616-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	104	70.0	130
EP080: BTEXN (QCLot: 4266937)							
ES2211616-001	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	79.0	70.0	130
		EP080: Toluene	108-88-3	2.5 mg/kg	79.0	70.0	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	84.6	70.0	130
		EP080: meta- & para-Xylene	108-38-3	2.5 mg/kg	81.2	70.0	130
			106-42-3				
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	83.7	70.0	130
	EP080: Naphthalene	91-20-3	2.5 mg/kg	95.6	70.0	130	



QA/QC Compliance Assessment to assist with Quality Review

Work Order	: ES2211552	Page	: 1 of 5
Client	: GHD PTY LTD	Laboratory	: Environmental Division Sydney
Contact	: MS NICOLE REINEKER	Telephone	: +6138549 9630
Project	: 12544866	Date Samples Received	: 01-Apr-2022
Site	: geo tech test pits	Issue Date	: 05-Apr-2022
Sampler	: ----	No. of samples received	: 1
Order number	: 12574014	No. of samples analysed	: 1

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

- NO Quality Control Sample Frequency Outliers exist.

Page : 2 of 5
Work Order : ES2211552
Client : GHD PTY LTD
Project : 12544866



Outliers : Analysis Holding Time Compliance

Matrix: SOIL

Method	Extraction / Preparation			Analysis		
	Date extracted	Due for extraction	Days overdue	Date analysed	Due for analysis	Days overdue
EA055: Moisture Content (Dried @ 105-110°C)						
Soil Glass Jar - Unpreserved QA6	----	----	----	04-Apr-2022	30-Mar-2022	5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons						
Soil Glass Jar - Unpreserved QA6	04-Apr-2022	30-Mar-2022	5	----	----	----
EP080/071: Total Petroleum Hydrocarbons						
Soil Glass Jar - Unpreserved QA6	04-Apr-2022	30-Mar-2022	5	04-Apr-2022	30-Mar-2022	5
Soil Glass Jar - Unpreserved QA6	04-Apr-2022	30-Mar-2022	5	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions						
Soil Glass Jar - Unpreserved QA6	04-Apr-2022	30-Mar-2022	5	04-Apr-2022	30-Mar-2022	5
Soil Glass Jar - Unpreserved QA6	04-Apr-2022	30-Mar-2022	5	----	----	----
EP080: BTEXN						
Soil Glass Jar - Unpreserved QA6	04-Apr-2022	30-Mar-2022	5	04-Apr-2022	30-Mar-2022	5

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		Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)								
Soil Glass Jar - Unpreserved (EA055) QA6		16-Mar-2022				04-Apr-2022	30-Mar-2022	✖
EG005(ED093)T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved (EG005T) QA6		16-Mar-2022	04-Apr-2022	12-Sep-2022	✔	05-Apr-2022	12-Sep-2022	✔



Page : 3 of 5
 Work Order : ES2211552
 Client : GHD PTY LTD
 Project : 12544866

Matrix: SOIL

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method	Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T) QA6	16-Mar-2022	04-Apr-2022	13-Apr-2022	✔	05-Apr-2022	13-Apr-2022	✔
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM)) QA6	16-Mar-2022	04-Apr-2022	30-Mar-2022	✖	05-Apr-2022	14-May-2022	✔
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP071) QA6	16-Mar-2022	04-Apr-2022	30-Mar-2022	✖	05-Apr-2022	14-May-2022	✔
Soil Glass Jar - Unpreserved (EP080) QA6	16-Mar-2022	04-Apr-2022	30-Mar-2022	✖	04-Apr-2022	30-Mar-2022	✖
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP071) QA6	16-Mar-2022	04-Apr-2022	30-Mar-2022	✖	05-Apr-2022	14-May-2022	✔
Soil Glass Jar - Unpreserved (EP080) QA6	16-Mar-2022	04-Apr-2022	30-Mar-2022	✖	04-Apr-2022	30-Mar-2022	✖
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080) QA6	16-Mar-2022	04-Apr-2022	30-Mar-2022	✖	04-Apr-2022	30-Mar-2022	✖

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 Work Order : ES2211552
 Client : GHD PTY LTD
 Project : 12544866



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 (%)		Evaluation	Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected		
Laboratory Duplicates (DUP)							
Moisture Content	EA055	1	4	25.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	6	16.67	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	4	25.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	4	25.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	6	16.67	10.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	7	14.29	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	1	6	16.67	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	4	25.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	4	25.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	6	16.67	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	7	14.29	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	1	6	16.67	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	4	25.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	4	25.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	6	16.67	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	7	14.29	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	6	16.67	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	4	25.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	4	25.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	6	16.67	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	7	14.29	5.00	✔	NEPM 2013 B3 & ALS QC Standard

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 Work Order : ES2211552
 Client : GHD PTY LTD
 Project : 12544866



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).
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 APHA 3112 Hg - B (Flow-injection (SnCl ₂) (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 SnCl ₂ 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)
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)
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.
Preparation Methods	Method	Matrix	Method Descriptions
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, Na ₂ SO ₄ 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.


Batch as ES *514*

CHAIN OF CUSTODY (ALS) COC#: 35132 ALS Laboratory. EM Melbourne			RELINQUISHED BY:		RECEIVED BY:		RELINQUISHED BY:		RECEIVED BY:	
			DATE TIME: <i>31/3</i>		DATE TIME:		DATE TIME:		DATE TIME: <i>1/4/22</i>	
CLIENT: GHD SER - GHD PTY LTD PROJECT: 12574014 SITE: geo tech test pits ORDER NO: 12574014 PROJECT MANAGER: Nicole Reineker PRIMARY SAMPLER: Nicole Reineker EMAIL REPORTS TO: EMAIL INVOICES TO:			TURNAROUND REQUIREMENTS : 5 Days Biohazard info:				LABORATORY USE ONLY (Circle) Custody Seal intact? Yes No N/A Free ice / frozen ice bricks present upon receipt? Yes No N/A Random Sample Temperature on Receipt: °C Other comments: URGENT FREIGHT			
			CONTACT PH: SAMPLER MOBILE: QUOTE NO: ME/589/21 v2 / EM2021GHD SER0036							

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	Analysis NOT REQUIRED	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
001	GTP-1_0.00		16/03/2022 09:44 AM	Soil	ALS: 1 Non ALS: 0	No	-		
002	GTP-1_0.50		16/03/2022 09:45 AM	Soil	ALS: 1 Non ALS: 0	No	-		
003	GTP-1_1.00		16/03/2022 09:45 AM	Soil	ALS: 1 Non ALS: 0	No	-		
004	GTP-1_1.50		16/03/2022 09:46 AM	Soil	ALS: 1 Non ALS: 0	No	-		
005	GTP-1_2.00		16/03/2022 09:48 AM	Soil	ALS: 1 Non ALS: 0	No	-		
006	GTP-1_3.00		16/03/2022 09:49 AM	Soil	ALS: 1 Non ALS: 0	No	-		
007	GTP-1_4.00		16/03/2022 09:49 AM	Soil	ALS: 1 Non ALS: 0	No	-		
008	GTP-1_5.00		16/03/2022 09:50 AM	Soil	ALS: 1 Non ALS: 0	No	-		
009	qa5		16/03/2022 09:50 AM	Soil	ALS: 1 Non ALS: 0	No	-		

Received JUSTIN
1/4/22 3pm


Environmental Division
Sydney
Work Order Reference
ES2211552




Telephone : +61-2-8794 8555

Received: 24/3 10:00
Temp: 906361
Seal: ON

Carrier: *THF*



Batch as ES

 CHAIN OF CUSTODY COC#: 35132 ALS Laboratory: EM Melbourne		RELINQUISHED BY: DATE TIME:	RECEIVED BY: DATE TIME:	RELINQUISHED BY: DATE TIME:	RECEIVED BY: <i>Manila</i> DATE TIME:
CLIENT: GHD SER - GHD PTY LTD PROJECT: 12574014 SITE: geo tech test pits ORDER NO: 12574014 PROJECT MANAGER: Nicole Reineker PRIMARY SAMPLER: Nicole Reineker EMAIL REPORTS TO: EMAIL INVOICES TO:		TURNAROUND REQUIREMENTS: 5 Days Biohazard info:		LABORATORY USE ONLY (Circle) Custody Seal intact? Yes No N/A Free ice / frozen ice bricks present upon receipt? Yes No N/A Random Sample Temperature on Receipt: C Other comments:	
		CONTACT PH: SAMPLER MOBILE: QUOTE NO: ME/589/21 v2 / EM2021GHD SER0036			

SAMPLE DETAILS							ANALYSIS REQUIRED		
SAMPLE	NAME	DESCRIPTION	DATE / TIME	MATRIX	TOTAL BOTTLES	ON HOLD	ANALYSIS NOT REQUIRED	ALTERNATIVE ANALYSIS	ADDITIONAL INFORMATION
010	qa6		16/03/2022 09:51 AM	Soil	ALS: 1 Non ALS: 0	No	-		
011	LP_0.03		17/03/2022 07:28 AM	Soil	ALS: 1 Non ALS: 0	No	-		
012	GTP-03_0.50		17/03/2022 07:29 AM	Soil	ALS: 1 Non ALS: 0	No	-		
013	GTP-03_1.00		17/03/2022 07:29 AM	Soil	ALS: 1 Non ALS: 0	No	-		
014	GTP-03_1.50		17/03/2022 07:30 AM	Soil	ALS: 1 Non ALS: 0	No	-		
015	GTP-03_2.00		17/03/2022 07:30 AM	Soil	ALS: 1 Non ALS: 0	No	-		
016	GTP-4_0.00		17/03/2022 09:11 AM	Soil	ALS: 1 Non ALS: 0	No	-		
017	GTP-4_0.50		17/03/2022 09:12 AM	Soil	ALS: 1 Non ALS: 0	No	-		
018	qa7		17/03/2022 09:25 AM	Soil	ALS: 1 Non ALS: 0	No	-		

Ranil Weerakkody

From: Peter Ravlic
Sent: Thursday, 24 March 2022 8:49 AM
To: COC Melbourne
Cc: Dilani Fernando
Subject: GHDSER - COC 35132 - Incoming 24/3 - URGENT 2 DAY TAT

Hi Team

Below analysis confirmation for 2 day TAT

Thanks

Kind Regards



right solutions.
right partner.

Peter Ravlic
Client Services
ALS Limited

Ph: +61 3 8549 9600
peter.ravlic@alsglobal.com

2-4 Westall Road, Springvale VIC 3171

alsglobal.com

From: Nicole Reineker <Nicole.Reineker@ghd.com>
Sent: Wednesday, 23 March 2022 3:43 PM
To: Peter Ravlic <peter.ravlic@alsglobal.com>
Subject: [EXTERNAL] - esky arriving tomorrow- analysis in email for COC 35132

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

Hi Peter,

Could these please be done under a 2 day turnaround please.

The samples to be analysed for TRH/BTEXN/PAH/8 metals and the rest put on hold.

GTP1_1
GTP1_2
GTP1_3
GTP1_4
GTP1_5
GTP2_0.5
GTP3_1
GTP3_2
GTP4_0.1
QA5

QA6 (please send to Sydney)

Kind Regards
Nicole

Nicole K Reineker

Environmental Scientist

Please note my working days are Monday to Thursday

GHD

Proudly employee-owned | ghd.com

2 Salamanca Square Hobart Tasmania 7000 Australia

D +61 3 6210 0626 M +61 403 857 681 E nicole.reineker@ghd.com

→ The Power of Commitment

Connect



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Batch as ES

From: [Peter Ravlic](#)
To: [Nicole Reineker](#)
Subject: RE: [EXTERNAL] - esky arriving tomorrow- analysis in email for COC 35132
Date: Thursday, 31 March 2022 10:16:24 AM
Attachments: [image006.png](#)
[image008.png](#)
[image009.png](#)
[image010.png](#)
[image011.png](#)
[image012.png](#)

Hi Nicole

As discussed, the analysis was passed on to sample receipt at the time but unfortunately the email was overlooked and so the samples were not processed. As some samples were sampled on the 16/3, the analysis for TPH/BTEX/PAH will be done 1 day out of holding time. We don't believe results will be impacted undertaking analysis a few hours outside of holding time and also the fact that samples have been kept chilled overnight from receipt.

Again, apologies for the oversight

Thanks

Kind Regards



right solutions.
right partner.

Peter Ravlic
Client Services
ALS Limited

Ph: +61 3 8549 9600
peter.ravlic@alsglobal.com

2-4 Westall Road, Springvale VIC 3171

alsglobal.com

for Easter
holiday hours

CLICK HERE

From: Nicole Reineker <Nicole.Reineker@ghd.com>
Sent: Wednesday, 23 March 2022 3:43 PM
To: Peter Ravlic <peter.ravlic@alsglobal.com>
Subject: [EXTERNAL] - esky arriving tomorrow- analysis in email for COC 35132

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Hi Peter,
Could these please be done under a 2 day turnaround please.
The samples to be analysed for TRH/BTEXN/PAH/8 metals and the rest put on hold.
GTP1_1
GTP1_2
GTP1_3
GTP1_4
GTP1_5
GTP2_0.5
GTP3_1
GTP3_2
GTP4_0.1
QA5
QA6 (please send to Sydney)

Kind Regards
Nicole
Nicole K Reineker

Environmental Scientist

Please note my working days are Monday to Thursday

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Appendix F

**Contamination Assessment Report (GHD,
2022)**



GHD
Hobart, TAS 7000
Australia
www.ghd.com

Your ref: [0000]
Our ref: 12574014

15 February 2022

University of Tasmania
C/- Frazer Read (All Urban Planning Pty Ltd)
19 Mawhera Avenue
SANDY BAY TAS 7005

Application No. PLN-21-869 83 - Assessment against the Potentially Contaminated Land Code

Melville Street & 80 Brisbane Street, Hobart & Adjacent Road Reserve - Partial Demolition, Alterations, Extension and Change of Use

Dear Frazer

University of Tasmania (GHD) has engaged GHD Pty Ltd (GHD) to update the existing Contamination Report for development site (83 Melville Street & 80 Brisbane Street), and to include consideration of proposed work in the adjacent road reserve.

This letter is a review of the updated Contamination Assessment report (attached) against the requirements of the Potentially Contaminated Land Code - E2.6.2. of the Hobart Interim Planning Scheme 2015. It considers the proposed UTAS redevelopment activities in the context of existing and proposed contamination assessment works.

This letter and the attached Contamination Assessment report have been developed and reviewed by Peter Topliss (EIANZ Certified Site Contaminated Specialist [CEnvP No. SC41076]), and the associated work conducted in general accordance with the NEPM (2013)¹.

The extent/boundary of the Site and the associated redevelopment activities are modified from the previous submissions in 2018 in the following key areas:

- The site extent has been expanded to include 80 Brisbane Street and associated work in adjacent road reserves;
- Excavation works required to accommodate the redevelopment program include areas of ground levelling, lift pits, and new utility trenches (stormwater and sewer) as shown in Figure 1

¹ National Environment Protection (Assessment of Site Contamination) Measure, as amended 2013.

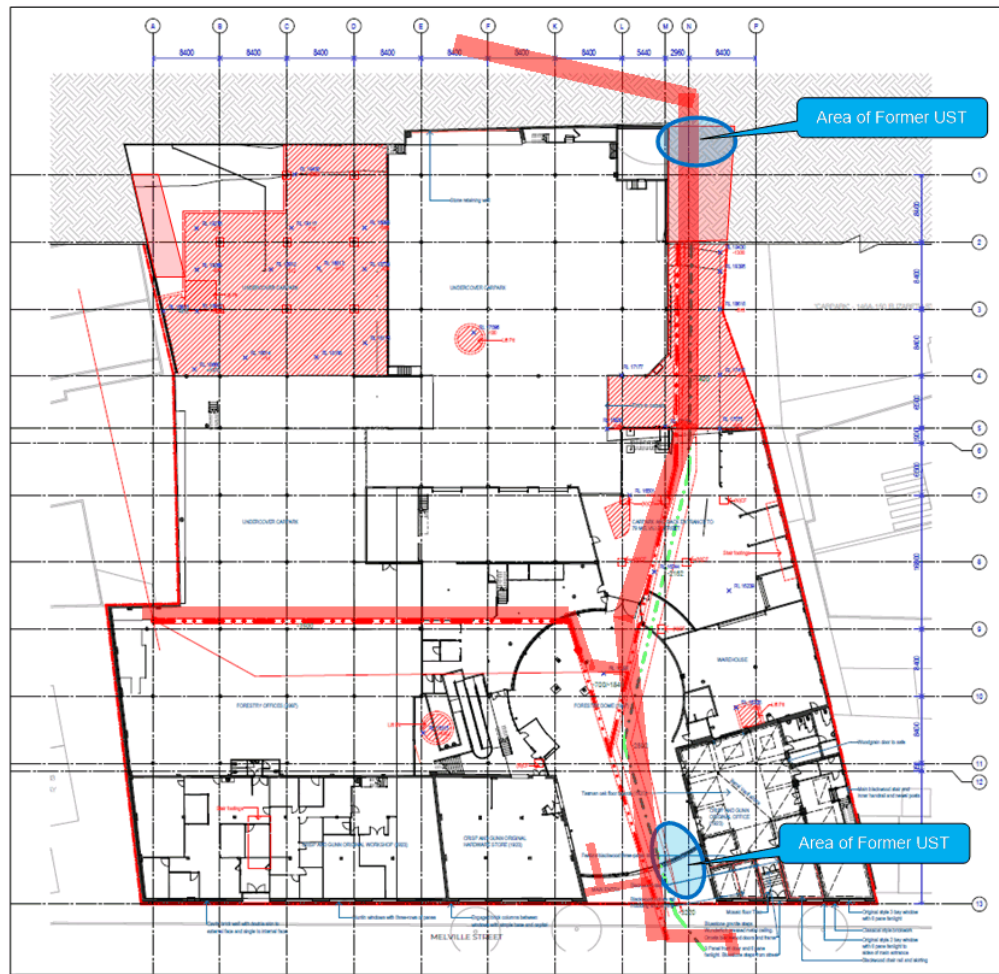


Figure 1 Site development footprint (red shaded areas = proposed excavation areas and utility trenches)

Site has been subject to various phases of prior contamination assessment including:

- Richard Stoklosa Engineering Practice Pty Ltd (1994) *Screening level Environmental Site Assessment of 79-83 Melville Street, Hobart*. Report prepared for James Douglas & Associates on behalf of Tasmania State Property Services, dated 2 December 1994.
- Stoklosa Engineering Pty Ltd (1996) *Forestry Tasmania Redevelopment Project, 79-83 Melville Street, Hobart*. Letter to Forestry Tasmania, dated 18 September 1996.
- Stoklosa Engineering Pty Ltd (1996) *Environmental Remediation and Validation, December 1996* (report not available for this review).
- GHD (2018) *78-83 Melville St, Limited Preliminary Site Investigation*. Report prepared for the University of Tasmania.
- GHD (2022) *Contamination Assessment 79-83 Melville Street Hobart and 80 Brisbane Street Hobart*.

The latter assessment report combines all previous assessment work and expands the area of consideration to include the entire development footprint and provides broad consideration for the proposed work in the adjacent road reserve.

In summary, the development site has been subject to extensive background investigation and targeted assessment and remediation (i.e. removal of underground petroleum storage systems [UPSS]). This provides increased confidence that key potential aspects of concern have subsequently been identified and addressed to varying degrees. The site history and potential contamination risk is typical of most urban sites in Hobart and based on available information, has not shown any higher risk issues.

For areas of proposed excavation for redevelopment (where potential exposure risk is higher) the following key aspects are to be considered:

- Former UPSS near Brisbane Street - While unconfirmed, available evidence suggests it was likely removed and possibly remediated (circa 1996).
- Former UPSS near Melville Street - Removed and residual contaminated soil identified as "localised" and "unlikely that the contamination has migrated off site" (Stoklosa 1996).
- Imported fill used across the site generally (and historical use of hydrocarbons on site), and likely representing a low risk, consistent with other urban sites in Hobart (i.e. a mixture of fill material and typically low level contaminated soil)
- A residual risk remains for many streets in central Hobart associated with the potential for buried old town gas infrastructure (pipework), including both Brisbane Street and Melville Street. There is no information to suggest the associated risk is any higher at this location than in any other areas of the city.
- Potential localised contamination aspects were identified on-site including the capped oil sump, triple interceptor trap and electrical substation. However, as they are not located in proximity to the proposed areas of excavation, and represents relatively low risk profiles, there is no material increased risk to construction workers, futures site users or the environment associated with the proposed development works.
- The residual risk to site from potential off-site contamination risk (i.e. surrounding automotive and fuel storage activities) migrating on-site is primarily relating to scenarios where excavation works are conducted into, or in close proximity to the underlying groundwater.

In summary the site history and potential contamination risk is typical of most urban sites in Hobart and based on the prior contamination assessment programs, has not shown any higher risk aspects. While further quantitative assessment work is recommended to confirm potential contamination risks at specific target areas prior to commencement of work on site (and off-site), it is reasonable to conclude that the overarching risk profile for the site can be effectively managed to avoid adverse impact on human health or the environment.

Informed by previous investigations on the site as outline above and in the attached assessment, it is considered that the following specific actions prior to commencement of excavation on site will appropriately manage the risk to human health and the environment:

- Define the characteristics and extend of residual contamination (if present);
- Determine whether contamination represents a potential unacceptable risk to human health or the environment (including risk to construction workers);
- Specify any associated remediation and/or specify site controls required to protect risk to human health or the environment (acknowledging that in some cases full assessment and remediation may not be practical until site develop has commenced, due to access constraints); and
- Ultimately identify that the site is suitable for its intended future use (subject to any remediation or controls required).

More specifically, the ESA is to address the following target aspects representing potential site contamination that require further assessment:

- Area of proposed utility trenching next to the former UPSS near Brisbane Street;
- Area of proposed utility trenching next to the former UPSS near Melville Street;
- Areas of proposed utility trenching in road reservations on both Brisbane and Melville Streets, and accounting for associated potential risks from old town gas (including safe work protocol during drilling);
- General assessment (grid and/or judgemental sampling patterns) for soil characterisation of proposed excavation areas required for the redevelopment including areas of ground levelling, lift pits, and remaining utility trenches not addressed above.

In context of the broader site footprint outside of proposed areas of excavation, it represents a low risk profile. As the exposure setting and land use do not materially change (commercial setting to commercial setting) there is no material increased risk to construction workers, future site users or the environment associated with the broader site footprint.

UTAS has already committed to conduct further contamination investigation works to meet the aforementioned identified gaps, and sampling programs have been developed. However, due to difficulties in securing availability of civil contractors due to high demand and access to leased car park areas requiring 24hr access, the work cannot be conducted as part of this submission. The work will be carried out prior to construction related excavation works commencing. UTAS will also commission development of a Construction Environmental Management Plan and Soil & Water Management Plan (including groundwater) to guide site construction activities. The findings of further contamination investigations will be used to build the basis of those plans.

It is important to recognise that UTAS (with GHD) has a proven track record of addressing potential site contamination aspects at very similar development scenarios in central Hobart (i.e. NRAS Melville Street and The Hedberg). These recent programs have been successful in identifying site contamination aspects, remediation and conducting risk assessments to determine suitability for site workers and future users.

Potentially Contaminated Land Code

E2.6 Development Standards

E2.6.2 Excavation

Objective: To ensure that works involving excavation of potentially contaminated land does not adversely impact on human health or the environment.

Performance criteria	Assessment
P1	The proposal is considered to satisfy P1 (b) in that the site history and potential contamination risk is typical of most urban sites in Hobart and based on the prior contamination assessment programs, has not shown any higher risk aspects. Further quantitative assessment work is recommended in the following areas:
<i>Excavation does not adversely impact on health and the environment, having regard to:</i>	
<i>(a) an environmental site assessment that demonstrates there is no evidence the land is contaminated; or</i>	<ul style="list-style-type: none"> • the proposed utility trenching next to the former UPSS near Brisbane Street; • the proposed utility trenching next to the former UPSS near Melville Street; • the proposed utility trenching in road reservations on both Brisbane and Melville Streets, and accounting for associated potential risks from old town gas (including safe work protocol during drilling); and • a general assessment (grid and/or judgemental sampling patterns) for soil characterisation of proposed excavation areas
<i>(b) a plan to manage contamination and associated risk to human health and the environment that includes:</i>	
<i>(i) an environmental site assessment;</i>	
<i>(ii) any specific remediation and protection measures required to be implemented before excavation commences; and</i>	
<i>(iii) a statement that the excavation does not adversely impact on human health or the environment.</i>	

required for the redevelopment including areas of ground levelling, lift pits, and remaining utility trenches not addressed above.

These investigations will confirm any specific remediation measures prior to commencement of any excavation work on site and are an appropriate plan to managed potential contamination and associated risk to human health and the environment and

Subject to this approach it is considered the excavation will be effectively managed to ensure no adverse impact on human health or the environment.

Regards



Peter Topliss
Technical Director - Contamination and Remediation

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Contamination Assessment

**79-83 Melville Street and 80 Brisbane
Street, Hobart**

University of Tasmania

10 February 2022

→ The Power of Commitment

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Revision version	Rev 0
Project number	12574014

Document status

Status Code	Revision	Author	Reviewer		Approved for issue		
			Name	Signature	Name	Signature	Date
	0	Nicole Reineker	Peter Topliss		Peter Topliss		11/2/2022

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1. Introduction

1.1 Purpose of this report

The objective of this study was to identify any current or legacy activities that have potential to impact the soil or groundwater below the site based on a desktop review, and site visit and any associated recommendation to address those risks.

1.2 Scope of works

This contamination assessment has been undertaken in general accordance with the National Environment Protection Council (NEPC) (2013) Schedule B2 Guideline on Site Characterisation of the National Environmental Protection (Assessment of Site Contamination) Measure 1999 (as amended April 2013) (the NEPM).

The scope of work completed to inform this report comprised the following tasks:

- Review and interpretation of the following information sources
- Local government planning information indicating current and proposed land use zoning and permissible uses
- Historical aerial photography depicting the site and surrounds
- Geological, soil and topographical maps depicting the site
- WorkSafe Tasmania dangerous goods records review (information outstanding)
- EPA Tasmania Contaminated Site database search (information outstanding)
- Local government (Hobart City Council) records
- Preparation of this report describing the investigation and presenting the findings

1.3 Limitations

This report has been prepared by GHD for University of Tasmania and may only be used and relied on by University of Tasmania for the purpose agreed between GHD and University of Tasmania as set out in section 1 of this report.

GHD otherwise disclaims responsibility to any person other than University of Tasmania arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report (refer section(s) 1.4 of this report). GHD disclaims liability arising from any of the assumptions being incorrect.

The opinions, conclusions and any recommendations in this report are based on information obtained from, and testing undertaken at or in connection with, specific sample points. Site conditions at other parts of the site may be different from the site conditions found at the specific sample points.

Investigations undertaken in respect of this report are constrained by the particular site conditions, such as the location of buildings, services and vegetation. As a result, not all relevant site features and conditions may have been identified in this report.

Site conditions (including the presence of hazardous substances and/or site contamination) may change after the date of this Report. GHD does not accept responsibility arising from, or in connection with, any change to the site conditions. GHD is also not responsible for updating this report if the site conditions change.

GHD has prepared this report on the basis of information provided by University of Tasmania and others who provided information to GHD (including Government authorities), which GHD has not independently verified or checked beyond the agreed scope of work. GHD does not accept liability in connection with such unverified information, including errors and omissions in the report which were caused by errors or omissions in that information.

2. Site setting

2.1 Site identification

Table 1 Site details

Item	Details
Site Address	79 – 83 Melville Street, Hobart, Tasmania, 7000 and 80 Brisbane Street, Hobart, Tasmania, 7000.
Property Identifiers (Melville St)	Title Reference Number/s: 149231/2 Property ID Number (PID): 2911798
Property Identifiers (Brisbane St)	Title Reference Number/s: 149231/1 Property ID Number (PID): 2811771
Site Area	Approximately 7000 m ²
Site Owner/ Operator	University of Tasmania
Current Zoning	22.0 Central Business (Hobart Interim Planning Scheme 2015)
Current Land Use Melville St: Brisbane St	Not currently in use- previously Forestry Tasmania Freedom Furniture- Home wears retail outlet
Surrounding Land Uses	The site is located approximately 550 m west northwest of the Hobart GPO. Current land uses surrounding the site comprise: North: Brisbane Street -Retail businesses East: Murray Street- Retail, business offices and a mechanics West: Elizabeth Street- retail and lifestyle businesses South: Melville Street- Wesley Centre (Chapel, Hall and Museum), multistorey car parking and retail business.

2.2 Site layout

The site is located on the periphery of Hobart's Central Business District with frontage to Melville Street and vehicle access from Brisbane Street. The layout of the site is shown on Figure 1 in Appendix A. It is essentially an irregular rectangular shape with very little open space, apart from a drive-way located on the north-eastern boundary leading to the service yard. Buildings cover the rest of the extent of the site, with two converted redbrick warehouses joined by a large glass atrium along Melville Street. This building extends back to Brisbane Street with car parking on the lower ground floor, a service yard, workshops and laboratory leading to the offices along Melville Street. All ground is covered with buildings or asphalt.

2.3 Site environmental setting

2.3.1 Elevation and topography

The site slopes gently from the north east to the south west and has an approximate elevation ranging from 15 – 20 m AHD. It is considered likely that the rear of the site (northern end) has been excavated into natural ground to facilitate development of the car parking.

2.3.2 Geology

Geology has been mapped as comprising four units as follows and is shown on Figure 2 Appendix A .

- Northern section of the site mapped as alluvial gravel, sand and clay (Qa).
- South eastern section is mapped as undifferentiated quaternary deposits (Q).

- South western portion of the site is mapped as comprising poorly sorted boulder to pebble grade deposits with boulders up to 3 m length, clasts generally dominantly of dolerite with traces to rarely dominant amounts of Upper Parmeener mudstone and other rocks and less commonly Lower Parmeener rocks, clayey material (Tcbd).
- A small area around the service yard is mapped as dolerite and related rocks (Jd).

2.3.3 Surface water and groundwater

The site is located approximately 900 m north east of the Sullivans Cove, River Derwent. Information on depth to groundwater beneath the site has been obtained from bore logs contained in Screening Level Environmental Site Assessment of 79-83 Melville Street, Hobart (Stoklosa 1994), and was observed at between 1 and 4 metres below ground level (mbgl).

On the basis of topography in the vicinity of the site and proximity to the Derwent Estuary, it is anticipated that the groundwater flow direction at the site is towards the Derwent Estuary to the south east.

2.3.4 Acid sulphate soils

The majority of the site is mapped as being at low risk of having acid sulphate soils (ASS), with a small section along the western boundary mapped as not being at risk.

2.4 Site history search

2.4.1 Site history

Originally a land grant acquired by the Crisp family, the site, which extends through to Brisbane Street, operated as a sawmill and timber and hardware outlet until 1968. Following a fire at the site in 1922 the two redbrick warehouses on Melville Street were constructed, the eastern one was used as a warehouse store for dry and finished timber products and smaller western one housed the hardware emporium business.

The site was sold to the Tasmanian State Government in the late 1960s and was used as stores and offices including the State Emergency Service, and The State Fire Commission. In 1997 the site was redeveloped to be Forestry Tasmania Office and showroom. This redevelopment retained the two redbrick warehouses and incorporated into the design a glazed, domed foyer joining them together. This development comprised the refurbishment of the two warehouse buildings; construction of new office and amenities areas; a retail showroom and the foyer dome.

2.4.2 WorkSafe Tasmania Dangerous Goods records

A search of the WorkSafe Tasmania dangerous goods records was ordered to confirm what dangerous goods the site has historically been licenced to hold. On 28th September, WorkSafe advised that their database searches had identified

The search revealed documentation that:

- On 4 July 1955, Crisp and Gunn Co-op Ltd applied to renew registration of storage of 500 gallons of mineral spirit
- On 5 December 1962, The Shell Company of Australia applied to replace the single manual pump with a single electric pump on an existing 500 gallon tank (not to scale diagram included)
- On 4 January 1963, Crisp and Gunn was inspected by Inspector of Explosives to inspect pump outfit owned by The Shell Company of Australia that was approved on 5 December 1962
- An application by Crisp and Gunn, to keep one 1,000 gallon petrol tank at 79 Melville Street, was submitted to Department of Mine on 5 June 1967
- On 17 April 1967, approval of 1,000 gallon tank situated at Crisp and Gunn Co-op Ltd
- On 20 July 1967, Crisp and Gunn was inspected by Inspector of Explosives to inspect the 1,000 gallon tank owned by Shell Co of Australia that was approved on 17 April 1967

A copy of the WorkSafe Dangerous Goods Documentation and correspondence is presented as Appendix C. A copy of the correspondence is provided in Appendix C

2.4.3 Environmental Protection Authority (EPA) Tasmania records

The Environmental Protection Agency was contacted for any information they may hold regarding the Site. The EPA confirmed that they held several records/reports regarding an Environmental Site Assessments and the letter states:

"Of particular interest was the decommissioning of an underground storage tank (UST) located on the Brisbane Street side of the Site and another UST located on the Melville Street side of the Site"

In addition they mention:

- Stoklosa 1996 report and the EPA response that the localised hydrocarbon presence (around Melville street former UST) should be disclosed to future occupants of the Site
- WorkSafe records for the site and neighbouring site (same records provided by WorkSafe)

A copy of the correspondence is provided in Appendix D

2.4.4 City of Hobart Council records

The City of Hobart (CoH) Council was contacted for any information they may hold regarding current or historic pollution at the site, including old reports and applications for fuel storage or chemical storage, remediation notices, pollution incidents, and permits. The CoH confirmed that they had records that the site had been historically used for potentially contaminating land-use activities (refer to Appendix E). The only potential sources of contamination at or adjacent to the site that CoH noted, were hydrocarbons. The main use of the site from 1886 until 1967 was classified as wood treatment/sawmill, with various business occupying the site. These businesses comprised:

- From 1886 -1915, Central Saw and Planing Mills
- From 1916-1932, Absalom brothers
- From 1955 -1967, Crisp and Gunn Co-op Ltd
- Dates unknown, Absalom Garage
- Dates unknown, Bert Self
- Dates unknown, Shell

The property also lies adjacent three sites that have been identified as potentially contaminated with hydrocarbons. These comprise:

- 131-133 Murray Street, which operated as a fuel supplier in 1916
- 141-143 Murray Street, which operated as a motor car dealers, engineers and garage between 1966 and 1979 by:
 - J.T. Graves & Son Pty. Ltd
 - H.C. Sleigh/ Golden Fleece
 - John Tasman Graves
- 132- 146 Elizabeth Street, which operated in 1940 as a body works, motor car dealers, engineers and garages by Trade Motor Body Works

These three adjacent properties are mapped as being located either side of the site.

The phrase "motor car dealer, engineer and garage" is a category name used to categorise similar businesses which was used when the contaminated sites register was created. These operations are generally considered to fall under the current classification of "commercial engine and machinery workshops or petroleum product or oil storage for service stations

A copy of the correspondence is provided in Appendix E

2.4.5 Dial before you dig records

A Dial Before You Dig (DBYD) request was submitted on Monday 1st October. The following information was received about the infrastructure on site from:

- TasNetworks
- TasGas
- nbn Co.
- Optus
- DPIWE (Aboriginal Heritage)
- TasWater
- HCC

The City of Hobart (CoH) response letter highlighted the possibility of "abandoned old town gas (coal gas) pipes potentially emitting harmful gases and Volatile Organic Compounds (VOCs) may be found in many areas of the City" within the vicinity of the site. There is no information available on exactly where these pipes may be located within Hobart CBD. While these pipes are usually located within road reserves, feeder lines may be present on the site.

TasWater's responses show that sewage lines run through the site.

Appendix F contains all the responses received from the DBYD search.

2.5 Historic aerial photography

A review of historical aerial photography was undertaken as part of this assessment, and the findings of the review are presented in Table 2 below.

Historic aerial photographs of the site were ordered at approximately 10-year intervals commencing from the earliest available (1946) to 2000. Figures for this report have been prepared using the most current image of the site available from Google Earth which is from 2022 and the same image has been used to describe the current site layout. The historic aerals are presented in Appendix G.

Table 2 Aerial photograph summary

Photo ID	Date taken	The site	Melville Street	Brisbane Street	Murray Street	Elizabeth Street
10917	1946	The two redbrick warehouse buildings (now joined by atrium). Western building has three roof sections (looking like 3 adjoined warehouses). Eastern building roofline similar. Where atrium is now is a fenced yard. Very large warehouse/structure joins redbrick buildings behind fenced yard - this takes up approximately 1/4 of the current site.	Looks similar to now	Houses/small buildings, some with back yards all along street - no empty blocks.	All cadastral blocks have at least one building on them. Appears to be more commercial than Brisbane St (storage yards at multiple properties - unable to determine what is being stored) storage yard at 131-133 Murray looks like shipping containers.	Street looks similar to now (shop fronts and terraces) but with back yards rather than an office block at back of buildings.
326-123	1957	Looks very similar to 1946 photo- storage yards behind buildings on Melville Street more obvious. Chimney stack visible (where Freedom is now). Piles of timber being stored in a yard. Possible location of petrol bowser visible in fenced yard on Melville St.	Same	Same	Same	Same
442-248	1965	Best historical image of site (all aspects clear). Houses removed from Brisbane St making a large driveway/access to storage yards at back of Melville St warehouses. Storage yards appear to have sealed surface. Two raised tanks near chimney stack (probably water due to shape and height). A new, small structure in fenced yard - surface appears to be sealed (possibly new petrol bowser installed in 1962) on Melville St.	Same	House/building (apart of site) removed to allow access to storage yards at site. 94-98 Brisbane -Building on corner of Murray removed and new building constructed at back of block - there are multiple cars in yard - surface is sealed.	131-133 Murray St has shipping containers stored. 141-143 Murray St multiple vehicles in yard at back, the surface appears to be sealed - some debris on ground around fences and staining of ground surface (probably operating as garage).	Same- but storage yard at back of 132-146 Elizabeth is clearer and possible oil/ hydrocarbon drums/above ground tanks. Surface is sealed.
801-053	26/10/1979	Back of site cleared - all houses removed, chimney stack removed, raised tanks removed, storage areas/yards removed. Driveway installed from Brisbane St to centre of block (where it is now). At end of driveway new building attached to shed/warehouse. Possible location of petrol bowser and 1000 gallon tank (installed 1967) near driveway. Surface has been sealed and some areas have marked car parks, rest used for unmarked car parking.	Same	All buildings from corner of Murray to 74 Brisbane (now Wagner's Framing) demolished and turned into car parking. Appears to be below street level in sections.	141-143 Murray St- surface resealed and parking bays painted in. Roof replaced on one building. 131-133 Murray St building has been extended - no longer being used as storage yard, surface has been sealed and now being used as car parking.	Backyard at 146a-150 Elizabeth contains multiple cars - not as a car park. Some staining on ground (or could be vegetation).

Photo ID	Date taken	The site	Melville Street	Brisbane Street	Murray Street	Elizabeth Street
		Fence/wall between redbrick warehouses on Melville removed. Small structure seen in 1965 photo removed. Car parking spaces marked in lot.				
1118-026	2/12/1988	New roof on front third of eastern red brick warehouse. New roof on building extended above at end of driveway and small lean-to attached on eastern side. No other changes.	Same	Same	131-133 Murray - car parking marked.	Same
1239-074	16/2/1996	The rest of the roof replaced on eastern redbrick warehouse. No other changes.	Same	Same	141-143 Murray - roof replaced on warehouse/shed.	Same
1332-092	19/11/2000	Forestry Tasmania development of site has occurred. Glass dome constructed between the two redbrick warehouses. Large warehouse in centre of block removed. Along Brisbane St, Freedom Furniture shop and car park built. Driveway off Brisbane St extended and new service yard created (where large warehouse was removed from). New roof on western redbrick warehouse and extended.	Same	Same	Same	Same
theList, Base map State Aerial Photo	2022	Same	Same	Same	Same	132-146 Elizabeth Street – warehouses and back of buildings removed (leaving street facing terrace houses) and large office block developed.

3. Previous reports

The Site has been subject to a number of investigations that are able to inform the potential for site contamination and its associated risk. The following reports were made available for use in this investigation and are included in Appendix H:

- Richard Stoklosa Engineering Practice Pty Ltd (1994). *Screening level Environmental Site Assessment of 79-83 Melville Street, Hobart*. Report prepared for James Douglas & Associates on behalf of Tasmania State Property Services, dated 2 December 1994.
- Stoklosa Engineering Pty Ltd (1996). *Forestry Tasmania Redevelopment Project, 79-83 Melville Street, Hobart*. Letter to Forestry Tasmania, dated 18 September 1996.
- Department of Environment and Land Management (DELM) (1996). *Forestry Tasmania Redevelopment Project 79-83 Melville Street*, Environment Tasmania letter to Forestry Tasmania, dated 23 September 1996.
- Department of Environment and Land Management (DELM) (1997). *Forestry Tasmania Redevelopment Project 79-83 Melville Street*, Environment Tasmania letter to Forestry Tasmania, dated 20 January 1997.
- WSP Parsons Brinckerhoff (2017). *Site Location Plan – 79 Melville Street, Hobart*. Email chain with attachment from WSP Parson Brinckerhoff to Abacus Property dated 7th April 2017.
- Nekon (2018). *Oil Sump Removal/Treatment*. Email with attachments from Nekon Pty Ltd to UTAS dated 27th September 2018.
- Collex Waste Management (1996), *Certificate of Disposal*, dates 28th August 1996

3.1 Stoklosa (1994)

Stoklosa (1996) included a detailed site history review and identified early Site use as timber/joinery business, changing to office and stores from the mid 1960s. A tall smokestack was identified in the northwest section of the site (now within the footprint of the Freedom Furniture store), likely associated with burning of wood waste. While the 1996 site inspection identified various small quantities of hazardous materials on site (i.e. small outdoor flammable liquid store on concrete), the primary aspect identified was a single petrol tank and bowser, abandoned prior to 1965. Its location is identified on the northern corner of the site, adjacent to Brisbane Street (refer Figure 3 in Appendix A). Council records suggested a triple interceptor trap located 'in the storage area'. The exact location is not provided but inferred to be in the northern section of the site (i.e. within the current fenced in car parking area/open area).

Historical geological investigation logs (1979) were included in the appendix. These engineering logs in locations near proposed future soil disturbance areas identified that fill had been used in places across the site to a depth of approximately 1.0 mbgl. The fill was varied with a variety of material recorded including rubble, brick fragments, rocks, clay, and boulders.

No contaminant testing was undertaken as part of this investigation.

3.2 Stoklosa (1996)

This report included assessment of soils after removal of a single underground storage tank (UST) from the main entrance area near Melville Street (Figure 4 in Appendix A). Residual petroleum hydrocarbons were detected in soils in the base of the excavation at concentrations that exceed current commercial/industrial land use criteria (NEPM 2013 Table 1A(3) Soils HSLs for vapour intrusion) for TRH (FT2 and FT9 only), but not xylene. However, they did not exceed either the CRC Care direct contact for intrusive works or HSL for vapour intrusion for intrusive works criteria (CRC Care 2011¹). Samples from the same area (presumed upgradient, however sample depth not specified [FT-1, FT-3, FT-8]) did not contain concentrations of hydrocarbons or BTEX significantly above the laboratory limit of reporting. The letter concludes the lateral and vertical extent of contamination is not known, however:

"There appears to be no significant risk of exposure to workers or visitors to the site."

¹ CARE, CRC. "Health Screening Levels for Petroleum Hydrocarbons in Soil and Groundwater." (2011).

No metals concentrations were detected above the commercial/industrial land use criteria at the UST, or in other areas of the Site that were investigated.

There was evidence of planning the removal and assessment of the UST near Brisbane Street, and a note that Stoklosa Engineering must be on site to witness the removal of the UST and to take samples, and correspondence from EPA indicating that the tank has been removed.

Table 3 Hydrocarbon and BTEX concentrations detected in Stoklosa 1996 (Melville St UST)

	TPH (mg/kg)	C6-C9 (mg/kg)	C10-C14 (mg/kg)	C15-C28 (mg/kg)	C29+ (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylene (mg/kg)
FT-1	ND	ND	ND	ND	ND	ND	ND	ND	ND
FT-2	660	530	130	ND	ND	ND	4	7	66
FT-3	8	ND	ND	ND	ND	ND	ND	ND	ND
FT-8	7	ND	ND	ND	ND	ND	ND	ND	ND
FT-9	1790	1330	440	ND	ND	2	8	14	176

ND = non detect above laboratory limit of reporting

3.3 DELM (1996)

This letter is in response to Stoklosa Engineering letters dated 8th and 18th of September 1996 and a meeting on site on 10 September. It mentions that UST evacuations and that the results were provided to Environment Tasmania under due diligence. That additional testing is required around the "unanticipated UST" to determine extent of lateral contamination and that bore logs need to be provided with results to determine depth of each sample.

3.4 Collex (1996)

This is a one page document confirming that 2,500 litres of hydrocarbon contaminated (slurry?) was removed from 79 Melville Street on 28 August 1996 (no mention of whether this is from one or both of the USTs).

3.5 DELM (1997)

This letter makes reference to a subsequent body of work "Environmental Remediation and Validation, December 1996" prepared by Stoklosa Engineering. While the report was not available for this investigation, Environment Tasmania concur with Stoklosa that "...contaminated soil under the UST represents a localised hot spot..." and that "it is unlikely that the contamination has migrated off site, or will do so in the future". Environment Tasmania considered that the site was suitable for its use as Forestry Tasmania, however if the site use was to change/or be developed for a more sensitive use in future, in-situ soil testing may be required.

3.6 Parsons Brinckerhoff (2017)

This is an email chain with attachment that outlines the results of an site inspection undertaken on 7 April 2017 by an Senior Environmental Scientist.

The following observations were made during the inspection:

- Two metal gatic covers were observed located on a square of reinstated bitumen approximately 1x1 m in size.
- Plastic covers were removed which reviewed two vertical pipes of approximately 3-4 inches in diameter.
- No hydrocarbon odours were noted when the covers were removed.
- The periodic horizontal flow of water was observed at the base of the standpipes approximately 2.9 m below surface.
- The covers aligned with the services indicated on the plan and observed onsite, which are believed to relate to sewer and surface water.

- No 'petrol tanks' were able to be located at the site.

Parson Brinckerhoff believed that the vertical pipes were most likely installed to inspect or allow access to the existing services. The periodic flow of water and their location in relation to existing services suggests it may be associated with the sewer or stormwater water drainage services.

3.7 Nekon (2018)

This email confirms that the oil sump that was located in the Workshop with the three roller doors (refer Figure 3 in Appendix A), that opens to the undercover car park was cleaned out and capped. This email contained photographs of the sump prior to cleaning and after capping. The invoice for these works was also attached.

4. Site inspections

Two site inspections were undertaken by GHD, on Monday 24 October and Wednesday 26 October 2018, with a further inspection being undertaken on 28 January 2022. While the entire building was inspected (during the 2018 inspections), only the ground floor level including car parking area will be discussed in this section, as the second and third floors are unlikely to have contributed to any soil or groundwater contamination on site. The inspection in January 2022 was targeted towards the excavations proposed as part of the redevelopment of the Site.

The plates from the three site inspections are included in Appendix B and these comprise part of the description of the Site.

Entrance and Atrium

This area is unsealed and has a dirt/soil ground. This area was previously the planted out as a simulated Tasmanian Forest.

Square steel coved manhole located in front of atrium along Melville Street - this is in the vicinity where the former UST that was removed for the Forestry Development was located (Plate 1).

There was evidence of geo-fabric used in the development of the forest in the atrium coming to the surface (Plate 2). This was observed throughout the right side of the atrium.

There were a few concrete manhole covers observed in the Atrium (Plate 3), these gatics are located above the sewage line. The gatics throughout the site that relate to sewage infrastructure look identical.

Workshops- Fabrication and Operations

There are two workshops on the ground floor, one on each side of the building. The Fabrication workshop is the one that has a roller door to the Service Yard. The Operations Workshop is located with three roller door access to the undercover garage.

Both of these workshops contained exterior signage saying that they contained flammable gas, non-flammable nontoxic gas and oxidizing gas (Plate 4 and Plate 5).

Within the Operations workshop there is a circle of fresh concrete (Plate 6). This is from where the oil sump was cleaned and then capped.

Laboratories

There was HAZCHEM signage on the Laboratory door to the Service Yard. It is likely that agricultural chemicals were used and stored within this area (see plate 7). It is unlikely that these would have contributed to any contamination on site as the floor of the laboratory is sealed with concrete. There is a drain in the corner of the room. There was no evidence of chemical use laboratory (i.e. signage) but this room had been gutted with partitions between sections removed (Plate 8).

Service Yard

The service yard is connected to the atrium, Fabrication workshop and the driveway from Brisbane Street. There is a three bay garage down the northern edge (one with a roller door and the other two open), a sink near the gate to the atrium; the remainder of the area is open to the sky and the surface is sealed.

Within the garage area there are three bays, the bay closest to the workshop has a drain with standing water (Plate 11) and a gatic covered sump (Plate 10) and a large metal manhole cover. The adjacent bay contains what was assumed to be the triple interceptor trap (Plate 12) and was likely used as a wash down area. The second bay also contains a steel pipe down the eastern corner (Plate 12) – it is unknown what this was used for. The third bay has a sealed surface without any drains.

There is evidence that an area of the concrete adjacent to the garage area was replaced recently (Plate 10), it is unknown why this occurred.

There are multiple drains (Plate 10 and Plate 14) in this area with visible water under the grate (Plate 11). A spill mat was stored in the service yard (Plate 15).

Eastern Redbrick warehouse

This building was being used as a meeting room and offices and is in good condition (Plate 16). Prior to our site visit, sections of the floorboards had been cut to allow access to the underfloor surface. The floor of this building comprises floorboards raised over a dirt floor (Plate 18 and Plate 21). There appears to be no slab in place in this section of the site.

Western redbrick warehouse (GLA 3)

This building was used as mainly offices during Forestry's tenancy. The ground floor of this building is at or below street level. Most of this area has been gutted but some sections still contain some partitions (Plate 19).

Prior to the site visit sections of the floorboards were removed to allow access to the subsurface (Plate 19). The floorboards within the building are raised above a concrete slab (Plate 21).

Underground car parking area

The underground car park is at the back of the buildings facing Melville Street and underneath Freedom Furniture Store. All surfaces are sealed. There are numerous concrete manholes that are aligned over the TasWater sewage network and HCC stormwater drains. An example of the stormwater drains can be seen in Plate 23. There were two gatic covers located adjacent to each other observed in this area (Plate 22). These are in line with the sewage line and manholes in the area.

There is a electricity substation in the corner of the car park area adjacent to the driveway (Plate 25).

Driveway from Brisbane Street to Service yard and underground Car park

Plate 24 shows where a section of the asphalt has been cut and replaced with three rectangular gatic covers. This is within the vicinity of where the Brisbane Street UST was/is located. There are also numerous cut lines in the asphalt surrounding this gatic.

Sewage, water and stormwater

Concrete manhole covers located throughout the site - these are consistent with where sewage/wastewater lines (TasWater) and stormwater drainage (HCC) are located. An example of the drains in the underground car parking area is shown in Plate 23. An example of the TasWater's sewage manhole covers can be seen in Plate 1.

Surrounding land use

Currently there is a Beaurepaires retail outlet adjacent to the Freedom Furniture shop on Brisbane Street.

5. Site history of potential contamination

The following have been identified as potential sources of historical contamination at the site:

- Underground Storage Tanks and associated infrastructure including bowers and piping
- Chemical storage
- Triple interceptor trap
- Historical uncontrolled fill beneath the site
- General commercial/industrial land with potential for incidental leaks and spills to ground

Potentially contaminating activities undertaken historically on neighbouring land are generally associated with the automotive industry or fuel storage. Specifically, there has been:

- Rowe, a fuel supplier present on the adjacent site to the southeast (131- 133 Murray Street)
- Trade Motor Body Works, an automotive business to the west/northwest of the site (132-146 Elizabeth Street)
- J.T Graves & Son Pty Ltd, an automotive business to the east of the site

Figure 3 in Appendix A shows the locations of historic and current potentially contaminating activities undertaken in the vicinity of the site, relative to the site layout.

6. Summary of potential contamination and risk assessment

6.1 Former UST (1000 gallon) and metered pump-Brisbane Street

Mentioned in: WorkSafe Dangerous Goods (1967 records), Hobart City Council records (Shell), Stoklosa (1994), Stoklosa (1996), Site visit (gatics covers on driveway where tank was assumed to be).

Overview

We were unable to confirm that the UST that was located in the northern corner of the site adjacent to Brisbane Street was removed and remediated. The exact location of the tank was unable to be determined, as the diagrams in WorkSafe records have no scale nor is the surrounding land use labelled. It is likely that this occurred due to evidence of the planning of this removal and that Stoklosa Engineering noted in their letter (dated 18 September 1996) that they need to be onsite to witness the removal of this UST, and the correspondence from the EPA (12/10/2018) indicated that they had records of its removal.

The site visit noted that there was a large rectangular gatic cover (Plate 24) in the vicinity of where the UST was believed to be and the substation located in the car park, however when the location was compared with the DBYD response (Appendix F) from TasNetworks, no cabling went into the driveway area.

Relative risk

The likelihood of residual contamination (in soil and groundwater) in the area is low to moderate. If the gatic covered could be removed and inspected, this would add some confirmation of the residual risk.

6.2 Former UST (500 gallon) and Bowser – Melville Street

Mentioned in: WorkSafe Dangerous Goods (1962/3 records), Hobart City Council records (Shell), Stoklosa (1996), DELM (1996)

Overview

The UST that was referred to in Stoklosa's reports as the unanticipated UST, was removed in 1996 and there is evidence of soil testing being undertaken. While elevated concentrations of short chain hydrocarbon and xylene were detected in some samples, Environment Tasmania concur with Stoklosa that "...contaminated soil under the UST represents a localised hot spot..." and that "it is unlikely that the contamination has migrated off site or will do so in the future".

Relative risk

The likelihood of residual contamination (in soil and groundwater) in the area is low to moderate. As the source (UST) was removed, and residual impact at that time appeared localised, any residual risk will likely have degraded over time (20 years since assessment). Additionally, the unsealed ground and the large scale of the overlying building (vented glass atrium) would limit accumulation of any residual vapour risk, which also would likely decrease quickly over time.

6.3 Uncontrolled fill

Mentioned in Stoklosa (1994).

Overview and relative risk

There is evidence from bore logs contained in the above report that fill was used across the site. There are no details of where the fill originated from or if it contained any contaminants. While uncontrolled imported fill retains a level of site contamination risk, this is considered no different to most other urban sites in Tasmania. The risk is likely relatively low as prior investigations did not identify any specific aspects of concern during works (i.e. potential asbestos containing material or stained and odorous material).

6.4 Chemical stores

Mention in Stoklosa (1994) and observed during site visit.

Overview and relative risk

Stoklosa noted that there was a flammable chemical store that was being removed as part of the redevelopment for Forestry. This store was on a sealed surface and soil testing was undertaken once removed. No contaminants of concern were found.

Both workshops and the laboratory were used to store chemicals within the Forestry Tasmania Building. The floor of both workshops are sealed with concrete, making it unlikely that this storage would have any impact on soil or groundwater. The risk is therefore considered relatively low.

6.5 Oil sump

Mentioned in Nekon (2018) and observed during site inspection.

Overview and relative risk

There is an oil sump located within the Operations Workshop. This sump was cleaned and capped in April 2018. While it is acknowledged that any in-ground containment has potential to leak, it is uncommon for such sources to contribute to notable ground contamination, and more likely represent a risk of localised residual impact immediately around the infrastructure. The risk is therefore considered relatively low.

6.6 Triple interceptor trap

Mentioned in Stoklosa (1994) and observed during site inspection.

Overview and relative risk

There is a triple interception pit located in the middle bay of the open garages. There are also multiple drains within this area, however there was signage for a spill control mat located nearby within the service yard. This would have reduced risks to waterways and groundwater from activities in this area. While it is acknowledged that any in-ground containment has potential to leak, it is uncommon for such sources to contribute to notable ground contamination, and more likely represent a risk of localised residual impact immediately around the infrastructure. The risk is therefore considered relatively low.

6.7 General hydrocarbon presence

Mentioned in Hobart City Council records.

Overview and relative risk

The site has been utilised in the past by Bert Self (likely to sell motorcycles and sidecars - from advertisement in Huon Times, dated 26/6/1926) and Absolom Garage and Absolom Brothers, while there are no dates or locations within the site. It is likely that these businesses were related to motor vehicles and the resultant hydrocarbon risk. However, these businesses were likely at the site during the early 20th Century.

It is considered that key potential sources of contamination associated with such land use relate to fuel storage and handling which likely been addressed (USTs). While it is acknowledged that such land uses have potential to generate leaks and spills to ground, it is uncommon for such sources to contribute to notable ground

contamination, and more likely represent a risk of localised residual impact. The risk is therefore considered relatively low.

6.8 Old town gas

Mentioned in Hobart City Council records.

Overview and relative risk

There is no information available on exactly where these pipes may be located within Hobart CBD. While these pipes are usually located within road reserves, feeder lines may be present on the site. The residual risk would primarily relate to works in adjacent roads, and more specifically vapour risk to workers exposing such infrastructure. The associated risk to the site is considered low.

6.9 Electricity sub-station

Observed during site visits.

Overview and relative risk

The substation is located adjacent to the driveway in the underground car park and appears to be relatively new. While it acknowledged that electricity equipment has potential to generate leaks and spills to ground (from oil filled infrastructure), it is uncommon for such sources to contribute to notable ground contamination when located on sealed concrete surfaces. The risk is therefore considered relatively low.

6.10 Surrounding land use (historical and current)

Mentioned in Hobart City Council records and observed during site inspection.

Overview

Potentially contaminating activities undertaken historically on neighbouring land are generally associated with the automotive industry or fuel storage. Specifically, there has been:

- Rowe, a fuel supplier present on the adjacent site to the south east (131- 133 Murray Street)
- Trade Motor Body Works, an automotive business to the west/north west of the site (132-146 Elizabeth Street)
- J.T Graves & Son Pty Ltd, an automotive business to the east of the site

Currently there is a Beaurepaires retail outlet adjacent to the Freedom Furniture shop on Brisbane Street.

Relative risk

The residual risk to site from potential off-site contamination risk migrating on-site is primarily relating to scenarios where excavation works are conducted into, or in close proximity to the underlying groundwater. No site infrastructure (other than stormwater and sewer systems) are considered to approach the groundwater and therefore the risk is considered low at this time.

7. Conclusion

The Site has been subject to extensive background investigation and targeted assessment and remediation (i.e. removal of underground petroleum storage systems [UPSS]). This provides increased confidence that key potential aspects of concern have subsequently been identified and addressed to varying degrees.

The site history and potential contamination risk is typical of most urban sites in Hobart and based on the prior contamination assessment programs, has not shown any higher risk aspects. While there remain lower risk potential contamination aspects, based on continued commercial use (i.e. with limited requirement for ground disturbance), these are unlikely to represent issues requiring notable management controls.

Where there were future development requirements for notable subsurface disturbance (i.e. utility trenching, basement construction), then there would be an increased risk of requirements to manage residual contamination (if present). However the results of the limited soil sampling undertaken by Stoklosa 1996 indicates that there is minimal risk to construction workers in this area from either vapours or direct contact with soils.

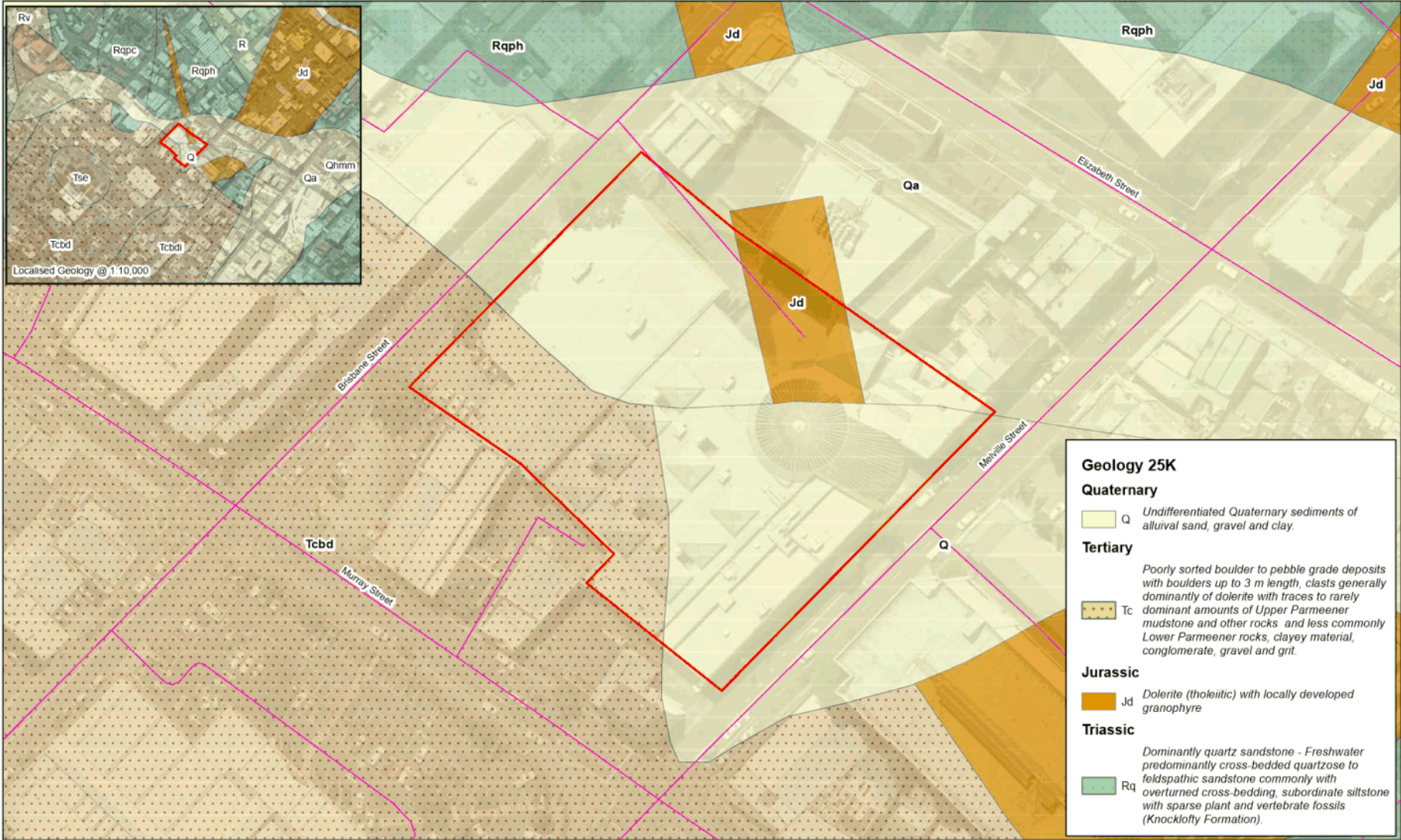
While further quantitative assessment work is recommended to confirm potential contamination risks at specific target areas (around both former USTs) prior to commencement of any notable subsurface disturbance work on site (and off-site), the overarching risk profile of the site is relatively low.

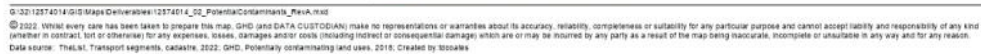
Appendices

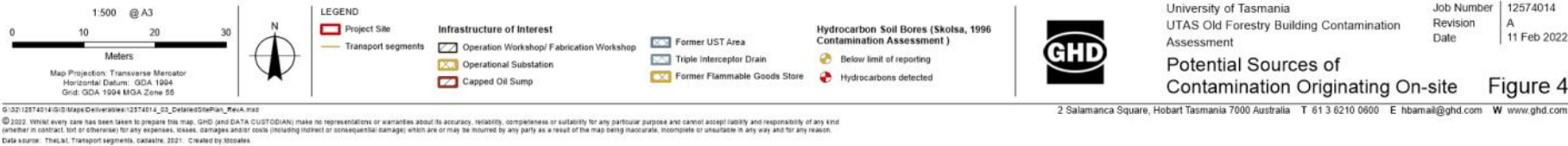
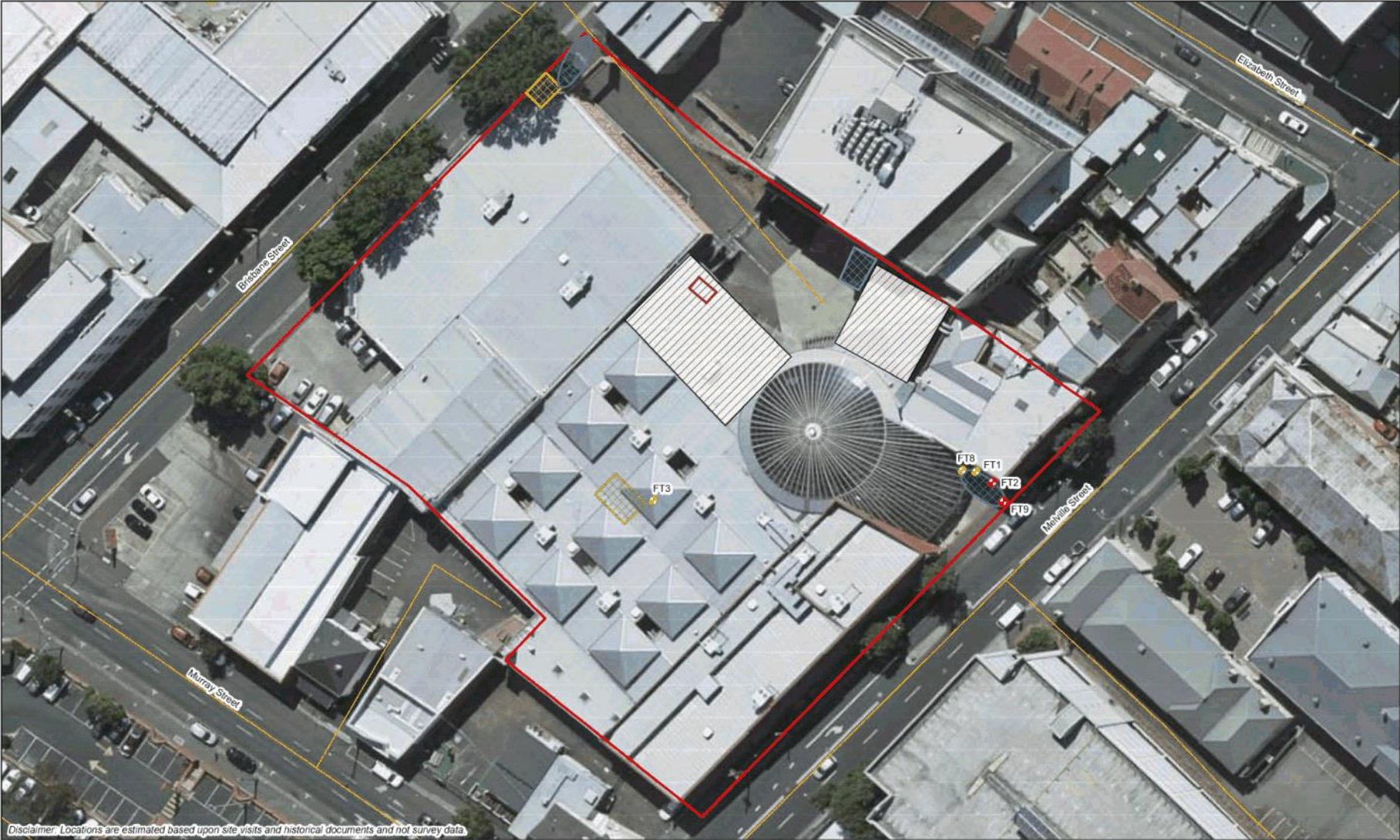
Appendix A

Figures









Appendix B

Plates from site inspections



Plate Number	Image from Site Visit	Description
1	A photograph showing a square, metal mesh manhole cover set into a bed of gravel. To the left of the cover are several large, dark, irregular rocks. In the background, a wooden wall and a portion of a red building are visible.	Manhole cover in vicinity of removed UST in front of Atrium
2	A close-up photograph of a rough, greyish-brown soil or concrete surface. A piece of white, fibrous material, identified as geo-fabric, is visible protruding from the surface.	Geo-fabric coming to surface in Atrium
3	A photograph of a circular, metal manhole cover on a dark, gravelly ground. In the background, there is a brick wall and a building with large glass windows.	An example of the sewage line gatic covers throughout the site



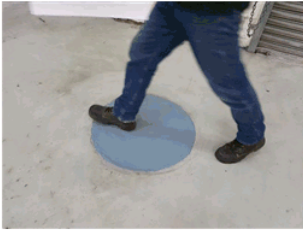

Plate Number		Description
4		Gas signage outside the Fabrication Workshop
5		Gas and HAZCHEM signage outside of the Operations Workshop
6		Capped Oil Sump in Operations Workshop
7		HAZCHEM signage on Laboratory door





Plate Number		Description
8		Laboratory has been gutted
9		Open garages/wash down area in Service Yard (there are three bays)
10		Garage in Service yard showing drain and gatic covered sump
11		Close up of drain in Garage in Service Yard




Plate Number		Description
12		Triple interceptor trap in vehicle wash down bay
13		Section of concrete surface in Service Yard replaced
14		Drain in centre of Service Yard






Plate Number		Description
15		On outside of Operations Workshop within the Service Yard
16		An example of the condition of the ground floor of the eastern redbrick warehouse
17		View through the floorboards in the western redbrick warehouse
18		View through the floorboards in the western redbrick warehouse (different hole in floor)
19		Office partitions and section of floor removed in western redbrick warehouse.








Plate Number	Image from Site Visit	Description
20		Section of western redbrick warehouse with wall removed
21		Slab beneath the floorboard in eastern redbrick warehouse.
22		Gatic covers in underground car park
23		Stormwater drain to the Derwent

Plate Number	Image from Site Visit	Description
24		Coverings of Ground in middle of driveway
25		Electricity substation in underground carpark

Appendix C

WorkSafe correspondence and records

693




File No. C2

DEPARTMENT OF MINES, TASMANIA

NAME OR SUBJECT: Crisp & Gunn Co - of Ltd,

ADDRESS: 79 Melville St,

Hobart.

Cancelled
17-7-72 

FORM 6

Inflammable Liquids Act 1929

APPLICATION FOR LICENCE IN RESPECT OF PREMISES FOR
MANUFACTURE OF OR KEEPING INFLAMMABLE
LIQUIDS OR DANGEROUS COMMODITIES

1. Applicant's Full Name CRISP & GUNN CO-OP. LTD.
2. Applicant's Occupation General Merchants
3. Applicant's Postal Address 79 Melville St
4. Situation of Premises to be Licensed 79 Melville St
5. Name of Municipality and Town or Township within which, or within five miles of which, the Premises is situated Hobart
6. Name and quantity to be ~~manufactured~~ kept under this Application:—
 Inflammable Liquid Class A. 1000 Gallons Petrol
 (Petrol, &c.)
 Inflammable Liquid Class B.
 (Kerosene, &c.)
 Dangerous Commodity
7. Number of Tanks and Package Storage Areas under this Application One
8. Name and Total Quantity to be kept:—
 Inflammable Liquid Class A.
 (Petrol, &c.)
 Inflammable Liquid Class B.
 (Kerosene, &c.)
 Dangerous Commodity
9. Total Number of Tanks and Package Storage Areas installed One

I declare that the above statements and answers are true to the best of my knowledge and belief.

(Signed)

Dated this

day of

19

(This Application, with Licence Fee of £ 4.00, to be forwarded to—

Director of Mines, Hobart)

(Scale of fees is shown on reverse hereof)

70394

Rev. 12/42
 \$4.00
 16/6/67

CN

Department of Mines,
Tasmania.

Date 20/7/1967

For the Director of Mines, Hobart
From the Inspector of Explosives Hobart

RECORD OF INSPECTION OF INSTALLATION

Premises of: CRISP & GUNN.

Known as:

Premises at: BRISBANE ST.

Oil Company:

Personal Information Redacted

Date of Approval: 17 APRIL 67

Date of Inspection: 20 JULY 67

Finding:

Unsuitable }
Suitable } for Licensing

Pump Outfit package Storage Area: P/O

Variation from Approval: NIL

Application Form: Left with occupier/~~Forwarded herewith.~~

Amount of Fee advised Yes/No

..... Goodrich

FORM 5
1174
TASMANIA

(Regulation 78)

Inflammable Liquids Act 1929

No 145

Granted to.....

Fee, \$2

Personal Information Redacted

**Approval of Site and Construction of Premises for Keeping Inflammable Liquids
or Dangerous Commodities or the Alteration thereof.**

Approval for the ~~*site and construction/*alteration of the site and construction~~ as shown on
the approved plans and specifications of a ~~*package/storage area/*tank~~ for the undermentioned
inflammable liquids and dangerous commodities, subject to the provisions of the *Inflammable
Liquids Act 1929*, and regulations being observed and subject to the undermentioned special con-
ditions, situate at.....

Crisp and Gunn Co-op Ltd.,

HOBART.

This approval is valid only for one year from the date of issue

Date of issue.....17th April....., 19 67..

Chief Inspector of Explosives

J. J. Clark.

Inspector of Explosives

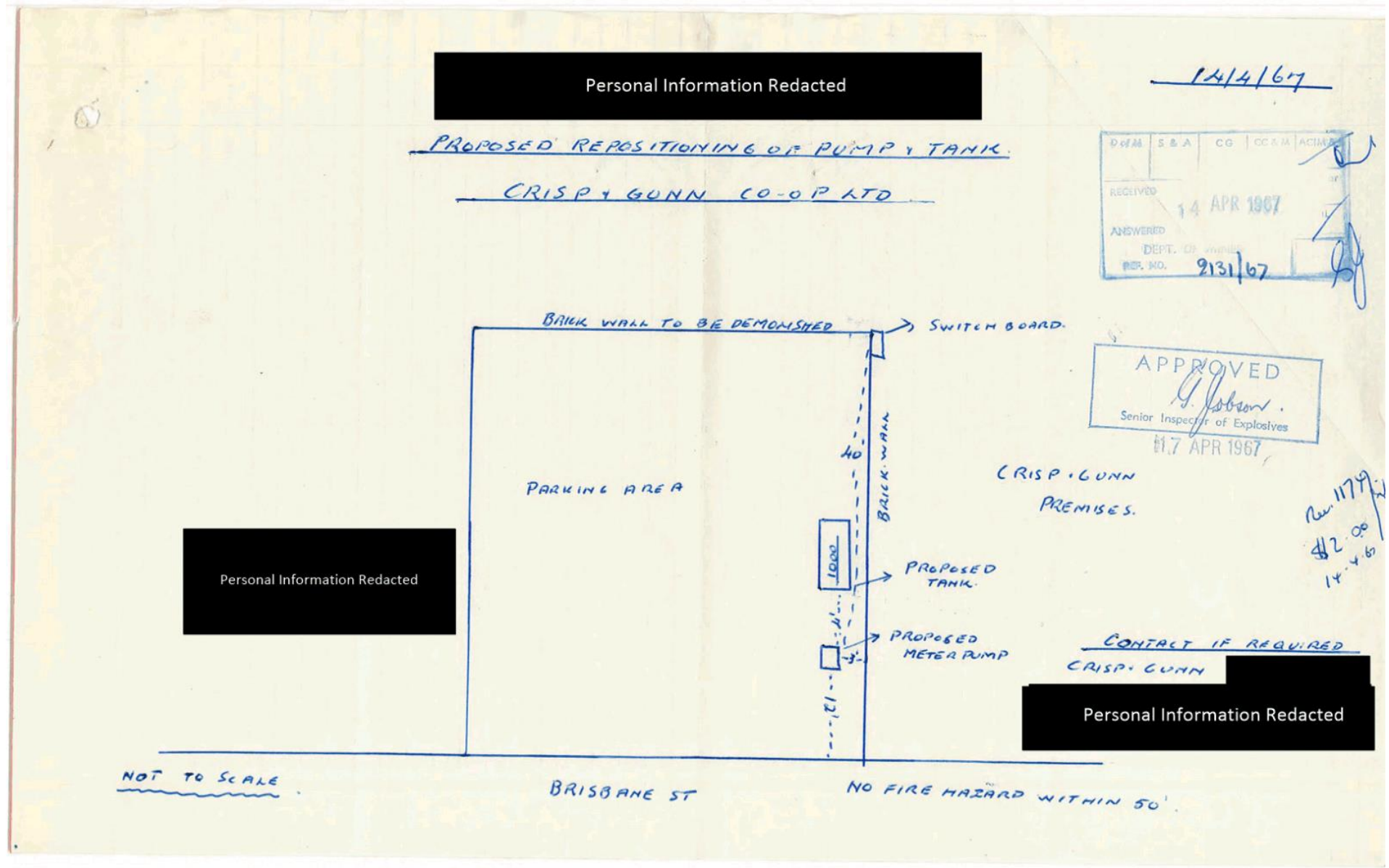
Inflammable liquid: Class A.....1000.....Gallons

Class B.....Gallons

Dangerous commodities:

SPECIAL CONDITIONS

* Strike out if inapplicable



Department of Mines

Tasmania

Date 4 / 1 / 1963

MEMORANDUM

For the Director of Mines, Hobart.
From the Inspector of Explosives, *Hobart*

Record of Inspection of InstallationPremises of: *Crisp & Gunn Co. of P/L.*Known as: *79 Melville St.*Oil Company: Personal Information RedactedDate of Approval: *5/12/62.*Date of inspection: *3/1/63*Finding: ~~Unsuitable~~
Suitable) for licensingPump Outfit ~~Package Storage Area:~~Variation from Approval: *nil*Application Form: ~~Left with occupier/Forwarded herewith.~~~~Amount of Fee advised:~~ Yes/No*J. R. Boudle*
.....

c✓

(Regulation 78)

FORM 5

TASMANIA

Inflammable Liquids Act 1929

No 809

Fee, £1

Granted to

Personal Information Redacted

**Approval of Site and Construction of Premises for Keeping Inflammable Liquids
or Dangerous Commodities or the Alteration thereof.**

Approval for the ~~*site and construction~~/* alteration of the site and construction as shown on the approved plans and specifications of a ~~*package storage area~~/* tank for the undermentioned inflammable liquids and dangerous commodities, subject to the provisions of the *Inflammable Liquids Act 1929*, and regulations being observed and subject to the undermentioned special con-

ditions, situate at Crisp & Gunn Co - Op Pty Ltd., 79 Melville Street,
Hobart.

This approval is valid only for one year from the date of issue.

Date of issue 5th December, 19 62

.....
Chief Inspector of Explosives.

[Signature]
.....
Inspector of Explosives.

Inflammable liquid: Class A 500 existing Gallons.

Class B Gallons.

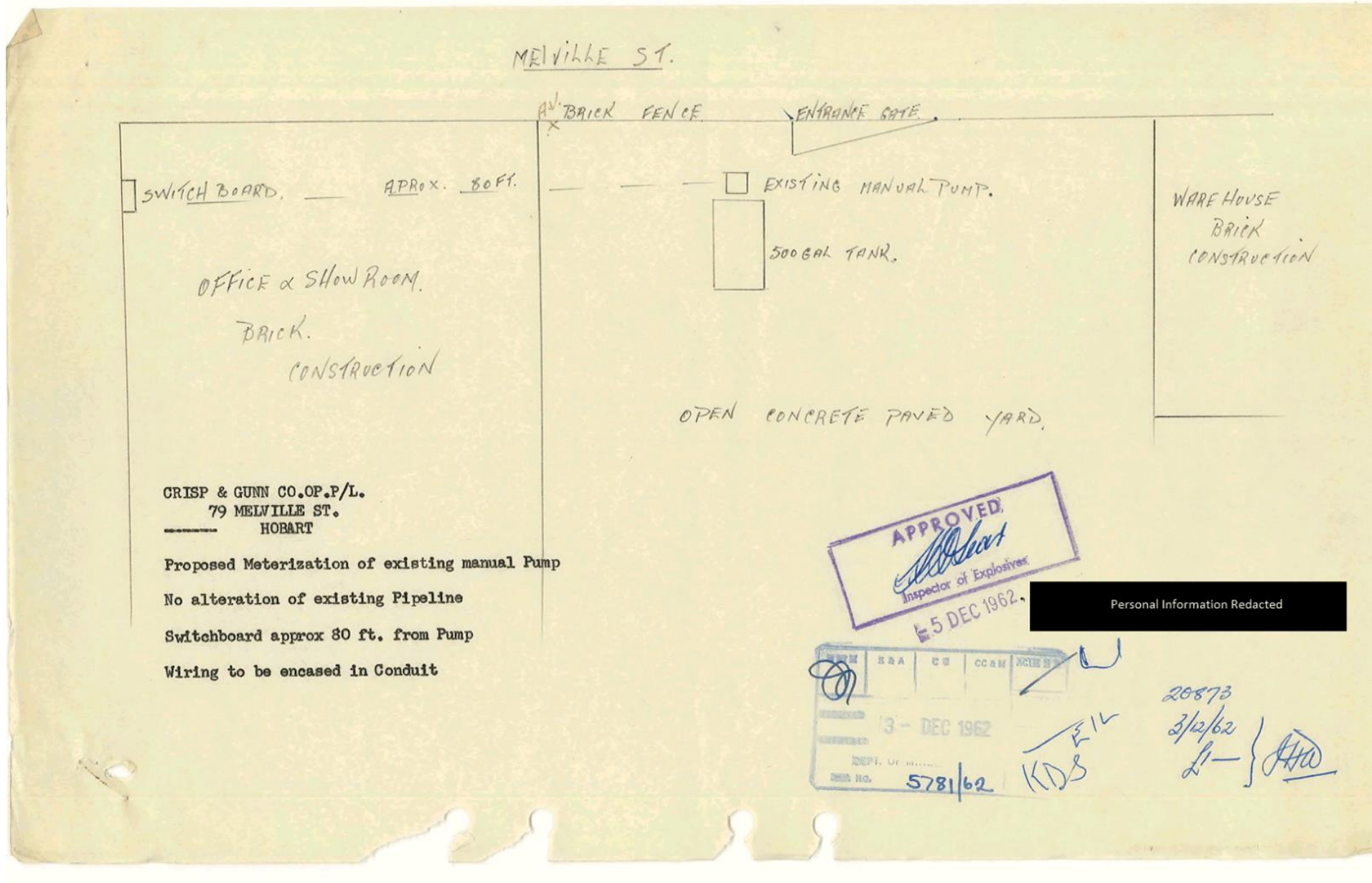
Dangerous commodities:.....

SPECIAL CONDITIONS.

Replace single manual with single electric pump.

.....
* Strike out if inapplicable.

65252



Form H.

FOR OFFICE USE ONLY

Correspondence: <u>62</u>	Licence No. <u>625</u> 1177	Initials
	Certificate of Registration	
	Receipt No. <u>5786</u>	
	Amount of Cash Received <u>£1-5-0</u>	
	Date Received <u>5/7/55</u>	

MEMORANDUM

Department of Mines,

Hobart, 1st July, 1955

Please note that your Licence Certificate of Registration, under the provisions of the Inflammable Liquids Act 1929 in respect of the storage of Petrol, Kerosene, or Carbide of Calcium, expired on the 30th June last.

If you desire the registration renewed, please fill in the form of application hereunder, and return it to me with the prescribed fee.

Any person keeping Inflammable Liquid, except in Licensed or Registered Premises, is liable to a penalty of Fifty Pounds (£50).

Crisp & Gunn Co-op Ltd.,
79 Melville St.,
Hobart.

J. G. SYMONS
~~W. H. WILLIAMS~~
Director of Mines

U.F.A.	S.A.	C.G.	C.C.M.	ACIM & E
RECEIVED				REGISTRAR
5 JUL 1955				E & IL
ANSWERED				
DEPT. OF MINES				
REF. NO.				

THE INFLAMMABLE LIQUIDS ACT 1929

APPLICATION FOR RENEWAL

I, CRISP & GUNN Co-op LTD. of 79 MELVILLE ST. HOBART
hereby apply to have the registration of my premises, situate at 79 Melville St.
renewed under the provisions of the Inflammable Liquids Act 1929 in respect to the storage of
MINERAL SPIRIT and forward herewith the fee.

REGISTERED QUANTITIES

Fee Paid £1-5-0
Mineral Spirit 500 gallons
Mineral Oil — gallons
Carbide of Calcium — lbs.

* Strike out which does not apply.

QUANTITIES TO BE REGISTERED
(To be filled in)

Mineral Spirit 500 gallons
Mineral Oil — gallons
Carbide of Calcium — lbs.

Signature: Mr. E. J. Banks
~~Mrs.~~
~~Miss~~ SECRETARY

Date of Application 1st July 1955

Mineral Spirit relates to Petrols, &c., with a flash point of 73°F. or less.

Mineral Oil relates to Kerosene, &c., with a flash point of above 73°F. and less than 150°F.

In the case of Petrol Pumps, please furnish particulars of tanks installed and in use.


Total number of underground tanks on premises	Capacity of each tank	Number of tanks in use

District Inspector's recommendation:

Note.—Cheques, postal notes, or money-orders should be made payable to the Director of Mines. If bank notes are forwarded by post, the letter should be registered. Stamps will not be accepted in payment.

46219-M1157-55 (14)

**Authority to Release Information to a Third Party
Dangerous Substances Location**

I, (full Name) Calbourne Nominees Pty Ltd		
authorise WorkSafe Tasmania to release information relating to Facility Number		Not Known
Location of Facility (full address) 78-83 Melville Street, Hobart (strata title reference 149231/2 (includes carpark and ground floor of 80 Brisbane St)		
to (full Name) Nicole Kaye Reineker		
of (company Name) GHD Pty Ltd		
Signature 		Date 27/9/18
Address GPO Box 1406 Hobart Tas		
Phone 03 62 24 65 11	Mobile Phone 0408 141 3 16	Email leigh@nekon.com.au
<input checked="" type="checkbox"/> Current manifest	<input checked="" type="checkbox"/> Contamination issues	
<input checked="" type="checkbox"/> Current site plan	<input checked="" type="checkbox"/> Decommissioning details	
<input checked="" type="checkbox"/> All historical information	<input type="checkbox"/> Other (please give details below)	
Other Information required		
<div style="border: 1px solid black; height: 100px;"></div>		

For further assistance please contact:**Department of Justice**

WorkSafe Tasmania

PO Box 56, Rosny Park, TAS 7018

Phone: (in Tasmania) 1300 366 322; (outside Tasmania) - 03 6166 4600; Fax 03 6173 0206

Email: wstinfo@justice.tas.gov.au Website www.worksafe.tas.gov.au

Appendix D

EPA correspondence

Level 7, 134 Macquarie Street, Hobart TAS
GPO Box 1550, Hobart, TAS 7001 Australia

Enquiries: Contaminated Sites Unit
Phone: (03) 6165 4599
Email: contaminatedsites@epa.tas.gov.au
Web: www.epa.tas.gov.au
Our Ref: (EN-EM-AV-100706_38: H968275) sma



12 October 2018

Ms Nicole Reineker
GHD
2 Salamanca Square
HOBART TAS 7000

Dear Ms Reineker

PROPERTY INFORMATION REQUEST
80 Brisbane Street, Hobart, PID: 2811771
79-83 Melville Street, Hobart, PID: 2811798

On 18 September 2018, the Contaminated Sites Unit received your Property Information Request relating to the land referred to above ('the Site'). A search of relevant databases and records has been undertaken.

During the mid-1990's several properties were redeveloped into a building complex that included Forestry Tasmania's head office and Freedom Furniture retail space. One of the original properties was the State Emergency Service and Tasmanian Fire Service Melville Street station.

During the redevelopment, EPA Tasmania received several reports regarding an Environmental Site Assessment. Of particular interest was the decommissioning of an underground storage tank (UST) located on the Brisbane Street side of the Site and another UST located on the Melville Street side of the Site.

The last report received was, *Forestry Tasmania Redevelopment Site: 79-83 Melville Street: Hobart Environmental Remediation and Validation*, prepared for Civil & Civic and Laver, dated December 1996, and prepared by Stoklosa Engineering Pty Ltd.

In response to this report, EPA Tasmania advised the proponent in a letter dated 20 January 1997:

"...Environment Tasmania considers the site suitable for its intended use. However, if the site is to be developed for a more sensitive use in the future, further remediation of contaminated soil left in situ may be required. As recommended by the consultant, the presence of localised hydrocarbon contamination should be disclosed to future occupants of the site."

WorkSafe Tasmania (WST) file C2 refers to dangerous goods being stored in underground storage tanks (UST) on the Melville St side of the Site during the period 1955-1967.

While no further records relating to contamination or potentially contaminating activities at the Site were located, several records regarding neighbouring properties were found -

161-177 Murray St (50m North West of the Site) was redeveloped in 1999 from an automotive workshop to a Harvey Norman Retail outlet:

- WST file P74 refers to the historical storage of dangerous goods in UST.(1949-1965)

- In June 1999, EPA Tasmania received the report - *Land Contamination investigation and remediation Harvey Norman Construction Site Murray Street Hobart*, dated May 1999, prepared by Environmental & Technical Services Pty Ltd (ETS). This report outlines the investigation and remediation associated with the removal of eight USTs from the building site. After several discussions with the consultant, The Director, EPA, advised the Hobart City Council in a letter dated 5 April 2000:

"I agree with ETS that the site was remediated to a level appropriate for the current use. However, if the use of the site is changed to a more sensitive use, further soil and groundwater analyse will be required to ensure that no risk is posed to the proposed occupiers."

Neighbouring properties that also have historical WST records regarding the storage of dangerous goods in USTs include:

- 79-81 Brisbane Street, WST File W435 (1966-1989)
- 141 Murray Street, WST File G227 (1966-1979)
- 198-202 Murray Street, WST File F188 (1955-1967), now an animal hospital
- 103 Melville Street WST File K8 (1938-1984), now Mitre 10 Hardware
- 144-160 Murray Street WST File W329 (1969-1985) and IS67155-15 (1936)

No other records relating to contamination or potentially contaminating activities at the Site or adjacent properties were found.

The search of records is restricted to those held by EPA Tasmania and includes records relating to: The *Environmental Management and Pollution Control (Underground Petroleum Storage Systems) Regulations 2010*; Industrial Sites (which are or have been regulated by EPA Tasmania); historical landfills; and contamination issues reported to the Contaminated Sites Unit. In addition, the Incidents and Complaints database and records relating to the historical storage of dangerous goods (as detailed below) are searched.

WorkSafe Tasmania (1300 366 322 or wstinfo@justice.tas.gov.au) may have issued dangerous goods licences and/or may hold relevant records for the Site and adjoining properties. As the storage of dangerous goods/fuels is an environmentally relevant activity, you may wish to contact them for further information.

Please note that the dangerous goods licensing records referred to by EPA Tasmania are for sites with underground storage tanks that ceased holding Dangerous Goods Licences prior to 1993. WorkSafe Tasmania hold the records for these Licences after 1993.

EPA Tasmania does not hold records on all sites that are or may be contaminated. You should consider obtaining a site history to determine the likelihood of contamination. If contamination on the Site or an adjacent property is considered likely, further assessment by a competent environmental assessment practitioner is recommended. Site assessments should be conducted in accordance with the *National Environment Protection (Assessment of Site Contamination) Measure 1999*, National Environment Protection Council (or as varied). <http://epa.tas.gov.au/regulation/contaminated-sites/identification-and-assessment-of-contaminated-land/contaminated-site-assessment>

Please note since 1 July 2015, the Director has required all environmental site assessments and reports submitted to the Contaminated Sites Unit for consideration to be prepared by a person certified as a specialist contaminated sites consultant under a scheme approved by the Director. Effective 30 June 2018, the endorsed scheme is operated by Certified Environmental Practitioners (CEnvP): Consultants certified under this scheme are approved to use the seal **CEnvP Site Contamination**. <https://www.cenvp.org>.

Further details are available at: <http://epa.tas.gov.au/regulation/contaminated-sites/identification-and-assessment-of-contaminated-land/engaging-a-contaminated-site-assessment-consultant>.

As local councils are able to issue Environment Protection Notices, Environmental Infringement Notices and record complaints, you may wish to contact them for additional information that may be relevant to the site. Further, if the Site has historically been subject to a permit under the *Land Use Planning and Approvals Act 1993*, the Council would have issued the permit.

Under the *Right to Information Act 2009* (RTI Act), you are entitled to apply for any records mentioned within this letter such as reports, letters, or other relevant documents. For further information on how the RTI process works and how to request information under the RTI Act please visit the Department of Primary Industries, Parks, Water and Environment website.

If you are purchasing a property, you should consider Part 5A of the *Environmental Management and Pollution Control Act 1994* (EMPCA) which defines and specifies requirements for managing contaminated sites. If there is reason to believe the site is, or is likely to be, contaminated there are certain requirements that you must meet (e.g. notification of a likely contaminated site to the Director, EPA as outlined in section 74B of the EMPCA).

Although all due care has been taken in the preparation of this letter, the Crown gives no warranty, express or implied, as to the accuracy or completeness of the information provided. The Crown and its servants or agents accept no responsibility for any loss or damage arising from reliance upon this letter, and any person relying on the letter does so at their own risk absolutely.

As you are aware, property searches incur a charge of \$237.00. An invoice is enclosed.

If you have any queries in relation to the matters above, please contact the Contaminated Sites Unit using the details at the head of this correspondence or refer to the EPA website at www.epa.tas.gov.au and click on 'Regulation' to locate information on Underground Fuel Tanks and Contaminated Sites.

Yours sincerely



Bruce Napier
ENVIRONMENTAL OFFICER - CONTAMINATED SITES

Email: nicole.reineker@ghd.com

Attachment: Invoice

Appendix E

Hobart City Council records

From: Salter, Simone
To: [Nicole Reineker](#)
Subject: RE: database search request - follow up
Date: Monday, 1 October 2018 12:22:29 PM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)

Hi Nicole

I tried to call and have left a message.

Please find consolidated information below for you.

To consolidate everything for you at 79-83 Melville Street is:

Type	Business	Date	Potential Source of Contamination
Wood Treatment/Sawmill	Absolom brothers	1916 - 1932	
	Absolom Garage	Dates unknown	
	Bert Self	Dates unknown	
	Central Saw and Planing Mills	1886 – 1915	Hydrocarbons
	Shell	Dates unknown	
	Crisp & Gunn Co-op Ltd	1955-1967	

The following are adjacent sites listed as potentially contaminated:

Address	Type	Business	Date	Potential Source of Contamination
132 – 146 Elizabeth Street	Body Works Motor Car Dealers, Engineers & Garages	Trade Motor Body Works	1940	Hydrocarbons
131 – 133 Murray Street	Fuel Supplier	Rowe	1916	Hydrocarbons
141 – 143 Murray Street	Motor Car Dealers, Engineers & Garages	J.T. Graves & Son Pty. Ltd. H.C. Sleight/Golden Fleece John Tasman Graves	1966 – 1679	Hydrocarbons

Thanks
 Simone

Simone Salter | Senior Environmental Health Officer | Environmental Health
6238 2738

From: Nicole Reineker [mailto:Nicole.Reineker@ghd.com]
Sent: Monday, 1 October 2018 11:34 AM
To: Salter, Simone <salters@hobartcity.com.au>
Subject: RE: database search request - follow up

Hi Simone,
No worries at all- this potential sale is very hush hush at present.

Can you please give me a call- I have filled out the right to information form- request #5.

Previously we have received information about site use just in an email- I have attached an email from Jessica Dwyer that we received back on another project.

I need the information as soon as possible as I need to submit my desktop review by the middle of this week.

Kind Regards
Nicole

From: Salter, Simone <salters@hobartcity.com.au>
Sent: Monday, 1 October 2018 11:01 AM
To: Nicole Reineker <Nicole.Reineker@ghd.com>
Subject: RE: database search request - follow up

Hi Nicole

Sorry I wasn't aware of the building selling again or going through a different process. I thought it was to do with the initial dealings with the property I had a few months ago.

We have a few letters/reports etc on file for this property that I can provide upon receipt of a request to information - <https://www.hobartcity.com.au/Council/Legislation-and-by-laws/Right-to-Information-Act-2009>

Kind Regards
Simone

Simone Salter | Senior Environmental Health Officer | Environmental Health
6238 2738

From: Nicole Reineker [mailto:Nicole.Reineker@ghd.com]
Sent: Monday, 1 October 2018 10:58 AM
To: Salter, Simone <salters@hobartcity.com.au>
Subject: RE: database search request - follow up

Hi Simone,
Can you please explain what you mean by Frazer Reed is project planner for coordinating all

these reports? He is not included on any of the group emails from the potential purchaser of this property. How recently was he undertaking this role?

Kind Regards
Nicole

From: Salter, Simone <salters@hobartcity.com.au>
Sent: Monday, 1 October 2018 10:22 AM
To: Nicole Reineker <Nicole.Reineker@ghd.com>
Subject: RE: database search request - follow up

Hi Nicole

Our database shows the only information as hydrocarbons and the names as listed by Felicity below. Information shows that there were previous underground petrol storage tanks on the site.

I have previously provided reports to Frazer Reed from All Urban Planning through a request to information request. He would be able to forward you anything as he is the project planner coordinating all of these reports etc.

Kind Regards
Simone

Simone Salter | Senior Environmental Health Officer | Environmental Health
6238 2738

From: Nicole Reineker [<mailto:Nicole.Reineker@ghd.com>]
Sent: Monday, 1 October 2018 9:02 AM
To: Salter, Simone <salters@hobartcity.com.au>
Subject: RE: database search request - follow up

Hi Simone,
Yes it is, I expect you may have a a run on requests- Probably one from each of the consultants doing the due diligence reports.
Thanks for your help.

Kind Regards
Nicole

From: Salter, Simone <salters@hobartcity.com.au>
Sent: Monday, 1 October 2018 8:58 AM
To: Nicole Reineker <Nicole.Reineker@ghd.com>
Subject: RE: database search request - follow up

Hi Nicole

Is this for the old Forestry building?

Kind Regards
Simone

Simone Salter | Senior Environmental Health Officer | Environmental Health
6238 2738

From: Nicole Reineker [<mailto:Nicole.Reineker@ghd.com>]
Sent: Monday, 1 October 2018 8:52 AM
To: Salter, Simone <salters@hobartcity.com.au>
Subject: database search request - follow up

Good Morning Simone,
I emailed Felicity Edwards last Monday morning requesting a search of the Council databases regarding potential contamination at the site 79-83 Melville St (Strat Title 149231/2). I was wondering how this search was going, would it be possible to receive this information this morning, as I am on a very tight timeframe.

Kind Regards
Nicole

From: Edwards, Felicity <edwardsf@hobartcity.com.au>
Sent: Monday, 24 September 2018 9:56 AM
To: Nicole Reineker <Nicole.Reineker@ghd.com>
Cc: Salter, Simone <salters@hobartcity.com.au>
Subject: RE: contamination database search for a site in CBD

Hi Nicole
We should be able to get some info back to you by the end of the week. There is no charge. At a quick look on the main database, the site does show as potentially contaminated, the associated historical names are;

- Absolom brothers
- Bert Self
- Central Saw and Planing Mills
- Crisp and Gunn Coop
- Shell

I have cc'd Councils Senior EHO Simone Salter who will allocate the request to one of the team to do a detailed file review. Please contact Simone with any further queries.

Kind regards
Felicity

Felicity Edwards | Manager Environmental Health | City Planning
6238 2842

From: Nicole Reineker [<mailto:Nicole.Reineker@ghd.com>]
Sent: Monday, 24 September 2018 9:31 AM
To: Edwards, Felicity <edwardsf@hobartcity.com.au>

Subject: contamination database search for a site in CBD

Good Morning Felicity,

Rohan Probert suggested that you may be the person I need to contact to get a database base search for a property in the CBD undertaken.

I am undertaking a contamination site investigation on 79-83 Melville St (the site also includes 80 Brisbane St). I submitted the EPA database search request earlier this week and they are very busy and unlikely to be able to ruin the search within the project timeframe.

Deborah at the EPA suggested that I contact the council as they have access to the some of the same databases.

I am particularly interested in finding out if there is any known contamination at this site, including any records of any underground or above ground storage tanks for petroleum products or other chemicals.

Is this something you can help me with? If not can you please point me in the direction of who would be the best person to contact. Also can you please let me know how long a search would take and if there is any charge?

Kind Regards

Nicole K Reineker
Graduate Environmental Scientist

T: 61 3 6210 0626 | V: 320626

GHD

Proudly employee owned

T: +61 6210 0626 | M: +61 403 857 681 | E: Nicole.reineker@ghd.com

2 Salamanca Square, Hobart Tasmania, Australia | www.ghd.com

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From: Alex Brownlie

Sent: Friday, 21 September 2018 10:57 AM

To: Nicole Reineker <Nicole.Reineker@ghd.com>

Subject: FW: contamination database search for HCC

FYI

Alex Brownlie | A GHD Principal
B.Sc. Dip.UP RPIA (Fellow)
Technical Director Planning

GHD

Proudly employee owned

T: +61 3 6210 0600 | M: 0418 133 152 | E: alex.brownlie@ghd.com

2 Salamanca Square Hobart TAS 7000 Australia | www.ghd.com

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Please consider our environment before printing this email

From: Probert, Rohan <probertr@hobartcity.com.au>
Sent: Friday, 21 September 2018 10:21 AM
To: Alex Brownlie <Alex.Brownlie@ghd.com>
Subject: RE: contamination database search for HCC

Hi Alex,

As a starting point, Felicity Edwards – Manager Environmental Health. She's on 6238 2842 or at edwardsf@hobartcity.com.au.

Regards

Rohan Probert | Manager Development Appraisal | City Planning
6238 2179

From: Alex Brownlie [<mailto:Alex.Brownlie@ghd.com>]
Sent: Friday, 21 September 2018 9:30 AM
To: Probert, Rohan <probertr@hobartcity.com.au>
Subject: FW: contamination database search for HCC

Hi Rohan,

Who is my best contact within Council for contam land information?

Regards

Alex Brownlie | A GHD Principal
B.Sc. Dip.UP RPIA (Fellow)
Technical Director Planning

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T: +61 3 6210 0600 | M: 0418 133 152 | E: alex.brownlie@ghd.com
2 Salamanca Square Hobart TAS 7000 Australia | www.ghd.com

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Please consider our environment before printing this email

From: Nicole Reineker
Sent: Friday, 21 September 2018 9:17 AM
To: Alex Brownlie <Alex.Brownlie@ghd.com>
Subject: contamination database search for HCC

Hello Alex,

I am undertaking a contamination site investigation on 79-83 Melville St (the site also includes 80

Brisbane St). I submitted the EPA database search request earlier this week and they are very busy and unlikely to be able to ruin the search within the project timeframe.
Deborah at the EPA suggested that I contact the council as they have access to the some of the same databases.
I am particularly interested in finding out if there is any known contamination at this site, including any records of any underground or above ground storage tanks for petroleum products or other chemicals.

Thanks for your help in this matter.

Kind Regards
Nicole K Reineker
Graduate Environmental Scientist

T: 61 3 6210 0626 | V: 320626

GHD

Proudly employee owned

T: +61 6210 0626 | M: +61 403 857 681 | E: Nicole.reineker@ghd.com
2 Salamanca Square, Hobart Tasmania, Australia | www.ghd.com

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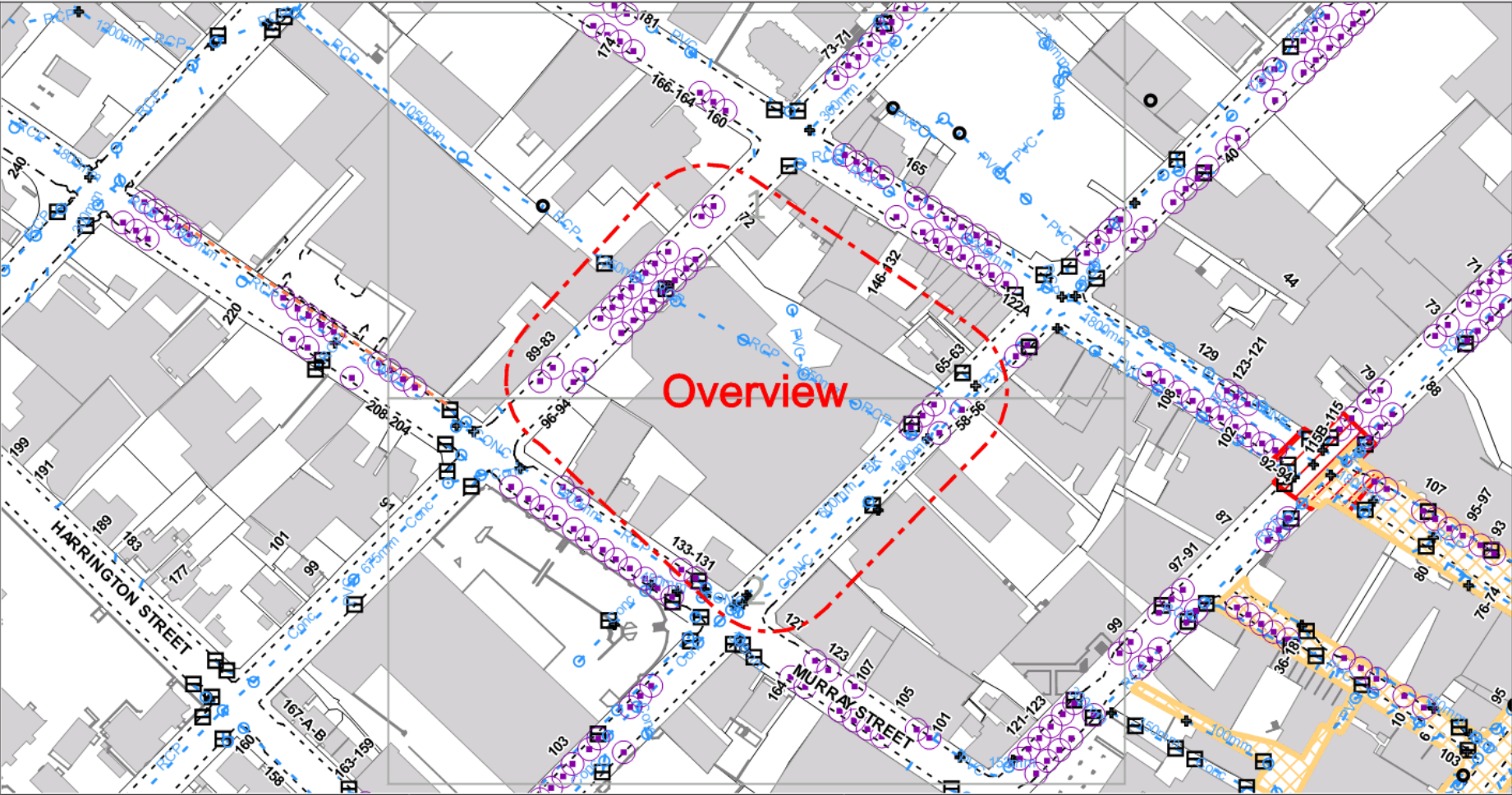
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Appendix F

Dial before you dig records



Sequence No: 76013864
Job No: 15023440
Location of Works: 83 Melville Street, Hobart, TAS 7000



DISCLAIMER:

While reasonable measures have been taken to ensure the accuracy of the information contained in this plan response, neither City of Hobart or PelicanCorp shall have any liability whatsoever in relation to any loss, damage, cost or expense arising from the use of this plan response or the information contained in it or the completeness or accuracy of such information. Use of such information is subject to and constitutes acceptance of these terms.

A field survey is to be conducted before information contained in this plan is relied upon.

WARNINGS AND REQUIREMENTS:

Refer to the cover letter and information sheet for all warnings, requirements and contact details.

Abandoned old town gas (coal gas) pipes potentially emitting harmful gases and Volatile Organic Compounds (VOCs) may be found in many areas of the City. Refer to the cover letter and information sheet for more detail.

If in-ground parking sensors are located in the enquiry area please call City of Hobart Parking Operations at least 7 days prior to any works on telephone (03) 6238 2439.

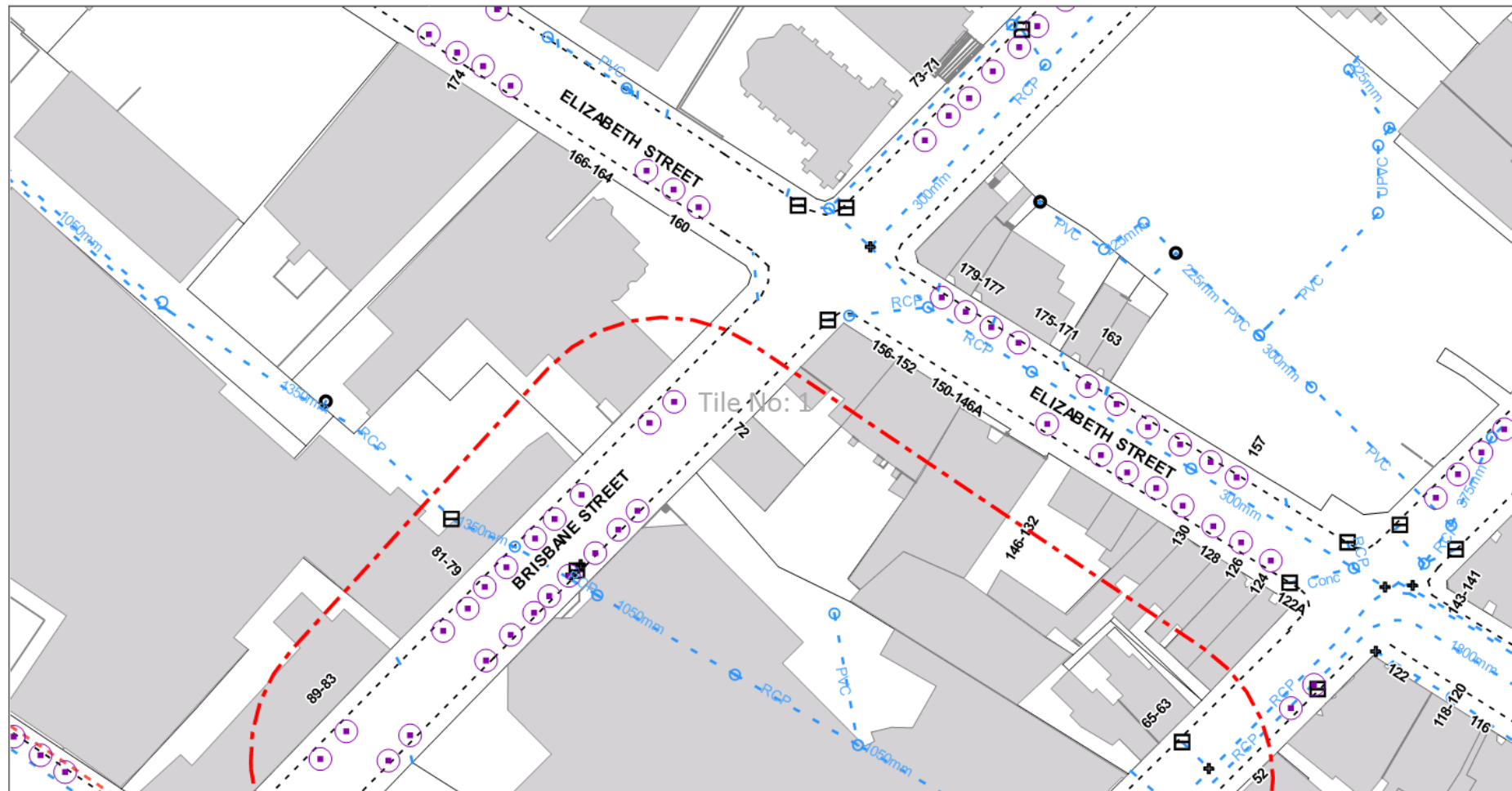
- Stormwater Pit
- Intake Point, Junction, Outlet Point
- Maintenance Shaft, Man Hole
- Pollution Control Unit
- Inspection Opening

- Stormwater Pipe
- Electrical and Other
- In-ground Parking Sensor
- Construction Risk Area
- Potential Electrical Underground Assets
- DBYD Enquiry Area





Sequence No: 76013864
Job No: 15023440
Location of Works: 83 Melville Street, Hobart, TAS 7000



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Refer to the cover letter and information sheet for all warnings, requirements and contact details.

Abandoned old town gas (coal gas) pipes potentially emitting harmful gases and Volatile Organic Compounds (VOCs) may be found in many areas of the City. Refer to the cover letter and information sheet for more detail.

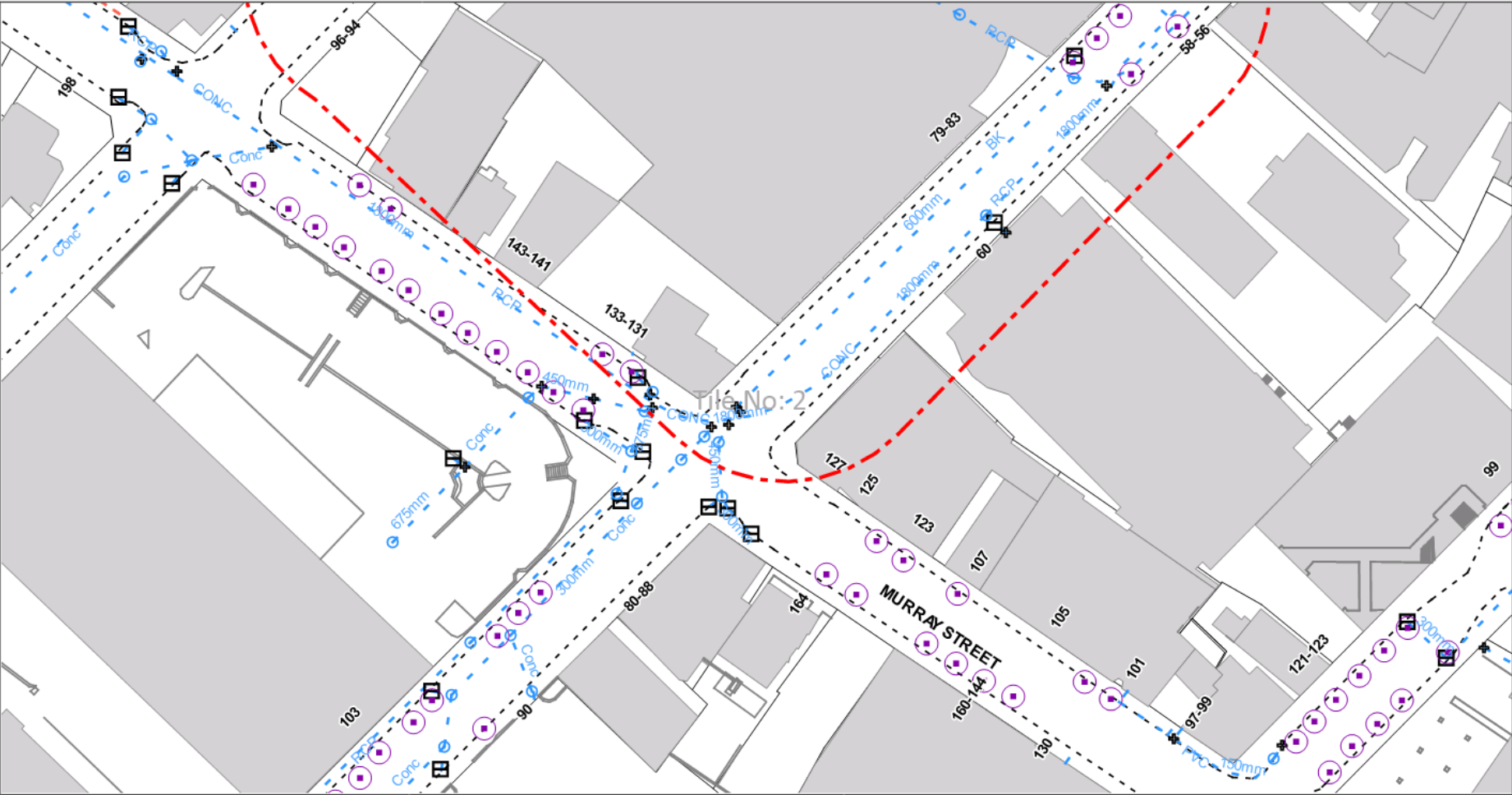
If in-ground parking sensors are located in the enquiry area please call City of Hobart Parking Operations at least 7 days prior to any works on telephone (03) 6238 2439.

- Stormwater Pit
 + Intake Point, Junction, Outlet Point
 ○ Maintenance Shaft, Man Hole
 ● Pollution Control Unit
 ● Inspection Opening
 --- Stormwater Pipe
 --- Electrical and Other
 ○ In-ground Parking Sensor
 ■ Construction Risk Area
 ■ Potential Electrical Underground Assets
 --- DBYD Enquiry Area





Sequence No: 76013864
Job No: 15023440
Location of Works: 83 Melville Street, Hobart, TAS 7000





Enquiries to:
Road & Environmental Engineering Unit

Phone:
(03) 6238 2900

Email:
coh@hobartcity.com.au

01/10/2018

Ms Nicole Reineker
2 Salamanca Square
Battery Point TAS 7004

Dear Ms Nicole Reineker

DIAL BEFORE YOU DIG ENQUIRY HOBART CITY COUNCIL

I refer to your request through the 1100 Dial Before You Dig service requesting information about City of Hobart (the City) underground assets as per the following details:

Date of Enquiry: 01/10/2018
Sequence Number: 76013864
DBYD Job No: 15023440
Enquiry Location: 83 Melville Street
Hobart TAS 7000

Please note

All information is provided as a courtesy. It is indicative only and subject to field verification. The information is not to be copied or distributed in any way without prior approval of the City.

WARNING – Old Town Gas

Abandoned old town gas (coal gas) pipes potentially emitting harmful gases and Volatile Organic Compounds (VOCs) may be found in many areas of the City. Refer to the information sheet for more detail.

Works in Road Reservation

Prior to works in the road reservation a Permit to Open Up and Temporarily Occupy a Highway must be granted. Application forms can be found via the City's website:

www.hobartcity.com.au/City-services/Road-and-footpath-assets/Roads-and-footpaths

In-Ground Parking Sensors

The City must be advised at least 7 business days in advance when works are planned in areas with in-ground parking sensors. More information is available at the City's website:

www.hobartcity.com.au/dialbeforeyoudig/parkingsensors

Works in near Waterways and Rivulets

Approval is required for any works within a waterway or 10 metres from the top of the bank of a waterway. Application forms are available via the City's website:

www.hobartcity.com.au/City-services/Environment/Stormwater-and-waterways/Local-waterways

Please contact the City's Road and Environmental Engineering Unit on telephone (03) 6238 2900 or via coh@hobartcity.com.au should you require any further information.

Yours sincerely

(John Holmes)

MANAGER ROAD AND ENVIRONMENTAL ENGINEERING

Attachment(s) Information Sheet, Plan(s)

INFORMATION SHEET

DUTY OF CARE

- No mechanical plant can be used within 1 metre of indication of an underground City asset unless sighted first by hand digging/potholing. A spotter must be used when using mechanical plant.
- No works to be undertaken within 1 metre of indication of foundations associated with a City asset unless prior approval is obtained from the City.
- Any differences between the locations marked on the City's plan and actual location of assets should immediately be reported to the City's Road and Environmental Engineering Unit on telephone (03) 6238 2900.

ANY DAMAGE TO A COUNCIL ASSET MUST BE REPORTED IMMEDIATELY ON TELEPHONE (03) 6278 0200

The City reserves the right to recover compensation for loss or damage and repair costs to any of its assets irrespective of provision of drawings or undertaking locations on site.

Information and requirements for use in conjunction with the plan

WARNING – Old Town Gas

- Abandoned old town gas (coal gas) pipes potentially emitting harmful gases and Volatile Organic Compounds (VOCs) may be found in many areas of the City.
- The Tasmanian Government lists the following suburbs as having been reticulated with old town gas mains:
 - Central Business District (CBD)
 - Battery Point
 - Dynnyrne
 - Glebe
 - Lenah Valley
 - Mount Stuart
 - New Town
 - North Hobart
 - Ridgeway
 - Sandy Bay including Lower Sandy Bay
 - South Hobart Cascades
 - West Hobart
- For more information please refer to the website provided by the Tasmanian Government at <https://www.cbos.tas.gov.au/topics/technical-regulation/gas-standards-safety/practitioners/old-town-gas>

Drainage Assets

- City owned stormwater assets must be located before excavation.
- City owned stormwater assets must not be modified, removed or tampered with in any way without express permission from the City.
- Contact the City's Road and Environmental Engineering Unit on telephone (03) 6238 2900 if further information is required.

Electrical and Other Assets

- City owned or approved electrical and other cables or pipes may be present in indicated areas.
- Some private infrastructure (for example a pressurised oxygen line and computer cabling) is also shown.
- Locate conduits before excavation and dig with care, as conduits may not be to standard, such as the depth.
- Contact the City's Road and Environmental Engineering Unit on telephone (03) 6238 2900 if further information is required.

In-Ground Parking Sensors

- Advise the City not less than 7 business days in advance when works are planned so that sensors can be removed and scheduled for subsequent replacement, please telephone (03) 6238 2439 or via email parkingsensors@hobartcity.com.au
- Upon completion of an application form Council will arrange removal and advise you when the sensors have been removed.
- Please be aware that a fee will be levied for the removal and reinstatement of parking meter sensors.

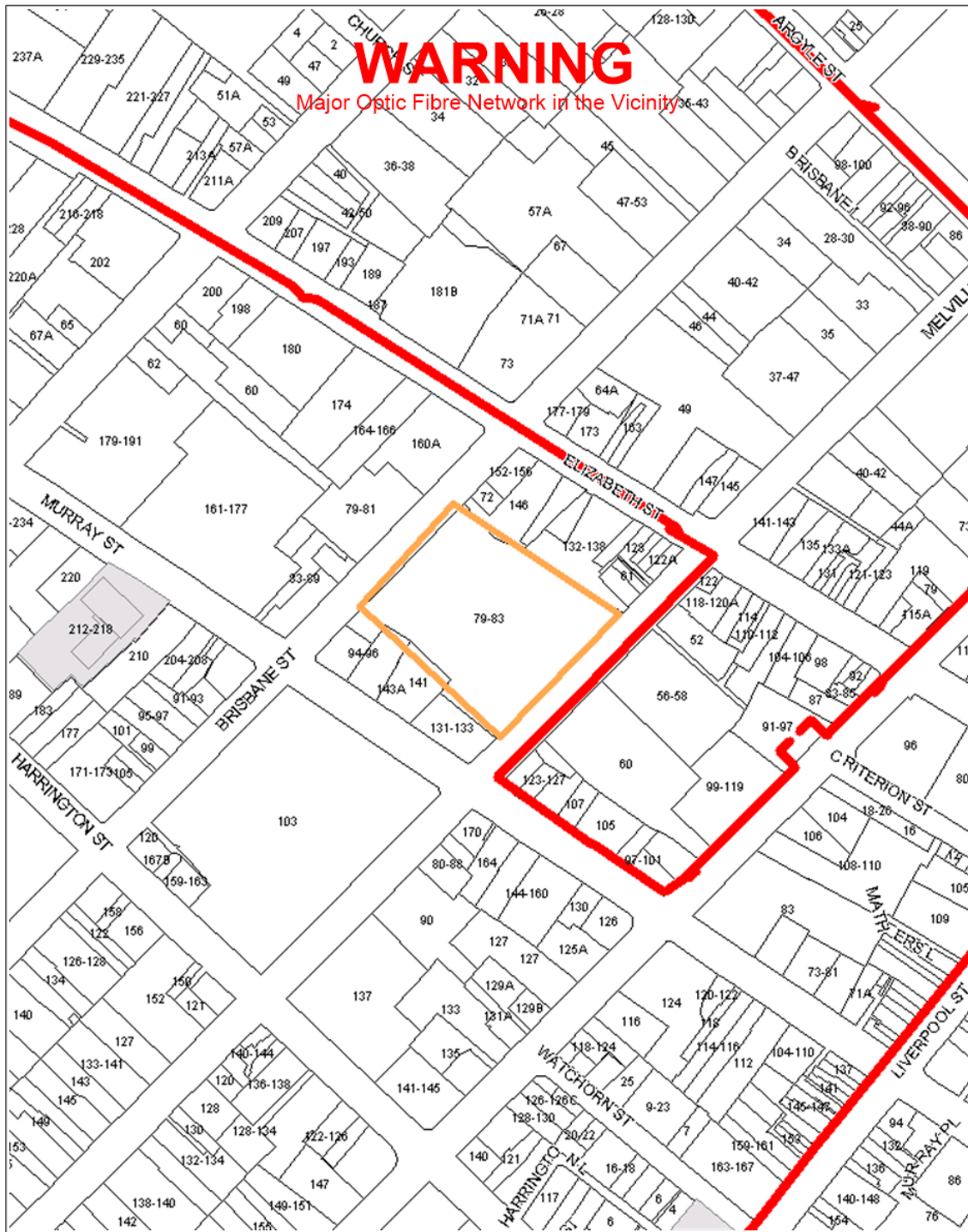
Construction Risk Areas

- These locations include where the City has been notified of or become aware of hazards such as ground contamination, abandoned underground assets (such as old town gas pipes and fuel tanks) and old landfill sites.
- For more information contact the City's Road and Environmental Engineering Unit on telephone (03) 6238 2900 or via coh@hobartcity.com.au

Disclaimer:

The City of Hobart does not warrant the information contained on this plan is correct and a field survey is to be conducted before any information in this plan can be relied upon. The information contained in this plan is valid for 28 days from the date of enquiry.

While reasonable measures have been taken to ensure the accuracy of the information contained in this plan response, neither City of Hobart or PelicanCorp shall have any liability whatsoever in relation to any loss, damage, cost or expense arising from the use of this plan response or the information contained in it or the completeness or accuracy of such information. Use of such information is subject to and constitutes acceptance of these terms.



WARNING: This document is confidential and may also be privileged. Confidentiality nor privilege is not waived or destroyed by virtue of it being transmitted to an incorrect addressee. Unauthorised use of the contents is therefore strictly prohibited. Any information contained in this document that has been extracted from our records is believed to be accurate, but no responsibility is assumed for any error or omission. Optus Plans and information supplied are valid for 30 days from the date of issue. If this timeline has elapsed please raise a new enquiry.

Sequence Number: 76013865

Date Generated: 01/10/2018



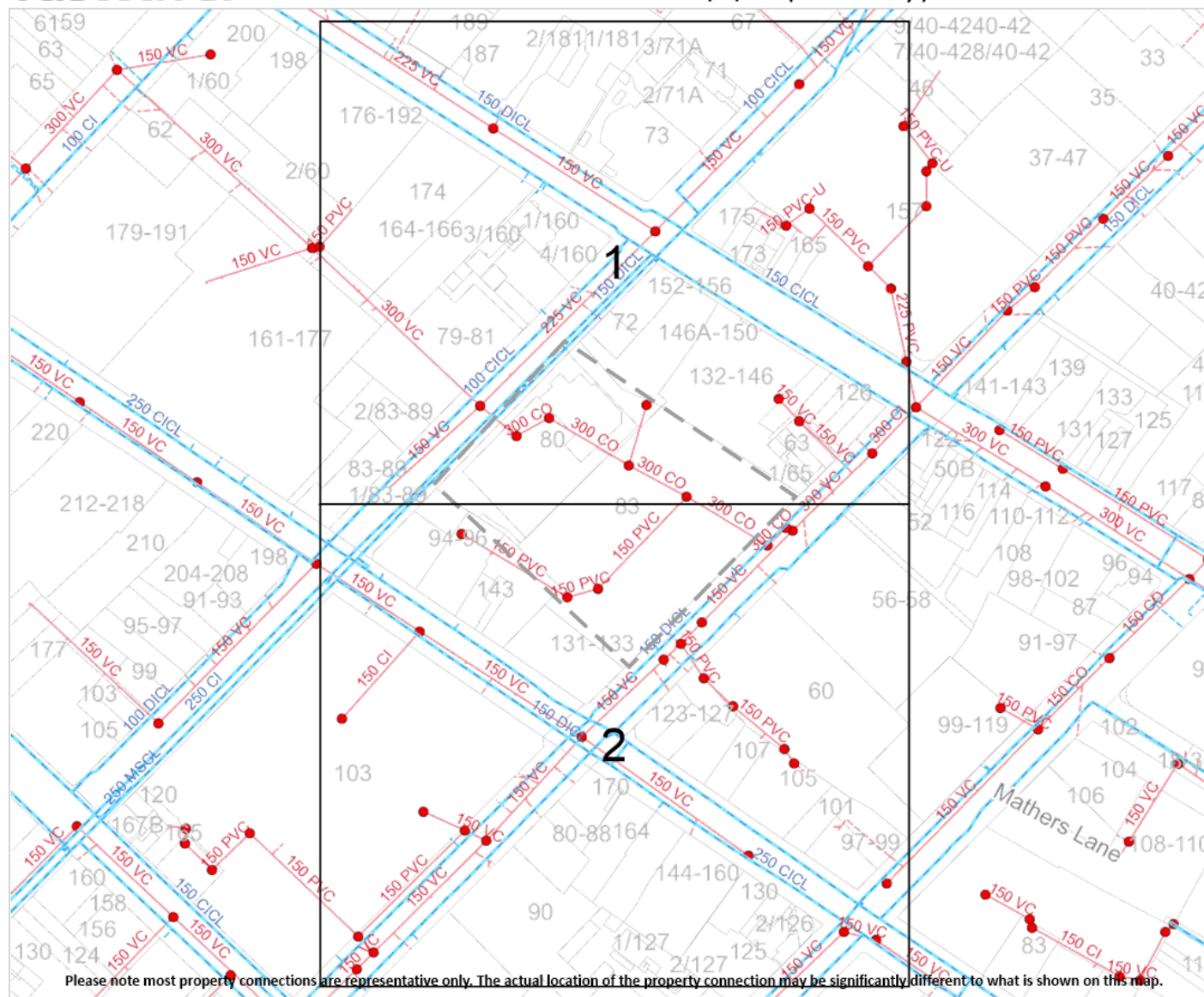
For all Optus DBYD plan enquiries –
Email: Fibre.Locations@optus.net.au
For urgent onsite assistance contact 1800 505 777
Optus Limited ACN 052 833 208



Sequence Number: **76013866**

Location: 83 Melville Street, Hobart, TAS 7000

Date Generated: **01/10/2018 (valid for 30 days)**



Please note most property connections are representative only. The actual location of the property connection may be significantly different to what is shown on this map.

Plans generated by PelicanCorp TicketAccess Software www.pellicancorp.com

Legend

- | | |
|------------------------------------|--|
| DBYD Enquiry | |
| Fire Hydrant | |
| Water Property Connection | |
| Water Main | |
| Water Main (Critical) | |
| Sewer Maintenance Hole | |
| Sewer Property Connection | |
| Sewer Pressurised Main (Critical) | |
| Sewer Gravity Main (Critical) | |
| Sewer Gravity Main | |
| Stormwater Maintenance Hole | |
| Stormwater Property Connection | |
| Stormwater Gravity Main | |
| Recycled Water Property Connection | |
| Recycled Water Main | |
| Abandoned Line Sewer | |

In an emergency contact TasWater

Phone: 13 6992

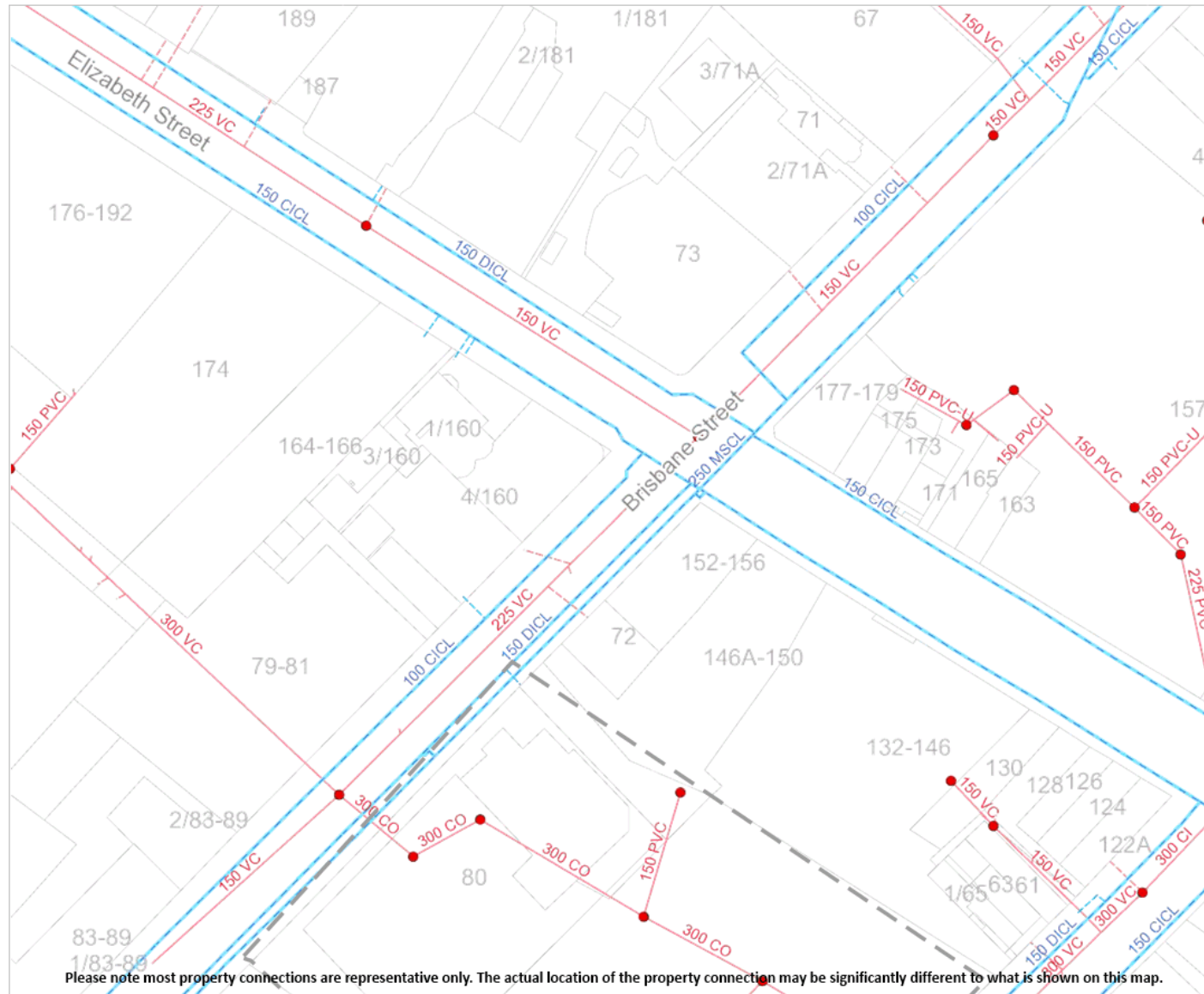
Scale: **1:2050**

Disclaimer: The plan is provided in response to a Dial Before You Dig request. While all reasonable care has been taken to ensure the accuracy of the information on this plan, its purpose is to provide a general indication of the location of TasWater infrastructure. The information provided may contain errors or omissions and the accuracy may not suit all users. A site inspection and investigation is recommended before commencement of any project based on this data.

TasWater Plan v4.0 (17/10/2017)



Sequence Number: **76013866**
Location: 83 Melville Street, Hobart, TAS 7000
Date Generated: **01/10/2018 (valid for 30 days)**



Legend

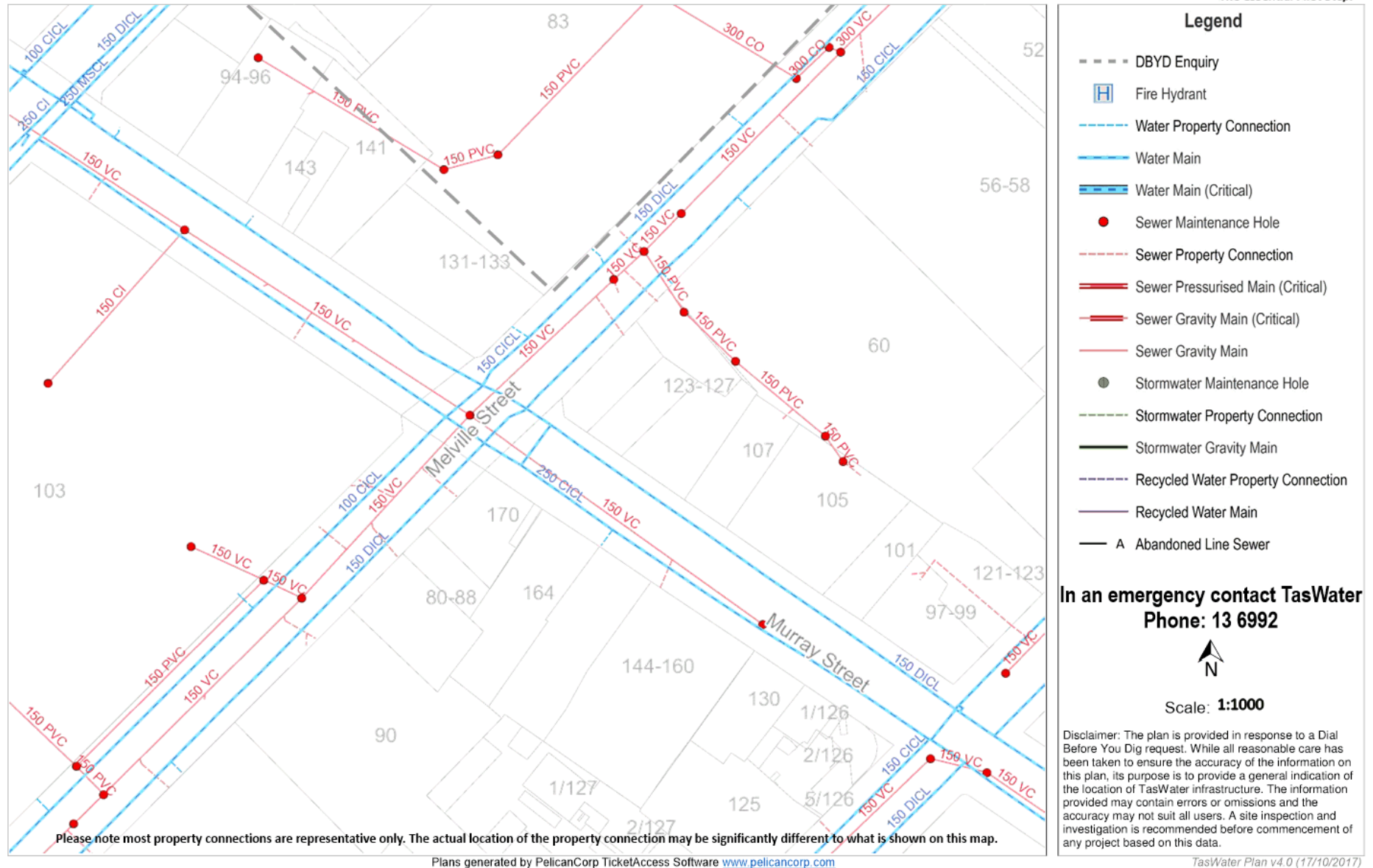
- DBYD Enquiry
- [H] Fire Hydrant
- - - Water Property Connection
- Water Main
- Water Main (Critical)
- Sewer Maintenance Hole
- - - Sewer Property Connection
- Sewer Pressurised Main (Critical)
- Sewer Gravity Main (Critical)
- Sewer Gravity Main
- Stormwater Maintenance Hole
- - - Stormwater Property Connection
- Stormwater Gravity Main
- - - Recycled Water Property Connection
- Recycled Water Main
- A Abandoned Line Sewer

**In an emergency contact TasWater
Phone: 13 6992**



Scale: **1:1000**

Disclaimer: The plan is provided in response to a Dial Before You Dig request. While all reasonable care has been taken to ensure the accuracy of the information on this plan, its purpose is to provide a general indication of the location of TasWater infrastructure. The information provided may contain errors or omissions and the accuracy may not suit all users. A site inspection and investigation is recommended before commencement of any project based on this data.



Aboriginal Heritage SEARCH RECORD

This search in response to your DBYD request

Job Number: 15023440 (Sequence Number: 76013871)

has not identified any registered Aboriginal relics or apparent risk of impacting Aboriginal relics.

This Search Record has been requested for Ms Nicole Reineker at 8:40AM on 01 October 2018 and delivered to nicole.reineker@ghd.com.

This Search Record expires on 01 April 2019.

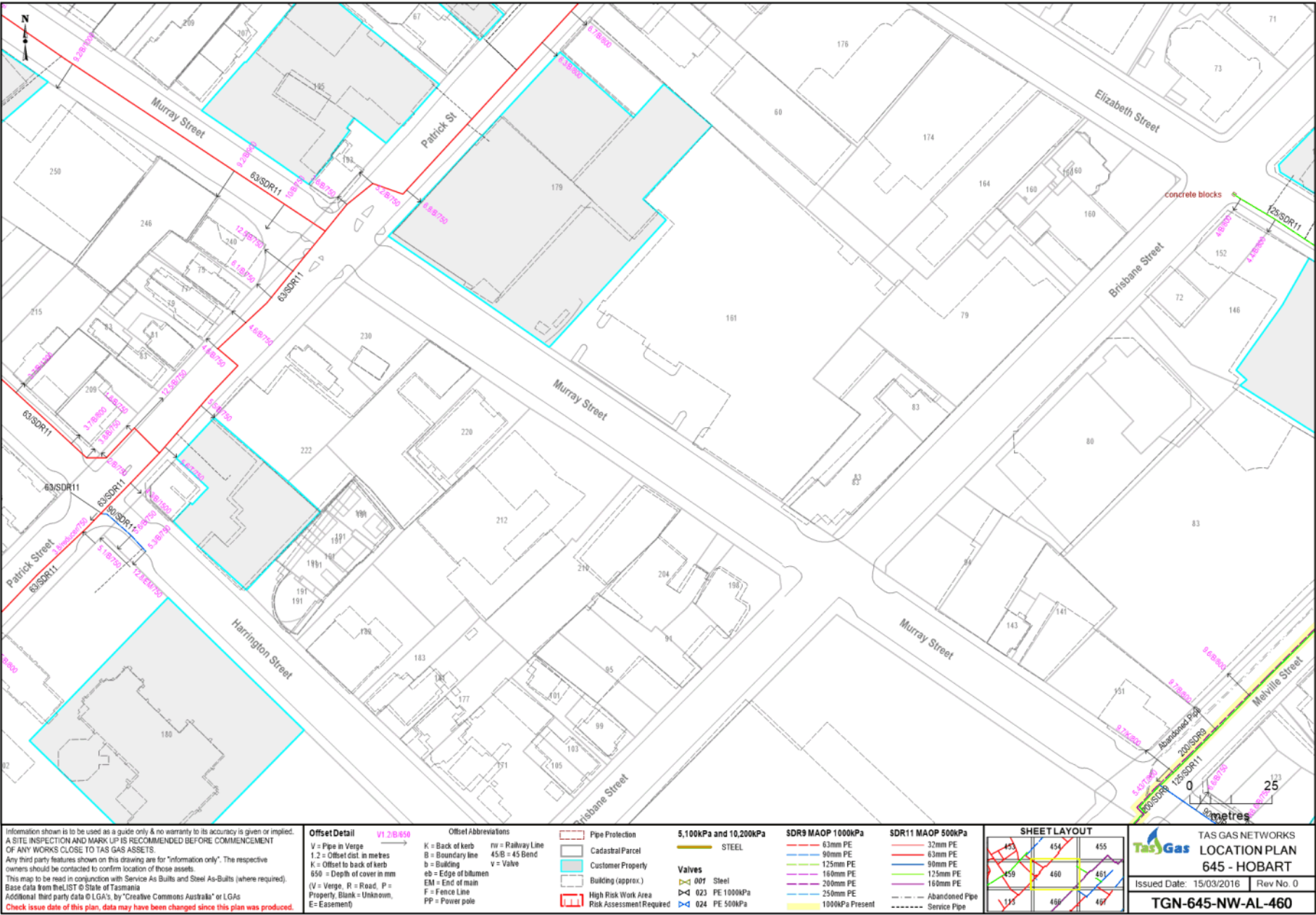
Your personal Search Identification Number is PS0038375.

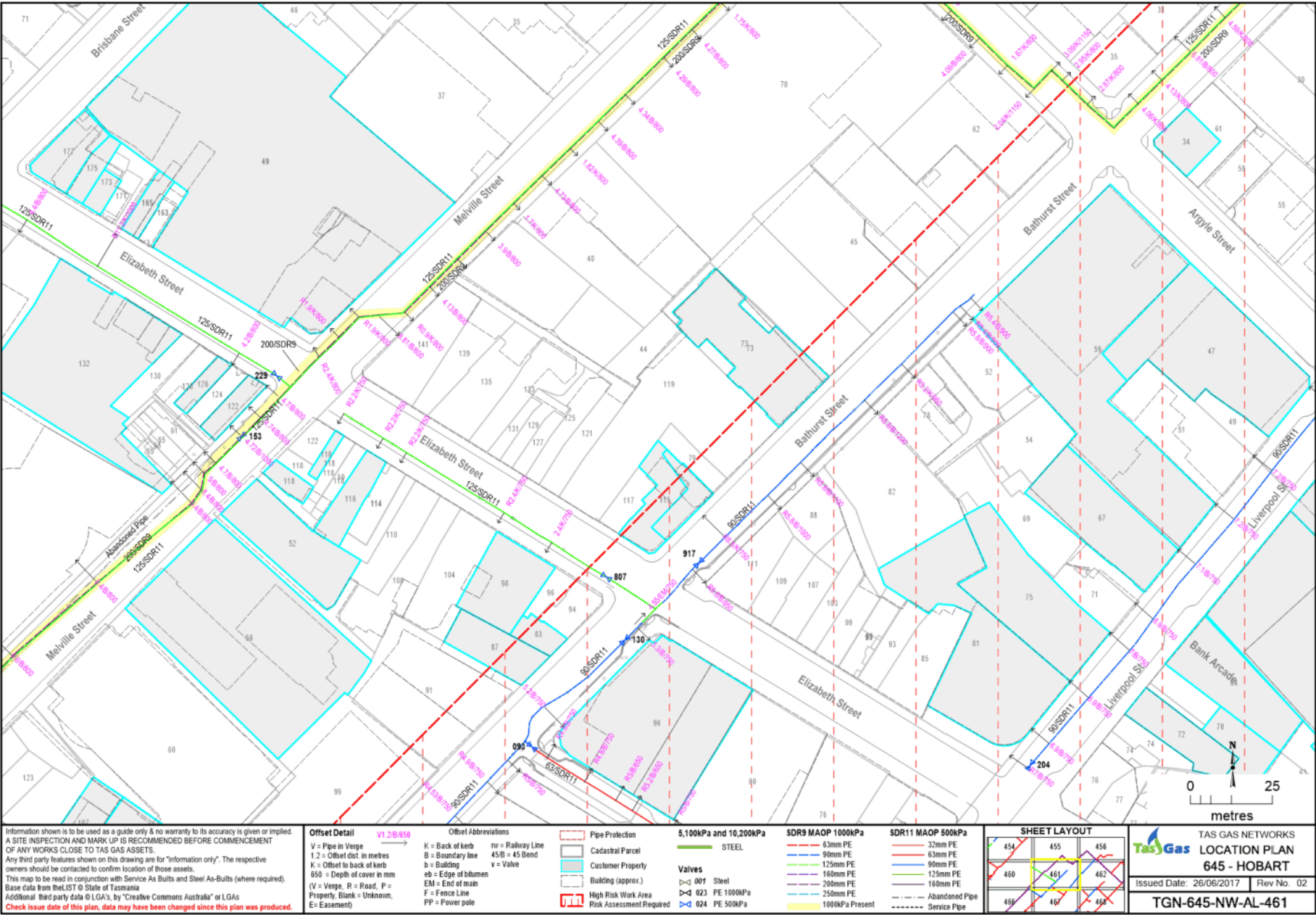
Please be aware that the absence of records on the [Aboriginal Heritage Register](#) for the nominated area of land does not necessarily mean that the area is devoid of Aboriginal relics. If at any time during works you suspect the existence of Aboriginal relics, cease works immediately and contact Aboriginal Heritage Tasmania for advice.

It is also recommended that you have on hand during any ground disturbance or excavation activities the [Unanticipated Discovery Plan](#), to aid you in meeting requirements under the *Aboriginal Heritage Act 1975* should Aboriginal relics be uncovered. There are requirements that apply under the [Aboriginal Heritage Act 1975](#). It is an offence to destroy, damage, deface, conceal or otherwise interfere with relics without a permit granted by the Minister. There is an obligation to report findings of relics as soon as practicable.

This Search Record is confirmation that you have checked the Aboriginal Heritage Property Search website or the Dial Before You Dig referral service for this search area. This Search Record will expire in six months from the search date.

If you have any queries please do not hesitate to contact [Aboriginal Heritage Tasmania](#) on 1300 487 045 or at aboriginal@heritage.tas.gov.au.








BMSDOC-18-766

Service Completion Record and As-Built Information Page- (F)

Status - Approved
Current Version - 6.0
Published Date -Aug 2014

Comments / Observations					
Type of Service (circle relevant type)					
Long	Intermediate	Short	Tail (mains sketch)	Ryder (mains sketch)	Other (specify)

Please record As-Built Sketch below

 Include North arrow in circle	Name of Contractor	Address of Installation
	Name of Service Layer	Street Number 52 Street Name Melville Street Suburb Hobart Postcode 7000

PLEASE NOTE:

There is a Service Connection at the following address in the area or vicinity of your DBYD inquiry:
52 Melville Street Hobart

DESCRIPTION:

No accurate details are available for this Service.

Please consult your As-Built drawing and contact Tas Gas if you need further information,

Tas Gas GIS Team

Depth of Main.....mm Gas Main Diameter..... mm

Comments (e.g. boundary unknown etc.):.....

Offset measurements are to be taken from the property boundaries (front & side) not only from the tee but also at the front boundary and at least once within the property. It is essential to show the depth of the service line at the tie in to the mains, across the footpath and once or twice within the property. Please indicate on the drawing where Polymeric strip and or concrete slab is installed. Show isolation valve detail if installed. Tas Gas reserves the right to request, amend or revise this drawing and any additional drawings for the installation. All drawings are to be completed to the entire satisfaction of Tas Gas.

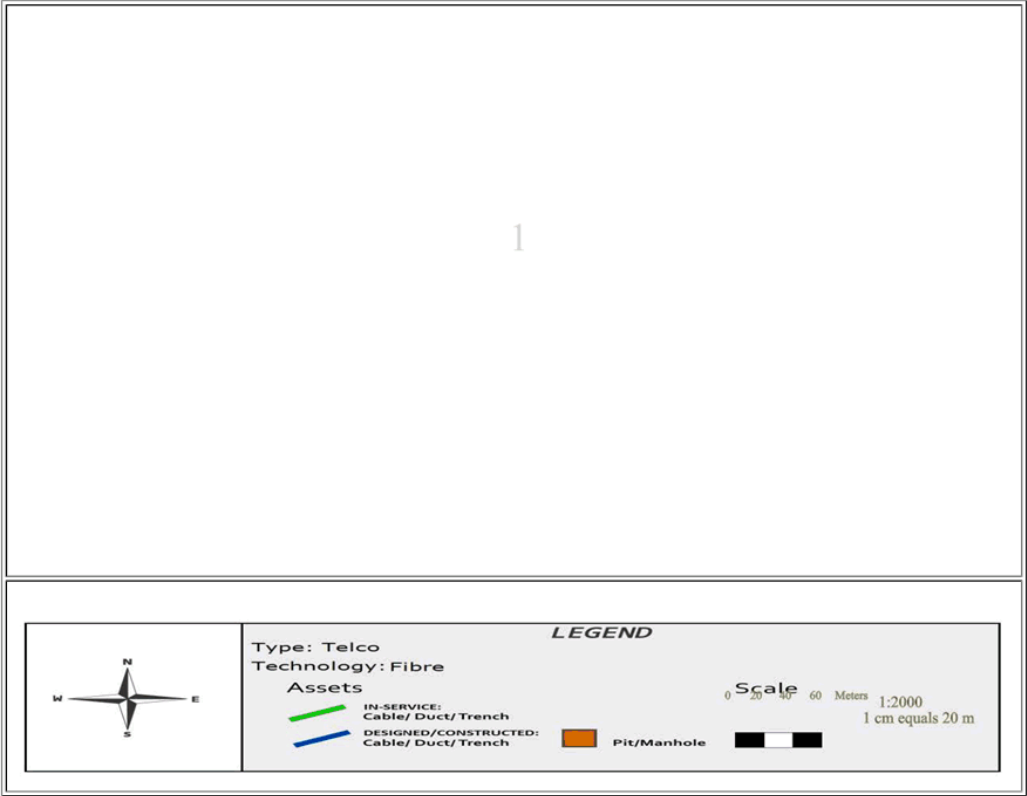
For Tas Gas use:		Documents Scanned / Electronically Filed	
By :	Date : / /	By :	Date : / /
		By :	

RECORDS : As-Built – Original HC to Meter Installation File ; Scan a copy to e-Connections File ; Scanned Copy to GIS Records for As-Built
"Safety by choice - not by chance"



Indicative Plans

Issue Date:	01/10/2018	
Location:	83 Melville Street, Hobart, TAS-7000	





Emergency Contacts

You must immediately report any damage to **nbn™** network that you are/become aware of. Notification may be by telephone - 1800 626 329.



01/10/2018

GHD - Ms Nicole Reineker

GHD

2 Salamanca Square

Battery Point TAS 7004

Job No: 15023440

Sequence No: 76013862

Location Specified in Request (Site):

83 Melville Street Hobart

**TASNETWORKS HAS RECORDS OF UNDERGROUND
ELECTRICAL AND/OR TELECOMMUNICATIONS ASSETS IN OR
AROUND THE SITE. DO NOT PROCEED WITHOUT READING
AND UNDERSTANDING THE FOLLOWING REQUIREMENTS**

To make your experience easier TasNetworks now has a new look, single response that covers TasNetworks' Electrical (Transmission and Distribution) and Telecommunication underground assets. Note that the text of this response has also changed so please take the time to read our response carefully.

Thank you for your recent Dial Before You Dig (DBYD) enquiry. TasNetworks works with DBYD to provide you with:

- a) Information regarding our records relating to the general location of any underground assets owned by TasNetworks located in the vicinity of the Site;
- b) Information regarding how to arrange on-site location services to assist you with identifying the exact location of TasNetworks' underground assets;
- c) General information on how to work safely near TasNetworks' underground and overhead assets; and
- d) Your legal obligations:
 - i. not to unlawfully interfere with TasNetworks' assets (both underground and overhead); and
 - ii. to notify TasNetworks of work that may affect our assets (both underground and overhead). Note that submission of a DBYD request is not sufficient notice for this purpose.

Our assets

TasNetworks owns and maintains both electrical and telecommunications assets. Our Electrical assets cover Transmission Extra High Voltage (EHV) and Distribution High Voltage (HV) and Low Voltage (LV) Networks. Our telecommunications assets may form part of the electrical infrastructure and includes fibre optic cables. Our assets may be located underground or overhead.

Our records

TasNetworks has records that there are underground assets owned by TasNetworks located in or around the Site. The approximate locations of these underground assets are set out in the plans enclosed. Where relevant, detailed plans may also be attached as image files. Please note that the plans and information provided with this letter are a guide only and may not provide an exact location of TasNetworks' underground assets. To ensure that the exact location of TasNetworks' assets has been marked out before you start works please arrange an on-site location by an accredited services locator.

**Your obligations**

It is important that you understand what your obligations are when it comes to working in the vicinity of TasNetworks' underground assets.

You must:

- Undertake your own searches, investigations, and enquiries to ensure that the information provided in this letter is accurate, reliable and complete and provide this information to anyone engaged to carry out cable location or underground works;
- Obtain updated plans from TasNetworks if you undertake work more than 30 days from the date of this letter by a new DBYD enquiry;
- It is a requirement under s110 of the *Electricity Supply Industry Act 1995* that you notify us in writing if you plan to undertake work that may affect our electrical assets (for example, excavation in the vicinity of our assets). Submission of a DBYD request is not the requisite notice under the Act. You must notify us by email to customer.enquiries@tasnetworks.com.au; please include the Job Number, Sequence Number, Street and Suburb in the subject title. Some more specific guidance around circumstances in which you must provide us with notice are set out below;
- For any work that involves excavation or boring with penetration below **100 mm and within 5 metres** of TasNetworks' underground assets, as well as following the Dial Before You Dig (DBYD) Best Practice Guide for Locating Underground Services the additional minimum requirements must be met:
 - Engage a cable locator to locate and mark the location of the relevant assets showing both alignment and depth.
 - Pothole by hand or use other non-destructive methods to expose the cable and verify location and depth of the assets.
 - If excavations are outside of the table below then excavations may proceed with no further involvement from TasNetworks.
 - If excavations are within the vicinities outlined in the table below then you must give TasNetworks at least **7 days' notice** prior to commencing work and provide detail of the proposed works. TasNetworks may require a copy of your safety management plan, which could be in the form of a Safe Work Method Statement (SWMS), which outlines how the risks associated with cables will be managed. **No work shall proceed in this vicinity without prior approval from TasNetworks.**
 - If excavations are within the vicinities outlined in the table below no mechanical excavation is allowed (only hand digging or vacuum truck excavation is permitted), unless specifically approved by TasNetworks.

Cable Type	Depth of Excavation	Proximity to Cable (Horizontal)
Communications or LV	500 mm	2 m
HV	500 mm	2 m
EHV	100 mm	5 m

- Following any excavation works, the installation (including cable markers, bedding materials and mechanical protection) must be reinstated to TasNetworks' standard. Contact TasNetworks for further information.
- Work safely, exercising reasonable skill, care and diligence so that you do not interfere with any of TasNetworks' assets. We note that it is an offence under section 109 of the *Electricity Supply Industry Act 1995* (Tas) to interfere with TasNetworks' electrical infrastructure or an electrical installation without TasNetworks' consent; and
- Ensure an emergency plan for contact with energised electric lines is developed and maintained so it is effective for each workplace or site. **IMMEDIATELY REPORT ANY DAMAGE to TasNetworks' infrastructure by telephoning 132 004.**

**Working near TasNetworks infrastructure**

Electricity infrastructure is inherently dangerous and if damaged or interfered with can cause serious injury (including death) and also disrupt essential supply to customers. As such, it is important that you treat electricity with respect. Our fibre optic assets are fragile; contact with a fibre optic cable may cause internal damage, even when no external damage is present. Any contact with our electricity infrastructure or telecommunications assets must be reported to TasNetworks immediately by telephoning **132 004**.

On-site Location Services

As the location of TasNetworks' assets on the enclosed plans are approximate only, TasNetworks recommends you engage the services of an accredited cable location service provider to ascertain the exact location of such assets. The cable locator must assume that all communications cables are non-conducting. Contact information for cable location and underground service location services can be found in the Yellow Pages at www.yellowpages.com.au under "cable location" or through the National Utility Locating Contractors Association at www.nulca.com.au.

Private assets

TasNetworks does not maintain records for privately owned infrastructure. You will need to make enquiries about the location of any privately owned assets at the Site with the relevant property owner. On occasion, some privately owned infrastructure may show up in our records and in our DBYD response to you. If the TasNetworks DBYD response that you receive contains information on privately owned infrastructure, you will still need to make further enquiries about the location of privately owned assets with the relevant property owner, as TasNetworks' records of privately owned infrastructure are not maintained or updated.

TasNetworks will not be liable to you or any person for any loss or damage (whether direct, indirect, special, consequential or otherwise) suffered or incurred if you (or any other person) act, or fail to act, on any information set out in this letter.

If any doubt exists as to your requirements or obligations when excavating around TasNetworks assets, then contact the Customer Service Centre prior to any work commencing.

Regards,

Customer Service Centre Officer,
TasNetworks Pty Ltd
Phone: 1300 137 008



Enquiry Details

Enquiry Details	
Utility ID	50300
Job Number	15023440
Sequence Number	76013862
Enquiry Date	01/10/2018 08:31
Address	83 Melville Street Hobart
Location in Road	Not Supplied
Activity	Tendering

Enquirer Details			
Customer ID	1895125		
Contact	Ms Nicole Reineker		
Company	GHD		
Email	nicole.reineker@ghd.com		
Phone	0362100626	Mobile	Not Supplied

Assets			
Affected Assets	Conduit, Fiber Optic Cable, HV Cable, LV Cable		

**Plan description**

If underground assets owned by TasNetworks exist within our records in the vicinity of the Site, a colour overview map and index map(s) are included. Key to symbols are included on these plans. All maps on the following pages highlight the Site in a **bold red** colour.

Where relevant, detailed underground asset plans for TasNetworks owned assets may also be attached as image files.

Key to symbols used on any attached TasNetworks Underground asset plan image files.

<div> <div>EHV - Extra High Voltage</div> <div>HV - High Voltage</div> <div>LV - Low Voltage</div> <div>UG - Underground</div> <div>OH - Overhead</div> <div>STD - Standard</div> </div>				Underground Cable (Black/White plans) <div> <div>EHV/HV/LV Cable</div> <div>Fibre Optic Cable</div> </div>			
.....	Streetlight cable		Potend Or Joint		Manhole		HV, LV Pole
----	Service Duct		Cabinet		Service Pit		Steel/concrete Pole
	Sealed end on UG Cable	S%	Turret with Switch		Service Post		Std Fuse Base with lamp
			Feeder Pillar		Telephone Cabinet		Road Crossing Duct
	Zone Substation		Substation	<div> <div>H L</div> <div>2-125 PVC</div> <div>Typical section through crossing</div> </div>			

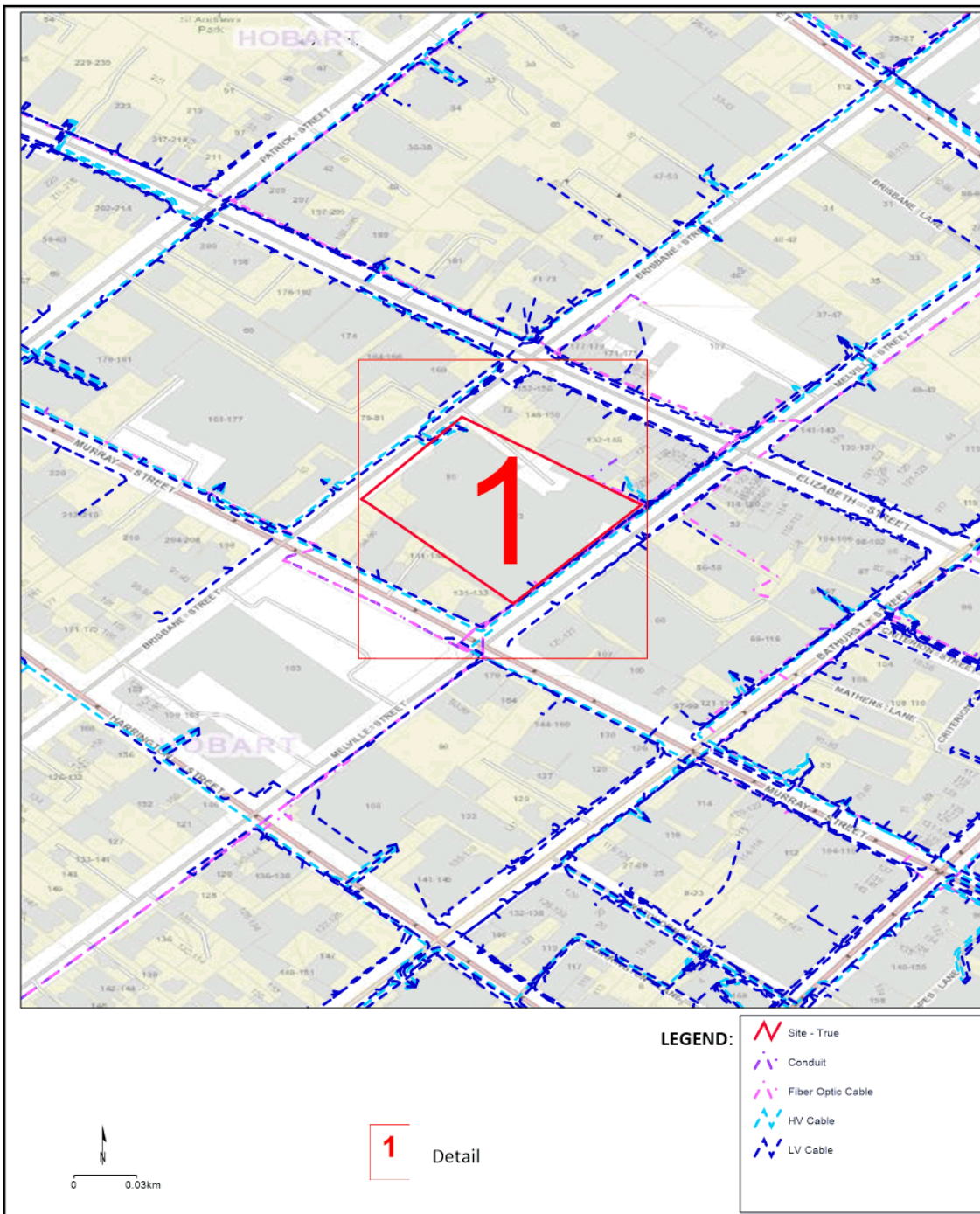


Overview Map

Job No: 15023440

Sequence No: 76013862

83 Melville Street Hobart

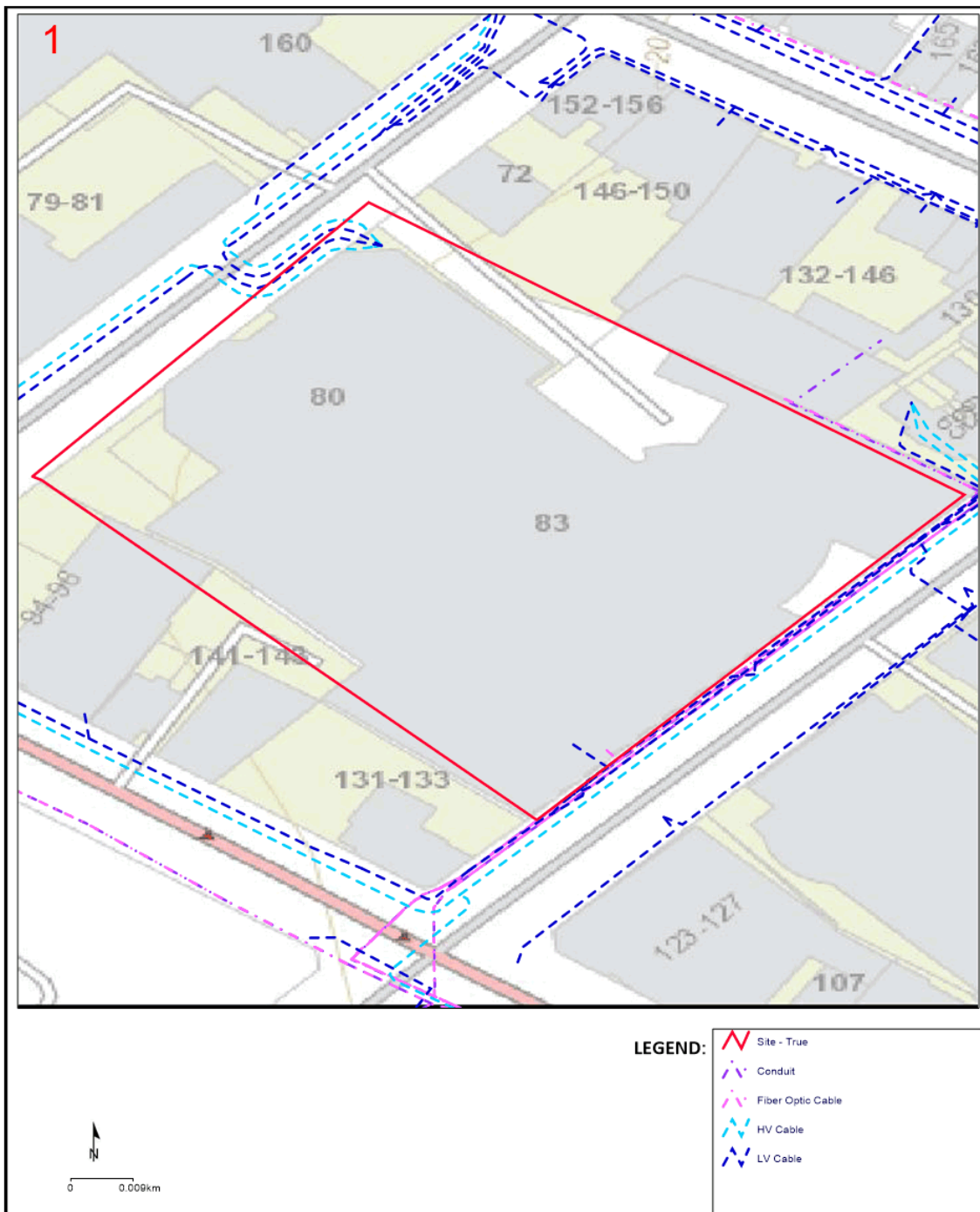
TasNetworks contact details: 1300 137 008 (enquiries) or 132 004 (emergency only), email customer.enquiries@tasnetworks.com.au

**Detail Map 1**

Job No: 15023440

Sequence No: 76013862

83 Melville Street Hobart

TasNetworks contact details: 1300 137 008 (enquiries) or 132 004 (emergency only), email customer.enquiries@tasnetworks.com.au



Job No 15023440

Phone: 1100
www.1100.com.au

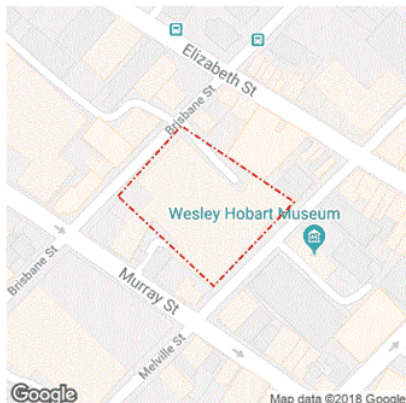
Caller Details

Contact: Ms Nicole Reineker
Company: GHD
Address: 2 Salamanca Square
 Battery Point TAS 7004

Caller Id: 1895125 **Phone:** 0362100626
Mobile: Not Supplied **Fax:** Not Supplied
Email: nicole.reineker@ghd.com

Dig Site and Enquiry Details

WARNING: The map below only displays the location of the proposed dig site and does not display any asset owners' pipe or cables. The area highlighted has been used only to identify the participating asset owners, who will send information to you directly.



User Reference: 79 melville
Working on Behalf of: Private
Enquiry Date: 01/10/2018 **Start Date:** 03/10/2018 **End Date:** 03/10/2018

Address:
 83 Melville Street
 Hobart TAS 7000

Job Purpose:

Design

Onsite Activity:

Tendering

Location of Workplace:

Private Property

Location in Road:

Not Supplied

- Check the location of the dig site is correct. If not submit a new enquiry.
- If the scope of works change, or plan validity dates expire, resubmit your enquiry.
- Do NOT dig without plans. Safe excavation is your responsibility. If you do not understand the plans or how to proceed safely, please contact the relevant asset owners.

Notes/Description of Works:

Not Supplied

Your Responsibilities and Duty of Care

- If plans are not received within 2 working days, contact the asset owners directly & quote their Sequence No.
- ALWAYS perform an onsite inspection for the presence of assets. Should you require an onsite location, contact the asset owners directly. Please remember, plans do not detail the exact location of assets.
- Pothole to establish the exact location of all underground assets using a hand shovel, before using heavy machinery.
- Ensure you adhere to any State legislative requirements regarding Duty of Care and safe digging requirements.
- If you damage an underground asset you MUST advise the asset owner immediately.
- By using this service, you agree to Privacy Policy and the terms and disclaimers set out at www.1100.com.au
- For more information on safe excavation practices, visit www.1100.com.au

Asset Owner Details

The assets owners listed below have been requested to contact you with information about their asset locations within 2 working days. Additional time should be allowed for information issued by post. It is **your responsibility** to identify the presence of any underground assets in and around your proposed dig site. Please be aware, that not all asset owners are registered with the Dial Before You Dig service, so it is **your responsibility** to identify and contact any asset owners not listed here directly.

** Asset owners highlighted by asterisks ** require that you visit their offices to collect plans.

Asset owners highlighted with a hash require that you call them to discuss your enquiry or to obtain plans.

Seq. No.	Authority Name	Phone	Status
76013871	Department of Primary Industries, Parks, Water and Environment (DPIPWE)	1300487045	NOTIFIED
76013864	Hobart City Council	0362382482	NOTIFIED
76013869	NBN Co, VicTas	1800626762	NOTIFIED
76013865	Optus and/or Uecomm, Tas	1800505777	NOTIFIED
76013868	PIPE Networks, Tas	1800201100	NOTIFIED
76013867	Tas Gas Networks	0363369350	NOTIFIED
76013870	TasmaNet	0404684955	NOTIFIED
76013862	TasNetworks Pty Ltd	1300137008	NOTIFIED
76013866	TasWater	136992	NOTIFIED
76013863	Telstra VICTAS	1800653935	NOTIFIED

END OF UTILITIES LIST

Lodge Your Free Enquiry Online – 24 Hours a Day, Seven Days a Week

Appendix G

Aerial photographs

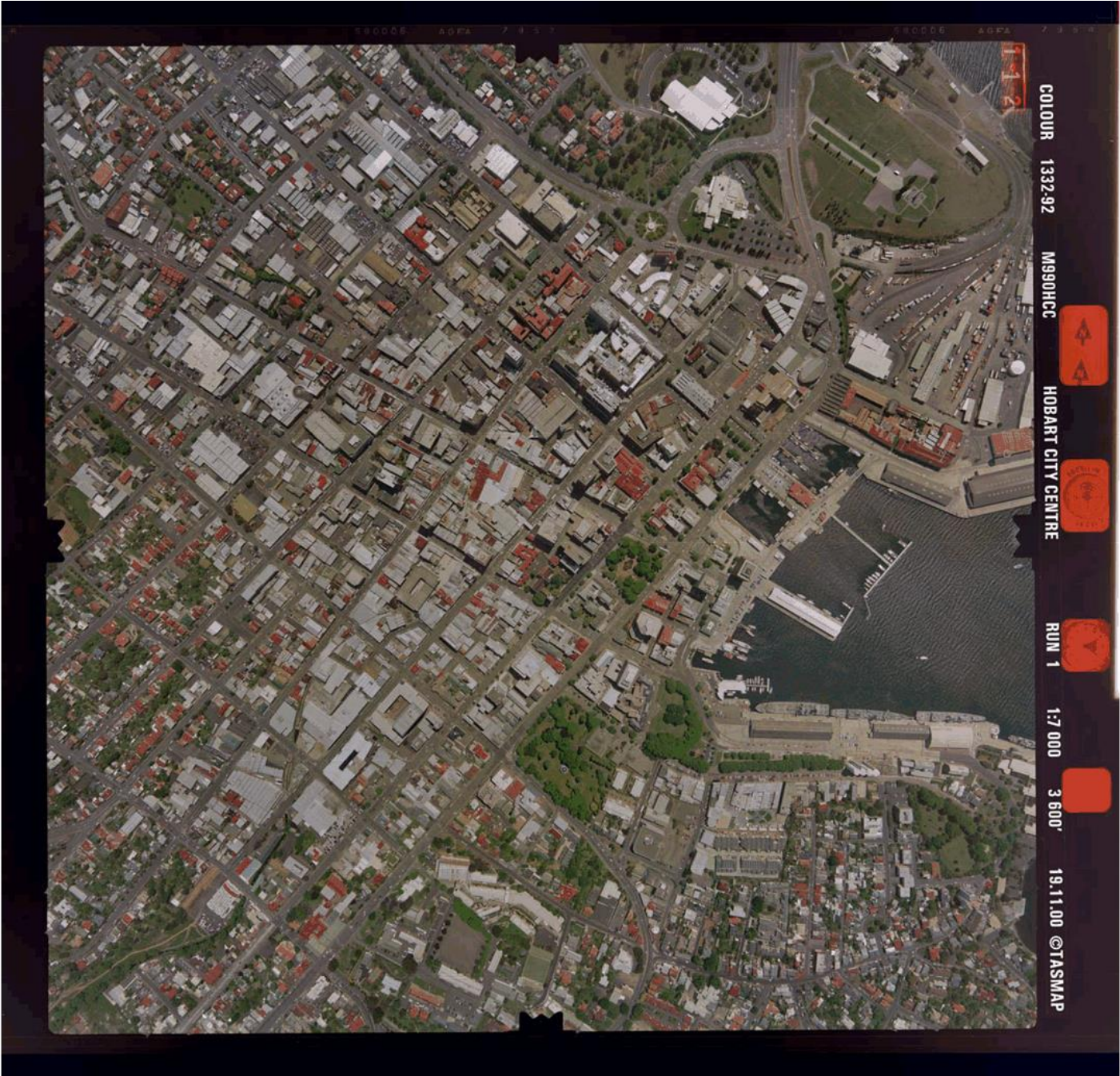














Appendix H

Historic reports

**Screening Level
Environmental Site Assessment of
79-83 Melville Street, Hobart**

2 December 1994

Prepared for James Douglas & Associates
on behalf of Tasmania State Property Services

*Richard Stoklosa Engineering Practice Pty Ltd
14 Sunvale Avenue
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RICHARD STOKLOSA ENGINEERING PRACTICE PTY LTD

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1. Executive Summary

Purpose and Scope

This screening level environmental site assessment was undertaken by Richard Stoklosa, of:

Richard Stoklosa Engineering Practice Pty Ltd
14 Sunvale Avenue
Sandy Bay, Tasmania 7005

The work was performed at the request of James Douglas and Associates, on behalf of Tasmania State Property Services, for the property known as:

Crisp and Gunn Buildings
79-83 Melville Street
Hobart, Tasmania

This screening level environmental site assessment involves a review of the site history and land use including examination of aerial photographs and historical review documents), review of available state and local records, and site reconnaissance. The purpose of the assessment is to investigate the possibility of site contamination from previous land use.

Observations

The site contains brick buildings currently used as offices, and large store areas constructed of brick and timber, with concrete floors. At the rear of the buildings are outdoor car parking areas on bitumen, graded gravel and soils. Some vehicles also park inside the store area immediately off Melville Street. The buildings are under consideration for their conservation value, and it is contemplated that the property will be put up for sale in the near term by the State of Tasmania.

The property was later owned and operated by Crisp and Gunn as a timber milling, joinery, and re-merchandising business since 1886. After a fire destroyed the buildings in 1922, the current buildings were constructed and the timber business continued until about 1965. The State of Tasmania acquired the property in 1967, and it has since been used for offices and stores. The current tenants are the State Emergency Service and the State Fire Commission. Other state government departments also use portions of the stores area for equipment and materials.

Large quantities of hazardous materials are stored and handled at the site. This includes a 1,000 litre underground storage tank and bowser on the premises, licensed to Shell Company of Australia in 1973 (under the Inflammable Liquids Act 1929) by the State Department of Mines and Goods Directorate). The license indicates that the petrol tank and bowser was to be used by the State Supply and Tender Department. Notes attached to the license further indicate that the tank was previously used by Crisp and Gunn and abandoned prior to the license date (ca 1965 when operations ceased). It is not known how old the tank is, or what other materials have been stored in it.

Adjacent to the underground petrol tank, there is a small outdoor flammable liquid store (enclosed by a chain link fence) reported to contain 44 gallon drums of chain saw fuel and kerosene. It is not known what other materials may have been stored at this site, but it is unlikely that the site was ever used for large quantities of other hazardous materials, given the present tenancy and activities (timber milling and hardware merchandising activities. Small quantities of chemicals etc.) were probably part of the historical merchandising activities.

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Insulation was noted above ceiling panels in some of the upstairs office spaces at 79 Melville Street. The type of insulation used at the property is not known.

Some large portions of the store behind the office building at 79 Melville Street was inaccessible during the site reconnaissance visits. Large ground-level access covers were observed in at least two locations, but could not be investigated.

Conclusions and Recommendations

A summary of potential sources of contamination is shown on the following page for reference. No testing of soils or building materials (insulation) for potential contamination and/or identification of hazardous materials has been conducted.

Access to fenced and locked portions of the store area is also necessary to fully investigate the nature and condition of the facility, particularly the ground-level access covers that were observed.

Due to the presence of the underground petrol storage tank and other materials at the site, a sampling programme is indicated to adequately assess the environmental condition of the site.

Characterization Data

...ions, based upon review of available records, site reconnaissance and testing.

Existence Information	Test Data Available			Evidence of Oil/Haz Mat'l				Comments
	Yes	No	Test Type ^g /Results	REC	OBS	TEST	NONE	
	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
e incidental e of oils/fuel	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Oil film on standing water in parking area drain
	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
gallon petrol tank ed) and bowser	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Soil test required to confirm subsurface conditions
on-OHM AST or pressure testing	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
lon drums of ne, chainsaw fuel	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Drums on concrete floor, generator fuel in curbed area
	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

ites
(D) Includes domestic or industrial sewage leach fields/pits
(E) Note: Waste oil is considered a hazardous material
(F) Tested for hydrocarbons, BETX, lead, zinc, cadmium, and mercury

ABBREVIATIONS:

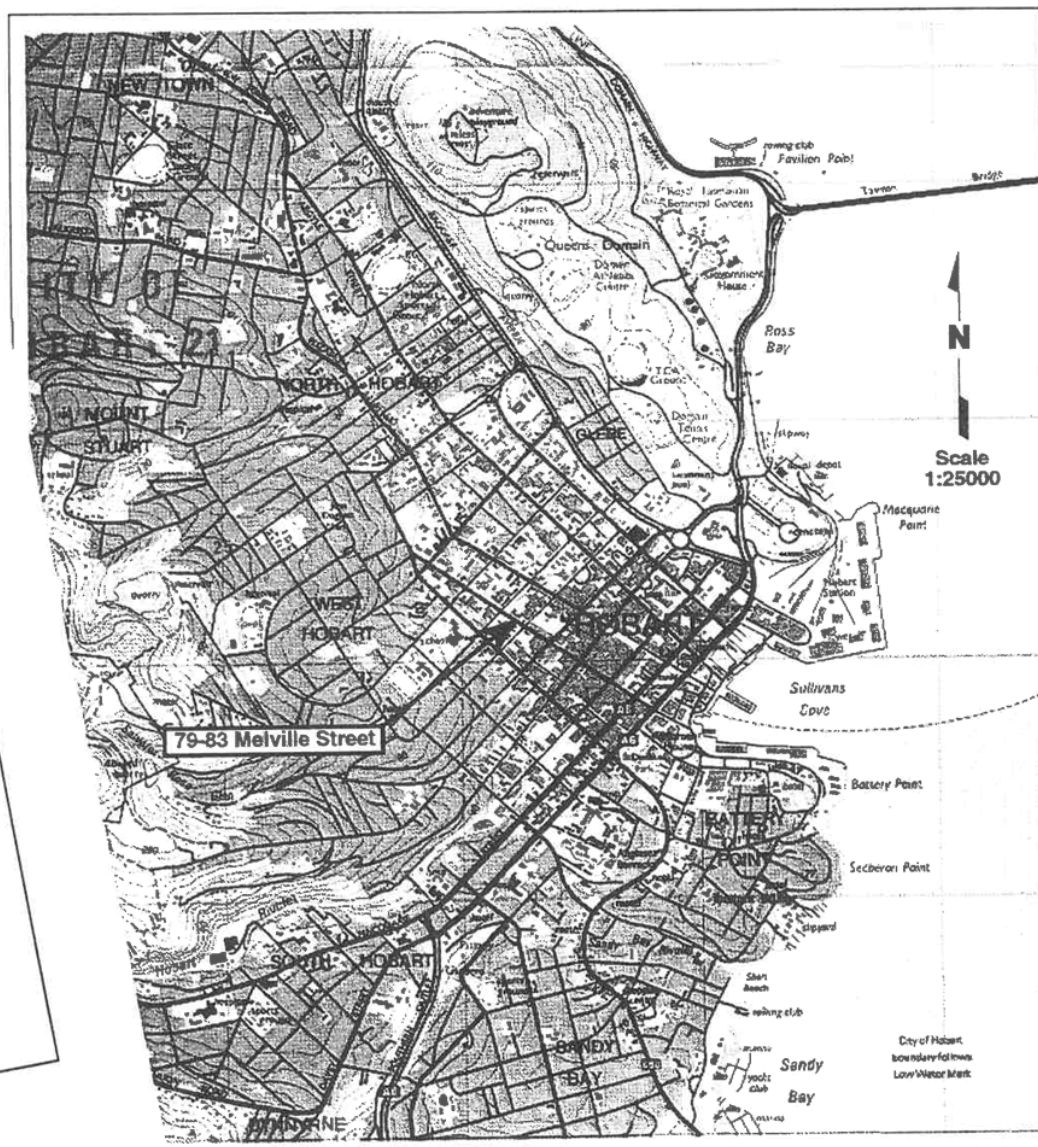
REC – Records
OBS – Observations
OHM – Oil/Haz. Materials

nd the State Fire Comm offices. Concrete access covers observed on floor, but no information on use available to date.
ken to investigate the possibility of contamination (re: the area of the underground storage tank on the premises).
d excavations conducted on the site in 1979. No remaining evidence of site work discovered during reconnaissance.

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2. Site Description

The property is located at 79-83 Melville Street, Hobart, Tasmania. The location of the property on a regional scale is shown on the topographic map reproduced below.



Property Location on Topographic Map

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The property is located in an area of commercial and light industrial development in the Hobart "central business district" area. The site contains brick buildings currently used as offices, and large store areas constructed of brick and timber, with concrete floors. At the rear of the buildings are outdoor car parking areas on bitumen and graded gravel and soils. Some vehicles also park inside the store area immediately off Melville Street. Figure 2-2 is an aerial photograph of the site, showing existing development.

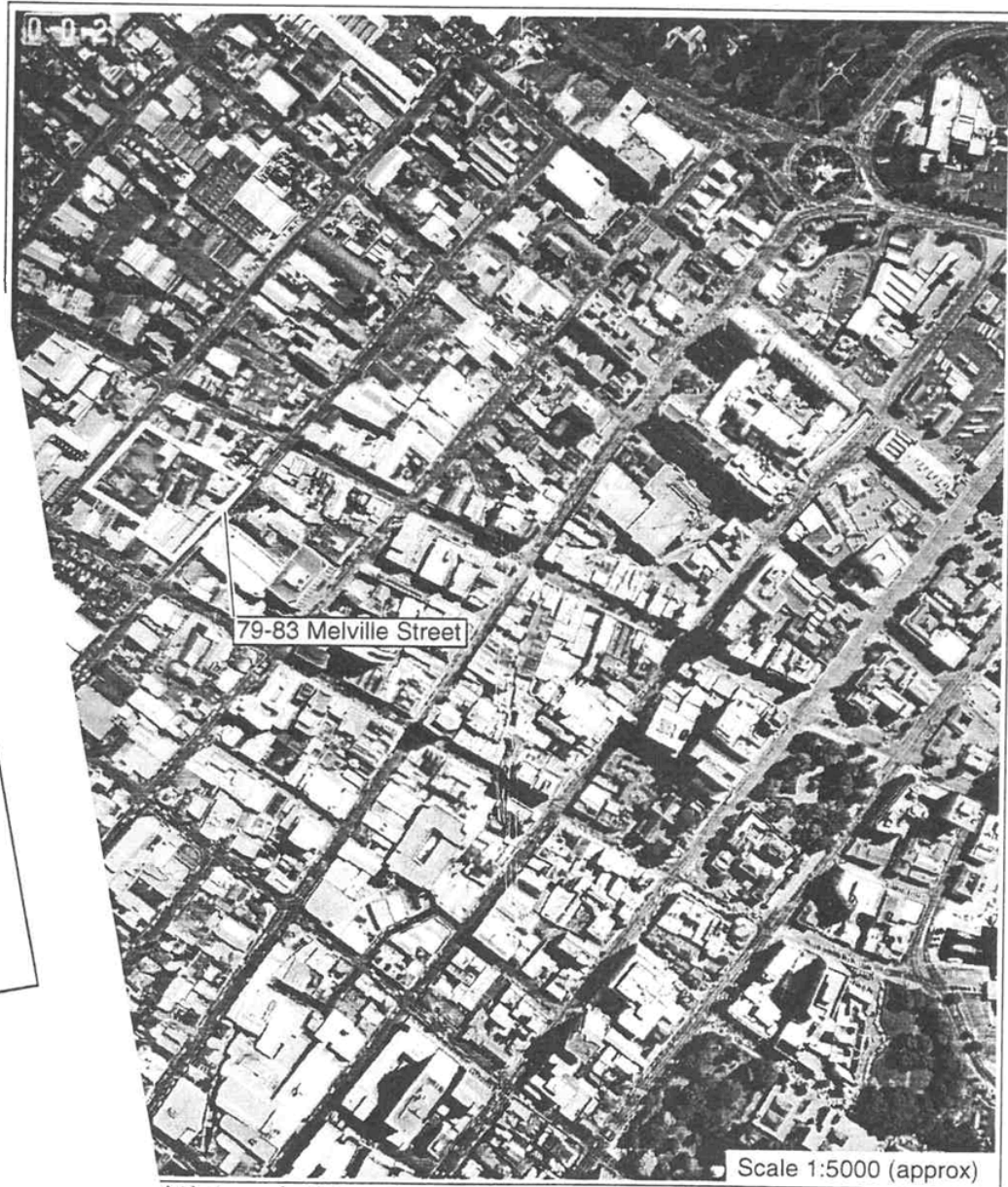
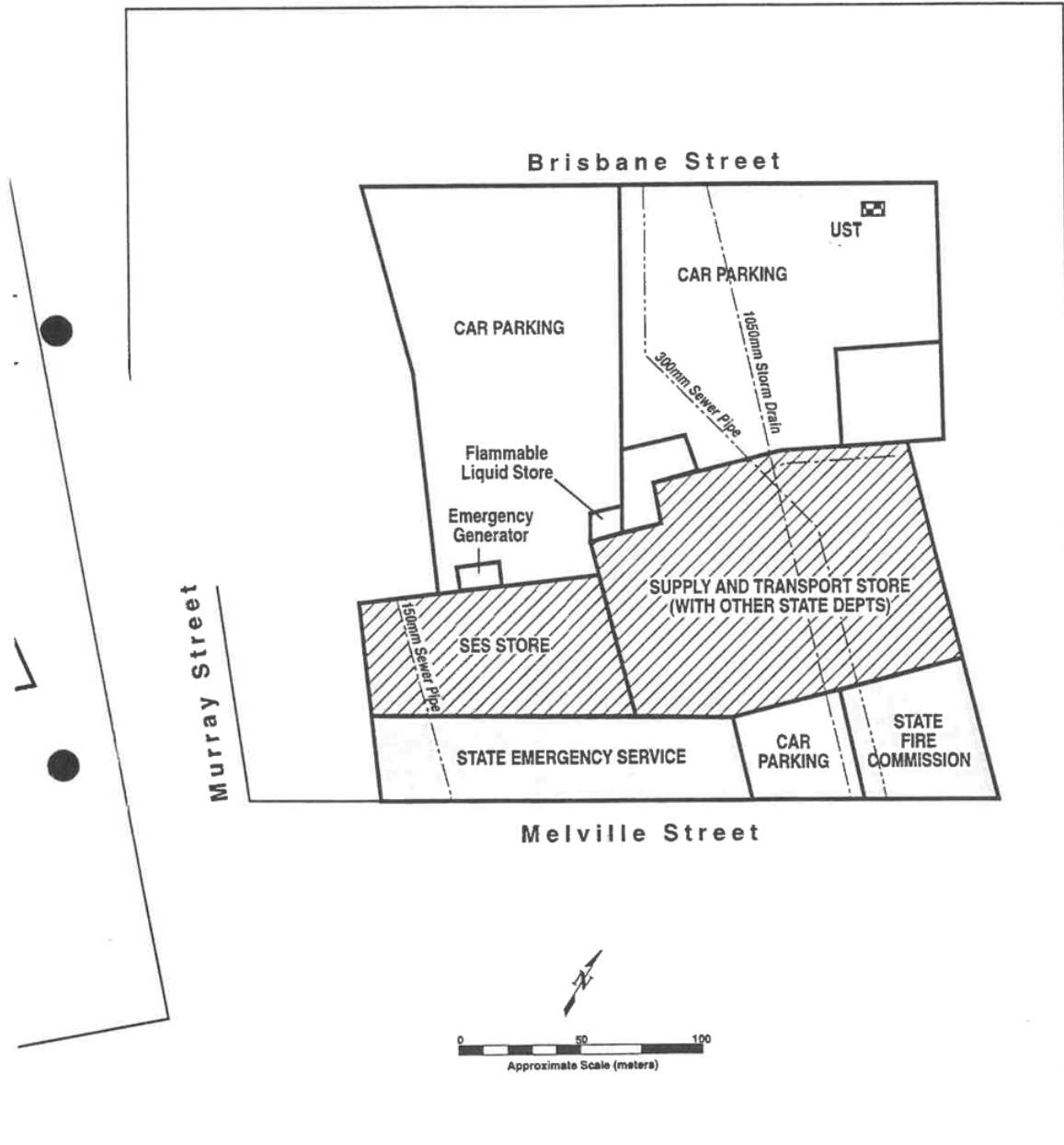


Figure 2-2 Aerial Photograph of Property and Vicinity (1994)

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The current use of the property is for state government offices and stores. The current office tenants are the State Emergency Service and the State Fire Commission. Other government departments use portions of the large store areas. A diagram of the site is shown in Figure 2-3 for reference.

**Diagram**

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3. Site History

The buildings are under consideration for their conservation value. A thorough description of site history is available separately.¹

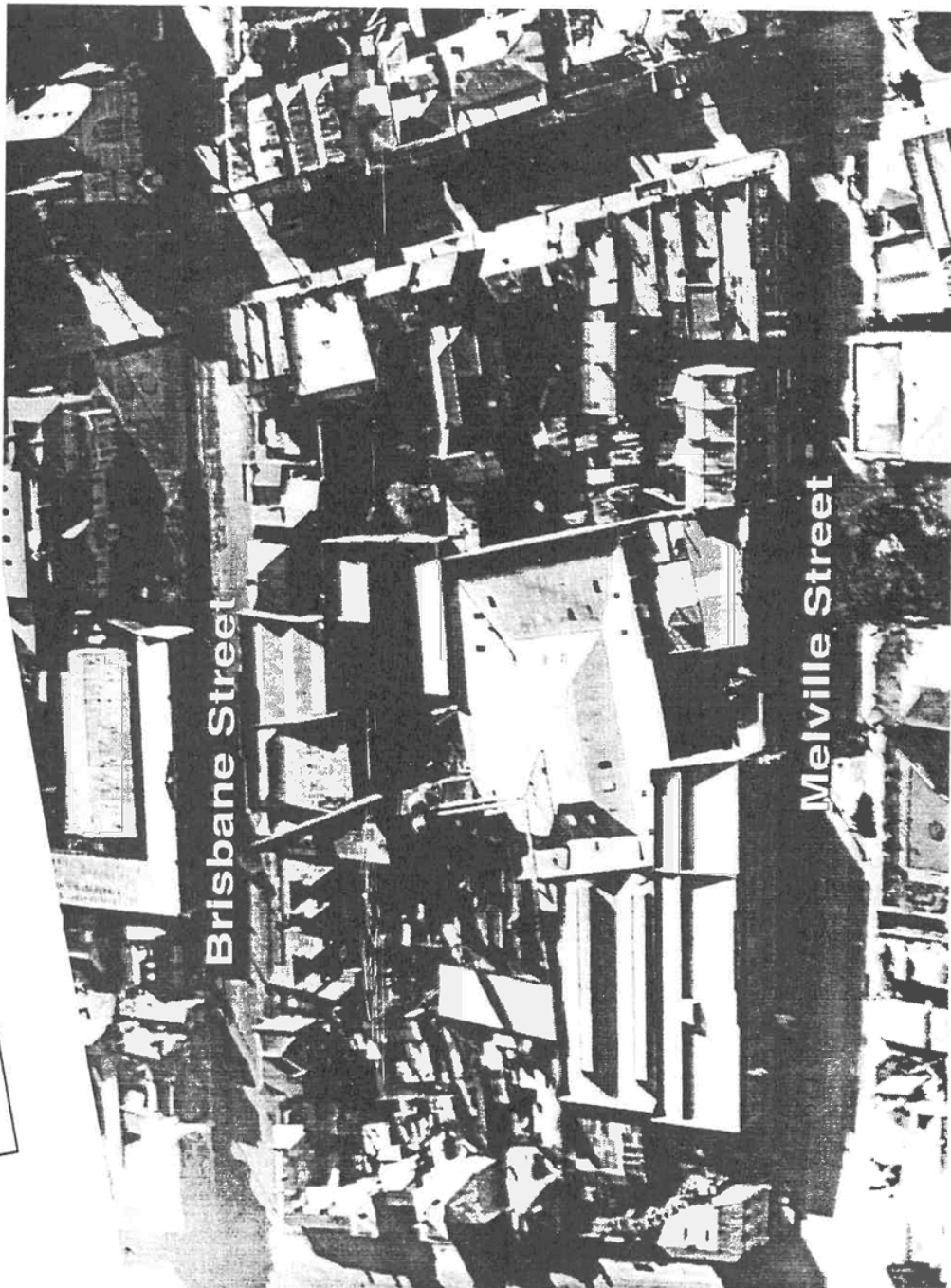
Crisp (and later Crisp and Gunn) owned and operated the premises as a timber milling, joinery, and hardware merchandising business since 1886. After a fire destroyed the buildings in 1922, the current buildings were constructed and the timber business continued until about 1965. The State of Tasmania acquired the property in 1967, and it has since been used for offices and stores. The current tenants are the State Emergency Service and the State Fire Commission. Other state government departments also use portions of the stores area for equipment and materials.

A 1913 oblique photograph of the property is shown in Figure 3-1. The timber milling operation is thought to have been conducted in the buildings nearest Brisbane Street. The large store area was for the milling inventory. The structure at what is now 79 Melville Street was probably the business office, and the larger structure at 83 Melville Street was the joinery shop and hardware merchandising business. A tall smoke stack is evident in the photograph, possibly for burning wood chips and shavings collected in the ductwork seen on the buildings in the photograph.



¹ Vincent, Cultural Resource Management, Conservation Assessment, 83 Melville Street (including 79
81, 83 Melville Street)

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Photograph of the Former Crisp and Gunn Business Facilities

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4. Proposed Land Use

The property is to be marketed for sale by the state government in the near term. Some of the existing structures are currently being assessed for their conservation value.

The site is currently a commercial and light industrial property, and it is unknown whether this type of land use will continue in the future.



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5. Site Reconnaissance

Site reconnaissance included examination of records and field verification of the location of stormwater services. The property contains buildings and large store areas with concrete floors. At the rear of the property are car parking areas with bitumen and gravel/soil surfaces (refer to site diagram in Figure 2-3).

A search of post-1977 records by the Hobart City Council did not reveal any council orders, licenses, or other information of significance to the environmental condition of the property.²

Site reconnaissance was performed on 4 November 1994 and 1 December 1994. Observations are recorded using an Environmental Site Assessment Checklist which is included in Appendix A for reference.

Some small quantities of hazardous materials are stored and handled at the site. This includes a 1,000 gallon petrol underground storage tank and bowser on the premises, licensed to Shell Company of Australia Ltd in 1973 (under the Inflammable Liquids Act 1929) by the State Department of Mines (Dangerous Goods Directorate). The license indicates that the petrol tank and bowser was to be operated by the State Supply and Tender Department. Notes attached to the license further indicate that the petrol tank was previously used by Crisp and Gunn and abandoned prior to the license date (probably circa 1965 when operations ceased). It is not known how old the tank is, or what other materials may have been stored in it.

In addition to the underground petrol tank, there is a small outdoor flammable liquid store (enclosed in a locked, chain link fence) reported to contain 44 gallon drums of chain saw fuel and kerosene. It is located at the rear of the State Emergency Service (SES) building and store at 83 Melville Street.

It is not known what other materials may have been stored at this site, but it is unlikely that the site is subject to exposure from large quantities of other hazardous materials, given the present tenancy (previous timber milling and hardware merchandising activities. Small quantities of chemicals (inks, paints, etc.) were probably part of the historical merchandising activities.

Asbestos was noted above ceiling panels in some of the upstairs office spaces at 79 Melville Street. The type of insulation used at the property is not known.

Access was available to the space beneath the building at 79 Melville Street. Examination of this area did not reveal evidence of past storage of materials, and the soils appeared to be dry. There was no evidence of the soils, or odors indicative of potential contamination.

Some portions of the store behind the office building at 79 Melville Street were inaccessible during site reconnaissance visits. Large ground-level access covers were observed in at least two locations but could not be investigated.

There is evidence of a large stormwater conduit beneath the site. A large diameter pipe (in excess of 1.5m) is shown on Hobart City Council drainage plans, which appears to be the same size pipe encountered in one of the boreholes drilled in 1979 (refer to Section 6 and Appendix A, Figure 4). It has been speculated that the large stormwater pipe drains the area from the site to the northwest of the property.

² Hobart City Council, Records Section, personal communication.

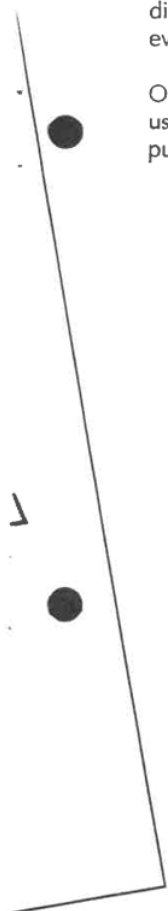
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There is a cylindrical brick access structure rising above the embankment at the rear of 79 Melville Street, which is probably associated with the sewer piping at the site. Water was heard flowing through the pipe during the site visits.

One of the floor drains contained an oily film on standing water, observed through the steel cover grate. Discussion with the Hobart City Council also reveals records of a triple interceptor trap in the store area, designed to intercept oil and sediment, which is normally associated with auto mechanic work or car washing activity.³

A small shed at the rear of the SES Store contains a skid-mounted 45 kVA (approximate) diesel powered generator. It is on standby for emergency power generation for SES operations. A small diesel tank is attached to the bottom of the skid, and the unit is resting on a curbed concrete bund. No evidence of leakage was noted.

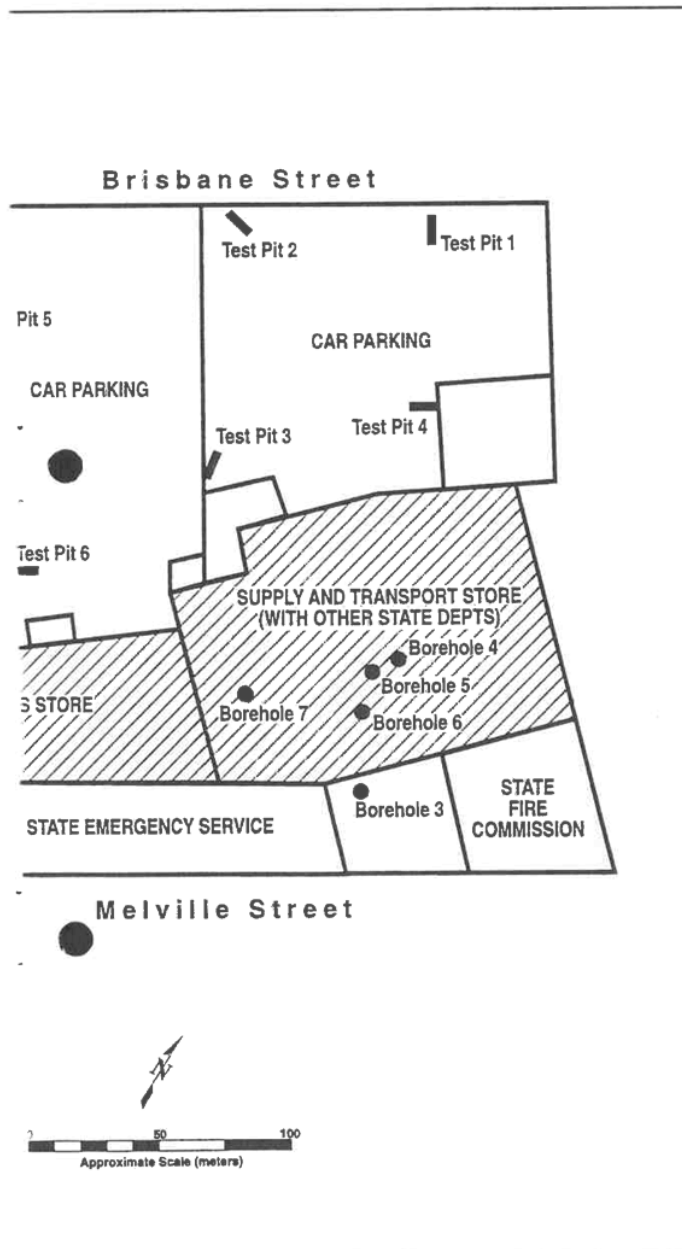
One above ground storage tank is situated in the store area behind 79 Melville Street. It is reportedly used only for pressure testing, using water,⁴ and has a pressure gauge and drain fitted for this purpose.



³Hobart City Council, personal communication.
⁴os, State Fire Commission, personal communication.

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Excavations and Boreholes (1979)

ent of 79-83 Melville Street

6. Geological Conditions

Mineral Resources, regarding geologic description was available on the property, dolerite and clayey soils.

performed in 1979 by the Department of s of the investigation are included in follows.⁷

indicates that the block bounded by i by Triassic age sediments. The more iter Hobart Area (Provisional, Map 1, to the east of the north-south diagonal

i 1979, on behalf of the Department of orth-south diagonal noted above. These oles (refer to locations in Figure 6-1 for been levelled for car parking. The test lluvial materials occur above dolerite. r which sub-vertical to vertical joints situ dolerite occurs at between 0.3 and

Streets were made using auger screws. ents occur above extremely weathered to stiff, high plasticity clay, sometimes l as moist, hard, high plasticity clay. A trance to the (then) Supply and Tender ents above extremely weathered in-situ

area. With the exception of one hole r pipe, these holes were completed as meters of fill materials over moderately

ite has been filled over to provide level

a depth of about ten meters.

orks, Materials and Research Laboratory
25.

R I C H A R D S T O K L O S A E N G I N E E R I N G P R A C T I C E P T Y L T D

Appendix B

Geologic Description of Excavations and Boreholes

Environmental Site Assessment Checklist

General Circumstances

Project: SITE RECONNAISSANCE OF 79-83 MELVILLE STREET, HOBART

Client: JAMES DOUGLAS & ASSOCIATES Phone: 31 4020 Fax: 31 4020

Owner: Tasmanian Property Services Group Phone: Ross Kile 33 30 88 Fax: 33 66 55

Site Contact: Arranged by James Douglas Phone: 31 4020 Fax: 31 4020

Site Name: "Crisp & Gunn Buildings" -

Current Site Use: 79 Melville St: State Fire Commission; 83 Melville St: SES (State Emergency Service) Land Area: _____

Location / Address: 79-83 Melville St. Hobart, TASMANIA

Site Access Condition: Off Street Access to Buildings, some areas of warehouse fenced & locked - no access

Type of Facility (circle): Industrial Commercial Residential Other State Agency Offices / Stores

Data Collection Prior to Site Investigations

Topographic Map: TASMAP - Hobart Sheet Scale: 1:25 000 Date: 1988

Site Map: Included with Geologic Report of Boreholes and Excavations (1979) Scale: 1:500 approx? Date: 1979

Geologic Map: (Provisional - Map 1) TASMAP Engineering Geology Map - Hobart Scale: 1:25000 Date: 1990

Soil Map: "High Plasticity Clays, Gravel, Cobbles" Scale: (from subsurface exploration - see below)

Aerial Photo: TASMAP 1218-204, M990, HOBART CITY Scale: 1:5000 Date: 12.2.94

Well Data: (NOT AVAILABLE - NONE OBSERVED) Driller / Logger: _____

Details Available? (circle): Yes No Depth: _____ Date: _____

Type of Lithology (circle): Bedrock Weathered Unconsolidated Mineralised

Ground Water Occurrence and Depth: _____

Subsurface Exploration: 6 Test Pit Excavations & 7 Boreholes Performed By: Dept. Main Roads - Mat'l & Research Div.

Details Available? (circle): (Yes) No Boreholes: 2.5 to 10 meters Date: 1979 (Nov)

Type of Lithology (circle): Bedrock Weathered Unconsolidated Mineralised
Disseminated Dolomite
opinion of Dept. Mines

Ground Water Occurrence and Depth: estimated to be at least 6 meters below surface.
(not encountered in Boreholes up to 10 meters)

Adjacent Properties

Property Name: Commercial PropertiesType of Business: Print Shop, Retail ShopsProperty Name: Residential UseType of Business: (evidence of possible incidental use)Property Name: City PropertiesType of Business: Parking Garage (Melville St.)

Property Name: _____

Type of Business: _____

Use of Contiguous Properties

Wetlands: None, although some evidence points to piping of the Warwick Rivulet beneath the site.Landfill / Waste Treatment Facility: None.Storage Facilities: Large warehouse stores on premises, storage assoc. with smallerPetrol Stations: Shell Bowser on premises (petrol), with 1,000 gallon licensed USTAgriculture / Grazing Lands: None.Commercial: Commercially-intensive land use - retail shops/services None.Industrial: Light industrial - welding (gas), equipment maintenance workshopsOther?: Professional offices in brick buildings on premises; car parking/washing

Use of Surrounding Properties

Wetlands: None.Landfill / Waste Treatment Facility: None.Storage Facilities: Storage associated with smaller businesses in area (print shop next door)Petrol Stations: None, possible fuel/oil at auto mechanic shop (incidental quant.?).Agriculture / Grazing Lands: None.Commercial: Commercially-intensive land use in surrounding area.Industrial: Light industrial (auto mechanics, etc.)Other?: Parking garage (multi-storey) on opposite side of Melville St.

Environmental Concerns due to Adjacent Properties

Print shop and auto mechanic businesses adjacent to subject property may involve storage of hazardous materials - however, no apparent discharges are evident and environmental concern to subject property is probably insignificant.

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7. Conclusions and Recommendations

Testing of soils and possibly some of the building materials (insulation) for potential contamination and/or identification of hazardous materials should be conducted to adequately investigate the possibility of site contamination from previous land use.

Access to fenced and locked portions of the store area is also necessary to fully investigate the nature and condition of the facility. Of interest are the ground-level access covers that were observed, and the reported triple interceptor oil and sediment trap. A more thorough examination of council drainage plans and other site drawings, with field confirmation, is necessary in the inaccessible areas of the property.

Due to the presence of the underground petrol storage tank and other materials at the site, a sampling programme is indicated to adequately assess the environmental condition of the site.

Upon completion of these further investigations, recommendations can be made on the short term and long term environmental management of the property.

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8. Limitations of Investigation

It is presumed that the information provided by various sources, both published and by way of personal communication, is substantially accurate and has disclosed all relevant information.

Certain limitations on this assessment should be recognized to keep the conclusions and recommendations in perspective:

- No records were available to describe historical land use at the property (prior to 1977) from the Hobart City Council. No records are available to describe the storage, handling, or discharge of chemicals or hazardous materials that may have been used on the premises.
- Municipal sewer and storm water piping traverse the property. These pipelines were not examined in the field, and no opinion is rendered on their condition. However, there is no apparent evidence of sewer or storm water problems on the soils above these pipelines.

Environmental conditions are dynamic, and the present assessment is only a "snap shot" of the condition of the property at the time of the site investigation.

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9. References

South Australian Health Commission, *Identification and Assessment of Contaminated Land*, 1994.

TASMAP, Aerial Photograph, 1218-204, M990, Hobart City, 1:5000, 2560', 12 February 1994.

TASMAP, Engineering Geology Map – Greater Hobart Area, Map1, Provisional, 1990.

TASMAP, Topographic Map – Hobart Sheet, 1988.

Vincent, Robert, Cultural Resource Management, *Conservation Assessment, 83 Melville Street (including 79 Melville Street)*, 1994.

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Appendix A

Environmental Site Assessment Checklist

Appendix 4

Land Titles

Department of Main Roads (Tas)
Materials and Research Division

Engineering log — excavation

pit no: 17
sheet 1 of 1

file: 04.053

POLICE HEADQUARTERS, HOBART

project:
pit location: NE. CORNER MET. ARCHITECTS CAR PARK

pit commenced: 17-9-79
pit completed: 17-9-79
supervised by: W. DOB
log checked by:

equipment type and model: FORD 420
excavation dimensions: 5 m long, 0.5 m wide
X.L. surface: -2.693 m
datum: BRISBANE ST operator: SMITH

method	penetration	support	water	notes samples, tests, etc.	depth metres	graphic log classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency, rel. density	hand penetro- meter	structure and additional observations
123											
BH					0.3		GRAVEL, fine grained, decomposed dolerite				
					0.5		CLAY and ROCK FILL				
					1.0		DOLERITE, coarse grained, contains clay pockets				
							DOLERITE, decomposed, in situ				

N.B. DATUM is
SW CORNER OF
WATSONS WIRELESS
BRISBANE ST FOOT-
PATH.

key method	support penetration	notes	classification symbols and soil description based on unified classification system	consistency/relative density
E natural exposure	T timbering	U50 - undisturbed sample 50 mm diameter	moisture D - dry M - moist W - wet	VS - very soft S - soft F - firm St - stiff VSt - very stiff H - hard Fb - friable VL - very loose L - loose MD - moderately dense D - dense VD - very dense
BH existing excavation	123 no resistance ranging to refusal	D - disturbed sample		
B bulldozer blade	water	N - standard penetration test: figure = result		
R ripper	10 Oct. 73 water level on date shown	N* - SPT + sample		
	water inflow water outflow	Nc - cone penetrometer		

Department of Main Roads (Tas)
Materials and Research Division

Engineering log - excavation

file: 04-053

pit no. 5
sheet 1 of 1

Police HEADQUARTERS HOBART

project:
pit location: S.W. CORNER MET. ARCH. CAR PARK

pit commenced: 17-9-79
pit completed: 17-9-79
supervised by: WDOE
log checked by:

equipment type and model: FORD 420
excavation dimensions: 2.5 m long, 0.5 m wide

W.L. surface: -4.025 m
datum: BALBAINE ST operator: SMITH

method	penetration	support	water	notes samples, tests, etc.	L depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and major components.	moisture condition	consistency, rel. density	hand penetro- meter 100 200 300 400	structure and additional observations
123							GP	GRAVEL FINE BROWN DOLOMITE	M	L		
							CL	CLAY FILL + COARSE DOLOMITE	M	L		
					0.5		CH	CLAY FILL HIGH PLASTICITY	M	L		
					1		SM	SANDY SILT FINE TOPSOIL WITH CHARCOAL PARTICLES	M	L		
					1.5		CL	CLAY LOW PLASTICITY DECOMP DOLOMITE	M	S-F _B		
								INSITU DECOMP DOL				

0.5
1.0
1.5

OLD FOUNDATION

GRAVEL
CLAY FILL & COARSE DOL
CLAY FILL
SANDY SILT &
CHARCOAL
CLAY LOW PL
INSITU DECOMP DOL
INSITU DOLOMITE

FOUNDATION.
WEAK CEMENT
& DOLOMITE
& S. Sand

THIS COULD
BE SIGNS OF
OLD RIVULET
NOW PIPED

key	support	notes	classification symbols and soil description	consistency/relative density
method	T timbering penetration 123 no resistance ranging to refusal	US0 - undisturbed sample 50 mm diameter N - disturbed sample N* - standard penetration test: figure = result Nc - cone penetrometer	based on unified classification system moisture D - dry M - moist W - wet	VS - very soft S - soft F - firm St - stiff VSst - very stiff H - hard Fb - friable VL - very loose L - loose MD - moderately dense D - dense VD - very dense
water	10 Oct, 73 water level on date shown water inflow water outflow			

Department of Main Roads (Tas)
Materials and Research Division

Engineering log —
excavation

pit no: 5
sheet 1 of 1

file: 04-053

project: POLICE HEADQUARTERS HOBART

pit location: QLI CAR PARK ADJACENT DUNLOP WALL

equipment type and model: FORD 420

excavation dimensions: 2 m long, 0.5 m wide

pit commenced: 17-9-79

pit completed: 17-9-79

supervised by: WDOE

log checked by:

N.L. surface: -0.245 m

datum: BRISBANE operator: SMITH

method	penetration	support	water	notes samples, tests, etc.	depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components	moisture condition	consistency, rel. density	hand penetro- meter 100 300 400	structure and additional observations
123							GP6	RUBBLE FILL + CLAY		D		
					0.1			OLD BUILDING FOUNDATION BRICKS + CEMENT		MD		
					1.3			INSITU DOLOMITE		VD		VERTICAL JOINTING 25mm JOINT SPACING
								HOLE DISCONTINUED				

key	support	notes	classification symbols and soil description	consistency/relative density
method	T timbering	— samples and tests	based on unified classification system	VS — very soft
E natural exposure	penetration	U50 — undisturbed sample 50 mm diameter	moisture	S — soft
8H existing excavation	123 no resistance	D — disturbed sample	D — dry	F — firm
B backhoe bucket	ranging to refusal	N — standard penetration test: figure = result	M — moist	St — stiff
B bulldozer blade	water	N* — SPT + sample	W — wet	VSt — very stiff
R ripper	10 Oct. 73 water level on date shown	Nc — cone penetrometer		H — hard
	water inflow			Fb — friable
	water outflow			VL — very loose
				L — loose
				MD — moderately dense
				D — dense
				VD — very dense

borehole no. 1
sheet 1 of 2

hole commenced: 7-11-79
hole completed: 8-11-79
supervised by: N. D. JOHNSON
log checked by: B. D. WELDON

R.L. surface: m
datum: operator: J. Hammersley

method	penetration support water	notes samples, tests, etc.	R.L. depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency, rel. density	hand penetrometer 0-600 kPa 0-400 lb/in ²	structure and additional observations
S		N ^a = 4 (2, 2, 2)	0.0	GP	GRAVEL, decomposed dolerite					
AD			0.5	CH	CLAY + BOULDERS (FILL)					
R		N ^a = 4 (1, 2, 2)	1.0	CH	CLAY; high plasticity; moisture content (wL) greater than plastic limit (PL); brown; minor (<1%) fine grained sand size particles.	M	F			
W		N ^a = 6 (7, 3, 3)	2.0	CH		M	F			
CT		9/10/79	3.0	GM	SILT & GRAVEL, coarse grained sandstone (slightly indurated) gravel in yellow silt matrix sub angular gravel fragments	M	H to Fb			
B		N ^a = 36 (9, 16, 20)	4.0	CH	CLAY; high-medium plasticity N.C. < P.L.; speckled and mottled colouring of white, grey, red, brown showing remnant dolerite fabric.					
V		N ^a = 37 (11, 28, 28)	5.0	CH	Some earthy or powdery lenses and seams of white calcite. (extremely weathered dolerite). Some fine to coarse sand sized grains of fresh to slightly weathered mineral grains.					
T		N ^a = 40 (12, 16, 26)	6.0	CH						
e.g. ADT		N ^a = 54 (14, 24, 30)	7.0	CH						
<div style="text-align: center;"> EXTREMELY WEATHERED IN SITU DOLORITE FILL OR TERTIARY SEDIMENTS </div>										
key		support		notes		classification symbols		consistency/relative density		
method		C casing mud M' penetration		US0 - undisturbed sample 50 mm diameter D - disturbed sample N - standard penetration test: figure = result N ^a - SPT + sample Nc - cone penetrometer		based on unified classification system		VS - very soft V - soft F - firm St - stiff VSst - very stiff H - hard Fb - friable VL - very loose L - loose MD - moderately dense D - dense VD - very dense		
S auger screwing* AD auger drilling R roller/tricone W washbore CT cable tool B - blank bit V - "V" bit T - TC bit e.g. ADT		1 2 3 no resistance ranging to refusal				moisture D - dry M - moist W - wet				
		water TO Oct, 73 water level on date shown water inflow water outflow								

Department of Main Roads (Tas)
Materials and Research Division

Engineering log - borehole

borehole no. **532**
sheet **1 of 1**

file:

project: **POLICE HEADQUARTERS, HOBART**
borehole location: **refer site plan**

hole commenced: **8-11-79**
hole completed: **8-11-79**
supervised by: **N.D. JOHNSON**
log checked by: **B.D. WELDON**

drill model and mounting: **GENCO (fraser)**
hole diameter: **110 mm**
slope: **Vert** deg.
bearing: **-** deg.
R.L. surface: **m**
datum:
operator: **J. Hamersky**

method	penetration	support	water	notes samples, tests, etc.	R.L. depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency, rel. density	hand kp 200 300 400 meter	structure and additional observations
					0.0			GRAVEL, decomposed dolerite				
				N ^o 4 (1, 2, 2)	1.0		CH	CLAY; high plasticity; moisture content (M.C.) greater than plastic limit (P.L.); brown	M	F		
				N ^o 8 (2, 2, 6)	2.0		CH		M	SE		
				9-11-79	3.0							
				N ^o 31 (7, 13, 18)	4.0		CH	CLAY, high plasticity; M.C. < P.L., speckled and mottled colouring of red- brown - white - grey showing remnant dolerite fabric. Some white powdery calcite lenses. Minor (< 1%) fine coarse sand sized mineral grains	M	H		
				N ^o 45 (11, 21, 28)	5.0		CH		M	H		
					5.95			END OF BOREHOLE at 5.95 m depth				

AS

10 Oct, 73 water level
on date shown

water inflow
water outflow

key
method
AS auger screwing*
AD auger drilling
R roller/tricone
W washbore
CT cable tool
B bit shown by suffix:
V - "V" bit
T - TC bit
e.g. ADT

support
C casing
M mud
penetration
1 2 3
no resistance
ranging to
refusal

notes - samples and tests
U50 - undisturbed sample
50 mm diameter
D - disturbed sample
N - standard penetration
test: figure = result
N* - SPT + sample
Nc - cone penetrometer

classification symbols
and soil description
based on unified
classification system
moisture
D - dry
M - moist
W - wet

consistency/relative density
VS - very soft
S - soft
F - firm
St - stiff
VSt - very stiff
H - hard
Fb - friable
VL - very loose
L - loose
MD - moderately dense
D - dense
VD - very dense

FILL OR TERTIARY
SEDIMENTS

EXTREMELY WEATHERED
IN SITU DOLORITE

Department of Main Roads (Tas)
Materials and Research Divisionengineering log -
boreholeborehole ID:
5
sheet 1 of 2

file:

project: POLICE HEADQUARTERS, HOBART				hole commenced: 14-11-79			
borehole location: refer site plan				hole completed: 14-11-79			
				supervised by: N. D. JOHNSON			
				log checked by: B. D. WELDON			
drill model and mounting: GEMCO (trailer)				slope: Vert deg.		R.L. surface: m	
hole diameter: 100 mm				bearing: deg.		datum: operator: J. Hammersley	

method	penetration	support	water	notes samples, tests, etc.	R.L. depth metres	graphic log classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency, rel. density	hard penetration kPa 100 200 300 400 meter	structure and additional observations
AS					0.0		CONCRETE				
				15-11-79 N° = 2 (1, 1, 1)	1.0		CH CLAY, high plasticity, moisture content greater than plastic limit; black to brown colour, contains red-brick fragments (coarse gravel size).	M	F		
				N° > 60	2.0			M	F		7 blows for 150 mm penetration, 18 blows for no further penetration
				N° > 60			Continued on cored borehole sheet				20 blows for zero penetration

key method AS auger screwing* AD auger drilling* R roller/tricone W washbore CT cable tool * bit shown by suffix: B - blank bit V - "V" bit T - TC bit e.g. ADT	support C casing M mud penetration 1 2 3 no resistance ranging to refusal water 10 Oct, 73 water level on date shown water inflow water outflow	notes - samples and tests U50 - undisturbed sample 50 mm diameter D - disturbed sample N - standard penetration test: figure = result N° - SPT + sample Nc - cone penetrometer	classification symbols and soil description based on unified classification system moisture D - dry M - moist W - wet	consistency/relative density VS - very soft S - soft F - firm St - stiff VSt - very stiff H - hard Fb - friable VL - very loose L - loose MD - moderately dense D - dense VD - very dense
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Department of Main Roads (Tas)
Materials and Research Divisionengineering log -
borehole

borehole no:

6

sheet 1 of 2

file:

project: <i>POLICE HEADQUARTERS, HOBART</i> borehole location: <i>refer site plan</i>				hole commenced: <i>14-11-79</i> hole completed: <i>15-11-79</i> supervised by: <i>N. D. JOHNSON</i> log checked by: <i>B. D. WELDON</i>							
drill model and mounting: <i>GETICO (Haller)</i> hole diameter: <i>110</i> mm				slope: <i>vert</i> deg. bearing: <i>-</i> deg.		R.L. surface: <i>m</i> datum: <i>operator: J. Hannerley</i>					
method	penetration	support	water	notes samples, tests, etc.	R.L. depth metres	graphic log classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency, rel. density	hand penetro- meter	structure and additional observations
				<i>N^o 6 (1,3,3)</i>			<i>CONCRETE</i> <i>BRICK FRAGMENTS</i>	M	L		
							<i>COBBLES + CLAY</i>	M	L		
							<i>CLAY, high plasticity, moisture content greater than plastic limit, black-brown, gravelly in places (fine to medium gravel).</i>	M	F- St		
							<i>GRAVEL (possibly weathered in situ dolerite)</i>	M	D		
				<i>N^o > 60</i>			<i>Continued on engineering log - cored borehole sheet.</i>				<i>20 blows for zero penetration.</i>

key method AS auger screwing* AD auger drilling R roller/tricone W washbore CT cable tool * bit shown by suffix: B - blank bit V - "V" bit T - TC bit e.g. ADT	support C casing M mud penetration 123 no resistance ranging to refusal water 10 Oct, 73 water level on date shown water inflow water outflow	notes - samples and tests US0 - undisturbed sample 50 mm diameter D - disturbed sample N - standard penetration test: figure = result N* - SPT + sample Nc - cone penetrometer	classification symbols and soil description based on unified classification system moisture D - dry M - moist W - wet	consistency/relative density VS - very soft S - soft F - firm St - stiff VSt - very stiff H - hard Fb - friable VL - very loose L - loose MD - moderately dense D - dense VD - very dense
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DEPARTMENT OF PUBLIC WORKS (TAS)
MATERIALS AND RESEARCH DIVISIONengineering log —
cored boreholeM2338
borehole no:
7
sheet 1 of 1

File No.

project: <i>POLICE HEADQUARTERS, HOBART</i> borehole location: <i>refer site plan</i>				hole commenced: <i>16-11-79</i> hole completed: <i>16-11-79</i> supervised by: <i>N.D. JOHNSON</i> log checked by: <i>B.D. WELDON</i>			
drill model and mounting: <i>GETICO (Haller)</i> slope: <i>Vert</i> deg. barrel type and length: <i>NMLC 210</i> fluid <i>H₂O</i> bearing: <i>-</i> deg.				R. L. surface: <i>m</i> datum: <i>Driller J. Hammerley</i>			
drilling information			rock substance		rock mass defects		
method	case-lift	water	depth m	substance description rock type: grain characteristics, colour, structure, minor components.	weathering	strength Is (50)	defect description thickness, type, inclination, planarity, roughness, coating, particular
			0	CONCRETE			
			1.0	CLAY, high plasticity, yellow			
			1.0	DOLERITE, medium to coarse grained, grey-blue some iron staining near joint (brown)	SW -FW Fr		N.B. last 20 blows for only 50 mm penetration. 45° 60° and sub horizontal fractures, some iron staining. Minor amounts of calcite and/or zeolite
			2.0				
			3.0				
			4.0	END OF BOREHOLE at 3.45m depth			
			5.0				
key		case-lift		weathering		strength	
method		casing used		Fr — fresh		indirect tensile strength	
AS AD R W NMLC		H barrel withdrawn		SW — slightly weathered		EL — extremely low	
auger screwing auger drilling roller/tricone washbore NMLC core drilling		water		MW — moderately weathered		VL — very low	
		10 Oct, 73 water level date shown		HW — highly weathered		M — medium	
		water inflow		EW — extremely weathered		H — high	
		partial drilling water loss				VH — very high	
		complete drilling water loss				CU —	
		graphic log/core loss					
		core recovered (hatching indi- cates material)					
		no core					

engineering log —
cored borehole

File No.

project:		POLICE HEADQUARTERS, HOBART		hole commenced: 14-11-79 hole completed: 14-11-79 supervised by: N.D. JOHNSON log checked by: B.D. WELDON	
borehole location: refer site plan					
drill model and mounting: GEMCO (hammer) slope: vert deg.		barrel type and length: NMHC 2.0m fluid H₂O bearing: - deg.		R. L. surface: m datum: <div style="text-align: right;">Driller J. Hammersky</div>	
drilling information		rock substance		rock mass defects	
method	case-lift water	L depth metres	graphic log core loss substance description rock type: grain characteristics, colour, structure, minor components.	weathering strength Is (50) defect spacing mm defect description thickness, type, inclination, planarity, roughness, coating. particular general	
		15-11-79	Continued from engineering log - borehole sheet		
		2.70	CORE LOSS		
		2.83	DOLERITE, medium to coarse grained, blue-grey, some iron staining (brown) Fr	Iron stained subvertical and subhorizontal joints	
		4.0	END OF BOREHOLE at - 3.90m depth		

Department of Main Roads (Tas)
Materials and Research Divisionengineering log -
borehole

borehole no. 4

sheet 1 of 2

file:

project: POLICE HEADQUARTERS, HOBART				hole commenced: 13-11-79			
borehole location: refer site plan				hole completed: 13-11-79			
				supervised by: N. D. JOHNSON			
				log checked by: B. D. WERDON			
drill model and mounting: GENCO (trailer)				slope: vert deg.		R.L. surface: m	
hole diameter: 110 mm				bearing: — deg.		datum: operator: J. Hammersley	

method	penetration	support	water	notes samples, tests, etc.	R.L. depth metres	graphic log classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency, rel. density	hand penetration 100 200 kPa 300 400 meter	structure and additional observations
							CONCRETE				
					1.0		CH CLAY, high plasticity, moisture content greater than plastic limit, block to brown-green colour (FILL)	M	F		N.B. last 20 blows for zero penetration
					2.0		CONCRETE				
							STORMWATER PIPE				
							CONCRETE				N.B. last 10 blows for zero penetration
							END OF BOREHOLE at -2.30 m depth after penetrating 42 inch diameter storm- water pipe.				

key method	support	notes	classification symbols and soil description based on unified classification system	consistency/relative density
AS auger screwing*	C casing	U50 - undisturbed sample 50 mm diameter	VS - very soft	
AD auger drilling	M mud	D - disturbed sample	S - soft	
R roller/tricone	penetration	N - standard penetration test: figure = result	F - firm	
W washbore	1 2 3 no resistance ranging to refusal	N* - SPT + sample	St - stiff	
CT cable tool	water	Nc - cone penetrometer	VSt - very stiff	
* bit shown by suffix: B - blank bit			H - hard	
			Fb - friable	
			VL - very loose	
			L - loose	
			MD - moderately dense	

borehole no. **3**
 sheet **1** of **1**

POLICE HEADQUARTERS, HOBART
 project:
 borehole location: *refer site plan.*

hole commenced: 12-11-79
 hole completed: 13-11-79
 supervised by: N. D. JOHNSON
 log checked by: B. D. WELDON

drill model and mounting: GEMCO (trailer) slope: *Vert* deg. R.L. surface: m
 hole diameter: 110 mm bearing: — deg. datum: operator: J. HAWKINSKY

method	penetration 1 2 3	support	water	notes samples, tests, etc.	R.L. depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency, rel. density	hand 100 300 500 700 900 meter	structure and additional observations
								CONCRETE				
				N ^o 4 (4, 2, 2)	1.0		CH	CLAY, high plasticity, moisture content (M.C.) greater than plastic limit (P.L.); black to brown colour minor amounts (<2%) of highly weathered dolerite fine grained gravel	M	F		
				N ^o 7 (3, 4, 3)	2.0				M	F- st		
				N ^o 9 (3, 3, 6)	3.0		CH	CLAY, high plasticity M.C. > P.L.; speckled and mottled colouring of brown- grey-white showing remnant dolerite fabric. Minor amount (up to 5%) of sand size mineral grains; some earthy and powdery calcite veins & lenses.	M	st		
				N ^o 23 (5, 10, 13)	4.0		CH		M	st		
				N ^o 25 (7, 11, 10)	5.0		CH		M	st- H		
				N ^o 260 (23, 27, 30)	6.0		CH		M	H		
				N ^o 260	7.0				M	H		
								END OF BOREHOLE at -7.15 m depth.				

key method	support C casing M mud	notes — samples and tests	classification symbols and soil description based on unified classification system	consistency/relative density
AS auger screwing AD auger drilling R roller/tricone W washbore CT cable tool	penetration 1 2 3 no resistance ranging to refusal water	U50 — undisturbed sample 50 mm diameter D — disturbed sample N — standard penetration test figure = result N ^o — SPT + sample	moisture D — dry M — moist W — wet	VS — very soft S — soft F — firm St — stiff Vst — very stiff H — hard Fb — friable VL — very loose L — loose

* bit shown by suffix:
 B — blank bit

Department of Main Roads (Vic)
Materials and Research Divisionengineering log -
boreholeborehole no: 17
sheet 2 of 2

file:

project: borehole location: <i>refer site plan</i>				hole commenced: 7-11-79 hole completed: 8-11-79 supervised by: N.D. JOHNSON log checked by: B.D. WELDON						
drill model and mounting: <i>GEMCO (frailer)</i> hole diameter: 110 mm				slope: <i>vert</i> deg. bearing: - deg.		R.L. surface: m datum: operator: <i>J. Hamersley</i>				
method	penetration	support	water	notes samples, tests, etc.	R.L. depth metres	graphic log classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition consistency, rel. density	hand penetro- meter 100 200 300 400	structure and additional observations
<i>A.S.</i>				<i>N° > 60 (20, 29, 95)</i>	<i>6.0</i>	<i>CH</i>	<i>CLAY, as above but with more sand sized mineral grains.</i>	<i>M</i>	<i>H-Fb</i>	
				<i>N° > 60 (21, 31, 52)</i>	<i>8.0</i>	<i>CH</i>				
				<i>N° > 60 (20, 33, 30)</i>	<i>10.0</i>	<i>CH</i>				<i>N.B. last 30 blows for 100mm penetration</i>
<i>END OF BOREHOLE at -10.4 m depth</i>										

key method AS auger screwing* AD auger drilling R roller/tricone W washbore CT cable tool * bit shown by suffix: B - blank bit V - "V" bit	support C casing M mud penetration 1 2 3 no resistance ranging to refusal water 10 Oct. 73 water level	notes - samples and tests U50 - undisturbed sample 50 mm diameter D - disturbed sample N - standard penetration test: figure = result N° - SPT + sample Nc - cone penetrometer	classification symbols and soil description based on unified classification system moisture D - dry M - moist W - wet	consistency/relative density VS - very soft S - soft F - firm St - stiff VSt - very stiff H - hard Fb - friable VL - very loose L - loose MD - moderately dense
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Department of Main Roads (Tas)
Materials and Research Division

**engineering log —
excavation**

file: 04-053

pit commenced: 17-9-79
pit completed: 17-9-79
supervised by: W DOE
log checked by:

project: POLICE HEADQUARTERS HOBART
pit location: S. E. S. CAR PARK

equipment type and model: FOLD 420
excavation dimensions: 1.5 m long, 0.5 m wide
R.L. surface: -3.145 m
datum: BAISBANE ST operator: SMITH

method 123	penetration support	water	notes samples, tests, etc.	depth metres	graphic log classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency, rel. density	hand penetration meter	structure and additional observations
B/H				0.5	GP	HOT MIX GRAVEL COARSE WITH CLAYEY FINES DECOMPOSED DOLEHITE	D M	L MD		
				0.75		INSITU DOLEHITE				NEAR VERTICAL JOINTING

key
method
N natural exposure
E existing excavation
BH backhoe bucket
B bulldozer blade
R ripper

support
T timbering
penetration
123 no resistance
ranging to
refusal
water
10 Oct. 73 water level
on date shown

notes — samples and tests
US0 — undisturbed sample
50 mm diameter
D — disturbed sample
N — standard penetration
test: figure = result
N* — SPT + sample
Nc — cone penetrometer

classification symbols
and soil description
based on unified
classification system
moisture
D — dry
M — moist
W — wet

consistency/relative density
VS — very soft
S — soft
F — firm
St — stiff
VSt — very stiff
H — hard
Fb — friable
VL — very loose
L — loose
MD — moderately dense

Department of Main Roads (Tas)
Materials and Research Divisionengineering log -
excavationpit no: 4
sheet 1 of 1

file: 04-053

POLICE HEAD QUARTERS HOBART				pit commenced: 17-9-79			
project:				pit completed: 17-9-79			
pit location: S.E. CORNER MET. ARCH. CAL. PARK				supervised by: W DDE			
				log checked by:			
equipment type and model: FOLD 420				X.L. surface: -3.670 m			
excavation dimensions: 2 m long, 0.5 m wide				datum: BRISBANE ST operator: SMITH			

method	penetration	support	water	notes samples, tests, etc.	L. depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency, rel. density	hand penetration mm	structure and additional observations
BH	123				0.5		GP	GRAVEL FINE CLAYEY DECOMPOSED DOLOMITE	M	MD		
				FILL	0.5		CH	CLAY WITH DOLOMITE STONE	M	MD		
					1.0			GRAVEL COARSE WITH CLAYEY FINES DECOMPOSED DOLOMITE	M	VD		
								1.3 m HOLE DISCONTINUOUS				WATER ENTERS AT THIS LEVEL
												LOCAL DRAINAGE ONLY

key	support	notes	classification symbols	consistency/relative density
method	T timbering	— samples and tests	and soil description	
N natural exposure	penetration	U50 — undisturbed sample 50 mm diameter	based on unified classification system	VS — very soft
E existing excavation	123 no resistance	D — disturbed sample		S — soft
BH backhoe bucket	ranging to	N — standard penetration		F — firm
B bulldozer blade	refusal	test: figure = result		St — stiff
R ripper	water	N* — SPT + sample	moisture	VSt — very stiff
	10 Oct, 73 water level		D — dry	H — hard
			M — moist	Fb — friable
			W — wet	VL — very loose
				L — loose

Department of Main Roads (Tas)
Materials and Research Divisionengineering log -
excavationpit no. 2
sheet 1 of 1

file: 04-063

POLICE HEAD QUARTERS HOBART				pit commenced: 17-9-79			
project:				pit completed: 17-9-79			
pit location: N W CORNER MBT. ARCH. CAR PARK				supervised by: W DOE			
				log checked by:			
equipment type and model: FORD 420				K.L. surface: -3.375 m			
excavation dimensions: 2.5 m long, 0.5 m wide				datum: BALMAIN ST operator: SMITH			

method	penetration	support	water	notes samples, tests, etc.	depth metres	graphic log	classification symbol	material soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency, rel. density	100 g hand 200 g penetrometer 3000 g meter	structure and additional observations
123												
					0.5		GC	GRAVEL FINE PLASTIC BROWN GC DECOMP. DOLOMITE	M	Fb		
							CH	FILL CLAYBY RUBBER + LOGS CH.	M	L/MD		
							GP	COARSE GRAVEL WITH CLAYBY FINES BROWN DECOMP DOLOMITE	M	MD		LOCAL MATERIAL
					1.0		CL	CLAYBY SAND FINE WHITE	M	F/Fb		CRYSTALLINE NATURAL INSITU HIGHLY DECOMP DOLOMITE
					1.5			INSITU DE COMP. DOL.	M	MD		VERTICAL JOINTED 25mm SPACING
										VD		

key	support	notes	classification symbols	consistency/relative density
method	T timbering	US0 - samples and tests	based on unified classification system	VS - very soft
N natural exposure	penetration	D - undisturbed sample 50 mm diameter	moisture	S - soft
E existing excavation	123 no resistance	N - disturbed sample	D - dry	F - firm
BH backhoe bucket	refusal	N* - standard penetration test: figure = result	M - moist	St - stiff
B bulldozer blade	water	Nc - SPT + sample	W - wet	VSt - very stiff
R ripper	10 Oct, 73 water level			H - hard
				Fb - friable
				VL - very loose
				L - loose
				MD - medium dense

borehole no. **6**
 sheet **2** of **2**

POLICE HEADQUARTERS , HOBART

project:
borehole location: refer site plan

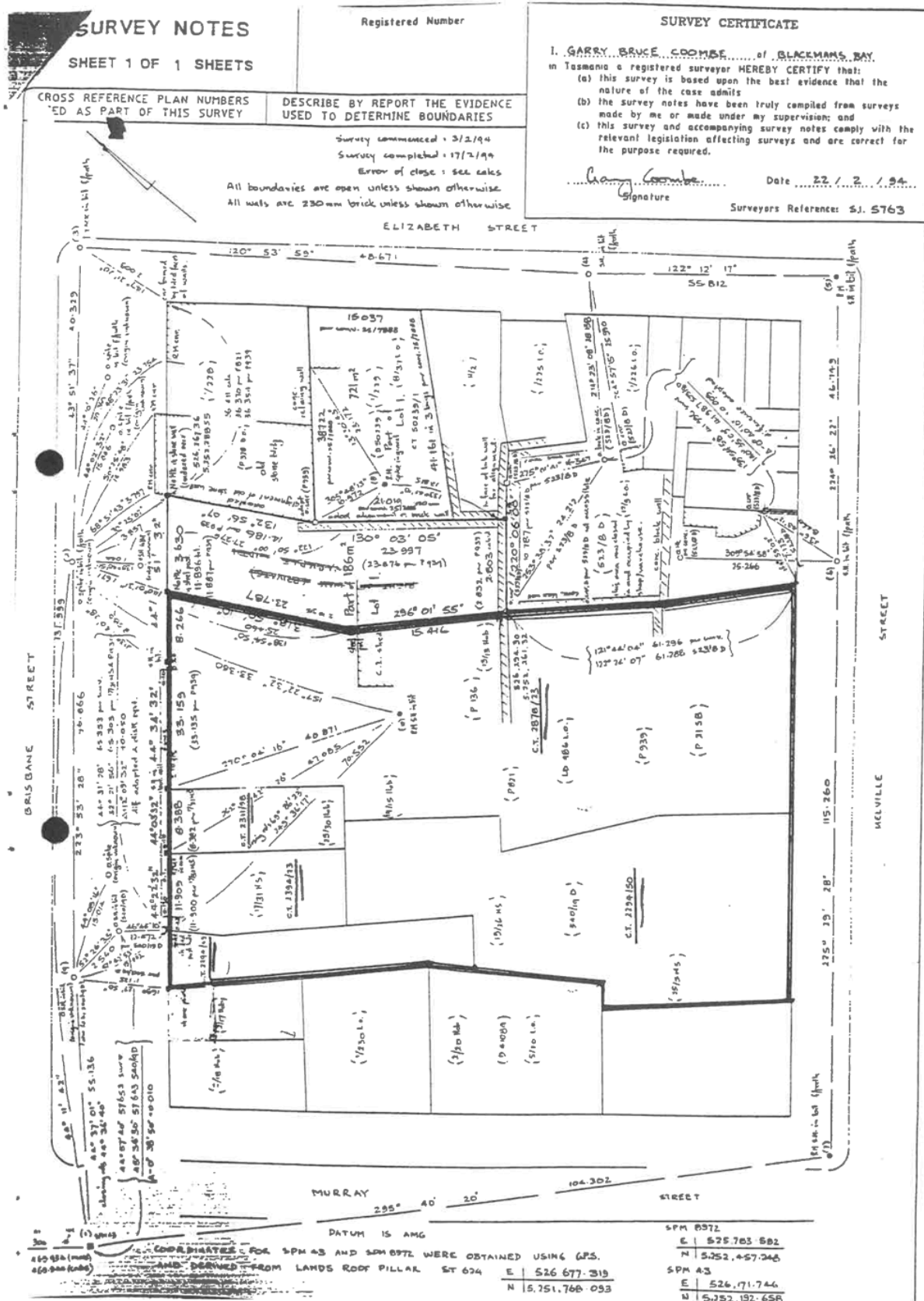
hole commenced: 14-11-79
hole completed: 15-11-79
supervised by: N.D. JOHNSON
log checked by: B.D. WELDON

drill model and mounting: GEMCO (roller) slope: vert deg.
barrel type and length: AMLC 240m fluid H₂O bearing: - deg.

R. L. surface: m
datum: Driller J. Dommerley

drilling information				rock substance			rock mass defects		
method	case-lift	water	E.L. depth metres	graphic log core loss	substance description rock type: grain characteristics, colour, structure, minor components.	weathering	strength Is (50)	defect spacing mm	defect description thickness, type, inclination, planarity, roughness, coating. particular general
			1.0						
			2.0		Continued from engineering log - borehole sheet				
			2.50						
			2.60		CORAL LOSS				
			3.0		DOLERITE, medium to coarse grained; blue-gray colour, some calcite or gneiss veins along joints	SW			Subhorizontal and 60-70° joints; some clay lined, most iron stained, some gneiss & calcite infilling
			4.0						
			5.0		END OF BOREHOLE at 5.00 m depth				
			6.0						
			7.0						

by method	case-lift	water	weathering	strength (indirect tensile strength)
AS auger screwing	casing used	W 10 Oct 73 water level	Fr - fresh	EL - extremely low
AD auger drilling	H barrel withdrawn		SW - slightly weathered	VL - very low
R roller/tricone			MW - moderately weathered	L - low
W washbore				M - medium



TASMANIA

REAL PROPERTY ACT, 1862, as amended



CERTIFICATE OF TITLE

Register Book

Vol. Fol.

2878 23

HER MAJESTY THE QUEEN is now seised in demesne by right of Her Imperial Crown subject nevertheless to such encumbrances liens and interests as are notified by Memorial underwritten or endorsed hereon of all that piece of land situated in the CITY OF HOBART containing

ONE ACRE THIRTY PERCHES AND FOUR TENTHS OF A PERCH on the Plan hereon and comprising whole of OA-1R-6 $\frac{1}{2}$ Ps. granted to WILLIAM LINDSAY, whole of 33 perches granted to HENRY PRIEST, whole of 14 perches granted to WILLIAM PRIEST, whole of 17 perches granted to JOSEPH MOLLOY, whole of 1.4/10 perches granted to CRISP & GUNN CO.OPERATIVE LIMITED, whole of 27.6/10 perches and part of 25.2/10 perches granted to both EMMA CRISP and FREDERICK VERNON CRISP, part of OA-1R-8 perches granted to WILLIAM WILLETT and BRYANT WEBB, part of OA-1R-37 perches granted to LEWIS RILEY, part of 31 perches granted to HENRY WILKS. delineated in the public maps of the State deposited in the Office of the Surveyor-General originally granted to the above and duly surrendered as appears by Transfer No. A348760.

IN WITNESS whereof I have hereunto signed my name and affixed my Seal this 14/10/1970

Recorder of Titles



NOTE: ENTRIES CANCELLED UNDER SIGNATURE OF THE RECORDER OF TITLES ARE NO LONGER SUBSISTING.



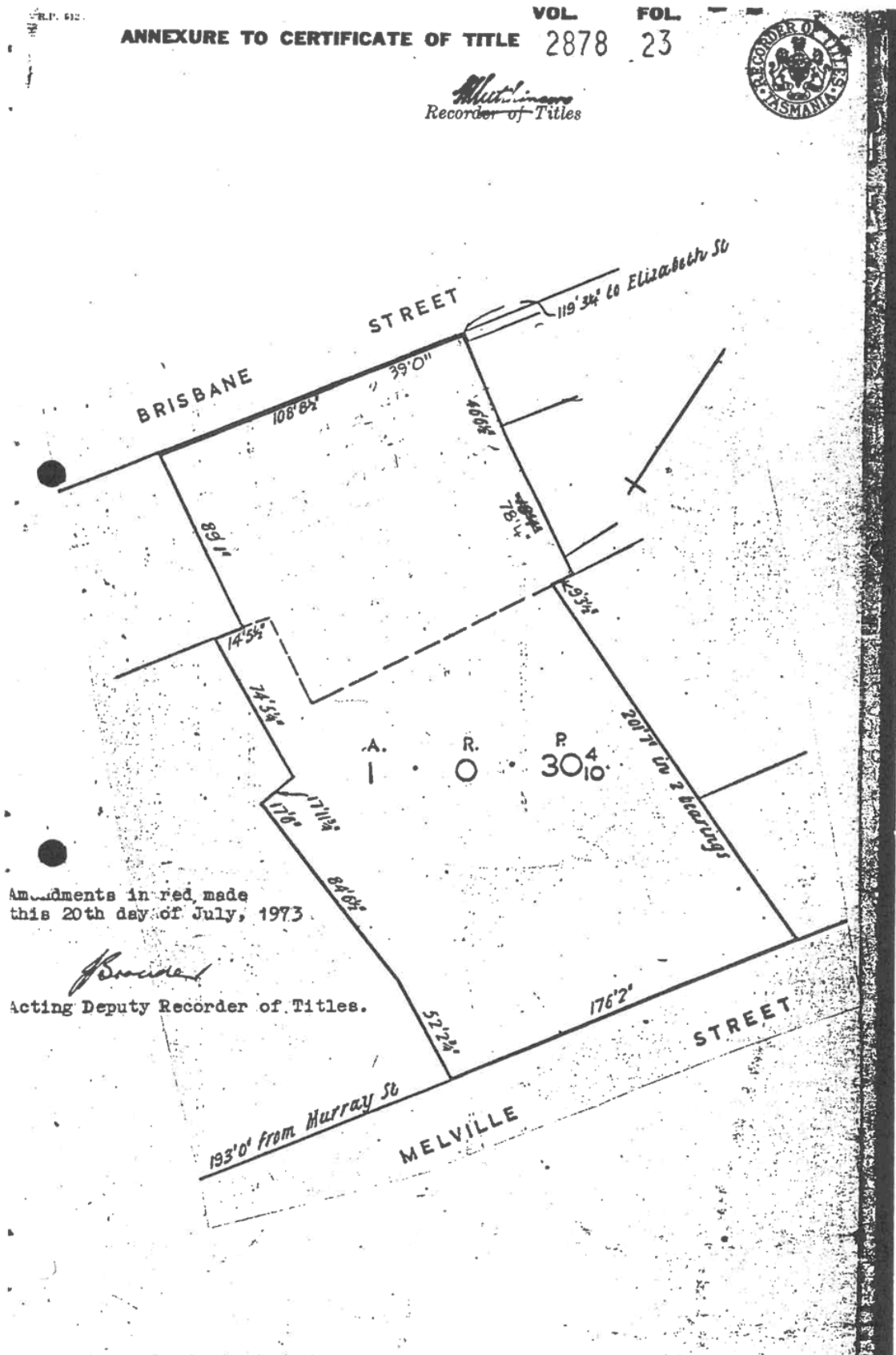
Meas. in ft. & ins. P.821. 14/15Hob. P.939

RST Edition. Registered 1970

derived from C.T. Vol.2294.Fol.51. Transfer A348760 Crisp & Gunn Ltd. N.

FIRST SCHEDULE (continued)			
REGISTERED PROPRIETOR	Registered	Signature of Recorder of Titles	Seal

SECOND SCHEDULE (continued)				
PARTICULARS	Registered	Signature of Recorder of Titles	CANCELLATION	
			Number	Signature of Recorder of Titles



FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR	Registered	Signature of Recorder of Titles	Seal

SECOND SCHEDULE (continued)

PARTICULARS	Registered	Signature of Recorder of Titles	CANCELLATION	
			Number	Signature of Recorder of Titles

2394 23

TASMANIA

REAL PROPERTY ACT, 1862, as amended



CERTIFICATE OF TITLE

Register Book

Vol. Fol.

2294 50

HER MAJESTY THE QUEEN is now seised in demesne by right of Her Imperial Crown subject nevertheless to such encumbrances liens and interests as are notified by Memorial underwritten or endorsed hereon of all that piece of land situated in the City of Hobart containing

TWO ROODS EIGHT PERCHES AND THREE TENTHS OF A PERCH

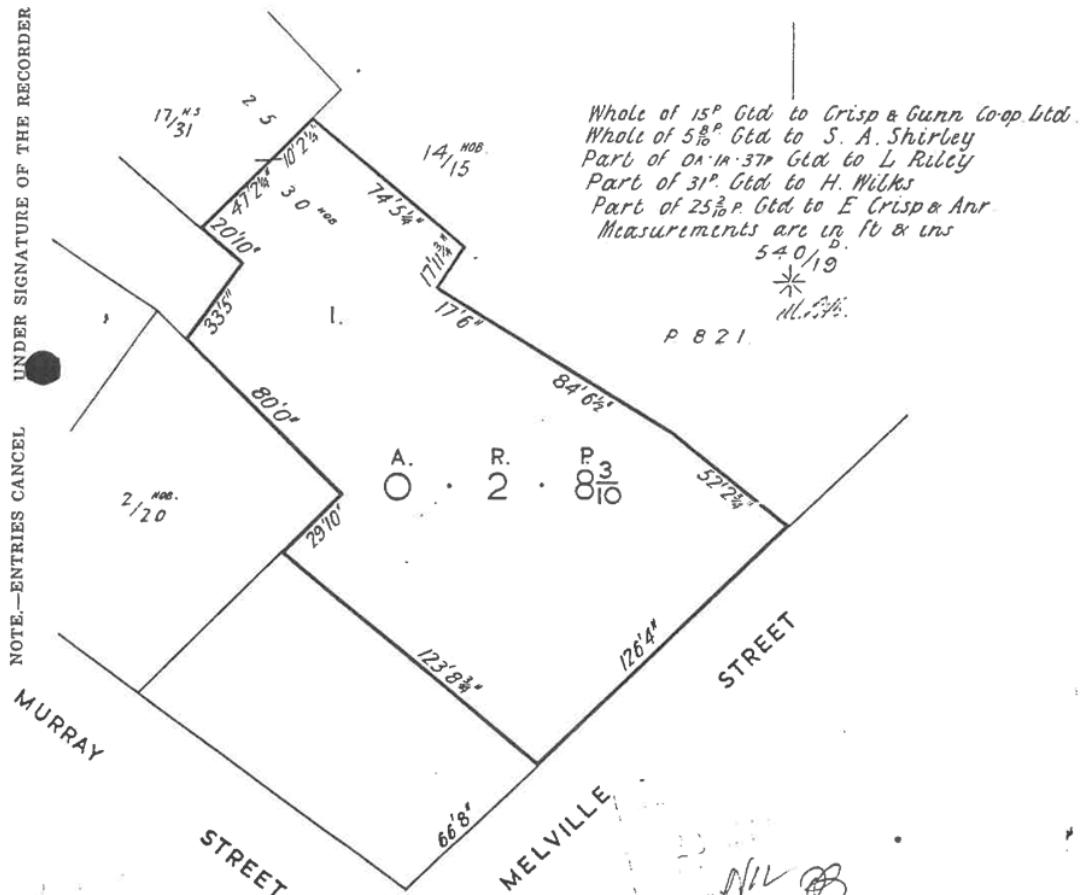
delineated in the diagram hereon and in the public maps of the State - deposited in the Office of the Surveyor-General originally granted to Crisp & Gunn Co. Op. Ltd., Sarah Ann Shirley, Lewis Riley, Henry Wilks Emma Crisp and Frederick Vernon Crisp and duly surrendered as - - appears by Transfer No. A264718

IN WITNESS whereof I have hereunto signed my name and affixed my seal this 12 DEC 1967

M. Hutchinson
RECORDER OF TITLES.



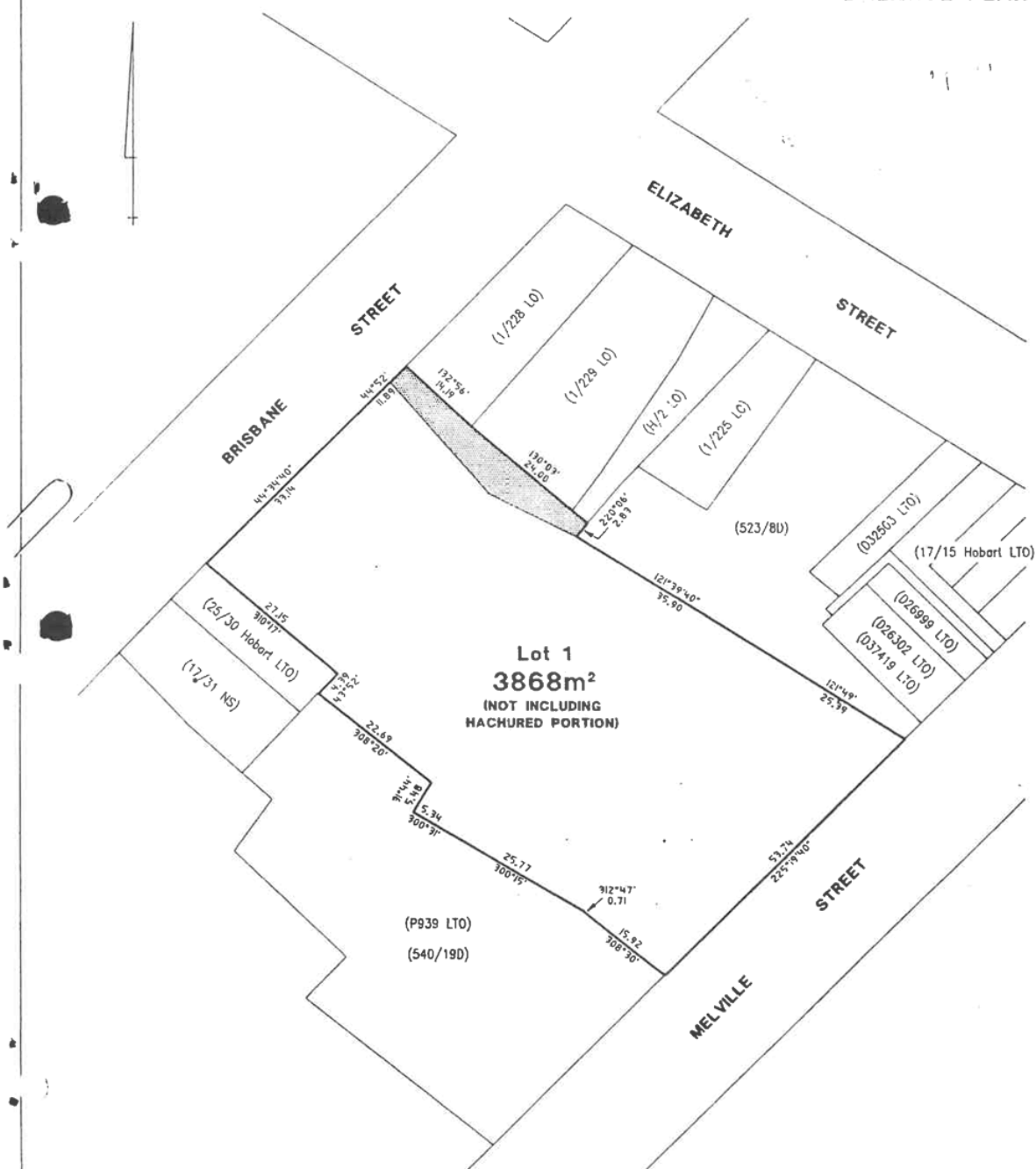
NOTE.—ENTRIES CANCEL UNDER SIGNATURE OF THE RECORDER OF TITLES. NO LONGER SUBSISTING.



First Edition. Registered 12 DEC 1967

OWNER THE CROWN FOLIO REFERENCE CT 2878/23	<h1 style="text-align: center;">PLAN OF SURVEY</h1> <p style="text-align: center;">BY SURVEYOR</p> <p style="text-align: center;">LOCATION</p> <h2 style="text-align: center;">CITY OF HOBART</h2> <p style="text-align: center;">SCALE 1:600</p> <p style="text-align: center;">LENGTHS IN METRES</p>	REGISTERED NUMBER <h1 style="text-align: center;">P 114103</h1>
GRANTEE Whole of 0.1850 Granted to WILLIAM LINDSAY, Whole of 0.037 Granted to HENRY PRIEST, Whole of 0.017 Granted to JOSEPH MOLLOY, Whole of 0.0194 Granted to CRISP & GUNN CO-OPERATIVE LTD, Whole of 0.0774 and part of 0.0254 Granted to EMMA CRISP & FREDERICK VERNON CRISP, Part of 0.18 Granted to WILLIAM VILLET & BRYANT WEBB, Part of 0.17 Granted to LEWIS RILEY and Part of 0.031 Granted to HENRY WILKS		APPROVED EFFECTIVE FROM
MAPSHEET MUNICIPAL CODE No	LAST UPI No 0536	ALL EXISTING SURVEY NUMBERS TO BE CROSS REFERENCED ON THIS PLAN
		Recorder of Titles

BALANCE PLAN





Inquiries: Adam Friend/Liz Canning
Phone : (03) 62336176
Phone : (03) 62333800
Fax : (030662: wc/melv_2) ADF/tm
E-mail :
Our ref :
Your ref : 20 January 1997

Department of Environment
and Land Management
134 Macquarie Street
or GPO Box 44A
Hobart Tasmania 7001

Mr Peter Radovanovic
C/o Forestry Tasmania Construction Site Office
78-83 Melville Street
HOBART TAS 7000

COPY

Dear Mr Radovanovic

**FORESTRY TASMANIA REDEVELOPMENT PROJECT
79-83 MELVILLE STREET**

Environment Tasmania has reviewed the *Environmental Remediation and Validation, December 1996* report for the above mentioned site, prepared for Civil and Civic Laver by Stoklosa Engineering. The Division considers the remediation and validation works undertaken to be satisfactory and is in agreement with the consultants findings and recommendations.

With regards to hydrocarbon contamination associated with the unanticipated underground storage tank, Environment Tasmania concurs with the consultants opinion that contaminated soil identified under the UST represents a localised hot spot and that "it is highly unlikely that the contamination has migrated off site, or that it will do so in the future". Given that the area is to be sealed and used as an access road to the premise, no further remedial action is required.

Thus Environment Tasmania considers the site suitable for its intended use. However, if the site is to be redeveloped for a more sensitive use in the future, further remediation of contaminated soil left *in situ* may be required. As recommended by the consultant, the presence of localised hydrocarbon contamination should be disclosed to future occupants of the site.

Liz Canning may have further comments regarding the site upon her return from leave in early February. If you have any questions please contact Adam Friend on (03) 6233 6176.

Yours sincerely

Ian Woodward
MANAGER - OPERATIONS BRANCH

cc. Mr Jamie Clark
Hobart City Council
GPO Box 503E
HOBART TAS 7001

cc. Richard Stoklosa
Stoklosa Engineering
205 Davey Street
HOBART TAS 7000

Environment and Planning Division

Environment Tasmania 188 Collins Street or GPO Box 1396P Hobart 7001 Planning Services 39 Murray Street or GPO Box 510E Hobart 7001

10/03/1996 00:00 002315463

C&C

PAGE 02

Environment Tasmania



Inquiries: Liz Canning
Phone : (03) 62336716
Fax : (03) 62333800
Our ref : (030662;WC/melv_1) EAC/tm
Your ref :

Department of Environment
and Land Management
188 Collins Street
or GPO Box 1396P
Hobart Tasmania 7001

23 September 1996

Mr Peter Radovanovic
C/o Forestry Tasmania Construction Site Office
79-83 Melville Street
HOBART TAS 7000
Fax: 002 315463

Dear Mr Radovanovic

FORESTRY TASMANIA REDEVELOPMENT PROJECT, 79-83 MELVILLE STREET

Environment Tasmania received your letter reports regarding the above mentioned site dated 8 September and 18 September 1996. A meeting was held on 10 September between yourself and Liz Canning of this Division in order to provide the report and briefly discuss the consultants conclusions. It is understood that the reports were provided to satisfy Council conditions regarding the landfill area. Although information on the UST excavations was not required by Environment Tasmania in this situation, the results were provided to satisfy "due diligence".

The meeting held on 10 September resulted in the provision of guidelines relating to health risk (not environmental risk) to yourself and agreement that the consultant would reassess the recommendations regarding the landscaping area in the light of the heavy metal soil guidelines provided. The issue of contamination around the "unanticipated tank" was also discussed. The consultant recommended further testing in this area to determine the lateral extent of contamination. Given the very elevated levels of light hydrocarbons in the sample taken at the base of the excavation Liz Canning agreed with the consultants recommendation to sample further. The potential for "environmental harm" resulting from spread of hydrocarbons into surrounding soil and groundwater was discussed and Environment Tasmania understood that this issue would be investigated. In addition the need for bore logs to be provided was mentioned as it is not possible to assess results without knowledge of the depth that samples were taken at and the geology and hydrogeology of the sample site.



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26 SEP '96 14:11

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PAGE 03

The following comments are provided on the letter dated 18 September:

Heavy metals at location of UST:

It is unclear whether the area around FT9 is proposed for excavation based on the levels of copper present. A decision regarding the requirement for this could include an assessment of whether this is naturally occurring or in fill material.

The classification of the copper will be based on the concentrations present in the stockpile. Although the *health risk* levels for copper may provide an acceptable level of 1000 mg/kg for residential use (Contaminated Sites Monograph Series no. 5) this does not refer to the potential for leaching and phytotoxic effects. The slightly acidic landfill environment will increase the leachability of heavy metals and thus a level of copper exceeding 60 mg/kg must have a leachate test completed prior to disposal to landfill. In any case the sample containing elevated Cu also contains TPH at levels corresponding to a Hazardous Waste.

As discussed, the levels of Zn reported would not preclude reuse of the material on-site based on health risk.

Heavy metals in landscaping area:

Environment Tasmania concurs with the consultants opinion that the soil may be reused on-site as fill. The elevated Zn is only present in one sample out of four and given the future use of the site would be very unlikely to pose a health or environmental risk.

Unanticipated UST:

It is unclear why the consultants original conclusions recommending further sampling have now changed. A site visit to check for surface odours does not appear to resolve the issue of environmental harm resulting from lateral spread of hydrocarbons. You have suggested in conversations that a sample was taken next to the UST excavation (FT8?) but this is unclear from the information given in the reports. Bore logs would help clarify this.

Yours sincerely



Ian Woodward
MANAGER - OPERATIONS BRANCH

cc. Stokloss Engineering
205 Davey Street
HOBART, TAS 7000

26 SEP '96 14:12

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18/03/1996 00:00 002315463

C&C

STOKLOSA
ENGINEERING
PTY LTD

A.C.N. 065 135 051

18 September 1996

Civil & Civic
Attention: Mr. Peter Radovanovic
c/- Forestry Tasmania Construction Site Office
79-83 Melville Street
Hobart, Tasmania 7000

Subject: Forestry Tasmania Redevelopment Project, 79-83 Melville Street, Hobart

Dear Peter:

Thank you for requesting my firm to investigate the possibility of soil contamination at the location of an unanticipated underground storage tank (UST) near Melville Street, and in the area of planned landscaping improvements. The attached site diagram, chain of custody records, and laboratory reports detail the information that is currently available to interpret the environmental condition of the site.

The following advice is presented to manage evidence of contaminated soils:

Soil contamination near the unanticipated UST:

Soil taken from the base of the UST pit (samples FT-2 and FT-9) exhibit clear evidence of petroleum contamination, presumably from the UST that was discovered last week. We did not witness removal of the tank, and did not have an opportunity to confirm whether the source of this contamination was from the tank or another undiscovered source that may be present in the vicinity of the site works.

At this point, we know that light hydrocarbons (C6-C9 fraction) and xylene are the compounds of concern at the pit location. There is some uncertainty in whether additional UST's are present in the vicinity, and we do not know the depth or the areal extent of contamination.

Prior reconnaissance of the confined foundation area beneath the former State Fire Commission building revealed that the structure is supported on piers over bare ground, adjacent to the site of the UST pit. It should be noted that no petroleum odours were detected at that time. Reinspection of the foundation area was conducted on 17 September, and no evidence of petroleum odours was noted. The detectable odour threshold for xylene, for example, is less than 1 ppm, and the unsatisfactory exposure limit is 100 ppm (data for *ortho*-xylene, for a duration of 60 minutes). This suggests that petroleum contamination is probably limited to the area outside of the building footprint, and does not pose a hazard to building occupants.

We understand that the UST pit has been backfilled with clean material. Under these circumstances, no further work would be required, as this portion of the site is to be sealed. There appears to be no significant risk of exposure to workers or visitors to the site.

205 Davy Street
Hobart, Tasmania 7000

telephone:
(03) 6224 8870

facsimile:
(03) 6224 8871

electronic mail:
r.stoklosa
@trumpet.com.au

10/03/1996 00:00 002315463

C&C

PAGE 05

Peter Radovanovic, Civil & Civic
September 1996

Page Two

Detection of heavy metals at the location of the UST:

The stockpiled soil from the base of the UST pit was found to contain a slightly elevated zinc concentration (318 ppm) in the single screening level soil test (sample location FT-8). This soil should not be considered "hazardous waste" under the May 1996 Environment Tasmania guidelines for soil disposal, as it only slightly exceeds the applicable criteria. This soil should be regarded as "fill material" for the purposes of disposal or placement on other areas of the planned development site, as the level of zinc is well below published health-based guidelines for commercial and residential garden settings (7,000 ppm).

Similarly, the soil at the base of the UST pit (FT-9), which we recommend excavating as discussed above, revealed a slightly elevated concentration of copper (117 ppm). This soil should not be considered "hazardous waste" as a result of the copper concentration that was detected. This soil should be regarded as "fill material", as the level of copper is well below published health-based guidelines (1,000 ppm).

Detection of heavy metals in the planned landscaping area:

One of four screening level soil tests in the planned landscaping area (at location FT-5) revealed evidence of slightly elevated zinc levels, and returned levels of lead and copper that nearly exceeded the criteria for "fill material". All of the soils in the landscaping area should be regarded as suitable for the intended use. No remediation of this area of the site is recommended, as the concentrations of zinc, lead and copper are well within the health-based guidelines for residential garden settings. These soils are not expected to pose a risk to workers or persons visiting the property.

We understand that you discussed our findings and recommendations with Ms Liz Canning of Environment Tasmania on 9 September, and we would suggest that you present this advice to her office for review and acknowledgment.

The known UST near the Brisbane Street access ramp to the subject property has been previously assessed for evidence of contamination (refer to Stoklosa Engineering report, dated 19 January 1996). It is recommended that works to remove the tank proceed in accordance with advice given in the previous assessment. A quote was obtained from Gilbarco, dated 19 June 1996, for tank removal (copy attached for reference).

Additional soil sampling is recommended prior to removal of the known UST. Stoklosa Engineering must be present to witness removal of the UST, and to obtain soil samples of the UST pit backfill sand upon removal. It is recommended that additional material is excavated from the UST pit, if evidence of contamination is observed during tank removal activities, prior to backfilling the pit with clean material. Soils removed from the UST pit must be stockpiled on site, pending the results of soil testing.

We believe that the foregoing approach will ensure proper short term and long term environmental management of the property, given the evidence of contamination that has been discovered. Please contact us if further information would be helpful.

Regards,


Richard Stoklosa

Attachments

26 SEP '96 14:14

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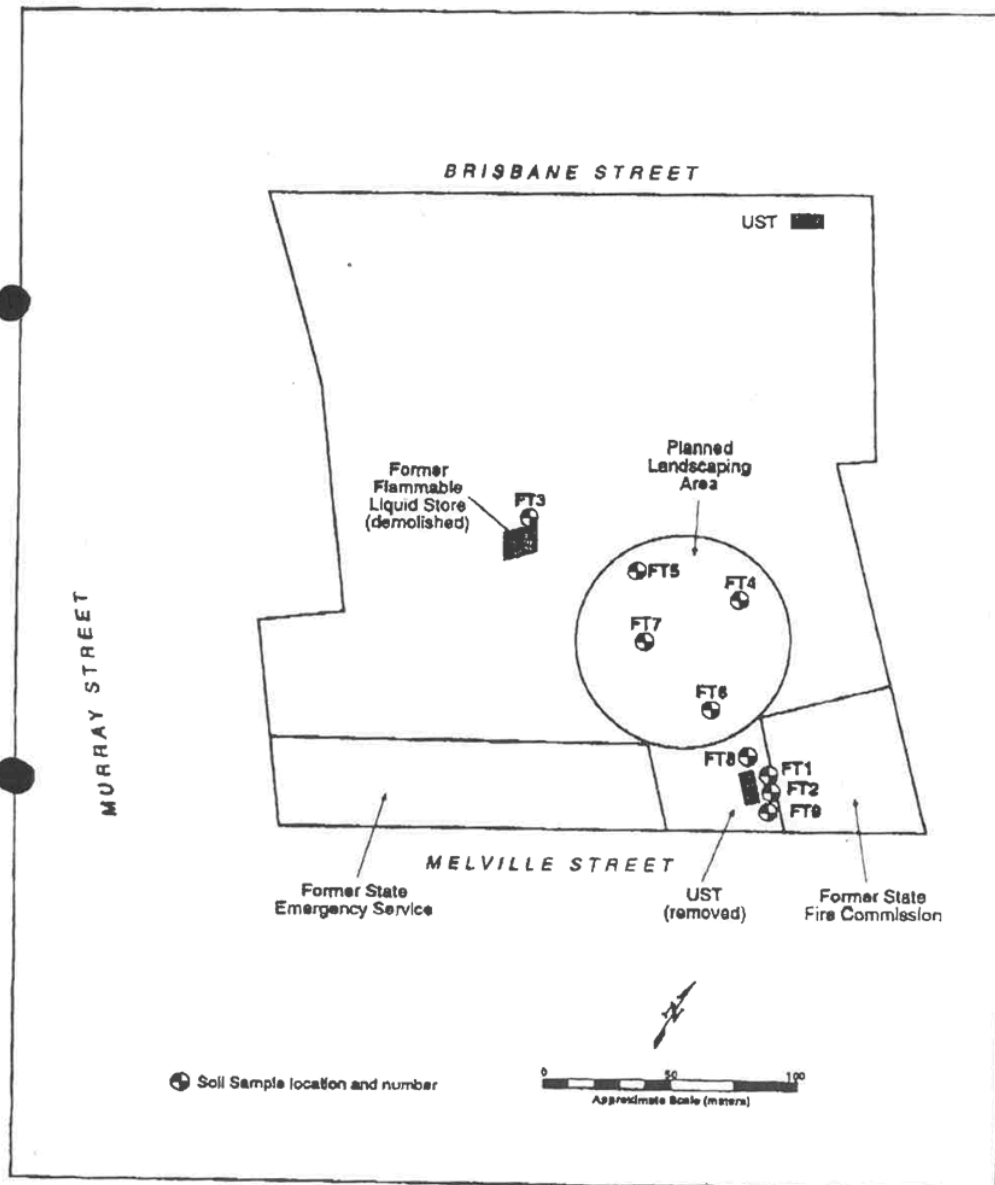
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PAGE 02

1996 03:00 FROM STOKLOSA ENGINEERING

TO

315463 P.02



4 SEP '96 19:15

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PAGE 03

315463 P.03

PROJECT NAME: CIVIL & CIVIC FORESTRY TASMANIA	PROJECT NO. C155
COLLECTED BY (NAME): R. STOKLOSA	SIGNATURE: R. Shelton

[illegible]

4 SEP '96 19:16

02/1996 05:03 002315463

C&C

PAGE 04

1996 03:10 FROM STOKLOSA ENGINEERING TO

315463 P.04

Department of Environmental and Land Management
Environmental Chemistry Laboratory
CI- Chemistry Department, University of Tasmania
Box 252C GPO Hobart 7001, Hobart
Telephone (07) 6224 7175 Fax (03) 6224 7125

Lab. No: 963537-963538
Date Sampled: 26/8/96
Date Received: 26/8/96
Date Reported: 27/8/96

Report Number: 7328
Submitted By: R. Stoklosa
Reported To: R. Stoklosa
Test Method: GC

SOILS - STOKLOSA ENGINEERING P/L

Lab. No.	Sample ID	TPH mg/kg DMB	C6-C9 mg/kg DMB	C10-C14 mg/kg DMB	C15-C21 mg/kg DMB	C22+ mg/kg DMB	Benzene mg/kg DMB	Toluene mg/kg DMB	E. Benzene mg/kg DMB	Xylene mg/kg DMB
963537	PT-1	ND	ND	ND	ND	ND	ND	ND	ND	ND
963538	PT-2	660	530	130	ND	ND	ND	4	7	66
Method Detection Limit		5	5	5	5	5	1	1	1	1

ND - Dry Matter Basis
Not Detected

Disposal as "Hazardous Waste"
(prior Council approval required)

17/02/1996 05:03 002315463

C&C

PAGE 05

1996 03:11 FROM STOKLOSA ENGINEERING

TO

315463 P.05

Department of Environment and Land Management
Environmental Chemistry Laboratory
C/- Chemistry Department, University of Tasmania
Box 252C GPO Hobart 7001, Hobart
Telephone (03) 6220 7175 Fax (03) 6220 7825

Report Number: 7328-1
Submitted By: R. Stoklosa
Reported To: R. Stoklosa
Test Method: DELM Method Metals in Sediments

Lab. No: 963537-963538
Date Sampled: 26/8/96
Date Received: 26/8/96
Date Reported: 28/8/96

SOILS - STOKLOSA ENGINEERING P/L

Lab No.	Sample ID	Pb mg/kg-DMB
963537	FT-1	243
963538	FT-2	52

DMB - Dry Matter Basis

Disposal as "Fill Material"



This laboratory is registered by the National Measurement Laboratory, Australia. The tests reported herein have been performed in accordance with the terms of registration.
This document must not be reproduced without the NML.
Samples analysed as received.

R. Stoklosa
SENIOR CHEMIST

4 SEP '96 19:17

** TOTAL PAGE 003 **
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PAGE 06

315463 P.06

17/02/1996 05:03 002315463

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PAGE 07

#1996 03:12 FROM STOKLOSA ENGINEERING

TO

315463 P.07

Department of Environment and Land Management
Environmental Chemistry Laboratory
C/- Chemistry Department, University of Tasmania
Box 252C GPO Hobart 7001, Hobart
Tel: (03) 6220 7175 Fax: (03) 6220 7223

Lab. No: 963554-963560
Date Sampled: 28/8/96
Date Received: 24/8/96
Date Reported: 30/8/96

Report Number: 7333-1
Submitted By: R. Stoklosa
Reported To: R. Stoklosa
Test Method: GC

SOILS - STOKLOSA ENGINEERING P/L

Lab. No.	Sample ID	TPH mg/kg DMB	C6-C9 mg/kg DMB	C10-C14 mg/kg DMB	C15-C28 mg/kg DMB	C29+ mg/kg DMB	Benzene mg/kg DMB	Toluene mg/kg DMB	E. Benzene mg/kg DMB	Xylene mg/kg DMB
963554	FT-3	8	ND	ND	ND	ND	ND	ND	ND	ND
963559	FT-8	7	ND	ND	ND	ND	ND	ND	ND	ND
963560	FT-9	1790	1350	440	ND	ND	2	8	14	176
Method Detection Limit		5	5	5	5	5	1	1	1	1

DMB - Dry Matter Basis
ND - Not Detected

Exceeds "Hazardous Waste" Disposal Criteria
(consultation with Council/DELM will be required)

Also very high result,
requires consultation
prior to disposal.

This document contains confidential information.
Any release will be at the discretion of the Laboratory.

M. G. Johnson
M. G. Johnson
SENIOR CHEMIST

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17/02/1996 05:03 002315463

C&C

PAGE 08

96 03:13 FROM STOKLOSA ENGINEERING

TO

315463 P.08

Department of Environment & Land Management
Environmental Chemistry Laboratory
C/- Chemistry Department, University of Tasmania
Box 252C GPO Hobart 7001, Hobart
Telephone: (003) 20 7175 Fax: (003) 20 7825

Lab. No: 963554-963560
Date Sampled: 28/1/96
Date Received: 28/1/96
Data Reported: 30/1/96

Report Number: 7333
Submitted By: R. Stoklosa
Reported To: R. Stoklosa
Test Method: DELM Method Metals in Sediments

SOILS - STOKLOSA ENGINEERING

Lab No.	Sample ID	Pb mg/kg DMB	Zn mg/kg DMB	Cu mg/kg DMB	Cr mg/kg DMB
963554	FT-3	138	104	51	11
963555	FT-4	71	187	32	15
963556	FT-5	288	326	58	14
963557	FT-6	60	40	14	13
963558	FT-7	43	101	46	7
963559	FT-8	48	318	7	3
963560	FT-9	26	67	117	21

DMB - Dry Matter Basis

This laboratory is licensed by the National Trading Authority. The unit
reported herein has been performed in accordance with the terms of registration.
This document may be reproduced except in full
sample analysis is included.



Disposed as "Hazardous Waste"
(prior Council approval required)

[Signature]
MICHAEL
SENIOR CHEMIST

PAGE 09

17/02/1996 05:03

002315463

C&C



Certificate of Disposal

*Issued to***Laver Pty. Ltd.,**70 Browns Road,
Kingston, 7050*Removal and disposal of 2,500 litres
of contaminated hydrocarbon on the 28th August, 1996 from;*79 Melville Street,
Hobart, 7000*Service performed by licensed operator***COLLEX WASTE MANAGEMENT PTY. LTD.**

A.C.N. 051 316 584

Dated: Thursday, August 29, 1996

John Brennan
MANAGER - ENVIRONMENT & SAFETY

002315463 P1

<p style="text-align: center;">79 to 85 Melville Street Site Assessment and Planning Impact Report</p>
--

Principal Consultant**James Douglas & Associates**Planning and Development
Consultants**Consultants in Association****James Douglas**

Town Planning

Barry Neilsen

Structural Assessment and Building Survey

Robert Vincent

Heritage Assessment

Richard Stoklosa

Environmental Hazards Assessment

Acknowledgment

The consultants wish to acknowledge the existing research undertaken by Michael Court & Kerry Edwards, Historical Consultants with respect to the Statement of Cultural Significance for Number 79 Melville Street. This statement is included as an attachment to this report.

Disclaimer

The information contained in this report and its related appendices has been compiled with all due care. However, the information has been collected for the purposes of, the Tasmanian Property Services Group to facilitate the disposal of the subject site and not as a basis for testing individual project feasibility or for any other purpose. Accordingly, no person should act on the information contained herein without prior verification.

The views expressed herein are those of James Douglas & Associates and do not necessarily represent the views of any other party.

79-85 Melville Street - Site Assessment & Planning Impact Report

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9. Summary of Constraints and Opportunities for Re-development	16

Figures

- Figure 1 Location Plan
- Figure 2 Site Plan and Title Boundaries
- Figure 3 Building Envelope Plan
- Figure 4 Employment Change In Hobart and The Metropolitan
Area 1971-1991 (from CASP)
- Figure 5 Central Area Floorspace (from CASP)

Appendices

- Appendix 1 Heritage and Streetscape Assessments
- Appendix 2 Statement of Heritage and Streetscape Significance -
Technical advice from Hobart City Council
- Appendix 3 Hazard Assessment
- Appendix 4 Land Titles

79-85 Melville Street - Site Assessment & Planning Impact Report**1. Purpose of The Report.**

The Crown wishes to sell the subject site. The purpose of this report is to describe the current asset and identify the constraints and opportunities for its marketing and re-development. Specifically, this has involved the following tasks ;

- A description of the site and structures
- An assessment of the structural significance of the buildings and of their capabilities for reuse, particularly the possibility of stratum subdivision
- The identification and assessment of the impact of statutory and strategic planning provisions with emphasis on those relating to demolition
- The assessment of the heritage and streetscape value of the site and structures
- The identification of any relevant legal constraints to disposal of the site
- An audit of the site for possible contamination
- A summary of the constraints and opportunities for re-development

**2. Site Description**

The subject site is located on the periphery of Hobart's Central Business District with frontage to Melville and Brisbane Streets. A Location Plan identifying the site is shown in Figure 1. The site is presently used as office accommodation for the State Emergency Service and Tasmanian Fire Service and as parking and storage for various government agencies. Surrounding land uses include two major Hobart City Council carparks, retail and offices.

The existing structures on the site are of one to three stories in height and are constructed of pressed clay brick with galvanised roofing and have frontage to Melville Street. To the rear of these frontages there are substantial single storey, timber trussed storage buildings. All these structures date to 1922 and were purpose built for 'Crisp and Gunn' who operated a timber milling and merchandising business from the site. More detailed descriptions of these buildings are contained in the structural analysis and heritage assessments following in this report. Approximately 4,428 square meters of the site is developed with the balance being in gravelled and bitumen hard standing and used for parking. This unenclosed space of approximately ~~2,765~~ ^{3,445} square meters is

79-85 Melville Street - Site Assessment & Planning Impact Report

accessed from Brisbane Street and is approximately one storey below the level of Brisbane Street.

The site in its entirety has an area of ~~2491~~⁷⁸⁷³ square meters and there are few, if any, such substantial parcels within close proximity to the Central Business District. As can be seen in the following Site Plan (Figure 2), the subject site is comprised of five lots, which are defined as follows;

- Lot 1 - 79 to 81 Melville Street, Title reference - part of CT 2878 / 23 (see P114103)
 $4515.9 \text{ m}^2 - 175 \text{ m}^2 = 4640 \text{ m}^2$
 ~~3868~~ sq. meters
- Lot 2 - 83 to 85 Melville Street, Title reference - CT 2294 / 50, - ~~2323~~ sq meters
- Lot 3 - 88 Brisbane Street, Title reference - CT 2311 / 98, - 228 sq meters
- Lot 4 - 90 Brisbane Street, Title reference - CT 2394 / 23, - 347 sq meters
- Lot 5 - 92 Brisbane Street, Title reference - CT 2294 / 49, - 425 sq meters

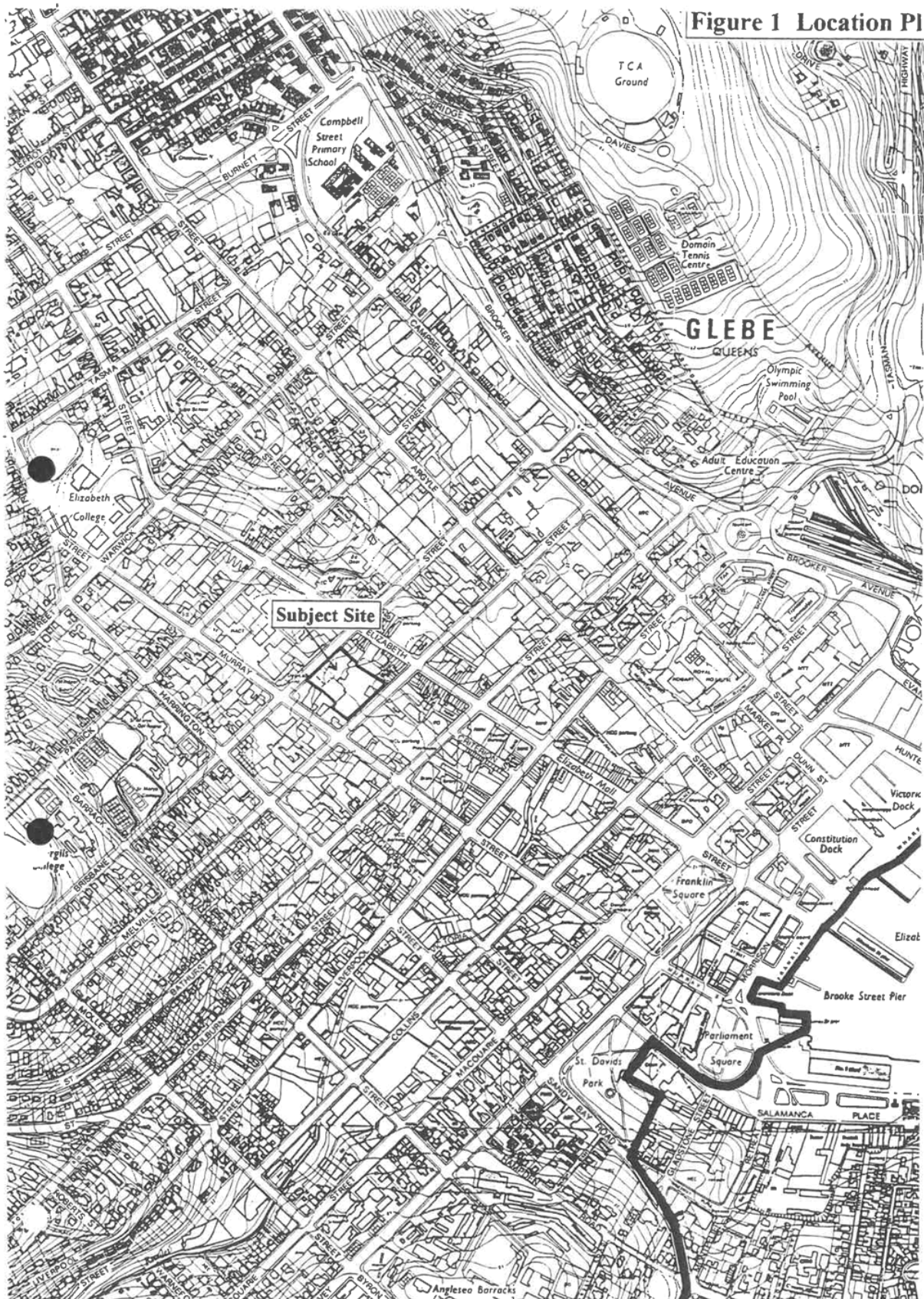


3. Structural Assessment and Re-development Potential (refer Figure 3 Building Envelope Plan)

3.1 79 Melville Street (Lot 1).

This is a substantial brick and timber structure with identified heritage and streetscape value. It is two storeys at the front with a floor area of 442 square meters and a single storey at the rear with a floor area of 203 square meters . The floors are timber throughout. There is an original internal stair and an external steel fire escape. Two roof lights provide natural lighting to the rear internal areas and the large ceiling heights would allow for the installation of ducted air conditioning if desired. The building appears in good condition throughout.

It is possible to create a separate title for this building, the possible boundary locations are shown on Figure 3. As shown, the western boundary would need to be located three meters from the western wall to allow retention of the windows on that face (and also to accommodate the external fire escape). The current openings in the rear wall of the main building would also need to be blocked up. Whilst further stratum subdivision of the property is technically feasible under the provisions of the Building



79-85 Melville Street - Site Assessment & Planning Impact Report

Code of Australia, the location of the single internal stairway makes such a proposal impractical without major modifications.

3.2 81 Melville Street (Lot 1)

This three storey building, currently used as offices, is of brick construction with timber floors and it totals some 767 square meters in area. It is served by a single fire isolated stair at the front corner and also has access openings through the dividing wall to Number 83 - 85. These openings through the party wall would need to be blocked up if the properties are to be dealt with separately.

The original building structure appears in sound condition although much of the internal partitioning is of varying date and quality and adds little to the buildings worth.

A large proportion of the remainder of the site is covered with timber trussed, single storey storage buildings. These consist of three discreet but conjoined structures comprising floor areas of 1911 square meters, 298 square meters and 88 square meters. From a structural viewpoint, while these buildings provide adequate accommodation for their current use (the informal storage of vehicles, building materials and safety equipment etc.) they provide little realistic potential for upgrading for other uses.

The rearmost of these storage buildings (behind 79 Melville Street and closest to Brisbane Street) has been affected by a recent boundary adjustment and it is apparent that it now straddles the boundary with an adjacent lot (see SP 114102, and SP 114103, Appendix 4). The disposal of the subject property may require the resolution of this situation. If this is necessary, two options are available;

- Demolition of the structure, or
- The installation of a new fire rated masonry wall on the new boundary. This would involve construction of a new footing and re-supporting the roof structure on either side of the new wall which would extend up as a parapet. The wall could be built of double brick cavity or simple skin concrete block. This option would allow the subsequent removal of either "half" of the building at the requirement of either owner.

The rear section of the site, adjacent to Brisbane Street, is considerably below the footpath level, which is supported by very old brick and sandstone retaining walls.

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Large diameter sewer and stormwater mains run through the centre of this site. This will most likely require re-alignment in any re-development of the site as usual Hobart City Council policy is not to allow new buildings over mains.

3.3 83 - 85 Melville Street (Lot 2)

The front portion of this lot contains a two-storey office building of similar construction to Number 81 and co-joined to it with a common party wall. The upper floor is at the same level as the upper level of Number 81 but the lower floor is between the two lower levels of the adjacent building. The building has a fire-isolated stair (recent addition) as well as another open internal stair. Vehicular access from Melville Street to the rear of the lot exists through an access way in the building. Depending on future uses, provision of ducted air - conditioning may be required and the floor to floor height would be sufficient to accommodate such an installation.

There is a substantial single storey storage building to the rear (similar to the adjacent property).

3.3 88 and 90 Brisbane Street (Lots 3 and 4 respectively)

These two properties are vacant and unused and both contain some ruins of old buildings (of no current heritage or streetscape value).

The title to Number 88 indicates an old 'roadway' along the western boundary which appears to have been used as a right of way and drainage easement for Number 90. The possibility of expunging this encumbrance should be investigated.

3.4 92 Brisbane Street (Lot 5)

This property is vacant and is currently used for car parking and access to the rear of the 83 - 85 Melville Street buildings.

**4. Planning Provisions - Statutory**

The principal statutory document controlling development on the site is The City of Hobart Planning Scheme 1982. The scheme area is comprised of Land Use Zones. Each zone is divided into Precincts with an associated 'Statement of Desired Future

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Character'. These statements provide a finer definition to the desired form of development within an area and provide guidance in the application of the general principles of development control and the various schedules within the scheme ordinance.

The following is a summary of the principle relevant provisions of the Scheme. It should be noted that only the principle provisions are identified sufficient to assess the development potential of the site, further detailed planning assessment will be required in association with any development proposal.

4.1 Zoning;

The subject site is contained within the Central Commercial and Administrative Zone and is in Precinct 8A. The objective of this zone as identified in Clause 5.3 of the scheme is as follows;

" The Objective of the Central Commercial and Administrative Zone is to provide for the administrative, commercial, financial and professional headquarters of the State, for intensive generators of employment, and for cultural and community activities and supporting uses associated with those functions."

The Statement of Desired Future Character for Precinct 8A within this zone is identified in Section 5.3.5 as,

" The Elizabeth Street Precinct should maintain its function as a retail, wholesale and office area, with residential use being an important subsidiary activity.

New development should maintain the linear image of Elizabeth Street which is a dominant feature of the overall character of the Precinct."

The above statements provide for a wide range of land uses and development forms. Whilst not specifically identifying a preferred use or uses, neither do they constrain the possible range of uses that would in practice be considered on the site.

4.2 Land Use;

Schedule A, Table A1 of the Scheme provides further definition of the types of Land Uses that may be considered for the site. These provisions relate to the 'use component' of a development proposal only ie. a development which is a 'permitted use' may still be subject to the exercise of a discretion by Council in respect to its car parking or boundary setback provisions and accordingly could receive a conditional

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approval or refusal based on these grounds. The provisions of Table A1 are summarised as follows;

Permitted Uses - these are uses 'permitted as of right' including :- all types of residential development, consulting rooms, community centre, office, shop, hotel/motel, service industry, show room

Prohibited Uses - these uses are prohibited (except in specific circumstances relating to existing non- conforming uses) :- Transport depot, timber yard, (heavy) industry

Discretionary Uses - these uses may be permitted or refused at Council's discretion, they include all other use types not identified above.

As can be seen, most use types can be contemplated for the subject site with the exception of those of a heavy industrial nature which would generate substantial movements of heavy vehicles or be potentially hazardous or noxious.

4.3 Development Density;

Development density is determined by two principle provisions:- plot ratio and lot size.

Under Schedule B. of the Scheme the following apply to the subject site;

Plot Ratio - Basic 2.25 Maximum 3.00	Minimum lot size - 120m ² Min.
(maximum floor area relative to site area)	Frontage 6m
	(for subdivision)

4.4 Boundary Setbacks;

No specific boundary setbacks are required under the Planning Scheme, building setbacks would be determined by the requirements of the Building Regulations.

4.5 Height;

The maximum permissible height for buildings on the subject site is 12 meters pursuant to Table C1 of the Scheme. 'Height' is defined under the Scheme as the distance measured between the natural surface level and the topmost habitable floor level of a building.

4.6 Car Parking and Access;

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Parking and access standards are identified in Schedule E of the Scheme. The Schedule contains parking space requirements for individual land use groups. However there is provision to vary these requirements and it is reasonable to expect that an exercise of discretion in regard to any of these standards could be granted subject to adequate justification being provided within a planning submission for development. Council may require 'cash-in-lieu' for any car spaces not provided on site (currently \$9,000 per space). The provisions of Schedule E should therefore be read as a guide rather than an absolute in respect to the subject site.

4.7 Demolition;

The potential for demolition of any existing structure will be determined by the assessment of its historic and streetscape value (see Section 6 of this report). None of the existing structures are listed on the National Estate or are identified by the National Trust, the Royal Australian Institute of Architects List or the City of Hobart Planning Scheme as having specific merit. Accordingly it may be said that there is no absolute prohibition upon their demolition, it would be a matter to be decided at Council's discretion or on the basis of a possible appeal lodged with The Resource Management and Planning Appeals Tribunal.

Based upon the historic assessment contained in this report, it is considered that, in practical terms, any successful re-development proposal would encompass the retention of the existing structure at 79 Melville Street in its entirety and make every effort to retain the structure at 81-85 Melville Street by its adaptation and reuse. The demolition of the existing structures at 81-85 Melville Street should only be proposed if it can be satisfactorily demonstrated that their retention would deny the economic and efficient re-development of the site and their replacement structures would enhance the existing streetscape.

There is no apparent restriction to the demolition of the garage/store at the rear of 79 and 81-85 Melville Street based on historic or streetscape values. Any application for its demolition should include the completion of an historical record of the building prior to demolition and provisions for the future treatment of the affected portion of the subject site either as an interim or permanent measure, in accordance with Principle 5 of the Scheme which states;

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" The demolition of any building shall not be permitted until a further or replacement development, which may include temporary landscaping of that land, has been approved unless such demolition is required by statutory order."



5. Planning Provisions - Strategic

The Hobart City Council released the 'Central Area Strategy Plan' (CASP) for public comment in the early part of 1994. This document provides an insight to the existing demand and floor space supply patterns within the C.B.D. and an indication of Council's intention with respect to possible changes to statutory planning provisions in the future.

CASP is the culmination of nearly three years research into the functionality of the C.B.D. of Hobart. It's broad aim is to provide a strategy to guide and manage the development and enhancement of the C.B.D for the next ten years. The following points are extracted from CASP and may assist in the formulation of a purchase and development strategy for the subject site.

- *" The Central Area remains the single largest employment location in Tasmania. So far as the Metropolitan Area is concerned it is the principal place of employment for the resident population....Its significance as a shopper destination has been confirmed by the household survey conducted as part of the Retail Topic Report and more recently through a larger sample of 600 households carried out by the City Heart Business Association. Around two thirds of people from the Hobart Metropolitan Area claim to have visited the city centre within the pervious week. The surveys also found that the city centre fulfils an important role for activities such as paying bills, banking, conducting business, eating out and entertainment."*
- CASP identifies the development opportunities for the subject site as :- *" Major retail store and possibly a City Heart supermarket with car parking."* and states *" Efforts will be made to strengthen the role and function of Elizabeth Street as far as Brisbane Street, and extend the shopping choices available in the City Heart by the promotion of the development opportunities offered by Council's*

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Melville Street car park site and former Crisp and Gunn site at 83 Melville Street."

- The principle development controls proposed in CASP that relate to the subject site are:-
 Plot Ratio : 3.0
 Height : 20 metres
 Car Parking : no requirement

The following Figures 4 and 5 have been extracted from CASP as indicators of demand potential and existing floor space supply in the C.B.D. It should be noted that the Central Area of the City remains the single largest employment location in Tasmania (see Figure 4).

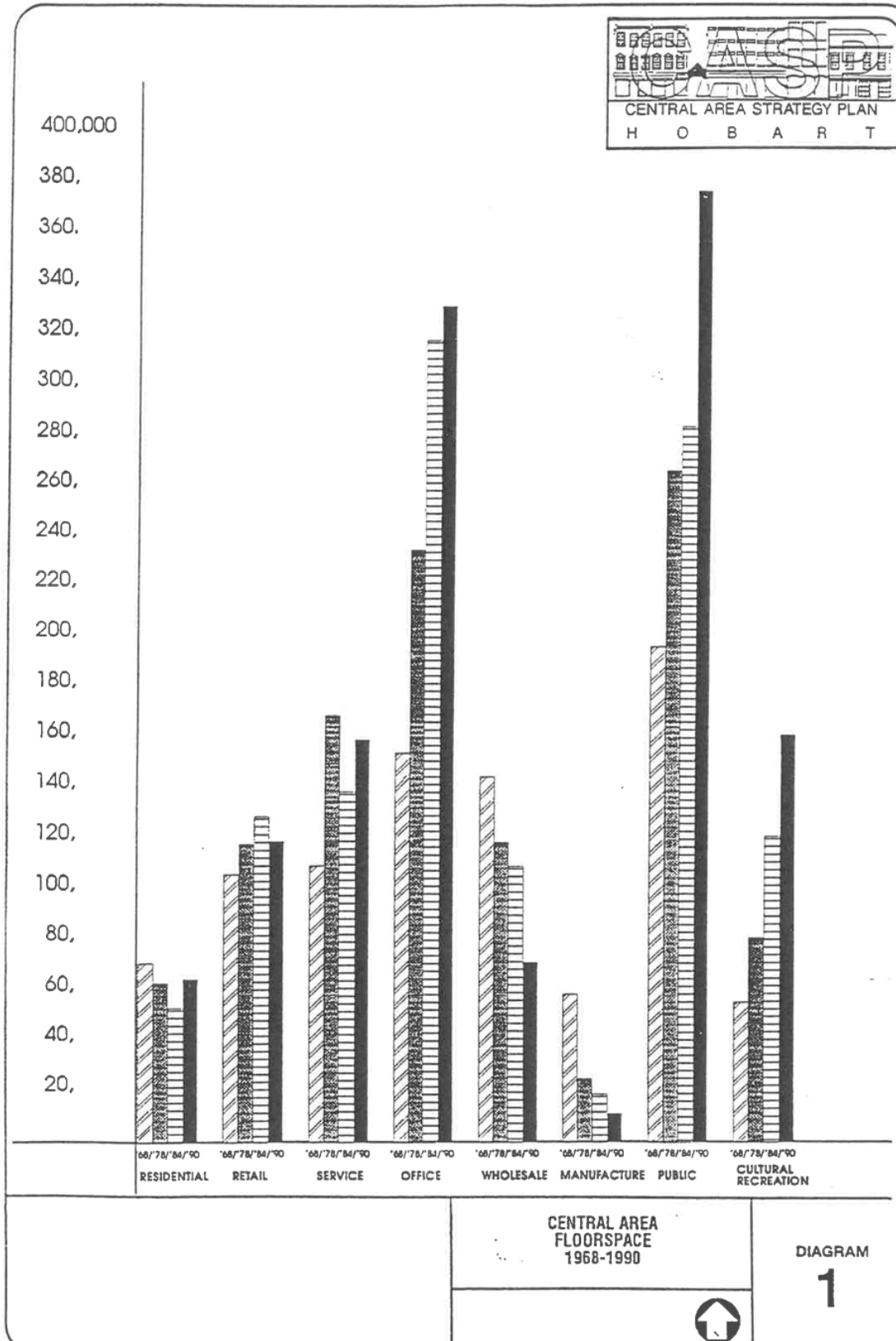
Figure 4	EMPLOYMENT CHANGE IN HOBART AND THE METROPOLITAN AREA 1971-1991				
	1971	1976	1981	1986	1991
Greater Hobart	60,038	67,881	69,431	71,895	73,945
Central Area	24,378	24,426	21,611	21,564	21,378 ^I
Sources: A.B.S. and Employment & Economic Base Topic Report					
Notes: I = 1990 Figure					



6. Heritage and Streetscape Impact Assessment

Detailed assessments of the heritage / streetscape values of the existing structures form Appendix 1 to this report. These reports have been prepared by acknowledged experts in the field of conservation and contain detailed descriptions of the site history, building fabric and essential elements to be considered for conservation in any re-development proposal. Additionally, a statement of opinion from officer's of the Hobart City Council relating to the 'Streetscape and Heritage Significance' of the subject site has been obtained and this written advice forms Appendix 2.

Figure 5



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It is on the basis of these heritage assessments that Council will consider any application for demolition and re-development. Accordingly, the recommendations for the retention of essential elements on the site based on heritage and/or streetscape significance are summarised as follows.

79 Melville Street

The whole of the building at 79 Melville Street should be retained and the elements that date from the building construction (1922) should be retained and re-instated where possible. Recent adaptation and alterations to the fabric should be removed where the alterations are reversible.

For example, removal of the false frame under the barrel vault light well & removal of the wall through the middle of the light well at the base of the main stair, caused by the female toilet rest room addition, would be actions which would move towards re-instating the building to the previous known state. The building should be properly surveyed to identify all the internal fittings and items of significance.

81 -85 Melville Street

The building at 81-85 Melville Street originally built as the Joinery Workshop and Hardware Store of Crisp and Gunn in 1922 should be retained. The facade has a strong townscape quality. However, this complex could be adapted and recycled for a new use, if the extension or adaptation respects the 1922 fabric of the building.

Garage / Store

The timber store at the rear of 79 and 81-85 Melville Street is currently used as a garage/store. It has little remaining significance and could be demolished to make way for new uses on the site. It should be photographed and a measured drawing undertaken as part of an historical record prior to demolition. This record should be lodged with the Archives Office of Tasmania.

Open Space

The remainder of the site is defined as Open Space. It is accessible from Brisbane Street and has remnant elements of building fabric. These elements have no known cultural significance.

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The sandstone wall to Brisbane Street boundary should not be destroyed. However, its relevance is unclear.



7. Environmental Hazard Assessment

7.1 Screening Level Environmental Assessment

A screening level environmental assessment of the subject site has been conducted as part of the analysis involved in the preparation of this report, this is contained in Appendix 3.

The purpose of the assessment is to investigate the possibility of site contamination from previous and existing land uses. It has comprised a review of the site history and land use

(including examination of aerial photographs and historical review documents), review of available state and local records, and site reconnaissance. The following points are extracted from the assessment as a brief summary, but reference should be made to the assessment in its entirety.

7.2 Possible Sources of Contamination

The current and past land uses on the site have involved the storage and handling of potentially hazardous materials. The extent of possible sources of contamination, based on the initial investigation, appear to consist of the following.

- A 1,000 gallon petrol underground storage tank and bowser licensed to the Shell Company of Australia in 1973 (under the Inflammable Liquids Act 1929) by the State Department of Mines. The licence indicates that the petrol tank and bowser was to be operated by the State Supply and Tender Department. Notes attached to the licence further indicate that the petrol tank was previously used by Crisp and Gunn and abandoned prior to the licence date (probably circa 1965 when operations ceased). It is not known how old the tank is, or what other materials may have been stored in it.
- In addition to the underground petrol tank, there is a small outdoor flammable liquid store (enclosed by a locked, chain fence) reported to contain 44 gallon

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drums of chain saw fuel and kerosene. It is located at the rear of the State Emergency Service (SES) building and store at 81 -85 Melville Street.

- It is not known what other materials may have been stored on the site, but it is unlikely that the site was subject to exposure from large quantities of other hazardous materials, given the nature of the present and past land uses. Small quantities of chemicals (solvents, paints, etc) were probably part of the historical hardware merchandising activities.
- Insulation was noted above ceiling panels in some of the upstairs office spaces at 79 Melville Street. The type of insulation used at the property is not known.

7. 3 Extent of Further Work Required

The assessment should be regarded as a screening level exercise only and further investigative and possible remedial actions may be required in the course of the sites re-development or prior to its disposal, if this was considered desirable. The following are recommended.

- Testing of soils and possibly some of the building materials (insulation) for potential contamination and/or identification of hazardous materials.
- Access to fenced and locked portions of the store area is also necessary to fully investigate the nature and condition of the facility. Of interest are the ground-level access covers that were observed, and the reported triple interceptor oil and sediment trap. A more thorough examination of council drainage plans and other site drawings, with field confirmation, is necessary in the inaccessible areas of the property.
- Due to the presence of the underground petrol storage tank and other materials at the site, a sampling program is indicated to adequately assess the environmental condition of the site.
- Upon completion of these further investigations, recommendations can be made on the short term and long term environmental management of the property.
- Consideration has been given to the order of costs involved in undertaking the identified actions. These indicative costs are:-

Investigation and analysis as outlined above	\$ 3,000
Removal of underground storage tank	\$ 2,000
Possible remedial actions if required	to be costed

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8. Legal Constraints

A title search has been undertaken in the preparation of this report. Copies of the relevant titles are included as Appendix 4 and these are referred to in Section 2 of this report.

There are no apparent legal constraints to the disposal and re-development of the subject site identified by this investigation other than the storage buildings behind 79 Melville Street which have been affected by a recent boundary adjustment (see Section 2). The disposal of the subject property may require the resolution of this situation.



9. Summary of Constraints and Opportunities for Re-development

9.1 It is possible to create a separate title for 79 Melville Street, the possible boundary locations are shown on Figure 3. As shown, the western boundary would need to be located three meters from the western wall to allow retention of the windows on that face (and also to accommodate the external fire escape). The current openings in the rear wall of the main building would also need to be blocked up. Whilst further stratum subdivision of the property is technically feasible under the provisions of the Building Code of Australia, the location of the single internal stairway makes such a proposal impractical without major modifications. (page 5)

9.2 The openings through the party wall between 81 and 83-85 Melville Street would need to be blocked up if the properties are to be dealt with separately.

A large proportion of the remainder of the site is covered with timber trussed, single storey storage buildings. These consist of three discreet but conjoined structures comprising floor areas of 1911 square meters, 298 square meters and 88 square meters. From a structural viewpoint, they provide little realistic potential for upgrading for other uses.

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The rearmost of these storage buildings (behind 79 Melville Street and closest to Brisbane Street) has been affected by a recent boundary adjustment and it is apparent that it now straddles the boundary with an adjacent lot. The disposal of the subject property may require the resolution of this situation. If this is necessary, two options are available;

- Demolition of the structure, or
- The installation of a new fire rated masonry wall on the new boundary. (*page 6*)

9.3 The title to Number 88 Brisbane Street indicates an old 'roadway' along the western boundary which appears to have been used as a right of way and drainage easement for Number 90. The possibility of expunging this encumbrance should be investigated (*page 7*)

9.4 Under the provisions of the City of Hobart Planning Scheme 1982, most use types can be contemplated for the subject site with the exception of those of a heavy industrial nature which would generate substantial movements of heavy vehicles or be potentially hazardous or noxious.(*page 9*)

9.5 Under Schedule B. of the Scheme the following development density provisions apply to the subject site; (*page 9*)

Plot Ratio - Basic 2.25 Maximum 3.00	Minium lot size - 120m2 Min.
(maximum floor area relative to site area)	Frontage 6m
	(for subdivision)

9.5 No specific boundary setbacks are required under the Planning Scheme, building setbacks would be determined by the requirements of the Building Regulations.(*page 9*)

9.6 The maximum permissible height for buildings on the subject site is 12 meters. 'Height' is defined under the Scheme as the distance measured between the natural surface level and the topmost habitable floor level of a building. (*page 9*)

9.7 Parking and access standards are identified in Schedule E of the Scheme. The Schedule contains parking space requirements for individual land use groups. However there is provision to vary these requirements and it is reasonable to expect that an exercise of discretion in regard to any of these standards could be granted subject to

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adequate justification being provided within a planning submission for development. Council may require 'cash-in-lieu' for any car spaces not provided on site. (page 10)

9.8 Based upon the historic assessment contained in this report, it is considered that, in practical terms, any successful re-development proposal would encompass the retention of the existing structure at 79 Melville Street in its entirety and make every effort to retain the structure at 81-85 Melville Street by its adaptation and reuse. The demolition of the existing structures at 81-85 Melville Street should only be proposed if it can be satisfactorily demonstrated that their retention would deny the economic and efficient re-development of the site and their replacement structures would enhance the existing streetscape.

There is no apparent restriction to the demolition of the garage/store at the rear of 79 and 81-85 Melville Street based on historic or streetscape values. Any application for its demolition should include the completion of an historical record of the building prior to demolition and provisions for the future treatment of the affected portion of the subject site either as an interim or permanent measure. (page 10)

9.9 The extent of possible sources of contamination of the site, based on the initial investigation, appear to consist of the following.

- A 1,000 gallon petrol underground storage tank and bowser
- A small outdoor flammable liquid store (enclosed by a locked, chain fence) reported to contain 44 gallon drums of chain saw fuel and kerosene.
- Insulation above ceiling panels in some of the upstairs office spaces at 79 Melville Street. The type of insulation used at the property is not known. (page 15)

9.10 Possible remedial actions may be required in the course of the site's re-development or prior to its disposal, if this was considered desirable. The following are recommended.

- Testing of soils and possibly some of the building materials (insulation)
- A more thorough examination of council drainage plans and other site drawings, with field confirmation, is necessary in the inaccessible areas of the property.
- Due to the presence of the underground petrol storage tank and other materials at the site, a sampling program is indicated to adequately assess the environmental condition of the site.

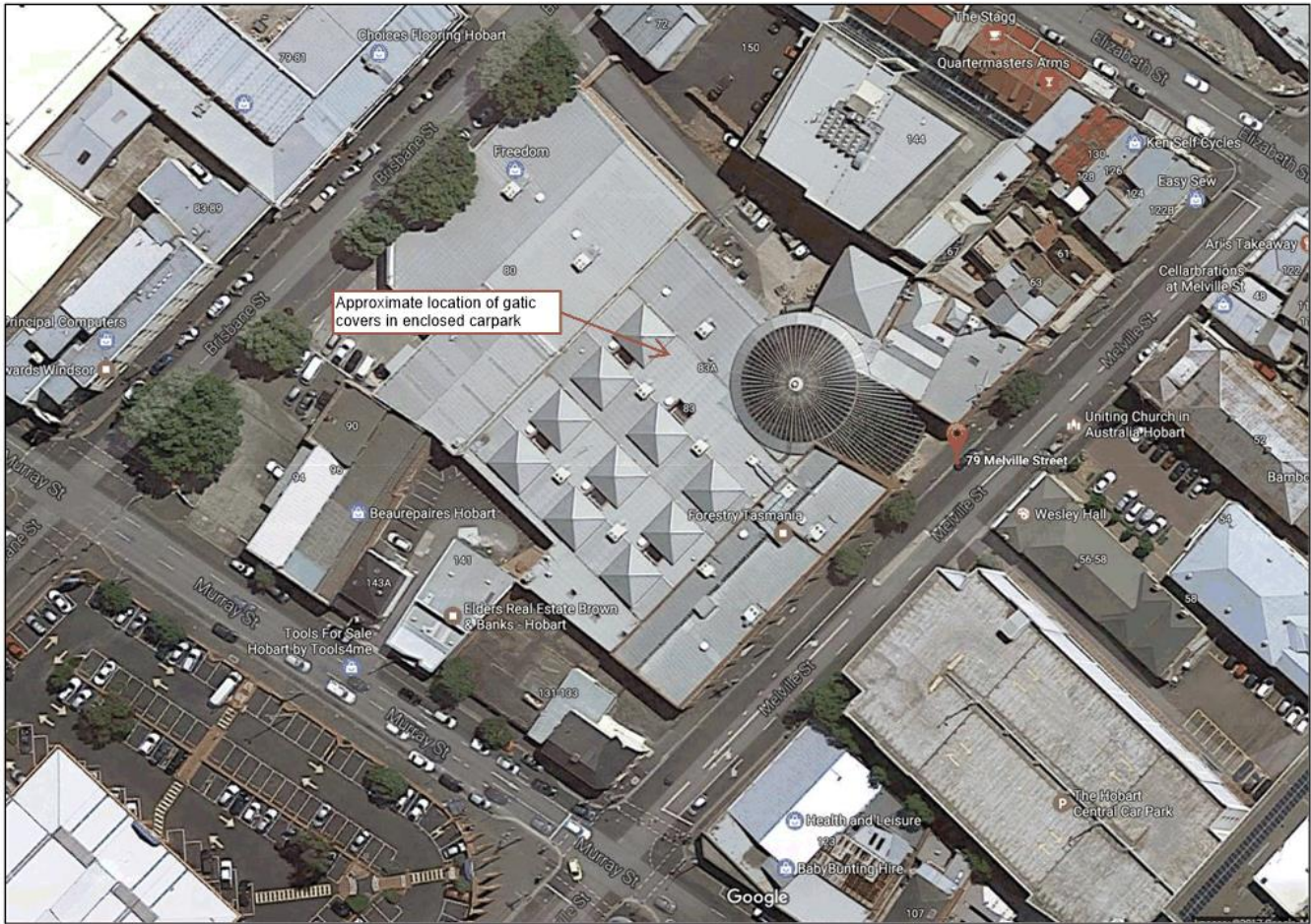
79-85 Melville Street - Site Assessment & Planning Impact Report

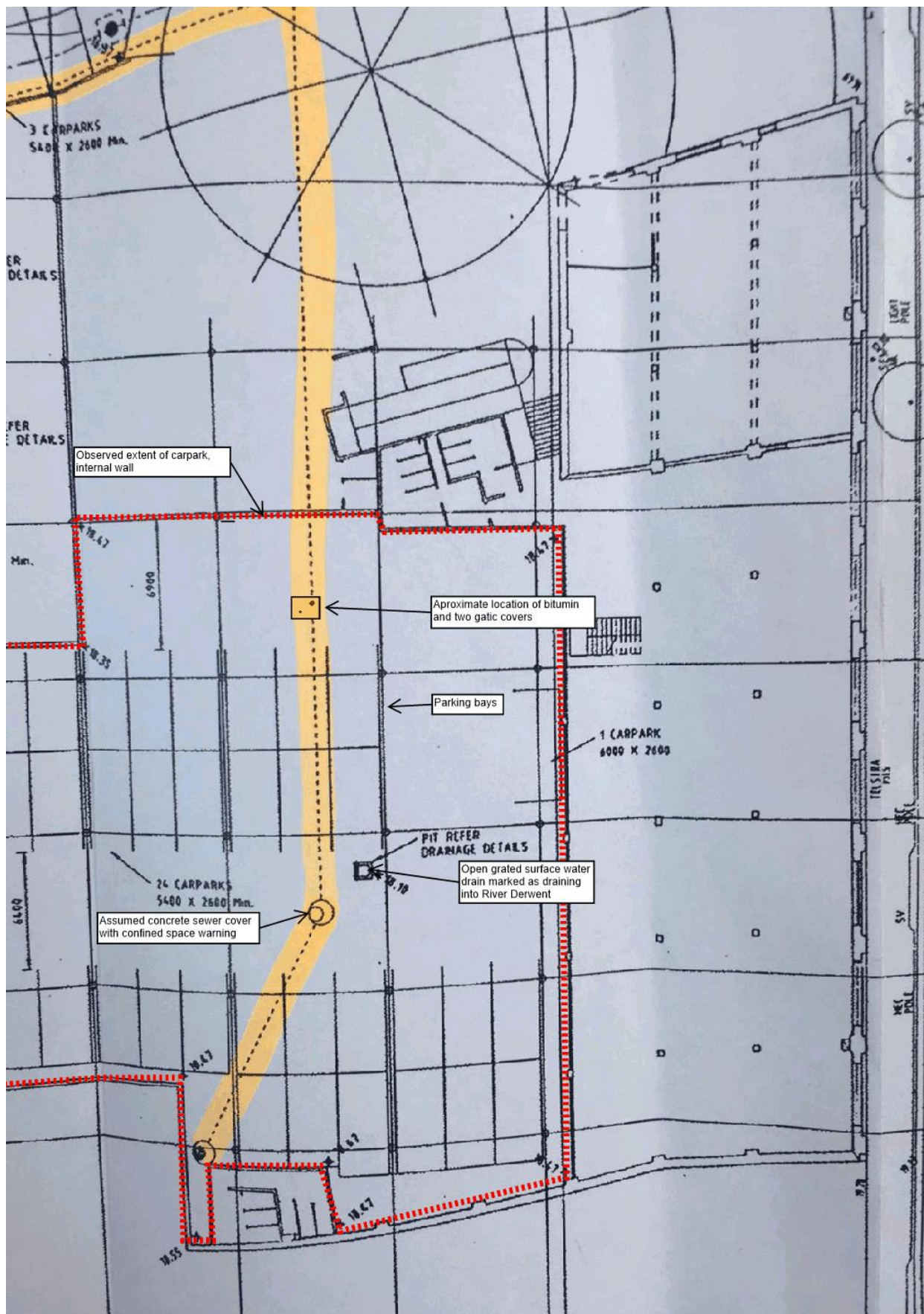
9. 11 Consideration has been given to the order of costs involved in undertaking the identified actions. These indicative costs are:-

Investigation and analysis as outlined above	\$ 3,000
Removal of underground storage tank	\$ 2,000
Possible remedial actions if required	to be costed (page 15)

9. 12 There are no apparent legal constraints to the disposal and re-development of the subject site identified by this investigation other than the storage buildings behind 79 Melville Street which have been affected by a recent boundary adjustment. The disposal of the subject property may require the resolution of this situation. (page 16)

Site Location Plan – 79 Melville Street, Hobart







Site inspection photos – 79 Melville St, Hobart- 07/04/2017





From: Warren Jordan
To: [Peter Topliss](#); [Nicole Reineker](#)
Subject: Fwd: 79-85 Melville Street – 7 April 2017 - Site Inspection
Date: Friday, 28 September 2018 6:52:04 PM
Attachments: [79 Melville St Hobart.pdf](#)
[ATT00001.htm](#)
[ERLUR.PDF](#)
[ATT00002.htm](#)
[Photos and plans.pdf](#)
[ATT00003.htm](#)

Hi Peter and Nicole
Some further info for you here

Cheers Warren

Sent from my iPhone

Begin forwarded message:

From: "Leigh Roberts" <leigh@nekon.com.au>
To: "Warren Jordan" <warren.jordan@utas.edu.au>
Subject: FW: 79-85 Melville Street – 7 April 2017 - Site Inspection

Hi Warren

Our partners, Abacus, undertook a WorkSafe search in 2017 and the results of that search are attached. WSP were engaged by Abacus to investigate and the results of that investigation are below and attached. They could not locate any petrol tank.

Also, briefcase is being dropped off this afternoon to the ground floor of the original building

Cheers

Leigh Roberts
Nekon Pty Ltd
Mobile 0408 141 316

From: Laurie Angeli [<mailto:langeli@abacusproperty.com.au>]
Sent: Friday, 28 September 2018 10:45 AM
To: Leigh Roberts
Subject: FW: 79-85 Melville Street – 7 April 2017 - Site Inspection

Leigh

This is something that maybe of use



Laurie Angeli | Senior Portfolio Manager
Abacus Property Group | Level 34 Australia Square | 264-278 George Street | Sydney NSW 2000
T 02 9253 8605 | M 0415 565 393 | F 02 9253 8616 | E langeli@abacusproperty.com.au
www.abacusproperty.com.au

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From: Charles Scarafiotti <charles@nekon.com.au>
Sent: Thursday, 27 September 2018 10:22 AM
To: Laurie Angeli <langeli@abacusproperty.com.au>
Cc: Leigh Roberts <leigh@nekon.com.au>
Subject: RE: 79-85 Melville Street – 7 April 2017 - Site Inspection

Hi Laurie, re the below, yes it goes back a wee while !! Do you have a copy of the Workplace Standards Tas application to obtain the search documents ?

Thanks

Charles

Charles Scarafiotti
Nekon Pty. Ltd.

Tel. (03) 6224 6511
Fax. (03) 6224 6522
Mob. 0418 136 397

From: Laurie Angeli [<mailto:langel@abacusproperty.com.au>]
Sent: Tuesday, 1 August 2017 2:12 PM
To: Chris Brookwell (chris.brookwell@sttas.com.au)
Cc: Charles Scarafiotti; Robert Rockefeller; Peter Strain
Subject: FW: 79-85 Melville Street – 7 April 2017 - Site Inspection

Gents

Please see attached and comments below from the consultant

Laurie Angeli | Portfolio Manager
Abacus Property Group | Level 34 Australia Square | 264-278 George Street | Sydney NSW 2000
T 02 9253 8605 | M 0415 565 393 | F 02 9253 8616 | E langel@abacusproperty.com.au
www.abacusproperty.com.au

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From: Moore, Peter [<mailto:peter.moore@wspgroup.com>]
Sent: Monday, 10 April 2017 8:26 AM
To: Laurie Angeli; Peter Strain
Subject: FW: 79-85 Melville Street – 7 April 2017 - Site Inspection

Laurie,

Please find attached report from Daniel Laver of site inspection and documents sourced for the Dangerous goods search for the Hobart property.

Cheers Peter



Peter Moore
Associate Director
D: +61 2 8925 6720
M: +61 4 1623 5034
peter.moore@wspgroup.com

From: Laver, Daniel
Sent: Friday, 7 April 2017 4:55 PM
To: Moore, Peter
Subject: 79-85 Melville Street – 7 April 2017 - Site Inspection

79-85 Melville Street – 7 April 2017 - Site Inspection

Hi Peter,

A site inspection was undertaken today at the above property by Daniel Laver (Senior Environmental Scientist - WSP). During the site inspection Chris Brookwell (Executive General Manager - Forestry Tasmania) provided an A3 plan of the carpark layout and levels. An annotated photo of the plan is attached along with photos.

The following observations were made during the inspection:

- Two metal gatic covers were observed located on a square of reinstated bitumen approximately 1x1m in size
- Two plastic covers were removed which reviewed two vertical pipes of approximately 3-4 inches in diameter

- No hydrocarbon odours were noted when the covers were removed
- The periodic horizontal flow of water was observed at the base of the standpipes approximately 2.9 m below surface
- the covers aligned with the services indicated on the plan and observed onsite, which are believed to relate to sewer and surface water (refer to annotated plan).

The dangerous goods information requested from WorkSafe Tasmania is attached and reported that a tank was present at 79-83 Melville St between 1955 to 1967. This was associated with Shell and Crisp & Gunn Co-OP Ltd.

Taking the above observations into account and information provided by WorkSafe is believed that the vertical pipes were most likely installed to inspect or allow access to the existing services.

The periodic flow of water and their location in relation to existing services suggests it may be associated with the sewer or stormwater water drainage services.

Regards



Daniel Laver
Senior Environmental Scientist

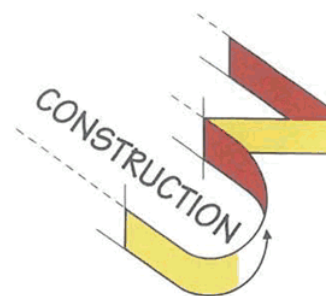
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Invoice No.: 00011933
Date: 27/04/2018
Job No.: 1940-02

ACN 109 213 336

Description	Amount
Attention: Charles Scarafiotti	
Works associated with the cleaning sump at the former Forestry Building, fill with sand after clean and cap	
Labour	\$1,152.00
Materials	\$357.00
Tip fees	\$61.00
Total Exc GST:	\$1,570.00
GST:	\$157.00
Total Inc GST:	\$1,727.00
Less Amount Paid:	\$0.00
Balance Due:	\$1,727.00

This is a payment claim under the Building and Construction Industry Security of Payment Act 2009.

Direct Deposit Details:

BSB: 017 - 318
Account No.: 4992 - 30963

20 Watchorn Street, Hobart, Tasmania 7000
Phone: 03 6231 1998 Fax: 03 6231 1996
Email: admin@construction3.com.au
ABN 22 109 213 336

From: Warren Jordan
To: [Peter Topliss](#); [Nicole Reineker](#)
Subject: FW: Oil Sump Removal/Treatment
Date: Thursday, 27 September 2018 10:44:29 AM
Attachments: [Con3 Inv 00011933.pdf](#)
[Motor Vehicle Workshop Oil Sump Removal.pdf](#)

Hi Peter and Nicole

Just in from Nekon for Forestry, see attached.

Cheers Warren

Warren Jordan
Senior Manager, Design and Development
Infrastructure Services and Development

T +61 3 6226 7353 | M 0439 995 663
Private Bag 15 Hobart TASMANIA 7001
www.utas.edu.au/csd



From: Leigh Roberts <leigh@nekon.com.au>
Sent: Thursday, 27 September 2018 9:59 AM
To: Warren Jordan <warren.jordan@utas.edu.au>
Subject: FW: Oil Sump Removal/Treatment

Hi Warren, please see email below and attached in regards to the remediation of an oil sump in the workshop

Cheers

Leigh Roberts
Nekon Pty Ltd
Mobile 0408 141 316

From: Charles Scarafiotti
Sent: Thursday, 27 September 2018 9:53 AM
To: Leigh Roberts
Subject: Oil Sump Removal/Treatment

Leigh, re the oil sump treatment, please see attached.

Thanks

Charles

Charles Scarafiotti
Nekon Pty. Ltd.

Tel. (03) 6224 6511
Fax. (03) 6224 6522

Mob. 0418 136 397

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University of Tasmania Electronic Communications Policy (December, 2014).

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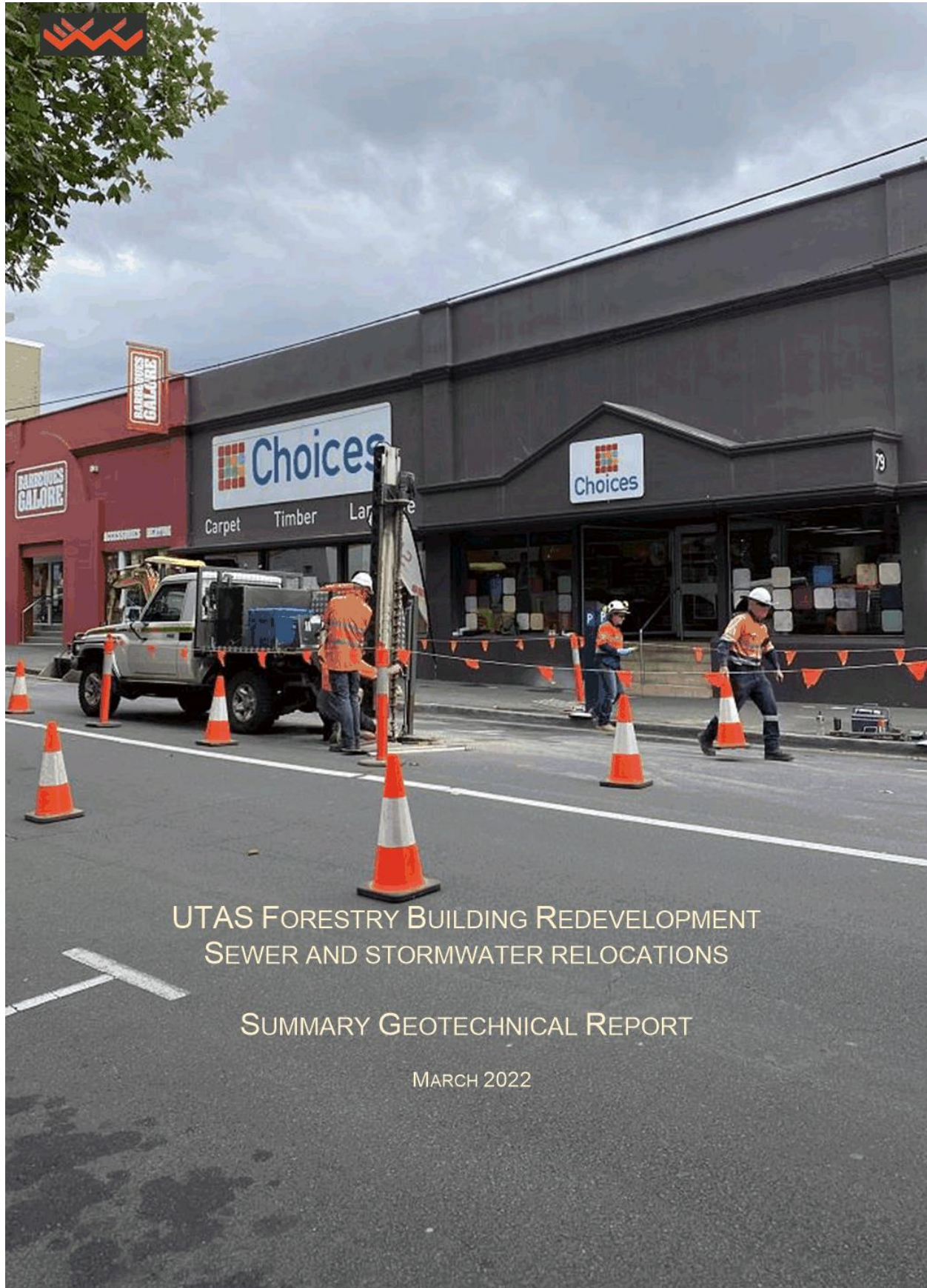


ghd.com

→ The Power of Commitment

Appendix G

Geotechnical report – Brisbane Street



UTAS FORESTRY BUILDING REDEVELOPMENT
SEWER AND STORMWATER RELOCATIONS

SUMMARY GEOTECHNICAL REPORT

MARCH 2022

**Cover photo**

View west to mechanical auger drilling at Site 1 outside *Choices* at 79 Brisbane Street, Hobart, 16 March 2022.

Photo: Bill Cromer

Refer to this report as

Cromer, W. C. (2022). *Summary Geotechnical Report, UTAS Forestry Building Redevelopment: stormwater and sewer relocations*. Unpublished report by William C. Cromer Pty Ltd for University of Tasmania, 28 March 2022.

Limitations of this geotechnical report

Site investigations for geotechnical reports usually but not always involve digging test holes and taking samples, at locations thought appropriate based on site conditions and general experience. The reports only apply to that part of the site actually tested, and in no way should the results be extrapolated to other adjacent areas.

The main aim of the investigations is to reasonably determine the variability in subsurface conditions at the time of inspection. The number and location of test sites, and the number and types of tests done and samples collected, will vary from site to site. Subsurface conditions may change laterally and vertically between test sites, so discrepancies may occur between what is described in the reports, and what is exposed by subsequent excavations. No responsibility is therefore accepted for (a) any differences between what is reported, and actual site and soil conditions for parts of an investigation site not assessed at the time of inspection, and (b) subsequent activities on site by others, and/or climate variability (eg rainfall), which may alter subsurface conditions at the sites assessed at the time of inspection.

Report Disclaimer

This document has been prepared for use by the client named above by William C Cromer Pty Ltd (WCCPL) and has been compiled using the firm's expert knowledge, due care and professional expertise. WCCPL does not guarantee that the publication is without flaw of any kind or is wholly appropriate for every purpose for which it may be used.

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1 INTRODUCTION

1.1 Background

The University of Tasmania (UTAS) is redeveloping the former Forestry Building between Melville and Brisbane Streets, Hobart (Attachment 1).

Existing sewer and stormwater pipes pass beneath Brisbane Street and the building and need to be relocated (Attachment 2).

William C Cromer Pty Ltd (WCCPL) was commissioned by JMG Engineers and Planners (JMG) on behalf of UTAS to undertake geotechnical investigations at four locations along a section of the pipe alignment in Brisbane Street outside retail premises *Choices* and *Freedom*, and down the access ramp on the northeastern side of the *Freedom* building.

The purpose of the subsurface investigations was to aid engineering design of the realignment, and to provide information for prospective tenderers.

Related geotechnical investigations were conducted at the Forestry Building in 2018 and 2021¹ (Attachment 2).

Locations and depths of investigation of the four sites (here designated Sites 1 – 4) were specified by JMG. Nominal depths of investigation (Attachment 2) were 5.2m, 5.5m, 5.0m and 3.0m for Sites 1 – 4 respectively.

1.2 Methodology

Excavator and augering

It was originally intended that each site would be investigated using a combination of hollow auger and (if required) diamond drilling. However, drilling rigs were unavailable to do the work until mid-April at the earliest.

JMG indicated that this timing would unacceptably delay engineering design, and on WCCPL's suggestion, a combination of excavator test pitting and solid mechanical augering was agreed upon. Where appropriate, dynamic cone penetrometer (DCP) profiling was to be used to supplement the test pitting and augering.

It was recognised that the excavator/auger combination would not provide much information on the type and strengths of any bedrock which might be present. On the other hand, test pits would provide detailed information on material types, strengths and excavabilities, and a combination of augering (with pullback and material recovery) and DCP profiling would provide similar information below the reach of an excavator. An undesirable situation would be the presence of bedrock at depths considerably shallower than the nominated investigation depths at any of the four sites.

Surveying

Sites 1 – 4, and the grating above the existing stormwater main, were dumpy-levelled with respect to SPM43 (24.42mAHD) on the corner of Brisbane and Murray Streets.

¹ Cromer, W. C. (2018). *Redevelopment of 79 – 85 Melville Street, Hobart: Geotechnical notes on preliminary test pitting, DCP profiling and drilling*. Unpublished report by William C. Cromer Pty Ltd, 11 February 2018; 24 pages, and Cromer, W. C. (2021). *Summary Geotechnical Report, UTAS Forestry Building, Melville Street, Hobart*. Unpublished report by William C. Cromer Pty Ltd, 6 September 2021.





Site contamination sampling

UTAS commissioned GHD to conduct a site contamination assessment of the materials along the pipeline realignment. WCCPL and GHD cooperated so that sampling could be done in test pits and from solid auger flights during the current investigations.

1.3 Dates of investigation and personnel

Sites 1 – 4 were cleared of underground services by *Auslocations* on 16 August 2021. Site 1 investigations were completed the same day. The test pit was backfilled with compacted 3% stabilised sand (in accord with Hobart City Council requirements), and bitumen was reinstated.

Sites 2, 3 and 4 were investigated on 17 March 2022, and bitumen was reinstated the same day.

The 4.5t excavator was supplied by *G. Edwards Excavations*, and operated by Seaton Waterfield.

Peter Hofto, consultant geologist and Principal of *Rock Solid Geotechnics*, supplied and operated the *Sampler 25* 4WD-mounted mechanical auger.

Spectran Group prepared traffic management plans and conducted traffic management on both days. Spectran crews also cut the test pit holes in bitumen, and re-instated the bitumen.

Bill Cromer logged and photographed all holes, and was assisted by technician Richard Mackintosh. As part of the site contamination investigation, Nicole Reineker from GHD attended on both days and sampled soils from the test pits and auger flights.

2 RESULTS

2.1 Presentation of results

Attachment 1 includes cadastre, streets, aerial imagery and published geology, all from www.thelist.tas.gov.au. Sites 1 – 4 are superimposed on the images.

Attachment 2 includes the locations of test sites from the 2018 and 2021 geotechnical investigations, and (second page) shows the locations of the four sites on a preliminary plan provided by JMG.

Engineering logs and photographs of all four sites are presented in Attachment 3.

Figure 1 is a conceptual and interpretative cross section² between Sites 1 – 4, based on the results of the geotechnical investigation.

2.2 Published geology is different from observed geology

The published geological map in Attachment 2 shows four rock types within the immediate vicinity of Sites 1 – 4: Triassic sandstone intruded by Jurassic dolerite, Tertiary boulder beds, and Quaternary creek sediments.

Instead, the observed geology at each of the sites was:

² There are inherent limitations to the cross section, as explained in the “Limitations of this geotechnical report” on page 2.



Site 1 (Brisbane Street)

Up to at least 5.2m of unconsolidated material, interpreted as (mostly clayey) fill. Auger refusal at 5.2m may be bedrock (dolerite?, sandstone?) or possibly boulders either in the Tertiary materials, or in the floor of the (now filled) creek bed³.

Site 2 (Brisbane Street)

The excavator refused on dolerite bedrock at 1m.

Site 3 (near top of ramp)

The auger refused at the base of extremely weathered dolerite bedrock at 2.5m

Site 4 (bottom of ramp)

The excavator refused on relatively fresh dolerite bedrock at 0.65m.

The unconsolidated Quaternary creek sediments appear in this vicinity to be considerably narrower than the published geological map.

2.3 Groundwater

No shallow groundwater was encountered at any of the sites.

3 DISCUSSION

3.1 Interpreted geological cross section

Figure 1 is a conceptual (interpreted) cross section about 100m long through the four sites, starting at the inspection grating in the gutter above the existing stormwater pipe in Brisbane Street outside *Choices*, and ending at the bottom of the *Freedom* ramp.

In this interpretation:

- Site 1 is in the valley of the former creek, possibly near its deepest point. Here, the auger bottomed below the invert of the stormwater pipe.
- The valley of the creek has been filled in with unconsolidated materials. Between Sites 1 and 2, the valley floor rises almost to the current ground surface.
- The bedrock between Sites 1 and 2 may partly be sandstone and siltstone, but passes into dolerite before Site 2.
- Dolerite bedrock extends the remaining distance between Sites 2 and 4. At Site 3, it is extremely weathered to depths of about 2.5m, but is moderately fresh and of higher strength at Sites 2 and 4.

3.2 Suggested further investigations

Only Site 1 achieved its nominal depth of investigation. At Sites 2, 3 and 4, refusal was encountered by the excavator and/or auger at depths considerably shallower than the target depths.

³ A tributary of Hobart Rivulet passes beneath Brisbane Street and the *Freedom* and Forestry Building. In this area at least, it has been brick-lined as a stormwater pipe, and at its inspection grating in Brisbane Street within a few metres of Site 1, the invert of the pipe is 4.4m below gutter level (17.0mAHD).





Consideration might be given to delaying engineering design so one or more of the three sites could be explored to required depths by diamond drilling. It is assumed that good core recovery could be obtained. The intended extra information from this approach would be (a) confirmation of bedrock type, and (b) rock strength and excavability, derived principally from joint sets and spacings in the rock mass.

3.3 Advice to engineers and tenderers

In the absence of further site investigations, the following inferences arise from the current site investigations:

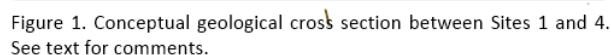
- Expect variability in material types and strengths along the full distance between Sites 1 and 4. Changes will be potentially abrupt, and unpredictable.
- Excavability for trenching to depths up to about 5m or so is related to material strength and (in rock) fracture intensity. The unconsolidated fill at Site 1 to about 5m, and the extremely weathered dolerite at Site 4 to about 2m, will be easily excavable. Elsewhere, plant larger than the 4.5t excavator used on site will be required, probably with single tooth ripper and rock breaking capability.
- Trench shoring between Sites 2 and 4 is unlikely to be required, but is likely to be needed at and near Site 1, and for an uncertain distance towards Site 2.
- Groundwater is unlikely to be encountered along the proposed trench, except perhaps along the alignment of the original creek near Site 1. If so, near Site 1 the rate of water ingress is expected to be low and dewatering is unlikely to be a major issue.
- During test pitting, a slight to moderate earthy-acidic odour was noted in all materials at Site 1. At the time of writing, no results are available from the site contamination investigation. Depending on these, some form of management of contaminated material may be required during trenching and pipe installation.

W. C. Cromer
Principal

This report is and must remain accompanied by the following Attachments:

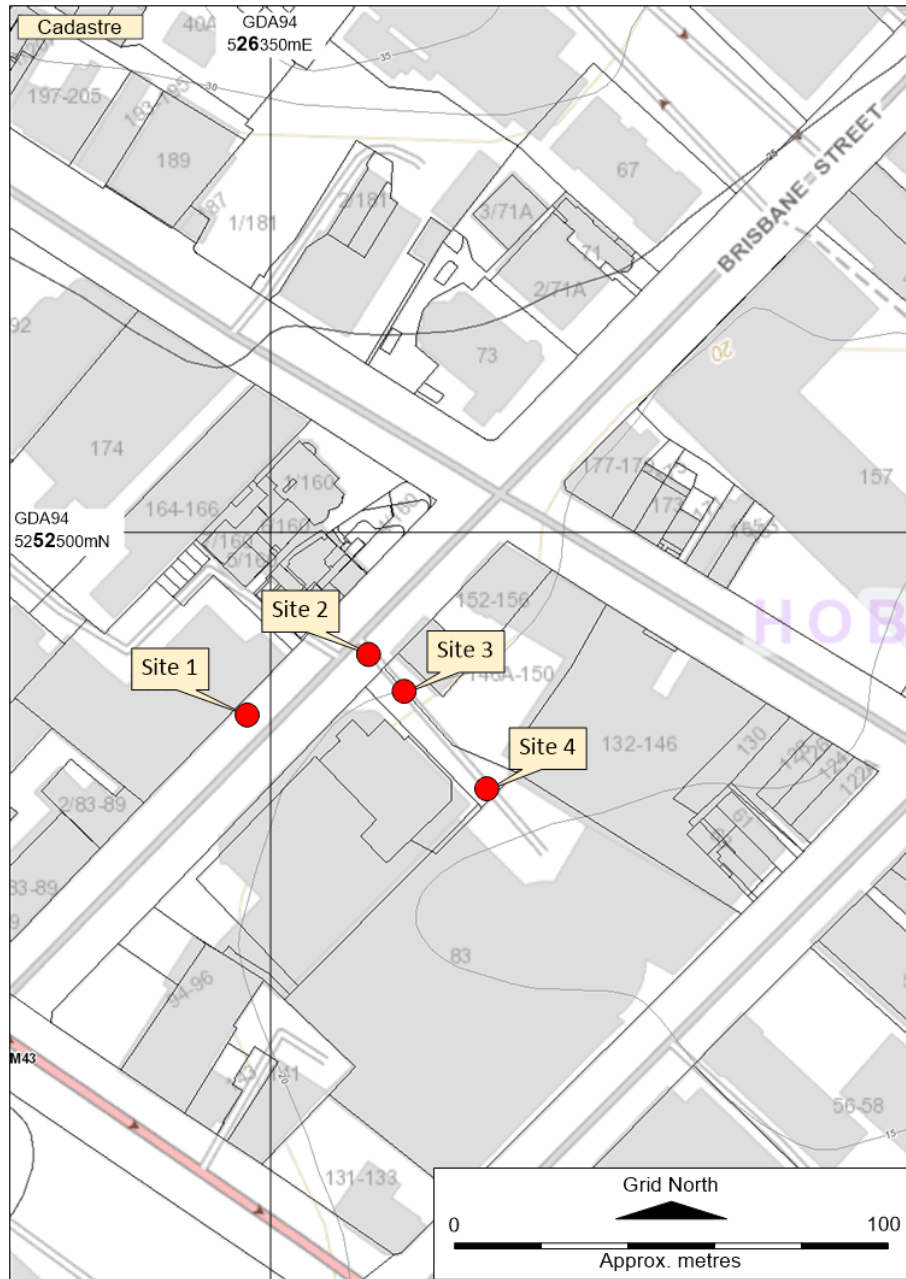
- Attachment 1. Cadastre, aerial imagery, published geology and investigation sites 1 – 4 (3 pages)
- Attachment 2. Locations of test sites for the 2018, 2021 and 2022 (March) investigations (2 pages)
- Attachment 3. Engineering logs and photographs of test pits at Sites 1 – 4 (14 pages)



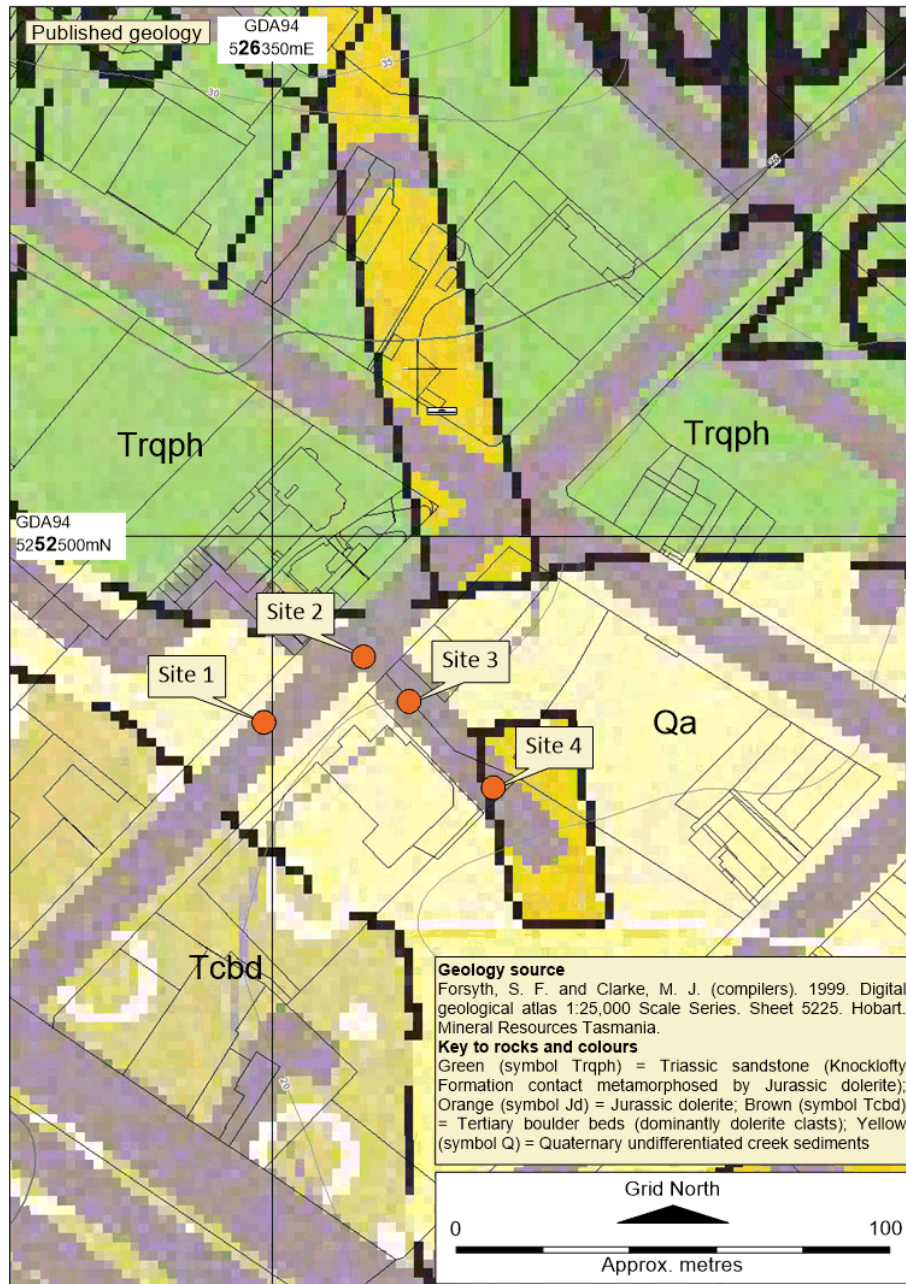


**Attachment 1**

(3 pages)

Cadastre, aerial imagery, published geology and investigation sites 1 – 4





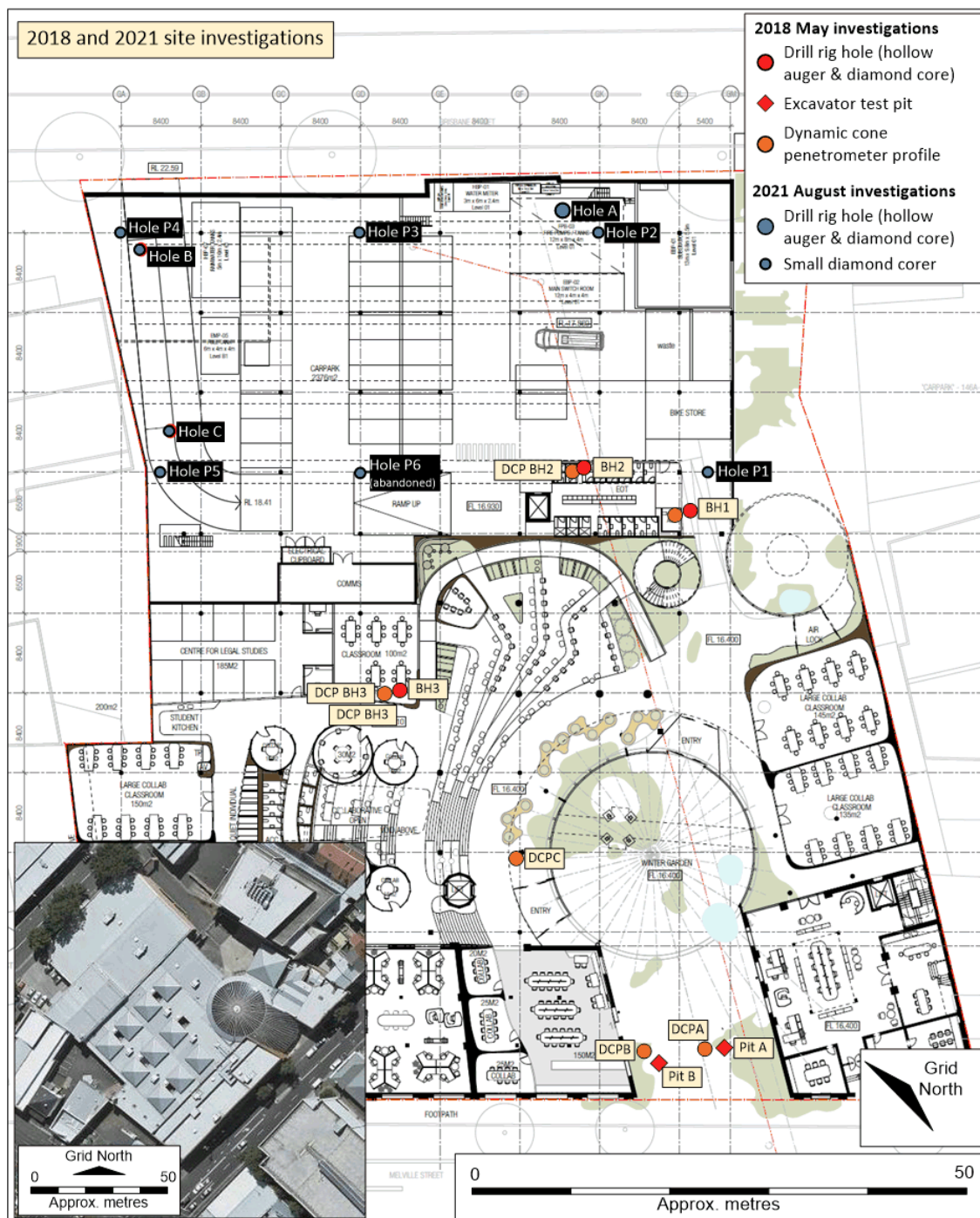
UTAS Forestry Building Redevelopment: sewer and stormwater relocations
Summary Geotechnical Report

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28 March 2022

Attachment 2

(2 pages)

Locations of test sites for the 2018, 2021 and March 2022 investigations

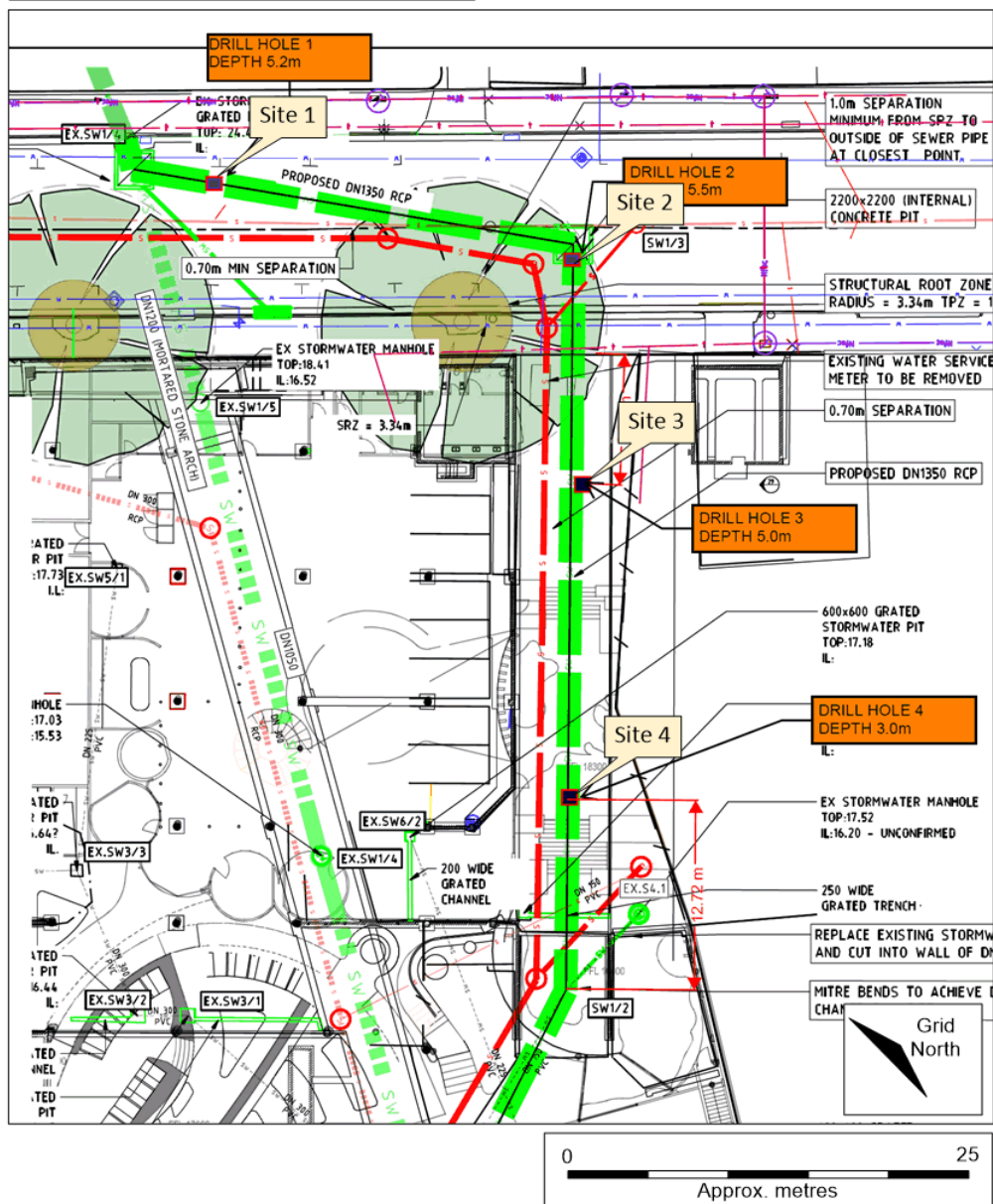


UTAS Forestry Building Redevelopment: sewer and stormwater relocations
Summary Geotechnical Report

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28 March 2022

2022 March 16 and 17 site investigations

(Base plan: Part of JMG Preliminary Drawing C06 DA1 25 Jan 2022)



**Attachment 3**

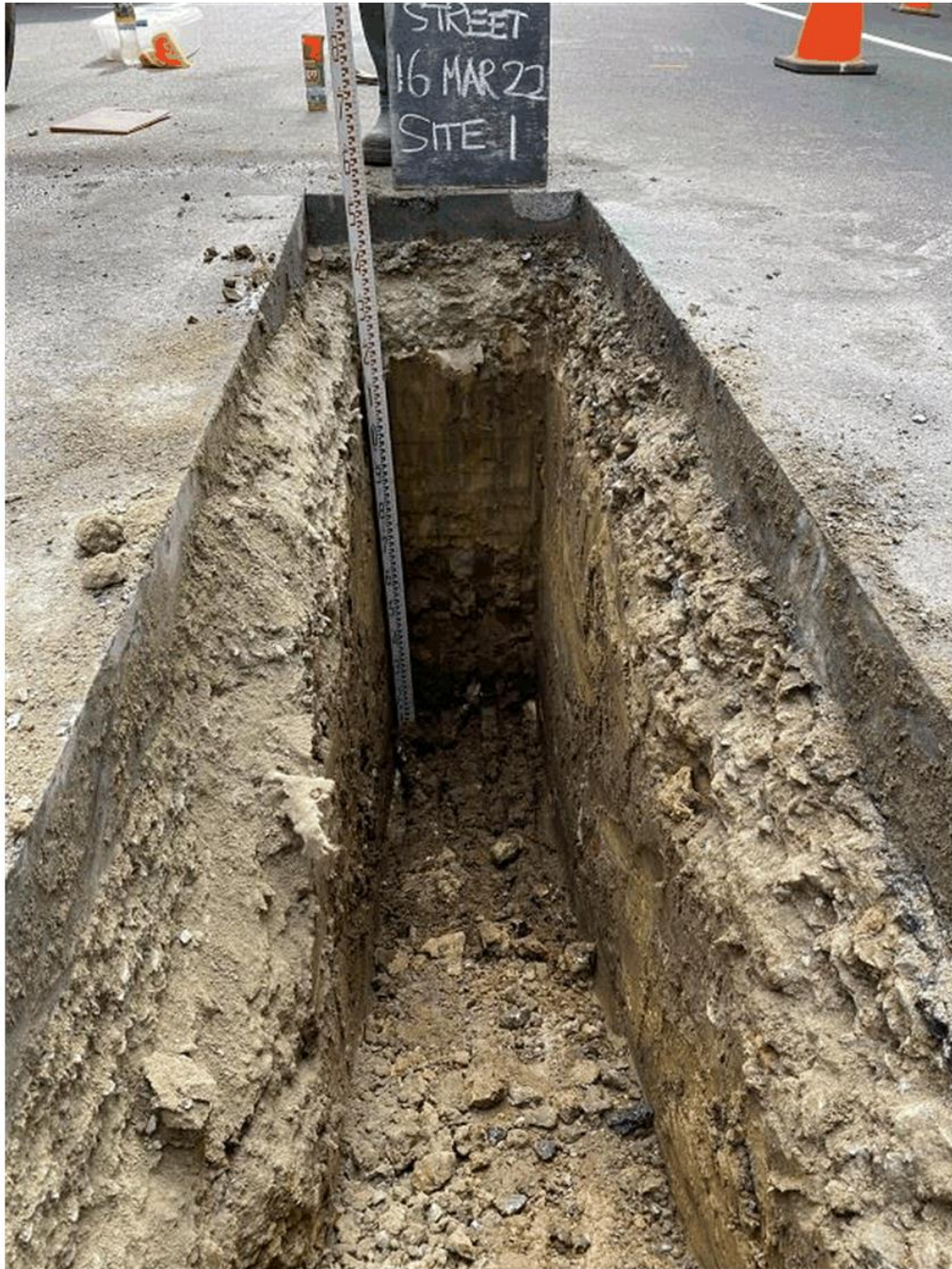
(14 pages including this page)

Engineering logs and photographs of test pits at Sites 1 – 4

The staff/scale in these photos is graduated in red- and black numbered segments each one metre long.
The larger numbers are decimetres and the smaller numbers are centimetres.









UTAS Forestry Building Redevelopment: sewer and stormwater relocations
 Summary Geotechnical Report

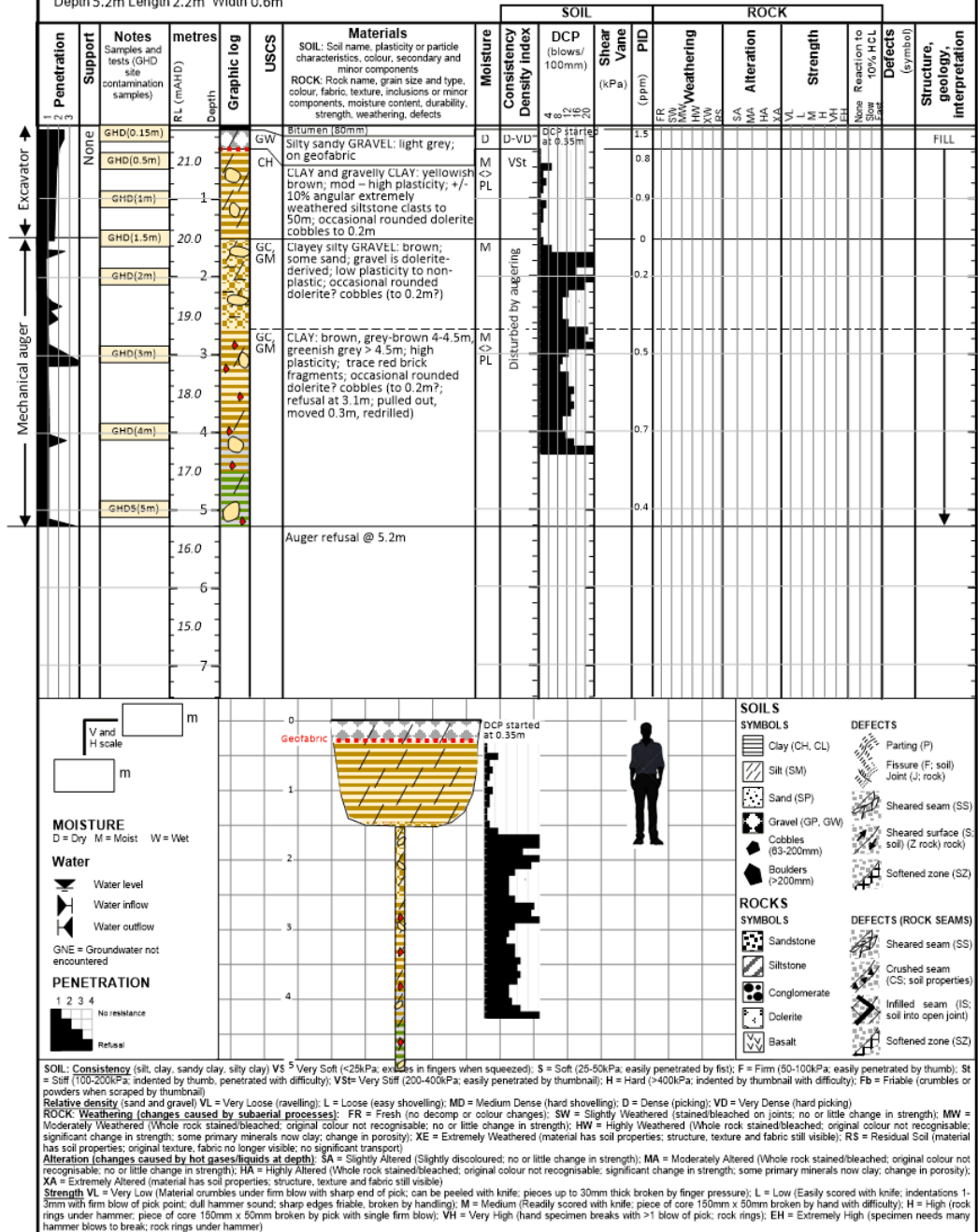
16
 28 March 2022

Excavation log

William C Cromer Pty Ltd Consulting engineering,
 groundwater and environmental geologists
 www.williamccromer.com

ID SITE 1
 Sheet 1 of 1

Project UTAS Forestry Building Redevelopment **Location** Brisbane Street, outside #79 (Choices)
Coordinates 526344mE; 5252453mN **Exposure type** Test pit and drill hole **Date dug** 16 March 2022
Datum GDA94 **Equipment** 4.5t Kubota excavator (450mm GP bucket, 4 teeth) and 4WD-mounted Sampler 25 solid auger (100mm) **Date logged** 16 March 2022
RL Approx. 21.5mAH **Operators** Seaton Waterfield (excavator; G. Edwards Excavations) and Peter Hofo (auger; Rock Solid Geotechnics) **Logged by** W. C. Cromer
Dimensions (m) Depth 5.2m Length 2.2m Width 0.6m **Checked by** W. C. Cromer



William C Cromer Pty Ltd Consulting engineering, groundwater and environmental geologists
 www.williamccromer.com









UTAS Forestry Building Redevelopment: sewer and stormwater relocations
 Summary Geotechnical Report

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Excavation log										William C Cromer Pty Ltd Consulting engineering, groundwater and environmental geologists www.williamccromer.com		ID SITE 2 Sheet 1 of 1				
Project UTAS Forestry Building Redevelopment										Location Brisbane Street, outside ramp of #80 (Freedom)						
Coordinates 526370mE; 5252489mN										Exposure type Test pit		Date dug 17 March 2022				
Datum GDA94										Equipment 4.5t Kubota excavator (450mm GP bucket, 4 teeth)		Date logged 17 March 2022				
RL Approx. 21.6mAH										Operator Seaton Waterfield (excavator; G. Edwards Excavations)		Logged by W. C. Cromer				
Dimensions (m) Depth 1.0m Length 2.2m Width 0.6m										Checked by W. C. Cromer						
Penetration	Support	Notes Samples and tests (GHD site contamination samples)	metres Depth	USCS	Materials SOIL: Soil name, plasticity or particle characteristics, colour, secondary and minor components ROCK: Rock name, grain size and type, colour, fabric, texture, inclusions or minor components, moisture content, durability, strength, weathering, defects	SOIL				ROCK						
						Moisture	Consistency	DCP (blows/ 100mm)	Shear Vane (kPa)	PID (ppm)	Weathering	Alteration	Strength	Reaction to 10% HCL	Defects (symbol)	Structure, geology, interpretation
1	None	GHD(0.2m)	21.0	GW	Bitumen (80mm)	D	D-VD	No DCP	0.3							FILL
2	None	GHD(0.5m)	21.0	GC	Silty sandy GRAVEL: light grey Gravelly CLAY: brown; mod - high plasticity; occasional brick fragments Dolerite: grey brown; strongly fractured; highly weathered grading to moderately weathered; irregular angular joint blocks up to 0.25m Excavator refusal in dolerite bedrock @ 1.0m	M<	VST		0.3							Subsoil (B horizon)
3			20.0													Bedrock (CB horizon)
4			19.0													
5			18.0													
6			17.0													
7			16.0													
8			15.0													
9			14.0													
10			13.0													
11			12.0													
12			11.0													
13			10.0													
14			9.0													
15			8.0													
16			7.0													
17			6.0													
18			5.0													
19			4.0													
20			3.0													
21			2.0													
22			1.0													
23			0.0													

MOISTURE
 D = Dry M = Moist W = Wet

Water
 Water level
 Water inflow
 Water outflow
 GNE = Groundwater not encountered

PENETRATION
 1 2 3 4
 No resistance
 Refusal

Metres 0 1 2 3 4

SOILS
 SYMBOLS
 Clay (CH, CL)
 Silt (SM)
 Sand (SP)
 Gravel (GP, GW)
 Cobbles (63-200mm)
 Boulders (>200mm)

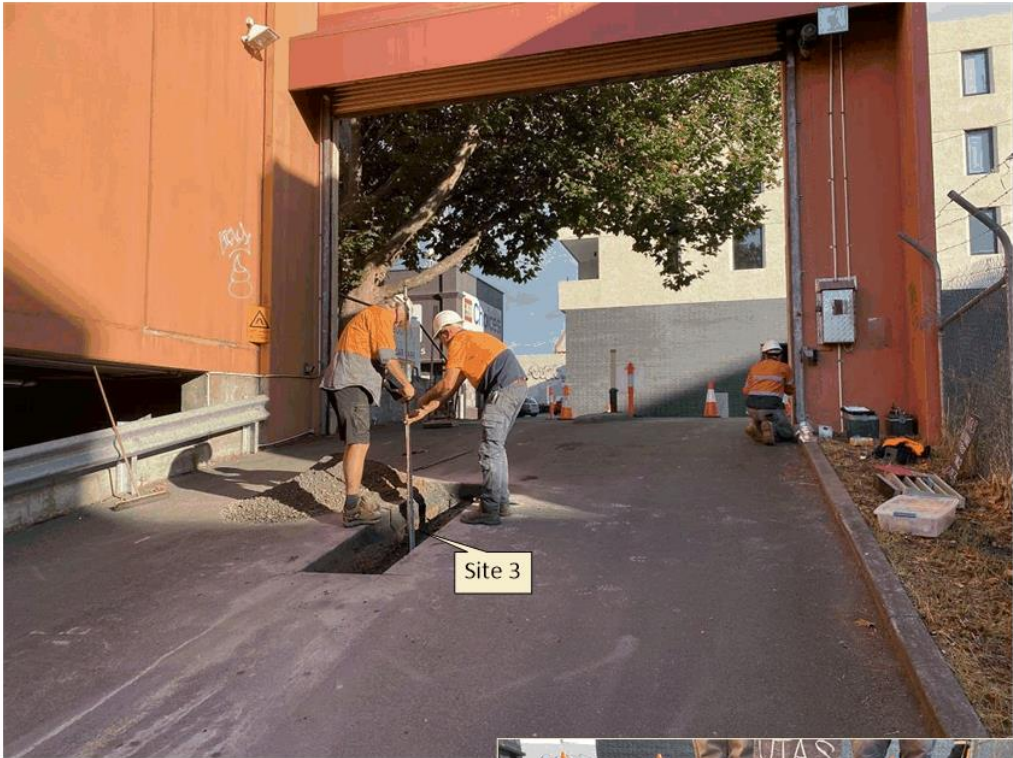
ROCKS
 SYMBOLS
 Sandstone
 Siltstone
 Conglomerate
 Dolerite
 Basalt

DEFECTS
 Parting (P)
 Fissure (F; soil)
 Joint (J; rock)
 Sheared seam (SS)
 Sheared surface (S; soil)
 (Z rock) rock
 Softened zone (SZ)

DEFECTS (ROCK SEAMS)
 Sheared seam (SS)
 Crushed seam (CS; soil properties)
 Infilled seam (IS; soil into open joint)
 Softened zone (SZ)

SOIL: Consistency (silt, clay, sandy clay, silty clay) VS = Very Soft (<25kPa; exudes in fingers when squeezed); S = Soft (25-50kPa; easily penetrated by fist); F = Firm (50-100kPa; easily penetrated by thumb); St = Stiff (100-200kPa; indented by thumb, penetrated with difficulty); VSt = Very Stiff (200-400kPa; easily penetrated by thumbnail); H = Hard (>400kPa; indented by thumbnail with difficulty); Fb = Friable (crumbles or powders when scraped by thumbnail)
Relative density (sand and gravel) VL = Very Loose (ravelling); L = Loose (easy shovelling); MD = Medium Dense (hard shovelling); D = Dense (picking); VD = Very Dense (hard picking)
ROCK: Weathering (changes caused by subaerial processes): FR = Fresh (no decomp or colour changes); SW = Slightly Weathered (stained/bleached on joints; no or little change in strength); MW = Moderately Weathered (Whole rock stained/bleached; original colour not recognisable; no or little change in strength); HW = Highly Weathered (Whole rock stained/bleached; original colour not recognisable; significant change in strength; some primary minerals now clay; change in porosity); XE = Extremely Weathered (material has soil properties; structure, texture and fabric still visible); RS = Residual Soil (material has soil properties; original texture, fabric no longer visible; no significant transport)
Alteration (changes caused by hot gases/liquids at depth): SA = Slightly Altered (Slightly discoloured; no or little change in strength); MA = Moderately Altered (Whole rock stained/bleached; original colour not recognisable; no or little change in strength); HA = Highly Altered (Whole rock stained/bleached; original colour not recognisable; significant change in strength; some primary minerals now clay; change in porosity); XA = Extremely Altered (material has soil properties; structure, texture and fabric still visible)
Strength VL = Very Low (Material crumbles under firm blow with sharp end of pick; can be peeled with knife; pieces up to 30mm thick broken by finger pressure); L = Low (Easily scored with knife; indentations 1-3mm with firm blow of pick point; dull hammer sound; sharp edges friable, broken by handling); M = Medium (Readily scored with knife; piece of core 150mm x 50mm broken by hand with difficulty); H = High (rock rings under hammer; piece of core 150mm x 50mm broken by pick with single firm blow); VH = Very High (hand specimen breaks with >1 blow of pick; rock rings); EH = Extremely High (specimen needs many hammer blows to break; rock rings under hammer)









UTAS Forestry Building Redevelopment: sewer and stormwater relocations
Summary Geotechnical Report

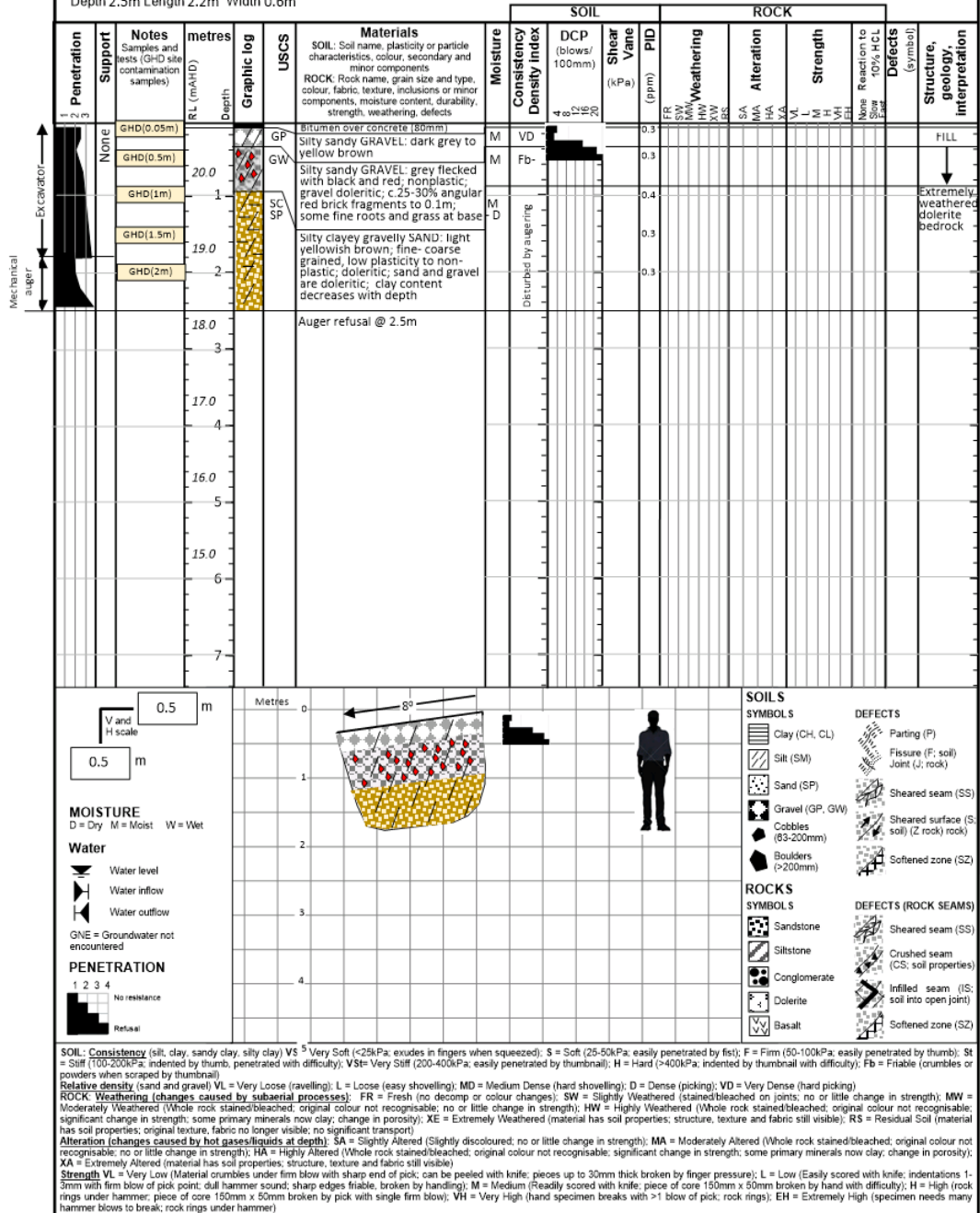
22
28 March 2022

Excavation log

William C Cromer Pty Ltd Consulting engineering,
groundwater and environmental geologists
www.williamccromer.com

ID SITE 3
Sheet 1 of 1

Project UTAS Forestry Building Redevelopment **Location** On ramp of #80 Brisbane Street (Freedom)
Coordinates 526380mE; 5252459mN **Exposure type** Test pit and drill hole **Date dug** 17 March 2022
Datum GDA94 **Equipment** 4.5t Kubota excavator (450mm GP bucket, 4 teeth) and 4WD-mounted Sampler 25 solid auger (100mm) **Date logged** 17 March 2022
RL Approx. 20.7m AHD **Operators** Seaton Waterfield (excavator); G. Edwards Excavations and Peter Hofto (auger; Rock Solid Geotechnics) **Logged by** W. C. Cromer
Dimensions (m) Depth 2.5m Length 2.2m Width 0.6m **Checked by** W. C. Cromer



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UTAS Forestry Building Redevelopment: sewer and stormwater relocations
Summary Geotechnical Report

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28 March 2022







UTAS Forestry Building Redevelopment: sewer and stormwater relocations
 Summary Geotechnical Report

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 28 March 2022

Excavation log										William C Cromer Pty Ltd - Consulting engineering, groundwater and environmental geologists www.williamccromer.com		ID SITE 4 Sheet 1 of 1				
Project UTAS Forestry Building Redevelopment										Location On ramp of #80 Brisbane Street (Freedom)		Date dug 17 March 2022				
Coordinates 526399mE; 5252440mN										Exposure type Test pit and drill hole		Date logged 17 March 2022				
Datum GDA94										Equipment 4.5t Kubota excavator (450mm GP bucket, 4 teeth)						
RL Approx. 17.6m AHD										Operator Seaton Waterfield (excavator; G. Edwards Excavations)		Logged by W. C. Cromer				
Dimensions (m) Depth 0.65 Length 2.2m Width 0.6m										Checked by W. C. Cromer						
Penetration	Support	Notes Samples and tests (GHD site contamination samples)	metres Depth	Graphic log	USCS	Materials SOIL: Soil name, plasticity or particle characteristics, colour, secondary and minor components ROCK: Rock name, grain size and type, colour, fabric, texture, inclusions or minor components, moisture content, durability, strength, weathering, defects	SOIL				ROCK				Structure, geology, interpretation	
							Moisture	Consistency	Density index	DCP (blows/100mm)	Shear Vane (kPa)	PID (ppm)	Weathering	Alteration		Strength
	None	GHD(0.1m)	17.0		GP	Bitumen (30mm)	M	D	No DCP		1.1					FILL
	None	GHD(0.5m)	17.0		CH	Silty sandy GRAVEL: dark grey to olive grey CLAY: grey brown, high plasticity DOLERITE: grey, fine grained; slightly weathered; high strength, variably jointed (spacings 0.1 - >0.5m); subvertical joints trend 210°T and 300°T. Excavator refusal @ 0.65m	M	VL			0.5					Dolerite bedrock
			1													
			2													
			3													
			4													
			5													
			6													
			7													

MOISTURE
 D = Dry M = Moist W = Wet

Water
 Water level
 Water inflow
 Water outflow
 GNE = Groundwater not encountered

PENETRATION
 1 2 3 4
 No resistance
 Refusal

SOILS SYMBOLS

	Clay (CH, CL)
	Silt (SM)
	Sand (SP)
	Gravel (GP, GW)
	Cobbles (63-200mm)
	Boulders (>200mm)

ROCKS SYMBOLS

	Sandstone
	Siltstone
	Conglomerate
	Dolerite
	Basalt

SOIL: Consistency (silt, clay, sandy clay, silty clay) VS = Very Soft (<25kPa; exudes in fingers when squeezed); S = Soft (25-50kPa; easily penetrated by fist); F = Firm (50-100kPa; easily penetrated by thumb); St = Stiff (100-200kPa; indented by thumb; penetrated with difficulty); VSt = Very Stiff (200-400kPa; easily penetrated by thumbnail); H = Hard (>400kPa; indented by thumbnail with difficulty); Fb = Friable (crumbles or powders when scraped by thumbnail)

Relative density (sand and gravel) VL = Very Loose (ravelling); L = Loose (easy shovelling); MD = Medium Dense (hard shovelling); D = Dense (picking); VD = Very Dense (hard picking)

ROCK Weathering (changes caused by subaerial processes): FR = Fresh (no decomp or colour changes); SW = Slightly Weathered (stained/bleached on joints; no or little change in strength); MW = Moderately Weathered (Whole rock stained/bleached; original colour not recognisable; no or little change in strength); HW = Highly Weathered (Whole rock stained/bleached; original colour not recognisable; significant change in strength; some primary minerals now clay; change in porosity); XE = Extremely Weathered (material has soil properties; structure, texture and fabric still visible); RS = Residual Soil (material has soil properties; original texture, fabric no longer visible; no significant transport)

Alteration (changes caused by hot gases/liquids at depth): SA = Slightly Altered (Slightly discoloured; no or little change in strength); MA = Moderately Altered (Whole rock stained/bleached; original colour not recognisable; no or little change in strength); HA = Highly Altered (Whole rock stained/bleached; original colour not recognisable; significant change in strength; some primary minerals now clay; change in porosity); XA = Extremely Altered (material has soil properties; structure, texture and fabric still visible)

Strength VL = Very Low (Material crumbles under firm blow with sharp end of pick; can be peeled with knife; pieces up to 30mm thick broken by finger pressure); L = Low (Easily scored with knife; indentations 1-3mm with firm blow of pick point; dull hammer sound; sharp edges friable, broken by handling); M = Medium (Readily scored with knife; piece of core 150mm x 50mm broken by hand with difficulty); H = High (rock rings under hammer; piece of core 150mm x 50mm broken by pick with single firm blow); VH = Very High (hand specimen breaks with >1 blow of pick; rock rings); EH = Extremely High (specimen needs many hammer blows to break; rock rings under hammer)





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→ The Power of Commitment

**RESULT OF SEARCH**

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980

SEARCH OF TORRENS TITLE

VOLUME 149231	FOLIO 0
EDITION 2	DATE OF ISSUE 22-Feb-2017

SEARCH DATE : 24-Nov-2022

SEARCH TIME : 02.28 PM

DESCRIPTION OF LAND

City of HOBART
The Common Property for Strata Scheme 149231
Derivation : SEE PLAN.
Prior CT 125745/1

SCHEDULE 1

E70820 STRATA CORPORATION NO. 149231-1, 80 BRISBANE STREET,
HOBART (in relation to that part of the site
comprising Lot 1 on Strata Plan No. 149231) and
STRATA CORPORATION NO. 149231-2, 79-83 MELVILLE
STREET, HOBART (in relation to that part of the site
comprising Lot 2 on Strata Plan No. 149231)

SCHEDULE 2

Reservations and conditions in the Crown Grant if any
B971184 ADHESION ORDER under Section 110 of the Local
Government (Building and Miscellaneous Provisions)
Act 1993 Registered 26-Sep-1996 at 12.01 PM
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149231 by increasing the vertical boundaries of Lots
1 & 2 and decreasing the common property Registered
22-Feb-2017 at noon
E70820 NOTICE of division of body corporate Registered
22-Feb-2017 at 12.01 PM

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations



FOLIO PLAN

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980



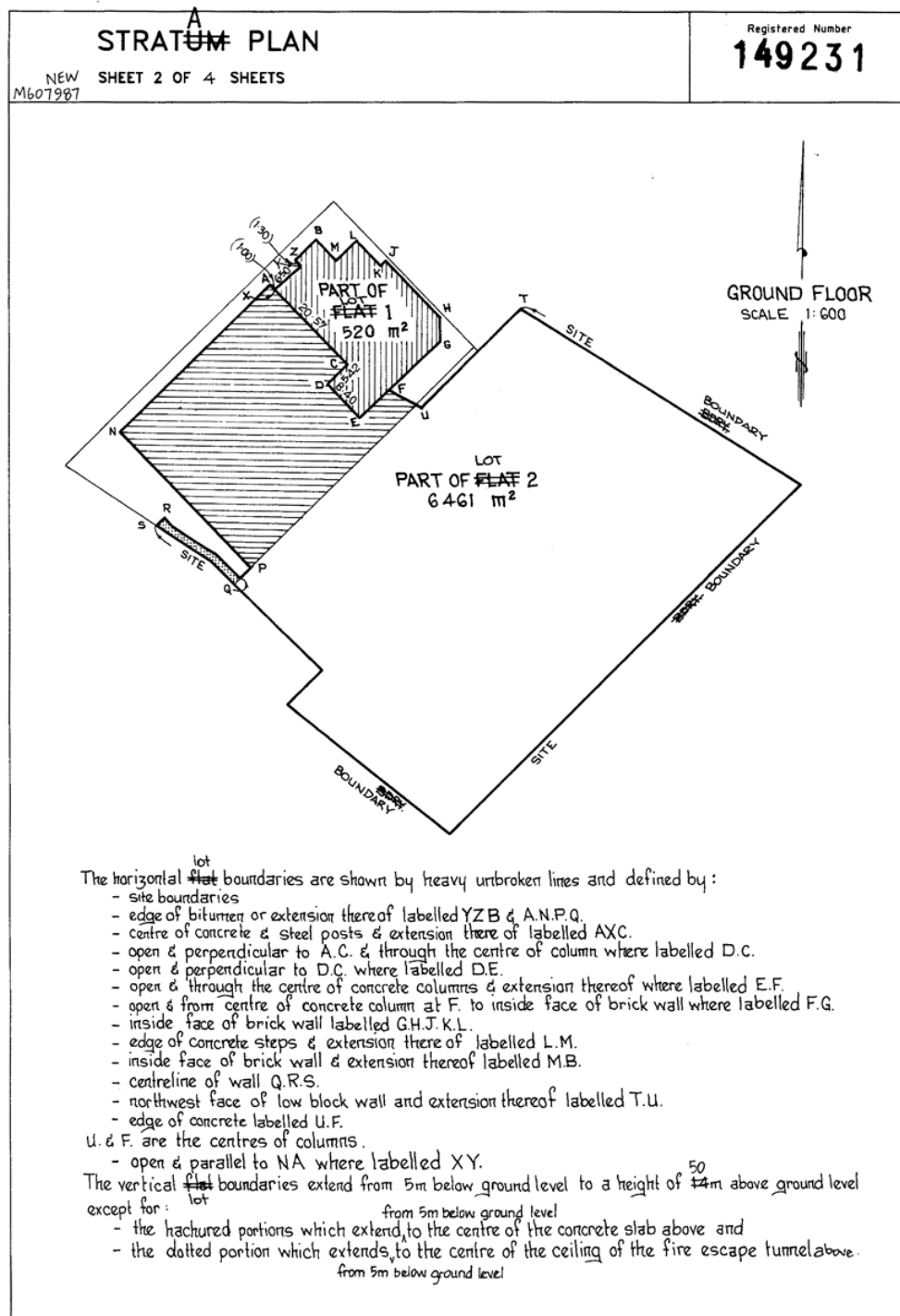
CITY/TOWN HOBART SUBURB FOLIO REFERENCE C.T.125745-1 SITE COMPRISES THE WHOLE OF LOT 1 ON PLAN No. P125745		STRATUM PLAN SHEET 1 OF 5 SHEETS		REGISTERED NUMBER 149231
NAME OF BUILDING 79-83 Melville Street & 80 Brisbane Street - Hobart.		REGISTERED - 3 OCT. 2007 <i>Alice Kawa</i> Recorder of Titles.		
MAPSHEET MUNICIPAL CODE No. 114	LAST UP! No. FEZ 64	SCALE 1: 750	LENGTHS IN METRES	

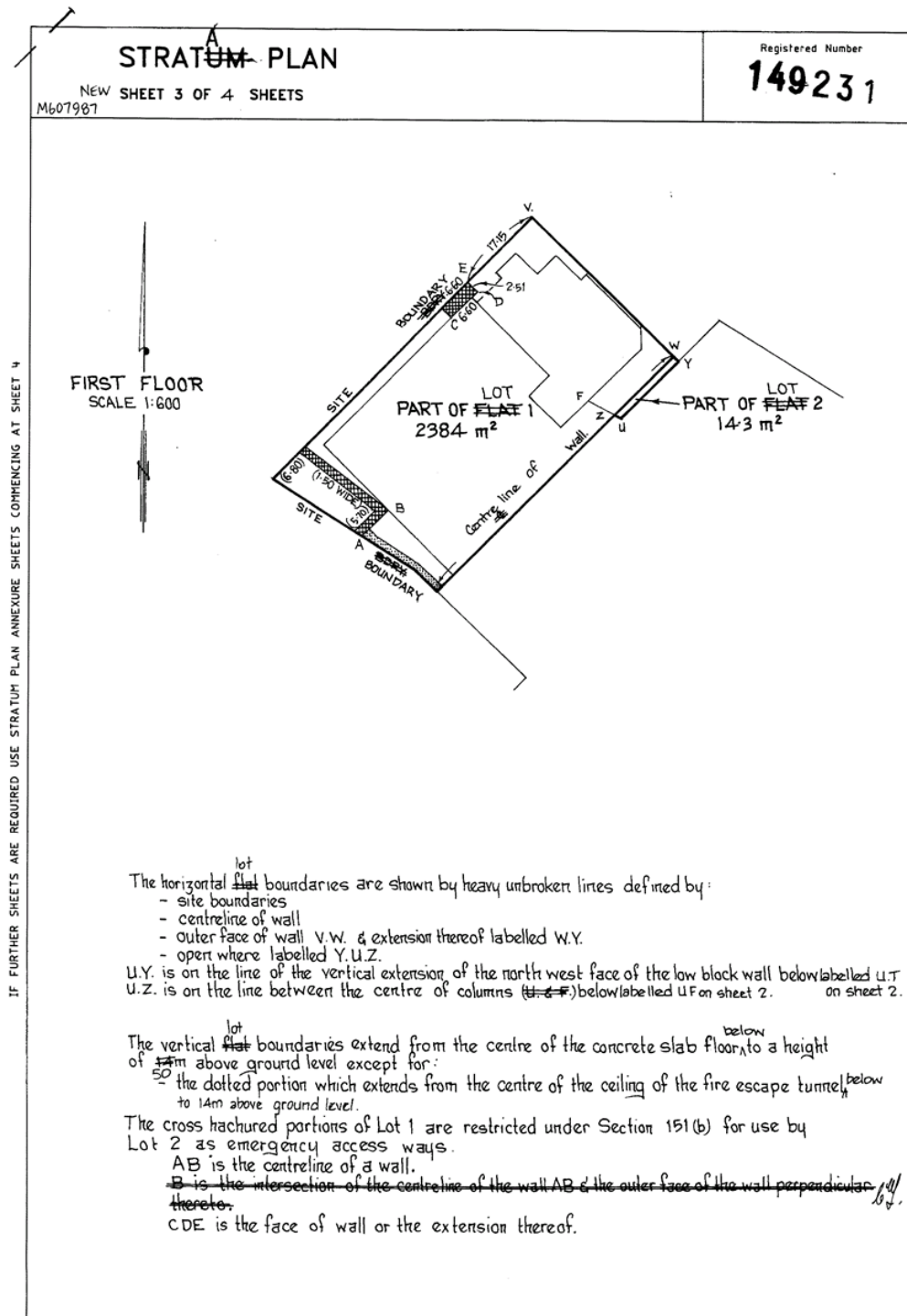
SITE PLAN

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THE FEE SIMPLE OF THE SITE IS CONTAINED WITHIN
THE STRATUM PLAN/BODY CORPORATE FOLIO.
FLAT FOLIOS ARE HELD SUBJECT TO STRATUM PLAN ENDORSEMENTS.

STRATA DEVELOPMENT CONTRACT No.
(IF APPLICABLE)

LODGED BY PAGE SEAGER







FOLIO PLAN

RECORDED OF TITLES

Issued Pursuant to the Land Titles Act 1980

[illegible]



FOLIO PLAN

RECORDED OF TITLES

Issued Pursuant to the Land Titles Act 1980



STRATA PLAN

STRATA TITLES ACT 1998


Registered Number

149231

~~NEW~~ SHEET 5 OF 5 SHEETS

E70820

NOTE: THIS SHEET SHOULD ONLY BE USED WHERE:-
(i) THE LOTS HAVE A SPECIAL UNIT ENTITLEMENT, OR
(ii) THE BODY CORPORATE HAS BEEN DIVIDED


Registered Land Surveyor

Date 22/9/2016

Council Delegate

Date

THE PURPOSES UNDER SECTION 16
FOR WHICH A SPECIAL UNIT
ENTITLEMENT MAY BE USED

- (i) for fixing the proportionate contribution to be made by the owner of the lot to the body corporate; or
- (ii) for fixing the owner's proportionate interest in the common property; or
- (iii) for fixing the number of votes to be exercisable by the owner of the lot at a general meeting of the body corporate; or
- (iv) for fixing the proportion of the body corporate's income to be apportioned to the owner of the lot.

NAME OF (THIS) BODY CORPORATE

STRATA CORPORATION NO. 149231-1,
~~79-83 MELVILLE ST AND~~
80 BRISBANE ST HOBBART
~~STREET.~~

NAME OF (THIS) BODY CORPORATE

STRATA CORPORATION NO. 149231-2,
79-83 MELVILLE ST AND STREET,
~~80 BRISBANE ST HOBBART~~ HOBBART

NAME OF (THIS) BODY CORPORATE

ADDRESS FOR THE SERVICE
OF NOTICES

STRATA CORPORATION NO. 149231-1,
80 BRISBANE ST, HOBBART
C/- HEINE PROPERTY MANAGEMENT
PO BOX 7639 MELBOURNE 3004

ADDRESS FOR THE SERVICE
OF NOTICES

STRATA CORPORATION NO. 149231-2,
79-83 MELVILLE ST, HOBBART
C/- HEINE PROPERTY MANAGEMENT
PO BOX 7639 MELBOURNE 3004

ADDRESS FOR THE SERVICE
OF NOTICES

UNIT ENTITLEMENT
LOT No. GENERAL SPECIAL (IF ANY)
(i) (ii) (iii) (iv)

UNIT ENTITLEMENT
LOT No. GENERAL SPECIAL (IF ANY)
(i) (ii) (iii) (iv)

UNIT ENTITLEMENT
LOT No. GENERAL SPECIAL (IF ANY)
(i) (ii) (iii) (iv)

1 1897

2 8103

TOTAL 1897

TOTAL 8103

TOTAL

**RESULT OF SEARCH**

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980

SEARCH OF TORRENS TITLE

VOLUME 149231	FOLIO 1
EDITION 8	DATE OF ISSUE 04-Nov-2021

SEARCH DATE : 24-Nov-2022

SEARCH TIME : 02.36 PM

DESCRIPTION OF LAND

City of HOBART

Lot 1 on Strata Plan 149231 and a general unit entitlement
operating for all purposes of the Strata Scheme being a 1897

undivided 1/10,000 interest

Derived from Strata Plan 149231

Derivation : SEE PLAN.

SCHEDULE 1M915268 TRANSFER to UNIVERSITY OF TASMANIA Registered
04-Nov-2021 at 12.01 PMSCHEDULE 2

Reservations and conditions in the Crown Grant if any

The registered proprietor holds the lot and unit entitlement
subject to any interest noted on common property

Folio of the Register volume 149231 folio 0

UNREGISTERED DEALINGS AND NOTATIONSE295811 APPLICATION for cancellation of a strata plan
Lodged by PAGE SEAGER on 17-Nov-2022 BP: E295811



FOLIO PLAN

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980



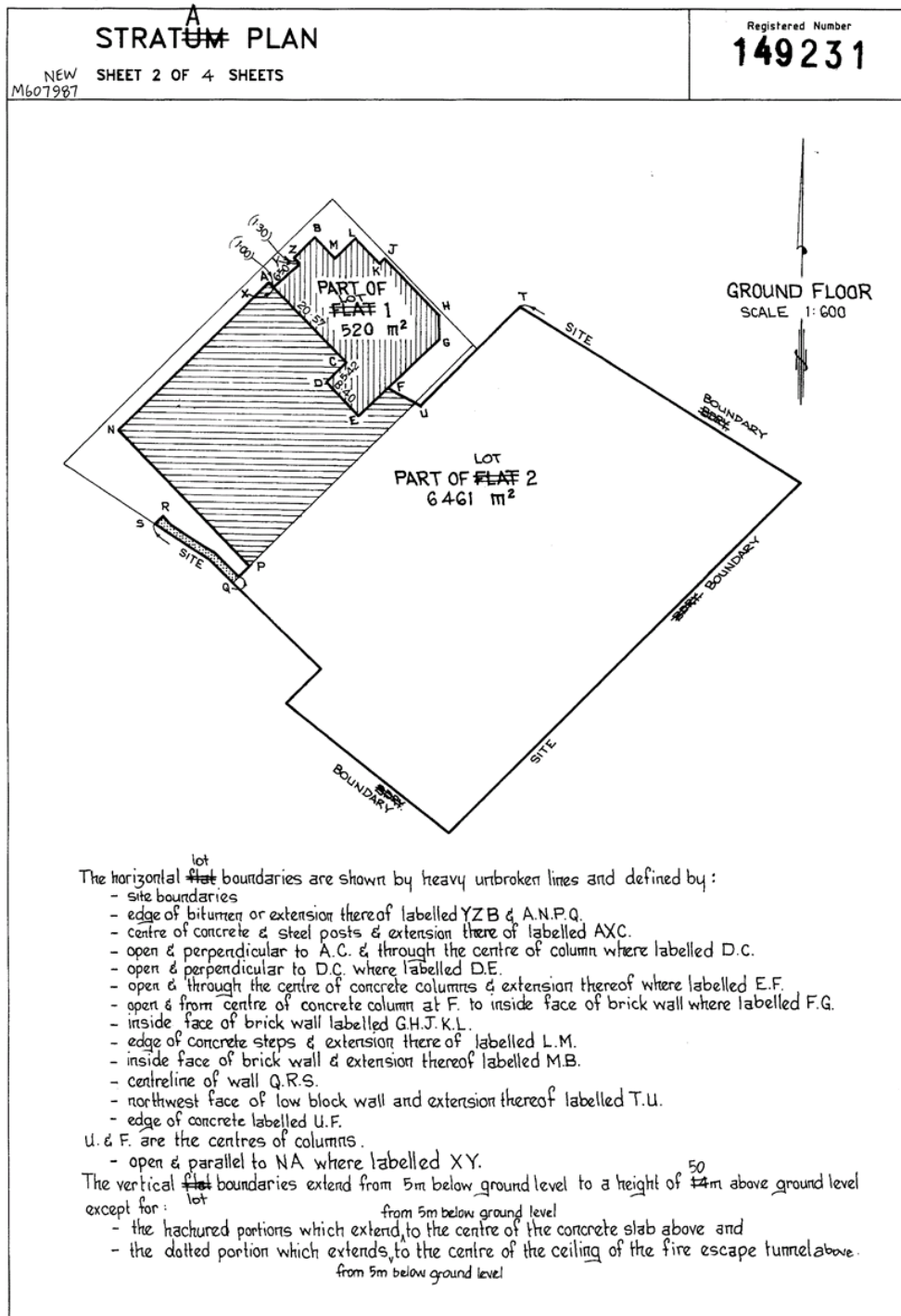
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NAME OF BUILDING 79-83 Melville Street & 80 Brisbane Street - Hobart.		REGISTERED - 3 OCT. 2007 <i>Alice Kawa</i> Recorder of Titles.		
MAPSHEET MUNICIPAL CODE No. 114	LAST UP! No. FEZ 64	SCALE 1: 750	LENGTHS IN METRES	

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STRATA DEVELOPMENT CONTRACT No.
(IF APPLICABLE)

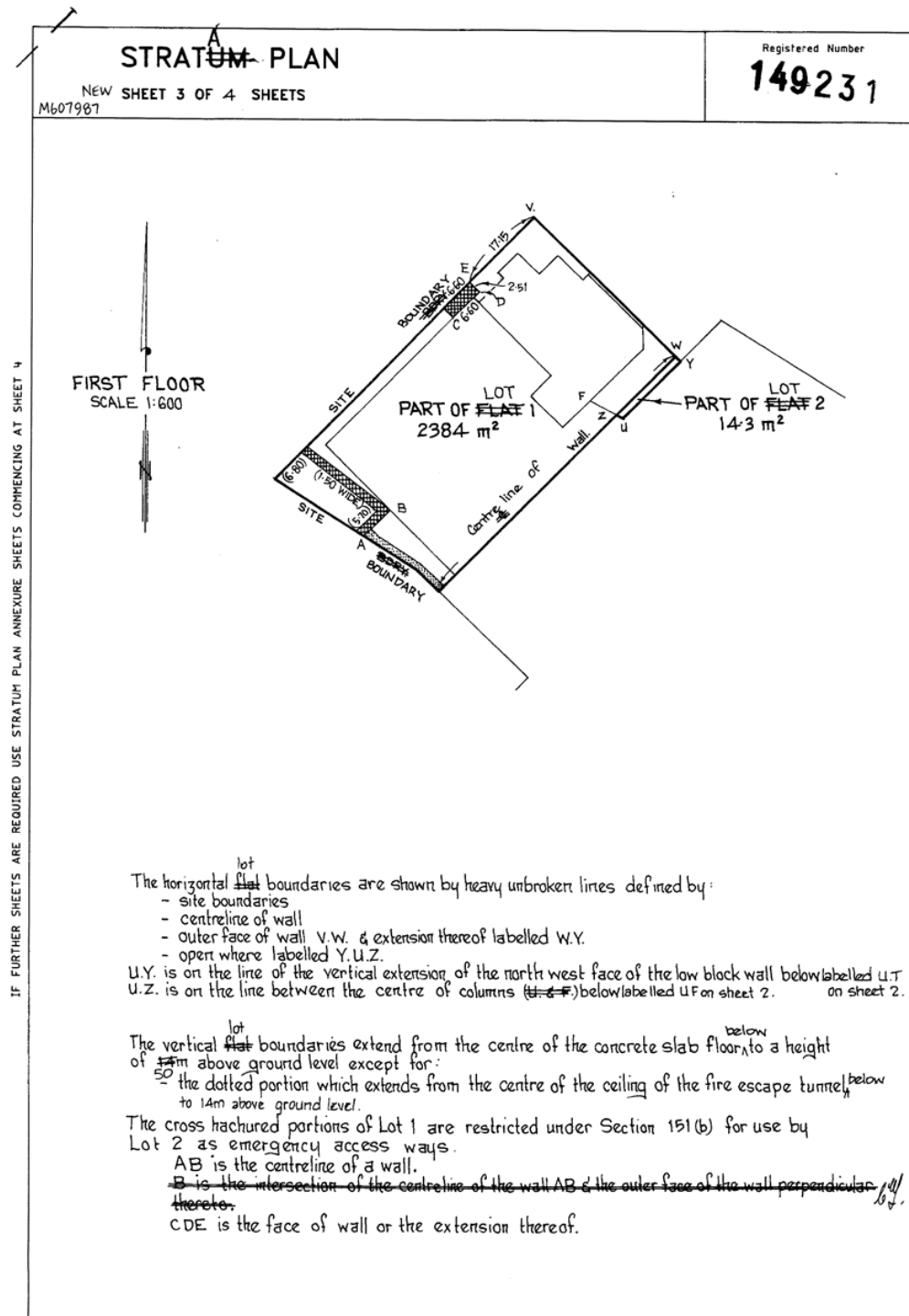
LODGED BY PAGE SEAGER



FOLIO PLAN

REORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980





FOLIO PLAN

RECORDED OF TITLES

Issued Pursuant to the Land Titles Act 1980

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**RESULT OF SEARCH**

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980

SEARCH OF TORRENS TITLE

VOLUME 149231	FOLIO 2
EDITION 8	DATE OF ISSUE 04-Feb-2019

SEARCH DATE : 24-Nov-2022

SEARCH TIME : 02.37 PM

DESCRIPTION OF LAND

City of HOBART

Lot 2 on Strata Plan 149231 and a general unit entitlement
operating for all purposes of the Strata Scheme being a 8103

undivided 1/10,000 interest

Derived from Strata Plan 149231

Derivation : SEE PLAN.

SCHEDULE 1E109603 TRANSFER to UNIVERSITY OF TASMANIA Registered
04-Feb-2019 at 12.01 PMSCHEDULE 2

Reservations and conditions in the Crown Grant if any

The registered proprietor holds the lot and unit entitlement
subject to any interest noted on common property

Folio of the Register volume 149231 folio 0

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations



FOLIO PLAN

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980



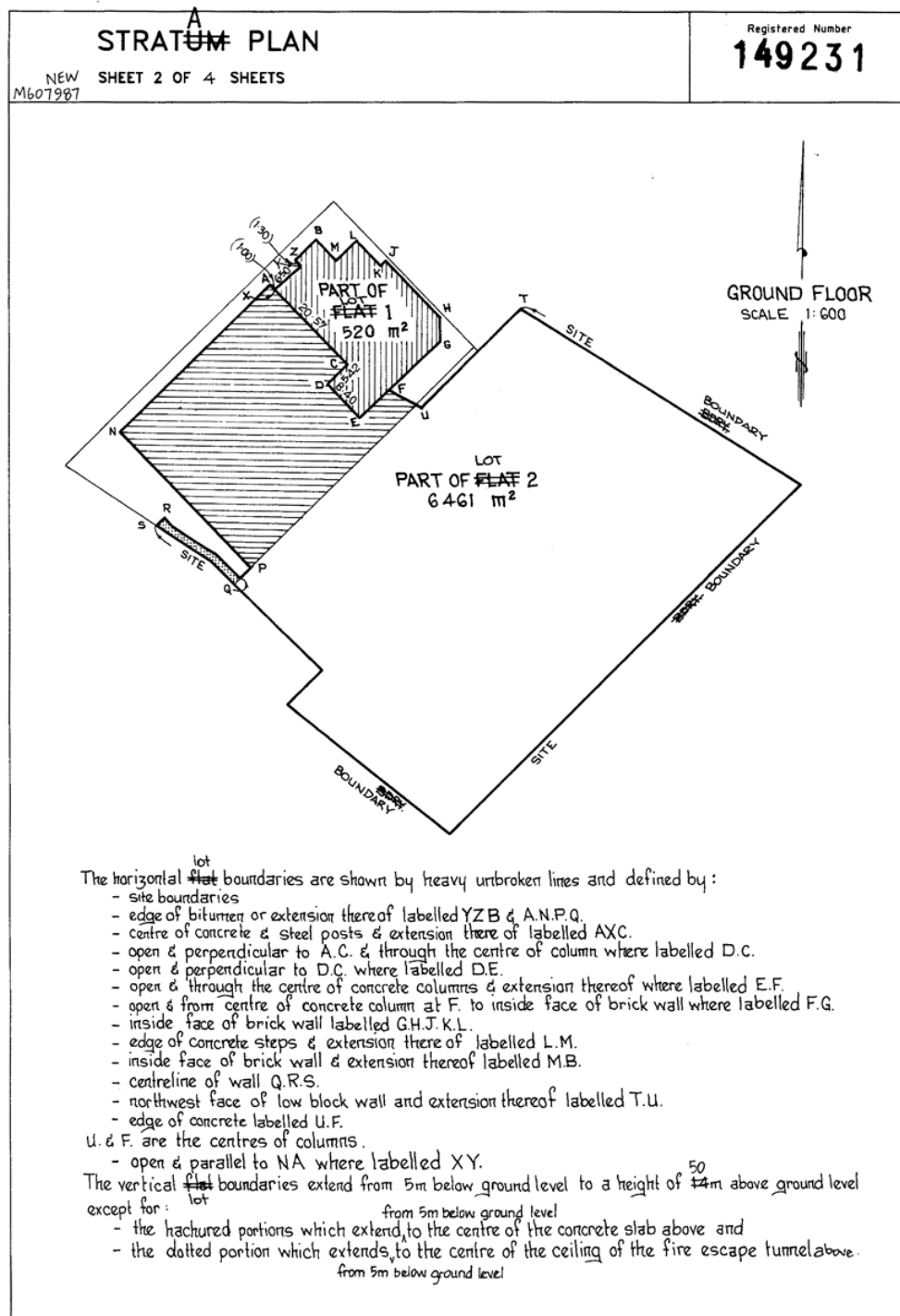
CITY/TOWN HOBART SUBURB FOLIO REFERENCE C.T.125745-1 SITE COMPRISES THE WHOLE OF LOT 1 ON PLAN No. P125745		STRATUM PLAN SHEET 1 OF 5 SHEETS		REGISTERED NUMBER 149231
NAME OF BUILDING 79-83 Melville Street & 80 Brisbane Street - Hobart.		REGISTERED - 3 OCT. 2007 <i>Alice Kawa</i> Recorder of Titles.		
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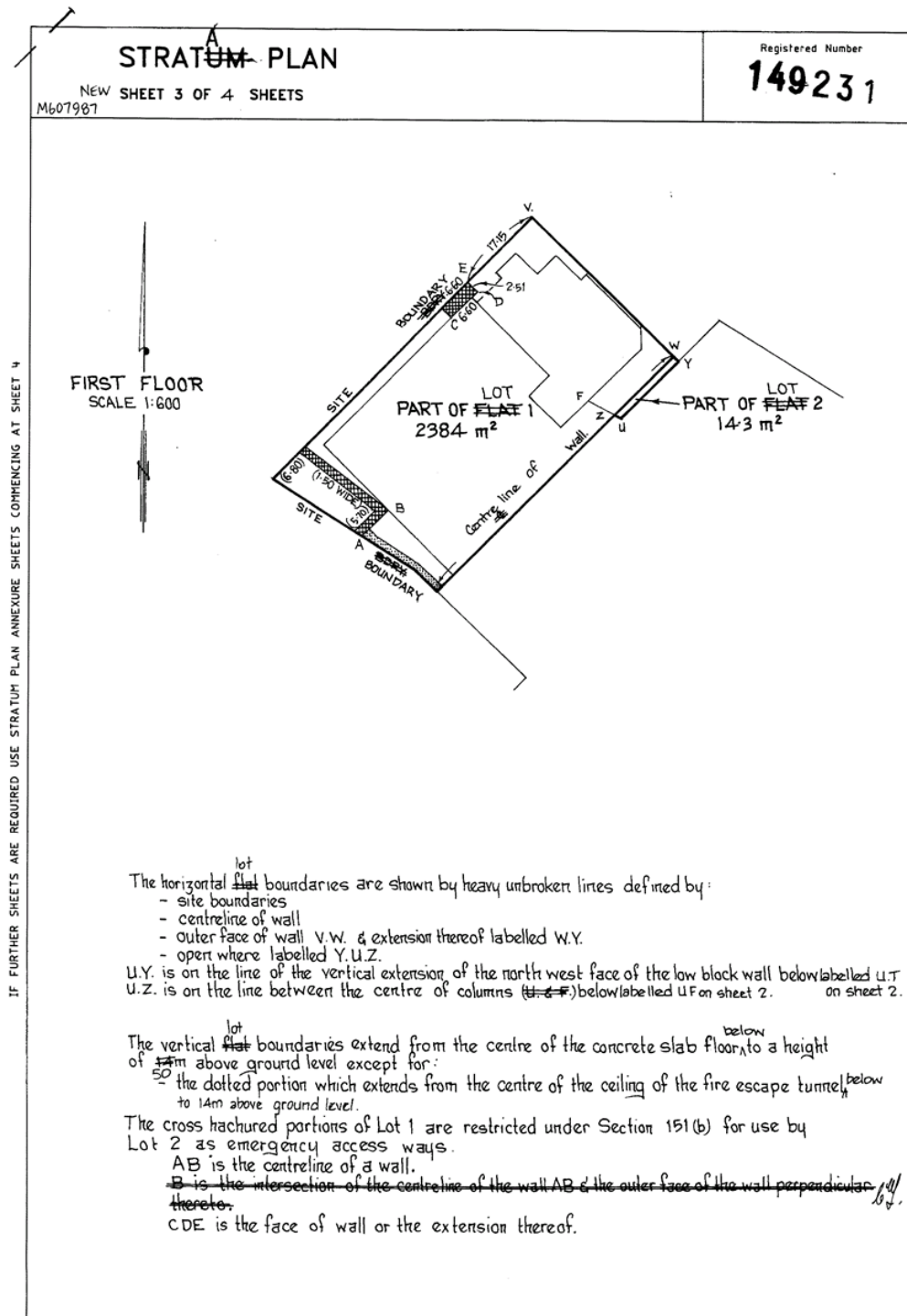
LODGED BY PAGE SEAGER



FOLIO PLAN

RECORDED OF TITLES

Issued Pursuant to the Land Titles Act 1980





FOLIO PLAN

RECORDED OF TITLES

Issued Pursuant to the Land Titles Act 1980

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FOLIO PLAN

RECORDED OF TITLES

Issued Pursuant to the Land Titles Act 1980



STRATA PLAN

STRATA TITLES ACT 1998


Registered Number

149231

~~NEW~~ SHEET 5 OF 5 SHEETS

E70820

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Registered Land Surveyor

Date 22/9/2016

Council Delegate

Date

THE PURPOSES UNDER SECTION 16
FOR WHICH A SPECIAL UNIT
ENTITLEMENT MAY BE USED

- (i) for fixing the proportionate contribution to be made by the owner of the lot to the body corporate; or
- (ii) for fixing the owner's proportionate interest in the common property; or
- (iii) for fixing the number of votes to be exercisable by the owner of the lot at a general meeting of the body corporate; or
- (iv) for fixing the proportion of the body corporate's income to be apportioned to the owner of the lot.

NAME OF (THIS) BODY CORPORATE

STRATA CORPORATION NO. 149231-1,
~~79-83 MELVILLE ST AND~~
80 BRISBANE ST HOBBART
~~STREET.~~

NAME OF (THIS) BODY CORPORATE

STRATA CORPORATION NO. 149231-2,
79-83 MELVILLE ST AND STREET,
~~80 BRISBANE ST HOBBART~~ HOBBART

NAME OF (THIS) BODY CORPORATE

ADDRESS FOR THE SERVICE
OF NOTICES

STRATA CORPORATION NO. 149231-1,
80 BRISBANE ST, HOBBART
C/- HEINE PROPERTY MANAGEMENT
PO BOX 7639 MELBOURNE 3004

ADDRESS FOR THE SERVICE
OF NOTICES

STRATA CORPORATION NO. 149231-2,
79-83 MELVILLE ST, HOBBART
C/- HEINE PROPERTY MANAGEMENT
PO BOX 7639 MELBOURNE 3004

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UNIT ENTITLEMENT
LOT No. GENERAL SPECIAL (IF ANY)
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UNIT ENTITLEMENT
LOT No. GENERAL SPECIAL (IF ANY)
(i) (ii) (iii) (iv)

1 1897

2 8103

TOTAL 1897

TOTAL 8103

TOTAL

**RESULT OF SEARCH**

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980

SEARCH OF TORRENS TITLE

VOLUME 149231	FOLIO 0
EDITION 2	DATE OF ISSUE 22-Feb-2017

SEARCH DATE : 24-Nov-2022

SEARCH TIME : 02.36 PM

DESCRIPTION OF LAND

City of HOBART
The Common Property for Strata Scheme 149231
Derivation : SEE PLAN.
Prior CT 125745/1

SCHEDULE 1

E70820 STRATA CORPORATION NO. 149231-1, 80 BRISBANE STREET,
HOBART (in relation to that part of the site
comprising Lot 1 on Strata Plan No. 149231) and
STRATA CORPORATION NO. 149231-2, 79-83 MELVILLE
STREET, HOBART (in relation to that part of the site
comprising Lot 2 on Strata Plan No. 149231)

SCHEDULE 2

Reservations and conditions in the Crown Grant if any
B971184 ADHESION ORDER under Section 110 of the Local
Government (Building and Miscellaneous Provisions)
Act 1993 Registered 26-Sep-1996 at 12.01 PM
M607987 APPLICATION by body corporate to amend strata plan
149231 by increasing the vertical boundaries of Lots
1 & 2 and decreasing the common property Registered
22-Feb-2017 at noon
E70820 NOTICE of division of body corporate Registered
22-Feb-2017 at 12.01 PM

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

**RESULT OF SEARCH**

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980

SEARCH OF TORRENS TITLE

VOLUME 149231	FOLIO 0
EDITION 2	DATE OF ISSUE 22-Feb-2017

SEARCH DATE : 24-Nov-2022

SEARCH TIME : 02.37 PM

DESCRIPTION OF LAND

City of HOBART
The Common Property for Strata Scheme 149231
Derivation : SEE PLAN.
Prior CT 125745/1

SCHEDULE 1

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HOBART (in relation to that part of the site
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22-Feb-2017 at noon
E70820 NOTICE of division of body corporate Registered
22-Feb-2017 at 12.01 PM

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

Application Referral Cultural Heritage - Response

From:	Sarah Waight
Recommendation:	Proposal is acceptable without conditions.
Date Completed:	
Address:	83 MELVILLE STREET, HOBART 80 BRISBANE STREET, HOBART
Proposal:	Alterations to Previously Approved Development for Pedestrian Bridge
Application No:	PLN-22-790
Assessment Officer:	Michael McClenahan,

Referral Officer comments:

This application is for works to provide equal access to the university building under the existing permit for PLN-21-869 for alterations, extension and demolition to the UTAS site at 79-83 Melville Street and 80 Brisbane Street. This site is the former Crisp and Gunn timber and hardware site and has been used for Forestry and other State Government uses in recent years.

Approval was given for the above application, subject to a number of conditions. The decision was appealed (APP-22-8) and a consent memorandum was issued by TASCAT (Save UTAS Campus Inc v Hobart City Council and University of Tasmania and Tasmanian Heritage Council [2022] TASCAT 44B).

Parts of the subject site are heritage listed and are defined as a specific extent and shown in the shaded blue area in Figure E13 of the Historic Heritage Code of the Scheme. This application is for works that are located outside the specific extent represented by the Scheme, therefore clauses under E13.7 Development Standards for Heritage Places do not apply.

The entire subject site has been assessed by Praxis Environment and a report submitted with this application. That report, dated May 2021, (p.119) identifies the area for this proposal as having low/no/heavily disturbed archaeology. This assessment enables the proposed excavation for the works to be determined as being exempt from the Historic Heritage Code under E13.4.1 (z) (ii).

Sarah Waight
Senior Cultural Heritage Officer
6 January 2023



23 January 2023

Michael McClenahan
Development Appraisal Planner
Hobart City Council
GPO Box 503
HOBART 7001

Dear Michael,

PLN-22-790 – 83 Melville Street

UTAS Forestry building redevelopment - proposed pedestrian bridge

I refer to the above application for a planning permit and the matters raised in the representations. I provide a further response in relation to the Passive Surveillance Development Standard under Clause 22.4.4 of the planning scheme.

Clause 22.4.4 Passive Surveillance

As discussed in my planning report, 24 November 2022, in my assessment the proposal complies with the Acceptable Solution A1 of Clause 22.4.4 in that:

- the new pedestrian bridge will maintain a clear line of sight to the pedestrian entry to the atrium door (see arrow A in figure 1 below)
- the space below the bridge will be treated with landscaped sandstone blocks and landscaping to avoid the creation of a potential entrapment space (see arrow B in Figure 1 below). Figure 2 below provides further illustration of the treatment of the space below the bridge.

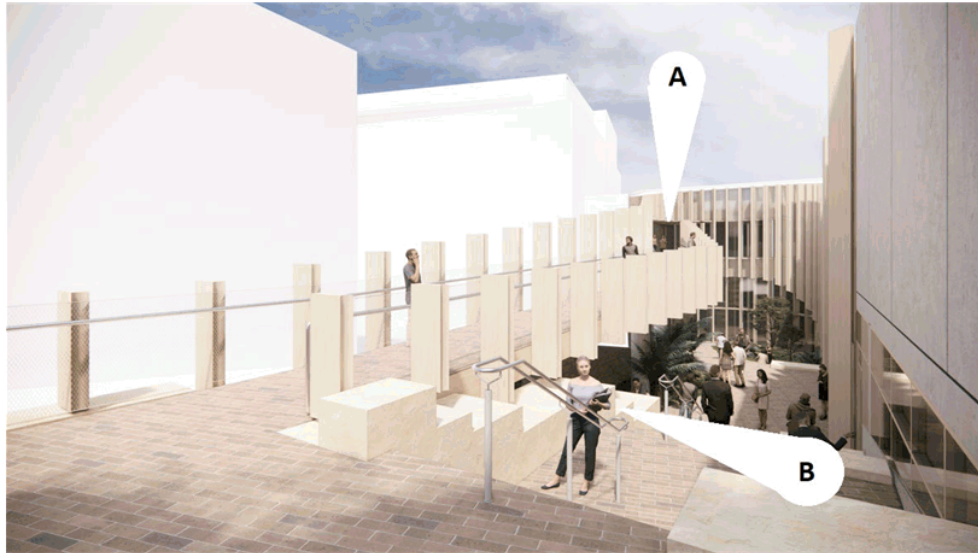


Figure 1 – View from adjacent to the Brisbane Street frontage of the courtyard looking towards the proposed pedestrian bridge. The main pedestrian entry is clearly visible from the street (see A) and the area below the bridge is treated with hard and soft landscaping to avoid the creation of a potential entrapment space under the bridge (see note B).

I am still of the opinion that the proposal satisfies the Acceptable Solution A1. I also address the corresponding Performance Criteria P1 for Council's information:

P1 states that:

Building design must provide for passive surveillance of public spaces by satisfying all of the following:

- (a) provide the main entrance or entrances to a building so that they are clearly visible from nearby buildings and public spaces;*
- (b) locate windows to adequately overlook the street and adjoining public spaces;*
- (c) incorporate shop front windows and doors for ground floor shops and offices, so that pedestrians can see into the building and vice versa;*
- (d) locate external lighting to illuminate any entrapment spaces around the building site;*
- (e) provide external lighting to illuminate car parking areas and pathways;*
- (f) design and locate public access to provide high visibility for users and provide clear sight lines between the entrance and adjacent properties and public spaces;*



(g) provide for sight lines to other buildings and public spaces.

The Objective of the Standard is relevant to the assessment of the Performance Criteria. It states:

To ensure that building design provides for the safety of the public.

In my assessment the proposed design of the pedestrian bridge provides for the safety of the public and complies with the above Performance Criteria in that:

- a) the main pedestrian access to the building is clearly indicated by the pedestrian bridge with the entry door visible at the end (see note A on Figure 1 above).
- b) I understand that this criterion requires glazing in the front façade of the building (ie the Melville and Brisbane Street facades). The approved development includes large areas of glazing on both of these frontages and the proposed pedestrian bridge will not alter these. Further, large areas of glazing are included in the side wall of the approved development of the site facing the courtyard and proposed pedestrian bridge. These windows will provide for passive surveillance of the proposed pedestrian bridge and the space beneath.
- c) This criterion is not relevant to the proposed pedestrian bridge. The approved redevelopment includes large areas of glazing on both street frontages and satisfied this requirement.
- d) The proposed pedestrian bridge is accompanied by concept lighting plans that demonstrate that the spaces around the courtyard and pedestrian bridge will be lit to provide visibility and for public safety.
- e) Similar to criterion d) above, the proposed bridge and adjacent pathways within the courtyard will be lit to provide visibility and safety.
- f) As discussed above and shown in Figures 1 and 2 (in addition to material already provided with the application), the proposal has been carefully designed to provide high visibility for users and to provide clear sight lines between the Brisbane Street frontage and the entrance to the building at the end of the pedestrian bridge.
- g) The pedestrian bridge has been designed with open balustrading to maximize views to and from the adjacent courtyard space.

As discussed in the application documentation, the final opening hours of the building will vary depending on the university calendar. It is intended that these hours will be clearly signed adjacent to the entry to the pedestrian bridge.

In addition to the above the applicant confirms that the approved courtyard space and the proposed pedestrian bridge will have CCTV surveillance that will be monitored 24/7 from a room within the Forestry building redevelopment. The security room is shown on the attached drawing for information (see Grids E/4).

AllUrbanPlanning



Figure 2 – view of the approved courtyard space with the proposed pedestrian bridge inserted. The space has been carefully designed to provide for public safety with open sight lines both within the space and between the main entry and the street.

I trust this response assists Council's assessment. I would be pleased to discuss further as necessary.

Yours sincerely,

A handwritten signature in blue ink, reading "Frazer Read".

Frazer Read
Principal
All Urban Planning Pty Ltd



**5.2.3 93 PRINCES STREET, SANDY BAY - PARTIAL DEMOLITION,
ALTERATIONS AND EXTENSION
PLN-22-660 - FILE REF: F23/7980**

Address: 93 Princes Street, Sandy Bay
Proposal: Partial Demolition, Alterations and Extension
Expiry Date: 1 February 2023
Extension of Time: Not applicable
Author: Ben Ikin

RECOMMENDATION

That pursuant to the *Hobart Interim Planning Scheme 2015*, the Planning Committee approves the application for partial demolition, alterations, and extension, at 93 Princes Street, Sandy Bay 7005 for the reasons outlined in the officer's report and a permit containing the following conditions be issued:

GEN

The use and/or development must be substantially in accordance with the documents and drawings that comprise PLN-22-660 - 93 PRINCES STREET SANDY BAY TAS 7005 - Advertised Documents except where modified below.

Reason for condition

To clarify the scope of the permit.

PLN s1

The approved use of the extended dwelling is as a single dwelling and class 1A building only.

Reason for condition

To clarify the scope of the permit and in accordance with the stated intent of the applicant.

PLN s2

The extension approved by this permit must be contained within the building envelope as prescribed by the *Hobart Interim Planning Scheme 2015* (version 40) at clause 11.4.2 A3(a).

Reason for condition

To ensure the building is constructed in accordance with the Final Planning Documents, to clarify the scope of the permit, and to protect neighbours' residential amenity

PLN s3

The western side setback of the extension must be in accordance with the below:

- for the inset section containing the stairs: 1.94m;
- for the remainder of the extension: 1.51m.

Any reduction below these setbacks will require further separate planning approval.

Reason for condition

To ensure the building is constructed in accordance with the Final Planning Documents, to clarify the scope of the permit, and to protect neighbours' residential amenity

PLN s4

The proposed screening to the new upper level windows in the western elevation of the extension must be installed prior to the first occupation of the extension, and must be maintained for the life of the use.

Advice:

This condition does not proscribe alternative privacy solutions being installed which are also in accordance with the acceptable solution at clause 11.4.6 A2 of the Hobart Interim Planning Scheme 2015 (Version 40).

Reason for condition

To ensure that the works is done to the satisfaction of the Council.

ENG sw1

All stormwater from the proposed development (including but not limited to: roofed areas, ag drains, retaining wall ag drains and impervious surfaces such as driveways and paved areas) must be drained to the Council's stormwater infrastructure prior to first occupation or commencement of use (whichever occurs first).

Advice:

Under section 23 of the Urban Drainage Act 2013 it is an offence for a property owner to direct stormwater onto a neighbouring property.

Reason for condition

To ensure that stormwater from the site will be discharged to a suitable Council approved outlet.

ENG sw4

Any new stormwater connection must be constructed and any existing abandoned connections sealed by the Council at the owner's expense, prior to the first occupation.

If a new connection is required, detailed engineering drawings must be submitted and approved as part of an application for the new stormwater connection, before any application for a plumbing permit is made. The detailed engineering drawings must include:

1. the location of the proposed connection; and
2. the size of the connection appropriate to satisfy the needs of the development.

All work required by this condition must be undertaken in accordance with the approved detailed engineering drawings.

Advice:

The applicant is advised to submit detailed design drawings via a Council City Life Division [application for a new stormwater connection](#).

Where building / plumbing approval is also required, it is recommended that documentation to satisfy this condition is submitted well before submitting documentation for building/plumbing approval. Failure to address planning condition requirements prior to submitting for building/plumbing approval may result in unexpected delays.

Reason for condition

To ensure the site is drained adequately.

ENG 1

Any damage to council infrastructure resulting from the implementation of this permit, must, at the discretion of the Council:

1. Be met by the owner by way of reimbursement (cost of repair and reinstatement to be paid by the owner to the Council); or
2. Be repaired and reinstated by the owner to the satisfaction of the Council.

A photographic record of the Council's infrastructure adjacent to the subject site must be provided to the Council prior to any commencement of works.

A photographic record of the Council's infrastructure (e.g. existing property service connection points, roads, buildings, stormwater, footpaths, driveway crossovers and nature strips, including if any, pre-existing damage) will be relied upon to establish the extent of damage caused to the Council's infrastructure during construction. In the event that the owner/developer fails to provide to the Council a photographic record of the Council's infrastructure, then any damage to the Council's infrastructure found on completion of works will be deemed to be the responsibility of the owner.

Reason for condition

To ensure that any of the Council's infrastructure and/or site-related service connections affected by the proposal will be altered and/or

reinstated at the owner's full cost.

ENV 1

Sediment and erosion control measures sufficient to prevent sediment from leaving the site must be installed prior to any disturbance of the site, and maintained until all areas of disturbance have been stabilized or re-vegetated.

Advice:

For further guidance in preparing a Soil and Water Management Plan – in accordance with Fact sheet 3 Derwent Estuary Program click [here](#).

Reason for condition

To avoid the sedimentation of roads, drains, natural watercourses, Council land that could be caused by erosion and runoff from the development, and to comply with relevant State legislation.

HER 17c

The external colours, materials and finishes of the approved development must be substantially in accordance with the approved plans, including but not limited to the use of white James Hardie weatherboards and corrugated Colorbond roof sheeting in red. Any substantial change in the colours, materials and finishes requires further approval.

Reason for condition

To ensure that development in a heritage precinct is undertaken in a sympathetic manner which does not cause loss of historic cultural heritage significance.

ADVICE

The following advice is provided to you to assist in the implementation of the planning permit that has been issued subject to the conditions above. The advice is not exhaustive and you must inform yourself of any other legislation, by-laws, regulations, codes or standards that will apply to your development under which you may need to obtain an approval.

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Prior to any commencement of work on the site or commencement of use the following additional permits/approval may be required from the Hobart City Council.

CONDITION ENDORSEMENT

If any condition requires that further documents are submitted and approved, you will need to submit the relevant documentation to satisfy the condition via the Condition Endorsement Submission on Council's [online services e-planning portal](#). Detailed instructions can be found [here](#).

Once approved, the Council will respond to you via email that the condition has been endorsed (satisfied).

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You may need building approval in accordance with the *Building Act 2016*. Click [here](#) for more information.

This is a Discretionary Planning Permit issued in accordance with section 57 of the *Land Use Planning and Approvals Act 1993*.

PLUMBING PERMIT

You may need plumbing approval in accordance with the *Building Act 2016*, *Building Regulations 2016* and the National Construction Code. Click [here](#) for more information.

OCCUPATION OF THE PUBLIC HIGHWAY

You may require a Permit to Open Up and Temporarily Occupy a Highway (for work in the road reserve). Click [here](#) for more information.

NEW SERVICE CONNECTION

Please contact the Hobart City Council's City Life Division to initiate the application process for your [new stormwater connection](#).

STORMWATER

Please note that in addition to a building and/or plumbing permit, development must be in accordance with the Hobart City Council's Infrastructure By law. Click [here](#) for more information.

WORK WITHIN THE HIGHWAY RESERVATION

Please note development must be in accordance with the Hobart City Council's Infrastructure by law. Click [here](#) for more information.

NOISE REGULATIONS

Click [here](#) for information with respect to noise nuisances in residential areas.

WASTE DISPOSAL

It is recommended that the developer liaise with the Council's City Resilience Unit regarding reducing, reusing and recycling materials associated with demolition on the site to minimise solid waste being directed to landfill.









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FEES AND CHARGES

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DIAL BEFORE YOU DIG

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- Attachment A: PLN-22-660 - 93 PRINCES STREET SANDY BAY
TAS 7005 - Planning Committee or Delegated
Report  
- Attachment B: PLN-22-660 - 93 PRINCES STREET SANDY BAY
TAS 7005 - Planning Committee Agenda
Documents  
- Attachment C: PLN-22-660 - 93 PRINCES STREET SANDY BAY
TAS 7005 - Planning Referral Officer Cultural
Heritage Report  
- Attachment D: PLN-22-660 - 93 PRINCES STREET SANDY BAY
TAS 7005 - Applicant Response to Representor
Concerns  

**APPLICATION UNDER HOBART INTERIM PLANNING SCHEME 2015**

Type of Report: Committee
Committee: 1 February 2023
Expiry Date: 1 February 2023
Application No: PLN-22-660
Address: 93 PRINCES STREET , SANDY BAY
Applicant: Clint Wills (Draftone Tasmania)
12A Henry Street
Proposal: Partial Demolition, Alterations, and Extension
Representations: Nine
Performance criteria: Historic Heritage Code

1. Executive Summary

- 1.1 Planning approval is sought for Partial Demolition, Alterations, and Extension, at 93 Princes Street, Sandy Bay.
- 1.2 More specifically the proposal includes:
- Partial demolition of rear elements of the existing dwelling.
 - Alterations and a skillion-roofed extension to the rear of the existing dwelling, to the side of an existing deck, adding two additional downstairs bedrooms and circulation space, a revised and slightly enlarged bathroom and laundry arrangement, upper/lower stairs and a new upper level kitchen and living area.
 - External materials include weatherboard and colorbond with aluminium windows. Horizontal batten privacy screens are proposed for three new upper level windows in the western side of the extension.
 - An existing kitchen in the rear of the dwelling will become a kitchenette.
 - The dwelling will increase capacity from four bedrooms to six bedrooms, and will be occupied by an extended family across three generations (grandparent/children/grandchildren).
 - There is only one laundry in the extended dwelling.
- 1.3 The proposal relies on performance criteria to satisfy the following standards and codes:

- 1.3.1 Historic Heritage Code - Heritage Precinct - Demolition and Buildings and Works
- 1.4 Nine representations objecting to the proposal were received within the statutory advertising period between 09/12/2022 and 03/01/2023.
- 1.5 The proposal is recommended for approval subject to conditions.
- 1.6 The final decision is delegated to the Planning Committee, because more than five objections have been received.

2. Site Detail



Figure 1: Aerial view of the subject property and surrounding locality (Source: Council ArcGIS).

- 2.1 93 Princes Street, Sandy Bay is a 580m² residential property occupied by a single dwelling in its front half. The site is set within an established residential area.



Figure 2: The front elevation of the property. Source: Officer photo.



Figure 3: The existing rear elevation of the dwelling. Source: Officer photo.



Figure 4: The existing rear boundary with 10 Randall St. Source: Officer photo.



Figure 5: The existing western side boundary, shared with 95 Princes St. Source: Officer photo.

3. Proposal

- 3.1 Planning approval is sought for Partial Demolition, Alterations, and Extension, at 93 Princes Street, Sandy Bay.
- 3.2 More specifically the proposal is for:
 - Partial demolition of rear elements of the existing dwelling.
 - Alterations and a skillion-roofed extension to the rear of the existing dwelling, to the side of an existing deck, adding two additional downstairs bedrooms and circulation space, a revised and slightly enlarged bathroom and laundry arrangement, upper/lower stairs and a new upper level kitchen and living area.
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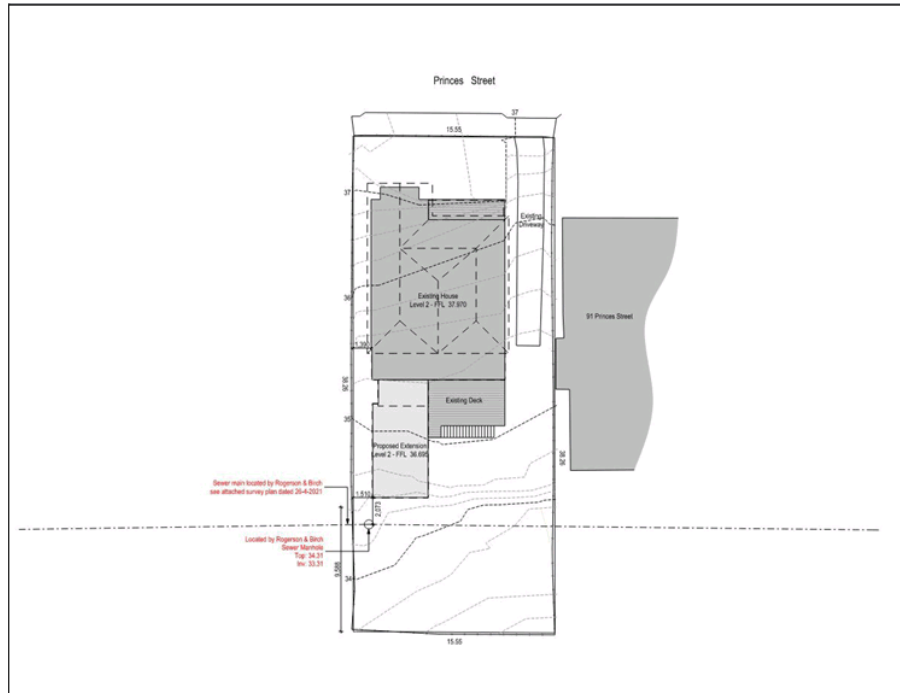


Figure 6: Proposed site plan.

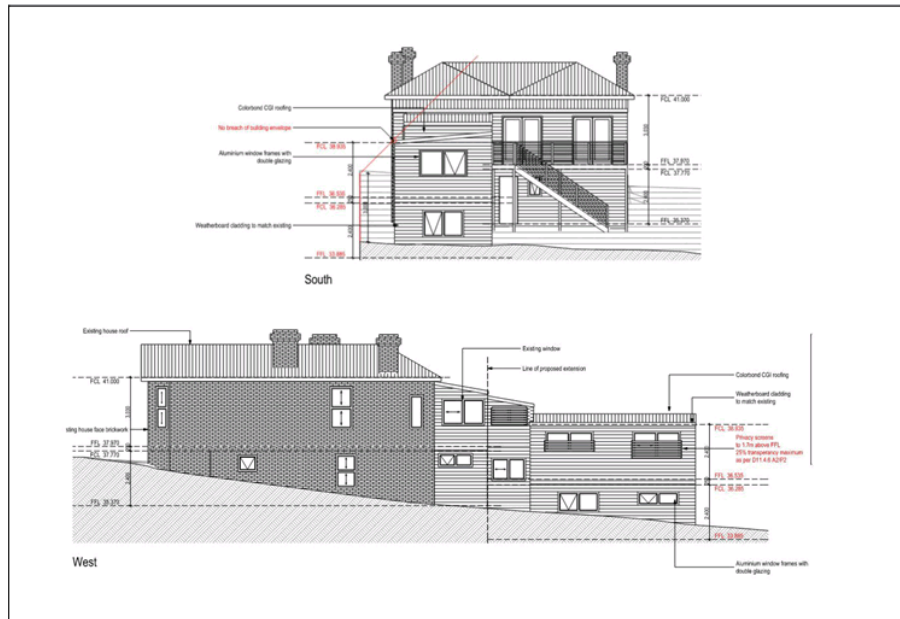


Figure 7: The rear (south) and side (west) elevations.

4. Background

- 4.1 An application (PLN-21-540) for a second dwelling at the rear of the subject site was withdrawn in January 2022. The application was problematic in terms of impacts upon the existing stormwater system and there was also significant opposition (16 objections) raised by local residents. Concessions with regard to design were attempted by the applicant however ultimately the project was abandoned.

5. Concerns raised by representors

- 5.1 Nine objections were received received within the statutory advertising period between 09/12/2022 and 03/01/2023.
- 5.2 The following table outlines the concerns raised in the representations received. Those concerns which relate to a discretion invoked by the proposal are addressed in Section 6 of this report.

USE

- The intended use is for multiple dwellings, not a single dwelling, because: there are two kitchens; there is a dining room off the second kitchenette; there is no direct access to the new deck from the new kitchen; a second laundry could be provided; other rooms in the extension could be used as part of a second dwelling; and of the family arrangements of the current owners.
- The plans allow for the entry floor level and new deck to be one dwelling, and the extension and lower level to be a second dwelling.
- Given the proposal is actually for two dwellings, it should be advertised and assessed as such.
- Conditioning an approval to be for single dwelling only is not acceptable, given it creates an unreasonable compliance burden on neighbours and Council.

TRAFFIC/ACCESS/PARKING

- More off street parking should be provided, especially given the proposal is actually for a second dwelling.
- The existing driveway is too narrow to accommodate cars for two dwellings.
- Princes Street is already at capacity in terms of on street parking availability.
- Access onto Princes St from dwellings is already

hard/dangerous/unsafe.

HERITAGE

- The proposal is out of keeping with the heritage precinct.
- The proposal is out of keeping with other homes in the area.
- If all dwellings extended their dwellings like this it would undermine the character of the area.

AMENITY

- The proposal will have a detrimental impact on neighbouring amenity due to visual bulk, loss of light/overshadowing, and loss of privacy.
- The proposal for shutters on the windows for privacy is not adequate, and opaque glazing should be required instead by condition.
- The use of timber for the shutters is not appropriate given the maintenance it would require.
- The proposal is outside the building envelope. Planners note: the proposal is located within the prescribed building envelope.
- Although within the building envelope and meeting side boundary setbacks (just) the proposal will still have an unreasonable impact on neighbours' amenity.
- The 1.51m setback from the western side boundary is 'convenient', complying with the permitted standard by 1cm.
- A similar design to other dwellings in the area would be preferable to ensure impacts on neighbours are more reasonable/acceptable.
- If approved, landscaping on the boundary should be required by condition.

STORMWATER

- The stormwater solution does not appeal feasible.
- The existing stormwater system is not large enough to cater for the additional volume of water created by the extension.

MISCELLANEOUS

- Owner details on title show Janet and Alice Thorp. Owner details on the plans show Alice Thorp only as owner. Why aren't both owners listed?
- A set of stairs in the existing dwelling are not shown.
- Neighbouring properties are not all shown.
- No shadow diagrams provided. Planners note: the extension is within the prescribed building envelope, so shadow diagrams are

- not required.
- No survey plan is provided in the advertised documents.
- The laundry opens directly onto the driveway – is this a safety issue?
- Any new fencing should be 2.1m high.
- The owner hasn't consulted with neighbours.
- Concern about proximity of development to neighbours' existing in ground private services.
- This is the second attempt at a second dwelling. A previous application for a physically separated dwelling was withdrawn after receiving 16 objections.
- If approved as proposed, any future changes to the side boundary setback should not be approved as either substantially in accordance with the approval, or as a minor amendment, given it changes the proposal from being complaint to being non-compliant with the permitted building envelope.

- 5.3 The applicant has provided a response in relation to the above representor issues and concerns. That response is provided at Attachment C to this report.

6. Assessment

- 6.1 The *Hobart Interim Planning Scheme 2015* is a performance based planning scheme. To meet an applicable standard, a proposal must demonstrate compliance with either an acceptable solution or a performance criterion. Where a proposal complies with a standard by relying on one or more performance criteria, the Council may approve or refuse the proposal on that basis. The ability to approve or refuse the proposal relates only to the performance criteria relied on.
- 6.2 The site is located within the Inner Residential Zone of the *Hobart Interim Planning Scheme 2015*.
- 6.3 The existing use is Residential (single dwelling). The proposal maintains this use. A single dwelling Residential use is a No Permit Required use in the zone.
- 6.4 The proposal has been assessed against:
- 6.4.1 Part D - 11 Inner Residential Zone
 - 6.4.2 E6.0 Parking and Access Code
 - 6.4.3 E7.0 Stormwater Management Code

6.4.4 E13.0 Historic Heritage Code

- 6.5 The proposal relies on the following performance criteria to comply with the applicable standards:

6.5.1 Historic Heritage Code:

Demolition - Heritage Precinct - E13.8.1 P1

Buildings and Works - Heritage Precinct - E13.8.2 P1; P3

- 6.6 Each performance criterion is assessed below.

6.7 Demolition - Heritage Precinct - E13.8.1 P1

- 6.7.1 There is no acceptable solution for demolition in a Heritage Precinct.

- 6.7.2 The proposal includes partial demolition of the existing dwelling within Heritage Precinct SB2.

- 6.7.3 There is no acceptable solution; therefore assessment against the performance criterion is relied on.

- 6.7.4 The performance criterion P1 at clause E13.8.1 provides as follows:

Demolition must not result in the loss of any of the following:

(a) buildings or works that contribute to the historic cultural heritage significance of the precinct;

(b) fabric or landscape elements, including plants, trees, fences, paths, outbuildings and other items, that contribute to the historic cultural heritage significance of the precinct;
unless all of the following apply;

(i) there are, environmental, social, economic or safety reasons of greater value to the community than the historic cultural heritage values of the place;

(ii) there are no prudent or feasible alternatives;

(iii) opportunity is created for a replacement building that will be more complementary to the heritage values of the precinct.

- 6.7.5 The Council's Cultural Heritage Officer advises:
- The proposed demolition is minimal in scale and includes walls to the rear of the existing addition, on level 1 only. This fabric does not significantly contribute to the precinct and is not visible from the wider streetscape. Demolition of this fabric is acceptable and in accordance with E13.8.1 P1.
- 6.7.6 The officer's full report is provided as an attachment to this report.
- 6.7.7 The proposal complies with the performance criterion.
- 6.8 Buildings and Works - Heritage Precinct - E13.8.2 P1; P3
- 6.8.1 There is no acceptable solution for buildings and works in a Heritage Precinct.
- 6.8.2 The proposal includes an extension to the rear of the existing dwelling which is located in Heritage Precinct SB2.
- 6.8.3 There is no acceptable solution; therefore assessment against the performance criterion is relied on.
- 6.8.4 The performance criteria P1 and P3 at clause E13.8.2 provides as follows:
- P1
Design and siting of buildings and works must not result in detriment to the historic cultural heritage significance of the precinct, as listed in Table E13.2.
- P3
Extensions to existing buildings must not detract from the historic cultural heritage significance of the precinct.
- 6.8.5 The Council's Cultural Heritage Officer advises:
- The existing addition is a double storey weatherboard lean-to at the rear of the original red brick dwelling. The proposed addition extends south along the western side of the dwelling. It is of a height that is less than both the original dwelling and the existing addition, despite being two storeys. It is proposed to clad the addition in James Hardie weatherboard cladding

in white, which matches portions of the existing lean-to. The proposed roof is corrugated Colorbond sheeting in colour to match the existing roof. These materials are sympathetic to the setting. The existing deck and balustrade is maintained.

The current vegetation on the site limits views of the western elevation (shown in Figure 1 above) and there will therefore be a minimal view corridor. If the vegetation is removed, there will be a view corridor towards the rear of the site although as the height is lesser than the existing and the materiality matches the lean-to, this is not considered to have a detrimental impact on the precinct. It is not likely that the addition will be visible above the original dwelling.

There is a view corridor towards the rear of the site along the driveway and eastern boundary (shown in Figure 2 above), although the proposed structure does not extend along the existing eastern building line and there will therefore be minimal views from this perspective.

Due to the existing building stock and vegetation, there are minor glimpses of the rear of the subject property from Randall Street, in particular between numbers 8 and 10 Randall Street and 10 and 12 Randall Street.

The proposed addition therefore does not detract from the historic cultural heritage significance of the precinct and complies with E13.8.2 P1 and P3.

6.8.6 The officer's full report is provided as an attachment to this report.

6.8.7 The proposal complies with the performance criterion.

7. Discussion

7.1 Planning approval is sought for Partial Demolition, Alterations, and Extension, at 93 Princes Street, Sandy Bay.

7.2 The application was advertised and received nine objections. The objections raised concerns including the proposed use of the extension, the impact on traffic/access/parking in the street, the impacts on the heritage values of the area, the impact on neighbours' amenity, the adequacy of the stormwater solution, as well as a number of other miscellaneous matters.

7.3 In response to the neighbour concerns it is noted:

Use

- Representors were concerned that the extended dwelling would in fact be used as two dwellings. These concerns are understood and acknowledged. It is understood that the extension is providing space for the two owners, and their family, to live together but independently if they so desire. It should be noted that the documentation confirms the proposal is for a single dwelling, and the building will be categorised as a single dwelling under the building code (a class 1A building). In addition, considerable additional works would be required to convert the dwelling into two dwellings to achieve compliance with the building code – for instance fire rating walls. These works are not proposed and would be difficult and costly to do retrospectively. As such, the extended building cannot be legally used as two dwellings, from both a planning and building perspective. A condition to this effect is recommended.

Traffic/access/parking

- The proposal does not trigger any discretions under the Parking and Access Code. The proposal has been assessed by the Council's Development Engineer, who supports the proposal subject to conditions.

Heritage

- The proposal has been assessed and supported by the Council's Cultural Heritage Officer. The officer provided the following comments in response to the concerns raised by the representors: As the works are being assessed as an addition, the form, height and location of the structure are considered as acceptable as it is lower than height than the original, set to the rear and will have minimal visibility from the public domain. There are other examples of rear additions throughout the precinct, and instances of linear structures that extend towards the rear boundary rather than along the length of the building, such as 69 Princes Street, 70 Regent Street and 14 Powell Street. The 1923 Drainage Plan for 93 Princes Street also indicates that other structures previously existed that extended towards the rear boundary whilst not built to match the width of the original dwelling. Regarding the proposed materiality, the Material & Colour Schedule notes "JH Weatherboards - White to match existing" and as such, a condition is included for colours and finishes to be substantially in accordance with the documentation.

Amenity

- The proposal does not trigger any discretions with respect to residential amenity. In particular, the proposal is compliant with the prescribed building envelope and privacy acceptable solutions. In terms of the building envelope, given the marginal nature of the compliant setback, a condition is

recommended to ensure the building is built no closer to the western side boundary than proposed. In terms of privacy, while neighbours may not like the screen solution proposed, technically it complies with the requirements of the planning scheme, and Council has no ability to require an alternative solution.

Stormwater

- The proposal does not trigger any discretions under the Stormwater Code. The proposal has been assessed by the Council's Development Engineer, who supports the proposal subject to conditions.

Miscellaneous

- A number of representors identified that existing stairs were not shown on the plans. The applicant advises that this was 'accidentally missed on the plans (Existing stairs to be removed). The existing stairs causes issues for energy efficiency between levels in the existing house.'
- Representors were also concerned about the information shown on the plans, and the lack of some information being provided. The level of detail shown on the plans is sufficient to enable assessment against the planning scheme. The lack of shadow diagrams is because the proposal is contained within the prescribed building envelope. Council cannot require shadow diagrams to be provided for a development that is compliant with the prescribed building envelope.
- The applicant advises that they are happy to discuss having 2.1m high boundary fences with their neighbors.

Note that the applicant's response to the above representor concerns is provided as an attachment to this report.

- 7.4 The proposal has been assessed against the relevant provisions of the planning scheme and is considered to satisfy the relevant discretions.
- 7.5 The proposal has been assessed by other Council officers, including the Council's Development Engineer and Cultural Heritage Officer. The officers have raised no objection to the proposal, subject to conditions.
- 7.6 The proposal is recommended for approval.

8. Conclusion

- 8.1 The proposed Partial Demolition, Alterations, and Extension, at 93 Princes Street, Sandy Bay satisfies the relevant provisions of the *Hobart Interim Planning Scheme 2015*, and as such is recommended for approval.

9. Recommendations

That: Pursuant to the *Hobart Interim Planning Scheme 2015*, the Council approves the application for Partial Demolition, Alterations, and Extension, at 93 Princes Street, Sandy Bay for the reasons outlined in the officer's report and a permit containing the following conditions be issued:

GEN

The use and/or development must be substantially in accordance with the documents and drawings that comprise PLN-22-660 - 93 PRINCES STREET SANDY BAY TAS 7005 - Advertised Documents except where modified below.

Reason for condition

To clarify the scope of the permit.

PLN s1

The approved use of the extended dwelling is as a single dwelling and class 1A building only.

Reason for condition

To clarify the scope of the permit and in accordance with the stated intent of the applicant

PLN s2

The extension approved by this permit must be contained within the building envelope as prescribed by the Hobart Interim Planning Scheme 2015 (version 40) at clause 11.4.2 A3(a).

Reason for condition

To ensure the building is constructed in accordance with the Final Planning Documents, to clarify the scope of the permit, and to protect neighbours' residential amenity

PLN s3

The western side setback of the extension must be in accordance with the

below:

- for the inset section containing the stairs: 1.94m.
- for the remainder of the extension: 1.51m.

Any reduction below these setbacks will require further separate planning approval.

Reason for condition

To ensure the building is constructed in accordance with the Final Planning Documents, to clarify the scope of the permit, and to protect neighbours' residential amenity

PLN s4

The proposed screening to the new upper level windows in the western elevation of the extension must be installed prior to the first occupation of the extension, and must be maintained for the life of the use.

Advice: This condition does not proscribe alternative privacy solutions being installed which are also in accordance with the acceptable solution at clause 11.4.6 A2 of the Hobart Interim Planning Scheme 2015 (Version 40).

Reason for condition

To ensure that the works is done to the satisfaction of the Council.

ENG sw1

All stormwater from the proposed development (including but not limited to: roofed areas, ag drains, retaining wall ag drains and impervious surfaces such as driveways and paved areas) must be drained to the Council's stormwater infrastructure prior to first occupation or commencement of use (whichever occurs first).

Advice:

Under section 23 of the Urban Drainage Act 2013 it is an offence for a property owner to direct stormwater onto a neighbouring property.

Reason for condition

To ensure that stormwater from the site will be discharged to a suitable Council approved outlet.

ENG sw4

Any new stormwater connection must be constructed and any existing abandoned connections sealed by the Council at the owner's expense, prior to the first occupation.

If a new connection is required, detailed engineering drawings must be submitted and approved as part of an application for the new stormwater connection, before any application for a plumbing permit is made. The detailed engineering drawings must include:

1. **the location of the proposed connection; and**
2. **the size of the connection appropriate to satisfy the needs of the development.**

All work required by this condition must be undertaken in accordance with the approved detailed engineering drawings.

Advice:

The applicant is advised to submit detailed design drawings via a Council City Life Division [application for a new stormwater connection](#).

Where building / plumbing approval is also required, it is recommended that documentation to satisfy this condition is submitted well before submitting documentation for building/plumbing approval. Failure to address planning condition requirements prior to submitting for building/plumbing approval may result in unexpected delays.

Reason for condition

To ensure the site is drained adequately.

ENG 1

Any damage to council infrastructure resulting from the implementation of this permit, must, at the discretion of the Council:

1. **Be met by the owner by way of reimbursement (cost of repair and reinstatement to be paid by the owner to the Council); or**

2. **Be repaired and reinstated by the owner to the satisfaction of the Council.**

A photographic record of the Council's infrastructure adjacent to the subject site must be provided to the Council prior to any commencement of works.

A photographic record of the Council's infrastructure (e.g. existing property service connection points, roads, buildings, stormwater, footpaths, driveway crossovers and nature strips, including if any, pre-existing damage) will be relied upon to establish the extent of damage caused to the Council's infrastructure during construction. In the event that the owner/developer fails to provide to the Council a photographic record of the Council's infrastructure, then any damage to the Council's infrastructure found on completion of works will be deemed to be the responsibility of the owner.

Reason for condition

To ensure that any of the Council's infrastructure and/or site-related service connections affected by the proposal will be altered and/or reinstated at the owner's full cost.

ENV 1

Sediment and erosion control measures sufficient to prevent sediment from leaving the site must be installed prior to any disturbance of the site, and maintained until all areas of disturbance have been stabilized or re-vegetated.

Advice:

For further guidance in preparing a Soil and Water Management Plan – in accordance with Fact sheet 3 Derwent Estuary Program click [here](#).

Reason for condition

To avoid the sedimentation of roads, drains, natural watercourses, Council land that could be caused by erosion and runoff from the development, and to comply with relevant State legislation.

HER 17c

The external colours, materials and finishes of the approved development must be substantially in accordance with the approved plans, including but not limited to the use of white James Hardie weatherboards and corrugated

Colorbond roof sheeting in red. Any substantial change in the colours, materials and finishes requires further approval.

Reason for condition

To ensure that development in a heritage precinct is undertaken in a sympathetic manner which does not cause loss of historic cultural heritage significance.

ADVICE

The following advice is provided to you to assist in the implementation of the planning permit that has been issued subject to the conditions above. The advice is not exhaustive and you must inform yourself of any other legislation, by-laws, regulations, codes or standards that will apply to your development under which you may need to obtain an approval. Visit the Council's [website](#) for further information.

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You may require a Permit to Open Up and Temporarily Occupy a Highway (for work in the road reserve). Click [here](#) for more information.

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DIAL BEFORE YOU DIG

Click [here](#) for dial before you dig information.



(Ben Ikin)

Senior Statutory Planner

As signatory to this report, I certify that, pursuant to Section 55(1) of the Local Government Act 1993, I hold no interest, as referred to in Section 49 of the Local Government Act 1993, in matters contained in this report.



(Karen Abey)

Manager Development Appraisal

As signatory to this report, I certify that, pursuant to Section 55(1) of the Local Government Act 1993, I hold no interest, as referred to in Section 49 of the Local Government Act 1993, in matters contained in this report.

Date of Report: 23 January 2023

Attachment(s):

Attachment B - Planning Committee Agenda Documents

Attachment C - Planning Referral Officer Cultural Heritage Report

Attachment D - Applicant's Response to Representor Concerns

Planning #266138

Property

93 PRINCES STREET SANDY BAY TAS 7005

**People****Applicant ***

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12A Henry Street
RICHMOND TAS 7025
0409 432 670
clint.draftone@bigpond.com

Owner *

Alice Thorp
93 Princes Street
SANDY BAY TAS 7005
0437 255 774
alice_thorp@hotmail.com

Entered By

CLINT WILLS
0409 432 670
clint.draftone@bigpond.com

Use

Single dwelling

Details

Have you obtained pre application advice?

☒ No

If YES please provide the pre application advice number eg PAE-17-xx

Are you applying for permitted visitor accommodation as defined by the State Government Visitor Accommodation Standards? Click on help information button for definition. *

☒ No

Is the application for SIGNAGE ONLY? If yes, please enter \$0 in the cost of development, and you must enter the number of signs under Other Details below. *

☒ No

If this application is related to an enforcement action please enter Enforcement Number

Details

What is the current approved use of the land / building(s)? *

Residential Home

Please provide a full description of the proposed use or development (i.e. demolition and new dwelling, swimming pool and garage) *

Residential extension

Estimated cost of development *

300000.00

Existing floor area (m2)

242.85

Proposed floor area (m2)

94.97

Site area (m2)

213

Carparking on Site

Total parking spaces

2

Existing parking spaces

2

N/A

☒ Other (no selection
chosen)

Other Details

Does the application include signage? *

☒ No

How many signs, please enter 0 if there are none involved in this application? *

0

Tasmania Heritage Register

Is this property on the Tasmanian Heritage Register?

☒ No

Documents

Required Documents

Title (Folio text and Plan and Full title - 93 Princes Street, Sandy Bay.pdf
Schedule of Easements) *

Plans (proposed, existing) * Planning drawings - 93 Princes Street, Sandy Bay.pdf

**RESULT OF SEARCH**

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980

SEARCH OF TORRENS TITLE

VOLUME 54665	FOLIO 1
EDITION 5	DATE OF ISSUE 02-Jun-2022

SEARCH DATE : 03-Oct-2022

SEARCH TIME : 02.27 PM

DESCRIPTION OF LAND

City of HOBART

Lot 1 on Plan 54665 (formerly being P577)

Derivation : Part of 66A-2R-30Ps. Gtd. to W. M. Orr.

Prior CT 2094/44

SCHEDULE 1

M954847 TRANSFER to JANET CLARK THORP and ALICE CAMERON NAIRN
THORP Registered 02-Jun-2022 at noon

SCHEDULE 2

Reservations and conditions in the Crown Grant if any
BENEFITING EASEMENT: a right of drainage in common with the owners and occupiers for the time being of Lots 2,3,4 and 5 shown on Plan No. 54665 through and under the strip of land marked Drainage Easement on Plan No. 54665 with a right to enter upon such strip of land for the purpose of repairing cleansing and amending the same from time to time as may be necessary SAVING and RESERVING NEVERTHELESS to the owner or owners for the time being of the several pieces of land marked Lots 2,3,4 and 5 on the said Plan No. 54665 a right in common with Registered Proprietor of passage running of water slops and drainage from the said several pieces of land through and under the strip of land marked C.D.A. on Plan No. 54665 and through the sewers drains and water courses now made on hereafter to be made or passing under through or along the said strip of land AND ALSO SAVING AND RESERVING a right for the said owner or owners for the time being of the said several pieces of land and his and their agents surveyors and workmen from time to time and at all times hereafter if he or they shall think fit to enter into and upon the said strip of land to inspect repair cleanse and amend any sewers drains or water courses now made or hereafter to be made or passing through or along the said strip of land.



RESULT OF SEARCH

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980



UNREGISTERED DEALINGS AND NOTATIONS

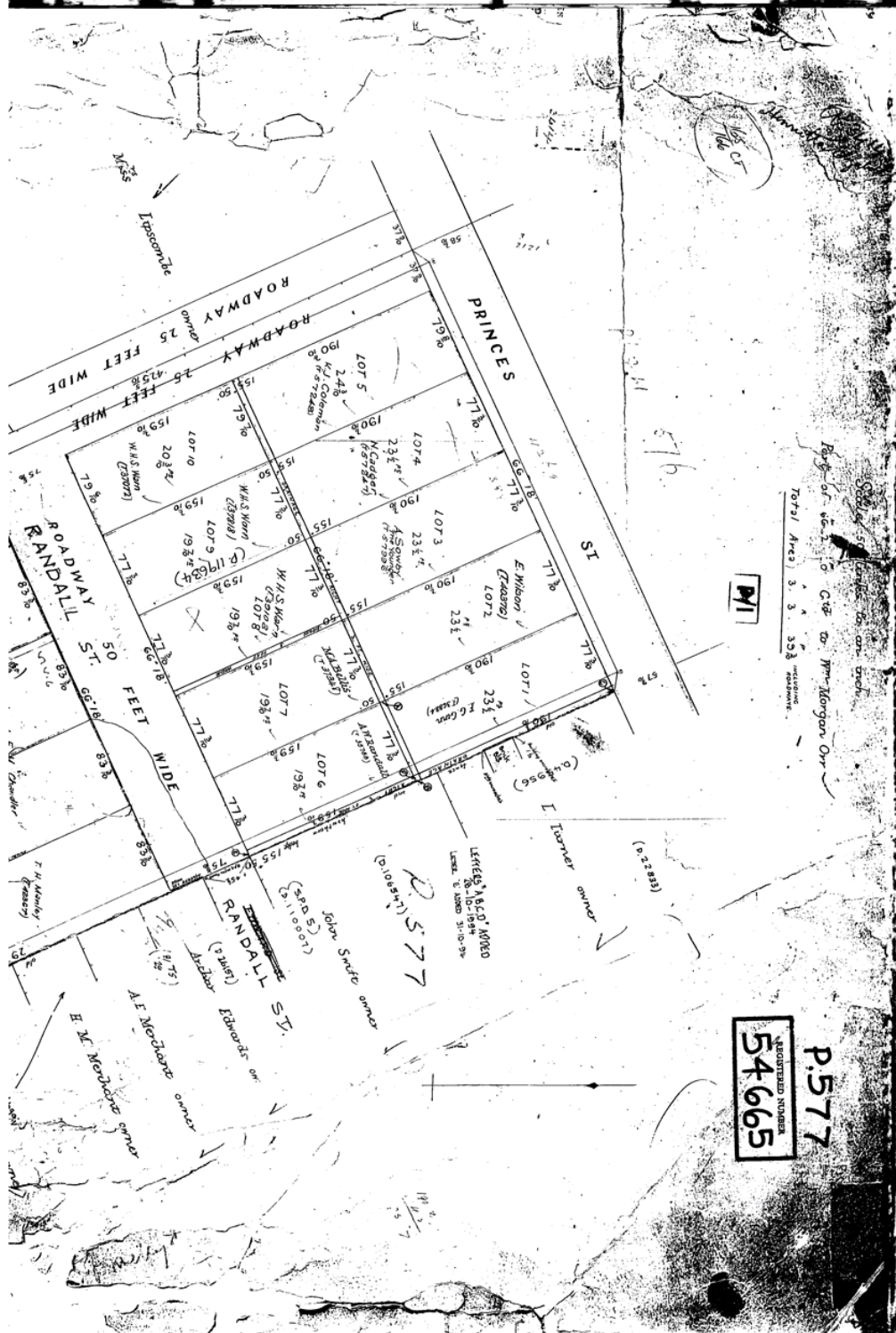
No unregistered dealings or other notations



FOLIO PLAN

RECORDED OF TITLES

Issued Pursuant to the Land Titles Act 1980

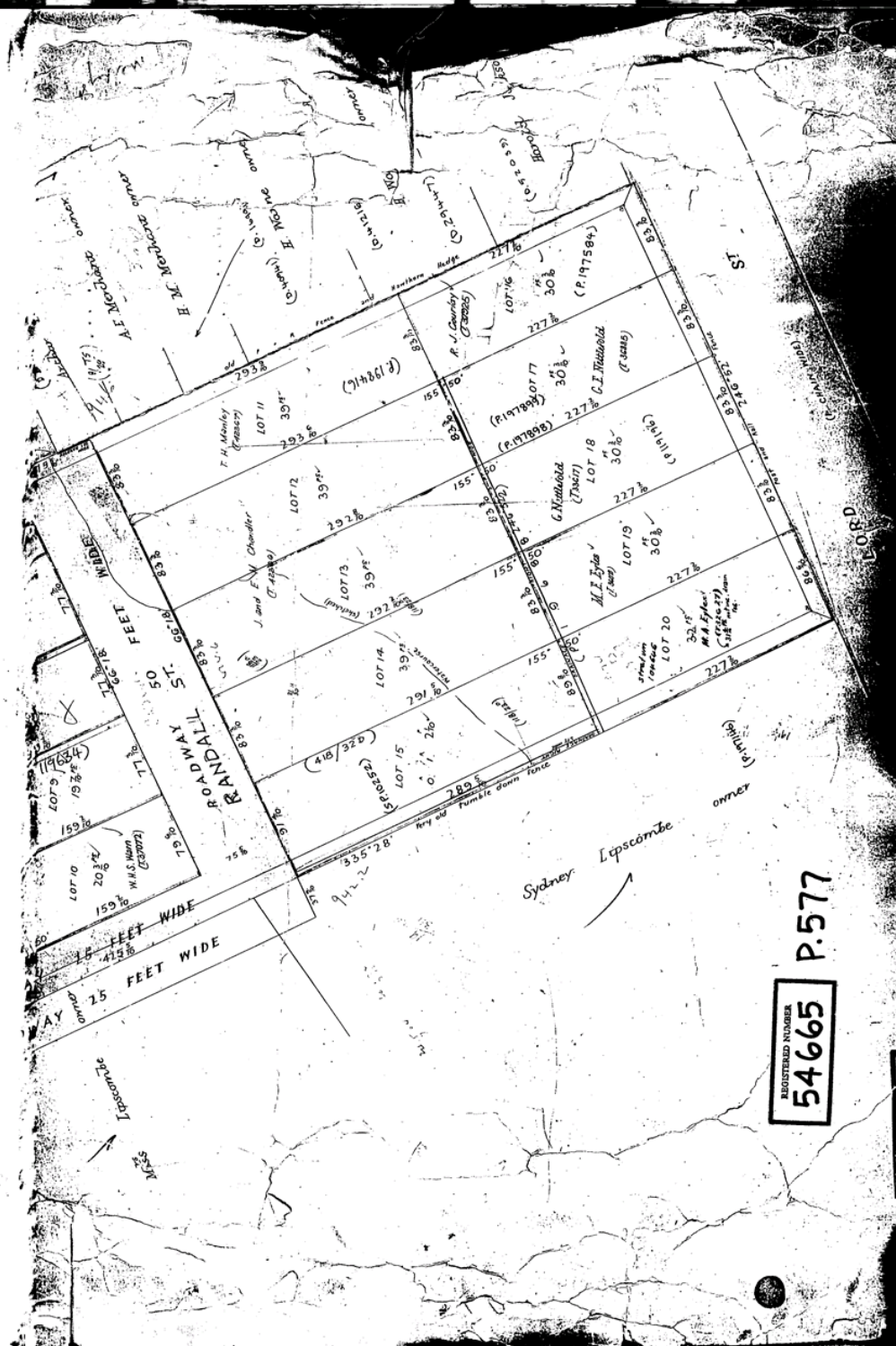




FOLIO PLAN

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980

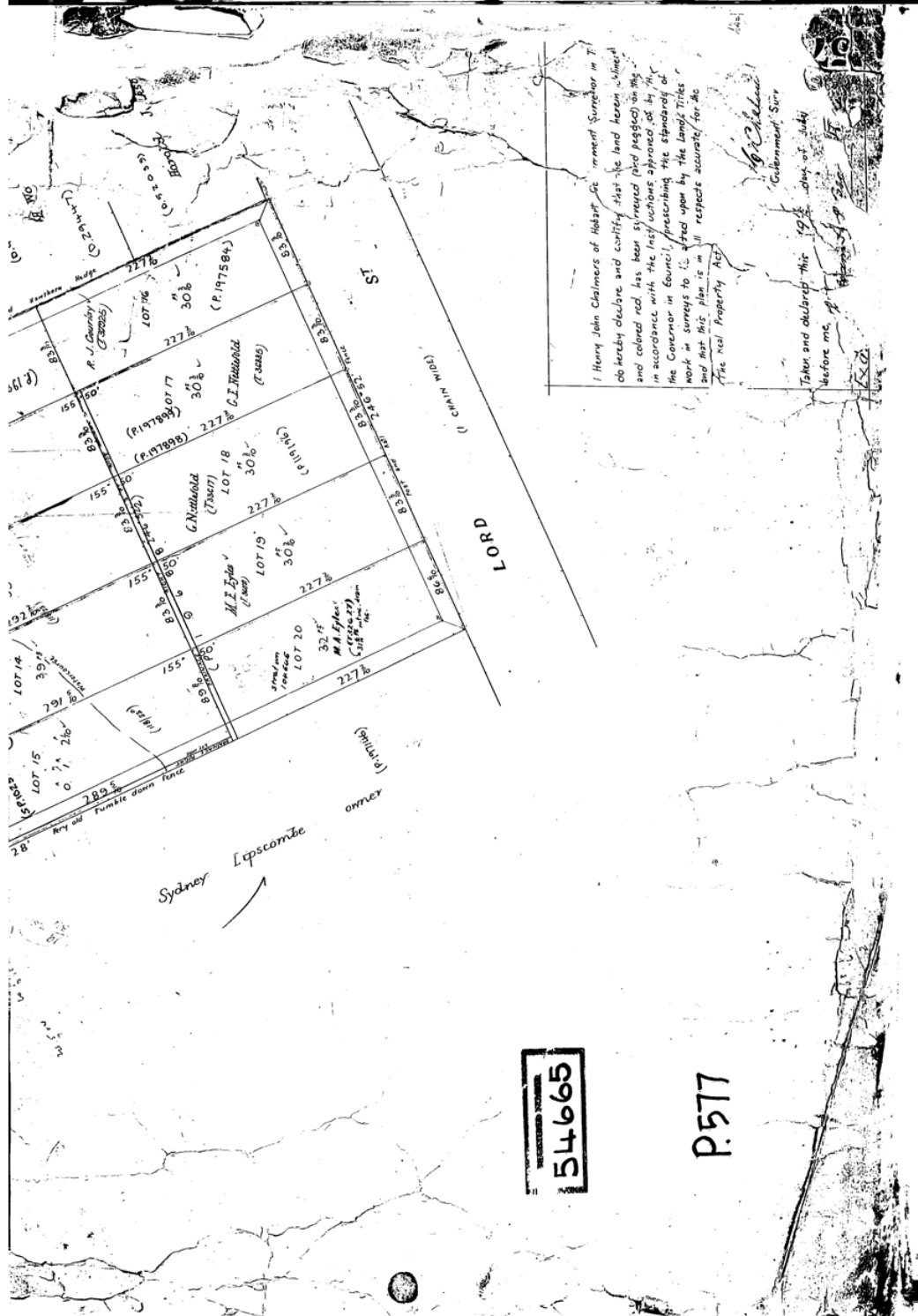




FOLIO PLAN

REORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980





PROPERTY INFORMATION REPORT

VALUER-GENERAL, TASMANIA
Issued pursuant to the Valuation of Land Act 2001

PROPERTY ID: 5633018

MUNICIPALITY: HOBART

PROPERTY ADDRESS: 93 PRINCES STREET
SANDY BAY TAS 7005

PROPERTY NAME:

TITLE OWNER: 54665/1 : JANET CLARK THORP, ALICE CAMERON NAIRN THORP

INTERESTED PARTIES: ALICE CAMERON NAIRN THORP, JANET CLARK THORP

POSTAL ADDRESS: 93 PRINCES ST
(Interested Parties) SANDY BAY TAS 7005

MAIN IMPROVEMENTS SUMMARY

Improvements:	DWELLING	
Improvement Sizes	Improvement:	Area:
(Top 3 by Size):	DWELLING	245.0 square metres
	FENCING & PAVING	1.0 square metres
Number of Bedrooms:	4	
Construction Year of Main Building:	1925	
Roof Material:	Galvanised Iron	
Wall Material:	Brick	
Land Area:	0.058 hectares	

LAST SALES

Contract Date	Settlement Date	Sale Price
02/08/1991	30/08/1991	\$180,000
21/11/1983	16/12/1983	\$37,500

LAST VALUATIONS

Date Inspected	Levels At	Land	Capital	A.A.V.	Reason
11/03/2022	01/07/2021	\$570,000	\$1,000,000	\$40,000	FRESH VALUATION
16/12/2014	01/07/2014	\$320,000	\$575,000	\$23,000	REVALUATION

No information obtained from the LIST may be used for direct marketing purposes.

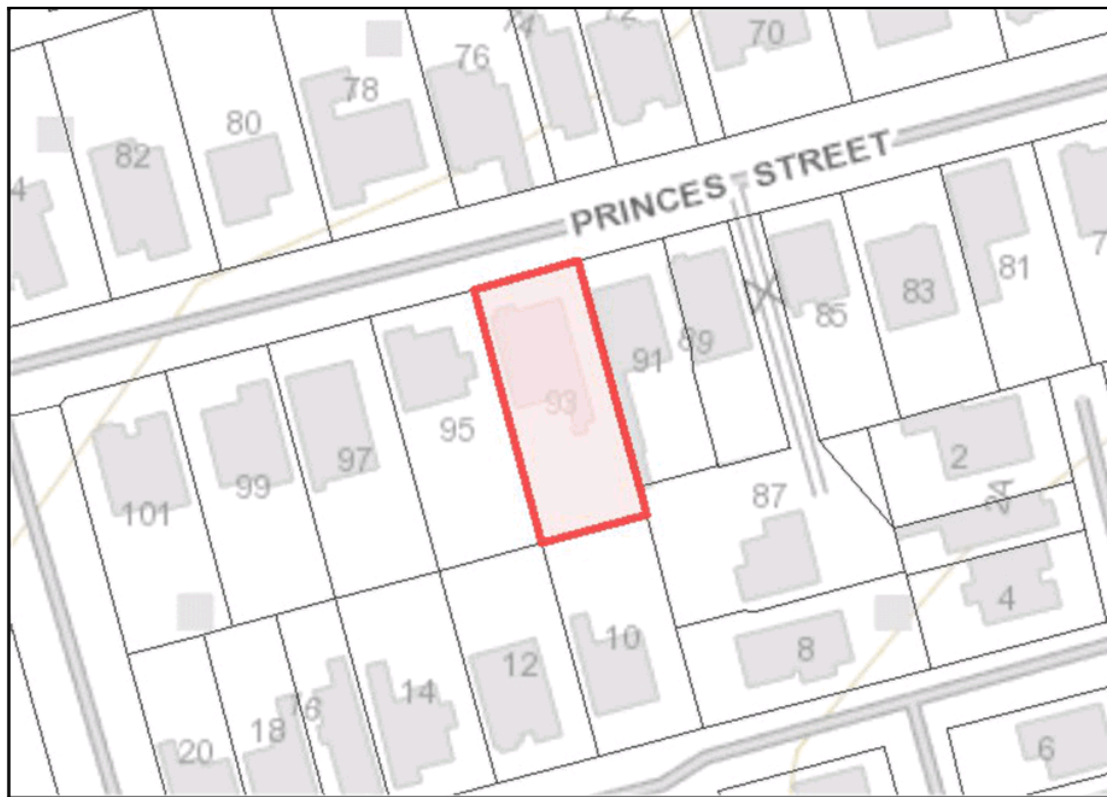
Much of this data is derived from the Valuation Rolls maintained by the Valuer-General under the provisions of the Valuation of Land Act 2001. The values shown on this report are as at the Levels At date.

While all reasonable care has been taken in collecting and recording the information shown above, this Department assumes no liability resulting from any errors or omissions in this information or from its use in any way.

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PROPERTY INFORMATION REPORT

VALUER-GENERAL, TASMANIA
Issued pursuant to the Valuation of Land Act 2001**Explanation of Terms**

Property ID - A unique number used for Valuation purposes.

Date Inspected - The date the property was inspected for the valuation.

Levels At - Levels At - or Levels of Valuation Date means the date at which values of properties are determined for all valuations in a Municipal Area.

Land Value - Land Value is the value of the property including drainage, excavation, filling, reclamation, clearing and any other invisible improvements made to the land. It excludes all visible improvements such as buildings, structures, fixtures, roads, standings, dams, channels, artificially established trees and pastures and other like improvements.

Capital Value - Capital Value is the total value of the property (including the land value), excluding plant and machinery.

AAV - Assessed Annual Value. AAV is the gross annual rental value of the property excluding GST, municipal rates, land tax and fixed water and sewerage, but cannot be less than 4% of the capital value.

Interested Parties - This is a list of persons who have been recorded by the Valuer-General as having interest in the property (ie owner or Government agency).

Postal Address - This is the last advised postal address for the interested parties.

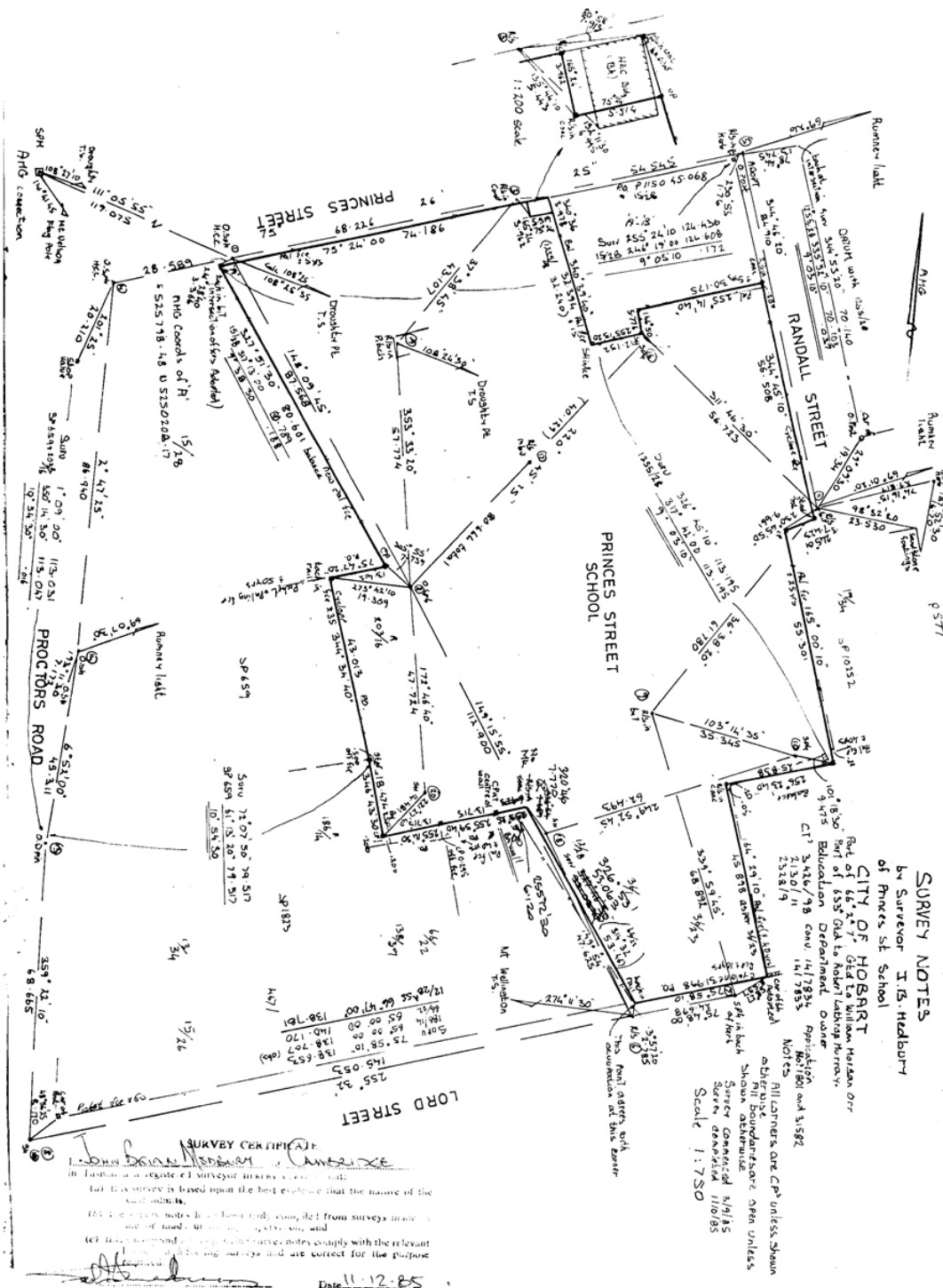
Multiple Tenancies - Properties that have multiple tenants are assessed for separate AAV's. e.g. a house and flat.



SURVEY NOTES

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980



N^o 308

Plan 577

FIELD NOTES

Survey and Subdivision

Part of 66A 2r. 30p Granted to

William Morgan Orr

Town of Queenborough

between Lord and Princes St

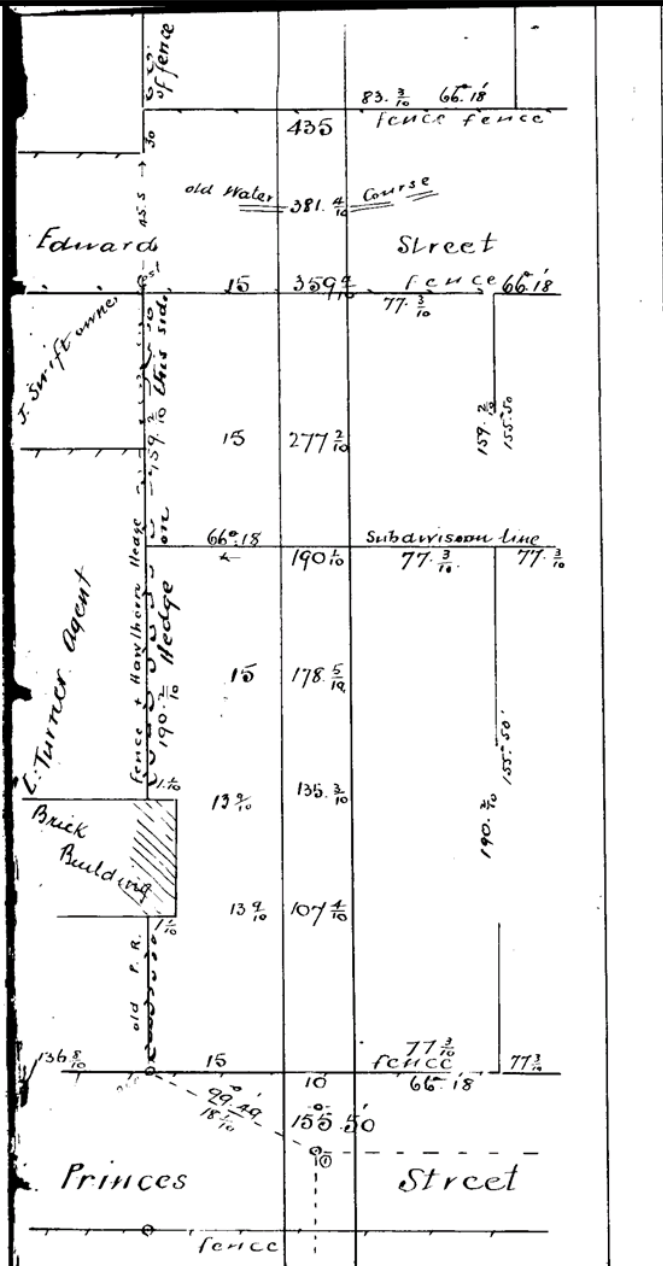
J. B. Chalmers
May 1907.



SURVEY NOTES

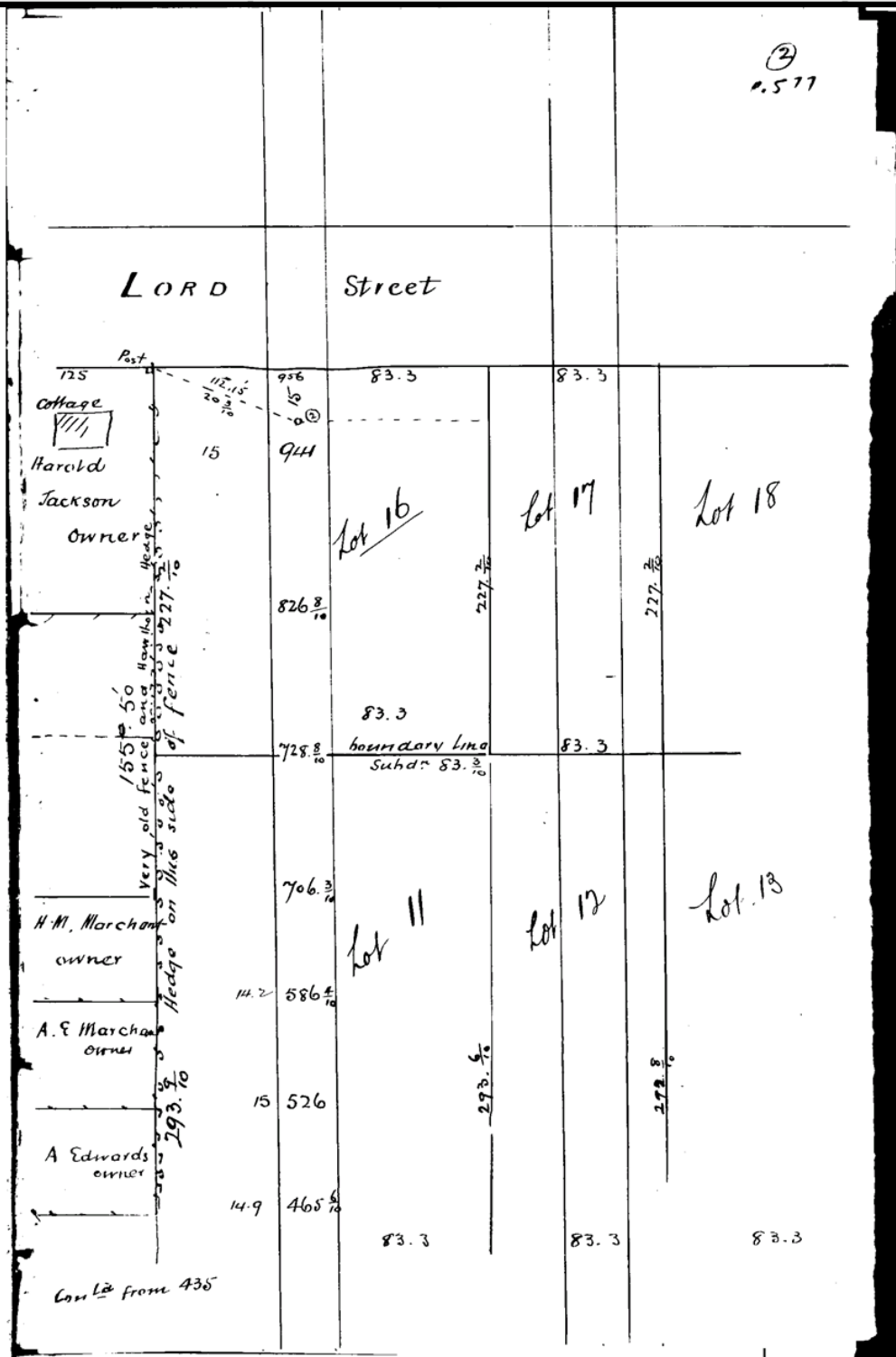
RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980



0
2577

Bluedstone May 18th 1907.
Sandy Bay, under Real Property Act for
Survey of allotment & Subdivisions Town of Bluedstone

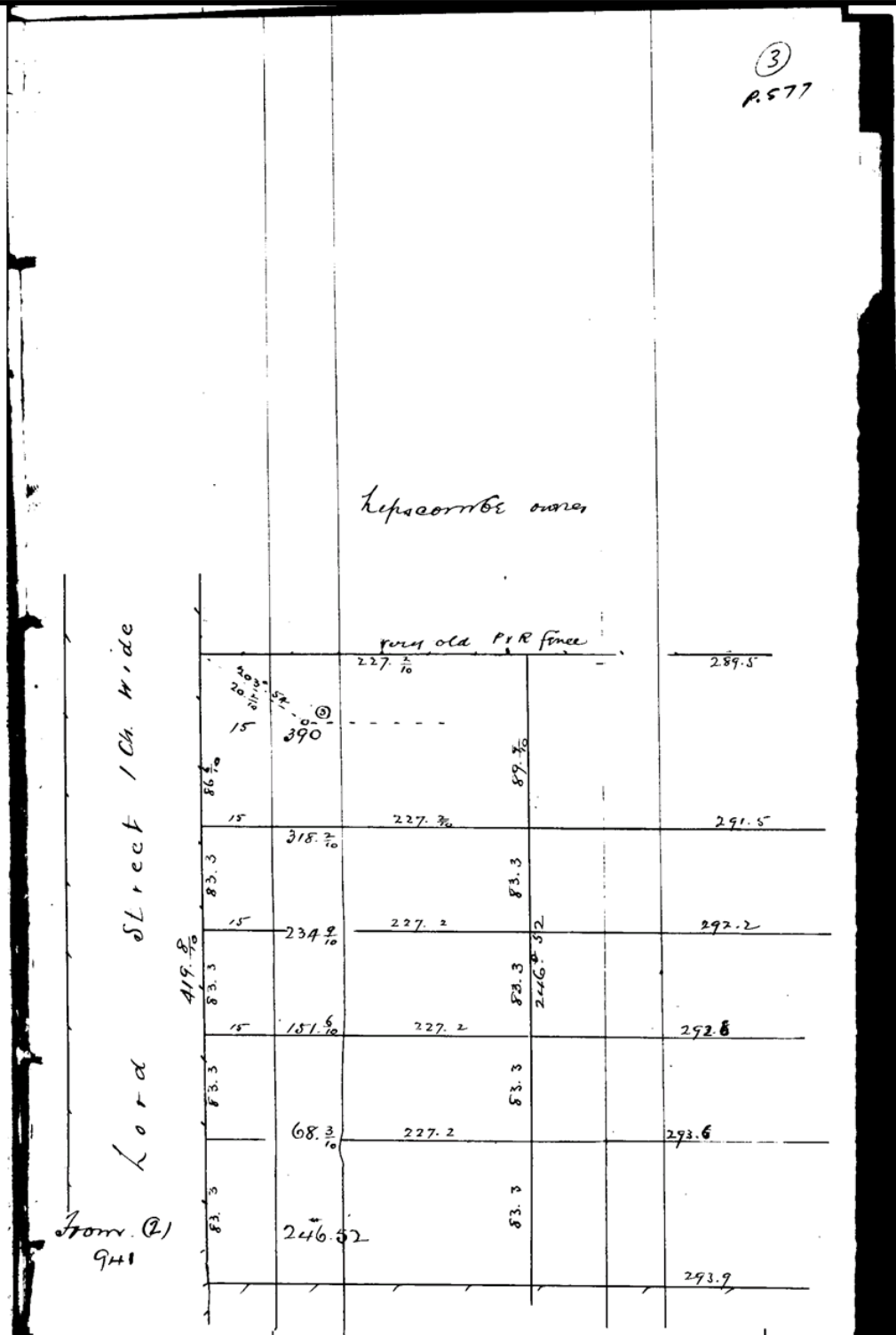




SURVEY NOTES

RECORDER OF TITLES

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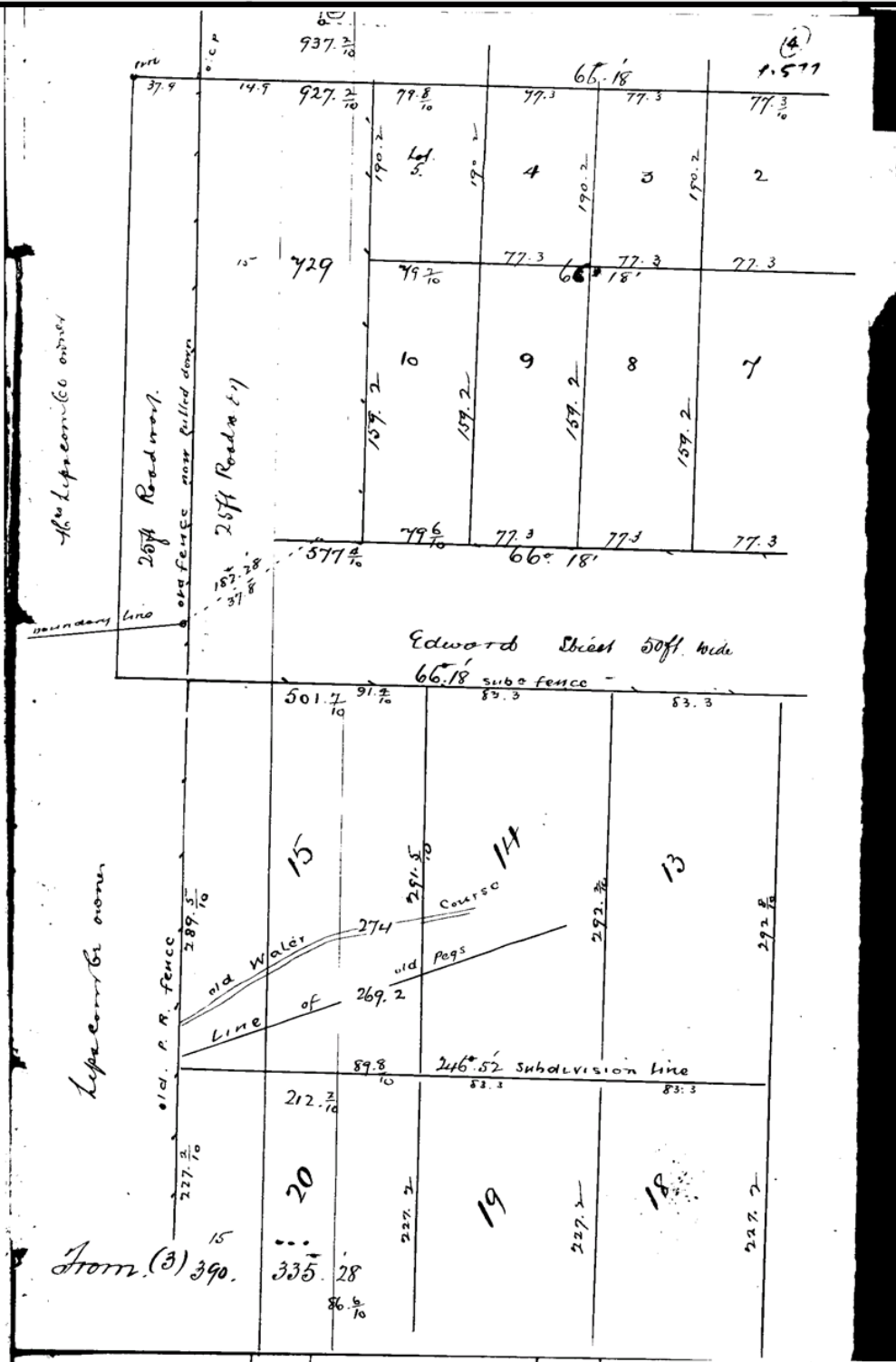




SURVEY NOTES

RECORDER OF TITLES

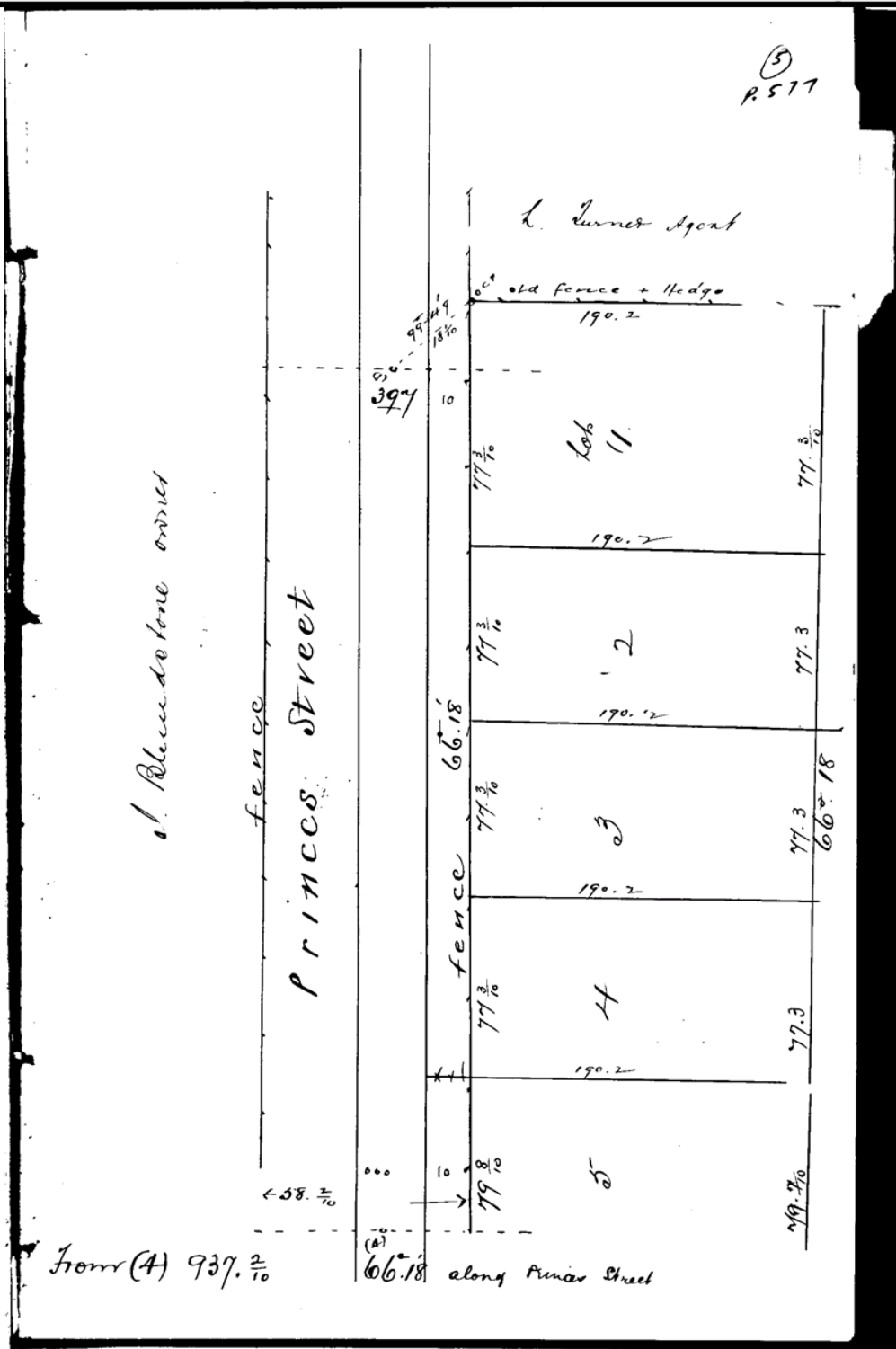
Issued Pursuant to the Land Titles Act 1980



SURVEY NOTES

RECORDED OF TITLES

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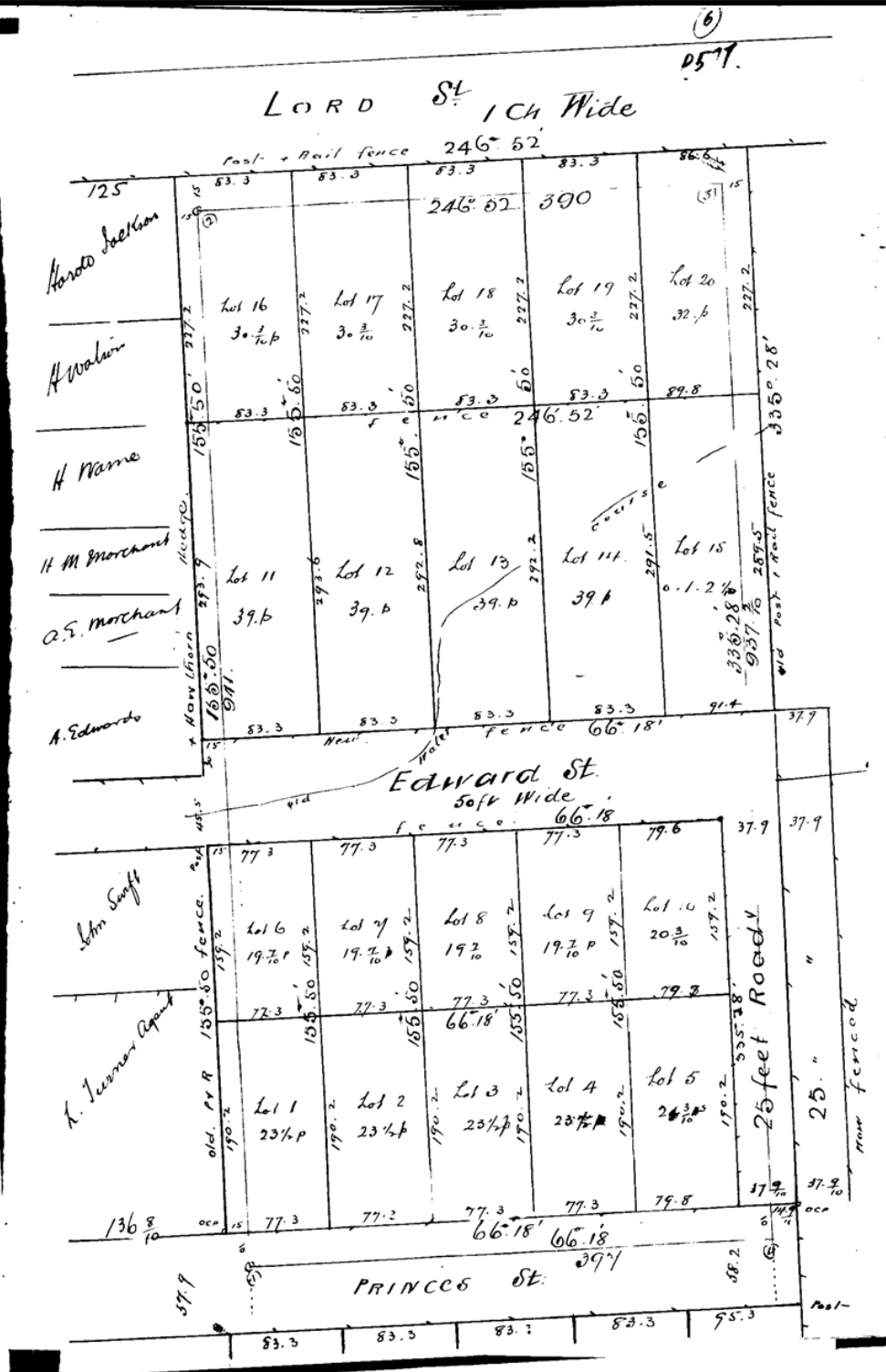




SURVEY NOTES

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980



Soil Test

By: GEO Environmental Solutions
Date:

BAL Assessment

Rate:
By:
Date:

Land Survey

By: Rogerson & Birch
Date: 26 April 2021

Thermal Assessment

By:
Date:

Corrosion Environment

Class: Moderate

Alpine Area

Class:

Climate Zone - 7

Soil Classification

Class: TBA

Wind Speed

N2 Vh,u = 40m/s

Land Title

Folio No: 1
Volume: 54665

Site Coverage

Land	-	595.00m²
Existing Level 1	-	105.70m²
Existing Level 2	-	137.15m²
Existing Deck Level 2-	-	25.68m²
Entry cover	-	9.23m²
Extension Level 1	-	53.41m²
Extension Level 2	-	41.56m²

TOTAL (Existing site coverage)-172.06m²

TOTAL (New site coverage)- 213.62m²

New Site Coverage - 35.90%

NOTE:

PLN Fit House is to be single dwelling
Original kitchen to become a killenette due to access to staircase is through the existing kitchen
There will only be one laundry



ABN: 18 220 805 074
Compliance No: CC 1159 Q
m: 0409 432 670
e: clint.draftone@bigpond.com

Client

Alice Thorp

Job

Residential Home Extension

Job address

93 Princes Street,
Sandy Bay

Drawing

Scale: A3 -
DWG: 1 of 16
Date: 30 November 2022

Cover

Layout Index		
ID	Layout Name	Rev
1	Cover	
2	Site Plan	
3	Site Stormwater Plan	
4	Section 1-1 Stormwater	
5	Existing Floor Plan Level 1	
6	Existing Floor Plan Level 2	
7	Existing Elevations	
8	Existing Elevations	
9	Floor Plan Level 1	
10	Floor Plan Level 2	
11	Elevations	
12	Elevations	
13	Roof Plan	
14	Door & Window Schedule	
15	Window Schedule	

Amendments	
Date	By
4-11-2022	CW

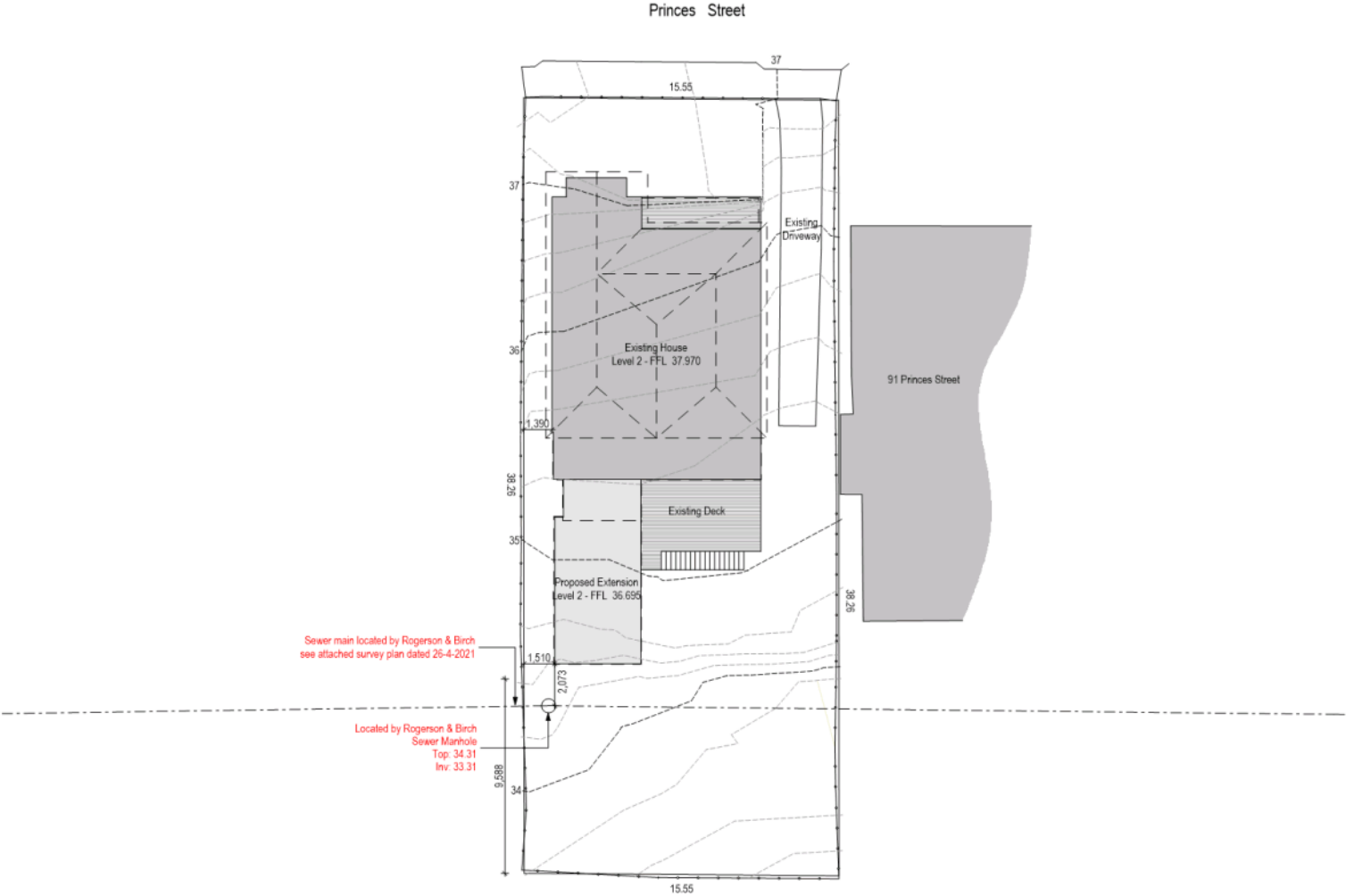
Builders/Tradesmen/Sub-contractors and Prefabricators to verify all dimensions and levels prior to commencing any building works. Use written dimensions only. Do not scale from drawings.



ABN: 18 220 805 074
Compliance No: CC 1159 Q
m: 0409 432 670
e: clint.draftone@bigpond.com

Client
Alice Thorp
Job
Residential Home Extension
Job address
93 Princes Street,
Sandy Bay
Drawing
Scale: A3 - 1:200
DWG: 2 of 16
Date: 30 November 2022

Site Plan



Amendments	
Date	By
4-11-2022	CW

Builders, Tradesmen, Sub-contractors and Prefabricators to verify all dimensions and levels prior to commencing any building works. Use written dimensions only. Do not scale from drawings.



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Compliance No: CC 1159 Q
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Client
Alice Thorp
Job
Residential Home Extension
Job address
93 Princes Street,
Sandy Bay
Drawing
Scale: A3 - 1:200
DWG: 3 of 16
Date: 30 November 2022

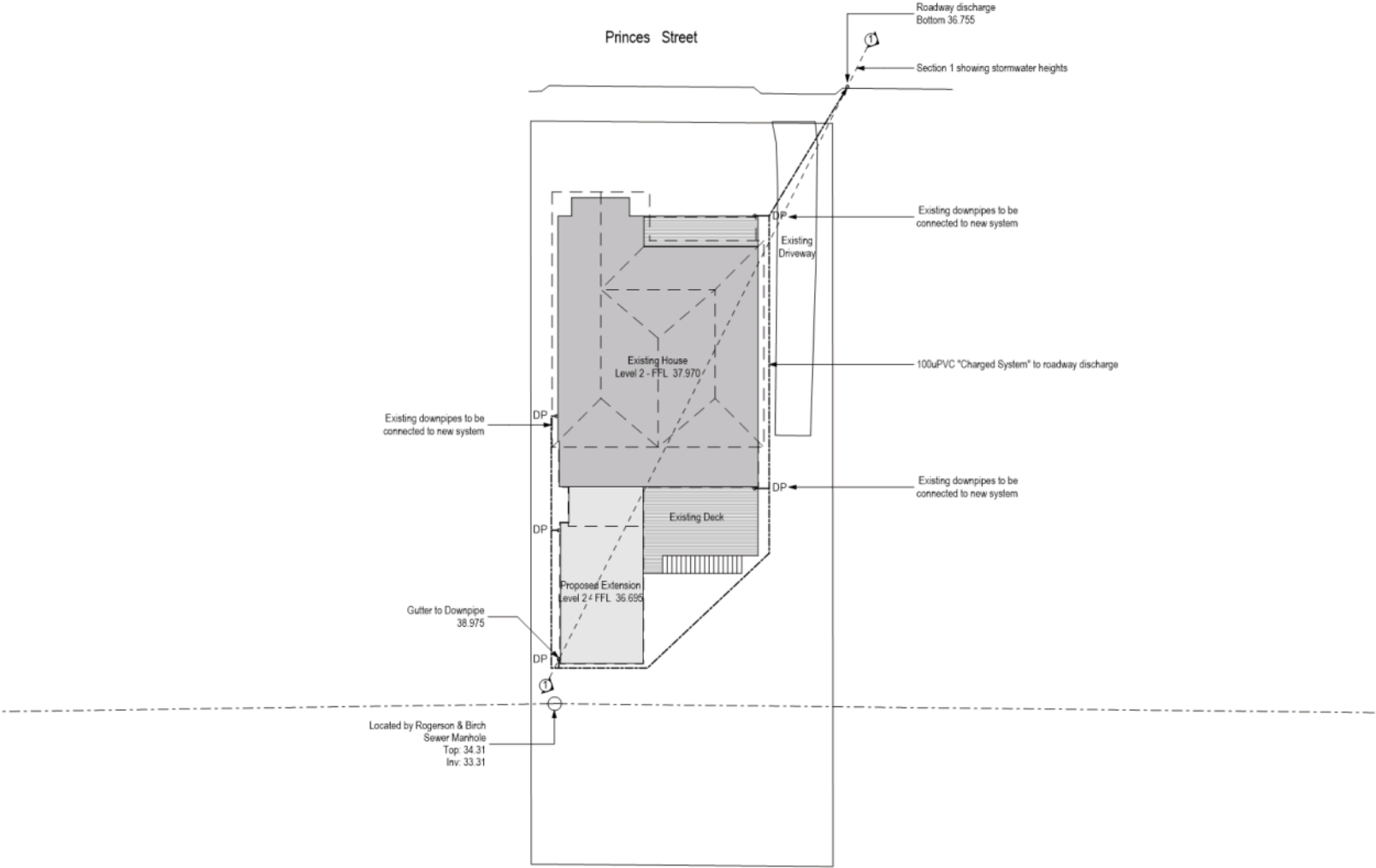
Site Stormwater Plan



Plumbing
Final internal sizes & layout to be determined by the plumber to council approval. See specifications for other details.

○	Downpipes
---	Sewer Line
---	Stormwater Line
---	Agg Pipe
	450x450 Pit

1	Toilet	100 dia
2	Bath	40 dia
3	Basin	40 dia
4	Trough	50 dia
5	Kit sink	50 dia
6	Shower	50 dia
7	Floor waste	50 dia



Amendments	
Date	By

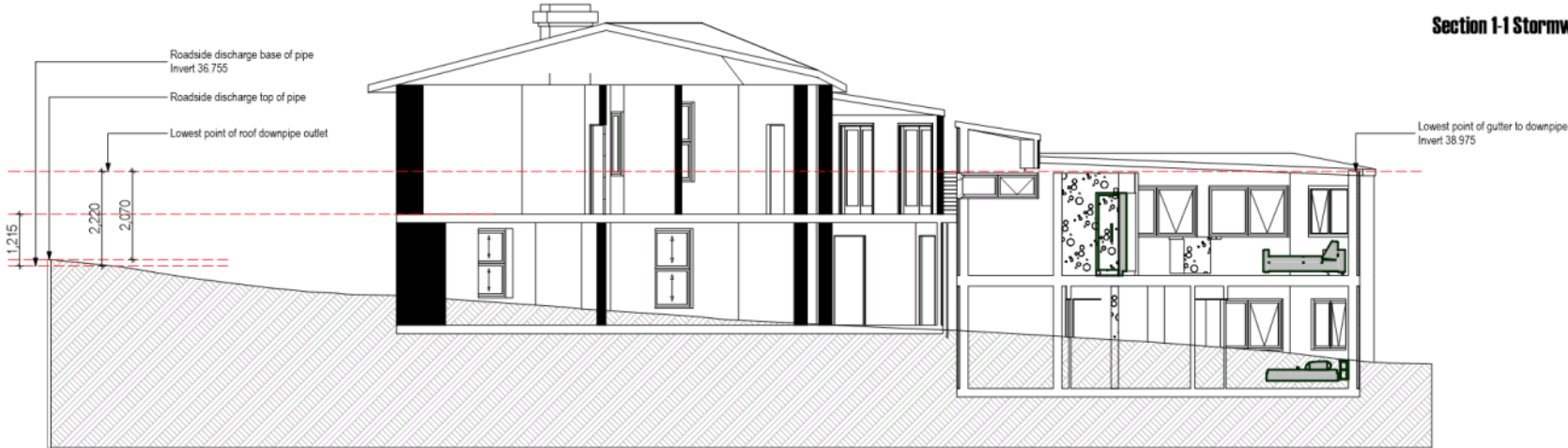
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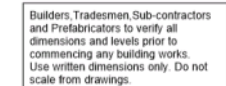
Client
Alice Thorp
Job
Residential Home Extension
Job address
93 Princes Street,
Sandy Bay
Drawing
Scale: A3 - 1:100
DWG: 4 of 16
Date: 30 November 2022

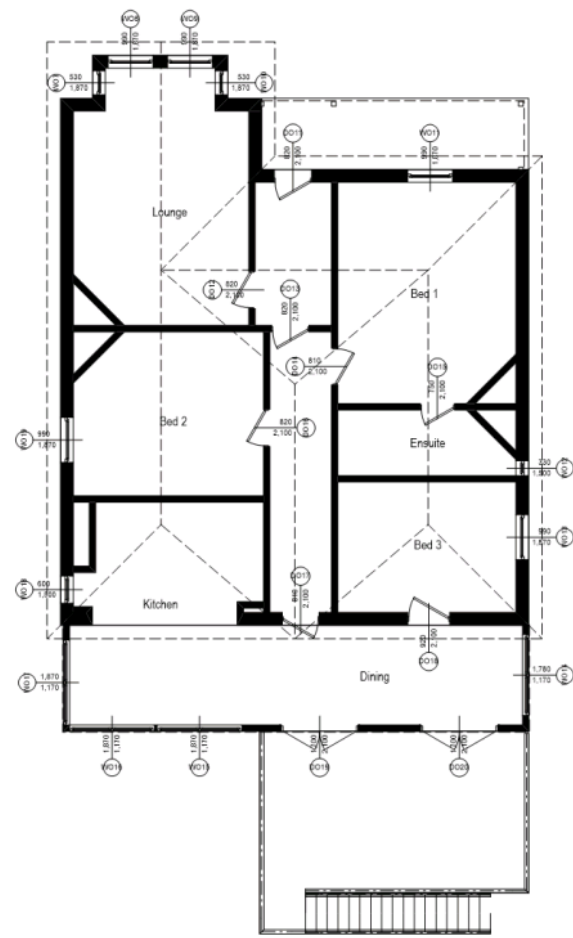
Section 1-1 Stormwater



Amendments	
Date	By

Builders, Tradesmen, Sub-contractors and Prefabricators to verify all dimensions and levels prior to commencing any building works. Use written dimensions only. Do not scale from drawings.





ABN: 18 220 805 074
Compliance No: CC 1159 Q
m: 0409 432 670
e: clint.draftone@bigpond.com

Client
Alice Thorp
Job
Residential Home Extension
Job address
93 Princes Street,
Sandy Bay
Drawing
Scale: A3 - 1:100
DWG: 6 of 16
Date: 30 November 2022

Existing Floor Plan Level 2



Walls

- Existing Walls
- New Walls
- Walls to be removed

Windows

Width Height

Window number

Amendments	
Date	By

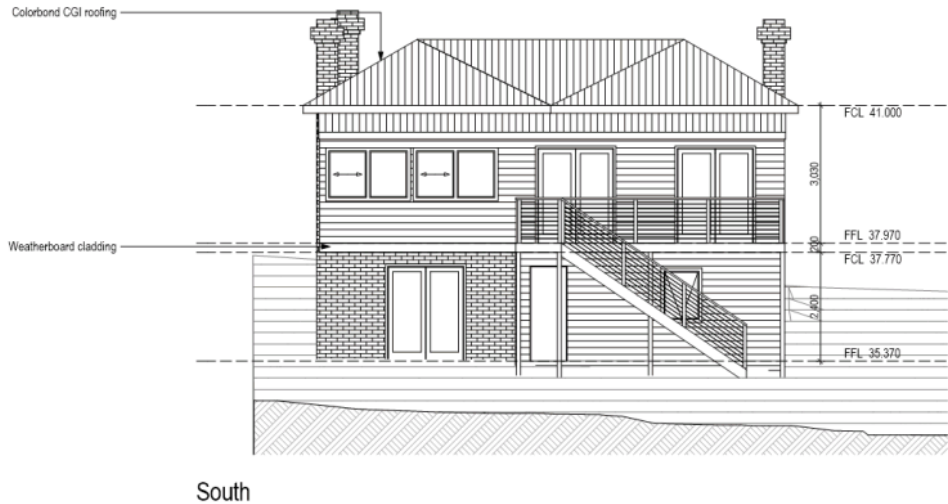
Builders, Tradesmen, Sub-contractors and Prefabricators to verify all dimensions and levels prior to commencing any building works. Use written dimensions only. Do not scale from drawings.



ABN: 18 220 805 074
Compliance No: CC 1159 Q
m: 0409 432 670
e: clint.draftone@bigpond.com

Client
Alice Thorp
Job
Residential Home Extension
Job address
93 Princes Street,
Sandy Bay
Drawing
Scale: A3 - 1:100
DWG: 7 of 16
Date: 30 November 2022

Existing Elevations



Existing - Material & Colour Schedule		
Element	Material	Colour
Masonry	Facebrick	Existing House
Downpipes	uPVC	White
Roof	CGI Colorbond	Red
Fascia & Gutter	Colorbond	Green
Windows & Doors	Aluminium	White
Posts	Steel SHS	Galvanised
Decking	Timber	Natural

The colours indicated for non pre-finished elements (eg timber posts, weatherboard claddings) in the schedule are to be verified on site by the client. If there are any changes made to paint colours, the owner shall obtain approval from the certifying authority before putting work in hand

Amendments	
Date	By

Builders, Tradesmen, Sub-contractors and Prefabricators to verify all dimensions and levels prior to commencing any building works. Use written dimensions only. Do not scale from drawings.



ABN: 18 220 805 074
Compliance No: CC 1159 Q
m: 0409 432 670
e: clint.draftone@bigpond.com

Client
Alice Thorp
Job
Residential Home Extension
Job address
93 Princes Street,
Sandy Bay
Drawing
Scale: A3 - 1:100
DWG: 8 of 16
Date: 30 November 2022

Existing Elevations



Existing - Material & Colour Schedule		
Element	Material	Colour
Masonry	Facebrick	Existing House
Downpipes	uPVC	White
Roof	CGI Colorbond	Red
Fascia & Gutter	Colorbond	Green
Windows & Doors	Aluminium	White
Posts	Steel SHS	Galvanised
Decking	Timber	Natural

The colours indicated for non pre-finished elements (eg timber posts, weatherboard claddings) in the schedule are to be verified on site by the client. If there are any changes made to paint colours, the owner shall obtain approval from the certifying authority before putting work in hand

Amendments	
Date	By

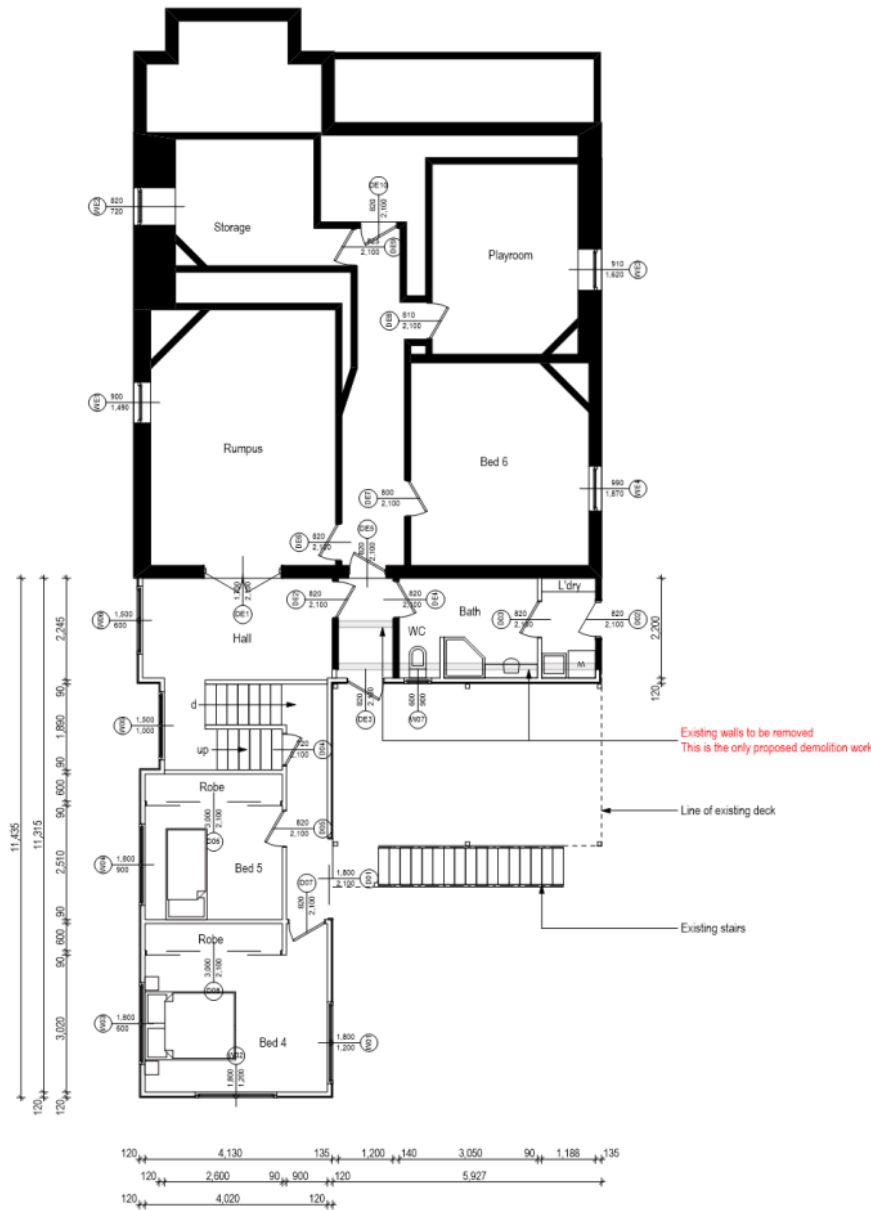
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Compliance No: CC 1159 Q
m: 0409 432 670
e: clint.draftone@bigpond.com

Client
Alice Thorp
Job
Residential Home Extension
Job address
93 Princes Street,
Sandy Bay
Drawing
Scale: A3 - 1:100
DWG: 9 of 16
Date: 30 November 2022

Floor Plan Level 1



Walls

- Existing Walls
- New Walls
- Walls to be removed

Windows

Width 1200 Height 1800

WDS Window number

Amendments	
Date	By
4-11-2022	CW

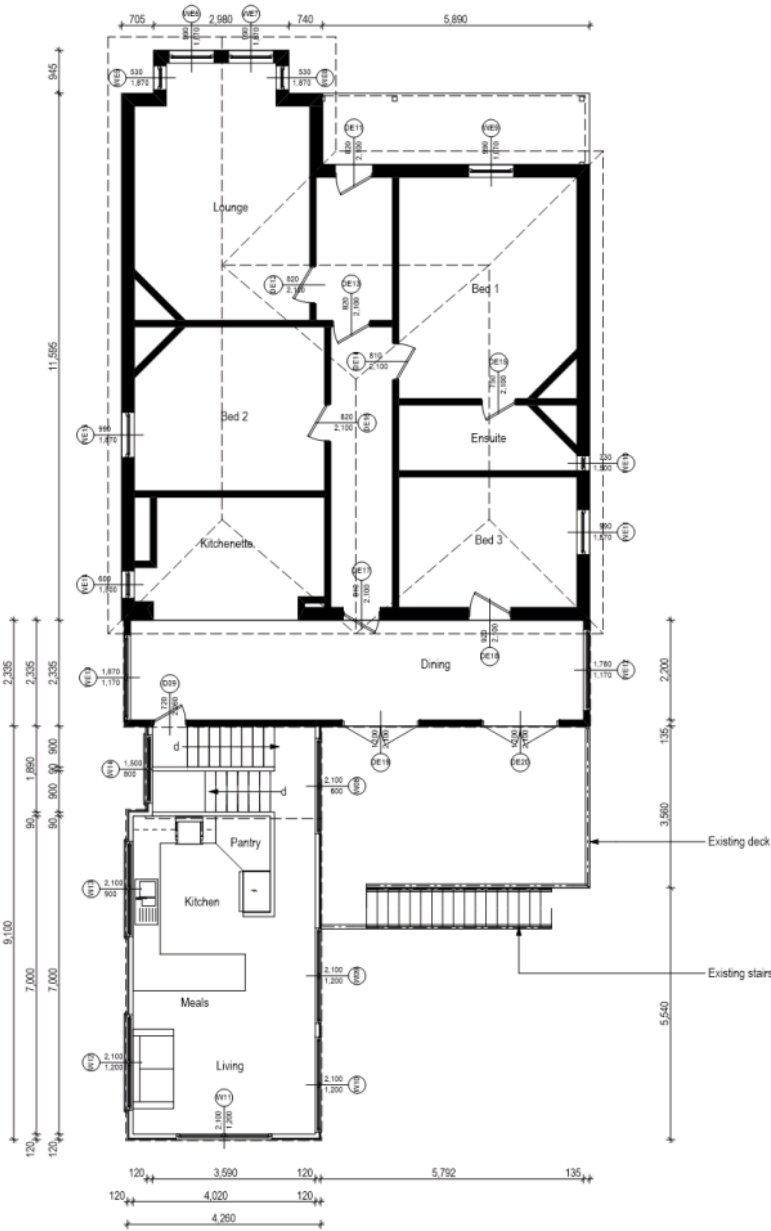
Builders Tradesmen Sub-contractors and Prefabricators to verify all dimensions and levels prior to commencing any building works. Use written dimensions only. Do not scale from drawings.



ABN: 18 220 805 074
Compliance No: CC 1159 Q
m: 0409 432 670
e: clint.draftone@bigpond.com

Client
Alice Thorp
Job
Residential Home Extension
Job address
93 Princes Street,
Sandy Bay
Drawing
Scale: A3 - 1:100
DWG: 10 of 16
Date: 30 November 2022

Floor Plan Level 2



Walls

- Existing Walls
- New Walls
- Walls to be removed

Windows

Width 1210 Height 900

W05 Window number

Amendments	
Date	By
4-11-2022	CW

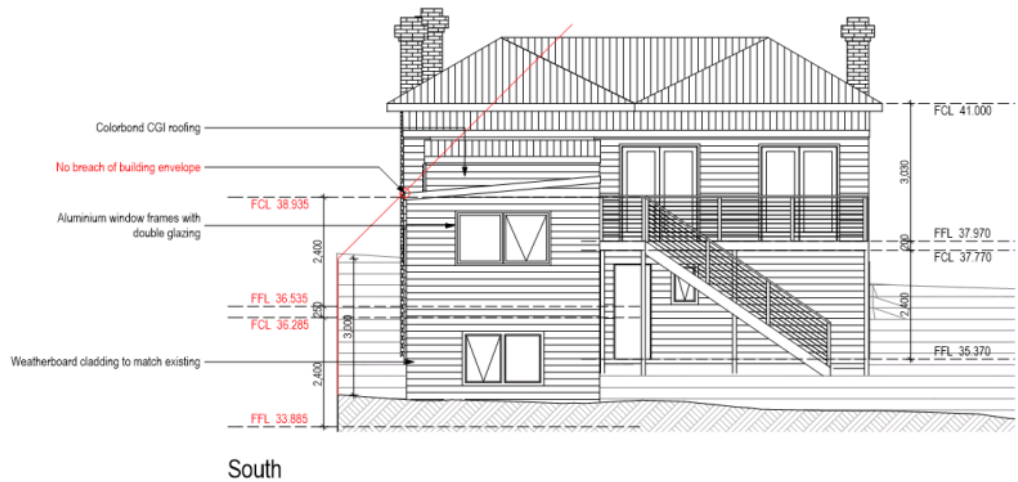
Builders Trademen Sub-contractors and Prefabricators to verify all dimensions and levels prior to commencing any building works. Use written dimensions only. Do not scale from drawings.



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e: clint.draftone@bigpond.com

Client
Alice Thorp
Job
Residential Home Extension
Job address
93 Princes Street,
Sandy Bay
Drawing
Scale: A3 - 1:100
DWG: 11 of 16
Date: 30 November 2022

Elevations



Material & Colour Schedule		
Element	Material	Colour
Cladding	JH Weatherboards	White to match existing
Masonry - Existing	Facebrick	Existing House
Downpipes	uPVC	To match wall
Roof	CGI Colorbond	To match existing
Fascia & Gutter	Colorbond	Green to match existing
Windows & Doors	Aluminium	White
Posts - Existing	Steel SHS	Galvanised
Decking - Existing	Timber	Natural

The colours indicated for non pre-finished elements (eg timber posts, weatherboard claddings) in the schedule are to be verified on site by the client. If there are any changes made to paint colours, the owner shall obtain approval from the certifying authority before putting work in hand

Amendments	
Date	By
4-11-2022	CW
23-11-2022	CW
30-11-2022	CW

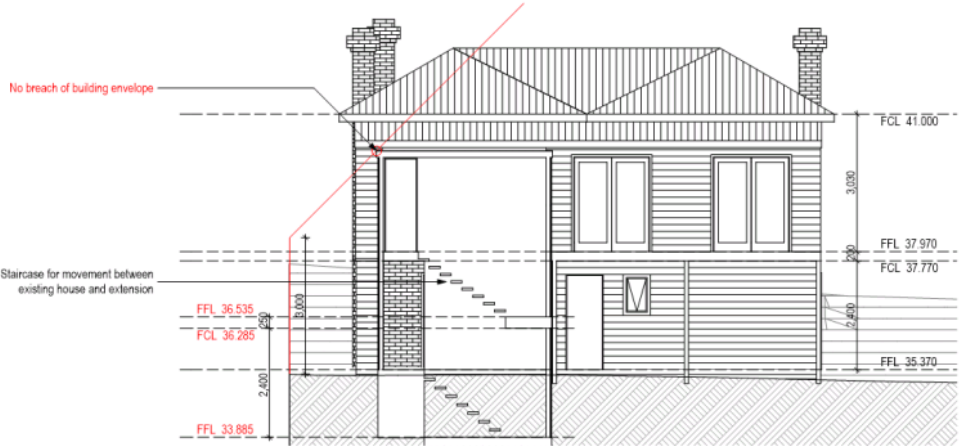
Builders, Tradesmen, Sub-contractors and Prefabricators to verify all dimensions and levels prior to commencing any building works. Use written dimensions only. Do not scale from drawings.



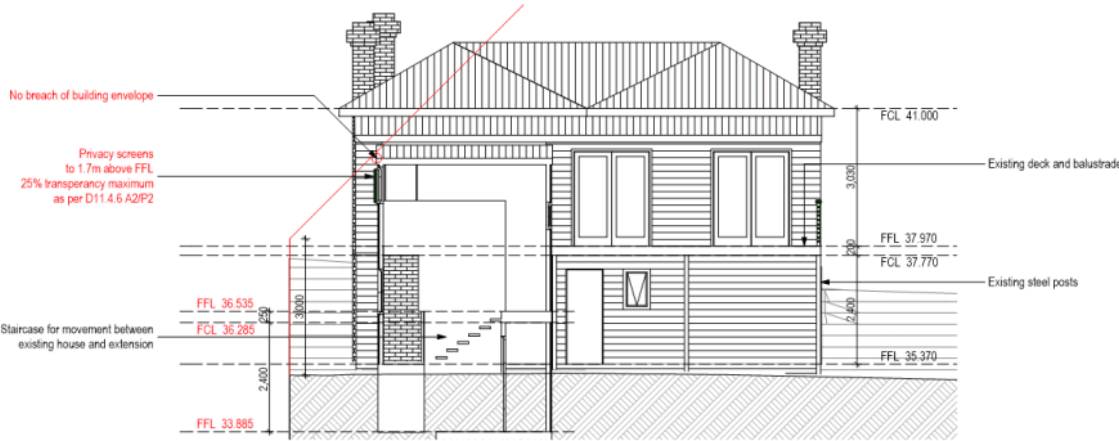
ABN: 18 220 805 074
Compliance No: CC 1159 Q
m: 0409 432 670
e: clint.draftone@bigpond.com

Client
Alice Thorp
Job
Residential Home Extension
Job address
93 Princes Street,
Sandy Bay
Drawing
Scale: A3 - 1:100
DWG: 12 of 16
Date: 30 November 2022

Elevations



South - At Join To Existing House



South - Through Staircase

Amendments	
Date	By
30-11-2022	CW

Builders, Tradesmen, Sub-contractors and Prefabricators to verify all dimensions and levels prior to commencing any building works. Use written dimensions only. Do not scale from drawings.



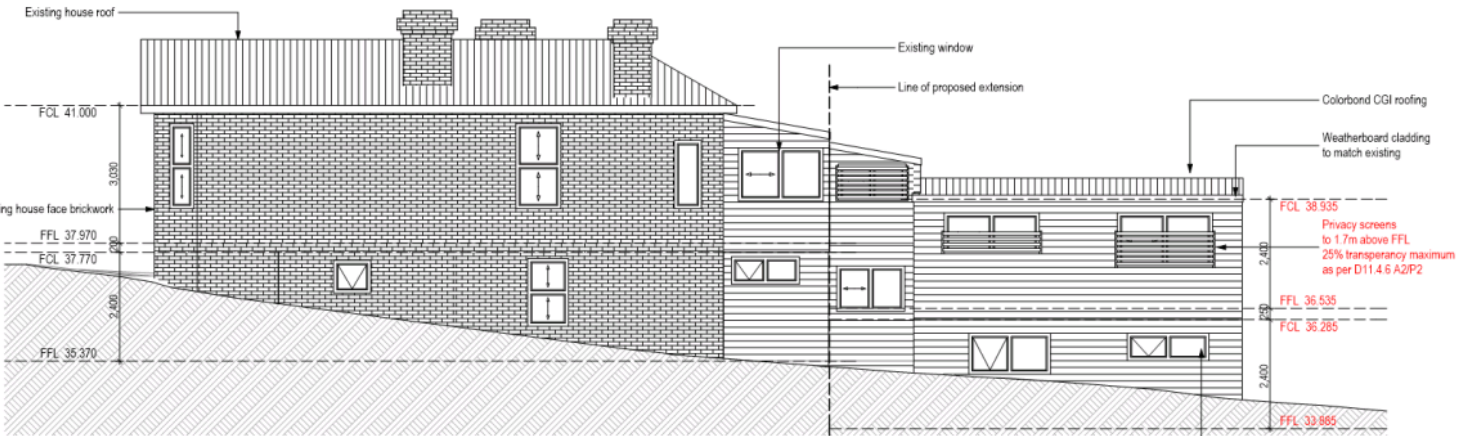
ABN: 18 220 805 074
Compliance No: CC 1159 Q
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e: clint.draftone@bigpond.com

Client
Alice Thorp
Job
Residential Home Extension
Job address
93 Princes Street,
Sandy Bay
Drawing
Scale: A3 - 1:100
DWG: 13 of 16
Date: 30 November 2022

Elevations



East



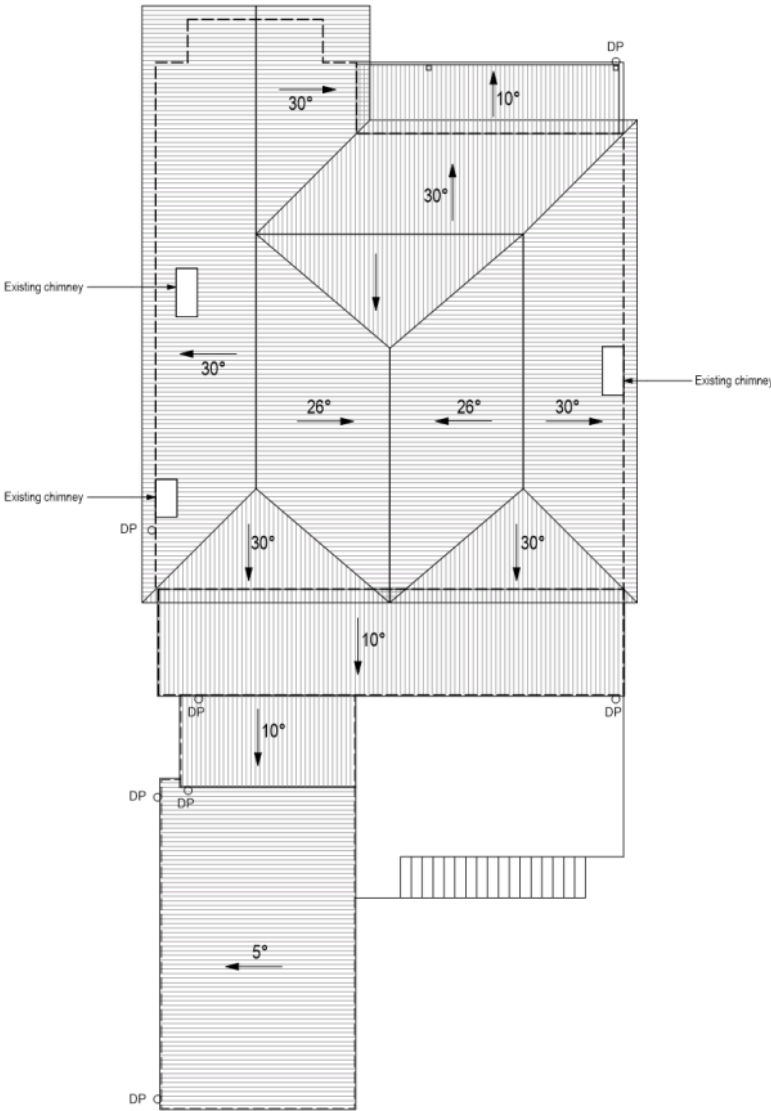
West

Material & Colour Schedule		
Element	Material	Colour
Cladding	JH Weatherboards	White to match existing
Masonry - Existing	Facebrick	Existing House
Downpipes	uPVC	To match wall
Roof	CGI Colorbond	To match existing
Fascia & Gutter	Colorbond	Green to match existing
Windows & Doors	Aluminium	White
Posts - Existing	Steel SHS	Galvanised
Decking - Existing	Timber	Natural

The colours indicated for non pre-finished elements (eg timber posts, weatherboard claddings) in the schedule are to be verified on site by the client. If there are any changes made to paint colours, the owner shall obtain approval from the certifying authority before putting work in hand

Amendments	
Date	By
4-11-2022	CW
23-11-2022	CW

Builders, Tradesmen, Sub-contractors and Prefabricators to verify all dimensions and levels prior to commencing any building works. Use written dimensions only. Do not scale from drawings.



ABN: 18 220 805 074
Compliance No: CC 1159 Q
m: 0409 432 670
e: clint.draftone@bigpond.com

Client
Alice Thorp
Job
Residential Home Extension
Job address
93 Princes Street,
Sandy Bay
Drawing
Scale: A3 - 1:100
DWG: 14 of 16
Date: 30 November 2022

Roof Plan



Amendments	
Date	By
4-11-2022	CW
23-11-2022	CW

Builders, Tradesmen, Sub-contractors and Prefabricators to verify all dimensions and levels prior to commencing any building works. Use written dimensions only. Do not scale from drawings.

Door List							
ID	3D Front View	Height	Width	Head Height	Frame	Glazing	Notes
D01		2,100	1,800	2,100	Aluminium	Clear Double	
D02		2,100	820	2,100	Aluminium	Obscure Double	
D03		2,100	820	2,100	Timber		
D04		2,100	720	2,100	Timber		
D05		2,100	820	2,100	Timber		
D06		2,100	3,000	2,100	Timber		
D07		2,100	820	2,100	Timber		
D08		2,100	3,000	2,100	Timber		
D09		2,080	720	2,080	Timber		
DE1		2,100	1,700	2,100	Timber	Single	
DE2		2,100	820	2,100	Timber		
DE3		2,100	820	2,100	Timber		
DE4		2,100	820	2,100	Timber		
DE5		2,100	820	2,100	Timber		
DE6		2,100	820	2,100	Timber		
DE7		2,100	800	2,100	Timber		
DE8		2,100	810	2,100	Timber		
DE9		2,100	825	2,100	Timber		
DE10		2,100	820	2,100	Timber		
DE11		2,100	820	2,100	Timber		
DE12		2,100	820	2,100	Timber		

Door List							
ID	3D Front View	Height	Width	Head Height	Frame	Glazing	Notes
DE13		2,100	820	2,100	Timber		
DE14		2,100	810	2,100	Timber		
DE15		2,100	750	2,100	Timber		
DE16		2,100	820	2,100	Timber		
DE17		2,100	810	2,100	Timber		
DE18		2,100	920	2,100	Timber		
DE19		2,100	1,700	2,100	Timber	Single	
DE20		2,100	1,700	2,100	Timber	Single	



ABN: 18 220 805 074
Compliance No: CC 1159 Q
m: 0409 432 670
e: clint.draftone@bigpond.com

Client
Alice Thorp
Job
Residential Home Extension
Job address
93 Princes Street,
Sandy Bay
Drawing
Scale: A3 - 1:2
DWG: 15 of 16
Date: 30 November 2022

Door & Window Schedule

Amendments	
Date	By

Builders, Tradesmen, Sub-contractors and Prefabricators to verify all dimensions and levels prior to commencing any building works. Use written dimensions only. Do not scale from drawings.

draftone
TASMANIA
building design • drafting

Window Schedule

Builders, Tradesmen, Sub-contractors and Prefabricators to verify all dimensions and levels prior to commencing any building works. Use written dimensions only. Do not scale from drawings.

Application Referral Cultural Heritage - Response

From:	Nicole Manley
Recommendation:	Proposal is acceptable subject to conditions.
Date Completed:	
Address:	93 PRINCES STREET, SANDY BAY
Proposal:	Partial Demolition, Alterations, and Extension
Application No:	PLN-22-660
Assessment Officer:	Ben Ikin,

Referral Officer comments:

93 Princes Street is located within the SB2 Upper Sandy Bay Road Heritage Precinct. It is not heritage listed under Table E13.1 of the *Hobart Interim Planning Scheme 2015*.

Heritage Significance

This precinct is significant for reasons including:

- 1. The early subdivision pattern of the main streets enhanced by the later street additions to form a coherent precinct of high overall heritage integrity.*
- 2. The very fine examples of housing seen throughout the precinct that represent all of the major architectural styles.*
- 3. The consistency of housing forms and the relatively low level of intrusive elements.*
- 4. The high visual integrity of the streetscapes and the mix of development that allows the historical layers and development of the precinct to be seen and understood.*
- 5. The extensive group of early buildings that represent the first phase of development of the Sandy Bay Precinct.*

Proposal

The proposed works include a two storey rear extension, which connects to and expands upon the existing rear addition.

Representations

Nine (9) representations were received during advertising. Six (6) of the representations received raised heritage concerns, including:

- "The proposed addition / dwelling is completely incompatible to the heritage precinct area.
The house is run down and not well maintained. I am concerned that the new extension / dwelling will not be in keeping with the other homes in the area. The existing weatherboards need to be painted and are in disrepair."*
- "If all other neighbours were to extend their homes in a similar fashion the area would lose its character, therefore impacting the heritage value of the area. This would set a poor precedent for the area."*
- "The design and location of the extension, including the external materials chosen for the proposed house results in a detrimental visual impact on the residential amenity of the adjoining properties, particularly when viewed from the adjoining property at 95 Princes Street... The elevation plans state that the external materials are to match the existing. The elevation of the recent (2014) addition facing 95 Princes Street consists of rough sawn boards, with a rusted painted roof. The rough sawn boards detract from,*

are detrimental to the historic cultural heritage significance of the precinct and are not attractive by any means when viewed from an adjoining property. It is unclear whether the rough sawn timber has been selected as "to match existing" as it is not consistent or complementary to any other dwelling within the area."

- *"The proposed house is completely inconsiderate to the heritage precinct area... we don't believe that the position, height and materials used in the construction of the house meet the requirements of E13.0 Historic Heritage Code - Sandy Bay Heritage Precinct.*

If approved, it will allow inappropriate buildings to be built bit by bit in a beautiful heritage area, not to mention other heritage areas, ultimately destroying these heritage areas beyond recognition."

The representations also raise concerns about the addition being used as a secondary dwelling rather than an addition. The assessment is conducted based on the proposed as an addition rather than a secondary dwelling. The use of a place within a Heritage Precinct is not a consideration under the Historic Heritage Code under clause E13.2.2.

Response

As the works are being assessed as an addition, the form, height and location of the structure are considered as acceptable as it is lower than height than the original, set to the rear and will have minimal visibility from the public domain. There are other examples of rear additions throughout the precinct, and instances of linear structures that extend towards the rear boundary rather than along the length of the building, such as 69 Princes Street, 70 Regent Street and 14 Powell Street. The 1923 Drainage Plan for 93 Princes Street also indicates that other structures previously existed that extended towards the rear boundary whilst not built to match the width of the original dwelling.

Regarding the proposed materiality, the Material & Colour Schedule notes "JH Weatherboards - White to match existing" and as such, a condition is included for colours and finishes to be substantially in accordance with the documentation.

Assessment

E13.8.1 Demolition

P1 Demolition must not result in the loss of any of the following:

- a) buildings or works that contribute to the historic cultural heritage significance of the precinct;*
- b) fabric or landscape elements, including plants, trees, fences, paths, outbuildings and other items, that contribute to the historic cultural heritage significance of the precinct; unless all of the following apply;*
 - i. there are, environmental, social, economic or safety reasons of greater value to the community than the historic cultural heritage values of the place;*
 - ii. there are no prudent or feasible alternatives;*
 - iii. opportunity is created for a replacement building that will be more complementary to the heritage values of the precinct.*

The proposed demolition is minimal in scale and includes walls to the rear of the existing addition, on level 1 only. This fabric does not significantly contribute to the precinct and is not visible from the wider streetscape. Demolition of this fabric is acceptable and in accordance with E13.8.1 P1.

E13.8.2 Buildings and Works other than Demolition

P1 Design and siting of buildings and works must not result in detriment to the historic cultural heritage significance of the precinct, as listed in Table E13.2.

P3 Extensions to existing buildings must not detract from the historic cultural heritage significance of the precinct.

The existing addition is a double storey weatherboard lean-to at the rear of the original red brick dwelling. The proposed addition extends south along the western side of the dwelling. It is of a height that is less than both the original dwelling and the existing addition, despite being two storeys. It is proposed to clad the addition in James Hardie weatherboard cladding in white, which matches portions of the existing lean-to. The proposed roof is corrugated Colorbond sheeting in colour to match the existing roof. These materials are sympathetic to the setting. The existing deck and balustrade is maintained.



Figure 1. Photograph of the western elevation of 93 Princes Street. The dwelling and any views towards the proposed development are currently obscured by vegetation. If this was to be removed, it is likely that a narrow view corridor would exist. Source: Council Officer, January 2023.

The current vegetation on the site limits views of the western elevation (shown in Figure 1 above) and there will therefore be a minimal view corridor. If the vegetation is removed, there will be a view corridor towards the rear of the site although as the height is lesser than the existing and the materiality matches the lean-to, this is not considered to have a detrimental impact on the precinct. It is not likely that the addition will be visible above the original dwelling.



Figure 2. Photograph of the eastern elevation along the driveway of 93 Princes Street. The proposed addition is located on the western side and it is therefore unlikely that it will be visible from this perspective. Source: Council Officer, January 2023.

There is a view corridor towards the rear of the site along the driveway and eastern boundary (shown in Figure 2 above), although the proposed structure does not extend along the existing eastern building line and there will therefore be minimal views from this perspective.

Due to the existing building stock and vegetation, there are minor glimpses of the rear of the subject property from Randall Street, in particular between numbers 8 and 10 Randall Street and 10 and 12 Randall Street.

The proposed addition therefore does not detract from the historic cultural heritage significance of the precinct and complies with E13.8.2 P1 and P3.

Conclusion

The proposal is considered to satisfy the above provisions of the Historic Heritage Code of the Scheme.

Nicole Manley
Graduate Cultural Heritage Officer
20th January 2023

Questions:

How will it be assessed/categorised by the building surveyor?

- Class 1A

Why were the stairs in the existing dwelling not shown?

- Accidentally missed on the plans (Existing stairs to be removed). The existing stairs causes issues for energy efficiency between levels in the existing house.

Could you please elaborate on this statement: "Original kitchen to become a kitchenette due to access to staircase is through the existing kitchen". This doesn't appear to be accurate based on the plans provided.

- Due to access through the kitchen to new staircase. The existing kitchen is being reduced and becomes a thoroughfare.

Why is the existing kitchen being converted to a kitchenette?

- As mentioned in the previous answer.

Conditions are likely to be imposed requiring use of the building to be a single dwelling only/class 1a, compliance with the building envelope, and meeting the western side boundary setbacks as depicted on the plans. Please confirm that is acceptable to you/your client.

- Yes

Concerns Raised by Representors:*USE*

- The intended use is for multiple dwellings, not a single dwelling, because: there are two kitchens; there is a dining room off the second kitchenette; there is no direct access to the new deck from the new kitchen; a second laundry could be provided; other rooms in the extension could be used as part of a second dwelling; and because of the family arrangements of the current owners.

The intended use is for a single dwelling, which is why the application is for renovations designed consistently with a single dwelling:

- *There is a kitchenette and a kitchen with a small living (not dining) area. There is single indoor dining area which opens from the kitchenette into the outdoor dining area.*
- *Direct access to the deck was included in the first draft of the plans provided to council as part of this application, however the extension was lowered to reduce profile and visual bulk of the extension, which has been avoided in order to minimise the impact on visual amenity of neighbours. The deck will be accessed from the new kitchen via the stairs and kitchenette thoroughfare.*
- *There is no second laundry, and no intent or design in the application to cater to one. The laundry is accessed via the new stairs.*
- *The main bathroom remains downstairs with an ensuite upstairs, which is not directly accessible from the main entertaining (dining and deck) area. There are no new bathrooms.*

- *Multi-generational (grandmother, daughter, grandchildren) living amongst a close family is not uncommon.*
- The plans allow for the entry floor level and new deck to be one dwelling, and the extension and lower level to be a second dwelling.

The plans do not allow separation into multiple dwellings such as strata, while continuing to share common areas such as the laundry, driveway, tool shed, garage/underdeck area, outdoor living (barbeque and dining) deck, main bathroom, and post box. There are no fire rated walls or ceiling/floor in the structural design and doors to a common staircase. Sound, heat, smells will also continue to travel. The design is consistent with a single dwelling, while improving energy efficiency which is not easy in an older dwelling.

- Given the proposal is actually for two dwellings, it should be advertised and assessed as such.

The plans are consistent with a single dwelling, not two dwellings (as noted in previous question response).

- Conditioning an approval to be for single dwelling only is not acceptable, given it creates an unreasonable compliance burden on neighbours and Council.

Approval conditions are a usual and acceptable method for approving renovations for the intended use. Conversion into multiple dwellings would require further renovations including plumbing for a second laundry, as well as changes to the driveway, backyard garden and fire rated walls and ceiling/floor in the structural design and doors to a common staircase.

TRAFFIC/ACCESS/PARKING

- More off street parking should be provided, especially given the proposal is actually for a second dwelling.

The proposal is not for a second dwelling. 93 Princes Street will continue to have the same on street parking as other dwellings in the street, and more off street parking via the driveway than many other dwellings currently have. Only car spaces are required in the driveway.

- The existing driveway is too narrow to accommodate cars for two dwellings.

The existing driveway does not pose a problem for the design and intended use of the dwelling, and will continue to be suitable.

- Princes Street is already at capacity in terms of on street parking availability.

The proposal is not for a second dwelling. 93 Princes Street will continue to have the same on street parking as other dwellings in the street, and more off street parking via the driveway than many other dwellings on the street currently have.

- Access onto Princes St from dwellings is already hard/dangerous/unsafe.

*It is not accepted that access onto Princes St is already hard/dangerous/unsafe.
This situation will not be impacted by this renovation.*

HERITAGE

- The proposal is out of keeping with the heritage precinct.

This statement is not accurate. In comparison to recent renovations and extensions to 97 & 99 Princes St, which have a more bulky and modern appearance, this application is more in keeping with the historical characteristic of the precinct.

- The proposal is out of keeping with other homes in the area.

This statement is not accurate. In comparison to recent renovations and extensions to 97 & 99 Princes St, which have a more bulky and modern appearance, this application is more in keeping with the historical characteristic of the other homes in the area.

- If all dwellings extended their dwellings like this it would undermine the character of the area.

This statement is not accurate. In comparison to recent renovations and extensions to 97 & 99 Princes St, this application will strengthen the character of the area as it is more in keeping with historical design.

AMENITY

- The proposal will have a detrimental impact on neighbouring amenity due to visual bulk, loss of light/overshadowing, and loss of privacy.

The proposal will not have a detrimental impact by nature of its lowered design relative to nearby dwellings at 89, 97 & 99 Princes Street. The application is consistent with privacy requirements and will have an extremely low privacy impact by nature of the lower profile design and siting of windows either shuttered or on a ground floor level.

- The proposal for shutters on the windows for privacy is not adequate, and opaque glazing should be required instead by condition.

Screening is a common, reasonable and standard approach, and complies with relevant requirements.

- The use of timber for the shutters is not appropriate given the maintenance it would require.

Products that do not require maintenance will be used such as Modwood or aluminium. This is a common, reasonable and standard approach and complies with relevant requirements.

- The proposal is outside the building envelope.

The proposal is within the building envelope, consistent with relevant requirements.

- Although within the building envelope and meeting side boundary setbacks (just) the proposal will still have an unreasonable impact on neighbours' amenity.

The proposal is within the building envelope, consistent with relevant requirements. Impact is minimal, within usually expected standards, and below those of recent renovations at 97 & 99 Princes Street.

- The 1.51m setback from the western side boundary is 'convenient', complying with the permitted standard by 1cm.

The proposal is within the building envelope, consistent with relevant requirements.

- A similar design to other dwellings in the area would be preferable to ensure impacts on neighbours are more reasonable/acceptable.

The proposal is within the building envelope, consistent with relevant requirements, and the design is similar to other dwellings in the area. Impact is minimal, within usually expected standards, and below those of recent renovations at 97 & 99 Princes Street.

- If approved, landscaping on the boundary should be required by condition.

Landscaping is not part of the conditions.

STORMWATER

- The stormwater solution does not appear feasible.

This objection is not supported by verifiable or identifiable evidence. The stormwater solution is feasible, meeting all requirements and supported by design principles, height and volume.

- The existing stormwater system is not large enough to cater for the additional volume of water created by the extension.

This objection is not supported by verifiable or identifiable evidence.

MISCELLANEOUS

- Owner details on title show Janet and Alice Thorp. Owner details on the plans show Alice Thorp only as owner. Why aren't both owners listed?

This is an administration issue (or typo) and is not relevant to the merit of the application.

- A set of stairs in the existing dwelling are not shown.

Note missed on plans (Existing stairs to be removed).

- Neighbouring properties are not all shown.

The extension is within planning requirements so the surrounding houses are not required to be shown.

- No shadow diagrams provided.

Not required as not breaching the building envelope.

- No survey plan is provided in the advertised documents.

Contour plan shown on the site plan.

- The laundry opens directly onto the driveway – is this a safety issue?

This is not a safety issue, it is not a high traffic area. Primary access to the laundry is internal. This design is consistent with requirements and other dwellings on Princes Street.

- Any new fencing should be 2.1m high.

The applicants are happy to discuss this with neighbours and agree to 2.1m fences, in particular for the very old backyard fences that will require replacement.

- The owner hasn't consulted with neighbours.

Neighbours have been approached previously.

- Concern about proximity of development to neighbours' existing in ground private services.

Does not breach TasWater setback to sewer main.

The development is within boundaries and setbacks. The applicant are not aware of any particular in ground private services that would be impacted by the development.

- This is the second attempt at a second dwelling. A previous application for a physically separated dwelling was withdrawn after receiving 16 objections.

This is not an application for a second dwelling, as established previously and supported by the design.

- If approved as proposed, any future changes to the side boundary setback should not be approved as either substantially in accordance with the approval, or as a minor amendment, given it changes the proposal from being compliant to being non-compliant with the permitted building envelope.

Complies with council setbacks.

6. REPORTS

6.1 Planning Applications - Advertising Report File Ref: F23/5785

Memorandum of the Director City Life of 24 January 2023 and attachment.

Delegation: Committee



City of **HOBART**

MEMORANDUM: PLANNING COMMITTEE

Planning Applications - Advertising Report

Attached is the advertising list for the period 5 January 2023 to 16 January 2023

RECOMMENDATION

That the information be received and noted

As signatory to this report, I certify that, pursuant to Section 55(1) of the Local Government Act 1993, I hold no interest, as referred to in Section 49 of the Local Government Act 1993, in matters contained in this report.

Neil Noye
DIRECTOR CITY LIFE

Date: 24 January 2023
File Reference: F23/5785

Attachment A: Advertising List - 5.01.23-16.01.23 ↓ 

No	Application	Street	Suburb	Development	Works Value	Expiry Date	Referral	Proposed Delegation	Advertising Period Start	Advertising Period End
1	PLN-22-846	26 CROMWELL STREET	BATTERY POINT	Partial Demolition, Alterations, and Ancillary Dwelling	\$30,000	25/01/2023	langd	Director	06/01/2023	20/01/2023
2	PLN-22-843	193 WATERWORKS ROAD	DYNNYRNE	Rainwater Tank and Associated Works	\$8,000	25/01/2023	mcclenahanm		09/01/2023	23/01/2023
3	PLN-22-811	819 HUON ROAD	FERN TREE	Boundary Fencing	\$10,000	16/01/2023	nolanm	Director	06/01/2023	20/01/2023
4	PLN-22-805	119 BROOKER AVENUE	GLEBE	Demolition and Outbuilding	\$5,500	09/02/2023	maxwellv	Director	16/01/2023	31/01/2023
5	PLN-22-804	72 ELIZABETH STREET	HOBART	Partial Demolition, Alterations, and Change of Use to Business and Professional Services	\$100,000	11/01/2023	smeea	Director	06/01/2023	20/01/2023
6	PLN-22-856	12 BERE STREET	HOBART	Change of Use to Visitor Accommodation	\$0	30/01/2023	langd	Director	06/01/2023	20/01/2023
7	PLN-22-832	250 MACQUARIE STREET	HOBART	Partial Demolition, New Building, and Partial Change of Use to Five Multiple Dwellings (One Existing, Two Approved, Two New)	\$600,000	20/01/2023	mcclenahanm	Director	06/01/2023	20/01/2023

No	Application	Street	Suburb	Development	Works Value	Expiry Date	Referral	Proposed Delegation	Advertising Period Start	Advertising Period End
8	PLN-22-852	65 ARGYLE STREET	HOBART	Change of Use to Manufacturing and Processing	\$0	27/01/2023	mcclenahanm	Director	06/01/2023	20/01/2023
9	PLN-22-700	31 CUTHBERTSON PLACE	LENAH VALLEY	Partial Demolition, Alterations and Extension	\$100,000	31/01/2023	burkedan	Director	09/01/2023	23/01/2023
10	PLN-22-822	90 AUGUSTA ROAD	LENAH VALLEY	Partial Demolition, Alterations, Garage, Workshop, Carport, and Ancillary Dwelling	\$450,000	27/01/2023	ayersh	Director	09/01/2023	23/01/2023
11	PLN-23-4	2 / 1 CARLA CLOSE	LENAH VALLEY	Change of Use to Visitor Accommodation	\$0	14/02/2023	mcclenahanm		16/01/2023	31/01/2023
12	PLN-21-809	4 - 10 ST JOHNS AVENUE	NEW TOWN	Partial Demolition, Alterations, Fencing and Two New Netball Courts	\$245,000	02/02/2023	langd	Committee	10/01/2023	24/01/2023
13	PLN-22-824	2 / 205 NEW TOWN ROAD	NEW TOWN	Alterations and Garage	\$35,000	31/01/2023	burkedan	Director	09/01/2023	23/01/2023
14	PLN-22-828	11 HOPE STREET	NEW TOWN	Partial Demolition, Alterations, and Extension for Ancillary Dwelling	\$150,000	02/03/2023	burkedan	Director	09/01/2023	23/01/2023
15	PLN-22-442	33 B BRAMBLE STREET	RIDGEWAY	Partial Demolition, Alterations, Extension, and Outbuilding	\$450,000	25/01/2023	maxwellv	Director	06/01/2023	20/01/2023

No	Application	Street	Suburb	Development	Works Value	Expiry Date	Referral	Proposed Delegation	Advertising Period Start	Advertising Period End
16	PLN-22-770	1 / 1 NICHOLAS DRIVE	SANDY BAY	Change of Use to Visitor Accommodation	\$0	26/02/2023	ayersh	Director	13/01/2023	28/01/2023
17	PLN-22-767	109 YORK STREET	SANDY BAY	Partial Demolition, Alterations, Extension, Carport and Front Fencing	\$180,000	28/12/2022	smeea	Director	06/01/2023	20/01/2023
18	PLN-22-776	76 YORK STREET	SANDY BAY	Partial Demolition, Alterations, and Extension	\$700	29/01/2023	burkedan	Director	06/01/2023	20/01/2023
19	PLN-22-864	20 MAGNET COURT	SANDY BAY	Signage	\$0	01/02/2023	maxwellv	Director	10/01/2023	24/01/2023
20	PLN-23-2	41 PARLIAMENT STREET	SANDY BAY	Partial Demolition, Alterations, and Extension, including Tree Removal	\$300,000	14/02/2023	baconr	Director	06/01/2023	20/01/2023
21	PLN-23-14	3 / 1 A SAYER CRESCENT	SANDY BAY	Change of Use to Visitor Accommodation	\$5,000	21/02/2023	maxwellv	Director	16/01/2023	31/01/2023
22	PLN-22-529	310 STRICKLAND AVENUE	SOUTH HOBART	Partial Demolition and Garage	\$100,000	26/09/2022	smeea	Director	10/01/2023	24/01/2023
23	PLN-22-721	2 ERINDALE PLACE	SOUTH HOBART	Dwelling	\$550,000	12/12/2022	smeea	Director	12/01/2023	27/01/2023
24	PLN-22-839	241 DAVEY STREET	SOUTH HOBART	Boundary Wall	\$150,000	24/01/2023	ikinb	Director	16/01/2023	31/01/2023

No	Application	Street	Suburb	Development	Works Value	Expiry Date	Referral	Proposed Delegation	Advertising Period Start	Advertising Period End
25	PLN-22-801	8 ROSSENDELL AVENUE	WEST HOBART	Alterations to Driveway and Carport	\$5,000	11/01/2023	mcclenahanm	Director	06/01/2023	20/01/2023
26	PLN-22-732	1 UNION STREET	WEST HOBART	Partial Demolition, Alterations, Extension, Front Fencing, and Associated Works	\$250,000	24/01/2023	maxwellv	Director	06/01/2023	20/01/2023
27	PLN-22-860	14 GOURLAY STREET	WEST HOBART	Partial Demolition and Alterations	\$90,000	31/01/2023	baconr	Director	10/01/2023	24/01/2023

6.2 Delegated Decisions Report (Planning)
File Ref: F23/7707

Memorandum of the Director City Life of 24 January 2023 and attachment.

Delegation: Committee



City of **HOBART**

MEMORANDUM: PLANNING COMMITTEE

Delegated Decisions Report (Planning)

Attached is the delegated planning decisions report for the period 8 December 2022 to 23 January 2023.

RECOMMENDATION

That the information be received and noted

As signatory to this report, I certify that, pursuant to Section 55(1) of the Local Government Act 1993, I hold no interest, as referred to in Section 49 of the Local Government Act 1993, in matters contained in this report.

Neil Noye
DIRECTOR CITY LIFE

Date: 24 January 2023
File Reference: F23/7707

Attachment A: Delegated Decisions Report (Planning) 8 December 2022 - 23 January 2023 ↓ 

24 January 2023

Delegated Decisions Report (Planning)

74 applications found.

				Approved	All
Planning Description	Address	Works Value	Decision	Authority	
PLN-22-212 Dwelling	31 HILLCREST ROAD TOLMANS HILL TAS 7007	\$ 1,000,000	Approved	Delegated	
PLN-22-258 Partial Demolition and Carport	21 CROMWELL STREET BATTERY POINT TAS 7004	\$ 80,000	Approved	Delegated	
PLN-22-261 Signage	59-59A NEW TOWN ROAD NEW TOWN TAS 7008	\$ 500	Approved	Delegated	
PLN-22-353 Demolition and Two Multiple Dwellings	6 CLIFT STREET MOUNT STUART TAS 7000	\$ 2,000,000	Approved	Delegated	
PLN-22-358 Ancillary Dwelling	7 GIRRABONG ROAD LENA VALLEY TAS 7008	\$ 32,000	Approved	Delegated	
PLN-22-416 Dwelling, Garage and Driveway Works	11 MONTRIVALE RISE DYNMYRNE TAS 7005	\$ 1,000,000	Approved	Delegated	
PLN-22-443 Partial Demolition, Alterations, and Signage	34 MURRAY STREET HOBART TAS 7000	\$ 30,000	Approved	Delegated	
PLN-22-499 Partial Demolition, Alterations, and Extension	7 STRAHAN STREET NORTH HOBART TAS 7000	\$ 19,000	Approved	Delegated	
PLN-22-502 Subdivision (One Additional Lot), Partial Demolition, Alterations, and Associated Works	12 WELLESLEY STREET SOUTH HOBART TAS 7004	\$ 0	Approved	Delegated	
PLN-22-514 Dwelling	22 LALWINYA ROAD MOUNT NELSON TAS 7007	\$ 1,600,000	Approved	Delegated	
PLN-22-518 Two Multiple Dwellings (One Existing, One New)	24 NEWLANDS AVENUE LENA VALLEY TAS 7008	\$ 400,000	Approved	Delegated	
PLN-22-555 Partial Demolition, Alterations, Extension, Outbuilding, and Front Fencing	50 WATERWORKS ROAD DYNMYRNE TAS 7005	\$ 500,000	Approved	Delegated	
PLN-22-574 Partial Demolition, Alterations, and Extension	82 DOYLE AVENUE LENA VALLEY TAS 7008	\$ 400,000	Approved	Delegated	
PLN-22-581 Dwelling	17 NILE AVENUE SANDY BAY TAS 7005	\$ 980,000	Approved	Delegated	
PLN-22-590 Partial Demolition, Alterations, Extension, and Front Fencing	64 FOREST ROAD WEST HOBART TAS 7000	\$ 650,000	Approved	Delegated	
PLN-22-607 Partial Demolition, Alterations, and Extension	247 LENA VALLEY ROAD LENA VALLEY TAS 7008	\$ 35,000	Approved	Delegated	
PLN-22-611 Partial Demolition, Alterations, Extension, and Change of Use to Dwelling	344-346 SANDY BAY ROAD SANDY BAY TAS 7005	\$ 750,000	Approved	Delegated	
PLN-22-640 Partial Demolition, Alterations, Extension, and Front Fencing	4 KING STREET SANDY BAY TAS 7005	\$ 800,000	Approved	Delegated	
PLN-22-646 Change of Use to Visitor Accommodation	1 COLLINS STREET HOBART TAS 7000	\$ 0	Approved	Delegated	
PLN-22-653 Partial Demolition and Alterations	14 BIRNGANA AVENUE SANDY BAY TAS 7005	\$ 45,000	Approved	Delegated	
PLN-22-670 Demolition and New Dwelling	6 ALLISON STREET WEST HOBART TAS 7000	\$ 950,000	Approved	Delegated	
PLN-22-681 Dwelling	345 PARK STREET NEW TOWN TAS 7008	\$ 500,000	Approved	Delegated	
PLN-22-688 Partial Demolition, Alterations and Extension	29 LIVERPOOL CRESCENT WEST HOBART TAS 7000	\$ 150,000	Approved	Delegated	
PLN-22-691 Partial Demolition and Alterations	4/20 HAMPDEN ROAD BATTERY POINT TAS 7004	\$ 150,000	Approved	Delegated	

CITY OF HOBART

Planning Description	Address	Works Value	Decision	Authority
PLN-22-692 Partial Demolition and Alterations	358 SANDY BAY ROAD SANDY BAY TAS 7005	\$ 250,000	Approved	Delegated
PLN-22-696 Partial Change of Use to Hotel Industry	236-244 SANDY BAY ROAD SANDY BAY TAS 7005	\$ 2,000	Approved	Delegated
PLN-22-702 Partial Demolition, Alterations and Landscaping	28 CLARKE AVENUE BATTERY POINT TAS 7004	\$ 150,000	Approved	Delegated
PLN-22-705 Partial Change of Use to Visitor Accommodation	2/9 WAIMEA AVENUE SANDY BAY TAS 7005	\$ 0	Approved	Delegated
PLN-22-708 Partial Demolition, Alterations, Extension and Front Fencing	2/149 PATRICK STREET WEST HOBART TAS 7000	\$ 800,000	Approved	Delegated
PLN-22-709 Partial Demolition, Alterations, Signage and Change of Use to Business and Professional Services	246 MURRAY STREET HOBART TAS 7000	\$ 400,000	Approved	Delegated
PLN-22-710 Deck	21 PILLINGER DRIVE FERN TREE TAS 7054	\$ 20,000	Approved	Delegated
PLN-22-718 Partial Demolition, Alterations and Extension	63 VIEW STREET SANDY BAY TAS 7005	\$ 250,000	Approved	Delegated
PLN-22-719 Partial Demolition, Alterations, and Deck	20 ROSSENDELL AVENUE WEST HOBART TAS 7000	\$ 20,000	Approved	Delegated
PLN-22-730 Signage	435-439 ELIZABETH STREET NORTH HOBART TAS 7000	\$ 0	Approved	Delegated
PLN-22-731 Signage	29 TRUMPETER STREET BATTERY POINT TAS 7004	\$ 0	Approved	Delegated
PLN-22-733 Partial Demolition, Alterations, and Extension	6 BURNSIDE AVENUE NEW TOWN TAS 7008	\$ 300,000	Approved	Delegated
PLN-22-734 Tree Removal	10 EDWARD STREET GLEBE TAS 7000	\$ 5,000	Approved	Delegated
PLN-22-738 Partial Demolition, Alterations, and Carport	5 CAROLINE STREET DYNMYRNE TAS 7005	\$ 125,000	Approved	Delegated
PLN-22-739 Partial Demolition, Alterations, and Extension	2A VALENTINE STREET NEW TOWN TAS 7008	\$ 50,000	Approved	Delegated
PLN-22-741 Dwelling	436 STRICKLAND AVENUE SOUTH HOBART TAS 7004	\$ 360,000	Approved	Delegated
PLN-22-744 Extension to Operating Hours	101-103 HARRINGTON STREET HOBART TAS 7000	\$ 0	Approved	Delegated
PLN-22-746 Signage	21-27 ELIZABETH STREET HOBART TAS 7000	\$ 0	Approved	Delegated
PLN-22-748 Partial Demolition and Alterations	4/138-140 MELVILLE STREET HOBART TAS 7000	\$ 8,500	Approved	Delegated
PLN-22-750 Partial Demolition, Alterations, and Extension	24 LANSDOWNE CRESCENT WEST HOBART TAS 7000	\$ 150,000	Approved	Delegated
PLN-22-751 Change of Use to Visitor Accommodation	36 LIPSCOMBE AVENUE SANDY BAY TAS 7005	\$ 0	Approved	Delegated
PLN-22-759 Change of Use to Visitor Accommodation	53 QUAYLE STREET SANDY BAY TAS 7005	\$ 0	Approved	Delegated
PLN-22-761 Alterations	113 PRINCES STREET SANDY BAY TAS 7005	\$ 52,052	Approved	Delegated
PLN-22-765 Change of Use to Visitor Accommodation	398 LIVERPOOL STREET WEST HOBART TAS 7000	\$ 0	Approved	Delegated
PLN-22-766 Change of Use to Visitor Accommodation	3/64 MOLLE STREET HOBART TAS 7000	\$ 0	Approved	Delegated
PLN-22-775 Change of Use to Visitor Accommodation	53/1 COLLINS STREET HOBART TAS 7000	\$ 0	Approved	Delegated

CITY OF HOBART

Planning Description	Address	Works Value	Decision	Authority
PLN-22-777 Subdivision (Boundary Adjustment)	41 BROWNE STREET WEST HOBART TAS 7000	\$ 0	Approved	Delegated
PLN-22-778 Alterations to Carparking	1/10 LEFROY STREET NORTH HOBART TAS 7000	\$ 10,000	Approved	Delegated
PLN-22-781 Partial Demolition and Alterations	2/251 MACQUARIE STREET HOBART TAS 7000	\$ 15,000	Approved	Delegated
PLN-22-783 Partial Demolition and Alterations including Alterations to Car Parking Layout	34 DEGRAVES STREET SOUTH HOBART TAS 7004	\$ 5,000	Approved	Delegated
PLN-22-786 Change of Use to Visitor Accommodation	24 NICHOLAS DRIVE SANDY BAY TAS 7005	\$ 30,000	Approved	Delegated
PLN-22-789 Partial Demolition, Alterations, and Extension	93 GILLON CRESCENT MOUNT STUART TAS 7000	\$ 450,000	Approved	Delegated
PLN-22-797 Change of Use to Visitor Accommodation	185 DAVEY STREET SOUTH HOBART TAS 7004	\$ 0	Approved	Delegated
PLN-22-799 Alterations	53 ADELAIDE STREET SOUTH HOBART TAS 7004	\$ 25,000	Approved	Delegated
PLN-22-806 Alterations (Solar Panels)	20 CLARE STREET NEW TOWN TAS 7008	\$ 3,261	Approved	Delegated
PLN-22-807 Partial Demolition, Alterations, and Extension	2/43 FOREST ROAD WEST HOBART TAS 7000	\$ 200,000	Approved	Delegated
PLN-22-810 Change of Use to Visitor Accommodation	10/212 COLLINS STREET HOBART TAS 7000	\$ 1,000	Approved	Delegated
PLN-22-811 Boundary Fencing	819 HUON ROAD FERN TREE TAS 7054	\$ 10,000	Approved	Delegated
PLN-22-813 Partial Demolition, Alterations, and Extension	40 PEDDER STREET NEW TOWN TAS 7008	\$ 500,000	Approved	Delegated
PLN-22-816 Alterations	202-214 ELIZABETH STREET HOBART TAS 7000	\$ 5,000	Approved	Delegated
PLN-22-817 Partial Change of Use to Visitor Accommodation	244 MACQUARIE STREET HOBART TAS 7000	\$ 0	Approved	Delegated
PLN-22-820 Change of Use to Visitor Accommodation	839A HUON ROAD FERN TREE TAS 7054	\$ 0	Approved	Delegated
PLN-22-829 Change of Use to Visitor Accommodation	19 ALBERRY AVENUE NORTH HOBART TAS 7000	\$ 5,000	Approved	Delegated
PLN-22-831 Change of Use to Visitor Accommodation	343 PARK STREET NEW TOWN TAS 7008	\$ 1,000	Approved	Delegated
PLN-22-836 Partial Demolition and Alterations	33 MARY STREET NORTH HOBART TAS 7000	\$ 20,000	Approved	Delegated
PLN-22-847 Change of Use to Visitor Accommodation	1 SAYER CRESCENT SANDY BAY TAS 7005	\$ 0	Approved	Delegated
PLN-22-849 Signage	174 ELIZABETH STREET HOBART TAS 7000	\$ 0	Approved	Delegated
PLN-22-855 Change of Use to Visitor Accommodation	3 WESTRINGA ROAD FERN TREE TAS 7054	\$ 0	Approved	Delegated
PLN-23-1 Change of Use to Visitor Accommodation	136 MELVILLE STREET HOBART TAS 7000	\$ 0	Approved	Delegated
PLN-23-6 Change of Use to Visitor Accommodation	11 SHERBOURNE AVENUE WEST HOBART TAS 7000	\$ 0	Approved	Delegated

7. QUESTIONS WITHOUT NOTICE

Regulation 29 of the *Local Government (Meeting Procedures) Regulations 2015*.

File Ref: 13-1-10

- (1) *A councillor at a meeting may ask a question without notice –
 - (a) of the chairperson; or
 - (b) through the chairperson, of –
 - (i) another councillor; or
 - (ii) the general manager.*
- (2) *In putting a question without notice at a meeting, a councillor must not –
 - (a) offer an argument or opinion; or
 - (b) draw any inferences or make any imputations –
except so far as may be necessary to explain the question.*
- (3) *The chairperson of a meeting must not permit any debate of a question without notice or its answer.*
- (4) *The chairperson, councillor or general manager who is asked a question without notice at a meeting may decline to answer the question.*
- (5) *The chairperson of a meeting may refuse to accept a question without notice if it does not relate to the activities of the council.*
- (6) *Questions without notice, and any answers to those questions, are not required to be recorded in the minutes of the meeting.*
- (7) *The chairperson of a meeting may require a councillor to put a question without notice in writing.*

8. CLOSED PORTION OF THE MEETING

That the Committee resolve by majority that the meeting be closed to the public pursuant to regulation 15(1) of the *Local Government (Meeting Procedures) Regulations 2015* because the items included on the closed agenda contain the following matters:

- Planning Appeal

The following items were discussed: -

- | | |
|----------------|--|
| Item No. 1 | Minutes of the last meeting of the Closed Portion of the Committee Meeting |
| Item No. 2 | Consideration of supplementary items to the agenda |
| Item No. 3 | Indications of pecuniary and conflicts of interest |
| Item No. 4 | Planning Authority Items – Consideration of Items with Deputations |
| Item No. 4.1 | Applications under the Hobart Interim Planning Scheme 2015 |
| Item No. 4.1.1 | PLN-21-719 - 1 Knopwood Street, Battery Point - Appeal LG(MP)R 15(4)(a) |