



The City with Spirit

NOTICE OF MEETING

Notice is hereby given that an **Ordinary Council** meeting of the Devonport City Council will be held in the Aberdeen Room, Level 2, parnaple centre, 137 Rooke Street, Devonport, on Monday 27 May 2019, commencing at 5:30pm.

The meeting will be open to the public at 5:30pm.

QUALIFIED PERSONS

In accordance with Section 65 of the *Local Government Act 1993*, I confirm that the reports in this agenda contain advice, information and recommendations given by a person who has the qualifications or experience necessary to give such advice, information or recommendation.

Paul West
GENERAL MANAGER

22 May 2019

JUNE 2019

Meeting	Date	Commencement Time
Planning Authority Committee	3 June 2019	5:15pm
Infrastructure Works and Development Committee	17 June 2019	5:30pm
Council	24 June 2019	5:30pm

**AGENDA FOR AN ORDINARY MEETING OF DEVONPORT CITY COUNCIL
HELD ON MONDAY 27 MAY 2019 IN THE ABERDEEN ROOM, paranable centre, 137 ROOKE
STREET, DEVONPORT AT 5:30PM**

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Agenda of an ordinary meeting of the Devonport City Council to be held in the Aberdeen Room, paranable centre, 137 Rooke Street, Devonport on Monday, 27 May 2019 commencing at 5:30pm.

PRESENT

		Present	Apology
Chair	Cr A Rockliff (Mayor)		
	Cr A Jarman (Deputy Mayor)		
	Cr J Alexiou		
	Cr G Enniss		
	Cr P Hollister		
	Cr L Laycock		
	Cr S Milbourne		
	Cr L Murphy		
	Cr L Perry		

ACKNOWLEDGEMENT OF COUNTRY

Council acknowledges and pays respect to the Tasmanian Aboriginal community as the traditional and original owners and continuing custodians of this land.

IN ATTENDANCE

All persons in attendance are advised that it is Council policy to record Council Meetings, in accordance with Council's Audio Recording Policy. The audio recording of this meeting will be made available to the public on Council's website for a minimum period of six months. Members of the public in attendance at the meeting who do not wish for their words to be recorded and/or published on the website, should contact a relevant Council Officer and advise of their wishes prior to the start of the meeting.

1.0 APOLOGIES

2.0 DECLARATIONS OF INTEREST

3.0 PROCEDURAL

3.1 CONFIRMATION OF MINUTES

3.1.1 COUNCIL MEETING - 29 APRIL 2019

RECOMMENDATION

That the minutes of the Council meeting held on 29 April 2019, as previously circulated, be confirmed.

3.2 PUBLIC QUESTION TIME

Members of the public are invited to ask questions in accordance with Council's Public Question Time Policy (Min No 159/17 refers):

1. Public participation shall take place at Council meetings in accordance with Regulation 31 of the *Local Government (meeting Procedures) Regulations 2015*.
 2. Public participation will be the first agenda item following the formal motions: Apologies, Minutes and Declarations of Interest.
 3. Questions without notice will be dependent on available time at the meeting (with a period of 30 minutes set aside at each meeting).
 4. A member of the public who wishes to ask a question at the meeting is to state their name and address prior to asking their question.
 5. A maximum of 2 questions per person are permitted.
 6. A maximum period of 3 minutes will be allowed per person.
 7. If time permits, a third question may be asked once all community members who wish to ask questions have done so. A time limit of 2 minutes will apply.
 8. Questions are to be succinct and not contain lengthy preamble.
 9. Questions do not have to be lodged prior to the meeting, however they will preferably be provided in writing.
 10. A question by any member of the public and an answer to that question are not to be debated.
 11. Questions without notice and their answers will be recorded in the minutes.
 12. The Chairperson may take a question on notice in cases where the questions raised at the meeting require further research or clarification, or where a written response is specifically requested.
 13. Protection of parliamentary privilege does not apply to local government and any statements or discussion in the Council Chambers, or any document produced, are subject to the laws of defamation.
 14. The Chairperson may refuse to accept a question. If the Chairperson refuses to accept a question, the Chairperson is to give reason for doing so in accordance with the Public Question Time Policy.
-

3.2.1 RESPONSES TO QUESTIONS RAISED AT PRIOR MEETINGS

File: 35817 D561275

Responses to questions raised at prior meetings are attached.

ATTACHMENTS

1. GMGOV - Questions Without Notice - Council Meeting 20190429 - Response to Trevor Smith - Illegal camping, Aquatic Centre, Coles Beach erosion
2. GMGOV - Question Without Notice - Council Meeting 20190429 Response to Rodney Russell - Mall Events, Gas Bottles
3. GMGOV - Question Without Notice - GF&CS Meeting 20190520 - Response to Rodney Russell - Cemetery

RECOMMENDATION

That the responses to questions from Mr Trevor Smith and Mr Rodney Russell at the 29 April 2019 Council meeting and Mr Rodney Russell at the 20 May 2019 Governance, Finance and Community Services meeting be noted.

Author:	Paul West
Position:	General Manager



DEVONPORT CITY COUNCIL

ABN: 47 611 446 016

PO Box 604 Devonport TAS 7310 – 137 Rooke Street, Devonport

Telephone 03 6424 0511

Email council@devonport.tas.gov.au Web www.devonport.tas.gov.au

6 May 2019

In reply please quote:

File 35817

Trevor Smith
7 Glen Court
DEVONPORT TAS 7310

Dear Mr Smith

RESPONSE TO QUESTIONS WITHOUT NOTICE RAISED MONDAY 29 APRIL 2019

I refer to your questions raised at the Council Meeting on Monday 29 April 2019 and provide the following responses:

Q.1

With over 165 full time staff, plus casuals employed by the Devonport Council, who is responsible for stopping people from camping and having their washing on display (photo included) at the Coles Beach carpark? Obviously your signage has been ignored by the tourists that stayed here recently? Why do the local residents have to put up with this issue not being policed?

Response

A Council Officer has recently spoken with tourists in the Coles Beach vicinity regarding illegal camping and will continue to monitor activity in the area in accordance with Council's Reserves, Parks and Gardens By-Law.

Q.2

Before the tiles were removed in January, from the western end, of the Splash Aquatic Indoor 25 metre pool, there was signage glazed onto the tiles, similar to the eastern end, with warnings of the depth of the pool, plus warning not to dive into the water. When will the signage be replaced, for the safety of the public?

Response

All the safety/warning signage will be put back to its original position when the tiles arrive. The tile delivery date is still unknown exactly, but the supplier has suggested it will be approximately 2-3 weeks.

Q.3

Could you please tell me, what this Council is going to do about the coastal erosion, where the old clay target range was situated? High tides and rough seas, are taking a toll on this area, at Coles Beach. Will this problem be fixed sooner, rather than later?

*The City with Spirit*

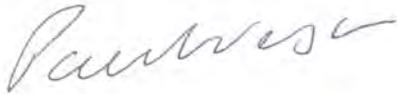
- 2 -

Response

Due to an assessment of risk to public safety and Council infrastructure, other areas including the Victoria Parade foreshore and an area near Horsehead Creek, have been prioritised for repair ahead of this area. Work at these sites has been included in the 2018/19 budget.

A budget allowance is being considered for 2019/20, and if adopted, the area near the old clay target range may be programmed for repair, dependent upon a revised risk assessment.

Yours sincerely



Paul West
GENERAL MANAGER

**DEVONPORT CITY COUNCIL**

ABN: 47 611 446 016

PO Box 604 Devonport TAS 7310 – 137 Rooke Street, Devonport

Telephone 03 6424 0511

Email council@devonport.tas.gov.au Web www.devonport.tas.gov.au

3 May 2019

In reply please quote:
File 35817

Rodney Russell
225 Steele Street
DEVONPORT TAS 7310

Dear Mr Russell

RESPONSE TO QUESTIONS WITHOUT NOTICE RAISED MONDAY 29 APRIL 2019

I refer to your questions raised at the Council Meeting on Monday 29 April 2019 and provide the following response:

Q.1

Harmony Day was well attended with nine food stalls for the public to enjoy while watching some cultural dancing on the Market Place stage. What functions has Devonport City Council booked in the Mall for our ratepaying shop owners?

Response

Council has an upcoming event planned for the Mall as part of its Jazz Festival, "Musos in the Mall". This is to be held on 27 July 2019, and as part of this event, Council will encourage all retailers in the CBD and Fourways to be involved in a Jazz window display competition.

Further activities in the future will be planned as part of Council's Retail Strategy and in collaboration with the Devonport Chamber of Commerce and Industry.

Q.2

In light of the gas bottle explosions in Paris, would Devonport City Council care to take the lead and liaise with our emergency services, gas suppliers and business owners to have a safety survey done of the large and multiple gas cylinders in the CBD?

Response

Council works closely with a number of Government agencies in the interest of public safety and meet with Emergency Services on a regular basis to discuss current issues relating to any public safety actions specifically relevant to Devonport.

The supply of gas in both bottles and mains supply, is heavily regulated; presently, Council does not play a role in that regulating.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'Paul West'.

Paul West
GENERAL MANAGER

*The City with Spirit*



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22 May 2019

In reply please quote:
File 3581

Rodney Russell
225 Steele Street
DEVONPORT TAS 7310

Dear Mr Russell

RESPONSE TO QUESTION WITHOUT NOTICE

I refer to your question raised at the Governance, Finance & Community Service Committee meeting on Monday 20 May 2019 and provide the following response:

Question

Lawrence Drive Cemetery. I see Devonport City Council has started to put new gravel down for the walking paths between graves. Do you have a work program I could see please? If you are going to do more works at that site.

Response

Work has started on repairing some of the paths between graves. Six paths in the DA4 section (north east) will be renewed, with work expected to be completed next week.

No other work is scheduled in the short term, however path renewal work in sections DG5 and DG6 (south west) has been tentatively scheduled for during the 2019/20 financial year.

Yours sincerely

Paul West
GENERAL MANAGER



3.2.2 QUESTIONS ON NOTICE FROM THE PUBLIC

File: 27452 D561309

MR MALCOLM GARDAM – 4 BEAUMONT DRIVE, DEVONPORT

Questions on notice received from Mr Malcolm Gardam on 17 May 2019 are **reproduced as attachment 1**.

DISCUSSION

In relation to the questions received 17 May 2019, it is proposed Mr Gardam be advised the following:

Q1. Is it true that the Council is offering discounted hire rates against its publicly available room hire schedule including for commercial bookings?

Response

No. Council does not offer discounted hire rates against the commercial bookings room hire schedule.

The Council, when considering the hire rates for the Convention Centre at its 26 February 2018 meeting, determined:

That Council in relation to the paranapple convention centre and the paranapple arts centre:

- a. adopt the proposed venue hire fees guide schedule for the hire and usage; and*
- b. delegate the authority to administer and negotiate where appropriate the venue hire fees to either the General Manager or the Convention and Arts Centre Manager.*

To date all rates charged for commercial room hire have been in accord with the Council's decision. There have been three instances where a not-for-profit hirer has been charged an amount per head in addition to catering costs. On one occasion, this resulted in the room hire fee being higher than the standard charge, with the other two being slightly less.

Q2. Does Council not see the approx. \$750,000 reimbursement shortfall borne by ratepayers, and just for the Harris Scarfe section of the land transfer to Fairbrother, as being a form of Council subsidy and contrary to its public statement that the hotel is "without any Council subsidy" and if not why not?

Response

Council has nothing further to add other than what has previously been provided.

-
- Q3**
- a) Will Council provide evidence that hotel-specific costs borne by ratepayers is a consideration in the hotel land sale to Fairbrother as previously advised in writing by Council that it would be, and if not why not?
 - b) Will Council provide evidence that the land sale price takes into consideration a premium for the added land value resulting from the adjacent proposed Council-funded works and therefore include a substantial premium for a prime site and not a substantial discount?

Response

Council has nothing further to add other than what has previously been provided.

Q4. Will Council confirm its previous answer to the question "Was Fairbrother's hotel Application for Planning Permit conforming without Council having provided the Right of Way roadway?" is correct?

Response

Yes.

- Q5.** a) Did Council staff or Providore Place (Devonport) Pty Ltd draft the head lease agreement and if Council who completed this task on behalf of Council?
- b) In the absence of Council engaging an appropriately qualified legal practitioner, who reviewed the suitability of the legal and commercial aspects of the head lease agreement on behalf of Council?
- c) What was the basis of not engaging an appropriately qualified legal practitioner and were all Aldermen at the time advised of this fact prior to the lease agreement being signed?
- d) Is a pro-forma copy of Council's referenced "other commercial agreements that Council has with other entities which had previously been the subject of legal advice" available for inspection; and if not why not?
- e) Will Council confirm that a standard lease agreement adequately protects Council in an arrangement where the Head Lessee is responsible for the attraction, retention and management of the tenancies including rental management with end payments to be made to Council?
- f) Will Council categorically assure ratepayers that the head lease agreement with Providore Place (Devonport) Pty Ltd (signed without legal drafting or review) does not leave Council exposed to unacceptable commercial/financial risk?; after being promoted by the Deputy General Manager that it "removed the council's exposure to financial risk."

Response

All matters relating to Providore Place have been dealt with in Closed Session. Council has nothing further to add other than what has previously been provided. All other matters relating to leases etc have also been dealt with in Closed Session.

Q6. On what grounds has Council refused to make the requested "standard lease terms" available for inspection?

Response

The issue is considered confidential and is covered by legal privilege.

Q7. Will Council confirm the accuracy of the Deputy General Manager's statement that the head lease arrangement "removed the council's exposure to financial risk"?

Response

Council has nothing further to add other than what has previously been provided.

Q8. a) Will Council assure ratepayers that the "10-year lease with Providore Place" is contractually secured as part of the head lease agreement (signed without legal drafting or review) and thereby support the Deputy General Manager's statement?

- b) Will Council assure ratepayers that "a good return above the independently assessed market value" is contractually secured as part of the head lease agreement (signed without legal drafting or review) and thereby support the Deputy General Manager's statement?
- c) Will Council advise ratepayers when it is expected that the annual rental will achieve the budgeted \$400,000 per annum as represented to ratepayers as a projected outcome and thereby support the Deputy General Manager's inference that it would?

Response

All matters relating to Providore Place have been dealt with in Closed Session. Council has nothing further to add other than that previously provided.

- Q9.
- a) Did Council engage a legal practitioner to prepare and review (including any amendments) the agreement for the initial engagement of Projects + Infrastructure?
 - b) Did Council engage a legal practitioner to prepare and review (including any amendments) the agreement for the engagement of Projects + Infrastructure as its Living City Development Manager?
 - c) Did Council engage a legal practitioner to prepare and review (including any amendments) the conditions relating to the extended engagement of Projects + Infrastructure as its Living City Development Manager?
 - d) Did Council engage a legal practitioner to prepare and review (including any amendments) for the Stage 1 Early Works Contract with Fairbrother?
 - e) Did Council engage a legal practitioner to prepare and review (including any amendments) for the Stage 1 Design & Construct Head Contract with Fairbrother?
 - f) Did Council engage a legal practitioner to prepare and review (including any amendments) for the Waterfront Hotel preferred developer two (2) year exclusivity agreement with Fairbrother?
 - g) Did Council engage a legal practitioner to prepare and review (including any amendments) for the Waterfront Hotel Lot 1 land sale agreement with Fairbrother?
 - h) Did Council engage a legal practitioner to prepare and review (including any amendments) relating to the eighteen month Lot 1 hotel site Council buy-back provision that in essence provides an additional 18 month exclusivity extension to the existing two (2) year exclusivity period afforded Fairbrother Pty Ltd which expires in October 2019; without any guarantee that a hotel will be built?

Response

All matters referred to have been considered by Council in Closed Session therefore the detail remains confidential.

- Q10.
- a) Will Council advise why the 190 "roof top parking" spaces were removed from the overall MLCP maximum displayed capacity and resulting in the displaying of 190 less vacancies, or part thereof, on monitors in Best Street and Fenton Way than actually might exist?

- b) Will Council advise as to which level those parking spaces have been allocated and if those 30 spaces are included in the count as displayed on the vacancy monitors in Best Street and Fenton Way?
- c) Will Council confirm just what the adopted MLCP standalone annual budget allowance is and provide the latest available YTD (year to date) revenue and expenditure, including staff costs, relating to the MLCP operations?
- d) Will Council confirm just what the adopted EOFY (end of financial year) standalone budget allowance is for the Conference Centre and provide the latest available YTD (year to date) revenue and expenditure including staff costs relating to its operations?
- e) Will Council advise why the tenancy agreement for the cooking centre is directly between TasTafe and Council when clearly Council has *" a lease with Providore Place Devonport Pty Ltd to operate and manage the pavilion."*? (Council advised on 2 October 2017 that *"As you have been advised previously Council has entered into a lease with Providore Place Pty Ltd and the attraction, retention and management of the tenancies is a matter for them."*)
- f) Will Council advise with all the activities having been undertaken and businesses established why it refuses to confirm that a reported \$250,000 rent reprieve was granted and if rent is now being paid by the Head Lessee?
- g) Will Council provide objective evidence that supports the Deputy General Manager's statement that Living City *" has resulted in a strong financial outcome"* and specifically *"in the context of Council's broader long-term financial position."*?
- h) Will Council please explain why there is no discussion in relation to the massive shortfall in achieving the budgeted revenue income streams also included in the Stage 1 Funding Implications – Report to Council 22 February 2016 and its effects on the *"original financial modelling"*? (Items omitted include discussion surrounding current status as to projected revenue returns against budget such as *"The model assumes year 1 net rental from the food pavilion and multi-purpose building totalling \$576,000, along with net car parking revenue of \$987,000."*)

Response

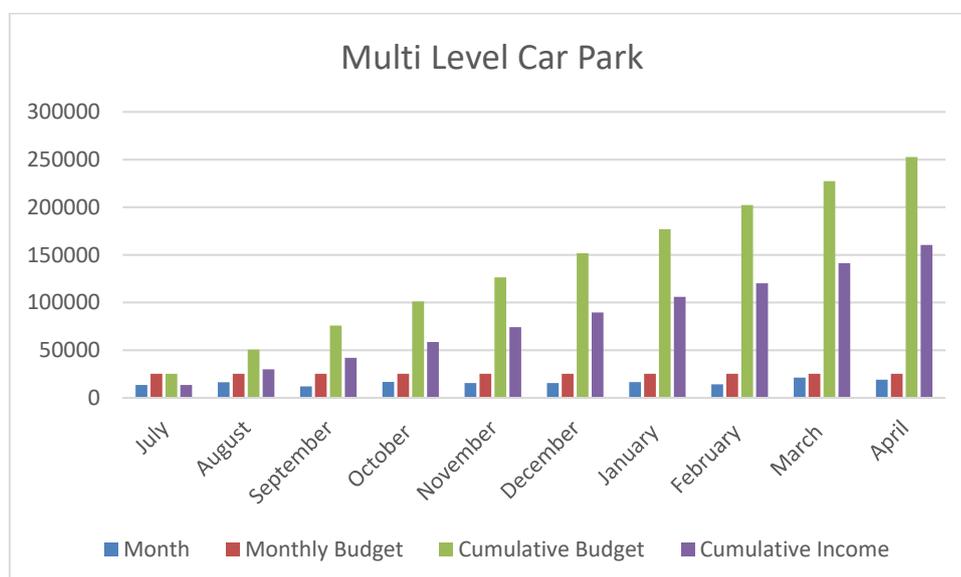
- (a) Due to the nested area on the roof top, the technology was unable to record both areas on the digital display. Rather than incur additional costs to update the technology, it was determined that until there is a capacity issue with the car park the digital display would only account for the first two levels. The external signage does indicate that in addition to the displayed vacancies there are also 190 spaces available on the roof top.
- (b) The 12 spaces for the State Government are located on the roof top level. The Council vehicles are predominately parked on the second level of the car park. Being on the second level, the Council vehicles are taken into account by the digital display counter.
- (c) In line with the Annual Plan, the following is noted in relation to parking income and expenditure:

PARKING	Budget (Full Year)	Actual (30 April 2019)
Income	\$2,676,200	\$2,211,918
Expenditure	(2,042,544)	(1,631,673)
Surplus	\$633,656	\$580,245

Based on the above the overall parking account is on track to achieve a better than budgeted result.

Expenses associated with car parking is a total figure and is not broken down separately for each of the car parks.

In relation to the multi-level car park income to 30 April 2019 was \$160,278 against an annual budget of \$303,200. As the below graph outlines, usage of the multi-level car park is continuing to increase. In determining the user fees for the car park, Council made the decision to provide the first 30 minutes for free. Since July there have been approximately 26,000 cars which have parked in the car park for free.



Council accepts that the car park has not, to date, performed to expectations in relation to utilisation. The Council's long-term financial plan recognised that it will take time to achieve projected revenues from parking charges.

- (d) In line with the Annual Plan, the following is noted in relation to the paranapple convention centre income and expenditure:

Convention Centre	Budget Full Year	Actual (30 April 2019)
Income	\$212,000	\$195,329
Expenditure	(637,877)	(452,032)
Cost	\$(425,877)	\$(256,703)

Based on the above the paranapple convention centre account is on track to achieve a better than budgeted result.

- (e) It was the State Government's preference to have the lease directly with Council.
- (f) All matters relating to Providore Place have been dealt with in Closed Session and therefore remain confidential.
- (g) The concluding comments in the report you have referred to states:

“Financially, the project has been successful with actual project costs well under budget. Both the quantum and cost (interest rate) of debt has been less than forecasted within original financial modelling, having a positive impact on Council’s long-term financial plan”.

- (h) As part of the preparation of the Long-Term Financial Plan the Council has taken a conservative approach to the amounts included for income from the various elements of Stage 1. Council as part of its financial reporting and budgeting processes will continue to monitor and report its income streams and projections and will make adjustments where necessary.

Q11. Do Councillors believe that ratepayers are entitled to question and receive answers substantiating Living City representations as being factual?

Response

Council has and continues to respond to numerous questions in relation to LIVING CITY. Whether the person receiving responses to their submitted questions will accept them as factual is obviously a matter for them.

Q12. Will the Mayor confirm that each councillor understands that each time the General Manager’s written responses, either by separate letter or within the meeting records, are endorsed and authorised for release the councillors may be condoning responses that quite often, and sometimes repeatedly, do not address the actual question and may well be breaching their obligations to act honestly and in good faith?

Response

It is your opinion that the responses provided to the plethora of questions asked are “quite often, and sometimes repeatedly, not addressing the actual question and may be breaching obligations to act honestly and in good faith”. Unfortunately, at times, you appear to refuse to accept answers provided because they do not align with your personal agenda.

It is a matter for the individual Councillors, when voting, to make up their own minds as to whether they accept/support the information before them.

MR GRAEME NEVIN – 145 PERCY STREET, DEVONPORT

Questions on notice received from Mr Graeme Nevin on 17 May 2019 are **reproduced as attachment 2**.

DISCUSSION

In relation to the questions received 17 May 2019, it is proposed Mr Nevin be advised the following:

Q1 Has the Council requested (or will it request) the General Manager and/or Deputy Manager to stand aside (that is to say have no input) regarding any current negotiations, recommendations, decisions regarding the Head Lease?

Response

All matters relating to Providore Place have been dealt with in Closed Session. Council does not discuss staffing related matters outside of Closed Session.

Q2 Have (or will) the current councillors who agreed to the Head Lease, declare (in accordance with the Code of Conduct) a perceived or potential or actual conflict of

interest regarding the Head Lease, and will they have no involvement regarding the Head Lease remedies/resolution?

Response

All matters relating to Providore Place have been dealt with in Closed Session. The issue of conflict of interest is a matter for the individual Councillors.

Q3 If the answer to Q1 is "yes", Does Council consider it appropriate that the General Manager should:

- a) Continue to draft or review answers submitted to Council for approval regarding questions from the public about the Head Lease?
- b) Continue to make recommendations to Council about the Head Lease including whether it be dealt with in secret and information withheld from the public?

Response

Refer response to Question 1.

Q4 Do the Councillors agree that an answer given by Councillors at a Council meeting to a question from a member of the public (ratepayer) amounts to the giving of information under the *Local Government Act 1993* (LGA) and therefore subject to Section 345 of the LGA?

Response

The section of the Act referred to states:

345 False and misleading statements

A person must not, in giving any information under this Act –

- (a) Make a statement knowing it to be false or misleading; or*
- (b) Omit any matter from a statement knowing that without that matter the statement is misleading.*

Council has confidence in the information and responses provided to questions asked.

Q5 a) Did P + I staff negotiate the terms of the Head Lease on behalf of Providore Place Devonport Pty Ltd?

[It is noted that this company was not incorporated until a few days before Council authorised signing of the Head Lease]

- b) Was the Head Lease prepared (that is to say engrossed/typed) by P + I staff and submitted to Council or did Council prepare the Head Lease?
- c) If P + I staff prepared the Head Lease did they do so on behalf of Council, or the Head Lessee, or both?
- d) If P + I staff negotiated the Head Lease terms for the Head Lessee was this consistent with the terms of the consultancy agreement between P + I and Council?
- e) Was there a written consultancy agreement between Council and P + I?

Response

All matters relating to Providore Place have been dealt with in Closed Session. Council has nothing further to add other than what has previously been provided.

Q6 Can Council state or assure the people of Devonport that the Head Lease was negotiated at what is commonly known as "arms length"?

Response

All matters relating to Providore Place have been dealt with in Closed Session. Council has nothing further to add other than that previously provided.

Q7 Would the total amount paid by Council to P + I have been less if Providore Place had not been built?

Response

All matters relating to the contract with P+i and Providore Place were dealt with in Closed Session and therefore remains confidential.

Q8 At any time prior to Council authorising the General Manager to sign the Head Lease, were Councillors advised by the General Manager and/or Deputy General Manager;

- a) that rental income under the Head Lease was guaranteed or secure?
- b) that the Head Lease removed or reduced the Council's exposure to risk?

Response

Council has nothing further to add other than what has previously been provided.

Q9 Does Council:

- a) agree with this reported statement by the Deputy General Manager?;
- b) state that a resolution was passed permitting information regarding the Head Lease rent to be released?
- c) If yes to (b), has any rent at all been paid to date to Council by the Head Lessee?
- d) If no to (b) what action will Council take regarding the release of information dealt with in closed session?

Response

A review of the Advocate Newspaper on 18 March 2019 does not show any article in relation to Providore Place. An article identified on the Advocate Facebook Page on 18 February 2018 (13 months earlier) includes comments attributed to the Deputy General Manager. Those comments (general in nature) were in line with information which had been agreed by Council to be released.

ATTACHMENTS

- 1. Questions on Notice - Council Meeting - 27 May 2019 - Malcolm Gardam
- 2. Questions on Notice - Council Meeting - 27 May 2019 - Graeme Nevin

That Council in relation to the correspondence received from Mr Malcolm Gardam and Mr Graeme Nevin endorse the responses proposed and authorise their release.

Author:	Robyn Woolsey	Endorsed By:	Paul West
Position:	Executive Assistant General Management	Position:	General Manager

17th May 2019

Devonport City Council
137 Rooke Street
DEVONPORT TAS 7310

Malcolm Gardam
4 Beaumont Drive
MIANDETTA TAS 7310
(Mobile No: 0417 355 813)

ATTENTION: MR. PAUL WEST – GENERAL MANAGER (MAYOR & COUNCILLORS)

RE: LIVING CITY – GOVERNANCE AND OPERATIONAL QUESTIONS ON NOTICE (Ref. File 32161)

Dear Sir,

The following are submitted as questions on notice for the next Ordinary Meeting of Council scheduled for Monday 27th May 2019.

These questions relate to seeking Council responses to previously asked questions that have received little more than evasive responses, if in fact receiving any sort of meaningful response at all, and others seeking evidence to support Council statements (representations) to the community. Please note that separate answers are required for each question or sub-question.

Q1. In a Question without Notice dated 29 April 2019 I followed up on the previous Question on Notice dated 11 April 2019 and asked: “On Page 11 of the current Agenda I asked of council as **Q2** Is it true that the Council is offering discounted hire rates for its conference and meeting bookings and thereby openly and unfairly competing with local privately run venues?”

General Manager’s Agenda Response: *“The Council has a room hire schedule that includes commercial and community rates for conference and meeting room bookings”.*

Clearly this response avoids the question entirely on three fronts (1) it hasn’t addressed the conference centre hire rates; (2) it doesn’t address the question as to any discounting of the established hire rates and (3) provides no insight as to whether Council may be engaging in a discounting strategy in relation to its hire rates.

Accordingly, I therefore repeat the slightly amended question in that “Is it true that the Council is offering discounted hire rates for its conference facilities and meeting room bookings and thereby potentially competing unfairly with local privately run venues for similar sized bookings?”

Mayor’s Meeting Response: *The Mayor advised “Council has always had a policy of having discounted rates for community groups and that continues.”*

Once more, the Mayor avoided the question as to any discounting of its commercial rates and accordingly I ask, again, as a question on notice for the Ordinary Meeting scheduled for 27 May 2019, Is it true that the Council is offering discounted hire rates against its publicly available room hire schedule including for commercial bookings?

- Q2.** In a Question without Notice dated 29 April 2019 I followed up on the previous Question on Notice dated 11 April 2019 and asked: "On Page 12 of the current Agenda I asked of council as **Q7** "According to Councillor Perry and the DCC Facebook Page "The hotel is being 100% privately funded by local construction and development firm Fairbrother Pty Ltd, **without any Council subsidy**" however, the section of the Harris Scarfe site was purchased at about \$1,705/m² has been sold to Fairbrother for about \$509/m² accordingly, does Council not see this as a form of subsidy?

General Manager's Agenda Response: "Council has openly acknowledged in the past the amount it paid for the property at 20-24 Best Street (former Harris Scarfe) and more recently the amount of land sold to Fairbrother Pty Ltd to allow the Hotel development to proceed."

It is estimated that about 630m² of the Harris Scarfe site sold to Fairbrother amounts to a ratepayer loss of about \$753,480 for a section of property always expected, according to Council, to be utilised for a new hotel.

Where else can a developer purchase developed land by the m² at an undeveloped land value? Despite several written responses from Council that hotel-specific costs borne by Council would be a consideration in the hotel/private apartments land sale there is no evidence of that in the disclosed sale price.

I repeat the question in that does Council not see the approx. \$750,000 reimbursement shortfall borne by ratepayers, and just for the Harris Scarfe section of the land transfer to Fairbrother, as not being a form of Council subsidy?"

Mayor's Meeting Response The Mayor advised "that question has already been asked and answered and therefore she would not accept this question."

Once more, the Mayor avoided the question that does not require further disclosure of other aspects relating to the sale price and is based entirely on the disclosed sale price of \$1,180,000 for 2315m². In short the estimated 630m² of the Harris Scarfe site was procured for **\$1,074,150** and sold to Fairbrother for **\$320,670** and accordingly I ask, again, as a question on notice for the Ordinary Meeting scheduled for 27 May 2019, does Council not see the approx. \$750,000 reimbursement shortfall borne by ratepayers, and just for the Harris Scarfe section of the land transfer to Fairbrother, as being a form of Council subsidy and contrary to its public statement that the hotel is "without any Council subsidy" and if not why not?

- Q3.** In a Question on Notice dated 11 April 2019 I asked further to **Q2** above:

"A summary of what are arguably council subsidies is:-

- Land for hotel/private apartments purchased from Council at a discounted m² rate compared to its procurement and other costs incurred.
- Initial hotel/private apartments detailed design concept drawings paid by Council.
- Two consultant hotel-demand analysis reports paid by Council.
- Traffic assessment that was heavily focused on the impacts from the hotel/private apartments and normally required from a developer paid by Council.
- Service road for hotel/private apartments that enabled the Fairbrother Application for Planning Permit to be conforming (**arguably otherwise would have had to be provided at developer cost**), to be constructed and maintained at Council's cost.

Despite Council stating in writing that some of these costs would be a consideration as part of the land sale I see no evidence of that in the sale price. Under normal circumstances a developer would choose which of these would be undertaken and accordingly bear all costs; therefore would Council not see any of these costs in isolation or in part as a form of subsidy to a private developer?

General Manager's Agenda Response: *"Your question is taken as a comment and your view on this matter. Council has nothing further to add than what it has previously publicly advised."*

Again, the General Manager has avoided answering the actual question.

An estimate of what should have been considered by Council as a realistic cost inclusion in the hotel land sale for the above listed ratepayer funded items (excluding the area of the Harris Scarfe site sold to Fairbrother identified in Question 2 above) is in the order of \$300,000.

Therefore I ask the following as two (2) separate questions on notice to the Ordinary Meeting Scheduled for 27 May 2019:

- a) Will Council provide evidence that hotel-specific costs borne by ratepayers is a consideration in the hotel land sale to Fairbrother as previously advised in writing by Council that it would be, and if not why not?
- b) Will Council provide evidence that the land sale price takes into consideration a premium for the added land value resulting from the adjacent proposed Council-funded works and therefore include a substantial premium for a prime site and not a substantial discount?

Q4. In a Question on Notice dated 11 April 2019 I asked as **Q15:** Was Fairbrother's hotel Application for Planning Permit conforming without Council having provided the Right of Way roadway?

General Manager's Agenda Response: "Yes".

The Application for Planning Permit noted within the Pitt & Sherry Traffic Impact Assessment that in relation to the Right of Way access road (Service Road), provided at Council cost to construct and maintain, that in addition to it providing part of a circulation road servicing the hotel parking it also provides for up to five service vehicles accessing the loading dock daily, being garbage collection, food and drink and linen etc.

In addition, on approving the Application for Planning Permit, Council included the following as Condition 12 - *"This permit is subject to the developer negotiating a suitable ingress and egress from the lower ground car park on the northern side of the building, onto the adjacent property generally in accordance with the Traffic Impact Assessment or to the satisfaction of the Road Authority"*

To me this suggests that the Application for Planning Permit, as submitted, would not have been compliant without the provision of the Right of Way access road and accordingly **will Council confirm its previous answer to the question "Was Fairbrother's hotel Application for Planning Permit conforming without Council having provided the Right of Way roadway?" is correct?**

- Q5.** In response to a Question on Notice from Mr. Robert Vellacott at the meeting held 23 January 2017 in that: *"Did you Mayor and Aldermen seek, and/or obtain, legal advice before signing the Head Lease contract with Providore Place Devonport Pty Ltd which it is well known to have a direct connection to the lead consultant of your LIVING CITY Development Project Management Company P+I,"* the following Council response was received.

General Manager's Meeting Agenda response under heading of Discussion: *"In relation to the question received 13 January 2017 it is proposed that Mr Vellacott be advised of the following:*

Council received a detailed report before it determined to enter the Food Pavilion head lease.

Specifically, in response to your actual question as written, the answer is no, however Council is confident that aspects relating to any actual, or perceived conflicts of interest are adequately controlled.

The Food Pavilion lease itself is based on other commercial agreements that Council has with other entities which had previously been the subject of legal advice."

Therefore I ask the following as six (6) separate questions on notice to the Ordinary Meeting Scheduled for 27 May 2019:

- a) Did Council staff or Providore Place (Devonport) Pty Ltd draft the head lease agreement and if Council who completed this task on behalf of Council?
- b) In the absence of Council engaging an appropriately qualified legal practitioner, who reviewed the suitability of the legal and commercial aspects of the head lease agreement on behalf of Council?
- c) What was the basis of not engaging an appropriately qualified legal practitioner and were all Aldermen at the time advised of this fact prior to the lease agreement being signed?
- d) Is a pro-forma copy of Council's referenced *"other commercial agreements that Council has with other entities which had previously been the subject of legal advice"* available for inspection; and if not why not?
- e) Will Council confirm that a standard lease agreement adequately protects Council in an arrangement where the Head Lessee is responsible for the attraction, retention and management of the tenancies including rental management with end payments to be made to Council?
- f) Will Council categorically assure ratepayers that the head lease agreement with Providore Place (Devonport) Pty Ltd (signed without legal drafting or review) **does not leave Council exposed to unacceptable commercial/financial risk?** after being promoted by the Deputy General Manager that it "removed the council's exposure to financial risk."

- Q6.** In response to a Question without Notice from Mr. Graeme Nevin at the meeting held 25 March 2019 in that: *“Did Council procure a legal practitioner to prepare the head lease regarding Providore Place? the following Council response was received.*
General Manager’s written response as included in April 2019 Meeting Agenda: *“No. The Providore Place lease was prepared using standard lease terms (which had previously been developed with legal advice), as a guide. The lease was developed in line with an agreed term sheet approved by the Council.”*

In response to a follow up Question on Notice identified as question 1 to the 29 April 2019 ordinary meeting, from Mr. Graeme Nevin, in that *“Are the Council’s “standard lease terms” available for inspection?”* the following Council response was received.

General Manager’s written response as included in April Meeting Agenda: *“No.”*

Accordingly, my question on notice to the scheduled meeting of 27 May 2019, is on **what grounds has Council refused to make the requested “standard lease terms” available for inspection?**

- Q7.** It was reported in The Advocate on Wednesday 7 December 2016 in relation to the food pavilion head lease agreement with Providore Place (Devonport) Pty Ltd that *“The Council’s deputy general manager, Matthew Atkins, said any potential conflict of interest was addressed before the deal. He said the revenue the council received on the food pavilion was guaranteed through the head lease arrangement and removed the council’s exposure to financial risk.”*

Noting that a reported \$250,000 rent reprieve and Council’s refusal to confirm if any rent has or is being paid by Providore Place (Devonport) Pty Ltd, or any of the tenancies, I therefore ask the following as two (2) separate questions:

- a) **Will Council confirm the accuracy of the Deputy General Manager’s statement that the “revenue the council received on the food pavilion was guaranteed through the head lease arrangement”?**
- b) **Will Council confirm the accuracy of the Deputy General Manager’s statement that the head lease arrangement “removed the council’s exposure to financial risk”?**

- Q8.** It was also reported in The Advocate on Wednesday 7 December 2016 that *“As far as the council is concerned we’ve got a 10-year lease with Providore Place to run it and we’re getting a good return above the independently assessed market value,”* Mr Atkins said.”

Therefore I ask the following as three (3) separate questions:

- a) **Will Council assure ratepayers that the “10-year lease with Providore Place” is contractually secured as part of the head lease agreement (signed without legal drafting or review) and thereby support the Deputy General Manager’s statement?**
- b) **Will Council assure ratepayers that “a good return above the independently assessed market value” is contractually secured as part of the head lease agreement (signed without legal drafting or review) and thereby support the Deputy General Manager’s statement?**

- c) Will Council advise ratepayers when it is expected that the annual rental will achieve the budgeted \$400,000 per annum as represented to ratepayers as a projected outcome and thereby support the Deputy General Manager's inference that it would?

Q9. Noting the importance of contractual arrangements to protect Council and thereby the best interests of ratepayers, and give confidence to councillors to approve the entering into of such arrangements and particularly those of a significant nature, involving significant risks, the involvement of an eminently qualified and experienced legal practitioner's input is critical; accordingly in light of Council's admission of no such legal involvement with the Providore Place head lease agreement between Providore Place (Devonport) Pty Ltd and Council I submit the following as eight (8) separate questions on notice.

- a) Did Council engage a legal practitioner to prepare and review (including any amendments) the agreement for the initial engagement of Projects + Infrastructure?
- b) Did Council engage a legal practitioner to prepare and review (including any amendments) the agreement for the engagement of Projects + Infrastructure as its Living City Development Manager?
- c) Did Council engage a legal practitioner to prepare and review (including any amendments) the conditions relating to the extended engagement of Projects + Infrastructure as its Living City Development Manager?
- d) Did Council engage a legal practitioner to prepare and review (including any amendments) for the Stage 1 Early Works Contract with Fairbrother?
- e) Did Council engage a legal practitioner to prepare and review (including any amendments) for the Stage 1 Design & Construct Head Contract with Fairbrother?
- f) Did Council engage a legal practitioner to prepare and review (including any amendments) for the Waterfront Hotel preferred developer two (2) year exclusivity agreement with Fairbrother?
- g) Did Council engage a legal practitioner to prepare and review (including any amendments) for the Waterfront Hotel Lot 1 land sale agreement with Fairbrother?
- h) Did Council engage a legal practitioner to prepare and review (including any amendments) relating to the eighteen month Lot 1 hotel site Council buy-back provision that in essence provides an additional 18 month exclusivity extension to the existing two (2) year exclusivity period afforded Fairbrother Pty Ltd which expires in October 2019; without any guarantee that a hotel will be built?

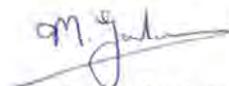
Q10. I refer to Section 5.2 titled "Living City Stage 1 – Final Report" (Final Report) as authored by Matthew Atkins (Deputy General Manager) and endorsed by Paul West (General Manager) on Page 35 of the Agenda for the Ordinary Meeting Monday 25 March 2019, to which I submit the following as eight (8) separate questions on notice.

- a) The Final Report states in relation to the multi-level carpark (MLCP) *"The roof top parking, based on \$5 per day, has proven popular with approximately half the spaces occupied most week days."* **Will Council advise why the 190 "roof top parking" spaces were removed from the overall MLCP maximum displayed capacity and resulting in the displaying of 190 less vacancies, or part thereof, on monitors in Best Street and Fenton Way than actually might exist?**
- b) Further to Q10(a) above Council has previously advised that 18 council car parking spaces (6 pool vehicles, 11 staff cars and the mayoral car allocated to the City Offices) and 12 parking spaces for State Government, LINC and Service Tas will all have non-paying access to the MLCP; **accordingly, will Council advise as to which level those parking spaces have been allocated and if those 30 spaces are included in the count as displayed on the vacancy monitors in Best Street and Fenton Way?**
- c) The Final Report states in relation to the multi-level carpark (MLCP) *"At this point in time, actual car parking revenue is on track to meet or exceed budget expectations."* **Will Council confirm just what the adopted MLCP standalone annual budget allowance is and provide the latest available YTD (year to date) revenue and expenditure, including staff costs, relating to the MLCP operations?**
- d) The Final Report states *"The paranaple convention centre is increasingly popular with a wide range of events already being held and more being scheduled. This includes business conferences, breakfast and luncheon events with keynote speakers, leavers dinners and election counting.....Resourcing has predominantly been undertaken by staff previously dedicated to the Devonport Entertainment and Convention Centre, with efficiencies being identified from operating the two venues as a combined facility."* **Will Council confirm just what the adopted EOFY (end of financial year) standalone budget allowance is for the Conference Centre and provide the latest available YTD (year to date) revenue and expenditure including staff costs relating to its operations?**
- e) The Final Report states *"Council have entered into a lease with Providore Place Devonport Pty Ltd to operate and manage the pavilion.(food pavilion) Three sub tenants, Charlotte Jack, Southern Wild Distillery and Tasmanian Chip Company are now open for business.....Fit out of a cooking centre on the first-floor has just commenced and is anticipated to open for hospitality and cooking training in mid-2019."* **Will Council advise why the tenancy agreement for the cooking centre is directly between TasTafe and Council when clearly Council has "a lease with Providore Place Devonport Pty Ltd to operate and manage the pavilion."? (Council advised on 2 October 2017 that "As you have been advised previously Council has entered into a lease with Providore Place Pty Ltd and the attraction, retention and management of the tenancies is a matter for them.")**
- f) The Final Report also states *"The food pavilion market hall building was completed and achieved occupancy approval in December 2017, with outstanding base build works along with tenancy fit outs continuing since that time and progressively coming online."* and *"Additionally, the market hall has been used for a variety of events, including regular Friday night markets, Sunday markets, private hire and events. As with the key tenancies, the market stalls have provided the platform for a number of new start up food businesses."* **Will Council advise with all the activities having been undertaken and businesses established why it refuses to confirm that a reported \$250,000 rent reprieve was granted and if rent is now being paid by the Head Lessee?**

- g) The Final Report also states "*LIVING CITY Stage 1 has resulted in a strong financial outcome both at project level and in the context of Council's broader long-term financial position.*" **Will Council provide objective evidence that supports the Deputy General Manager's statement that Living City "has resulted in a strong financial outcome" and specifically "in the context of Council's broader long-term financial position."**?
- h) The Final Report also states "*Financially, the project has been successful with actual project costs well under budget. Both the quantum and cost (interest rate) of debt has been less than forecasted within original financial modelling, having a positive impact on Council's long term financial plan.*" The report glowingly refers to "*original financial modelling, having a positive impact on Council's long term financial plan.*" **Will Council please explain why there is no discussion in relation to the massive shortfall in achieving the budgeted revenue income streams also included in the Stage 1 Funding Implications – Report to Council 22 February 2016 and its effects on the "original financial modelling"?** (Items omitted include discussion surrounding current status as to projected revenue returns against budget such as "*The model assumes year 1 net rental from the food pavilion and multi-purpose building totalling \$576,000, along with net car parking revenue of \$987,000.*")
- Q11.** Over the term of Living City the community has been offered many statements (representations) as to various aspects of the project by the former Mayor, current Mayor, General Manager, Deputy General Manager and Council's appointed Development Manager; **do Councillors believe that ratepayers are entitled to question and receive answers substantiating Living City representations as being factual?**
- Q12.** Clearly the records indicate a substantial quantity of ratepayer questions seeking answers to Living City matters and council practices that have been presented to Council over many years, and disappointingly rarely receive meaningful answers but moreover only receive responses that either refuse to answer the question citing, what is in my opinion, more often than not an abuse of its legislated "safe haven" of Closed Sessions and exemption from Right to Information, not answer the actual question or provide non-question aligned responses. **Accordingly, will the Mayor confirm that each councillor understands that each time the General Manager's written responses, either by separate letter or within the meeting records, are endorsed and authorised for release the councillors may be condoning responses that quite often, and sometimes repeatedly, do not address the actual question and may well be breaching their obligations to act honestly and in good faith?**

Please acknowledge receipt and ensure inclusion in full in the next meeting Agenda.

Yours sincerely,



Malcolm Gardam

CC: Mayor & Councillors

Mr G Nevin
145 Percy Street
Devonport 7310
17/05/2019

Devonport City Council
137 Rooke Street
Devonport Tas 7310

ATTENTION: Mr. P West – General Manager
Mayor & Councillors

RE: Questions on notice Council Meeting 27th May 2019

The following questions on notice are submitted for the next Ordinary Meeting of Council scheduled for Monday 27th May 2019.

In the following questions:

"Head Lease" refers to the lease between Devonport City Council and Providore Place Devonport Pty Ltd regarding Providore Place;

"Head Lessee" refers to Providore Place Devonport Pty Ltd

"P + I" refers to the development consultant engaged by Council regarding the "Living City" project

Preamble Question 1,2 and 3

As a Devonport ratepayer I am genuinely concerned that:

- a) the General Manager, and/or Deputy Manager who advised and made recommendations to Councillors regarding the Head Lease; and,
- b) Those of the current Councillors who agreed to the Head Lease;

may have a perceived, potential or actual conflict of interest regarding, likely current deliberations/recommendations/decisions/issues in relation to the Head Lease.

There are obviously serious problems for Council with the Head Lease potentially involving significant sums of money. The public perception of a conflict of interest is as follows:

- The Councillors who agreed to the Head Lease have an interest in keeping the contents of it and the current problems regarding it, a secret and not subjecting the Head Lease to any public scrutiny;
- As a result, the Council's full range of remedies in relation to enforcing the Head Lease and/or recovery of damages may not be pursued or properly considered, whereas a quiet and secret resolution may be seen as attractive;
- Accordingly, the interests of the Devonport Community are adversely affected;

- Objectively, it doesn't look like the Councillors are acting in the public interest regarding the Head Lease when matters relating to it are being dealt with in closed (secret) meetings and Council refuses to answer the simplest of questions about the Head Lease, when it is well within Council's power to do so.
- The same perceived conflict of interest arises with the General and Deputy Managers and is exacerbated given their role was to provide qualified advice and an appropriate recommendation to Councillors regarding the Head Lease.

Accordingly the following Questions are asked of Council:

1. Has the Council requested (or will it request) the General Manager and /or Deputy Manager to stand aside (that is to say have no input) regarding any current negotiations, recommendations, decisions regarding the Head Lease?;
2. Have (or will) the current councillors who agreed to the Head Lease, declare (in accordance with the Code of Conduct) a perceived or potential or actual conflict of interest regarding the Head Lease, and will they have no involvement regarding the Head Lease remedies/resolution?
3. If the answer to Q1 is "yes", Does Council consider it appropriate that the General Manager should:
 - a. Continue to draft or review answers submitted to Council for approval regarding questions from the public about the Head Lease?
 - b. Continue to make recommendations to Council about the Head Lease including whether it be dealt with in secret and information withheld from the public?

Answers to Questions from the Public

Question 4 : Do the Councillors agree that an answer given by Councillors at a Council meeting to a question from a member of the public (ratepayer) amounts to the giving of information under the Local Government Act 1993 (LGA) and therefore subject to Section 345 of the LGA?

Head Lease negotiation and preparation

Question 5 :

- (a) Did P +I staff negotiate the terms of the Head Lease on behalf of Providore Place Devonport Pty Ltd ?
[It is noted that this company was not incorporated until a few days before Council authorised signing of the Head Lease]
- (b) Was the Head Lease prepared (that is to say engrossed/typed) by P + I staff and submitted to Council or did Council prepare the Head Lease?
- (c) If P + I staff prepared the Head Lease did they do so on behalf of Council, or the Head Lessee, or both?
- (d) If P + I staff negotiated the Head Lease terms for the Head Lessee was this consistent with the terms of the consultancy agreement between P + I and Council?
- (e) Was there a written consultancy agreement between Council and P + I?

Question 6: Can Council state or assure the people of Devonport that the Head Lease was negotiated at what is commonly known as "arms length"?

Question 7: Would the total amount paid by Council to P + I have been less if Providore Place had not been built?

Preamble Question 8

The Advocate on Wednesday 7th December 2016 reported in relation to the Head Lease that "*The Council's deputy general manager, Matthew Atkins, said any potential conflict of interest was addressed before the deal. He said the revenue the council received on the food pavilion was guaranteed through the head lease arrangement and removed the council's exposure to risk.*"

Question 8

At any time prior to Council authorising the General Manager to sign the Head Lease, were Councillors advised by the General Manager and/or Deputy General Manager;

- a) that rental income under the Head Lease was guaranteed or secure ?
- b) that the Head Lease removed or reduced the Council's exposure to risk?

Preamble Question 9

The Advocate newspaper reported on 18th March 2019 :

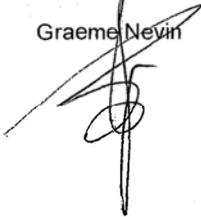
*"Mr Atkins said the **rent** council **received** for Providore Place is, above market valuation"*

Question 9: Does Council:

- (a) agree with this reported statement by the Deputy General Manager?;
- (b) state that a resolution was passed permitting information regarding the Head Lease rent to be released?
- (c) If yes to (b), has any rent at all been paid to date to Council by the Head Lessee?
- (d) If no to (b) what action will Council take regarding the release of information dealt with in closed session?

Regards,

Graeme Nevin



3.2.3 Question without notice from the public

3.3 QUESTIONS ON NOTICE FROM COUNCILLORS

At the time of compilation of the agenda, no questions had been received from Councillors.

3.4 NOTICES OF MOTION

3.4.1 TRANSFER OF DEVONPORT SHOW PUBLIC HOLIDAY - NOTICE OF MOTION - CR A JARMAN

File: 13574 D579184

In accordance with Regulation 16(5) of the *Local Government (Meeting Procedures) Regulations 2015*, a notice of motion has been received from Councillor A Jarman.

ATTACHMENTS

Nil

MOTION

"That Council at a future Workshop discuss options for the transfer of the Devonport Show Public Holiday to a more suitable date prior to making a formal request to the State Government for consideration."

SUPPORT

I ask that Council discuss a change of date suggestion for the Devonport Show public holiday prior to then writing to the State Government to ask for this change to be made in the best interests for the Devonport region.

The show public holiday is not required for the Devonport Show Society as they haven't had an event now for two years. With the sale of the Showgrounds imminent I believe this date now needs to be moved to a more appropriate date to suit the general public in the Devonport area.

There are currently two public holidays in November for Devonport. The first weekend is Recreation Day for the Northern part of Tasmania and then show day is generally the last weekend in November. Having two public holidays in Devonport in the same month is not good for the economy as most people take the opportunity to leave the area and with it being so close to Christmas the retailers suffer on two levels. One being the fact a lot of potential customers go away for the "long weekend" and also there is public holiday rates to consider that small business has to contend with if they stay open. The other issue is that some businesses choose not to be open even though it's possibly to the detriment of their business in the busiest season for retail.

I would like to suggest we either ask for the Devonport Cup for Spreyton Race day is made into a proper Public Holiday or we ask for this show day moved to perhaps sometime in either August or September as there are no public holidays after June.

OFFICER'S COMMENTS

A matter for Council.

4.0 PLANNING AUTHORITY MATTERS

The Mayor will now announce that Council intends to act as a Planning Authority under the *Land Use Planning and Approvals Act 1993* for the consideration of Agenda Items 4.1 to 4.2.

Council is required by Regulation 8(3) of the *Local Government (Meeting Procedures) Regulations 2015* to deal with items as a Planning Authority under the LUPA 1993 in a sequential manner.

The following items are to be dealt with at the meeting of Council in its capacity as a Planning Authority.

- 4.1 AM2019.02 Rezone from the General Industrial and Community Purpose zones to the General Residential zone - 117 Tasman Street (D579513)
- 4.2 PA2019.0059 Visitor Accommodation - 36 Sorell Street Devonport (D580088)

4.1 AM2019.02 REZONE FROM THE GENERAL INDUSTRIAL AND COMMUNITY PURPOSE ZONES TO THE GENERAL RESIDENTIAL ZONE - 117 TASMAN STREET

File: 36137 D579513

RELEVANCE TO COUNCIL'S PLANS & POLICIES

Council's Strategic Plan 2009-2030:

- Strategy 2.1.1 Apply and review the Planning Scheme as required, to ensure it delivers local community character and appropriate land use
- Strategy 2.1.3 Work in partnership with neighbouring councils, State Government and other key stakeholders on regional planning and development issues

PURPOSE

The purpose of this report is to enable Council, acting as a Planning Authority, to determine whether to initiate an amendment to the *Devonport Interim Planning Scheme 2013* in accordance with Section 33 of the *Land Use Planning and Approvals Act 1993*. It is proposed to rezone 117 Tasman Street (CT163203/1) from the General Industrial and Community Purpose zones to the General Residential zone.

BACKGROUND

Planning Instrument:	Devonport Interim Planning Scheme 2013
Applicant:	Veris Australia
Owner:	New Bounty Pty Ltd
Proposal:	Rezone from the General Industrial and Community Purpose zones to the General Residential zone
Current Zoning:	General Industrial and Community Purpose
Existing Use:	Manufacturing and Processing
Decision Due:	24 June 2019

COMMENTARY

The site, referenced as CT163230/1 has an area of 6.688ha, frontage to Tasman Street of 378.02m and has been used for the manufacturing and processing of fabric since 1952. This included dyeing, weaving and hemming and continued until November 2013. The property contains approximately 2ha of buildings which, since closure of the factory, have been used for administration and storage. A factory outlet store also operated from the site until December 2018.

The site is surrounded by residential and educational uses with a tertiary education facility, TasTAFE, located on land to the south.

The land is currently zoned General Industrial and Community Purpose.

Figure 1 shows the title plan for the site and Figure 2 the current zoning. An aerial photo of the site, taken in February 2019, is shown in Figure 3.

The application documentation for the proposal can be found as **Attachment 3**.

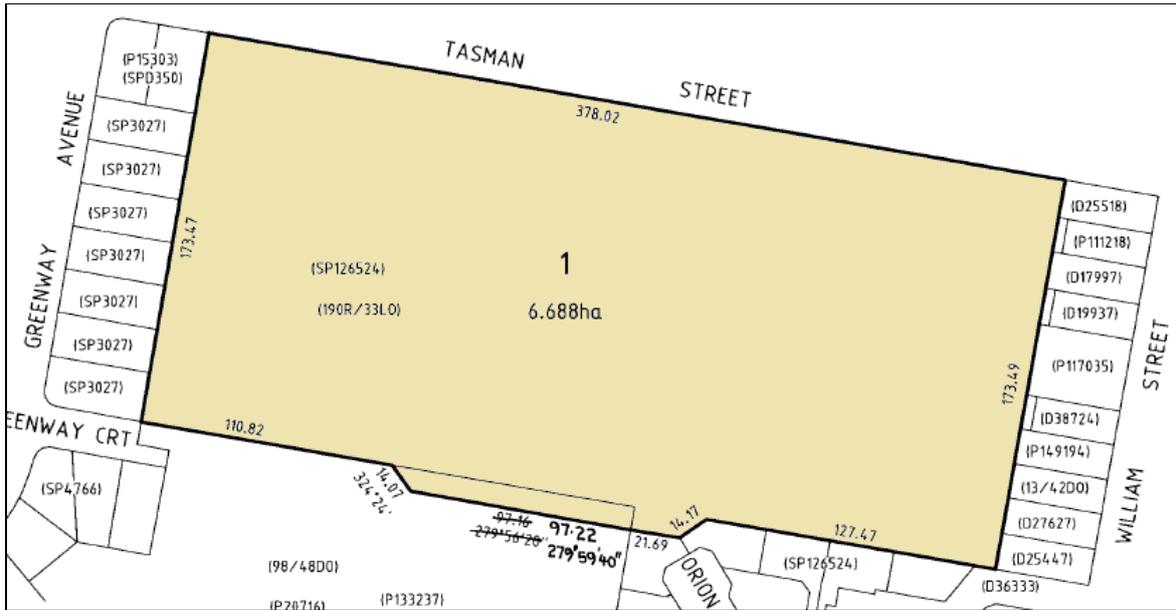


Figure 1 - Title plan - CT163203/1

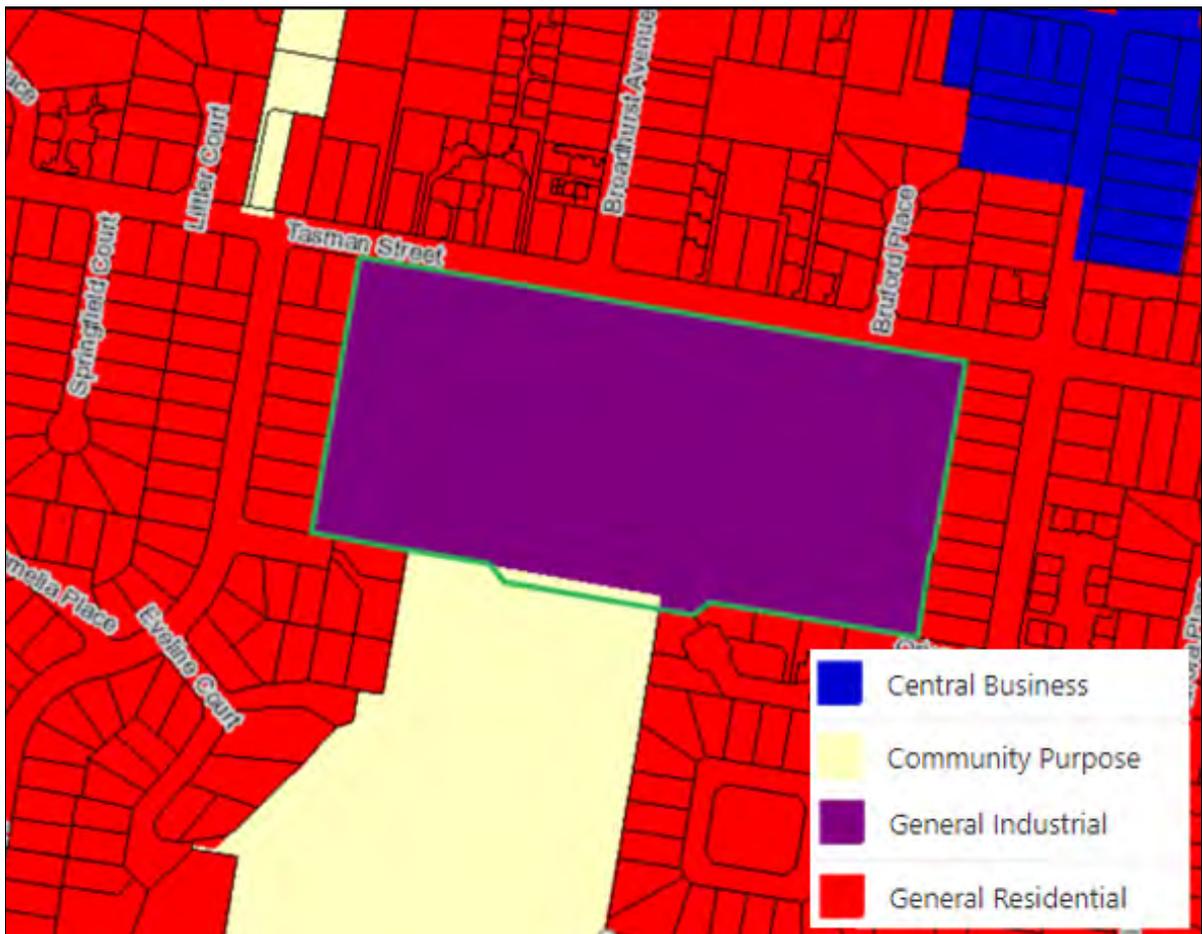


Figure 2 - Zoning map



Figure 3 - Aerial view of 117 Tasman Street and surrounding area

In recent years several attempts have been made to rezone the subject site to a variety of zones including Light Industrial zone, Bulky Goods and Market Place zone, Closed Residential and Tasman Street Commercial zone and Particular Purpose Zone 2 – Tasman Street Village.

None of the applications have come to fruition due to withdrawal by the applicant on three occasions and the introduction of the Interim Planning Schemes in 2013, which put a stop to any amendments already in progress.

COMMENTARY

Current Zoning

The site is currently zoned General Industrial and Community Purpose. Clause 25.1.1 of the *Devonport Interim Planning Scheme 2013* (the planning scheme) states that the intent of the General Industrial zone is, 'to provide for manufacturing, processing, repair, storage and distribution of goods and materials where there may be impacts on neighbouring uses.'

Uses allowable in the zone are listed under section 25.2 of the planning scheme and reproduced on the following page.

Report to Council meeting on 27 May 2019

25.2 Use Table

No Permit Required	
Use Class	Qualification
Natural and cultural values management	If conservation, rehabilitation, or protection against degradation, but must not include a building or outdoor area for information, interpretation, or display of items or for any other use
Permitted	
Use Class	Qualification
Emergency services	
Equipment and machinery sales and hire	
Manufacturing and processing	
Recycling and waste disposal	If not a refuse disposal site
Research and development	If for a manufacturing and processing, service industry, storage or transport purpose
Service industry	
Storage	
Transport depot and distribution	
Utilities	
Vehicle fuel sales and service	If not a service station
Discretionary	
Use Class	Qualification
Bulky goods sales	If wholesale of building materials, construction aggregates, and garden and landscape material
Educational and occasional care	If for trade training
Food services	If - (a) not licensed premises; (b) not including a drive through in take away food premise; and (c) a seating capacity for not more than 20 people
Passive recreation	
Research and development	
Resource processing	
Prohibited	
Use Class	Qualification
All other uses	

As the intent of the zone identifies the potential for impacts on neighbouring uses it is clear that this zone is not compatible with the surrounding residential uses.

The intent of the Community Purpose zone, under clause 17.1.1 of the planning scheme is, 'to provide for key community facilities and services where those facilities and services are not appropriate for inclusion as an associated activity within another zone.'

Section 17.2 of the planning scheme lists the following uses permissible in the zone.

Report to Council meeting on 27 May 2019

17.2 Use Table

No Permit Required	
Use Class	Qualification
Natural and cultural values management	If conservation, rehabilitation, or protection against degradation, but must not include a building or outdoor area for information, interpretation or display of items or for any other use
Passive recreation	If a public park or reserve for the local, municipal or regional community
Permitted	
Use Class	Qualification
Business and professional services	If – (a) medical centre; (b) office for civic or public purposes; or (c) funeral parlour
Community meeting and entertainment	
Crematoria and cemeteries	
Custodial facility	
Educational and occasional care	
Emergency services	
Hospital services	
Research and development	If for a purpose of a type complementary to the community purpose on land in the zone
Residential	If – (a) supported accommodation for aged, children, family, youth, and special need groups; or (b) accommodation for staff and students of a use conducted in whole or part on the site.
Tourist operation	If – (a) related to a building, area, or place of regulated scientific, aesthetic, architectural or historic interest or otherwise of special cultural value; or (b) a visitor's information centre
Utilities	If minor utilities
Vehicle parking	If for a community purpose on the land in accordance with the parking provision requirement in E9 Traffic Generating Use and Parking Code
Visitor accommodation	If – (a) for participants of a use on land in the zone; and (b) in a building

Report to Council meeting on 27 May 2019

Discretionary	
Use Class	Qualification
Business and professional services	If complementary to a community use on land in the zone
Food services	If – (a) for the participants of a use of land in the zone; and (b) not including a drive through in a take away food premises
General retail and hire	If – (a) sale of goods of a kind associated with a use on land within the zone; and (b) an occasional market retailing goods by independent stall holders
Manufacturing and processing	If complementary to supported accommodation on land within the zone
Natural and cultural values management	
Passive recreation	
Service industry	If complementary to supported accommodation on land within the zone
Utilities	
Visitor accommodation	
Prohibited	
Use Class	Qualification
All other uses	

Only a very small portion of land (1,032m²) is zoned Community Purpose, on the southern side of the site. This anomaly arose as the land was formally owned by the State and part of the adjacent TasTAFE lot. The land was transferred to the Tasman Street site after a need arose to allow for rear access to the factory. The transfer of land took place through two dealings in 1996 and 2010. A sealed road is located on this section of the lot.

It is reasonable to amend the zoning of this portion of the property along with the General Industrial section to create consistent zoning across the title.

Consistency with General Residential zone intent

Clause 10.1.1 of the Devonport Interim Planning Scheme 2013 sets out the intent of the General Residential zone as being:

To provide for residential use or development that accommodates a range of dwelling types at suburban densities, where full infrastructure services are available or can be provided; [and]

To provide for compatible non-residential uses that primarily serve the local community.

The uses permissible in the zone as per clause 10.2 of the planning scheme are reproduced on the following page.

Report to Council meeting on 27 May 2019

10.2 Use Table

No Permit Required	
Use Class	Qualification
Natural and cultural values management	If for conservation, rehabilitation, or protection against degradation, but must not include a building or any outdoor area for information, interpretation, or display of items or for any other use
Passive recreation	If a public park or reserve for the local community
Residential	if a single dwelling or home based business
Permitted	
Use Class	Qualification
Business and professional services	If a medical centre – (a) involving not more than 3 health care professionals at any one time; and (b) a gross floor area of not more than 300m ²
Community meeting and entertainment	If – (a) not an art gallery, cinema, concert hall, convention centre, dance hall, exhibition centre, function or reception centre, library, museum, music hall, or theatre; and (b) a gross floor area of not more than 300m ²
Education and occasional care	If – (a) long day care, before or after school care, occasional care, or out-of-school hours care; (b) a day respite centre; (c) pre-school, primary or secondary education to Year 10; or (d) an employment training centre.
Emergency services	If not intended for deployment beyond the local area, or as a facility for training, maintenance, storage, command or administration
Food services	If – (a) not licensed premises; (b) not including a drive-through facility; and (c) seating capacity for not more than 20 people
General retail and hire	If a local shop
Residential	
Resource development	If a community garden for production or ornamental purposes to service the local community; and not involving the keeping of animals
Sport and recreation	If outdoor recreation facilities comprising a single playing field or a single surface for the local community
Tourist operation	If – (a) based on a building, area or place of regulated scientific, aesthetic, architectural or historic interests or otherwise of special cultural value; and (b) not a visitor's information centre
Utilities	If minor utilities;
Visitor accommodation	If – (a) in a building; and (b) guest accommodation for not more than 16 people

Report to Council meeting on 27 May 2019

Discretionary	
Use Class	Qualification
Business and professional services	If a medical centre
Community meeting and entertainment	If not an art gallery, cinema, concert hall, convention centre, dance hall, exhibition centre, function or reception centre, library, museum, music hall, or theatre
Educational and occasional care	
Food services	If not including a drive through in take away food premises
Natural and cultural values management	
Passive Recreation	
Utilities	
Visitor accommodation	
Prohibited	
Use Class	Qualification
All other uses	

The subject site is considered to have qualities and development potential consistent with the intent, use and development standards of the General Residential zone.

To avoid conflicts with nearby properties the most appropriate zone for the site is the General Residential zone which would allow for residential uses, along with a range of other uses deemed suitable for the zone such as medical centres, education and occasional care, visitor accommodation and food services. The proposal would bring the subject site into conformity with the surrounding area.

Strategic Implications

The *Devonport Interim Planning Scheme 2013* was developed with regard to the Cradle Coast Regional Land Use Strategy 2010-2030, *Living Lightly on the Coast (CCRLUS)*.

The Cradle Coast Regional Land Use Strategy states that:

The challenge for planning is to optimise the use and development of land to retain capacity to accommodate settlement, facilitate economic activity and enable infrastructure provision, and to maintain the integrity of land as a natural resource (p32).

It also states that:

The economy of the Cradle Coast Region is not self-contained and self-supporting. It is dependent on economic flows at the inter-regional, national and global levels, and on the policies and decisions made by governments and markets with a wider than regional interest (p135).

The economic environment in the region has changed with the extraction of manufacturing from the area. It is doubtful that manufacturing of the kind requiring General Industrial zoning will return to the region as such activities have generally moved offshore to developing countries with reduced manufacturing costs.

The CCRLUS recognises that land use planning should:

3.3.1 a. Facilitate supply of employment land in all settlement areas for industrial, business and institutional use including in residential locations

Employment land is deemed to be, '*... areas designated ... for clusters of industry, business, or other economic activity; including but not limited to manufacturing, processing, transport*

and storage, business and retail, institutional, resource development and tourism' (p160). The CCRLUS acknowledges that a major challenge is ensuring that, *'the right land is available in the right location at the right time with the right level of infrastructure and services (p49).'*

The land at 117 Tasman Street is not in the right location for general industrial uses given it is surrounded by residential and educational uses. Should any general industries identify the Devonport area as a suitable location in the future there is better placed, underutilised land currently zoned General Industrial in both Spreyton and Wesley Vale.

Clause 3.3.1 g. of the CCRLUS states that employment land should be converted to non-employment use only where -

- i. the land is not required for the employment purpose for which it is designated; or*
- ii. the land is incapable of effective use for employment purposes over the long-term; and*
- iii. conversion will not adversely affect the overall efficiency of other employment land in the vicinity;*
- iv. there is a need for the conversion; and*
- v. the land is suitable for the proposed alternative purpose*

The proposed amendment is in keeping with the above as the land is no longer required for manufacturing and is essentially incapable of such use due to constraint by the surrounding uses. The land's conversion will not adversely affect the efficiency of other employment land in the vicinity as no other operations on nearby land were related to the activities previously carried out on-site. In addition, there is a need for more residential land in Devonport and the subject site is suitable for residential development.

Devonport has been identified as being suited to a contained growth scenario in accordance with the methodology of the CCRLUS (p67). Clause 4.3.1 e. ii. states that *'a contained growth scenario... promotes a mix of intensification and strategically planned expansion on the established boundaries of the nominated settlement centre.'*

The proposed amendment will allow for intensification of the urban area through infill development, in keeping with the contained growth scenario. As the CCRLUS states, expansion options within the Devonport municipality are constrained by agricultural, industrial and rural residential land, therefore housing growth must be accommodated through infill and consolidation (p166). The proposed amendment provides an opportunity for such infill to occur. The site has good connections to services, employment, recreational facilities and transport networks which ensures that the needs of future residents can be met.

Section 4.4 of the CCRLUS deals with land use policies for protecting people and property and states that, *'land use planning is to direct the places where people live and work away from areas where there is an unacceptable level of risk for the health and safety of people, property, and the environment from natural or man-made hazard'* (p147).

As the property has been used for manufacturing a number of contaminants have been found on the site. The applicant has submitted a report by Pitt and Sherry in relation to the contamination which shows that contaminants remain. The site will need to be remediated to enable residential development however this is deemed possible by the report's authors.

Infrastructure

The applicant has provided a Traffic Impact Assessment (TIA), a Stormwater Management Plan and a Water and Wastewater Assessment in regard to the proposed rezoning, all of which were prepared by Pitt and Sherry.

The TIA concludes that the potential additional traffic that could be generated by 206 new dwellings is not expected to have any significant impacts on the safety and operation of the surrounding road network.

The Stormwater Management Plan concludes that the site is capable of being serviced.

The Water and Wastewater Assessment demonstrates that the site can be serviced in regard to both water and sewer.

STATUTORY REQUIREMENTS

Before certifying an amendment, Council must be satisfied that the amendment is consistent with all relevant legislation. Section 32 of the *Land Use Planning and Approvals Act 1993 (the Act)* sets out the requirements for the preparation of draft amendments.

Generally, a draft amendment must avoid the potential for land use conflicts, be in relation to a local provision of an interim planning scheme and have regard to the impact the resultant use and development will have on use and development in the region in environmental, economic and social terms. In addition the provisions of section 20 of *the Act* are also applicable.

A detailed examination of the statutory requirements can be found in **Attachment 1**.

The proposed zoning map is shown in **Attachment 2**.

FINANCIAL IMPLICATIONS

No financial implications are predicted as a result of this proposal.

CONCLUSION

The proposed amendment will allow for the reassignment of general industrial land to a residential purpose. The site is well positioned to enable residents to access services, employment, recreational facilities and transport infrastructure and removal of the ability for industrial activities to occur on the site will eliminate the potential for land use conflicts in the surrounding area.

ATTACHMENTS

1. Assessment against LUPAA provisions
2. Zoning map - 117 Tasman Street
3. Application - AM2019.02 - 117 Tasman Street

RECOMMENDATION

That Council:

1. in accordance with Sections 34 and 35 of the *Land Use Planning and Approvals Act 1993* agree to initiate and certify amendment AM2019.02 to rezone 117 Tasman Street from the General Industrial and Community Purpose zones to the General Residential zone; and
2. place Amendment AM2019.02 on public exhibition for a 4 week period in accordance with Section 38 of the *Land Use Planning and Approvals Act, 1993*.

Author:	Carolyn Milnes	Endorsed By:	Kylie Lunson
Position:	Senior Town Planner	Position:	Development Services Manager

AM 2019/02 assessment against the requirements of the *Land Use Planning and Approvals Act 1993*

Section 32 of the *Land Use and Planning Approvals Act 1993* states that:

- (1) A draft amendment of a planning scheme, and an amendment of a planning scheme, in the opinion of the relevant decision-maker within the meaning of section 20(2A) –**
- (e) must, as far as practicable, avoid the potential for land use conflicts with use and development permissible under the planning scheme applying to the adjacent area;**

Comment

The draft amendment will allow for the removal of the land use conflicts that currently exist, given the predominant General Industrial zoning of the land surrounded by land with a General Residential zoning.

- (ea) must not conflict with the requirements of section 300 ;**

Comment

The proposal does not conflict with the requirements of section 300 of *the Act* as the request is to modify a local provision, that being the zoning of a parcel of land.

- (f) must have regard to the impact that the use and development permissible under the amendment will have on the use and development of the region as an entity in environmental, economic and social terms.**

Comment

The use and development permissible under the amendment will impact the region positively. In environmental terms, rezoning the land will provide a catalyst for the remediation of the site. If residential use is to occur a number of areas require contaminants to be removed. There is less likelihood of this occurring if the zone remains unchanged.

From an economic perspective the proposal will enable a pathway for the development and sale of land, along with the construction of dwellings. This will provide work in real estate, conveyancing, drafting, infrastructure provision and construction at the very least.

In social terms the draft amendment would reduce existing land use conflicts and ensure no new conflicts arise in the future. It would also enable the provision of additional housing stock to address the need identified by the State Government in its report, *Tasmania's Affordable Housing Strategy 2015-2025*.

- (2) The provisions of section 20 (2) , (3) , (4) , (5) , (6) , (7) , (8) and (9) apply to the amendment of a planning scheme in the same manner as they apply to planning schemes.**

Comment

The proposed amendment is in keeping with the requirements of the Act as listed above.

Practice Note 1 provided by the Tasmanian Planning Commission states,

Although not a specific requirement under section 32, a draft amendment is taken to be a relevant scheme [section 20(2A)] and therefore section 20(1) is applicable and the draft amendment must seek to further the objectives in Schedule 1 of the Act and be in accordance with State Policies.

The amendment meets these objectives as follows:

20.(1) A relevant decision-maker, in preparing, accepting, declaring or making a relevant scheme, or giving approval in relation to the making or approving of a relevant scheme, must, in the opinion of the relevant decision-maker–

(a) seek to further the objectives set out in Schedule 1 within the area covered by the scheme;

PART 1

1. The objectives of the resource management and planning system of Tasmania are –

(a) to promote the sustainable development of natural and physical resources and maintenance of ecological processes and genetic diversity

Comment

The amendment relates only to sites that are serviceable and no negative impact on the natural environment is expected as a result of this amendment.

(b) to provide for the fair, orderly and sustainable use and development of air, land and water

Comment

The amendment ensures the fair, orderly and sustainable use and development of air, land and water as it provides for residential development within the confines of an area already developed for that purpose and reduces the need for expansion of the urban area into land that can be better used for agricultural purposes.

(c) to encourage public involvement in resource management and planning

Comment

Should the Planning Authority initiate the proposed amendment public notification will be required which provides the opportunity for public comment.

(d) to facilitate economic development in accordance with the objectives set out in paragraphs (a), (b) and (c)

Comment

This amendment will allow for the continued growth of Devonport without the need for expansion into the surrounding rural land.

(e) to promote the sharing of responsibility for resource management and planning between the different spheres of Government, the community and industry in the State.

Comment

The public notification period ensures all facets of the community can have input in the planning process along with Council and the State Government.

PART 2

(a) to require sound strategic planning and co-ordinated action by State and Local government.

Comment

The draft amendment is considered to be consistent with the *Cradle Coast Regional Land Use Strategy 2010-2030* as it results in the consolidation of land within an existing urban area.

- (b) to establish a system of planning instruments to be the principal way of setting objectives, policies and controls for the use, development and protection of land;**

Comment

The amendment complies with this objective as it complies with the requirements of the *Devonport Interim Planning Scheme 2013*.

- (c) to ensure that the effects on the environment are considered and provide for explicit consideration of social and economic effects when decisions are made about the use and development of land;**

Comment

The amendment is not expected to affect the environmental qualities of the area. The proposal provides social and economic benefits.

- (d) to require land use and development planning and policy to be easily integrated with environmental, social, economic conservation and resource management policies at state, regional and municipal levels;**

Comment

The draft amendment is consistent with the objectives of the *Cradle Coast Regional Land Use Strategy* which identifies appropriate land use while considering environment, social, economic and resource management implications.

- (e) to provide for the consolidation of approvals for land use or development and related matters, and to co-ordinate planning approvals with related approvals;**

Comment

This amendment will not alter the way planning applications are currently handled. Council will continue to ensure that any future application for the development of this site will be coordinated with related approvals.

- (f) to secure a pleasant, efficient and safe working, living and recreational environment for all Tasmanians and visitors to Tasmania;**

Comment

The draft amendment together with the existing provisions of the Planning Scheme will ensure that the amenity of residential uses is protected.

- (g) to conserve those buildings, areas or other places which are of scientific, aesthetic, architectural or historical interest or otherwise of special cultural value.**

Comment

The land subject to this amendment is not heritage listed.

- (h) to protect public infrastructure and other assets and enable the orderly provision and co-ordination of public utilities and other facilities for the benefit of the community;**

Comment

The application relates to land that is serviceable.

- (i) to provide a planning framework which fully considers land capability.**

Comment

The proposal is in keeping with the *Devonport Interim Planning Scheme 2013*.

(b) prepare the scheme in accordance with State Policies made under section 11 of the State Policies and Projects Act 1993;

STATE POLICY FOR THE PROTECTION OF AGRICULTURAL LAND 2009 (PAL)

Comment

There is no agricultural land involved therefore the PAL Policy is not relevant.

STATE POLICY ON WATER QUALITY MANAGEMENT 1997

Comment

The proposed amendment is consistent with the intent of this policy. The area is fully serviced. No direct impact on water quality management is expected and no changes to the planning scheme are required to ensure this is enforced through the development application process.

STATE COASTAL POLICY 1996

Comment

The land is not located within one kilometre of the coast and therefore the policy is not applicable.

NATIONAL ENVIRONMENTAL PROTECTION MEASURES (NEPM)

- Air Toxics
- Ambient Air Quality
- Diesel Vehicle Emissions
- Assessment of Site Contamination
- Used Packaging Materials
- Movement of Controlled Waste between States and Territories
- National Pollutant Inventory

Comment

Assessment of Site Contamination is the only NEPM considered relevant to this application. The applicant has provided a report by Pitt and Sherry regarding site contamination. The report states that while there are currently a number of areas on the site that remain contaminated it is possible to remediate these areas.

(c)

(d) have regard to the strategic plan of a council referred to in Division 2 of Part 7 of the Local Government Act 1993 as adopted by the council at the time the planning scheme is prepared;

Comment

Council's Strategic Plan 2009-2030 lists the following outcomes and strategies in relation to land use planning.

2.1 Council's Planning Scheme facilitates appropriate property use and development

2.1.1 Apply and review the Planning Scheme as required, to ensure it delivers local community character and appropriate land use

2.1.2 Provide consistent and responsive development assessment and compliance processes

2.1.3 Work in partnership with neighbouring councils, State Government and other key stakeholders on regional planning and development issues

Consideration of the draft amendment covers all three strategies as it results in a review of the planning scheme, allows for a consistent response to assessment and requires input by the State Government.

- (e) ***have regard to the safety requirements set out in the standards prescribed under the Gas Pipelines Act 2000.***

Comment

The Gas Pipeline is not in the vicinity of the proposal.

Office use
Application no. _____
Date received: _____
Fee: _____
Permitted/Discretionary _____

Devonport City Council

Land Use Planning and Approvals Act 1993 (LUPAA)

Devonport Interim Planning Scheme 2013

Application for Planning Permit

Use or Development Site

Street Address: 117 Tasman Street, Devonport TAS 7310

Certificate of Title Reference No.: FR163203/1

Applicant's Details

Full Name/Company Name: Jana Rockliff of Veris Australia

Postal Address: 100 Best Street, Devonport TAS 7310

Telephone: 03 6421 3500

Email: j.rockliff@veris.com.au

Owner's Details (if more than one owner, all names must be provided)

Full Name/Company Name: New Bounty Pty Ltd

Representative: Ethan Rishon Obermann

Postal Address: PO Box 501, Devonport TAS 7310

Telephone: 0410 474 374

Email: ero@auprojects.com



ABN: 47 611 446 016
 PO Box 604
 137 Rooke Street
 Devonport TAS 7310
 Telephone 03 6424 0511
www.devonport.tas.gov.au
council@devonport.tas.gov.au

Sufficient information must be provided to enable assessment against the requirements of the planning scheme.

Please provide one copy of all plans with your application.

Assessment of an application for a Use or Development

What is proposed?: Rezone subject site to General Residential

Please refer to submission report for further information

Description of how the use will operate: Please refer to submission report for further information

Use Class (Office use only): _____

Applications may be lodged by email to Council - council@devonport.tas.gov.au
The following information and plans must be provided as part of an application unless the planning authority is satisfied that the information or plan is not relevant to the assessment of the application:

Application fee	✓
Completed Council application form	✓
Copy of certificate of title, including title plan and schedule of easements	✓
A site analysis and site plan at an acceptable scale on A3 or A4 paper (1 copy) showing:	
• The existing and proposed use(s) on the site	
• The boundaries and dimensions of the site	
• Typography including contours showing AHD levels and major site features	
• Natural drainage lines, watercourses and wetlands on or adjacent to the site	
• Soil type	
• Vegetation types and distribution, and trees and vegetation to be removed	
• The location and capacity of any existing services or easements on the site or connected to the site	
• Existing pedestrian and vehicle access to the site	
• The location of existing adjoining properties, adjacent buildings and their uses	
• Any natural hazards that may affect use or development on the site	
• Proposed roads, driveways, car parking areas and footpaths within the site	
• Any proposed open space, communal space, or facilities on the site	
• Main utility service connection points and easements	
• Proposed subdivision lot boundaries, where applicable	
• Details of any proposed fencing	
Where it is proposed to erect buildings, a detailed layout plan of the proposed buildings with dimensions at a scale of 1:100 or 1:200 on A3 or A4 paper (1 copy) showing:	
• Setbacks of buildings to property (title) boundaries	
• The internal layout of each building on the site	
• The private open space for each dwelling	
• External storage spaces	
• Car parking space location and layout	
• Elevations of every building to be erected	
• The relationship of the elevations to natural ground level, showing any proposed cut or fill	
• Shadow diagrams of the proposed buildings and adjacent structures demonstrating the extent of shading of adjacent private open spaces and external windows of buildings on adjacent sites	
• Materials and colours to be used on roofs and external walls	
A plan of the proposed landscaping including:	
• Planting concept	
• Paving materials and drainage treatments and lighting for vehicle areas and footpaths	
• Plantings proposed for screening from adjacent sites or public spaces	
Details of any signage proposed	

Value of use and/or development

\$ _____

Notification of Landowner/s (s.52 Land Use Planning and Approvals Act, 1993)
If land is not in applicant's ownership

I, Jana Rockliff of Veris Australia _____ declare that the owner/s of the land has/have been notified of my intention to make this application.

Applicant's signature: _____ Date: 09/05/2019

If the application involves land owned or administered by the Devonport City Council

Devonport City Council consents to the making of this permit application.

General Manager's signature: _____ Date: _____

If the application involves land owned or administered by the Crown

Crown consent must be included with the application.

Signature

I apply for consent to carry out the development described in this application. I declare that all the information given is true and correct. I also understand that:

- if incomplete, the application may be delayed or rejected; and
- more information may be requested in accordance with s.54 (1) of LUPAA.

PUBLIC ACCESS TO PLANNING DOCUMENTS - DISCRETIONARY PLANNING APPLICATIONS (s.57 of LUPAA)

I understand that all documentation included with a discretionary application will be made available for inspection by the public.

Applicant's signature: _____ Date: 09/05/2019

PRIVACY ACT

The personal information requested on this form is being collected by Council for processing applications under the *Land Use and Planning Approvals Act 1993* and will only be used in connection with the requirements of this legislation. Council is to be regarded as the agency that holds the information.

Fee & payment options

DD **Pay by Direct Deposit** – BSB: 067-402 Account No. 000 000 13 – Please quote your application number.

 **Pay in Person at Service Tasmania** – Present this notice to any Service Tasmania Centre, together with your payment. See www.service.tas.gov.au for opening hours.

 **Pay by Phone** – Please contact the Devonport City Council offices on 64240511 during office hours, Monday to Friday.

 **Pay by Post** – Cheques should be made payable to Devonport City Council and posted to PO Box 604, Devonport, Tasmania, 7310.

NEW BOUNTY PTY LIMITED

PO BOX 501, DEVONPORT, TAS 7310

ACN 056 983 432

Monday, 13 May 2019

Ref: 3D15095_L03_Rev1

To whom it may concern

RE: Owner authorisation for Planning Application

I, Philip Bart, herewith authorise Veris to submit an Application to amend the Planning Scheme on behalf of my company New Bounty Pty Ltd, listed owner of 117 Tasman Street, Devonport. I also authorise Ethan Rishon Obermann to represent New Bounty Pty Ltd on my behalf.

Kind regards

Philip Bart

Director



Friday, 10 May 2019

Ref: 3D15095_L02_Rev0

Devonport City Council
Attn: The General Manager
PO Box 604
Devonport TAS 7310

Dear Dir or Madam,

RE: Application to amend the Devonport Interim Planning Scheme pursuant to the Land Use Planning and Approvals Act 1993 at the land of 117 Tasman Street, Devonport

Further to previous correspondence we enclose application for rezoning of land at 117 Tasman Street Devonport on behalf of the owner New Bounty Pty Ltd.

In support of our application, we enclose the following (electronically via email):

- Town Planning Submission report, prepared by Veris;
- Current Certificate of Titles;
- Schedule of Easements
- Environmental Site Assessment (HB17559H001 ESA 31P Rev 02), prepared by Pitt & Sherry
- Stormwater Management Plan (HB18441H001 SMR Rep 31P Rev02), prepared by Pitt & Sherry
- Traffic Impact Assessment (HB18441H003 rep TIA 31P Rev01), prepared by Pitt & Sherry
- Potable Water and Wastewater Assessment (HB18441H001 WWA Rep 31P Rev01), prepared by Pitt & Sherry

Please transfer the planning application fee from the previous application as discussed.

Yours sincerely

A handwritten signature in blue ink, appearing to read "Jana Rockliff", written over a horizontal line.

Jana Rockliff
Town Planner

Devonport
100 Best Street
Devonport TAS 7310

T 03 6421 3500
devonport@veris.com.au
veris.com.au

Office Locations
Over 20 offices
across Australia
veris.com.au/contactus

Veris Australia
ABN 53 615 735 727

**DEVELOP
WITH _____
CONFIDENCE™**

**RESULT OF SEARCH**

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980

SEARCH OF TORRENS TITLE

VOLUME	FOLIO
163203	1
EDITION	DATE OF ISSUE
1	28-Feb-2012

SEARCH DATE : 07-Mar-2018

SEARCH TIME : 04.42 PM

DESCRIPTION OF LAND

City of DEVONPORT
 Lot 1 on Sealed Plan 163203
 Derivation : Whole of Lot 31298, 16A-0R-33P Gtd to Tootal
 Broadhurst Lee Company Ltd and Part of Lot 282, 500 Acres Gtd
 to Charles Stanhope Thomas.
 Prior CTs 126524/1 and 133237/1

SCHEDULE 1

C796070 & D7502 TRANSFER to NEW BOUNTY PTY LTD

SCHEDULE 2

C213318 & D7502 Land is limited in depth to 15 metres,
 excludes minerals and is subject to reservations
 relating to drains sewers and waterways in favour of
 the Crown
 SP126524 FENCING COVENANT in Schedule of Easements
 46/1796 FENCING PROVISION in Conveyance
 D7502 FENCING PROVISION in Transfer

UNREGISTERED DEALINGS AND NOTATIONS

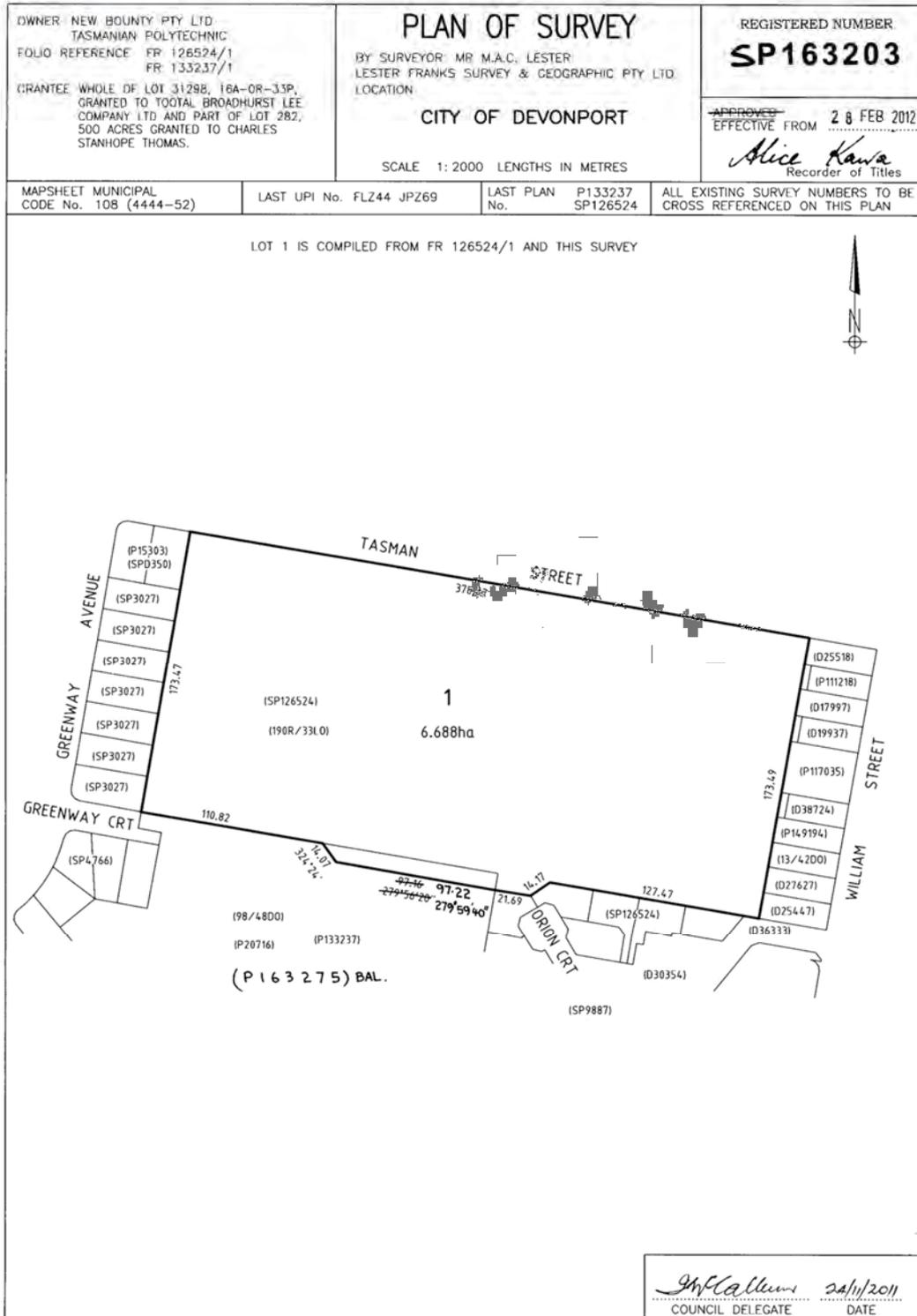
No unregistered dealings or other notations



FOLIO PLAN

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980





SCHEDULE OF EASEMENTS

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980



<p align="center">SCHEDULE OF EASEMENTS</p> <p>NOTE: THE SCHEDULE MUST BE SIGNED BY THE OWNERS & MORTGAGEES OF THE LAND AFFECTED. SIGNATURES MUST BE ATTESTED.</p>	<p align="center">Registered Number</p> <p align="center">SP163203</p>
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PAGE 1 OF 1 PAGE

EASEMENTS AND PROFITS

Each lot on the plan is together with:-

- (1) such rights of drainage over the drainage easements shown on the plan (if any) as may be necessary to drain the stormwater and other surplus water from such lot; and
- (2) any easements or profits a prendre described hereunder.

Each lot on the plan is subject to:-

- (1) such rights of drainage over the drainage easements shown on the plan (if any) as passing through such lot as may be necessary to drain the stormwater and other surplus water from any other lot on the plan; and
- (2) any easements or profits a prendre described hereunder.

The direction of the flow of water through the drainage easements shown on the plan is indicated by arrows.

There are no easements or covenants created by the Plan.

Signed by **Karen Mary Steenhuis** being and as Manager)
 Crown Land Services and pursuant to an Instrument of)
 Authorisation dated the 24th day of May 2011 in the)
 presence of:)

U. Endall
 Signature of witness

ANDREW WELSH
 Name of witness (block letters)

Signature

ST. 134 MARGUERITE ST, HOBART
 Address of witness

STATE SERVANT
 Occupation

Executed by New Bounty Pty Ltd A.C.N. 056 983 432)
 in accordance with section 127(1) of the Corporations)
 Act 2001 by being signed by:)

x *G.T. Parker*
 Geoffrey Thomas Parker - Director

x *F. Milford*
 Francis Stephen Milford - Secretary

(USE ANNEXURE PAGES FOR CONTINUATION)

<p>SUBDIVIDER: Tasmanian Polytechnic and New Bounty Pty Ltd</p> <p>FOLIO REF: 133237/1 & 126524/1</p> <p>SOLICITOR Shields Heritage & REFERENCE: Ms J M French 101720</p>	<p>PLAN SEALED BY: Devonport City Council</p> <p>DATE: 24/11/2011</p> <p>SA 2010.0015 REF NO.</p> <p><i>M. Callan</i> Council Delegate</p>
<p>NOTE: The Council Delegate must sign the Certificate for the purposes of identification.</p>	



SUBMISSION REPORT

SECTION §33 APPLICATION REZONING AND DEVELOPMENT

3D15095

May 2019

DEVELOP
WITH _____
CONFIDENCE™

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1. SUMMARY

This submission is in support of an Application under Section 33 of the Land Use Planning and Approvals Act 1993 to rezone land at 117 Tasman Street, Devonport.

The rezoning is required to enable detailed planning to commence for redevelopment of the Australian Weaving Mills site for residential use and development.

The existing buildings, which date from the 1950s to the 1990s, will be repurposed wherever possible.

The specific proposal is to change the zone of the site from 'General Industrial' to 'General Residential' Zone of the Devonport Interim Planning Scheme 2013.

The key points of this submission are:

- The proposal furthers the Objectives of Schedule 1 of the Act.
- The proposal complies with State Policies.
- The proposal is consistent with state, regional and local strategies.

This submission demonstrates that the proposal is consistent with Council's recognised and adopted strategic objectives for the area contained in the following documents:

- Devonport City Council Strategic Plan 2009-2030
- Devonport Economic Baseline Study (2009) (prepared by Essential Economics Pty Ltd)
- Tasmanian's Affordable Housing Strategy 2015-2025
- The Cradle Coast Regional Land Use Planning Framework 2010-2030 (2011)
- Devonport CBD Structure Plan Review (prepared by Aurecon)

This submission demonstrates compliance with the requirements of Section 32 of the Act. As such, the proposal is suitable for Council certification and subsequent approval.

2. PROPOSAL DESCRIPTION

This application is submitted by Veris Australia Pty Ltd on behalf of New Bounty Pty Ltd, the owner of 117 Tasman Street, Devonport.

The application, pursuant to Section 33 of the Land Use Planning and Approvals Act 1993, is to

- Amend the Devonport Interim Planning Scheme 2013 for the property at 117 Tasman Street from 'General Industrial' to 'General Residential'; and
- Allow for future development of residential dwellings within the existing building structures and on the site according to the proposed zone requirements

The area proposed for rezoning is approximately 6.7ha with approximately 375m frontage to Tasman Street. The subject site is within the urban and well serviced area of Devonport surrounded by residential lots with single dwellings and the TAFE property.

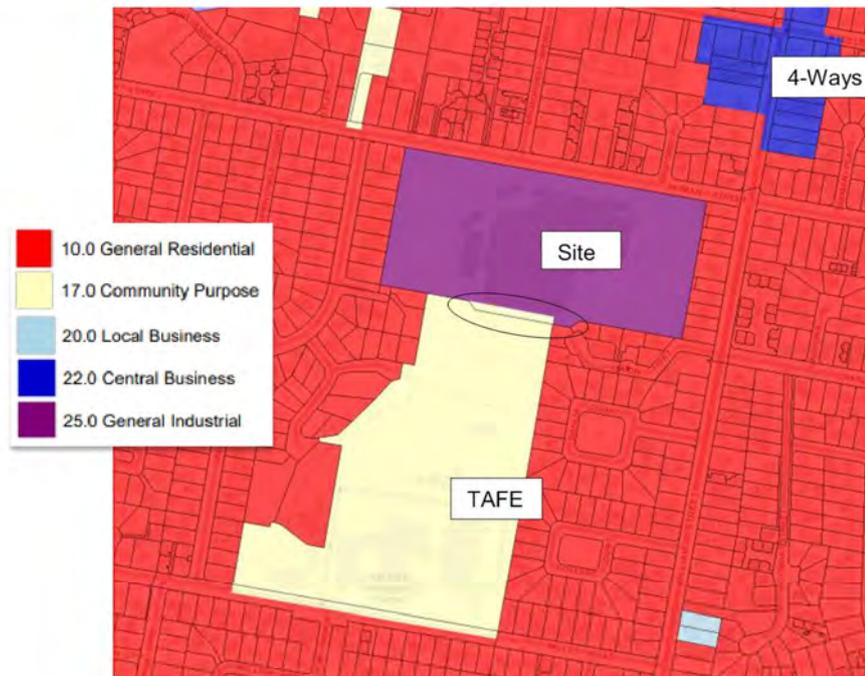
The existing General Industrial Zone provides for manufacturing, processing, repair, storage and distribution of goods and materials where there may be impacts on neighbouring uses. The Australian Weaving Mill ceased weaving, dyeing and hemming operations on the site several years ago. The site remains part of the owners manufacturing operation providing space for administration, storage and a direct factory outlet.

The intent of the proposed zone is to provide much needed residential land for the development of residential dwellings as well as the potential development of non-residential uses compatible with the zone requirements and the local area.

3. SITE DESCRIPTION

The subject site is described in the following table:

Location	<ul style="list-style-type: none"> Title Reference 163203/1 – 117 Tasman Street, Devonport
Ownership	<ul style="list-style-type: none"> New Bounty Pty Ltd
Site Area (ha) and Road access	<ul style="list-style-type: none"> 6.7 ha Frontage to Tasman Street of approximately 375m
Existing Use	The plant remains a part of the owner's manufacturing operation providing space for administration, storage and a direct factory outlet
Local Government Authority	Devonport City Council
Surrounding Land	The subject site is located within the residential area of Devonport and is surrounded primarily by the General Residential Zone. The subject site is adjoining the Community Purpose Zone in the south, which contains the Devonport TAFE college.
Planning Scheme Designations	<p>Zone: General Industrial, Community Purpose</p> <p>Note: It is acknowledged that a small portion of the property is zoned Community Purpose however for the purpose of this report the Zone of the property is referred to as 'General Industrial' only.</p>



Site Location and Zones

The site is mainly zoned General Industrial. There is no other industry zoning in the locality. It is adjoined on four sides by the 'General Residential' zone. Its southern boundary also adjoins the Community Purpose zoned TAFE property.

The 4-Ways commercial hub is approximately 400 metres (by road) from the site. It is zoned Central Business.

The nearest TAFE building in regular use is approximately 260 metres from the boundary as shown below. There is a Council maintained stormwater detention basin between weaving mill building and the TAFE campus.



3.1. Land capability

The land is within the urban boundaries of the City of Devonport so land capability classification is not required.

3.2. Natural Values

The site is situated within the urban boundaries of the City of Devonport. A natural values assessment is not required. The undeveloped portion of the site is grassland and does not contain any recorded observations of rare, threatened, or endangered species, as per search via The LIST.

3.3. Infrastructure

Road & Transport

The site is within the existing urban area of Devonport and is able to be serviced by existing road infrastructure networks at that location, principally William Street and Tasman Street. William Street is

an important connector road which serves as a primary access route into and out of Devonport and the CBD.

The Traffic Assessment undertaken by Pitt & Sherry concludes that although the nature of the future development is not known yet, the additional traffic that could be generated by a development on the rezoned land is not expected to have any significant impacts on the safety and operation of the surrounding road network.

Water, Sewerage & Stormwater

The weaving mill operation required extensive utility infrastructure including waste water disposal, water, sewerage, gas and telecommunications. All this infrastructure remains in place.

The rezoning of the site will facilitate detailed design, including adaptive reuse of existing services wherever possible. It is highly unlikely that the residential development will place a greater burden on downstream infrastructure than did the weaving mill when operating.

Pitt & Sherry has been engaged to undertake a Stormwater, Potable Water and Wastewater Assessment. This application is for rezoning only. Although there are some concepts available for potential development it is not of sufficient detail to provide required information for an accurate services report. Therefore the worst case scenario for future developments were chosen as the basis for both reports to demonstrate that any development on site in the proposed zone is feasible. Please refer to enclosed reports for further details.

4. STRATEGIC DOCUMENTS

4.1. Justification for rezoning of the Australian Weaving Mill Site

This application seeks the rezoning of 6.7ha land within Devonport City from General Industrial to the General Residential Zone.

The rezoning of the land is considered to be suitable and appropriate in the context, in particular for the following reasons:

- a) The proposed rezoning furthers Devonport City Council Strategy to build a unique city to create a vibrant, safe and quality environment to live in.
- b) Tasmania currently experiences a housing crises with low supply of public and private housing. The proposed rezoning allows for the land to be available for residential use and development to support the decrease of housing pressure in Tasmania.
- c) Tasmania has the highest proportion of low income households in Australia
- d) Devonport is identified as a Major Regional Activity Centre which shall provide services and facilities which deliver for needs of the local community. The rezoning of the subject site supports the creation of residential facilities.
- e) The proposed rezoning would allow for other use and development to occur that is compatible with the intent and function of the General Residential Zone and which would not interfere with the Devonport CBD Structure plan or the Devonport Retail Study.
- f) The subject site is located within the residential area of Devonport and is surrounded by the General Residential Zone to the north, east and west and the Community Purpose Zone to the south. Rezoning the site to the General Residential Zone allows for the development of further residential uses without detriment to the surrounding area.

4.2. Devonport City Council Strategic Plan 2009-2030

In 2008 Devonport City Council invited the community to help define Devonport as a Council and as a community. The results were used to create the Devonport City Council Strategic Plan 2009-2030. In 2013 the Strategy was reviewed again with the feedback of the community.

The Strategy identified five (5) goals:

- Goal 1 – Living Lightly on Our Environment
- Goal 2 – Building a Unique City
- Goal 3 – Growing a Vibrant Economy
- Goal 4 – Building Quality of Life
- Goal 5 – Practicing Excellence in Governance

The Strategy aims to make Devonport an energy efficient City by leading and actively promoting the adoption of practices that support the sustainable use of energy and other natural resources by Council, businesses and the community (see 1.1.1 p.3). And also by promoting recycling, re-use and minimisation of waste materials within Council, to the community and businesses (1.4.1 p.4).

Devonport continues to develop its uniqueness as a City. The City's location provides a desirable position and ready-made advantages to guide future development and urban design.

Devonport City Council aims to manage strategic urban development initiatives that support the importance of the CBD and reduces fragmentation (3.1.2 p.11) and support development to build quality of life for the community.

PROPOSAL RESPONSE

The Devonport City Council Strategic Plan 2009-2030 mainly aims to give a strategic direction for Devonport City Council itself. However the proposed rezoning furthers the outcomes and strategies of

the Strategy allowing for the site to be made available for residential use and development including affordable and secure accommodation for the residents of Devonport. The site is well connected to all required infrastructure and services. The current vision of the future development of the site is to re-use the existing buildings which allows for the utilisation of existing infrastructure, minimisation of waste and shows initiative to design unique, modern and quality residential dwellings within the urban boundaries of Devonport.

4.3. Devonport Economic Baseline Study (2009)

The Devonport Economic Baseline Study was undertaken in 2009. The Study includes an assessment of a number of key economic indicators and identifies opportunities for growth in Devonport and surrounding areas. The findings of the Study can be summarised as follows:

1. Demographics

- Modest population growth is expected;
 - The resident population of the City of Devonport is forecast to increase from 24,960 persons in 2007, to approximately 26,390 people in 2021. This represents a forecast increase of 1,430 persons over the period 2007 to 2021 at an average annual growth rate of 100 persons or 0.4% per annum.
- Residential market assessment
 - Devonport has an average household size of 2.4 persons which is similar to regional and state averages.
 - When compared to other relevant municipalities in the region, Devonport tends to have a higher proportion of medium and high density accommodation in the form of semi-detached dwellings, units and apartments.
 - Information on new dwelling approvals shows that a total of 793 new dwellings were approved by the local authority between 2000 and June 2008. This represents an average of 93 new dwelling approvals per year over the period. There has been a significant increase in the annual number of dwelling approvals since 2002, with an average of approx. 138 new dwelling approvals pa between 2002 and 2007.
- Devonport acts as a regional service centre of the Cradle Coast from an employment perspective, with a net inflow of 1,300 commuters from surrounding 'dormitory' communities, including places within the Latrobe Municipality.

2. Growth opportunities

- Steady population growth together with declining household sizes will ensure ongoing demand for new dwellings in Devonport. It is anticipated that this new dwelling growth will be a mixture of new development on "greenfield" sites, and in-fill development within existing urban areas.

PROPOSAL RESPONSE

The results of the Economic Baseline Study suggest that there is a strong market demand for residential dwellings in Devonport. This trend is also supported by the most recent Census data.

In summary;

- a) Devonport's estimated resident population increased by 311 from 2006 to 2016 although the rate of growth decreased in the second five years. The number of dwellings have increased by 1,119 in the same timeframe.

	2006	2011	2016
Population	24,901	25,752	25,212
Dwellings	10,428	11,049	11,547

(Source: ABS)

- b) The table below shows the household composition by number of persons usually resident. It indicates that the demand for dwellings for smaller households are increasing in Devonport.

	2006	2011	2016
One person	2,637	2,827	3,189
Two persons	3,486	3,630	3,510
Three persons	1,355	1,371	1,378
Four persons	1220	1227	1137
Five persons	509	461	463
Six persons	170	176	145
Seven persons	32	44	28
Eight or more persons	14	19	27

(Source: ABS)

- c) The household composition furthermore suggests an increase in Lone households and Group households. Group households are consistent of residents not belonging to the same family which indicates increased demand for house sharing.

	2006	2011	2016
Lone household	2,637	2,827	3,189
Group household	235	268	285
(Group household two persons)	(191)	(225)	(250)

(Source: ABS)

The trend indicates that the demand for 1 to 3 bedroom dwellings will further increase to satisfy the trend of increased Lone and Group households which supports the proposed rezoning into the General Residential Zone by making land available for housing development.

4.4. Tasmanian's Affordable Housing Strategy 2015-2025

The Tasmanian Government committed to develop Tasmanian's Housing Strategy 2015-2025 to provide a road map to guide the State's efforts over the next ten years to improve housing affordability. The Strategy aims to achieve two key outcomes:

- a decrease in the proportion of low income Tasmanian households experiencing housing stress; and
- a decrease in the proportion of Tasmanians experiencing homelessness.

The Strategy is based on two key strategic approaches: Housing Pathways and Intervention Framework. The Strategy defines five common housing pathways:

- shifting to independence (e.g. leaving family home or exiting prison);
- forming new households (e.g. family formation or shared living arrangements)
- household dissolution (e.g. relationship breakdowns, family violence)
- leaving the work force (e.g. retirement or deteriorating health and mobility) and
- unable to live independently (e.g. ageing, disability or serious illness)

While the Intervention Framework demonstrates the suite of ways the Government and stakeholders of the housing system intervene to address problems of housing affordability – either using preventive or responsive strategies – at different housing pathway transition points.

The strategy identified that the affordable supply problem facing Tasmania has three components:

1. The need for new supply

Research indicates that Tasmania needs an average of 2392 new dwellings a year to meet its long-term supply needs through to 2031. Of these new houses, it is estimated that 13,112 (27 per cent), or 656 per annum, need to be low priced affordable homes. (p.12)

2. The inappropriateness of supply

Affordable homes need to meet the housing needs of low income households. New supply needs to be located close to services and public transport and meet the health, safety and occupancy needs of

households. (p12)

3. The poor access to supply

In the private rental market there is a significant proportion (39 per cent) of lower priced rental homes being rented to moderate and high income households who could afford higher priced properties. These tenants represent less risk to landlords and it appears that they choose to pay low rents to reduce their living costs or to save for a deposit. This market situation pushes low income households into housing stress as they are forced to lease higher cost rental properties that they cannot afford. (p12)

Tasmania has the nation's highest proportion of low income households in Australia with a third of households receiving their main source of income from government pensions and allowances. Households most likely to be in housing stress or crisis are lone person households, one parent families and couples with children. (p14)

The Tasmanian Government has a role in prevention by ensuring an adequate and appropriate supply of affordable homes.

PROPOSAL RESPONSE

The results of the Tasmanian's Housing Strategy 2015-2025 indicate that there is an increasing demand for affordable housing, especially for the increasing household types of lone households.

The Tasmanian Government is aiming to facilitate the supply of new affordable housing – for both the private rental and home ownership – in well serviced areas with liveability and universal design features.

The proposed rezoning into General Residential Zone furthers the objectives of the strategy by creating additional land available for housing. The site is located within the urban areas of Devonport and therefore well connected to services and public transport.

4.5. The Cradle Coast Regional Land Use Planning Framework 2010-2030 (2011)

4.5.1. Part B – Knowing our Place

The purpose of the Cradle Coast Land Use Planning Framework is to provide strategic foundation for land use planning in the Cradle Coast Region of Tasmania.

In the Framework Devonport is classified as possessing a 'low' Settlement Growth Scenario, described as:

"Low – demand is driven largely by internal population change and very low rates of inward migration. Growth relies on existing land supply (including vacant zoned land) and available infrastructure within the designated urban boundary without need for intensification. (p.65)

With respect to 'Settlement Development and Growth Management Strategies', Devonport is classified as appropriate for exercising a 'Contained Strategy':

"Contained Strategy promotes a mix of intensification and strategically planned expansion to retain compact urban form and provide a mix of development and growth opportunities. The mix does not need to occur in balanced proportion. The approach allows for optimum use of available and planned infrastructure in both established and new release areas." (p.65)

The framework also relevantly states that:

"A number of both internal and external factors support a settlement pattern featuring containment of existing towns over expansion and creation of new centres. The approach seeks to better use the land already designated and serviced rather than an outward expansion of urban boundaries onto new lands. The concept of containment does not exclude new land releases. Rather it seeks to balance growth and development through infill and redevelopment, higher population densities, and the planned and sequenced release of new land in areas experiencing higher rates of growth." (p.66)

Settlement capability – access to services

The Framework proposes the Region's people will be provided with opportunity to meet daily requirements for employment, retail, education, health and social inclusion activities in locations that are accessible from where people live.

The cities of Devonport and Burnie (pop. 19800) each serve a substantial regional catchment population, and are clearly the established major centres. The Cradle Coast Region has a significant reliance on each centre as a provider of regional level service and activity.

Devonport is identified as Regional Activity Centre which is described as follows:

"Provide services and facilities which deliver the needs of the local community together with a wider regional or subregional catchment.

These towns offer higher order services reliant for operational efficiency on a population of regional or sub-regional size or on a single or limited number of locations in education, health, culture and entertainment, community support, professional and personal service, comparison and specialty retail, sport and recreation, and diversity in housing options.

Major centres are primary nodes for industry, business, public sector, and transport activities with a regional focus; and offer a range of employment options." (p.74)

PROPOSAL RESPONSE

- a) The proposed rezoning will facilitate an intensification of use in a locality that is fully serviced. It offers optimal use of available infrastructure in an established area, so furthers the objective of the Contained Strategy.
- b) Although the Settlement Growth Scenario is described as low, most recent data suggests that the population structure in particular the household structure is changing which increases the demand for new residential dwellings.
- c) The subject site is within the urban boundaries of Devonport and is well connected to services. Health care, retail and education facilities are close by and public transport to access other services is available in walking distance.

4.5.2 Part C – Cradle Coast Regional Land Use Strategy 2010-2030

Land use planning considerations within the Cradle Coast Land Use Strategy were classified into five core groupings with the intention to assist with the identification and understanding of planning requirements.

Wise Use of Resources

Land use planning processes are to take into account the effects of climate change on the Region and apply an integrated mitigation and adaptation approach by promoting compact and contained settlement centres which allow reduced dependency on private vehicle use and length of daily journeys by providing communities with ready local access to daily needs for employment, education, health care, retail and personal services and social and recreation facilities (p.129).

Land use planning processes ensure the sustainable use or development of land in accordance with capability to provide the greatest economic and social for the region's communities benefit at least cost to natural values (p.131).

Land use planning processes recognise and promote understanding of Region's historic cultural heritage places, including significant buildings, structures, works, relics, towns and locations (p134).

PROPOSAL RESPONSE

- a) The subject site is currently zoned General Industrial. The site is massively restricted for industrial use due to being surrounded by residential uses. Therefore the site is currently underutilised. The proposed rezoning into 'General Residential- Zone' integrates the land into the surrounding residential area and enables the utilisation of the site.
- b) The proposed rezoning will facilitate the redevelopment of the site and create new employment opportunities, attract new residents and visitors to the site which will not only use the facilities on site but will most likely contribute to the economy of Devonport and surrounding area. The

subject site used to be an operational weaving mill which has reduced its operations on site to a factory outlet and some administration. There are no natural values lost due to the proposed rezoning.

- c) Although the site does not have a heritage classification, the Australian Weaving Mill is a significant part of Devonport's history. The proposed development re-uses the existing buildings on site and therefore preserving some of the history.

Places for People – liveable and sustainable communities

"Liveability is increasingly recognised as a driver to building the health, stability, well being and economic prosperity of communities and is a key consideration in location decision making.

The Strategy can assist to build and protect liveability through policies which balance sustained economic activity, environmental protection and provision for people. In particular, the Strategy can promote land use outcomes which enhance accessibility to amenity features such as open and natural spaces. It can encourage the arrangement, design and construction of the built environment to provide attractive, clean, convenient, efficient, enjoyable, healthy, safe and well connected places which enable active and inclusive lifestyles and convenient local access to daily needs in employment, education, health, social, culture and recreation for all people regardless of age, background or physical ability. It can maintain the individual identity of settlements and the health of natural environments without compromise for capacity to grow and change, and to be adequately serviced with utilities and well connected for passenger and freight transport and the communication of information, knowledge, advice and social contact.

... The Cradle Coast Regional Land Use Strategy takes a deliberate position against linear growth and lateral expansion of settlements and proposes short to medium-term growth and development will primarily occur within the boundaries of existing settlement areas." (p143)

Land use planning processes for Managing Growth and Development

- Assume a low growth scenario under which demand is driven by internal population change and low rates of inward migration
- Promote established settlement areas as the focus for growth and development
- Promote optimum use of land capability and the capacity of available and planned infrastructure service
- Implement structure plans and regulatory instruments for each centres which –
 - i. Identify arrangements for intensification through infill, redevelopment and conversion of vacant and under-developed land, including for intensity of buildings and density of population
 - vi. Minimise exposure of people and property to unacceptable levels of risk to health or safety

PROPOSAL RESPONSE

- a) As mentioned in chapter 4.3 the overall population in Devonport is growing slowly. However the household structure is changing towards smaller households which require a higher number of dwellings. The Devonport Economic Baseline Study (2009) identified increasing demand for residential dwellings in the Devonport region.
- b) The proposed rezoning is for land within an established settlement area of Devonport. Future development will integrate the re-use of existing infrastructure and utilises the potential of the site for residential instead of industrial use.

"The Region's long-term prosperity, environmental health and social well-being depend on reducing the potential for risk to people, property and the environment from natural or human induced hazards." (p147)

Land use planning processes for Protecting People and Property

- Require a hazard risk assessment for new or intensified use or development on land exposed to an existing, likely future or enhanced risk, such assessment to address the nature and severity of the hazard, the specific risk factors for the proposed use or development, and the measures required to mitigate any risk having exceedance probability of greater than 1% at any time over the life of the development

PROPOSAL RESPONSE

- a) Pitt and Sherry was engaged to undertake further investigations in regard to known contaminations on site. Based on previous findings potentially contaminated sites were excavated and tested. The results show that there is some contamination above the limits for residential use still existing on site however due to existing overhead structures no further excavation of the areas were possible. Although further remediation does not seem feasible at this point in time the results of the current investigation indicate that the site can be remediated to provide a tolerable level of risk for the use and the site is considered suitable for residential use. The remaining contamination on site will be managed during development of the site. Please refer to the ESA report for details.
- b) Pitt and Sherry was also engaged to undertake a Traffic Assessment for the site. The report concludes that although the additional traffic that could be generated by a development on the rezoned land is not expected to have any significant impact on the safety and operation of the surrounding road network.

Land use planning processes for facilitating access to business and community services

- Require each settlement area facilitate a mix of use and development of a nature and scale sufficient to meet for basic levels of education, health care, retail, personal services and social and economic activity and for local employment opportunities for the convenience of the local resident and catchment population

PROPOSAL RESPONSE

The subject site is located in the urban settlement area of Devonport with existing infrastructure to facilitate access to basic business and community services. The proposed rezoning does not reduce any existing business or community service land in Devonport

Land use planning processes for Housing Land

- Facilitate choice and diversity in location, form and type of housing to meet the economic social, health and well-being requirements and preferences of all people
- Direct development for new housing into locations where appropriate levels of employment, business, infrastructure and community service facilities are available or planned
- Promote higher dwelling density to optimise use of land and infrastructure and community service facilities

PROPOSAL RESPONSE

- a) A stated purpose of the General Residential Zone is *"to provide for residential use or development that accommodates a range of dwelling types at suburban densities, where full infrastructure services are available or can be provided"*. The rezoning to make this land available for residential use and development is consistent with and furthers the objectives of the Strategy.
- b) The rezoning will enable the development of a currently underutilised site within a well-established residential area of Devonport. New short term and potentially some long term employment opportunities will be created by future development.

- c) The proposed General Residential Zone allows land within an established urban centre to be made available for residential use and development. This is consistent with the Cradle Coast Regional Land Use Strategy to allow for housing developments to optimise the use of land and infrastructure.

Land use planning processes for Healthy and Educated Communities

- Facilitate local development of community service facilities in locations accessible and convenient to the population they serve
- Facilitate education and training facilities within residential, business and industrial locations
- Facilitate co-location, integration and shared use of community service facilities including schools, medical centres and local recreation spaces on land allocated for housing and business purposes

PROPOSAL RESPONSE

- a) The subject site is well connected via Tasman Street to the main road network at William Street with public transport available. The Valley Road retail centre with a supermarket, doctor surgery and a pharmacy as well as the TAFE is less than 1km walking distance away from the subject site.
- b) The proposed ~~General Residential~~ General Residential Zone allows for limited non-residential uses which primarily serve the local community.

Planned Provision for Infrastructure

Economic prosperity, liveable settlement and environmental health is underpinned by integrated land use and infrastructure planning to facilitate provision of adequate, appropriate and reliable infrastructure in a manner that –

- ensures infrastructure is planned and available commensurate with the use and development of land
- prioritises optimum use of existing infrastructure over provision of new or expanded services
- protects the function, capacity and security of existing and planned infrastructure corridors, facilities and sites

PROPOSAL RESPONSE

Pitt & Sherry has undertaken a Traffic Assessment as well as an assessment of the services. Please find enclosed reports. The investigations conclude that the proposed rezoning will not have a negative impact on the safety and operations of the surrounding road network, and the existing infrastructure is capable of supporting future developments.

4.6. Devonport CBD Structure Plan Review

Executive Summary (extracted)

"The purpose of the Devonport Central Business District (CBD) Review is to evaluate the performance and suitability of the existing Devonport CBD Structure Plan, and to identify potential key large-scale development sites in the CBD. The revised Structure Plan has been developed through background analysis (including a land use survey), stakeholder consultation and a design charrette workshop, and has included the development of a vision for the future direction and development of the CBD."

"Although central Devonport will be contained in the new Central Business District Zone from the state-wide Common Key Elements template, this revised structure plan promotes an expansion of its functions to include the broader range of business, civic, residential and other functions that the community wishes to see established within its boundaries."

"It is recommended that some small-scale extensions to the CBD Zone be made to reflect the existing land use patterns."

PROPOSAL RESPONSE

The site is not within the Devonport Central Business District of Devonport. By road it is approximately 1.5km from the CBD and 400m from 4-Ways. The General Residential Zone allows for a limited range of Business and Professional Services uses and General Hire and Retail uses. The General Residential Zone purpose statements include the instruction that provision is made for compatible non-residential uses that primarily serve the local community. The proposed rezoning of the site to General Residential is consistent and compatible with surrounding land zones. It will not impact the directions contemplated by the Devonport CBD Structure Plan Review.

4.7. Devonport Interim Planning Scheme 2013

This application is to amend the *Devonport Interim Planning Scheme 2013*. The submission proposes to rezone the land currently occupied by the Australian Weaving Mills from 'General Industrial' to 'Inner Residential Zone'.

The Australian Weaving Mill ceased weaving, dyeing and hemming operations on the site several years ago. The site remains part of the owners manufacturing operation providing space for administration, storage and a direct factory outlet. The location of the land restricts any potential industrial development on site due the adjoining land being residential uses.

The Zone purpose of the 'General Residential Zone' is

1. To provide for residential use or development that accommodates a range of dwelling types at suburban densities, where full infrastructure services are available or can be provided.
2. To provide for compatible non-residential uses that primarily serve the local community.

The proposed Zone purpose is suitable for the area where the subject site is located and provides better opportunity to develop the site to its full potential. The strategic justification ~~in particular for the higher density~~ is discussed throughout this submission report.

5. AMENDMENT

5.1. Section 32 of LUPAA

This section of LUPAA requires that an application for an amendment to a Planning Scheme:

- Must seek to further the objectives of Schedule 1; and
- Must be prepared in accordance with State Policies; and
- May make any provision which relates to the use, development, protection or conservation of any land; and
- Must have regard to the safety requirements set out in the standards prescribed under the *Gas Pipelines Act 2000*; and
- Must, as far as practicable, avoid the potential for land use conflicts with use and development permissible under the planning scheme applying to the adjacent area; and
- Must have regard to the impact that the use and development permissible under the amendment will have on the use and development of the region as an entity in environmental, economic and social terms.

Each of these parts of Section 32 of the Act will be addressed in the following sections.

5.2. Objectives of Schedule 1, Part 1 of LUPAA

- (a) *To promote the sustainable development of natural and physical resources and the maintenance of ecological processes and genetic diversity*

The proposed amendment seeks to further the objective of this part of the Act through the rezoning of the subject land, and to facilitate its potential for residential use developments. It is envisioned that future development will be designed to incorporate the re-use of the existing buildings on site.

The proposed amendment will promote the sustainable development of the site as it will allow for future development of an underutilised, and in parts underdeveloped, site that is inappropriate for further industrial expansion.

The site is located within the residential area of Devonport, and no rare or threatened species of flora or fauna have been identified on, or are attributed to the site. As such, the proposed amendment will not threaten genetic diversity or adversely impact on ecological processes.

- (b) *To provide for the fair, orderly and sustainable use and development of air, land and water*

This objective is furthered by the process by which this application is considered. The process allows for public participation and follows a rigorous process by which the use is considered against sustainability principles.

Furthermore, it must also be remembered that the proposal is strictly for the rezoning of land and the adoption of zoning provisions implemented in the current Scheme. Future developments will require further Council approval, should the rezoning be approved.

- (c) *To encourage public involvement in resource management and planning*

This process encourages public participation and comment through the notification process, following Council certification. The community and government departments and agencies will be able to formally comment on the draft amendment as part of this process.

- (d) *To facilitate economic development in accordance with the objectives set out in paragraphs (a), (b) and (c)*

The proposed amendment seeks to further this objective of the Act by rezoning the subject land from 'General Industrial Zone' to 'General Residential Zone' to facilitate its potential for future residential use and development.

The Australian Weaving Mill was a major part of the Devonport economy as one of its biggest employers. However the production operations have ceased and only remains part of the owners manufacturing operations providing space for administration, storage and a direct factory outlet. This amendment will facilitate development of new and needed residential dwellings which provide for short- to medium-term employment opportunities in particular in the construction industry.

- (e) *To promote the sharing of responsibility for resource management and planning between the different spheres of Government, the community and industry in the State.*

Community involvement will be encouraged through public notification, local government involvement will be encouraged through this planning process and industry involvement will be promoted during any future development of the site. State Government involvement will be facilitated through the Tasmanian Planning Commission assessment process.

5.3. Objectives of Schedule 1, Part 2 of LUPAA

- (a) *To require sound strategic planning and coordinated action by State and local government*

Both State and local government are involved in the amendment process, which requires both levels to consider the strategic implications of the proposal.

As the proposed amendment is in accordance with the objectives of the Council strategies for this area, it represents sound strategic planning as articulated by this objective of the Act.

- (b) *To establish a system of planning instruments to be the principal way of setting objectives, policies and controls for the use, development and protection of land*

The proposed amendment seeks to further this objective by effectively changing the objectives and controls for the subject land from the 'General Industrial Zone' to the 'General Residential Zone'.

It is not proposed to change the text of the Scheme, as the current provisions suit reasonable residential development. The subject land has and will be developed in accordance with the relevant provisions of the Scheme in force at the time of the application, thus furthering this objective of the Act.

- (c) *To ensure that the effects on the environment are considered and provide for explicit consideration of social and economic effects when decisions are made about the use and development of land*

The amendment is not likely to have an adverse impact on the surrounding environment. No rare, vulnerable or threatened species of flora or fauna have been identified on the subject property. Similarly, no areas of land exist on the site that requires conservation.

Consideration has been made to the social and economic effects of the proposal. The rezoning of the site will allow for residential use and development. The need for residential housing sites are discussed within this submission report. The subject site is surrounded by either General Residential or Community Purpose zoned land. Therefore the proposed zone is considered to be more suitable for

the area than the current applied zone. Surrounding established retail services will benefit from future residents of the site.

- (d) *To require land use and development planning and policy to be easily integrated with environmental, social, economic, conservation and resource management policies at State, regional and municipal levels*

The amendment has been assessed against the relevant Devonport City Council strategies for use of land and is found to be consistent. It has also been considered in relation to the State Policies and is seen to be in compliance with all of them. These have been considered further in this report.

- (e) *To provide for the consolidation of approvals for land use or development and related matters, and to coordinate planning approvals with related approvals*

This objective is furthered by the process by which this application is considered. Any future development proposal within the zone will be assessed through a coordinated approvals process.

- (f) *To secure a pleasant, efficient and safe working, living and recreational environment for all Tasmanians and visitors to Tasmania*

The proposed amendment will allow for residential development within a serviced area of Devonport. Development proposals have and will be required to meet the standards for development that are contained in the planning scheme to protect the amenity of neighbouring properties and to ensure the development does not adversely impact on any natural values.

- (g) *To conserve those buildings, areas or other places which are of scientific, aesthetic, architectural or historical interest, or otherwise of special cultural value*

The subject land has no known scientific, historical or special cultural value; and has no impact on values of any other neighbouring properties. Neither the subject site nor any neighbouring properties are listed on the Tasmanian Heritage Register.

However, the Australian Weaving Mill was a significant part of Devonport and it is envisioned that future residential developments are designed to allow for the re-use of the existing building instead of demolition.

- (h) *To protect public infrastructure and other assets and enable the orderly provision and coordination of public utilities and other facilities for the benefit of the community*

The proposed amendment furthers this objective as it will provide for the development of underutilised and undeveloped land within a current serviced area. Required infrastructures have been addressed for the potential development of the site and will be addressed in detail in any future development proposal within the proposed zone.

- (i) *To provide a planning framework that fully considers land capability.*

The planning framework requires land capability to be fully considered through the State Policy on the Protection of Agricultural Land. As noted above, the site is situated within the urban boundaries of Devonport, and has been classified as having no agricultural capacity.

The capability of the site is unique because of the location within an established urban area, its relative large size, the availability of services and utilities and the possibility of redeveloping the existing buildings.

5.4. State Policies

The proposal has been reviewed against the following State Policies:

- *State Coastal Policy 1996*
The site is located more than one kilometre from the coast, meaning that the provisions of the State Coastal Policy 1996 do not apply.
- *State Policy on Water Quality Management 1997*
The proposed rezoning will provide for residential uses to be developed on site. Any future proposals would connect into existing sewer and stormwater services.
- *State Policy on Protection of Agricultural Land 2009*
As noted above, the site is situated within the urban boundaries of Devonport, and has been classified as having no agricultural capacity.
- *National Environment Protection Measures (NEPMs)*
In accordance with Section 12A of the *State Policies and Projects Act 1993*, a National Environment Protection Measure is taken to be a State Policy. The following therefore require consideration:
 - Ambient air quality 2003;
 - National pollutant inventory 2008;
 - Movement of controlled waste 2004;
 - Used packaging materials 2005;
 - Assessment of site contamination 1999;
 - Diesel vehicle emissions 2009; and
 - Air toxins 2004.

The site was previously cleared for ongoing commercial and industrial uses. However, the new proposal is for a more sensitive uses (residential).

Pitt and Sherry has undertaken further investigations in regard to a rezoning application for residential purposes.

Based on previous findings potentially contaminated sites were excavated and tested. The results show that there is some contamination above the limits for residential use still existing on site; however due to existing overhead structures no further excavation of the areas were possible. Although further remediation does not seem feasible at this point in time the results of the current investigation indicate that the site can be remediated to provide a tolerable level of risk for the use and the site is considered suitable for residential use. The remaining contamination on site will be managed during development of the site. Please refer to the ESA report for details.

Any development on the subject site after the rezoning application has been approved will require a permit before commencing any works. The Hazard Management Code of the Interim Planning Scheme will be triggered by this process which ensures that the contamination will be adequately managed during construction.

5.5. Use, development, protection or conservation of any land

The proposed amendment does not make provision for the protection of any particular piece of land, as no sites of significance are located either within or adjacent to the boundaries of the subject property.

There are no areas of significance on the development site that require protection or conservation. As such, the requirement of Section 32(1) (c) of LUPAA is satisfied by the proposed amendment.

5.6. Requirements under the Gas Pipelines Act 2000

This section of LUPAA requires that regard be had with respect of the safety requirements set out in the standards prescribed under the *Gas Pipelines Act 2000*. The gas pipeline is not located near to the subject property. As such, the requirements of the *Gas Pipelines Act 2000* are not relevant to the proposed amendment.

5.7. Risk of land use conflict

As noted throughout this submission, the proposed amendment will not cause conflict with adjoining uses. In the contrary, the General Residential Zone will allow for uses which are compatible and complementary to the surrounding residential and community purpose uses.

5.8. Permissible use and development, and the potential for regional impact

The proposed amendment will provide for Permitted and Discretionary uses within the scope of the General Residential Zone provisions made with the Interim Planning Scheme.

The proposed rezoning allows for the site to be made available for residential use and development. This will have a positive impact on the housing shortage currently present in the state. The proposed development has been assessed against the relevant zone criteria. Any future developments will require additional approval from Council.

The amendment will have no impact on environmental values of local or regional significance. Accordingly, the draft amendment furthers the objectives of the Act.

5.9. Summary of Amendment

The proposed amendment satisfies the requirements of Section 32 of LUPAA by:

- Seeking to further the objectives set out in Schedule 1 of the Act; and
- Being prepared in accordance with State Policies; and
- By making provision for the use, development, protection or conservation of land; and
- By having regard to the safety requirements set out in the standards prescribed under the Gas Pipelines Act 2000; and
- By avoiding the potential for land use conflicts with use and development permissible under the planning scheme applying to the adjacent areas; and
- By having regard to the impact that the use and development permissible under the amendment will have on the use and development of the region as an entity in environmental, economic and social terms.

The amendment does not affect any matters identified by Section 20(2), (3), (4), (5), (6), (7), (8) and (9) of the Act.

6. CONCLUSION

The application is made pursuant to Section 33 of the Land Use Planning and Approvals Act 1993.

The proposal is considered to be consistent with Council's strategic objectives for this area, the Cradle Coast Regional Land Use Strategy, the objectives of Schedule 1 of LUPAA as well as the Devonport Interim Planning Scheme 2013.

It is therefore requested that the application proceed through the relevant State and Local Government rezoning process.

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Environmental Site Assessment

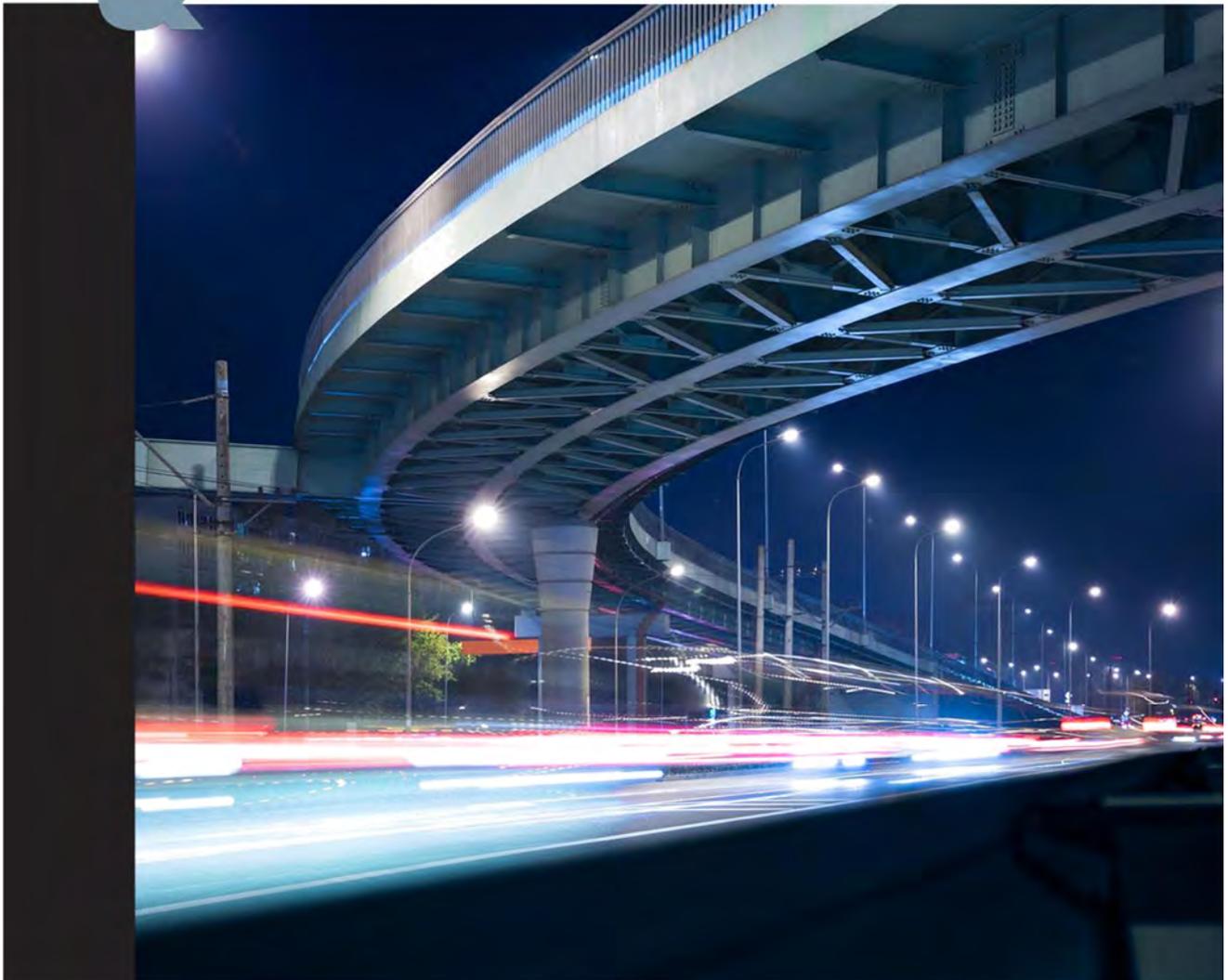
Rezoning Application 117 Tasman Street,
Devonport

Prepared for
Veris

Client representative
Jana Rockliff

Date
7 May 2019

Rev 02



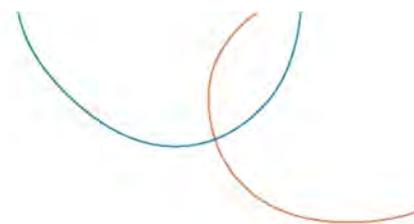
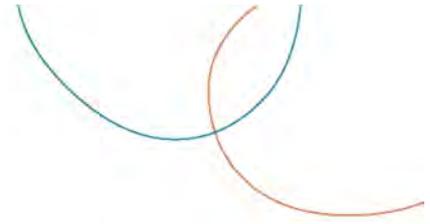


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<p>Prepared by — Dr Sophie Le Roux</p>		<p>Date — 7 May 2019</p>
<p>Reviewed by — Luke Amies (Registration No.SC41090)</p>	 	<p>Date — 7 May 2019</p>
<p>Authorised by — David Lenel</p>		<p>Date — 7 May 2019</p>

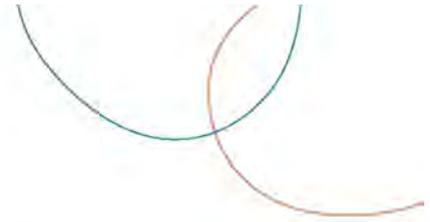
Revision History

Rev No.	Description	Prepared by	Reviewed by	Authorised by	Date
A	Draft report to Veris	S. Le Roux	L. Amies	D. Lenel	05/03/2019
00	Final Report	S. Le Roux	L. Amies	D. Lenel	12/03/2019
01	Final Report	S. Le Roux	L. Amies	D. Lenel	15/03/2019
02	Revised report – change of zoning	S. Le Roux	L. Amies	D. Lenel	07/05/2019

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Executive Summary

This environmental site assessment (ESA) report presents the findings of multi-stage assessment and remediation works carried out by pitt&sherry at 117 Tasman Street, Devonport (PID 3162363; 'the site'). This report was required to support the rezoning of the site from General Industrial to General Residential, which include sensitive uses such as residential, occasional care and education. It is envisioned to redevelop the site into residential units, retaining the existing slab of the main building. This assessment was undertaken in accordance with the framework set out in the National Environment Protection (Assessment of Site Contamination) Measure 1999 ('NEPM' - amended 2013).

The site hosted a textile factory known as the Australian Weaving Mills (AWM) between the 1950's and 2013. The process involved the conversion of yarn through weaving, dyeing, sewing and finishing for the production of towels. Groundwater was extracted for use in the process through groundwater extraction bores still present on site.

Several rounds of site investigations and remediation works have been undertaken at the site of the former AWM factory between 2014 and 2018, including:

- A comprehensive site history, which found that industrial use as a weaving mill may have resulted in potentially contaminated areas on site
- Targeted soil assessment at the locations identified as areas of potential concern
- An underground petroleum storage system (UPSS) decommissioning assessment during the removal of an underground fuel tank located near the engineering workshop and the dye house
- The installation of three groundwater monitoring wells around the UPSS pit and one monitoring well south of the Greige shed. Two rounds of groundwater monitoring were undertaken, in 2014 and 2018; and
- Where contamination was identified that may have posed a potential risk to identified receptors, multi-stage soil excavation and off-site removal were undertaken.

Health and ecological assessment criteria relevant to the proposed rezoning were developed by pitt&sherry for this ESA. Where several residential criteria were available, the most stringent low-density residential criteria were retained.

Following the completion of site assessment and remediation works in 2018, some contaminants remained on site at concentrations exceeding the adopted human health or ecological criteria for soil and groundwater, at the following locations:

- In surface soils along the western side of the dye house, where a vegetable-based oil spill occurred along the external wall. The impacted soil could not be removed due to the presence of a water main in the area, and because some of the impacted soil extends underneath the building
- In surface soils under the bund of an above-ground storage tank (AGT) historically used to store Bunker C oil. These soils could not be removed without demolishing and removing the AGT
- In sub-surface soils (1 to 1.7 m below ground level) at the location of the former underground petroleum storage system (UPSS); and
- Some metals were measured in shallow groundwater above drinking water criteria and freshwater investigation levels. It is unclear whether the measured metal concentrations are linked to historical site activities or due to the local geology.

No monitoring results are available for the deeper groundwater aquifer intercepted by the groundwater extraction bores present on site.

A Conceptual Site Model was prepared to identify potentially significant source-pathway-receptor linkages and a risk assessment was carried out based on the information gathered to date. The outcomes of the risk assessment are as follows:

- 
- Petroleum hydrocarbons remaining in surface and sub-surface soils in some localised areas of the site may pose a risk to future residential site users through direct contact or vapour intrusion. However, this would readily be managed before any future development by excavation and off-site removal of impacted soil at demolition and redevelopment stage
 - Groundwater at the site may pose a risk to future site users if extracted for drinking or irrigation purposes
 - Vacant land east and west of the former AWM factory has not been investigated. Whilst it is unlikely that contamination is present in these areas based on the site history, investigation of these areas may be required to be completed prior to development to determine the level of risk associated with these areas for the proposed use
 - Contaminants remaining in soils or groundwater are unlikely to pose an unacceptable risk to construction workers through direct contact or inhalation. However, it is recommended that protective measures for workers are included in a Construction Environmental Management Plan (CEMP) to be implemented during demolition and redevelopment
 - Hydrocarbons remaining in some localised areas may be detrimental to future site vegetation if deep rooted vegetation is planted at these locations; and
 - On the western side of the dye house and under the above-ground tank, a potential risk exists to future infrastructure, such as risks of fire, explosion, damage to buried services etc. This risk should be reassessed following implementation of the recommended future works.

Based on the results of the latest soil and groundwater investigations, it is considered that site investigations have been completed to a standard to adequately characterise soil and groundwater contamination within the current AWM site area. The results of the current investigation indicate that the site can be remediated to provide a tolerable level of risk for the use and the site is considered suitable for the proposed rezoning.

However, the localised areas of contamination remaining on site will need to be addressed before the site is redeveloped. Details of the management measures to be implemented have been included in Section 7 of this report. Recommended management measures have been summarized below:

- Groundwater underneath the site from shallow unconfined and deep aquifers should not be extracted for drinking or irrigation purposes. It is recommended that a covenant is placed on future site titles preventing groundwater extraction
- Further remediation and validation of hydrocarbon contaminated soils is required along the western wall of the dye house, under the above ground storage tank and at the location of the former UPSS pit (refer to Table 15)
- A Construction Environmental Management Plan (CEMP) should be prepared to help manage contaminated soils during redevelopment works. The CEMP should include a map showing contaminated areas, a classification of contaminated soils for disposal purposes and protective measures for workers. The CEMP should also include protocols for unexpected finds during demolition or redevelopment
- The current vision for the future development of the site is to retain the main building. Should some of the buildings be demolished, an asbestos removal control plan should be prepared and implemented by a licenced asbestos removalist as asbestos is present in the ceiling and roof of several buildings at the site. If removing asbestos, particular care should be taken to minimise any potential for asbestos fragments to be 'ground/pushed into the top-soil' and to not disturb friable asbestos so that free fibres are not generated. Asbestos removal should be undertaken by a suitably licenced person, be clearly documented and a clearance certificate issued following demolition; and
- Following completion of additional works, a statement should be prepared indicating that the land is suitable for the intended use, prior to use of the site commencing. The risk to future site flora should be reviewed at that time to determine whether deep rooted vegetation may not be suitable for planting in some locations.

Compliance with the Cradle Coast Regional Land Use Strategy (CCRLUS) has been discussed in Section 8 of this report. It is considered that the proposed rezoning complies with Section 4.4 of the CCRLUS which specifically relates to hazards.



1. Introduction

pitt&sherry were engaged by Veris to prepare an environmental site assessment (ESA) for the former Australian Weaving Mills (AWM), which is part of a larger parcel of land (PID 3162363; 'the site'). Veris is applying for rezoning of the site from General Industrial to General Residential, which includes sensitive uses such as residential, occasional care and education. It is envisioned to redevelop the site into residential units, retaining some of the site buildings.

A number of environmental investigations were undertaken for the site between 2014 and 2015, including:

- Preliminary Site Investigation, Australian Weaving Mills – SKM, 8 May 2014
- Australian Weaving Mills, Decommissioning and Rehabilitation Plan, Tasman Street, Devonport (Rev01) - pitt&sherry, 15 June 2015
- Australian Weaving Mills, Tasman Street, Devonport (PID 3162363) – Environmental Site Assessment (Rev00) - pitt&sherry, 3 June 2015
- Underground Petroleum Storage Systems Decommissioning, Australian Weaving Mills, Tasman Street, Devonport (PID 3162363) (Rev00) - pitt&sherry, 5 November 2014; and
- Groundwater Monitoring Event Summary Report, Australian Weaving Mills, Tasman Street, Devonport (PID 3162363) – pitt&sherry, 20 March 2015.

In accordance with the framework set out in the National Environment Protection (Assessment of Site Contamination) Measure 1999 ('NEPM' - amended 2013), the site investigations listed above included a full site history with a desktop assessment of potentially contaminated areas and associated contaminants of concern, followed by multi-stage intrusive investigations for each identified area. The Preliminary Site Investigation covered the whole land title, whereas further investigations focused on the AWM site and the identified areas of environmental concern.

As part of the application for rezoning of the site, a review of all information was undertaken in 2018¹, which identified that contamination remained on site that could potentially pose an unacceptable risk to future users of the site.

Additional investigations and remediation works were subsequently undertaken in October 2018. This report presents the results of these additional works and an assessment of the suitability of the site for the proposed rezoning.

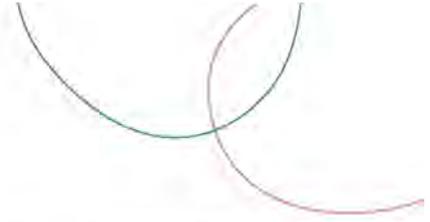
1.1 Regulatory requirements

Under the *Devonport Interim Planning Scheme 2013.*, the Acceptable Solution (A1) of Clause E6.5.1 'Use on Potentially Contaminated Land' requires that use must not occur on land potentially contaminated by a previous use for an activity listed in Table E6.1 (which includes textile operations), unless:

- (a) soil disturbance and development is carried out in accordance with requirements in a hazard risk assessment for contamination
- (b) a hazard risk assessment for potential contamination establishes the site can be remediated to provide a tolerable level of risk for the use; or
- (c) a hazard risk assessment establishes the site has been remediated to provide a tolerable level of risk.

Section 4.4 of the Cradle Coast Regional Land Use Strategy (CCRLUS) relates to hazards and applies to the proposed rezoning. Compliance with Section 4.4 of the CCRLUS has been discussed in Section 8 of this report.

¹ *Environmental Site Assessment, Proposed Aged Care Facility, Australian Weaving Mills site, 117 Tasman Street, Devonport (Rev 00)*. Prepared by pitt&sherry for Veris, 2 March 2018.



1.2 Competencies of report author and reviewer

Competencies of environmental consultants carrying out site contamination assessments are described in Schedule B9 (section 4.2) of the *National Environment Protection (Assessment of Site Contamination) Measure 1999* ('NEPM' - amended 2013). Additionally, the Tasmanian EPA has adopted the Certified Environmental Practitioner Scheme (Site Contamination) (CEnvP-SC) as a requirement for all reports submitted to the EPA. This is currently not a requirement under the Tasmanian Interim Planning Schemes, but site contamination reports prepared by pitt&sherry are nevertheless certified under the CEnvP-SC scheme.

Report Author

Dr Sophie Le Roux, Associate Environmental Scientist (Contaminated Land)

Sophie has a Ph.D. in environmental chemistry and over 15 years' experience in environmental compliance, contaminated sites assessment and remediation, development approvals and water quality management and analysis. Sophie's professional experience includes research with the Antarctic CRC and the UK Ministry for Food and Agriculture, industrial environmental management at the Norske Skog paper mill, scientific advice for the Savage River Rehabilitation Project, contaminated sites regulation at the Tasmanian EPA, and environmental consulting in Tasmania, Victoria and NSW.

Sophie has managed a wide variety of site contamination projects and possesses a high level of technical expertise in that field. Project examples include brownfield redevelopment (Northbank project), remediation of the former mercury-cell plant at the Norske Skog Boyer mill, various industrial and agricultural site assessments in Tasmania and interstate, UPSS decommissioning assessments, mining remediation advice and regulation of contaminated sites at the EPA. Sophie is a respected contaminated land practitioner in Tasmania.

A detailed CV has been provided in Appendix C.

Report Reviewer

Luke Amies, Associate Environmental Scientist (Contaminated Land), CEnvP(SC)

Luke is a qualified Environmental Scientist, Licenced Asbestos Assessor and Certified Site Contamination Specialist with over fourteen years of experience in contaminated land and environmental consulting throughout Australia.

Luke has worked on a wide range of soil and groundwater contamination and remediation projects and has developed and implemented remediation strategies to address and identify environmental risk at a variety of complex sites including former gas works and gold mining sites. Key investigations, and subsequent remediation projects, have included the assessment of soil, sediments and groundwater, groundwater and soil gas modelling, and the preparation of health risk assessments.

1.3 Scope of Works

This ESA was carried out in accordance with the framework set out in the NEPM, Tasmanian EPA guidelines and Australian Standards. The scope of works included the following:

- Excavation of contaminated soil at the location of the former underground storage tank (UST) and in the storage area south of the Greige Shed
- Validation sampling following excavation of contaminated soil
- Soil assessment at the location of the above ground tank (AGT) and along the western wall of the Dye House
- A comparison of existing analytical results against the relevant national and state guidelines for uses permitted under the proposed rezoning (residential criteria); and
- Preparation of an environmental site assessment (ESA) report including the results of assessment, remediation and validation sampling, a risk assessment, a statement as to the suitability of the site for the proposed use and recommendations for any further works that may be required.



2. Site Settings

The site is located at 117 Tasman Street, Devonport (see Location Map in Figure 1 and Site Boundaries in Figure 2). Site property details are provided in Table 1. The site comprises the former Australian Weaving Mills (AWM) factory which occupies approximately 3.9 ha of the 6.7 ha title, with the remaining land to the west (~ 1.3 ha) vacant grassland and land to the east (~ 1.3 ha) used by a local bus company for parking and otherwise vacant (see Site Layout in Appendix A). There is also anecdotal evidence that the vacant land surrounding the AWM factory was used as a golf course. It should be noted that previous environmental investigations only assessed the AWM factory site and excluded the rest of the land as the site history showed no potentially contaminating activities in these areas.



Figure 1: Location Map



Figure 2: Site Boundaries

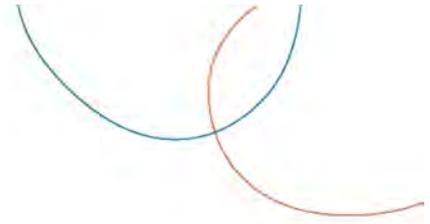


Table 1: Site Details

	Site Details
Name	Australian Weaving Mills
Street address	117 Tasman Street, Devonport TAS 7310
Property ID	3162363
Title reference	163203/1
Investigation area	Approximately 6.7 hectares
Owner	New Bounty Pty Ltd
Local Government Area	Devonport City Council
Current land use	Vacant industrial facility (textile manufacturing), vacant land and bus parking

2.1 Current and proposed land use and zoning

Under the *Devonport Interim Planning Scheme 2013*, the site is currently zoned *General Industrial* (see zoning map in Appendix A). A submission will be made for rezoning of the site as *General Residential*. This zone includes sensitive uses such as residential, educational and occasional care.

It is envisioned to redevelop the site into residential units, retaining the existing slab of the main building.

2.2 Surrounding land use

The site is surrounded by residential properties to the north, east and west, with the TasTAFE trade training centre immediately to the south. The TasTAFE trade training centre building is approximately 270 m from the southern boundary of the site. The land in between the site and buildings is grassland and currently used as a stormwater detention basin.

The closest residential property is on Orion Court (south east of site). Houses on the northern side of Tasman Street are approximately 100 m from the factory or 50 m from the AWM outlet store.

The land to the south is zoned *Community Purpose* and all other surrounding land is zoned *General Residential* (see zoning map in Figure A.2 - Appendix A).

2.3 Geology

The geology is generally described as having tertiary basalts in varying stages of weathering in the near surface, underlain by Dolerite².

Observations during the installation of groundwater bores and driller logs created during the installation of the AWM production bores, indicated that weathered clay overlays the tertiary basalts (depths vary from < 1 m to 14 m) with some Jurassic dolerite intercepted at shallow depths (< 5m).

2.4 Topography

The site is relatively flat, with a gentle slope from the north-west to the south-east. The north-west corner of the site is approximately 36 m AHD, and the south-east corner is approximately 30 m AHD.

² GREEN, D.C. (compiler) 2004. Digital Geological Atlas 1:25 000 Scale Series, Sheet 4444, Devonport, Mineral Resources Tasmania.



2.5 Vegetation

According to TASVEG 3.0 mapping, the vegetation community at the site would be classified as Agricultural, Urban and Exotic (FUR). The AWM factory site does not host any vegetation, except for grass and some trees and bushes around the factory. There is considered to be no significant flora or fauna within or surrounding the site. A review of the Natural Values Atlas (DPIPWE) identified no threatened flora or fauna species within or in the vicinity of the site.

2.6 Surface water and site drainage

There are no formal waterways or drainage lines on or within close proximity to the AWM site. Approximately 35% of the site is covered by buildings, 15% is covered by a sealed car park and 15% is sealed areas surrounding the buildings. It is expected that a high level of rainfall infiltration would occur in the unsealed areas, particularly in the depression present on the western boundary of the site. Rainfall temporarily ponds south of the Greige Shed, where gravel has been compacted on grass land. Site stormwater is hard piped to the local municipal drainage network.

The closest known waterway is the Mersey River, approximately 1.4 km to the east of the site, and the Don River, located approximately 1.9 km to the west of the site. No local surface water bodies around the site have been observed. This is likely due to the residential development encouraging piped stormwater.

2.7 Hydrogeology

According to the DPIPWE Groundwater Information Access Portal, eight deep groundwater bores are registered at the site (Appendix D). Three of these are registered as 'functioning', two as 'abandoned', two as 'unknown' and one as 'capped'. Water levels struck during construction of these bores was around 30 to 40 m, in both the basalt and the dolerite (fractured rock systems). Standing water levels measured in these bores in the 1990's-early 2000's varied between 2.4 and 12 m bgl.

No other groundwater bores are registered in the vicinity of the site.

At the time of the Decommissioning and Rehabilitation Plan³ preparation, four production bores were used on site to supply groundwater to the manufacturing process. The first groundwater bores were constructed in 1997⁴ and in 2001 an additional drilling program was undertaken.

AWM has monitored groundwater usage since September 2008, during which an average of 207 ML/year of groundwater was extracted. AWM adjusted groundwater hardness prior, to ensure it was suitable for the textiles.

Four shallow groundwater monitoring bores were installed as part of the environmental investigations for the site (see bore logs in Appendix E). Three of the bores were installed around the former underground petroleum storage system and one bore south of the Greige shed. Analysis of groundwater levels from these bores indicates shallow groundwater flow direction (intercepted at depths < 3 m) was towards the south-west.

2.8 Acid sulfate soils

The Land Information Service Tasmania (LIST) database does not contain any information regarding the probability of acid sulfate soil being present at the site. However, a location about 350 m south-east of the site indicate an extremely low probability of acid sulfate soil occurrence.

2.9 Heritage

There are no known European or Aboriginal heritage values on the site that need to be considered during this investigation.

³ Australian Weaving Mills, Decommissioning and Rehabilitation Plan, Tasman Street, Devonport (Rev01) - pitt&sherry, 15 June 2015.

⁴ Hocking M and Cromer W C (2011). Sustainability assessment of groundwater extraction, Australian Weaving Mills, Tasman Street, Devonport. 30 May 2011.



3. Previous environmental investigations

A number of investigations have been previously undertaken for the site. In accordance with the framework set out in the *National Environment Protection (Assessment of Site Contamination) Measure 1999* ('NEPM' - amended 2013), the site investigations included a full site history with a desktop assessment of potentially contaminated areas and associated contaminants of concern, followed by multi-stage intrusive investigations for each identified area.

A summary of information relevant to this rezoning application has been provided in Sections 3.1, 3.2 and 3.3.

3.1 Site history

A site history review, including a review of all available records, detailed site setting information, annual environmental reports and groundwater information, was undertaken in 2014 ('the PSI');

- Preliminary Site Investigation, Australian Weaving Mills – SKM, 8 May 2014.

The PSI report has been attached in Appendix F and the findings have been summarized below.

Outline of Assessment and Findings

The PSI was undertaken in preparation for developing a decommissioning and rehabilitation plan for the site. The primary purpose of this investigation was to provide AWM with advice in relation to the potential for soil and/or groundwater contamination to be present and, if necessary, provide recommendations for further investigations.

The following tasks were completed:

- Review of historical site information
- Review of the environmental setting of the site; and
- Identification of potential areas of contamination.

The following information was found to be of particular relevance to this report:

- The site has been operational since the 1950's and was used until late 2013 to manufacture cotton towels and towelling products. This process involved the conversion of yarn through weaving, dyeing, sewing and finishing for the production of towels. Prior site use has not been determined
- Groundwater was extracted from bores on the site and supplied approximately 75% of the weaving mill's requirements
- An oil fired boiler that used vegetable-based oil was also used to heat a dryer. Occasionally the header tank (that was situated above the roof height) overflowed and oil ran down the wall of the dye-house building. Staff would clean up all that went to ground but the bricks quickly absorbed the oil
- A 50,000L above-ground storage tank (AGT) was used to supply Bunker C oil to oil fired boilers. The AGT was located inside a bund. AWM switched to natural gas in 2006 at which time the AGT was emptied and decommissioned. One of the environmental reports stated that there was minor evidence of surface staining and contamination at the outlet to the overflow pipe for the AGT bund
- A review of historical photos from 1969, 1982, 1991, 2003 and 2011 shows that land within the site boundaries immediately surrounding the AWM factory has been vacant since at least 1969, with the exception of a structure resembling a pad or a slab which may have been part of a golf course. Off-site development surrounding the site all appears to be residential

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- The dye-house was identified as being a potential source of contamination for the site resulting from leaks or dye spillages into the stormwater and drainage system. However, it was considered unlikely given that the concrete surface of the dye-house appears intact and in good condition and that the majority of dyes and other chemicals were contained within the process dyes. There was the potential for dye to leach through cracks in the concrete floor of the dye-house, however measures were undertaken to reduce the risk of this occurring. A chemical dispensing system was installed in October 2001 which pumped pre-set quantities of reagents directly from above-ground storage tanks to the dyeing machines. The chemical dispensing system provided a safer and more economical way to handle delivery of chemicals with greater precision and therefore minimised the risk of accidental spillages
 - Plant wash-down water from the dye-house entered the effluent stream through a series of open factory floor drains, which flowed to the effluent pit for particle removal. An aquaguard screen (mesh size of 1mm) removed suspended material in effluent prior to its discharge to sewer. Suspended material collected in the pit and screen and was pumped out by a waste contractor every 6 months and transferred to landfill
 - All surfaces within the factory were paved and loading and unloading areas of the site were bitumen and/or concrete paved. All wash-down wastewater and liquid waste that was generated as part of production processes was collected in the factory drainage system which includes drainage lines and collection pits. All wash-down and liquid waste entered the effluent stream for discharge to sewer under a discharge arrangement with TasWater. The internal drainage system within the factory site was directed to the sewer and diverted from any stormwater connection to ensure that contaminants did not enter the stormwater system. All water from roofed and external paved areas on site was collected by the stormwater system and discharged directly without treatment to the stormwater drainage system. Due to the containment measures in place including bunded areas and internal drainage networks, there was a low likelihood of contaminated runoff entering the stormwater system
 - The dyeing process required the largest input and usage of process materials. The site used two types of dyes, namely reactive and vat dyes. All additional hazardous materials were stored in a bunded area completely removed from potential contact with soil. An internal drainage line existed within the immediate vicinity but was protected from spillages via the bund. All dangerous goods and chemicals were stored in accordance with the *Dangerous Goods Regulations 1998*. The bunded area appeared to be in good condition with no obvious leaks or infiltration of chemicals outside the collection area of the bund. All bunded areas were assessed by Workplace Health (Tasmania) in 2012 and were deemed satisfactory
 - Other production processes involved the use of the following principle hazardous chemicals:
 - Sodium Hydrosulphite
 - Sodium Hydroxide (50%)
 - Hydrogen Peroxide (59.5%)
 - Tricarboxylic acid (90%)
 - Solvent – Winscour SSA, textile scouring agent, Class 6.1, U.N number: 1897, EPG: 6B7 (37)
 - Realk Conc, Class 8, U.N number: 1760, PG:III, Aver Quant: 2000kg, Max Quant: 6000kg
 - Sodium Nitrite, Class 5.1, U.N No: 1500, Aver Quant: 300kg, Max Quant: 500kg; and
 - Sodium Persulfate, Class 5.1, U.N No: 1505, PG:III, Aver Quant: 300kg, Max Quant: 500kg.

The PSI identified the following areas which could potentially be contaminated based on historical use of the site:

- Surrounding the underground storage tank (UST)
- Surrounding the above ground storage tank (AGT)
- Surrounding the transfer lines (above ground) between the AGT and dye-house
- Surrounding the transfer lines (above ground) between the AGT and boiler house
- Surrounding the boiler house
- Where vegetable-based oil staining is evident on the exterior of the western dye-house wall
- Where dyes have been stored in the dye-house

- Where items have been stored for a number of years on the ground south of the greige building and weaving shed; and
- Where diesel may have been stored on the northern wall of the greige building.

Conclusions

The PSI found that the site had an extensive history of industrial use as a weaving mill, with potentially contaminated areas on site resulting from these activities. Potential risks identified for future development on the site included:

- Direct contact, ingestion and inhalation of impacted soils (by construction workers/maintenance workers or site users)
- Direct contact, ingestion and inhalation of impacted groundwater by construction workers
- The waste classification of soils may be affected by any encountered contaminated materials. This would likely have timing and cost implications for disposal of contaminated material; and
- If groundwater was found to be impacted, it may affect future groundwater uses at and surrounding the site.

Potential contamination should be assessed as part of an on-site investigation program (intrusive soil sampling and sampling of existing groundwater bores) to adequately quantify the above potential risks. However careful consideration of the future use of the site and potential alternative land uses should be taken into account when determining risks of any likely contamination.

Recommendations

The PSI recommended an on-site investigation to provide greater clarification of the extent of any contamination on site, allowing the identified risks to be appropriately quantified and managed during future decommissioning, rehabilitation or development of the site. It was recommended that further works include:

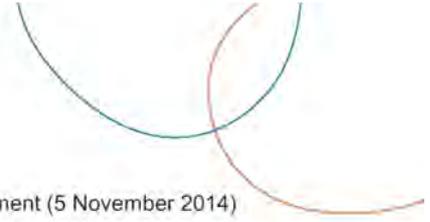
- Investigation of the chemical characteristics of potentially contaminated soils and the extent of contamination in targeted areas where contamination may exist, to guide future development of the site
- Further investigation of the chemical characteristics of natural soils on site, to confirm natural soils were classified as "Fill Material" under the Tasmania EPA waste classification criteria; and
- Further investigation of the chemical characteristics of the underlying groundwater by sampling the existing on-site bores where possible.

3.2 Intrusive investigations

The following investigations and reports were prepared following the PSI report:

- *Underground Petroleum Storage Systems Decommissioning, Australian Weaving Mills, Tasman Street, Devonport* (PID 3162363) (Rev00) - pitt&sherry, 5 November 2014
- *Groundwater Monitoring Event Summary Report, Australian Weaving Mills, Tasman Street, Devonport* (PID 3162363) – pitt&sherry, 20 March 2015
- *Australian Weaving Mills, Tasman Street, Devonport* (PID 3162363) – Environmental Site Assessment (Rev00) - pitt&sherry, 3 June 2015; and
- *Australian Weaving Mills, Decommissioning and Rehabilitation Plan, Tasman Street, Devonport* (Rev01) - pitt&sherry, 15 June 2015.

A summary of the information relevant to this rezoning application has been provided below:



3.2.1 Underground Petroleum Storage System Decommissioning Assessment (5 November 2014)

An underground petroleum storage system (UPSS) comprising two 1000 L underground tanks was located near the engineering workshop. The tanks were not registered with Workplace Standards Tasmania and had not been used for at least 40 years. The tanks were thought to be for a small oil fired boiler (located in the adjacent engineering workshop, but no longer on site), before the boiler was replaced by the existing gas fired boiler.

On 7 August 2014, the two tanks were removed and an UPSS decommissioning assessment carried out by pitt&sherry, as required by the Tasmanian EPA. The assessment identified elevated concentrations of hydrocarbons (most likely from diesel) in the walls and base of the UPSS pit. The fuel lines were disconnected and removed during tank removal; soils from under the lines were sampled and contained minor hydrocarbon concentrations. The packing sands were disposed off-site as Level 2 'Low-Level Contaminated Soil'⁵. The soil concentrations remaining in the UPSS pit were lower than the relevant human health investigation criteria for commercial/industrial use, therefore no additional soil was excavated and the UPSS pit was backfilled. However, the following recommendations were made:

- As the hydrocarbon levels exceeded the NEPM management limits, it was recommended that a Management Plan is prepared to manage and control access to soils in the UPSS pit
- A groundwater assessment was recommended around the location of the former UPSS and was subsequently undertaken (see Section 3.2.2 below); and
- The results should be reviewed if land use changed to a more sensitive use.

3.2.2 Groundwater Monitoring Event (20 March 2015)

Three groundwater monitoring bores were installed around the former UPSS pit on 18 February 2015 by KMR Drilling Pty Ltd under pitt&sherry supervision (BH1, BH2 and BH3). The location of the bores is shown on Figure A.3 in Appendix A. The bore logs have been provided in Appendix E. Further description of the groundwater bores is provided in Section 4.1.3. Two soil samples were collected from BH1 during bore installation based on field screening for hydrocarbons. Groundwater samples were collected from the three bores on 2 March 2015.

The results of groundwater bore installation and sampling were as follows:

- Soil samples collected during installation of bore BH1 contained hydrocarbons in exceedance of the ecological screening levels and management limits for commercial/industrial use. No hydrocarbon concentrations were measured above the relevant human health assessment criteria for commercial/industrial use; and
- Significant hydrocarbon concentrations were measured in groundwater in bore BH1, however these levels were lower than the relevant human health assessment criteria for commercial/industrial use. Nickel and zinc were measured in all three bores in exceedance of the freshwater investigation levels, as well as copper in BH3.

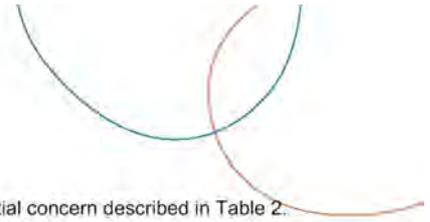
It was concluded that although localised soil and groundwater contamination was identified around the tanks, the concentrations did not pose any environmental risks and were suitable for ongoing commercial/industrial use according to the NEPM (2013) criteria. No further investigation, management or remediation was required, but the following recommendations were made:

- The site Management Plan should be updated to include the soil and groundwater assessment information; and
- The results should be reviewed if land use changed to a more sensitive use.

3.2.3 Environmental Site Assessment (3 June 2015)

An Environmental Site Assessment (ESA) of the AWM site was requested by the Tasmanian EPA as part of the Decommissioning and Rehabilitation Plan to determine the suitability of the site for ongoing commercial/industrial use. The report presented the findings of a Phase 1 and a Phase 2 ESA undertaken between August 2014 and March 2015.

⁵ Tasmanian EPA, 2012. Information Bulletin No.105 - Classification and Management of Contaminated Soil for Disposal (November 2012).



The assessment identified the potentially contaminating activities and areas of potential concern described in Table 2. Chemicals such as dyes and solvents were used on site.

Table 2: Potentially Contaminating Activities

Areas of Environmental Concern	Potentially Contaminating Activity	Impacted Media	Contaminants of Potential Concern
Earthen bund wall of above ground tank (AGT)	Potential oil spill from AGT	Surface soils	Phenols, TPH, BTEX, lead
Above ground tank distribution lines from AGT to boiler	Potential for oil spill	Surface soils	Phenols, TPH, BTEX, lead
AGT bund overflow pipe alignment	Potential for oil spill	Surface soils	Phenols, TPH, BTEX, lead
AGT bund overflow	Potential for oil spill	Surface and sub-surface soils	Phenols, TPH, BTEX, lead
Western side of weaving shed	Vegetable oil spill	Surface and sub-surface soils	Metals and hydrocarbons
Southern end and south west side of the Greige Shed	Miscellaneous storage	Soil and groundwater	Metals and hydrocarbons
Asbestos locations (refer to Asbestos Register in Appendix G)	Inappropriate asbestos removal	Surface soils	Asbestos (ACM, friable asbestos and asbestos fibres)

Soil sampling in the areas of potential concern occurred over three distinct monitoring events as results were reviewed and removal of contaminated soil followed by further investigation/validation occurred. A description of all collected soil samples is provided in Table 3 (soil samples collected during the 2015 investigation are shown on the site layout in Figure A.1 in Appendix A).

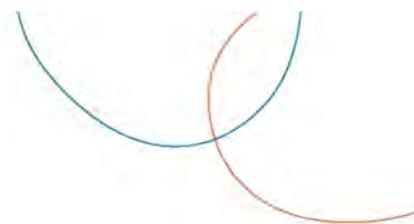
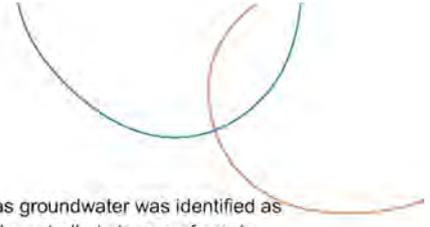


Table 3: Soil Sample Description

Date	Sample ID	Sample location
13 August 2014	AGT-01 to AGT-06 inclusive (sample depth < 50 mm)	Earthen wall of above ground tank. AGT01-04 are walls of the embankment, AGT05 is under the pump used to pump oil from the tank through the pipeline and into the boiler. AGT06 is at the bund overflow pipeline outfall.
	SA01-SA03 inclusive (sample depth < 50 mm)	Southern End of Greige Shed
8 December 2014	AGT01-AGT03 (sample depth < 50 mm for AGT 01 and 1.5 m for AGT02 and AGT03)	AGT01 is above ground tank bund overflow discharge pipe outfall. AGT02 and AGT03 are samples within the alignment of the underground bund overflow pipe
	SA01-SA04 (sample depth 50-100 mm)	Storage area at southern end of Greige shed (following elevated results on 13 August 2014 sampling event)
	SA05-SA06 (sample depth < 50 mm)	Storage area south west of Greige shed
	MB01 and MB02 (sample depth < 50 mm)	Western side of dyehouse where vegetable oil spill occurred
17 February 2015	SA03/17022015 (sample depth 100-150 mm)	Validation of sampling location SA03, following elevated results on 8 December 2014
	SA05/17022015 (sample depth 100-150 mm)	Validation of sampling location SA05, following elevated results on 8 December 2014
	SA06/17022015 (sample depth 100-150 mm)	Validation of sampling location SA06, following elevated results on 8 December 2014
	AGT01/17022015 (sample depth 100-150 mm)	Validation of AGT bund overflow discharge pipe outfall following elevated results on 8 December 2014
	AGTDL01 and AGTDL02 (sample depth < 50 mm)	Soil samples from AGT distribution lines from AGT to Boiler house

Soil contamination was identified in the following areas and was further remediated by soil excavation and validation sampling until the results were below the commercial/industrial assessment criteria:

- Outfall from above ground tank: elevated hydrocarbons were measured in the soil (sample AGT-06), including benzo(a)pyrene, Total Recoverable Hydrocarbons in the C10-C16, C16-C34 and C34-C40 fractions. After removal of contaminated soils, remaining hydrocarbons were within acceptable levels
- Western wall of dye house: a vegetable-based oil spill occurred at that location on the soils and external wall. Elevated hydrocarbon concentrations were measured in soils at that location (samples MB01 and MB02), higher than ecological and human health assessment criteria. The area could not be remediated due to the presence of a water main directly under the impacted soil. It was recommended that the area is isolated from access through signage and the site induction; and
- Area south and south-west of the Greige shed: this area was used for above ground storage of miscellaneous redundant manufacturing equipment and empty containers, prior to off-site disposal or recycling. Soils (samples SA01-SA03 and SA05-SA06) were found to contain elevated levels of petroleum hydrocarbons. Following excavation of contaminated soils, all results were below the ecological and human health assessment criteria.



A groundwater monitoring bore (BH4) was also installed as part of this investigation as groundwater was identified as potentially impacted media at the southern end and south west of the Greige Shed. Uncontrolled storage of empty containers occurred in that area, for storage of petroleum based products used in the manufacturing process. The bore was installed in February 2015 at the same time as the three bores described in Section 3.2 and following the same procedures. Analysis of groundwater levels indicates shallow groundwater flow direction (intercepted at depths < 3 m) is towards the south west.

A groundwater sample was collected from bore BH4 on 2 March 2015. Groundwater results were mostly below detection limit, with the exception of minor exceedences of the NEPM Freshwater investigation levels by dissolved cadmium, copper, nickel and zinc. These concentrations were not considered an indication that groundwater was impacted as a result of storage in this area and were not considered to cause any environmental risks.

Following completion of the ESA, the site was deemed suitable for ongoing commercial/industrial use, subject to appropriate management of the impacted soils on the western soils of the dye house. It was recommended that further assessment is undertaken if land use changed to a more sensitive use.

3.3 2018 site information review

In 2018, pitt&sherry was engaged to review all existing information and undertake a gap analysis of which works would be required to support the proposed rezoning application. The following report was prepared:

- *Environmental Site Assessment, Proposed Aged Care Facility, Australian Weaving Mills site, 117 Tasman Street, Devonport* (Rev 00). Prepared by pitt&sherry for Veris, 2 March 2018.

The review found that contaminated areas remained on site and that some of the contaminants were present in concentrations higher than the adopted residential or ecological assessment criteria in the following areas:

- Above-ground tank area
- Area south of the Greige shed
- Western side of dye house
- Location of the former underground petroleum storage system (UPSS); and
- Shallow groundwater at the site (1.6-2.9 m) was found to be impacted from historical activities, particularly from petroleum leakage at the location of the former UPSS. Cadmium, nickel and benzene concentrations exceeded the Australian drinking water guidelines.

It was found that no contaminants in soils or groundwater exceeded the adopted criteria for the assessment of risks to excavation workers.

A risk assessment was carried out based on the reviewed information for all potential identified receptors. The risk assessment determined that a potentially unacceptable risk existed for future site residents and that further investigations and remediation works were required.

4. 2018 excavation and assessment works

The following intrusive investigations were subsequently carried out on 12 October 2018:

- Excavation of soil at the location of the former UST, followed with validation sampling
- Excavation of soil at the location of former storage area (SA) south of the Greige Shed, followed with validation sampling
- Soil sampling under the slab at the location of the above-ground diesel tank (AGT) and associated pipeline
- Soil sampling along the western wall of the dye house; and
- Groundwater monitoring (existing four monitoring wells).



Sampling locations are shown on Figure A.3 in Appendix A. Site investigation photographs have been included in Appendix G.

4.1 Methodology

A summary of the sampling methodology adopted for this investigation is provided in Table 4.

Table 4: Summary of Field Methodology

Activity	Details / Comments
Monitoring well gauging	The depth to standing water level was measured from the highest point at the top of the well casing. Measurements were recorded using an electronic water dipper.
Groundwater purging	The bores were purged using disposable PVC bailers (so that any free phase hydrocarbons could be observed). Groundwater was decanted from each bore and continuously monitored until each parameter had stabilised within 0.1 units (for pH) and 5% (for EC). Refer to Appendix H for purging records.
Groundwater sampling method	Water from each bore was sampled directly into the appropriate sampling vessels using a PVC disposable bailer. All samples were filtered in the field for dissolved metal analysis using disposable Stericups.
Pit excavation	Two pits were excavated using a 3T excavator at the locations identified in previous assessments as containing contamination exceeding the assessment criteria. The depth of each test pit was determined based on previous results and field screening. Excavation of the UST pit was restricted by its close proximity to the adjacent building. Following excavation, the pits were not backfilled until the results of the validation and stockpile sampling were received.
Validation and stockpile sampling	Each pit was validated by collecting a soil sample from each wall and the bottom of the pit (minimum of five samples per pit). Excavated soil was sampled at a sampling density sufficient to allow for soil classification, should off-site disposal be required (minimum of three samples per stockpile).
Field screening	A portable PID was used for field detection of volatiles for contamination screening and targeted sampling. Soils were screened in the field for visual signs of contamination, including odour, scums or the presence of asbestos.
Soil logging	Soil types were logged during excavation by pitt&sherry's environmental engineer.
Laboratory analysis	The primary soil and water samples were submitted to ALS Laboratory in Melbourne (NATA accredited) for analysis of the following parameters identified as potential contaminants of concern: Soil samples: Trivalent and hexavalent chromium Total and Recoverable Petroleum Hydrocarbons (TPH/TRH, BTEXN) with and without silica gel clean-up Water samples: 15 metals Total and Recoverable Petroleum Hydrocarbons (TPH/TRH, BTEXN) Full Volatile Organic Contaminants screening. Secondary samples were submitted to Eurofins.

Holding times and preservation	Samples were placed on ice in coolers for transport to the laboratory. Sample holding times were acceptable (based on NEPM 2013 and laboratory recommendations) from collection to laboratory processing.
QA/QC samples	Soil and groundwater duplicate sample and split samples were collected at the density required in the NEPM.

4.2 Quality Assessment

Tables 5 and 6 of this document indicate conformance to field QA/QC and laboratory QA/QC procedures, respectively.

It is considered that the QA/QC program implemented during this investigation is appropriate, representative and robust, and the analytical results obtained are of acceptable quality for the purposes of this report.

The field observations and analytical results are deemed reliable and can be relied upon to assess the risk to receptors from the proposed works.

Table 5: Field QA/QC Procedure

QA/QC Requirement	Completed	Comments
Appropriate sampling strategy used and representative samples collected	Yes	Sampling program was undertaken in accordance with AS4482.1-2005 and NEPM (2013). The number and locations of samples collected from each area are appropriate based on the site assessment objectives.
Sampling conducted by appropriately qualified staff	Yes	Sampling was conducted by two pitt&sherry field scientists. Only staff with recent contaminated land sampling experience were selected as part of the project team.
Appropriate and well documented sample collection, handling, logging and transportation	Yes	All sample containers and sample eskies were checked prior to use to ensure that no cross-contamination risks were present. Appropriately clean and/or sterile sampling equipment and vessels were used. Samples were immediately transferred to the correctly labelled sampling vessel. The samples were placed into a cooled esky for sample preservation before transport and delivery to the laboratory.
Chain of custody documentation completed	Yes	All samples were transported under appropriate chain of custody procedures (signed CoC documents are included in Appendix J)
Required number of blind duplicates collected (minimum 1:20)	Yes	The appropriate number of duplicate samples was collected.
Required number of split samples collected (minimum 1:20)	Yes	The appropriate number of split samples was collected.
QA/QC samples reported RPDs within limits set by AS4482.1-2005	Yes	Relative Percentage Difference (RPD) values were within specifications. RPDs could not be determined where primary and/or secondary results were <LOR.
All water samples were field filtered for dissolved metals	Yes	All water samples were field filtered.
Samples delivered to laboratory within sample holding times	Yes	Samples were delivered to the laboratories within the sample holding times and in laboratory-supplied containers. No holding time breaches were noted in the laboratory report.

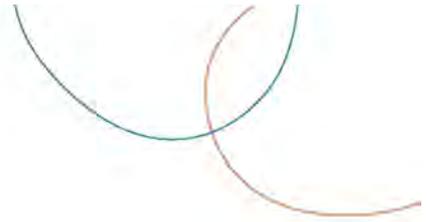


Table 6: Laboratory QA/QC Procedures

QA/QC Requirement	Completed	Comments
Samples extracted and analysed within relevant holding times	Yes	All analytes were extracted within holding times. Refer to ALS Interpretive Quality Control Reports in Appendix J.
All analyses NATA accredited	Yes	ALS is NATA accredited for all the analyses performed.
Appropriate analytical methodologies used, in accordance with Schedule B(3) of the NEPM	Yes	Refer to the Interpretive Quality Control reports in Appendix J for methods used and relevance to Schedule B(3) of the NEPM.
Acceptable laboratory LORs adopted	Yes	Laboratory LORs were all lower than assessment criteria.
Acceptable laboratory QC results: Surrogates: 70% to 130% recovery Matrix Spikes: 70% to 130% recovery for organics or 80%-120% recovery for inorganics Control Samples: 70% to 130% recovery for soil or 80% to 120% recovery for waters Duplicate Samples: < 20% to 50% RPD; and Method Blanks: zero to <PQL.	Yes	The internal laboratory quality control report is provided within the laboratory certificates of analysis (Appendix J). Laboratory recoveries were all within acceptable range. Matrix spike results were all within acceptable range. Laboratory control blank results were all below the LORs. No outliers of laboratory RPD values were reported. Method blank results were all below the LORs.



4.3 Soil assessment

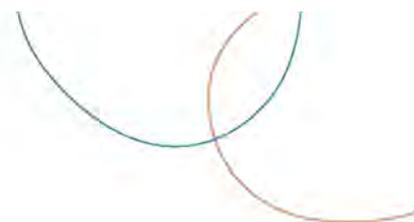
4.3.1 Soil assessment criteria

The criteria used to assess the soil analytical results are summarised in Table 4. For soil disposal purposes, the results were also compared to the Tasmanian EPA Information Bulletin No.105⁶.

Table 7: Soil Assessment Criteria

Reference	Sub Reference	Reason for Use
NEPM 1999 (2013)	Health Based Investigation Levels for Residential A (HIL-A) (Table 1A(1))	Assessment of human health risk from soil contaminants for low density residential use / sensitive use
	Soil Health Screening Levels for Vapour Intrusion, Low Density Residential (HSL-A) (Table B3)	Assessment of human risk of vapour intrusion into low density housing
	Ecological Investigation Levels for Residential / Public Open Space (Table 1B(1-5)). CLAY was considered as the dominant soil type.	Assessment of ecological risk from soil contaminants
	Ecological Screening Levels - Urban Residential and Public Open Space	Assessment of risks to ecological receptors from hydrocarbons in soils.
	Management Limits for TPH fractions in soils (Residential, Parkland and Public Open Space)	Assessment of risks from petroleum hydrocarbons other than health-based or ecological (fire, explosion, damage to buried infrastructure etc.)
CRC Care (2011). Technical Report No.10	Health Screening Levels for Vapour Intrusion – Intrusive Maintenance Workers (Table B3)	Assessment of human risk of vapour intrusion into shallow trench from hydrocarbons in soils.
	Health Screening Levels for Direct Contact – Intrusive Maintenance Workers (Table B4)	Assessment of human risk from direct contact with hydrocarbons in surface and subsurface soils (excavation workers).
	Health Screening Levels for Direct Contact – HSL-A (Low Density Residential) (Table B4)	Assessment of human risk from direct contact with hydrocarbons in surface and subsurface soils (low density housing).

⁶ Tasmanian EPA, 2018. Information Bulletin No.105 - Classification and Management of Contaminated Soil for Disposal (v3).



4.3.2 Field observations

The following observations were made during soil sampling:

- At the location of the former UST, a pit approximately 3.3 m long x 2.8 m wide x 1.7 m deep was excavated. The pit had been backfilled with gravel following tank removal in 2014 (refer to site photographs in Appendix G). After excavation of the gravel, stained black soil was present in the pit with a strong hydrocarbon odour. The removal of all contaminated soil from the pit was not practically possible due to the proximity of the pit to the plant building
- At the location of the above-ground diesel tank (AGT), one soil sample was collected through a crack under the slab and another sample at the outfall of the tank pipeline (see site photographs). No visual indications of contamination were present at either location
- Along the western wall of the dye house, the location of the 'vegetable oil' spill is still clearly visible on the wall (see site photographs). A soil sample was collected from under the layer of gravel and plastic sheet covering the soil. The soil was stained and had an odour and sheen; and
- At the location of former storage area (SA) south of the Greige Shed, a pit approximately 9 m x 2 m x 1 m depth was excavated at the location of the previously excavated pit (see photographs), followed with validation sampling. No indications of contamination were present.

4.3.3 Description of soil samples

The soil samples collected on 12 October 2018 for this investigation are described in Table 8. Sample locations are shown on the map in Figure A.3, Appendix A.

Table 8: Soil Sample Description

Area	Sample	Location	Description
Former underground storage tank (excavated pit)	UST-S1-1m	South side of pit, 1 m bgl	Sandy GRAVEL; brown with black stain, strong hydrocarbon odour, PID reading of 360 ppm
	UST-SE-1.4m	South east side of pit, 1.4 m bgl	Sandy GRAVEL; brown with black stain, strong hydrocarbon odour, PID reading of 290 ppm
	UST-NE-0.9m	North east side of pit, 0.9 m bgl	Sandy GRAVEL; brown, slight hydrocarbon odour, PID reading of 6 ppm
	UST-B1-1.7m	Bottom of pit, 1.7 m bgl	Sandy CLAY; brown with black stain, slight hydrocarbon odour, PID reading of 30 ppm
	UST-NW-1.0m	North west side of pit, 1.0 m bgl	Clayey GRAVEL, brown, no hydrocarbon odour, PID reading of 11 ppm
	UST-ST-C-1	Stockpile of excavated gravel	GRAVEL, brown, no signs of contamination – not analysed
	UST-ST-C-2	Stockpile of excavated gravel	GRAVEL, brown, no signs of contamination – not analysed
	UST-ST-C-3	Stockpile of excavated gravel	GRAVEL, brown, no signs of contamination – not analysed
	UST-ST-D-1	Stockpile of excavated material	Gravelly CLAY; brown
	UST-ST-D-2	Stockpile of excavated material	Gravelly CLAY; brown
	UST-ST-D-3	Stockpile of excavated material	Gravelly CLAY; brown



	UST-Dup1	Stockpile of excavated material	Duplicate of UST-ST-D-3
Storage area south of Greige Shed (excavated pit)	SA-S-1.0m	South side of pit, 1m bgl	CLAY; black, firm, no hydrocarbon odour, no signs of contamination, PID reading of 4.2 ppm
	SA-N-0.4m	North side of pit, 0.4 m bgl	CLAY; black, firm, no hydrocarbon odour, no signs of contamination, PID reading of 5.4 ppm
	SA-SE-1m	South east side of pit, 1 m bgl	CLAY; black, firm, no hydrocarbon odour, no signs of contamination, PID reading of 4.6 ppm
	SA-C-1.0m	Bottom of pit, 0.4 m bgl	CLAY; black, firm, no hydrocarbon odour, no signs of contamination, PID reading of 4.7 ppm
	SA-NE-1.0m	North east side of pit, 1 m bgl	CLAY; black, firm, no hydrocarbon odour, no signs of contamination, PID reading of 5.5 ppm
	SA-ST-1	Stockpile of excavated material	CLAY; black, firm, no hydrocarbon odour, no signs of contamination
	SA-ST-2	Stockpile of excavated material	CLAY; black, firm, no hydrocarbon odour, no signs of contamination
	SA-ST-3	Stockpile of excavated material	CLAY; black, firm, no hydrocarbon odour, no signs of contamination
Western wall of dye house	2018-MB01	From the surface, adjacent to the dye house	Clayey SILT; contains organic material
Above ground storage tank area	2018-AGT01	Underneath the tank slab, 0.1 m bgl	SILT; contains organic material
	2018-AGT02	Underneath the pipeline from the tank, 0.1 m bgl	Silty SAND; contains organic material

4.3.4 Results and comparison to assessment criteria

Soil analytical results have been provided and compared to the adopted assessment criteria in Appendix B (Tables B.1, B.2 and B.3). Laboratory certificates of analysis have been included in Appendix J.

A summary of the identified criteria exceedences are presented in Table 9 (refer to Table 7 for a description of the adopted assessment criteria).

Table 9: Soil Samples Exceeding Adopted Assessment Criteria

Area	Samples	Contaminant	Results (mg/kg)	Criteria exceeded (mg/kg)	Criteria description ¹
Above ground tank	2018-AGT01	Hydrocarbons (TRH C16-C34)	8,610	1,300	Ecological Screening Levels
				3,500	Management Limits
				4,500	Human: HSL-A Direct Contact
Dye house (western wall)	2018-MB01	Hydrocarbons (TRH C16-C34-SG)	16,500	5,600	Ecological Screening Levels
		Hydrocarbons (TRH C16-C34-SG)	16,200	1,300	Ecological Screening Levels
				3,500	Management Limits
				4,500	Human: HSL-A Direct Contact
Former UPSS	UST-S1-1m	Hydrocarbons (TRH Fraction 2)	200	120	Ecological Screening Levels
	UST-SE-1.4m	Hydrocarbons (TRH Fraction 2)	150	120	Ecological Screening Levels
	UST-B1-1.7m	Hydrocarbons (TRH Fraction 2)	400	240 120	Human: HSL-A Vapour Intrusion Ecological Screening Levels
	UST-NW-1m	Hydrocarbons (TRH Fraction 2)	140	120	Ecological Screening Levels

¹ HSL-A = Health Screening Level for Vapour Intrusion (Residential Use)

HSL-A – Direct Contact = Health Screening Level for Direct Contact (Residential Use)

ESL = Ecological Screening Levels for Urban Residential and Public Open Space

ML = Management Limits

The soil sampling results have been summarised below:

- Speciated chromium testing was carried out on most soil samples to determine the relative proportions of hexavalent chromium and trivalent chromium, as significant chromium concentrations were measured throughout the site. Hexavalent chromium is the mobile form of chromium and can be toxic to human health, whereas trivalent chromium has low mobility and can be detrimental to plants. All hexavalent chromium results were below the limit of reporting. All trivalent chromium results were below the ecological investigations levels. There is no human health criteria for trivalent chromium

- Petroleum hydrocarbon testing with a silica gel clean-up step was carried out for soil samples from the western side of the dye house, where a vegetable-based oil spill occurred along the external wall. A review of the results and comparison with reference chromatograms indicated that the oil composition is similar to that of engine oil (refer to Appendix J). Samples from that location significantly exceeded the health screening levels for direct contact (residential use) and ecological screening levels
- The sample collected from under the bund of the above-ground storage tank contained petroleum hydrocarbons in concentrations higher than the health screening levels for direct contact (residential use) and ecological screening levels
- Samples from the western wall of the dye house and from under the above ground storage tank also exceeded management limits. These limits allow an assessment of risks from petroleum hydrocarbons other than health-based or ecological, such as risks of fire, explosion, damage to buried infrastructure etc
- In the area south of the Greige shed, where petroleum hydrocarbons were previously measured in exceedance of the health screening level for vapour intrusion (residential use) and the ecological screening levels, no hydrocarbons were measured above the limit of reporting during this sampling event
- At the location of the former underground petroleum storage system (UPSS), the following samples exceeded the adopted assessment criteria:
 - one sub-surface sample (1.7 m below ground level) was found to contain petroleum hydrocarbons (TRH Fraction 2) in exceedance of the health screening levels for vapour intrusion (residential use)
 - four sub-surface samples had petroleum hydrocarbons (TRH Fraction 2) exceeding ecological screening levels; and
- None of the soil results exceeded the adopted criteria for the assessment of risks to excavation workers.

4.3.5 Soil disposal classification

Soil was classified in accordance with the Tasmanian EPA Information Bulletin No.105⁷ where it is likely that soil will be removed for off-site disposal. The results were as follows:

- Soils excavated from the pit of the former underground storage system were all classified as 'Level 1 – Fill Material'. These soils would be suitable to backfill into the pit and be left on site; and
- Soil from the western side of the dye house (vegetable oil spill) and from under the above ground tank exceeded the classification as 'Level 3 – Contaminated Soil' due to hydrocarbon concentrations. Appropriate management measures should apply to these soils during demolition and construction.

4.4 Groundwater Assessment

4.4.1 Groundwater beneficial uses

The quality of groundwater in Tasmania is managed under the State Policy on Water Quality Management (1997) (DPIWE, 1997) ('the State Policy'). The stated purpose of the State Policy is to "achieve the sustainable management of Tasmania's surface water and groundwater resources by protecting or enhancing their qualities while allowing for sustainable development in accordance with the objectives of Tasmania's Resource Management and Planning System."

The State Policy defines a range of Protected Environmental Values (PEVs) for surface and ground waters which are uses of the water resource that are to be protected. For groundwater, PEVs are allocated based upon the salinity (concentration of total dissolved solids) of the groundwater as specified in Table 1 of the State Policy (reproduced in Table 10 below). The lower the salinity, the greater the number of uses (PEVs) that are likely to apply to the groundwater body. The Tasmanian EPA considers that groundwater is polluted where current and/or future PEVs are precluded, i.e. when the allocated groundwater quality objectives for those PEVs have been exceeded.

⁷ Tasmanian EPA, 2018. Information Bulletin No.105 - Classification and Management of Contaminated Soil for Disposal (v3).

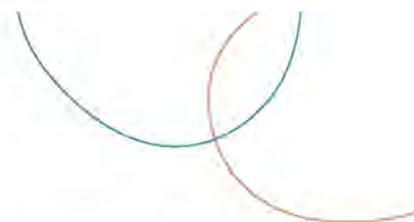
Table 10: Aquifer Classification Based on TDS Concentrations (highlighted cells apply to the site)

Beneficial Uses	Classification based on TDS range (mg/L)			
	A (< 1,000)	B (1,000 – 3,500)	C (3,500 – 13,000)	D (> 13,000)
Drinking Water	✓			
Irrigation	✓	✓		
Industry	✓	✓	✓	
Stock	✓	✓	✓	
Ecosystem Protection	✓	✓	✓	✓

A comparison of the measured total dissolved solids (TDS) concentrations with the levels in Table 10 indicates that unimpacted groundwater beneath the site falls within Category A. Category A allows for the following uses: drinking water, irrigation, industry, stock, ecosystem protection. An analysis of likelihood of beneficial on-site and off-site uses of the water at the site based on the proposed rezoning is shown in Table 11.

Table 11: Likelihood of Beneficial Uses Being Realised

Beneficial use	On-site	Off-site
Drinking water	POTENTIAL Although Devonport is well serviced by the reticulated network for potable water and reserve firefighting water, functioning groundwater production bores are registered at the site which could potentially be used for potable water extraction.	UNLIKELY The surrounding land is predominantly residential with access to the local reticulated water supply. In addition, no groundwater bores are registered within 500 m of the site.
Irrigation	POTENTIAL The existing groundwater production bores at the site could potentially be used for lawn and garden irrigation under the proposed residential use.	UNLIKELY No groundwater bores are registered within 500 m of the site and Devonport is well serviced by the reticulated water supply.
Industrial use	UNLIKELY Although industrial use is currently permitted, it would be inconsistent with the proposed zoning of the site and the proposed residential use. The existing production bores should be decommissioned prior to redevelopment.	UNLIKELY Industrial use is inconsistent with the current zoning of surrounding land. No industry that may require the use of groundwater for industrial purposes is located in the vicinity of the site.
Stock watering	UNLIKELY Inconsistent with the proposed land use and zoning.	NOT RELEVANT Inconsistent with the current land use and zoning of surrounding land (mostly residential and a training centre).
Ecosystem protection	NOT RELEVANT No aquatic ecosystems are present at the site.	UNLIKELY The closest known waterway is the Mersey River, approximately 1.4 km to the east of the site, and the Don River, located approximately 1.9 km to the west of the site.



4.4.2 Groundwater assessment criteria

Based on the potential groundwater uses identified above (Table 11) and based on the objectives of this investigation, the criteria used to assess the groundwater results are those provided in Table 12.

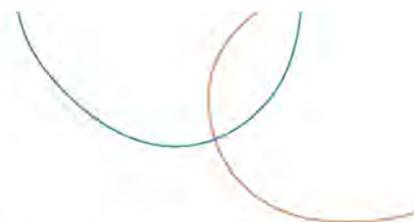
Table 12: Groundwater Assessment Criteria

Reference	Sub Reference	Reason for Use
National Environment Protection (Assessment of Site Contamination) Measure, 1999 (amended 2013)	Groundwater Investigation Levels (GIL) – drinking water (Table 1C)	Assessment of human health risk from drinking water (including aesthetic criteria).
	Health Screening Levels for Residential use for Vapour Intrusion (HSL A) (Table 1A-4)	Assessment of human risk of vapour intrusion from hydrocarbons in groundwater. Clay was used as the dominant soil type.
CRC Care (2011). Technical Report No.10	Health Screening Levels for Vapour Intrusion – Intrusive Maintenance Workers, 2 - <4 m (Table B2)	Assessment of risk to construction workers of vapour intrusion into shallow trench from hydrocarbons in groundwater.
Australian and New Zealand Guidelines for Fresh and Marine Water Quality – Water Quality for Irrigation and General Water Use (ANZECC, 2000)	The Short-Term Irrigation Trigger Values (STV) were adopted for this investigation.	Maximum concentrations of metals in water used for irrigation of plants for human consumption for a short period of time (20 years).

As described in Section 3, four shallow groundwater monitoring bores (BH1, BH2, BH3 and BH4) were installed by pitt&sherry in February 2015 and monitored on 2 March 2015 and on 12 October 2018. Details of all four bores are provided in Table 13 and the bores are shown on the sample location map in Figure A.3 (Appendix A). Bore logs have been included in Appendix E.

Table 13: Details of Groundwater Monitoring Bores

Bore	Easting (GDA 94)	Northing (GDA 94)	Location	Water levels (m bgl)		Parameters monitored
				2/03/2015	12/10/2018	
BH1	0445196	5440825	South of UPSS, near entrance to engineering workshop	1.65	1.07	Metals, phenols, hydrocarbons
BH2	0445198	5440827	North of UPSS pit	1.60	1.01	Metals, phenols, hydrocarbons
BH3	0445194	5440825	West of UPSS pit	1.57	0.92	Metals, phenols, hydrocarbons
BH4	0445111	5440712	Near storage area south of greige shed	2.87	2.33	Metals, phenols, hydrocarbons



4.4.3 Groundwater levels

Groundwater monitoring field sheets have been provided in Appendix H. Standing water levels measured on 2 March 2015 and 12 October 2018 have been included in Table 13 above.

Analysis of groundwater levels from the October 2018 monitoring event indicates that shallow groundwater flow direction (intercepted at depths < 3 m bgl) may be towards the south-west; however surface topography suggests an easterly slope towards the Mersey River.

Deeper aquifers are present underneath the site and were targeted by the groundwater extraction bores used during production at the AWM site (refer to Section 2.7). These aquifers are not the subject of this investigation.

4.4.4 Results and comparison to assessment criteria

Tabulated groundwater results have been provided in Table B.5 in Appendix B. The laboratory certificates of analysis have been included in Appendix J.

A summary of assessment criteria exceedences is provided in Table 14.

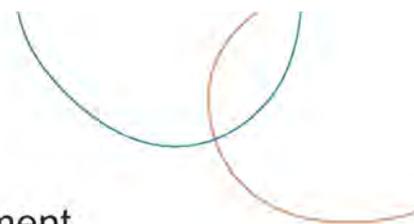
Table 14: Groundwater Results Exceeding Assessment Criteria

Contaminants	Bore	Concentrations (mg/L)	Criteria exceeded (mg/L)	Criteria description ¹
Manganese	BH1	4.54	0.5	Drinking water
			1.9	Freshwater Investigation Level
Nickel	BH4	0.012	0.011	Freshwater Investigation Level

¹ Groundwater Investigation Levels (NEPM, 2013)

A summary of the results is provided below:

- Manganese was measured in bore BH1 (4.54 mg/L) above the drinking water criteria (0.5 mg/L) and above the freshwater investigation level (1.9 mg/L). Manganese was not previously monitored in groundwater at the site. Potential sources of manganese at the site are unknown but could originate from dyes
- Nickel was detected in bore BH1 marginally above the freshwater investigation level (12 µg/L against a criterion of 11 µg/L)
- No other contaminant exceeded the adopted human health or ecological assessment criteria; and
- Petroleum hydrocarbons were detected in bore BH1 near the location of the former underground petroleum storage system, however none of the concentrations exceeded the assessment criteria. During the 2015 monitoring event, benzene concentration in BH1 was higher than the drinking water criteria (3 µg/L against a criteria of 1 µg/L). No benzene was detected in 2018, likely as a result of natural attenuation and removal of the source zone during remediation works.



5. Discussion of results and risk assessment

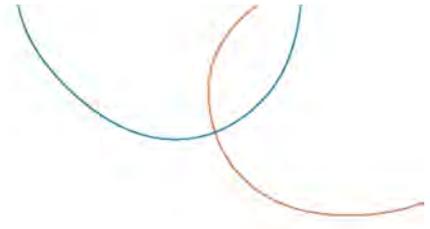
5.1 Conceptual Site Model

A Conceptual Site Model (CSM) has been developed based on pitt&sherry's understanding of the site setting, in order to identify potentially significant source-pathway-receptor linkages with regard to human health and the environment (Figure 3).

Several rounds of soil remediation and sampling and two rounds of groundwater monitoring have been undertaken at the site between 2014 and 2018. Some contaminants remain on site at concentrations exceeding the adopted human health or ecological criteria for soil and groundwater, as summarised below:

- Soils from the western side of the dye house, where a vegetable-based oil spill occurred along the external wall, contain hydrocarbon concentrations significantly exceeding the health screening levels for direct contact (residential use) and ecological screening levels. A review of the results and comparison with reference chromatograms indicated that the oil composition is similar to that of engine oil. The impacted soil could not be removed due to the presence of a water main in the area, and because some of the impacted soil extends underneath the building
- Soil was sampled from under the bund of the above-ground storage tank (AGT) historically used to store Bunker C oil but has not been used since 2006. The soil contained petroleum hydrocarbons in concentrations higher than the health screening levels for direct contact (residential use) and ecological screening levels. These soils could not be removed without demolishing and removing the AGT
- Samples from the western wall of the dye house and from under the above ground storage tank also exceeded management limits. These limits allow an assessment of risks from petroleum hydrocarbons other than health-based or ecological, such as risks of fire, explosion, damage to buried infrastructure etc
- At the location of the former underground petroleum storage system (UPSS), the following samples exceeded the adopted assessment criteria:
 - One sub-surface sample (1.7 m below ground level) was found to contain petroleum hydrocarbons (TRH Fraction 2) in exceedance of the health screening levels for vapour intrusion (residential use)
 - Four sub-surface samples had petroleum hydrocarbons (TRH Fraction 2) exceeding ecological screening levels
- None of the soil results exceeded the adopted criteria for the assessment of risks to excavation workers
- In 2015, benzene was detected in groundwater bore BH1 near the location of the former underground petroleum storage system at a concentration higher than the drinking water criteria (3 µg/L against a criterion of 1 µg/L). No benzene was detected in 2018, likely as a result of natural attenuation and removal of source soils as part of remediation works. Other petroleum hydrocarbons were detected, however none of the concentrations exceeded the assessment criteria
- Manganese was measured in bore BH1 in October 2018 above the drinking water criteria (4.54 mg/L against a criterion of 0.5 mg/L) and above the freshwater investigation level (1.9 mg/L). Potential sources of manganese at the site are unknown and could originate from the dyes used during production or could be due to the local geology; and
- Nickel was detected in bore BH1 marginally above the freshwater investigation level (12 µg/L against a criterion of 11 µg/L).

No monitoring results are available for the deeper groundwater aquifer intercepted by the groundwater extraction bores present on site.



Receptors identified for the site are:

- Future residents
- Construction workers; and
- Future site flora and fauna.

The identified pathways by which human receptors may be exposed to contaminants are:

- Direct contact with contaminants in surface soils and sub-surface soils
- Vapour intrusion of hydrocarbon vapours into buildings and inhalation (future residents)
- Direct contact and inhalation of hydrocarbon vapours during excavation (construction workers); and
- Extraction of groundwater for drinking or irrigation purposes (groundwater extraction wells present on site).

The identified pathways by which onsite ecological receptors may be exposed to contaminants are:

- Plant uptake from soils or irrigated groundwater.

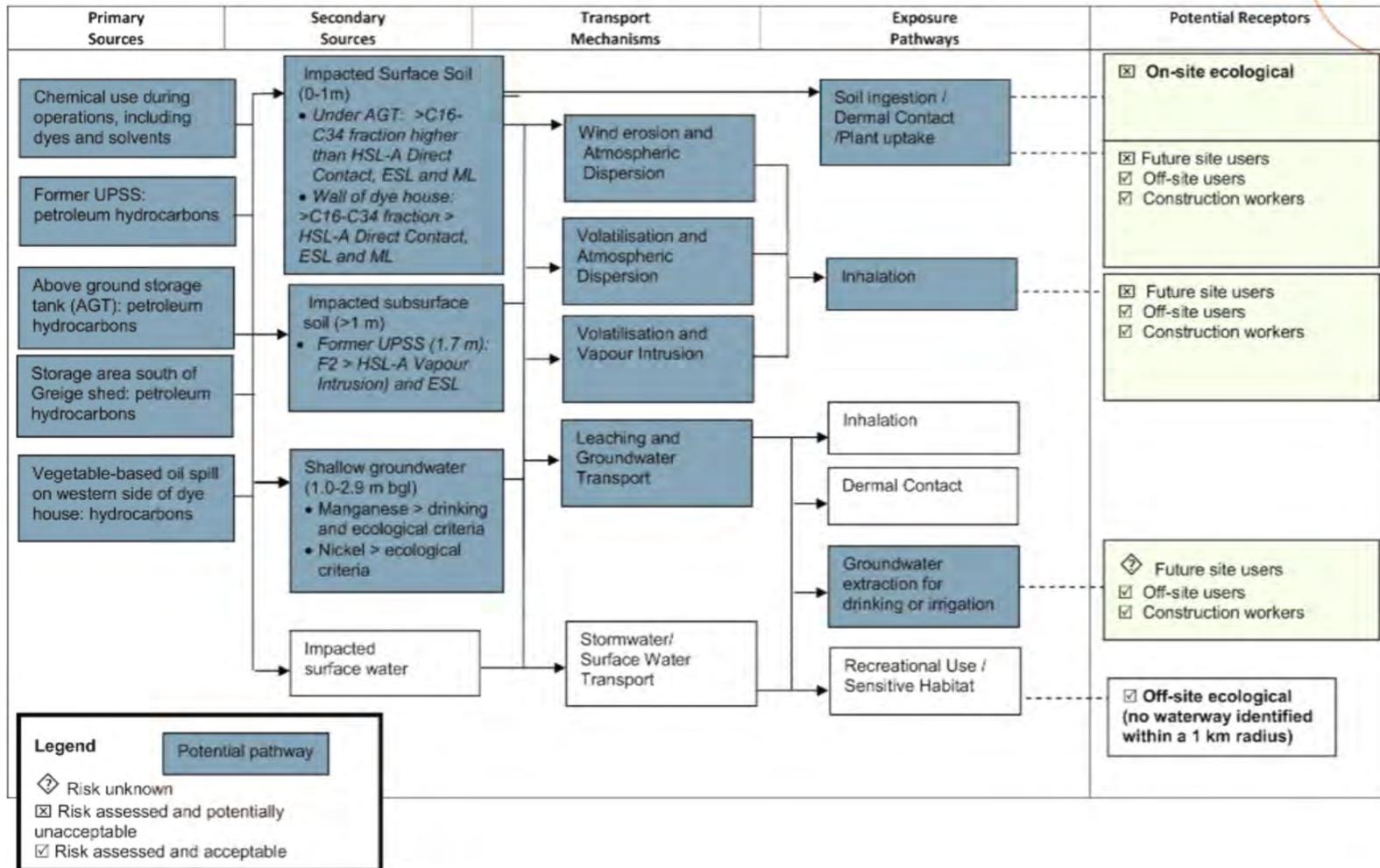
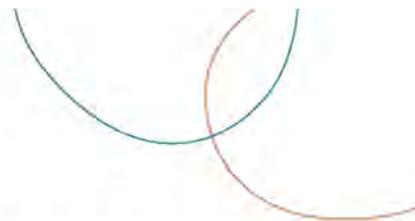


Figure 3: Conceptual Site Model



5.2 Risk Assessment

Based on the Conceptual Site Model and the assessment of soil and groundwater results, the following risk analysis has been made:

- **Future residents:**
 - Hydrocarbons remain on site under the above-ground tank (AGT) and along the western wall of the dye house, at the location of a vegetable-based oil spill. Concentrations of hydrocarbons (TRH C16-C34) at these locations exceed the health screening levels for direct contact (residential use). The impacted soil could not be removed due to the presence of a water main along the dye house, because some of the impacted soil extends under the building, and because demolition and removal of the AGT would be required. Hydrocarbons at these concentrations may pose a risk to future residents if directly exposed to the soil; however, this would readily be managed before any future development by excavation and off-site removal of impacted soil at demolition and redevelopment stage
 - Petroleum hydrocarbon concentrations in one sample collected from the base of the former UPSS pit (1.7 m bgl) exceeded the health investigation levels for vapour intrusion (residential use). This may pose a health risk to future site residents through vapour intrusion of hydrocarbon vapours into buildings and subsequent inhalation. No other samples in the pit exceeded the relevant assessment criteria, and groundwater in bore BH1 located between the pit and the building did not contain hydrocarbons at concentrations exceeding vapour intrusion criteria. Hydrocarbons concentrations were below the limit of reporting in all three other site monitoring bores. The impacted soil remaining at the bottom of the UPSS pit may be managed at development stage by the following means:
 - Re-excavation of the UPSS pit to remove impacted soil, followed by validation sampling to ensure no contamination remains at concentrations which may pose a risk; and/or
 - Soil vapour sampling under the existing slab of the building to confirm that no hydrocarbon vapours are present which may pose a risk of vapour intrusion into the future residential buildings
 - Shallow groundwater at the site (1.0-2.9 m) was found to contain some metals at concentrations exceeding the Australian drinking water guidelines. For these reasons, shallow groundwater should not be extracted for drinking purposes at the site. Although no contaminants exceeded the Australian irrigation guidelines, it is not recommended that shallow groundwater is used for irrigation at the site
 - The deeper groundwater aquifer has not been assessed for contamination, however it is recommended that groundwater is not extracted for use and that the extraction bores present on site are decommissioned.
 - Vacant land east and west of the former AWM factory has not been investigated. Whilst it is unlikely that contamination is present in these areas based on the site history, investigation of these areas will be required to be completed prior to development to determine the level of risk associated with these areas for the proposed use
- **Construction workers:** no contaminants in soil or groundwater exceeded the criteria for the assessment of risk to excavation workers (direct contact or inhalation risk). However, as areas of contamination remain on site, it would be recommended that a Construction Environmental Management Plan (CEMP) is prepared to manage contaminated soils during demolition and redevelopment. The CEMP should include a map showing contaminated areas, a classification of soils for disposal purposes, measures to manage the off-site removal of contaminated soils and protective measures for workers
- **Site future flora and fauna:** hydrocarbons in exceedance of ecological screening levels remain in surface soils along the western side of the dye house, under the above-ground tank and in sub-surface soils (1 to 1.7 m bgl) in the former UPSS pit. These hydrocarbons may be detrimental to future site vegetation. Following excavation of impacted soil required for the protection of human health at these locations, if validation testing determines that concentrations of hydrocarbons remaining on site may still pose an ecological risk, it is recommended that no deep rooted vegetation is planted at these locations; and

- **Other considerations:** hydrocarbon concentrations in exceedance of management limits were measured in surface soils along the western side of the dye house and under the above-ground tank. These concentrations may pose a risk to future infrastructure, such as risks of fire, explosion, damage to buried services etc. Soil should be excavated and removed at these locations as much as practicable, and the soils should be marked on the CEMP for redevelopment of the site.

6. Conclusions

This environmental site assessment (ESA) report presents the findings of multi-stage assessment and remediation works carried out by pitt&sherry at 117 Tasman Street, Devonport (PID 3162363; 'the site'). This report was required to support the rezoning of the site from General Industrial to General Residential, which include sensitive uses such as residential, occasional care and education. It is envisioned to redevelop the site into residential units, retaining the existing slab of the main building. This assessment was undertaken in accordance with the framework set out in the National Environment Protection (Assessment of Site Contamination) Measure 1999 ('NEPM' - amended 2013).

The site hosted a textile factory known as the Australian Weaving Mills (AWM) between the 1950's and 2013. The process involved the conversion of yarn through weaving, dyeing, sewing and finishing for the production of towels. Groundwater was extracted for use in the process through groundwater extraction bores still present on site.

A comprehensive site history was carried out in 2014 as part of a preliminary site investigation (PSI). The PSI included a review of historical photos which showed that land within the site boundaries immediately surrounding the AWM factory has been vacant since at least 1969, with the exception of a structure resembling a pad or a slab which may have been part of a golf course. Off-site development surrounding the site all appeared to be residential.

The PSI found that the site had an extensive history of industrial use as a weaving mill, with potentially contaminated areas on site resulting from these activities. It was recommended that potential contamination is assessed as part of an on-site soil and groundwater investigation program to adequately quantify potential risks.

A number of site investigations were subsequently undertaken by pitt&sherry between 2014 and 2018, including:

- Targeted soil assessment at the locations identified in the PSI as areas of potential concern
- An underground petroleum storage system (UPSS) decommissioning assessment during the removal of an underground fuel tank, located near the engineering workshop and the dye house
- The installation of three groundwater monitoring wells around the UPSS pit and one monitoring well south of the Greige shed. Two rounds of groundwater monitoring were undertaken, in 2014 and 2018; and
- Where contamination was identified that may have posed a potential risk to identified receptors, multi-stage soil excavation and off-site removal were undertaken.

Health and ecological assessment criteria relevant to the proposed rezoning were developed for this ESA. Where several residential criteria were available, the most stringent low-density residential criteria were retained.

Following the completion of site assessment and remediation works in 2018, some contaminants remained on site at concentrations exceeding the adopted human health or ecological criteria for soil and groundwater, as summarised below:

- Soils from the western side of the dye house, where a vegetable-based oil spill occurred along the external wall, contained hydrocarbon concentrations significantly exceeding the health screening levels for direct contact (residential use) and ecological screening levels. A review of the results and comparison with reference chromatograms indicated that the oil composition is similar to that of engine oil. The impacted soil could not be removed due to the presence of a water main in the area, and because some of the impacted soil extends underneath the building

- 
- Soil was sampled from under the bund of the above-ground storage tank (AGT), which was historically used to store Bunker C oil, but has not been used since 2006. The soil contained petroleum hydrocarbons in concentrations higher than the health screening levels for direct contact (residential use) and ecological screening levels. These soils could not be removed without demolishing and removing the AGT
 - Hydrocarbon concentrations from the western wall of the dye house and from under the AGT also exceeded management limits. These limits allow an assessment of risks from petroleum hydrocarbons other than health-based or ecological, such as risks of fire, explosion, damage to buried infrastructure etc.
 - At the location of the former underground petroleum storage system (UPSS), the following samples exceeded the adopted assessment criteria:
 - One sub-surface sample (1.7 m below ground level) was found to contain petroleum hydrocarbons (TRH Fraction 2) in exceedance of the health screening levels for vapour intrusion (residential use)
 - Four sub-surface samples had petroleum hydrocarbons (TRH Fraction 2) exceeding ecological screening levels
 - None of the soil results exceeded the adopted criteria for the assessment of risks to excavation workers
 - In 2015, benzene was detected in groundwater bore BH1 near the location of the former underground petroleum storage system at a concentration higher than the drinking water criteria (3 µg/L against a criterion of 1 µg/L). No benzene was detected in 2018, likely as a result of natural attenuation and removal of source soils as part of remediation works. Other petroleum hydrocarbons were detected, however none of the concentrations exceeded the assessment criteria
 - Manganese was measured in bore BH1 in October 2018 above the drinking water criteria (4.54 mg/L against a criterion of 0.5 mg/L) and above the freshwater investigation level (1.9 mg/L). Potential sources of manganese at the site are unknown and could originate from the dyes used during production or could be due to the local geology; and
 - Nickel was detected in bore BH1 marginally above the freshwater investigation level (12 µg/L against a criterion of 11 µg/L).

No monitoring results are available for the deeper groundwater aquifer intercepted by the groundwater extraction bores present on site.

A Conceptual Site Model was prepared to identify potentially significant source-pathway-receptor linkages and a risk assessment was carried out based on the information gathered to date. The outcomes of the risk assessment are as follows:

- **Future residents:**
 - Hydrocarbons remaining in soils under the AGT and along the western wall of the dye house may pose a risk to future residents if directly exposed to the soil. However, this would readily be managed before any future development by excavation and off-site removal of impacted soil at demolition and redevelopment stage
 - Petroleum hydrocarbons remaining at the base of the former UPSS pit (1.7 m bgl) may pose a health risk to future site residents through vapour intrusion of hydrocarbon vapours into buildings and subsequent inhalation. This may also be managed at development stage by soil excavation or soil vapour sampling (see recommendations below)
 - Groundwater at the site may pose a risk to future site users if extracted for drinking or irrigation purposes
 - Vacant land east and west of the former AWM factory has not been investigated. Whilst it is unlikely that contamination is present in these areas based on the site history, investigation of these areas will be required to be completed prior to development to determine the level of risk associated with these areas for the proposed use
- **Construction workers:** contaminants remaining in soils or groundwater are unlikely to pose an unacceptable risk to excavation workers through direct contact or inhalation. However, it is recommended that protective measures for workers are included in a Construction Environmental Management Plan (CEMP) to be implemented during demolition and redevelopment

- **Site future flora and fauna:** Hydrocarbons remaining in surface soils along the western side of the dye house, under the above-ground tank and in sub-surface soils (1 to 1.7 m bgl) in the former UPSS pit may be detrimental to future site vegetation if deep rooted vegetation is planted at these locations; and
- **Other considerations:** On the western side of the dye house and under the above-ground tank, a potential risk exists to future infrastructure, such as risks of fire, explosion, damage to buried services etc. This risk should be reassessed following implementation of the recommended future works.

Based on the results of the latest soil and groundwater investigations, it is considered that site investigations have been completed to a standard to adequately characterise soil and groundwater contamination within the current AWM site area. The results of the current investigation indicate that the site can be remediated to provide a tolerable level of risk for the use, subject to the implementation of additional works as outlined in the recommendations section below.

7. Recommendations

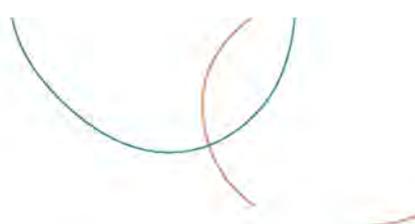
Based on the conclusions above, the site is considered suitable for the proposed rezoning; however, localised areas of contamination remain on site which will need to be addressed before the site is redeveloped. Table 15 shows details of the management measures to be implemented for redevelopment of the site.

The following general recommendations should be implemented:

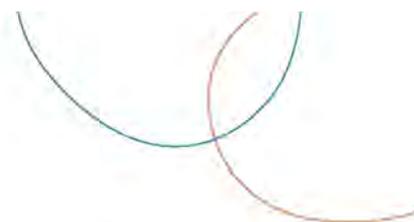
- Groundwater underneath the site from shallow unconfined and deep aquifers should not be extracted for drinking or irrigation purposes. It is recommended that a covenant is placed on future site titles preventing groundwater extraction
- Further remediation and validation of hydrocarbon contaminated soils is required along the western wall of the dye house, under the above ground storage tank and at the location of the former UPSS pit (refer to Table 15)
- A Construction Environmental Management Plan (CEMP) should be prepared to help manage contaminated soils during redevelopment works. The CEMP should include a map showing contaminated areas, a classification of contaminated soils for disposal purposes and protective measures for workers. The CEMP should also include protocols for unexpected finds during demolition or redevelopment
- Under the envisioned development, the main building will be retained on site. Should some of the buildings be demolished, an asbestos removal control plan should be prepared and implemented by a licensed asbestos removalist as asbestos is present in the ceiling and roof of several buildings at the site (see asbestos register in Appendix I). If removing asbestos, particular care should be taken to minimise any potential for asbestos fragments to be 'ground/pushed into the top-soil' and to not disturb friable asbestos so that free fibres are not generated. Asbestos removal should be undertaken by a suitably licensed person, be clearly documented and a clearance certificate issued following demolition; and
- Following completion of additional works, a statement should be prepared indicating that the land is suitable for the intended use, prior to use of the site commencing. The risk to future site flora should be reviewed at that time to determine whether deep rooted vegetation may not be suitable for planting in some locations.

Table 15: Site Contamination Status and Recommended Management

Areas	Contamination status	Actions/requirements	Details
Site wide	See below	<p>Implementation of recommended remediation and validation prior to redevelopment (see details below)</p> <p>Preparation and implementation of Construction Environmental Management Plan (CEMP) for demolition and redevelopment works; and</p> <p>Apply restrictions on groundwater use (see below)</p>	<p>The CEMP should include a map showing contaminated areas, a classification of soils for disposal purposes, measures to manage the off-site removal of contaminated soils and protective measures for workers.</p>
Above ground storage tank (AGT)	<p>Petroleum hydrocarbons in surface soils higher than health screening level for direct contact (residential use), ecological screening levels and management limits.</p>	<p>Excavation and off-site removal of impacted soil following demolition of AGT</p>	<p>Excavation under entire surface of bund to a minimum depth of 1 m</p> <p>Classification of excavated soil and off-site disposal as required</p> <p>Inspection and validation of resulting excavation (4 walls and base) by suitably qualified person</p> <p>Validation sampling for, as a minimum: TRH/BTEXN, total chromium and chromium(VI); and</p> <p>If soil contamination is identified to remain following completion of works, additional remediation and subsequent validation works will be completed under the supervision of a suitably qualified and experienced consultant.</p>
Western site of the dye house	<p>Petroleum hydrocarbons in surface soils higher than health screening level for direct contact (residential use), ecological screening levels and management limits.</p>	<p>Excavation and off-site removal of impacted soil until level of risk is tolerable.</p>	<p>Manual excavation of impacted soil based on visual assessment</p> <p>If impacted soil is found to extend under the slab of the building proposed to be retained, assessment and delineation of impacted soil under the concrete slab by borehole drilling</p> <p>Classification of excavated soil and off-site disposal as required</p> <p>Inspection and validation of resulting excavation (walls and base) by suitably qualified person</p> <p>Validation sampling for, as a minimum: TRH/BTEXN, total chromium and chromium(VI); and</p> <p>If soil contamination is identified to remain following completion of works, additional remediation and subsequent validation works will be completed under the supervision of a suitably qualified and experienced consultant. Partial</p>



Areas	Contamination status	Actions/requirements	Details
			removal of the slab may be required to facilitate remediation.
Underground storage tank pit	Petroleum hydrocarbons in subsurface soils (1.7 m) higher than health screening level for vapour intrusion (residential use) and ecological screening levels.	Re-excavation of the UPSS pit to remove impacted soil until no contamination remains at concentrations which may pose a risk to future site users	<p>Removal of portion of concrete pavement to allow further soil excavation</p> <p>Excavation of impacted soil to a minimum depth of 2 m</p> <p>Classification of excavated soil and off-site disposal as required</p> <p>Inspection and validation of resulting excavation (4 walls and base) by suitably qualified person</p> <p>Validation sampling for, as a minimum: TRH/BTEXN</p> <p>If soil contamination is identified to remain following completion of works, additional remediation and subsequent validation works will be completed under the supervision of a suitably qualified and experienced consultant; and</p> <p>If no further excavation was possible due to site constraints, soil vapour sampling may be carried out under the slab of the building proposed to be retained, to determine whether hydrocarbon vapours are present which may pose a risk of vapour intrusion into the future residential buildings.</p>
Groundwater	Metal concentrations higher than drinking water criteria in shallow aquifer (1 to 2.9 m bgl). Deeper aquifer was not assessed for contamination.	Apply restrictions on groundwater use	<p>Decommission groundwater extraction bores; and</p> <p>Apply a covenant on future site titles preventing groundwater extraction and use, until it could be demonstrated by monitoring of the shallow and deep groundwater aquifers that use of the water would pose a tolerable level of risk.</p>
Asbestos in buildings (Appendix I)	Potential future contamination of soils from demolition works	Ensure asbestos removal from building does not cause contamination of soils.	Works to be completed by a licensed asbestos removalist and managed under an asbestos removal control plan, with asbestos clearance certificate provided.
Land east and west of AWM factory	Unknown (not assessed as no potentially contaminating activities identified in site history)	Assessment required before site redevelopment.	<p>8 test locations to the east and 8 locations to the west recommended using a systematic sampling method to assess potential impacts.</p> <p>Analytical testing for, as a minimum: metals, TRH, BTEXN, PAH and asbestos; and</p> <p>Works to be completed by a suitably qualified and experienced consultant.</p>



8. Compliance with CCRLUS

The Cradle Coast Regional Land Use Strategy (CCRLUS) defines the following strategic outcomes for Liveable and Sustainable Communities (only applicable outcomes listed):

- *Each settlement provides a healthy, pleasant and safe place in which to live, work and visit; and*
- *People and property are not exposed to unacceptable levels of risk.*

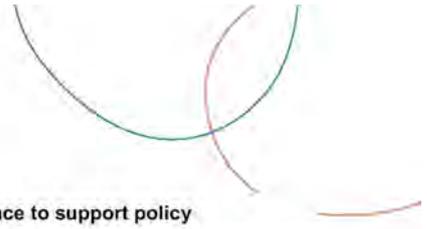
Chapter 4.4 relates to the Land Use Policies for Protecting People and Property:

"The Region's long-term prosperity, environmental health and social well-being depend on reducing the potential for risk to people, property and the environment from natural or human induced hazards.

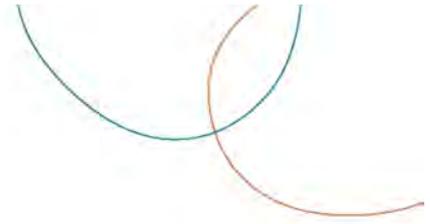
Land use planning is to direct the places where people live and work away from areas where there is an unacceptable level of risk for the health and safety of people, property, and the environment from natural or man-made hazard."

Table 16: CCRLUS Land Use Planning Processes for Risk Management

Processes for risk management	Compliance or evidence to support policy
(a) <i>Recognise land exposed to future or enhanced risk is a valuable and strategic resource that should not be sterilised by unnecessarily excluding use or development</i>	Yes
(b) <i>Establish the priority for risk management is to protect the lives of people, the economic value of buildings, the functional capacity of infrastructure, and the integrity of natural systems</i>	<p>The potential risk to future users from legacy contamination has been lowered to the extent practicable by removing contaminated soil. Further removal of soil prior to site development will further lower the risk to an acceptable level.</p> <p>It is envisioned that the main existing site building is reused for the proposed redevelopment. Partial removal of the building slab may be required to facilitate remediation works.</p> <p>Contamination of shallow groundwater has attenuated over time and is now considered to pose a low risk to future users. However, restrictions should be imposed on groundwater use (deep and shallow aquifers) at the site to ensure water will not be used for drinking purposes or irrigation.</p>
(c) <i>Avoid new essential service, sensitive or inappropriately located use or development on undeveloped land exposed to or affected by a high level of an existing, likely future or enhanced risk, including from inundation and erosion by the sea, flooding, bush fire or landslip</i>	Not applicable to this report
(d) <i>Limit opportunity for expansion of existing essential service, sensitive or inappropriately located use and development onto land exposed to or affected by an existing, likely future or enhanced level of risk</i>	See point e below
(e) <i>Limit opportunity for redevelopment and intensification of existing essential service, sensitive or inappropriately located use or development on land exposed to or affected by an existing, likely future or enhanced level of risk unless the impact can be managed to be no greater or less than the existing situation</i>	As described under point b above, the risk to future users from exposure to contaminated soils or groundwater can readily be managed to be less than the existing situation by implementing recommended management measures.



Processes for risk management	Compliance or evidence to support policy
<p><i>(f) Promote guidelines and technical measures that which will assist to reduce impact of an existing, likely future or enhanced level of risk and make existing strategically significant places, uses, development and infrastructure assets less vulnerable, including provision for protection, accommodation and abatement, or retreat</i></p>	<p>Implementation of further soil remediation and validation to further reduce the risk to future site users.</p>
<p><i>(g) Require a hazard risk assessment for new or intensified use or development on land exposed to an existing, likely future or enhanced risk, such assessment to address the nature and severity of the hazard, the specific risk factors for the proposed use or development, and the measures required to mitigate any risk having exceedance probability of greater than 1% at any time over the life of the development</i></p>	<p>Risk assessment included in this report.</p>
<p><i>(h) Ensure current and future landowners and occupiers are put on notice of the likelihood for a future or enhanced level of risk</i></p>	<p>A covenant should be placed on the title preventing groundwater use until groundwater monitoring can demonstrate a tolerable level of risk to site users.</p>



9. Important Information

9.1 Scope of services

This report ("the Report") has been prepared in accordance with the scope of services set out in the contract, or as otherwise agreed, between the client and pitt&sherry ("the scope of services"). In some circumstances, the scope of services may have been limited by a range of factors such as time, budget, access and/or site disturbance constraints.

The Report may only be used and relied on by the client for the purpose set out in the contract or as otherwise agreed between the client and pitt&sherry. Any use which a third party makes of this document, or any reliance on or decisions to be made based on it, is the responsibility of such third parties.

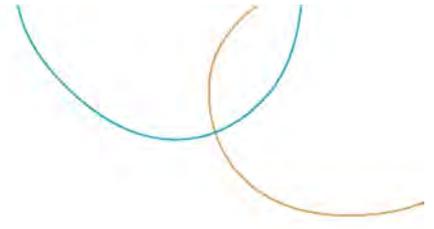
9.2 Reliance on data

In preparing the Report, pitt&sherry has relied upon data, surveys, analyses, designs, plans and other information provided by the client and other individuals and organisations, most of which are referred to in the Report ("the data"). Except as otherwise stated in the Report, pitt&sherry has not verified the accuracy or completeness of the data. To the extent that the statements, opinions, facts, information, conclusions and/or recommendations in the Report ("conclusions") are based in whole or part on the data, those conclusions are contingent upon the accuracy and completeness of the data. pitt&sherry does not warrant the accuracy will not be liable in relation to conclusions should any of the data, be incorrect or have been concealed, withheld, misrepresented or otherwise not fully disclosed to pitt&sherry.

9.3 Conclusions and recommendations

The conclusions in this Report are based on conditions encountered and information reviewed at the date of preparation of the previous investigations described in Section 3. pitt&sherry has no responsibility or obligation to update this Report to account for events or changes occurring subsequent to the date that the previous reports were prepared.

All previous investigations related to the Australian Weaving Mills site. The remaining areas of land part of PID 3162363 have not been assessed under the current or previous investigations.

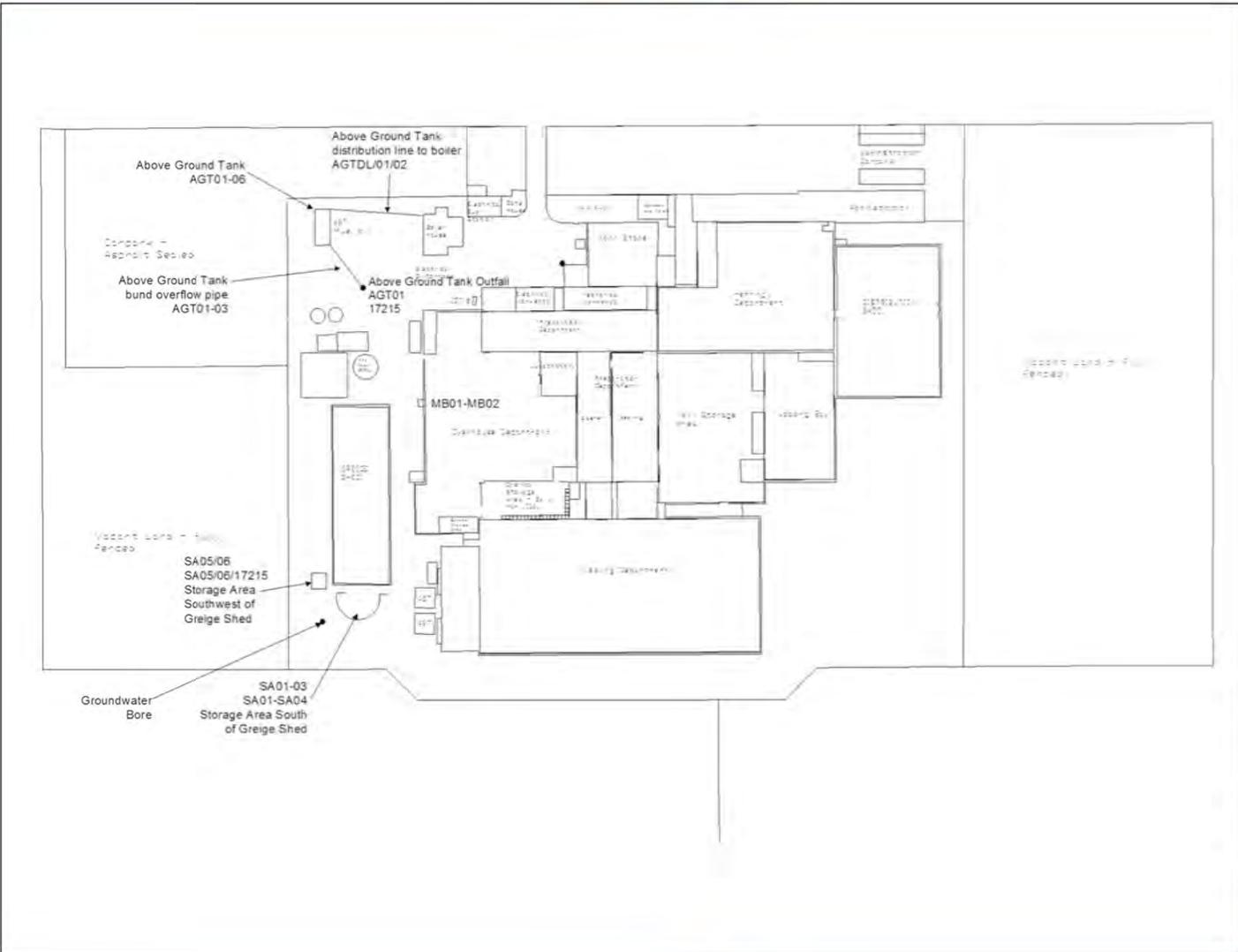


Figures

Appendix A

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AWM - Site Layout



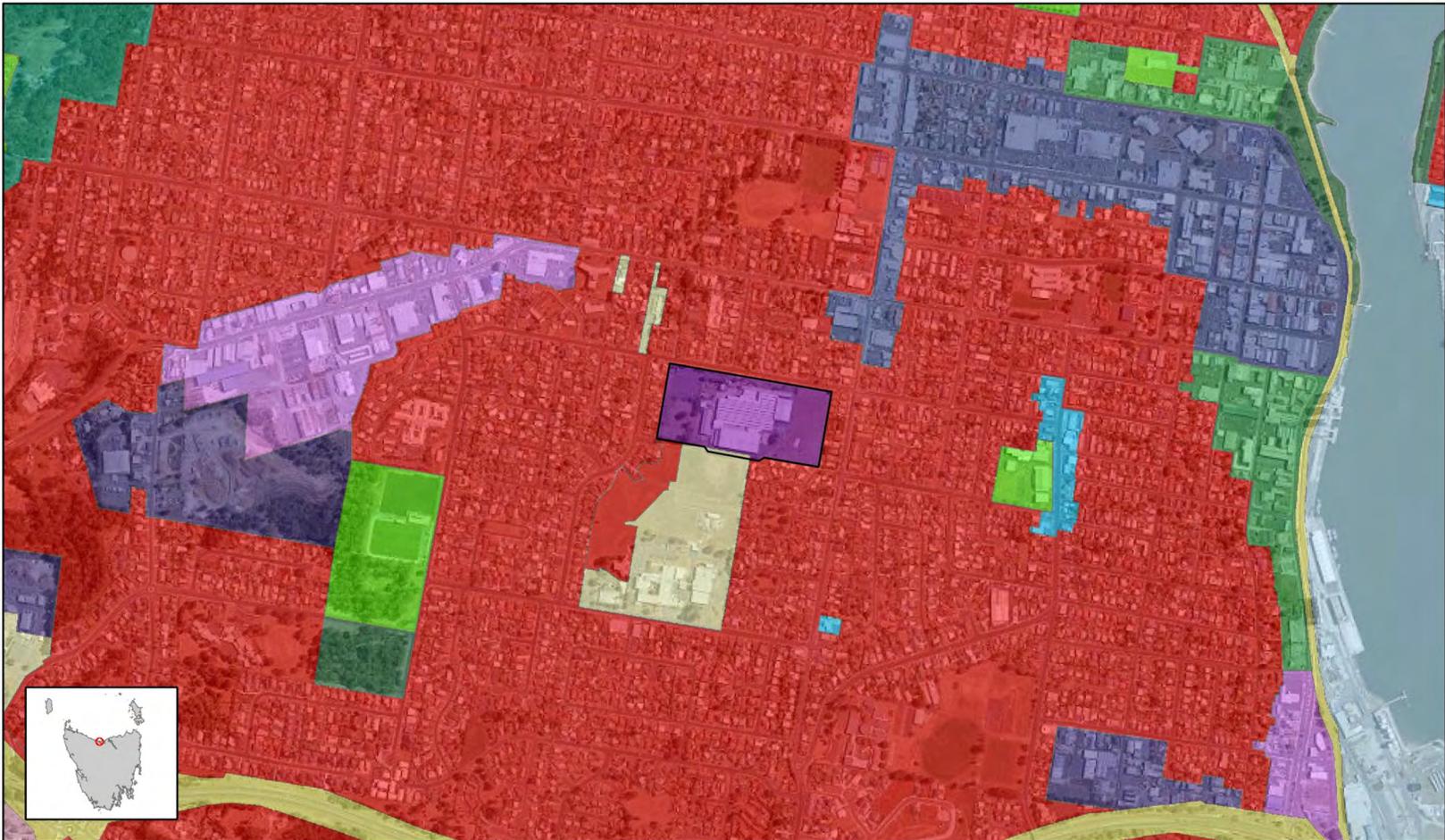
Legend

— Site layout

Job Number	LN14245
Map ref	#003
Revision	1
Date	27/05/2015

Coordinate system	GDA 2014 MGA Zone 55
E:4258	When printed at A3

Data sources:
Design from AWM



Veris

Figure A2
Zoning



0 90 180 360 Meters

Coordinate System: GDA 1994 MGA Zone 55
1:12,715 When Printed at A4

MAP REF HB17559R6
REVISION A
AUTHOR klawrence
DATE 1/03/2019

DATA SOURCES Base map from THE LIST
Base data from The LIST
Tasmanian Government

Legend

- 117 Tasman Street
- ZONE**
- 10.0 General Residential
- 13.0 Rural Living
- 15.0 Urban Mixed Use
- 17.0 Community Purpose
- 18.0 Recreation
- 19.0 Open Space
- 20.0 Local Business
- 22.0 Central Business
- 23.0 Commercial
- 24.0 Light Industrial
- 25.0 General Industrial
- 28.0 Utilities
- 29.0 Environmental Management
- 31.0 Port and Marine
- 32.0 Particular Purpose



Veris

Figure A3
Former AWM site
2018 Sampling locations

pitt&sherry

N

0 10 20 40 Meters

Coordinate System: GDA 1994 MGA Zone 55
1:1,581
When Printed at A4

<p>MAP REF HB17559R5</p> <p>REVISION A</p> <p>AUTHOR klawrence</p> <p>DATE 4/03/2019</p>	<p>DATA SOURCES</p> <p>Base map from NearMap</p> <p>Base data from The LIST</p> <p>Tasmanian Government</p>
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Legend

- Site Boundary
- ▲ Soil samples
- ⊕ Groundwater samples
- Test Pit
- 5m contours



Veris

Figure A4
Former AWM site
Soil human health
criteria exceedance

pitt&sherry

N

0 10 20 40 Meters

Coordinate System: GDA 1994 MGA Zone 55
1:1,581
When Printed at A4

<p>MAP REF HB17559R2</p> <p>REVISION A</p> <p>AUTHOR klawrence</p> <p>DATE 4/03/2019</p>	<p>DATA SOURCES</p> <p>Base map from NearMap</p> <p>Base data from The LIST</p> <p>Tasmanian Government</p>
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Legend

- Site Boundary
- ▲ Soil samples
- Test Pit
- 5m contours

Human health criteria - Residential	
HSL-A Vapour Intrusion	
F2	280 mg/kg
HSL-A Direct Contact	
>C16 - C34 Fraction	4,500 mg/kg



Veris
 Figure A5
 Former AWM site
 Soil ecological
 criteria exceedance
pitt&sherry

N

0 10 20 40 Meters

Coordinate System: GDA 1994 MGA Zone 55
 1:1,581 When Printed at A4

MAP REF	HB17559R3	DATA	Base map from ESRI
REVISION	A	SOURCES	Base data from The LIST
AUTHOR	klawrence		Tasmanian Government
DATE	4/03/2019		

Legend

- 5m contours
- ▲ Soil samples
- ⋯ Test pit
- ▭ Site Boundary

Ecological criteria - Residential	
Ecological Investigation Levels	
Chromium III	190 mg/kg
Ecological Screening Levels	
F2	120 mg/kg



Veris

Figure A6
Former AWM site
Groundwater
Investigation Levels
pitt&sherry

N

 0 10 20 40 Meters

 Coordinate System: GDA 1994 MGA Zone 55
 1:1,581 When Printed at A4

MAP REF	HB17559R4	DATA	Base map from NearMap
REVISION	A	SOURCES	Base data from The LIST
AUTHOR	klawrence		Tasmanian Government
DATE	4/03/2019		

Legend

- 5m contours
- Groundwater sample
- Test Pit
- Site Boundary

Groundwater Investigation Levels	
Freshwater	
Manganese	1.9 mg/L
Nickel	0.011 mg/L
Drinking water	
Manganese	0.5 mg/L



Table of Results

Appendix B

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Client: Veris		Sample ID	SA-N-0.4m	SA-SE-1m	SA-C-1.0m	SA-NE-1.0m	SA-S-1m	SA-ST-1	SA-ST-2	SA-ST-3	NEPM 1999 (2013)	NEPM 1999 (2013)	NEPM 1999 (2013)	NEPM 1999 (2013)	NEPM 1999 (2013)	CRC Care Technical Report No.10	CRC Care Technical Report No.10
P&S Reference: HB17559		Description	North side of pit south of greige shed, clay	South east side of pit south of greige shed, clay	Centre of pit south of greige shed, clay	North east side of pit south of greige shed, clay	South side of pit south of greige shed, clay	Stock pile from pit south of greige shed, clay	Stock pile from pit south of greige shed, clay	Stock pile from pit south of greige shed, clay	Health Based Investigation Levels for Residential A (HIL-A)	Soil Health Screening Levels for Vapour Intrusion, Low Density Residential (HSL-A)	Ecological Investigation Levels for Residential / Public Open Space	Ecological Screening Levels - Urban Residential and Public Open Space	Management Limits for TPH fractions in soils (Residential, Parkland and Public Open Space)	Health Screening Levels for Vapour Intrusion - Intrusive Maintenance Workers	Health Screening Levels for Direct Contact - Intrusive Maintenance Workers
TABLE B.1 - SOILS - South of Greige Shed		Units	12/10/2018	12/10/2018	12/10/2018	12/10/2018	12/10/2018	12/10/2018	12/10/2018	12/10/2018	Table 1A1	Table 1A3 0-1 m CLAY	Table 1B(1-5) - Fine	Table 1B(1-6) - Fine	Table 1 B(7) Fine, mg/kg	Table (B3) 0m to <2m CLAY	Table B4 CLAY
Chromium	mg/kg	2	113	210	140	126		128	142	100							
Hexavalent Chromium	mg/kg							<0.5	<0.5	<0.5	100-Hexavalent						
Trivalent Chromium	mg/kg							90	94	72			190-400				
Total Petroleum Hydrocarbons																	
C6 - C9 Fraction	mg/kg	10	<10	<10	<10	<10		<10	<10	<10							
C10 - C14 Fraction	mg/kg	50	<50	<50	<50	<50		<50	<50	<50							
C15 - C28 Fraction	mg/kg	100	<100	<100	<100	<100		<100	<100	<100							
C29 - C36 Fraction	mg/kg	100	<100	<100	<100	<100		<100	<100	<100							
C10 - C36 Fraction (sum)	mg/kg	50	<50	<50	<50	<50		<50	<50	<50							
Total Recoverable Hydrocarbons - NEPM 2013																	
C6 - C10 Fraction	mg/kg	10	<10	<10	<10	<10		<10	<10	<10						NL	82,000
C6 - C10 Fraction minus BTEX (F1)	mg/kg	10	<10	<10	<10	<10		<10	<10	<10		50	180	180	800	NL	62,000
>C10 - C16 Fraction	mg/kg	50	<50	<50	<50	<50		<50	<50	<50							85,000
>C16 - C34 Fraction	mg/kg	100	<100	<100	<100	<100		<100	<100	<100							120,000
>C34 - C40 Fraction	mg/kg	100	<100	<100	<100	<100		<100	<100	<100							
>C10 - C40 Fraction (sum)	mg/kg	50	<50	<50	<50	<50		<50	<50	<50							
>C10 - C16 Fraction minus Naphthalene (F2)	mg/kg	50	<50	<50	<50	<50		<50	<50	<50		280	120	120	1,000		

Client: Veris			Sample ID	UST-S1-1m	UST-SE-1.4m	UST-NE-0.4m	UST-B1-1.7m	UST-NW-1.0m	UST-ST-D-3	UST-DUP1	NEPM 1999 (2013)	NEPM 1999 (2013)	NEPM 1999 (2013)	NEPM 1999 (2013)	NEPM 1999 (2013)	CRC Care Technical Report No.10	CRC Care Technical Report No.10
P&S Reference: HB17559			Description	South side of the UST pit	South east side of the UST pit	North east side of the UST pit	Bottom of the UST pit	North west side of the UST pit	From stockpile	Duplicate of UST-ST-D-3	Health Based Investigation Levels for Residential A (HIL-A)	Soil Health Screening Levels for Vapour Intrusion, Low Density Residential (HSL-A)	Ecological Investigation Levels for Residential / Public Open Space	Ecological Screening Levels - Urban Residential and Public Open Space	Management Limits for TPH fractions in soils (Residential, Parkland and Public Open Space)	Health Screening Levels for Vapour Intrusion - Intrusive Maintenance Workers	Health Screening Levels for Direct Contact - Intrusive Maintenance Workers
TABLE B.2 - SOILS - UNDERGROUND STORAGE TANK	Units	LOR	Date	12/10/2018	12/10/2018	12/10/2018	12/10/2018	12/10/2018	12/10/2018	12/10/2018	Table IA1	Table IA3 0-1 m SAND	Table 18(1-5) - Coarse	Table 18(1-6) - Coarse	Table 1 R(7) Fine, mg/kg	Table (B3) 0m to <2m CLAY	Table B4 CLAY
Chromium																	
Total Chromium	mg/kg	2		34	29	19	22	28	17	24	100-Hexavalent		190-400				
Total Petroleum Hydrocarbons																	
C6 - C9 Fraction	mg/kg	10		<10	<10	<10	<10	<10	<10	<10							
C10 - C14 Fraction	mg/kg	50		120	90	<50	270	50	50	<50							
C15 - C28 Fraction	mg/kg	100		330	300	<100	540	560	160	<100							
C29 - C36 Fraction	mg/kg	100		<100	<100	<100	<100	<100	<100	<100							
C10 - C36 Fraction (sum)	mg/kg	50		450	390	<50	810	610	210	<50							
Total Recoverable Hydrocarbons - NEPM 2013																	
C6 - C10 Fraction	mg/kg	10		<10	<10	<10	11	<10	<10	<10						NL	82,000
C6 - C10 Fraction minus BTEX (F1)	mg/kg	10		<10	<10	<10	11	<10	<10	<10	70		180	800			
>C10 - C16 Fraction	mg/kg	50		200	150	<50	400	140	90	<50						NL	62,000
>C16 - C34 Fraction	mg/kg	100		270	250	<100	430	550	130	<100				3,500			85,000
>C34 - C40 Fraction	mg/kg	100		<100	<100	<100	<100	<100	<100	<100				10,000			120,000
>C10 - C40 Fraction (sum)	mg/kg	50		470	400	<50	830	690	220	<50							
>C10 - C16 Fraction minus Naphthalene (F2)	mg/kg	50		200	150	<50	400	140	90	<50	240		120	1,000			

Client: Veris	Sample ID	2018-AGT01	2018-AGT02	2018-AB01	NEPM 1999 (2013)	NEPM 1999 (2013)	NEPM 1999 (2013)	NEPM 1999 (2013)	NEPM 1999 (2013)	CRK Core Technical Report No.10	CRK Core Technical Report No.10	CRK Core Technical Report No.10	
P&S Reference: HB17559	Description	Under Above Ground Tank	Outfall of the Above Ground Tank Bund	West of the Dye House	Health Based Investigation Levels for Residential A (HL-A)	Soil Health Screening Levels for Vapour Intrusion, Low-Density Residential (H03-A)	Ecological Investigation Levels for Residential / Public Open Space	Ecological Screening Levels - Urban Residential and Public Open Space	Management Limits for TPH fractions in soils (Residential, Parkland and Public Open)	Health Screening Levels for Vapour Intrusion - Intrusive Maintenance Workers	Health Screening Levels for Direct Contact - Intrusive Maintenance	Health Screening Levels for Direct Contact - HSL-A (Low Density Residential)	
TABLE B.3 - SOILS - Above Ground Tank and Dye House	Units	LOR	Date	12/10/2018	12/10/2018	12/10/2018	Table 1A1	Table 1A3	Table 1B(1-5) - Fine	Table 1B(1-6) - Fine	Table 1 B(7)	Table B4	Table B3
Chromium													
Total Chromium	mg/kg	2		293	343	59							
Hexavalent Chromium	mg/kg	0.5		<0.5	<0.5		100-Hexavalent						
Trivalent Chromium	mg/kg			190	268			400					
Total Petroleum Hydrocarbons in Soil - Silica gel cleanup													
C10 - C14 Fraction	mg/kg	50		---	---	<50							
C15 - C28 Fraction	mg/kg	100		---	---	13500							
C29 - C36 Fraction	mg/kg	100		---	---	3480							
C10 - C36 Fraction (sum)	mg/kg	50		---	---	17000							
Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Silica gel cleanup													
>C10 - C16 Fraction	mg/kg	50		---	---	<50							
>C16 - C31 Fraction	mg/kg	100		---	---	16,200		1300	3,500	NI	62,000	1,300	
>C34 - C40 Fraction	mg/kg	100		---	---	260		5600	10,000	NI	85,000	4,500	
>C10 - C40 Fraction (sum)	mg/kg	50		---	---	16,500		6600	13,500	NI	120,000	6,300	
>C10 - C16 Fraction minus Naphthalene (F2)	mg/kg	50		---	---	<50		280	1,000	NI	62,000	1,300	
Total Petroleum Hydrocarbons													
C6 - C9 Fraction	mg/kg	10		<10	<10	<10							
C10 - C14 Fraction	mg/kg	50		<50	<50	<50							
C15 - C28 Fraction	mg/kg	100		4010	<100	16100							
C29 - C36 Fraction	mg/kg	100		5450	<100	5840							
C10 - C36 Fraction (sum)	mg/kg	50		10500	<50	21900							
Total Recoverable Hydrocarbons - NEPM 2013													
C6 - C10 Fraction	mg/kg	10		<10	<10	<10							
C6 - C10 Fraction minus BTEX (F1)	mg/kg	10		<10	<10	<10		50	880	NI	62,000	4,400	
>C10 - C16 Fraction	mg/kg	50		80	<50	90				NI	62,000	1,300	
>C16 - C31 Fraction	mg/kg	100		8,610	100	20,900		1300	3,500	NI	85,000	4,500	
>C34 - C40 Fraction	mg/kg	100		3430	<100	920		5600	10,000	NI	120,000	6,300	
>C10 - C40 Fraction (sum)	mg/kg	50		12100	100	21900							
>C10 - C16 Fraction minus Naphthalene (F2)	mg/kg	50		80	<50	90		280	1,000	NI	62,000	1,300	
BTEXN													
Benzene	mg/kg	0.2		<0.2	<0.2	<0.2		0.7		77	NI	120,000	100
Toluene	mg/kg	0.5		<0.5	<0.5	<0.5		480	105	NI	120,000	14,000	
Ethylbenzene	mg/kg	0.5		<0.5	<0.5	<0.5		NI	125	NI	85,000	1,500	
meta- & para-Xylene	mg/kg	0.5		<0.5	<0.5	<0.5							
ortho-Xylene	mg/kg	0.5		<0.5	<0.5	<0.5							
Sum of BTEX	mg/kg	0.5		<0.5	<0.5	<0.5							
Total Xylenes	mg/kg	0.2		<0.2	<0.2	<0.2		110		NI	130,000	12,000	
Naphthalene	mg/kg	1		<1	<1	<1		5	170	NI	29,000		

Client: Veris				Sample ID							IB 105 SOIL DISPOSAL CRITERIA (TOTAL CONCENTRATIONS)		
P&S Reference: HB17559				UST-ST-D-1	UST-ST-D-2	UST-ST-D-3	UST-DUP1	2018-AGT01	2018-AGT02	2018-MB01	Level 1 Fill Material Max mg/kg	Level 2 Low Level Contaminated Max mg/kg	Level 3 Contaminated Max mg/kg
Description				From stockpile	From stockpile	From stockpile	Duplicate of UST-ST-D-3	Under Above Ground Tank	Outfall of the Above Ground Tank Bund	West of the Dye House			
Table B-4: SOIL CLASSIFICATION FOR OFF-SITE DISPOSAL				Units	LOR	Date	12/10/2018	12/10/2018	12/10/2018	12/10/2018	12/10/2018	12/10/2018	12/10/2018
Chromium													
Total Chromium	mg/kg	2	mg/kg	18	48	17	24	293	343	59	50	500	5000
Hexavalent Chromium	mg/kg	0.5	mg/kg					<0.5	<0.5		1	200	2000
Trivalent Chromium	mg/kg		mg/kg					190	268				
Total Petroleum Hydrocarbons													
C6 - C9 Fraction	mg/kg	10	mg/kg	<10	<10	<10	<10	<10	<10	<10	65	650	1000
C10 - C14 Fraction	mg/kg	50	mg/kg	<50	<50	50	<50	<50	<50	<50			
C15 - C28 Fraction	mg/kg	100	mg/kg	<100	180	160	<100	4010	<100	16100			
C29 - C36 Fraction	mg/kg	100	mg/kg	<100	<100	<100	<100	6450	<100	5840			
C10 - C36 Fraction (sum)	mg/kg	50	mg/kg	<50	180	210	<50	10500	<50	21900	1000	5000	10000

Client: Veris	Sample ID	SPLIT 1	SA-SF-1m		SPLIT 2	2018-MB01	
P&S Reference: HB17559	Description	Primary	RPD		Primary	RPD	
TABLE B.6 - Split Comparison	Date	12/10/2018	12/10/2018		12/10/2018	12/10/2018	
Chromium							
Total Chromium	mg/kg	240	210	13%	70	59	16%
Total Petroleum Hydrocarbons in Soil - Silica gel cleanup							
C10 - C14 Fraction	mg/kg	----	----		25	<50	
C15 - C28 Fraction	mg/kg	----	----		14,000	13,500	4%
C29 - C36 Fraction	mg/kg	----	----		6,600	3,480	47%
C10 - C36 Fraction (sum)	mg/kg	----	----		20,625	17,000	18%
Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Silica gel cleanup							
>C10 - C16 Fraction	mg/kg	----	----		57	<50	
>C16 - C34 Fraction	mg/kg	----	----		22,000	16,200	26%
>C34 - C40 Fraction	mg/kg	----	----		340	260	24%
>C10 - C40 Fraction (sum)	mg/kg	----	----			16,500	
>C10 - C16 Fraction minus Naphthalene (F2)	mg/kg	----	----			<50	
Total Recoverable Hydrocarbons - NEPM 2013							
C6 - C10 Fraction	mg/kg	< 20	<10			<10	
C6 - C10 Fraction minus BTEX (F1)	mg/kg		<10			<10	
>C10 - C16 Fraction	mg/kg	< 50	<50			90	
>C16 - C34 Fraction	mg/kg	< 100	<100			20,900	
>C34 - C40 Fraction	mg/kg	< 100	<100			920	
>C10 - C40 Fraction (sum)	mg/kg	< 100	<50			21,900	
>C10 - C16 Fraction minus Naphthalene (F2)	mg/kg		<50			90	
BTEXN							
Benzene	mg/kg	< 0.1	<0.2		< 0.1	<0.2	
Toluene	mg/kg	< 0.1	<0.5		< 0.1	<0.5	
Ethylbenzene	mg/kg	< 0.1	<0.5		< 0.1	<0.5	
meta- & para-Xylene	mg/kg	< 0.2	<0.5		< 0.2	<0.5	
ortho-Xylene	mg/kg	< 0.1	<0.5		< 0.1	<0.5	
Sum of BTEX	mg/kg		<0.5			<0.5	
Total Xylenes	mg/kg	< 0.3	<0.2		< 0.3	<0.2	
Naphthalene	mg/kg	< 0.5	<1		< 0.5	<1	



CV of Report Author

Appendix C

pitt&sherry

Le Roux Sophie CV February 2019

Dr Sophie Le Roux**pitt&sherry**

Associate Environmental Scientist

Hobart Tasmania

**Contact**Email: sleroux@pittsh.com.au

Phone: (03) 6210 1465

**Qualifications
& professional affiliations**

- PhD (Marine Chemistry), University of Brest, France & University of Plymouth, UK
- Master of Science (Hons) (Marine and Analytical Chemistry), University of Brest
- DEUG Licence (Degree equivalent) (Chemistry), University of Brest
- Committee member, ALGA (Australasian Land and Groundwater Association)
- Member of EIANZ (Environment Institute of Australia and New Zealand)

Sophie is an environmental chemist with over 15 years' experience in regulatory compliance, contaminated land management and remediation, hazardous waste management and water quality assessment.

Sophie's experience includes: contaminated sites regulation at the Tasmanian EPA; scientific advice for the Savage River Rehabilitation Project; research with the Antarctic CRC and the UK Ministry of Food and Agriculture; environmental management at the Norske Skog paper mill; industrial, mining and agricultural contaminated site assessments; and environmental consulting in Victoria and with pitt&sherry.

Sophie has managed a wide variety of environmental projects and possesses a high level of technical expertise. She has a thorough knowledge of the state and national environmental legislative framework and regulatory requirements relevant to soil and water assessments and hazardous waste management. She has demonstrated experience in delivering projects with a rigorous and high-quality focus.

Focus**Contaminated land**

- Multi-phase assessments
- Industrial, petroleum, agricultural, mining and ports; and
- Risk assessment.

Waste management

- Hazardous waste classification and management (disposal and onsite reuse); and
- Remediation (hazardous wastes, industrial materials).

Water quality

- Monitoring programs (industrial, mining, landfills); and
- Geochemistry assessment and advice.

Project management, regulatory compliance, environmental monitoring, and reporting

Relevant experience

- Southern Waste Solutions (Copping waste management facility) – Ongoing advice on EPA waste disposal applications for acceptance and placement of hazardous wastes within the Category C cell (hazardous waste landfill) designed by Pitt&sherry.

Le Roux Sophie CV February 2019

- Tasports – contamination management advice – ongoing assistance for management of contaminated waste and dredge spoil stockpiles, including advice on reuse or remediation options. Facilitation of regulatory approvals for Burnie Port reclamation project.
- Assessment and Remediation for Former Mercury-Cell Plant (Norske-Skog Boyer) – Project manager for the contamination assessment and remediation of mercury contamination materials, plant equipment, soil and buildings. The remediation plan included a treatment and disposal options, cost benefit analysis and hazardous material safety training.
- Tasmanian Alkaloids – Preparation of land spreading management plans for a number of controlled waste by-products generated by poppies processing activities (spent marc, spent mother liquors, WTP biosolids). The management plans included calculation of application rates based on nutrient and contaminant limitations, and an assessment of environmental impact.
- Northbank redevelopment – Project manager, multi-phase environmental site assessment for redevelopment of a large multiple use industrial area into a recreational park. The assessment included detailed soil investigations, the development of a groundwater monitoring network, Conceptual Site Model development, risk assessment and remediation. Construction Environmental Management Plans were prepared for the various stages of redevelopment.
- Bell Bay woodchipping facility – Project manager, due diligence assessment of a large facility in the Bell Bay industrial precinct. The assessment included detailed soil and groundwater investigations and the development of site specific assessment criteria.
- Australian Weaving Mills – Project manager, environmental site assessment of a former textile manufacturing factory in Devonport to determine the suitability of the site for a more sensitive use. The assessment included multi-phase investigation and remediation works, as well as the development of a decommissioning and rehabilitation plan.
- Assessment of former wastewater treatment facility (Clarence City Council) – Phase 1 and Phase 2 environmental site investigations to assess the suitability of the land for residential redevelopment of the former wastewater treatment ponds. The investigations included extensive sampling and risk assessment of the potential risk caused to human and ecological receptors.
- Old Town Gas Pipes Removal (City of Launceston) – Project manager, environmental assessment works for the removal of old town gas pipes in the Launceston Town Mall. This included the preparation of specific work procedures in conjunction with the contractor, the use of specific gas screening detectors and personal protective equipment, and the preparation of a Construction Environmental Management Plan.
- Port Arthur Historic Site – Project manager, decommissioning assessment for an underground petroleum storage system (UPSS) at the Port Arthur Historic Site, Works Yard. The assessment included soil remediation, groundwater bore installation and monitoring, and liaison with EPA.
- University of Tasmania – Project manager, environmental site assessments for the redevelopment of urban commercial/industrial parcels into student accommodation.
- Mineral Resources Tasmania (Storys Creek and South Comet) – Options assessment for management of acid mine drainage at derelict mines in north-west and north-east Tasmania.
- Derwent Estuary Environmental Monitoring (Derwent Estuary Project / Norske Skog) – Ambient monitoring to assess and monitor long-term impact of past and present industrial activities on Derwent Estuary sediments and water. Projects included coordination between other industrial stakeholders and Tasmanian EPA.
- Assessment of contamination from Underground Petroleum Storage Systems (UPSS) – Project manager for environmental assessments at many UPSS removal sites.
- Assessment of suitability of spent casting sands reuse (Hazell Bros) – Project manager for assessment of materials and provision of advice for reuse.
- Environmental Management Plan for greywater reuse at a nursing home (VIC) - Project manager for preparation of EMP, determination of environmental impact of greywater reuse and management options.
- Wastewater Impact Assessment, Wineries and Aquaculture (McGuigan Simeon, Roberts Estate, Wingara Estate, Huon Aquaculture) – Environmental assessment of land lots receiving wastewater irrigation from wineries. Assessment included monitoring and integrated review of effluent, soil and groundwater data. Impact analysis included recommendations for wastewater treatment and irrigation.
- Industrial Contaminated Sites Assessment (Angas Park) – Phase 1 and Phase 2 environmental site assessment (ESA) of former fruit storage facility and mechanical workshop.
- Agriculture contamination assessments – Project manager for environmental assessments of agricultural land at various interstate sites (NSW, VIC, SA).
- Environmental compliance monitoring and reporting – Prepared environmental monitoring reports for various industries (wineries, paper mill, landfills, chemical processing plants).
- Environmental approvals – Prepared environmental approvals reports for various industries (irrigation developments, aquaculture, mining) in Tasmania and interstate.

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Previous Experience

- Savage River Rehabilitation Project (Grange Resources) – Expert scientific support to Savage River Rehabilitation Project committee for water quality audits and budgets. Project included review of remediation treatments for old tailing dams and waste rock dumps, and advice on environmental management options. Water quality audits included a review of long-term mine monitoring data and assessment of impact from remediation activities.
- Senior Environmental Scientist, Sunraysia Environmental, Mildura, Victoria – Responsible for project management and coordination of multidisciplinary projects; contaminated site assessment and remediation for industrial sites, underground fuel storage tanks, agricultural land, wastewater and groundwater; environmental monitoring and reporting (soil, groundwater, wastewater); soil and groundwater salinity assessments; and planning approvals for large irrigation developments.
- Environment Officer (Norske-Skog Boyer, Tasmania):
 - Assessment and remediation of former mercury-cell plant: Project manager for contamination assessment and remediation of mercury contaminated materials, plant equipment, soil and buildings.
 - Environmental monitoring of mill effluents and monitoring of contaminants in River Derwent (Derwent Estuary Program). Provision of technical support to paper-making and effluent treatment systems to ensure compliance with environmental permit.
- Marine Chemist, Antarctic CRC, University of Tasmania, Hobart – Research into dissolved organic carbon transport in the Southern Ocean. Participated in a six-week ANARE marine science voyage to Antarctica / Southern Ocean.
- Postdoctoral Researcher, UK Ministry of Agriculture, Fisheries and Food / UoP – Development of procedure for analysis of total and organic mercury in foodstuffs



Register Groundwater Bores (DPIPWE)

Appendix D

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The screenshot shows the 'The Groundwater Information Access Portal' interface. At the top left is the Tasmania logo with the tagline 'Define the possibilities'. The main header reads 'The Groundwater Information Access Portal' and 'Department of Primary Industries, Parks, Water and Environment'. On the right, there are links for 'Contact' and 'Disclaimer', and a row of four small images showing various water-related activities. Below the header is a navigation toolbar with options like 'Pan', 'Zoom In', 'Zoom Out', 'Measure Distance', 'Set Search Area', 'Zoom to Location', 'Labels', 'Map Layers', 'Search Mode', 'Home', 'Back', 'Forward', 'Measure Area', 'Select Features', 'Help', 'Replace', 'Add to', and 'Refine'. The central part of the screen is a map showing a street grid in Devonport, Tasmania, with red lines indicating bore locations. Labels on the map include 'FQV68', 'soccer ground', 'AM', 'ROAD', and 'ST'. Below the map, there are buttons for 'Feature Set', 'Zoom to Features', 'Zoom to Selections', 'View', 'Reports...', and 'Clear all'. To the right of these buttons is an 'Info Guide' and a count of '8 features'. Below the map area is a 'Web Portal View' section containing a table with the following data:

	Feature id	Feature type	Locality name	Easting	Northing	Datum	Coordinate accuracy (m)	Drilled date	Drilling company
1	17065	Bore	Devonport	445213	5440783	GDA94	1000	19/06/1997	Lewis (Columbus)
2	17066	Bore	Devonport	445213	5440793	GDA94	1000	26/06/1997	Lewis (Columbus)
3	17067	Bore	Devonport	445213	5440803	GDA94	1000		Gerald Spaulding Drillers Pty Ltd
4	17068	Bore	Devonport	445213	5440813	GDA94	1000	18/12/1997	Gerald Spaulding Drillers Pty Ltd
5	17069	Bore	Devonport	445213	5440823	GDA94	1000	19/12/1997	Gerald Spaulding Drillers Pty Ltd
6	30752	Bore	Devonport	445121	5440718	GDA94	50	15/03/2001	Gerald Spaulding Drillers Pty Ltd
7	30753	Bore	Devonport	445289	5440848	GDA94	50	20/03/2001	Gerald Spaulding Drillers Pty Ltd
8	40494	Bore	Devonport	445253	5440711	GDA94	25	19/01/2009	Gerald Spaulding Drillers Pty Ltd

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**Groundwater Feature
Detailed Report**

Identification **Feature id:** 17065 **Feature type:** Bore

Location **Locality:** Devonport
Easting: 445213 **Datum:** GDA94
Northing: 5440783 **Accuracy:** 1000
Ground level (m ASL):

Construction **Date drilled:** 19/06/1997
Drilling company: Lewis (Columbus)
Depth (metres): 34.80
Initial yield (L/sec): 8.21
Initial EC (µS/cm):

Bore diameters

From (m)	To (m)	Diameter (mm)	Drilling technique
0.0	34.8	165.00	Air Percussion (Rotary air - R)

Casings

From (m)	To (m)	Inside diameter (mm)	Outside diameter (mm)	Material
0.0	34.5		127.00	unknown

Screens

From (m)	To (m)	Inlet type
NA		

Seals

From (m)	To (m)	Material type
NA		

**Geological /
Hydrogeological
Information****Lithological Log**

From (m)	To (m)	Lithological description
0.0	0.3	concrete
0.3	34.8	basalt

Depth to water struck

Date	From (m)	To (m)	Cumulative yield
19/06/1997	27.5		8.21

Main aquifer geology: Tertiary Basalt**Final TDS (mg/L):****Standing Water
Levels****Standing water levels**

Date	SWL (metres)
19/06/1997	2.40

**Groundwater Feature
Detailed Report**

Current status

Last recorded statuses

Type	Value	Date recorded
function	Unknown	19/06/1997

**Groundwater Feature
Detailed Report**

Identification **Feature id:** 17066 **Feature type:** Bore

Location **Locality:** Devonport
Easting: 445213 **Datum:** GDA94
Northing: 5440793 **Accuracy:** 1000
Ground level (m ASL):

Construction **Date drilled:** 26/06/1997
Drilling company: Lewis (Columbus)
Depth (metres): 32.90
Initial yield (L/sec): 12.00
Initial EC (µS/cm):

Bore diameters

From (m)	To (m)	Diameter (mm)	Drilling technique
0.0	32.9	165.00	Air Percussion (Rotary air - R)

Casings

From (m)	To (m)	Inside diameter (mm)	Outside diameter (mm)	Material
0.0	32.9		127.00	unplasticised polyvinylchloride uPVC

Screens

From (m)	To (m)	Inlet type
0.0	32.9	slotted casing

Seals

From (m)	To (m)	Material type
NA		

**Geological /
Hydrogeological
Information****Lithological Log**

From (m)	To (m)	Lithological description
0.0	0.3	concrete
0.3	32.9	basalt

Depth to water struck

Date	From (m)	To (m)	Cumulative yield
26/06/1997	29.0		12.00

Main aquifer geology: Tertiary Basalt**Final TDS (mg/L):****Standing Water
Levels****Standing water levels**

Date	SWL (metres)
26/06/1997	3.70

**Groundwater Feature
Detailed Report**

Current status

Last recorded statuses

Type	Value	Date recorded
function	Unknown	26/06/1997

**Groundwater Feature
Detailed Report**

Identification **Feature id:** 17067 **Feature type:** Bore

Location **Locality:** Devonport

Easting: 445213 **Datum:** GDA94

Northing: 5440803 **Accuracy:** 1000

Ground level (m ASL):

Construction **Date drilled:**

Drilling company: Gerald Spaulding Drillers Pty Ltd

Depth (metres): 100.60

Initial yield (L/sec): 2.53

Initial EC (µS/cm):

Bore diameters

From (m)	To (m)	Diameter (mm)	Drilling technique
0.0	100.6	203.00	Air Percussion (Rotary air - R)

Casings

From (m)	To (m)	Inside diameter (mm)	Outside diameter (mm)	Material
NA				

Screens

From (m)	To (m)	Inlet type
NA		

Seals

From (m)	To (m)	Material type
NA		

**Geological /
Hydrogeological
Information****Lithological Log**

From (m)	To (m)	Lithological description
0.0	0.9	top soil
0.9	6.1	clay
6.1	9.2	decomposed basalt
9.2	10.7	broken basalt
10.7	18.3	basalt
18.3	33.6	fine grained/hard basalt
33.6	48.8	soft basalt
48.8	68.6	hard fine grained basalt
68.6	76.3	decomposed basalt with occasional grey clay
76.3	91.5	basalt
91.5	100.6	

**Groundwater Feature
Detailed Report**

Depth to water struck

Date	From (m)	To (m)	Cumulative yield
	10.7		
	38.1		
	73.2		2.53

Main aquifer geology: Tertiary Basalt
Final TDS (mg/L):

**Standing Water
Levels**

Standing water levels

Date	SWL (metres)
NA	

Current status

Last recorded statuses

Type	Value	Date recorded
function	abandoned	

**Groundwater Feature
Detailed Report**

Identification	Feature id: 17068	Feature type: Bore
Location	Locality: Devonport	
	Easting: 445213	Datum: GDA94
	Northing: 5440813	Accuracy: 1000
	Ground level (m ASL):	
Construction	Date drilled: 18/12/1997	
	Drilling company: Gerald Spaulding Drillers Pty Ltd	
	Depth (metres): 57.90	
	Initial yield (L/sec): 8.84	
	Initial EC (µS/cm):	

Bore diameters

From (m)	To (m)	Diameter (mm)	Drilling technique
0.0	57.9	203.00	Air Percussion (Rotary air - R)

Casings

From (m)	To (m)	Inside diameter (mm)	Outside diameter (mm)	Material
0.0	57.9		203.00	steel
0.0	57.9		254.00	steel
0.0	57.9		152.00	unplasticised polyvinylchloride uPVC

Screens

From (m)	To (m)	Inlet type
NA		

Seals

From (m)	To (m)	Material type
NA		

**Geological /
Hydrogeological
Information****Lithological Log**

From (m)	To (m)	Lithological description
	0.0	0.3 fill
	0.3	1.5 broken basalt/clay
	1.5	29.0 dolerite
	29.0	33.6 fractured dolerite
	33.6	46.4 dolerite
	46.4	47.0 fractured dolerite
	47.0	57.9 dolerite

**Groundwater Feature
Detailed Report**

Depth to water struck

Date	From (m)	To (m)	Cumulative yield
18/12/1997	29.0		
18/12/1997	32.0		
18/12/1997	46.7		8.84

Main aquifer geology: Tertiary Basalt

Final TDS (mg/L):

**Standing Water
Levels**

Standing water levels

Date	SWL (metres)
NA	

Current status

Last recorded statuses

Type	Value	Date recorded
function	functioning	18/12/1997

**Groundwater Feature
Detailed Report**

Identification	Feature id:	17069	Feature type:	Bore
Location	Locality:	Devonport	Easting:	445213
	Ground level (m ASL):		Datum:	GDA94
			Northing:	5440823
			Accuracy:	1000
Construction	Date drilled:	19/12/1997	Drilling company:	Gerald Spaulding Drillers Pty Ltd
	Depth (metres):	51.90	Initial yield (L/sec):	7.58
	Initial EC (µS/cm):			

Bore diameters

From (m)	To (m)	Diameter (mm)	Drilling technique
0.0	51.9	203.00	Air Percussion (Rotary air - R)

Casings

From (m)	To (m)	Inside diameter (mm)	Outside diameter (mm)	Material
0.0	15.2		203.00	steel
0.0	51.9		152.00	unplasticised polyvinylchloride uPVC

Screens

From (m)	To (m)	Inlet type
NA		

Seals

From (m)	To (m)	Material type
NA		

**Geological /
Hydrogeological
Information****Lithological Log**

From (m)	To (m)	Lithological description
0.0	0.6	road fill
0.6	4.6	dry red clay
4.6	12.2	soft wet clay
12.2	14.3	broken dolerite
14.3	25.9	dolerite ?
25.9	26.5	fractured dolerite
26.5	31.1	dolerite
31.1	34.2	fractured dolerite
34.2	42.7	dolerite

**Groundwater Feature
Detailed Report**

Depth to water struck

Date	From (m)	To (m)	Cumulative yield
19/12/1997	27.5		
19/12/1997	31.0	34.5	7.58

Main aquifer geology: Tertiary Basalt
Final TDS (mg/L):

**Standing Water
Levels**

Standing water levels

Date	SWL (metres)
NA	

Current status

Last recorded statuses

Type	Value	Date recorded
function	functioning	19/12/1997

**Groundwater Feature
Detailed Report**

Identification **Feature id:** 30752 **Feature type:** Bore

Location **Locality:** Devonport

Easting: 445121 **Datum:** GDA94

Northing: 5440718 **Accuracy:** 50

Ground level (m ASL):

Construction **Date drilled:** 15/03/2001

Drilling company: Gerald Spaulding Drillers Pty Ltd

Depth (metres): 91.40

Initial yield (L/sec): 10.10

Initial EC (µS/cm):

Bore diameters

From (m)	To (m)	Diameter (mm)	Drilling technique
0.0	91.4	203.00	Downhole Hammer (Rotary Hammer)

Casings

From (m)	To (m)	Inside diameter (mm)	Outside diameter (mm)	Material
0.0	80.8	152.00	152.00	unplasticised polyvinylchloride uPVC

Screens

From (m)	To (m)	Inlet type
NA		

Seals

From (m)	To (m)	Material type
NA		

**Geological /
Hydrogeological
Information****Lithological Log**

From (m)	To (m)	Lithological description
0.0	4.6	Clay, loose basalt
4.6	91.4	Basalt

Depth to water struck

Date	From (m)	To (m)	Cumulative yield
14/03/2001	33.5		2.53
14/03/2001	57.9		10.10

Main aquifer geology: Tertiary Basalt

Final TDS (mg/L):

**Groundwater Feature
Detailed Report****Standing Water
Levels*****Standing water levels***

Date	SWL (metres)
NA	

Current status***Last recorded statuses***

Type	Value	Date recorded
function	functioning	14/03/2001

	Groundwater Feature Detailed Report
--	--

Identification	Feature id: 30753	Feature type: Bore	
Location	Locality: Devonport		
	Easting: 445289	Datum: GDA94	
	Northing: 5440848	Accuracy: 50	
	Ground level (m ASL):		
Construction	Date drilled: 20/03/2001		
	Drilling company: Gerald Spaulding Drillers Pty Ltd		
	Depth (metres): 91.40		
	Initial yield (L/sec): 1.01		
	Initial EC (μ S/cm):		

Bore diameters

From (m)	To (m)	Diameter (mm)	Drilling technique
0.0	91.4	203.00	Downhole Hammer (Rotary Hammer)

Casings

From (m)	To (m)	Inside diameter (mm)	Outside diameter (mm)	Material
NA				

Screens

From (m)	To (m)	Inlet type
NA		

Seals

From (m)	To (m)	Material type
NA		

**Geological /
Hydrogeological
Information****Lithological Log**

From (m)	To (m)	Lithological description
0.0	4.6	Clay
4.6	91.4	Basalt

Depth to water struck

Date	From (m)	To (m)	Cumulative yield
20/03/2001	42.7		1.01

Main aquifer geology: Tertiary Basalt

Final TDS (mg/L):

**Standing Water
Levels****Standing water levels**

Date	SWL (metres)
NA	

**Groundwater Feature
Detailed Report**

Current status

Last recorded statuses

Type	Value	Date recorded
function	abandoned	20/03/2001

**Groundwater Feature
Detailed Report**

Identification **Feature id:** 40494 **Feature type:** Bore

Location **Locality:** Devonport

Easting: 445253 **Datum:** GDA94

Northing: 5440711 **Accuracy:** 25

Ground level (m ASL):

Construction **Date drilled:** 19/01/2009

Drilling company: Gerald Spaulding Drillers Pty Ltd

Depth (metres): 180.00

Initial yield (L/sec):

Initial EC (µS/cm):

Bore diameters

From (m)	To (m)	Diameter (mm)	Drilling technique
5.0	180.0	162.00	Downhole Hammer (Rotary Hammer)
0.0	5.0	250.00	Rotary (Rotary Mud)

Casings

From (m)	To (m)	Inside diameter (mm)	Outside diameter (mm)	Material
0.0	5.0	250.00		steel

Screens

From (m)	To (m)	Inlet type
NA		

Seals

From (m)	To (m)	Material type
NA		

**Geological /
Hydrogeological
Information****Lithological Log**

From (m)	To (m)	Lithological description
0.0	3.0	Overburden
3.0	5.0	Clay
5.0	28.0	Broken dolerite
32.0	120.0	Dolerite
120.0	122.0	Broken dolerite
122.0	180.0	Dolerite

Depth to water struck

Date	From (m)	To (m)	Cumulative yield
19/01/2009	28.0	32.0	1.52
19/01/2009	120.0	122.0	2.78

Main aquifer geology: Tertiary Basalt

Final TDS (mg/L):

**Groundwater Feature
Detailed Report**

**Standing Water
Levels**

Standing water levels

Date	SWL (metres)
19/01/2009	
19/01/2009	
19/01/2009	12.00

Current status

Last recorded statuses

Type	Value	Date recorded
function	capped	19/01/2009



Bore Logs

Appendix E

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FIELD IDENTIFICATION

COARSE GRAINED SOILS more than 50% of material less than 63mm is larger than 0.075mm	GRAVELS	GW	Well graded gravels and gravel-sand mixtures, little or no fines	
		GP	Poorly graded gravels and gravel-sand mixtures, little or no fines	
		GRAVELL Y SOILS	GM	Silty gravels, gravel-sand-silt mixtures, non-plastic fines
			GC	Clayey gravels, gravel-sand-clay mixtures, plastic fines
	SANDS	SW	Well graded sands and gravelly sands, little or no fines	
		SP	Poorly graded sands and gravelly sands, little or no fines	
	SANDY SOILS	SM	Silty sand, sand-silt mixtures, non-plastic fines	
		SC	Clayey sands, sand-clay mixtures, plastic fines	

Soils are described in accordance with the Unified Soil Classification System (USCS), as shown in the following table.

		DRY STRENGTH	DILATANCY	TOUGHNESS		
FINE GRAINED SOILS more than 50% of material less than 63mm is less than 0.075mm	SILT & CLAY, liquid limit less than 50%	ML	Inorganic silts, very fine sands or clayey fine sands	None to low	Quick to slow	None
	SILT & CLAY, liquid limit greater than 50%	CL	Inorganic clays or low to medium plasticity, gravelly clays, sandy clays and silty clays	Medium to high	None to very slow	Medium
		OL	Organic silts and organic silty clays of low plasticity	Low to medium	Slow	Low
		MH	Inorganic silts, micaceous or diatomaceous fine sands or silts	Low to medium	Slow to none	Low to medium
		CH	Inorganic clays of high plasticity, fat clays	High	None	High
		OH	Organic clays of medium to high plasticity	Medium to high	None to very slow	Low to medium
PEAT	Pt	Peat muck and other highly organic soils				

Particle size descriptive terms

Name	Subdivision	Size
Boulders		>200mm
Cobbles		63mm to 200mm
Gravel	coarse	20mm to 63mm
	medium	6mm to 20mm
	fine	2.36mm to 6mm
Sand	coarse	600µm to 2.36mm
	medium	200µm to 600µm
	fine	75µm to 200µm

Consistency of cohesive soils

Term	Undrained strength	Field guide
Very soft	VS <12kPa	A finger can be pushed well into soil with little effort
Soft	S 12 - 25kPa	Easily penetrated several cm by fist
Firm	F 25 - 50kPa	Soil can be indented about 5mm by thumb
Stiff	St 50-100kPa	Surface can be indented but not penetrated by thumb
Very stiff	VSt 100-200kPa	Surface can be marked but not indented by thumb
Hard	H >200kPa	Indented with difficulty by thumb nail
Friable	Fb -	Crumbles or powders when scraped by thumb nail

Moisture Condition

Dry (D)	Looks and feels dry. Cohesive soils are hard, friable or powdery. Granular soils run freely through fingers.
Moist (M)	Soil feels cool, darkened in colour. Cohesive soils are usually weakened by moisture presence, granular soils tend to cohere.
Wet (W)	As for moist soils, but free water forms on hands when sample is handled

Density of granular soils

Term	Density index
Very loose	<35%
Loose	15 to 35%
medium dense	35 to 65%
Dense	65 to 85%
Very dense	>85%

Cohesive soils can also be described relative to their plastic limit, ie: <Wp, =Wp, >Wp

The plastic limit is defined as the minimum water content at which the soil can be rolled into a thread 3mm thick.

Minor Components

Term	Proportions	Observed properties
Trace of	Coarse grained: <5% Fine grained: <15%	Presence just detectable by feel or eye. Soil properties little or no different to general properties of primary component.
With some	Coarse grained: 5-12% Fine grained: 15-30%	Presence easily detected by feel or eye. Soil properties little different to general properties of primary component.



ENGINEERING BORE HOLE LOG

Borehole no. BH1

Client : AWM
Project : Environmental Investigation
Location : 41 Tasman Street, Devonport

Sheet no. 1 of 1
Job no. LN14245

Date : 18/02/2015
Logged By : FH

Drill model: Hydra Power Trekker 2100
Hole diameter: 150mm

RL Surface :
Datum :

Method	Penetration				Notes Samples Tests	Groundwater Monitoring Well	Graphic Log	Classification	Material Description	Moisture Condition	Consistency density, index	Structure, additional observations
	1	2	3	4								
hand								CONCRETE			0.0-0.5m Bentonite seal	
								GRAVEL			FILL	
tube pushing								CH SILTY CLAY, green/grey	D	Fb	PID = 0.0 ppm 0.5-3.5m Sand backfill	
								GRAVELLY CLAY, dark grey/black	D	Fb	PID = 20.0 ppm	
HF augering								black			PID = 111 ppm	
									M-W		PID = 400 ppm	
hammering									W		PID = 2.2 ppm	
								BASALT				
								Terminated at 3.5m.				



ENGINEERING BORE HOLE LOG

Borehole no. BH2

Client : AWM
Project : Environmental Investigation
Location : 41 Tasman Street, Devonport

Sheet no. 1 of 1
Job no. LN14245

Date : 18/02/2015
Logged By : FH

Drill model: Hydra Power Trekker 2100

Hole diameter: 150mm

RL Surface :
Datum :

Method	Penetration				Notes Samples Tests	Groundwater Monitoring Well	Graphic Log	Classification	Material Description	Moisture Condition	Consistency density, index	Structure, additional observations
	1	2	3	4								
hand								CONCRETE			0.0-0.5m Bentonite seal	
								GRAVELLY SAND, brown	D	MD	FILL, PID = 0.0 ppm 0.5-4.0m Sand backfill	
HF augering								CH CLAY, brown	M	Fb	PID = 12.3 ppm	
								BASALT			PID = 25 ppm	
hammering								Terminated at 4.0m.				



ENGINEERING BORE HOLE LOG

Borehole no. BH3

Client : AWM
 Project : Environmental Investigation
 Location : 41 Tasman Street, Devonport

Sheet no. 1 of 1
 Job no. LN14245

Date : 18/02/2015
 Logged By : FH

Drill model: Hydra Power Trekker 2100

Hole diameter: 150mm

RL Surface :
 Datum :

Method	Penetration				Notes Samples Tests	Groundwater Monitoring Well	Graphic Log	Classification	Material Description	Moisture Condition	Consistency density, index	Structure, additional observations
	1	2	3	4								
hand								Concrete			0.0-0.75m Bentonite seal	
								FILL, bricks in clayey matrix				
HF augering							CH	CLAY, black	M	F-St	PID = 0.0 ppm 0.75-3.5m Sand backfill PID = 8.3 ppm PID = 20 ppm	
hammering								BASALT				
								Terminated at 3.5m.				



pitt&sherry

FIELD IDENTIFICATION

COARSE GRAINED SOILS more than 50% of material less than 63mm is larger than 0.075mm	GRAVELLY SOILS	GW	Well graded gravels and gravel-sand mixtures, little or no fines
		GP	Poorly graded gravels and gravel-sand mixtures, little or no fines
		GM	Silty gravels, gravel-sand-silt mixtures, non-plastic fines
		GC	Clayey gravels, gravel-sand-clay mixtures, plastic fines
	SANDS	SW	Well graded sands and gravelly sands, little or no fines
		SP	Poorly graded sands and gravelly sands, little or no fines
	SANDY SOILS	SM	Silty sand, sand-silt mixtures, non-plastic fines
		SC	Clayey sands, sand-clay mixtures, plastic fines

Soils are described in accordance with the Unified Soil Classification System (USCS), as shown in the following table.

FINE GRAINED SOILS more than 50% of material less than 63mm is less than 0.075mm	SILT & CLAY, liquid limit less than 50%	SILT & CLAY, liquid limit greater than 50%		DRY STRENGTH			DILATANCY			TOUGHNESS		
				ML	Inorganic silts, very fine sands or clayey fine sands	None to low	Quick to slow	None				
				CL	Inorganic clays or low to medium plasticity, gravelly clays, sandy clays and silty clays	Medium to high	None to very slow	Medium				
				OL	Organic silts and organic silty clays of low plasticity	Low to medium	Slow	Low				
				MH	Inorganic silts, micaceous or diatomaceous fine sands or silts	Low to medium	Slow to none	Low to medium				
				CH	Inorganic clays of high plasticity, fat clays	High	None	High				
				OH	Organic clays of medium to high plasticity	Medium to high	None to very slow	Low to medium				
PEAT	Pt	Peat muck and other highly organic soils										

Particle size descriptive terms

Name	Subdivision	Size
Boulders		>200mm
Cobbles		63mm to 200mm
Gravel	coarse	20mm to 63mm
	medium	6mm to 20mm
	fine	2.36mm to 6mm
Sand	coarse	600µm to 2.36mm
	medium	200µm to 600µm
	fine	75µm to 200µm

Moisture Condition

Dry (D)	Looks and feels dry. Cohesive soils are hard, friable or powdery. Granular soils run freely through fingers.
Moist (M)	Soil feels cool, darkened in colour. Cohesive soils are usually weakened by moisture presence, granular soils tend to cohere.
Wet (W)	As for moist soils, but free water forms on hands when sample is handled

Cohesive soils can also be described relative to their plastic limit, ie: <Wp, =Wp, >Wp

The plastic limit is defined as the minimum water content at which the soil can be rolled into a thread 3mm thick.

Consistency of cohesive soils

Term	Undrained strength	Field guide
Very soft	VS <12kPa	A finger can be pushed well into soil with little effort
Soft	S 12 - 25kPa	Easily penetrated several cm by fist
Firm	F 25 - 50kPa	Soil can be indented about 5mm by thumb
Stiff	St 50-100kPa	Surface can be indented but not penetrated by thumb
Very stiff	VSt 100-200kPa	Surface can be marked but not indented by thumb
Hard	H >200kPa	Indented with difficulty by thumb nail
Friable	Fb -	Crumbles or powders when scraped by thumb nail

Density of granular soils

Term	Density index
Very loose	<35%
Loose	15 to 35%
medium dense	35 to 65%
Dense	65 to 85%
Very dense	>85%

Minor Components

Term	Proportions	Observed properties
Trace of	Coarse grained: <5% Fine grained: <15%	Presence just detectable by feel or eye. Soil properties little or no different to general properties of primary component.
With some	Coarse grained: 5-12% Fine grained: 15-30%	Presence easily detected by feel or eye. Soil properties little different to general properties of primary component.



ENGINEERING BORE HOLE LOG

Borehole no. BH4

Client : AWM
 Project : Environmental Investigation
 Location : 41 Tasman Street, Devonport

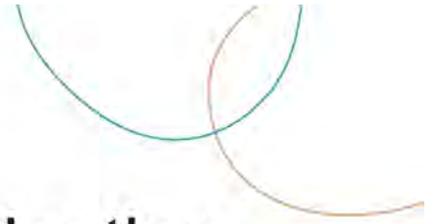
Sheet no. 1 of 1
 Job no. LN14245

Date : 17/02/2015
 Logged By : FH

Drill model: Hydra Power Trekker 2100
 Hole diameter: 150mm
 Location: 0445111 mE 5440712 mN

RL Surface :
 Datum : GDA94 Zone 55

Method	Penetration				Notes Samples Tests	Groundwater Monitoring Well	Graphic Log	Classification	Material Description	Moisture Condition	Consistency density, index	Structure, additional observations
	1	2	3	4								
tube pushing							GP	SANDY GRAVEL, grey	D	MD	Fill 0-1.5m clay backfill	
						0.50	CH	CLAY, grey/brown with a trace of gravel	M	St	PID = 3.7 ppm Fill	
						1.00		orange/brown SILTY Clay, brown with some organics			PID = 6.0 ppm	
						1.50					1.5-2.0m Bentonite seal	
						2.00		brown/orange			2.0-5.5m Sand backfill	
						2.50		blue/green			PID = 20 ppm	
						3.00					PID = 10 ppm	
						3.50						
						4.00						
						4.50						
hammering						5.00						
								BASALT				
											Terminated at 5.5m.	



Preliminary Site Investigation Report (SKM)

Appendix F

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Preliminary Site Investigation

AUSTRALIAN WEAVING MILLS

Preliminary Site Investigation Report

VT30534-0033 | R01

08 May 2014





Preliminary Site Investigation

Project no: VT30534
 Document title: Preliminary Site Investigation Report
 Document no: VT30534-0033
 Revision: Draft B
 Date: 14 Feb 2014
 Client name: Australian Weaving Mills
 Client no: 31926
 Project manager: Adela Parnell
 Author: Adela Parnell
 File name: [http://dmca-apac.skmconsulting.com/sites/VT30534/DmcaConsult/Technical/Preliminary Site Investigation Report.docx](http://dmca-apac.skmconsulting.com/sites/VT30534/DmcaConsult/Technical/Preliminary%20Site%20Investigation%20Report.docx)

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Document history and status

Revision	Date	Description	By	Review	Approved
Draft A	12/03/14	Initial PD review	A. McConachy		
Draft B	21/03/14	Practice Review	D. Coutts		
Draft C	08/05/14	PD Review	A. McConachy		

Preliminary Site Investigation Report

SKM

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Appendix C. The Groundwater Information Portal results

Appendix D. Historical Aerial Photographs

Appendix E. EPA Site Information Request Results

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F.1 Groundwater sustainability report

F.2 Energy Audit

F.3 Pump Testing Report

Preliminary Site Investigation Report



Executive summary

Outline of Assessment and Findings

Australian Weaving Mills (AWM) engaged Sinclair Knight Merz (SKM) to undertake an environmental Preliminary Site Investigation (PSI) for the factory site at 117 Tasman Street, Devonport (the site).

This work has been undertaken in preparation for developing a decommissioning and rehabilitation plan for the site. The primary purpose of this investigation is to provide AWM with advice in relation to the potential for soil and/or groundwater contamination to be present and, if necessary, provide recommendations for further investigations.

The following tasks were completed:

- Review of historical site information
- Review of the environmental setting of the site
- Identification of potential areas of contamination

The PSI identified the following areas which could potentially be contaminated based on historical use of the site:

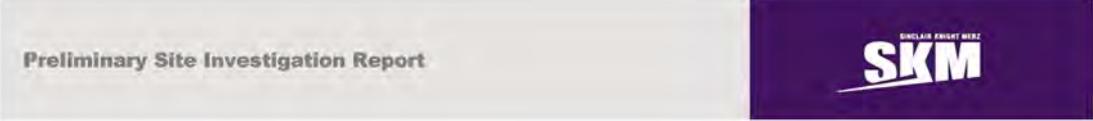
- Surrounding the underground storage tank (UST)
- Surrounding the above ground storage tank (AST)
- Surrounding the transfer lines between the AST and dye-house
- Surrounding the transfer lines between the AST and boiler house
- Surrounding the boiler house
- Where vegetable-based oil staining is evident on the exterior of the western dye-house wall
- Where dyes have been stored in the dye-house
- Where items have been stored for a number of years on the ground south of the greige building and weaving shed
- Where diesel may have been stored on the northern wall of the greige building

Conclusions

The site has an extensive history of industrial use as a weaving mill. There could potentially be contaminated areas on site resulting from these activities. Potential risks for future development on the site include:

- Direct contact, ingestion and inhalation of impacted soils (by construction workers/maintenance workers or site users)
- Direct contact, ingestion and inhalation of impacted groundwater by construction workers
- The waste classification of soils may be affected by any encountered contaminated materials. This would likely have timing and cost implications for disposal of contaminated material.
- If groundwater was found to be impacted, it may affect future groundwater uses at and surrounding the site

Potential contamination should be assessed as part of an on-site investigation program (intrusive soil sampling and sampling of existing groundwater bores) to adequately quantify the above potential risks. However careful consideration of the future use of the site and potential alternative land uses should be taken into account when determining risks of any likely contamination.

The header consists of a light grey rectangular box on the left containing the text 'Preliminary Site Investigation Report' and a dark purple rectangular box on the right containing the SKM logo. The SKM logo features the letters 'SKM' in a bold, white, sans-serif font, with the tagline 'SINCE 1981' in a smaller font above it.

Preliminary Site Investigation Report

SKM
SINCE 1981

Recommendations

An on-site investigation is recommended to provide greater clarification of the extent of any contamination on site, allowing the identified risks to be appropriately quantified and managed during future decommissioning, rehabilitation or development of the site. It is recommended that further works include:

- Investigation of the chemical characteristics of potentially contaminated soils and the extent of contamination in targeted areas where contamination may exist. This has not previously been assessed and may have an impact upon disposal options during decommissioning, rehabilitation or future development of the site.
- Further investigation of the chemical characteristics of natural soils on site. To confirm natural soils are classified as "Fill Material" under the Tasmania EPA waste classification criteria.
- Further investigation of the chemical characteristics of the underlying groundwater by sampling the existing on-site bores where possible

Preliminary Site Investigation Report**SKM**
SINCLAIR KNIGHT MERZ**Important note about your report**

The sole purpose of this report and the associated services performed by Sinclair Knight Merz ("SKM") is to conduct a Preliminary Site Investigation in accordance with the scope of services set out in the contract between SKM and the Client. That scope of services, as described in this report, was developed with the Client.

In preparing this report, SKM has relied upon, and presumed accurate, any information (or confirmation of the absence thereof) provided by the Client and/or from other sources. Except as otherwise stated in the report, SKM has not attempted to verify the accuracy or completeness of any such information. If the information is subsequently determined to be false, inaccurate or incomplete then it is possible that our observations and conclusions as expressed in this report may change.

SKM derived the data in this report from information sourced from the Client (if any) and/or available in the public domain at the time or times outlined in this report. The passage of time, manifestation of latent conditions or impacts of future events may require further examination of the project and subsequent data analysis, and re-evaluation of the data, findings, observations and conclusions expressed in this report. SKM has prepared this report in accordance with the usual care and thoroughness of the consulting profession, for the sole purpose described above and by reference to applicable standards, guidelines, procedures and practices at the date of issue of this report. For the reasons outlined above, however, no other warranty or guarantee, whether expressed or implied, is made as to the data, observations and findings expressed in this report, to the extent permitted by law.

This report should be read in full and no excerpts are to be taken as representative of the findings. No responsibility is accepted by SKM for use of any part of this report in any other context.

Undertaking an assessment or study of the on-site conditions may reduce the potential for exposure to the presence of contaminated soil and/or groundwater. All reports and conclusions that deal with sub-surface conditions are based on interpretation and judgement and as a result have uncertainty attached to them. You should be aware that this report contains interpretations and conclusions which are uncertain, due to the nature of the investigations. No study can completely eliminate risk, and even a rigorous assessment and/or sampling program may not detect all problem areas within a site.

It is imperative to note that the Report only considers the site conditions current at the time of investigation, and to be aware that conditions may have changed due to natural forces and/or operations on or near the site. Any decisions based on the findings of the Report must take into account any subsequent changes in site conditions and/or developments in legislative and regulatory requirements. SKM accepts no liability to the Client for any loss and/or damage incurred as a result of a change in the site conditions and/or regulatory/legislative framework since the date of the Report.

This report has been prepared on behalf of, and for the exclusive use of, SKM's Client, and is subject to, and issued in accordance with, the provisions of the contract between SKM and the Client. SKM accepts no liability or responsibility whatsoever for, or in respect of, any use of, or reliance upon, this report by any third party

Preliminary Site Investigation Report

SINCLAIR KNIGHT MERZ
SKM

1. Introduction

1.1 Context

Australian Weaving Mills (AWM) engaged Sinclair Knight Merz (SKM) to undertake an environmental Preliminary Site Investigation (PSI) for the Devonport factory site. The site is located at 117 Tasman Street, Devonport, as shown in Figure 2.1.

This work has been undertaken in preparation for developing a decommissioning and rehabilitation plan for the site. The primary purpose of this investigation is to provide AWM with advice in relation to the potential for soil and/or groundwater contamination to be present and, if necessary, provide recommendations for further works.

1.2 Objectives

The main objectives of this investigation are:

- To gain an understanding of onsite environmental, hydrogeological and geological conditions
- Identify potential historic or existing activities that may have resulted in contamination of the soil or groundwater at the site
- Summarise the potential contamination status of the site based upon the reviewed data at a desktop level

1.3 Scope of Work

In order to address the objectives the following work was completed:

- Review of historical site information
- Review of the environmental setting of the site
- Identify potential areas of contamination
- Conclusions and recommendations, including a scope for further works

1.4 Sources of Information

1.4.1 Primary Sources of Information

The primary sources of information reviewed during this investigation included the following:

- Tasmanian Government Groundwater Information Access Portal
- Historical aerial photographs
- EPA Property Information Request

1.4.2 Previous Reports and Studies

The following reports were reviewed as part of this assessment, with further details provided in Section 3.2:

- Annual Environmental Review report (completed by SKM in 2014)
- Sustainability Assessment of Groundwater Extraction (completed by William C. Cromer Pty Ltd in 2011)
- Australian Weaving Mills Energy Audit - AS/NZS 3598:2000 Level 3 (completed by SKM in 2009)
- Report on Pumping Test Investigations (completed by SKM in 2000)



2. The Site and Surrounding Area

2.1 Location and Site Description

The site is described in Table 2.1 and shown in Figure 2.1

Table 2.1 : Site Description

Aspect	Description
Owner/Occupier	The site is owned by New Bounty Pty Ltd Australian Weaving Mills occupies the site
Address	117 Tasman Street, Devonport, Tasmania
Coordinates	GDA 94 MGA Zone 55: 445225.69E 5440781.31N

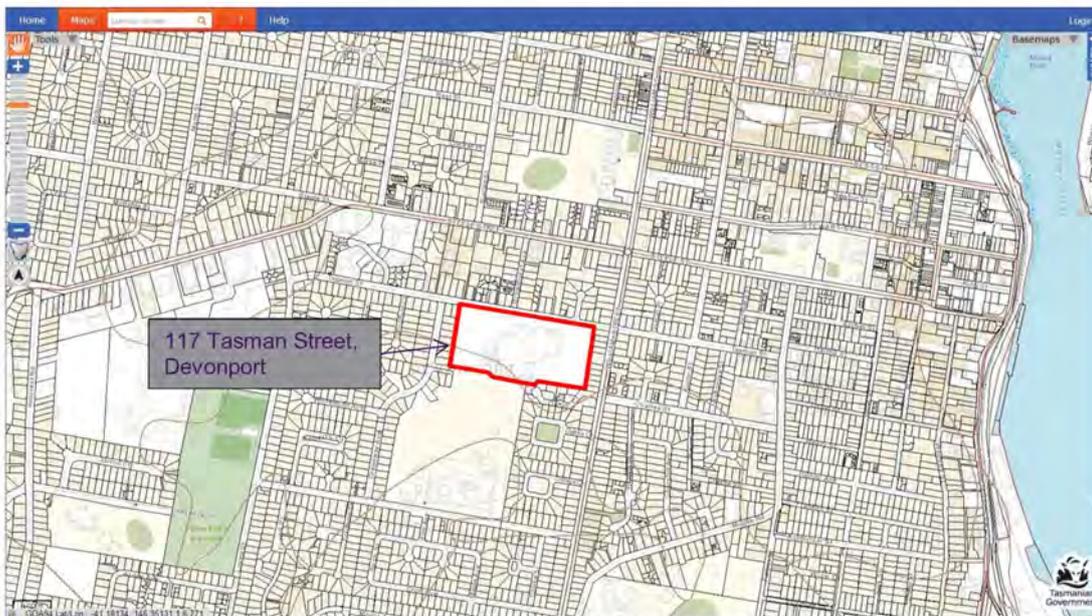


Figure 2.1 : Site Location (Reference: The List)

2.2 Visual Site Inspection

A site inspection was conducted on 30 October 2013 by Andrew McConachy (SKM). Observations made during the site inspection are reported throughout this document. A photographic record is also provided in Appendix A.

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2.3 Overview of Site Layout and Use

The site covers an area of approximately 6.6 hectares. Approximately 35% of this area is covered by buildings, 15% is covered by sealed car-park and 15% is sealed areas surrounding the buildings. The remainder of the site is grassed paddocks, providing approximately 90 m wide buffer zones between the buildings and boundaries on both the east and west sides of the site.

Until late 2013 the site was used to manufacture cotton towels and towelling products. This process involved the conversion of yarn through weaving, dyeing, sewing and finishing for the production of towels.

The site contains a number of different buildings (most interconnected) that housed the following processes or functions:

- Administration
- Welding bay/workshop
- Boiler house
- Yarn store
- Greige (undyed cloth) handling
- Dye-house
- Weaving shed
- Hemming
- Distribution

Groundwater was extracted from bores on the site and supplied approximately 75% of the weaving mill's water requirements.

An oil fired boiler that used vegetable-based oil was also used to heat a dryer. Occasionally the header tank (that was situated above the roof height) overflowed and oil ran down the wall of the dye-house building. AWM staff would clean up all that went to ground but the bricks quickly absorbed the oil (D. Tippett email 12/03/14).

A relocatable site office was located in the eastern buffer zone when extensions to AWM occurred in 1989-1990. A concrete slab was also poured at this time near the site office so contractors had a completely flat surface to work off as close as practicable to the worksite (D. Tippett email 12/03/14).

A site layout map is included in Appendix A.

2.4 Historical Overview

The AWM site in Devonport, was originally established in the 1950s by Tootal Broadhurs-Lee. Since then and despite multiple changes in ownership, the nature of business on site has remained fundamentally the same.

The company was merged with Bonds industries in 1967, adopting the Dri-Glo brand name. Bonds was acquired by Pacific Dunlop who sold the Bonds towel interest to Palm Beach (based in Adelaide) in 1990. During 1992 Palm Beach was rationalised and closed in Adelaide, but the factory in Devonport (known as Australian Weaving Mills) remained operational.

In 1993 AWM was taken over by financial institutions. There was a management-assisted purchase in 1996, and in late 1997 National Textiles took full ownership. In July 2000 Tasmanian Development Resources (now Department of Economic Development, Tourism and the Arts) became equity holders of the business. National Textile Limited remained the holding company. In 2004 National Textiles was renamed New Bounty Limited and purchased the Tasmanian State Government's 49% holding in AWM.

In December 2012 the preparation and weaving department was moved to Wangaratta, Victoria. In late 2013 AWM transferred all remaining manufacturing processes to Wangaratta.

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2.5 Surrounding Land Use (as of January 2014)

The site is largely surrounded by residential properties. The land bordering the west, north and east is zoned General Residential in the Devonport Interim Planning Scheme 2013. The land bordering the south is zoned General Residential and Community Purpose. This latter zone is occupied by the Devonport Campus of TasTAFE.

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3. Environmental Setting

3.1 Review of Available Records

A summary of the available records reviewed and relevant information pertaining to the site is provided in Table 3.1.

Table 3.1 : Environmental Setting Summary

Record	Description																																																																							
Topography	The site is relatively flat. It gently slopes from the north-west to the south-east, with an approximate grade of 2%. The north-west corner of the site is approximately 36m AHD, and the south-east corner is approximately 30m AHD.																																																																							
Hydrology	The Don River is located approximately 1.9 km west of the site and the Mersey River is approximately 1.4 km to the east. Topographical maps indicate a small unnamed creek runs through the adjacent property south of the site. Horsehead Creek, which flows into the Mersey River, is located approximately 2 km south of the site. Drainage on site is collected by the stormwater system and discharges directly to the Council stormwater drainage system.																																																																							
Regional and Local Geology	<p>Regional Geology</p> <p>The Devonport headland consists of Jurassic dolerite and Tertiary Basalt. At the north of the headland there are also Quaternary sediments that consist of sand gravel and mud of alluvial (streams), lacustrine (lakes) and littoral (shore) origin.</p> <p>Both the dolerite and basalt have suffered weathering during the Quaternary period, producing sands and alluvial gravels. There is also a small unit of the Tertiary Wesley Vale sand. To the south of the site is the Devonport Fault. however it is not certain how much displacement of rock units has occurred due to the faulting.</p> <p>Local Geology</p> <p>There are three functioning production bores on site. Interpretation of the driller's logs of production bores suggests that they intersect both the basalt and the dolerite, which is as expected from the geological mapping. A log of the site geology obtained from these production bores is provided in Table 3.2:</p> <p>Table 3.2 : Production Bore Logs</p> <table border="1"> <thead> <tr> <th>Production Bore</th> <th>From (m)</th> <th>To (m)</th> <th>Lithology</th> <th>Water Intersections</th> </tr> </thead> <tbody> <tr> <td rowspan="7">PB1</td> <td>0.0</td> <td>0.3</td> <td>Fill</td> <td></td> </tr> <tr> <td>0.3</td> <td>1.5</td> <td>Clay/broken basalt</td> <td></td> </tr> <tr> <td>1.5</td> <td>29.0</td> <td>Dolerite (Basalt?)</td> <td>10.2m (500 gph / 38 l/min) 13m (7,000 gph / 530 l/min) 14.1m (5,000 gph / 379 l/min)</td> </tr> <tr> <td>29.0</td> <td>33.6</td> <td>Fractured dolerite</td> <td></td> </tr> <tr> <td>33.6</td> <td>46.4</td> <td>Dolerite</td> <td></td> </tr> <tr> <td>46.4</td> <td>47.0</td> <td>Fractured dolerite</td> <td></td> </tr> <tr> <td>47.0</td> <td>58.0</td> <td>Dolerite</td> <td></td> </tr> <tr> <td rowspan="9">PB2</td> <td>0.0</td> <td>0.6</td> <td>Fill</td> <td></td> </tr> <tr> <td>0.6</td> <td>4.6</td> <td>Red clay</td> <td></td> </tr> <tr> <td>4.6</td> <td>12.2</td> <td>Clay</td> <td>9.5 (200 gph / 15 l/min) 10.4 (6,000 gph / 455 l/min)</td> </tr> <tr> <td>12.2</td> <td>14.3</td> <td>Fractured dolerite?</td> <td></td> </tr> <tr> <td>14.3</td> <td>25.9</td> <td>Dolerite?</td> <td></td> </tr> <tr> <td>25.9</td> <td>26.5</td> <td>Fractured dolerite?</td> <td></td> </tr> <tr> <td>26.5</td> <td>31.1</td> <td>Dolerite?</td> <td></td> </tr> <tr> <td>31.1</td> <td>34.2</td> <td>Fractured Dolerite?</td> <td></td> </tr> <tr> <td>34.2</td> <td>42.7</td> <td>Dolerite?</td> <td></td> </tr> </tbody> </table>	Production Bore	From (m)	To (m)	Lithology	Water Intersections	PB1	0.0	0.3	Fill		0.3	1.5	Clay/broken basalt		1.5	29.0	Dolerite (Basalt?)	10.2m (500 gph / 38 l/min) 13m (7,000 gph / 530 l/min) 14.1m (5,000 gph / 379 l/min)	29.0	33.6	Fractured dolerite		33.6	46.4	Dolerite		46.4	47.0	Fractured dolerite		47.0	58.0	Dolerite		PB2	0.0	0.6	Fill		0.6	4.6	Red clay		4.6	12.2	Clay	9.5 (200 gph / 15 l/min) 10.4 (6,000 gph / 455 l/min)	12.2	14.3	Fractured dolerite?		14.3	25.9	Dolerite?		25.9	26.5	Fractured dolerite?		26.5	31.1	Dolerite?		31.1	34.2	Fractured Dolerite?		34.2	42.7	Dolerite?	
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Record	Description				
	PB3	0.0	4.6	Clay with loose basalt	
		4.6	91.4	Basalt	33.5m (2000 gph/2.5L/s) 57.9 (6000 gph/7.5L/s)
	<p>The Devonport fault in the south appears to have little effect on the geology; however it may have caused extensive fracturing of the basement dolerite. Such fracturing can increase the water storage and transmitting capacity of the rock. The general dip is to the northeast, towards the bores, although the angle is unknown.</p> <p>Additional geological information can be found in the Groundwater Resource Investigation Report on Pumping Test Investigations (SKM 2000) located in Appendix F.3.</p>				
Regional and Local Hydrogeology	<p>The AWM production bores intersect basalt and dolerite lithologies. These aquifers (water bearing units) are referred to as fractured rock systems or aquifers as the water is stored and transmitted through fractures, cracks, fissures and other discontinuities within in the rock mass.</p> <p>Information supplied by Mineral Resources Tasmania indicates there are no other nearby bores that intersect either the basalt or dolerite intersected by the AWM production bores. It should be noted that Mineral Resources Tasmania does not have records of all bores in the region and unrecorded extraction bores may exist in the region.</p> <p>Production bores are located on what is considered to be the contact between basalt and dolerite. It is unclear whether the aquifer intersected is in the dolerite or the basalt, as there appears to be some doubt about distinguishing the two units from the driller's logs. Information regarding the bore construction, such as position of the screens / open holed areas of casing, was not available. It is known that the bores are constructed of 150 mm Class 9 PVC and the bores have been gravel packed.</p> <p>Low flows (less than 1 L/s) occur within the weathered clay horizon and on the upper fractured portion of bedrock (be it basalt or dolerite). It seems that the bores intersected fairly weathered basalt (the upper ~10m) and then penetrated fractured dolerite. Higher flows occur at the interface of the basalt and the dolerite. There are no further records of water flow at greater depth within dolerite or any indication of flow rate increase with depth. It would appear that the main source of water is in the fractured basalt in the interval where water in the basalt rests on the upper impermeable (or relatively impermeable) surface of the dolerite.</p> <p>The long term yield of the aquifers is dependent on the amount of recharge that can be provided. There are several areas that may act as recharge sources to the aquifers intersected by the production bores. These include:</p> <ul style="list-style-type: none"> • Open areas for recharge are the reserves along the Don River. Further inland, there is the Hiller Forest Reserve and various sports grounds. • There is a small creek south of the factory, near TasTAFE • The Devonport Fault, which transects the dolerite at several points • The Wesley Vale Sand unit may also act to recharge the underlying basalt and dolerite • The Kelcey Tier area. This area, located 3 km away, is forested, with several reservoirs and creeks that flow away from the centre of the dolerite hill. It is probable that this is part of the same possible basin structure of the Devonport area. <p>The Groundwater Information Access Portal also provides information about bores in the region. Figure 3.1 shows the bores within 2 km of the site and Table 3.3 summarises the information about these bores. Lithology for all bores on site is summarised in Table 3.4. The Portal shows that a total of eight bores have been drilled on the site. Four were drilled in 1997 (two listed as functioning, two listed as unknown), two were drilled in 2001 (one listed as functioning, one listed as abandoned) and one was drilled in 2009 (listed as capped). No information is listed about when the remaining bore was drilled (it is listed as abandoned), however based on the identification number it can be assumed to have been drilled in 1997.</p>				



Record	Description
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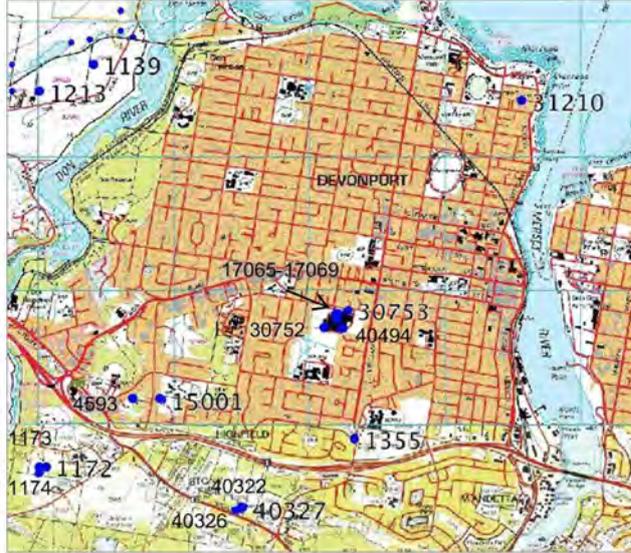


Figure 3.1 : Bore Locations (Reference: The Groundwater Information Access Portal)

Table 3.3 : Summary Bore Information

Bore	Located on AWM site?	Main Aquifer Geology	Depth	Final TDS	Date Drilled	Last Operating Status	Last Operating Status Date
1172	No	Permian	53.30		29/10/1994	Abandoned	29/10/1974
1173	No	Permian	51.80	349	06/11/1974	Functioning	01/08/1976
1174	No	Permian	83.80		01/11/1974	Unknown	01/11/1974
1355	No	Tertiary Basalt	22.90		06/03/1970	Abandoned	06/03/1970
4593	No	Permian	21.30		18/04/1985	Functioning	18/04/1985
15001	No	Jurassic Dolerite	25.90		26/11/1992	Functioning	26/11/1992
17065	Yes	Tertiary Basalt	34.80		19/06/1997	Unknown	19/06/1997
17066	Yes	Tertiary Basalt	32.90		26/06/1997	Unknown	26/06/1997
17067	Yes	Tertiary Basalt	100.60			Abandoned	
17068	Yes (PB1)	Tertiary Basalt	57.90		18/12/1997	Functioning	18/12/1997
17069	Yes (PB2)	Tertiary Basalt	51.90		19/12/1997	Functioning	19/12/1997
30752	Yes (PB3)	Tertiary Basalt	91.40		15/03/2001	Functioning	14/03/2001
30753	Yes	Tertiary Basalt	91.40		20/03/2001	Abandoned	20/03/2001
31210	No	Tertiary Basalt	16.00		17/11/2000	Unknown	17/11/2000
40322	No	Jurassic Dolerite	24.00	70	02/08/2010	Function: unknown Purpose: monitoring	02/08/2010 02/08/2010
40326	No	Jurassic Dolerite	18.00	70	30/07/2010	Function: unknown Purpose: monitoring	30/07/2010 30/07/2010
40327	No	Jurassic Dolerite	14.00	70	02/08/2010	Unknown	02/08/2010
40494	Yes	Tertiary Basalt	180.00		19/01/2009	Capped	19/01/2009

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Record	Description						
	Table 3.4 : Site Bore Information						
Bore	Main Aquifer Geology	Depth (m)	Lithology	Depth to Water struck (m)	SWL (m)	Screens	Last operating status
17065	Tertiary Basalt:	0.0-0.3	Concrete		2.4		Unknown
		0.3-34.8	Basalt	27.5			
17066	Tertiary Basalt:	0.0-0.3	Concrete	29.0		0-32.9	Unknown
		0.3-32.9	Basalt		3.70		
17067	Tertiary Basalt:	0.0-0.9	Top soil				Abandoned
		0.9-6.1	Clay				
		6.1-9.2	Decomposed basalt				
		9.2-10.7	Broken basalt	10.7			
		10.7-18.3	Basalt				
		18.3-33.6	Fine grained/hard basalt	38.1			
		33.6-48.8	Soft basalt				
		48.8-68.6	Hard fine grained basalt				
17068 (PB1)	Tertiary Basalt	0.0-0.3	Fill				Functioning
		0.3-1.5	Broken basalt/clay				
		1.5-29	Dolerite	29.0			
17069 (PB2)	Tertiary Basalt	29.0-33.6	Fractured dolerite	32.0			Functioning
		33.6-46.4	Dolerite				
		46.4-47.0	Fractured dolerite	46.7			
		47.0-57.9	Dolerite				
		0.0-0.6	Road fill				
30752 (PB3)	Tertiary Basalt	0.6-4.6	Dry red clay				Functioning
		4.6-12.2	Soft wet clay				
		12.2-14.3	Broken dolerite				
		14.3-25.9	Dolerite?				
		25.9-26.5	Fractured dolerite				
		26.5-31.1	Dolerite	27.5			
		31.1-34.2	Fractured dolerite	31.0-34.5			
		34.2-42.7	Dolerite				
30753	Tertiary Basalt	0.0-4.6	Clay				Abandoned
		4.6-91.4	Basalt	42.7			



Record	Description						
40494	Tertiary Basalt	0.0-3.0	Overburden				Capped
		3.0-5.0	Clay				
		5.0-28.0	Broken dolerite			12.0	
		32.0-120.0	Dolerite	28.0-32.0			
		120.0-122.0	Broken dolerite	120.0-122.0			
		122.0-180.0	Dolerite				

In summary:

- The site is underlain by basalt, which is in turn underlain by dolerite at a depth of about 14m
- The upper surface of the basalt has a weathered clay horizon which varies from <1m in thickness on the east of the site, to more than 10m thick along the western boundary
- Lithological logs for bores on site indicate that the underlying dolerite is extensively fractured
- Groundwater predominantly occurs within the weathered basalt, at the interface between the basalt and underlying dolerite and within the fractured dolerite
- Basalts and dolerites form fractured rock aquifers in which groundwater occurrence, storage and flow directions are determined largely by the orientation of, and degree of interconnection between, fracture systems
- The depth to groundwater is about 10m
- Pumping tests show that the aquifer is semi-confined (by the clay horizon)
- The presence of the clay horizon is likely to slow the downward movement of rainfall and contaminants, but not as a completely impermeable barrier
- The above-mentioned surface water features are likely to exert a strong influence on the regional geometry of the water table and on groundwater flow directions (which in turn will determine the location of receptors of any impacts originating at the site)

Given the highly fractured nature of the dolerite at a regional scale it is reasonable to assume that the geometry of the water table is a subdued reflection of topography.

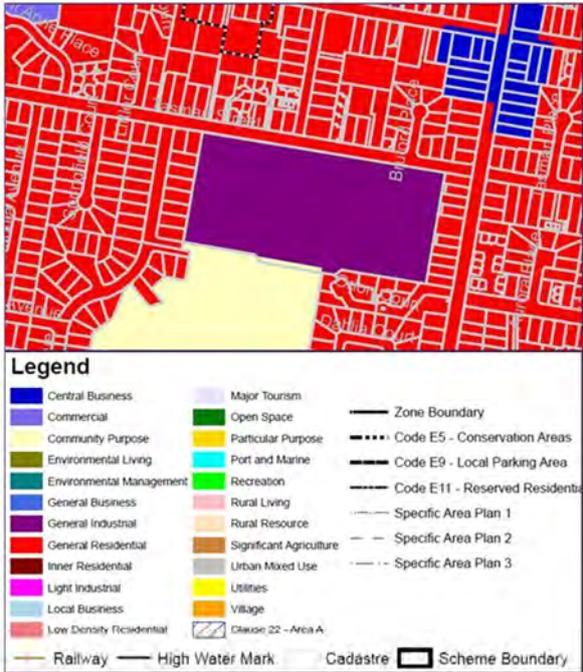
Figure 3.2 shows a hypothetical water table contour map (white lines) and groundwater flow lines (black lines) generated under this assumption, which was used to determine whether the existing bores are optimally located to monitor for possible groundwater impacts from former site activities. Appendix B shows the location of the existing bores.

On the basis of the figures, it is concluded that the existing bores are suitably located to:

- Provide sufficient data to determine groundwater (and contaminant) flow directions and velocities
- Monitor for potential groundwater contaminations originating from the site and with the potential to migrate off-site
- Monitor background groundwater chemistry and/or discriminate between contaminants originating from other activities up-gradient of the site

Record	Description
	 <p>Figure 3.2 : Hypothetical Groundwater Contours and Flow Lines (Image reference: Google Earth Pro)</p> <p>Further information provided by The Groundwater Information Access Portal can be found in Appendix C. Additional hydrogeological information can be found in the Groundwater Resource Investigation Report on Pumping Test Investigations (SKM 2000) located in Appendix F.3.</p>
<p>Historical and Current Zoning</p>	<p>1962</p> <p>Devonport Council planners understand the zoning map prepared in 1962 was the first zoning map developed by the Council. In 1962 the site was zoned Heavy Industrial. Land surrounding the site was zoned Closed Residential or Semi-residential. The site was on the outskirts of town at this time. Semi-residential allowed for both residential and commercial development. This zoning remained relatively unchanged until 1984.</p>  <p>Figure 3.3 : 1962 Zoning</p> <p>1984</p> <p>The 1984 planning scheme changed the area surrounding the site to Closed Residential and Public Purposes. Closed Residential was for residential use. Public Purposes was for the technical college (and the hospital to the north-west).</p>



Record	Description
	 <p>Figure 3.4 : 1984 Zoning (Closed Residential is shown in red, General Industrial is shown in pink diagonal and Public Purposes is shown in yellow)</p> <p>2013</p> <p>In October 2013 the new Interim Planning Scheme came into effect for Devonport Council. The site is currently zoned General Industry. The land bordering the west, north and east is zoned General Residential. The land bordering the south is zoned both General Residential and Community Purpose. Although the names have altered slightly over the years the uses allowed have remained generally the same.</p>  <p>Figure 3.5 : Current zoning</p>
<p>Historical Aerial Photographs</p>	<p>Aerial photographs were reviewed for the years 1969, 1982, 1991, 2003 and 2011. The full results of this review can be found in Appendix D. From 1969 to 2003 the photos showed an increase in activity on site in the form of new buildings, They also showed an increase in residential buildings surrounding the site. Between 1991 and 2003 one small building</p>

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Record	Description
	<p>was removed from the site. During this time there were no noticeable changes surrounding the site, apart from a building being replaced at 1 Don Road (as seen in Appendix D).</p>  <p>Figure 3.6 : Aerial snapshots. 1969 (L) and 1982 (R)</p>  <p>Figure 3.7 : Aerial snapshots. 1991 (L) and 2003 (R)</p>  <p>Figure 3.8 : Aerial snapshot 2011</p>
EPA Site Information Request Results	<p>A property Information Request was submitted to the EPA on 14 February 2014. The results of the request state that the site hosts a Level 2 Activity (Textile Bleaching and Dyeing Factory) which is regulated through Permit No. 3561 and EPN 635/1. It also refers to the <i>Annual Environmental Reporting: EMP Review</i> prepared by SKM and dated January 2014. The full results of the request can be found in Appendix E.</p>
Workplace Standards Tasmania	<p>A Workplace Standards search request was not conducted as the <i>Annual Environmental Reporting: EMP Review</i> report dated January 2014 indicates that Workplace Standards Tasmania holds no records of an underground storage tank on site.</p>



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3.2 Review of Previous Environmental Investigations

3.2.1 Annual Environmental Reporting

Since 2008 AWM has engaged SKM to prepare annual environmental reports. These reports indicate that production at the site has been reducing over a number of years. This, combined with water saving initiatives, has resulted in a decrease in water use at the site. The reports indicate an underground storage tank (UST) was located on site near the engineering workshop, and that Workplace Standards Tasmania holds no records relating to the status of the UST. AWM understands that the tank has not been used for over 40 years and has been emptied and filled with sand. However there are no records currently on file to demonstrate the tank's decommissioning.

The reports also indicate a 50,000L above ground fuel storage tank (AST) is located near the boiler house. Historical records show that between one and two tanker loads of Bunker C fuel oil were delivered to the AST each week (up to the year 2006) to supply the oil fired boilers. Approximately 2,000 tonnes of Bunker C was consumed annually. Bunker C fuel oil contains <3% sulphur. Sulphur forms the pollutant gas sulphur dioxide when combusted. The AST has not been used since the site transferred to 100% natural gas in 2006. All fuel oil has been removed from the AST however it may still require flushing.

The report dated January 2014 indicates the AST area is bunded and appears to be in good order with no obvious leaks or infiltration of oil outside the collection area of the bund. The bund size is adequate for the volume of fuel that would be present in the tank and would accommodate any spray over. There is minor evidence of surface staining and contamination at the outlet to the overflow pipe for the bunded area¹.

The report states that the dye-house may be a potential source of contamination for the site resulting from leaks or dye spillages into the stormwater and drainage system. It goes on to state that this is considered unlikely given that the concrete surface of the dye-house appears intact and in good condition and that the majority of dyes and other chemicals were contained within the process dyes. There was the potential for dye to leach through cracks in the concrete floor of the dye-house, however measures were undertaken to reduce the risk of this occurring. A chemical dispensing system was installed in October 2001 which pumped pre-set quantities of reagents directly from storage tanks to the dyeing machines. The chemical dispensing system provided a safer and more economical way to handle delivery of chemicals with greater precision and therefore minimised the risk of accidental spillages.

Plant wash-down water from the dye-house entered the effluent stream through a series of open factory floor drains, which flowed to the effluent pit for particle removal. An aquaguard screen removed suspended material in effluent prior to its discharge to sewer. The aquaguard screen has a mesh size of 1mm. Suspended material collected in the pit and screen and was pumped out by a waste contractor and transferred to landfill. Collected material was pumped out every 6 months.

All surfaces within the factory are paved and loading and unloading areas of the site are bitumen and/or concrete paved. All wash-down wastewater and liquid waste that was generated as part of production processes was collected in the factory drainage system which includes drainage lines and collection pits. All wash-down and liquid waste entered the effluent stream for discharge to sewer under a discharge arrangement with TasWater. The internal drainage system within the factory site is directed to the sewer and diverted from any stormwater connection to ensure that contaminants do not enter the stormwater system. All water from roofed and external paved areas on site is collected by the stormwater system and discharged directly without treatment to the stormwater drainage system. Due to the containment measures in place including bunded areas and internal drainage networks, there is a low likelihood of contaminated runoff entering the stormwater system.

The dyeing process required the largest input and usage of process materials. The site used two types of dyes, namely reactive and vat dyes. All additional hazardous materials were stored in a bunded area completely

¹ This stain can be seen in Photo 19 in Appendix A


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removed from potential contact with soil. An internal drainage line exists within the immediate vicinity but is protected from spillages via the bund. All dangerous goods and chemicals were stored in accordance with the *Dangerous Goods Regulations* 1998. The bunded area appears to be in good condition with no obvious leaks or infiltration of chemicals outside the collection area of the bund. All bunded areas were assessed by Workplace Health (Tasmania) in 2012 and were deemed satisfactory.

Other production processes involved the use of the following principle hazardous chemicals:

- Sodium Hydrosulphite
- Sodium Hydroxide (50%)
- Hydrogen Peroxide (59.5%)
- Tricarboxylic acid (90%)
- Solvent – Winscour SSA, textile scouring agent, Class 6.1, U.N number: 1897, EPG: 6B7 (37)
- Realk Conc, Class 8, U.N number: 1760, PG:III, Aver Quant: 2000kg, Max Quant: 6000kg
- Sodium Nitrite, Class 5.1, U.N No: 1500, Aver Quant: 300kg, Max Quant: 500kg
- Sodium Persulfate, Class 5.1, U.N No: 1505, PG:III, Aver Quant: 300kg, Max Quant: 500kg

3.2.2 Groundwater Sustainability Report

In 2011 AWM engaged William C Cromer Pty Ltd to conduct an assessment of the sustainability of the groundwater extraction on the site. The report reviewed company groundwater records from September 2009 and showed that AWM used about 207 ML/year of groundwater (average 0.57 ML/day), pumped from two bores on the site. It stated that groundwater usage had reportedly remained relatively constant since the first detailed hydrogeological assessment in 2001.

The report estimated the groundwater catchment for the site covered about 200ha, receiving about 15% of annual rainfall as recharge. The sustainable aquifer yield based on these figures was calculated to be approximately 220 ML/year. The report concluded groundwater use since 2001 was sustainable.

The report also recommended monitoring bore groundwater levels and groundwater usage, and conducting regular sustainability assessments. It also stated that aquifer storage and recovery was a possible way of increasing sustainable yield.

As a result of these recommendations groundwater loggers were installed. Further sustainability assessments were not undertaken.

The full report can be found in Appendix F.1.

3.2.3 Energy Audit

In 2009 AWM engaged SKM to conduct an AS/NZS 3598:2000 Level 3 Energy Audit for the site. The report presented an audit analysis of the site's energy usage, as well as an assessment of the viability of a number of identified energy cost saving measures. The report concluded that AWM did not exceed thresholds for either Energy Efficiency Opportunities (EEO) or National Greenhouse and Energy Reporting (NGER). It also identified a number of energy saving opportunities.

The full report can be found in Appendix F.2.

3.2.4 Pump Testing Report

In 2001 AWM engaged SKM to undertake pumping tests on the two production bores supplying groundwater to the dye plant. The objective of the investigations was to determine the amount of water that could be extracted from each bore and whether the aquifer would be able to sustain the extraction. AWM was proposing to install

Preliminary Site Investigation Report



a water treatment plant and needed a continual supply of 1.5 ML/day. The report concluded that the production bores on the site were not capable of supplying the 1.5 ML/day, and therefore groundwater could not supply the full volume required on site. Simplified aquifer recharge calculations were undertaken based on rainfall recharge. Although the analysis was considered to be conservative, it suggested that the aquifer may not be able to cope with the increased extraction, and stated that further analysis of pumping bore (and groundwater level) historical data would be required to confirm this. The report recommended drilling pilot exploration holes to assess the potential for installation of additional production bores. It also recommended monthly monitoring of bore use (flow rates) and water levels in the production bores, as well as investigation of other sources of water (reticulated, reclaimed, or stormwater runoff) should the aquifer recharge analysis indicate significant potential for depleting the aquifer.

The full report can be found in Appendix F.3.

3.3 Title Review

Table 3.5 : Current Title Details

Property Address	117 Tasman St Devonport TAS 7310
Property ID	3162363
Title Reference	163203/1
Owners Name	New Bounty Pty Ltd
Owners Address	PO Box 501 Devonport TAS 7310

A review of historic title details was not conducted as the type of industrial activity on the site has remained constant since a factory was first established in the 1950s.

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SKM

4. Findings, Conclusions and Recommendations

4.1 Findings

The PSI found the following:

- The AWM site in Devonport has operated as a textile manufacturing facility since the 1950s
- A number of different owners have operated the site but the type of manufacturing has remained the same
- The site was originally on the outskirts of town but residential development has since enveloped the site
- The zoning of the site has remained industrial since the first zoning map was developed by Devonport Council in 1962
- Aerial photographs show increasing activity on site from the late 1960s to the early 2000s, largely in the form of new buildings
- A number of groundwater bores have been installed both on site and in the surrounding areas
- The groundwater bores in the surrounding area are established in different geology to those on site
- A disused underground storage tank is located on site but there are no records of its decommissioning
- Chemicals are stored in a number of locations on site
- The factory buildings are generally kept in a clean and tidy manner, however there is evidence of some spills on site

The PSI identified the following areas which could potentially be contaminated based on historical use of the site:

- Surrounding the UST
- Surrounding the AST
- Surrounding the transfer lines between the AST and dye-house
- Surrounding the transfer lines between the AST and boiler house
- Surrounding the boiler house
- Where vegetable-based oil staining is evident on the exterior of the western dye-house wall
- Where dyes have been stored in the dye-house
- Where items have been stored for a number of years on the ground south of the greige building and weaving shed
- Where diesel may have been stored on the northern wall of the greige building

4.2 Conclusions

The site has an extensive history of industrial use as a weaving mill. There could potentially be contaminated areas on site resulting from these activities. Potential risks for future development on the site include:

- Direct contact, ingestion and inhalation of impacted soils (by construction workers/maintenance workers or site users)
- Direct contact, ingestion and inhalation of impacted groundwater by construction workers
- The waste classification of soils may be affected by any encountered contaminated materials. This would likely have timing and cost implications for disposal of contaminated material.
- If groundwater was found to be impacted, it may affect future groundwater uses at and surrounding the site.

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Potential contamination should be assessed as part of an on-site investigation program (intrusive soil sampling and sampling of existing groundwater bores) to adequately quantify the above potential risks. However careful consideration of the future use of the site and potential alternative land uses should be taken into account when determining risks of any likely contamination..

4.3 Recommendations

An on-site investigation is recommended to provide greater clarification as to the true extent of potential contamination on site, allowing the identified risks to be appropriately quantified and managed during future decommissioning, rehabilitation or development of the site. It is recommended that further works include:

- Investigation of the chemical characteristics of potentially contaminated soils and the extent of contamination in targeted areas where contamination may exist. This has not previously been assessed and may have an impact upon disposal options during decommissioning, rehabilitation or future development of the site.
- Further investigation of the chemical characteristics of natural soils on site. To confirm natural soils are classified as "Fill Material" under Tasmania EPA waste classification criteria.
- Further investigation of the chemical characteristics of the underlying groundwater by sampling existing on-site bores, where possible

The recommended scope of works for further investigations are summarised below:

- Drilling of soil bores on the site, to mostly target areas that may have been impacted by activities on site. Selected surface and deeper natural soils would be analysed by a nominated laboratory for potential contaminants of concern. Soil results would be compared to relevant human health and EPA waste classification criteria.
- Sampling of all existing groundwater bores on site. Samples would be analysed for a suite of potential contaminants. Groundwater results would be compared to relevant guidelines for the applicable beneficial uses (i.e. use in buildings and structures, ecological, maintenance of ecosystems, as a potable water supply, etc.)
- Preparation of a summary report, with all relevant assessment information (e.g. laboratory data, bore logs, etc.). The report would detail the findings and the implications for decommissioning, rehabilitation or future development.

Preliminary Site Investigation Report



5. References

Devonport Interim Planning Scheme 2013

http://www.devonport.tas.gov.au/clients/dcc/downloads/item1509/maps_devonport_planning_scheme_2013_-_3_october2013.pdf

Email from C. Milnes at Devonport City Council to A. Parnell at SKM regarding site zoning, dated 26/02/14

TasTafe Website

<http://www.tastafe.tas.edu.au/facilities/Pages/Campuses.aspx>

Hocking, M. and Cromer, W. C. (2011). Sustainability assessment of groundwater extraction, Australian Weaving Mills, Tasman Street, Devonport. Unpublished report for Australian Weaving Mills by William C. Cromer Pty. Ltd., 30 May 2011; 15 pages.

Annual Environmental Reporting: EMP Review, Sinclair Knight Merz, 2014

Delisted Australia website

<http://www.delisted.com.au/company/national-textiles-limited> viewed 27/02/14

The List

<https://www.thelist.tas.gov.au/app/content/home>

The Groundwater Information Portal

<http://wrt.tas.gov.au/groundwater-info/>

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Appendix A. Site Inspection Photographic Record

All photographs were taken on 10 October 2013 for AWM at their site at 117 Tasman Street, Devonport, Tasmania.

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Photo 1 Front entrance (File Ref: AWM-78)



Photo 2 East side of boiler house. The AST can be seen in the background on the left (File Ref: AWM-69)

Preliminary Site Investigation Report



Photo 3 West side of boiler house, looking north (File Ref: AWM-7)



Photo 4 West side of boiler house, looking east (File Ref: AWM-7)

Preliminary Site Investigation Report



Photo 5 Boiler house gas components (File Ref: AWM-5)



Photo 6 Boiler house oil components (File Ref: AWM-6)

Preliminary Site Investigation Report



Photo 7 Boiler house (left) and dye house (right). The welding bay/workshop is in the centre at the rear, with the ute parked beside it. (File Ref: AWM-9)



Photo 8 South side of boiler house (File Ref: AWM-68)

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Photo 9 East side AST (File Ref: AWM-10)



Photo 10 South side of AST (File Ref: AWM-11)

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Photo 11 Posts and footings leading from AST to dye-house (File Ref: AWM-12)



Photo 12 pump west of AST (File Ref: AWM-13)

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Photo 13 West side of AST (File Ref: AWM-14)



Photo 14 West side of AST, with boiler house in the background (File Ref: AWM-15)

Preliminary Site Investigation Report



Photo 15 North side of AST, looking south east (File Ref: AWM-16)



Photo 16 North side of AST, looking south west (File Ref: AWM-17)

Preliminary Site Investigation Report



Photo 17 Lines from AST (File Ref: AWM-18)



Photo 18 Covered line from AST to dye-house (File Ref: AWM-71)

Preliminary Site Investigation Report



Photo 19 AST bund overflow pipe with staining on the ground (File Ref: AWM-70)



Photo 20 Gas bottle storage outside welding bay/workshop (File Ref: AWM-1)

Preliminary Site Investigation Report



Photo 21 Blanked pipes on wall of welding bay/workshop. Pipe second from the right is the UST vent. (File Ref: AWM-66)



Photo 22 Yarn store (right) and welding bay/workshop (left) and storage sheds (File Ref: AWM-2)

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Photo 23 UST inspection ports (File Ref: AWM-3)



Photo 24 Welding bay/workshop, showing UST inspection ports and the UST vent on the wall (File Ref: AWM-4)

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Photo 25 UST vent on welding bay/workshop wall (File Ref: AWM-67)



Photo 26 Dye-house (left), skip and fire tank (File Ref: AWM-19)

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Photo 27 Hardstand area in front of the yarn store (File Ref: AWM-73)



Photo 28 Dye-house (left) and fire tank (right). The greige building behind the fire tank on the right (File Ref: AWM-20)

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Photo 29 Fire tank (left) and covered storage (right) (File Ref: AWM-21)



Photo 30 Staining on west wall of dye-house (File Ref: AWM-72)

Preliminary Site Investigation Report



Photo 31 Staining on west side of dye-house (File Ref: AWM-22)

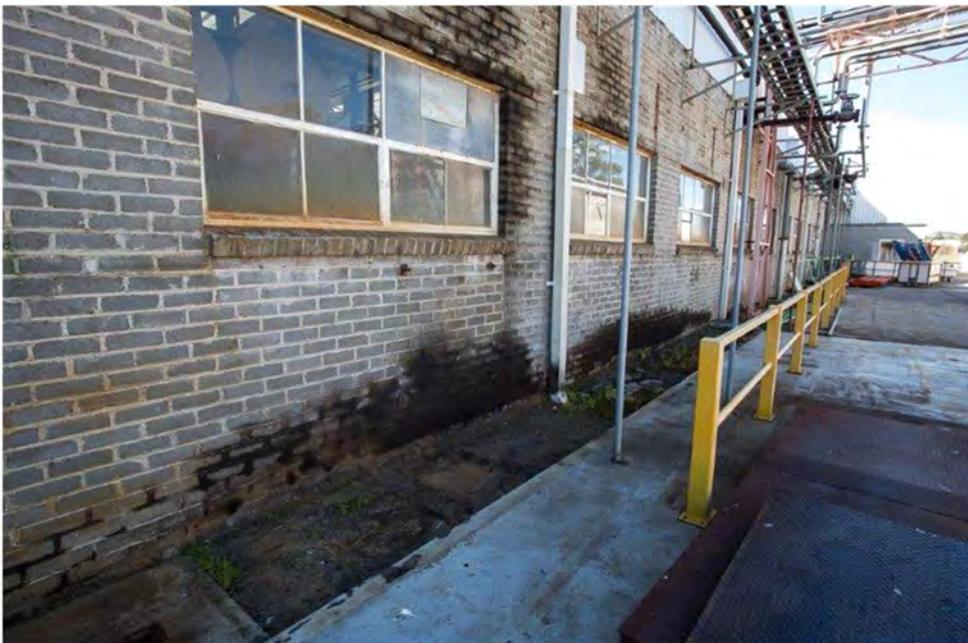


Photo 32 Staining on west side of dye-house (File Ref: AWM-23)

Preliminary Site Investigation Report



Photo 33 Hydrant (File Ref: AWM-24)



Photo 34 covered line between AST and dye-house (File Ref: AWM-25)

Preliminary Site Investigation Report



Photo 35 Dye-house (File Ref: AWM-26)



Photo 36 East side of greige building looking north (File Ref: AWM-27)

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Photo 37 Hydrogen peroxide bulk tank (left) and sodium hydroxide bulk tank (right) (File Ref: AWM-28)



Photo 38 Sodium hydroxide bulk storage (File Ref: AWM-29)

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Photo 39 Rear of weaving shed, looking east (File Ref: AWM-31)



Photo 40 South side of greige shed (File Ref: AWM-31)

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Photo 41 Stored items on south side of greige shed, looking south west (File Ref: AWM-32)



Photo 42 West side of greige shed (File Ref: AWM-33)

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Photo 43 Storage of items on west side of greige shed (File Ref: AWM-34)



Photo 44 Chemical storage in dye-house (File Ref: AWM-35)

Preliminary Site Investigation Report



Photo 45 Chemical storage in dye-house (File Ref: AWM-36)



Photo 46 Chemical storage in dye-house (File Ref: AWM-37)

Preliminary Site Investigation Report



Photo 47 Dye distribution system (right) (File Ref: AWM-38)



Photo 48 Dye distribution system (File Ref: AWM-39)

Preliminary Site Investigation Report

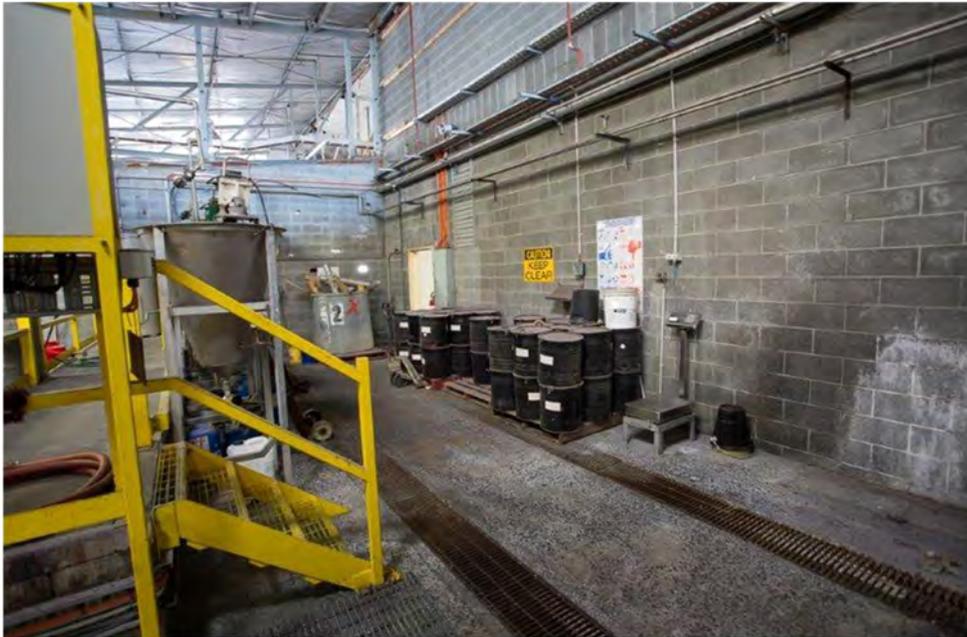


Photo 49 Storage of barrels in dye-house (File Ref: AWM-40)



Photo 50 Storage of barrels in dye-house (File Ref: AWM-41)

Preliminary Site Investigation Report



Photo 51 Floor grates in dye-house (File Ref: AWM-42)



Photo 52 Chemical storage room (File Ref: AWM-43)

Preliminary Site Investigation Report



Photo 53 Chemical storage room (File Ref: AWM-44)



Photo 54 Wastewater pit (File Ref: AWM-45)

Preliminary Site Investigation Report



Photo 55 Chemical storage area in dye-house (File Ref: AWM-46)



Photo 56 Dyeing room (File Ref: AWM-47)

Preliminary Site Investigation Report



Photo 57 Dyeing machines (File Ref: AWM-48)



Photo 58 Dyeing machine (File Ref: AWM-49)

Preliminary Site Investigation Report



Photo 59 Dyeing machines (File Ref: AWM-50)



Photo 60 Dyeing machine (File Ref: AWM-51)

Preliminary Site Investigation Report



Photo 61 Dyeing machine being loaded (File Ref: AWM-75)



Photo 62 Disused dyeing machines (File Ref: AWM-52)

Preliminary Site Investigation Report



Photo 63 Laboratory (File Ref: AWM-53)



Photo 64 Weaving machine (File Ref: AWM-55)

Preliminary Site Investigation Report



Photo 65 Disused weaving machines (File Ref: AWM-56)

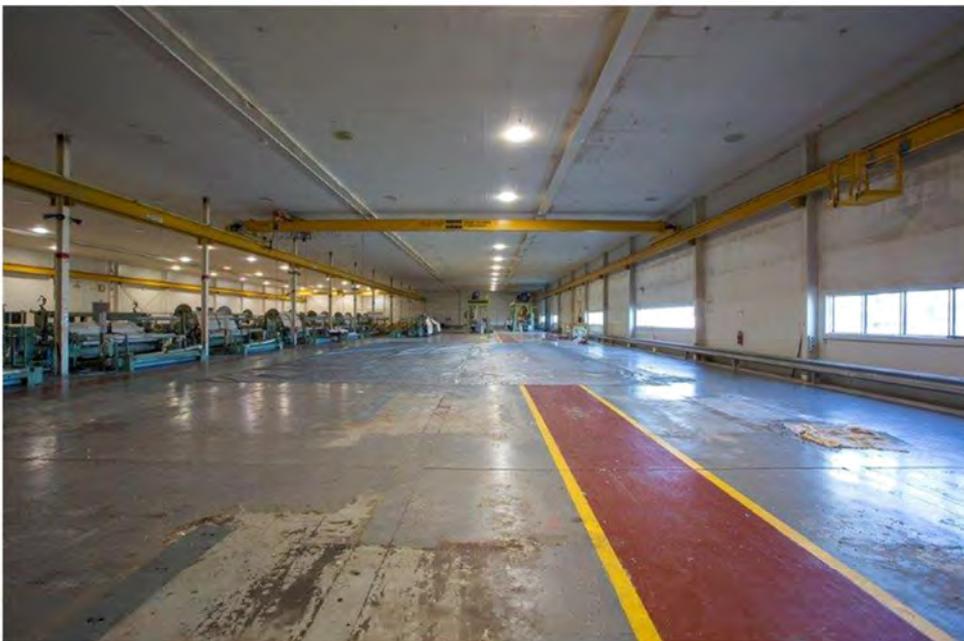


Photo 66 Disused weaving machines (File Ref: AWM-61)

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Photo 67 Disused weaving machines (File Ref: AWM-63)



Photo 68 Staining at base of disused weaving machine (File Ref: AWM-62)

Preliminary Site Investigation Report



Photo 69 Lint removal system components (File Ref: AWM-57)



Photo 70 Suction fan (File Ref: AWM-58)

Preliminary Site Investigation Report



Photo 71 Lint removal system tunnels (File Ref: AWM-59)



Photo 72 Lint removal system drums (File Ref: AWM-60)

Preliminary Site Investigation Report



Photo 73 Distribution centre (File Ref: AWM-64)



Photo 74 Hemming (File Ref: AWM-65)

Preliminary Site Investigation Report



Photo 75 Dried goods alleyway of the dye-house (File Ref: AWM-74)

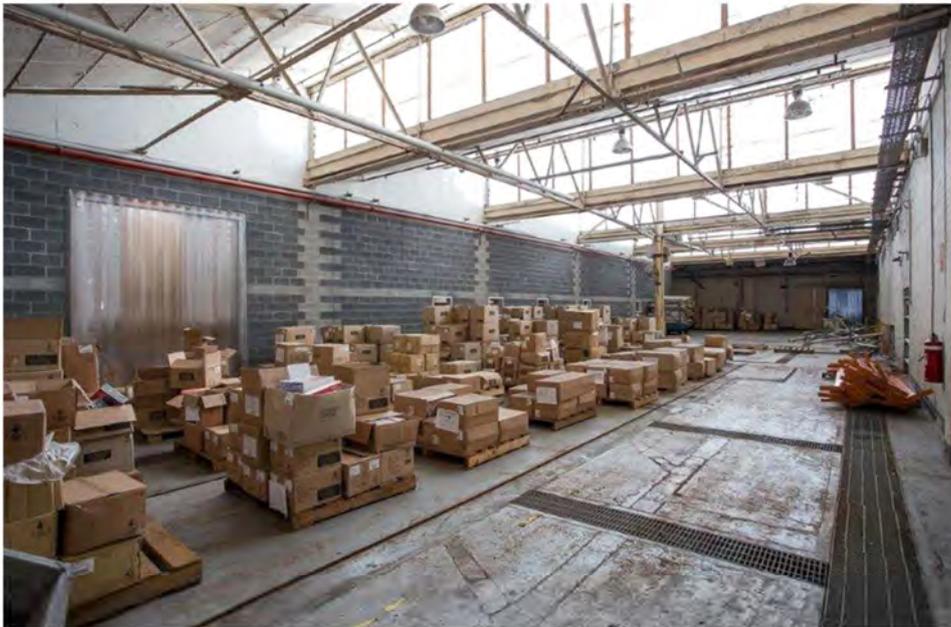


Photo 76 Storage in the Preparation Department. The AWM slasher machine was located here before being relocated to Wangaratta. (File Ref: AWM-54)

Preliminary Site Investigation Report



Photo 77 Lathe in welding bay / workshop (File Ref: AWM-77)



Appendix B. Site Layout Map



2018 Investigation Photographs

Appendix G

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Australian Weaving Mills Excavation and Sampling– 12 October 2018	
	
<p>Location of the former underground storage tank (UST). Groundwater bores BH1, BH2 and BH3 visible.</p>	<p>The pit had been reinstated with gravel fill after the storage tank was removed. Metal pipes, concrete slabs and bricks were also encountered.</p>
	
<p>Oil soaked clay was present under the fill. The clay had a clear petroleum odour and distinctive black appearance. Water started forming at the bottom of the pit at 1.7 m.</p>	<p>The water at the bottom of the UST pit had an oily sheen.</p>
	
<p>The oil soaked clay was heaped into a separate stockpile for disposal. Samples ST1-3 were taken from this stockpile. Note the oily black appearance of the clay.</p>	<p>A black oil soaked patch of clay on the south face of the pit can be seen on the bottom of the photo. Sample UST-B1-1.7m was taken from this area.</p>

	
<p>The UST pit at the end of excavation. Not all stained soil could be removed due to the groundwater monitoring bore.</p>	<p>Location of test pit previously excavated for the 2015 assessment south of the Greige Shed.</p>
	
<p>The test pit was excavated again to a depth of 1m. Bore BH4 can be seen in the foreground.</p>	<p>The excavated test pit south of the Greige Shed, looking south.</p>
	
<p>Evidence of oil spill along wall of dyehouse. Sample MB01 was taken ~0.5m from building wall, approximately 0.2m below ground surface.</p>	<p>Sample MB01- ~0.1m of gravel and a layer of plastic was covering the soil. The soil was stained and had an odour and sheen.</p>

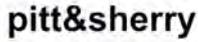
	
<p>The AGT. The sample (AGT01) location is shown in red. The AGT is on concrete and the sample was collected from a crack in the concrete (with weeds).</p>	<p>The location of the former pipe from the AGT. The sample (AGT02) location is marked in red.</p>



2018 Groundwater Monitoring Fieldsheets

Appendix H

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GROUNDWATER BOREHOLE DEVELOPMENT, PURGING and SAMPLING FIELD DATA SHEET



Bore ID.	BH01	Job No.	HB17559
Location	AWM Former US1	Completed by	Cwoodward
Coordinates	445206.8E, 5440818.3N	Weather	Fine
Client	Vens	Date	12/10/2018

BORE CONSTRUCTION DETAILS:

Headworks: Flush mount: Monument: Casing only: Locked:
Datum Point: Cover/monument: no Top of casing: no Datum Elevation (m) AHD: yes Local: no

MONITORING BORE INFORMATION:

Top of casing/cover to ground level:	0.000 m	Casing Diameter	51mm
Top of casing/cover to bore bottom:	3.233 m	A	
Top of casing/cover to groundwater:	1.070 m	B	
Depth of GW from surface	1.070 m		
Depth of GW in well	1.070 m		

One well volume:
(A-B) x 2 = 4.4 Litres (for a 51mm diameter bore)
(A-B) x 1.1 = Litres (for a 36mm diameter bore)

EQUIPMENT USED:

Smartroll _____ Groundwater quality parameters (pH, temp, EC, DO, ORP & Turbidity)
 Pump: _____ 12 Volt Protective Environmental Cyclone pump. Peristaltic: N
 Bailer: On 40mm casir Watera tubing & footvalve: Teflon: N
 Filter: No Submersible: Y on 50mm casing
 PVC: Y on 50mm casing
 St. steel Y on 50mm casing

BORE DEVELOPMENT/PURGING/SAMPLING:

Method:
 Purge rate x time (L/minute x min.) _____
 Estimated well volume x number of well purges (L/purge x purges) _____
 Measured purged volume _____
 Water quality equilibrium Y

Date	Time	Vol. Purged L	Sample vol. L	DO % Saturation	EC (uS/cm)	pH	ORP mV	Turbidity NTU	Temp. C	Comment	WQ data logged
12-Oct-18	9:05	5	0.2	19.7	817.0	7.0	187.4		14.3	Odour, murkey	
12-Oct-18	9:10	10	0.2	26.6	844.6	7.0	175.4		14.7	As above, clearer	
12-Oct-18	9:15	15	0.2	12.7	789.5	7.0	171.9		14.9	Murkey, odour	

Odour: Strong hydrocarbon odour Sheen: No sheen; murky green
 Samples taken for analysis:
 Comment:



GROUNDWATER BOREHOLE DEVELOPMENT, PURGING and SAMPLING FIELD DATA SHEET



Bore ID.	BH02	Job No.	HB17559
Location	AWM former UST	Completed by	Owoodward
Coordinates	4452057E - 54409259N	Weather	Fine
Client	Vens	Date	12/10/2018

BORE CONSTRUCTION DETAILS:

Headworks: Flush mount: Monument: Casing only: Locked:
Datum Point: Cover/monument: no Top of casing: no Datum Elevation (m) AHD: yes Local: no

MONITORING BORE INFORMATION:

Top of casing/cover to ground level:	0.000 m	Casing Diameter
Top of casing/cover to bore bottom:	3.940	m A
Top of casing/cover to groundwater:	1.010	m B
Depth of GW from surface	1.010 m	
Depth of GW in well	1.010 m	

One well volume:
(A-B) x 2 = 5.86 Litres (for a 51mm diameter bore)
(A-B) x 1.1 = Litres (for a 38mm diameter bore)

EQUIPMENT USED:

Smartroll Groundwater quality parameters (pH, Temp, EC, DO, ORP & Turbidity)
 Pump: On casings 12 Volt Proactive Environmental 'Cyclone' pump. Peristaltic: N Submersible: Y on 50mm casing
 Bailer: On 40mm casir Waterra tubing & footvalve: Teflon: N PVC: Y on 50mm casing
 Filter: No St. steel Y on 50mm casing

BORE DEVELOPMENT/PURGING/SAMPLING:

Method:
 Purge rate x time (L/minute x min.)
 Estimated well volume x number of well purges (L/purge x purges)
 Measured purged volume
 Water quality equilibrium

Date	Time	Vol. Purged L	Sample vol. L	DO % Saturation	EC (uS/cm)	pH	ORP mV	Turbidity NTU	Temp. C	Comment	WQ data logged
12-Oct-18	9:30 AM	6	0.2	18.1	283.41	7.62	220.5		14.67	Clear, no odour	
12-Oct-18	9:35 AM	12	0.2	18.9	276.85	7.26	224		14.99	As above	
12-Oct-18	9:40 AM	18	0.2	41.2	292.18	7.01	232.5		15.15	Murkier with HC odour	

Odour: No odour initially, HC odour at end of purge Sheen: Clear
 Samples taken for analysis:
 Comment:



GROUNDWATER BOREHOLE DEVELOPMENT, PURGING and SAMPLING FIELD DATA SHEET



Bore ID.	BH3	Job No.	HB17559
Location	AWM former UST	Completed by	Cwoodward
Coordinates	445203.2E; 5440824.7N	Weather	Fine
Client	Veris	Date	12/10/2018

BORE CONSTRUCTION DETAILS:

Headworks: Flush mount: Monument: Casing only: Locked:
Datum Point: Cover/monument: no Top of casing: no Datum Elevation (m) AHD: yes Local: no

MONITORING BORE INFORMATION:

Top of casing/cover to ground level:	0.000 m	Casing Diameter
Top of casing/cover to bore bottom:	3.480	m A
Top of casing/cover to groundwater:	0.920	m B
Depth of GW from surface	0.920 m	
Depth of GW in well	0.920 m	

One well volume:
(A-B) x 2 = 5.12 Litres (for a 51mm diameter bore)
(A-B) x 1.1 = Litres (for a 38mm diameter bore)

EQUIPMENT USED:

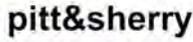
Groundwater quality parameters (pH, temp, EC, DO, ORP & Turbidity)
Smartroll
 On: 50mm
 Pump: casings 12 Volt Proactive Environmental 'Cyclone' pump. Peristaltic: N Submersible: Y on 50mm casing
 Bailer: On 40mm casir Waterra tubing & footvalve: Teflon: N PVC: Y on 50mm casing
 Filter: No St. steel Y on 50mm casing

BORE DEVELOPMENT/PURGING/SAMPLING:

Method:
 Purge rate x time (L/minute x min.)
 Estimated well volume x number of well purges (L/purge x purges)
 Measured purged volume
 Water quality equilibrium

Date	Time	Vol. Purged L	Sample vol. L	DO % Saturation	EC (uS/cm)	pH	ORP mV	Turbidity NTU	Temp. C	Comment	WQ data logged
12-Oct-18	9:40 AM	5	0.2	41.4	370.82	7.97	164		15.09		
12-Oct-18	9:46 AM	10	0.2	33.2	311.51	7.22	191.7		15.23		
12-Oct-18	9:50 AM	15	0.2	26.67	312.2	7.1042	189.9		15.28		

Odour: HC odour Sheen: No sheen, clear
 Samples taken for analysis:
 Comment:



GROUNDWATER BOREHOLE DEVELOPMENT, PURGING and SAMPLING FIELD DATA SHEET



Bore ID.	BH4	Job No.	HB17559
Location	AWM Stn Shed	Completed by	C Woodward
Coordinates		Weather	Fine
Client	Veris	Date	12/10/2018

BORE CONSTRUCTION DETAILS:

Headworks: Flush mount: Monument: Casing only: Locked:
 Datum Point: Cover/monument: no Top of casing: no Datum Elevation (m) AHD: yes Local: no

MONITORING BORE INFORMATION:

Top of casing/cover to ground level:	0.000 m	Casing Diameter
Top of casing/cover to bore bottom:	5.450 m	A
Top of casing/cover to groundwater:	2.335 m	B
Depth of GW from surface	2.335 m	
Depth of GW in well	2.335 m	

One well volume:
 (A-B) x 2 = 6.23 Litres (for a 51mm diameter bore)
 (A-B) x 1.1 = Litres (for a 38mm diameter bore)

EQUIPMENT USED:

Groundwater quality parameters (pH, temp, EC, DO, ORP & Turbidity)
 Smartroll:
 Pump: On casing: 12 Volt Proactive Environmental 'Cyclone' pump: Peristaltic: N Submersible: Y on 50mm casing
 Bailor: On 40mm casing: Watera loking & footvalve: Teflon: N PUC: Y on 50mm casing
 Filter: No ST steel: Y on 50mm casing

BORE DEVELOPMENT/PURGING/SAMPLING:

Method:
 Purge rate x time (L/minute x min.)

 Estimated well volume x number of well purges (L/purge x purges)
 Measured purged volume
 Water quality equilibrium

Date	Time	Vol. Purged L	Sample vol. L	DO % Saturation	EC (uS/cm)	pH	ORP mV	Turbidity NTU	Temp. C	Comment	WQ data logged
12-Oct-18	1:15 PM	6.5	0.2	54.0	375.79	7.56	319.7		18.52	No odour, opaque	
12-Oct-18	1:25 PM	13	0.2	44.5	314.14	6.57	287		15.21	As above	
12-Oct-18	1:30 PM	19.5	0.2	37.94	312.63	6.4424	274.3		14.77	Cloudier	

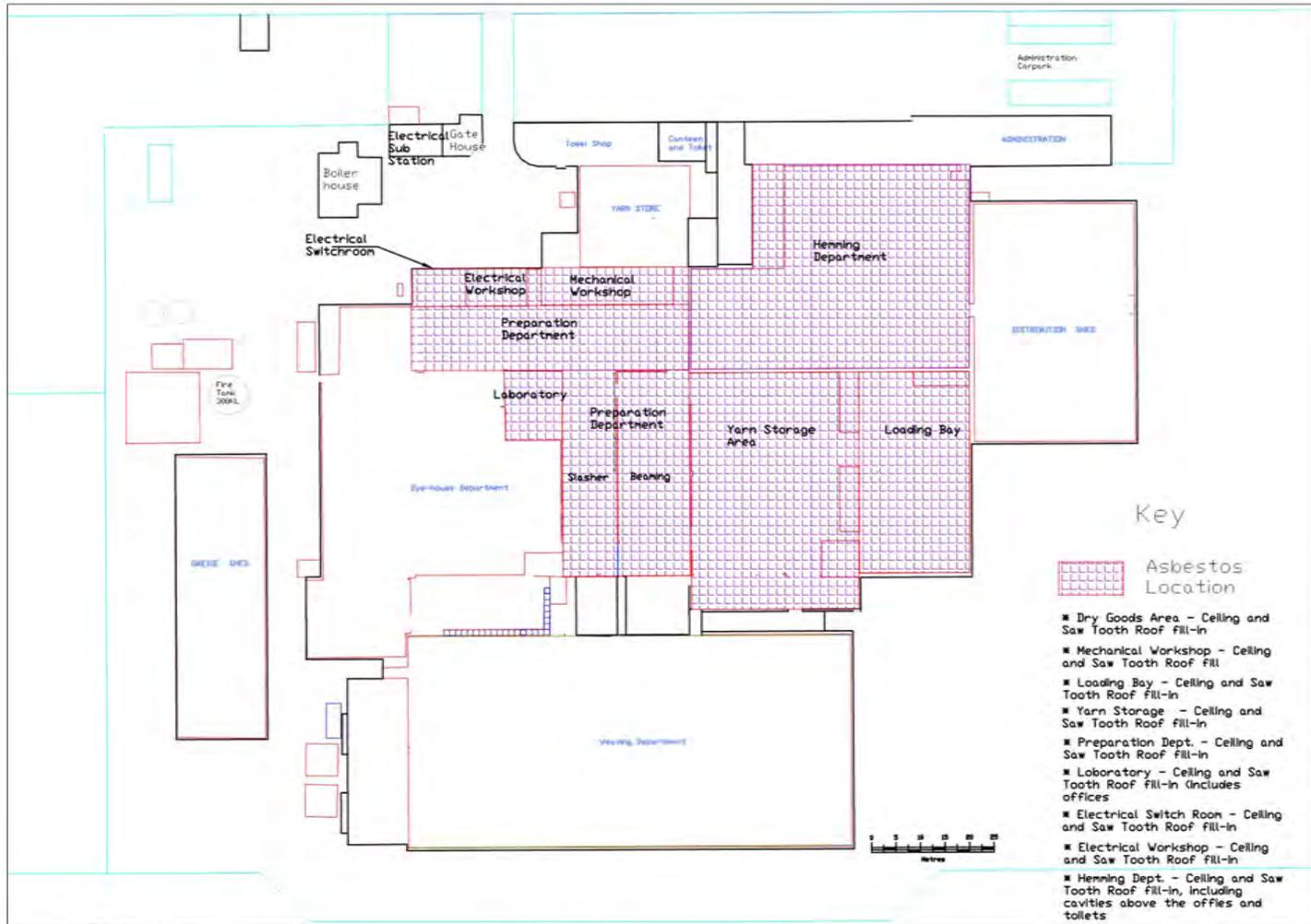
Odour: No Odour Sheen:
 Samples taken for analysis:
 Comment:



Asbestos Register

Appendix I

pitt&sherry



Australian Weaving Mills
 41-117 Tasman Street
 Devonport, Tas 7310

Asbestos Register

17 January 2012



Laboratory Certificates of Analysis

Appendix J

pitt&sherry

QUALITY CONTROL REPORT

Work Order : **EM1816564**
Client : **Pitt & Sherry (Operations) Pty Ltd**
Contact : **SOPHIE LE ROUX**
Address : **PO BOX 94 199 MACQUARIE ST
HOBART TAS, AUSTRALIA 7001**
Telephone : **+61 03 6223 1800**
Project : **HB17559**
Order number : **PHBH000924**
C-O-C number : **----**
Sampler : **CW/KL**
Site : **----**
Quote number : **EN/222**
No. of samples received : **28**
No. of samples analysed : **25**

Page : 1 of 12
Laboratory : Environmental Division Melbourne
Contact : Shirley LeCornu
Address : 4 Westall Rd Springvale VIC Australia 3171
Telephone : +61-3-8549 9630
Date Samples Received : 15-Oct-2018
Date Analysis Commenced : 16-Oct-2018
Issue Date : 18-Oct-2018



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. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Dilani Fernando	Senior Inorganic Chemist	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

Page : 2 of 12
 Work Order : EM1816564
 Client : Pitt & Sherry (Operations) Pty Ltd
 Project : HB17559



General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by 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

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 1984986)									
EM1816545-048	Anonymous	EA055: Moisture Content	----	0.1	%	2.0	1.7	18.7	0% - 20%
EM1816564-010	SA-ST-2	EA055: Moisture Content	----	0.1	%	25.0	25.0	0.00	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 1984987)									
EM1816564-023	UST-ST-D-2	EA055: Moisture Content	----	0.1	%	13.4	11.6	14.5	0% - 50%
EG005T: Total Metals by ICP-AES (QC Lot: 1983990)									
EM1816564-002	UST-S1-1m	EG005T: Chromium	7440-47-3	2	mg/kg	34	32	4.90	0% - 50%
EM1816564-010	SA-ST-2	EG005T: Chromium	7440-47-3	2	mg/kg	142	124	13.4	0% - 20%
EP071 SG: Total Petroleum Hydrocarbons - Silica gel cleanup (QC Lot: 1984170)									
EM1816564-012	2018-MB01	EP071SG-S: C15 - C28 Fraction	----	100	mg/kg	13500	14400	6.70	0% - 20%
		EP071SG-S: C29 - C36 Fraction	----	100	mg/kg	3480	3850	10.0	0% - 20%
		EP071SG-S: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP071 SG: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Silica gel cleanup (QC Lot: 1984170)									
EM1816564-012	2018-MB01	EP071SG-S: >C16 - C34 Fraction	----	100	mg/kg	16200	17500	7.37	0% - 20%
		EP071SG-S: >C34 - C40 Fraction	----	100	mg/kg	260	310	19.0	No Limit
		EP071SG-S: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1983614)									
EM1816564-002	UST-S1-1m	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EM1816564-011	SA-ST-3	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1984169)									
EM1816564-002	UST-S1-1m	EP071: C15 - C28 Fraction	----	100	mg/kg	330	300	8.16	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	120	110	10.6	No Limit
		EP071: C10 - C36 Fraction (sum)	----	50	mg/kg	450	410	9.30	No Limit
EM1816564-012	2018-MB01	EP071: C15 - C28 Fraction	----	100	mg/kg	16100	17100	6.04	0% - 20%

Page : 3 of 12
 Work Order : EM1816564
 Client : Pitt & Sherry (Operations) Pty Ltd
 Project : HB17559



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)	
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1984169) - continued										
EM1816564-012	2018-MB01	EP071: C29 - C36 Fraction	----	100	mg/kg	5840	5990	2.44	0% - 20%	
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit	
		EP071: C10 - C36 Fraction (sum)	----	50	mg/kg	21900	23100	5.11	0% - 20%	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 1983614)										
EM1816564-002	UST-S1-1m	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit	
EM1816564-011	SA-ST-3	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 1984169)										
EM1816564-002	UST-S1-1m	EP071: >C16 - C34 Fraction	----	100	mg/kg	270	250	7.64	No Limit	
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit	
		EP071: >C10 - C16 Fraction	----	50	mg/kg	200	180	9.65	No Limit	
		EP071: >C10 - C40 Fraction (sum)	----	50	mg/kg	470	430	8.89	No Limit	
EM1816564-012	2018-MB01	EP071: >C16 - C34 Fraction	----	100	mg/kg	20900	22100	5.53	0% - 20%	
		EP071: >C34 - C40 Fraction	----	100	mg/kg	920	710	25.8	No Limit	
		EP071: >C10 - C16 Fraction	----	50	mg/kg	90	90	0.00	No Limit	
		EP071: >C10 - C40 Fraction (sum)	----	50	mg/kg	21900	22900	4.42	0% - 20%	
EP080: BTEXN (QC Lot: 1983614)										
EM1816564-002	UST-S1-1m	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit	
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
			106-42-3							
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
EM1816564-011	SA-ST-3	EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit	
		EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit	
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
			106-42-3							
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit	
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit	
Sub-Matrix: WATER										
Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)	
EG020F: Dissolved Metals by ICP-MS (QC Lot: 1985599)										
EM1816550-001	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit	
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.00	No Limit	
		EG020A-F: Beryllium	7440-41-7	0.001	mg/L	<0.001	<0.001	0.00	No Limit	
		EG020A-F: Barium	7440-39-3	0.001	mg/L	0.019	0.019	0.00	0% - 50%	
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.00	No Limit	
		EG020A-F: Cobalt	7440-48-4	0.001	mg/L	<0.001	<0.001	0.00	No Limit	

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 Work Order : EM1816564
 Client : Pitt & Sherry (Operations) Pty Ltd
 Project : HB17559



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG020F: Dissolved Metals by ICP-MS (QC Lot: 1985599) - continued									
EM1816550-001	Anonymous	EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-F: Manganese	7439-96-5	0.001	mg/L	0.036	0.036	0.00	0% - 20%
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	0.005	0.005	0.00	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	0.00	No Limit
		EG020A-F: Selenium	7782-49-2	0.01	mg/L	<0.01	<0.01	0.00	No Limit
		EG020A-F: Vanadium	7440-62-2	0.01	mg/L	<0.01	<0.01	0.00	No Limit
		EG020A-F: Boron	7440-42-8	0.05	mg/L	0.22	0.22	0.00	No Limit
EM1816426-001	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	0.003	0.003	0.00	No Limit
		EG020A-F: Beryllium	7440-41-7	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-F: Barium	7440-39-3	0.001	mg/L	0.009	0.008	22.0	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	0.002	0.002	0.00	No Limit
		EG020A-F: Cobalt	7440-48-4	0.001	mg/L	0.008	0.008	0.00	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-F: Manganese	7439-96-5	0.001	mg/L	0.421	0.415	1.56	0% - 20%
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	0.021	0.019	7.14	0% - 20%
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	0.017	0.018	6.10	No Limit
		EG020A-F: Selenium	7782-49-2	0.01	mg/L	<0.01	<0.01	0.00	No Limit
		EG020A-F: Vanadium	7440-62-2	0.01	mg/L	<0.01	<0.01	0.00	No Limit
		EG020A-F: Boron	7440-42-8	0.05	mg/L	3.56	3.43	3.80	0% - 20%
EG035F: Dissolved Mercury by FIMS (QC Lot: 1985600)									
EM1816564-024	GW1	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit
EM1816426-001	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit
EP074A: Monocyclic Aromatic Hydrocarbons (QC Lot: 1984129)									
EM1816564-024	GW1	EP074: Styrene	100-42-5	5	µg/L	<5	<5	0.00	No Limit
		EP074: Isopropylbenzene	98-82-8	5	µg/L	<5	<5	0.00	No Limit
		EP074: n-Propylbenzene	103-65-1	5	µg/L	<5	<5	0.00	No Limit
		EP074: 1,3,5-Trimethylbenzene	108-67-8	5	µg/L	<5	<5	0.00	No Limit
		EP074: sec-Butylbenzene	135-98-8	5	µg/L	5	6	0.00	No Limit
		EP074: 1,2,4-Trimethylbenzene	95-63-6	5	µg/L	<5	<5	0.00	No Limit
		EP074: tert-Butylbenzene	98-06-6	5	µg/L	<5	<5	0.00	No Limit
		EP074: p-Isopropyltoluene	99-87-6	5	µg/L	<5	<5	0.00	No Limit
		EP074: n-Butylbenzene	104-51-8	5	µg/L	<5	<5	0.00	No Limit
		EP074B: Oxygenated Compounds (QC Lot: 1984129)							
EM1816564-024	GW1	EP074: Vinyl Acetate	108-05-4	50	µg/L	<50	<50	0.00	No Limit
		EP074: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	<50	0.00	No Limit
		EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	<50	0.00	No Limit
		EP074: 2-Hexanone (MBK)	591-78-6	50	µg/L	<50	<50	0.00	No Limit

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 Work Order : EM1816564
 Client : Pitt & Sherry (Operations) Pty Ltd
 Project : HB17559



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report							
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)		
EP074C: Sulfonated Compounds (QC Lot: 1984129)											
EM1816564-024	GW1	EP074: Carbon disulfide	75-15-0	5	µg/L	<5	<5	0.00	No Limit		
EP074D: Fumigants (QC Lot: 1984129)											
EM1816564-024	GW1	EP074: 2,2-Dichloropropane	594-20-7	5	µg/L	<5	<5	0.00	No Limit		
		EP074: 1,2-Dichloropropane	78-87-5	5	µg/L	<5	<5	0.00	No Limit		
		EP074: cis-1,3-Dichloropropylene	10061-01-5	5	µg/L	<5	<5	0.00	No Limit		
		EP074: trans-1,3-Dichloropropylene	10061-02-6	5	µg/L	<5	<5	0.00	No Limit		
		EP074: 1,2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	<5	0.00	No Limit		
EP074E: Halogenated Aliphatic Compounds (QC Lot: 1984129)											
EM1816564-024	GW1	EP074: 1,1-Dichloroethene	75-35-4	5	µg/L	<5	<5	0.00	No Limit		
		EP074: Iodomethane	74-88-4	5	µg/L	<5	<5	0.00	No Limit		
		EP074: trans-1,2-Dichloroethene	156-60-5	5	µg/L	<5	<5	0.00	No Limit		
		EP074: 1,1-Dichloroethane	75-34-3	5	µg/L	<5	<5	0.00	No Limit		
		EP074: cis-1,2-Dichloroethene	156-59-2	5	µg/L	<5	<5	0.00	No Limit		
		EP074: 1,1,1-Trichloroethane	71-55-6	5	µg/L	<5	<5	0.00	No Limit		
		EP074: 1,1-Dichloropropylene	563-58-6	5	µg/L	<5	<5	0.00	No Limit		
		EP074: Carbon Tetrachloride	56-23-5	5	µg/L	<5	<5	0.00	No Limit		
		EP074: 1,2-Dichloroethane	107-06-2	5	µg/L	<5	<5	0.00	No Limit		
		EP074: Trichloroethene	79-01-6	5	µg/L	<5	<5	0.00	No Limit		
		EP074: Dibromomethane	74-95-3	5	µg/L	<5	<5	0.00	No Limit		
		EP074: 1,1,2-Trichloroethane	79-00-5	5	µg/L	<5	<5	0.00	No Limit		
		EP074: 1,3-Dichloropropane	142-28-9	5	µg/L	<5	<5	0.00	No Limit		
		EP074: Tetrachloroethene	127-18-4	5	µg/L	<5	<5	0.00	No Limit		
		EP074: 1,1,1,2-Tetrachloroethane	630-20-6	5	µg/L	<5	<5	0.00	No Limit		
		EP074: trans-1,4-Dichloro-2-butene	110-57-6	5	µg/L	<5	<5	0.00	No Limit		
		EP074: cis-1,4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	<5	0.00	No Limit		
		EP074: 1,1,2,2-Tetrachloroethane	79-34-5	5	µg/L	<5	<5	0.00	No Limit		
		EP074: 1,2,3-Trichloropropane	96-18-4	5	µg/L	<5	<5	0.00	No Limit		
		EP074: Pentachloroethane	76-01-7	5	µg/L	<5	<5	0.00	No Limit		
		EP074: 1,2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	<5	0.00	No Limit		
		EP074: Hexachlorobutadiene	87-68-3	5	µg/L	<5	<5	0.00	No Limit		
		EP074: Dichlorodifluoromethane	75-71-8	50	µg/L	<50	<50	0.00	No Limit		
		EP074: Chloromethane	74-87-3	50	µg/L	<50	<50	0.00	No Limit		
		EP074: Vinyl chloride	75-01-4	50	µg/L	<50	<50	0.00	No Limit		
		EP074: Bromomethane	74-83-9	50	µg/L	<50	<50	0.00	No Limit		
		EP074: Chloroethane	75-00-3	50	µg/L	<50	<50	0.00	No Limit		
		EP074: Trichlorofluoromethane	75-69-4	50	µg/L	<50	<50	0.00	No Limit		
		EP074F: Halogenated Aromatic Compounds (QC Lot: 1984129)									
		EM1816564-024	GW1	EP074: Chlorobenzene	108-90-7	5	µg/L	<5	<5	0.00	No Limit
EP074: Bromobenzene	108-86-1			5	µg/L	<5	<5	0.00	No Limit		
EP074: 2-Chlorotoluene	95-49-8			5	µg/L	<5	<5	0.00	No Limit		

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 Work Order : EM1816564
 Client : Pitt & Sherry (Operations) Pty Ltd
 Project : HB17559



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)	
EP074F: Halogenated Aromatic Compounds (QC Lot: 1984129) - continued										
EM1816564-024	GW1	EP074: 4-Chlorotoluene	106-43-4	5	µg/L	<5	<5	0.00	No Limit	
		EP074: 1,3-Dichlorobenzene	541-73-1	5	µg/L	<5	<5	0.00	No Limit	
		EP074: 1,4-Dichlorobenzene	106-46-7	5	µg/L	<5	<5	0.00	No Limit	
		EP074: 1,2-Dichlorobenzene	95-50-1	5	µg/L	<5	<5	0.00	No Limit	
		EP074: 1,2,4-Trichlorobenzene	120-82-1	5	µg/L	<5	<5	0.00	No Limit	
		EP074: 1,2,3-Trichlorobenzene	87-61-6	5	µg/L	<5	<5	0.00	No Limit	
EP074G: Trihalomethanes (QC Lot: 1984129)										
EM1816564-024	GW1	EP074: Chloroform	67-66-3	5	µg/L	<5	<5	0.00	No Limit	
		EP074: Bromodichloromethane	75-27-4	5	µg/L	<5	<5	0.00	No Limit	
		EP074: Dibromochloromethane	124-48-1	5	µg/L	<5	<5	0.00	No Limit	
		EP074: Bromoform	75-25-2	5	µg/L	<5	<5	0.00	No Limit	
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 1984128)										
EM1816564-024	GW1	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.00	No Limit	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 1984128)										
EM1816564-024	GW1	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	40	30	0.00	No Limit	
EP080: BTEXN (QC Lot: 1984128)										
EM1816564-024	GW1	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.00	No Limit	
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.00	No Limit	
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.00	No Limit	
		EP080: meta- & para-Xylene	108-38-3	2	µg/L	<2	<2	0.00	No Limit	
			106-42-3							
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.00	No Limit	
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.00	No Limit	

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Method Blank (MB) and Laboratory Control Spike (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 Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
Method: Compound	CAS Number	LOR	Unit		Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low High	
EG005T: Total Metals by ICP-AES (QCLot: 1983990)								
EG005T: Chromium	7440-47-3	2	mg/kg	<2	43.9 mg/kg	101	78	110
EP071 SG: Total Petroleum Hydrocarbons - Silica gel cleanup (QCLot: 1984170)								
EP071SG-S: C10 - C14 Fraction	----	50	mg/kg	<50	806 mg/kg	62.6	39	119
EP071SG-S: C15 - C28 Fraction	----	100	mg/kg	<100	3006 mg/kg	95.9	60	115
EP071SG-S: C29 - C36 Fraction	----	100	mg/kg	<100	1584 mg/kg	88.8	57	127
EP071 SG: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Silica gel cleanup (QCLot: 1984170)								
EP071SG-S: >C10 - C16 Fraction	----	50	mg/kg	<50	1160 mg/kg	69.8	48	119
EP071SG-S: >C16 - C34 Fraction	----	100	mg/kg	<100	3978 mg/kg	94.1	51	124
EP071SG-S: >C34 - C40 Fraction	----	100	mg/kg	<100	313 mg/kg	71.0	39	150
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1983614)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	36 mg/kg	109	70	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1984169)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	806 mg/kg	104	80	120
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	3006 mg/kg	110	84	115
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	1584 mg/kg	105	80	112
EP071: C10 - C36 Fraction (sum)	----	50	mg/kg	<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1983614)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	45 mg/kg	107	68	125
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1984169)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	1160 mg/kg	107	83	117
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	3978 mg/kg	109	82	114
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	313 mg/kg	109	73	115
EP071: >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	----	----	----	----
EP080: BTEXN (QCLot: 1983614)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	2 mg/kg	88.6	74	124
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	2 mg/kg	97.5	77	125
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	2 mg/kg	98.6	73	125
EP080: meta- & para-Xylene	108-38-3	0.5	mg/kg	<0.5	4 mg/kg	108	77	128
	106-42-3							
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	2 mg/kg	106	81	128
EP080: Naphthalene	91-20-3	1	mg/kg	<1	0.5 mg/kg	90.6	66	130

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report		
					Spike	Spike Recovery (%)	Recovery Limits (%)

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Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%)	
						Low	High	
EG020F: Dissolved Metals by ICP-MS (QCLot: 1985599)								
EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	100	91	107
EG020A-F: Beryllium	7440-41-7	0.001	mg/L	<0.001	0.1 mg/L	99.1	82	113
EG020A-F: Barium	7440-39-3	0.001	mg/L	<0.001	0.1 mg/L	100	84	106
EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	96.2	84	104
EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	97.0	83	103
EG020A-F: Cobalt	7440-48-4	0.001	mg/L	<0.001	0.1 mg/L	101	83	106
EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	102	82	103
EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	93.9	83	105
EG020A-F: Manganese	7439-96-5	0.001	mg/L	<0.001	0.1 mg/L	98.4	83	105
EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	102	82	106
EG020A-F: Selenium	7782-49-2	0.01	mg/L	<0.01	0.1 mg/L	102	82	109
EG020A-F: Vanadium	7440-62-2	0.01	mg/L	<0.01	0.1 mg/L	97.6	83	106
EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	100	85	109
EG020A-F: Boron	7440-42-8	0.05	mg/L	<0.05	0.5 mg/L	103	84	116
EG035F: Dissolved Mercury by FIMS (QCLot: 1985600)								
EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.01 mg/L	85.4	81	114
EP074A: Monocyclic Aromatic Hydrocarbons (QCLot: 1984129)								
EP074: Styrene	100-42-5	5	µg/L	<5	20 µg/L	107	79	114
EP074: Isopropylbenzene	98-82-8	5	µg/L	<5	20 µg/L	105	72	116
EP074: n-Propylbenzene	103-65-1	5	µg/L	<5	20 µg/L	98.2	71	115
EP074: 1,3,5-Trimethylbenzene	108-67-8	5	µg/L	<5	20 µg/L	107	72	114
EP074: sec-Butylbenzene	135-98-8	5	µg/L	<5	20 µg/L	103	72	114
EP074: 1,2,4-Trimethylbenzene	95-63-6	5	µg/L	<5	20 µg/L	108	74	112
EP074: tert-Butylbenzene	98-06-6	5	µg/L	<5	20 µg/L	102	73	114
EP074: p-Isopropyltoluene	99-87-6	5	µg/L	<5	20 µg/L	104	70	115
EP074: n-Butylbenzene	104-51-8	5	µg/L	<5	20 µg/L	97.6	62	116
EP074B: Oxygenated Compounds (QCLot: 1984129)								
EP074: Vinyl Acetate	108-05-4	50	µg/L	<50	200 µg/L	104	73	126
EP074: 2-Butanone (MEK)	78-93-3	50	µg/L	<50	200 µg/L	105	68	136
EP074: 4-Methyl-2-pentanone (MIBK)	108-10-1	50	µg/L	<50	200 µg/L	112	76	127
EP074: 2-Hexanone (MBK)	591-78-6	50	µg/L	<50	200 µg/L	109	71	131
EP074C: Sulfonated Compounds (QCLot: 1984129)								
EP074: Carbon disulfide	75-15-0	5	µg/L	<5	20 µg/L	102	55	123
EP074D: Fumigants (QCLot: 1984129)								
EP074: 2,2-Dichloropropane	594-20-7	5	µg/L	<5	20 µg/L	101	67	122
EP074: 1,2-Dichloropropane	78-87-5	5	µg/L	<5	20 µg/L	104	78	120
EP074: cis-1,3-Dichloropropylene	10061-01-5	5	µg/L	<5	20 µg/L	101	70	118
EP074: trans-1,3-Dichloropropylene	10061-02-6	5	µg/L	<5	20 µg/L	105	68	115

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Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB)	Laboratory Control Spike (LCS) Report				
				Report	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)	
				Result		LCS	Low	High	
EP074D: Fumigants (QCLot: 1984129) - continued									
EP074: 1,2-Dibromoethane (EDB)	106-93-4	5	µg/L	<5	20 µg/L	101	78	120	
EP074E: Halogenated Aliphatic Compounds (QCLot: 1984129)									
EP074: Dichlorodifluoromethane	75-71-8	50	µg/L	<50	200 µg/L	102	62	140	
EP074: Chloromethane	74-87-3	50	µg/L	<50	200 µg/L	104	68	138	
EP074: Vinyl chloride	75-01-4	50	µg/L	<50	200 µg/L	99.5	64	139	
EP074: Bromomethane	74-83-9	50	µg/L	<50	200 µg/L	101	48	130	
EP074: Chloroethane	75-00-3	50	µg/L	<50	200 µg/L	105	71	130	
EP074: Trichlorofluoromethane	75-69-4	50	µg/L	<50	200 µg/L	102	71	126	
EP074: 1,1-Dichloroethene	75-35-4	5	µg/L	<5	20 µg/L	104	65	124	
EP074: Iodomethane	74-88-4	5	µg/L	<5	20 µg/L	91.2	27	120	
EP074: trans-1,2-Dichloroethene	156-60-5	5	µg/L	<5	20 µg/L	104	73	121	
EP074: 1,1-Dichloroethane	75-34-3	5	µg/L	<5	20 µg/L	106	77	120	
EP074: cis-1,2-Dichloroethene	156-59-2	5	µg/L	<5	20 µg/L	108	78	120	
EP074: 1,1,1-Trichloroethane	71-55-6	5	µg/L	<5	20 µg/L	98.7	68	116	
EP074: 1,1-Dichloropropylene	563-58-6	5	µg/L	<5	20 µg/L	95.8	66	119	
EP074: Carbon Tetrachloride	56-23-5	5	µg/L	<5	20 µg/L	95.0	66	119	
EP074: 1,2-Dichloroethane	107-06-2	5	µg/L	<5	20 µg/L	104	79	118	
EP074: Trichloroethene	79-01-6	5	µg/L	<5	20 µg/L	101	70	120	
EP074: Dibromomethane	74-95-3	5	µg/L	<5	20 µg/L	105	75	115	
EP074: 1,1,2-Trichloroethane	79-00-5	5	µg/L	<5	20 µg/L	107	87	114	
EP074: 1,3-Dichloropropane	142-28-9	5	µg/L	<5	20 µg/L	108	84	116	
EP074: Tetrachloroethene	127-18-4	5	µg/L	<5	20 µg/L	98.7	75	119	
EP074: 1,1,1,2-Tetrachloroethane	630-20-6	5	µg/L	<5	20 µg/L	98.6	75	112	
EP074: trans-1,4-Dichloro-2-butene	110-57-6	5	µg/L	<5	20 µg/L	106	63	119	
EP074: cis-1,4-Dichloro-2-butene	1476-11-5	5	µg/L	<5	20 µg/L	99.4	54	119	
EP074: 1,1,1,2,2-Tetrachloroethane	79-34-5	5	µg/L	<5	20 µg/L	109	81	125	
EP074: 1,2,3-Trichloropropane	96-18-4	5	µg/L	<5	20 µg/L	107	81	125	
EP074: Pentachloroethane	76-01-7	5	µg/L	<5	20 µg/L	102	62	110	
EP074: 1,2-Dibromo-3-chloropropane	96-12-8	5	µg/L	<5	20 µg/L	100	63	106	
EP074: Hexachlorobutadiene	87-68-3	5	µg/L	<5	20 µg/L	102	63	126	
EP074F: Halogenated Aromatic Compounds (QCLot: 1984129)									
EP074: Chlorobenzene	108-90-7	5	µg/L	<5	20 µg/L	106	82	114	
EP074: Bromobenzene	108-86-1	5	µg/L	<5	20 µg/L	103	74	117	
EP074: 2-Chlorotoluene	95-49-8	5	µg/L	<5	20 µg/L	102	71	114	
EP074: 4-Chlorotoluene	106-43-4	5	µg/L	<5	20 µg/L	104	71	112	
EP074: 1,3-Dichlorobenzene	541-73-1	5	µg/L	<5	20 µg/L	110	73	116	
EP074: 1,4-Dichlorobenzene	106-46-7	5	µg/L	<5	20 µg/L	109	76	118	
EP074: 1,2-Dichlorobenzene	95-50-1	5	µg/L	<5	20 µg/L	108	82	112	
EP074: 1,2,4-Trichlorobenzene	120-82-1	5	µg/L	<5	20 µg/L	107	62	119	

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Sub-Matrix: WATER				Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report			
Method: Compound	CAS Number	LOR	Unit		Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low High	
EP074F: Halogenated Aromatic Compounds (QCLot: 1984129) - continued								
EP074: 1,2,3-Trichlorobenzene	87-61-6	5	µg/L	<5	20 µg/L	106	74	118
EP074G: Trihalomethanes (QCLot: 1984129)								
EP074: Chloroform	67-66-3	5	µg/L	<5	20 µg/L	107	79	119
EP074: Bromodichloromethane	75-27-4	5	µg/L	<5	20 µg/L	102	70	112
EP074: Dibromochloromethane	124-48-1	5	µg/L	<5	20 µg/L	94.1	68	107
EP074: Bromoform	75-25-2	5	µg/L	<5	20 µg/L	94.4	62	108
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1984128)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	360 µg/L	115	68	125
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1984293)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	4331 µg/L	79.5	58	134
EP071: C15 - C28 Fraction	----	100	µg/L	<100	16952 µg/L	78.8	60	133
EP071: C29 - C36 Fraction	----	50	µg/L	<50	8695 µg/L	80.5	54	137
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1984128)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	450 µg/L	112	66	123
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1984293)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	6292 µg/L	80.4	58	122
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	22143 µg/L	80.1	56	132
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	1677 µg/L	80.2	58	137
EP080: BTEXN (QCLot: 1984128)								
EP080: Benzene	71-43-2	1	µg/L	<1	20 µg/L	109	74	123
EP080: Toluene	108-88-3	2	µg/L	<2	20 µg/L	110	77	128
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	20 µg/L	112	73	126
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	40 µg/L	120	72	131
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	20 µg/L	115	74	131
EP080: Naphthalene	91-20-3	5	µg/L	<5	5 µg/L	110	74	124

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			
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike	SpikeRecovery(%)	Recovery Limits (%)	
				Concentration	MS	Low	High
EG005T: Total Metals by ICP-AES (QCLot: 1983990)							
EM1816564-002	UST-S1-1m	EG005T: Chromium	7440-47-3	50 mg/kg	90.6	79	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1983614)							

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Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1983614) - continued							
EM1816564-002	UST-S1-1m	EP080: C6 - C9 Fraction	----	28 mg/kg	76.7	42	131
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1984169)							
EM1816564-002	UST-S1-1m	EP071: C10 - C14 Fraction	----	806 mg/kg	106	53	123
		EP071: C15 - C28 Fraction	----	3006 mg/kg	107	70	124
		EP071: C29 - C36 Fraction	----	1584 mg/kg	100	64	118
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1983614)							
EM1816564-002	UST-S1-1m	EP080: C6 - C10 Fraction	C6_C10	33 mg/kg	77.0	39	129
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1984169)							
EM1816564-002	UST-S1-1m	EP071: >C10 - C16 Fraction	----	1160 mg/kg	108	65	123
		EP071: >C16 - C34 Fraction	----	3978 mg/kg	105	67	121
		EP071: >C34 - C40 Fraction	----	313 mg/kg	102	44	126
EP080: BTEXN (QCLot: 1983614)							
EM1816564-002	UST-S1-1m	EP080: Benzene	71-43-2	2 mg/kg	74.6	50	136
		EP080: Toluene	108-88-3	2 mg/kg	83.0	56	139

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020F: Dissolved Metals by ICP-MS (QCLot: 1985599)							
EM1816426-001	Anonymous	EG020A-F: Arsenic	7440-38-2	0.2 mg/L	102	85	131
		EG020A-F: Beryllium	7440-41-7	0.2 mg/L	97.7	73	141
		EG020A-F: Barium	7440-39-3	0.2 mg/L	93.5	75	127
		EG020A-F: Cadmium	7440-43-9	0.05 mg/L	92.5	81	133
		EG020A-F: Chromium	7440-47-3	0.2 mg/L	95.2	71	135
		EG020A-F: Cobalt	7440-48-4	0.2 mg/L	102	78	132
		EG020A-F: Copper	7440-50-8	0.2 mg/L	96.2	76	130
		EG020A-F: Lead	7439-92-1	0.2 mg/L	89.2	75	133
		EG020A-F: Manganese	7439-96-5	0.2 mg/L	81.2	64	134
		EG020A-F: Nickel	7440-02-0	0.2 mg/L	97.7	73	131
		EG020A-F: Vanadium	7440-62-2	0.2 mg/L	96.9	73	131
		EG020A-F: Zinc	7440-66-6	0.2 mg/L	99.9	75	131
		EG035F: Dissolved Mercury by FIMS (QCLot: 1985600)					
EM1816441-001	Anonymous	EG035F: Mercury	7439-97-6	0.01 mg/L	87.4	70	120
EP074E: Halogenated Aliphatic Compounds (QCLot: 1984129)							
EM1816564-025	GW2	EP074: 1,1-Dichloroethene	75-35-4	20 µg/L	98.5	40	124
		EP074: Trichloroethene	79-01-6	20 µg/L	77.0	54	126
EP074F: Halogenated Aromatic Compounds (QCLot: 1984129)							

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Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP074F: Halogenated Aromatic Compounds (QCLot: 1984129) - continued							
EM1816564-025	GW2	EP074: Chlorobenzene	108-90-7	20 µg/L	95.0	68	132
EP080/071: Total Petroleum Hydrocarbons (QCLot: 1984128)							
EM1816564-025	GW2	EP080: C6 - C9 Fraction	----	280 µg/L	82.6	43	125
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 1984128)							
EM1816564-025	GW2	EP080: C6 - C10 Fraction	C6_C10	330 µg/L	80.1	44	122
EP080: BTEXN (QCLot: 1984128)							
EM1816564-025	GW2	EP080: Benzene	71-43-2	20 µg/L	101	68	130
		EP080: Toluene	108-88-3	20 µg/L	104	72	132



QA/QC Compliance Assessment to assist with Quality Review

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Client	: Pitt & Sherry (Operations) Pty Ltd	Laboratory	: Environmental Division Melbourne
Contact	: SOPHIE LE ROUX	Telephone	: +61-3-8549 9630
Project	: HB17559	Date Samples Received	: 15-Oct-2018
Site	: ----	Issue Date	: 18-Oct-2018
Sampler	: CW/KL	No. of samples received	: 28
Order number	: PHBH000924	No. of samples analysed	: 25

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

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- Quality Control Sample Frequency Outliers exist - please see following pages for full details.

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Outliers : Frequency of Quality Control Samples

Matrix: **SOIL**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
	QC	Regular	Actual	Expected	
Method					
Matrix Spikes (MS)					
TRH - Semivolatle Fraction (Silica Gel Clean Up)	0	1	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
	QC	Regular	Actual	Expected	
Method					
Laboratory Duplicates (DUP)					
TRH - Semivolatle Fraction	0	7	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
TRH - Semivolatle Fraction	0	7	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for VOC in soils vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EA055: Moisture Content (Dried @ 105-110°C)								
Soil Glass Jar - Unpreserved (EA055)								
UST-DUP1, UST-SE-1.4m, UST-ST-D-3m, UST-B1-1.7m, SA-ST-1, SA-ST-3, 2018-AGT01, SA-N-0.4m, SA-C-1.0m, UST-ST-D-1,	UST-S1-1m, SA-S-1m, UST-NE-0.4m, UST-NW-1.0m, SA-ST-2, 2018-MB01, 2018-AGT02, SA-SE-1m, SA-NE-1.0m, UST-ST-D-2	12-Oct-2018	----	----	----	16-Oct-2018	26-Oct-2018	✓

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Matrix: SOIL Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EG005T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved (EG005T)								
UST-DUP1, UST-SE-1.4m, UST-ST-D-3m, UST-B1-1.7m, SA-ST-1, SA-ST-3, 2018-AGT01, SA-N-0.4m, SA-C-1.0m, UST-ST-D-1,	UST-S1-1m, SA-S-1m, UST-NE-0.4m, UST-NW-1.0m, SA-ST-2, 2018-MB01, 2018-AGT02, SA-SE-1m, SA-NE-1.0m, UST-ST-D-2	12-Oct-2018	16-Oct-2018	10-Apr-2019	✓	16-Oct-2018	10-Apr-2019	✓
EP071 SG: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Silica gel cleanup								
Soil Glass Jar - Unpreserved (EP071SG-S)								
2018-MB01		12-Oct-2018	16-Oct-2018	26-Oct-2018	✓	16-Oct-2018	25-Nov-2018	✓
EP071 SG-S: Total Petroleum Hydrocarbons in Soil - Silica gel cleanup								
Soil Glass Jar - Unpreserved (EP071SG-S)								
2018-MB01		12-Oct-2018	16-Oct-2018	26-Oct-2018	✓	16-Oct-2018	25-Nov-2018	✓
EP080/071: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved (EP080)								
UST-DUP1, UST-SE-1.4m, UST-ST-D-3m, UST-B1-1.7m, SA-ST-1, SA-ST-3, 2018-AGT01, SA-N-0.4m, SA-C-1.0m, UST-ST-D-1,	UST-S1-1m, SA-S-1m, UST-NE-0.4m, UST-NW-1.0m, SA-ST-2, 2018-MB01, 2018-AGT02, SA-SE-1m, SA-NE-1.0m, UST-ST-D-2	12-Oct-2018	16-Oct-2018	26-Oct-2018	✓	16-Oct-2018	26-Oct-2018	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
Soil Glass Jar - Unpreserved (EP080)								
UST-DUP1, UST-SE-1.4m, UST-ST-D-3m, UST-B1-1.7m, SA-ST-1, SA-ST-3, 2018-AGT01, SA-N-0.4m, SA-C-1.0m, UST-ST-D-1,	UST-S1-1m, SA-S-1m, UST-NE-0.4m, UST-NW-1.0m, SA-ST-2, 2018-MB01, 2018-AGT02, SA-SE-1m, SA-NE-1.0m, UST-ST-D-2	12-Oct-2018	16-Oct-2018	26-Oct-2018	✓	16-Oct-2018	26-Oct-2018	✓

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Matrix: **SOIL** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP080: BTEXN								
Soil Glass Jar - Unpreserved (EP080)								
UST-DUP1, UST-SE-1.4m, UST-ST-D-3m, UST-B1-1.7m, SA-ST-1, SA-ST-3, 2018-AGT01, SA-N-0.4m, SA-C-1.0m, UST-ST-D-1,	UST-S1-1m, SA-S-1m, UST-NE-0.4m, UST-NW-1.0m, SA-ST-2, 2018-MB01, 2018-AGT02, SA-SE-1m, SA-NE-1.0m, UST-ST-D-2	12-Oct-2018	16-Oct-2018	26-Oct-2018	✓	16-Oct-2018	26-Oct-2018	✓

Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EG020F: Dissolved Metals by ICP-MS								
Clear Plastic Bottle - Filtered; Lab-acidified (EG020A-F)								
GW1, GW3, DUP2	GW2, GW4,	12-Oct-2018	----	----	----	17-Oct-2018	10-Apr-2019	✓
EG035F: Dissolved Mercury by FIMS								
Clear Plastic Bottle - Filtered; Lab-acidified (EG035F)								
GW1, GW3, DUP2	GW2, GW4,	12-Oct-2018	----	----	----	18-Oct-2018	09-Nov-2018	✓
EP074A: Monocyclic Aromatic Hydrocarbons								
Amber VOC Vial - Sulfuric Acid (EP074)								
GW1, GW3, DUP2	GW2, GW4,	12-Oct-2018	16-Oct-2018	26-Oct-2018	✓	16-Oct-2018	26-Oct-2018	✓
EP074B: Oxygenated Compounds								
Amber VOC Vial - Sulfuric Acid (EP074)								
GW1, GW3, DUP2	GW2, GW4,	12-Oct-2018	16-Oct-2018	26-Oct-2018	✓	16-Oct-2018	26-Oct-2018	✓
EP074C: Sulfonated Compounds								
Amber VOC Vial - Sulfuric Acid (EP074)								
GW1, GW3, DUP2	GW2, GW4,	12-Oct-2018	16-Oct-2018	26-Oct-2018	✓	16-Oct-2018	26-Oct-2018	✓

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Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP074D: Fumigants							
Amber VOC Vial - Sulfuric Acid (EP074) GW1, GW3, DUP2 GW2, GW4,	12-Oct-2018	16-Oct-2018	26-Oct-2018	✓	16-Oct-2018	26-Oct-2018	✓
EP074E: Halogenated Aliphatic Compounds							
Amber VOC Vial - Sulfuric Acid (EP074) GW1, GW3, DUP2 GW2, GW4,	12-Oct-2018	16-Oct-2018	26-Oct-2018	✓	16-Oct-2018	26-Oct-2018	✓
EP074F: Halogenated Aromatic Compounds							
Amber VOC Vial - Sulfuric Acid (EP074) GW1, GW3, DUP2 GW2, GW4,	12-Oct-2018	16-Oct-2018	26-Oct-2018	✓	16-Oct-2018	26-Oct-2018	✓
EP074G: Trihalomethanes							
Amber VOC Vial - Sulfuric Acid (EP074) GW1, GW3, DUP2 GW2, GW4,	12-Oct-2018	16-Oct-2018	26-Oct-2018	✓	16-Oct-2018	26-Oct-2018	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071) GW1, GW3, DUP2 GW2, GW4,	12-Oct-2018	17-Oct-2018	19-Oct-2018	✓	18-Oct-2018	26-Nov-2018	✓
Amber VOC Vial - Sulfuric Acid (EP080) GW1, GW3, DUP2 GW2, GW4,	12-Oct-2018	16-Oct-2018	26-Oct-2018	✓	16-Oct-2018	26-Oct-2018	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071) GW1, GW3, DUP2 GW2, GW4,	12-Oct-2018	17-Oct-2018	19-Oct-2018	✓	18-Oct-2018	26-Nov-2018	✓
Amber VOC Vial - Sulfuric Acid (EP080) GW1, GW3, DUP2 GW2, GW4,	12-Oct-2018	16-Oct-2018	26-Oct-2018	✓	16-Oct-2018	26-Oct-2018	✓

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Matrix: **WATER** Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EP080: BTEXN								
Amber VOC Vial - Sulfuric Acid (EP080)								
GW1, GW3, DUP2	GW2, GW4	12-Oct-2018	16-Oct-2018	26-Oct-2018	✓	16-Oct-2018	26-Oct-2018	✓



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	Analytical Methods	Method	Count		Rate (%)			Quality Control Specification
			QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)								
Moisture Content		EA055	3	25	12.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES		EG005T	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction		EP071	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction (Silica Gel Clean Up)		EP071SG-S	1	1	100.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX		EP080	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)								
Total Metals by ICP-AES		EG005T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction		EP071	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction (Silica Gel Clean Up)		EP071SG-S	1	1	100.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX		EP080	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)								
Total Metals by ICP-AES		EG005T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction		EP071	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction (Silica Gel Clean Up)		EP071SG-S	1	1	100.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX		EP080	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)								
Total Metals by ICP-AES		EG005T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction		EP071	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction (Silica Gel Clean Up)		EP071SG-S	0	1	0.00	5.00	*	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX		EP080	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: * = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type	Analytical Methods	Method	Count		Rate (%)			Quality Control Specification
			QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)								
Dissolved Mercury by FIMS		EG035F	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A		EG020A-F	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction		EP071	0	7	0.00	10.00	*	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX		EP080	1	7	14.29	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds		EP074	1	7	14.29	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)								
Dissolved Mercury by FIMS		EG035F	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A		EG020A-F	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction		EP071	1	7	14.29	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX		EP080	1	7	14.29	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds		EP074	1	7	14.29	5.00	✓	NEPM 2013 B3 & ALS QC Standard

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Matrix: **WATER** Evaluation: * = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Method Blanks (MB)							
Dissolved Mercury by FIMS	EG035F	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	7	14.29	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	7	14.29	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	7	14.29	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Dissolved Mercury by FIMS	EG035F	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	7	0.00	5.00	*	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	7	14.29	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Volatile Organic Compounds	EP074	1	7	14.29	5.00	✓	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
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 (2013) Schedule B(3)
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015A Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM amended 2013.
TRH - Semivolatile Fraction (Silica Gel Clean Up)	EP071SG-S	SOIL	In house: Referenced to USEPA SW 846 - 8015A. Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM amended 2013.
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260B. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM amended 2013.
Dissolved Metals by ICP-MS - Suite A	EG020A-F	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. Samples are 0.45µm filtered prior to analysis. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Dissolved Mercury by FIMS	EG035F	WATER	In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl ₂)(Cold Vapour generation) AAS) Samples are 0.45µm filtered prior to analysis. FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the filtered sample. The 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 (2013) Schedule B(3)
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3)
Volatile Organic Compounds	EP074	WATER	In house: Referenced to USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3)
Preparation Methods	Method	Matrix	Method Descriptions

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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 (2013) Schedule B(3) (Method 202)
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510B 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using 60mL DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (2013) Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for sparging.

 CHAIN OF CUSTODY ALS Laboratory please tick →		ADLADELAIDE 21 Burne Road Pooraka SA 5095 Ph: 08 8338 0890 E: adelaide@alsglobal.com BRISBANE 32 Sheard Street Stafford QLD 4063 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com GLADSTONE 46 Callomonish Drive Clinton QLD 4680 Ph: 07 7471 5600 E: gladstone@alsglobal.com		MACKAY 76 Harbour Road Mackay QLD 4740 Ph: 07 4044 3177 E: mackay@alsglobal.com MELBOURNE 2-4 Westall Road Springvale VIC 3171 Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mel@alsglobal.com		NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304 Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com NOOWRA 4/13 Geary Place North Nowra NSW 2541 Ph: 024423 2063 E: nowra@alsglobal.com PERTH 110 Hod Way Malaga WA 6090 Ph: 08 9209 7655 E: samples.perth@alsglobal.com		SYDNEY 277-289 Woodpark Road Smithfield NSW 2164 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com TOWNSVILLE 14-15 Deane Court Bohle QLD 4818 Ph: 07 4796 0800 E: townsville.environmental@alsglobal.com WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3126 E: portkembla@alsglobal.com	
CLIENT: Pitt & Sherry OFFICE: <i>factories</i> PROJECT: <i>HS17SS9</i> ORDER NUMBER: <i>PHBN 000 924</i>		TURNAROUND REQUIREMENTS: <input checked="" type="checkbox"/> Standard TAT (List due date): (Standard TAT may be longer for some tests e.g. Ultra Trace Organics) <input type="checkbox"/> Non Standard or urgent TAT (List due date):		FOR 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 comment:					
PROJECT MANAGER: Sophie Le Roux SAMPLER: <i>CW / KL</i> COC emailed to ALS? (YES / NO) Email Reports to (will default to PM if no other addresses are listed): sleroux@pittsh.com.au Email Invoice to (will default to PM if no other addresses are listed): sleroux@pittsh.com.au		CONTACT PH: (03) 6210 1465 / 0419 323 931 SAMPLER MOBILE: <i>0413 914 455</i> EDD FORMAT (or default): RELINQUISHED BY: <i>RED</i> DATE/TIME: <i>12/10</i>		RECEIVED BY: <i>P. As</i> DATE/TIME: <i>15/10/15</i> RECEIVED BY: DATE/TIME:					
ALQS QUOTE NO.: <i>EN/222/17</i>		COC SEQUENCE NUMBER (Circle) COC: 1 2 3 4 5 6 7 OF: 1 2 3 4 5 6 7							
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL: Handle with care (glass jars) and keep refrigerated if possible <i>Or Speciation TBD later based on total Cr concentrations</i>									
ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)		CONTAINER INFORMATION		ANALYSIS REQUIRED Including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).	Additional Information			
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE codes below) (refer to TOTAL CONTAINERS	Total Cr Cr VI / Cr VI (60048, 049) S-4 S-4 SG	Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.			
1	VST-DUP 1	12/10 12:20	S		✓				
2	PHBN VST-S1-1m	11 11:25							
3	VST-SE-1.4m	11 11:30		FREIGHT					
4	SA-S-1m	3:20							
5	VST-ST-D-3m	12:15							
6	VST-NE-0.4m	11:38							
7	VST-B1-1.7m	12:00							
8	VST-NW-1.0m	11:53							
9	SA-ST-1	16:05							
10	SA-ST-2	16:05							
11	SA-ST-3	16:10							
TOTAL					11				

Environmental Division
 Melbourne
 Work Order Reference
EM1816564

 Telephone: 03-9549 9600

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
 V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
 Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.



CHAIN OF CUSTODY

ALS Laboratory
please tick →

ADELAIDE 21 Burma Road Pooraka SA 5095
Ph: 08 8359 0690 E: adelaide@alsglobal.com
BRISBANE 32 Shand Street Stafford QLD 4063
Ph: 07 3243 7292 E: samples.brisbane@alsglobal.com
GLADSTONE 46 Callernondah Drive Clinton QLD 4850
Ph: 07 7471 5600 E: gladstone@alsglobal.com

MACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171
Ph: 03 8549 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudgee NSW 2850
Ph: 02 8372 8735 E: mudgee.maj@alsglobal.com

NEWCASTLE 5 Ross Gum Road Warabrook NSW 2304
Ph: 02 4968 9433 E: samples.newcastle@alsglobal.com
NOWRA 4/13 Geary Place North Nowra NSW 2541
Ph: 024423 2053 E: nowra@alsglobal.com
PERTH 19 Hod Way Malaga WA 6060
Ph: 08 9209 7955 E: samples.perth@alsglobal.com

SYDNEY 277-289 Woodpark Road Smithfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-15 Desma Court Bohle QLD 4818
Ph: 07 4790 0600 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkenbela@alsglobal.com

CLIENT: Pitt & Sherry	TURNAROUND REQUIREMENTS : <input checked="" type="checkbox"/> Standard TAT (List due date): (Standard TAT may be longer for some tests e.g. Ultra Trace Organics) <input type="checkbox"/> Non Standard or urgent TAT (List due date):	FOR LABORATORY USE ONLY (Circle)	
OFFICE:	ALS QUOTE NO.: EN/222/17	COC SEQUENCE NUMBER (Circle)	Custody Seal Intact? Yes No N/A
PROJECT: HB17559		COC: 1 2 3 4 5 6 7	Free ice / frozen ice bricks present upon receipt? Yes No N/A
ORDER NUMBER: PHBH 000 924		DF: 1 2 3 4 5 6 7	Random Sample Temperature on Receipt: C
PROJECT MANAGER: Sophie Le Roux	CONTACT PH: (03) 6210 1465 / 0419 323 931	RECEIVED BY: RCM	RECEIVED BY:
SAMPLER: CW/KL	SAMPLER MOBILE: 0413 914 455	DATE/TIME: 12/10/18 1:15 PM	DATE/TIME:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	RELINQUISHED BY: Kedar	DATE/TIME:
Email Reports to (will default to PM if no other addresses are listed): sleroux@pittsh.com.au		DATE/TIME: 12/10	
Email Invoice to (will default to PM if no other addresses are listed): sleroux@pittsh.com.au			

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL: Handle with care (glass jars) and keep refrigerated if possible. Selected samples to be rebatched later for Cr speciation

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).				Additional Information	
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE codes below)	(refer to TOTAL CONTAINERS	Total Cr	Cr /AVI (to be achieved)	S-4	S-5		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
12	2018-MB01	12/10 15:20	S		1	✓		✓	✓		likely high HCs
13	2018-AGTO1	" 15:30				✓		✓			
14	2018-AGTO2	" 15:45									
15	SA-N-0.4m	15:25									
16	SA-SE-1m	15:35									
17	SA-C-1.0m	15:30									
18	VST-ST-C-2 *	12:35									HOLD
19	VST-ST-C-1 *	12:30									HOLD
20	SA-NE-1.0m	15:26									
21	VST-ST-C-3 *	12:40									HOLD
22	VST-ST-D-1	12:10									↑
23	VST-ST-D-2	12:11									↑
					TOTAL	12					

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

ITEM 4.1

Application - AM2019.02 - 117 Tasman Street

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ATTACHMENT [3]



CHAIN OF CUSTODY

ALS Laboratory:
please tick →

DADELAIDE 21 Burma Road Pooraka SA 5095
Ph: 08 8399 0890 E: adelaide@alsglobal.com
BRISBANE 33 Shind Street Stafford QLD 4053
Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
GLADSTONE 46 Callenondah Drive Clinton QLD 4680
Ph: 07 7471 5600 E: gladstone@alsglobal.com

UMACKAY 78 Harbour Road Mackay QLD 4740
Ph: 07 4944 0177 E: mackay@alsglobal.com
MELBOURNE 2-4 Westall Road Springvale VIC 3171
Ph: 03 8548 9600 E: samples.melbourne@alsglobal.com
MUDGEE 27 Sydney Road Mudjee NSW 2850
Ph: 02 6372 6738 E: mudjee.maj@alsglobal.com

NEWCASTLE 5 Rose Gum Road Warabrook NSW 2304
Ph: 02 4966 9433 E: samples.newcastle@alsglobal.com
NOWRA 413 Geary Place North Nowra NSW 2541
Ph: 024423 2063 E: nowra@alsglobal.com
PERTH 10 Hod Way Malinga WA 6050
Ph: 08 9209 7655 E: samples.perth@alsglobal.com

SYDNEY 277-280 Woodpark Road Sminfield NSW 2164
Ph: 02 8784 8555 E: samples.sydney@alsglobal.com
TOWNSVILLE 14-16 Desma Court Bohle QLD 4816
Ph: 07 4776 0000 E: townsville.environmental@alsglobal.com
WOLLONGONG 99 Kenny Street Wollongong NSW 2500
Ph: 02 4225 3125 E: portkembbla@alsglobal.com

CLIENT: Pitt & Sherry	TURNAROUND REQUIREMENTS : <input checked="" 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) <input type="checkbox"/> Non Standard or urgent TAT (List due date):	Custody Seal Intact? Yes No N/A	Free Ice / frozen ice bricks present upon receipt? Yes No N/A
PROJECT: HB 17559	ALS QUOTE NO.: EN/222/17	Random Sample Temperature on Receipt: C	
ORDER NUMBER: PHBH000924	COC SEQUENCE NUMBER (Circle)	Other comment:	
PROJECT MANAGER: Sophie Le Roux	CONTACT PH: (03) 6210 1465 / 0419 323 931	RECEIVED BY: <i>Ric Cas</i>	
SAMPLER: CW/KL	SAMPLER MOBILE: 0413 914 455	RECEIVED BY: <i>Ric Cas</i>	RECEIVED BY:
COC emailed to ALS? (YES / NO)	EDD FORMAT (or default):	DATE/TIME: 15/10/18	DATE/TIME:
Email Reports to (will default to PM if no other addresses are listed): sleroux@pittsh.com.au	RELINQUISHED BY: <i>[Signature]</i>	DATE/TIME: 12/10	DATE/TIME:
Email Invoice to (will default to PM if no other addresses are listed): sleroux@pittsh.com.au	DATE/TIME: 12/10	DATE/TIME:	DATE/TIME:

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL: Handle with care (glass jars) and keep refrigerated if possible

ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB, Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).			Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE <i>codes below</i>	(refer to)	TOTAL CONTAINERS			Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
24	GW1	13:20 12/10	W	2xVS, AG, P		4	W-9	W-3 filtered	EP074
25	GW2	13:45 "	W	"		4			
26	GW3	14:00 "	W	"		4			
27	GW4	14:30 "	W	4vs, AG, P		4			
	GW5 DUP2	13:30 "	W	4 xvs, AG, P		4 2			
TOTAL						22			

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass;
Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

CERTIFICATE OF ANALYSIS

Work Order : EM1816795
Client : Pitt & Sherry (Operations) Pty Ltd
Contact : SOPHIE LE ROUX
Address : PO BOX 94 199 MACQUARIE ST
 HOBART TAS, AUSTRALIA 7001
Telephone : +61 03 6223 1800
Project : HB17559
Order number : PHBH000924
C-O-C number : ----
Sampler : ----
Site : ----
Quote number : EN/222
No. of samples received : 6
No. of samples analysed : 6

Page : 1 of 4
Laboratory : Environmental Division Melbourne
Contact : Shirley LeCornu
Address : 4 Westall Rd Springvale VIC Australia 3171

Telephone : +61-3-8549 9630
Date Samples Received : 15-Oct-2018 13:15
Date Analysis Commenced : 19-Oct-2018
Issue Date : 22-Oct-2018 15:27



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. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

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.

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Dilani Fernando	Senior Inorganic Chemist	Melbourne Inorganics, Springvale, VIC

Page : 2 of 4
Work Order : EM1816795
Client : Pitt & Sherry (Operations) Pty Ltd
Project : HB17559



General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by 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.

- This is a rebatch of EM1816564.

Page : 3 of 4
 Work Order : EM1816795
 Client : Pitt & Sherry (Operations) Pty Ltd
 Project : HB17559



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	SA-S-1m	SA-ST-1	SA-ST-2	SA-ST-3	2018-AGT01
Client sampling date / time					18-Oct-2018 00:00				
Compound	CAS Number	LOR	Unit	EM1816795-001	EM1816795-002	EM1816795-003	EM1816795-004	EM1816795-005	EM1816795-005
				Result	Result	Result	Result	Result	Result
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	29.4	28.5	26.4	28.1	29.7	
EG048: Hexavalent Chromium (Alkaline Digest)									
Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
EG049: Trivalent Chromium									
Trivalent Chromium	16065-83-1	2	mg/kg	90	94	97	72	190	

Page : 4 of 4
 Work Order : EM1816795
 Client : Pitt & Sherry (Operations) Pty Ltd
 Project : HB17559



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	2018-AGT02	----	----	----	----
				Client sampling date / time	18-Oct-2018 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	EM1816795-006	-----	-----	-----	-----	-----
				Result	---	---	---	---	---
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	18.4	----	----	----	----	----
EG048: Hexavalent Chromium (Alkaline Digest)									
Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	----	----	----	----	----
EG049: Trivalent Chromium									
Trivalent Chromium	16065-83-1	2	mg/kg	268	----	----	----	----	----

QUALITY CONTROL REPORT

Work Order : **EM1816795**
Client : **Pitt & Sherry (Operations) Pty Ltd**
Contact : **SOPHIE LE ROUX**
Address : **PO BOX 94 199 MACQUARIE ST
HOBART TAS, AUSTRALIA 7001**
Telephone : **+61 03 6223 1800**
Project : **HB17559**
Order number : **PHBH000924**
C-O-C number : **----**
Sampler : **----**
Site : **----**
Quote number : **EN/222**
No. of samples received : **6**
No. of samples analysed : **6**

Page : 1 of 3
Laboratory : Environmental Division Melbourne
Contact : Shirley LeCornu
Address : 4 Westall Rd Springvale VIC Australia 3171
Telephone : +61-3-8549 9630
Date Samples Received : 15-Oct-2018
Date Analysis Commenced : 19-Oct-2018
Issue Date : 22-Oct-2018



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. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Dilani Fernando	Senior Inorganic Chemist	Melbourne Inorganics, Springvale, VIC

Page : 2 of 3
 Work Order : EM1816795
 Client : Pitt & Sherry (Operations) Pty Ltd
 Project : HB17559



General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by 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

- Key :
- Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 - CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 - LOR = Limit of reporting
 - RPD = Relative Percentage Difference
 - # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 1990945)									
EM1816790-039	Anonymous	EA055: Moisture Content	----	0.1	%	8.2	9.6	15.7	No Limit
EM1816795-001	SA-S-1m	EA055: Moisture Content	----	0.1	%	29.4	29.9	1.84	0% - 20%
EG048: Hexavalent Chromium (Alkaline Digest) (QC Lot: 1990875)									
EM1816739-017	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EM1816774-004	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit

Page : 3 of 3
 Work Order : EM1816795
 Client : Pitt & Sherry (Operations) Pty Ltd
 Project : HB17559



Method Blank (MB) and Laboratory Control Spike (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 Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: SOIL

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)	Recovery Limits (%)	
						LCS	Low	High
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 1990875)								
EG048G: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	40 mg/kg	75.7	75	112

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				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	SpikeRecovery(%)	Recovery Limits (%)		
						MS	Low	High
EG048: Hexavalent Chromium (Alkaline Digest) (QCLot: 1990875)								
EM1816739-021	Anonymous	EG048G: Hexavalent Chromium	18540-29-9	40 mg/kg	71.5	58	114	



QA/QC Compliance Assessment to assist with Quality Review

Work Order	: EM1816795	Page	: 1 of 4
Client	: Pitt & Sherry (Operations) Pty Ltd	Laboratory	: Environmental Division Melbourne
Contact	: SOPHIE LE ROUX	Telephone	: +61-3-8549 9630
Project	: HB17559	Date Samples Received	: 15-Oct-2018
Site	: ----	Issue Date	: 22-Oct-2018
Sampler	: ----	No. of samples received	: 6
Order number	: PHBH000924	No. of samples analysed	: 6

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

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- **NO** Quality Control Sample Frequency Outliers exist.



Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for **VOC in soils** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis			
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation	
EA055: Moisture Content (Dried @ 105-110°C)								
Soil Glass Jar - Unpreserved (EA055)								
SA-S-1m, SA-ST-2, 2018-AGT01,	SA-ST-1, SA-ST-3, 2018-AGT02	18-Oct-2018	----	----	----	19-Oct-2018	01-Nov-2018	✓
EG048: Hexavalent Chromium (Alkaline Digest)								
Soil Glass Jar - Unpreserved (EG048G)								
SA-S-1m, SA-ST-2, 2018-AGT01,	SA-ST-1, SA-ST-3, 2018-AGT02	18-Oct-2018	19-Oct-2018	15-Nov-2018	✓	19-Oct-2018	26-Oct-2018	✓

Page : 3 of 4
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 Client : Pitt & Sherry (Operations) Pty Ltd
 Project : HB17559



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	Analytical Methods	Method	Count		Rate (%)		Quality Control Specification	
			QC	Regular	Actual	Expected		Evaluation
Laboratory Duplicates (DUP)								
Hexavalent Chromium by Alkaline Digestion and DA Finish		EG048G	2	16	12.50	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Moisture Content		EA055	2	16	12.50	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)								
Hexavalent Chromium by Alkaline Digestion and DA Finish		EG048G	2	16	12.50	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)								
Hexavalent Chromium by Alkaline Digestion and DA Finish		EG048G	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)								
Hexavalent Chromium by Alkaline Digestion and DA Finish		EG048G	1	16	6.25	5.00	✓	NEPM 2013 B3 & ALS QC Standard

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 Project : HB17559



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 (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Hexavalent Chromium by Alkaline Digestion and DA Finish	EG048G	SOIL	In house: Referenced to USEPA SW846, Method 3060A. Hexavalent chromium is extracted by alkaline digestion. The digest is determined by photometrically by automatic discrete analyser, following pH adjustment. The instrument uses colour development using dephenylcarbazine. Each run of samples is measured against a five-point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Trivalent Chromium by Alkaline Digestion and DA Finish	EG049G-Alk	SOIL	In house: Referenced to APHA 3500 Cr-A&B & 3120 and USEPA USEPA SW846, Method 3060A. The difference between Total and Hexavalent Chromium. The total Chromium is determined by ICPAES and the Hexavalent chromium is extracted by alkaline digestion and the digest is determined by photometrically by automatic discrete analyser. The instrument uses colour development using dephenylcarbazine. This method is compliant with NEPM (2013) Schedule B(3)
Preparation Methods	Method	Matrix	Method Descriptions
Alkaline digestion for Hexavalent Chromium	EG048PR	SOIL	In house: Referenced to USEPA SW846, Method 3060A.
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM (2013) Schedule B(3) (Method 202)

re-batch.
MS 4196-97

Shirley LeCornu

From: Sophie Le Roux <sleroux@pittsh.com.au>
Sent: Thursday, 18 October 2018 5:08 PM
To: Shirley LeCornu
Subject: Sample rebatch EM1816564
Attachments: EM1816564_COC.PDF

Hi Shirley,

① ② ③ ④ ⑤ ⑥

Can we please have samples #4, 9, 10, 11, 13 and 14 rebatched for speciated chromium (III/VI) please?

Many thanks,

Sophie

Dr Sophie Le Roux PhD (Mar. Chem.)

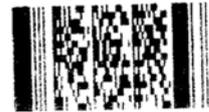
Associate Environmental Scientist

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Work Order Reference
EM1816795



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BN
19/10

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CLIENT: Pitt & Sherry OFFICE: SYDNEY PROJECT: HS17559 ORDER NUMBER: PHBH 000 924 PROJECT MANAGER: Sophie Le Roux CONTACT PH: (03) 6210 1465 / 0419 323 931 SAMPLER: CW/KL SAMPLER MOBILE: 0413 914 455 COC emailed to ALS? (YES / NO) Email Reports to (will default to PM if no other addresses are listed): sleroux@pittsh.com.au Email Invoice to (will default to PM if no other addresses are listed): sleroux@pittsh.com.au		TURNAROUND REQUIREMENTS : <input checked="" type="checkbox"/> Standard TAT (List due date): (Standard TAT may be longer for some tests e.g. Ultra Trace Organics) <input type="checkbox"/> Non Standard or urgent TAT (List due date): ALS QUOTE NO.: EN/222/17	FOR LABORATORY USE ONLY: (Circle) Custody Seal Intact: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A Free Ice / Frozen / Ice Critical mass received: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A Random Sample Temperature of Receipt: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A Other comment:					
RELINQUISHED BY: RED RECEIVED BY: Pitt & Sherry DATE/TIME: 12/10 DATE/TIME: 15/10/15		COC SEQUENCE NUMBER (Circle) COD: 1 2 3 4 5 6 7 OF: 1 2 3 4 5 6 7	COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL: Handle with care (glass jars) and keep refrigerated if possible. In Speciation TBD later based on total Cr concentrations					
ALS USE	SAMPLE DETAILS MATRIX: SOLID (S) WATER (W)			CONTAINER INFORMATION			ANALYSIS REQUIRED including SUITES (NB: Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).	Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE codes below)	(refer to)	TOTAL CONTAINERS		Comments on likely contaminant levels, dilutions, or samples requiring specific QC analysis etc.
	VST-DUP 1	12/10 12:20	S			1	Total Cr	
	VST-SI-1m	11 11:25					Cr VI / Cr VI (66048049)	
	VST-SE-1.4m	11 11:30					S-4	
①	SA-S-1m	3:20					S-4	
	VST-ST-D-3m	12:15					S-5	
	VST-NE-0.4m	11:38					S-5	
	VST-BI-1.7m	12:00						
	VST-NW-1.0m	11:53						
②	SA-ST-1	16:05						
③	SA-ST-2	16:05						
④	SA-ST-3	16:10						
						TOTAL	11	

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cr Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP = Airfreight Unpreserved Plastic
 V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulfate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass
 Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Solids; B = Unpreserved Bag

 CHAIN OF CUSTODY ALS Laboratory: please tick →		LADELAIDE 21 Dumke Road Powerke SA 5095 Ph: 08 8359 0890 E: adelaide@alsglobal.com UBRISBANE 22 Shand Street Stafford QLD 4083 Ph: 07 3243 2222 E: samples.brisbane@alsglobal.com MILDURSTONE 46 Calamondrah Drive Clinton QLD 4890 Ph: 07 7471 5600 E: goldstone@alsglobal.com	MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com MELBOURNE 2-4 Warral Road Springvale VIC 3171 Ph: 03 8540 9600 E: samples.melbourne@alsglobal.com MUDGEE 77 Sydney Road Mudgess NSW 2850 Ph: 02 8372 6786 E: mudgee@alsglobal.com	NEWCASTLE 5 Rock Gun Road Warabrook NSW 2304 Ph: 02 4969 9433 E: newcastle@alsglobal.com NOWRA 4/18 Geary Place North Nowra NSW 2541 Ph: 024433 2033 E: nowra@alsglobal.com PERTH 40 Hod Way Malaga WA 0090 Ph: 08 9209 7855 E: samples.perth@alsglobal.com	SYDNEY 277-278 Woodhawk Road Smithfield NSW 2104 Ph: 02 8784 8555 E: samples.sydney@alsglobal.com TOWNSVILLE 14-15 Desma Court Boffa QLD 4018 Ph: 07 4706 0600 E: townsville.environmental@alsglobal.com WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4226 3129 E: porters@alsglobal.com				
CLIENT: Pitt & Sherry OFFICE: _____ PROJECT: HB17559 ORDER NUMBER: PHBH 000 924 PROJECT MANAGER: Sophie Le Roux SAMPLER: CW/KL GOC emailed to ALS? (YES / NO)		TURNAROUND REQUIREMENTS : <input checked="" type="checkbox"/> Standard TAT (List due date): (Standard TAT may be longer for some tests e.g. Ultra Trace Organics) <input type="checkbox"/> Non Standard or urgent TAT (List due date): ALS QUOTE NO.: EN/222/17		FOR LABORATORY USE ONLY (C/C/S) Custody Sealing? Yes No N/A Freezing / frozen ice bricks present upon receipt? Yes No N/A Random Sample Temperature? _____ Other comment: _____					
CONTACT PH: (03) 6210 1465 / 0419 323 931 EDD FORMAT (or default): _____ Email Reports to (will default to PM if no other addresses are listed): sleroux@pittsh.com.au Email Invoice to (will default to PM if no other addresses are listed): sleroux@pittsh.com.au		RELINQUISHED BY: Kedra DATE/TIME: 12/10		RECEIVED BY: Ruims DATE/TIME: 15/10/18 1:13pm					
COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL: Handle with care (glass jars) and keep refrigerated if possible. Selected samples to be rebatched later for Cr speciation									
ALS USE	SAMPLE DETAILS MATRIX: SOLID(S) WATER(W)			CONTAINER INFORMATION		ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required).			Additional Information
LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE codes below)	(refer to)	TOTAL CONTAINERS	Total Cr	Cr III / Cr VI (to be retained)	Comments on likely contaminant levels, dilutions, or samples requiring specific GC analysis etc.
12	2018-MB01	12/10 15:20	S			1	✓	✓	likely high HCs
13	2018-AGTO1	" 15:30					✓	✓	
14	2018-AGTO2	" 15:45							
15	SA-N-0.4m	15:25							
16	SA-SE-1m	15:35							
17	SA-C-1.0m	15:30							
18	VST-ST-C-2	12:35							HOLD
19	VST-ST-C-1	12:30							HOLD
20	SA-NE-1.0m	15:26							
21	VST-ST-C-3	12:40							HOLD
22	VST-ST-D-1	12:10							
23	VST-ST-D-2	12:11				1	✓	✓	
TOTAL						12			
<small>Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airtight Unpreserved Plastic V = VOA Vial HCl Preserved; VS = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airtight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.</small>									

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Environmental Site Assessment

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117 Tasman Street, Devonport Stormwater Management Plan Rezoning Application

transport | community | mining | industrial | food & beverage | energy



Prepared for:

Veris

Client representative:

Jana Rockliff

Date:

9 May 2019
Rev 02

pitt&sherry

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Prepared by: Hamish Peacock Date: 9 May 2019
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Reviewed by: Haydn Betts Date: 9 May 2019
 Haydn Betts

Authorised by: Nicholas Dwyer Date: 9 May 2019
 Nicholas Dwyer

Revision History						
Rev No.	Description	Prepared by	Reviewed by	Authorised by	Date	
00	Stormwater Management Report	H. Peacock	H. Betts	H. Betts	05/10/2018	
01	Stormwater Management Report Inner Residential	H. Peacock	H. Betts	H. Betts	14/03/2019	
02	Stormwater Management Report - General Residential	H. Peacock	H. Betts	H. Betts	09/05/2019	

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PS

1. Introduction

Veris has engaged **pitt&sherry** to provide a Stormwater Management Report as supporting documentation for the proposed rezoning of land at 117 Tasman Street Devonport, Tasmania. The land is currently zoned as General Industrial and is proposed to become General Residential under the *Devonport Interim Planning Scheme 2013*¹ (Planning Scheme).

The property used to be an operational weaving mill which has reduced its operations on site to a factory outlet and some administration. The owner's vision is to develop the land for residential use by re-using the existing buildings.

This report has been prepared based on the intended future re-development of the existing buildings and the requirements of the General Residential Zone set out in the Planning Scheme.

This report addresses general development requirements relating to stormwater quantity and quality. It will present options based on assumed design surface levels scenarios across the site. The assumed design levels will dictate the potential locations of infrastructure for stormwater conveyance, detention and treatment. The stormwater infrastructure proposed will be sufficient to meet the Devonport City Council (Council) stormwater quality and quantity treatment requirements as per the Planning Scheme.

The stormwater design methodologies used were those recommended in Australian Rainfall and Runoff 2016 (ARR2016)² and rainfall data used was from the Australian Bureau of Meteorology (2017)³. Water quality treatment through the site was modelled using stormwater quality modelling software MUSIC⁴. The stormwater detention systems have been designed and modelled using hydrologic and hydraulic modelling software DRAINS⁵. Basins have been sized for two design events the 5% Annual Exceedance Probable (AEP) and 1% AEP both with allowances for increased design rainfall intensities to reflect climate change considerations.

This report describes the existing site stormwater conditions including the existing points of discharge and outlines potential development discharge locations. The possibility of using and or tying into the existing adjacent detention basin will be discussed. The existing site is 6.70 hectares in size and contains 54% impervious area. The proposed development site is the same size and is assumed to be 75% impervious.

2. Existing Conditions

2.1 Site Location

The site is located at 117 Tasman Street with the main frontage of the site located on Tasman Street. The site is currently vacant and has a land use classification of 25.0 General Industrial as shown in the *Devonport Interim Planning Scheme 2013*. Adjacent to the southern boundary of the site a large detention basin is present and attenuates flow coming from the greater catchment (flowing primarily from the south-west). The natural overland flow path of the catchment ensures that significant overland flow passes to the south of the site via the detention basin.

¹ <http://www.iplan.tas.gov.au/pages/plan/book.aspx?exhibit=devips>

² Ball J, Babister M, Nathan R, Weeks W, Weinmann E, Retallick M, Testoni I, (Editors), 2016, Australian Rainfall and Runoff: A Guide to Flood Estimation, Commonwealth of Australia

³ Australian Government Bureau of Meteorology (BOM), 2017 <http://www.bom.gov.au/water/designRainfalls/revised-ifd/>

⁴ <https://ewater.org.au/products/music/>

⁵ www.watercom.com.au

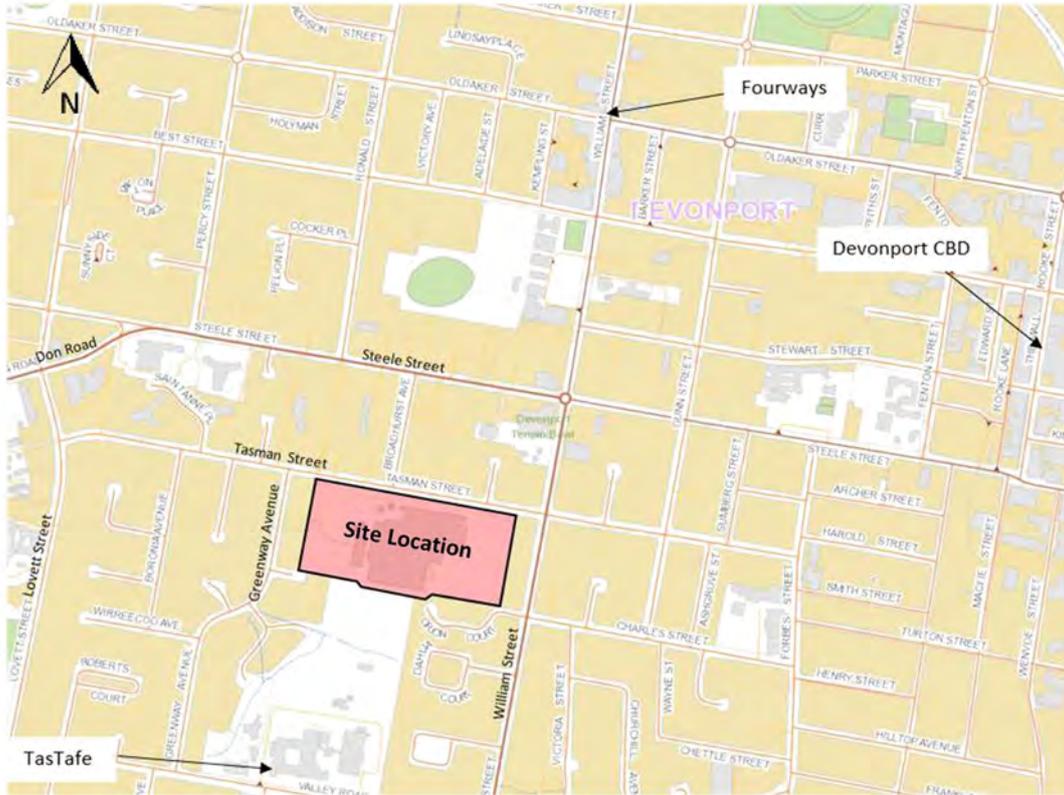


Figure 1: Site Location (Basemap Source: <https://maps.thelist.tas.gov.au>)



Figure 2: Zoning Plan



2.2 Existing Topography and Vegetation

Much of the existing site currently supports the Australian Weaving Mill building, road and carpark areas. The remaining areas are grassed. The site generally conveys water away from the weaving mill roof. The existing site discharges stormwater at the boundaries in several locations via both overland flow and piped drainage structures. The approximate highest surface level on the site is 33.8m Australian Height Datum (AHD) on the north-west corner and the lowest point on the site is 26.0m AHD on the north-east corner (2013 Geoscience Australia LiDAR Dataset⁶). The existing weaving mill building site sits at approximately 29.0m AHD.



Figure 3: 117 Tasman Street Site, Contour Interval 0.2m

2.3 Site Drainage

The existing site discharges concentrated stormwater in six different locations as shown below in Figure 4. Figure 5 shows the indicative Devonport stormwater network.

The north-west sub-catchment comprises a car park and discharges water to the south-western corner into a drainage pit. From here the water is piped along the western boundary into council stormwater pipes on the south-west corner of the site.

The south-west sub-catchment conveys water as overland flow across the grassed area and is assumed to concentrate on the south-western boundary of the site. Water from here will either flow into any nearby pits or travel overland towards the existing detention basin to the south-east.

⁶ <http://elevation.fsdf.org.au/>

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The largest sub-catchment incorporating the weaving mill conveys most of its water through an underground drainage network and discharges on the southern boundary of the site. Water is directed from here under the basin via a 375mm concrete pipe.

The south-eastern sub-catchment conveys water as overland flow across the grassed area and is assumed to concentrate on the south-eastern boundary of the site. This assumes the flow is intercepted by residential property fences and will be directed to this location. The water will travel out onto the road on Orion Court and be picked up by the drainage pits in the vicinity.

The north-east sub-catchment conveys water in the same manner as the south-eastern catchment except to the north-east corner of the site. Water from here flows out onto Tasman street and is picked up in drainage pits along the road.

The sub-catchment on the northern boundary of the site discharges water from some grassed areas and carpark areas via pits and pipes out to Tasman Street.

The invert levels of the receiving pipes are assumed to be minimum invert 900mm below the existing boundary surfaces (300mm pipe with 600mm cover).

The invert of the pipe discharging into the detention basin from the weaving mill is 25.97m AHD (Devonport stormwater network data) and the surface level of the basin at this location is approximately 26.5m AHD from the LiDAR data. Based on this information it is possible to ensure a piped drainage system can drain from the majority of the site (elevations above 28.8m AHD nominally) to this location. This assumes:

- 0.5m bioretention basin filter depths
- 0.5% minimum pipe grade (275m maximum length to 28.8m AHD surface levels)
- Minimum pipe cover 600mm
- Top of catchment stormwater main pipes 300mm progressively increasing in size

At concept design stage all invert and surface levels need to be confirmed from survey.



Figure 4: Assumed Existing Catchments with Assumed Points of Discharge

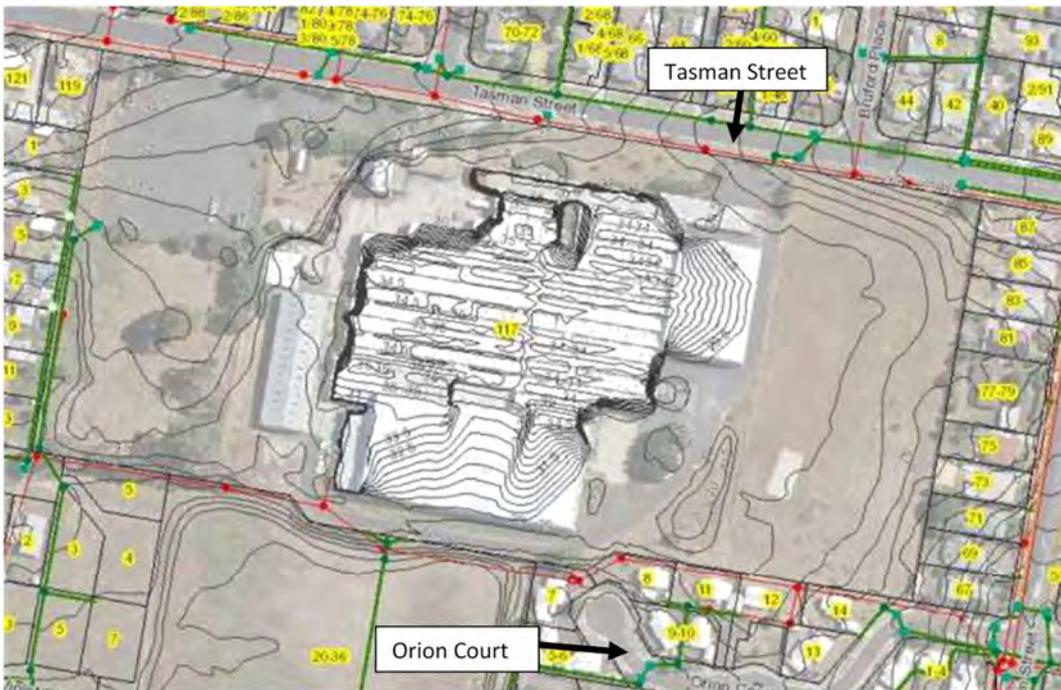


Figure 5: Indicative Devonport Council Stormwater Network (Stormwater infrastructure shown in green).

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2.4 Land Use

The site is currently zoned General Industrial. It is proposed to rezone the site to the General Residential Zone under the Planning Scheme. The General Residential Zone allows for a dwelling density of 325m² with at least 25% of the site to be free of impervious surface.

3. Proposed Development

3.1 Overview: Masterplan

For this stormwater management report, it has been assumed that a high percentage of the development site is impervious. Numerous features that will directly affect both the quantity and quality of stormwater discharge from the site might include:

- Numerous new road and carparking areas
- Significant roof areas
- Garden and courtyard areas

The rezoning applies for the entire site of 6.7ha. The site can be divided into the area containing the existing buildings and the grassy vacant area. The assumed impervious areas for analysis are:

- 85% Impervious across the extent of the existing weaving mill site
- 75% Impervious across the remaining area

This correlates to an assumed increase from 54% pre-development to 81% post-development impervious area across the entire site.

3.2 Overview: Stormwater Management Strategy

For the proposed development, surface water runoff could be collected in a variety of ways prior to entering an underground stormwater pipe network. These could include:

- Roof drainage to downpipes and underground to stormwater mains
- Road and carpark drainage into stormwater pits and then stormwater mains
- Other overland flows will be intercepted as appropriate by stormwater pits, catch drains, retention basins etc. as appropriate

Stormwater within the underground system could be transferred to onsite detention and bioretention basins. The nature of these basins would depend up the final design levels and layout but could include:

- Open basin detention storage
- Underground detention storage
- Above ground detention storage (e.g. rainwater tanks)
- Open bio-retention basins
- Gross pollutant traps, buffer strips, swales, raingardens, re-use rainwater tanks and other similar Water Sensitive Urban Design (WSUD) infrastructure.

This report assumes an end of line detention and treatment system to size conservative detention and bio-retention surface areas required for both a 5% AEP and 1% AEP rainfall event with climate change considerations. This will be undertaken for several catchment scenarios. The bio-retention system is designed to retain water for a three-month average recurrence interval (ARI) event.

At the design stage it anticipated that the size of these basins may be reduced by incorporating both detention and WSUD principles at the micro-site level.

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The details of the stormwater strategy are outlined in the stormwater management sections.

4. Stormwater Management Considerations

4.1 Overview: Objectives

The general objectives for management of stormwater on the proposed development site include:

- **Stormwater Quantity Management:** To safely convey stormwater flows across the site in accordance with the minor and major drainage system principals. To prevent worsening conditions downstream of the proposed development by controlling the magnitude and duration of stormwater flow to meet the existing conditions.
- **Stormwater Quality Management:** To protect receiving waterways by limiting the quantity of key pollutants discharges in stormwater from the proposed development.

4.2 Legislative Context

The stormwater management strategy for the proposed rezoning is required to address the following relevant regulations and guidelines:

- *Devonport Interim Planning Scheme 2013*
- *Local Government Association of Tasmania Stormwater System Management Planning Guidelines 2016.*
- *State Stormwater Strategy 2010*⁷
- *Urban Drainage Act*⁸
- A stormwater system for a new development must incorporate water sensitive urban design principles for the treatment and disposal of stormwater in accordance with the State Stormwater Strategy 2010, and meet the following stormwater quality targets:
 - 80% reduction in the average annual load of total suspended solids (TSS) based on typical urban stormwater TSS concentrations
 - 45% reduction in the average annual load of total phosphorus (TP) based on typical urban stormwater TP concentrations
 - 45% reduction in the average annual load of total nitrogen (TN) based on typical urban stormwater TN concentrations
- Stormwater from the new impervious surfaces must be disposed of by gravity to public stormwater infrastructure
- A major stormwater drainage system must be designed to accommodate a storm with an AEP of 1%. Stormwater runoff will be no greater than pre-existing runoff or any increase can be accommodated within existing or upgraded public stormwater infrastructure for events up to the 1% AEP.

4.2.1 Local Government Association of Tasmania Stormwater System Management Planning Guidelines

Broader management plan objectives are outlined in Tasmania's LGAT – Stormwater Planning, which specifies the following:

- *“To protect people and property by ensuring that stormwater services, infrastructure and planning are provided so as to minimise the risk of urban flooding due to stormwater flows”*

⁷ <https://epa.tas.gov.au/epa/water/stormwater/state-stormwater-strategy>

⁸ <https://www.legislation.tas.gov.au/view/html/inforce/current/act-2013-071>

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- *"To provide for the safe, environmentally responsible, efficient and sustainable provision of stormwater services in accordance with the objectives of the Resources Management and Planning Systems of Tasmania, set out in Schedule 1 of the Act."*

5. Stormwater Quantity Management

5.1 Overview

The general objective for stormwater quantity management at the proposed development site is to safely convey flows up to the specified design events and to ensure non-worsening conditions downstream of the proposed development by controlling the magnitude and duration of water flow to meet the existing conditions.

There are currently six discharge points for the subject land parcel, 117 Tasman Street. Three development scenarios have been analysed to demonstrate how stormwater could be managed. These three scenarios include:

1. Match existing catchments to the design catchments and size any detention to accommodate any increases in impervious area.
2. Redistribute the catchments to discharge stormwater from above 28.8m AHD back to the weaving mill existing discharge location.
3. Redistribute all catchments to a single discharge point at the weaving mill discharge location (This would require significant filling of land and could possibly affect the amenity of neighbouring properties).

5.2 Use of Existing Adjacent Council Detention Basin

If Council were to allow, the existing stormwater detention basin adjacent to the site presents an opportunity to utilise the existing detention storage capacity. The utilisation of any detention capacity would depend upon the existing design philosophy and capacity of the basin. If an existing study on the basin and catchment does not exist an assessment could be performed at the concept design stage and could include options for council such as:

- Increasing capacity of the basin by providing land to the council
- Increasing the capacity of the existing basin by reducing the floor level to the existing 375mm stormwater pipe invert (which lays below the basin) as a new lower localised basin area
- Expansion of the basin may be beneficial to both the developer and the Council due to the potential attenuation of existing and additional flows into the drainage system. This analysis would be performed at early concept design stage to determine areas required for detention/bio-retention.

Any utilisation of the existing basin would be at the Councils discretion.

5.3 Stormwater Quantity Assessment - Methodology

In order to develop the management strategy for stormwater quantity at the site, the following was undertaken:

- Determine existing and proposed hydrology using a DRAINS model for each case:
 - Existing – Catchments extents were only considered on the land parcel. Catchment extents were separated by combination of elevation contour data and infrastructure boundaries. The 5% and 1% AEP including climate change scenarios were analysed.
 - Proposed – Comparison of pre and post development scenarios show an increase in flow from the site at particular locations.

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- Calculate existing magnitude and duration of flow at the existing site discharge points.
- Design basins to control post-development flows to existing conditions. These basins have assumed to be 1m deep for the purposes of this analysis.

The steps are described in detail below.

5.4 Hydrology

Multiple DRAINS models (existing with climate change and post-development scenarios with climate change) were prepared in accordance with the procedures outlined in Australian Rainfall and Runoff (2016). The ILSAX initial loss continuing loss model was nominated to establish the most likely stormwater hydrographs up to 1% AEP with climate change acting on the site pre and post development.

The temporal rainfall patterns for each rainfall event were run simultaneously to determine the critical flow duration and median hydrograph acting on the site for each event.

Rainfall intensities for each model were obtained from the Bureau of Meteorology 2016 Intensity Frequency Duration data. Intensities for each model are provided in Table 1.

A climate change factor of 1.161 (16.1%) was nominated as per the ARR Datahub⁹ for the uppermost estimate of Interim climate change factors in the year 2090 for the location. This has been included in the modelling process in addition to the rainfall intensities (mm) provided in Table 1.

Table 1: Design Rainfall Depths (mm)

Duration	Annual Exceedance Probability (AEP)						
	53.20%	50%#	20%*	10%	5%	2%	1%
5 min	4.64	5.22	7.14	8.55	10	12	13.7
10 min	6.62	7.44	10.2	12.3	14.6	17.8	20.6
15 min	8.03	9.02	12.4	15	17.7	21.8	25.2
30 min	11.1	12.4	17.1	20.5	24.2	29.4	33.7
1 hour	15.2	17.1	23.3	27.7	32.3	38.5	43.5
2 hours	20.9	23.5	31.7	37.3	42.8	50.1	55.6
3 hours	25	28.1	37.7	44.1	50.3	58.4	64.6
6 hours	33.4	37.5	49.8	57.9	65.7	76.2	84.2
12 hours	43.1	48	63.3	73.7	83.9	98.5	110
24 hours	53	58.6	77	90.2	104	124	140
48 hours	62.9	69	90.2	106	124	149	170
72 hours	69.3	75.8	98.6	116	135	163	186

Note:

Corresponds to the 1.44 Average Recurrence Interval (ARI).

* Corresponds to the 4.48 ARI.

⁹ <http://data.arr-software.org/>

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5.5 Existing Discharge Conditions

An existing site conditions model was developed to determine peak flows for the minor (5% AEP) and Major (1% AEP) events (both with climate change) The existing catchments are shown on Figure 6.

The existing catchment site descriptions are detailed previously.

The times of concentration (T_c) for the existing catchments were calculated in accordance with the Queensland Urban Drainage Manual 2013 (QUDM). The following components were used to calculate the T_c :

- Sheet Flow Time
- Concentrated Flow Time
- Piped and/or channelized flow time
- Minimum impervious area inlet time was 5 minutes
- Minimum pervious area inlet time was 10 minutes.

The following parameters were used in the DRAINS ILSAX hydrological model:

- Soil Type = 3
- Antecedent Moisture Condition = 3
- Impervious depression storage 1mm, pervious depression storage 5mm

Results for the existing model are shown in Table 2.

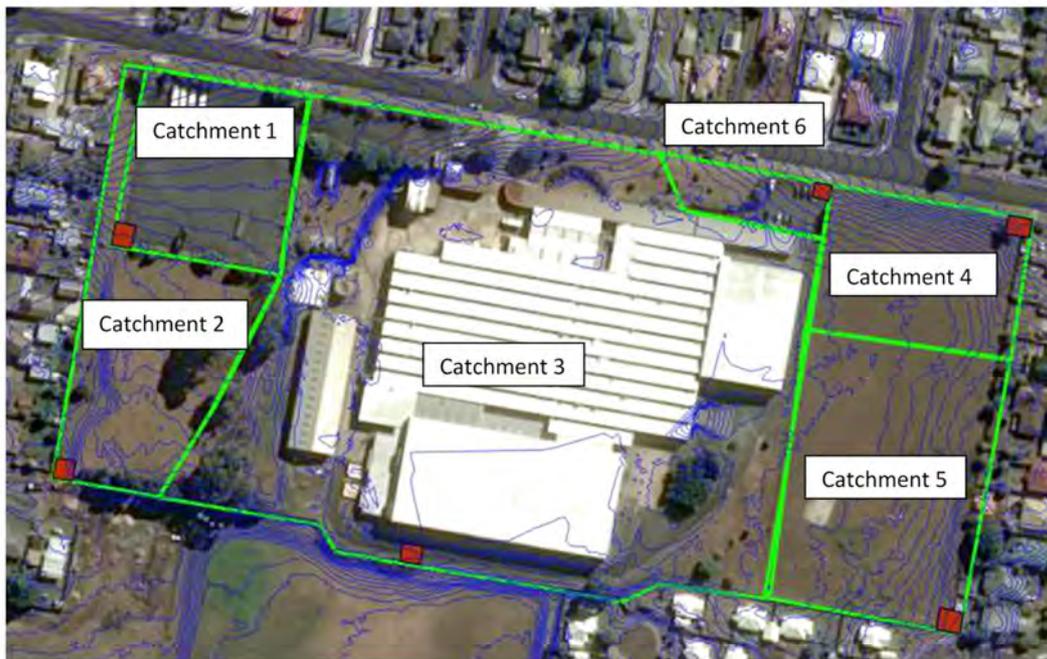


Figure 6: Existing catchments



Table 2: Existing Areas and Peak Flows

	Catchment Area (ha)	Impervious Area %	5% AEP Peak Flow (m ³ /s)	1% AEP Peak Flow (m ³ /s)
Catchment 1	0.505	100	0.149	0.219
Catchment 2	0.680	0	0.055	0.106
Catchment 3	3.91	77	0.919	1.33
Catchment 4	0.499	0	0.042	0.082
Catchment 5	0.931	0	0.074	0.139
Catchment 6	0.145	50	0.030	0.046

5.6 Post Development Site Conditions

A proposed site detention model was developed to size maximum detention basin dimensions require to create non-worsening peak flows for the 5% and 1% AEP event with climate change.

The existing discharge from three of the existing catchments is overland and assumed to be picked up by downstream drainage pits. The proposed scenarios have assumed a direct underground connection to the adjacent pipe network on the nearest streets. In each case the nearest Council main is close proximity (see Figure 5).

The detention basin surface area at the top of bank has been sized based on the following assumptions:

- Square basin
- 1m detention depth
- 2:1 embankment batters
- Low level orifice to reduce flows to predevelopment peak flow for specified design event

5.6.1 Post Development Scenario 1

Post development Scenario 1 assumes the same existing catchments with a redistribution of impervious area across the site. Table 3 below shows the post-development peak flows and the required detention surface area for detention under the assumptions above. The basin size required for both the 5% and 1% AEP events to retain existing peak flow conditions are provided.

Catchments 2, 4 and 5 under this scenario would require new underground stormwater connections to the adjacent existing Council mains as the stormwater currently discharges overland.

Table 3: Development Scenario 1 Peak Flows and Required Detention Areas

	Area (ha)	Dev Impervious Area %	Scenario 1 Impervious Area (ha)	Dev 5% AEP Peak (m ³ /s)	Dev 1% AEP Peak (m ³ /s)	Detention Surface Area (m ²) 5% AEP	Detention Surface Area (m ²) 1% AEP
Catch 1	0.505	75	0.149	0.123	0.184	0	0
Catch 2	0.680	75	0.055	0.165	0.116	100	121
Catch 3	3.91	85	0.919	1.01	1.29	50	81



	Area (ha)	Dev Impervious Area %	Scenario 1 Impervious Area (ha)	Dev 5% AEP Peak (m ³ /s)	Dev 1% AEP Peak (m ³ /s)	Detention Surface Area (m ²) 5% AEP	Detention Surface Area (m ²) 1% AEP
Catch 4	0.499	75	0.042	0.123	0.087	100	121
Catch 5	0.931	75	0.074	0.222	0.151	144	169
Catch 6	0.145	85	0.030	0.037	0.056	10	15

5.6.2 Post Development Scenario 2

Post development scenario 2 assumes a redistribution of all stormwater above 28.8m AHD back to the existing weaving mill discharge point on the southern boundary.

Catchments 2 and 3 under this scenario would require new underground stormwater connections to the adjacent existing Council mains as the stormwater currently discharges overland.



Figure 7: Scenario 2 Design Catchments and Discharge Locations



Table 4: Development Scenario 2 Peak Flows and Required Detention Areas

	Area (ha)	Dev Impervious Area %	Scenario 2 Impervious Area (ha)	Dev 5% AEP Peak (m ³ /s)	Dev 1% AEP Peak (m ³ /s)	Detention Surface Area (m ²) 5% AEP	Detention Surface Area (m ²) 1% AEP
Catch 1	5.70	82.1	4.68	1.39	1.61	121	360
Catch 2	0.428	75	0.320	0.105	0.079	64	81
Catch 3	0.558	75	0.420	0.135	0.104	81	100

5.6.3 Post Development Scenario 3

Post development scenario 3 assumes a redistribution of all stormwater back to the existing weaving mill discharge point on the southern boundary.

Table 5: Development Scenario 2 Peak Flows and Required Detention Areas

	Area (ha)	Dev Impervious Area %	Scenario 3 Impervious Area (ha)	Dev 5% AEP Peak (m ³ /s)	Dev 1% AEP Peak (m ³ /s)	Detention Surface Area (m ²) 5% AEP	Detention Surface Area (m ²) 1% AEP
Catch 1	6.70	81.1	5.43	1.62	1.69	256	600

6. Stormwater Quality Management

6.1 Overview

The general objective for stormwater quality management at the 117 Tasman Street site is to protect receiving waterway quality by limiting the quantity of key pollutants discharges in stormwater from the proposed development.

As per State Stormwater Strategy, the treatment train is required to meet the following minimum standard:

- 80% Reduction in the average annual load of total suspended solids (TSS)
- 45% Reduction in the average annual loads of total phosphorus (TP)
- 45% Reduction in the average annual loads of total nitrogen (TN)

As discussed, the site stormwater discharges in multiple locations with all water eventually finding its way into piped Council stormwater mains and eventually into the Mersey River. The water quality objectives covered in this report will only cover the operational requirements post development. MUSIC modelling has been nominated to assess the proposed quality treatment devices against the State Stormwater Strategy.

The treatment train analysed has assumed to be a bioretention basin at the downstream end of each catchment. This provides a conservative assumption for area required as treatment measures such as nature buffer strips, and water reuse tanks will reduce the required basin size. The bioretention basins are designed for the same catchment scenarios as per the stormwater quantity section of this report.

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6.2 Adopted Modelling Approach

A MUSIC model was prepared in accordance with Water by Design's MUSIC Modelling Guidelines Version 1.0 – 2010. The assumed pollutant concentrations are default MUSIC values recommended by Fletcher et al., 2004¹⁰.

The bioretention basins are assumed to act in combination with detention basins where appropriate. The following bio-retention basin parameters have been used to estimate required surface areas:

- Extended detention depth 0.25m
- Filter depth 0.5m
- TN content of filter media 800mg/kg
- Vegetation properties = Vegetated with effective nutrient removal plants

The results of the analysis are shown below in Table 6. The basins are sized to meet the TSS, TN, TP reduction requirements mentioned above. The treatment modelling trains are shown in Figure 8.

6.2.1 Post Development Scenario 1

Table 6: Post Development Bio-retention Basin Sizes

	Area (ha)	Dev Impervious Area %	Scenario 1 Impervious Area (ha)	Dev Bio-Retention Filter Area (m ²)
Scenario 1				
Catch 1	0.505	75	0.149	20
Catch 2	0.680	75	0.055	30
Catch 3	3.91	85	0.919	200
Catch 4	0.499	75	0.042	20
Catch 5	0.931	75	0.074	35
Catch 6	0.145	85	0.030	10
Scenario 2				
Catch 1	5.70	82.1	4.68	250
Catch 2	0.428	75	0.320	20
Catch 3	0.558	75	0.420	25
Scenario 3				
Catch 1	6.70	81.1	5.43	300

¹⁰ Fletcher et al, 2004, *Stormwater Flow and Quality and the Effectiveness of Non-Proprietary Stormwater Treatment Measures – A Review and Gap Analysis*

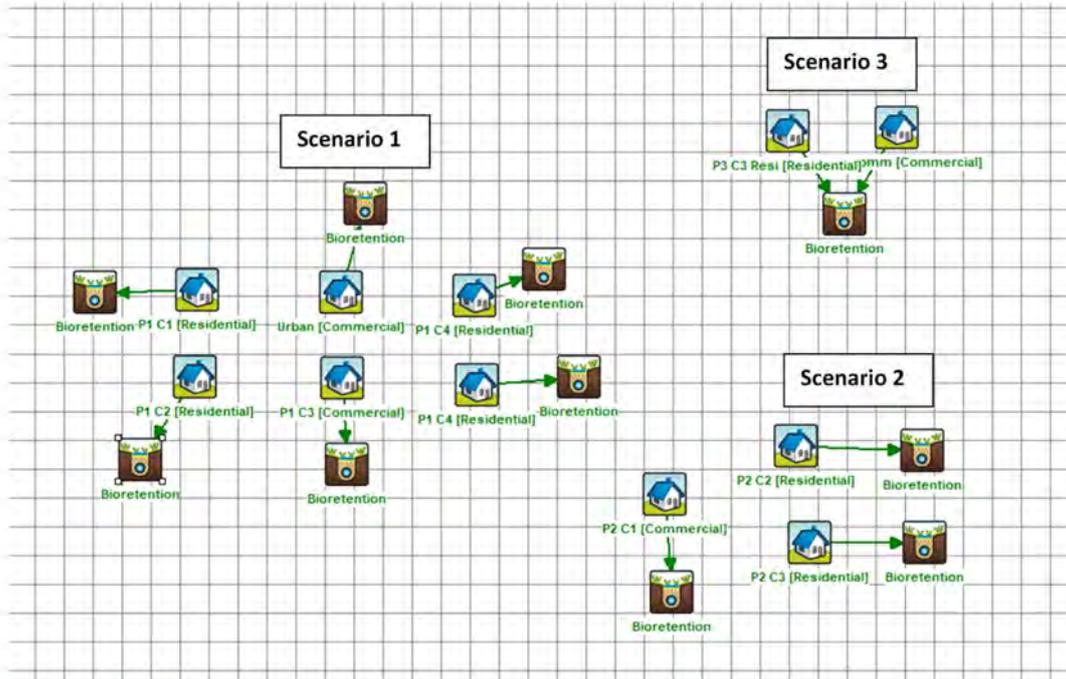


Figure 8: Modelling Train

7. Conclusion

This Stormwater Management Report has been provided as supporting documentation for the proposed rezoning of land at 117 Tasman Street, Devonport, Tasmania. This report has been prepared for the rezoning application based on the intended future re-development of the existing buildings and the requirements of the General Residential Zone set out in the Planning Scheme.. The property used to be an operational weaving mill which has reduced its operations on site to a factory outlet and some administration. The owner's vision is to develop the land for residential use by re-using the existing buildings. The General Residential Zone requires a dwelling density of 325m2 with at least 25% of the site to be free of impervious surface.

The report used conservative assumptions to estimate the required stormwater detention and bio-retention areas required to meet the requirements of the Devonport Interim Planning Scheme 2013.

Analysis of the existing surface levels and invert levels of existing Council infrastructure have demonstrated that the conveyance of stormwater, including provision for detention storage and bioretention is feasible for the proposed masterplan under a variety of development surface level scenarios.

Opportunities exist to utilise and/or expand the existing adjacent Council detention basin and minimise the required area for detention on the development site. Any use or expansion of the existing basin would be subject to Council approval and would require analysis at the concept design stage.

The proposed drainage infrastructure is sufficient to meet the Council water quality and quantity treatment requirements for several assumed development scenarios on the site. Hydrological and hydraulic methodologies used are in accordance with recommendations in Australian Rainfall and Runoff (2016). DRAINS was used as the hydrological and hydraulic design modelling software. MUSIC was nominated to model the water quality treatment train through the site.

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8. References

- Babister, M., Trim, A., Testoni, I. & Retallick, M. 2016. The Australian Rainfall & Runoff Datahub. Commonwealth of Australia
- Ball J, Babister M, Nathan R, Weeks W, Weinmann E, Retallick M, Testoni I, (Editors), 2016, *Australian Rainfall and Runoff: A Guide to Flood Estimation*, Commonwealth of Australia
- Bureau of Meteorology (2017). *2016 Rainfall IFD Data System*. Commonwealth of Australia 2017, Bureau of Meteorology (ABN 92 637 533 532).
- Fletcher et al, 2004, *Stormwater Flow and Quality and the Effectiveness of Non-Proprietary Stormwater Treatment Measures – A Review and Gap Analysis*

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117 Tasman Street, Devonport

Traffic Impact Assessment – Rezoning
Application

Prepared for
Veris

Client representative
Jana Rockliff

Date
9 May 2019

Rev 01



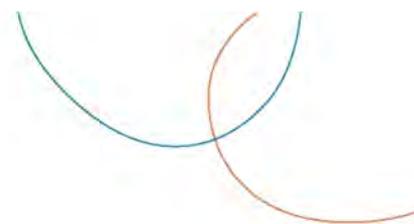


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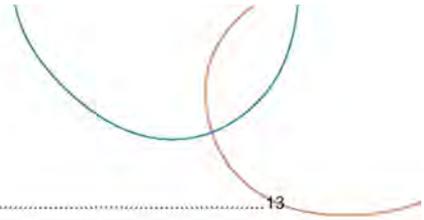


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- Appendix B — Post Development 2019 SIDRA Results
- Appendix C — 10-Years Post Development (2029) SIDRA Results
- Appendix D — 2029 No Development SIDRA Results

Prepared by — Leenah Ali		Date — 9 May 2019
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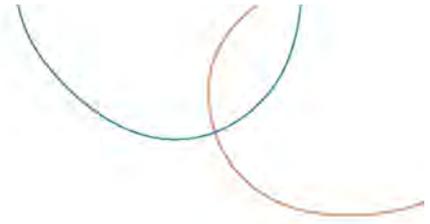
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1. Introduction

It is proposed to rezone the land parcel at 117 Tasman Street, Devonport from General Industrial to General Residential. As part of the rezoning application, Devonport City Council require a Traffic Impact Assessment (TIA) to be prepared.

Veris engaged pitt&sherry to undertake a TIA for the proposed rezoning.

This report has been prepared in accordance with the Department of State Growth's Framework for Undertaking Traffic Impact Assessments and with reference to the Devonport Interim Planning Scheme 2013 and details the findings of the traffic assessment undertaken for the proposed rezoning.

2. Existing Conditions

2.1 Site Location

The site is located at 117 Tasman Street with the main frontage of the site located on Tasman Street. The site is currently unoccupied, there is a building located on the site which was previously used as a weaving mill. The site has a land use classification of 25.0 General Industrial as shown in the Devonport Interim Planning Scheme 2013.

The site is located approximately 50m west of the Tasman Street/ William Street intersection. The Devonport Fourways is located 700m north of the site while the Devonport CBD is located 1.2km north-east of the site. TasTafe is located to the south of the site. Surrounding land uses generally include General Residential to the north, east and west and Community Purpose to the south. Figure 1 shows the location of the site in the local context while Figure 2 shows an extract from the Planning Scheme Zoning Map.

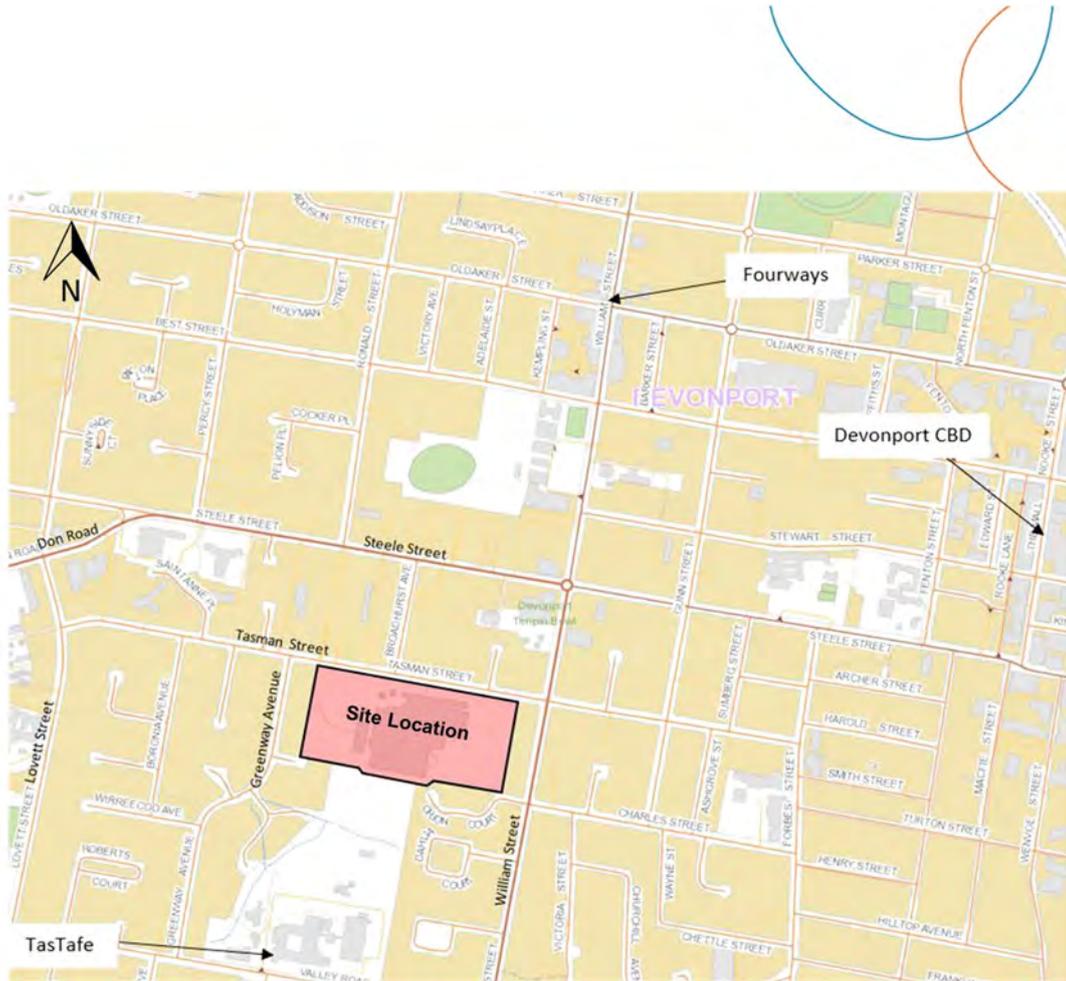
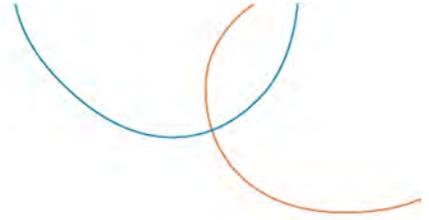


Figure 1: Site Location (Basemap Source: <https://maps.thelist.tas.gov.au/listmap/app/list/map>)



Figure 2: Zoning Plan



2.2 Road Network

2.2.1 Tasman Street

Tasman Street (shown in Figure 3 and Figure 4) is a local street operating in an east-west direction in the vicinity of the site. The speed limit on Tasman Street is 50km/h. Concrete footpaths are provided on both sides of the road. Free, unrestricted parking is permitted on both sides of Tasman Street in the vicinity of the site.

Tasman Street is recorded to carry approximately 1,500¹ vehicles a day.



Figure 3: Tasman Street (facing west)



Figure 4: Tasman Street (facing east)

2.2.2 William Street

William Street (shown in Figure 5 and Figure 6) is a collector road operating in a north-south direction in the vicinity of the site. William Street connects the site to the Bass Highway and the Mersey Bluff Precinct through the Fourways commercial area. William Street is a two-way road with a single lane in each direction. The posted speed limit on William Street is 50km/h. Concrete footpaths are provided on both sides of the street. Free, unrestricted parking is also permitted on both sides of the street.

William Street is recorded to carry approximately 10,500¹ vehicles a day.

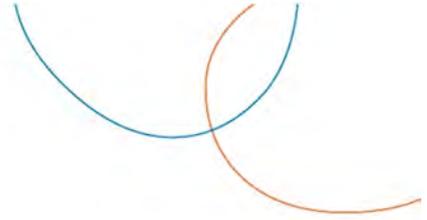


Figure 5: William Street (facing north)



Figure 6: William Street (facing south)

¹ Traffic counts undertaken for pitt&sherry in September 2018 at the William Street/ Tasman Street intersection and assuming a 2% growth per annum and a peak to daily ratio of 10%.



2.2.3 Steele Street

Steele Street (shown in Figure 7 and Figure 8) is a collector road operating in an east-west direction connecting the site with the Devonport CBD. It is a two-way street with one lane in each direction and has a speed limit of 50km/h. Concrete footpaths are provided in some locations on Steele Street. Free, unrestricted parking is permitted on both sides of Steele Street.

Steele Street is recorded to carry 8,900² vehicles a day.



Figure 7: Steele Street (facing west)



Figure 8: Steele Street (facing east)

2.2.4 Lovett Street

Lovett Street (shown in Figure 9 and Figure 10) is a local street operating in a north-south direction. Lovett Street is a two-way residential street with a single lane in each direction. The speed limit on Lovett Street is 50km/h. Concrete footpaths are provided on both sides of the street. Free, unrestricted parking is permitted on both sides of the street.

Lovett Street is recorded to carry approximately 4,000³ vehicles a day.



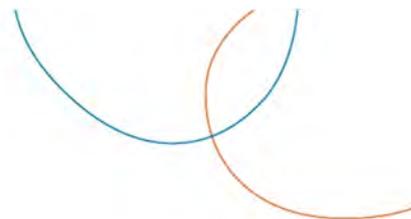
Figure 9: Lovett Street (facing north)



Figure 10: Lovett Street (facing south)

² Traffic counts undertaken for pitt&sherry in September 2018 at the William Street/ Steele Street intersection and assuming a 2% growth per annum and a peak to daily ratio of 10%.

³ Traffic counts undertaken for pitt&sherry in September 2018 at the Lovett Street/ Tasman Street intersection and assuming a 2% growth per annum and a peak to daily ratio of 10%.



2.2.5 Don Road

Don Road shown in Figure 11 and Figure 12 is a collector road connecting Steele Street with the Bass Highway. A post speed limit of 60km/h applies on Don Road. Footpaths and free, unrestricted on street parking is available on both sides of Don Road in the vicinity of the site.

Don Road is recorded to carry 9,400⁴ vehicles a day.



Figure 11: Don Road (facing west)



Figure 12: Don Road (facing east)

2.3 Site Access

As discussed, the site has a frontage to Tasman Street. Vehicle access to the site is from Tasman Street between Greenway Avenue and William Street.

2.4 Traffic Volumes and Existing Operation

The following intersections were determined to be the intersections most impacted by the proposed rezoning:

- Steele Street/ William Street (four leg roundabout)
- Tasman Street/ William Street (unsignalised intersection)
- Don Road/ Sorell Street/ Lovett Street intersection (signalised intersection)
- Tasman Street/ Lovett Street (unsignalised intersection).

Traffic surveys were undertaken by Matrix Traffic and Transport Data on Wednesday, 26th September 2018 during the AM peak (7:30am – 9:30am) and PM peak (4:00pm – 6:00pm) periods for the above intersections. It was determined from the survey that the network AM peak hour occurs between 8:15am and 9:15am and the PM peak hour occurs between 4:15pm and 5:15pm.

In order to calculate the 2019 peak hour traffic volumes, a growth rate of 2% per year has been applied to the 2018 traffic volumes. A summary of the existing 2019 AM and PM peak hour traffic volumes are shown in Figure 13 and Figure 14.

⁴ Traffic counts undertaken by pitt&sherry in September 2018 at the Lovett Street/ Don Road intersection and assuming a 2% growth per annum and a peak to daily ratio of 10%.

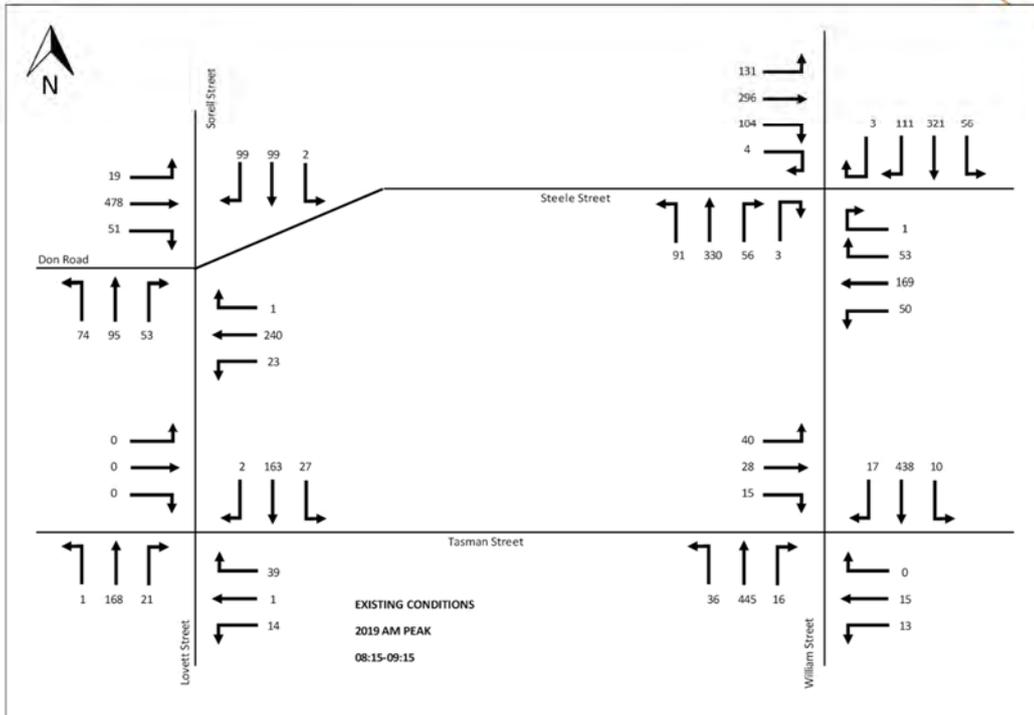


Figure 13: Traffic Volumes - Existing Weekday AM Peak

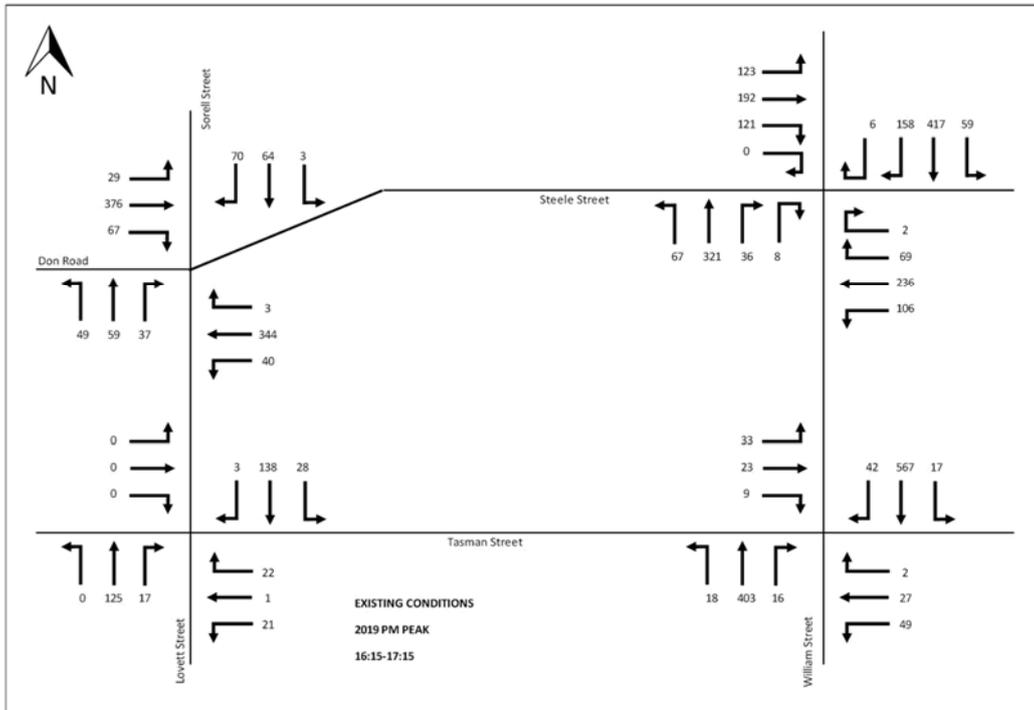


Figure 14: Traffic Volumes - Existing Weekday PM Peak

The traffic operation at the above intersections has been assessed using SIDRA INTERSECTION modelling software. SIDRA bases the intersection performance on the vehicle delay and the corresponding Level of Service (LOS). It is generally accepted that LOS D or better is an acceptable level of intersection operation. Table 1 shows the criteria that SIDRA INTERSECTION adopts in assessing the LOS.

Table 1: SIDRA INTERSECTION Level of Service Criteria

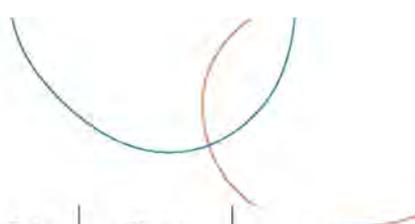
LOS	Delay per Vehicle (secs)		
	Signals	Roundabout	Sign Control
A	10 or less	10 or less	10 or less
B	10 to 20	10 to 20	10 to 15
C	20 to 35	20 to 35	15 to 25
D	35 to 55	35 to 50	25 to 35
E	55 to 80	50 to 70	35 to 50
F	Greater than 80	Greater than 70	Greater than 50

It is noted that pedestrian volumes for all intersections, signalised and unsignalised, have been modelled as 50 movements on each leg. Although pedestrian volumes are expected to be lower, 50 movements have been modelled as a conservative scenario.

Table 2 presents a summary of the existing operation of the study intersections with full results presented in Appendix A.

Table 2: Existing Operating Conditions

Intersection	Peak	Movement	Degree of Saturation	Average Delay (seconds)	Queue Length (m)	LOS
Steele Street/ William Street	AM	South (William St)	0.55	7	32	A
		East (Steele St)	0.39	9	20	A
		North (William St)	0.66	11	46	B
		West (Steele St)	0.68	12	56	B
		All Vehicles	0.68	10	56	A
	PM	South (William St)	0.58	10	37	A
		East (Steele St)	0.70	19	62	B
		North (William St)	0.75	11	64	B
		West (Steele St)	0.56	10	36	A
		All Vehicles	0.75	12	64	B



Intersection	Peak	Movement	Degree of Saturation	Average Delay (seconds)	Queue Length (m)	LOS
Tasman Street/ William Street	AM	South (William St)	0.28	1	2	A
		East (Tasman St)	0.05	9	1	A
		North (William St)	0.27	1	2	A
		West (Tasman St)	0.16	9	4	A
		All Vehicles	0.28	2	4	A
	PM	South (William St)	0.25	1	2	A
		East (Tasman St)	0.14	9	4	A
		North (William St)	0.36	1	5	A
		West (Tasman St)	0.13	10	3	A
		All Vehicles	0.36	2	5	A
Don Road/ Sorell Street/ Lovett Street	AM	South (Lovett St)	0.72	27	30	C
		East (Don Road)	0.39	13	37	B
		North (Sorell St)	0.51	26	19	C
		West (Don Road)	0.72	17	84	B
		All Vehicles	0.72	20	84	B
	PM	South (Lovett St)	0.52	27	18	C
		East (Don Road)	0.53	13	55	B
		North (Sorell St)	0.37	27	13	C
		West (Don Road)	0.56	15	60	B
		All Vehicles	0.56	17	60	B
Tasman Street/ Lovett Street	AM	South (Lovett St)	0.11	1	1	A
		East (Tasman St)	0.07	6	2	A
		North (Lovett St)	0.11	1	0	A
		West (Tasman St)	0.00	5	0	A
		All Vehicles	0.11	1	2	A
	PM	South (Lovett St)	0.08	1	1	A
		East (Tasman St)	0.04	6	1	A
		North (Lovett St)	0.09	1	0	A
		West (Tasman St)	0.00	5	0	A
		All Vehicles	0.09	1	1	A

Based on the results presented above, each of the intersections operate satisfactorily with acceptable queues and delays on all approaches of the intersections.

2.5 Crash History

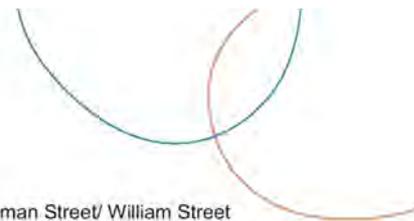
The Department of State Growth has provided crash history data for streets in the vicinity of the site. The data provided was for the 5-year period between March 2013 and March 2018 with the crash locations shown in Figure 15. A summary of the crash history is included in Table 3.



Figure 15: Crash History Locations

Table 3: Crash History Summary

Location	Crash type	Crash Severity	Count	
William Street	131 – Vehicle in same lane/ left rear	Minor	1	
		Minor	2	
Tasman Street/ William Street intersection	110 – Cross Traffic	Property Damage Only	3	
		First Aid	4	
		113 – Right Near	Property Damage Only	4
		121 – Right Through	Property Damage Only	1
	130 – Vehicle in same lane/ right rear	Property Damage Only	2	
	111 – Right Far	Property Damage Only	1	
Tasman Street	160 – Parked	Property Damage Only	1	
		Property Damage Only	1	
Bruford Place/ Tasman Street intersection	174 – Out of Control on Carriageway	Minor	1	
Bruford Place	149 – Other Maneuvering	Minor	1	
Broadhurst Avenue	160 – Parked	Property Damage Only	1	



The crash data above shows that 18 of the 23 recorded crashes occurred at the Tasman Street/ William Street intersection. Of the crashes at this intersection, 4 required first aid, 2 resulted in minor injuries and the remaining 12 resulted in property damage only.

The large number of crashes recorded at the Tasman Street/ William Street intersection highlight that there could be an existing safety issue at this intersection. Analysis of the crashes at this intersection show that 9 of the 18 crashes were cross traffic crashes. Of the 9 cross traffic crashes, 2 crashes resulted in minor injuries and 1 crash required the provision of first aid on site. Based on this crash history, Council may need to consider safety improvement measures such as the installation of a roundabout which can reduce the number of cross traffic crashes. This measure would likely also improve the operation of the intersection.

A single crash occurred at the Bruford Place/ Tasman Street intersection. This crash involved a motorcycle rider losing control on the road in wet conditions. The crash resulted in minor injuries.

The remaining 4 crashes in the vicinity of the site occurred at midblock locations. Of these crashes, 2 resulted in minor injuries and the remaining 2 crashes resulted in property damage only. The crash on Bruford Place resulting in minor injuries involved a vehicle reversing out of a driveway colliding with a vehicle on Bruford Road. This crash took place in dry conditions during the day. The crash on William Street resulting in minor injuries involved a vehicle rear ending another vehicle in wet conditions at night.

The 5 crashes that occurred in the vicinity of the site (but not at the Tasman Street/ William Street intersection), appear to be isolated incidents.

2.6 Public Transport

Merseylink Buses provide the main mode of public transport in Devonport. Merseylink operate bus services 15t and 25t within close proximity of the Tasman Street site.

Bus route 15t operates at 9am Monday to Friday and Bus Route 25t operates at 2pm Monday to Friday. Two bus stops are located within walking distance of the proposed site as follows:

- Broadhurst Avenue Bus Stop – 1-minute walking distance
- Greenway Avenue Bus Stop – 5-minute walking distance.

2.7 Pedestrian and Cycling Facilities

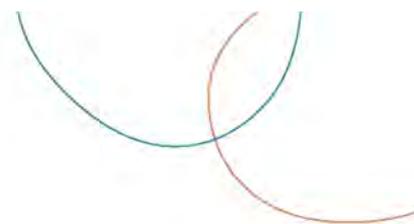
Pedestrian paths are located on all major roads in the vicinity of the site with kerb ramps provided at road intersections.

Cycling infrastructure in the vicinity of the site is limited, with no on-street bike routes located nearby.

3. Development Proposal

3.1 Overview

It is proposed to rezone the land parcel at 117 Tasman Street from General Industrial to General Residential. The site is approximately 6.68ha (66,800m²) in size. Under the *Devonport Interim Planning Scheme 2013*, a minimum dwelling density of not less than 325m² is required for the General Residential Zone. Based on the Planning Scheme requirements, this calculates to a maximum of 206 residential dwellings that could be accommodated on the land parcel.



4. Traffic Impact Assessment

4.1 Traffic Generation

The traffic generation rate of residential dwellings has been sought from the *RMS Guide to Traffic Generating Developments Technical Direction TDT2013/04a*. Estimates of peak hourly and daily traffic volumes resulting from a 206 residential dwelling development is set out in Table 4.

Table 4: Traffic Generation Rates

Peak	Number of Dwellings	Design Generation Rates		Traffic Generation	
		Peak Hour	Daily	Peak Hour	Daily
Weekday AM	206	0.95 trips per dwelling	10.7 trips per dwelling	196 trips	2,205 trips
Weekday PM		0.99 trips per dwelling		204 trips	

Table 4 indicates 206 residential dwellings could be expected to generate up to 196 vehicle movements in a weekday AM peak hour and 204 vehicle movements in a weekday PM peak hour. Up to 2,205 vehicle movements could be expected to be generated daily during a typical weekday.

4.2 Traffic Distribution and Assignment

4.2.1 Directional Split

The following directional split of traffic (i.e. the ratio between inbound and outbound traffic movements) has been adopted for the proposed development:

- AM Peak 20% in/ 80% out
- PM peak 70% in/ 30% out

4.2.2 Traffic Distribution

The distribution of the traffic generated by the development is based on a number of factors including:

- The location of major traffic distribution roads around the site
- The location of traffic generating developments
- Existing traffic patterns.

Based on this, the expected traffic distribution to the study intersections are shown in Figure 16.

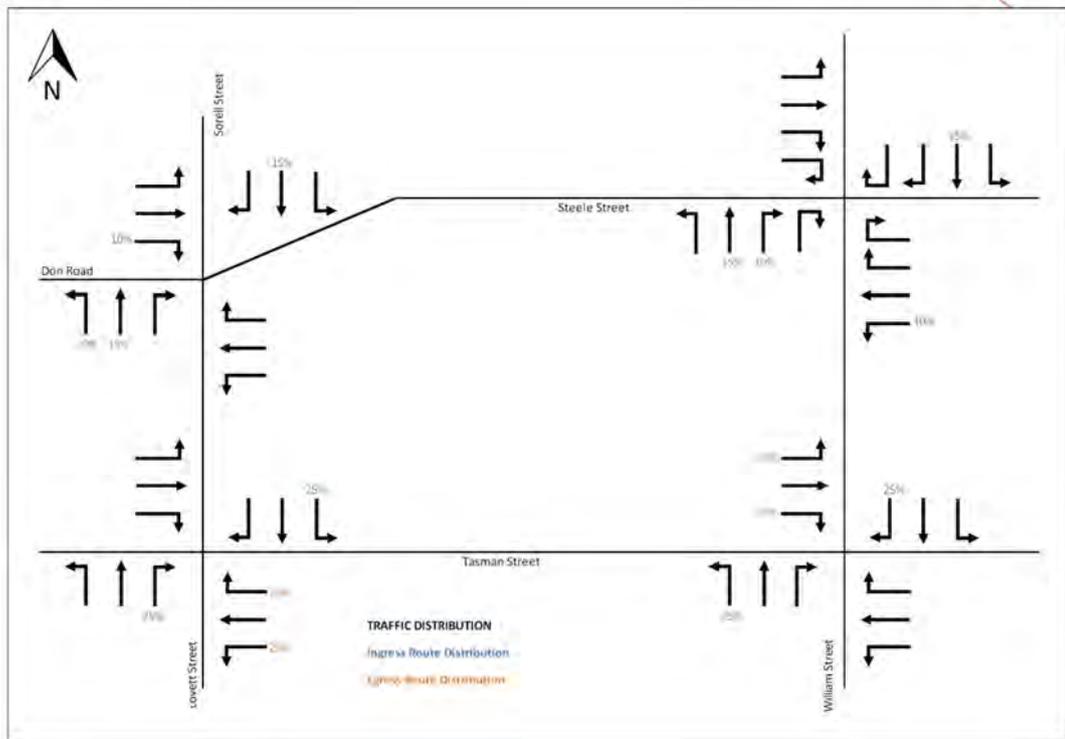


Figure 16: Traffic Distribution

4.3 Traffic Impact

The traffic impacts for the development of the land at 117 Tasman Street with 206 residential dwellings has been estimated for the post development (2019) scenario and 10 years post development (2029) scenario. In order to represent the future growth in the area, a compounding growth rate of 2% per year has been applied to the existing traffic volumes.

It is noted that the growth rate has not been applied to the trips generated by the development as it is not expected to increase in size once the development of the site is complete and therefore the traffic generation would not be expected to increase significantly.

The post development and 10 years post development traffic volumes for each of the peak hours is shown in Figure 17 to Figure 20.

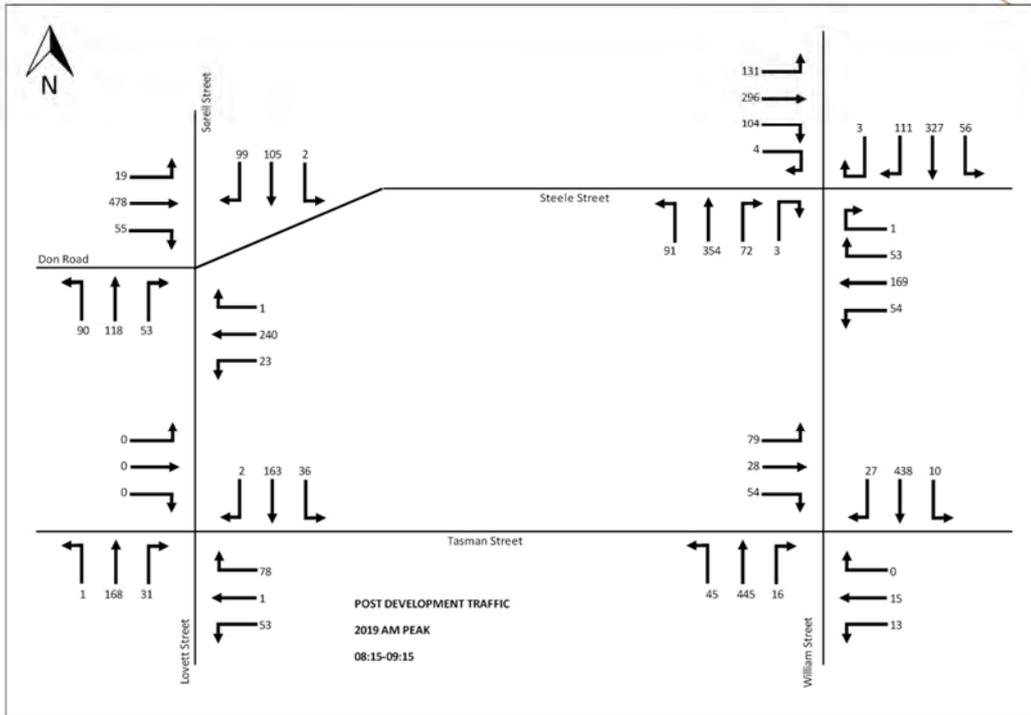


Figure 17: Traffic Volumes Post Development (2019) - AM Peak

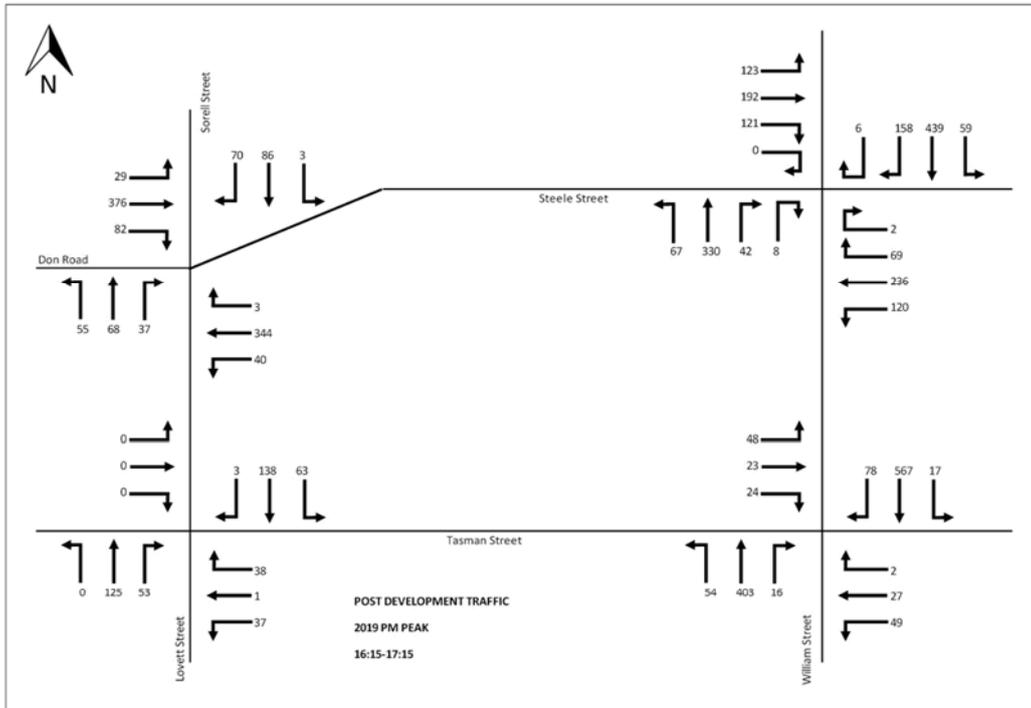


Figure 18: Traffic Volumes Post Development (2019) - PM Peak

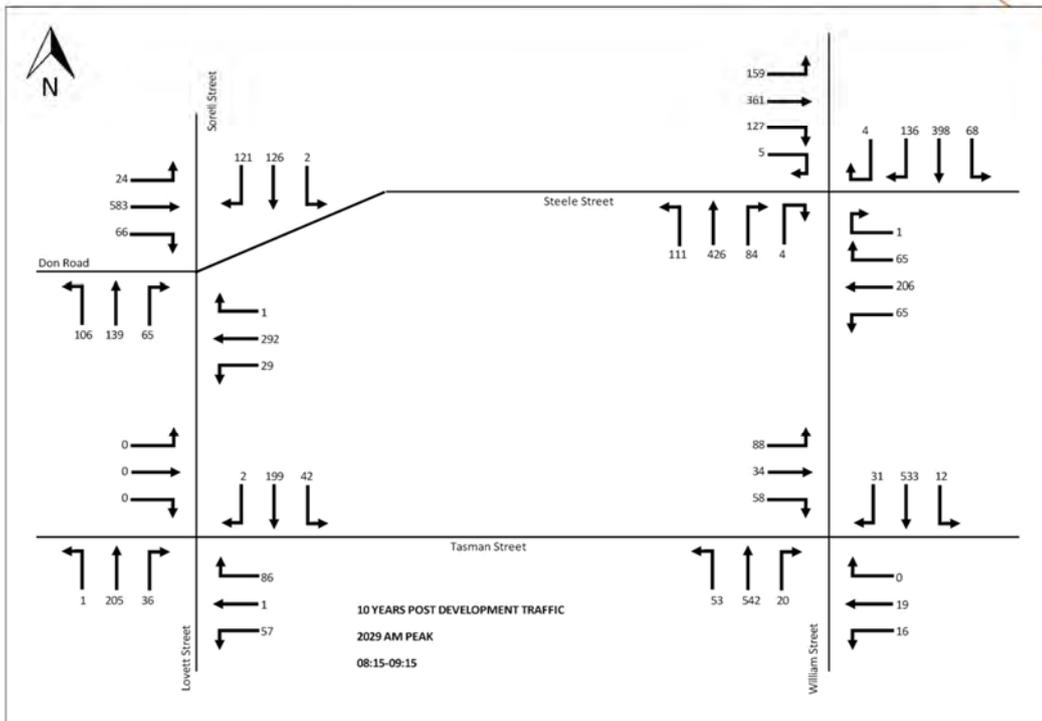


Figure 19: Traffic Volumes Post Development (2029) - AM Peak

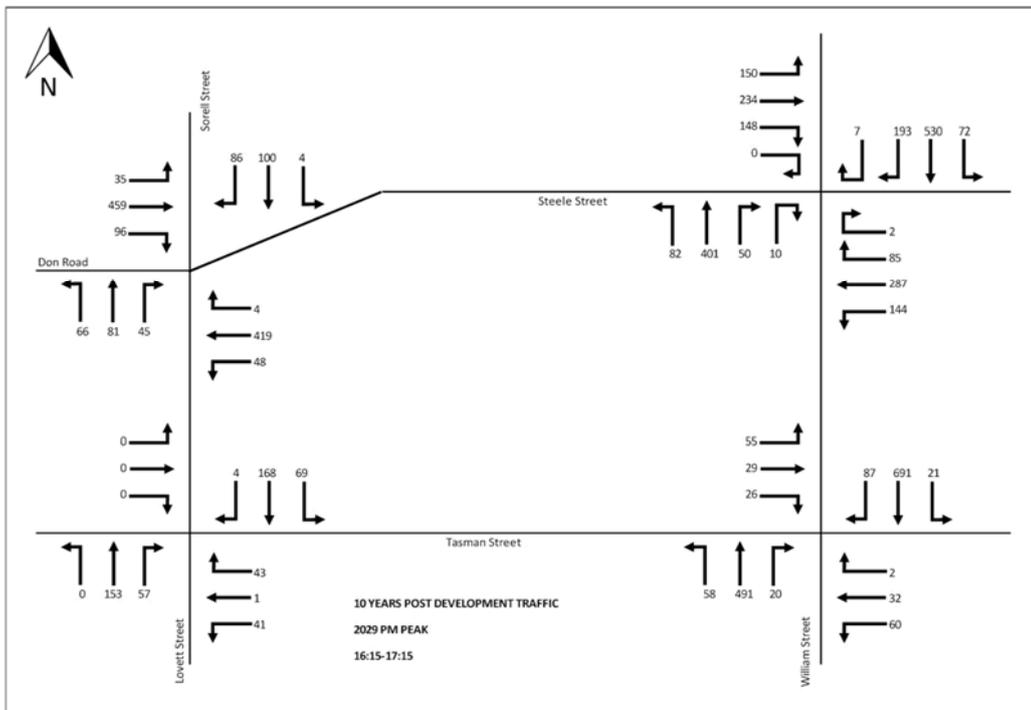
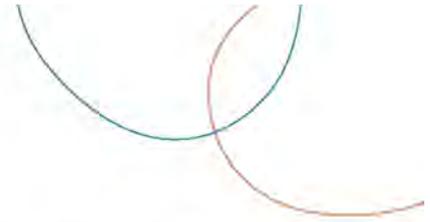


Figure 20: Traffic Volumes Post Development (2029) - PM Peak



4.3.1 Post Development (2019)

The potential impact of the development at 117 Tasman Street on the study intersections identified in Section 2.4 has been assessed using SIDRA INTERSECTION. On the basis of the traffic generation rates and distributions presented above, the anticipated operation of the intersections immediately post development is summarised in Table 5. Full results of the SIDRA analysis are provided in Appendix B.

Table 5: Post Development (2019) Operation

Intersection	Peak	Movement	Degree of Saturation	Average Delay (seconds)	Queue Length (m)	LOS
Steele Street/ William Street	AM	South (William St)	0.59	8	38	A
		East (Steele St)	0.40	9	21	A
		North (William St)	0.69	12	49	B
		West (Steele St)	0.72	13	63	B
		All Vehicles	0.72	11	63	B
	PM	South (William St)	0.60	10	40	A
		East (Steele St)	0.75	22	73	C
		North (William St)	0.78	12	72	B
		West (Steele St)	0.57	10	37	A
		All Vehicles	0.77	13	73	B
Tasman Street/ William Street	AM	South (William St)	0.29	1	2	A
		East (Tasman St)	0.05	9	1	A
		North (William St)	0.28	1	3	A
		West (Tasman St)	0.33	11	10	B
		All Vehicles	0.33	3	10	A
	PM	South (William St)	0.27	1	3	A
		East (Tasman St)	0.15	10	4	A
		North (William St)	0.40	2	10	A
		West (Tasman St)	0.22	12	6	B
		All Vehicles	0.40	3	10	A



Intersection	Peak	Movement	Degree of Saturation	Average Delay (seconds)	Queue Length (m)	LOS
Don Road/ Sorell Street/ Lovett Street	AM	South (Lovett St)	0.75	27	35	C
		East (Don Road)	0.41	14	38	B
		North (Sorell St)	0.53	26	19	C
		West (Don Road)	0.76	19	90	B
		All Vehicles	0.76	21	90	C
	PM	South (Lovett St)	0.58	27	20	C
		East (Don Road)	0.53	13	55	B
		North (Sorell St)	0.41	26	16	C
		West (Don Road)	0.56	16	60	B
		All Vehicles	0.58	18	60	B
Tasman Street/ Lovett Street	AM	South (Lovett St)	0.12	1	2	A
		East (Tasman St)	0.15	6	4	A
		North (Lovett St)	0.11	1	0	A
		West (Tasman St)	0.00	6	0	A
		All Vehicles	0.15	2	4	A
	PM	South (Lovett St)	0.11	2	3	A
		East (Tasman St)	0.08	6	2	A
		North (Lovett St)	0.11	2	0	A
		West (Tasman St)	0.00	5	0	A
		All Vehicles	0.11	2	3	A

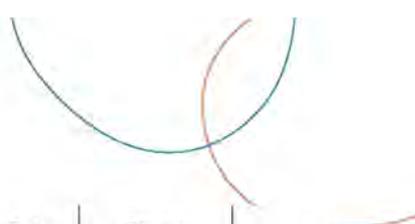
Based on the results presented above, all modelled intersections are expected to operate at an acceptable LOS immediately post development in 2019.

4.3.2 10 Years Post Development (2029)

The anticipated operation of the study intersections 10 years post development is summarised in Table 6. Full results of the SIDRA analysis are provided in Appendix C.

Table 6: Post Development (2029) Operation

Intersection	Peak	Movement	Degree of Saturation	Average Delay (seconds)	Queue Length (m)	LOS
Steele Street/ William Street	AM	South (William St)	0.78	14	77	B
		East (Steele St)	0.59	14	41	B
		North (William St)	0.96	38	164	D
		West (Steele St)	1.01	64	273	E
		All Vehicles	1.01	35	273	D
	PM	South (William St)	0.76	15	69	B
		East (Steele St)	1.19	213	526	F
		North (William St)	1.04	72	367	F
		West (Steele St)	0.78	17	78	B
		All Vehicles	1.19	77	526	F
Tasman Street/ William Street	AM	South (William St)	0.35	1	4	A
		East (Tasman St)	0.09	11	2	B
		North (William St)	0.34	1	5	A
		West (Tasman St)	0.49	17	17	C
		All Vehicles	0.49	3	17	A
	PM	South (William St)	0.33	2	5	A
		East (Tasman St)	0.26	14	7	B
		North (William St)	0.49	2	16	A
		West (Tasman St)	0.38	18	11	C
		All Vehicles	0.49	4	16	A
Don Road/ Sorell Street/ Lovett Street	AM	South (Lovett St)	0.84	32	52	C
		East (Don Road)	0.45	15	54	B
		North (Sorell St)	0.64	29	28	C
		West (Don Road)	0.88	28	155	C
		All Vehicles	0.88	26	155	C
	PM	South (Lovett St)	0.72	28	26	C
		East (Don Road)	0.64	14	71	B
		North (Sorell St)	0.52	27	19	C
		West (Don Road)	0.68	17	80	B
All Vehicles	0.72	19	80	B		



Intersection	Peak	Movement	Degree of Saturation	Average Delay (seconds)	Queue Length (m)	LOS
Tasman Street/ Lovett Street	AM	South (Lovett St)	0.14	1	3	A
		East (Tasman St)	0.18	7	5	A
		North (Lovett St)	0.14	1	0	A
		West (Tasman St)	0.00	6	0	A
		All Vehicles	0.18	2	5	A
	PM	South (Lovett St)	0.13	2	4	A
		East (Tasman St)	0.10	6	3	A
		North (Lovett St)	0.13	1	0	A
		West (Tasman St)	0.00	6	0	A
		All Vehicles	0.13	2	4	A

The results presented above in Table 6 show that with the exception of the Steele Street/ William Street roundabout, all remaining modelled intersections are expected to operate at an acceptable level of service 10 years post development.

The Steele Street/ William Street roundabout is expected to operate at an unsatisfactory level of service in both the AM and PM peak period 10 years post development. Movements on the western approach of the roundabout operate at an unsatisfactory LOS E during the AM peak while movements on the eastern and northern approaches operate at an unsatisfactory LOS F during the PM peak. It is noted that all remaining legs of the Steele Street/ William Street roundabout operate at an acceptable level of service.

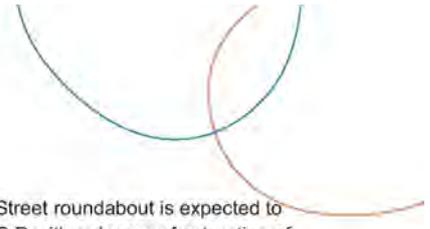
The impact of the development on the Steele Street/ William Street roundabout is discussed below.

4.3.3 2029 No Development

In order to determine the impact of the development on the 2029 operation of the Steele Street/ William Street roundabout, SIDRA analysis has been undertaken to estimate the operation of the roundabout without development at 117 Tasman Street. The results of the analysis are summarised in Table 7. Detailed results of the SIDRA analysis are provided in Appendix D.

Table 7: No Development (2029) Operation

Intersection	Peak	Movement	Degree of Saturation	Average Delay (seconds)	Queue Length (m)	LOS
Steele Street/ William Street	AM	South (William St)	0.73	12	64	B
		East (Steele St)	0.56	13	37	B
		North (William St)	0.93	30	136	C
		West (Steele St)	0.95	38	185	D
		All Vehicles	0.95	25	185	C
	PM	South (William St)	0.74	15	64	B
		East (Steele St)	1.11	149	382	F
		North (William St)	0.98	38	224	D
		West (Steele St)	0.75	15	69	B
		All Vehicles	1.11	52	382	E



The results presented above show that the western leg of the Steele Street/ William Street roundabout is expected to operate at a LOS D during the AM peak hour. While this is an acceptable LOS, a LOS D with a degree of saturation of 0.95 shows that the roundabout is approaching capacity. Any additional movements at the roundabout may result in an unacceptable LOS. In the PM peak hour, the roundabout is operating above capacity with an overall unsatisfactory LOS E.

For roundabouts at or approaching an unsatisfactory LOS, it only takes a very small number of additional traffic movements for the operation to decrease significantly.

General residential zoning on the site could generate up to 50 movements to the roundabout in the AM and PM peak hour. In 2029 this is approximately 2.3% of all the traffic at the roundabout. Based on this, it is likely that if the roundabout reaches an unsatisfactory LOS this is largely due to the overall growth on the road network.

4.4 Sight Distances

The Safe Intersection Sight Distance (SISD) to the existing vehicle access for vehicles travelling on Tasman Street has been assessed against the AUSTRROADS Guide to Road Design – Part 4A: Unsignalised and Signalised Intersections. The SISD measurements were taken during the site inspection on 1 October 2018 at potential locations for access and exit points at 117 Tasman Street. The SISD measurements were taken from a point 5m back from the edge of Tasman Street in accordance with Figure 3.2 of the Austroads Guide.

The SISD requirements (with a reaction time of 2 seconds) and the observed available sight distance are presented in Table 8. The observed available sight distance is shown in Figure 21.

Table 8: Sight Distance Requirements

Access Name	Access Location	Direction of Vehicles on Tasman Street	Speed Limit	Sight Distance Requirement	Sight Distance Available
Access 1	Opposite 74 Tasman Street	Westbound	50km/h	97m	550m
		Eastbound			300m
Access 2	Opposite 46 Tasman Street	Westbound			130m
		Eastbound			120m



Figure 21: Observed Available Sight Distance (Aerial Image Source: <https://maps.thelist.tas.gov.au>)



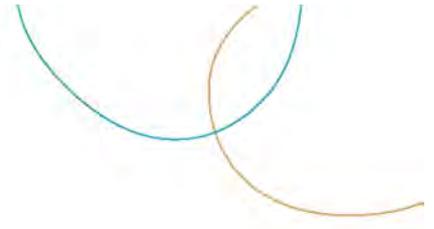
Based on the above, the sight distance at the existing vehicle accesses are well in excess of the AUSTRROADS requirements.

It was noted during the site visit that cars parked on the southern side of the road near the access obstructed the available sight distance from the site access. Based on this, it is recommended that during the design stage, that parking is restricted in the immediate vicinity of vehicle entry and exit points in order to maximise sight lines.

5. Conclusion

The proposed rezoning of the land parcel at 117 Tasman Street, Devonport from General Industrial to General Residential has been assessed in accordance with the Department of State Growth's *Framework for Undertaking Traffic Impact Assessments* and the *Devonport Interim Planning Scheme 2013*. The analysis and discussions presented in this report can be summarised as follows:

- Based on the *Devonport Interim Planning Scheme 2013* requirements, 206 residential dwellings could be accommodated on the land parcel
- The additional traffic that could be generated by a 206 residential dwelling development is not expected to have any significant impacts on the safety and operation of the surrounding road network post development in 2019 and 10-years post development in 2029
- Sight distance at existing vehicle accesses are well in excess of the AUSTRROADS requirements.



Appendix A



Existing SIDRA Results

pitt&sherry

MOVEMENT SUMMARY

 Site: 101 [Steele Street/ William Street - Existing AM Peak]

08:15-09:15

Site Category: (None)

Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: William Street												
1	L2	96	5.0	0.549	6.9	LOS A	4.4	31.9	0.70	0.74	0.75	45.0
2	T1	347	5.0	0.549	7.0	LOS A	4.4	31.9	0.70	0.74	0.75	45.8
3	R2	59	2.0	0.549	10.5	LOS B	4.4	31.9	0.70	0.74	0.75	45.8
3u	U	3	2.0	0.549	13.6	LOS B	4.4	31.9	0.70	0.74	0.75	49.2
Approach		505	4.6	0.549	7.4	LOS A	4.4	31.9	0.70	0.74	0.75	45.7
East: Steele Street												
4	L2	53	2.0	0.389	7.6	LOS A	2.7	20.0	0.79	0.80	0.79	44.5
5	T1	178	5.0	0.389	7.8	LOS A	2.7	20.0	0.79	0.80	0.79	45.3
6	R2	56	5.0	0.389	11.5	LOS B	2.7	20.0	0.79	0.80	0.79	45.2
6u	U	1	2.0	0.389	14.4	LOS B	2.7	20.0	0.79	0.80	0.79	48.6
Approach		287	4.4	0.389	8.5	LOS A	2.7	20.0	0.79	0.80	0.79	45.1
North: William Street												
7	L2	59	10.0	0.664	10.5	LOS B	6.3	46.0	0.76	0.92	0.97	43.0
8	T1	338	5.0	0.664	10.3	LOS B	6.3	46.0	0.76	0.92	0.97	43.9
9	R2	117	5.0	0.664	14.0	LOS B	6.3	46.0	0.76	0.92	0.97	43.8
9u	U	3	2.0	0.664	16.9	LOS B	6.3	46.0	0.76	0.92	0.97	46.9
Approach		517	5.6	0.664	11.2	LOS B	6.3	46.0	0.76	0.92	0.97	43.8
West: Steele Street												
10	L2	138	5.0	0.681	10.9	LOS B	7.7	55.5	0.90	0.99	1.15	42.9
11	T1	312	2.0	0.681	10.8	LOS B	7.7	55.5	0.90	0.99	1.15	43.6
12	R2	109	2.0	0.681	14.5	LOS B	7.7	55.5	0.90	0.99	1.15	43.6
12u	U	4	2.0	0.681	17.5	LOS B	7.7	55.5	0.90	0.99	1.15	46.6
Approach		563	2.7	0.681	11.6	LOS B	7.7	55.5	0.90	0.99	1.15	43.5
All Vehicles		1873	4.3	0.681	9.9	LOS A	7.7	55.5	0.79	0.88	0.94	44.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

 Site: 101 [Steele Street/ William Street - Existing PM Peak]

16:15-17:15

Site Category: (None)

Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: William Street												
1	L2	71	10.0	0.576	9.3	LOS A	5.1	37.1	0.80	0.88	0.94	43.9
2	T1	338	5.0	0.576	9.1	LOS A	5.1	37.1	0.80	0.88	0.94	44.7
3	R2	38	2.0	0.576	12.7	LOS B	5.1	37.1	0.80	0.88	0.94	44.7
3u	U	8	2.0	0.576	15.7	LOS B	5.1	37.1	0.80	0.88	0.94	47.9
Approach		455	5.5	0.576	9.6	LOS A	5.1	37.1	0.80	0.88	0.94	44.7
East: Steele Street												
4	L2	112	2.0	0.703	17.8	LOS B	8.7	61.7	1.00	1.21	1.48	39.7
5	T1	248	2.0	0.703	17.9	LOS B	8.7	61.7	1.00	1.21	1.48	40.3
6	R2	73	2.0	0.703	21.5	LOS C	8.7	61.7	1.00	1.21	1.48	40.3
6u	U	2	2.0	0.703	24.6	LOS C	8.7	61.7	1.00	1.21	1.48	42.9
Approach		435	2.0	0.703	18.5	LOS B	8.7	61.7	1.00	1.21	1.48	40.2
North: William Street												
7	L2	62	10.0	0.746	10.3	LOS B	8.7	63.6	0.77	0.90	0.99	43.1
8	T1	439	5.0	0.746	10.2	LOS B	8.7	63.6	0.77	0.90	0.99	43.9
9	R2	166	2.0	0.746	13.7	LOS B	8.7	63.6	0.77	0.90	0.99	43.8
9u	U	6	2.0	0.746	16.7	LOS B	8.7	63.6	0.77	0.90	0.99	47.0
Approach		674	4.7	0.746	11.1	LOS B	8.7	63.6	0.77	0.90	0.99	43.8
West: Steele Street												
10	L2	129	5.0	0.559	8.5	LOS A	5.0	35.7	0.82	0.88	0.93	43.9
11	T1	202	2.0	0.559	8.4	LOS A	5.0	35.7	0.82	0.88	0.93	44.8
12	R2	127	2.0	0.559	12.1	LOS B	5.0	35.7	0.82	0.88	0.93	44.7
12u	U	1	2.0	0.559	15.1	LOS B	5.0	35.7	0.82	0.88	0.93	47.9
Approach		460	2.8	0.559	9.5	LOS A	5.0	35.7	0.82	0.88	0.93	44.5
All Vehicles		2023	3.9	0.746	12.0	LOS B	8.7	63.6	0.84	0.96	1.07	43.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

▽ Site: 101 [Tasman Street/ William Street - Existing AM Peak]

08:15-09:15

Site Category: (None)

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: William Street												
1	L2	38	2.0	0.284	5.6	LOS A	0.3	2.0	0.06	0.06	0.06	48.9
2	T1	468	5.0	0.284	0.2	LOS A	0.3	2.0	0.06	0.06	0.06	49.5
3	R2	17	2.0	0.284	7.3	LOS A	0.3	2.0	0.06	0.06	0.06	48.5
Approach		523	4.7	0.284	0.8	NA	0.3	2.0	0.06	0.06	0.06	49.4
East: Tasman Street												
4	L2	14	2.0	0.053	6.3	LOS A	0.2	1.3	0.56	0.71	0.56	44.3
5	T1	16	2.0	0.053	10.1	LOS B	0.2	1.3	0.56	0.71	0.56	44.4
6	R2	1	2.0	0.053	13.6	LOS B	0.2	1.3	0.56	0.71	0.56	44.0
Approach		31	2.0	0.053	8.5	LOS A	0.2	1.3	0.56	0.71	0.56	44.4
North: William Street												
7	L2	11	20.0	0.268	6.9	LOS A	0.3	1.9	0.06	0.03	0.06	48.8
8	T1	461	5.0	0.268	0.2	LOS A	0.3	1.9	0.06	0.03	0.06	49.6
9	R2	18	2.0	0.268	7.5	LOS A	0.3	1.9	0.06	0.03	0.06	48.6
Approach		489	5.2	0.268	0.6	NA	0.3	1.9	0.06	0.03	0.06	49.5
West: Tasman Street												
10	L2	42	2.0	0.156	6.5	LOS A	0.6	4.0	0.58	0.75	0.58	44.0
11	T1	29	2.0	0.156	10.4	LOS B	0.6	4.0	0.58	0.75	0.58	44.0
12	R2	16	5.0	0.156	14.3	LOS B	0.6	4.0	0.58	0.75	0.58	43.6
Approach		87	2.5	0.156	9.2	LOS A	0.6	4.0	0.58	0.75	0.58	43.9
All Vehicles		1131	4.7	0.284	1.6	NA	0.6	4.0	0.12	0.12	0.12	48.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

▽ Site: 101 [Tasman Street/ William Street - Existing PM Peak]

16:15-17:15

Site Category: (None)

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: William Street												
1	L2	19	2.0	0.249	6.9	LOS A	0.3	2.2	0.08	0.04	0.08	48.9
2	T1	424	2.0	0.249	0.3	LOS A	0.3	2.2	0.08	0.04	0.08	49.4
3	R2	17	2.0	0.249	8.3	LOS A	0.3	2.2	0.08	0.04	0.08	48.4
Approach		460	2.0	0.249	0.8	NA	0.3	2.2	0.08	0.04	0.08	49.4
East: Tasman Street												
4	L2	52	2.0	0.143	7.3	LOS A	0.5	3.7	0.60	0.77	0.60	44.0
5	T1	28	2.0	0.143	12.3	LOS B	0.5	3.7	0.60	0.77	0.60	44.0
6	R2	2	2.0	0.143	16.8	LOS C	0.5	3.7	0.60	0.77	0.60	43.6
Approach		82	2.0	0.143	9.3	LOS A	0.5	3.7	0.60	0.77	0.60	44.0
North: William Street												
7	L2	18	2.0	0.359	6.8	LOS A	0.7	5.0	0.11	0.05	0.12	48.8
8	T1	597	2.0	0.359	0.4	LOS A	0.7	5.0	0.11	0.05	0.12	49.3
9	R2	44	2.0	0.359	7.3	LOS A	0.7	5.0	0.11	0.05	0.12	48.3
Approach		659	2.0	0.359	1.0	NA	0.7	5.0	0.11	0.05	0.12	49.2
West: Tasman Street												
10	L2	35	2.0	0.134	6.2	LOS A	0.5	3.3	0.58	0.73	0.58	43.7
11	T1	24	2.0	0.134	12.2	LOS B	0.5	3.3	0.58	0.73	0.58	43.7
12	R2	9	2.0	0.134	17.0	LOS C	0.5	3.3	0.58	0.73	0.58	43.3
Approach		68	2.0	0.134	9.8	LOS A	0.5	3.3	0.58	0.73	0.58	43.6
All Vehicles		1269	2.0	0.359	1.9	NA	0.7	5.0	0.16	0.13	0.16	48.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

 Site: 101 [Don Road/ Lovett Street/ Sorell Street - Existing AM Peak]

08:15-09:15

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 50 seconds (Site Practical Cycle Time)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Back of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Lovett Street												
1	L2	78	10.0	0.321	27.1	LOS C	1.8	14.0	0.94	0.75	0.94	36.2
2	T1	100	2.0	0.716	25.9	LOS C	4.2	30.0	1.00	0.91	1.25	36.3
3	R2	56	5.0	0.716	30.5	LOS C	4.2	30.0	1.00	0.91	1.25	35.9
Approach		234	5.4	0.716	27.4	LOS C	4.2	30.0	0.98	0.86	1.15	36.2
East: Don Road												
4	L2	24	2.0	0.387	17.0	LOS B	5.0	36.7	0.77	0.66	0.77	42.1
5	T1	253	5.0	0.387	12.4	LOS B	5.0	36.7	0.77	0.66	0.77	42.5
6	R2	1	2.0	0.005	26.1	LOS C	0.0	0.2	0.90	0.58	0.90	36.4
Approach		278	4.7	0.387	12.9	LOS B	5.0	36.7	0.77	0.66	0.77	42.5
North: Sorell Street												
7	L2	2	2.0	0.395	27.2	LOS C	2.5	18.0	0.95	0.74	0.95	37.8
8	T1	104	2.0	0.395	22.6	LOS C	2.5	18.0	0.95	0.74	0.95	38.1
9	R2	104	2.0	0.514	29.8	LOS C	2.6	18.8	0.99	0.77	1.01	35.1
Approach		211	2.0	0.514	26.2	LOS C	2.6	18.8	0.97	0.76	0.98	36.6
West: Don Road												
10	L2	20	5.0	0.717	20.5	LOS C	11.8	84.0	0.91	0.85	0.98	40.6
11	T1	503	2.0	0.717	15.9	LOS B	11.8	84.0	0.91	0.85	0.98	41.0
12	R2	54	10.0	0.258	28.0	LOS C	1.3	9.8	0.94	0.73	0.94	35.7
Approach		577	2.8	0.717	17.2	LOS B	11.8	84.0	0.91	0.84	0.98	40.4
All Vehicles		1299	3.6	0.717	19.6	LOS B	11.8	84.0	0.90	0.79	0.97	39.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Back of Queue Distance m	Prop. Queued	Effective Stop Rate	
P1	South Full Crossing	53	19.4	LOS B	0.1	0.1	0.88	0.88	
P2	East Full Crossing	53	19.4	LOS B	0.1	0.1	0.88	0.88	
P3	North Full Crossing	53	19.4	LOS B	0.1	0.1	0.88	0.88	
P4	West Full Crossing	53	19.4	LOS B	0.1	0.1	0.88	0.88	
All Pedestrians		211	19.4	LOS B			0.88	0.88	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

 Site: 101 [Don Road/ Lovett Street/ Sorell Street - Existing PM Peak]

16:15-17:15

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 50 seconds (Site Practical Cycle Time)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Back of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Lovett Street												
1	L2	52	5.0	0.240	27.8	LOS C	1.2	9.0	0.94	0.73	0.94	36.0
2	T1	62	2.0	0.521	24.6	LOS C	2.6	18.2	0.98	0.78	1.01	36.7
3	R2	39	2.0	0.521	29.1	LOS C	2.6	18.2	0.98	0.78	1.01	36.3
Approach		153	3.0	0.521	26.8	LOS C	2.6	18.2	0.97	0.76	0.99	36.4
East: Don Road												
4	L2	42	2.0	0.528	17.2	LOS B	7.7	54.8	0.81	0.71	0.81	42.0
5	T1	362	2.0	0.528	12.6	LOS B	7.7	54.8	0.81	0.71	0.81	42.4
6	R2	3	2.0	0.014	26.3	LOS C	0.1	0.5	0.90	0.62	0.90	36.3
Approach		407	2.0	0.528	13.2	LOS B	7.7	54.8	0.81	0.71	0.81	42.3
North: Sorell Street												
7	L2	3	2.0	0.306	27.9	LOS C	1.7	12.1	0.95	0.72	0.95	37.5
8	T1	67	2.0	0.306	23.3	LOS C	1.7	12.1	0.95	0.72	0.95	37.8
9	R2	74	2.0	0.370	29.3	LOS C	1.8	13.0	0.97	0.75	0.97	35.3
Approach		144	2.0	0.370	26.5	LOS C	1.8	13.0	0.96	0.73	0.96	36.5
West: Don Road												
10	L2	31	20.0	0.561	17.6	LOS B	8.3	59.5	0.82	0.72	0.82	41.8
11	T1	396	2.0	0.561	12.8	LOS B	8.3	59.5	0.82	0.72	0.82	42.4
12	R2	71	2.0	0.321	28.1	LOS C	1.7	12.1	0.95	0.75	0.95	35.7
Approach		497	3.1	0.561	15.3	LOS B	8.3	59.5	0.84	0.72	0.84	41.3
All Vehicles		1201	2.6	0.561	17.4	LOS B	8.3	59.5	0.86	0.72	0.86	40.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Back of Queue Distance m	Prop. Queued	Effective Stop Rate	
P1	South Full Crossing	53	19.4	LOS B	0.1	0.1	0.88	0.88	
P2	East Full Crossing	53	19.4	LOS B	0.1	0.1	0.88	0.88	
P3	North Full Crossing	53	19.4	LOS B	0.1	0.1	0.88	0.88	
P4	West Full Crossing	53	19.4	LOS B	0.1	0.1	0.88	0.88	
All Pedestrians		211	19.4	LOS B			0.88	0.88	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

▽ Site: 101 [Tasman Street/ Lovett Street - Existing AM Peak]

08:15-09:15

Site Category: (None)

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Lovett Street												
1	L2	1	2.0	0.109	5.3	LOS A	0.2	1.4	0.09	0.07	0.09	48.9
2	T1	177	5.0	0.109	0.1	LOS A	0.2	1.4	0.09	0.07	0.09	49.4
3	R2	22	2.0	0.109	5.3	LOS A	0.2	1.4	0.09	0.07	0.09	48.4
Approach		200	4.7	0.109	0.7	NA	0.2	1.4	0.09	0.07	0.09	49.3
East: Tasman Street												
4	L2	15	2.0	0.066	5.1	LOS A	0.2	1.7	0.34	0.60	0.34	45.6
5	T1	1	2.0	0.066	4.9	LOS A	0.2	1.7	0.34	0.60	0.34	45.7
6	R2	41	2.0	0.066	6.7	LOS A	0.2	1.7	0.34	0.60	0.34	45.2
Approach		57	2.0	0.066	6.2	LOS A	0.2	1.7	0.34	0.60	0.34	45.3
North: Lovett Street												
7	L2	28	5.0	0.106	4.6	LOS A	0.0	0.1	0.01	0.08	0.01	49.0
8	T1	172	2.0	0.106	0.0	LOS A	0.0	0.1	0.01	0.08	0.01	49.5
9	R2	2	2.0	0.106	5.2	LOS A	0.0	0.1	0.01	0.08	0.01	48.5
Approach		202	2.4	0.106	0.7	NA	0.0	0.1	0.01	0.08	0.01	49.4
West: Tasman Street												
10	L2	1	2.0	0.003	5.1	LOS A	0.0	0.1	0.33	0.51	0.33	46.1
11	T1	1	2.0	0.003	4.7	LOS A	0.0	0.1	0.33	0.51	0.33	46.1
12	R2	1	2.0	0.003	6.4	LOS A	0.0	0.1	0.33	0.51	0.33	45.7
Approach		3	2.0	0.003	5.4	LOS A	0.0	0.1	0.33	0.51	0.33	46.0
All Vehicles		462	3.3	0.109	1.4	NA	0.2	1.7	0.09	0.14	0.09	48.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

▽ Site: 101 [Tasman Street/ Lovett Street - Existing PM Peak]

16:15-17:15

Site Category: (None)

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles													
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h	
South: Lovett Street													
1	L2	1	2.0	0.081	5.2	LOS A	0.2	1.1	0.09	0.07	0.09	48.9	
2	T1	132	2.0	0.081	0.1	LOS A	0.2	1.1	0.09	0.07	0.09	49.4	
3	R2	18	2.0	0.081	5.2	LOS A	0.2	1.1	0.09	0.07	0.09	48.4	
Approach		151	2.0	0.081	0.7	NA	0.2	1.1	0.09	0.07	0.09	49.2	
East: Tasman Street													
4	L2	22	2.0	0.044	5.0	LOS A	0.2	1.2	0.27	0.55	0.27	46.0	
5	T1	1	2.0	0.044	4.4	LOS A	0.2	1.2	0.27	0.55	0.27	46.1	
6	R2	23	2.0	0.044	6.1	LOS A	0.2	1.2	0.27	0.55	0.27	45.6	
Approach		46	2.0	0.044	5.6	LOS A	0.2	1.2	0.27	0.55	0.27	45.8	
North: Lovett Street													
7	L2	28	2.0	0.092	4.6	LOS A	0.0	0.1	0.00	0.09	0.00	49.0	
8	T1	145	2.0	0.092	0.0	LOS A	0.0	0.1	0.00	0.09	0.00	49.5	
9	R2	1	2.0	0.092	5.0	LOS A	0.0	0.1	0.00	0.09	0.00	48.5	
Approach		175	2.0	0.092	0.8	NA	0.0	0.1	0.00	0.09	0.00	49.4	
West: Tasman Street													
10	L2	1	2.0	0.003	4.9	LOS A	0.0	0.1	0.28	0.50	0.28	46.2	
11	T1	1	2.0	0.003	4.4	LOS A	0.0	0.1	0.28	0.50	0.28	46.3	
12	R2	1	2.0	0.003	6.0	LOS A	0.0	0.1	0.28	0.50	0.28	45.8	
Approach		3	2.0	0.003	5.1	LOS A	0.0	0.1	0.28	0.50	0.28	46.1	
All Vehicles		375	2.0	0.092	1.4	NA	0.2	1.2	0.07	0.14	0.07	48.8	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.



Appendix B



Post Development 2019 SIDRA Results

pitt&sherry

MOVEMENT SUMMARY

 Site: 101 [Steele Street/ William Street - 2019 Post Development AM Peak]

08:15-09:15

Site Category: (None)

Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: William Street												
1	L2	96	5.0	0.592	7.5	LOS A	5.2	37.8	0.73	0.77	0.81	44.7
2	T1	373	5.0	0.592	7.5	LOS A	5.2	37.8	0.73	0.77	0.81	45.6
3	R2	76	2.0	0.592	11.1	LOS B	5.2	37.8	0.73	0.77	0.81	45.5
3u	U	3	2.0	0.592	14.1	LOS B	5.2	37.8	0.73	0.77	0.81	48.9
Approach		547	4.6	0.592	8.0	LOS A	5.2	37.8	0.73	0.77	0.81	45.4
East: Steele Street												
4	L2	57	2.0	0.398	7.7	LOS A	2.8	20.6	0.80	0.81	0.80	44.5
5	T1	178	5.0	0.398	7.9	LOS A	2.8	20.6	0.80	0.81	0.80	45.3
6	R2	56	5.0	0.398	11.5	LOS B	2.8	20.6	0.80	0.81	0.80	45.2
6u	U	1	2.0	0.398	14.4	LOS B	2.8	20.6	0.80	0.81	0.80	48.5
Approach		292	4.4	0.398	8.6	LOS A	2.8	20.6	0.80	0.81	0.80	45.1
North: William Street												
7	L2	59	10.0	0.685	11.2	LOS B	6.7	49.4	0.78	0.95	1.02	42.7
8	T1	344	5.0	0.685	11.0	LOS B	6.7	49.4	0.78	0.95	1.02	43.5
9	R2	117	5.0	0.685	14.7	LOS B	6.7	49.4	0.78	0.95	1.02	43.4
9u	U	3	2.0	0.685	17.6	LOS B	6.7	49.4	0.78	0.95	1.02	46.5
Approach		523	5.5	0.685	11.9	LOS B	6.7	49.4	0.78	0.95	1.02	43.4
West: Steele Street												
10	L2	138	5.0	0.715	12.6	LOS B	8.7	62.5	0.95	1.07	1.28	42.0
11	T1	312	2.0	0.715	12.5	LOS B	8.7	62.5	0.95	1.07	1.28	42.8
12	R2	109	2.0	0.715	16.2	LOS B	8.7	62.5	0.95	1.07	1.28	42.7
12u	U	4	2.0	0.715	19.2	LOS B	8.7	62.5	0.95	1.07	1.28	45.7
Approach		563	2.7	0.715	13.3	LOS B	8.7	62.5	0.95	1.07	1.28	42.6
All Vehicles		1925	4.3	0.715	10.7	LOS B	8.7	62.5	0.82	0.92	1.00	44.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Project: J:\HOB\2018\401-450\HB18441\14P - Calculations\Traffic\206 development SIDRA\HB18441 Steele-William Rev01.sip8

MOVEMENT SUMMARY

 Site: 101 [Steele Street/ William Street - 2019 Post Development PM Peak]

16:15-17:15

Site Category: (None)

Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: William Street												
1	L2	71	10.0	0.596	9.6	LOS A	5.4	39.8	0.81	0.90	0.97	43.7
2	T1	347	5.0	0.596	9.5	LOS A	5.4	39.8	0.81	0.90	0.97	44.5
3	R2	44	2.0	0.596	13.0	LOS B	5.4	39.8	0.81	0.90	0.97	44.5
3u	U	8	2.0	0.596	16.0	LOS B	5.4	39.8	0.81	0.90	0.97	47.7
Approach		471	5.4	0.596	9.9	LOS A	5.4	39.8	0.81	0.90	0.97	44.5
East: Steele Street												
4	L2	126	2.0	0.754	21.3	LOS C	10.3	73.2	1.00	1.29	1.63	38.3
5	T1	248	2.0	0.754	21.3	LOS C	10.3	73.2	1.00	1.29	1.63	38.9
6	R2	73	2.0	0.754	25.0	LOS C	10.3	73.2	1.00	1.29	1.63	38.8
6u	U	2	2.0	0.754	28.0	LOS C	10.3	73.2	1.00	1.29	1.63	41.3
Approach		449	2.0	0.754	21.9	LOS C	10.3	73.2	1.00	1.29	1.63	38.7
North: William Street												
7	L2	62	10.0	0.776	11.2	LOS B	9.8	71.6	0.80	0.94	1.07	42.6
8	T1	462	5.0	0.776	11.1	LOS B	9.8	71.6	0.80	0.94	1.07	43.5
9	R2	166	2.0	0.776	14.6	LOS B	9.8	71.6	0.80	0.94	1.07	43.4
9u	U	6	2.0	0.776	17.6	LOS B	9.8	71.6	0.80	0.94	1.07	46.4
Approach		697	4.7	0.776	12.0	LOS B	9.8	71.6	0.80	0.94	1.07	43.4
West: Steele Street												
10	L2	129	5.0	0.569	8.9	LOS A	5.2	37.1	0.84	0.90	0.97	43.7
11	T1	202	2.0	0.569	8.8	LOS A	5.2	37.1	0.84	0.90	0.97	44.6
12	R2	127	2.0	0.569	12.5	LOS B	5.2	37.1	0.84	0.90	0.97	44.5
12u	U	1	2.0	0.569	15.5	LOS B	5.2	37.1	0.84	0.90	0.97	47.7
Approach		460	2.8	0.569	9.8	LOS A	5.2	37.1	0.84	0.90	0.97	44.3
All Vehicles		2077	3.9	0.776	13.2	LOS B	10.3	73.2	0.85	1.00	1.14	42.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Organisation: PITT & SHERRY CONSULTING ENGINEERS | Processed: Wednesday, 8 May 2019 8:38:05 AM

Project: J:\HOB\2018\401-450\HB18441\14P - Calculations\Traffic\206 development SIDRA\HB18441 Steele-William Rev01.sip8

MOVEMENT SUMMARY

Site: 101 [Tasman Street/ William Street - 2019 Post Development AM Peak]

08:15-09:15

Site Category: (None)

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles													
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h	
South: William Street													
1	L2	47	2.0	0.289	5.5	LOS A	0.3	2.0	0.06	0.06	0.06	48.9	
2	T1	468	5.0	0.289	0.2	LOS A	0.3	2.0	0.06	0.06	0.06	49.4	
3	R2	17	2.0	0.289	7.3	LOS A	0.3	2.0	0.06	0.06	0.06	48.4	
Approach		533	4.6	0.289	0.9	NA	0.3	2.0	0.06	0.06	0.06	49.3	
East: Tasman Street													
4	L2	14	2.0	0.054	6.3	LOS A	0.2	1.3	0.57	0.71	0.57	44.3	
5	T1	16	2.0	0.054	10.4	LOS B	0.2	1.3	0.57	0.71	0.57	44.3	
6	R2	1	2.0	0.054	14.5	LOS B	0.2	1.3	0.57	0.71	0.57	43.9	
Approach		31	2.0	0.054	8.7	LOS A	0.2	1.3	0.57	0.71	0.57	44.3	
North: William Street													
7	L2	11	20.0	0.278	7.2	LOS A	0.4	2.9	0.10	0.04	0.10	48.6	
8	T1	461	5.0	0.278	0.3	LOS A	0.4	2.9	0.10	0.04	0.10	49.4	
9	R2	28	2.0	0.278	7.6	LOS A	0.4	2.9	0.10	0.04	0.10	48.4	
Approach		500	5.1	0.278	0.9	NA	0.4	2.9	0.10	0.04	0.10	49.3	
West: Tasman Street													
10	L2	83	2.0	0.325	7.5	LOS A	1.4	10.0	0.63	0.85	0.77	42.9	
11	T1	29	2.0	0.325	12.1	LOS B	1.4	10.0	0.63	0.85	0.77	43.0	
12	R2	57	5.0	0.325	16.4	LOS C	1.4	10.0	0.63	0.85	0.77	42.5	
Approach		169	3.0	0.325	11.3	LOS B	1.4	10.0	0.63	0.85	0.77	42.8	
All Vehicles		1233	4.6	0.325	2.5	NA	1.4	10.0	0.17	0.18	0.19	48.2	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

▽ Site: 101 [Tasman Street/ William Street - 2019 Post Development PM Peak]

16:15-17:15

Site Category: (None)

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles													
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h	
South: William Street													
1	L2	57	2.0	0.270	5.8	LOS A	0.4	2.5	0.08	0.08	0.09	48.7	
2	T1	424	2.0	0.270	0.3	LOS A	0.4	2.5	0.08	0.08	0.09	49.2	
3	R2	17	2.0	0.270	8.4	LOS A	0.4	2.5	0.08	0.08	0.09	48.2	
Approach		498	2.0	0.270	1.2	NA	0.4	2.5	0.08	0.08	0.09	49.1	
East: Tasman Street													
4	L2	52	2.0	0.154	7.3	LOS A	0.5	3.9	0.62	0.78	0.62	43.7	
5	T1	28	2.0	0.154	13.8	LOS B	0.5	3.9	0.62	0.78	0.62	43.7	
6	R2	2	2.0	0.154	18.2	LOS C	0.5	3.9	0.62	0.78	0.62	43.3	
Approach		82	2.0	0.154	9.8	LOS A	0.5	3.9	0.62	0.78	0.62	43.7	
North: William Street													
7	L2	18	2.0	0.396	7.6	LOS A	1.4	10.0	0.20	0.09	0.24	48.3	
8	T1	597	2.0	0.396	0.8	LOS A	1.4	10.0	0.20	0.09	0.24	48.8	
9	R2	82	2.0	0.396	7.8	LOS A	1.4	10.0	0.20	0.09	0.24	47.8	
Approach		697	2.0	0.396	1.8	NA	1.4	10.0	0.20	0.09	0.24	48.7	
West: Tasman Street													
10	L2	51	2.0	0.223	6.4	LOS A	0.8	5.6	0.62	0.77	0.64	42.8	
11	T1	24	2.0	0.223	13.9	LOS B	0.8	5.6	0.62	0.77	0.64	42.9	
12	R2	25	2.0	0.223	19.2	LOS C	0.8	5.6	0.62	0.77	0.64	42.5	
Approach		100	2.0	0.223	11.5	LOS B	0.8	5.6	0.62	0.77	0.64	42.7	
All Vehicles		1377	2.0	0.396	2.7	NA	1.4	10.0	0.21	0.17	0.24	48.0	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Project: J:\HOB\2018\401-450\HB18441\14P - Calculations\Traffic\206 development SIDRA\HB18441 Tasman-William Rev01.sip8

MOVEMENT SUMMARY

 Site: 101 [Don Road/ Lovett Street/ Sorell Street - 2019 Post Development AM Peak]

08:15-09:15

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 50 seconds (Site Practical Cycle Time)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Back of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Lovett Street												
1	L2	95	10.0	0.342	26.2	LOS C	2.2	16.7	0.93	0.76	0.93	36.5
2	T1	124	2.0	0.753	25.7	LOS C	4.8	34.7	1.00	0.94	1.30	36.5
3	R2	56	5.0	0.753	30.3	LOS C	4.8	34.7	1.00	0.94	1.30	36.0
Approach		275	5.4	0.753	26.8	LOS C	4.8	34.7	0.97	0.88	1.17	36.4
East: Don Road												
4	L2	24	2.0	0.408	17.9	LOS B	5.2	38.0	0.80	0.68	0.80	41.7
5	T1	253	5.0	0.408	13.3	LOS B	5.2	38.0	0.80	0.68	0.80	42.1
6	R2	1	2.0	0.005	26.1	LOS C	0.0	0.2	0.90	0.58	0.90	36.4
Approach		278	4.7	0.408	13.7	LOS B	5.2	38.0	0.80	0.68	0.80	42.0
North: Sorell Street												
7	L2	2	2.0	0.366	26.0	LOS C	2.6	18.6	0.93	0.73	0.93	38.3
8	T1	111	2.0	0.366	21.5	LOS C	2.6	18.6	0.93	0.73	0.93	38.6
9	R2	104	2.0	0.530	29.9	LOS C	2.7	18.9	0.99	0.78	1.03	35.1
Approach		217	2.0	0.530	25.6	LOS C	2.7	18.9	0.96	0.76	0.98	36.8
West: Don Road												
10	L2	20	5.0	0.757	22.5	LOS C	12.6	89.7	0.94	0.91	1.07	39.7
11	T1	503	2.0	0.757	17.9	LOS B	12.6	89.7	0.94	0.91	1.07	40.1
12	R2	58	10.0	0.278	28.0	LOS C	1.4	10.6	0.95	0.74	0.95	35.7
Approach		581	2.9	0.757	19.1	LOS B	12.6	89.7	0.94	0.89	1.06	39.6
All Vehicles		1351	3.6	0.757	20.6	LOS C	12.6	89.7	0.92	0.82	1.01	38.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Back of Queue Distance m	Prop. Queued	Effective Stop Rate	
P1	South Full Crossing	53	19.4	LOS B	0.1	0.1	0.88	0.88	
P2	East Full Crossing	53	19.4	LOS B	0.1	0.1	0.88	0.88	
P3	North Full Crossing	53	19.4	LOS B	0.1	0.1	0.88	0.88	
P4	West Full Crossing	53	19.4	LOS B	0.1	0.1	0.88	0.88	
All Pedestrians		211	19.4	LOS B			0.88	0.88	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

 Site: 101 [Don Road/ Lovett Street/ Sorell Street - 2019 Post Development PM Peak]

16:15-17:15

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 50 seconds (Site Practical Cycle Time)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Back of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Lovett Street												
1	L2	58	5.0	0.269	27.9	LOS C	1.4	10.1	0.95	0.74	0.95	35.9
2	T1	72	2.0	0.583	25.1	LOS C	2.9	20.3	0.99	0.81	1.08	36.6
3	R2	39	2.0	0.583	29.7	LOS C	2.9	20.3	0.99	0.81	1.08	36.2
Approach		168	3.0	0.583	27.1	LOS C	2.9	20.3	0.97	0.79	1.04	36.3
East: Don Road												
4	L2	42	2.0	0.528	17.2	LOS B	7.7	54.8	0.81	0.71	0.81	42.0
5	T1	362	2.0	0.528	12.6	LOS B	7.7	54.8	0.81	0.71	0.81	42.4
6	R2	3	2.0	0.014	26.3	LOS C	0.1	0.5	0.90	0.62	0.90	36.3
Approach		407	2.0	0.528	13.2	LOS B	7.7	54.8	0.81	0.71	0.81	42.3
North: Sorell Street												
7	L2	3	2.0	0.406	28.3	LOS C	2.3	16.3	0.96	0.74	0.96	37.4
8	T1	91	2.0	0.406	23.7	LOS C	2.3	16.3	0.96	0.74	0.96	37.7
9	R2	74	2.0	0.379	29.3	LOS C	1.8	13.1	0.97	0.75	0.97	35.3
Approach		167	2.0	0.406	26.3	LOS C	2.3	16.3	0.97	0.74	0.97	36.6
West: Don Road												
10	L2	31	20.0	0.561	17.6	LOS B	8.3	59.5	0.82	0.72	0.82	41.8
11	T1	396	2.0	0.561	12.8	LOS B	8.3	59.5	0.82	0.72	0.82	42.4
12	R2	86	2.0	0.393	28.3	LOS C	2.1	15.0	0.96	0.76	0.96	35.6
Approach		513	3.1	0.561	15.7	LOS B	8.3	59.5	0.85	0.72	0.85	41.0
All Vehicles		1256	2.6	0.583	17.8	LOS B	8.3	59.5	0.87	0.73	0.88	40.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Back of Queue Distance m	Prop. Queued	Effective Stop Rate	
P1	South Full Crossing	53	19.4	LOS B	0.1	0.1	0.88	0.88	
P2	East Full Crossing	53	19.4	LOS B	0.1	0.1	0.88	0.88	
P3	North Full Crossing	53	19.4	LOS B	0.1	0.1	0.88	0.88	
P4	West Full Crossing	53	19.4	LOS B	0.1	0.1	0.88	0.88	
All Pedestrians		211	19.4	LOS B			0.88	0.88	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

▽ Site: 101 [Tasman Street/ Lovett Street - 2019 Post Development AM Peak]

08:15-09:15

Site Category: (None)

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles													
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h	
South: Lovett Street													
1	L2	1	2.0	0.117	5.3	LOS A	0.3	2.1	0.12	0.09	0.12	48.6	
2	T1	177	5.0	0.117	0.2	LOS A	0.3	2.1	0.12	0.09	0.12	49.1	
3	R2	33	2.0	0.117	5.3	LOS A	0.3	2.1	0.12	0.09	0.12	48.2	
Approach		211	4.5	0.117	1.0	NA	0.3	2.1	0.12	0.09	0.12	49.0	
East: Tasman Street													
4	L2	56	2.0	0.151	5.2	LOS A	0.6	4.3	0.34	0.60	0.34	45.6	
5	T1	1	2.0	0.151	5.1	LOS A	0.6	4.3	0.34	0.60	0.34	45.7	
6	R2	82	2.0	0.151	7.0	LOS A	0.6	4.3	0.34	0.60	0.34	45.2	
Approach		139	2.0	0.151	6.2	LOS A	0.6	4.3	0.34	0.60	0.34	45.4	
North: Lovett Street													
7	L2	38	5.0	0.112	4.6	LOS A	0.0	0.1	0.01	0.10	0.01	48.8	
8	T1	172	2.0	0.112	0.0	LOS A	0.0	0.1	0.01	0.10	0.01	49.4	
9	R2	2	2.0	0.112	5.2	LOS A	0.0	0.1	0.01	0.10	0.01	48.4	
Approach		212	2.5	0.112	0.9	NA	0.0	0.1	0.01	0.10	0.01	49.3	
West: Tasman Street													
10	L2	1	2.0	0.003	5.1	LOS A	0.0	0.1	0.34	0.52	0.34	46.0	
11	T1	1	2.0	0.003	4.8	LOS A	0.0	0.1	0.34	0.52	0.34	46.1	
12	R2	1	2.0	0.003	6.8	LOS A	0.0	0.1	0.34	0.52	0.34	45.6	
Approach		3	2.0	0.003	5.6	LOS A	0.0	0.1	0.34	0.52	0.34	45.9	
All Vehicles		564	3.1	0.151	2.3	NA	0.6	4.3	0.13	0.22	0.13	48.1	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

▽ Site: 101 [Tasman Street/ Lovett Street - 2019 Post Development PM Peak]

16:15-17:15

Site Category: (None)

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles													
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h	
South: Lovett Street													
1	L2	1	2.0	0.107	5.3	LOS A	0.4	3.1	0.22	0.17	0.22	48.0	
2	T1	132	2.0	0.107	0.4	LOS A	0.4	3.1	0.22	0.17	0.22	48.5	
3	R2	56	2.0	0.107	5.3	LOS A	0.4	3.1	0.22	0.17	0.22	47.6	
Approach		188	2.0	0.107	1.9	NA	0.4	3.1	0.22	0.17	0.22	48.2	
East: Tasman Street													
4	L2	39	2.0	0.080	5.0	LOS A	0.3	2.2	0.28	0.56	0.28	45.9	
5	T1	1	2.0	0.080	4.8	LOS A	0.3	2.2	0.28	0.56	0.28	45.9	
6	R2	40	2.0	0.080	6.6	LOS A	0.3	2.2	0.28	0.56	0.28	45.5	
Approach		80	2.0	0.080	5.8	LOS A	0.3	2.2	0.28	0.56	0.28	45.7	
North: Lovett Street													
7	L2	66	2.0	0.114	4.6	LOS A	0.0	0.2	0.01	0.17	0.01	48.5	
8	T1	145	2.0	0.114	0.0	LOS A	0.0	0.2	0.01	0.17	0.01	49.0	
9	R2	3	2.0	0.114	5.0	LOS A	0.0	0.2	0.01	0.17	0.01	48.0	
Approach		215	2.0	0.114	1.5	NA	0.0	0.2	0.01	0.17	0.01	48.8	
West: Tasman Street													
10	L2	1	2.0	0.003	4.9	LOS A	0.0	0.1	0.30	0.51	0.30	46.1	
11	T1	1	2.0	0.003	4.7	LOS A	0.0	0.1	0.30	0.51	0.30	46.2	
12	R2	1	2.0	0.003	6.4	LOS A	0.0	0.1	0.30	0.51	0.30	45.7	
Approach		3	2.0	0.003	5.3	LOS A	0.0	0.1	0.30	0.51	0.30	46.0	
All Vehicles		486	2.0	0.114	2.4	NA	0.4	3.1	0.14	0.24	0.14	48.0	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

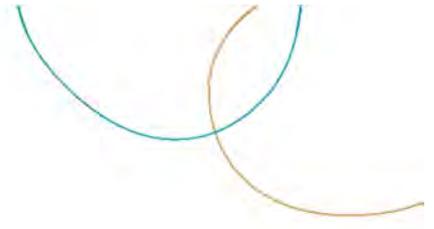
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Appendix C

Post Development 2029 SIDRA Results

pitt&sherry

MOVEMENT SUMMARY

 Site: 101 [Steele Street/ William Street - 2029 Post Development AM Peak]

08:15-09:15

Site Category: (None)

Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: William Street												
1	L2	117	5.0	0.778	12.9	LOS B	10.5	76.5	0.91	1.07	1.29	42.0
2	T1	448	5.0	0.778	12.9	LOS B	10.5	76.5	0.91	1.07	1.29	42.7
3	R2	88	2.0	0.778	16.5	LOS B	10.5	76.5	0.91	1.07	1.29	42.6
3u	U	4	2.0	0.778	19.5	LOS B	10.5	76.5	0.91	1.07	1.29	45.6
Approach		658	4.6	0.778	13.5	LOS B	10.5	76.5	0.91	1.07	1.29	42.6
East: Steele Street												
4	L2	68	2.0	0.589	12.8	LOS B	5.6	40.6	0.95	1.08	1.21	41.9
5	T1	217	5.0	0.589	12.9	LOS B	5.6	40.6	0.95	1.08	1.21	42.6
6	R2	68	5.0	0.589	16.6	LOS B	5.6	40.6	0.95	1.08	1.21	42.5
6u	U	1	2.0	0.589	19.5	LOS B	5.6	40.6	0.95	1.08	1.21	45.5
Approach		355	4.4	0.589	13.6	LOS B	5.6	40.6	0.95	1.08	1.21	42.5
North: William Street												
7	L2	72	10.0	0.955	37.1	LOS D	22.4	164.3	0.97	1.73	2.53	32.9
8	T1	419	5.0	0.955	36.8	LOS D	22.4	164.3	0.97	1.73	2.53	33.4
9	R2	143	5.0	0.955	40.5	LOS D	22.4	164.3	0.97	1.73	2.53	33.3
9u	U	4	2.0	0.955	43.3	LOS D	22.4	164.3	0.97	1.73	2.53	35.1
Approach		638	5.5	0.955	37.7	LOS D	22.4	164.3	0.97	1.73	2.53	33.3
West: Steele Street												
10	L2	167	5.0	1.010	63.7	LOS E	38.1	272.9	1.00	2.36	3.87	26.6
11	T1	380	2.0	1.010	63.5	LOS E	38.1	272.9	1.00	2.36	3.87	26.9
12	R2	134	2.0	1.010	67.2	LOS E	38.1	272.9	1.00	2.36	3.87	26.8
12u	U	5	2.0	1.010	70.2	LOS F	38.1	272.9	1.00	2.36	3.87	28.0
Approach		686	2.7	1.010	64.3	LOS E	38.1	272.9	1.00	2.36	3.87	26.8
All Vehicles		2337	4.3	1.010	35.0	LOS D	38.1	272.9	0.96	1.63	2.38	34.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

 Site: 101 [Steele Street/ William Street - 2029 Post Development PM Peak]

16:15-17:15

Site Category: (None)

Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: William Street												
1	L2	86	10.0	0.758	14.3	LOS B	9.4	68.5	0.92	1.12	1.34	41.4
2	T1	422	5.0	0.758	14.1	LOS B	9.4	68.5	0.92	1.12	1.34	42.2
3	R2	53	2.0	0.758	17.6	LOS B	9.4	68.5	0.92	1.12	1.34	42.1
3u	U	11	2.0	0.758	20.7	LOS C	9.4	68.5	0.92	1.12	1.34	45.0
Approach		572	5.4	0.758	14.6	LOS B	9.4	68.5	0.92	1.12	1.34	42.1
East: Steele Street												
4	L2	152	2.0	1.193	212.2	LOS F	73.8	525.8	1.00	3.99	7.87	12.8
5	T1	302	2.0	1.193	212.2	LOS F	73.8	525.8	1.00	3.99	7.87	12.8
6	R2	89	2.0	1.193	215.9	LOS F	73.8	525.8	1.00	3.99	7.87	12.8
6u	U	2	2.0	1.193	218.9	LOS F	73.8	525.8	1.00	3.99	7.87	13.1
Approach		545	2.0	1.193	212.8	LOS F	73.8	525.8	1.00	3.99	7.87	12.8
North: William Street												
7	L2	76	10.0	1.043	71.1	LOS F	50.4	366.8	1.00	2.59	4.22	25.2
8	T1	558	5.0	1.043	70.8	LOS F	50.4	366.8	1.00	2.59	4.22	25.5
9	R2	203	2.0	1.043	74.4	LOS F	50.4	366.8	1.00	2.59	4.22	25.5
9u	U	7	2.0	1.043	77.4	LOS F	50.4	366.8	1.00	2.59	4.22	26.5
Approach		844	4.7	1.043	71.8	LOS F	50.4	366.8	1.00	2.59	4.22	25.5
West: Steele Street												
10	L2	158	5.0	0.782	16.4	LOS B	10.9	78.1	1.00	1.22	1.53	40.2
11	T1	246	2.0	0.782	16.3	LOS B	10.9	78.1	1.00	1.22	1.53	40.9
12	R2	156	2.0	0.782	19.9	LOS B	10.9	78.1	1.00	1.22	1.53	40.8
12u	U	1	2.0	0.782	23.0	LOS C	10.9	78.1	1.00	1.22	1.53	43.5
Approach		561	2.8	0.782	17.3	LOS B	10.9	78.1	1.00	1.22	1.53	40.6
All Vehicles		2522	3.9	1.193	77.2	LOS F	73.8	525.8	0.98	2.26	3.76	24.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

▽ Site: 101 [Tasman Street/ William Street - 2029 Post Development AM Peak]

08:15-09:15

Site Category: (None)

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles													
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h	
South: William Street													
1	L2	56	2.0	0.354	6.1	LOS A	0.5	3.7	0.08	0.06	0.10	48.8	
2	T1	571	5.0	0.354	0.3	LOS A	0.5	3.7	0.08	0.06	0.10	49.3	
3	R2	21	2.0	0.354	8.6	LOS A	0.5	3.7	0.08	0.06	0.10	48.3	
Approach		647	4.6	0.354	1.1	NA	0.5	3.7	0.08	0.06	0.10	49.2	
East: Tasman Street													
4	L2	17	2.0	0.090	7.0	LOS A	0.3	2.1	0.67	0.79	0.67	42.9	
5	T1	20	2.0	0.090	14.4	LOS B	0.3	2.1	0.67	0.79	0.67	43.0	
6	R2	1	2.0	0.090	20.0	LOS C	0.3	2.1	0.67	0.79	0.67	42.6	
Approach		38	2.0	0.090	11.2	LOS B	0.3	2.1	0.67	0.79	0.67	43.0	
North: William Street													
7	L2	13	20.0	0.341	8.5	LOS A	0.7	5.0	0.12	0.04	0.15	48.4	
8	T1	561	5.0	0.341	0.5	LOS A	0.7	5.0	0.12	0.04	0.15	49.2	
9	R2	33	2.0	0.341	9.0	LOS A	0.7	5.0	0.12	0.04	0.15	48.2	
Approach		606	5.2	0.341	1.1	NA	0.7	5.0	0.12	0.04	0.15	49.2	
West: Tasman Street													
10	L2	93	2.0	0.487	10.6	LOS B	2.3	16.7	0.76	1.03	1.16	40.3	
11	T1	36	2.0	0.487	18.9	LOS C	2.3	16.7	0.76	1.03	1.16	40.3	
12	R2	61	5.0	0.487	25.0	LOS D	2.3	16.7	0.76	1.03	1.16	39.9	
Approach		189	3.0	0.487	16.8	LOS C	2.3	16.7	0.76	1.03	1.16	40.2	
All Vehicles		1481	4.6	0.487	3.4	NA	2.3	16.7	0.20	0.20	0.27	47.6	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

▽ Site: 101 [Tasman Street/ William Street - 2029 Post Development PM Peak]

16:15-17:15

Site Category: (None)

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: William Street												
1	L2	61	2.0	0.330	7.0	LOS A	0.7	4.7	0.12	0.07	0.15	48.5
2	T1	517	2.0	0.330	0.5	LOS A	0.7	4.7	0.12	0.07	0.15	49.0
3	R2	21	2.0	0.330	10.4	LOS B	0.7	4.7	0.12	0.07	0.15	48.0
Approach		599	2.0	0.330	1.5	NA	0.7	4.7	0.12	0.07	0.15	48.9
East: Tasman Street												
4	L2	63	2.0	0.259	9.1	LOS A	0.9	6.7	0.75	0.91	0.84	41.7
5	T1	34	2.0	0.259	21.6	LOS C	0.9	6.7	0.75	0.91	0.84	41.7
6	R2	2	2.0	0.259	28.2	LOS D	0.9	6.7	0.75	0.91	0.84	41.3
Approach		99	2.0	0.259	13.8	LOS B	0.9	6.7	0.75	0.91	0.84	41.7
North: William Street												
7	L2	22	2.0	0.485	9.1	LOS A	2.3	16.1	0.25	0.09	0.35	48.0
8	T1	727	2.0	0.485	1.2	LOS A	2.3	16.1	0.25	0.09	0.35	48.4
9	R2	92	2.0	0.485	9.5	LOS A	2.3	16.1	0.25	0.09	0.35	47.5
Approach		841	2.0	0.485	2.3	NA	2.3	16.1	0.25	0.09	0.35	48.3
West: Tasman Street												
10	L2	58	2.0	0.379	9.5	LOS A	1.5	10.6	0.76	0.94	0.99	39.6
11	T1	31	2.0	0.379	23.6	LOS C	1.5	10.6	0.76	0.94	0.99	39.6
12	R2	27	2.0	0.379	31.7	LOS D	1.5	10.6	0.76	0.94	0.99	39.3
Approach		116	2.0	0.379	18.4	LOS C	1.5	10.6	0.76	0.94	0.99	39.5
All Vehicles		1655	2.0	0.485	3.9	NA	2.3	16.1	0.27	0.19	0.35	47.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

 Site: 101 [Don Road/ Lovett Street/ Sorell Street - 2029 Post Development AM Peak]

08:15-09:15

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 60 seconds (Site Practical Cycle Time)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Back of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Lovett Street												
1	L2	112	10.0	0.322	27.8	LOS C	2.9	22.2	0.90	0.76	0.90	35.9
2	T1	146	2.0	0.842	32.8	LOS C	7.2	51.7	0.99	1.04	1.45	34.0
3	R2	68	5.0	0.842	37.5	LOS D	7.2	51.7	0.99	1.04	1.45	33.6
Approach		326	5.4	0.842	32.1	LOS C	7.2	51.7	0.96	0.95	1.26	34.6
East: Don Road												
4	L2	31	2.0	0.449	19.0	LOS B	7.4	53.6	0.78	0.68	0.78	41.2
5	T1	307	5.0	0.449	14.4	LOS B	7.4	53.6	0.78	0.68	0.78	41.6
6	R2	1	2.0	0.006	31.5	LOS C	0.0	0.2	0.92	0.58	0.92	34.6
Approach		339	4.7	0.449	14.9	LOS B	7.4	53.6	0.78	0.68	0.78	41.5
North: Sorell Street												
7	L2	2	2.0	0.350	27.7	LOS C	3.5	25.2	0.90	0.72	0.90	37.6
8	T1	133	2.0	0.350	23.1	LOS C	3.5	25.2	0.90	0.72	0.90	37.9
9	R2	127	2.0	0.642	34.9	LOS C	3.9	28.1	1.00	0.85	1.13	33.5
Approach		262	2.0	0.642	28.9	LOS C	3.9	28.1	0.95	0.78	1.01	35.6
West: Don Road												
10	L2	25	5.0	0.875	32.2	LOS C	21.8	155.1	0.96	1.09	1.27	35.9
11	T1	614	2.0	0.875	27.6	LOS C	21.8	155.1	0.96	1.09	1.27	36.2
12	R2	69	10.0	0.401	34.3	LOS C	2.1	15.8	0.98	0.75	0.98	33.6
Approach		708	2.9	0.875	28.4	LOS C	21.8	155.1	0.97	1.06	1.24	35.9
All Vehicles		1636	3.6	0.875	26.4	LOS C	21.8	155.1	0.92	0.91	1.11	36.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Back of Queue Distance m	Prop. Queued	Effective Stop Rate	
P1	South Full Crossing	53	24.4	LOS C	0.1	0.1	0.90	0.90	
P2	East Full Crossing	53	24.4	LOS C	0.1	0.1	0.90	0.90	
P3	North Full Crossing	53	24.4	LOS C	0.1	0.1	0.90	0.90	
P4	West Full Crossing	53	24.4	LOS C	0.1	0.1	0.90	0.90	
All Pedestrians		211	24.4	LOS C			0.90	0.90	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

 Site: 101 [Don Road/ Lovett Street/ Sorell Street - 2029 Post Development PM Peak]

16:15-17:15

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 50 seconds (Site Practical Cycle Time)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Back of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Lovett Street												
1	L2	69	5.0	0.323	28.1	LOS C	1.7	12.3	0.95	0.75	0.95	35.8
2	T1	85	2.0	0.721	26.9	LOS C	3.6	25.7	1.00	0.91	1.29	35.9
3	R2	47	2.0	0.721	31.5	LOS C	3.6	25.7	1.00	0.91	1.29	35.5
Approach		202	3.0	0.721	28.4	LOS C	3.6	25.7	0.98	0.85	1.17	35.8
East: Don Road												
4	L2	51	2.0	0.642	18.0	LOS B	10.0	70.9	0.86	0.76	0.86	41.6
5	T1	441	2.0	0.642	13.4	LOS B	10.0	70.9	0.86	0.76	0.86	42.0
6	R2	4	2.0	0.019	26.4	LOS C	0.1	0.7	0.90	0.63	0.90	36.3
Approach		496	2.0	0.642	14.0	LOS B	10.0	70.9	0.86	0.76	0.86	41.9
North: Sorell Street												
7	L2	4	2.0	0.475	28.6	LOS C	2.7	19.3	0.97	0.76	0.97	37.3
8	T1	105	2.0	0.475	24.0	LOS C	2.7	19.3	0.97	0.76	0.97	37.6
9	R2	91	2.0	0.524	30.9	LOS C	2.3	16.7	1.00	0.77	1.04	34.8
Approach		200	2.0	0.524	27.2	LOS C	2.7	19.3	0.99	0.76	1.00	36.2
West: Don Road												
10	L2	37	20.0	0.684	19.0	LOS B	11.1	79.7	0.88	0.80	0.92	41.1
11	T1	483	2.0	0.684	14.3	LOS B	11.1	79.7	0.88	0.80	0.92	41.7
12	R2	101	2.0	0.460	28.6	LOS C	2.5	17.8	0.97	0.77	0.97	35.5
Approach		621	3.1	0.684	16.9	LOS B	11.1	79.7	0.90	0.80	0.93	40.5
All Vehicles		1519	2.6	0.721	18.8	LOS B	11.1	79.7	0.91	0.79	0.95	39.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Back of Queue Distance m	Prop. Queued	Effective Stop Rate	
P1	South Full Crossing	53	19.4	LOS B	0.1	0.1	0.88	0.88	
P2	East Full Crossing	53	19.4	LOS B	0.1	0.1	0.88	0.88	
P3	North Full Crossing	53	19.4	LOS B	0.1	0.1	0.88	0.88	
P4	West Full Crossing	53	19.4	LOS B	0.1	0.1	0.88	0.88	
All Pedestrians		211	19.4	LOS B			0.88	0.88	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

▽ Site: 101 [Tasman Street/ Lovett Street - 2029 Post Development AM Peak]

08:15-09:15

Site Category: (None)

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles													
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h	
South: Lovett Street													
1	L2	1	2.0	0.142	5.6	LOS A	0.3	2.5	0.14	0.09	0.14	48.6	
2	T1	216	5.0	0.142	0.2	LOS A	0.3	2.5	0.14	0.09	0.14	49.1	
3	R2	38	2.0	0.142	5.6	LOS A	0.3	2.5	0.14	0.09	0.14	48.2	
Approach		255	4.5	0.142	1.1	NA	0.3	2.5	0.14	0.09	0.14	49.0	
East: Tasman Street													
4	L2	60	2.0	0.179	5.3	LOS A	0.7	5.0	0.39	0.64	0.39	45.3	
5	T1	1	2.0	0.179	5.7	LOS A	0.7	5.0	0.39	0.64	0.39	45.4	
6	R2	91	2.0	0.179	7.7	LOS A	0.7	5.0	0.39	0.64	0.39	44.9	
Approach		152	2.0	0.179	6.8	LOS A	0.7	5.0	0.39	0.64	0.39	45.1	
North: Lovett Street													
7	L2	44	5.0	0.135	4.6	LOS A	0.0	0.1	0.01	0.10	0.01	48.9	
8	T1	209	2.0	0.135	0.0	LOS A	0.0	0.1	0.01	0.10	0.01	49.4	
9	R2	2	2.0	0.135	5.4	LOS A	0.0	0.1	0.01	0.10	0.01	48.4	
Approach		256	2.5	0.135	0.9	NA	0.0	0.1	0.01	0.10	0.01	49.3	
West: Tasman Street													
10	L2	1	2.0	0.004	5.2	LOS A	0.0	0.1	0.39	0.53	0.39	45.8	
11	T1	1	2.0	0.004	5.3	LOS A	0.0	0.1	0.39	0.53	0.39	45.8	
12	R2	1	2.0	0.004	7.4	LOS A	0.0	0.1	0.39	0.53	0.39	45.4	
Approach		3	2.0	0.004	6.0	LOS A	0.0	0.1	0.39	0.53	0.39	45.7	
All Vehicles		665	3.2	0.179	2.3	NA	0.7	5.0	0.15	0.22	0.15	48.1	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

▽ Site: 101 [Tasman Street/ Lovett Street - 2029 Post Development PM Peak]

16:15-17:15

Site Category: (None)

Giveaway / Yield (Two-Way)

Movement Performance - Vehicles													
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h	
South: Lovett Street													
1	L2	1	2.0	0.127	5.5	LOS A	0.5	3.6	0.23	0.16	0.23	48.1	
2	T1	161	2.0	0.127	0.4	LOS A	0.5	3.6	0.23	0.16	0.23	48.6	
3	R2	60	2.0	0.127	5.5	LOS A	0.5	3.6	0.23	0.16	0.23	47.6	
Approach		222	2.0	0.127	1.8	NA	0.5	3.6	0.23	0.16	0.23	48.3	
East: Tasman Street													
4	L2	43	2.0	0.095	5.2	LOS A	0.4	2.6	0.32	0.58	0.32	45.7	
5	T1	1	2.0	0.095	5.2	LOS A	0.4	2.6	0.32	0.58	0.32	45.8	
6	R2	45	2.0	0.095	7.1	LOS A	0.4	2.6	0.32	0.58	0.32	45.3	
Approach		89	2.0	0.095	6.1	LOS A	0.4	2.6	0.32	0.58	0.32	45.5	
North: Lovett Street													
7	L2	73	2.0	0.134	4.6	LOS A	0.0	0.3	0.01	0.16	0.01	48.5	
8	T1	177	2.0	0.134	0.0	LOS A	0.0	0.3	0.01	0.16	0.01	49.0	
9	R2	4	2.0	0.134	5.2	LOS A	0.0	0.3	0.01	0.16	0.01	48.1	
Approach		254	2.0	0.134	1.4	NA	0.0	0.3	0.01	0.16	0.01	48.9	
West: Tasman Street													
10	L2	1	2.0	0.003	5.0	LOS A	0.0	0.1	0.33	0.52	0.33	46.0	
11	T1	1	2.0	0.003	5.1	LOS A	0.0	0.1	0.33	0.52	0.33	46.0	
12	R2	1	2.0	0.003	6.8	LOS A	0.0	0.1	0.33	0.52	0.33	45.5	
Approach		3	2.0	0.003	5.6	LOS A	0.0	0.1	0.33	0.52	0.33	45.8	
All Vehicles		568	2.0	0.134	2.3	NA	0.5	3.6	0.15	0.23	0.15	48.1	

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Appendix D



No Development 2029 SIDRA Results

pitt&sherry

MOVEMENT SUMMARY

 Site: 101 [Steele Street/ William Street - 2029 No Development AM Peak]

08:15-09:15

Site Category: (None)

Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: William Street												
1	L2	117	10.0	0.730	11.5	LOS B	8.7	63.9	0.87	0.99	1.16	42.7
2	T1	424	5.0	0.730	11.3	LOS B	8.7	63.9	0.87	0.99	1.16	43.5
3	R2	72	2.0	0.730	14.9	LOS B	8.7	63.9	0.87	0.99	1.16	43.5
3u	U	4	2.0	0.730	17.9	LOS B	8.7	63.9	0.87	0.99	1.16	46.5
Approach		617	5.6	0.730	11.8	LOS B	8.7	63.9	0.87	0.99	1.16	43.4
East: Steele Street												
4	L2	64	2.0	0.561	11.9	LOS B	5.2	36.9	0.94	1.04	1.15	42.3
5	T1	217	2.0	0.561	12.0	LOS B	5.2	36.9	0.94	1.04	1.15	43.1
6	R2	68	2.0	0.561	15.6	LOS B	5.2	36.9	0.94	1.04	1.15	43.0
6u	U	1	2.0	0.561	18.7	LOS B	5.2	36.9	0.94	1.04	1.15	46.0
Approach		351	2.0	0.561	12.7	LOS B	5.2	36.9	0.94	1.04	1.15	42.9
North: William Street												
7	L2	72	10.0	0.926	29.6	LOS C	18.7	136.4	0.95	1.54	2.14	35.2
8	T1	413	5.0	0.926	29.3	LOS C	18.7	136.4	0.95	1.54	2.14	35.8
9	R2	143	2.0	0.926	32.8	LOS C	18.7	136.4	0.95	1.54	2.14	35.7
9u	U	4	2.0	0.926	35.9	LOS D	18.7	136.4	0.95	1.54	2.14	37.8
Approach		632	4.9	0.926	30.2	LOS C	18.7	136.4	0.95	1.54	2.14	35.7
West: Steele Street												
10	L2	167	5.0	0.949	37.2	LOS D	25.8	184.6	1.00	1.79	2.67	32.9
11	T1	380	2.0	0.949	37.0	LOS D	25.8	184.6	1.00	1.79	2.67	33.3
12	R2	134	2.0	0.949	40.7	LOS D	25.8	184.6	1.00	1.79	2.67	33.3
12u	U	5	2.0	0.949	43.7	LOS D	25.8	184.6	1.00	1.79	2.67	35.0
Approach		686	2.7	0.949	37.8	LOS D	25.8	184.6	1.00	1.79	2.67	33.2
All Vehicles		2285	4.0	0.949	24.8	LOS C	25.8	184.6	0.94	1.39	1.88	37.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

 Site: 101 [Steele Street/ William Street - 2029 No Development PM Peak]

16:15-17:15

Site Category: (None)

Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: William Street												
1	L2	86	10.0	0.753	14.5	LOS B	9.1	66.9	0.92	1.13	1.34	41.3
2	T1	413	5.0	0.753	14.3	LOS B	9.1	66.9	0.92	1.13	1.34	42.1
3	R2	46	2.0	0.753	17.8	LOS B	9.1	66.9	0.92	1.13	1.34	42.0
3u	U	11	2.0	0.753	20.9	LOS C	9.1	66.9	0.92	1.13	1.34	44.9
Approach		556	5.5	0.753	14.8	LOS B	9.1	66.9	0.92	1.13	1.34	42.0
East: Steele Street												
4	L2	136	2.0	1.155	182.5	LOS F	64.0	455.9	1.00	3.63	7.04	14.2
5	T1	302	2.0	1.155	182.6	LOS F	64.0	455.9	1.00	3.63	7.04	14.3
6	R2	89	2.0	1.155	186.2	LOS F	64.0	455.9	1.00	3.63	7.04	14.3
6u	U	2	2.0	1.155	189.3	LOS F	64.0	455.9	1.00	3.63	7.04	14.6
Approach		529	2.0	1.155	183.2	LOS F	64.0	455.9	1.00	3.63	7.04	14.3
North: William Street												
7	L2	76	10.0	1.011	51.7	LOS E	39.4	286.8	1.00	2.14	3.34	29.1
8	T1	536	5.0	1.011	51.5	LOS E	39.4	286.8	1.00	2.14	3.34	29.4
9	R2	203	2.0	1.011	55.0	LOS E	39.4	286.8	1.00	2.14	3.34	29.4
9u	U	7	2.0	1.011	58.0	LOS E	39.4	286.8	1.00	2.14	3.34	30.8
Approach		822	4.7	1.011	52.4	LOS E	39.4	286.8	1.00	2.14	3.34	29.4
West: Steele Street												
10	L2	158	5.0	0.770	15.5	LOS B	10.4	74.8	1.00	1.20	1.49	40.6
11	T1	246	2.0	0.770	15.4	LOS B	10.4	74.8	1.00	1.20	1.49	41.3
12	R2	156	2.0	0.770	19.1	LOS B	10.4	74.8	1.00	1.20	1.49	41.2
12u	U	1	2.0	0.770	22.1	LOS C	10.4	74.8	1.00	1.20	1.49	43.9
Approach		561	2.8	0.770	16.5	LOS B	10.4	74.8	1.00	1.20	1.49	41.0
All Vehicles		2468	3.9	1.155	63.8	LOS E	64.0	455.9	0.98	2.02	3.26	26.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

pitt&sherry



117 Tasman Street, Devonport – Traffic Impact Assessment -
Rezoning Application

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117 Tasman Street, Devonport

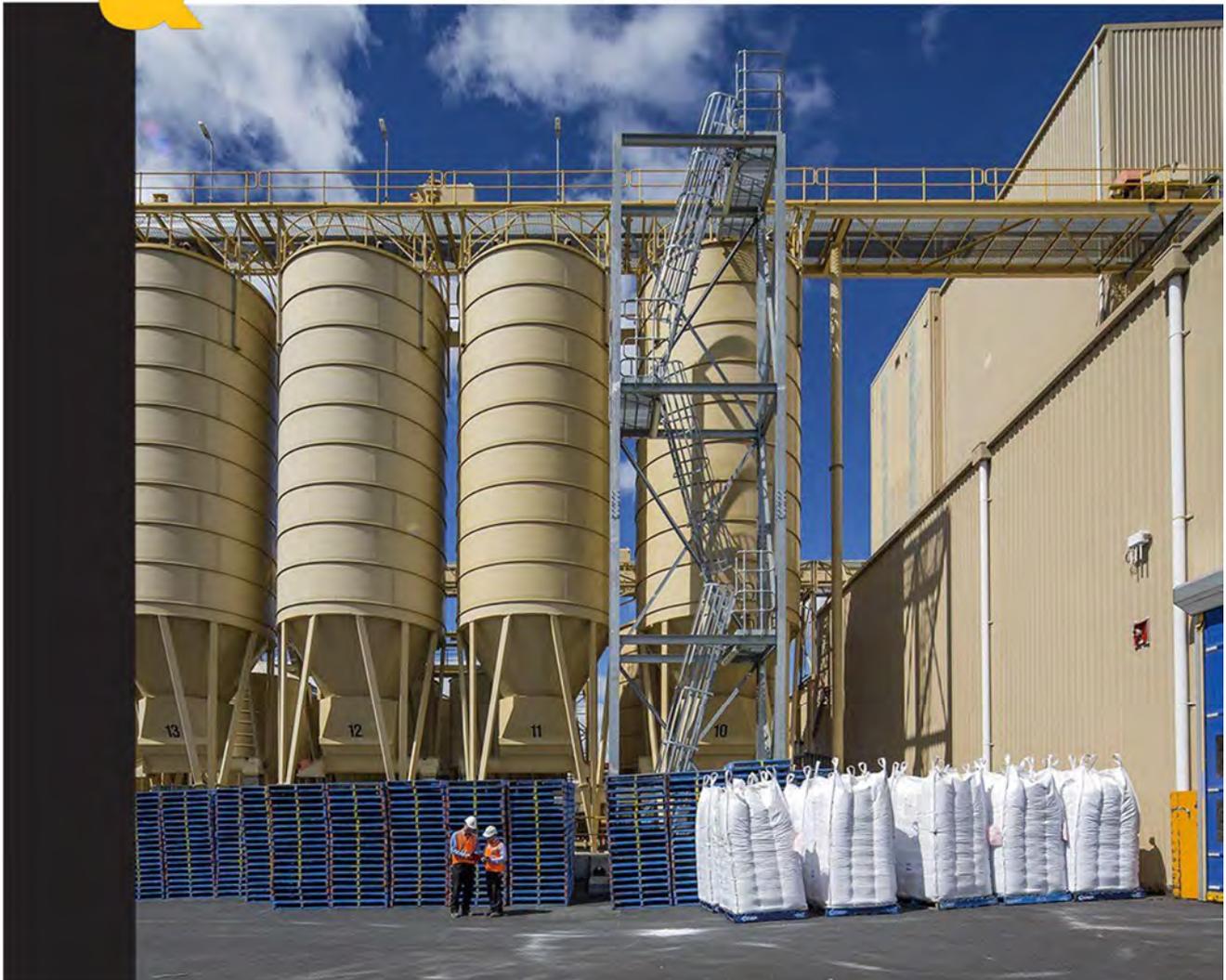
Potable Water and Wastewater
Assessment for Rezoning Application

Prepared for
Veris

Client representative
Jana Rockliff

Date
10 May 2019

Rev 01



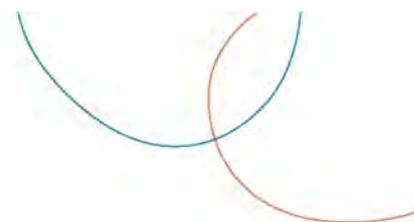


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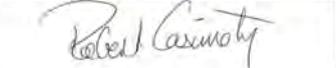
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Appendices

Appendix A – Early engagement response from TasWater

Appendix B – Email correspondence with TasWater

Prepared by — Nick Barta		Date — 10/5/2019
Reviewed by — Connell Maskrey		Date — 10/5/2019
Authorised by — Robert Casimaty		Date — 10/5/2019

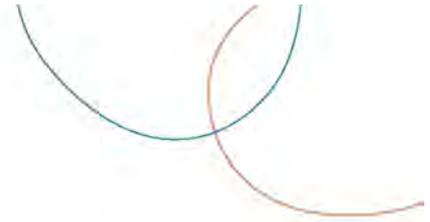
Revision History

Rev No.	Description	Prepared by	Reviewed by	Authorised by	Date
00	Rezoning Assessment	N. Barta	C. Maskrey	R. Casimaty	05/10/2018
01	Rezoning Assessment	N. Barta	C. Maskrey	R. Casimaty	10/05/2019

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ref: HB18441H001 Water and Wastewater Assessment Rep 31P Rev01/NB/mj



Executive Summary

Historical flows for the supply of potable water and treatment of wastewater at the 117 Tasman Street (site) was examined and compared to the projected demands for potable water and treatment of wastewater. The proposal is for the rezoning of the site into General Residential which allows with a density of 325m² per dwelling for the construction of about 206 dwellings.

It was determined that if a development of 206 dwellings proceeded that the site would have an increased average demand for potable water but a lower peak flow demand for fire fighting indicating there is likely to be sufficient network capacity for a development to proceed with existing connections and network infrastructure.

It was also determined that if a development of 206 dwellings proceeded that the site would have an decreased demand discharge of wastewater requiring treatment indicating there is likely to be sufficient network capacity for a development to proceed with existing connections and network infrastructure.

These findings are supported by early correspondence with TasWater which is included in Appendix A and B.



1. Introduction

This report has been prepared to support the rezoning of 117 Tasman St, Devonport into General Residential and describes the expected design loads for potable water and wastewater services if the development were to proceed.

2. Existing and Historical Conditions

2.1 Site location

The site is located at 117 Tasman Street with the main frontage of the site located on Tasman Street. The site is currently vacant and has a land use classification of 25.0 General Industrial as shown in the *Devonport Interim Planning Scheme 2013*.

The site is located approximately 50m west of the Tasman Street/ William Street intersection. The Devonport Fourways is located 700m north of the site while the Devonport CBD is located 1.2km north-east of the site. TasTafe is located to the south of the site. Surrounding land uses generally include General Residential to the north, east and west and Community Purpose to the south. Figure 1 shows the location of the site in the local context while Figure 2 shows an extract from the Planning Scheme Zoning Map.

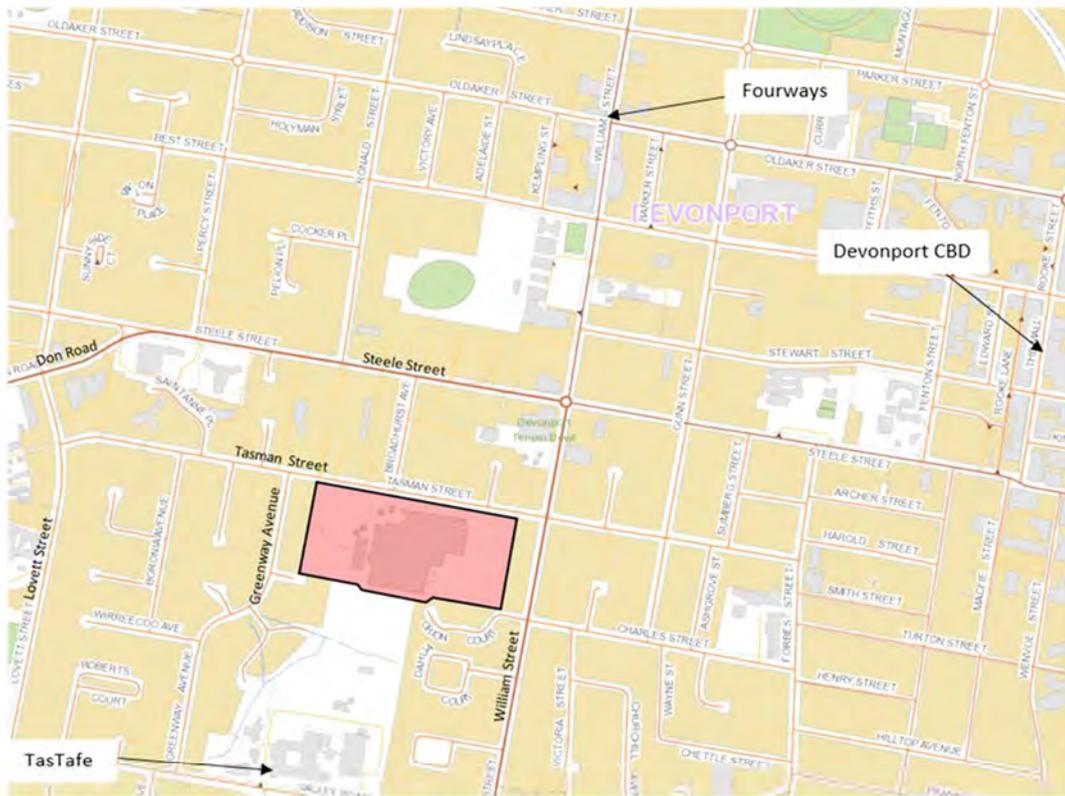


Figure 1: Site Location (Basemap source: <https://maps.thelist.tas.gov.au>)

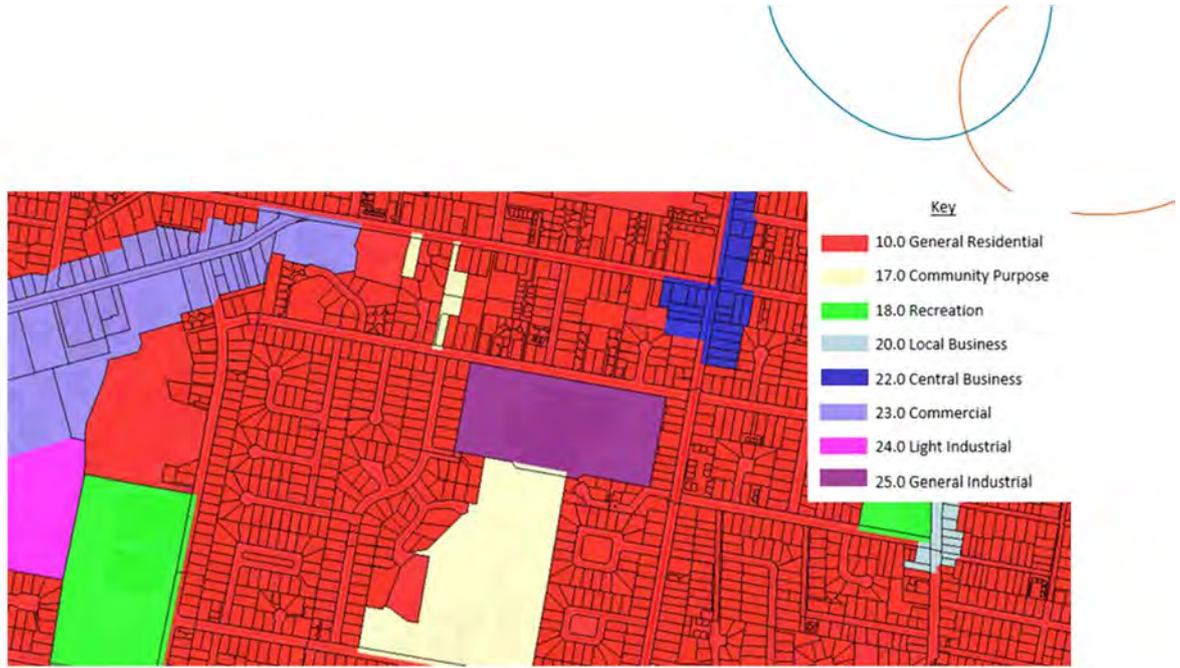


Figure 2: Zoning Plan

2.2 Site demands

The property used to be an operational weaving mill which has reduced its operations on site to a factory outlet and some administration. The previously operating weaving mill produced 100% cotton towels and toweling products, producing 16.6 tonnes of product per week in 2012/2013 and 25.8 tonnes of product per week in 2011/2012. Textile manufacturing operations consume large volumes of water as part of production processes including washing, dyeing and rewashing of fibres and finished product.

The site's water supply was historically sourced from a combination of groundwater bores and a connection to the municipal supply, with the majority of water drawn from the groundwater bores.

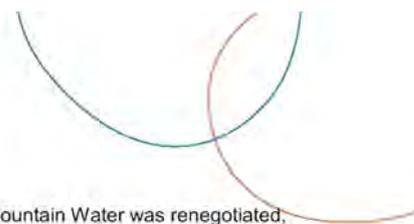
The site's wastewater was historically treated off site by the municipal wastewater treatment plant.

Annual Environmental Reporting for the site in the 2013 fiscal year, including the historic water and wastewater flows is tabled below:

Table 1: Reported historical potable water and wastewater flows

Fiscal Year	<2010 (Typical)	2012	2013
Groundwater Bores	567 kL/day	*	216 kL/day
Potable Water (Municipal Supply)	*	*	72 kL/day
Total process water	*	*	288 kL/day
Tradewaste	680 kL/day	400 kL/day	232 kL/day

Note: * indicates information not available for given period.



The 2013 report also indicates that in 2012 the trade waste agreement with Cradle Mountain Water was renegotiated, with the following discharge limits:

- Instantaneous flow rate (PDWF): 10L/s
- Max daily discharge: 650 kL/day; and
- Average daily discharge: 450 kL/day.

2.3 Historical Equivalent Tenement Loads

Design of large reticulated hydraulic services including water and wastewater typically utilises the concept of Equivalent Tenements (ETs) for assessment of design loads. This process is based on a standardised consumption rate for a house with 2.5 Equivalent People (EPs). Non-residential developments are factored at prescribed rates for example a 1 bedroom self-care retirement serviced unit/villa is rated as 0.4ETs for potable water and 0.5ETs for wastewater, where as a single ET consumes 685L/day of potable water and producing 450L/day of wastewater (new dwelling post 2014) as per current TasWater guidelines.

Reported historical demands for the site as per Table 1 above, were used to estimate Equivalent Tenement loading for the site. The below estimate is based on the previous TasWater Guidelines for wastewater of 540L/ET/day.

Table 2: Historical Potable water and Wastewater flows used in this report

	<2010		2012		2013	
Potable Water Supply ETs	113 kL/day	165 ETs	100 kL/day	146 ETs	72 kL/day	105 ETs
Wastewater ETs	680 kL/day	1259 ETs	400 kL/day	740 ETs	232 kL/day	430 ETs

Note: Values shown in Red/Italicised are inferred from the 2013FY Environmental Reporting and were estimated conservatively. Pre 2010 potable water demand is based on a water balance for reported groundwater bore use and trade waste volumes, 2012 potable water demand is based a water balance of reported trade waste volumes and on a reported typical rate of 25% of water being supplied from the municipal system.

2.4 Existing Infrastructure and Connections

2.4.1 General

Information on existing site connections was obtained from information using Land Information Services Tasmania and dial Before You Dig.

There is an existing water connection to the site on Victoria Street (blue circle), and three wastewater connections (orange circles) to the site, these are highlighted in Figure 3.



Figure 3: Historical water and wastewater connections to 117 Tasman Street Devonport

2.4.2 Water

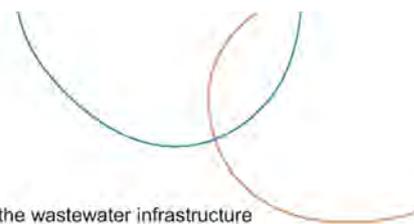
The site has the following potable water assets in the area:

- A 150mm diameter asbestos cement watermain in Tasman Street along the northern edge of the property
- A 100mm diameter asbestos cement watermain at the southwest corner of the property,
- A 150mm diameter water main on Greenway Avenue to the west
- A 525mm diameter asbestos cement trunk main on William street to the east; and
- A 100mm diameter water main on Orion Court on the southeast corner of the site.

2.4.3 Sewer

The site has the following wastewater assets in the area:

- A 150mm diameter reinforced concrete gravity main in Tasman Street along the northern edge of the property
- A 225mm diameter reinforced concrete gravity main along the southern edge of the site
- A sewage pump station (SPS) at the intersection of Orion court and William street to the south east.
- A 150mm diameter reinforced concrete sewer main in the south west corner of the site currently serving houses on Greenway Avenue
- A 225mm diameter PVC connection to the southwest corner of the exiting mill building; and
- A 150mm diameter PVC connection to the southeast corner of the existing mill building.



Details for the capacity of the Orion Court SPS have not been received, but maps of the wastewater infrastructure indicate that it was receiving flows from the weaving mill when it was operating onsite, in addition to receiving flows from surrounding areas, so it should have sufficient capacity.

3. Design Basis

Design considerations for proposed future Hydraulic Services is based on:

- 6.7 Ha Total Site Area
- Dwelling density of 1/325m²

The number of dwellings for the site was estimated based on the permitted density of 1 dwelling per 325m² under the proposed General Residential Zone of the *Devonport Interim Planning Scheme 2013*. This is equivalent to 31 dwellings per Ha, or 206 dwellings in total.

Table 3: Design Considerations for Hydraulic Services

Development type	Development Area	TasWater ET Code	Unit	Water ET Rate	Sewer ET Rate
Dwelling	6.7 Ha	RE01	Dwelling	1.0	1.0

3.1 Water

3.1.1 Typical Demands

Water demands have been estimated using the equivalent tenement methodology outlined in TasWater's Supplement to Water Supply Code of Australia WSA 03 - 2011-3.1 MRWA Edition V2.0 (Issue Number: PUBLIC 04).

Water demand was calculated by determining the average day demand (ADD), peak day demand (PDD), and peak hourly demand (PHD) using the generic parameters contained in Appendix A of the TasWater Supplement.

The ADD is determined as a function of equivalent tenements (ET) with each ET expected to generate 250 kL/year of ADD. This includes an allowance for leakage within the reticulation system and an allowance for Community use.

The peak day demand has been estimated as 2.25 times the ADD demand in accordance with Section 2.3.4.2 of the TasWater Supplement to the Water Code.

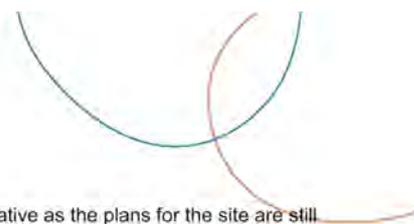
The peak hour demand is assumed to be 2.0x the PD demand (Section 2.3.4.3 of TasWater's Supplement).

Using the same design parameter inputs described in Section 3 above, a summary of the calculations for the new site is summarised in the table below.

Table 4: Summary of proposed future potable water demands

Facility	TasWater ET Code	Unit	No	Water ET Rate	Total ETs	ADD kL/day	PD kL/day	PHD kL/hr
Single dwelling any size lot	AP01	Dwelling	206	1	206	141.1	317.5	26.5
Site Total					206	141.1	317.5	26.5

From the Table above, it can be seen that the Average Day Demand for potable water is expected to be 141.1 kL/day



and the peak hour demand is 26.5 kL/hr. These numbers should be considered indicative as the plans for the site are still in development and the details of facilities that will be provided onsite is yet to be determined.

3.1.2 Fire Water Flows

Fire sprinkler flows were determined not to be required as the area under consideration will be a residential area.

Fire Hose Reels flows were determined not to be required as the area under consideration will be a residential area.

Fire hydrant flows were based on the TasWater's design supplement, on the assumption of a standard residential fire flow of 10 L/s.

Table 5: Combined water flows

Source		Flow (L/s)	Reference
Background Demand	2/3 of the peak hourly demand for the development	4.9L/s	TW Supplement, clause 3.1.5
Hydrant	1 Hydrant at 10L/s	10.0 L/s	TW Supplement, clause 3.1.5
Site Total		14.9 L/s	

3.1.3 Proposed water connection

The reticulated supply of potable water on site will be required to have a minimum 100mm diameter, and in accordance of TW Supplement, clause 3.1.5, and may need to be 150mm diameter depending on the final hydraulic design for the site.

On this basis, the existing connection for the site could be retained assuming it is 100mm diameter as suggested in Section 2.

TasWater will require appropriate boundary protection for a high hazard rating on this site as assessed in accordance of AS3500.1-2015 Plumbing and drainage part 1 Water Services. It is assumed that the site has existing protection for a High Hazard rating and if so will require inspection to determine whether it will be suitable for being retained.

3.2 Sewer

3.2.1 Typical Flows

Sewer design was completed by calculating the average dry weather Flow (ADWF), peak dry weather flow (PDWF), and peak wet weather flow (PWWF) using generic parameters contained in Appendix A of TasWater's Supplement to the Sewerage Code of Australia.

Sewer flows have been estimated using the equivalent tenement (ET) methodology outlined in TasWater's Supplement to WSA 02-2014-3.1 WSA Gravity Sewerage Code of Australia (Melbourne Retail Water Agencies Edition) Version 2.0.

TasWater have adopted an assumed loading rating of 450L/ET/day for residences that are constructed after 2014 (pre-2014 are 540 L/ET/day).

Using the same design parameter inputs described in Section 3 above, a summary of the calculations for the new site is summarised in the Table Below.

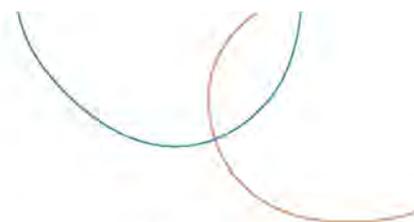


Table 6: Summary of calculated wastewater flows

Development type	TasWater ET Code	Unit	#	Sewer ET Rate	Total ETs	ADWF L/s	d	PDWF L/s	PWWF L/s
Single dwelling any size lot	RE01	Dwelling	206	1.0	206	1.11	4.6	5.12	7.06
Site Total					206	1.11	4.6	5.12	7.06

From the Table above, it can be seen that the Average Dry Weather flow is expected to be 1.11L/s (96kL/day) and the Peak Dry Weather Flow is 5.12L/s. These numbers should be considered indicative as the plans for the site are still in development and the details of facilities that will be provided onsite is yet to be determined. It is noted that a development as allowed for above would equal approximately 40% of the wastewater flows for the site in FY2013 which was the lowest record of wastewater emissions from available reports.

3.2.2 Peak Wet Weather Flow

Peak wet weather flow is made up of wastewater produced by the development along with groundwater infiltration and storm water inflow to sewer pipes and pits.

Groundwater Infiltration

Stormwater infiltration was estimated using the methodology outlined in WSA 02-2014-3.1 WSA Gravity Sewerage Code of Australia (Melbourne Retail Water Agencies Edition) Version 2.0.

The groundwater infiltration was calculated based on a 100% wet area for the entire site (6.7Ha), based on the site being relatively flat and having weathered basalt geology as indicated on the Mineral Resources Tasmania Geological Atlas Devonport map sheet 4444 at a scale of 1: 25,000, this assumption is likely to be proven conservative.

Stormwater infiltration

Stormwater infiltration has been estimated using the methodology outlined in WSA 02-2014-3.1 WSA Gravity Sewerage Code of Australia (Melbourne Retail Water Agencies Edition) Version 2.0 and section 5.5.5.2 of TasWater's Supplement. Stormwater Infiltration was only included for the proportion of the site outside of the existing building which is intended to be retained, as it was assumed storm water would be captured by the building's roof catchments.

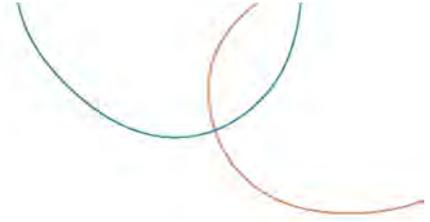
The following has been adopted in the calculations:

- One hour storm intensity of 17.1 mm/hr (using an ARI of 2 Years as per TasWater's Supplement)
- A total catchment area of 6.7 Ha Number of equivalent people: EP=618 Containment Factor Containment= 1.3 (using an ARI of 5 Years as per TasWater's Supplement); and
- A leakage severity coefficient of 0.6.

This gives a stormwater infiltration flow of 1.8 L/s. Wastewater

3.2.3 Sewer Property Connection

Based on the estimated wastewater flows and the previously reported flows for the site, it is assumed that the existing connections will be suitable for a new development if they are in good condition.



4. Proposed/historical flows discussion

4.1 Potable Water

The estimated proposed flow rates for potable water from the site are on average greater than flows reported in available records for historical potable water use at the site. Historical flows are compared to the estimated proposed typical flows in the table below.

Table 7: Comparison of proposed future wastewater flows with historical data

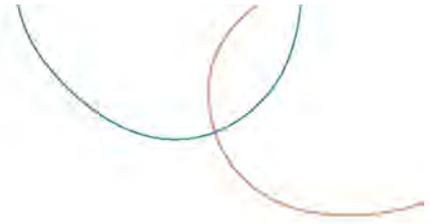
	Average Day Demand Flow (ADD) kL/day	Peak Day Demand kL/day	Peak Hour Demand kL/hr	Estimated Fire Fighting Flows L/s
Reported <FY2010	113 kL/day	*	*	>20
Reported FY2012	100 kL/day	*	*	>20
Reported FY2013	72 kL/day	*	*	>20
Estimated Proposed Typical Flows	141 kL/day	317.5	26.5	14.9

Note: * indicates information not available for given period.

While the estimated proposed typical flows for the site are greater than reported past use, it is noted that:

- Estimated proposed Fire Fighting Flows will be significantly less than historical firefighting flows
- The site is connected to a well looped network; and
- The local network has a maximum static pressure of 65m.

The points above indicate that supply of potable water to the site sufficient for a development of 206 dwellings is unlikely to be an issue for TasWater as the reduced firefighting flows to the site indicate a network capability of providing sufficient potable water.



4.2 Sewer

The estimated proposed flow rates for wastewater from the site are significantly less than historical flows reported in records available for historical wastewater discharge from the site. Historical flows are compared to the estimated proposed typical flows in the table below.

Table 8: Comparison of proposed future wastewater flows with historical data

	Instantaneous flow rate (PDWF)	Max daily discharge	Average daily discharge
Reported <FY2010	*	*	680 kL/day
Reported FY2012	*	*	400 kL/day
2012 CMW License Condition	10L/s	650 kL/day	450 kL/day
Reported FY2013	*	*	232 kL/day
Estimated Proposed Typical Flows	5.12L/s	442 kL/day	96 kL/day

Note: * indicates information not available for given period.

The table above indicates that supply discharge of wastewater from the site sufficient for a development of 206 dwellings is unlikely to be an issue for TasWater as they are significantly less than reported historical flows.

4.3 Early engagement of TasWater

TasWater were contacted and asked to provide data to facilitate the analysis contained within this report and provide a preliminary indication of any concerns TasWater may have if a development of this size were to proceed.

TasWater has indicated that their networked infrastructure for potable Water and Wastewater are sufficient for a development to proceed with an additional 335 Equivalent Tenements which is significantly higher than proposed in this report.

This response from TasWater is available in Appendix A of this report and email correspondence between pitt&sherry is provided in Appendix B of this Report. Data was requested to confirm modelling however this was not made available to the designer.



5. Conclusion

It was found that the rezoning into General Residential of the former AWM site at 117 Tasman Street Devonport to facilitate the development of 206 dwellings would be unlikely to create an unacceptable demand on the TasWater potable water or wastewater network.

Average potable water demand would be higher than historical use on the site but the peak demand during firefighting operations is expected to be lower. This suggests adequate spare capacity in a well looped network.

Average wastewater flows discharged from the proposed development would be significantly less than historical flows from the site.

The existing water and wastewater connections would likely be sufficient should a development of 206 dwellings proceed.

TasWater has provided confirmation and surety with their response that there is spare capacity for additional 335 dwellings which is greater than the 206 dwellings calculated according to the permitted dwelling density of the proposed zone.



Early engagement response from TasWater

Appendix A

pitt&sherry



Water and Sewerage Servicing Advice

TasWater Reference No.	SI 2019/00167-DCC	Date of response	29/4/2019
TasWater Contact	David Boyle	Phone No.	6345 6323
Response issued to			
Name	Pitt & Sherry		
Address	199 Macquarie St HOBART, TAS 7000		
Contact details	nbarta@pittsh.com.au		
Development details			
Address	117 TASMAN ST, DEVONPORT	Property ID (PID)	3162363
Description of development	Rezoning property, water servicing enquiry		
Advice			
<p>TasWater confirms that you have made a pre-lodgement enquiry for the above proposal. TasWater's servicing advice in this response to the above proposal is based on the water and sewerage components of the proposal only. The other aspects of the proposal will be assessed by the relevant Planning Authority, or the Development Assessment Panel established under section 60G of the <i>Land Use Planning and Approvals Act</i> ("the Act") where the proposal is declared as a project of regional significance under 60G of the Act.</p> <p>Despite anything else in the servicing advice TasWater reserves its rights regarding this proposal, when it is submitted for assessment as required by law under the Act.</p>			
<u>Sewer Infrastructure</u>			
Sewer Treatment Plant (STP)			
<ul style="list-style-type: none"> The hydraulic and process capacity of sewerage treatment plants has not been assessed, as this is not the developer's responsibility. 			
Sewer Reticulation			
<p>This site drains through five pump stations: William Street SPS -> Lovett SPS -> Coles Beach SPS -> Parker Street SPS -> North Caroline Street SPS -> Pardoe STP. A hydraulic model of the system is nearly complete but there are known capacity issues throughout the network and Coles Beach SPS recently overflowed.</p> <p>As the hydraulic model of Devonport has not been finalised, the below are based on a rough model, these will need to be reassessed once this development is at the development application stage with council.</p>			
<ul style="list-style-type: none"> Based on initial analysis around 65kL of emergency storage would be required at downstream pump stations to accommodate the additional discharge from the proposed development (8 hours storage @ each). Alternatively if the rising main from William Street SPS was redirected down William Street it could discharge directly into the Parker Street SPS catchment and flows would bypass Lovett SPS and Coles Beach SPS all together. This would require around 950m of 300mm Ø rising main? 			
<u>Water Infrastructure</u>			
Water Treatment Plant (WTP)			
<ul style="list-style-type: none"> The hydraulic and process capacity of water treatment plants and sources upstream has not been assessed. 			



Water Reticulation

Modelling indicates that the existing water network has the capacity to take the additional loading from the proposed development.

In the absence of a specified fire flow, a standard non-residential fire flow of 10 L/s has been assumed.

Hydraulic context and overview description of current capacity issues:

The proposed development is located in the Devonport pressure zone supplied from the Williams reservoir with a TWL of 95 m AHD. The development is at an elevation of 30 m AHD, giving a maximum static pressure of 65 m in a well-looped network.

It should be noted that these pressures are at the proposed connection point and do not include losses through the Service connection or associated pipework

Fees

This assessment is provided at no cost. For details on fees applicable for a formal assessment please see www.taswater.com.au

Authorised by

Jason Taylor

Development Assessment Manager

TASWATER CONTACT DETAILS

13 6992	Email	development@taswater.com.au
GPO Box 1393 Hobart TAS 7001	Web	www.taswater.com.au



Email correspondence with TasWater

Appendix B

pitt&sherry

Nick Barta

From: Nick Barta
Sent: Friday, 5 April 2019 4:48 PM
To: 'TasWater - Development'
Subject: RE: TasWater Request for Additional Information TWSI 2019/00167-DCC, 117 Tasman St, Devenport

Categories: Transferred to SharePoint
SharePointLocationUrl: [http://projects.pittsh.com.au/hb/HB18441/Project Emails](http://projects.pittsh.com.au/hb/HB18441/Project%20Emails)
SharePointAbsoluteFileUrl: [http://projects.pittsh.com.au/hb/HB18441/Project Emails/RE_ TasWater Request for Additional Information _1ra3hoof.msg](http://projects.pittsh.com.au/hb/HB18441/Project%20Emails/RE_TasWater%20Request%20for%20Additional%20Information_1ra3hoof.msg)

Hi Phil

As discussed last week, our client will have the following maximum requirements.

1. Average and peak water supply demands and required pressures at ground level (at the property boundary) for domestic and fire-fighting (sprinklers and hydrants) requirements.
2. Total ET's or number of lots.

Table of Maximum requirements being considered.

Max No of ETs	335
Peak Hour Demand kL/Hr	43 kL/Hr
Peak Day Demand kL/day	516 kL/day
Average Day Demand kL/day	230 kL/day
Fire Hydrant Flows 20L/s @	24.82 kL/day
Minimum Pressure at PH	22m

Also, as discussed pitt&sherry are required to do modelling to advise on the number of ETs which can be supplied from the existing connection. As such we are engaging with TasWater early in the project to obtain data for this modelling and decision making on the project, and we still request TasWater to provide the following baseline data for the Tasman Street Connection:

1. pipe pressure during Peak Hour flows
2. pipe pressure during average dry weather flows
3. pipe flow during Peak Hour flows
4. pipe flow during average dry weather flows
5. Any assessment Taswater may have of unused capacity in the pipe to serve additional Equivalent Tenements
6. A description of how the pipe operates (ie is it fed from multiple sources?)

Regards

Nick Barta

From: TasWater - Development [mailto:Development@taswater.com.au]
Sent: Wednesday, 27 March 2019 5:31 PM

To: Nick Barta <nbarta@pittsh.com.au>

Subject: TasWater Request for Additional Information TWSI 2019/00167-DCC, 117 Tasman St, Devenport

Hi Nick,

TasWater's Asset water modellers require the following information;

For combined industrial/commercial/residential developments;

1. Average and peak water supply demands and required pressures at ground level (at the property boundary) for domestic and fire-fighting (sprinklers and hydrants) requirements.

For residential only developments;

2. Total ET's or number of lots.

Phil Papps

Senior Assessment Officer

D (03) 6237 8246
F 1300 862 066
A GPO Box 1393, Hobart TAS 7001
169 Main Road, Moonah, TAS 7009
E phil.papps@taswater.com.au
W <http://www.taswater.com.au/>

Have I been helpful? Please provide feedback by clicking [here](#).



From: Nick Barta [<mailto:nbarta@pittsh.com.au>]

Sent: Wednesday, 20 March 2019 10:18 AM

To: TasWater - Development

Subject: Request for Information

Hi

My client has asked me to gather information needed to support an application for rezoning the property at 117 Tasman Street Devonport.

We seek information to inform what additional capacity for water supply to the site may be. We believe the site is currently serviced by a 150mm asbestos cement connection to a 150mm asbestos cement connection watermain on Tasman Street.

Can TasWater please provide the following data to inform decisions on the capacity for redeveloping this site. We particularly wish to know any data information for the Tasman street watermain including.

1. pipe pressure during Peak Hour flows
2. pipe pressure during average dry weather flows
3. pipe flow during Peak Hour flows
4. pipe flow during average dry weather flows
5. Any assessment Taswater may have of unused capacity in the pipe to serve additional Equivalent Tenements
6. A description of how the pipe operates

Please contact me if you require further information.

Regards
Nick

Nicolas Barta

Senior Structural
& Mechanical Engineer

pitt&sherry

T: 6210 1482

E: nbarta@pittsh.com.au | W: www.pittsh.com.au

A: Ground Floor, Surrey House, 199 Macquarie Street, Hobart,
Tasmania 7001 Australia

Message protected by MailGuard: e-mail anti-virus, anti-spam and content filtering.

<http://www.mailguard.com.au>

[Report this message as spam](#)

pitt&sherry



117 Tasman Street, Devonport
Portable Water and Wastewater Assessment Rezoning
Application

Contact

Nick Barta
(03) 6210 1400
nbarta@pittsh.com.au

**Pitt & Sherry
(Operations) Pty Ltd**
ABN 67 140 184 309

Phone 1300 748 874
info@pittsh.com.au
pittsh.com.au

Located nationally —
Melbourne
Sydney
Brisbane
Hobart
Launceston
Newcastle
Devonport
Wagga Wagga



4.2 PA2019.0059 VISITOR ACCOMMODATION - 36 SORELL STREET DEVONPORT

File: 36092 D580088

RELEVANCE TO COUNCIL'S PLANS & POLICIES

Council's Strategic Plan 2009-2030:

Strategy 2.1.1 Apply and review the Devonport Interim Planning Scheme as required, to ensure it delivers local community character and appropriate land use

Strategy 2.1.2 Provide high quality, consistent and responsive development assessment and compliance processes

PURPOSE

The purpose of this report is to enable Council, acting as a Planning Authority to make a decision regarding planning application PA2019.0059.

BACKGROUND

Planning Instrument:	<i>Devonport Interim Planning Scheme 2013</i>
Applicant:	Jennifer Emmerton
Proposal:	Visitor Accommodation
Existing Use:	Residential
Zoning:	General Residential
Decision Due:	23/05/2019

SITE DESCRIPTION

The subject land is situated on the eastern side of Sorell Street between Oldaker Street and Best Street. Figure 1 provides an aerial perspective of the existing development on the land.



Figure 1 – Site Plan, Photo Source DCC Geocortex January 2019

APPLICATION DETAILS

The proposal is for a change of use to allow the existing house in its entirety to be used as a single unit visitor accommodation facility. The house is split over two levels and is approximately 273m² in area. Refer to application appended as **attachment 1**. Figure 2 provides a street view of the site.



Figure 2 – Street view, Photo source Google February 2010

PLANNING ISSUES

The land is zoned General Residential under the *Devonport Interim Planning Scheme 2013*. The use of land for Visitor Accommodation was altered by Planning Directive No. 6 – *Exemption and Standards for Visitor Accommodation in Planning Schemes* issued by the Minister for Planning on 1 July 2018.

The applicable Standard is reproduced below.

Objective:	
That Visitor Accommodation:	
(a) is compatible with the character and use of the area; (b) does not cause an unreasonable loss of residential amenity; and (c) does not impact the safety and efficiency of local roads or rights of way.	
Acceptable Solutions	Performance Criteria
A1 Visitor Accommodation must: (a) accommodate guests in existing habitable buildings; and (b) have a gross floor area of not more than 200m ² per lot.	P1 Visitor Accommodation must be compatible with the character and use of the area and not cause an unreasonable loss of residential amenity, having regard to: (a) the privacy of adjoining properties; (b) any likely increase in noise to adjoining properties; (c) the scale of the use and its compatibility with the surrounding character and uses within the area; (d) retaining the primary residential function of an area; (e) the impact on the safety and efficiency of the local road network; and (f) any impact on the owners and users rights of way.

Discretion applies to this proposal because the gross floor area exceeds the 200m² threshold in the Acceptable Solution. As a consequence each of the above six Performance Criteria (PC) listed have to be demonstrated. The objectives can be used in consideration of the discretion.

COMMUNITY ENGAGEMENT

On 11/04/2019, Council received an application for the above development. Under Section 57(3) of the *Land Use Planning and Approvals Act 1993*, the Planning Authority must give notice of an application for a permit. As prescribed at Section 9(1) of the *Land Use Planning and Approvals Regulations 2014*, the Planning Authority fulfilled this notification requirement by:

- (a) Advertising the application in *The Advocate* newspaper on 20/04/2019;
- (b) Making a copy of the proposal available in Council Offices from the 20/04/2019;
- (c) Notifying adjoining property owners by mail on 17/04/2019; and
- (d) Erecting a Site Notice for display from the 18/04/2019.

The period for representations to be received by Council closed on 08/05/2019.

REPRESENTATIONS

One representation was received within the prescribed 14-day public exhibition period required by the *Land Use Planning and Approvals Act 1993*. A copy of the representation is appended as **attachment 2**.

It is alleged that this property has been available for visitor accommodation since February 2019 and that during this time some visitors have been noisy when using the outside entertainment area. This has disturbed the quiet enjoyment of their home.

DISCUSSION

The applicant submits that the building will be a singular unit AirBnB.

It is predicted that at least one or perhaps two families travelling together could utilise the facilities provided by the hosts. Any after-hours noise deemed excessive can be dealt with by the Police regardless of whether the noise is initiated by a long-term neighbour or short-term occupants.

The subjectivity in regard to noise is a difficult one to firstly predict and secondly resolve in the absence of any compelling evidence. Any inhabitants of an existing dwelling in an urban situation could have noisy neighbours regardless of any long-term tenure or short-term stay.

However, that being said one of the PC is phrased in a manner that the visitor accommodation must not cause an unreasonable loss of residential amenity having regard to any likely increase in noise to adjoining properties. This provides the Planning Authority the discretion to refuse an application on the merits of the representation received.

The remaining PC are relatively benign, and no detrimental effects are predicted due to the existing building's form, function and location.

In effect and depending on how often occupation occurs it is contended that the change of use would predominantly have a relatively low impact on residential amenity in the neighbourhood.

FINANCIAL IMPLICATIONS

No financial implications are predicted.

RISK IMPLICATIONS

No risk to Council is predicted in determining this application.

CONCLUSION

The application has been examined and in summary the six PC have been satisfactorily demonstrated and that the proposed visitor accommodation will not result in an unreasonable loss of amenity to the occupants of adjoining properties.

ATTACHMENTS

1. Application - PA2019.0059 - 36 Sorell Street
2. Representation - PA2019.0059 - 36 Sorell Street

RECOMMENDATION

That Council, pursuant to the provisions of the *Devonport Interim Planning Scheme 2013* and Section 57 of the *Land Use Planning and Approvals Act 1993*, approve application PA2019.0059 and grant a Permit to use land identified as 36 Sorell Street, Devonport for the following purposes:

- Visitor Accommodation

Subject to the following condition:

1. The Use is to be conducted in a manner that does not unreasonably result in a loss of amenity to adjoining neighbours.

Note: The following is provided for information purposes.

The development is to comply with any requirements of the National Construction Code. This advice should be obtained from a practising Building Surveyor.

It is recommended that the site be managed to ensure that the occupants are made aware of the noise curfew that generally applies to activities in urban situations.

Should the business intend on providing food for guests, the Environmental Health Department of Council must be contacted to allow consideration to be given to any requirements under the *Food Standards Code and the Food Act 2003*.

Author:	Shane Warren	Endorsed By:	Kylie Lunson
Position:	Planning Coordinator	Position:	Development Services Manager

Office use
Application no.
Date received:
Fee:
Permitted/Discretionary



Devonport City Council

Land Use Planning and Approvals Act 1993 (LUPAA)

Devonport Interim Planning Scheme 2013

Application for Planning Permit

Use or Development Site

Street Address: 36 SORELL STREET
DEVONPORT TAS 7310

Certificate of Title Reference No.:

VOLUME 8300 FOLIO 48

Applicant's Details

Full Name/Company Name: JENNIFER EMMERTON

Postal Address: 142 THE GATEWAY
LILYDALE VIC 3140

Telephone: 0438 670 260
Email: ceremoniesbyjen@netspace.net.au

Owner's Details (if more than one owner, all names must be provided)

Full Name/Company Name: JENNIFER EMMERTON

Postal Address: 142 THE GATEWAY
LILYDALE

Telephone: 0438 670 260
Email: ① charlie.emmerton1@gmail.com
② ceremoniesbyjen@netspace.net.au

ABN 47 811 446 010
 PO Box 604
 137 Rooke Street
 Devonport TAS 7310
 Telephone 03 6424 0511
 www.devonport.tas.gov.au
 council@devonport.tas.gov.au

Sufficient information must be provided to enable assessment against the requirements of the planning scheme.

Please provide one copy of all plans with your application.

Assessment of an application for a Use or Development

What is proposed?: ~~TO~~ USE 36 SORELL STREET DEVONPORT AS ONE UNIT AIR BNB

Description of how the use will operate: USE OF AIRBNB SITE FOR ALL BOOKINGS.

Use Class (Office use only):

Applications may be lodged by email to Council - council@devonport.tas.gov.au
The following information and plans must be provided as part of an application unless the planning authority is satisfied that the information or plan is not relevant to the assessment of the application:

Application fee

Completed Council application form

Copy of certificate of title, including title plan and schedule of easements

A site analysis and site plan at an acceptable scale on A3 or A4 paper (1 copy) showing:

- The existing and proposed use(s) on the site RESIDENCE TO AIR BNB ✓
- The boundaries and dimensions of the site SAME AS PER ATTACHED ✓
- Topography including contours showing AHD levels and major site features
- Natural drainage lines, watercourses and wetlands on or adjacent to the site
- Soil type
- Vegetation types and distribution, and trees and vegetation to be removed
- The location and capacity of any existing services or easements on the site or connected to the site
- Existing pedestrian and vehicle access to the site
- The location of existing adjoining properties, adjacent buildings and their uses
- Any natural hazards that may affect use or development on the site
- Proposed roads, driveways, car parking areas and footpaths within the site
- Any proposed open space, communal space, or facilities on the site
- Main utility service connection points and easements
- Proposed subdivision lot boundaries, where applicable
- Details of any proposed fencing

Where it is proposed to erect buildings, a detailed layout plan of the proposed buildings with dimensions at a scale of 1:100 or 1:200 on A3 or A4 paper (1 copy) showing:

- Setbacks of buildings to property (title) boundaries NOT APPLICABLE
- The internal layout of each building on the site
- The private open space for each dwelling
- External storage spaces
- Car parking space location and layout
- Elevations of every building to be erected
- The relationship of the elevations to natural ground level, showing any proposed cut or fill
- Shadow diagrams of the proposed buildings and adjacent structures demonstrating the extent of shading of adjacent private open spaces and external windows of buildings on adjacent sites
- Materials and colours to be used on roofs and external walls

A plan of the proposed landscaping including:

- Planting concept NO CHANGE
- Paving materials and drainage treatments and lighting for vehicle areas and footpaths
- Plantings proposed for screening from adjacent sites or public spaces

Details of any signage proposed

NO SIGNAGE

Value of use and/or development

\$

Notification of Landowner/s (s.52 Land Use Planning and Approvals Act, 1993)

If land is not in applicant's ownership

I, _____ declare that the owner/s of the land has/have been notified of my intention to make this application.

Applicant's signature: _____

Date: _____

If the application involves land owned or administered by the Devonport City Council

Devonport City Council consents to the making of this permit application.

General Manager's signature: _____

Date: _____

If the application involves land owned or administered by the Crown

Crown consent must be included with the application.

Signature

I apply for consent to carry out the development described in this application. I declare that all the information given is true and correct. I also understand that:

- if incomplete, the application may be delayed or rejected; and
- more information may be requested in accordance with s.54 (1) of LUPAA.

PUBLIC ACCESS TO PLANNING DOCUMENTS - DISCRETIONARY PLANNING APPLICATIONS (s.57 of LUPAA)

I understand that all documentation included with a discretionary application will be made available for inspection by the public.

Applicant's signature: _____

Date: 01/03/2019

PRIVACY ACT

The personal information requested on this form is being collected by Council for processing applications under the Land Use and Planning Approvals Act 1993 and will only be used in connection with the requirements of this legislation. Council is to be regarded as the agency that holds the information.

Fee & payment options



Pay by Direct Deposit - BSB: 067-402 Account No. 000 000 13 - Please quote your application number.



Pay in Person at Service Tasmania - Present this notice to any Service Tasmania Centre, together with your payment. See www.service.tas.gov.au for opening hours.



Pay by Phone - Please contact the Devonport City Council offices on 64240511 during office hours, Monday to Friday.



Pay by Post - Cheques should be made payable to Devonport City Council and posted to PO Box 604, Devonport, Tasmania, 7310.

**RESULT OF SEARCH**

DEPUTY RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980

SEARCH OF TORRENS TITLE

VOLUME	FOLIO
82300	48
EDITION	DATE OF ISSUE
3	05-Oct-2007

SEARCH DATE : 27-Mar-2019

SEARCH TIME : 12.58 PM

DESCRIPTION OF LAND

City of DEVONPORT

Lot 48 on Diagram 82300 (formerly being 424-7D)

Derivation : Part of Section A.5 Gtd. to H. Carter

Prior CT 2822/30

SCHEDULE 1

C733245 TRANSFER to JENNIFER SYLVIA MARCHANT Registered
05-Oct-2007 at 12.01 PM

SCHEDULE 2

Reservations and conditions in the Crown Grant if any

A143061 FENCING CONDITION in Transfer

C733246 MORTGAGE to Bendigo Bank Limited Registered

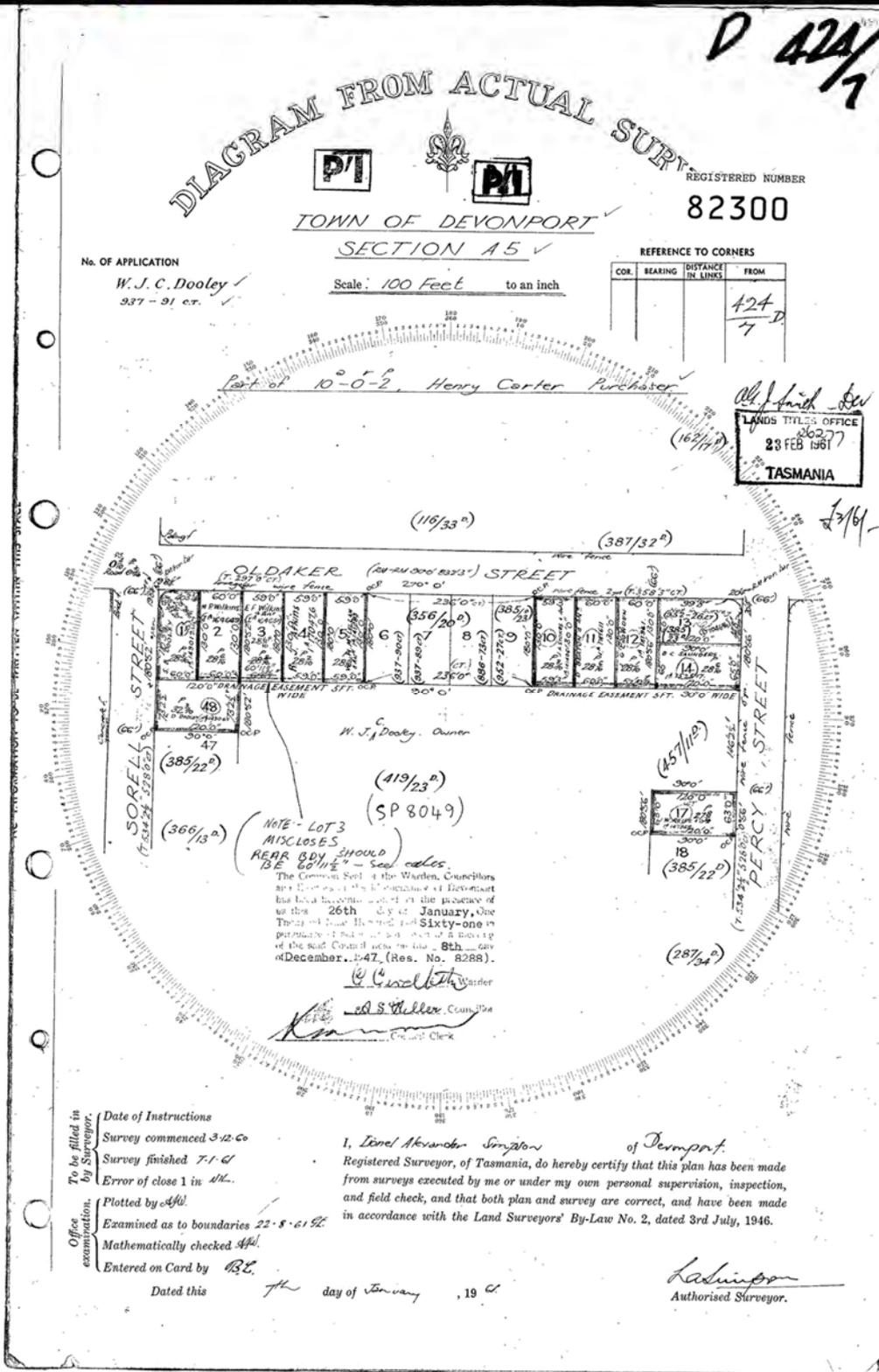
05-Oct-2007 at 12.02 PM

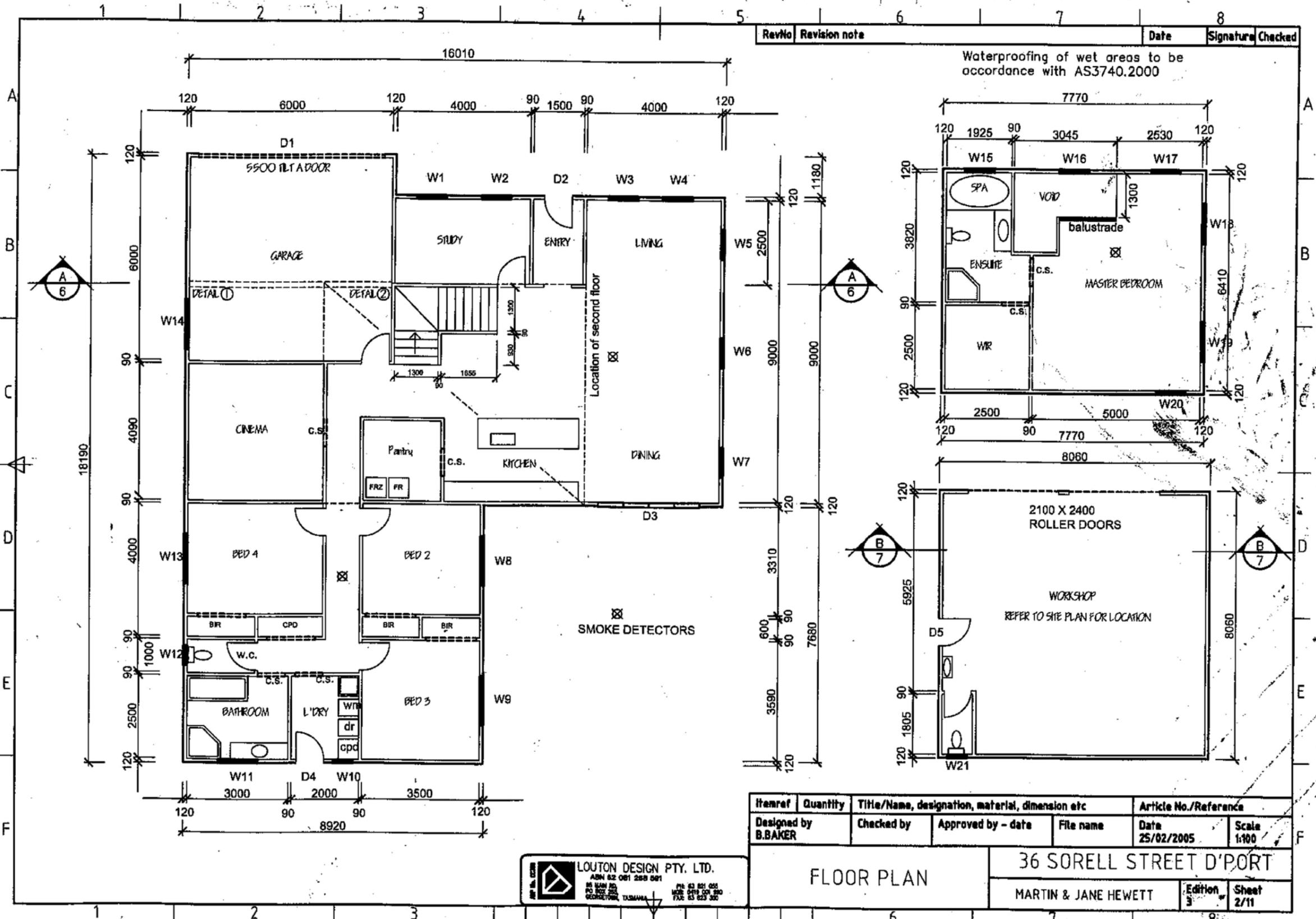
UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations



FOLIO PLAN
DEPUTY RECORDER OF TITLES
Issued Pursuant to the Land Titles Act 1980





From: Marg Criggie <office@edmc.com.au>
Sent: Monday, 6 May 2019 12:22 PM
To: Devonport City Council
Subject: re PA2019.0059 Application for planning permit

Hello,

Attention Mr Shane Warren
PA2019.0059 Application for Planning Permit
36 Sorell Street Devonport

In regards to this application we would like to advise of our objection. This property has been available for visitor accommodation on Airbnb since Feb 2019 under the name Pierre De Ronsard.

During this time it's accommodated many visitors mostly uneventful, however not all. We have experienced some very loud and noisy visitors into the early hours of the morning using the outside entertainment area. Unlike other types of accommodation if you are disturb by other visitors you can contact reception to ask for assistant, with this type of accommodation this is not an option for the surrounding residences.

As this is a residential area we have found this to disturb the quiet enjoyment of our home.

Yours Sincerely

Margaret and Wayne Criggie
173B Oldaker Street
Devonport, Tasmania. 7310.

5.0 REPORTS

5.1 PETITION - MIANDETTA PARK TOILET FACILITIES

File: 25876 D577722

RELEVANCE TO COUNCIL'S PLANS & POLICIES

Council's Strategic Plan 2009-2030:

Strategy 2.3.4 Provide accessible and sustainable parks, gardens and open spaces to appropriate standards

SUMMARY

To present Council with a petition requesting the construction of toilet facilities in Miandetta Park.

BACKGROUND

As part of the budget deliberations for Council's 2018-19 capital works program, an allocation of \$100,000 was made for a new playground at Miandetta Park.

The project planning phase included a period of public consultation, where the community was asked to select their preferred option of the two playground designs that Council staff had shortlisted.

There was a clear preference between the two options presented. However, many of the respondents took the opportunity to make requests for additional infrastructure to support the playground. 38% of respondents made additional requests, the nature of which are summarised in Figure 1 below.

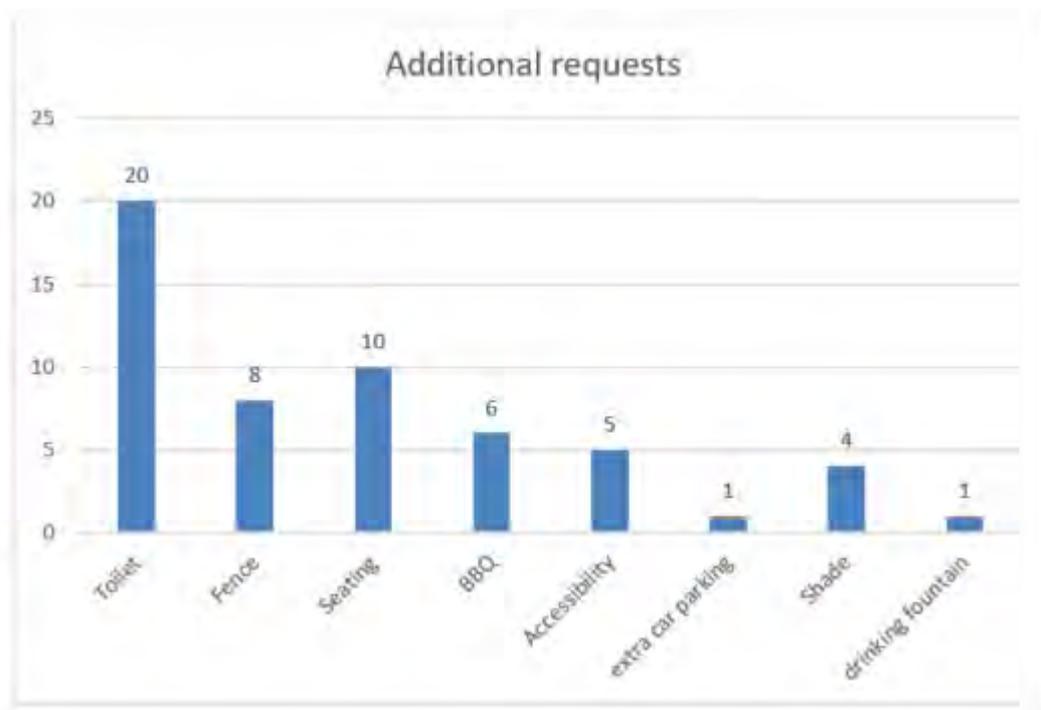


Figure 1: Summary of requests for additional infrastructure

Requests for a toilet nearby to the playground were the most common, with twice as many requests as the next most requested. The outcomes of the consultation were reported to

Report to Council meeting on 27 May 2019

the Infrastructure, Works and Development Committee in December 2018. It was resolved (Min IWC43/18 refers):

“That it be recommended to Council that the report of the Infrastructure and Works Manager be received and that Council note playground equipment for Miandetta Park has been ordered in accordance with the preference identified during community consultation and will be installed in the first quarter of 2019.”

Following the report, the playground equipment was installed, with work completed in March 2019. Informal observations suggest the playground is well used and that the project has been well received by the community.



Figure 2: Completed playground

STATUTORY REQUIREMENTS

Sections 57 to 60 of the *Local Government Act 1993* relate to petitions. Section 57(2) of the *Act* requires:

“A person lodging a petition is to ensure that the petition contains –

1. a clear and concise statement identifying the subject matter and the action requested; and
2. in the case of a paper petition, a heading on each page indicating the subject matter; and
3. in the case of a paper petition, a brief statement on each page of the subject matter and the action requested; and
4. a statement specifying the number of signatories; and
5. at the end of the petition –
 - In the case of a paper petition, the full name, address and signature of the person lodging the petition”

Section 58(2) of the *Local Government Act 1993* requires that “A general manager who has been presented with a petition or receives a petition under subsection (1)(b) is to table the petition at the next ordinary meeting of the Council.

DISCUSSION

The petition presented to Council meets the requirements of the *Local Government Act 1993*, although it must be noted that whilst the petition received 650 signatories, not all of those reside in Devonport.

It is also noted that the petitioner submitted an additional 27 signatures to the petition three days after submitting the original petition.

Council's Forward Capital Works Program does not include an allocation for the construction of a toilet at Miandetta Park. If the project was to proceed, changes to the Forward Capital Works Program, future operational budgets and the Long Term Financial Plan would be required.

There is no current plan for the development and use of Miandetta Park. Prior to the installation of the playground, there had been no development of the park for more than ten years as development and renewal of other recreation areas, including Mersey Bluff and Pioneer Park had been prioritised through documented strategies and master plans.

COMMUNITY ENGAGEMENT

As outlined earlier in this report, Council included a period of public consultation in the planning phase of the new playground project. The consultation was intended to identify the preferred playground design. However, there was a significant number of requests for supporting infrastructure, including toilets.

While there is often strong support for small community infrastructure projects like new playgrounds, new toilets, new paths and new lighting, the support for these projects rarely considers the operating and maintenance costs of the new assets and the cumulative impact that these projects can have on Council's expenditure and the revenue required to sustain the assets.

FINANCIAL IMPLICATIONS

Options have been explored for the design of a public toilet suitable for Miandetta Park. There are many modular solutions available in the market which can eliminate the need for structural design. It is likely that a suitable modular solution can be found for this location. The selected design would be one that considers life cycle costs, functionality, sustainability and crime prevention through environmental design principles.

A two cubicle layout is considered appropriate for this location. Although usage will be lower than some other public amenities, the playground, surrounding park and other activities in the local area will generate use. The potential design could include one accessible cubicle and one ambulant cubicle.

Sewer and water connections are available although costs will be incurred connecting to the TasWater mains. A power connection is also available, but connection costs will be incurred from TasNetworks.

It is estimated that the construction of a new public toilet at Miandetta Park would cost \$150,000.

Based on the forecast costs for operations and maintenance of other amenities buildings, the operating and maintenance costs for a new building at Miandetta Park is up to \$20,000 per year. This includes:

- Essential building inspections and maintenance
- Vandalism repairs
- Security patrols

- Cleaning and stocking of consumables
- Utilities including water, sewer and power
- Depreciation

The cost of vandalism repairs is highly variable and dependent on the number of incidents, but also the ability of the structure and fittings to withstand vandalism attempts. The annual depreciation is dependent on the construction cost, but also the projected life of the asset which may vary between options.

Council's Forward Capital Works Program does not include an allocation for a new amenities building at Miandetta Park. If the project were to proceed, the construction cost would need to be included in the Forward Capital Works Program either as an additional project or at the expense of other projects.

The operating cost of the facility will need to be included in operating budgets every year for the life of the asset. If the project were to proceed, Council's operating budget would be adjusted to accommodate the increased cost of supporting the facility.

RISK IMPLICATIONS

- **Asset & Property Infrastructure**
Construction of new assets requires an increase in Council's operational budget. Delivery of projects that haven't been identified as a strategic action or through a master plan reduced the available funding for these priority projects and can potentially hamper the delivery of the strategic objectives. A single project is unlikely to have a major impact. However, the playground and the toilet have a combined value of \$250,000 and Council will undoubtedly need to consider other petitions and requests for development of Council parks in the future, some prompted by Council's decision to develop Miandetta Park.

Funding the amenities building by deferring other projects may impact the delivery of strategies or master plans and impact renewal programs, depending on the deferred projects.

- **Legal Compliance**
Council has a requirement to meet its obligations under the *Local Government Act 1993* in relation to tabling of petitions.
- **Consultation and/or Communication**
Council has received a petition which demonstrates significant support for a new amenities building in Miandetta Park. If Council does not progress with the project, supporters of the project may be critical of Council.

CONCLUSION

Council has received a petition with 677 signatories requesting the construction of public toilet facilities in Miandetta Park.

A suitable amenities building is estimated to cost \$150,000 to construct and around \$20,000 annually to operate and maintain. This expenditure is not included in Council's Forward Capital Works Program or operating budgets. Both capital and operational expenditure could be included at the expense of other projects or work, which would have an impact on the delivery of Council's strategic actions or asset renewal and maintenance work. There is an option for the expenditure to be additional to Council's Forward Capital Works Program and operating budget, in which case it would require an adjustment to Council's Long Term Financial Plan.

There is community support for the project and if progressed, would likely be popular with the community.

ATTACHMENTS

1. Petition - Miandetta Park Playground Toilet Facilities
2. Additional Signatures - Miandetta Park Petition

RECOMMENDATION

That Council receive and note the petition requesting the provision of a public toilet at Miandetta Park; and determine:

Option A

not to proceed with construction of facilities at this time but instead list it as a future prioritisation project for consideration during the development of the 2020/21 capital budget.

Option B

to include the construction of facilities in 2019/20 capital works budget, deferring; the following programmed works:

1. Horsehead Creek Toilet (new) \$78,000; and
2. Aquatic Centre Playground Renewal (replacement) \$60,000.

Option C

to include the construction of toilet facilities as additional capital expenditure in 2019-20.

Author:	Michael Williams	Endorsed By:	Matthew Atkins
Position:	Infrastructure & Works Manager	Position:	Deputy General Manager

DEVONPORT CITY COUNCIL

FORM 1 - PETITIONS

Miandetta Park Toilet Facilities

(Name and Subject of Petition)

To the Mayor and Aldermen of the Devonport City Council,

We petition Council in accordance with the Local Government Act 1993 to (State the purpose of the Petition and requested actions)

Install sufficient toilet facilities in the Miandetta Park Playground.

Name of Elector	Address	Signature
		(attach other pages as required)

Declaration

We, the proposer/s of the Petition declare:

- there are 650 signatories to the Petition; (Number of signatories)
- the Petition was signed between 16th April 2019 (Commencement date) and 30th April 2019 (Completion Date)

the Petition is proposed by:

- 1) Amanda Kuntz 83 Forbes St (Name of Proposer) (Address) (Signature)
- 2) (Name of Proposer) (Address) (Signature)
- 3) (Name of Proposer) (Address) (Signature)

Name and address of person to whom advice from Council concerning the Petition will be addressed:

Amanda Kuntz 83 Forbes St Devonport

Miandetta Park Toilet Facilities

To the Mayor and Aldermen of the Devonport City Council,

We petition Council in accordance with the Local Government Act 1993 to install sufficient toilet facilities in the Miandetta Park Playground.

The council have created a wonderful playground that is already very popular within the community, however kids are having to run behind a tree to use the bathroom, as there isn't a public toilet in Miandetta. The popularity of the park is a big indication that it is going to be well utilised all year around, therefore appropriate facilities are a must.

Name	Address	Signature
Jennie Walsh	134 Middle Road	J Walsh
Eliza Compagne	5 Bowen Court	Eliza Compagne
Michelle Smith	102 Percy Street	Michelle Smith
Kelly Brexmall	50 Kings Rd Spaldford	Kelly Brexmall
Jodie Gamwood	11 Ashgrove Street Oport	Jodie Gamwood
Nirde Cannan	101 Mersey Main Rd Spreyton	Nirde Cannan
Michael Benson	37 Percy St Devonport	Michael Benson
Leanne Flood	69 Sorell St, Devonport	Leanne Flood
PHILIP BRADY	672 MELROSE Rd MELROSE	Philip Brady
Kagissa Ford	40 Mungahla Cres Miandetta Road	Kagissa Ford
E Boon	8 Bishop St Devonport	E Boon
Minam Beswick	69 Valley Road	Minam Beswick
Kylie Buchwald	165 Witham Street	Kylie Buchwald
Kessy Betz	92 James St Devonport	Kessy Betz
J Cooper	124 BEST STREET	J Cooper
Sabrina Martin	1A OLIVE COURT, Miandetta	Sabrina Martin
Jessie Aylett	6 OLIVE COURT MIANDETTA	Jessie Aylett
Vivien Davis	5 OLIVE COURT	Vivien Davis
Leanne Hall	6 OLIVE COURT	Leanne Hall
Diann Lumb	7 OLIVE COURT	Diann Lumb
Aileen Dunt	15 OLIVE COURT	Aileen Dunt
INDIE GRAY	18 OLIVE COURT	Indie Gray
Hana Curran	11 " "	Hana Curran

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Miandetta Park Toilet Facilities

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Name	Address	Signature
Bianca Hess	48 Sunbeam Cres	Bianca Hess
Nick Hess	"	Nick Hess
Teegan Howe	46 Berkshire Pde Penguin	Teegan Howe
Aphile Devine	2 Lyons Ave, D'port	Aphile Devine
Leoni Cole	Latrobe	Leoni Cole
Taneille Marshall	12 Arthur Street, Shearwater	Taneille Marshall
Wayne Cole	James Street, D'port	Wayne Cole
Angela Neil	75 Percy St, D'port	Angela Neil
Georgia Simpson	20 Commonwealth Court Penguin	Georgia Simpson
Jennifer Snell	3 Karana Avenue Miandetta	Jennifer Snell
Karen Baulter	52 Penambasi dr D'port	Karen Baulter
Shannon Goodwin	5 Nell Crescent	Shannon Goodwin
Sarah Brooks	625 South Rd Penguin	Sarah Brooks
Katrina Long	100 Berrigan Rd, Miandetta, KL	Katrina Long
Peggy Smith	Ulverstone	Peggy Smith
Lisa Fittleau	Miandetta	Lisa Fittleau
A. Amicosante-Frost	Miandetta	A. Amicosante-Frost
Eliz. Hay	Devonport	Eliz. Hay
Tracy Seward	6 Arden Ave, Devonport	Tracy Seward
Eve Gratton	179 Best St. Devonport	Eve Gratton
Tennille Jago	Devonport	Tennille Jago
Mackenzie	Devonport	Mackenzie
Jess Holder	Hawley Beach	Jess Holder
Kyandra Trail	Ulverstone	Kyandra Trail

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Name	Address	Signature
Inhousi Tenaglia	15 Washington Drive	
Elizabeth Vinney	147 Waverley Rd	EN
Kelli-Ann Emen	20th Street Avenue	
Ashley Lessard	53 Sisons St	
Amanda Good	88 Rerrigan Rd	
Iona Herbert	12 Leopolde	
Hayley TARR	Miandetta	
Dave Davidson	80 Esplanade T-13	
M Jenkins	16 Thomas St Ulu	
M. Lyle	63 Sorrell St. 7310	
P. Lyle	63 Sorrell St, Dev	P.L.
Toby Lord	13 Kemping St, Dev	
Karen Bennet	27 Torquay Rd, East Dipart	
Katrina Hartigan	Devonport	
Meagan Tuley	DPORT	
K. Taylor	214 Rest St, Dev	
S. Hunt	Hawley Beach	
P. Redpath	Devonport	
K. Kymalob	Devonport	
Hannah	Devonport	HG
GRACE REELEY	10 SOMME ST. DEVONPORT	
Lenitta Ryder	Katrobe	
Vanessa Parker	Spreyton	
C. Harding	Tugrah	
Sandra McCall	Devonport	
Lisa Roberson	Devonport	
Dionne Smith	Breerlington	
Garvin Baldwin	Wilnot Tas	

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Miandetta Park Toilet Facilities

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Name	Address	Signature
Kelly Wainwright	22 Berrigan Rd	<i>[Signature]</i>
Natasha Richards	59 Jasmine Drive, Port Sorell	<i>[Signature]</i>
Kristie Wilson	12 Hedstrom Dr Stony Rise	<i>[Signature]</i>
Michele Boys	7 Nieta Cres.	<i>[Signature]</i>
Tahnee Sutcliffe	4 Earl Grove, Latrobe	<i>[Signature]</i>
Leonie Brooks	20 Jarrod Ct, Devonport	<i>[Signature]</i>
Narelle Genge	7 Renison Ct	<i>[Signature]</i>
Sarah O'Keefe	153 Nicholls St	<i>[Signature]</i>
Liz Pease	81 Northfenton st	<i>[Signature]</i>
MANDY SMITH	77 NORTH FENTON ST	<i>[Signature]</i>
Jamie Kunta	83 Forbes Street	<i>[Signature]</i>

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Name	Address	Signature
Kelly Conkie		
Jemima Denholm	11 McCabe Avenue, Devonport	
Lesley Curle	31 Lamana St D'port	
Macaula Holmes	51 Berrigan Rd	
Geetresha Warden	7 Watkinson St	
Olivia Oliver	8 Middle Rd	
Lily Blackaby	21 Thomas St	
Leonie Klassek	36 Lawrence Drive	
Lauryn Fallon	87 Wrenshood Drive	
Kathryn French	Ambleside	
Molly Townsend	Kindred	
Viera Robinson	163 James St	
Julie Stubbs		
Nykaela Jago		
Leah Jopson	11 Davies Ct Spreyton	
Eleanor Hodgson	129 Beer Street	
Georgia Wright	Spreyton	
Chloe Holmes	51 Berrigan Rd	
Charlotte Hamilton	15 Smith Street	
Kindon Lin		
Fryn Connell	42 Leila Avenue Spreyton	
Lily Inglis	4 Linden Heights	
Aleisha Drown	8 Buttons Ave. ULV	
Yvette Grey	7 Lyndcut D'port	

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Name	Address	Signature
DANIEL IVORY	9 WAVERA PLACE	
GEOFF BRADY	19 RAYMOND AVE	
102 CORNFORTH	5 ADINA PLACE	
Raymond Smith	11 HAMPDEN ST	
G PEARCE	10 ORION CT	
BOB GIBSON	54 FORBES ST DEV	
TERRY SHEPHERD	103 STEELE ST. D'PORT	
John CAUSE	102 GAWLER RD	
NATASHA CHARLIZE	LAUREY ST ULVERSTONE	
J Lavender	3/36 Wilmore St	
N. Burns	Devonport	
B Bovill	Devonport	
G - Hall	Scottsdale	
T. HARTNETT	EAST DEVONPORT	
A. Ivory	East Devonport	
C. Woolman	" "	
G. SANFORD	" "	
R. O'Connell	J' PORT	
C O'Connell	J' PORT	
CRAIG SCOTT	7 HAROLD, D'PORT	
STEVE MOORE	58 RONALD ST. D. PORT	
PHIL SMITH	66 FORBES ST. D'PORT	
PHILIP SMITH	D'PORT	
J. Wright	42 Penstone Dr. Port Sorell	

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Name	Address	Signature
VICKI FLANNERY	William St, D'Port	[Signature]
KOT McGuinness	Nyora Crt, Miandetta	[Signature]
J. SHEEMAN	W. SPERRS RD AMELSDICE	[Signature]
E. Kingston	Bennetts St, Burnie	[Signature]
J. Hewitt	William st, D'port	[Signature]
E. Matthews	72 Hillier St, D'Port	[Signature]
Renee Dime	Latrobe	[Signature]
J. S. Hon	Spreyton	[Signature]
Stirling Fay	Devonport.	[Signature]
Thomas Dykstra	East Devonport	[Signature]
Trudy Hall	East Wynyard	[Signature]
Sharon Roland	Miandetta	[Signature]
Maddi A	Devonport	[Signature]
D. LATHAM	Dev	[Signature]
L. GRIFFITHS	Burnie	[Signature]
Rodgers	Burnie	[Signature]
J. Rowbottom	LATROBE	[Signature]
J. K SMITH	DEV	[Signature]
C. BAXTER	SPREYTON	[Signature]
R. Harvey	Miandetta	[Signature]
Blake	Dev	[Signature]
C. Martinsen	Denmark	[Signature]
Blayne	Dev	[Signature]
Lauren A	Devonport	[Signature]

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Name	Address	Signature
Heather Leary	7 Linden Heights	H Leary
Donna McFlynn	2 Lemana Street	Donna McFlynn
Judy Turman	7/209 William St.	Judy Turman
Melissa Debnay	Brooke St	Melissa Debnay
MAXWELL	129 FORTH RD Devon	Margie H Jones
GARY BRYANT	29 DREW ST EAST Devonport	G Bryant
Kris Pummer	237 William St, D Brk.	Kris Pummer
Sandy Lane	1 FORTH ROAD Devon	Sandy Lane
Judy Laycock	Sassafras	Judy Laycock
Shear Williams	Tamarch Cres Dev	Shear Williams
Samie Enright	Percival St. Latrobe	Samie Enright
Amanda Douglas	Hillcrest Road DPort	A Douglas
Sarah Bernier	Nixon St Dev	Sarah Bernier
Margaret Monks	Tatiana Close Dev	Margaret Monks
Kristine Fidler	44 Apple dore St D	Kristine Fidler
NICK BRAMICH	DEVONPORT	Nick Bramich
Emma Cooney	13 Dooley street. Ulu.	Emma Cooney

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Name	Address	Signature
L. Bramich	38 Cutting Rd Sassafras	L. Bramich
D. Stuart	Latrobe	D. Stuart
A Hillier	Don	A Hillier
D. Woodberry	Ulverstone	D. Woodberry
B. Bridger	Amble side	B. Bridger
D. Bishop	Devonport	D. Bishop
L. Burford	Devonport	L. Burford
E. STUART	LATROBE	E. Stuart
S. Hays	Don	S. Hays
J. Langmaid	Devonport	J. Langmaid
M. McGuire	Devonport	M. McGuire
S. McLennan	Latrobe	S. McLennan
J. Buchanan	Devonport	J. Buchanan
M. Lattimore	Devonport	M. Lattimore
P. Letter	Devonport	P. Letter
M. Amos	Devonport	M. Amos
B. Marshall	Streamwater	B. Marshall
Z. Cousins	Don	Z. Cousins
L. Courtney	32 Avonlea Cr S'Water	L. Courtney
A. ORVILLE	DEVONPORT	A. Orville
K. Marshall	Miandetta	K. Marshall
V. Bell	Miandetta	V. Bell
D. Bell	Miandetta	D. Bell
L. Marshall	Miandetta	L. Marshall
L. Collins	Devonport	L. Collins

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Name	Address	Signature
Sally Evans	104 Queen St, West Hill	S. Evans
Sophie Cox	39 Leila Avenue	SC
KEVIN WISE	41 QUINLAN LANE	Kevin
Kathy wise	41 Quinlan Cres	Kathy
Ben Cox	1/120A SUTCLIFF ST	Ben
Lisa Males	24 Leila Ave Spreyton	Lisa
Robert Males	24 Leila Ave Spreyton	Robert
Wynne Cox	39 LEILA AVE SPREYTON	Wynne
Linda Cox	39 Leila Ave Spreyton	Linda
DANIEL COOPER	3 VINCENY ST ULL	Daniel
Linda Fortlage	3 Vinceny Street Ullswater	Linda
ZACHARY COX	39 LEILA AVE, SPREYTON	Zachary
Sarah Johnson	27 Morris ave Pipers	Sarah
Helen Ivory	Unit 2/8 cedar court	Helen
Stacey Elkin	207 Wadden Street	Stacey
Greg Elkin	" " "	Greg
Melissa Simpson	5 Buford Place	Melissa
Wendy Simpson	" " "	Wendy
Judy Olsen	1 Jukaranda Court	Judy
Janet Elkin	198 Parker Street	Janet
Keith Byers	" " "	Keith
Brett Ingham	2/8 Cedar Ct	Brett
Jules Ingham	5 Buford Place	Jules
Janie McKay	29 Hedstrom Drive	Janie

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Name	Address	Signature
SUSAN MCCOY	4/209 William St	[Signature]
Jenny Massey	385 Deewitt	[Signature]
Lisa Hempton	2 Gordon Place Dept	[Signature]
Anthony Hempton	2 Gordon Place Dept	[Signature]
KENER BLONCH	101 High Street Sheffield	[Signature]
Shane Winwood	101 High Street Sheffield	[Signature]
Rachel Cousins	176 Clifton Drive, Spreyton	[Signature]
Lucas Cousins	176 Clifton Drive, Spreyton	[Signature]
Mark Jefferson	11 Heathfield St Dorwood	[Signature]
Tamara Nicholl	2a Christensen Street	[Signature]
Kirby Holland	3 Mangana Drive, Tugrah	[Signature]
Hollie McCoy	29 Hedstrom Drive	H.A. McCoy
Michelle Walker	25 Cameron St EDport	[Signature]
Grace Walker	25 Cameron St EDport	[Signature]
Kaylah Atkinson	121 Berrigan Road	[Signature]
Donda Myers	8 Lemara St	[Signature]
Mel Gregory	Berrigan Rd	[Signature]
Denise Bishop	12 Blount Rd	[Signature]
Caprice Malone	79 Kivere Rd Hableside	[Signature]
Brooke Holden	11 Coles Rd	[Signature]
Karen Alexander	13 Saterby Dr	[Signature]
Sam Clarke	244 Gilbert St	[Signature]
Mel Haywood	6 Korana Ave	[Signature]
Mell Vassallo	217 Fossey Place	[Signature]

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Name	Address	Signature
A BUTLER	DEVONPORT	<i>A Butler</i>
D BUTLER	DEVONPORT	<i>D Butler</i>
E. Murtet	Devonport	<i>E. Murtet</i>
T. Harding	Devonport	<i>T. Harding</i>
K Milburn	Spreyton	<i>K Milburn</i>
D Rawlings	Oliverstone	<i>D Rawlings</i>
A. Synadinos	Devonport	<i>A. Synadinos</i>
Kenny Howells	Devonport	<i>Kenny Howells</i>
Peter Tarrant	DEVONPORT	<i>Peter Tarrant</i>
Ril Lakeland	Lalida	<i>Ril Lakeland</i>
C Ily	18 Charles st	<i>C. Ily</i>
W WARD	3 W Esm/a Ave.	<i>W Ward</i>
B MOLD	96 NORTH ST DPORT	<i>B. Mold</i>
T NICHOLS	Steele St Dev	<i>T Nichols</i>
K. Brown	Tuarah rd	<i>K. Brown</i>
K. Bowerman	Valley Road	<i>K. Bowerman</i>
M. LAUGHAN	2/182 William st.	<i>M. Laughan</i>
- Damon	SPREYTON	<i>Damon</i>
D O'Callaghan	William St	<i>D O'Callaghan</i>
Keland	OLIVERSTONE	<i>Keland</i>
2 Brooks	Devonport	<i>2 Brooks</i>
S YOUNG	Devonport	<i>S Young</i>
Lucinda Fielding	Devonport	<i>Lucinda Fielding</i>
Tom Wilson	D PORT	<i>Tom Wilson</i>

- RUDI KNIGHT EAST DEV.
 Patricia Howard Devonport
 F. Grace. Dprt
 T Powell. D'Prt

- TRAVIS
 Miss P.M. Howard
 F. Grace
 Travis

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Name	Address	Signature
Heidi Bellchamber	Hamilton St La Trobe	
BELINDA SIELY	D'PORT.	
JAN RAWLINGS	1, ADELAIDE ST.	
Rae-Anne Bramich	William St, Devonport	
Kylie Stephens	Steacie St Dev	
KAREN JESSUP	Devonport	
NANHE BASHET	Wain TOW	
M. Rawlings	D'PORT.	
Natalie Broken	Sassafras	
Kerryn Hingston	Northdown	
Hayley Martin	Devonport	
DIANE LORNE	Devonport	
Ross Harris	Devonport	
Mitchell Feby	Devonport	
G. Philpott	DEVONPORT	
A. Coleman	Devonport	
HE M. GALE	DEVONPORT.	
Heidi Kelly	East Devonport	
Julianne Litchell	Melburne	
Alicia Fischer	Devonport	
Elizabeth Wells	Spreyton	
Brendan Walker	Devonport	
Tania Bingham	Turners Beach	
Immen Colbeck	Devonport	

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Name	Address	Signature
Margaret Hughes	2 Roland Coena Sheffield	Margaret Hughes
Bonbera Trough	Acacia Hills	Bonbera Trough
Emma Fitzmaurice	224 Best Street Dport	Emma Fitzmaurice
ARON FITZMAURICE	224 BEST ST. DEVONPORT	ARON FITZMAURICE
BOB HUGHES	ACACIA HILLS	BOB HUGHES
Sarah Hughes	23 Benigan Road Dport	Sarah Hughes
Branda Clarke	13 Eugene St D'Port	Branda Clarke
Alison Pearce	189 Steele St D'port	Alison Pearce
Sharon Goodson	Unit 4-44D Gunn St Dport	Sharon Goodson
Gaye Bryon	15 Smith Street, Dport	Gaye Bryon
Isaac Platt	8 Prospect St, Burnie	Isaac Platt
Karen Maxwell	101 William St Forth	Karen Maxwell
Lisa Pieterse	1 Gordon Pl Dev	Lisa Pieterse
John Farrell	16 Darling St, Port Sorell	John Farrell
Renée Dooley	9 Weemala Cr, Miandetta	Renée Dooley
Rebecca Easton	13 Springfield Park Northdown	Rebecca Easton
Hayley Johnstone	9 Rowena Ct, D'port	Hayley Johnstone
Mel Pearce	189 Steele St D'port	Mel Pearce
Abby Loone	5 Squibbs Rd, Spryton	Abby Loone
Margy Badcock	31 East Glen Port Sorell	Margy Badcock
Cath Sanson-Gower	11 Murefret Crescent, Devonport	Cath Sanson-Gower
Meg Bowden	2 Longview Cres Devonport	Meg Bowden
Amy Solomon	2 Haines Pl Devonport	Amy Solomon
BEN SACOMAN	2 HAINES PL DEV	BEN SACOMAN

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Name	Address	Signature
Roseanne Furley Rose John	119 TREMAN ST 147 William St	
Simone Wylie	187 Mersey main Rd, Sprey	
Shannen Davis	24 Scirell St Devonport	
Louise Davis	1 Loatza Av. Miandetta	
Jacqui Coate	215 Melrose Aberdeen	
Ben Lillias	89 Oldaker DPT	
M. Rawlins	D Port	
B. Stepping	Seerie St DEV	
Elizabeth Wilkinson	151A William St Dev.	
Sarah Scarafioti	151A William st Dev	
Jenny Dick	38 Berrigan Rd.	
Karen d. Jessup	LWR Madder St	
TERAL BACKSHALL	151/6 WILLIAM ST, DEV	
Sally Day	5/151 William St D'port	
Rodney Brooks	9 Lemana St D'Port	
Paul Clancy	25 Lemana St Dev	
Lindsay Keygan	40 clerks street	
Kirsten Bissett	9 Prind Place Devonport	
Georgina Wright	18 Arnold Street Tangleton	
Kristy Mae	BROOKS LIVERSTONE	
XAVIER HARRIS	311 WESTELLA DR TORNAS BSH	
Lynne Chettle	157 William St	
Amber Skiving	Best St D'Port	

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Miandetta Park Toilet Facilities

To the Mayor and Aldermen of the Devonport City Council,

We petition Council in accordance with the Local Government Act 1993 to install sufficient toilet facilities in the Miandetta Park Playground.

The council have created a wonderful playground that is already very popular within the community, however kids are having to run behind a tree to use the bathroom, as there isn't a public toilet in Miandetta. The popularity of the park is a big indication that it is going to be well utilised all year around, therefore appropriate facilities are a must.

Name	Address	Signature
Amanda Kunta	Forbes St Devonport	<i>A Kunta</i>
Lauren Shaw	Nicholls St. Dev.	<i>L Shaw</i>
TAMM BANKS	WICKHAM ST DEV	<i>T Banks</i>
Hayley Martin	Lyons Ave Miandetta	<i>H Martin</i>
James Blenheim	Last St. Laboche	<i>J Blenheim</i>
Andrew Pinner	Don Rd D'Port	<i>A Pinner</i>
Chris Pinner	Weenala Lane Miandetta	<i>C Pinner</i>
Lexie Pinner	Weenala Lane Miandetta	<i>L Pinner</i>
LINDA SCHIEK	139 KNOX DRIVE 5TH STREET	<i>L Schiek</i>
Paige Adams	69 Grandview Dr. SS	<i>P Adams</i>
Amie Tost	106 Middle Rd Dev	<i>A Tost</i>
AMANDA TAYLOR	43 rd WILLIAM ST. DEV.	<i>A Taylor</i>
Samantha Radich	47 Hamilton Street, Laboche	<i>S Radich</i>
Aster Rawlings	115 Nixon St Devonport	<i>A Rawlings</i>
Nakita COX	2 Broadhurst Ave	<i>N Cox</i>
Liza Richardson	11 East Alan Drive	<i>L Richardson</i>
Casey Iles	24 Robert St	<i>C Iles</i>
Takua Stubbs	4 Leary Avenue	<i>T Stubbs</i>
Emma Robinson	Port Sorell	<i>E Robinson</i>
Aaron Cole	136 Clayton Drive Spreyton	<i>A Cole</i>
Pithey Oryan	19 Middle Road	<i>P Oryan</i>
Wandy Emery	346 Wilmot Rd FORTH	<i>W Emery</i>
MIRE JEEVES	11 TUGRAH Rd	<i>M Jeeves</i>
Rachel Clark	17 Cameray East Devonport	<i>R Clark</i>

24

Miandetta Park Toilet Facilities

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We petition Council in accordance with the Local Government Act 1993 to install sufficient toilet facilities in the Miandetta Park Playground.

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Name	Address	Signature
Bec Pitchford	22 Woodrising Ave Spreyton	<i>[Signature]</i>
Mrs. C. Whittle	33 main st Sheffield	<i>[Signature]</i>
Kelly Derrico	Nicholls Street	<i>[Signature]</i>
JENNIFER PORTER	3 PANDANUS Plc	<i>[Signature]</i>
Amy PAGE	Madden St, Devonport	<i>[Signature]</i>
Cheryl Condé	187 Best St Dev.	<i>[Signature]</i>
Mel Whyte	195 Tugrah Rd, Dport	<i>[Signature]</i>
Alison Crossmith	89 High st	<i>[Signature]</i>
Michelle Nielsen	6 Churchill Ave, D'Bit	<i>[Signature]</i>
Pennii Porter	William St Dport	<i>[Signature]</i>
Heath fellows	8 Fleetwood drive Spreyton	<i>[Signature]</i>
Carlin Baxter	16 Coles Beach Rd Dport	<i>[Signature]</i>
JAKOBI PURTON	william st Dev.	<i>[Signature]</i>
Sam Horton	17 Coomera Cres Dev	<i>[Signature]</i>
Alison Lockwood	7 Walford Close	<i>[Signature]</i>
Emily Smith	11 McBride St	<i>[Signature]</i>
Zoe Bonney	1 New Street	<i>[Signature]</i>

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Miandetta Park Toilet Facilities

To the Mayor and Aldermen of the Devonport City Council,

We petition Council in accordance with the Local Government Act 1995 to install sufficient toilet facilities in the Miandetta Park Playground.

The council have created a wonderful playground that is already very popular within the community, however kids are having to run behind a tree to use the bathroom, as there isn't a public toilet in Miandetta. The popularity of the park is a big indication that it is going to be well utilised all year around, therefore appropriate facilities are a must.

Name	Address	Signature
Ieanne Dinnings	11 Gaterby Drive	<i>Ieanne Dinnings</i>
Suth Alway	1 Charlotte Gdns	<i>S Alway</i>
Rush Brown	2/147 Gann St	<i>Rush Brown</i>
DAVID DUNNINGS	11 GATERBY DR	<i>David Dinnings</i>
Di Kelly	1 Edward St	<i>Di Kelly</i>
Annette Moss	173 James Street	<i>A. Moss</i>
Jody Kinwood	7 Port St.	<i>Jody Kinwood</i>
Arabella Anderson	10 Tasman St	<i>Arabella Anderson</i>
Ameera sherriff	unit 115 Huen court	<i>Ameera</i>
Josh Kelly	106 Kitchener street	<i>Josh Kelly</i>
ES Oester	1 Melcoto Court Kewdale	<i>ES Oester</i>
P. Shelverton	11 Miandetta	<i>P. Shelverton</i>
Due Pitchford.	unit 64 Tugnah Rd.	<i>Due Pitchford</i>
Lisa Goodlane	2/112 James Street Dev	<i>Lisa Goodlane</i>
Jesse Wymondell	Unit 2/2 Freeline Court Dev	<i>Jesse Wymondell</i>
Elony Watson	11/7 Eveline Court, Dev	<i>Elony Watson</i>
Margaret Blanden	135 Best St, Dev.	<i>M Blanden</i>
Julie Blanden	135 Best St - Devonport	<i>J Blanden</i>
Emma Anderson	20 Maroong Ln	<i>Emma Anderson</i>

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Miandetta Park Toilet Facilities

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Name	Address	Signature
NICHOLAS BOND	114 MANMUD ST, DEVONPORT	
LYNDAL BOND	114 ROYALD ST, DEVONPORT	
Rowan Alexander	10 TOMARAH CRES	
Shani Watson	102 James St.	P.R.W
Andre Rataj	236 Tugrah Road	
Amy O'Connor	16 Birch Street	
Jackson Daniels	32 Waiwora Rd	
Michelle Hall	25 Crockers St, Railton	
SAM WATKINS	20 SWICKIN DRIVE, GREYTON	
Jess Powell	Lyons Avenue	
GREG WILSON	STAW ST	
Angela McAuliffe	Tatiana Close Devonport	
Alex Hardy	The Lee, Devonport	
Kayla Christie	Estuary views, Shearwater	
MAREK PORTER	7 SOMME ST, MIANDETTA	
Alice Overton	Latrobe 7307.	
Josh Darling	2 Bonney St 7304	
Sharon Kirkbride	12 Wena Crescent	
Madeleine Colbeck	Devonport 7310	
Zack Kennel	2 Coomera cres	
Jacqui Astley	30 Berrigan Rd.	
Mia McConnaughy	5 Wena crescent	
Kesa McConnaughy	" "	
Julie Cope	8 Wena Cres, Miandetta	

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Name	Address	Signature
Glen Belbin	15 Coomera Crescent	gmbe
Keren Wilde	85 Weeks Rd Barrington	K. Wilde
Kirsty Yates	1a River Rd, Ambleside	K Yates
Loretta Lincaine	4 Henry Street Devonport	L Lincaine
Shae Smith	7 Friedenick St, Hawley	Shae Smith
S. Reeves	Nicra Cr.	S Reeves
E. Forth	13 Hedstrom Drive	E Forth
C. Stevens	10 Ravena Cr Dev	C Stevens
E. Charlesworth	Steele St Devonport	E Charlesworth
J. TARR	50 W. ELIAM DEV	J Tarr
H. Tarr	Hilltop Ave Dev	H Tarr
Linley Joan Tarr	95a Bunn St Dev	L. Tarr
C Woolley	95a Bunn St Dev	C Woolley
ABBEY TURNER	DEVONPORT	Abbey Turner
Mimi.	Braane W.A.	Mimi
M. Thompson.	West Moanah TAS.	M Thompson
Chloe Harris	Devonport	Chloe Harris
Sarah Harber	Tugrah 7310	S Harber
Nick Owen	Miandetta 7310	N Owen
Julia Lindsay	7 Jules Cr Turners Beach	J Lindsay
Kyle Squire	6 Linden Heights	K Squire
Adam Cole	6 Linden Heights	A Cole
Janine Murphy	8 Forest Heights Dr	J Murphy
JEAGUE MURPHY	8 FOREST HEIGHTS DR	J Murphy

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Name	Address	Signature
Eliza	34 Hilltop Ave	Eliza
Celia	Devonport	Celia
Redemptor	1 Somers St	Redemptor
Jodi Smith	Devonport	Jodi Smith
Chris Morrison	2116 LANSION DR	Chris Morrison
Flynn Tveon	Devonport	Flynn Tveon
Sophie Austin	Moriarty	Sophie Austin
Racheal Smith	Wesley Vale	R. Smith
Megan Ross	Keith	M. Ross
Alyssa Shields	15 Shaw St U/W	Alyssa Shields
Rae-Anne Emmerton	8 Scurrah St U/W	Rae-Anne Emmerton
Steve Applebee	104 Stony Rise Rd D'Port	Steve Applebee
Lisa Doherty	58 Woodrising Ave Spreyton	Lisa Doherty
Joe Castle	215 Melrose	Joe Castle
Ranika Tranill	15 Weemala Lane	Ranika Tranill
Sarah Elliott	11 Park Drive Ambleside	Sarah Elliott
Lee Dance	191 Knox Drive Spreyton	Lee Dance
Janeen Turner	36 TABLET ST	Janeen Turner
Fiona Hazlewood	9 Riverbend Drive Dan	Fiona Hazlewood
K Atkins	Ulverstone	K Atkins
Sue Robinson	12 Clarke St. D'Port	Sue Robinson
Simon Wilson	11 Walford Close	Simon Wilson
April Mahoney	Latrobe	April Mahoney
Brooke Clifford	11 Charles St	Brooke Clifford

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Name	Address	Signature
Leanne Dolbel	Stoney Buse Rd	<i>[Signature]</i>
Leanne Jones	Morrison St	<i>[Signature]</i>
Ayla Gray	Surrey St Dev	<i>[Signature]</i>
Bonnie Saunders	86 Cotton St Latpdc	<i>[Signature]</i>
Dimitry Castles	54 Highfield Rd Ambleride	<i>[Signature]</i>
Kim Baker	38 Park Dr E/DART	<i>[Signature]</i>
Bronwyn Watson	408 Lwr Barrington Rd	<i>[Signature]</i>
Amanda Payne	Devonport	<i>[Signature]</i>
Andrea Nuttall	Acacia Hills	<i>[Signature]</i>
Melanie Muir	2 Jabez Drive Devonport	<i>[Signature]</i>
Dimitry Vpton	Devonport	<i>[Signature]</i>

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Name	Address	Signature
Fiona Walton	27 Mungala cres Miandetta	Fiona Walton
Melissa Thorre	5 Rice Street Port Sorell	Melissa Thorre
CHRIS ADGARD	27 Mungala cres Miandetta	Chris Adgard
Jedi Smith	27 Mungala cres Miandetta	Jedi Smith
Paige Smith	Lawrence Dr D'Port	P. Smith
Maddison Smith	27 Mungala Dev	Maddison Smith
Rhodie Kayrock	27 Mungala Dev	Rhodie Kayrock
Sandra Handbury	8 Tasman Pl D/Port	Sandra Handbury
Terri-Lee Mason	151a David St	T. Mason
Kylee Bennell	Devonport	Kylee Bennell
S. Hancock	Devonport	S. Hancock
Z. Baerer	TARLETON	Z. Baerer
Stephen Moore	76 Mary Street East D'Port	Stephen Moore
Brenda Williams	6 Bilton Place D'Port	Brenda Williams
Michael Thomas	144 Melrose Rd Aberdeen	Michael Thomas
Vanessa Brooks	7 Swilkin drive	Vanessa Brooks
Simone Steers	Port Sorell	Simone Steers
Joan Gray	Port Sorell	Joan Gray
Nikita Roughley	Devonport	Nikita Roughley
Jean Stencho	Devonport	Jean Stencho
John Michaels	Devonport	John Michaels
Paul Trippree	Penguin	Paul Trippree
Megan Anthony	134 Adelaide St Dev	Megan Anthony
Bernadette Rawlings	37 John St E, Devonport	Bernadette Rawlings

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Name	Address	Signature
Teresa Harrison	24 Jilba Way Don	<i>[Signature]</i>
KATIE LUTHER	1 BRANSEMA ST ^{TURKERS BEACH}	<i>[Signature]</i>
Maya Brown	8/145 Steele St. Devonport	<i>[Signature]</i>
Louenvorsieght	23 Wienc Crescent Miand	<i>[Signature]</i>
Hannah Grace	Bradys Plains Rd Parkham	<i>[Signature]</i>
DANIKA LYONS	NICHOLLS ST DEVONPORT	<i>[Signature]</i>
Chrysanne Stones	52 Fenton St, Latrobe	<i>[Signature]</i>
Lisa Schmackenber	20 Wylies Rd, Forthside	<i>[Signature]</i>
Rachel Cole	46 Percy St, D'port	<i>[Signature]</i>
Simon Morrison	19 Jilba Way, Don	<i>[Signature]</i>
Sarah H	Greenway Ave Don	<i>[Signature]</i>
Tevesca Mamilen	21 Palmers Rd Latrobe	<i>[Signature]</i>
Aileen Zret	53 George St Latrobe	<i>[Signature]</i>
Ashlyn Heshney	13 Mackenzie Cr Latrob	<i>[Signature]</i>
Donna Walters	107 Pelissier St Somerset	<i>[Signature]</i>
Jor kanta	forbs street	<i>[Signature]</i>

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Name	Address	Signature
<i>Edeline Kingston</i>	<i>Lachobe</i>	<i>Edeline</i>
NATASHA BARKER	MIANDETTA	<i>Natasha</i>
GALE PROPKIT	SHEFFIELD	<i>Gale</i>
Karen Marshall	Miandetta	<i>K Marshall</i>
Priscilla Fellous	Devonport	<i>P Fellous</i>
Kassidy Baldock	Spreyton	<i>K Baldock</i>
Charlie fellow's	Devonport	<i>Charlie</i>
Trinidad Wells	Miandetta	<i>T Wells</i>
Susan Boskell	Devonport	<i>S Boskell</i>
Mandy Brady	Miandetta	<i>M Brady</i>
Jessica Clarke	DEVONPORT	<i>J Clarke</i>
Melinda Russell	Devonport	<i>M Russell</i>
Janie Russell	Devonport	<i>J Russell</i>
Theo Barker	Miandetta	<i>Theo Barker</i>
Esther Barker	Miandetta	<i>E Barker</i>
Lorraine O'Keefe	Miandetta	<i>L O'Keefe</i>
Rebecca Davey	Miandetta	<i>R Davey</i>
Elaine Johnson	Devonport	<i>E Johnson</i>
Sharné Yellup	Devonport	<i>S Yellup</i>
Rachel Boulthée	Devonport	<i>R Boulthée</i>
Ashlee Munkit	Dev	<i>A Munkit</i>
Jess Black	Devonport	<i>J Black</i>
Maria Chilcott	Miandetta Primary	<i>M Chilcott</i>
Joshua Chilcott	Miandetta primary	<i>J Chilcott</i>

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5.2 TENDER 1332 - DEVONPORT SOUND AND LIGHT SHOW DESIGN CONSULTANCY

File: 32575 D580247

RELEVANCE TO COUNCIL'S PLANS & POLICIES

Council's Strategic Plan 2009-2030:

Strategy 2.4.1 Implement initiatives from the LIVING CITY Master Plan

SUMMARY

This report recommends engaging consulting firm Mandylights to investigate opportunities to incorporate a light show into the LIVING CITY Waterfront Precinct.

BACKGROUND

The Hill PDA report into the economic benefits of LIVING CITY undertaken in December 2014 identified a lack of regional evening-based activities that attract overnight visitations and suggests a potential light and/or sound show be considered.

The idea for a sound and light show was a result of community consultation undertaken during the Hill PDA study.

With the development of the waterfront parkland, it is an opportune time to investigate sound and lighting options which would add value to the proposed development.

An open tender process was conducted to identify a suitable specialist to work with Council on the project.

This report presents the outcome of the tender process.

STATUTORY REQUIREMENTS

Council is required to comply with Section 333A of the *Local Government Act 1993* and its adopted Code for Tenders and Contracts when considering awarding tenders.

DISCUSSION

On 25 February 2019, Council endorsed investigations into solutions for a sound and light show as a value add to the waterfront park that would deliver an evening visitor attraction (Refer Min 24/19).

Council advertised a Tender for Professional Consultancy Services – Devonport Sound and Light Show on Saturday 23rd March 2019. This tender was seeking a suitable specialist to work with Council and the project design team to progress the idea presented by Hill PDA.

Submissions were received from the following three companies:

		Ramus Illumination Pty Ltd	Mandylights Pty Ltd	Silver Bullet Projects	Tas Sound Studio Stage
Item	Phase	Amount \$	Amount \$	Amount \$	Amount \$
1	Concept Design	\$45,000	\$30,000	\$96,000	
2	Design Development	\$55,000	\$30,000	\$192,000	

Report to Council meeting on 27 May 2019

		Ramus Illumination Pty Ltd	Mandylights Pty Ltd	Silver Bullet Projects	Tas Sound Studio Stage
3	Detailed and Construction Design	\$95,000	\$30,000	\$1,632,000	
4	Content Production	\$120,000	-	-	
5	Programming	\$80,000	-	-	
6	Execution of design	-	\$110,000	-	
Total		\$395,000	\$200,000	\$1,920,000	No costings provided

A fourth submission was received from Tas Sound Studio Stage, however no costings were provided and they were considered to have made a non-confirming tender.

Each of the tenderers were assessed based on the selection criteria; being relevant experience, creative capability and pricing, methodology and timeframe.

The Silver Bullet submission offered a complete design and construct package, additional to the requested scope, which explains the significant price difference.

Both Ramus and Mandylights indicated the necessary experience, creativity and capability to undertake the project, to a greater extent than the other two tenderers. Both have nominated senior staff to work on the project and proposed similar methodologies.

With comparable results on other criteria, price is the differentiating factor with the Mandylights submission being considerably less.

As a result of the tender assessment process, it is recommended that Council engage Mandylights initially for phases one and two.

Once this initial design work is complete Council should then have an attractive proposition with which to seek the necessary external funding to complete both the remaining design phases and the implementation of the project. Based on other similar initiatives, a total project budget of \$2 million would likely be realistic.

Information on the recommended consultant can be found at:

<http://www.mandylights.com/>

COMMUNITY ENGAGEMENT

The idea of a light and sound show as part of LIVING CITY initially originated from a community engagement process.

Further consultation with key stakeholders will be required during the design development phases.

FINANCIAL IMPLICATIONS

The Scope of Work Consultancy Services - Sound and Light Show details that the tender is to be divided into three sections as follows:

1. Concept Design
2. Design Development

3. Detailed and Construction Design.

At this stage, it is recommended that Council only proceed with the first two phases of design at a cost of \$60,000. The project will pause after Design and Development to allow time for suitable funding to be secured to complete the design and implementation of the project.

Council has discussed the opportunity for a waterfront light show with both levels of government and other key stakeholders. As a result, TasPorts have indicated a willingness to partner with Council during the initial design phase and agreed to commit \$30,000 towards the project.

As a result of the TasPorts contribution, the cost to Council to proceed will be \$30,000 funded from the Economic Development consultancy budget.

RISK IMPLICATIONS

There is a risk that Council could fund the design and creation of a suitable light show and not be able to secure the necessary capital funds to implement the proposal.

CONCLUSION

A potential light and/or sound show has been identified as an opportunity to address a lack of regional, evening-based activities that attract overnight visitations. It is recommended that Council engage Mandylights to design a solution that would enhance the LIVING CITY Waterfront Precinct.

ATTACHMENTS

Nil

RECOMMENDATION

That Council in relation to Contract 1332 – Devonport Sound and Light Show Consultancy:

1. engage Mandylights to undertake phases one and two of the design process for a total sum of \$60,000 (excl GST);
2. note a contribution of \$30,000 to the design is being made by Tasports; and
3. seek suitable external funding for the balance of the design and the implementation of the project.

Author: Position:	Rebecca McKenna Project Officer Development	Economic	Endorsed By: Position:	Matthew Atkins Deputy General Manager
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6.0 INFORMATION

6.1 WORKSHOPS AND BRIEFING SESSIONS HELD SINCE THE LAST COUNCIL MEETING

Council is required by Regulation 8(2)(c) of the *Local Government (Meeting Procedures) Regulations 2015* to include in the Agenda the date and purpose of any Council Workshop held since the last meeting.

Date	Description	Purpose
6 May 2019	Cradle Coast Authority	The Chairman and CEO of the Authority provided an update on activities and the future direction of the organisation.
	Devonport Football Club	The Club presented their proposal for the upgrading of the change facilities at the Devonport Oval and an opportunity for a 'Levelling the Playing Field' grant.
	Related Party Disclosure	An overview of the Related Party Disclosure Policy and the requirements for Key Management Personnel to comply with statutory requirements.
	Budget Information	A presentation on the main budget principles.
9 May 2019	Kelcey Tier Master Plan	The Consultant who prepared the Kelcey Tier Master Plan met with Councillors to discuss its contents and recommendations.
13 May 2019	Equal Opportunity Tasmania	The Anti-Discrimination Commissioner discussed the role of Equal Opportunity Tasmania.
	Budget	This Workshop concentrated on matters relating to rates modelling and operational budget allocations.
14 May 2019	Budget	At this Workshop a recap on the outcomes from the previous session followed by detailed discussions around the capital works programs and fees and charges schedule.
20 May 2019	State-wide Planning Scheme	Councillors were provided with information relating to the development of the local provisions of the new Planning Scheme.
	Budget	Further update on the development of the 2019/20 budget.

RECOMMENDATION

That the report advising of Workshop/Briefing Sessions held since the last Council meeting be received and the information noted.

Author:	Robyn Woolsey	Endorsed By:	Paul West
Position:	Executive Assistant General Management	Position:	General Manager

6.2 MAYOR'S MONTHLY REPORT

File: 22947 D563531

RELEVANCE TO COUNCIL'S PLANS & POLICIES

Council's Strategic Plan 2009-2030:

Strategy 5.3.2 Provide appropriate support to elected members to enable them to discharge their functions

SUMMARY

This report details meetings and functions attended by the Mayor.

BACKGROUND

This report is provided regularly to Council, listing the meetings and functions attended by the Mayor.

STATUTORY REQUIREMENTS

There are no statutory requirements which relate to this report.

DISCUSSION

In her capacity as Mayor, Councillor Annette Rockliff attended the following meetings and functions during 25 April and 22 May 2019:

- Council meeting, Various Council Committee, Special Interest Group and Working Group meetings and workshops as required.
- Media as requested: Martin Agatyn (7AD), ABC TV
- ANZAC Day services
- Meetings with ratepayers
- NW Suicide Prevention Trial Site Working Group meeting
- Hosted Governor Warner and Mr Warner during their visit to Devonport
- Hosted Civic Reception for Governor and Mr Warner
- Opened the first meeting of the Tassie Cruisers car club
- Attended LGAT Breakfast forum
- Attended TasWater Owners Representatives meeting
- Took part in Beacon Foundation mentoring programme at Devonport High School
- Met with Joan Rylah MP
- Arboretum Committee meeting
- Met with the Coordinator of the local Christmas Shoebox Committee
- Attended the DAPS AGM
- International Museums Day event at the Gallery
- Opening Night of the Devonport Choral Society production
- Volunteers Appreciation morning tea at Melaleuca
- Volunteers Appreciation lunch at East Devonport Community House
- Volunteers Appreciation breakfast for Council's volunteers
- Volunteers Appreciation lunch for Meercroft Home

ATTACHMENTS

Nil

RECOMMENDATION

That the Mayor's monthly report be received and noted.

6.3 GENERAL MANAGER'S REPORT - MAY 2019

File: 29092 D561349

RELEVANCE TO COUNCIL'S PLANS & POLICIES

Council's Strategic Plan 2009-2030:

- Strategy 5.8.2 Ensure access to Council information that meets user demands, is easy to understand, whilst complying with legislative requirements

SUMMARY

This report provides a summary of the activities undertaken by the General Manager, 25 April and 22 May 2019. It also provides information on matters that may be of interest to Councillors and the community.

BACKGROUND

A monthly report provided by the General Manager to highlight management and strategic issues that are being addressed by Council. The report also provides regular updates in relation to National, Regional and State based local government matters as well as State and Federal Government programs.

STATUTORY REQUIREMENTS

Council is required to comply with the provisions of the *Local Government Act 1993* and other legislation. The General Manager is appointed by the Council in accordance with the provisions of the *Act*.

DISCUSSION

1. COUNCIL MANAGEMENT

- 1.1. Attended and participated in several internal staff and management meetings.
- 1.2. Attended Workshops, Section 23 Committee and Council Meetings as required.
- 1.3. The draft Budget documents were available to Councillors on Thursday 2 May 2019. A series of Workshops have been convened to assist Council in working through the 2019/20 budget. It is proposed that a Community Budget Information Session will be held on Wednesday 12 June, commencing at 5:00pm in the Aberdeen Room, paranaple centre, 137 Rooke Street, Devonport.
- 1.4. Met with representatives of the Commonwealth Bank to be updated on recent and proposed developments in the local government banking sector.

2. COMMUNITY ENGAGEMENT (RESIDENTS & COMMUNITY GROUPS)

- 2.1. With the Mayor, met with a local resident to discuss a matter of interest.
- 2.2. With the Mayor, met with Her Excellency Professor the Honourable Kate Warner, AC, Governor of Tasmania and Mr Warner during their official visit to the Devonport area. Council organised several activities for the Governor during the day including attending the following:
 - Bass Strait Maritime Centre
 - Munnew Day Centre (Meercroft)
 - Space Learning Centre
 - Home Hill
 - Spreyton Cider

Report to Council meeting on 27 May 2019

- East Devonport Family & Community Centre
- paranable arts centre
- Devonport Library
- Civic Reception – hosted by Mayor

- 2.3. Met with the announced purchasers of the Devonport Showground. The meeting coincided with the commencement of their community conversations relating to the potential future development of the Showground property.
- 2.4. Met with members of the Rotary Club Devonport North to be updated on their progress with the Mersey Bluff SeaWalk proposal. Further discussions have been held with the Six Rivers Aboriginal Corporation (SRAC) and the SeaWalk Committee are awaiting a formal response from SRAC.
- 2.5. Met with a representative of TasPorts to discuss the future planned upgrades to the East Devonport port area as a result of the proposed new Bass Strait Ferries. At the appropriate time a presentation will be provided to Councillors at a Workshop.
- 2.6. Met with representatives of the Motorhome Club who are planning for their next major event to be held in Devonport in February 2020.
- 2.7. Attended the Council's Volunteer Breakfast. The breakfast is to recognise those members of the community who support Council programs and initiatives as part of National Volunteer Week.
- 2.8. Met with a resident of Coles Beach to discuss a number of suggestions relating to foreshore improvements.

3. NATIONAL, REGIONAL AND STATE BASED LOCAL GOVERNMENT

- 3.1. Attended the Local Government Association of Tasmania (LGAT) Regional Breakfast held in Devonport. Guest speaker at the breakfast was Lee Whiteley, CEO of the University College who spoke about the changes to the delivery of university courses and offerings into the future.
- 3.2. Attended a meeting of the Cradle Coast General Managers Group. Items discussed at this meeting included:
 - Cradle Coast Authority Update
 - Request for support for regional events
 - Cradle Coast Authority Representatives Meeting Agenda
 - Shared Services
 - State-wide Planning Scheme Update

4. STATE AND FEDERAL GOVERNMENT PROGRAMS

- 4.1. The Local Government Division provided its May Newsletter relating to the Local Government Act Review program. A copy of the newsletter is provided as an attachment.

5. OTHER

- 5.1. Attended a Council Workshop with Claire Hester the Consultant appointed by Council to prepare the Kelcey Tier Master Plan. Following the Workshop it was agreed a report will be prepared to allow the Master Pan to be further considered by Council.

Report to Council meeting on 27 May 2019

- 5.2. Attended a Council Workshop with the Anti-Discrimination Commissioner, Ms Sarah Bolt. The Commissioner outlined to Councillors the role of Equal Opportunity Tasmania.
- 5.3. Met with senior executives of the ANZ Bank, Council's lenders to show them around the LIVING CITY Stage 1 development and to outline the future proposed works.

COMMUNITY ENGAGEMENT

The information included above details any issues relating to community engagement.

FINANCIAL IMPLICATIONS

Any financial or budgetary implications related to matters discussed in this report will be separately reported to Council.

There is not expected to be any impact on the Councils' operating budget as a result of this recommendation.

RISK IMPLICATIONS

Any specific risk implications will be outlined in the commentary above. Any specific issue that may result in any form of risk to Council is likely to be subject of a separate report to Council.

CONCLUSION

This report is provided for information purposes only and to allow Council to be updated on matters of interest.

ATTACHMENTS

1. LGA Review Newsletter - May 2019
2. Current and Previous Minute Resolutions Update - May 2019
3. CONFIDENTIAL - Current and Previous Minute Resolutions Update - Confidential May 2019

RECOMMENDATION

That the report of the General Manager be received and noted.

Author:	Paul West
Position:	General Manager

Review of Tasmania's Local Government Legislation Framework

LG Review
News



ISSUE 04 – MAY 2019

Local Government Reference Group Workshops

The Reference Group met for the first time on 11 April 2019. The Group met five times throughout April and May, in Launceston and Hobart, to consider issues and feedback raised in the Review's initial public consultation.

With a diversity of members, the Group was able to exchange views and hold frank discussions about how the legislative framework should operate from the perspective of those on the ground, both within and outside the sector.

The Group has now developed and provided its advice to the Steering Committee. The Project Team would like to thank members for their time, commitment and valuable insights throughout this process.

The Minister for Local Government, the Hon. Peter Gutwein MP, attends the first Reference Group meeting in Hobart to welcome members and thank them for their contribution to the Review.



Contact Us



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HOBART TAS 7001

Key Reforms Areas

Following the initial public consultation and the Reference Group Workshops, some **key areas for reform** are being considered. These include:

- Modernising electoral provisions;
- A stronger focus on transparency, with greater community engagement in local government activities;
- Increased local government accountability through reporting, oversight and interventions;
- Consistency in council operations across municipalities; and
- Reducing red tape by removing unnecessary prescription and creating legislation that is flexible to future changes.

What's Next?

The Steering Committee will now consider the advice provided by the Reference Group, as well as submissions received to date, and make recommendations to the Minister.

The Government's proposed reforms will be released in a Reform Directions Paper for public consultation in mid-2019.

The release of the Paper will be publicly advertised and available on the Review website at www.dpac.tas.gov.au/lgreview

Consultation sessions on the proposed Directions will be confirmed once the Paper is released. Information will be available on the website and through this newsletter.



Current and Previous Minute Resolutions Update

OPEN SESSION Current Resolutions	
Resolution Title:	Review of Strategic Plan 2009-2030 (D571681)
Date:	29 April 2019
Minute No.:	67/19
Status:	Completed
Responsible Officer:	General Manager
Officers Comments:	Updated plan on website.
Resolution Title:	Tender Report Contract CT0198 Mersey Bluff Pedestrian Links (D573212)
Date:	29 April 2019
Minute No.:	68/19
Status:	Completed
Responsible Officer:	Deputy General Manager
Officers Comments:	Contract awarded
Resolution Title:	Waterfront Park Expressions of Interest – Construction Contractors (D574751)
Date:	29 April 2019
Minute No.:	70/19
Status:	Completed
Responsible Officer:	Deputy General Manager
Officers Comments:	Selected contractors have been advised
Resolution Title:	Surplus Property Disposal – 45-47 Stewart Street, Devonport (D551651)
Date:	29 April 2019
Minute No.:	71/19
Status:	In progress
Responsible Officer:	Deputy General Manager
Officers Comments:	Valuation requested.
Resolution Title:	Surplus Property Disposal – 92 Formby Road, Devonport (D574554)
Date:	29 April 2019
Minute No.:	72/19
Status:	In progress
Responsible Officer:	Deputy General Manager
Officers Comments:	Updated valuation requested.

Resolution Title:	80-82 River Road, Ambleside (D569071) (IWC 15/19 - 8 April 2019)
Date:	29 April 2019
Minute No.:	79/19
Status:	Completed
Responsible Officer:	Deputy General Manager
Officers Comments:	Public Land Register has been updated
Resolution Title:	Municipal Emergency Management Plan (D572974) (IWC 17/19 - 8 April 2019)
Date:	29 April 2019
Minute No.:	79/19
Status:	Completed
Responsible Officer:	Risk & Compliance Coordinator

Previous Resolutions Still Being Actioned

Resolution Title:	Proposed Sale of Land – Canning Drive, East Devonport (GFC 21/19 – 18 March 2019)
Date:	25 March 2019
Minute No.:	58/19
Status:	In Progress
Responsible Officer:	Executive Manager Organisational Performance
Officers Comments:	Valuations required (OVG and independent market valuation) prior to listing for sale
Resolution Title:	Preservation of Work by Philip Wolfhagen – Notice of Motion – Cr A Jarman (D567618)
Date:	25 February 2019
Minute No.:	22/19
Status:	Completed
Responsible Officer:	Convention and Art Centre Director
Officers Comments:	Council has chosen to keep the building and seek a commercial lease. In any lease agreement, the mural is to be protected.
Resolution Title:	Community Consultation – Waterfront Precinct (D563991)
Date:	25 February 2019
Minute No.:	24/19
Status:	Completed
Responsible Officer:	Project Officer
Officers Comments:	Feedback noted and incorporated where appropriate.

Resolution Title:	Kelcey Tier Draft Master Plan (D567006)
Date:	25 February 2019
Minute No.:	27/19
Status:	In progress
Responsible Officer:	Community Services Manager
Officers Comments:	Workshop completed. Report to June Council meeting.
Resolution Title:	Bike Route Hierarchy (IWC 4/19 - Infrastructure Works and Development Committee - 11 February 2019)
Date:	25 February 2019
Minute No.:	33/19
Status:	In progress
Responsible Officer:	Infrastructure Works and Development Manager
Officers Comments:	Information being prepared for website and GIS
Resolution Title:	Victoria Parade Parking in the Vicinity of the Senior Citizen's Club and the Boat Ramp (IWC 5/19 - Infrastructure Works and Development Committee - 11 February 2019)
Date:	25 February 2019
Minute No.:	33/19
Status:	Completed
Responsible Officer:	Infrastructure Works and Development Manager
Officers Comments:	Meter removed and two hour parking signs installed.
Resolution Title:	Future Visitation - Australian Navy Ships - Notice of Motion - Ald L M Laycock (D549874)
Date:	22 October 2018
Minute No.:	187/18
Status:	In progress
Responsible Officer:	Community Services Manager
Officers Comments:	Discussions commenced with TasPorts.
Resolution Title:	Disability/Equal Access and Inclusion (D491448)
Date:	25 September 2017
Minute No.:	181/17
Status:	In progress
Responsible Officer:	Community Services Manager
Officers Comments:	Feedback received on proposed draft actions - Strategy to be finalised.

Resolution Title:	Funding & Assistance – Home Hill – NOM – Ald Laycock
Date:	26 September 2016
Minute No.:	170/16
Status:	In progress
Responsible Officer:	Convention and Arts Centre Director.
Officers Comments:	Following a meeting with National Trust further review of the garden plan being undertaken by the consultants appointed by National Trust.

7.0 SECTION 23 COMMITTEES

7.1 PLANNING AUTHORITY COMMITTEE MEETING - 6 MAY 2019

File: 29133 D578618

RELEVANCE TO COUNCIL'S PLANS & POLICIES

Council's Strategic Plan 2009-2030:

Strategy 5.3.2 Provide appropriate support to elected members to enable them to discharge their functions

SUMMARY

The purpose of this report is to receive the minutes and note the recommendations provided to Council by the Planning Authority Committee meeting held on Monday, 6 May 2019.

ATTACHMENTS

1. Minutes - Planning Authority Committee - 6 May 2019

RECOMMENDATION

That the minutes of the Planning Authority Committee meeting held on Monday, 6 May 2019 be received and the decisions determined be noted.

PAC 06/19 Planning Applications approved under Delegated Authority 1 April 2019 - 30 April 2019

(Approved under delegated authority)

PAC 07/19 PA2019.0049 Change of use (church) - 12 Forbes Street Devonport

(Approved under delegated authority)

PAC 08/19 PA2019.0045 Residential (14 Multiple Dwellings) - 10-12 Edward Street Devonport

(Approved under delegated authority)

Author:	Robyn Woolsey	Endorsed By:	Paul West
Position:	Executive Assistant General Management	Position:	General Manager

MINUTES OF A PLANNING AUTHORITY COMMITTEE MEETING OF THE DEVONPORT CITY COUNCIL HELD IN ABERDEEN ROOM, LEVEL 2, paranable centre, 137 ROOKE STREET, DEVONPORT ON MONDAY, 6 MAY 2019 COMMENCING AT 5:15PM

PRESENT: Cr A Rockliff (Mayor) in the Chair
 Cr J Alexiou
 Cr P Hollister
 Cr S Milbourne
 Cr L Perry (from 5:20pm)

Councillors in Attendance:

Cr A Jarman
 Cr L Laycock
 Cr S Milbourne

Council Officers:

General Manager, P West
 Deputy General Manager, M Atkins
 Executive Manager Corporate Services, J Griffith
 Development Services Manager, K Lunson
 Planning Officer, A Mountney
 Planning Administration Officer, J Broomhall

Audio Recording:

All persons in attendance were advised that it is Council policy to record Council meetings, in accordance with Council's Audio Recording Policy. The audio recording of this meeting will be made available to the public on Council's website for a minimum period of six months.

1.0 APOLOGIES

The following apology was received for the meeting.

Councillor	Reason
Cr L Murphy	Apology

2.0 DECLARATIONS OF INTEREST

There were no Declarations of Interest.

3.0 DELEGATED APPROVALS

3.1 PLANNING APPLICATIONS APPROVED UNDER DELEGATED AUTHORITY 1 APRIL 2019 - 30 APRIL 2019 (D577167)

PAC 06/19 RESOLUTION

MOVED: Cr Hollister
 SECONDED: Cr Milbourne

That the list of delegated approvals be received.

	For	Against		For	Against
Cr Rockliff	✓		Cr Hollister	✓	
Cr Alexiou	✓		Cr Milbourne	✓	

CARRIED UNANIMOUSLY

4.0 DEVELOPMENT REPORTS

Cr Perry attended the meeting at 5:20pm.

4.1 PA2019.0049 CHANGE OF USE (CHURCH) - 12 FORBES STREET DEVONPORT (D577086)

PAC 07/19 RESOLUTION

MOVED: Cr Hollister
 SECONDED: Cr Milbourne

That the Planning Authority pursuant to the provisions of the *Devonport Interim Planning Scheme 2013* and Section 57 of the *Land Use Planning and Approvals Act 1993*, approve application PA2019.0049 and grant a Permit to use and develop land identified as 12 Forbes Street, Devonport for the following purposes:

- Change of Use (church)

Subject to the following conditions:

Planning Conditions

1. The use and development is to proceed in accordance with the plans referenced as Proposed Alterations (Project No. 18-472), dated 11/12/18 by Lachlan Walsh Design, copies of which are attached and endorsed as documents forming part of this Planning Permit.
2. During the use of these facilities all measures are to be taken to prevent nuisance. Noise pollution matters are subject to provisions of the *Environmental Management and Pollution Control Act 1994*.

Infrastructure & Works Conditions

3. The existing stormwater connection is to be used for the purposes of the proposed development.
4. Concentrated stormwater is to be discharged in accordance with the National Construction Code.
5. The existing access is to be used for the purposes of this development.
6. The proposed car parking is to be delineated in accordance with AS2890.1 Parking Facilities – Off Street Car Parking.

Note: The following is provided for information purposes.

THIS IS NOT A BUILDING OR PLUMBING PERMIT.

Prior to commencing any building or plumbing work you are required to:

Contact a Tasmanian registered Building Surveyor to determine the category of building approval required, and

Contact the Council Permit Authority to determine the category of plumbing approval required.

In regard to condition 2, the developer is to incorporate appropriate acoustic materials and finishes to the building.

If food is to be provided to the public, the Council must be contacted so that applicable food approvals are attained.

Any existing Council infrastructure impacted by the works is to be reinstated in accordance with the relevant standards.

A permit to work within the road reserve must be sought and granted prior to any works being undertaken within the road reserve.

In regard to conditions 3-6 the applicant should contact Council's Infrastructure & Works Department – Ph 6424 0511 with any enquiries.

General enquires regarding the planning permit can be directed to Council's Planning Department - Ph 6424 0511 with any enquiries.

	For	Against		For	Against
Cr Rockliff	✓		Cr Milbourne	✓	
Cr Alexiou	✓		Cr Perry	✓	
Cr Hollister	✓				

CARRIED UNANIMOUSLY

4.2 PA2019.0045 RESIDENTIAL (14 MULTIPLE DWELLINGS) - 10-12 EDWARD STREET DEVONPORT (D577170)

PAC 08/19 RESOLUTION

MOVED: Cr Hollister

SECONDED: Cr Perry

That the Planning Authority, pursuant to the provisions of the *Devonport Interim Planning Scheme 2013* and Section 57 of the *Land Use Planning and Approvals Act 1993*, approve application PA2019.0045 and grant a Permit to use and develop identified as 10-12 Edward Street, Devonport for the following purposes:

- Residential (14 multiple dwellings)

Subject to the following conditions:

1. Unless requiring modification by subsequent conditions of this permit the Use and Development is to be undertaken and proceed generally in accordance with the submitted plans referenced as Redevelopment to 14 self-contained 2 storey apartment dwellings project no. 0219 – 20, dated 7 February 2019 by Tas Laughlin copies of which are attached and endorsed as documents forming part of this Planning Permit.
2. The developer is to comply with the conditions contained in the Submission to Planning Authority Notice which TasWater has required to be included in the planning permit, pursuant to section 56P(1) of the Water and Sewerage Industry Act 2008.
3. Prior to or at the time of lodgement of the building application, the developer is to submit amended drawings showing further design controls that will be implemented to minimise the likelihood of overlooking from habitable rooms and balconies of dwellings onto other dwellings on the

same site. The revised drawings are to be approved in writing by Council's Development Services Manager.

Note: The following is provided for information purposes.

The development is to comply with the requirements of the current National Construction Code. The developer is to obtain the necessary building and plumbing approvals and provide the required notifications in accordance with the *Building Act 2016* prior to commencing building or plumbing work.

The means of waste storage for general and recycled waste prior to collection is not a planning consideration for residential development in this zone.

To comply with AS/NZS 4819.2011 Rural and urban addressing the following is submitted:

- Unit 1 on the Plans is to be Unit 1, 10-12 Edward Street
- Unit 2 on the Plans is to be Unit 2, 10-12 Edward Street
- Unit 3 on the Plans is to be Unit 3, 10-12 Edward Street
- Unit 4 on the Plans is to be Unit 4, 10-12 Edward Street
- Unit 5 on the Plans is to be Unit 5, 10-12 Edward Street
- Unit 6 on the Plans is to be Unit 6, 10-12 Edward Street
- Unit 7 on the Plans is to be Unit 7, 10-12 Edward Street
- Unit 8 on the Plans is to be Unit 8, 10-12 Edward Street
- Unit 9 on the Plans is to be Unit 9, 10-12 Edward Street
- Unit 10 on the Plans is to be Unit 10, 10-12 Edward Street
- Unit 11 on the Plans is to be Unit 11, 10-12 Edward Street
- Unit 12 on the Plans is to be Unit 12, 10-12 Edward Street
- Unit 13 on the Plans is to be Unit 13, 10-12 Edward Street
- Unit 14 on the Plans is to be Unit 14, 10-12 Edward Street

In relation to condition 3, the developer is to note that further planning approval may be required if the building design is to be altered due to National Construction Code requirements.

	For	Against		For	Against
Cr Rockliff	✓		Cr Milbourne	✓	
Cr Alexiou	✓		Cr Perry	✓	
Cr Hollister	✓				

CARRIED UNANIMOUSLY

With no further business on the agenda the Chairperson declared the meeting closed at 5:28pm.

Confirmed

Chairperson

7.2 GOVERNANCE, FINANCE & COMMUNITY SERVICE COMMITTEE MEETING - 20 MAY 2019

File: 33784 D580708

RELEVANCE TO COUNCIL'S PLANS & POLICIES

Council's Strategic Plan 2009-2030:

Strategy 5.3.2 Provide appropriate support to elected members to enable them to discharge their functions

SUMMARY

The purpose of this report is to receive the minutes and endorse the recommendations provided to Council by the Governance, Finance & Community Service Committee meeting held on Monday, 20 May 2019.

ATTACHMENTS

1. Minutes - Governance, Finance & Community Service Committee - 20 May 2019

RECOMMENDATION

That the minutes of the Governance, Finance & Community Service Committee meeting held on Monday, 20 May 2019 be received and the recommendations contained therein be adopted.

- GFC 28/19 Elected Members' Expenditure Report March and April 2019
- GFC 29/19 Annual Plan Progress Report to 30 April 2019
- GFC 30/19 Finance Report to 30 April 2019
- GFC 31/19 Review of Special Interest and Working Groups
- GFC 32/19 Change of Weekend Hours Bass Strait Maritime Centre
- GFC 33/19 Cradle Country Marketing Group Annual Review
- GFC 34/19 Minutes of Council's Special Interest Groups and Advisory boards
- GFC 35/19 Community Services Report - March/April 2019
- GFC 36/19 Arts and Culture Report - March/April 2019
- GFC 37/19 Governance and Finance Report

Author:	Robyn Woolsey	Endorsed By:	Paul West
Position:	Executive Assistant General	Position:	General Manager
Management			

MINUTES OF A GOVERNANCE, FINANCE & COMMUNITY SERVICE COMMITTEE MEETING OF THE DEVONPORT CITY COUNCIL HELD IN THE ABERDEEN ROOM, LEVEL 2, paranable centre, 137 ROOKE STREET, DEVONPORT ON MONDAY, 20 MAY 2019 COMMENCING AT 5:30PM

PRESENT: Cr A Jarman (Chairman)
Cr J Alexiou
Cr G Ennis
Cr L Laycock
Cr S Milbourne
Cr A Rockliff

Councillors in Attendance:

Cr P Hollister
Cr L Murphy
Cr L Perry

Council Officers:

General Manager, P West
Executive Manager Corporate Services, J Griffith
Executive Manager Organisational Performance, K Peebles
Community Services Manager, K Hampton
Convention and Arts Centre Manager, G Dobson
Finance Manager, J Jackson

Audio Recording:

All persons in attendance were advised that it is Council policy to record Council meetings, in accordance with Council's Audio Recording Policy. The audio recording of this meeting will be made available to the public on Council's website for a minimum period of six months.

1.0 APOLOGIES

There were no apologies received.

2.0 DECLARATIONS OF INTEREST

There were no Declarations of Interest.

3.0 PROCEDURAL

3.1 PUBLIC QUESTION TIME

MR RODNEY RUSSELL – 225 STEELE STREET, DEVONPORT

Q1 At a previous Council meeting I asked if Devonport City Council was, or will do audits of other storage areas or collections which may hopefully turn up the missing items belonging to Devonport Sister City Association. The question was passed to the Convention and Art Centre Director, who I understand was, or is doing such audits. I would like to know if Devonport City Council was doing audits of areas under its control, for example the Council works depot, the storage facility in Launceston which items were sent to and/or the new storage area in the multi storey car park?

Response

The General Manager advised that the Council storage areas, being the multi storey car park, the works depot, the art storage area in Lawrence Drive have all been checked in relation to the items that Mr Russell was referring to. The offsite storage in Launceston that was referred to is only a paper-based records storage, all information was recorded as it was transferred to the offsite location.

Q2 Lawrence Drive Cemetery. I see Devonport City Council has started to put new gravel down for the walking paths between graves. Do you have a work program I could see please? If you are going to do more works at that site.

Response

The Chairperson advised that the matter would be taken on notice and a response provided in writing.

MR DOUGLAS JANNEY – 23 WATKINSON STREET, DEVONPORT

Q1 Page 50 of tonight's agenda. Item CB0080. What caused this over expenditure of some \$36,698?

Response

The General Manager advised it was in relation to the Art Gallery Integration Project. There was some cost associated with a building that has a lot of heritage value, there were a number of items that were identified that required attention during the build. The exact nature of the overrun of the total project would have been a number of different things to make up the \$36,000.

The Convention and Arts Centre Manager advised that to his mind there is no single item that would have caused the overrun but a number of small aspects of the integration project.

Q2 Page 97. What has the Council done to review and modify work practices to minimise Workers' Compensation for the year to 30 June 2019 going forward?

Response

The General Manager advised that it is an ongoing process. Of course Council would prefer to have zero claims and obviously zero cost. Unfortunately there have been a couple of incidences where there have been injuries that have occurred within the workplace. In such circumstances there is a review undertaken by our Risk Management staff and if necessary, we also will bring in outside consultants to actually review work practices. In some cases the injuries are strains and sprains and Council offer a number of training sessions throughout the year, particularly for the outdoor work force to assist workers in being aware of how best to lift and move things.

MR MALCOLM GARDAM – 4 BEAUMONT DRIVE, DEVONPORT

Q1 Reference Item 1.6 "Meetings at paranapple convention centre" on page 92 of the current Agenda. It states that over fifteen events were held during March and April in the convention centre but of the fourteen listed no less than six were attributed to DCC, Devonport Library and the Local Government Association indicating a high level of self-generated use. I also noted all the others, bar one were also local events, nothing has come from outside of the town that I can see. Can Council advise as to how many of

events to date in the convention centre have been conducted over a two day period and perhaps thereby creating an accommodation need?

Response

The General Manager advised that there have been a number of events that have been held. For instance the general meeting was the Local Government Association of Tasmania. There was a number of people who were at that event that would have been in Devonport the night before.

The Professional Engineers held their conference here. That was over three days, I believe. It started on the Thursday and went through to the Saturday. That would have required accommodation. Also the RACT held their Board meeting here, their whole Board was here for essentially two days and then they had their 50 year anniversary celebration in the conference facility as well - so they would have required accommodation. We don't keep records on the attendees at these events and their accommodation needs.

Another one on the list is the Physiotherapists Group, they actually held a conference here. I don't know how many of those were from Devonport or were from broader Tasmania, or from anywhere else, our interest is in the events being in the convention centre, not necessarily trying to break down the attendees into whether they had accommodation or otherwise.

Q2 Reference Item 1.6 "Meetings at paranapple convention centre" on page 92 of the current Agenda. It notes that the Gateway Church conducted its Churches Together Easter Thursday Service in the conference centre; accordingly will Council confirm if the Gateway Church actually paid and if so were the rates Commercial or Community based rates as per the set hire schedule?

Response

The General Manager advised that the Gateway Church did pay and they were the community rates, because it was a community Church service. It was organised by Gateway Church but they paid the community rate as set in the schedule of charges.

MR RODNEY RUSSELL – 225 STEELE STREET, DEVONPORT

Q3 In previous Council offices there was a place to pick up Council information brochures and so forth. Do you intend to put one in here at all?

Response

The General Manager advised that the process is that there is not a brochure rack as such, there is not a display of individual items that people can just come in and pick off a brochure rack. We do provide, particularly for visitors to the city information at the Visitor Centre next door. We have a number of people that come here and collect items if it has been arranged for that to occur, but there is no such place as a central repository to display or to retrieve information.

MR DOUGLAS JANNEY – 23 WATKINSON STREET, DEVONPORT

Q3 What number of Budget submissions by ratepayers have been adopted into the 2019/2020 Budget?

Response

The General Manager advised that the 2019/2020 Budget is still being prepared and as part of the process public submissions have all been provided with a

summary to Councillors for consideration. As to the percentage of the ones that may or may not be adopted I can't tell you that at this stage because the budget has not been finalised. The usual process is at the end of the budget process we will go through and review all of the submissions again and then correspond with the individuals who made them to advise them as to whether their submission has been included, if it hasn't for what reason or some details about some other activities that Council may be doing that may be similar as what has been asked.

MR MALCOLM GARDAM – 4 BEAUMONT DRIVE, DEVONPORT

Q3 Reference to the Unconfirmed Audit Panel Minutes – 26 March 2019. It states in relation to the Auditor General's review of three Councils including Devonport that *"they've drafted the report relating to two and are currently finalising the third. The draft report will be provided to Council for comment prior to the report being tabled to Parliament. At this stage, they are looking to table the report in May."* Will Council confirm if the draft report referred to has been received?

Response

The General Manager advised, no.

3.2 QUESTIONS FROM COUNCILLORS

Nil

3.3 NOTICES OF MOTION

Nil

4.0 GOVERNANCE REPORTS

4.1 ELECTED MEMBERS' EXPENDITURE REPORT MARCH AND APRIL 2019 (D578910)

GFC 28/19 RESOLUTION

MOVED: Cr Laycock

SECONDED: Cr Milbourne

That it be recommended to Council that the bi-monthly report advising of Councillor allowances and expenses be received and noted.

	For	Against		For	Against
Cr Jarman	✓		Cr Laycock	✓	
Cr Alexiou	✓		Cr Milbourne	✓	
Cr Ennis	✓		Cr Rockliff	✓	

CARRIED UNANIMOUSLY

4.2 ANNUAL PLAN PROGRESS REPORT TO 30 APRIL 2019 (D579088)

GFC 29/19 RESOLUTION

MOVED: Cr Rockliff

SECONDED: Cr Alexiou

That it be recommended to Council that the 2018/19 Annual Plan Progress Report for the period ended 30 April 2019 be received and noted.

	For	Against		For	Against
Cr Jarman	✓		Cr Laycock	✓	
Cr Alexiou	✓		Cr Milbourne	✓	
Cr Enniss	✓		Cr Rockliff	✓	

CARRIED UNANIMOUSLY

5.0 FINANCE REPORTS**5.1 FINANCE REPORT TO 30 APRIL 2019 (D579615)****GFC 30/19 RESOLUTION**

MOVED: Cr Milbourne

SECONDED: Cr Rockliff

That it be recommended to Council that the Finance Report for April 2019 be received and noted.

	For	Against		For	Against
Cr Jarman	✓		Cr Laycock	✓	
Cr Alexiou	✓		Cr Milbourne	✓	
Cr Enniss	✓		Cr Rockliff	✓	

CARRIED UNANIMOUSLY

6.0 COMMUNITY SERVICES REPORTS**6.1 REVIEW OF SPECIAL INTEREST AND WORKING GROUPS (D575415)****GFC 31/19 RESOLUTION**

MOVED: Cr Laycock

SECONDED: Cr Enniss

That it be recommended to Council that an Expression of Interest process be undertaken for community member appointments to the following Council Special Interest/Working Groups:

- East Devonport Special Interest Group
- Liveable Communities Special Interest Group
- Active City Special Interest Group
- Devonport Food and Wine Working Group
- Devonport Jazz Working Group
- paranaple arts centre Special Advisory Group

	For	Against		For	Against
Cr Jarman	✓		Cr Laycock	✓	
Cr Alexiou	✓		Cr Milbourne	✓	
Cr Enniss	✓		Cr Rockliff	✓	

CARRIED UNANIMOUSLY

6.2 CHANGE OF WEEKEND HOURS BASS STRAIT MARITIME CENTRE (D572846)**GFC 32/19 RESOLUTION**

MOVED: Cr Rockliff
 SECONDED: Cr Milbourne

That it be recommended to Council that the weekend opening hours of the Bass Strait Maritime Centre be amended with closure being 4:00pm.

	For	Against		For	Against
Cr Jarman	✓		Cr Laycock	✓	
Cr Alexiou	✓		Cr Milbourne	✓	
Cr Enniss	✓		Cr Rockliff	✓	

CARRIED UNANIMOUSLY

6.3 CRADLE COUNTRY MARKETING GROUP ANNUAL REVIEW (D574569)**GFC 33/19 RESOLUTION**

MOVED: Cr Rockliff
 SECONDED: Cr Laycock

That it be recommended to Council that it note the activities and initiatives of the Cradle Country Marketing Group and endorse Council's contribution of \$17,500 to the Group's initiatives in 2019/20, with the intent to reassess the effectiveness of the Group's initiatives during the year prior to committing to ongoing support.

	For	Against		For	Against
Cr Jarman	✓		Cr Laycock	✓	
Cr Alexiou	✓		Cr Milbourne	✓	
Cr Enniss	✓		Cr Rockliff	✓	

CARRIED UNANIMOUSLY

7.0 INFORMATION REPORTS**7.1 MINUTES OF COUNCIL'S SPECIAL INTEREST GROUPS AND ADVISORY BOARDS (D573663)****GFC 34/19 RESOLUTION**

MOVED: Cr Laycock
 SECONDED: Cr Milbourne

That it be recommended to Council that the minutes of the Devonport Regional Gallery Advisory Board and East Devonport Special Interest Group be received and noted.

	For	Against		For	Against
Cr Jarman	✓		Cr Laycock	✓	
Cr Alexiou	✓		Cr Milbourne	✓	
Cr Enniss	✓		Cr Rockliff	✓	

CARRIED UNANIMOUSLY

7.2 COMMUNITY SERVICES REPORT - MARCH/APRIL 2019 (D572576)**GFC 35/19 RESOLUTION**

MOVED: Cr Rockliff
 SECONDED: Cr Milbourne

That it be recommended to Council that the Community Services report be received and noted.

	For	Against		For	Against
Cr Jarman	✓		Cr Laycock	✓	
Cr Alexiou	✓		Cr Milbourne	✓	
Cr Ennis	✓		Cr Rockliff	✓	

CARRIED UNANIMOUSLY

7.3 ARTS AND CULTURE REPORT - MARCH/APRIL 2019 (D573004)**GFC 36/19 RESOLUTION**

MOVED: Cr Laycock
 SECONDED: Cr Rockliff

That it be recommended to Council that the Arts and Culture report be received and noted.

	For	Against		For	Against
Cr Jarman	✓		Cr Laycock	✓	
Cr Alexiou	✓		Cr Milbourne	✓	
Cr Ennis	✓		Cr Rockliff	✓	

CARRIED UNANIMOUSLY

7.4 GOVERNANCE AND FINANCE REPORT (D577649)**GFC 37/19 RESOLUTION**

MOVED: Cr Rockliff
 SECONDED: Cr Milbourne

That it be recommended to Council that the Governance and Finance report be received and noted.

	For	Against		For	Against
Cr Jarman	✓		Cr Laycock	✓	
Cr Alexiou	✓		Cr Milbourne	✓	
Cr Ennis	✓		Cr Rockliff	✓	

CARRIED UNANIMOUSLY

There being no further business on the agenda the Chairperson declared the meeting closed at 6:09pm.

Confirmed

Chairperson

8.0 CLOSED SESSION

RECOMMENDATION

That in accordance with Regulation 15 of the *Local Government (Meeting Procedures) Regulations 2015*, the following be dealt with in Closed Session.

Item No	Matter	<i>Local Government (Meeting Procedures) Regulations 2015</i> Reference
8.1	Confirmation of Closed Minutes - Council Meeting - 29 April 2019	15(2)(g)
8.2	Application for Leave of Absence	15(2)(i)
8.3	Unconfirmed Minutes - Joint Authorities	15(2)(g)
8.4	Local Government Association of Tasmania - Election of President & GMC Member - 2019	15(2)(g)
8.5	2-12 Murray Street, East Devonport	15(2)(f)

OUT OF CLOSED SESSION**RECOMMENDATION**

That Council:

- (a) having met and dealt with its business formally move out of Closed Session; and
- (b) resolves to report that it has determined the following:

Item No	Matter	Outcome
8.1	Confirmation of Closed Minutes - Council Meeting - 29 April 2019	Confirmed
8.2	Application for Leave of Absence	Approved
8.3	Unconfirmed Minutes - Joint Authorities	Noted
8.4	Local Government Association of Tasmania - Election of President & GMC Member - 2019	
8.5	2-12 Murray Street, East Devonport	

9.0 CLOSURE

There being no further business the Mayor declared the meeting closed at pm.
