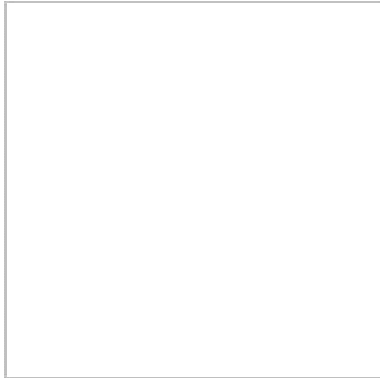


Property

73A NEW TOWN ROAD NEW TOWN TAS 7008



People

<b>Applicant *</b>	ERA Planning and Environment Monica Cameron Level 1, 125A Elizabeth Street HOBART TAS 7000 0400712023 monica@eraplanning.com.au
<b>Owner *</b>	Director of Housing, Housing Tasmania  C/- Chris Jacobson, Fairbrother 59 Sandy Bay Road BATTERY POINT TAS 7004 0411877286 cjacobson@fairbrother.com.au
<b>Entered By</b>	MONICA CAMERON 0400 712 023 monica@eraplanning.com.au

Use

Multiple dwellings

Details

Have you obtained pre application advice?

☒ Yes

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

Are you applying for permitted visitor accommodation as defined by the State Government Visitor Accommodation Standards? Click on help information button for definition. If you are not the owner of the property you MUST include signed confirmation from the owner that they are aware of this application. \*

☒ No

Is the application for SIGNAGE ONLY? If yes, please enter \$0 in the cost of development, and you must enter the number of signs under Other Details below. \*

☒ No

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



Details

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

Sports and recreation

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

Three storey development comprising multiple dwellings. Refer to attached supporting documentation.

Estimated cost of development \*

6700000.00

Existing floor area (m2)

Proposed floor area (m2)

636.00

Site area (m2)

1849

Carparking on Site

Total parking spaces

12

Existing parking spaces

0

N/A

☒ Other (no selection chosen)

Other Details

Does the application include signage? \*

☒ No

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

0

Tasmania Heritage Register

Is this property on the Tasmanian Heritage Register? ☒ No

Documents

Required Documents

Title (Folio text and Plan and Appendix B_Certificates of Titles.pdf Schedule of Easements) *	
Plans (proposed, existing) * Appendix C_Architectural plans_22 Apr 2022.pdf	
GM or Crown consent	Appendix A_Land Owner Consent_DCT.pdf
Covering Letter	Appendix H_Centacare letter_5 Apr 2022.pdf

Supporting Documents

Concept Servicing Plan	Appendix F_Rare cover letter_25 Mar 2022.pdf
Concept Servicing Plan	Appendix F_Civil infrastructure concept design_24 Mar 2022.pdf
Traffic Impact Assessment	Appendix E_Traffic Impact Assessment V2_5 May 2022.pdf
Planning Report	Supporting planning report_73a New Town Road, New Town_Final_6.5.22.pdf
Heritage Report	Appendix G_Heritage Impact Assessment_16 Mar 2022.pdf
Geotechnical Report	Appendix D_Geotechnical Report V02_Feb 2022.pdf

## Submission to Planning Authority Notice

<b>Council Planning Permit No.</b>	PLN-22-282	<b>Council notice date</b>	5/09/2022
<b>TasWater details</b>			
<b>TasWater Reference No.</b>	TWDA 2022/00684-HCC	<b>Date of response</b>	27/10/2022
<b>TasWater Contact</b>	Anthony Cengia	<b>Phone No.</b>	0474 933 293
<b>Response issued to</b>			
<b>Council name</b>	CITY OF HOBART		
<b>Contact details</b>	coh@hobartcity.com.au		
<b>Development details</b>			
<b>Address</b>	73A NEW TOWN RD, NEW TOWN	<b>Property ID (PID)</b>	5515409
<b>Description of development</b>	Demolition, 22 Multiple Dwellings, Front Fencing, and Associated Works		
<b>Schedule of drawings/documents</b>			
<b>Prepared by</b>	<b>Drawing/document No.</b>	<b>Revision No.</b>	<b>Date of Issue</b>
Philp Lighton	092.21144 Sheets DA02, DA10, DA11, DA12, DA14, DA15	C	17/10/2022
Philp Lighton	092.21144 Sheets DA09, DA15, DA16, DA17	B	17/10/2022
Rare	220008 Sheets C501, C601	3	11/10/2022
Rare	220008 Sheet C701	4	11/10/2022
<b>Conditions</b>			
<b>SUBMISSION TO PLANNING AUTHORITY NOTICE OF PLANNING APPLICATION REFERRAL</b>			
Pursuant to the <i>Water and Sewerage Industry Act 2008 (TAS)</i> Section 56P(1) TasWater imposes the following conditions on the permit for this application:			
<b>CONNECTIONS, METERING &amp; BACKFLOW</b>			
<ol style="list-style-type: none"> <li>1. A suitably sized water supply with metered connection and sewerage system and connection to the development must be designed and constructed to TasWater's satisfaction and be in accordance with any other conditions in this permit.</li> <li>2. Any removal/supply and installation of water meters and/or the removal of redundant and/or installation of new and modified property service connections must be carried out by TasWater at the developer's cost.</li> <li>3. Prior to commencing construction/use of the development, any water connection utilised for construction/the development must have a backflow prevention device and water meter installed, to the satisfaction of TasWater.</li> </ol>			
<b>DEVELOPMENT ASSESSMENT FEES</b>			
<ol style="list-style-type: none"> <li>4. The applicant or landowner as the case may be, must pay a development assessment fee of \$723.84 to TasWater, as approved by the Economic Regulator and the fee will be indexed, until the date paid to TasWater.</li> </ol> <p>The payment is required within 30 days of the issue of an invoice by TasWater.</p>			

## Advice

### Water Sub Metering

As of July 1 2022, TasWater's Sub-Metering Policy no longer permits TasWater sub-meters to be installed for new developments. Please ensure plans submitted with the application for Certificate(s) for Certifiable Work (Building and/or Plumbing) reflect this. For clarity, TasWater does not object to private sub-metering arrangements. Further information is available on our website ([www.taswater.com.au](http://www.taswater.com.au)) within our Sub-Metering Policy and Water Metering Guidelines.

### General

For information on TasWater development standards, please visit <https://www.taswater.com.au/building-and-development/technical-standards>

For application forms please visit <https://www.taswater.com.au/building-and-development/development-application-form>

### Service Locations

Please note that the developer is responsible for arranging to locate the existing TasWater infrastructure and clearly showing it on the drawings. Existing TasWater infrastructure may be located by a surveyor and/or a private contractor engaged at the developers cost to locate the infrastructure.

- (a) A permit is required to work within TasWater's easements or in the vicinity of its infrastructure. Further information can be obtained from TasWater.
- (b) TasWater has listed a number of service providers who can provide asset detection and location services should you require it. Visit [www.taswater.com.au/Development/Service-location](http://www.taswater.com.au/Development/Service-location) for a list of companies.
- (c) Sewer drainage plans or Inspection Openings (IO) for residential properties are available from your local council.

## Declaration

The drawings/documents and conditions stated above constitute TasWater's Submission to Planning Authority Notice.

## TasWater Contact Details

Phone	13 6992	Email	development@taswater.com.au
Mail	GPO Box 1393 Hobart TAS 7001	Web	www.taswater.com.au





**092.21144 FAIRBROTHER  
TOWNHOUSE DEVELOPMENT  
73A NEW TOWN ROAD NEW TOWN**



**PhilpLighton Architects**

Print Date 04.05.22 11:41am

REV B

**DA00**

Autodesk Docs\Newtown Apartments\092-21144 Development Application.rvt





SITE INFORMATION

ADDRESS 73a NEW TOWN ROAD NEW TOWN TAS 7008  
CBOS NOMINATED PETER GAGGIN CC 997A  
PHILP LIGHTON ARCHITECTS PTY LTD

SITE DETAILS

SITE AREA 1849m2  
SITE COVERAGE 636m2  
LOT NUMBER 1a  
TITLE REFERENCE 205058-1  
ZONING INNER RESIDENTIAL  
OVERLAY HERITAGE PRECINCT  
LOCAL AUTHORITY HOBART CITY COUNCIL

APARTMENTS

11 x 1 BED APARTMENTS  
11 x 2 BED APARTMENTS  
22 TOTAL

PARKING

12 TOTAL

DRAWING LIST

DA00	COVER
DA01	LOCATION PLAN
DA02	SITE PLAN
DA03	IMAGE 01
DA04	IMAGE 02
DA05	IMAGE 03
DA06	LEVEL 00 LANDSCAPE
DA07	LEVEL 02 LANDSCAPE
DA08	SITE CROSS SECTIONS
DA09	EXISTING PLAN
DA10	LEVEL 00
DA11	LEVEL 01
DA12	LEVEL 02
DA13	ROOF PLAN
DA14	SECTIONS
DA15	ELEVATIONS
DA16	ELEVATIONS
DA17	ELEVATIONS
DA18	SHADOW DIAGRAM EXIST 9AM - 21 JUNE
DA19	SHADOW DIAGRAM EXIST 10AM - 21 JUNE
DA20	SHADOW DIAGRAM EXIST 11AM - 21 JUNE
DA21	SHADOW DIAGRAM EXIST 12PM - 21 JUNE
DA22	SHADOW DIAGRAM EXIST 1PM - 21 JUNE
DA23	SHADOW DIAGRAM EXIST 2PM - 21 JUNE
DA24	SHADOW DIAGRAM EXIST 3PM - 21 JUNE
DA25	SHADOW DIAGRAM EXIST 9AM - 21 MAR&SEPT
DA26	SHADOW DIAGRAM EXIST 10AM - 21 MAR&SEPT
DA27	SHADOW DIAGRAM EXIST 11AM - 21 MAR&SEPT
DA28	SHADOW DIAGRAM EXIST 12PM - 21 MAR&SEPT
DA29	SHADOW DIAGRAM EXIST 1PM - 21 MAR&SEPT
DA30	SHADOW DIAGRAM EXIST 2PM - 21 MAR&SEPT
DA31	SHADOW DIAGRAM EXIST 3PM - 21 MAR&SEPT
DA32	SHADOW DIAGRAM 9AM - 21 JUNE
DA33	SHADOW DIAGRAM 10AM - 21 JUNE
DA34	SHADOW DIAGRAM 11AM - 21 JUNE
DA35	SHADOW DIAGRAM 12PM - 21 JUNE
DA36	SHADOW DIAGRAM 1PM - 21 JUNE
DA37	SHADOW DIAGRAM 2PM - 21 JUNE
DA38	SHADOW DIAGRAM 3PM - 21 JUNE
DA39	SUNLIGHT & SHADOW DIAGRAMS JUNE 21 (WINTER) EAST FACING
DA40	SUNLIGHT & SHADOW DIAGRAMS JUNE 21 (WINTER) EAST FACING
DA41	SUNLIGHT & SHADOW DIAGRAMS JUNE 21 (WINTER) WEST FACING
DA42	SUNLIGHT & SHADOW DIAGRAMS JUNE 21 (WINTER) WEST FACING
DA43	SUNLIGHT & SHADOW DIAGRAMS SEPT 21 (SPRING) EAST FACING
DA44	SHADOW DIAGRAM 9AM - MARCH & SEPT
DA45	SHADOW DIAGRAM 10AM - MARCH & SEPT
DA46	SHADOW DIAGRAM 11AM - MARCH & SEPT
DA47	SHADOW DIAGRAM 12PM - MARCH & SEPT
DA48	SHADOW DIAGRAM 1PM - MARCH & SEPT
DA49	SHADOW DIAGRAM 2PM - MARCH & SEPT
DA50	SHADOW DIAGRAM 3PM - MARCH & SEPT
DA51	SUNLIGHT & SHADOW DIAGRAMS SEPT 21 (SPRING) WEST FACING
DA52	SUNLIGHT & SHADOW DIAGRAMS DEC 21 (SUMMER) EAST FACING
DA53	SUNLIGHT & SHADOW DIAGRAMS DEC 21 (SUMMER) WEST FACING
DA54	DETAIL FLOOR PLANS
DA56	PARKING ACCESS
DA57	PARKING ACCESS
DA90	BYCICLE PARKING
DA93	NEW TOWN ROAD STREET MONTAGE

092.21144 FAIRBROTHER  
TOWNHOUSE DEVELOPMENT  
73A NEW TOWN ROAD NEW TOWN



PhilpLighton Architects

Print Date 17.10.22 2:50pm

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DA01

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NORTH

  
0 1 2 3 4 5 10m

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HOBART / LAUNCESTON

**FAIRBROTHER  
TOWNHOUSE DEVELOPMENT**  
73A NEW TOWN ROAD  
NEW TOWN TAS 7008

SITE PLAN			
Scale	1: 200 @ A1	Print Date	Project 092.21144
	1: 400 @ A3	17.10.22 2:50pm	
Drawing No	<b>DA02</b>		Rev <b>C</b>
Autodesk Docs/ Newtown Apartments/092-21144 Development Application.rvt			





VIEW ALONG PAVIOUR STREET

  
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NEW TOWN TAS 7008

IMAGE 01

Scale	NTS	@ A1	Print Date	Project
			04.05.22 11:42am	092,21144
Drawing No	DA03	Rev	B	

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VIEW WITHIN SITE TOWARD  
SUNNYSIDE ROAD

  
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TOWNHOUSE DEVELOPMENT**  
73A NEW TOWN ROAD  
NEW TOWN TAS 7008

**IMAGE 02**

Scale	NTS	@ A1	Print Date	Project
			04.05.22 11:42am	092,21144
Drawing No	<b>DA04</b>		Rev	<b>B</b>

Autodesk Docs/Newtown Apartments/092-21144 Development Application.mxd





  
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VIEW FROM SUNNYSIDE RD TOWARD  
THE SITE

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TOWNHOUSE DEVELOPMENT**  
73A NEW TOWN ROAD  
NEW TOWN TAS 7008

**IMAGE 03**

Scale	NTS	@ A1	Print Date	Project
			04.05.22 11:42am	092,21144
Drawing No	<b>DA05</b>		Rev	<b>B</b>

Autodesk Docs/Newtown Apartments/092-21144 Development Application.v1



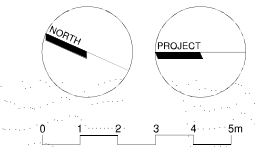


SYMBOL	ITEM	IMAGE	NOTES (ALL LANDSCAPING TO AS 2303)
	<i>Acer Japonicum 'Vitifolium'</i> Japanese Maple		<i>Mature Size:</i> 5 x 5m <i>Species:</i> Japonicum <i>Foliage:</i> Deciduous  <i>Units:</i> 2  <i>NOTE:</i> 35l pot size, to be maintained and protected during construction
	<i>Prunus Blireana</i> Purple Leaf Gum		<i>Mature Size:</i> 5 x 3m <i>Species:</i> X Blireana <i>Foliage:</i> Deciduous  <i>Units:</i> 6  <i>NOTE:</i> 35l pot size, to be maintained and protected during construction
	<i>Nandina Domestica 'Nana'</i> Dwarf Sacred Bamboo		<i>Mature Size:</i> 0.6 x 0.6m <i>Species:</i> Berberidaceae <i>Foliage:</i> Ornamental Flower  <i>Units:</i> approx. 260  <i>Notes:</i> 400centres
	<i>Myoporum parvifolium</i> Creeping Boobialla		<i>Mature Size:</i> 0.2 x 2m <i>Species:</i> Myopraceae <i>Foliage:</i> Evergreen  <i>Units:</i> 12  <i>Notes:</i> 1000centres
	<i>Lomandra Longifolia</i> 'Tarkila'		<i>Mature Size:</i> 0.6 x 0.6m <i>Species:</i> Liliaceae <i>Foliage:</i> Evergreen  <i>Units:</i> approx. 80  <i>Notes:</i> 500centres 300mm topsoil 75mm mulch
	<i>Juniperus Conferta</i> 'Emerald Sea' Shore Juniper		<i>Mature Size:</i> 0.6 x 3m <i>Species:</i> Cupressaceae <i>Foliage:</i> Ornamental  <i>Units:</i> ground cover - 180m <sup>2</sup>  <i>Notes:</i> 1000 centres
	Decorative Gravel River Pebbles		<i>Size:</i> 20 - 40mm <i>Species:</i> <i>Foliage:</i>  <i>Units:</i> ground cover - 40m <sup>2</sup>

LANDSCAPED AREAS

ASTROTURF: 10.8m2  
PLANTED AREAS: 166m2  
(EXCLUDES EMBANKMENT)  
TOTAL: 177m2  
PERCENTAGE OF SITE: 9.9%

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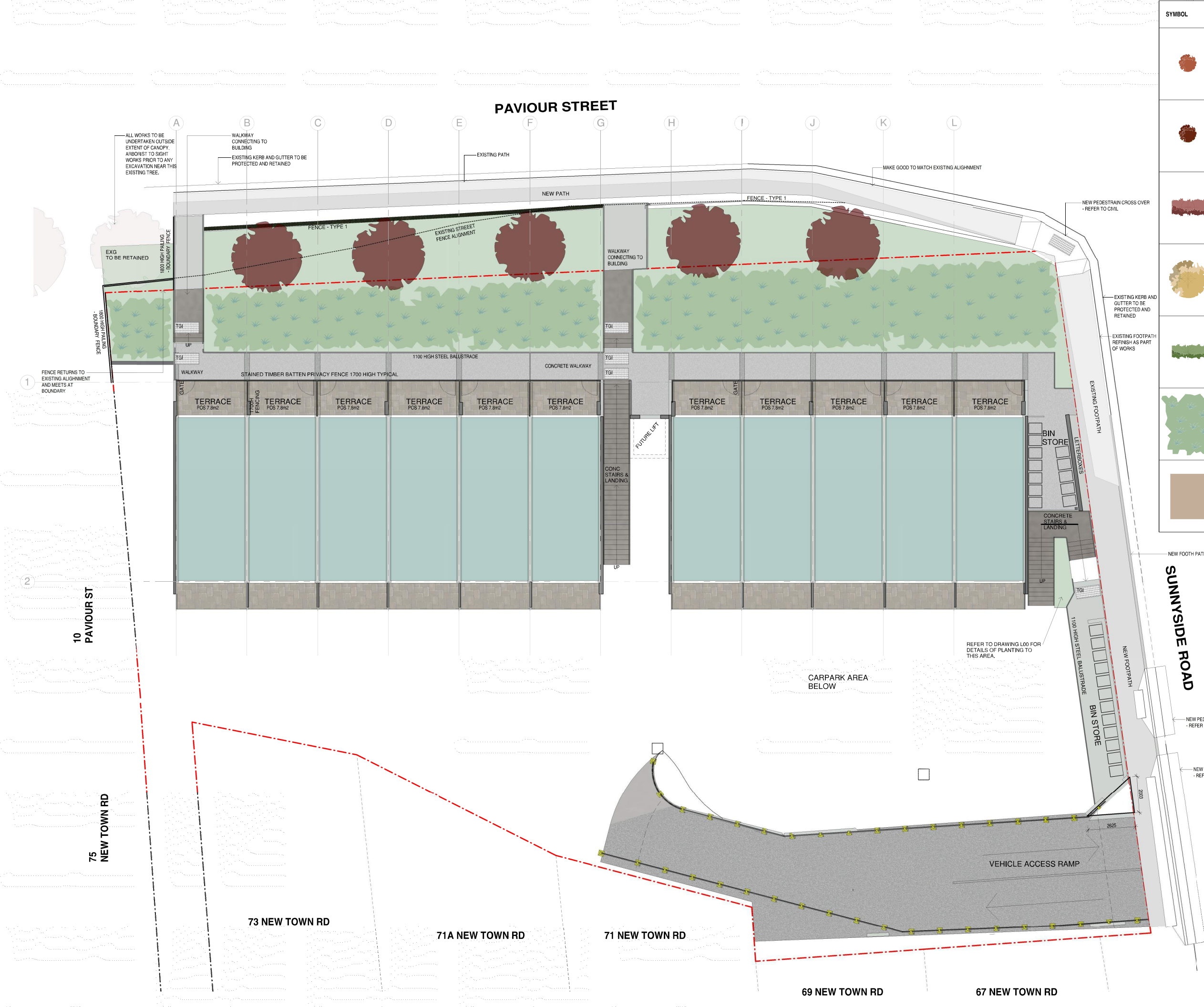
LEVEL 00 LANDSCAPE

Scale 1: 100 @ A1 Print Date 17.10.22 2:50pm Project 092.21144  
1: 200 @ A3  
Drawing No DA06 Rev C

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RETAIN AND PROTECT EXISTING HIGH CHAIN WIRE MESH FENCING WITH DENSE VEGETATION COVER.





SYMBOL	ITEM	IMAGE	NOTES (ALL LANDSCAPING TO AS 2301)
	<i>Acer Japonicum</i> 'Vitifolium' Japanese Maple		Mature Size: 5 x 5m Species: Japonicum Foliage: Deciduous Units: 2 NOTE: 35l pot size, to be maintained and protected during construction
	<i>Prunus Blireana</i> Purple Leaf Gum		Mature Size: 5 x 3m Species: X Blireana Foliage: Deciduous Units: 6 NOTE: 35l pot size, to be maintained and protected during construction
	<i>Nandina Domestica</i> 'Nana' Dwarf Sacred Bamboo		Mature Size: 0.6 x 0.6m Species: Berberidaceae Foliage: Ornamental Flower Units: approx. 260 Notes: 400centres
	<i>Myoporum parvifolium</i> Creeping Boobialla		Mature Size: 0.2 x 2m Species: Myoporiaceae Foliage: Evergreen Units: 12 Notes: 1000centres
	<i>Lomandra Longifolia</i> 'Tankia'		Mature Size: 0.6 x 0.6m Species: Liliaceae Foliage: Evergreen Units: approx. 80 Notes: 500centres 300mm topsoil 75mm mulch
	<i>Juniperus Conferta</i> 'Emerald Sea' Shore Juniper		Mature Size: 0.6 x 3m Species: Cupressaceae Foliage: Ornamental Units: ground cover - 180m <sup>2</sup> Notes: 1000 centres
	Decorative Gravel River Pebbles		Size: 20 - 40mm Species: Foliage: Units: ground cover - 40m <sup>2</sup>

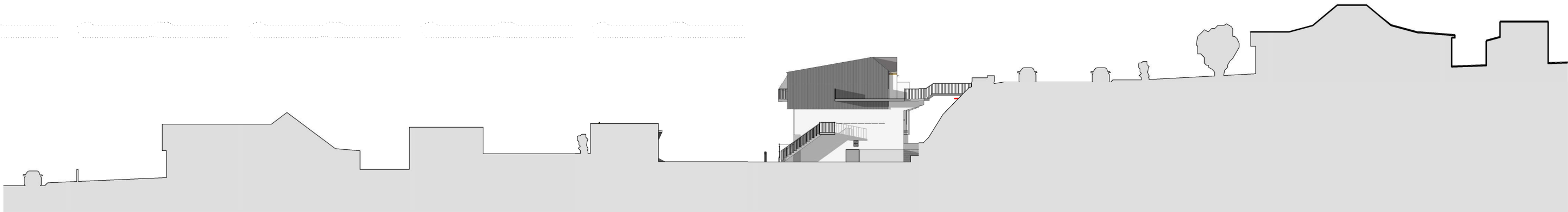
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LEVEL 02 LANDSCAPE

Scale 1: 100 @ A1 Print Date 17.10.22 2:50pm Project 092.21144  
1: 200 @ A3  
Drawing No DA07 Rev C  
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3 PAVIOUR STREET ELEVATION  
1:200



1 SUNNY SIDE ROAD ELEVATION  
1:200



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NEW TOWN TAS 7008

**SITE CROSS SECTIONS**

Scale 1:200 @ A1 Print Date Project 092.21144  
1:200 @ A3 17.10.22 2:50pm

Drawing No **DA08** Rev **B**

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ALL NEW ROADS, CARPARKING AND PEDESTRIAN PATHS TO BE REVIEWED BY TRAFFIC ENGINEER

**SITE PLAN LEGEND**

--- PROPOSED SAP BOUNDARY

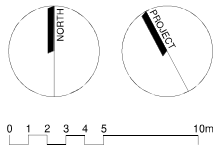
--- TITLE BOUNDARY

EXISTING BUILDING

PROPOSED BUILDING



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**FAIRBROTHER  
TOWNHOUSE DEVELOPMENT**  
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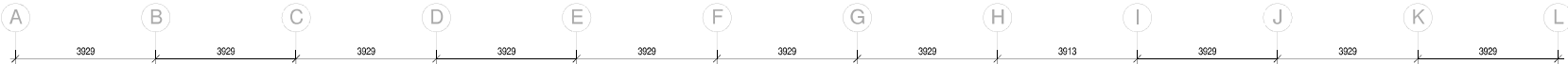
**EXISTING PLAN**

Scale As indicated @ 1:400 @ A3 Print Date 17.10.22 2:50pm Project 092.21144

Drawing No **DA09** Rev **B**

Autodesk Docs://Newtown Apartments/092-21144 Development Application.rvt

PAVOUR STREET



**NOTES**

THE LAYOUT OF CAR PARKING SPACES, ACCESS ALLEYS, CIRCULATION ROADWAYS AND RAMPS WILL BE DESIGNED AND CONSTRUCTED TO COMPLY WITH SECTION 2 - 'DESIGN OF PARKING MODULES, CIRCULATION ROADWAYS AND RAMPS' OF AS/NZS 2899.1:2004 PARKING FACILITIES PART 1: OFF-STREET CAR PARKING AND MUST HAVE SUFFICIENT HEADROOM WITH CLAUSE 5.3 'HEADROOM' OF THE SAME STANDARD.

LOCATION, SIGHT DISTANCE, WIDTH AND GRADIENT OF AN ACCESS WILL BE DESIGNED AND CONSTRUCTED TO COMPLY WITH SECTION 3 - 'ACCESS FACILITIES TO OFF-STREET PARKING AREAS AND QUEUING AREAS' OF AS/NZS 2899.1:2004 PARKING FACILITIES PART 1: OFF-STREET CAR PARKING.

**Fairbrother**

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NORTH PROJECT

0 1 2 3 4 5m

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**FAIRBROTHER TOWNHOUSE DEVELOPMENT**  
73A NEW TOWN ROAD  
NEW TOWN TAS 7008

**LEVEL 00**

Scale 1: 100 @ A1 Print Date 17.10.22 2:51pm Project 092.21144  
1: 200 @ A3  
Drawing No **DA10** Rev **C**

Autodesk Docs: Newtown Apartments/092-21144 Development Application.rvt





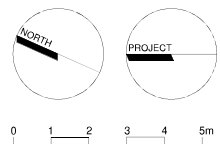
**NOTES**

THE LAYOUT OF CAR PARKING SPACES, ACCESS ALLEYS, CIRCULATION ROADWAYS AND RAMPS WILL BE DESIGNED AND CONSTRUCTED TO COMPLY WITH SECTION 2 - 'DESIGN OF PARKING MODULES, CIRCULATION ROADWAYS AND RAMPS' OF AS/NZS 2890.1:2004 PARKING FACILITIES PART 1: OFF-STREET CAR PARKING AND MUST HAVE SUFFICIENT HEADROOM WITH CLAUSE 5.3 'HEADROOM' OF THE SAME STANDARD.

LOCATION, SIGHT DISTANCE, WIDTH AND GRADIENT OF AN ACCESS WILL BE DESIGNED AND CONSTRUCTED TO COMPLY WITH SECTION 3 - 'ACCESS FACILITIES TO OFF-STREET PARKING AREAS AND QUEUING AREAS' OF AS/NZS 2890.1:2004 PARKING FACILITIES PART 1: OFF-STREET CAR PARKING.

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**FAIRBROTHER TOWNHOUSE DEVELOPMENT**  
73A NEW TOWN ROAD  
NEW TOWN TAS 7008

**LEVEL 01**

Scale 1: 100 @ A1 Print Date 17.10.22 2:51pm Project 092.21144  
Drawing No **DA11** Rev **C**

Autodesk Docs: Newtown Apartments/092-21144 Development Application.vit



**NOTES**

THE LAYOUT OF CAR PARKING SPACES, ACCESS ALLEYS, CIRCULATION ROADWAYS AND RAMPS WILL BE DESIGNED AND CONSTRUCTED TO COMPLY WITH SECTION 2 - 'DESIGN OF PARKING MODULES, CIRCULATION ROADWAYS AND RAMPS' OF AS/NZS 2890.1:2004 PARKING FACILITIES PART 1: OFF-STREET CAR PARKING AND MUST HAVE SUFFICIENT HEADROOM WITH CLAUSE 5.3 'HEADROOM' OF THE SAME STANDARD.

LOCATION, SIGHT DISTANCE, WIDTH AND GRADIENT OF AN ACCESS WILL BE DESIGNED AND CONSTRUCTED TO COMPLY WITH SECTION 3 - 'ACCESS FACILITIES TO OFF-STREET PARKING AREAS AND QUEUING AREAS' OF AS/NZS 2890.1:2004 PARKING FACILITIES PART 1: OFF-STREET CAR PARKING.

HIGHLIGHTED AREA INDICATES THE ZONE PROPOSED TO BE INCLUDED WITHIN AN OCCUPATION LICENSE

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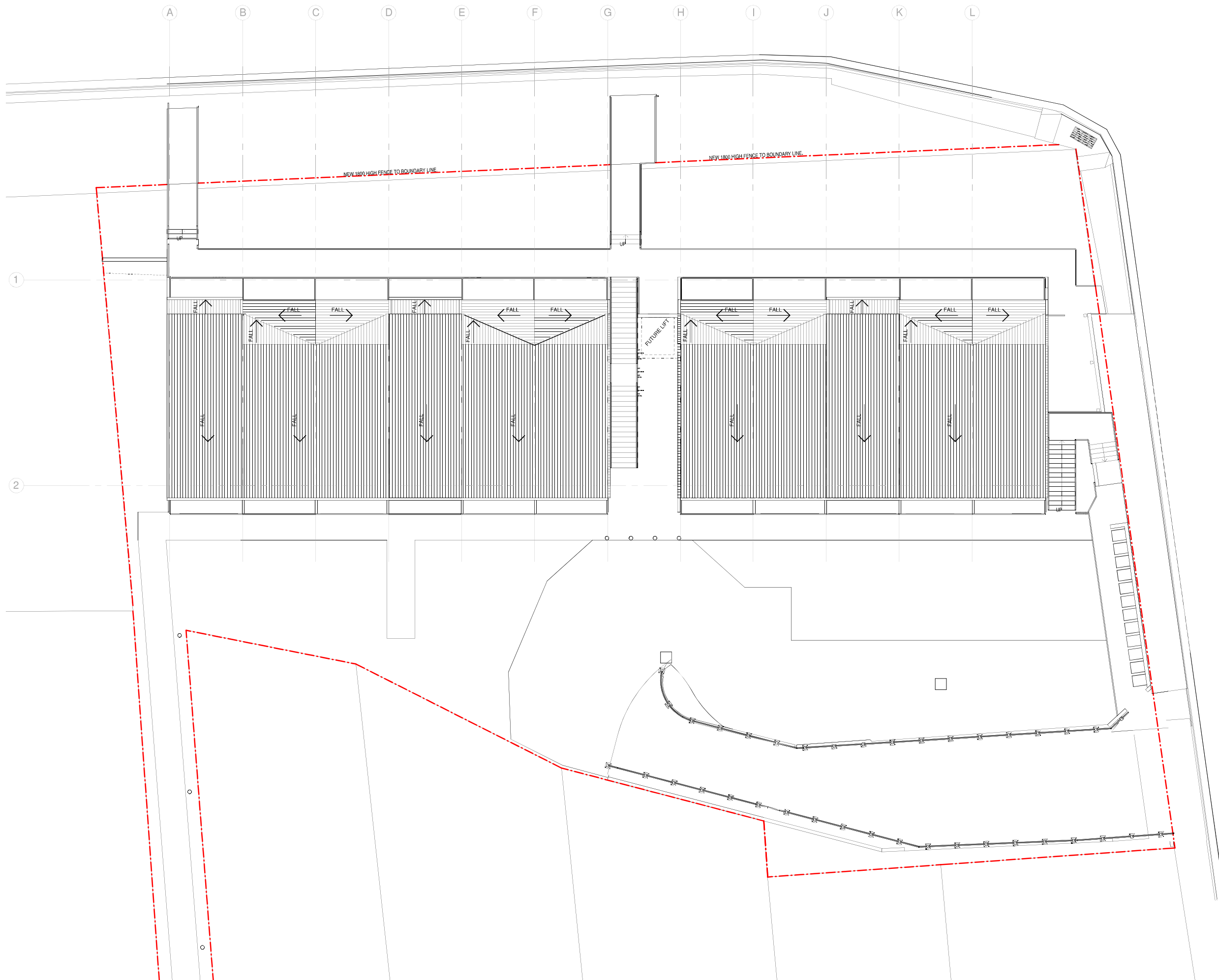
49 Sandy Bay Road, Hobart, Tasmania 7004  
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**LEVEL 02**

Scale 1: 100 @ A1 Print Date 17.10.22 2:51pm Project 092.21144  
Drawing No DA12 Rev C





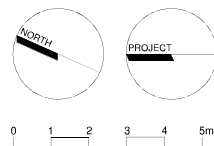
**NOTES**

THE LAYOUT OF CAR PARKING SPACES, ACCESS ALLEYS, CIRCULATION ROADWAYS AND RAMPS WILL BE DESIGNED AND CONSTRUCTED TO COMPLY WITH SECTION 2 - 'DESIGN OF PARKING MODULES, CIRCULATION ROADWAYS AND RAMPS' OF AS/NZS 2890.1:2004 PARKING FACILITIES PART 1: OFF-STREET CAR PARKING AND MUST HAVE SUFFICIENT HEADROOM WITH CLAUSE 5.3 'HEADROOM' OF THE SAME STANDARD.

LOCATION, SIGHT DISTANCE, WIDTH AND GRADIENT OF AN ACCESS WILL BE DESIGNED AND CONSTRUCTED TO COMPLY WITH SECTION 3 - 'ACCESS FACILITIES TO OFF-STREET PARKING AREAS AND QUEUING AREAS' OF AS/NZS 2890.1:2004 PARKING FACILITIES PART 1: OFF-STREET CAR PARKING.



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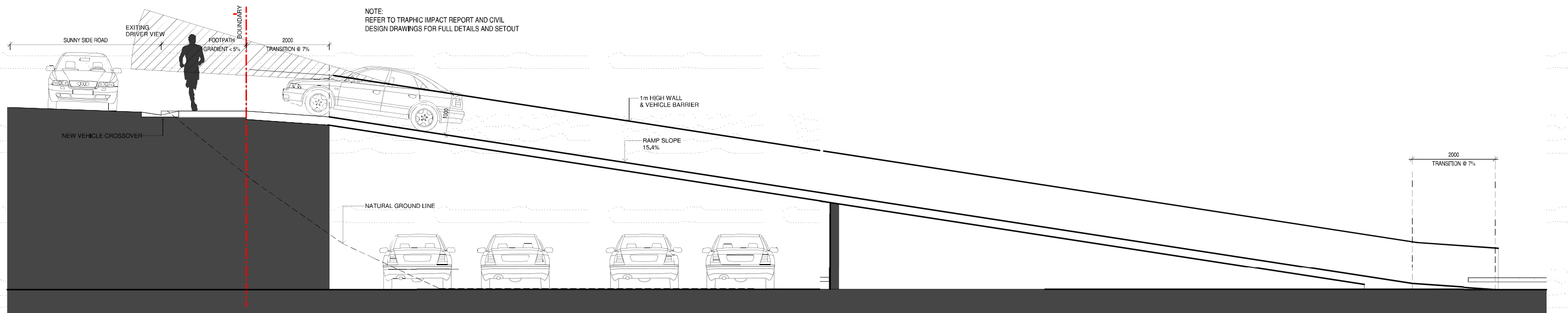
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**ROOF PLAN**

Scale	1 : 100 @ A1	Print Date	Project
	1 : 200 @ A3	17.10.22 2:51pm	092.21144
Drawing No	<b>DA13</b>	Rev	<b>B</b>

Autodesk Docs://Newtown Apartments/092-21144 Development Application.rvt

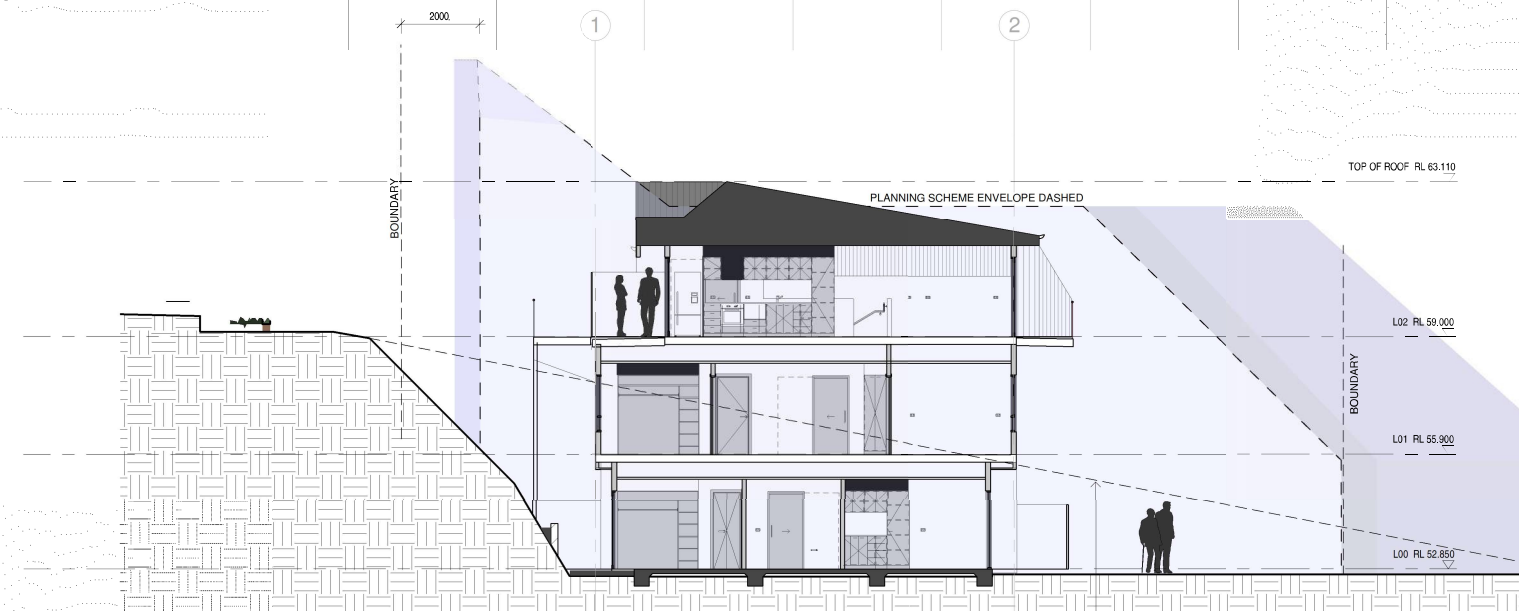


3 RAMP CROSS SECTION  
1:50

4 Ramp Cross Section 02  
1:50



2 SECTION A-A  
1:100



1 SECTION B-B  
1:100



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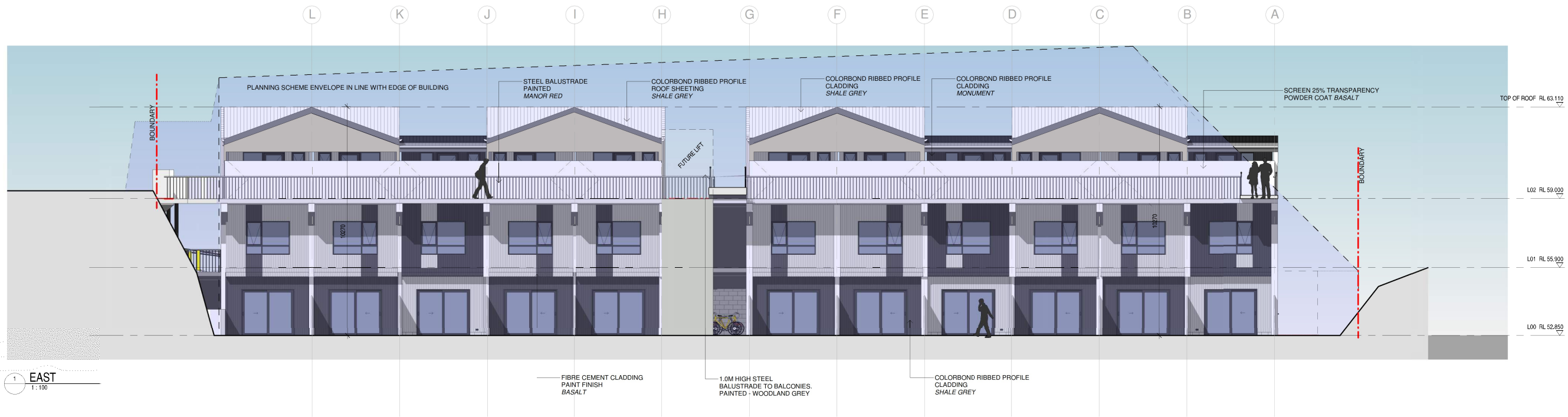
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## SECTIONS

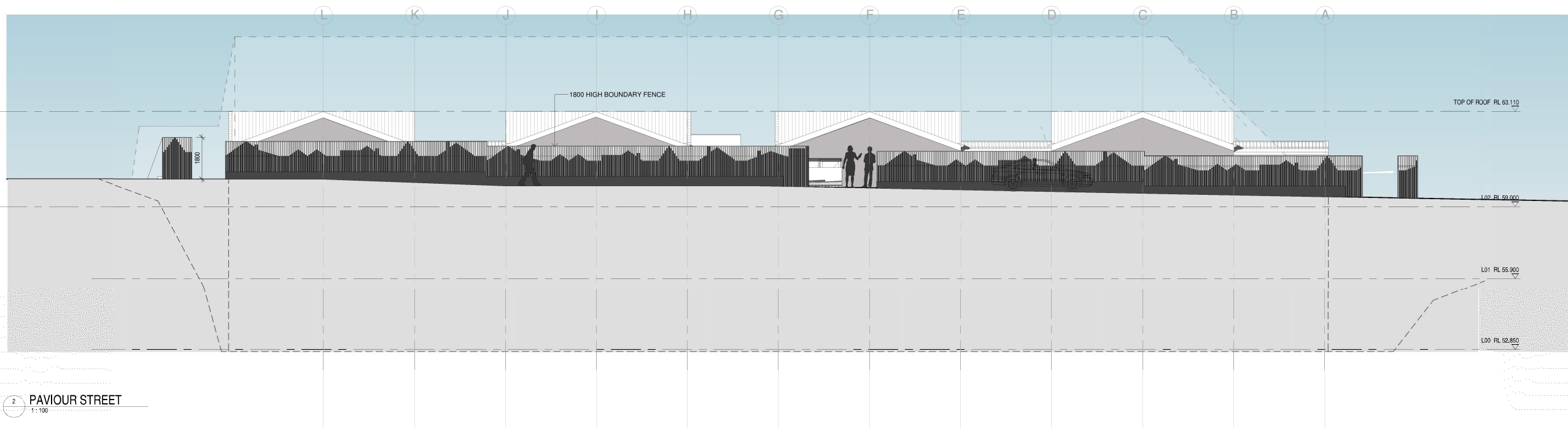
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Print Date 17.10.22 2:51pm  
Project 092.21144

Drawing No **DA14** Rev **C**

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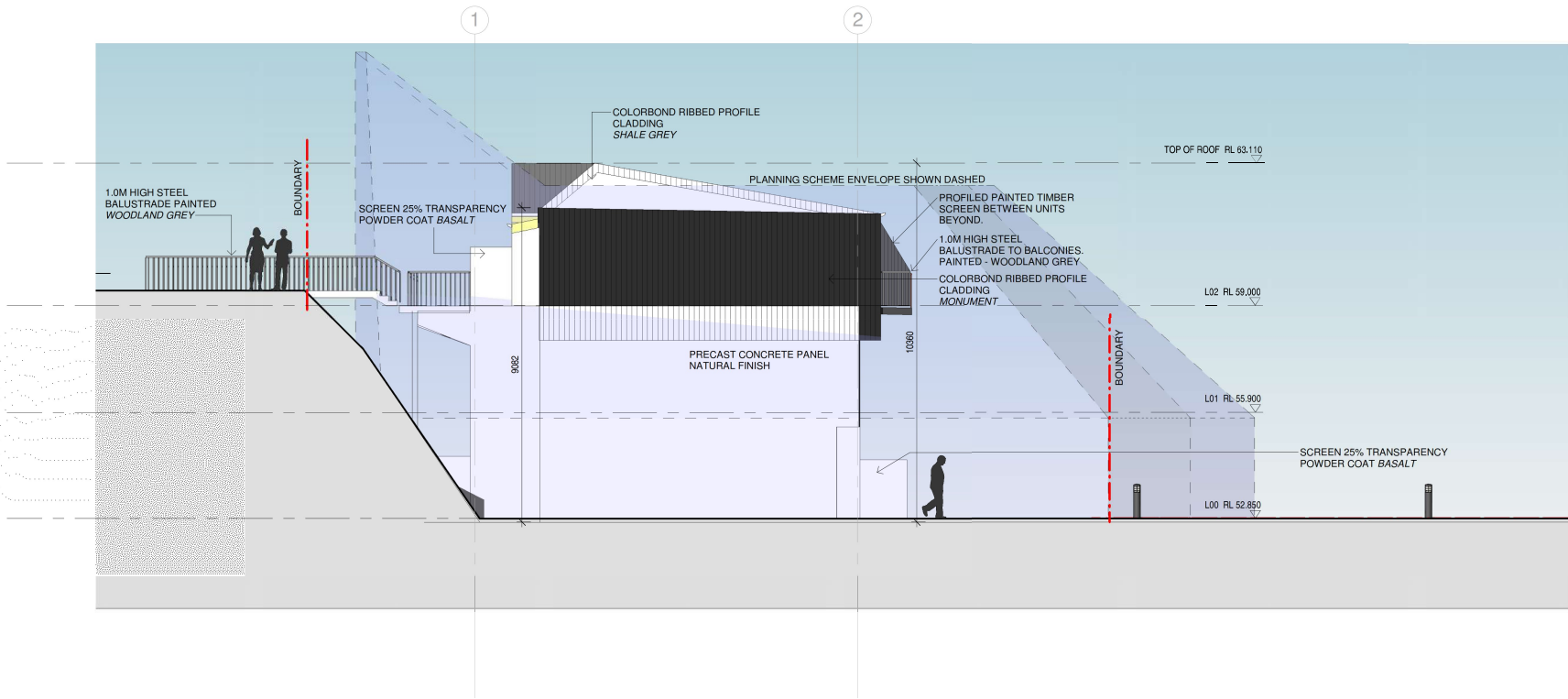
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**TOWNHOUSE DEVELOPMENT**  
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**ELEVATIONS**

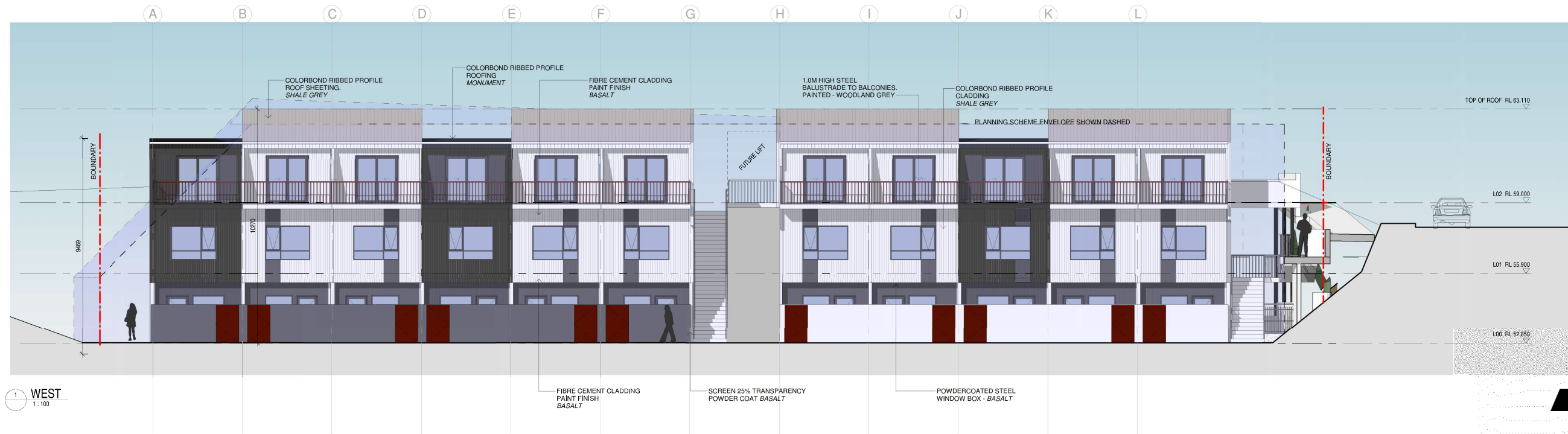
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1:200 @ A3

Drawing No **DA15** Rev **B**

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2 NORTH  
1:100



1 WEST  
1:100



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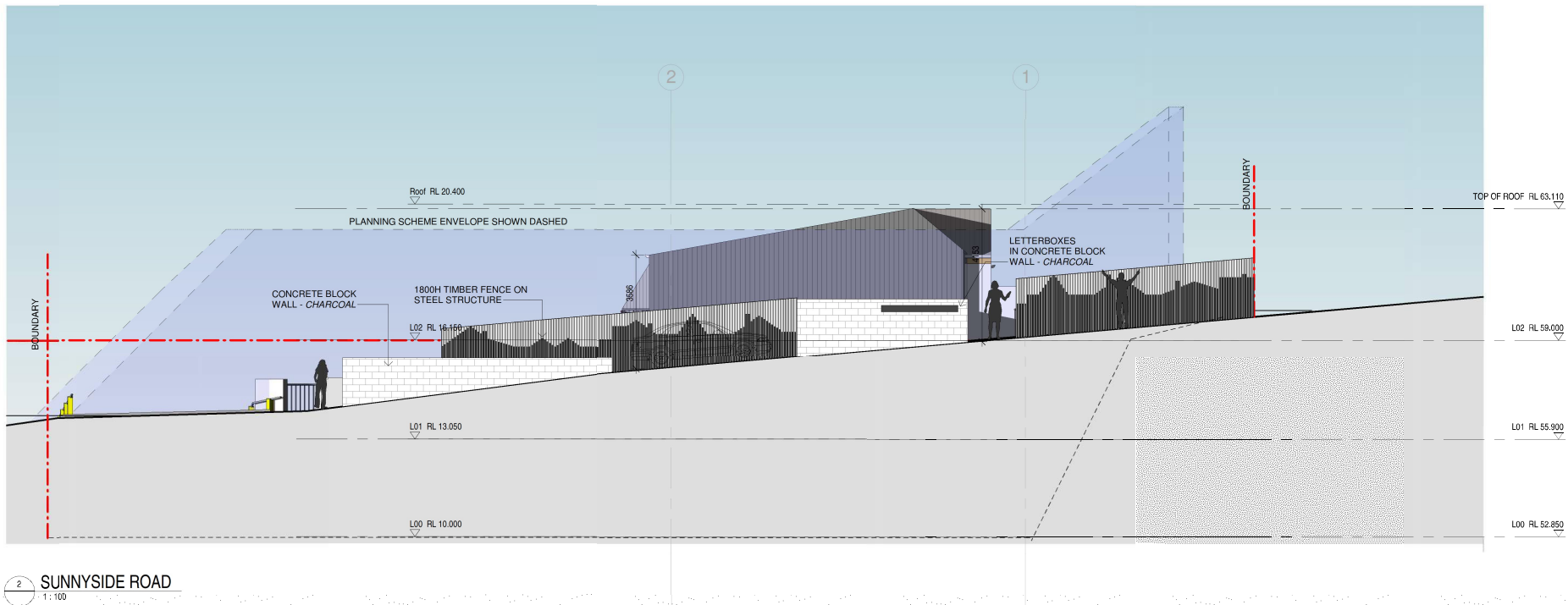
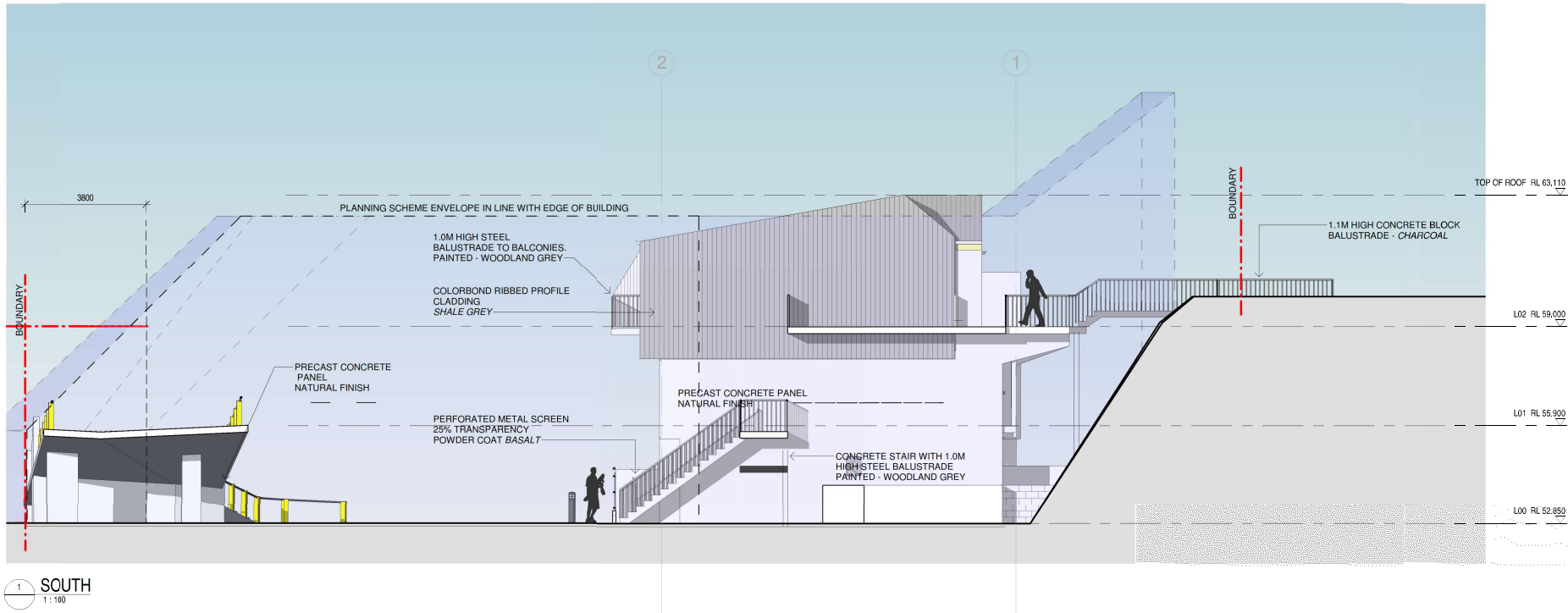
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**ELEVATIONS**

Scale 1:100 @ A1 Print Date Project 092.21144  
1:200 @ A3 17.10.22 2:51pm  
Drawing No **DA16** Rev **B**

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**ELEVATIONS**

Scale 1:100 @ A1 Print Date Project 092.21144  
1:200 @ A3 17.10.22 2:51pm

Drawing No **DA17** Rev **B**

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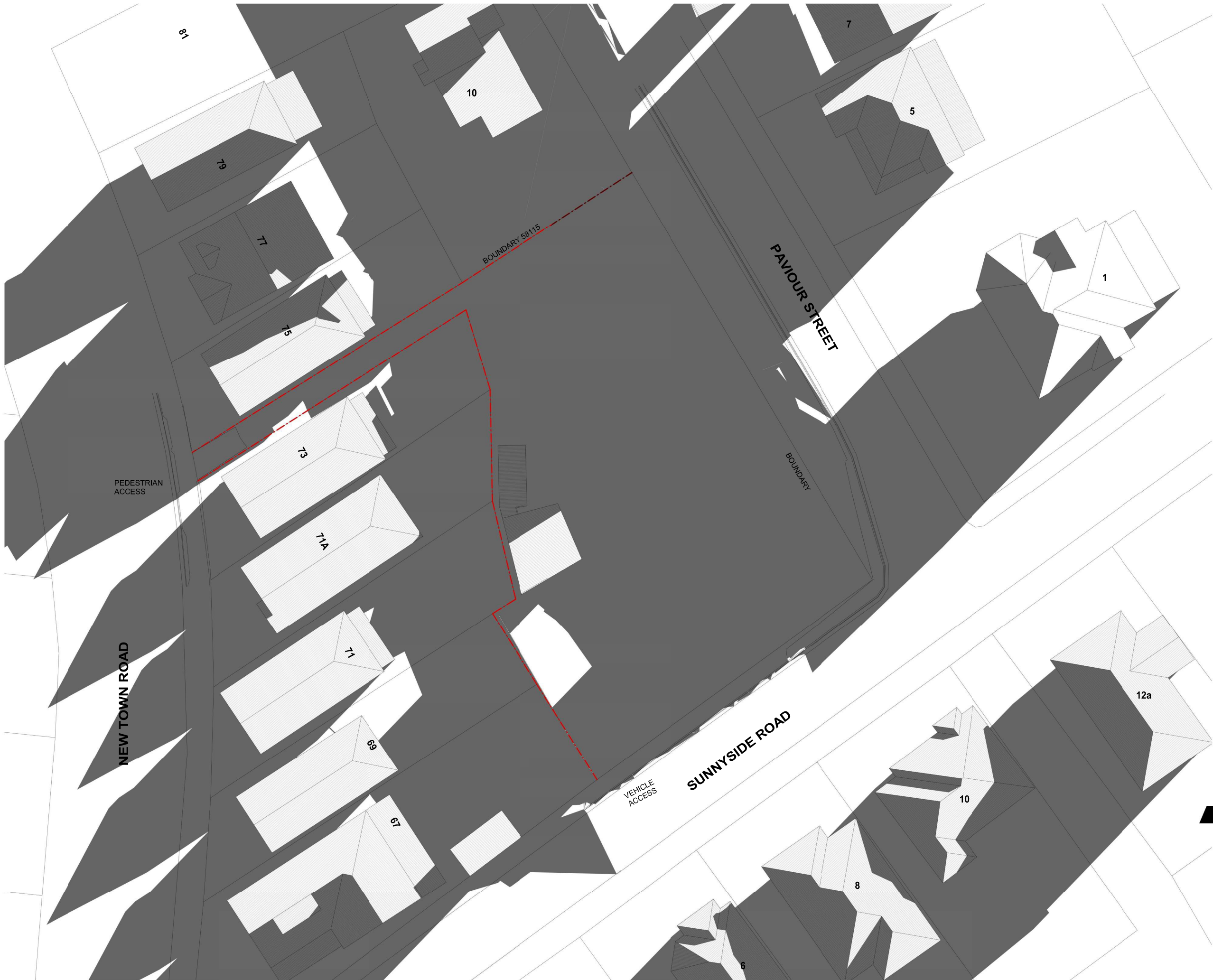
**SHADOW DIAGRAM EXIST 9AM - 21  
JUNE**

Scale 1: 200 @ A1 Print Date 092,21144  
1: 400 @ A3 04.05.22 11:44am

Drawing No **DA18** Rev **B**

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**SHADOW DIAGRAM EXIST 10AM - 21  
JUNE**

Scale 1: 200 @ A1 Print Date Project 092,21144  
1: 400 @ A3 04.05.22 11:44am

Drawing No **DA19** Rev **B**

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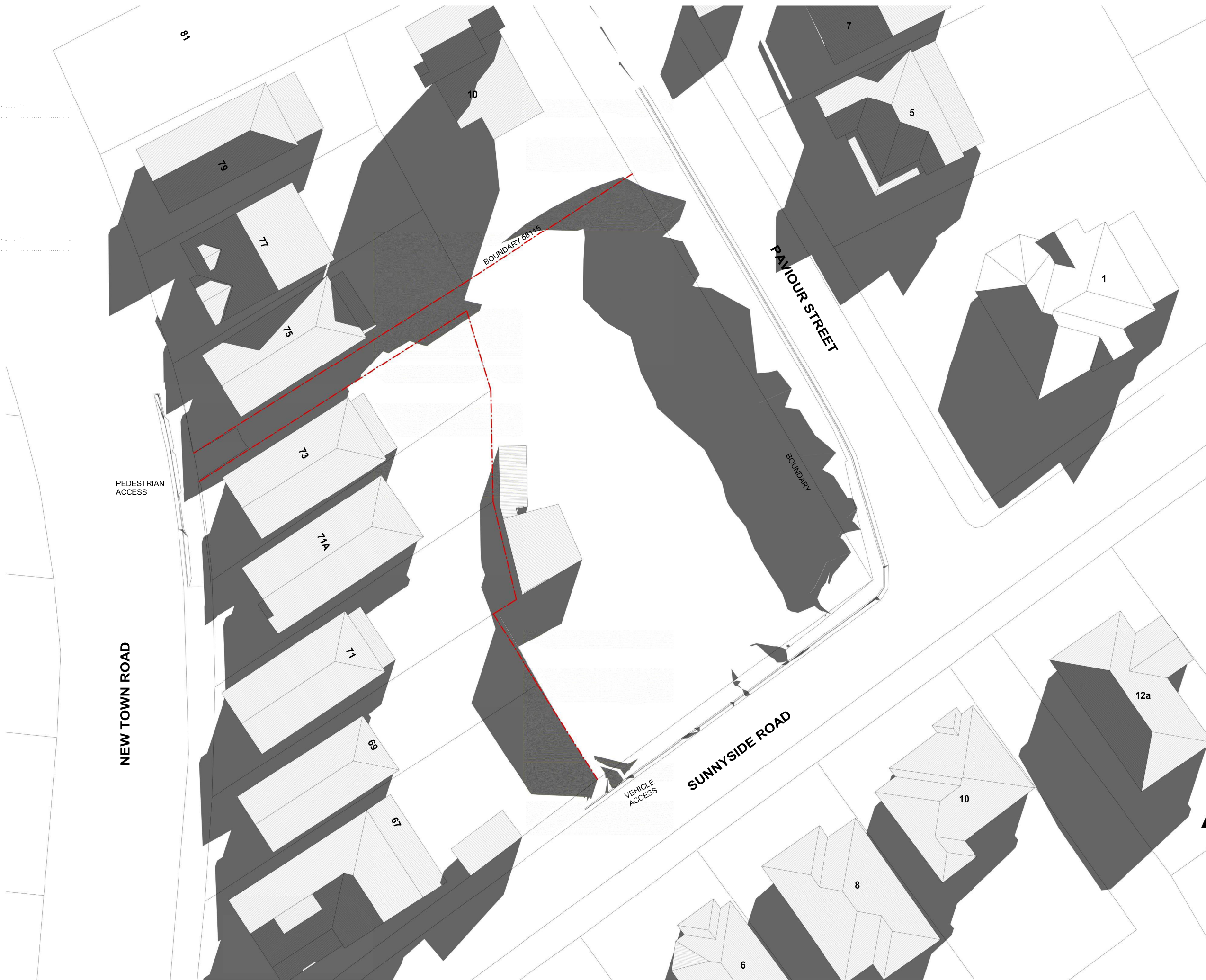
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Drawing No **DA20** Rev **B**

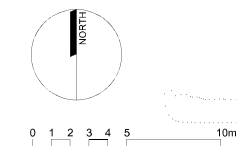
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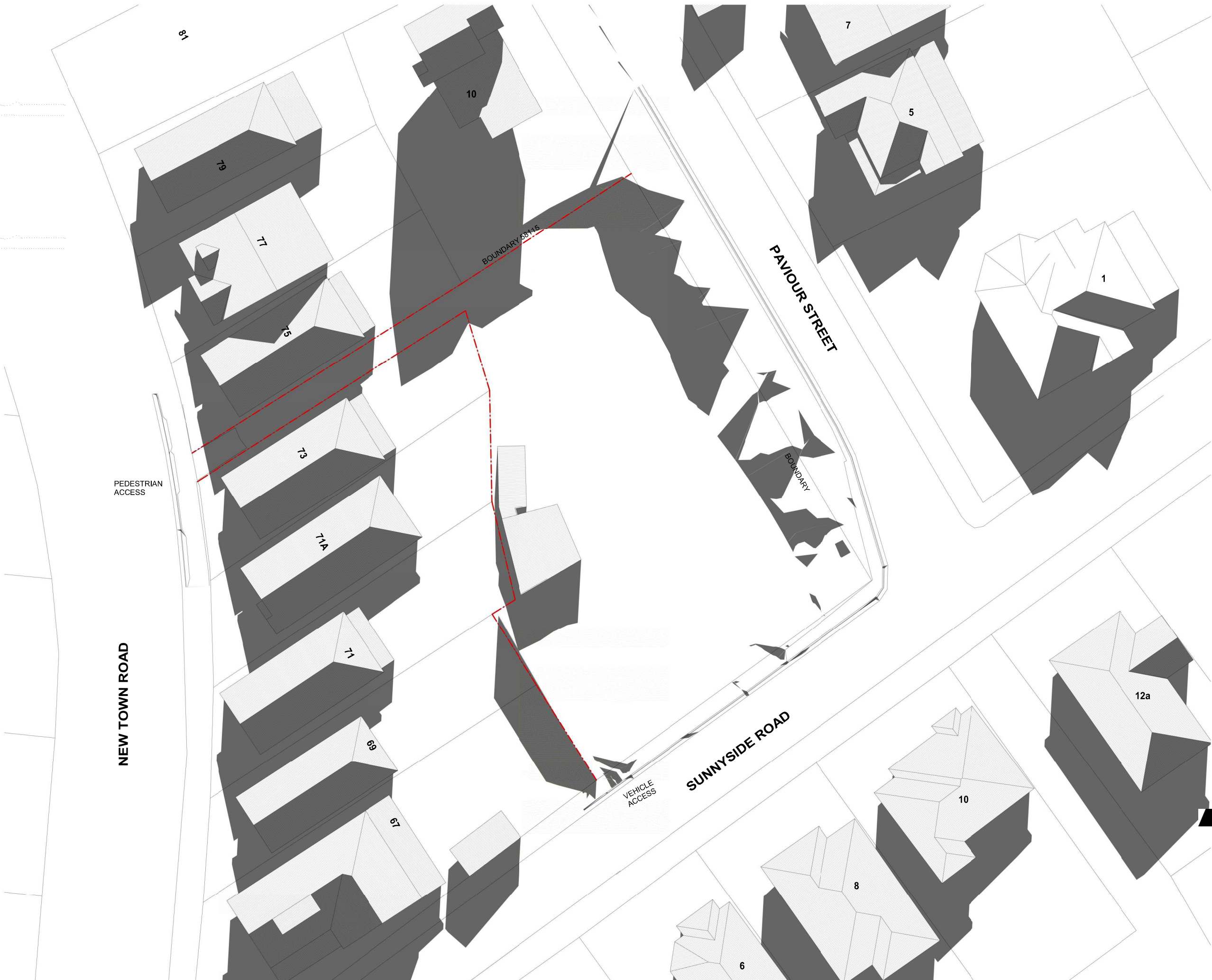
**SHADOW DIAGRAM EXIST 12PM - 21  
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Scale 1: 200 @ A1 Print Date Project 092,21144  
1: 400 @ A3 04.05.22 11:44am

Drawing No **DA21** Rev **B**

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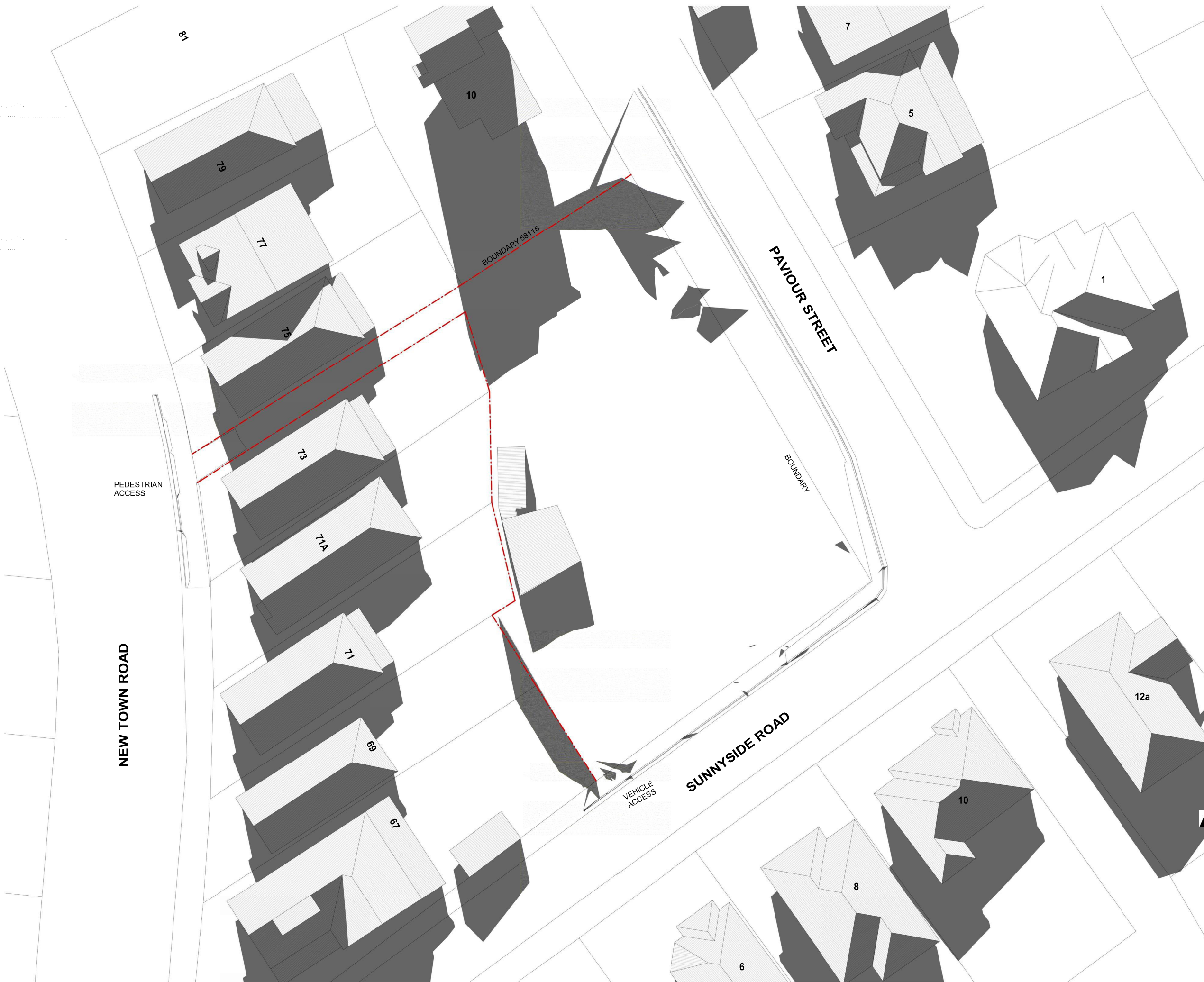
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JUNE**

Scale 1: 200 @ A1 Print Date Project 092,21144  
1: 400 @ A3 04.05.22 11:44am

Drawing No **DA22** Rev **B**

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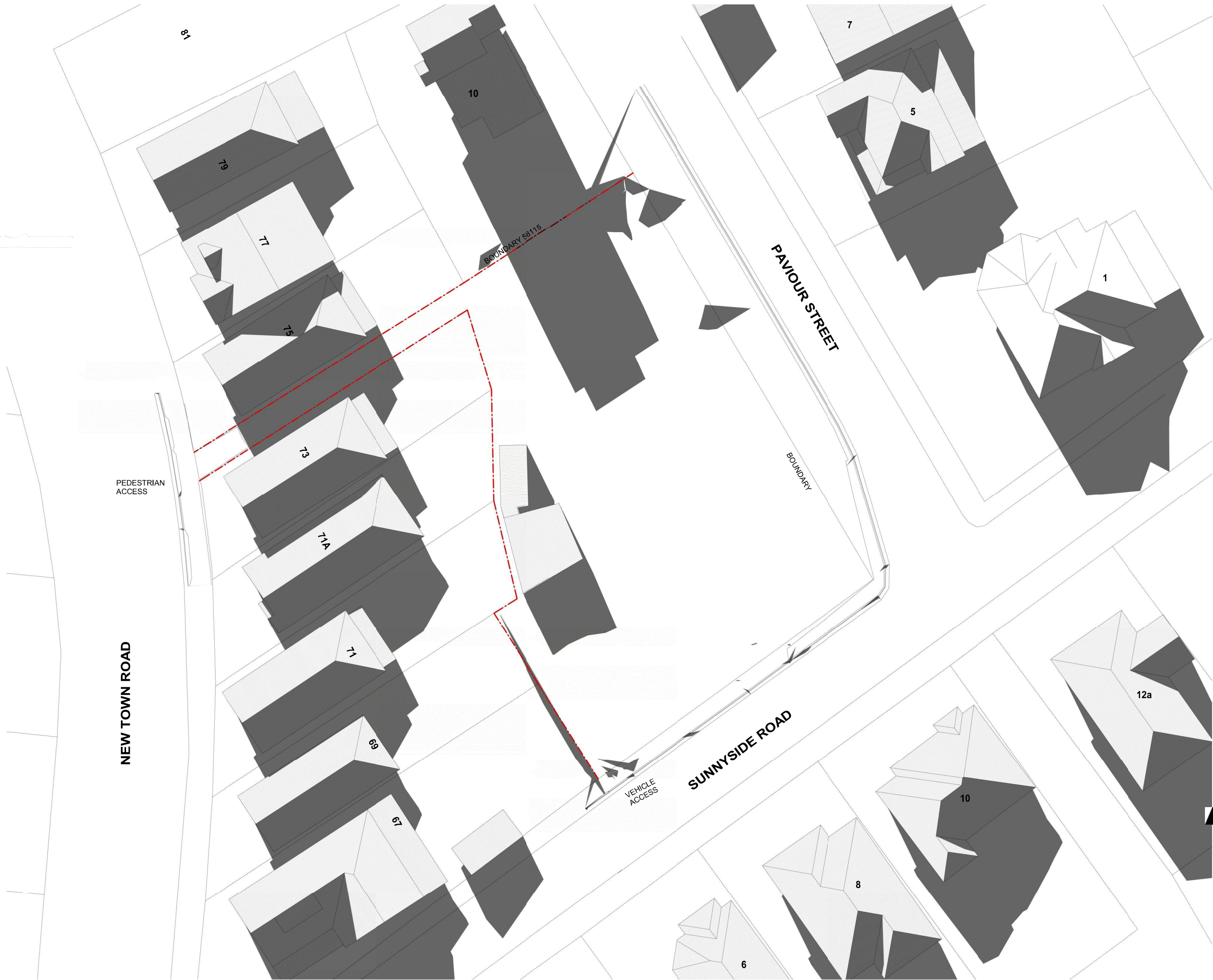
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JUNE**

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1: 400 @ A3 04.05.22 11:44am

Drawing No **DA23** Rev **B**

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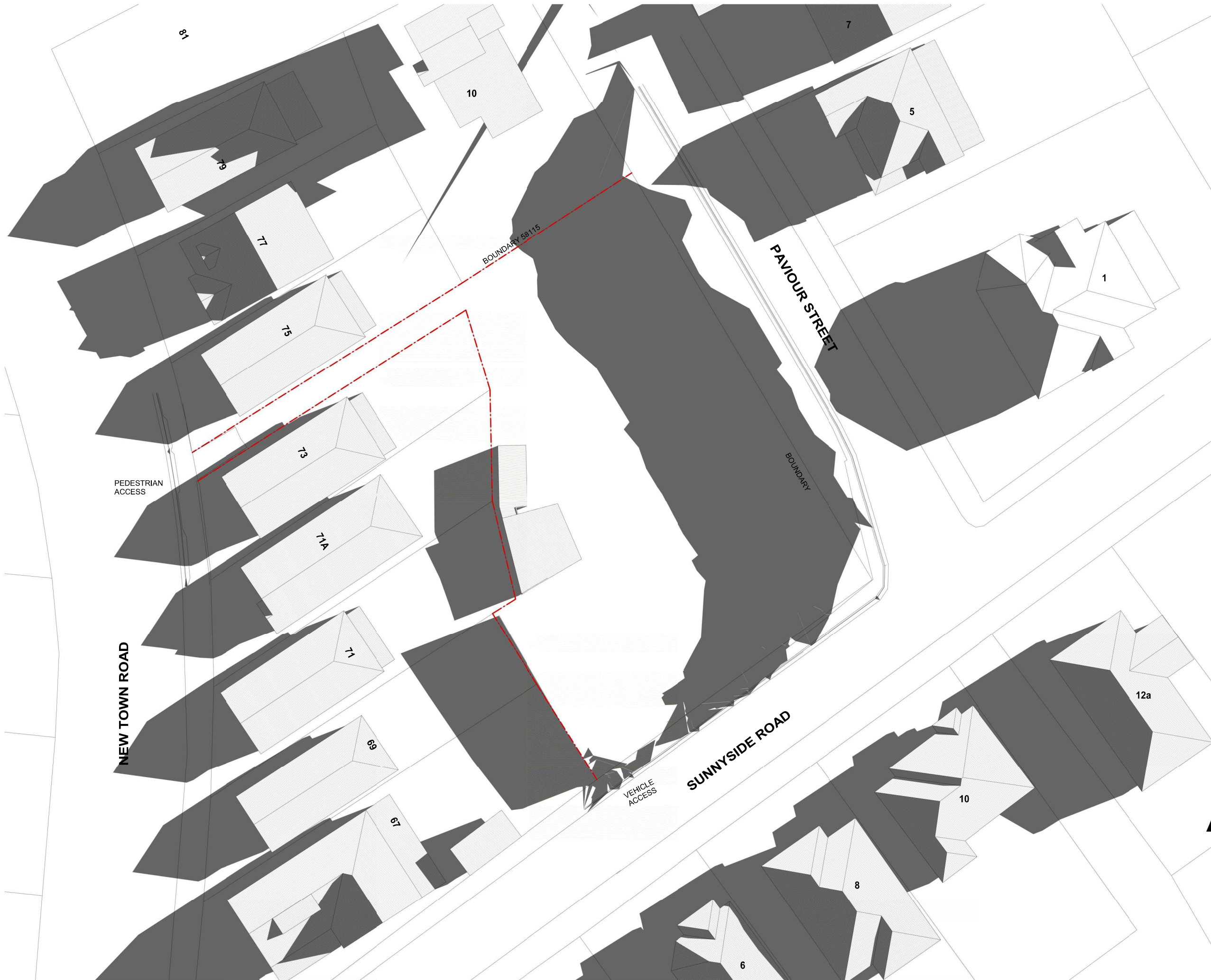
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JUNE**

Scale 1: 200 @ A1 Print Date Project 092,21144  
1: 400 @ A3 04.05.22 11:45am

Drawing No **DA24** Rev **B**

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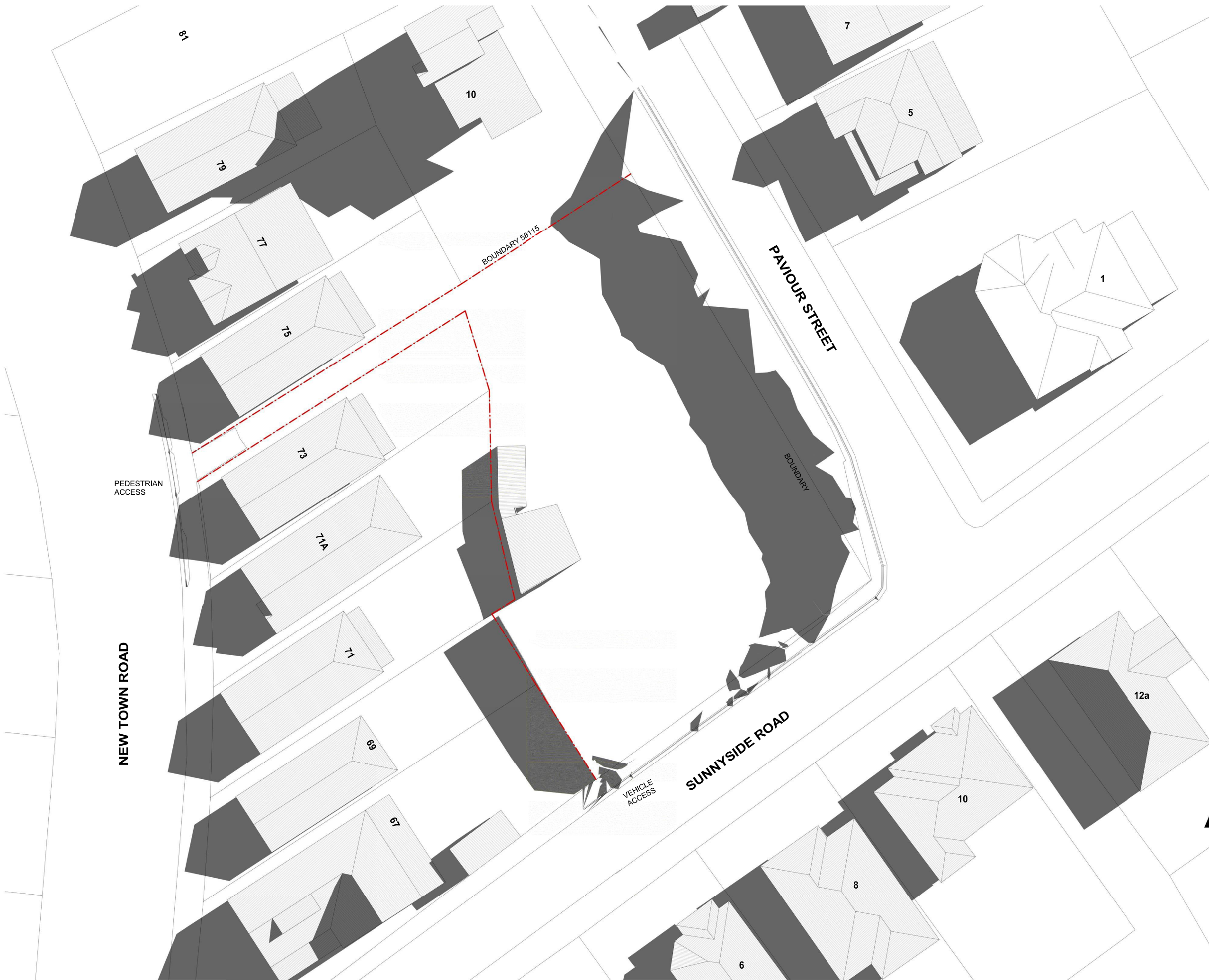
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MAR&SEPT**

Scale 1: 200 @ A1 Print Date Project 092,21144  
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Drawing No **DA25** Rev **B**

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**SHADOW DIAGRAM EXIST 10AM - 21  
MAR&SEPT**

Scale 1: 200 @ A1 Print Date Project 092,21144  
1: 400 @ A3 04.05.22 11:45am

Drawing No **DA26** Rev **B**

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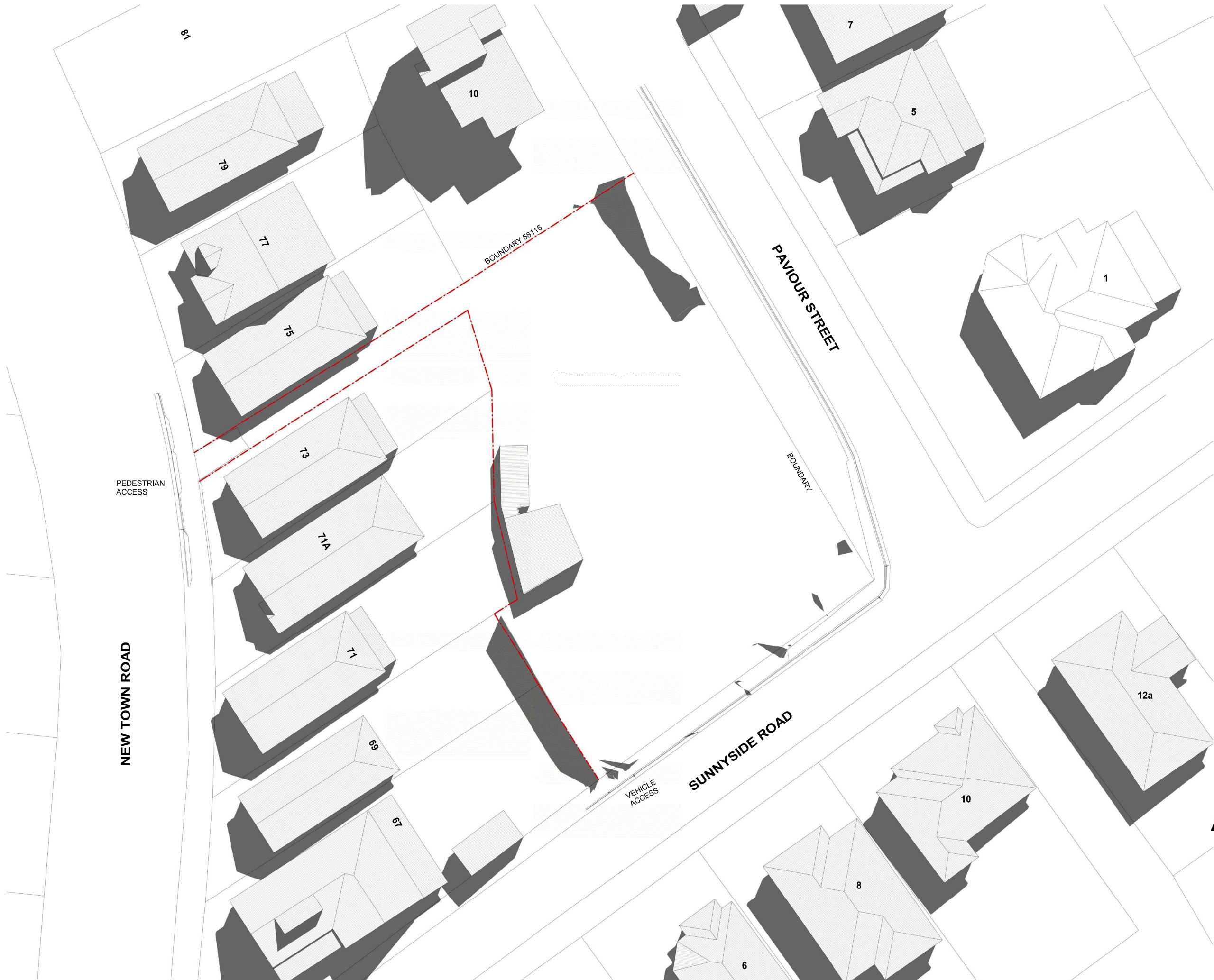
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MAR&SEPT**

Scale 1: 200 @ A1 Print Date Project 092,21144  
1: 400 @ A3 04.05.22 11:45am

Drawing No **DA27** Rev **B**

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**SHADOW DIAGRAM EXIST 12PM - 21  
MAR&SEPT**

Scale 1:200 @ A1 Print Date Project 092,21144  
1:400 @ A3 04.05.22 11:45am

Drawing No **DA28** Rev **B**

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**SHADOW DIAGRAM EXIST 1PM - 21  
MAR&SEPT**

Scale 1:200 @ A1 Print Date Project 092,21144  
1:400 @ A3 04.05.22 11:45am

Drawing No **DA29** Rev **B**

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**SHADOW DIAGRAM EXIST 2PM - 21  
MAR&SEPT**

Scale 1: 200 @ A1 Print Date Project 092,21144  
1: 400 @ A3 04.05.22 11:45am

Drawing No **DA30** Rev **B**

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**SHADOW DIAGRAM EXIST 3PM - 21  
MAR&SEPT**

Scale 1:200 @ A1 Print Date Project 092,21144  
1:400 @ A3 04.05.22 11:45am

Drawing No **DA31** Rev **B**

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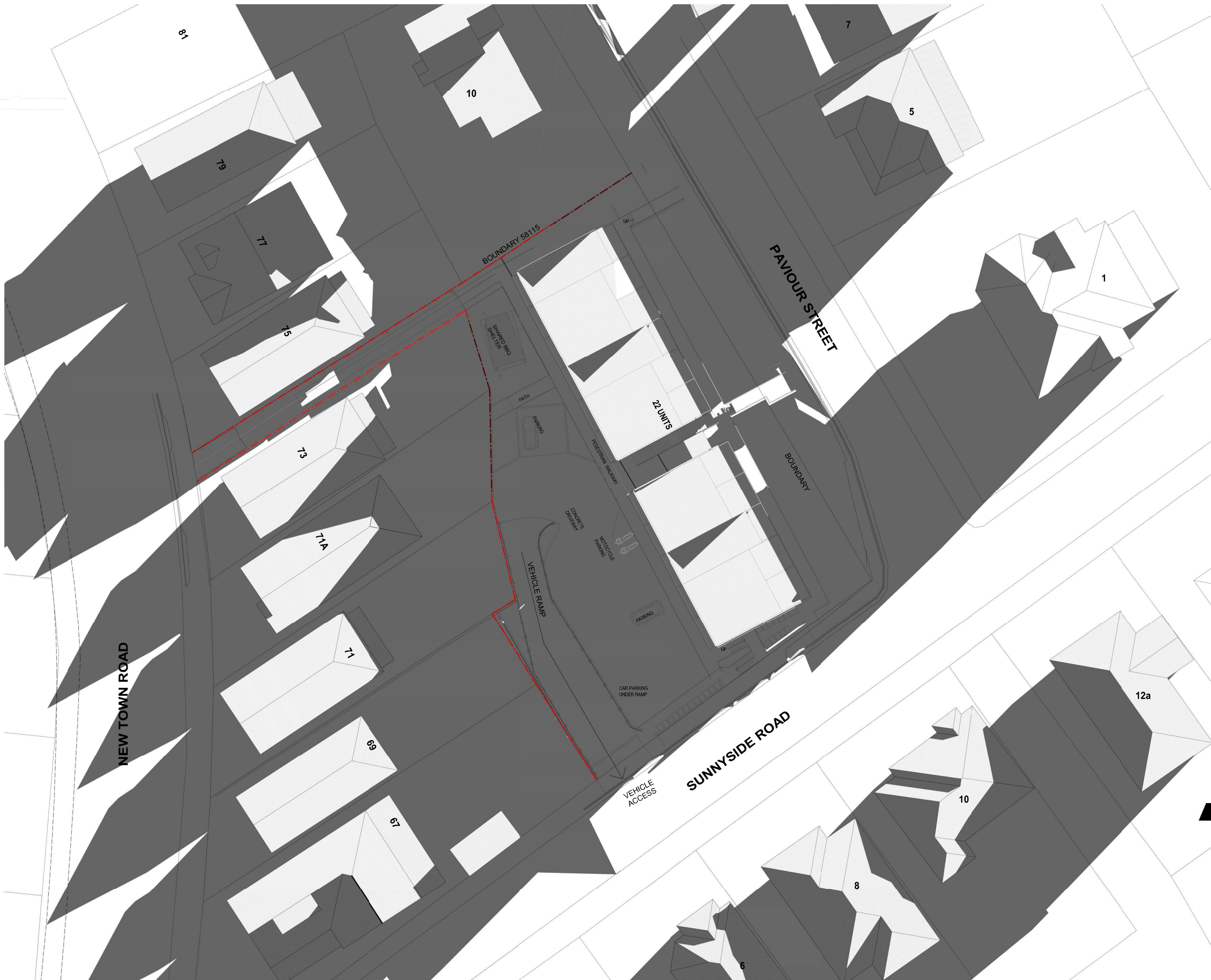
**SHADOW DIAGRAM 9AM - 21 JUNE**

Scale 1:200 @ A1 Print Date Project 092,21144  
1:400 @ A3 04.05.22 11:46am

Drawing No **DA32** Rev **B**

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**TOWNHOUSE DEVELOPMENT**  
73A NEW TOWN ROAD  
NEW TOWN TAS 7008

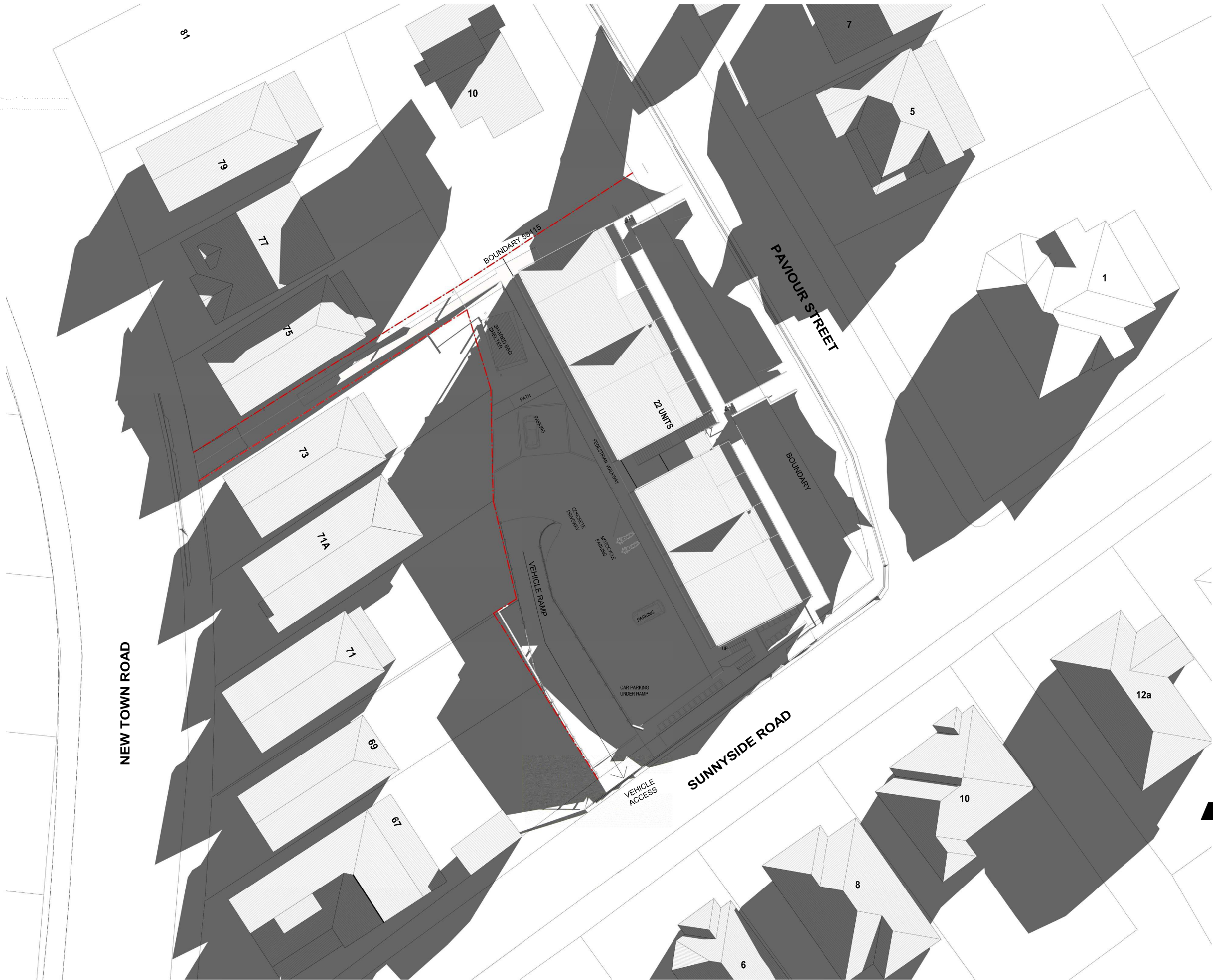
**SHADOW DIAGRAM 10AM - 21 JUNE**

Scale 1: 200 @ A1 Print Date Project 092,21144  
1: 400 @ A3 04.05.22 11:47am

Drawing No **DA33** Rev **B**

Autodesk Docs/Newtown Apartments/092-21144 Development Application.rvt





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0 1 2 3 4 5 10m

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HOBART / LAUNCESTON

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73A NEW TOWN ROAD  
NEW TOWN TAS 7008

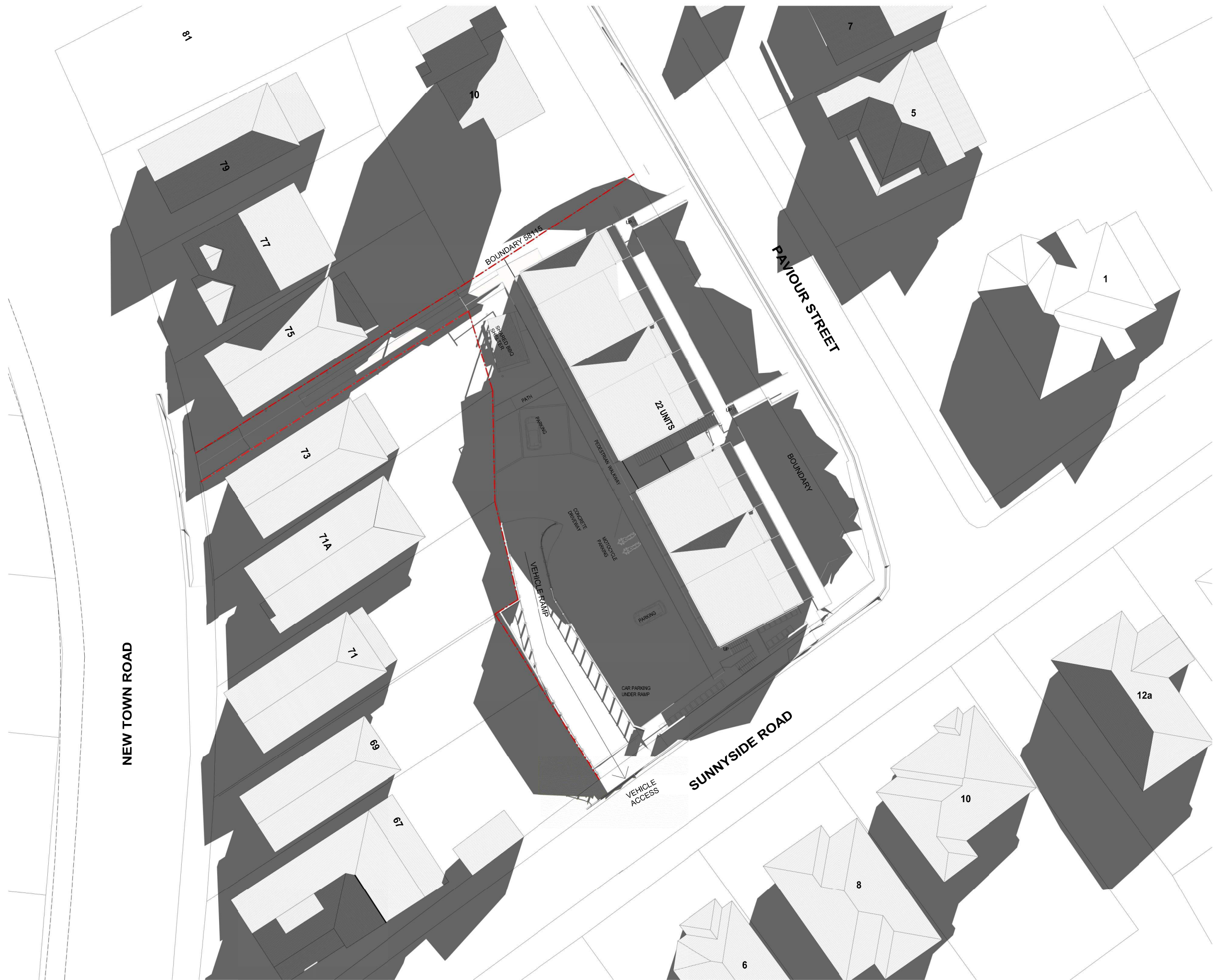
**SHADOW DIAGRAM 11AM - 21 JUNE**

Scale 1: 200 @ A1 Print Date Project 092,21144  
1: 400 @ A3 04.05.22 11:47am

Drawing No **DA34** Rev **B**

Autodesk Docs/Newtown Apartments/092-21144 Development Application.rvt





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NEW TOWN TAS 7008

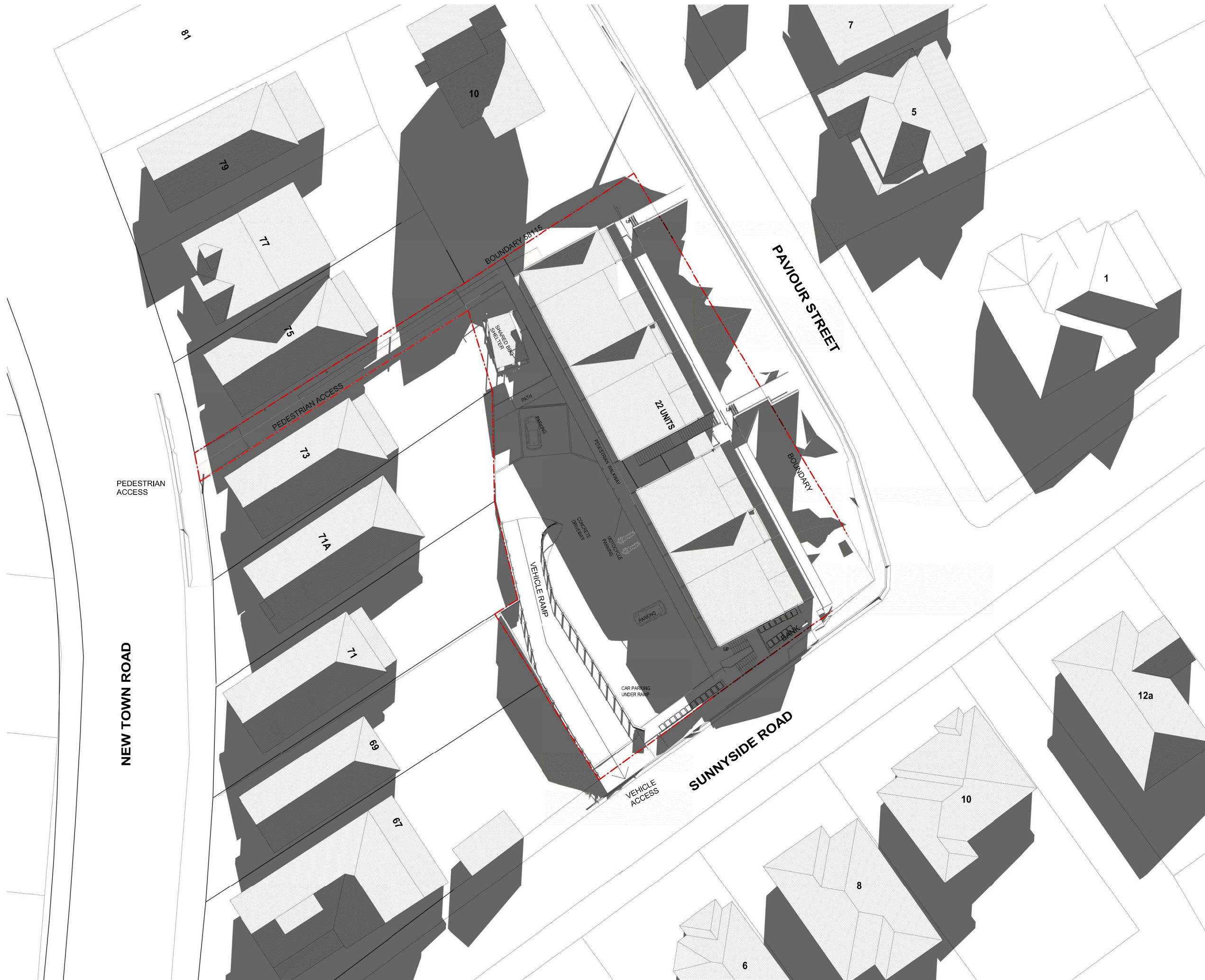
**SHADOW DIAGRAM 12PM - 21 JUNE**

Scale 1: 200 @ A1 Print Date Project 092,21144  
1: 400 @ A3 04.05.22 11:48am

Drawing No **DA35** Rev **B**

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NEW TOWN TAS 7008

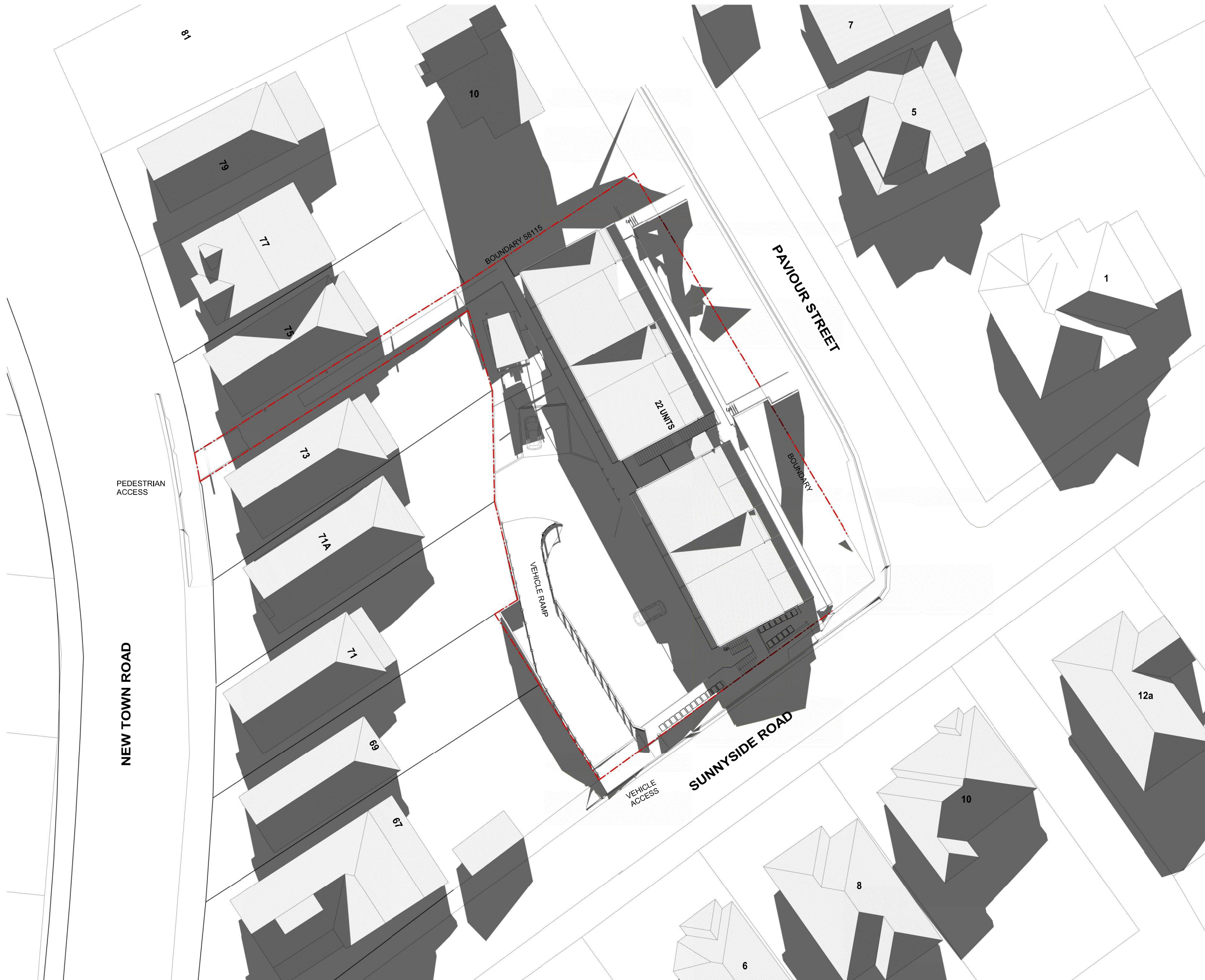
**SHADOW DIAGRAM 1PM - 21 JUNE**

Scale 1:200 @ A1 Print Date Project 092,21144  
1:400 @ A3 04.05.22 11:48am

Drawing No **DA36** Rev **B**

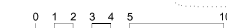
Autodesk Docs/Newtown Apartments/092-21144 Development Application.mxd





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NEW TOWN TAS 7008

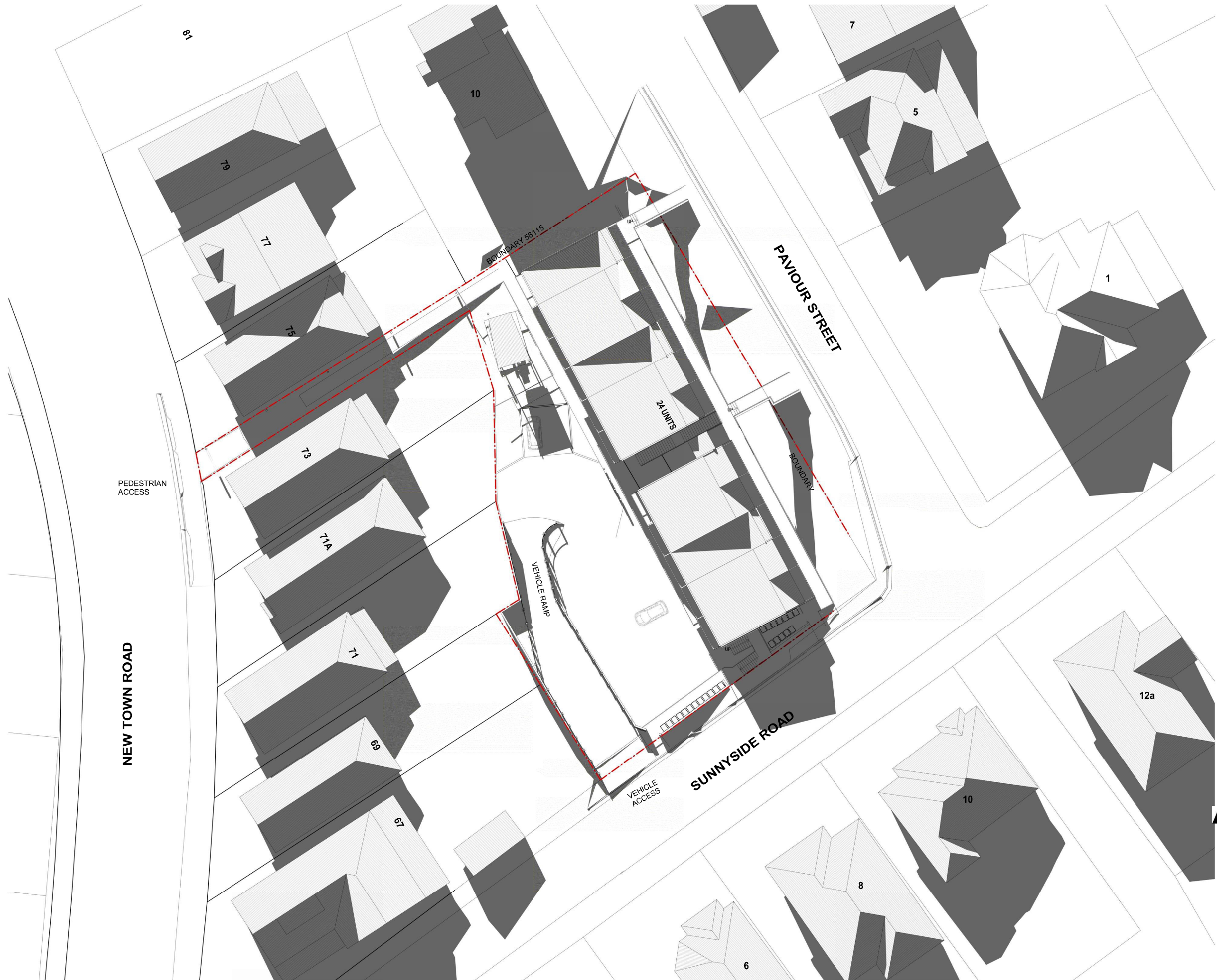
**SHADOW DIAGRAM 2PM - 21 JUNE**

Scale 1: 200 @ A1 Print Date Project 092,21144  
1: 400 @ A3 04.05.22 11:49am

Drawing No **DA37** Rev **B**

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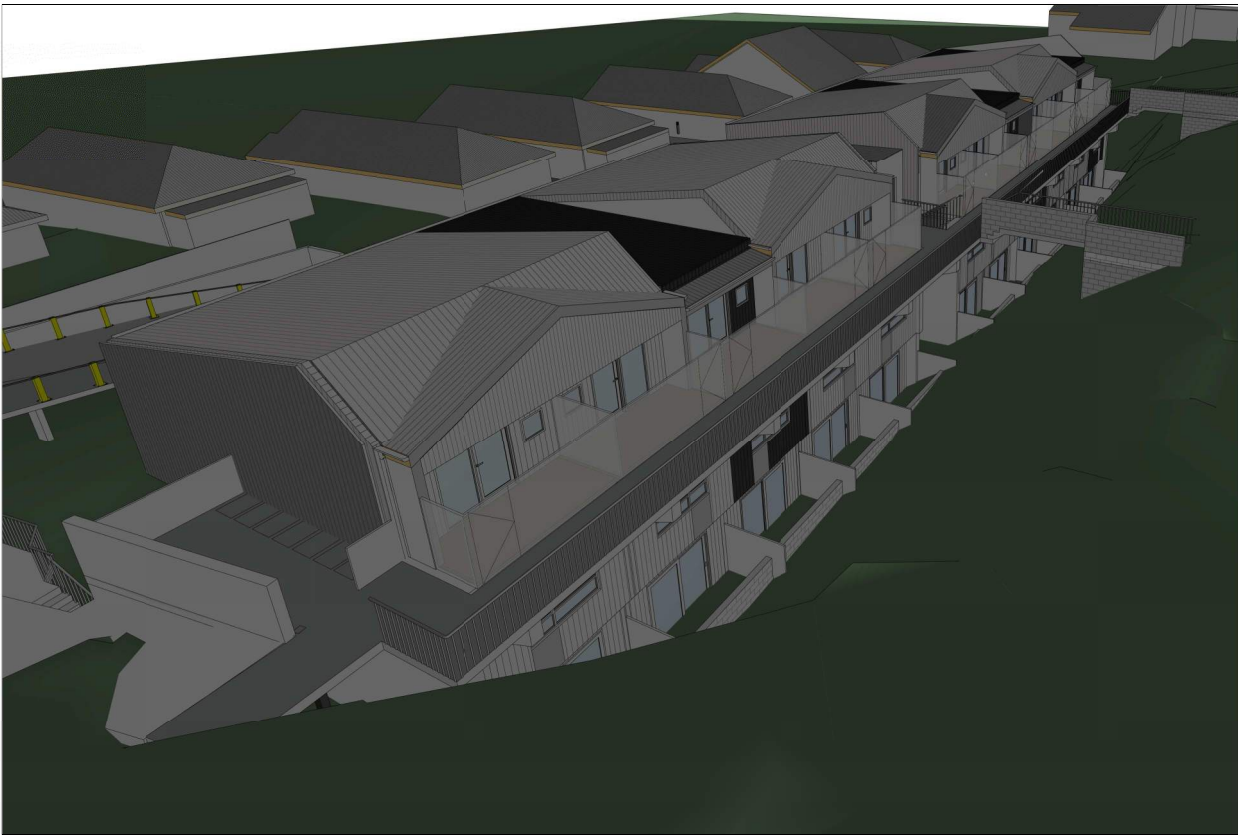
**SHADOW DIAGRAM 3PM - 21 JUNE**

Scale 1: 200 @ A1 Print Date Project 092,21144  
1: 400 @ A3 04.05.22 11:49am

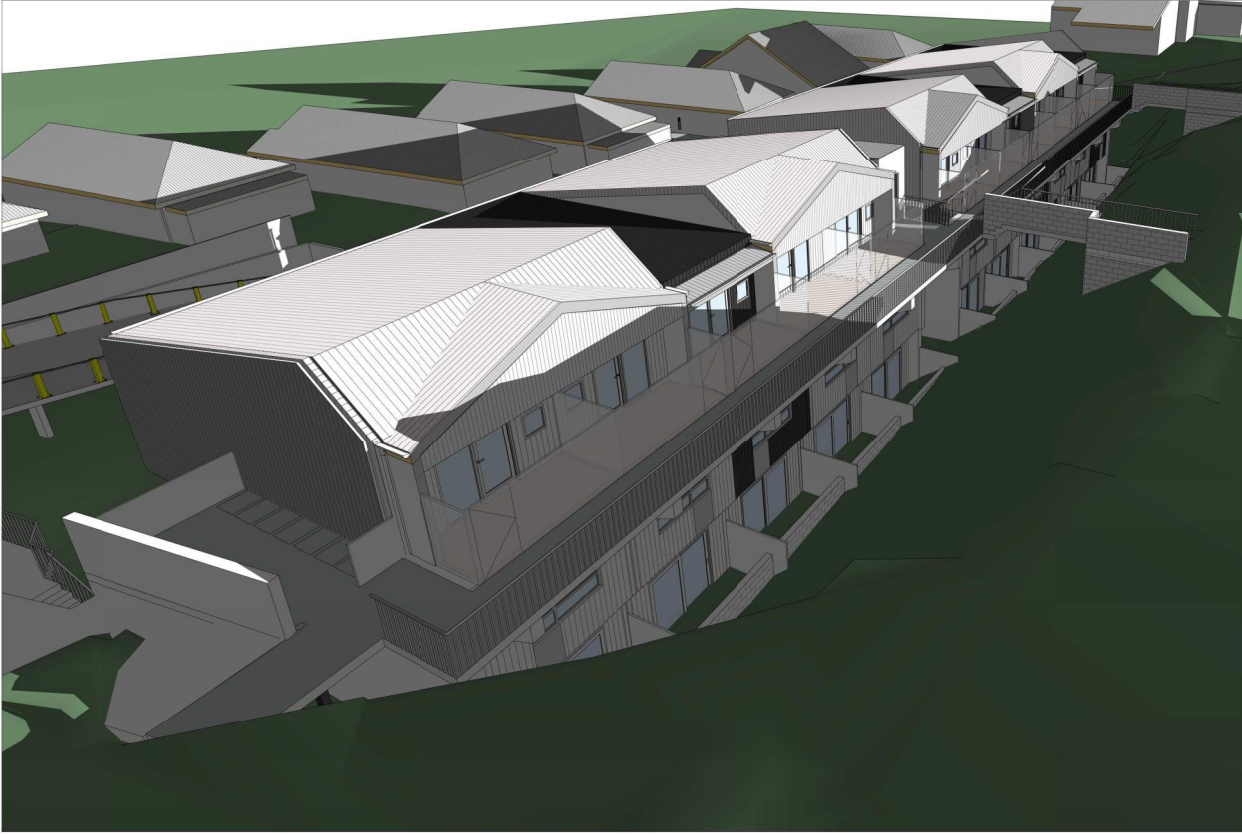
Drawing No **DA38** Rev **B**

Autodesk Docs/Newtown Apartments/092-21144 Development Application.mxd





1 21 June 9am



2 21 June 10am



3 21 June 11am



4 21 June 12noon



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NEW TOWN TAS 7008**

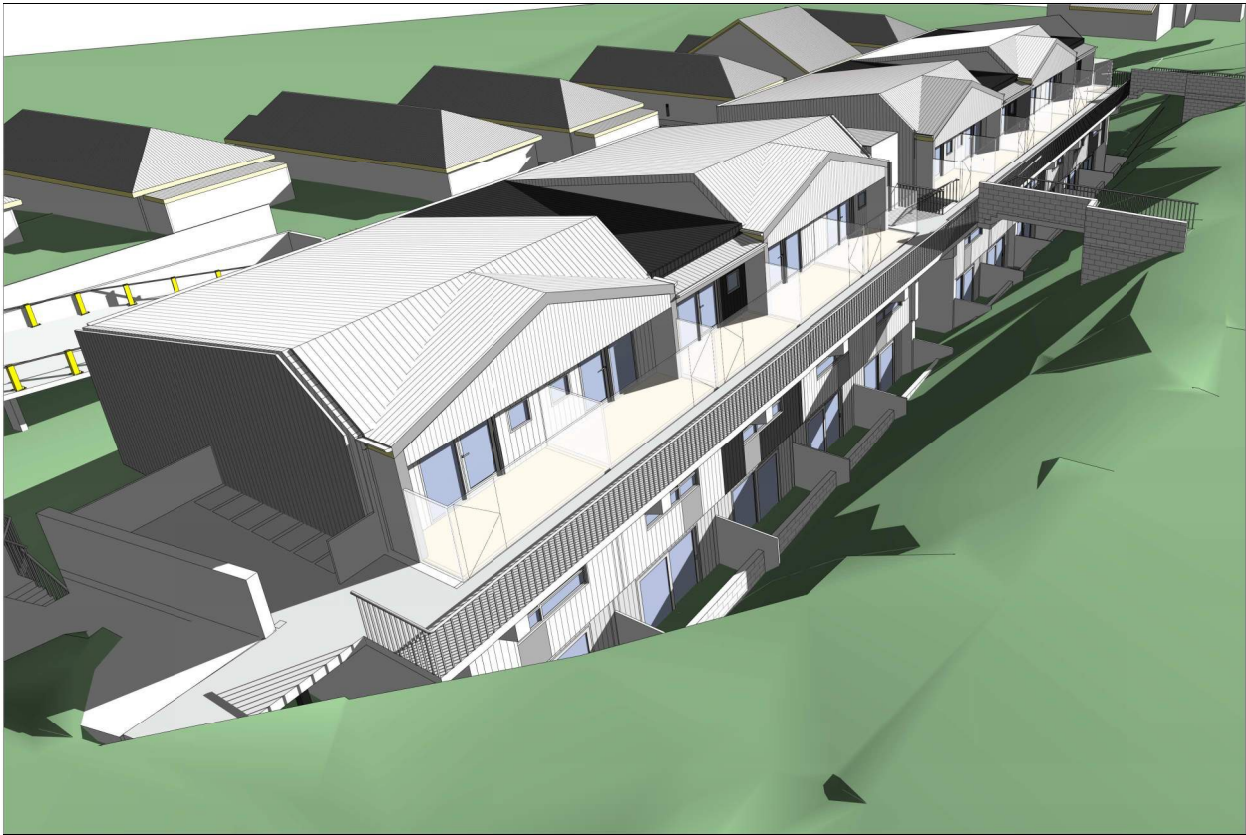
**SUNLIGHT & SHADOW DIAGRAMS  
JUNE 21 (WINTER) EAST FACING**

Scale NTS Print Date 04.05.22 11:50am Project 092,21144

Drawing No **DA39** Rev **B**

Autodesk Docs/ Newtown Apartments/092-21144 Development Application.rvt

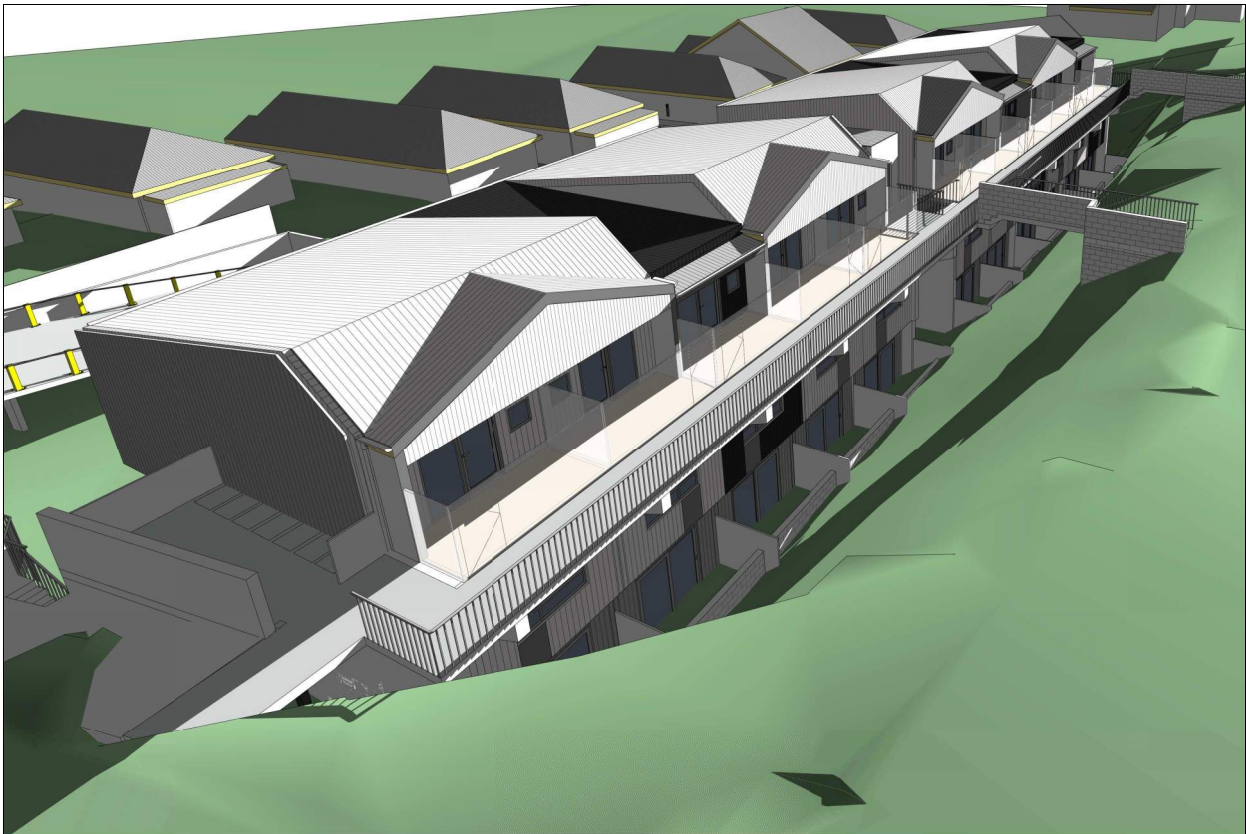




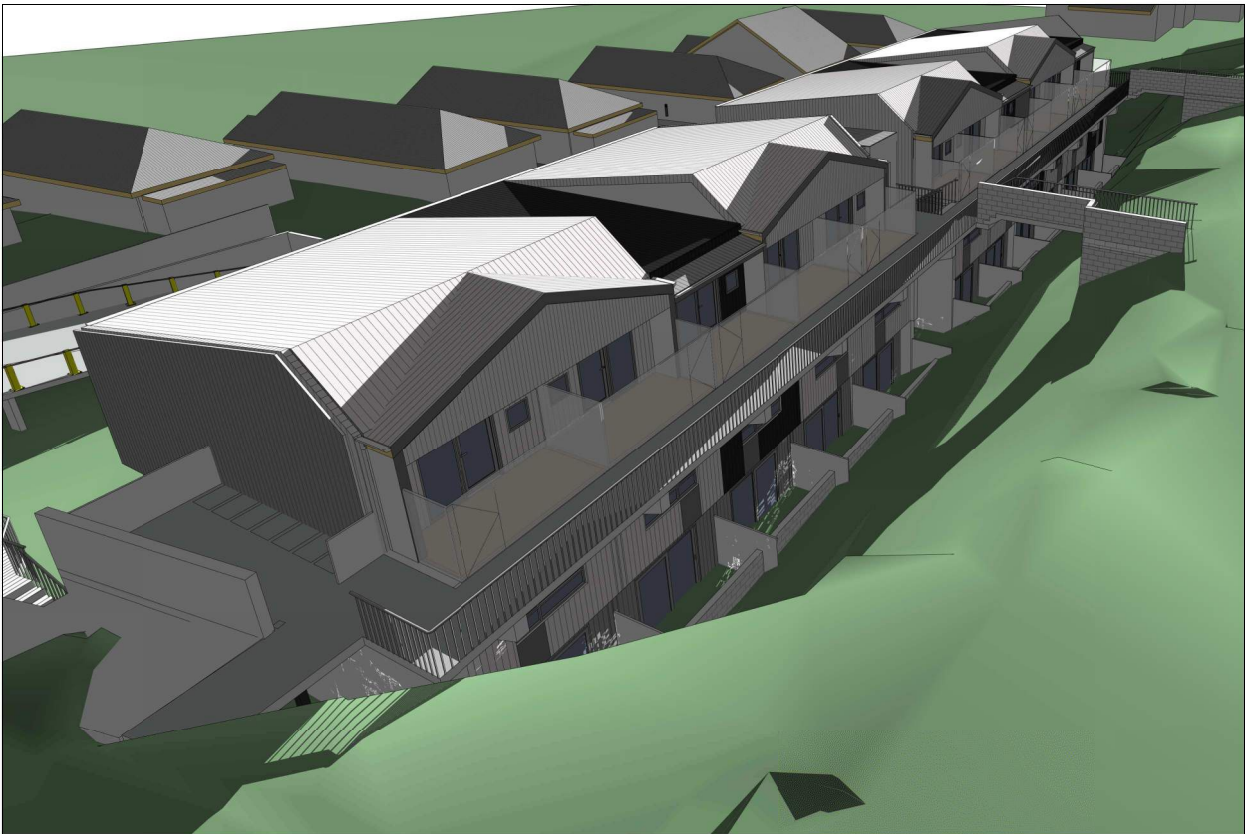
1 21 June 1pm (EAST)



2 21 June 2pm (EAST)



3 21 June 3pm (EAST)



4 21 June 4pm (EAST)



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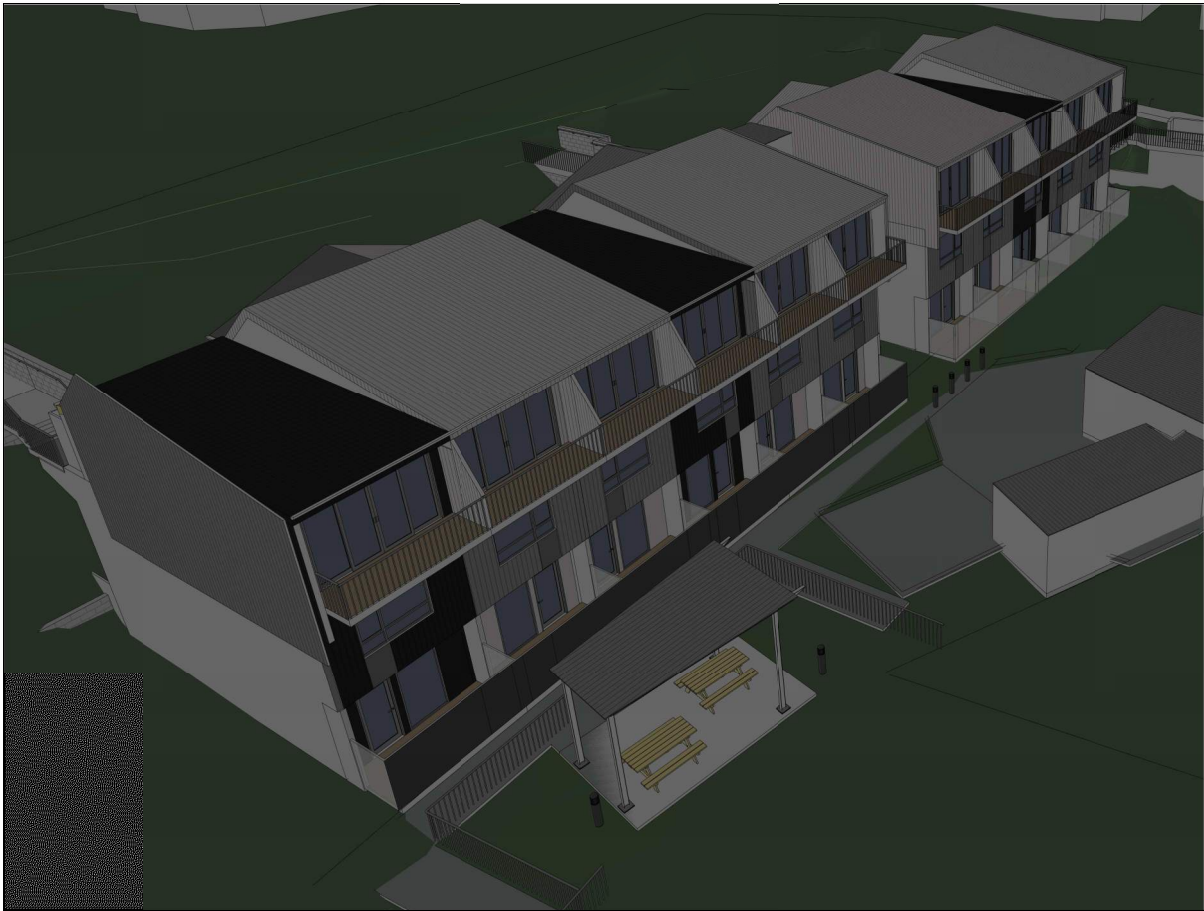
**FAIRBROTHER  
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73A NEW TOWN ROAD  
NEW TOWN TAS 7008**

**SUNLIGHT & SHADOW DIAGRAMS  
JUNE 21 (WINTER) EAST FACING**

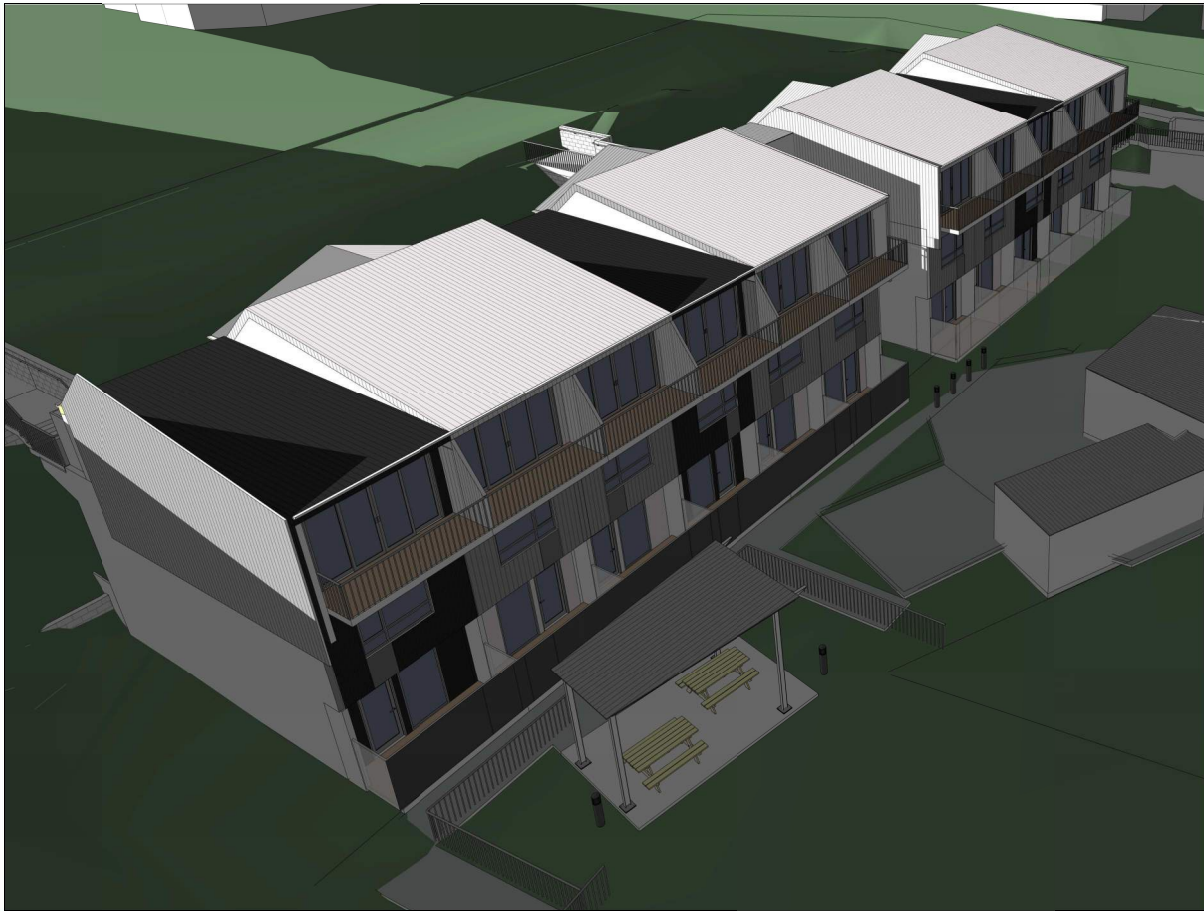
Scale	NTS	Print Date	Project
		04.05.22 11:51am	092,21144
Drawing No	<b>DA40</b>	Rev	<b>B</b>

Autodesk Docs/Newtown Apartments/092-21144 Development Application.v1

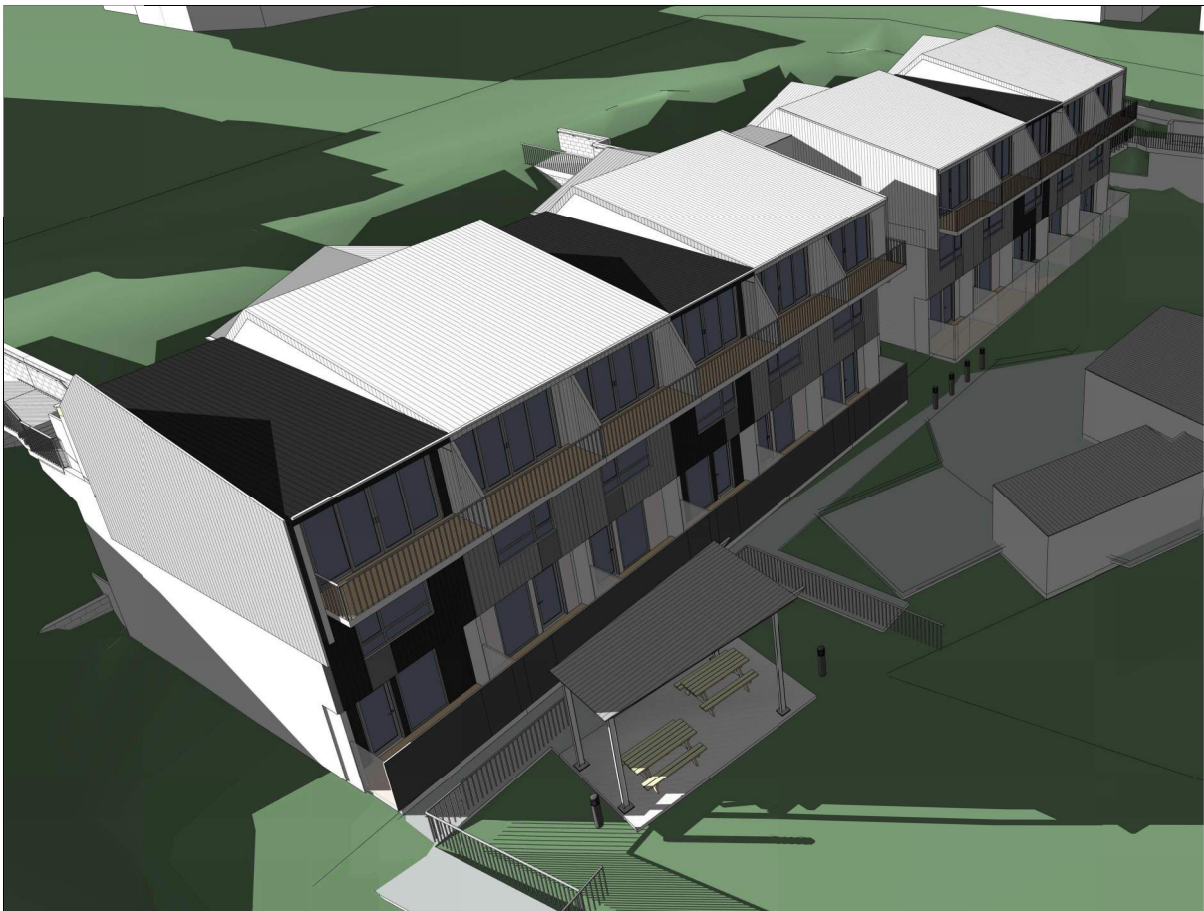




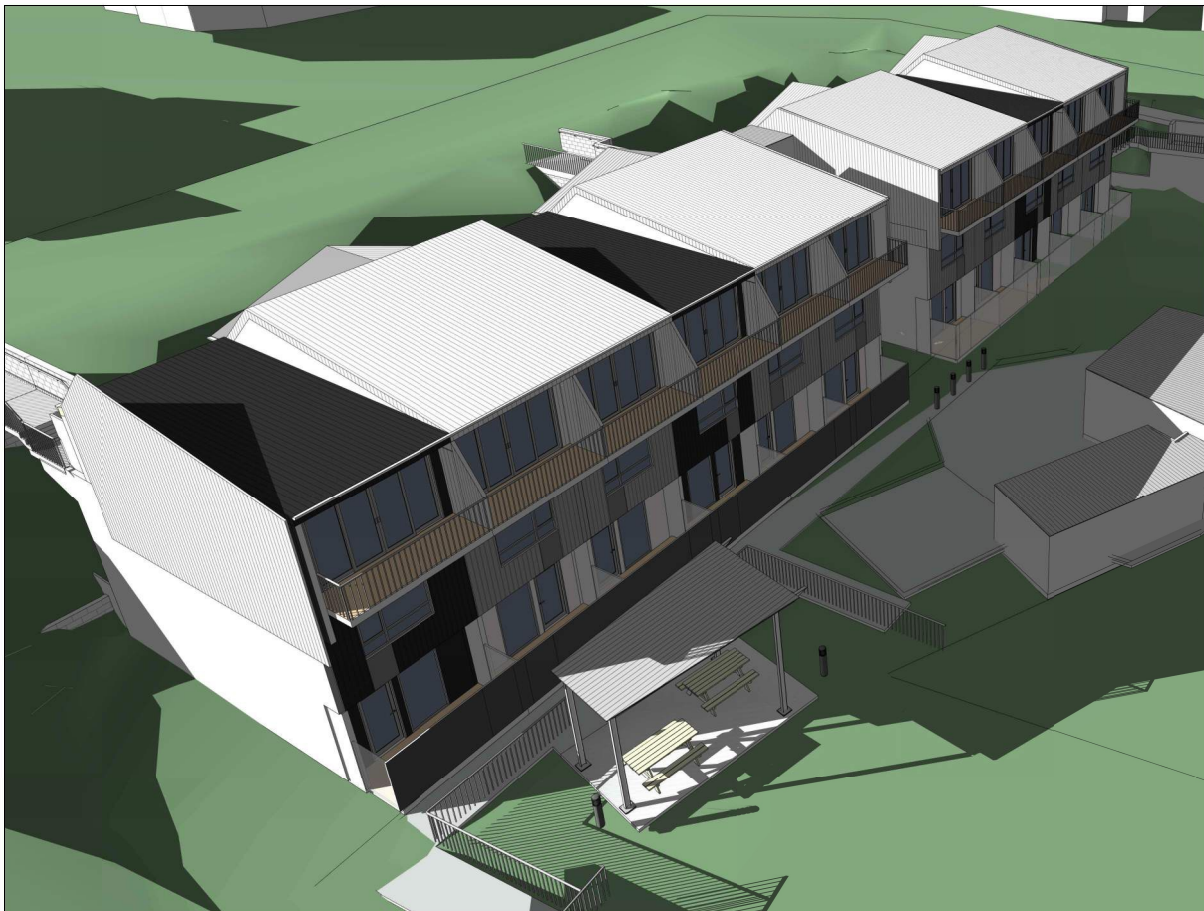
1 21 June 9am (WEST)



2 21 June 10am (WEST)



3 21 June 11am (WEST)



4 21 June 12noon (WEST)



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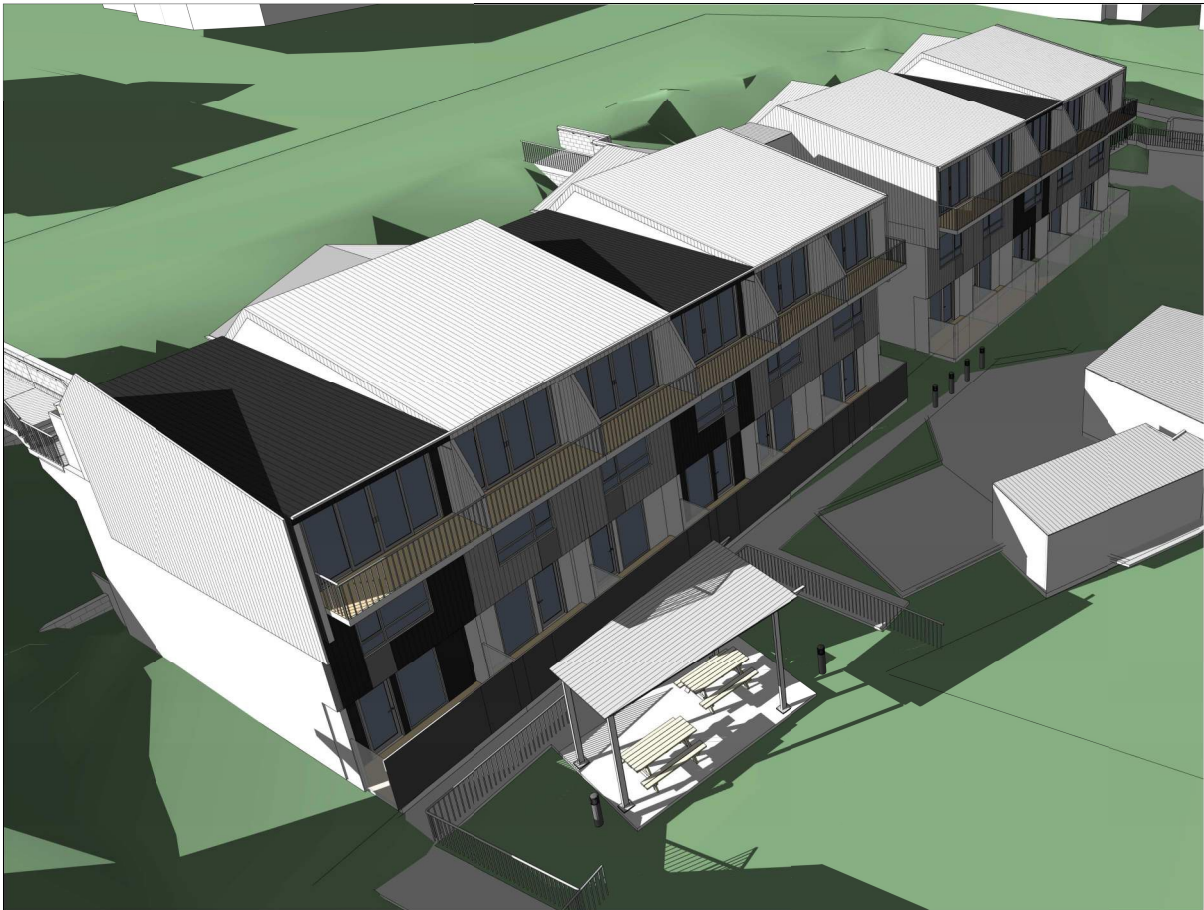
**SUNLIGHT & SHADOW DIAGRAM  
JUNE 21 (WINTER) WEST FACING**

Scale NTS Print Date 04.05.22 11:52am Project 092,21144

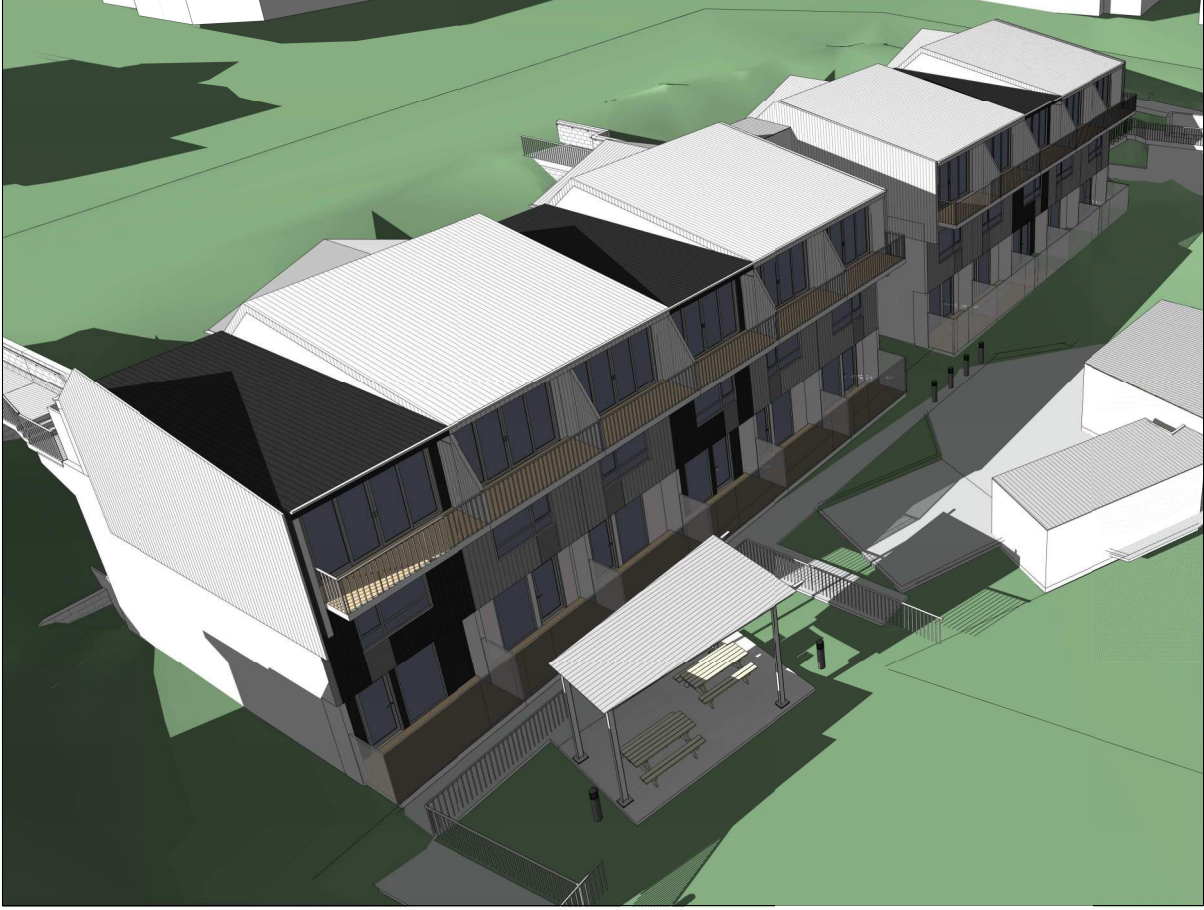
Drawing No **DA41** Rev **B**

Autodesk Docs/Newtown Apartments/092-21144 Development Application.mxd

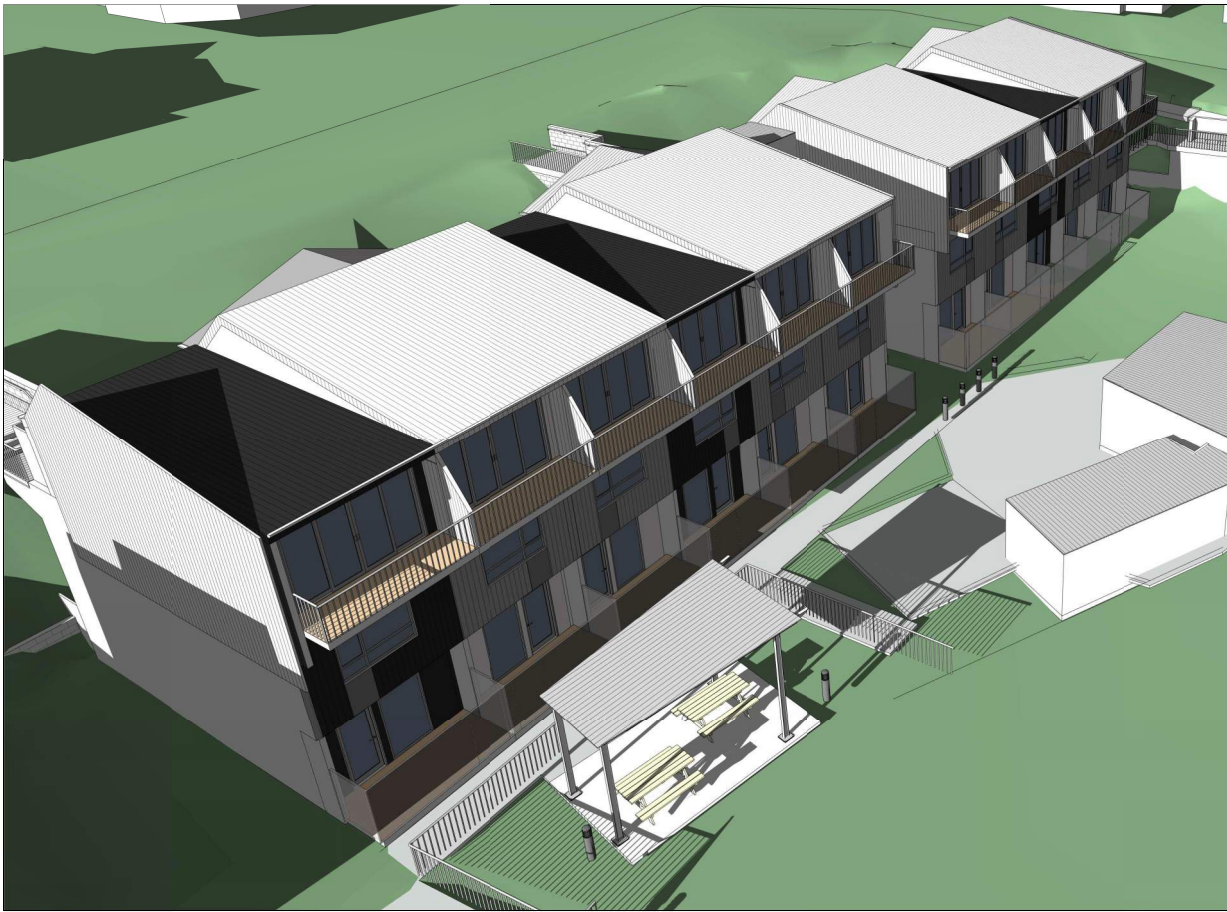




1 21 June 1pm (WEST)



2 21 June 2pm (WEST)



3 21 June 3pm (WEST)



4 21 June 4pm (WEST)



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NEW TOWN TAS 7008**

**SUNLIGHT & SHADOW DIAGRAM  
JUNE 21 (WINTER) WEST FACING**

Scale NTS Print Date 04.05.22 11:52am Project 092,21144

Drawing No **DA42** Rev **B**

Autodesk Docs/Newtown Apartments/092-21144 Development Application.v1





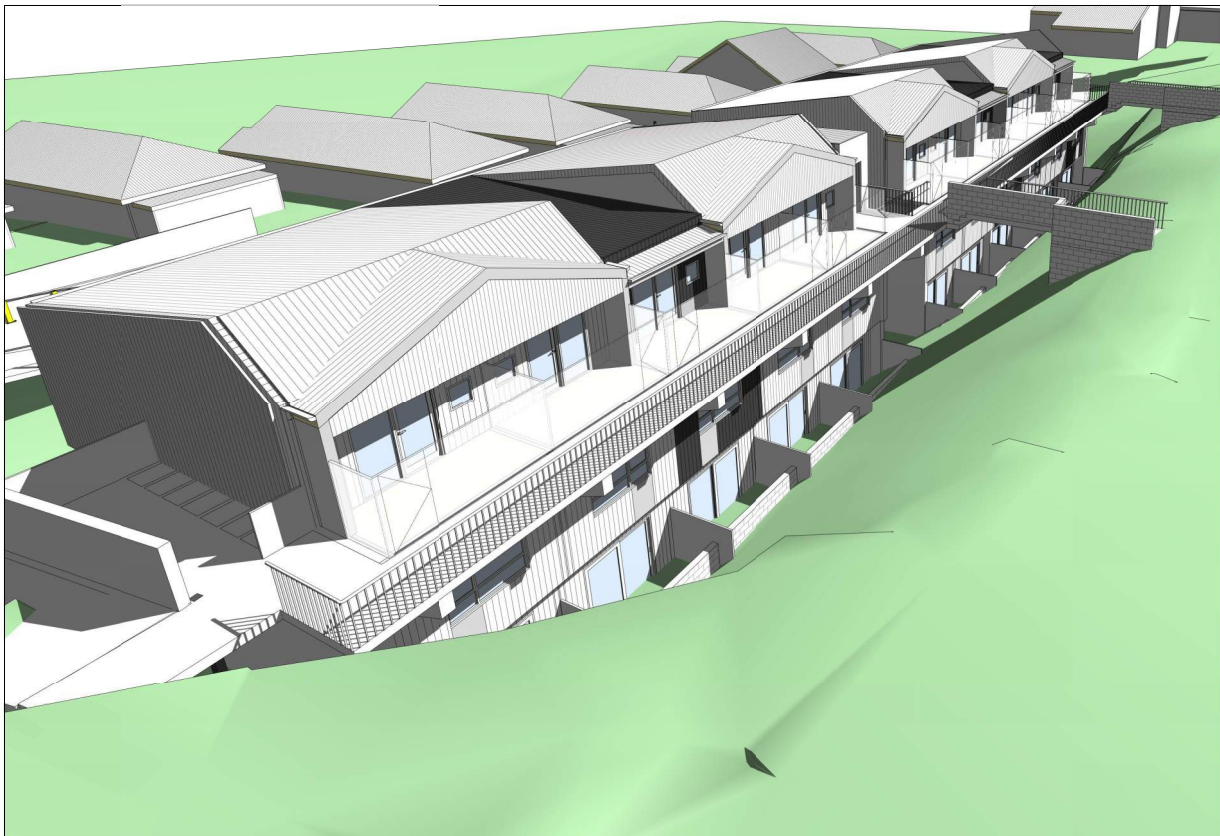
4 21 Sept 9am



1 21 Sept 10am



2 21 Sept 11am



3 21 Sept 12noon



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NEW TOWN TAS 7008

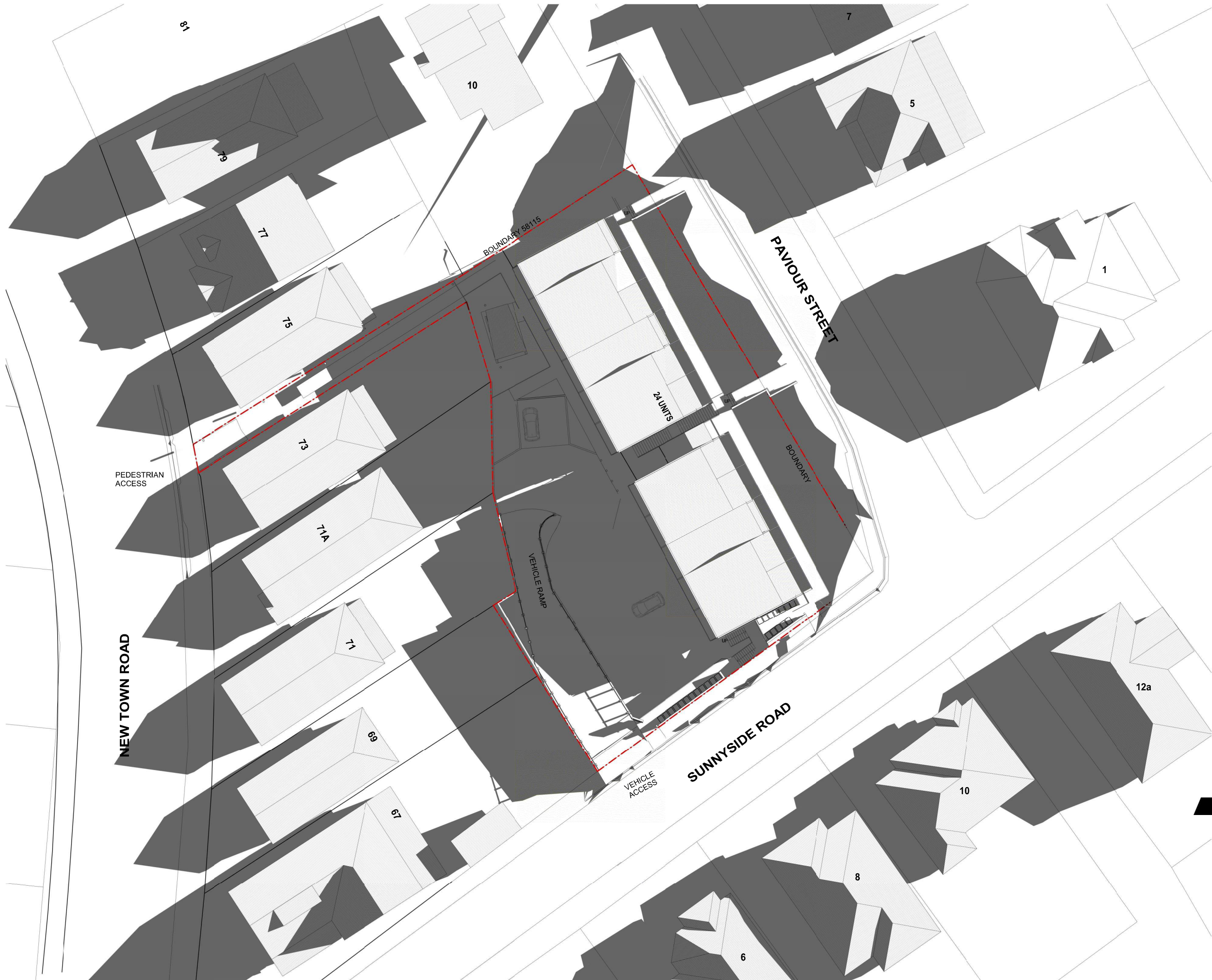
**SUNLIGHT & SHADOW DIAGRAMS  
SEPT 21 (SPRING) EAST FACING**

Scale NTS Print Date 04.05.22 11:53am Project 092,21144

Drawing No **DA43** Rev **B**

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NEW TOWN TAS 7008**

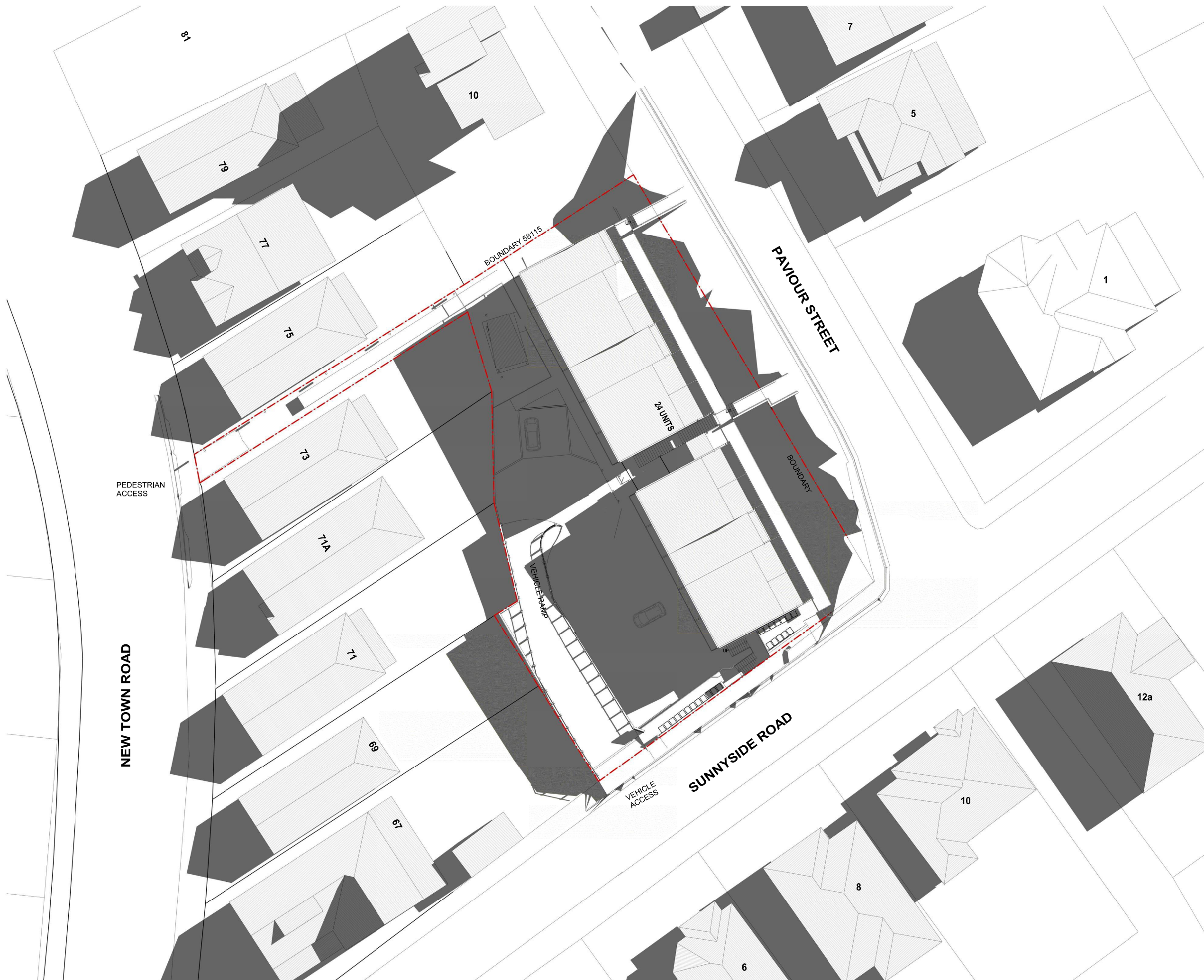
**SHADOW DIAGRAM 9AM - MARCH &  
SEPT**

Scale 1: 200 @ A1 Print Date Project 092,21144  
1: 400 @ A3 04.05.22 11:54am

Drawing No **DA44** Rev **B**

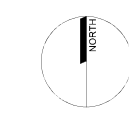
Autodesk Docs/Newtown Apartments/092-21144 Development Application.mxd





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NEW TOWN TAS 7008**

**SHADOW DIAGRAM 10AM - MARCH &  
SEPT**

Scale 1: 200 @ A1 Print Date Project 092,21144  
1: 400 @ A3 04.05.22 11:54am

Drawing No **DA45** Rev **B**

Autodesk Docs/Newtown Apartments/092-21144 Development Application.v1





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NEW TOWN TAS 7008**

**SHADOW DIAGRAM 11AM - MARCH &  
SEPT**

Scale 1: 200 @ A1 Print Date Project 092,21144  
1: 400 @ A3 04.05.22 11:55am

Drawing No **DA46** Rev **B**

Autodesk Docs/Newtown Apartments/092-21144 Development Application.mxd







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NORTH



0 1 2 3 4 5 10m

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**SHADOW DIAGRAM 12PM - MARCH &  
SEPT**

Scale	1:200 @ A1	Print Date	Project
	1:400 @ A3	04.05.22 11:55am	092,21144
Drawing No	<b>DA47</b>	Rev	<b>B</b>

Autodesk Docs/Newtown Apartments/092-21144 Development Application.vrt





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**SHADOW DIAGRAM 1PM - MARCH &  
SEPT**

Scale 1: 200 @ A1 Print Date Project 092,21144  
1: 400 @ A3 04.05.22 11:56am

Drawing No **DA48** Rev **B**

Autodesk Docs/Newtown Apartments/092-21144 Development Application.v1





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**SHADOW DIAGRAM 2PM - MARCH &  
SEPT**

Scale 1: 200 @ A1 Print Date Project 092,21144  
1: 400 @ A3 04.05.22 11:56am

Drawing No **DA49** Rev **B**

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NEW TOWN TAS 7008

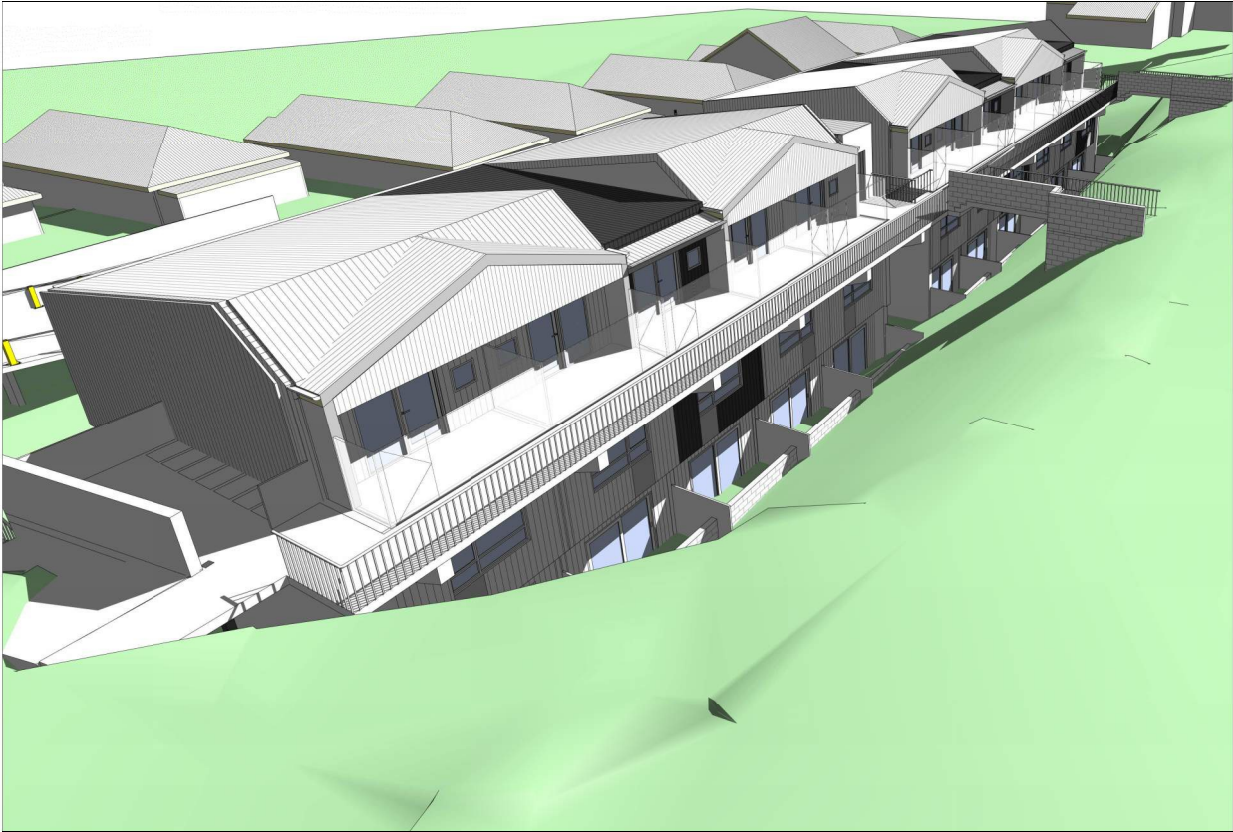
**SHADOW DIAGRAM 3PM - MARCH &  
SEPT**

Scale 1:200 @ A1 Print Date Project 092,21144  
1:400 @ A3 04.05.22 11:57am

Drawing No **DA50** Rev **B**

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4 21 Sept 1pm



1 21 Sept 2pm



2 21 Sept 3pm



3 21 Sept 4pm



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**SUNLIGHT & SHADOW DIAGRAMS  
SEPT 21 (SPRING) WEST FACING**

Scale @ A1 Print Date Project 092,21144  
1:400 @ A3 04.05.22 11:57am

Drawing No **DA51** Rev **B**

Autodesk Docs/Newtown Apartments/092-21144 Development Application.mxd

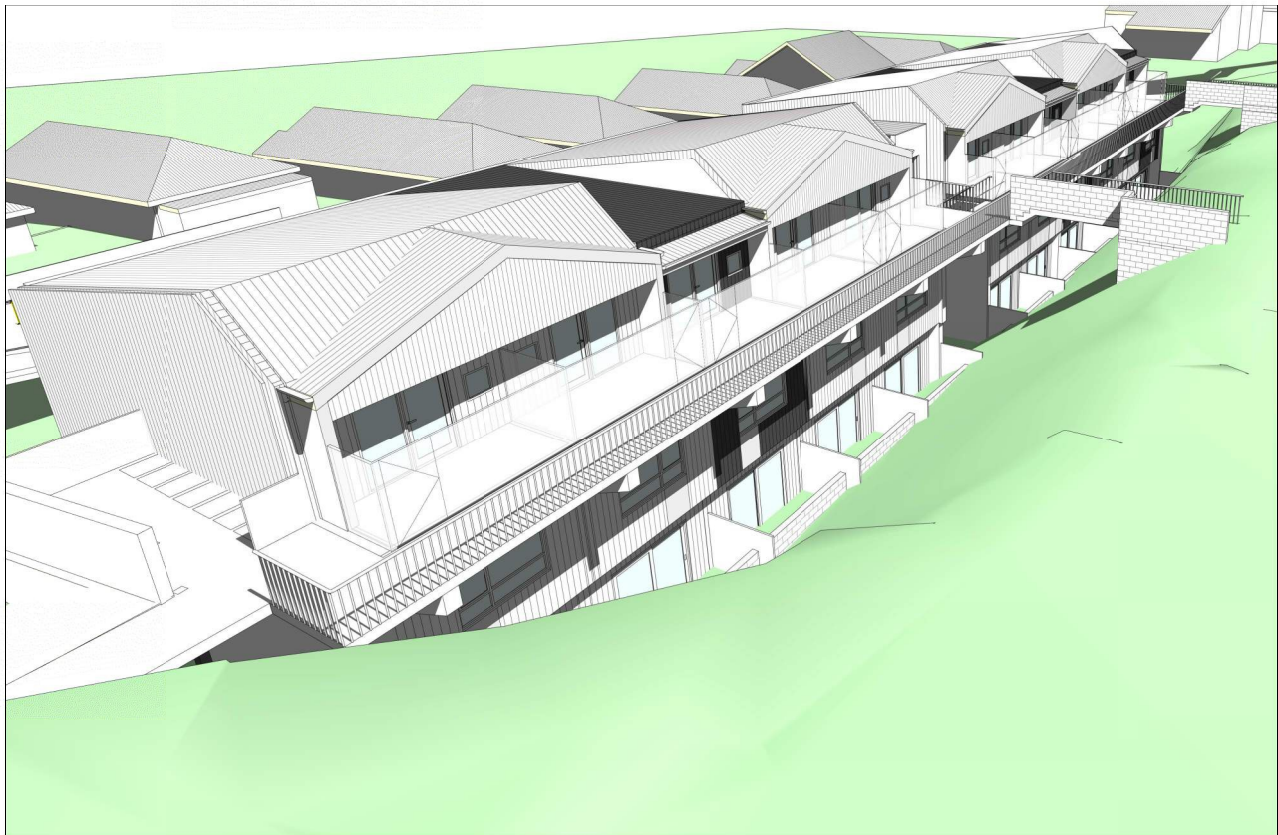




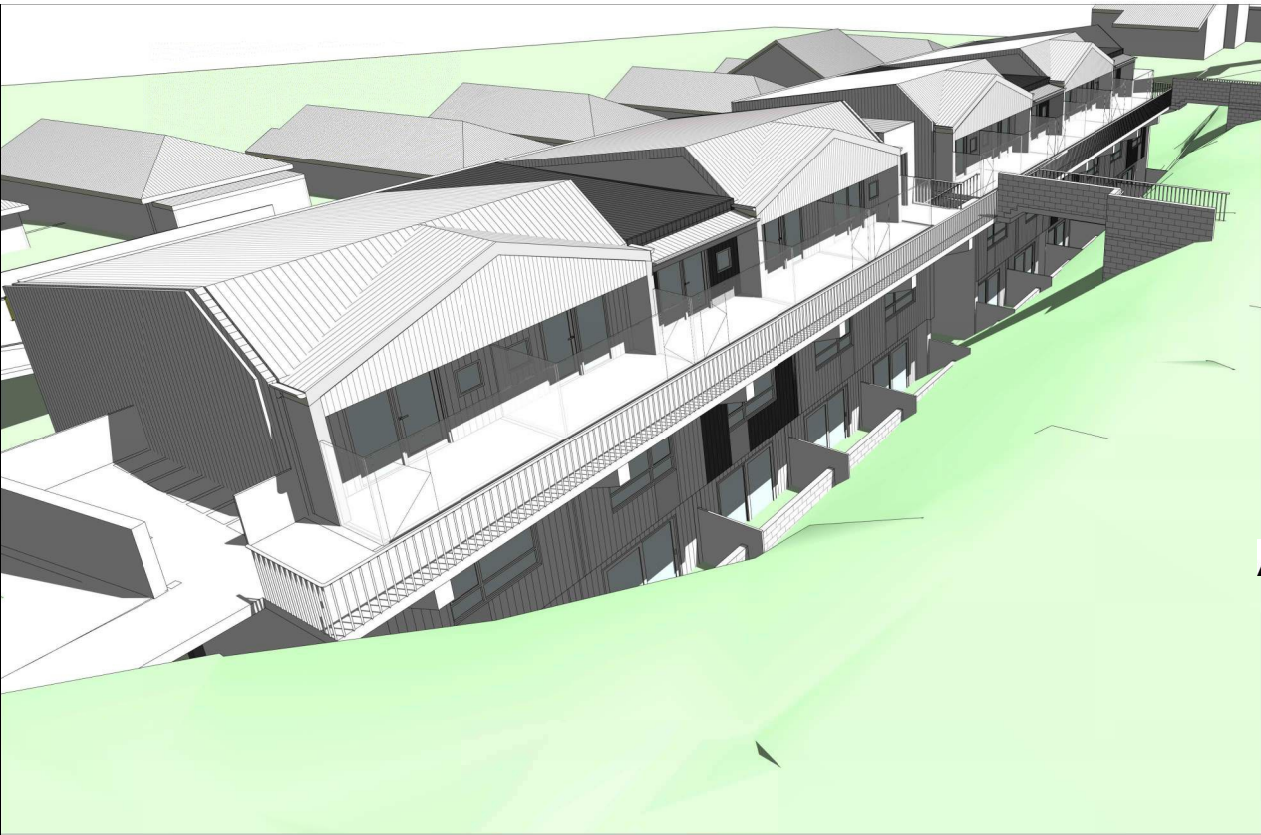
4 21 Dec 9am



1 21 Dec 10am



2 21 Dec 11am



3 21 Dec 12noon



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**SUNLIGHT & SHADOW DIAGRAMS  
DEC 21 (SUMMER) EAST FACING**

Scale 1:400 @ A3 Print Date 04.05.22 11:58am Project 092,21144

Drawing No **DA52** Rev **B**

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3 21 Dec 1pm West



1 21 Dec 2pm



2 21 Dec 3pm



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NEW TOWN TAS 7008**

**SUNLIGHT & SHADOW DIAGRAM  
DEC 21 (SUMMER) WEST FACING**

Scale @ A1 Print Date Project 092,21144  
1:400 @ A3 04.05.22 11:58am

Drawing No **DA53** Rev **B**

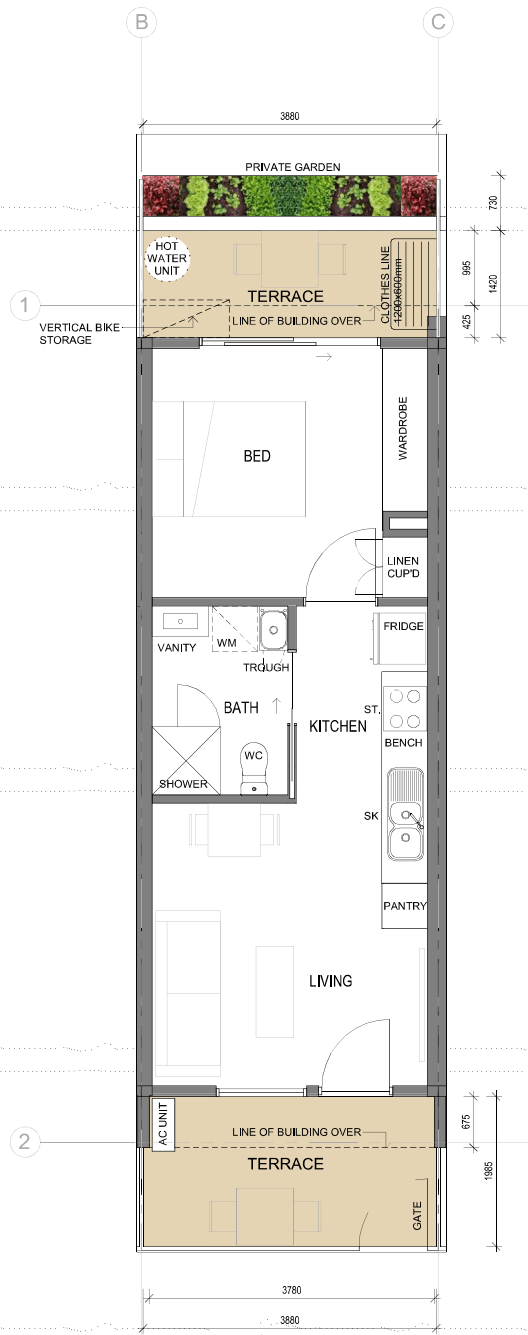
Autodesk Docs/Newtown Apartments/092-21144 Development Application.mxd



NOTES

PLAN LAYOUTS DRAWN ON THIS SHEET APPLY TO UNITS: 2, 4, 6, 7, 9 & 11.

MRRORED PLAN LAYOUT FOR UNITS: 1, 3, 5, 8 & 10.



**1 BEDROOM UNIT**

AREAS

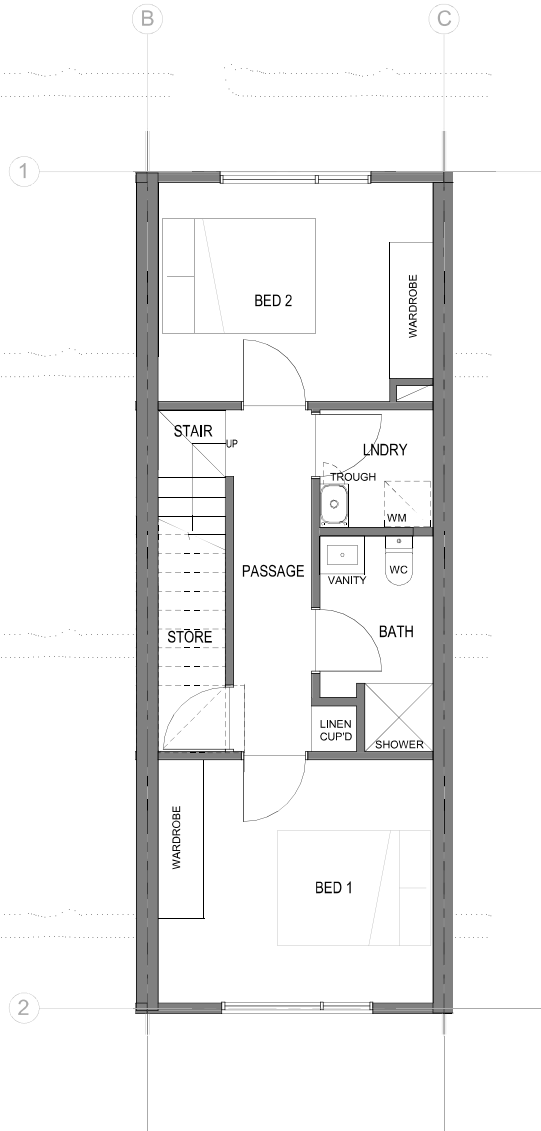
TERRACES - ENTRY: 7.6m<sup>2</sup>  
REAR: 5.5m<sup>2</sup> (EXCL GARDEN)

INTERNAL STORAGE

WARDROBE: 3.10m<sup>3</sup>  
LINEN CUPBOARD: 1.15m<sup>3</sup>

**1 L00 DETAIL PLAN**

DA14 1:50



**2 BEDROOM UNIT**

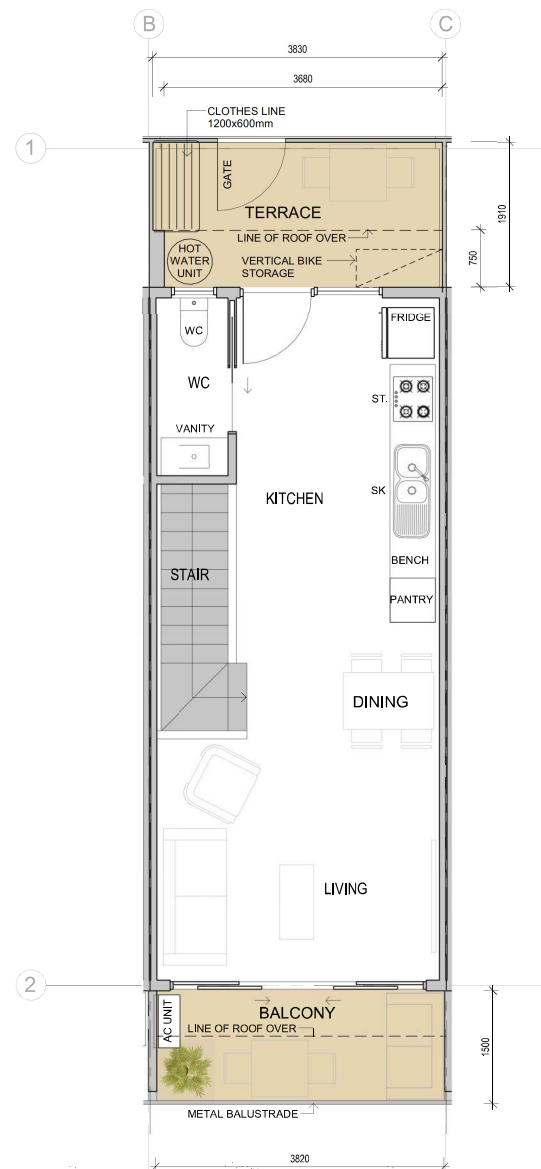
AREAS

INTERNAL STORAGE

LINEN CUPBOARD: 0.86m<sup>3</sup>  
STORE (UNDER STAIR): 4.80m<sup>3</sup>  
BED 1 WARDROBE: 3.02m<sup>3</sup>  
BED 2 WARDROBE: 2.60m<sup>3</sup>

**2 L01 DETAIL PLAN**

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**2 BEDROOM UNIT**

AREAS

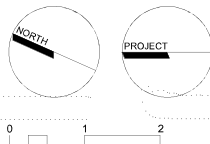
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REAR: 5.6m<sup>2</sup>

**3 L02 DETAIL PLAN**

DA14 1:50



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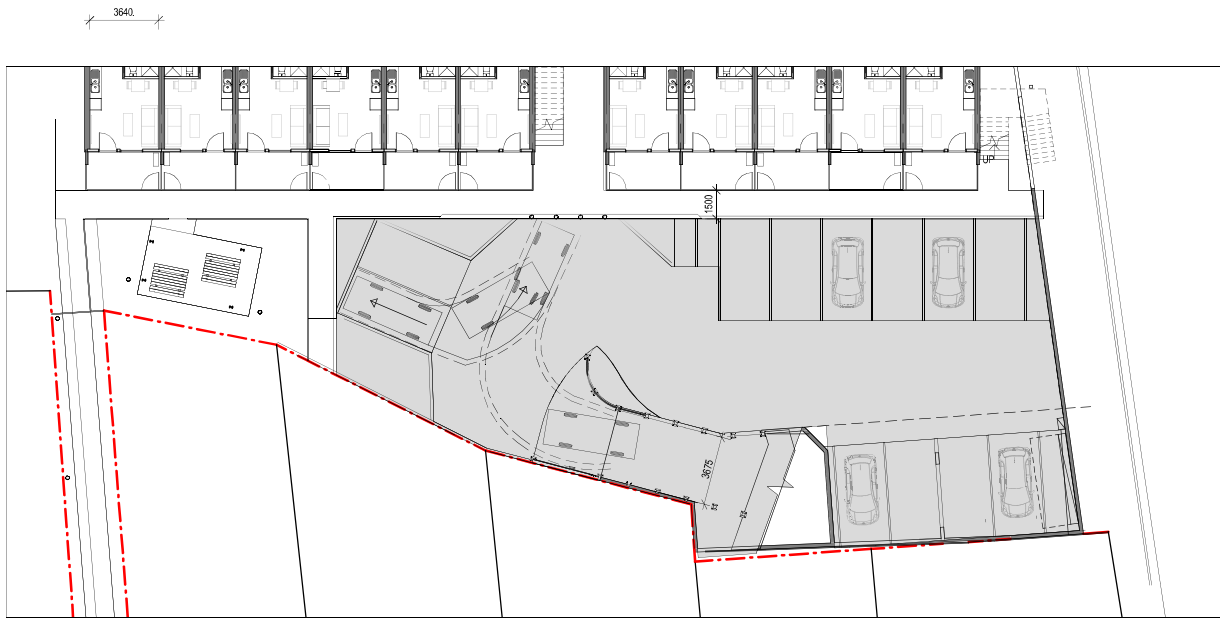
**FAIRBROTHER  
TOWNHOUSE DEVELOPMENT**  
73A NEW TOWN ROAD  
NEW TOWN TAS 7008

**DETAIL FLOOR PLANS**

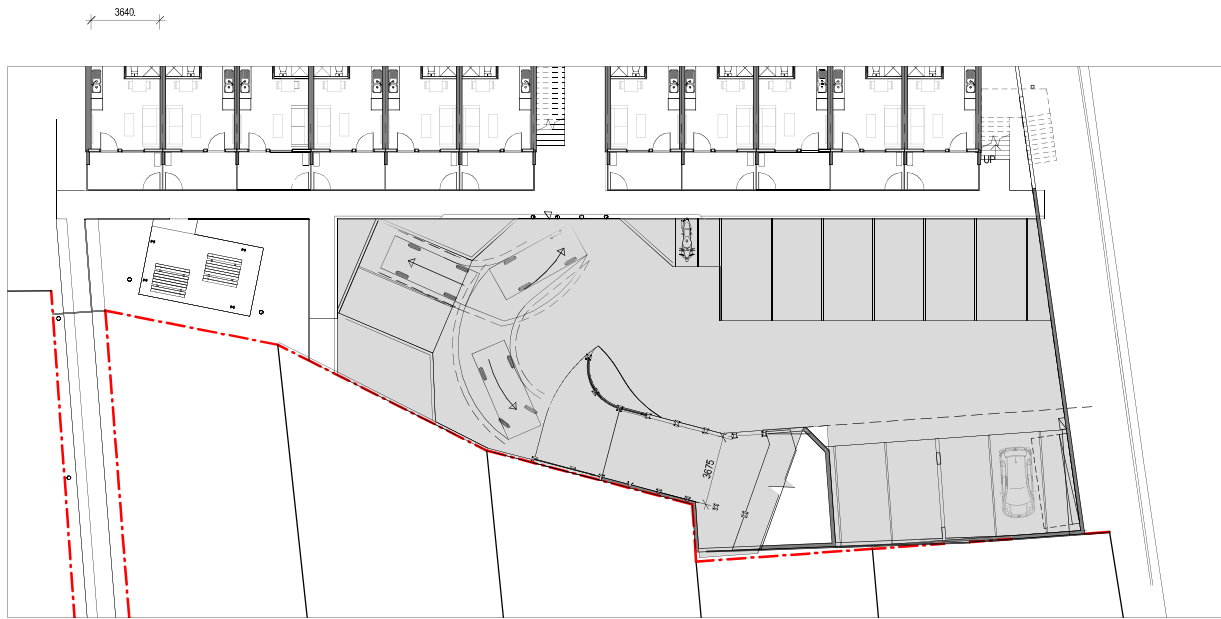
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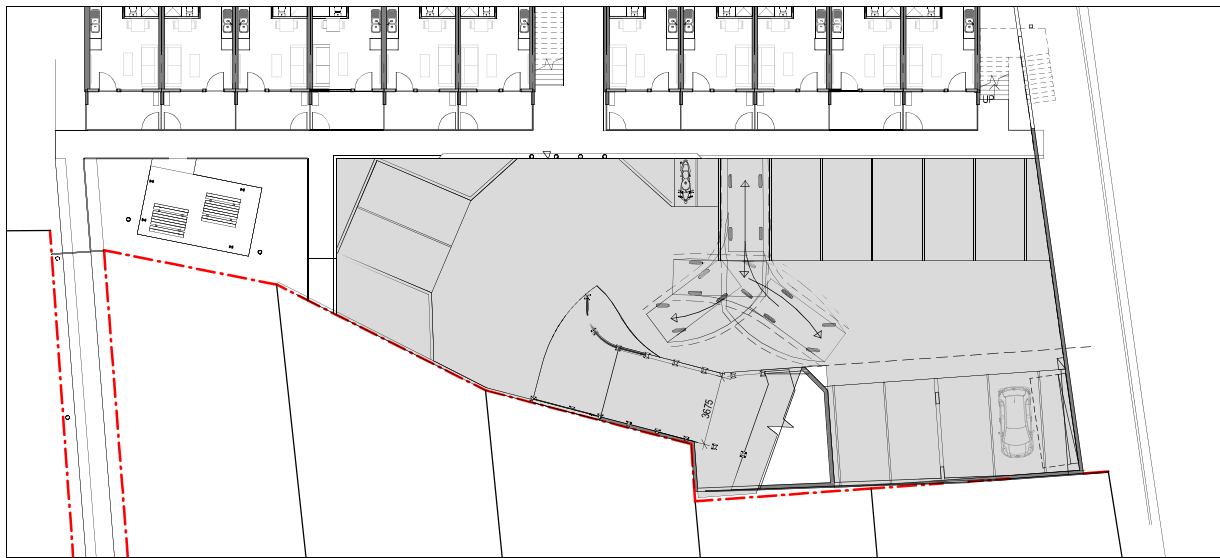




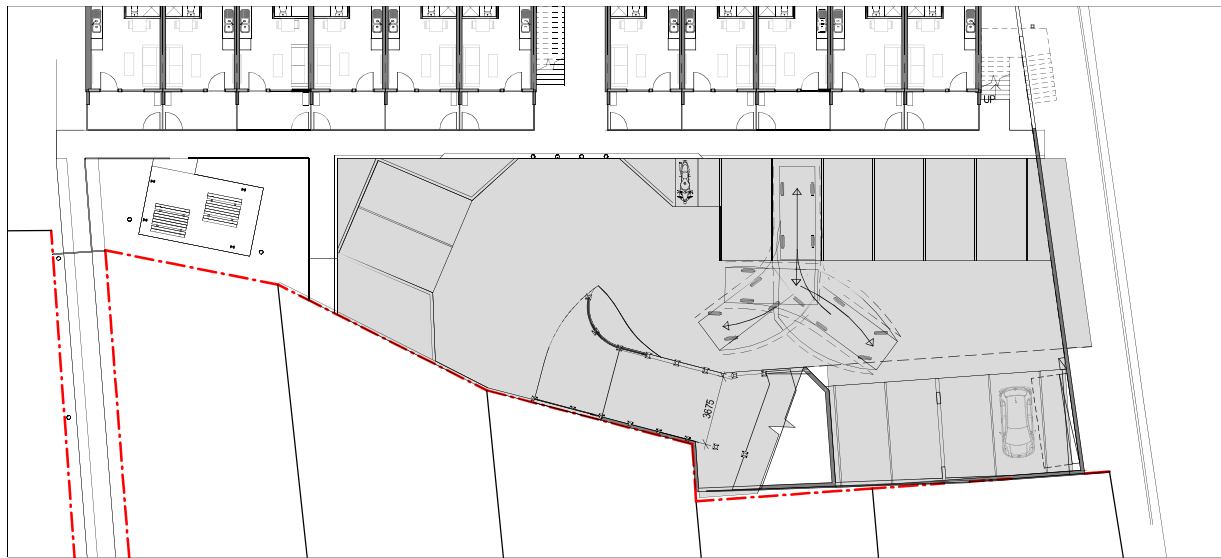
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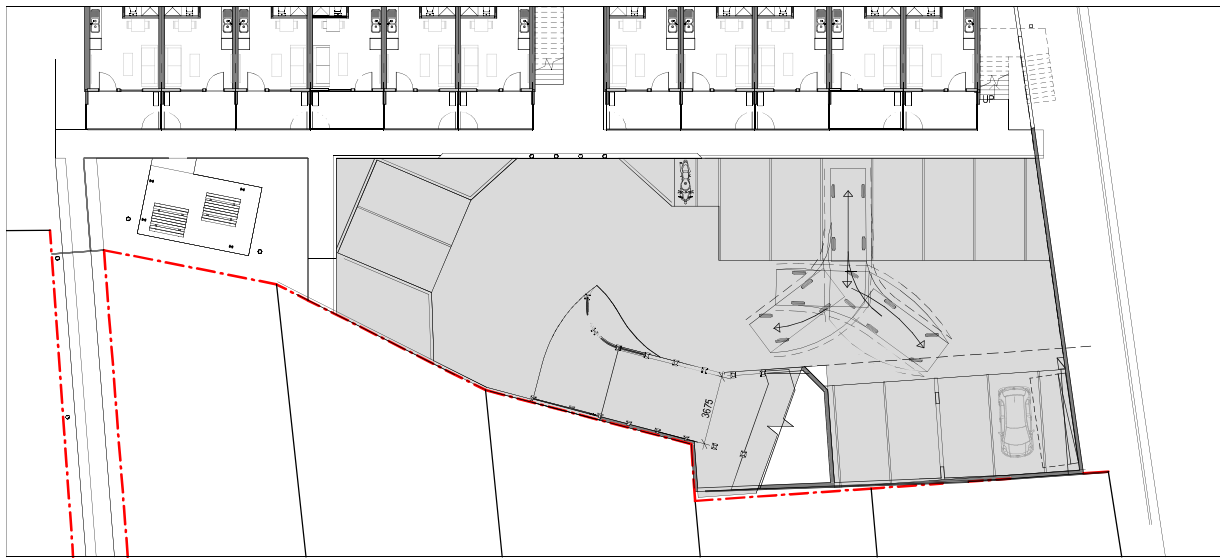
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3 TURN PATH 03  
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4 TURN PATH 04  
DA14 1:200



5 TURN PATH 05  
DA14 1:200

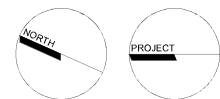


6 TURN PATH 06  
DA14 1:200



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0 1 2 3 4 5 10m

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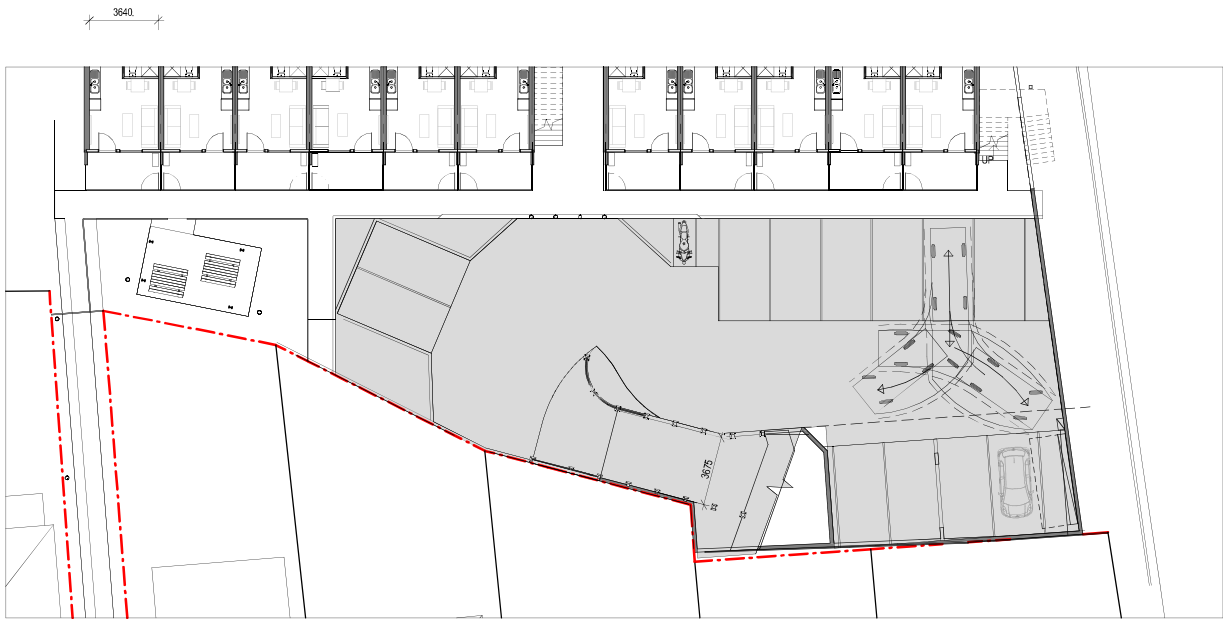
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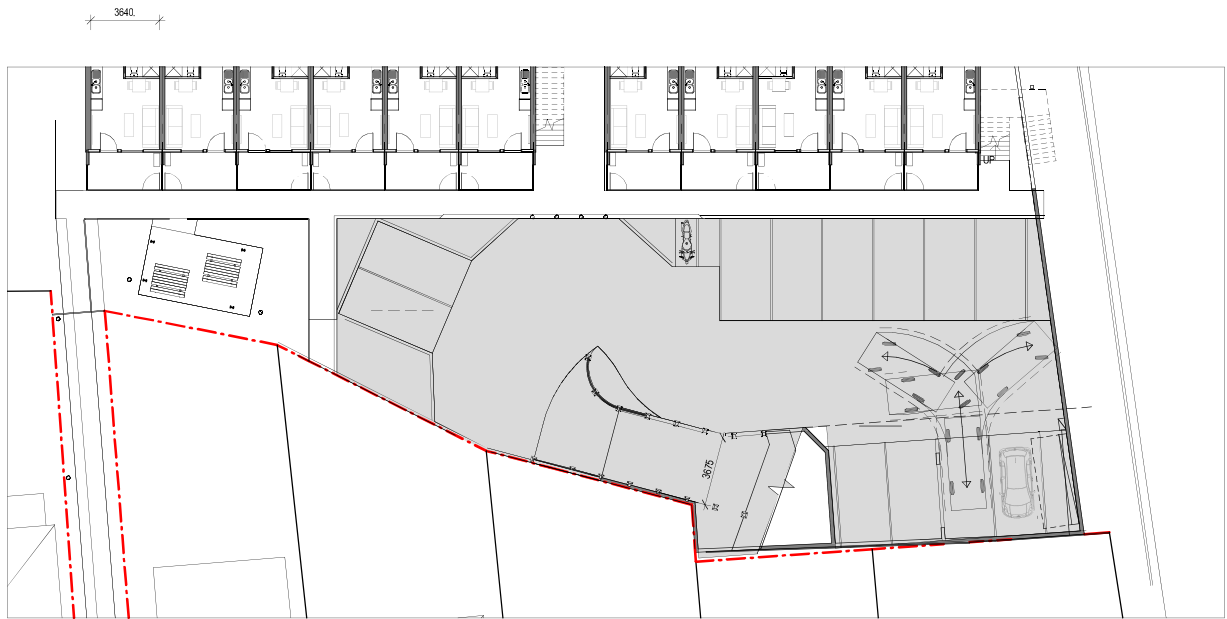
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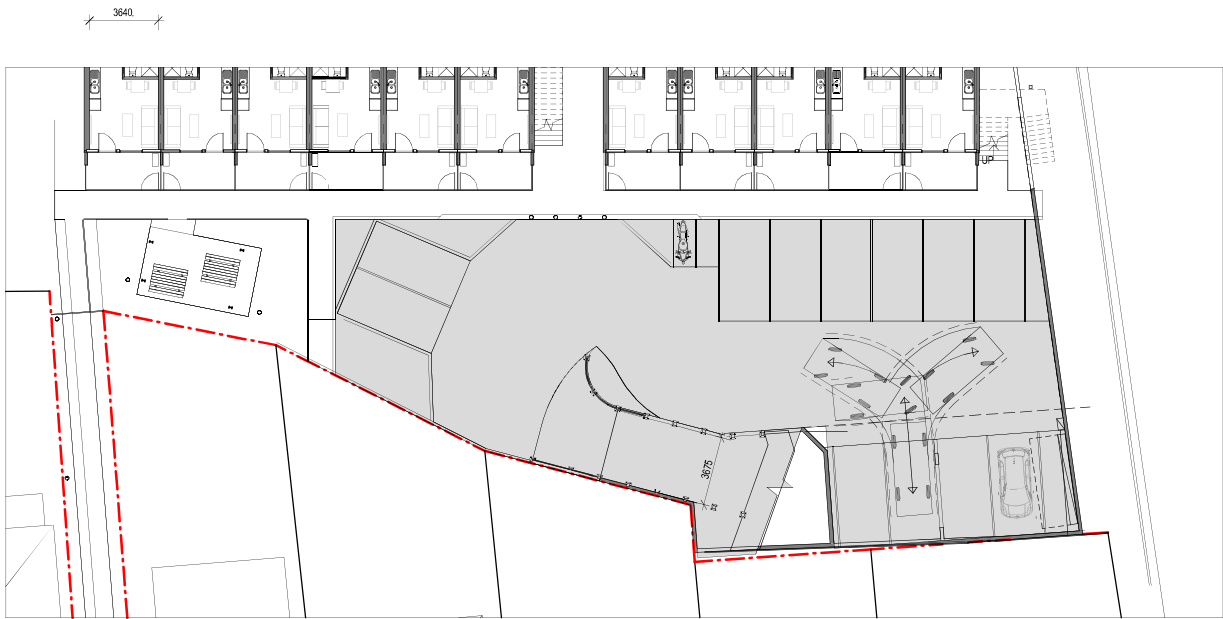




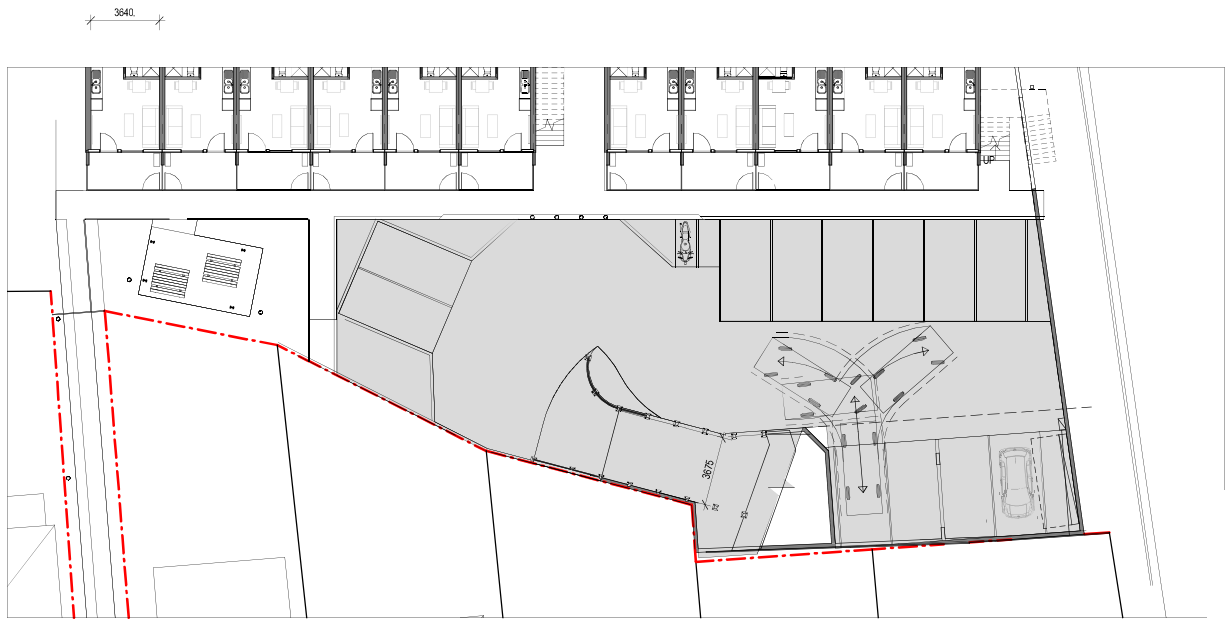
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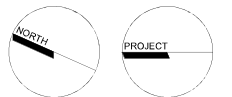


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DA14 1:200



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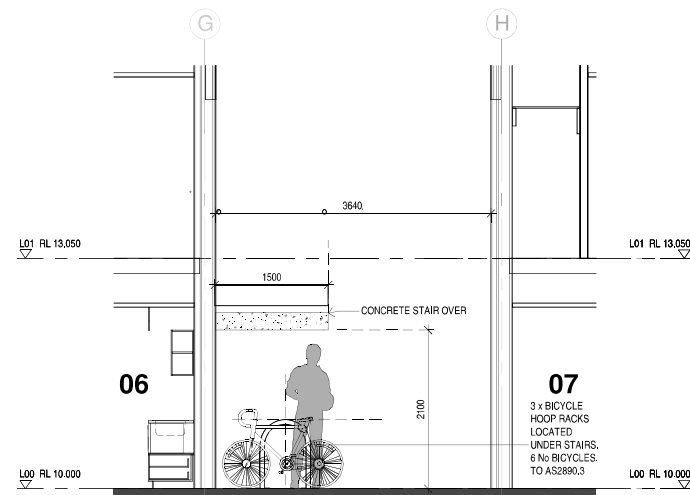
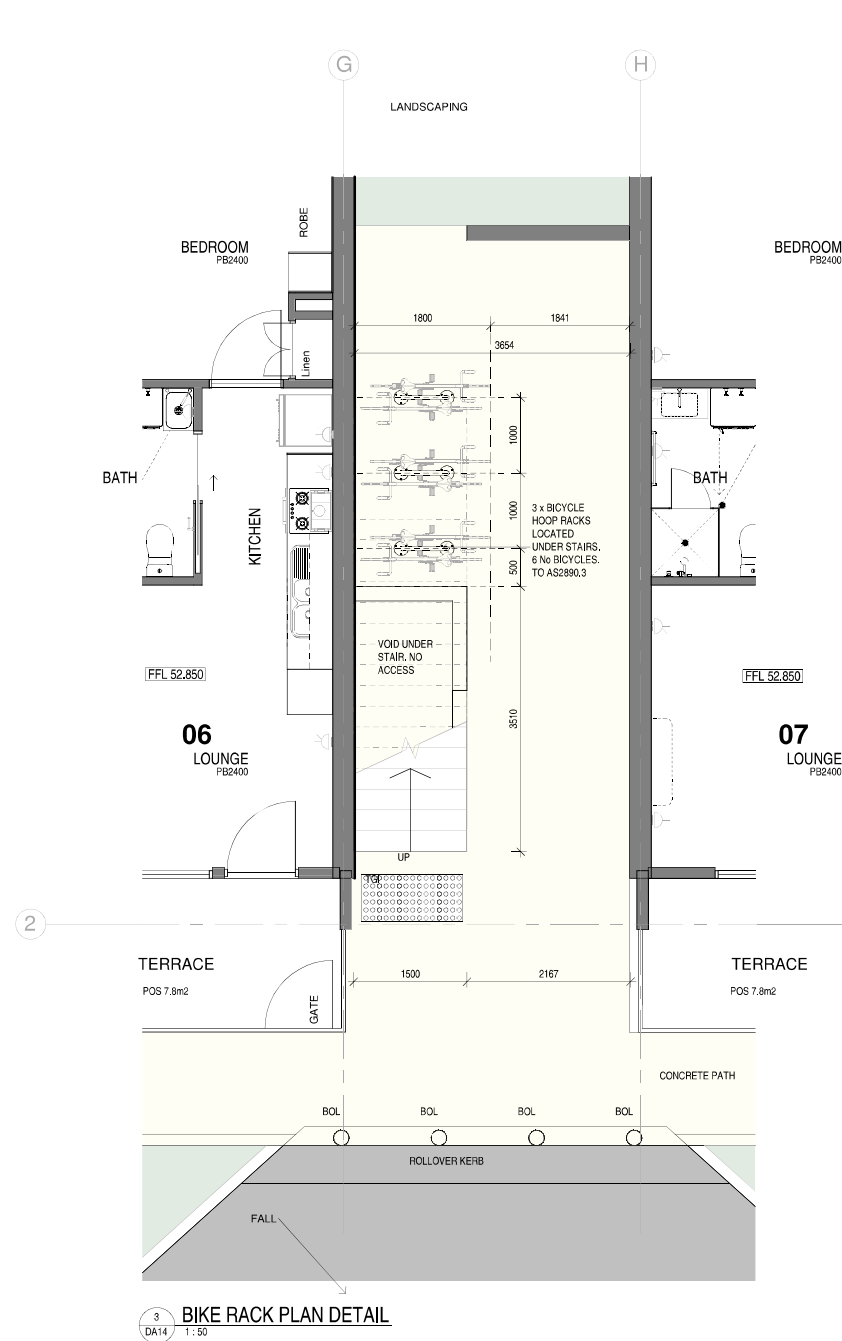
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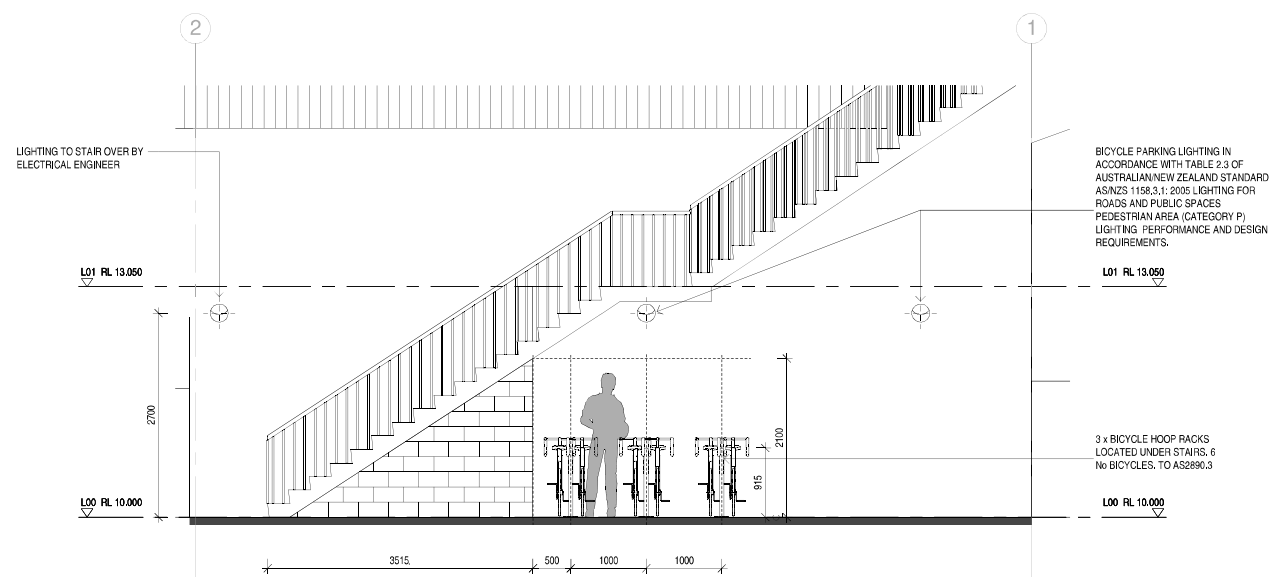
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**BIKE RACK SECTION 1**  
1:50



**BIKE RACK SECTION 2**  
1:50

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**BICYCLE PARKING**

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NEW TOWN ROAD STREET MONTAGE

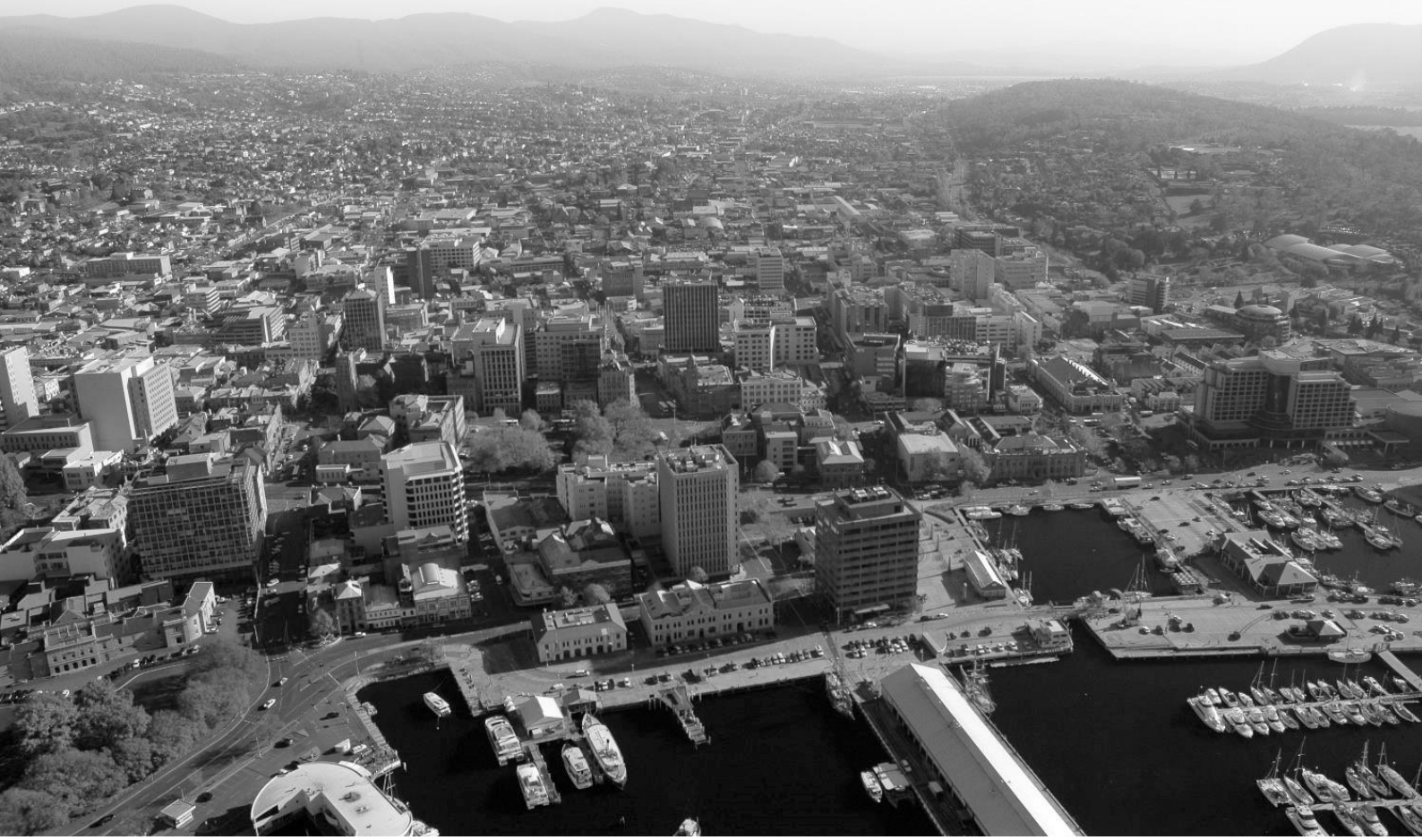
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# 73A New Town Road, New Town Development application

Supporting planning report

6 May 2022





ERA Planning Pty Ltd trading as ERA Planning and Environment

ABN 67 141 991 004

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Job Number: 2122-007

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# 1 Introduction

## 1.1 Purpose of the report

ERA Planning and Environment (ERA) has been engaged by Fairbrother on behalf of Housing Tasmania and Centacare Evolve Housing to seek a planning permit for the use and development of multiple dwellings at 73A New Town Road, New Town. This report provides a supporting planning submission providing relevant background material, project details and an assessment against the relevant planning scheme provisions.

## 1.2 Name of Planning Authority

The Planning Authority is the Hobart City Council.

## 1.3 Statutory controls

The site is subject to the provisions of the *Hobart Interim Planning Scheme 2015* (planning scheme).

## 1.4 Subject site

The subject site is known as 'New Town Catholic Tennis Club' – 73A New Town Road, New Town, and is contained within two lots formally known as CT 252210/1 and CT 205058/1. Both land parcels are under the ownership of the Director of Housing, Housing Tasmania.

The Certificate of Title is provided in Appendix B.

## 1.5 Enquiries

Enquiries relating to this planning report should be directed to:

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Senior Planner

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## 2 The proposal

### 2.1 Overview

The site is approximately 1849 m<sup>2</sup> in size and currently contains two tennis courts, a storage shed and a small tennis club house building; all existing buildings are to be demolished. The proposal is for a three storey multiple dwelling development consisting of 22 dwellings, 12 carparking spaces, 2 motorbike spaces, landscaping and an outdoor shared space.

Pedestrian access will be provided to the development via New Town Road, Paviour Street and Sunnyside Road; while vehicular access will be via a new ramp from Sunnyside Road. There are 12 carparking spaces and two motorbike spaces provided on site for use by residents and visitors. A bicycle rack with capacity for six bicycles is also provided on site.

The site is in the Inner Residential Zone and is close to a major public transport corridor along New Town Road and shops and community services in the New Town area. The scale and location of the site is well-suited to the provision of a new multiple dwelling development and the proposal accords with the zone purpose statements of the Inner Residential Zone to provide a variety of residential development at higher densities in locations within walkable distance of services, facilities, employment and high frequency public transport corridors.

Architectural plans prepared by Philp Lighton Architects are at Appendix C.



*Figure 1: Render of proposed development, viewed from Sunnyside Road, prepared by Philp Lighton Architects*

### 2.2 Development summary

A development summary is provided below.



**Table 1: Development summary**

Item	Provision
Site area	1849 m <sup>2</sup>
Site coverage	636 m <sup>2</sup> / 34.4 %
Overall building height	10.36 m
Dwellings	22
Car parking spaces	12
Motorbike spaces	2
Bicycle parking spaces	6

### 2.3 Demolition

It is proposed to demolish the following from the subject site:

- Two tennis courts
- Chain wire mesh fencing enclosing the tennis courts
- Weatherboard clubhouse and shed
- Paved walkways within the site
- Crossover to New Town Road

### 2.4 Replacement and retention

The following is to be retained or replaced:

- The crossover to New Town Road will be removed and replaced with kerb and channel to Council requirements.
- The existing chain wire mesh fencing with dense vegetation cover on the western boundary will be retained and protected during construction.





**Figure 2: Demolition and retention plan prepared by Philp Lighton Architects**

## 2.5 Built form

The proposed development comprises a three-storey apartment building with 22 apartments, including 11 one-bedroom apartments and 11 two-bedroom apartments.

There are two dwelling types proposed:

- 11 one-bedroom units which will be single-storey and located at ground level. The dwellings comprise one bedroom, an open plan kitchen/dining/living area, combined bathroom/laundry and two terraces on either of the dwelling.
- 11 two-bedroom units which will be two-storey and located across Levels 01 and 02 (directly above the one-bedroom units). The dwellings comprise of two bedrooms, two bathrooms, an open plan kitchen/living/dining area, laundry and two terraces on the either side of the building located on Level 02. Access to the units is from a shared walkway on Level 02. The main kitchen/living/dining area is located on Level 02 and the bedrooms and main bathroom are located on Level 01.

Each of the units are accessed via an entry terrace. The one-bedroom units will be accessed from the western side of the building from the ground level carpark area and the two-bedroom dwellings will be accessed from the eastern side of the building from Pavior Street or via central stairs and a future lift from the ground level.

Private open space is provided for each unit by two terraces on the eastern and western sides of the building. The total area of private open space for each one-bedroom units is 13.1 m<sup>2</sup> and for each two-bedroom unit is



12.8 m<sup>2</sup>. Each east-facing terrace includes vertical bicycle storage and a clothesline. An outdoor shared space is incorporated at ground level in front of the building, consisting of a BBQ shelter, park benches and a bicycle storage rack for visitor use with capacity for six bicycles.



**Figure 3: View within the site towards Sunnyside Road, prepared by Philp Lighton Architects**

## 2.6 Parking and access

The site does not currently have vehicle access. The proposal includes a new 6.0 m wide vehicle access ramp from Sunnyside Road that extends to a new carpark at ground level. The ramp will provide vehicle movements as detailed in the Traffic Impact Assessment (Appendix E) and accommodate the swept path of B99 vehicles entering and leaving Sunnyside Road. The carpark is located directly in front of the dwellings and will accommodate 12 vehicle parking spaces and two motorbike parking spaces for use by residents. Visitor parking will be accommodated by on-street parking, noting that ample on-street parking is currently available in the area, as detailed in the Traffic Impact Assessment (Appendix E). Due to the site topography, the carpark will be set below the level of Sunnyside Road and will have minimal impact on the visual amenity of the area. Two screened waste storage areas will be located at the southern end of the site and will be accessible for Council waste collection from Sunnyside Road. Letterboxes will be located on Sunnyside Road.

Pedestrian access to the site will be provided from New Town Road, Pavior Street (2 access points) and Sunnyside Road. The access to New Town Road is via an existing laneway which is part of the subject site that will be upgraded to provide a footpath and gated access to the development.



## 3 Subject site and surrounds

### 3.1 Site description

The subject site has a battle-axe shape, with an access handle providing frontage to New Town Road. The site has three road frontages, to New Town Road, Sunnyside Road and Paviour Street (Figure 4). The central part of the site is relatively flat with a slight slope to the west. There is a significant level difference near the perimeter of the site with Sunnyside Road and Paviour Street (see further geotechnical information below). The site is located on the lower slope of a hillside with a western aspect with views towards New Town, Mount Stuart and kunanyi/Mt Wellington.

The property is known as the 'New Town Catholic Tennis Club' site and contains two clay tennis courts, a tennis club house, storage shed and fencing. The site is thought to have been used for tennis courts since the late 1920s (refer to Appendix G). Vegetation is present on the eastern and southern perimeters of the site. The land is predominately surrounded by residential development. The site is located close to a bus stop near the intersection of New Town Road and Sunnyside Road that is serviced by high-frequency bus routes.



*Figure 4: Aerial image of subject site and surrounds (Source: [www.thelist.tas.gov.au](http://www.thelist.tas.gov.au), April 2022)*



### 3.2 Geotechnical investigation

An initial geotechnical investigation was commissioned for the development due to the significant level difference and earth batters near the perimeter of the site with Paviour Street and Sunnyside Road. This investigation was undertaken by GES in February 2022 and considered the soil and geotechnical conditions of the site. The report classifies the site as Class P. It identifies potential geotechnical impediments to construction and the need for appropriate engineering design for stabilisation of earth batters on site and retention systems for areas of overhanging sandstone. Refer to the full report and recommendations at Appendix D.

### 3.3 Title information

The Certificates of Title for the subject site are attached at Appendix B. The details for this property are outlined below.

**Table 2: Certificate of Title details**

Address	Title reference	Landowner	Total Area
73A New Town Road, New Town	CT 252210/1	Director of Housing, Housing Tasmania	1849 m <sup>2</sup>
73A New Town Road, New Town	CT 205058/1	Director of Housing, Housing Tasmania	

CT 252210/1 is burdened by drainage easement that is 1.5m wide and situated along the access handle to New Town Road. CT 205058/1 is not subject to any restrictions, easements, or covenants.

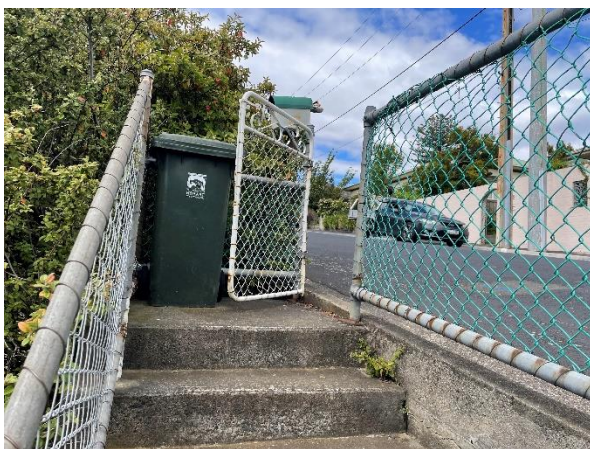
### 3.4 Servicing

The subject site has full reticulated services, as detailed within the Civil Engineering drawings in Appendix F.

### 3.5 Site photos















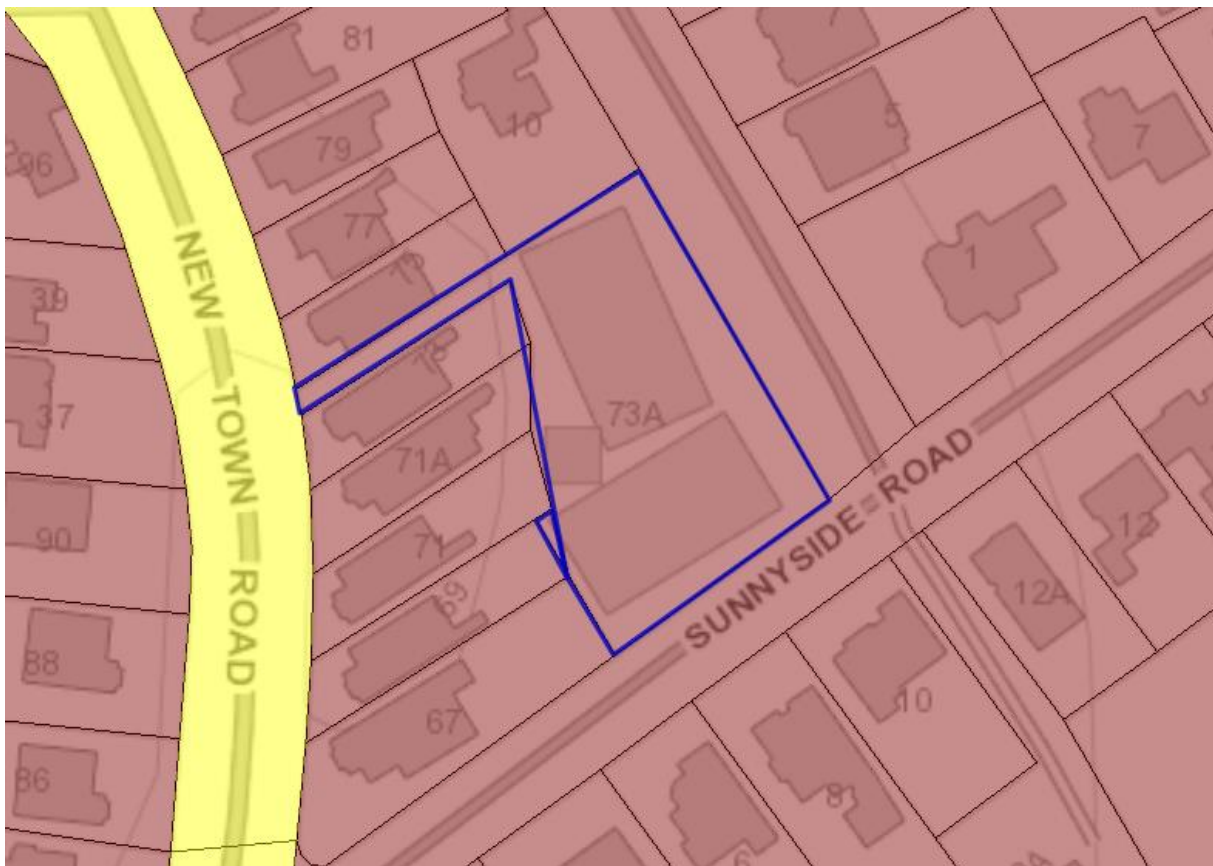


## 4 Planning controls

### 4.1 Statutory controls

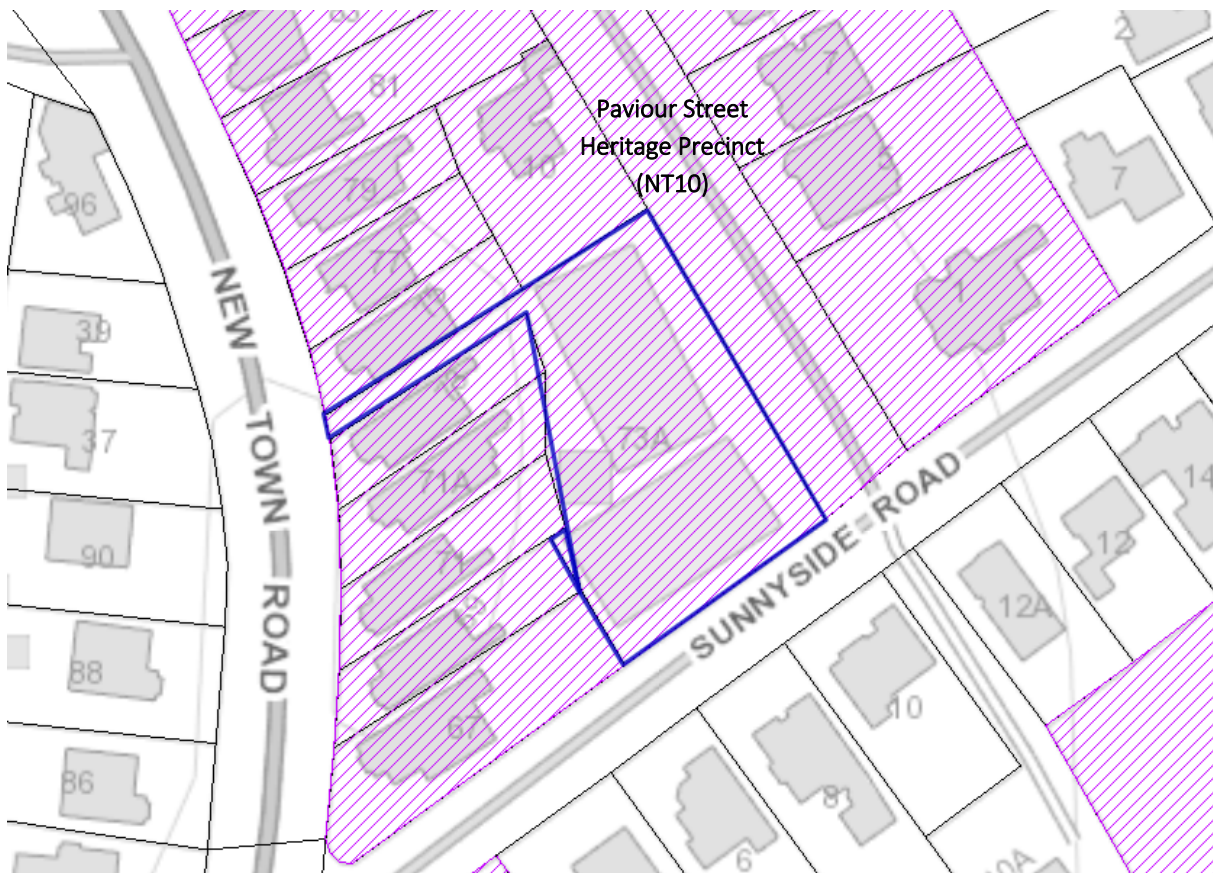
The site is subject to the provisions of the *Hobart Interim Planning Scheme 2015* (planning scheme).

The site is in the Inner Residential Zone and is within the Paviour Street Heritage Precinct (NT10) under the planning scheme. Refer to Figure 5 and Figure 6 below. The site is not on the state heritage register.



*Figure 5: Site (highlighted with blue border) is zoned Inner Residential (Source: [www.thelist.tas.gov.au](http://www.thelist.tas.gov.au), April 2022)*





**Figure 6: Site (highlighted with blue border) is within the Paviour Street Heritage Precinct**  
 (Source: [www.thelist.tas.gov.au](http://www.thelist.tas.gov.au), April 2022)

## 4.2 Specific Area Plan

The site is subject to the Royal Hobart Hospital Helipad Airspace Specific Area Plan (outer area 100 m AHD).

The Specific Area Plan has restrictions around building height, requiring buildings to not interfere with safe aircraft operations in the vicinity of the Royal Hobart Hospital helipad. Given the site is located within the outer area, the building height, including minor protrusions, masts or aerials must be no more than 100 m AHD.

## 4.3 Relevant codes

The following codes from the interim planning scheme are applicable to the application:

- E5.0 Road and Railway Assets Code
- E6.0 Parking and Access Code
- E7.0 Stormwater Management Code
- E13.0 Historic Heritage Code



## 5 Inner Residential zone

### 5.1 Zone purpose statements

- 11.1.1.1 To provide for a variety of residential uses and dwelling types close to services and facilities in inner urban and historically established areas, which uses and types respect the existing variation and pattern in lot sizes, set back, and height.*
- 11.1.1.2 To provide for compatible non-residential uses that primarily serve the local community.*
- 11.1.1.3 To encourage residential development at higher densities in locations within walkable distance of services, facilities, employment and high frequency public transport corridors.*
- 11.1.1.4 To encourage residential development that respects the neighbourhood character.*
- 11.1.1.5 To provide a high standard of residential amenity.*
- 11.1.1.6 To allow commercial uses which provide services for the needs of residents of a neighbourhood and do not displace an existing residential use or adversely affect their amenity particularly through noise, traffic generation and movement, and the impact of demand for on-street parking.*

#### Planner Response

It is considered that the proposal is in accordance with the zone purpose statements, specifically Clauses 11.1.1.1, 11.1.1.3 and 11.1.1.5 for the following reasons:

- The proposal is for multiple dwellings in the form of social housing, allowing for a variety of dwelling types in proximity to services and facilities in an inner urban established area which would respect the existing variation and pattern in lot sizes, set back and height.
- The proposal would be for residential development at higher densities within walkable distance of services, facilities, employment and high-frequency public transport corridors.
- The design of the proposed dwellings would enable a high standard of residential amenity.

### 5.2 Local area objectives

There are no Local Area Objectives for this Zone.

### 5.3 Desired future character statements

There are no Desired Future Character Statements for this Zone.

### 5.4 Use status

The proposed use is residential (multiple dwellings). Pursuant to Table 11.2 of the Inner Residential Zone in the planning scheme, residential (multiple dwellings) is classified as a permitted use.

#### 5.4.1 Use standards

The use standards only apply to non-residential use and visitor accommodation. Therefore, the standards are not applicable to this application which is for a residential use (multiple dwellings).



#### 5.4.2 Development standards for dwellings

PLANNING SCHEME REQUIREMENT	
Acceptable Solutions	Performance Criteria
<b>11.4.1 Residential density for multiple dwellings</b>	
<b>A1</b> Multiple dwellings must have a site area per dwelling of not less than 200 m <sup>2</sup> .	<b>P1</b> Multiple dwellings must only have a site area per dwelling less than 200 m <sup>2</sup> if: <ul style="list-style-type: none"> <li>(a) The development contributes to a range of dwelling types and sizes appropriate to the surrounding area; or</li> <li>(b) The development provides for a specific accommodation need with significant social or community benefit.</li> </ul>
<p><u>Planner Response</u></p> <p>There are 22 dwellings proposed on the subject site, which has a total site area of 1849 m<sup>2</sup>. This results in a density of 84 m<sup>2</sup> per dwelling. As this is less than 200 m<sup>2</sup> per dwelling, the proposal requires assessment against the performance criteria.</p> <p>The proposal is for two different dwelling types (11 one bedroom units and 11 two bedroom units). This will contribute to providing a range of dwelling types that are compatible with the zone purpose statements and the existing variation and pattern of housing in the New Town area. The proposal is for social housing provided by Housing Tasmania which will have a significant community benefit by providing housing for those in need that is well-located close to a high-frequency public transport corridor, shops and community facilities.</p> <p>Refer to the statement in Appendix H prepared by Centacare Evolve Housing which details the significant benefits this social housing provision will have.</p> <p><b>The performance criterion (P1) is satisfied.</b></p>	
<b>11.4.2 Setbacks and building envelope for all dwellings</b>	
<b>A1</b> Unless within a building area on a sealed plan, a dwelling, excluding garages, carports and protrusions that extend not more than 0.9m into the frontage setback, must have a setback from a frontage that is: <ul style="list-style-type: none"> <li>(a) if the frontage is a primary frontage, not less than 3m, or, if the setback from the primary frontage is less than 3m, not less than the setback,</li> </ul>	<b>P1</b> A dwelling must have a setback from a frontage that is compatible with the streetscape having regard to any topographical constraints.



PLANNING SCHEME REQUIREMENT	
<p>from the primary frontage, of any existing dwelling on the site;</p> <p>(b) if the frontage is not a primary frontage, not less than 2m, or, if the setback from the frontage is less than 2m, not less than the setback, from a frontage that is not a primary frontage, of any existing dwelling on the site;</p> <p>(c) if for a vacant site and there are existing dwellings on adjoining properties on the same street, not more than the greater, or less than the lesser, setback for the equivalent frontage of the dwellings on the adjoining sites on the same street; or</p> <p>(d) if located above a non-residential use at ground floor level, not less than the setback from the frontage of the ground floor level.</p>	
<p><u>Planner Response</u></p> <p>The subject site has three road frontages with the following setbacks:</p> <ul style="list-style-type: none"> <li>• New Town Road (primary frontage): more than 40 m</li> <li>• Sunnyside Road (secondary frontage): 0 m for access ramp walkways/stairs, min. 2.4 m for building facade</li> <li>• Paviour Street (secondary frontage): 0 m for access ramp walkways, min. 4.7 m for building facade</li> </ul> <p>The proposal complies with A1(a) but not with A1(b) due to the walkways connecting the building to the public footpaths on Paviour Street and Sunnyside Road. The proposal must therefore be assessed against the performance criteria.</p> <p>Due to the site topography and the large level difference along the rear of the site, the building design has been required to incorporate access walkways and stairs to connect the building to the Paviour Street and Sunnyside Road frontages. These walkways provide important access to the dwellings from these streets and level access to the two bedroom units on Level 02. The walkways and stairs result in 0m setbacks to both the eastern and southern secondary frontages, however the building facade itself is within the frontage setbacks required under the acceptable solutions. The walkways will include balustrades with heights of approximately 1.2 - 1.5 m (refer to plans for details). It is considered that the walkways and balustrades are compatible with the streetscape given their limited use and low visual prominence as they will be largely screened by the 1.8 m high boundary fencing. The walkways are a direct response to the topographic constraints of the site and the access requirements of the building.</p> <p><b>The performance criterion (P1) is satisfied.</b></p>	
A2	P2



PLANNING SCHEME REQUIREMENT	
<p>A garage or carport for a dwelling must have a setback from a primary frontage of not less than:</p> <ul style="list-style-type: none"> <li>(a) 4 m, or alternatively 1 m behind the building line;</li> <li>(b) the same as the building line, if a portion of the dwelling gross floor area is located above the garage or carport; or</li> <li>(c) 1 m, if the existing ground level slopes up or down at a gradient steeper than 1 in 5 for a distance of 10 m from the frontage.</li> </ul>	<p>A garage or carport must have a setback from a primary frontage that is compatible with the setbacks of existing garages or carports in the street, having regard to any topographical constraints.</p>
<p><u>Planner Response</u></p> <p>There are no garages or carports proposed.</p> <p><b>Not applicable.</b></p>	
<p><b>A3</b></p> <p>A dwelling, excluding outbuildings with a building height of not more than 2.4 m and protrusions that extend not more than 0.9 m horizontally beyond the building envelope, must:</p> <ul style="list-style-type: none"> <li>(a) be contained within a building envelope (refer to Figures 11.1, 11.2 and 11.3) determined by: <ul style="list-style-type: none"> <li>(i) a distance equal to the frontage setback or, for an internal lot, a distance of 3 m from the rear boundary of a property with an adjoining frontage; and</li> <li>(ii) projecting a line at an angle of 45 degrees from the horizontal at a height of 3 m above existing ground level at the side and rear boundaries to a building height of not more than 9.5 m above existing ground level; and</li> </ul> </li> <li>(b) only have a setback within 1.5 m of a side or rear boundary if the dwelling: <ul style="list-style-type: none"> <li>(i) does not extend beyond an existing building built on or within 0.2 m of the boundary of the adjoining property; or</li> </ul> </li> </ul>	<p><b>P3</b></p> <p>The siting and scale of a dwelling must:</p> <ul style="list-style-type: none"> <li>(a) not cause unreasonable loss of amenity to adjoining properties, having regard to: <ul style="list-style-type: none"> <li>(i) reduction in sunlight to a habitable room (other than a bedroom) of a dwelling on an adjoining property; or</li> <li>(ii) overshadowing the private open space of a dwelling on an adjoining property; or</li> <li>(iii) overshadowing of an adjoining vacant lot; or</li> <li>(iv) visual impacts caused by the apparent scale, bulk or proportions of the dwelling when viewed from an adjoining property; and</li> </ul> </li> <li>(b) provide separation between dwellings on adjoining properties that is consistent with that existing on established properties in the area.</li> </ul>



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- (ii) does not exceed a total length of 9 m or one-third the length of the side boundary (whichever is the lesser).

This acceptable solution does not apply to Battery Point Heritage Precinct (BP1).

**Planner Response**

The proposal is outside of the building envelope due to small encroachments, including the top corner of Unit 12 and part of the roofline (refer to sections and elevations at Appendix C).

The extent of the building located outside of the building envelope is relatively minor. The boundary setbacks of the building façade are within the building envelope and provide a separation between buildings on adjoining properties that is compatible with the surrounding area. The roofline peaks that lie outside the building envelope are positioned towards the rear of the site and are well set back from the rear boundaries of the properties along New Town Road.

It is considered that the proposal will not lead to an unreasonable loss of amenity due to a reduction in sunlight to a habitable room of a dwelling or the overshadowing of private open space of an adjoining property in accordance with performance criteria P1(i)&(ii). The shadow diagrams prepared by Philp Lighton Architects (Appendix C) indicate there is existing overshadowing of the dwellings along New Town Road at 9am and 10am on 21 June. There is existing overshadowing of the rear of the gardens of 67, 69, 71 and 71A New Town Road at 11am on 21 June. The shadow diagrams for the proposed development indicate that overshadowing of the dwellings at 9am and 10am on 21 June will remaining largely unchanged, except for a small area of the backyard of 69 New Town Road at 10am. By 11am on 21 June, sunlight to the dwellings and majority of the backyards of 67, 69, 71 and 71A New Town Road are comparable to existing sunlight access at that time of year, except for the backyards of 71 and 71A New Town Road. From midday to 3pm on 21 June, sunlight access to the dwellings and private open space of 67, 69, 71 and 71A New Town Road is comparable to existing sunlight access at that time of year.

The shadow diagrams for 21 March/September indicate that access to sunlight for dwellings and private open space for properties along New Town Road is comparable to existing sunlight access for the majority of the day. There is some additional overshadowing at 9am of the properties at 71A and 73 New Town Road. The rear part of the backyards of these properties are overshadowed at 10am but the dwellings and front part of the backyards are not impacted. By 11am, sunlight to these properties is comparable to existing sunlight access at this time of year. This level of overshadowing of adjacent properties is not considered to lead to an unreasonable loss of amenity.

There is no overshadowing of an adjacent vacant lot, therefore P1(iii) is not applicable.

It is considered that the proposal will not lead to an unreasonable loss of amenity to adjoining properties due to the visual appearance and scale of the building in accordance with P1(iv). The proposed design sets the building into the topography at the rear of the site which maximises the distance from adjacent dwellings on New Town Road. The minimum distance from the apartment building to the rear boundary of 73 New Town Road, the closest of these properties, is approximately 7.7 m. The proposed building is separated from the rear boundaries of these properties by the carpark and outdoor shared space areas which will minimise the apparent bulk of the building. A block retaining wall is proposed along the western



#### PLANNING SCHEME REQUIREMENT

boundary with the properties 67, 69 and 71 New Town Road. Views of the vehicle ramp will be screened by existing vegetation along the fence line with 67 and 69 New Town Road. A new 1.8 m high timber paling fence is proposed along the boundary with the properties at 71, 71A and 73 New Town Road.

The building will be setback 2.4 m from the side boundary of 10 Paviour Street. A new 1.8 m high timber paling fence is proposed along the boundary beside the proposed building, connecting to the existing boundary fence. The existing residence at 10 Paviour Street is located to the north of the property (away from the side boundary) and is in an elevated position above the subject site due to the site topography. This elevation and the boundary fencing will reduce the apparent bulk of the side of the proposed building from this angle.

The visual appearance of the proposed building at street level from Paviour Street will be of low impact. The roofline of the proposed building will be set at a level that is comparable to and compatible with other dwellings in the street. The roof design incorporates roof pitches which echo the character of housing in the area and provide a visual variation from street level. The visual appearance of the building from Sunnyside Road will also be relatively low due to the significant change in level of the subject site which positions the majority of the ground level below road level. The building will be screened by retaining walls and fencing along Sunnyside Road. The nearest dwellings are located on the opposite side of Sunnyside Road and the main bulk of the building will be hidden from view from this angle.

As noted above, the setback of the proposed building at the rear of the site allows for separation between dwellings on adjoining properties that is consistent and compatible with established properties in the area in accordance with P1(b).

**The performance criterion (P3) is satisfied.**

#### A4

No trees of high conservation value will be impacted.

#### P4

Buildings and works are designed and located to avoid, minimise, mitigate and offset impacts on trees of high conservation value.

#### Planner Response

No tree removal is proposed.

**Not applicable.**

#### 11.4.3 Site coverage and private open space for all dwellings

#### A1

Dwellings must have:

- (a) a site coverage of not more than 65% (excluding eaves up to 0.6m);
- (b) for multiple dwellings, a total area of private open space of not less than 40m<sup>2</sup> associated with each dwelling, unless the dwelling has a finished floor level that is entirely more than

#### P1

Dwellings must have:

- (a) site coverage consistent with that existing on established properties in the area;
- (b) private open space that is of a size and dimensions that are appropriate for the size of the dwelling and is able to accommodate:



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1.8m above the finished ground level (excluding a garage, carport or entry foyer).	<ul style="list-style-type: none"> <li>(i) outdoor recreational space consistent with the projected requirements of the occupants and, for multiple dwellings, take into account any communal open space provided for this purpose within the development; and</li> <li>(ii) operational needs, such as clothes drying and storage; and</li> <li>(c) reasonable space for the planting of gardens and landscaping.</li> </ul>
<p><u>Planner Response</u></p> <p>The proposed building has a total footprint of 636 m<sup>2</sup> and the site area is 1849 m<sup>2</sup>. This results in a site coverage of 34.4% which is within the required coverage and meets acceptable solution A1(a).</p> <p>The one bedroom units located on the ground floor incorporate two terraces which provide a total of 13.1 m<sup>2</sup> of private open space (7.6 m<sup>2</sup> and 5.5 m<sup>2</sup>). The two bedroom units incorporate a terrace and balcony on Level 02 that provide a total of 12.8 m<sup>2</sup> of private open space (7.2 m<sup>2</sup> and 5.6 m<sup>2</sup>) (refer to floor plan DA54). The private open space for the ground level one bedroom units does not comply with A1(b) and needs to be assessed against performance criterion P1(b) and P1(c). The private open space for the two bedroom units is located over 1.8 m above the finished ground level and A1(b) does not apply.</p> <p>The private open space for the one-bedroom units is considered to meet the requirements of performance criterion P1(b) and P1(c). The two terraces are 3.8 m wide and are of a size and dimension that can accommodate utility needs (clothesline, bike storage and a hot water cylinder) and outdoor relaxation. The proposed development incorporates an outdoor shared space that will include a BBQ shelter and seating this is easily accessible at ground level from the one bedroom units. A planting bed is provided for each of the one bedroom units on the site embankment adjacent to the eastern facing terraces. It is considered that the terrace and planting bed areas would provide reasonable space for the planting of gardens and landscaping.</p> <p><b>The performance criterion (P1) is satisfied.</b></p>	
<p><b>A2</b></p> <p>A dwelling must have an area of private open space that:</p> <ul style="list-style-type: none"> <li>(a) is in one location and is at least <ul style="list-style-type: none"> <li>(i) 24 m<sup>2</sup>; or</li> <li>(ii) 12 m<sup>2</sup>, if the dwelling is a multiple dwelling with a finished floor level that is entirely more than 1.8 m above the finished ground level (excluding a garage, carport or entry foyer); and</li> </ul> </li> </ul>	<p><b>P2</b></p> <p>A dwelling must have private open space that includes an area that is capable of serving as an extension of the dwelling for outdoor relaxation, dining, entertaining and children's play and is:</p> <ul style="list-style-type: none"> <li>(a) conveniently located in relation to a living area of the dwelling; and</li> <li>(b) orientated to take advantage of sunlight.</li> </ul>



PLANNING SCHEME REQUIREMENT	
<p>(b) has a minimum horizontal dimension of:</p> <p>(i) 4 m or</p> <p>(ii) 2 m, if the dwelling is a multiple dwelling with a finished floor level that is entirely more than 1.8 m above the finished ground level (excluding a garage, carport or entry foyer); and</p> <p>(c) is located between the dwelling and the frontage, only if the frontage is orientated between 30 degrees west of true north and 30 degrees east of true north; and</p> <p>(d) has a gradient not steeper than 1 in 10.</p>	
<p><u>Planner Response</u></p> <p>The one bedroom units located on the ground floor incorporate two terraces which provide a total of 13.1 m<sup>2</sup> of private open space (7.6 m<sup>2</sup> and 5.5 m<sup>2</sup>). The two bedroom units incorporate two terraces on Level 02 that provide a total of 12.8 m<sup>2</sup> of private open space (7.2 m<sup>2</sup> and 5.6 m<sup>2</sup>). Refer to floor plan DA54 at Appendix C. The private open space for the dwellings does not meet the acceptable solution as the terraces do not provide one location with an area of 24 m<sup>2</sup> or 12 m<sup>2</sup> respectively and requires assessment against the performance criteria.</p> <p>The one bedroom units located on the ground floor incorporate a terrace for private open space on the western side of the building that is directly accessible from the living/dining/kitchen area and can provide an extension for outdoor recreation (utilities for the unit are all located in the terrace on the other side of the building). The west-facing terraces are oriented to take advantage of afternoon sunlight. The east-facing terraces of the one bedroom units provide an additional outdoor space which receives morning sunlight and additional space for planting beds. In addition, the one-bedroom units have ground level access to the outdoor shared space with BBQ shelter and seating. Each of the terraces has a minimum horizontal dimension of 3.8 m. Combined, this is considered sufficient space for residents for outdoor relaxation, dining, entertaining and children's play.</p> <p>The two bedroom units comprise a terrace and balcony on Level 02. The terrace provides an area of private open space that is directly accessible from the living/dining/kitchen area and is east facing and can provide an extension for outdoor recreation. The terraces obtain sunlight from approximately 9am to 3pm during winter (refer to plan DA40 at Appendix C). The units also all have a west-facing balcony that obtains afternoon sun in winter. The terrace and balcony each have a minimum horizontal dimension of 3.8 m. Residents of the two bedroom units can also take advantage of the shared outdoor space at ground level. This is considered sufficient space for the residents.</p> <p><b>The performance criterion (P2) is satisfied.</b></p>	
11.4.4 Sunlight to private open space of multiple dwellings	
A1	P1



PLANNING SCHEME REQUIREMENT	
<p>A multiple dwelling, that is to the north of the private open space of another dwelling on the same site, required to satisfy A2 or P2 of clause 11.4.3, must satisfy (a) or (b), unless excluded by (c):</p> <p>(a) The multiple dwelling is contained within a line projecting (see Figure 11.4):</p> <ul style="list-style-type: none"> <li>(i) at a distance of 3 m from the northern edge of the private open space; and</li> <li>(ii) vertically to a height of 3 m above natural ground level and then at an angle of 45 degrees from the horizontal.</li> </ul> <p>(b) The multiple dwelling does not cause 50% of the private open space to receive less than 3 hours of sunlight between 9.00 am and 3.00 pm on 21st June.</p> <p>(c) This acceptable solution excludes that part of a multiple dwelling consisting of:</p> <ul style="list-style-type: none"> <li>(i) an outbuilding with a building height no more than 2.4 m; or</li> <li>(ii) protrusions that extend not more than 0.9 m horizontally from the multiple dwelling.</li> </ul>	<p>A multiple dwelling must be designed and sited to not cause an unreasonable loss of amenity by overshadowing the private open space, of another dwelling on the same site, which is required to satisfy A2 or P2 of clause 11.4.3 of this planning scheme.</p>
<p><u>Planner Response</u></p> <p>The main length of the proposed building is aligned approximately 20-30 degrees west of north. This means that some dwellings and private open space will lie to the north of the private open space of the terraces and balconies of other dwellings.</p> <p>With regard to the two bedroom units, more than 50% of the east-facing private open space of the two bedroom units will receive over 3 hours of sunlight between 11am and 3pm on 21 June (refer to shadow diagrams DA39 &amp; DA40 at Appendix C). The balconies will partially receive sunlight at 4pm on 21 June (refer to shadow diagrams DA41 &amp; DA42 Appendix C). The acceptable solution A1(b) is met for the two bedroom units.</p> <p>The one bedroom units contain terraces on the western and eastern sides of the building. The west-facing terraces will receive sun from 4pm on 21 June (refer to shadow diagrams DA41 &amp; DA42 at Appendix C). The east-facing terraces will partially receive sunlight from 2pm on 21 June (refer to shadow diagrams DA39 &amp; DA40 at Appendix C). This does not meet the acceptable solutions and requires assessment against the performance criteria.</p> <p>The apartment building has been efficiently designed to align with the orientation and topography of the site, which includes an existing significant level difference at the rear of the site. The difficulty in obtaining over 3 hours of sunlight for the ground level one bedroom units in winter is partially the result of the site topography and the level difference between the ground level and Paviour Street. Paviour Street extends</p>	



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along the north-eastern boundary of the site at a height of approximately 6m above the ground level in the centre of the site and equivalent to the floor height of Level 02 of the building (refer to sections at DA14 at Appendix C). The subject site is also located on a hillside which contributes to additional overshadowing of the site in the morning in winter (refer to diagrams DA18 to DA21 at Appendix C). The proposed design has sought to maximise access to sunlight throughout the year by incorporating two areas of private open space for each unit on the eastern and western sides of the building. As noted above, the private open space for the one bedroom units will receive some direct sunlight during the day in winter in the afternoon. The proposal also incorporates an outdoor shared space that is easily accessible for residents of the ground floor units that receives over 3 hours of sunlight between 9.00 am and 3.00 pm on 21 June.

It is considered that the proposed dwellings have been designed and sited to not cause an unreasonable loss of amenity by overshadowing the private open space of other dwellings on the site. The design incorporates two areas of private open space for each apartment, and an outdoor shared area to maximise the availability of sunlight for residents during winter.

**The acceptable solution A1(b) is met for the two bedroom units. The performance criteria (P1) is satisfied for the one bedroom units.**

#### 11.4.5 Width of openings for garages and carports for all dwellings

##### A1

A garage or carport within 12 m of a primary frontage (whether the garage or carport is free-standing or part of the dwelling) must have a total width of openings facing the primary frontage of not more than 6 m or half the width of the frontage (whichever is the lesser).

##### P1

A garage or carport must be designed to minimise the width of its openings that are visible from the street, so as to reduce the potential for the openings of a garage or carport to dominate the primary frontage.

#### Planner Response

There are no garages or carports proposed.

**Not applicable.**

#### 11.4.6 Privacy for all dwellings

##### A1

A balcony, deck, roof terrace, parking space, or carport for a dwelling (whether freestanding or part of the dwelling), that has a finished surface or floor level more than 1 m above existing ground level must have a permanently fixed screen to a height of not less than 1.7 m above the finished surface or floor level, with a uniform transparency of not more than 25%, along the sides facing a:

- (a) side boundary, unless the balcony, deck, roof terrace, parking space, or carport has

##### P1

A balcony, deck, roof terrace, parking space or carport for a dwelling (whether freestanding or part of the dwelling) that has a finished surface or floor level more than 1 m above existing ground level, must be screened, or otherwise designed, to minimise overlooking of:

- (a) a dwelling on an adjoining lot or its private open space; or



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<p>a setback of not less than 3 m from the side boundary;</p> <p>(b) rear boundary, unless the balcony, deck, roof terrace, parking space, or carport has a setback of not less than 4 m from the rear boundary; and</p> <p>(c) dwelling on the same site, unless the balcony, deck, roof terrace, parking space, or carport is not less than 6 m:</p> <p>(i) from a window or glazed door, to a habitable room of the other dwelling on the same site; or</p> <p>(ii) from a balcony, deck, roof terrace or the private open space, of the other dwelling on the same site.</p>	<p>(b) another dwelling on the same site or its private open space.</p>
<p><u>Planner Response</u></p> <p>The terraces and balconies for the two bedroom units are located on Level 02 of the building, more than 1 m above existing ground level. The east-facing terraces will have 1.7 m high fences which will screen views to and from Paviour Street. In addition, they will also be screened by the 1.8 m high fencing on the Paviour Street boundary line. There will be 1.7 m high privacy fencing between the terraces of adjoining units. The side of the terrace of Unit 12 will be screened from the side boundary with 10 Paviour Street by a 1.7 m high metal screen. The west-facing balconies will have 1.0m high balustrades that will be located a minimum of 6.2 m from the rear boundary of dwellings with frontages to New Town Road. The balcony of Unit 12 will be less than 3m from the side boundary with 10 Paviour Street and will be screened on this side by a retaining wall.</p> <p><b>The acceptable solution (A1) has been met.</b></p>	
<p><b>A2</b></p> <p>A window or glazed door, to a habitable room, of a dwelling, that has a floor level more than 1 m above the existing ground level, must satisfy (a), unless it satisfies (b):</p> <p>(a) The window or glazed door:</p> <p>(i) is to have a setback of at least 3 m from a side boundary; and</p> <p>(ii) is to have a setback of at least 4 m from a rear boundary; and</p> <p>(iii) if the dwelling is a multiple dwelling, is to be at least 6 m from a window or glazed</p>	<p><b>P2</b></p> <p>A window or glazed door, to a habitable room of dwelling, that has a floor level more than 1 m above the natural ground level, must be screened, or otherwise located or designed, to minimise direct views to:</p> <p>(a) window or glazed door, to a habitable room of another dwelling; and</p> <p>(b) the private open space of another dwelling.</p>



PLANNING SCHEME REQUIREMENT	
<p>door, to a habitable room, of another dwelling on the same site; and</p> <p>(iv) if the dwelling is a multiple dwelling, is to be at least 6 m from the private open space of another dwelling on the same site.</p> <p>(b) The window or glazed door:</p> <p>(i) is to be offset, in the horizontal plane, at least 1.5 m from the edge of a window or glazed door, to a habitable room of another dwelling; or</p> <p>(ii) is to have a sill height of at least 1.7 m above the floor level or has fixed obscure glazing extending to a height of at least 1.7 m above the floor level; or</p> <p>(iii) is to have a permanently fixed external screen for the full length of the window or glazed door, to a height of at least 1.7 m above floor level, with a uniform transparency of not more than 25%.</p>	
<p><u>Planner Response</u></p> <p>All windows or glazed doors to the two bedroom units with a finished floor level more than 1 m above existing ground level are set back over 4 m from the rear boundary and comply with Clause A2(a).</p> <p><b>The acceptable solution (A2) is met.</b></p>	
<p><b>A3</b></p> <p>A shared driveway or parking space (excluding a parking space allocated to that dwelling) must be separated from a window, or glazed door, to a habitable room of a multiple dwelling by a horizontal distance of not less than:</p> <p>(a) 2.5 m; or</p> <p>(b) 1 m if:</p> <p>(i) it is separated by a screen of at least 1.7 m in height; or</p> <p>(ii) the window, or glazed door, to a habitable room has a sill height of at least 1.7 m above the shared driveway or parking space, or has fixed obscure glazing</p>	<p><b>P3</b></p> <p>A shared driveway or parking space (excluding a parking space allocated to that dwelling), must be screened, or otherwise located or designed, to minimise unreasonable impact of vehicle noise or vehicle light intrusion to a habitable room of a multiple dwelling.</p>



PLANNING SCHEME REQUIREMENT	
extending to a height of at least 1.7 m above the floor level.	
<p><u>Planner Response</u></p> <p>The shared driveway and parking spaces are separated by a horizontal distance of over 2.5 m from a window or glazed door of the units on the ground level of the building. In addition, there is a 1.7 m high batten fence between the front terraces on ground level and the shared driveway and parking spaces.</p> <p><b>The acceptable solution (A3) is met.</b></p>	
11.4.7 Frontage fences for all dwellings	
<p><b>A1</b></p> <p>No acceptable solution.</p>	<p><b>P1</b></p> <p>A fence (including a free-standing wall) for a dwelling within 4.5 m of a frontage must:</p> <ul style="list-style-type: none"> <li>(a) provide for security and privacy while allowing for passive surveillance of the road; and</li> <li>(b) be compatible with the height and transparency of fences in the street, having regard to: <ul style="list-style-type: none"> <li>(i) the topography of the site; and</li> <li>(ii) traffic volumes on the adjoining road.</li> </ul> </li> </ul>
<p><u>Planner Response</u></p> <p>There is no acceptable solution so the proposal must be considered against the performance criteria.</p> <p>There is no fencing proposed within 4.5 m of the primary frontage to New Town Road. A section of 1.8 m high fencing with a gate will be located at the end of the access laneway (refer to DA55 at Appendix C). This fencing will be consistent with the proposed 1.8 m high fencing along the site boundary at the rear of adjacent properties along New Town Road.</p> <p>Fencing is proposed with a 0 m setback along the boundary line of the secondary frontages to Pavior Street and Sunnyside Road. A new 1.8 m high fence is proposed along the boundary line to Pavior Street (refer to DA12 and DA15 at Appendix C). There will be two sections of 1.8 m high fence on the boundary line of Sunnyside Road to screen the stairway and the front edge of the waste storage area). A concrete block wall is proposed along the remaining sections of the boundary line to Sunnyside Road for the letterbox area and adjacent to the ramp entry (refer to DA12 and DA17).</p> <p>The fencing along Paviour Street will provide for security and safety of pedestrian given the steep topography of the site along the boundary. The fencing height is similar to the front hedging of the property on the opposite side of the street. Due to the topography of the hillside, the fencing will have a lower visual appearance when viewed from dwellings on the opposite side of the road which are elevated above the subject site.</p>	



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The fencing along Sunnyside Road will provide for safety of pedestrians given the steep topography of the site along the boundary. It will provide security and will screen the waste storage area from street level. There are no windows proposed on the southern façade of the building but there will be opportunities for passive surveillance by residents during the day when accessing the letterboxes, the waste storage area and stairway. The fencing is compatible with other fences in the street which range from timber fencing to solid brick walls. The height of the fencing is comparable to front brick wall on the opposite side of the street and the shrub hedging that is currently along the boundary of the site. Due to the topography of the hill, the habitable rooms of dwellings on the opposite side of the street have an elevated position in comparison to the fencing and proposed development. The use of timber fencing and concrete walls will create visual variation along the Sunnyside Road and is compatible with the traffic speed of the street. The fencing (concrete wall) near the exit of the ramp has been angled to allow for unobstructed views to the left when exiting the site which is compatible with the traffic volumes on Sunnyside Road.

**The performance criteria (P1) is satisfied.**

#### 11.4.8 Waste storage for multiple dwellings

##### A1

A multiple dwelling must have a storage area, for waste and recycling bins, that is not less than 1.5 m<sup>2</sup> per dwelling and is within one of the following locations:

- (a) in an area for the exclusive use of each dwelling, excluding the area in front of the dwelling; or
- (b) in a common storage area with an impervious surface that:
  - (i) has a setback of at least 4.5 m from a frontage; and
  - (ii) is at least 5.5 m from any dwelling; and
  - (iii) is screened from the frontage and any dwelling by a wall to a height not less than 1.2 m above the finished surface level of the storage area.

##### P1

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

- (a) capable of storing the number of bins required for the site; and
- (b) screened from the frontage and dwellings; and
- (c) if the storage area is a common storage area, separated from dwellings on the site to minimise impacts caused by odours and noise.

#### PLANNING SCHEME REQUIREMENT

##### Planner Response

The proposed waste storage area is within 4.5m from a frontage and is within 5.5m of a dwelling and therefore does not meet the acceptable solutions and must be assessed against the corresponding performance criteria.

The proposal includes two waste storage areas adjacent to Sunnyside Road. The eastern area is accessible from the two-bedroom units and the western area is accessible via stairs from the ground floor one bedroom units. The two areas can store the number of bins required for the 24 units. The two waste storage areas will be screened from the road. The bins will be moved to the roadside on the day of collection. The western waste storage area is separated from the nearest dwelling (Unit 22) by the stairway. The eastern area is adjacent to the outer wall of Unit 22. This façade does not contain any windows which will minimise any impacts by odour and noise to the unit.

**The performance criteria (P1) is satisfied.**



## 6 Codes

The following codes are applicable to the application:

- Road and Railway Assets Code
- Parking and Access Code
- Stormwater Management Code

### 6.1 Road and Railway Assets Code

The Road and Railway Assets Code applies to the proposed development as it will require a new vehicle crossing to Sunnyside Road. The vehicle access will consist of a new 6.0m wide vehicular access ramp with a standard concrete kerb crossover. A Traffic Impact Assessment prepared by Hubble Traffic is provided at Appendix E. It includes an assessment of proposal against the requirements of the code (refer to Section 10.1 of the report) and finds that the proposal meets the requirements of the Road and Railway Assets Code.

#### 6.1.1 Use standards

The use standards do not apply as the proposal does not involve an existing road access, junction or level crossing.

#### 6.1.2 Development standards

The proposal requires assessment against the development standards (E5.6). As Sunnyside Road has a speed limit of 50km/h, E5.6.1 does not apply. The proposal meets acceptable solution A2 of E5.6.2 as only one access providing both entry and exit is proposed for the development and Sunnyside Road has a speed limit of less than 60km/h. The proposal meets acceptable solution A1 of E5.6.4 as the sight distances at the proposed access meet the Safe Intersection Sight Distance specified in Table E5.1. The Traffic Impact Assessment measures the sight distance for a driver leaving the site onto Sunnyside Road as at least 100m to the left and 80 metres to the right. These sight distances meet and exceed the Safe Intersection Sight Distance for a 50km/h speed limit road in Table E5.1.

The proposal is consistent with the requirements of the Road and Railway Assets Code as outlined in Appendix E.

### 6.2 Parking and Access Code

The Parking and Access Code applies to all use and development. The current site has no vehicular access or on-site parking. The proposal includes the provision of 12 on-site vehicle parking spaces for residents. The parking spaces will be at ground level and will be accessed from Sunnyside Road via a 6.0 m vehicle ramp which will accommodate the swept path of B99 vehicles entering and leaving the site.

The Traffic Impact Assessment prepared by Hubble Traffic (Appendix E) provides an assessment of the proposal against the code. A summary is provided below. The report finds that the proposal meets the requirements of the Parking and Access Code.

### 6.2.1 Use standards

The proposal includes provision for 12 vehicle parking spaces and two motorcycle parking spaces for residents at ground level. There are no accessible parking spaces proposed. The number of vehicle parking spaces is less than the number of spaces specified under Table E6.1 of 38 parking spaces (1 spaces per one-bedroom unit; 2 spaces per two-bedroom unit; and 1 visitor space per 4 dwellings) and requires assessment against performance criteria P1 of E.6.6.1.

Section 4 of the Traffic Impact Assessment includes analysis of the likely parking requirements for the development based on relevant guidelines and examples of similar social housing developments. The TIA finds that the *Queensland Government – Design Standards for New Construction of Social Housing: Houses and Apartments* provides an appropriate model for parking requirements for this particular development given the high level of access to public transport, availability of on-street parking in the neighbourhood and the expected low car ownership of future residents. The TIA calculates that based a Category A site location (with a high level of access to public transport) under the Queensland Design Standards, 22 units could be expected to generate a parking demand of 14 spaces. The parking deficiency will be readily absorbed however into the network of on-street parking in surrounding streets. Visitor parking would similarly be accommodated by on-street parking.

An assessment against performance criteria P1 of E6.6.1 of the use standards is provided in Section 10.2 of the TIA prepared by Hubble Traffic. There are no accessible parking spaces required for this building type under E6.2.2 of the code. There are two on-site motorcycle parking spaces provided in the ground level parking area which exceeds acceptable solution A1 of E6.6.3. There are no bicycle parking spaces required for a multiple dwelling development under Table E6.2 of the code, E6.6.4 is not applicable. Each unit will be provided with adequate space for bicycle storage within the security of the unit and a bicycle storage rack will be provided in the common area with capacity for 6 bicycles for visitors. Additional visitor motorcycle and bicycle parking would be accommodated by on-street parking.

### 6.2.2 Development standards

An assessment against the development standards is provided in Section 10.2 of the TIA prepared by Hubble Traffic. The proposal relies on assessment against performance criteria P1 of E6.7.12 as the siting of the car parking is not behind the building line of a proposed building in the Inner Residential Zone. The proposal meets the performance criteria due to topographical constraints and a lack of space behind the building line to enable compliance with A1. The car park will be located at ground level (below the street level of Sunnyside Road) and will have minimal visibility from surrounding areas. The parking layout will be compact and incorporate sections of landscaping and common space that will break up its visual appearance. Due to the low expected level of use (12 parking spaces) and location of the carpark below the adjoining road level it is not expected to result in a poor quality of visual or audio amenity for the occupants of immediately adjoining properties. The entry/exit of the proposed carpark and windows on the upper level of the dwellings will allow passive surveillance of the street. Passive surveillance of the carpark will be provided by the proposed dwellings on the site.

The proposal is consistent with the requirements of the Parking and Access Code.

## 6.3 Stormwater Management Code

The Stormwater Management Code applies to all development requiring management of stormwater.

### 6.3.1 Use standards

There are no use standards in this code.



### 6.3.2 Development standards

PLANNING SCHEME REQUIREMENT	
Acceptable Solutions	Performance Criteria
<b>7.7.1 Stormwater Drainage and Disposal</b>	
<b>A1</b>  Stormwater from new impervious surfaces must be disposed of by gravity to public stormwater infrastructure.	<b>P1</b>  Stormwater from new impervious surfaces must be managed by any of the following: <ul style="list-style-type: none"> <li>(a) disposed of on-site with soakage devices having regard to the suitability of the site, the system design and water sensitive urban design principles;</li> <li>(b) collected for re-use on the site;</li> <li>(c) disposed of to public stormwater infrastructure via a pump system which is designed, maintained and managed to minimise the risk of failure to the satisfaction of the Council.</li> </ul>
<u>Response</u>  Stormwater is proposed to be disposed of via a new stormwater connection to the existing stormwater main on New Town Road in accordance with acceptable solution A1. Refer to cover letter, plans and sections prepared by Rare Innovation Pty Ltd at Appendix F for details.	
<b>A2</b>  A stormwater system for a new development must incorporate water sensitive urban design principles for the treatment and disposal of stormwater if any of the following apply: <ul style="list-style-type: none"> <li>(a) the size of new impervious area is more than 600 m<sup>2</sup>;</li> <li>(b) new car parking is provided for more than 6 cars;</li> <li>(c) a subdivision is for more than 5 lots.</li> </ul>	<b>P2</b>  A stormwater system for a new development must incorporate a stormwater drainage system of a size and design sufficient to achieve the stormwater quality and quantity targets in accordance with the State Stormwater Strategy 2010, as detailed in Table E7.1 unless it is not feasible to do so.
<u>Response</u>  Appendix F outlines the proposed stormwater system for the development. The existing site has a large area (approximately 80%) of pre-existing impervious surfaces due to the clay/gravel tennis courts and concrete hard stand. The proposed development will also have a large area of impervious surfaces	

#### PLANNING SCHEME REQUIREMENT

(estimated at 90%), including a carpark. Stormwater detention is proposed to detain runoff above pre-existing conditions. This is to be achieved through containment within the courtyard and carpark area. Stormwater treatment is also proposed via a SPEL system or similar.

Refer to cover letter, plans and sections at Appendix F for details.

### 6.4 Historic Heritage Code

The subject site does not contain any listed heritage places but is situated within the Paviour Street Heritage Precinct (NT10) under the planning scheme.

#### 6.4.1 Use standards

There are no use standards in this code.

#### 6.4.2 Development standards for Heritage Precincts

A comprehensive Heritage Impact Assessment of the proposed development against the Historic Heritage Code has been undertaken by John Wadsley Planning and Heritage Consultancy (Appendix G). This includes analysis of the historical context of subject site and the association between the previous use of the site as the New Town Catholic Tennis Club and its connection to the New Town community.

The assessment found that, noting the local community connections to the tennis club, there is nothing significant about the subject site that precludes the proposed development. It finds that the demolition of the previous tennis club infrastructure will not result in the loss of heritage fabric or have an adverse impact on the heritage character of the Paviour Street Heritage Precinct. The report notes the importance of the club memorabilia and records being properly recorded, stored and archived to ensure the club's contribution to the social history of the area is appropriately recorded. The report finds that the proposed design and siting of the building has addressed the requirements of the Paviour Street Heritage Precinct under the planning scheme and will not have an adverse impact on the heritage significance of the heritage precinct. Refer to Appendix G for the full assessment of the proposal against the requirements of the code.



## 7 Specific Area Plan

### 7.1 Royal Hobart Hospital Helipad Airspace Specific Area Plan

The site is subject to the Royal Hobart Hospital Helipad Airspace Specific Area Plan and is located in the Outer Area 100m AHD.

PLANNING SCHEME REQUIREMENT	
Acceptable Solutions	Performance Criteria
<b>F4.3.1 Building Height</b>	
<b>A1</b> Building height including minor protrusions, masts or aerals within the areas shown on Figure F4.1 must be no more than: (a) 64.5m AHD if within the Inner Area; (b) 100m AHD if within the Outer Area	<b>P1</b> Buildings that exceed the specified height must not create an obstruction or hazard for the operation of aircraft, having regard to any advice from the Civil Aviation Safety Authority, the Department of Health and Human Services and the helipad operator.
<u>Planner Response</u> The site is located in the Outer Area 100m AHD and the proposed building height will be under 100m AHD. Refer to the architectural plans for further details. <b>The acceptable solution (A1) is met.</b>	

## 8 Conclusion

The proposal is use and development of the subject site at 73A New Town Road for a new three-storey multiple dwelling development. The development will include 22 dwellings (including 11 one bedroom units and 11 two bedroom units), a carpark and outdoor shared space and landscaping. All dwellings will be provided with two areas of private open space and access to a communal open space area to meet the anticipated needs of future residents. Vehicle access to the site will be via a new access ramp from Sunnyside Road. Pedestrian access to the site will be via the primary frontage from New Town Road (via the existing laneway) and from Paviour Street and Sunnyside Road. The building design utilises the steep level change at the rear of the site to achieve a single storey roofline along Paviour Street, in keeping with the character of the local area and the Paviour Street Historic Precinct.

The proposal relies upon the following performance criteria:

- 11.4.1 Residential density for multiple dwellings, P1
- 11.4.2 Setbacks and building envelope for all dwellings, P1 and P3
- 11.4.3 Site coverage and private open space for all dwellings, P1 and P2
- 11.4.4 Sunlight to private open space of multiple dwellings, P1
- 11.4.7 Frontage fences for all dwellings, P1
- 11.4.8 Waste storage for multiple dwellings, P1
- E6.6.1 Number of Car Parking Spaces, P1
- E6.7.12 Siting of Car Parking, P1

The proposal will provide 22 new dwellings that contribute to providing a range of dwelling types in the area that is compatible with the zone purpose statements and the existing variation and pattern of housing in the New Town area. The proposal is for social housing which will have a significant community benefit by providing housing for those in need that is well-located close to a high-frequency public transport corridor and is walking distance to shops and community facilities.

The proposal is consistent with the requirements of the *Hobart Interim Planning Scheme 2015* and is recommended for approval.



## Appendix A DCT Land owner consent

## Department of Communities Tasmania

GPO Box 65, HOBART TAS 7001 Australia  
Ph: 1300 135 513  
Web: [www.communities.tas.gov.au](http://www.communities.tas.gov.au)



Contact: Kristy Warren  
Phone: (03) 6166 3617  
Email: [kristy.warren@communities.tas.gov.au](mailto:kristy.warren@communities.tas.gov.au)

City of Hobart  
GPO Box 503  
Hobart TAS 7001

**Subject: Development Application Pursuant to S.52(1F) of the *Land Use Planning and Approvals Act 1993* – 73A New Town Road, New Town**

Pursuant to S.52(1F) of the *Land Use Planning and Approvals Act 1993* I, Richard Gilmour, as an authorised delegate under Section 6AB of the *Homes Act 1935*, hereby give permission for Philp Lighton Architects and/or Fairbrother Pty Ltd on behalf and for Centacare Evolve Housing to lodge development application over 73A New Town Road, New Town, being land in the ownership of the Director of Housing.

The subject land at 73A New Town Road is comprised of;

Certificates of Title:	252210/1, and
PIDs	5515409

If you have any questions regarding this letter, please don't hesitate to contact me via telephone on 6166 3616.

Yours sincerely



Richard Gilmour  
Director, Portfolio and Supply  
Communities Tasmania

10 November 2021



**HOMES ACT 1935****INSTRUMENT OF  
DELEGATION**

I, Michael Pervan, being and as the Director of Housing under the *Homes Act 1935* (the Act), pursuant to section 6AB(1) of the Act and section 23AA of the *Acts Interpretation Act 1931*, hereby:

- Terminate the delegation of powers and functions under the Act issued on 24 September 2019, and
- Delegate the powers and functions under the provisions of the Act set out in Column 3 of the below Schedule, to the person or persons holding the offices or positions with the position number or numbers set out in Column 1 of the below Schedule and the office or position title set out in Column 2 of the below Schedule, subject to the conditions set out in Column 4 of the below Schedule:

<b>SCHEDULE</b>			
<b>Column 1</b>	<b>Column 2</b>	<b>Column 3</b>	<b>Column 4</b>
500018	Deputy Secretary – Housing, Disability and Community Services	Sections 3(3), 11, 11A, 12(1), 12(2), 12A(1), 12A(2), 13, 14, 14A, 15AA, 15AB, 15AC, 15AD, 17, 17AB, 17AC, 17A, 17B, 18, 18B, 18G, 19, 19B, 20(5), 21(1), 22, 27A, 31, 32, 34, 37, 37B, 37C, 37D, 37E, 39, 40 and 43(1)	
		Section 30	The delegation does not extend to receiving payment from the borrower or purchaser to cover expenses incurred in effecting repairs which the Director of Housing deems necessary under section 30(2)(b).
		Section 35	The delegation does not extend to taking action in a court of competent jurisdiction against the owner of land or land and dwelling house to which section 35(1) applies.

SCHEDULE			
Column 1	Column 2	Column 3	Column 4
517891	Director Portfolio and Supply	Sections 11, 11A, 12(1), 12(2), 12A(1), 12A(2), 13, 14, 14A, 17, 17AB, 17AC, 17A, 17B, 18, 18B, 19, 20(5), 21(1), 22, 27A, 31, 32, 34, 37, 37B, 37C, 37D, 37E, 39 and 40	
		Section 30	The delegation does not extend to receiving payment from the borrower or purchaser to cover expenses incurred in effecting repairs which the Director of Housing deems necessary under section 30(2)(b).
		Section 35	The delegation does not extend to taking action in a court of competent jurisdiction against the owner of land or land and dwelling house to which section 35(1) applies.
512430	Director Housing Programs	Sections 15AA, 15AB, 15AC, 15AD, 19, 37 and 39	
		18G	The Director Housing Programs can only exercise the delegation when the Deputy Secretary Housing Disability and Community Services is on leave, is uncontactable, or is unable for any reason to perform the relevant function
		Section 30(2)	<p>The delegation does not extend to:</p> <ul style="list-style-type: none"> <li>• Authorising a person to enter and take possession of land, or land and dwelling house under section 30(2)(b), or</li> <li>• Entering upon land or land and dwelling housing under section 30(2)(b), or</li> <li>• Receiving payment from the borrower or purchaser to cover expenses incurred in effecting repairs which the Director of Housing deems necessary under section 30(2)(b).</li> </ul>



SCHEDULE			
Column 1	Column 2	Column 3	Column 4
513958	Director Tenancy Services	Sections 15AA, 15AB, 15AC, 15AD, 19, 37 and 39	
		18G	The Director Tenancy Services can only exercise the delegation when the Deputy Secretary Housing Disability and Community Services and Director Housing Programs are on leave, are uncontactable, or are both unable for any reason to perform the relevant function
		30(2)	<p>The delegation does not extend to:</p> <ul style="list-style-type: none"> <li>• Authorising a person to enter and take possession of land, or land and dwelling house under section 30(2)(b), or</li> <li>• Entering upon land or land and dwelling housing under section 30(2)(b), or</li> <li>• Receiving payment from the borrower or purchaser to cover expenses incurred in effecting repairs which the Director of Housing deems necessary under section 30(2)(b).</li> </ul>
520545	General Manager Portfolio Maintenance	Sections 14, 30(1) and 37C	
		Section 14A	The delegation does not extend to selling or leasing, or entering into other transactions in respect of, land or any buildings or works thereon.
		Section 30(2)	The delegation does not extend to receiving payment from the borrower or purchaser to cover expenses incurred in effecting repairs which the Director of Housing deems necessary under section 30(2)(b).

SCHEDULE			
Column 1	Column 2	Column 3	Column 4
		Section 35	<p>The delegation does not extend to:</p> <ul style="list-style-type: none"> <li>• Taking action in a court of competent jurisdiction against the owner of land or land and dwelling house to which section 35(1) applies, or</li> <li>• Letting any land or land and dwelling house that is subject to section 35(2) pending the sale of the land or land and dwelling house under section 35(2A).</li> </ul>
517007, 514263	Manager Portfolio Maintenance	Section 37C	
		Section 30(2)	<p>The delegation does not extend to:</p> <ul style="list-style-type: none"> <li>• Giving a borrower or purchaser one month's notice in writing if the purchaser or borrower has not complied with the requirements of section 30, or</li> <li>• Receiving payment from the borrower or purchaser to cover expenses incurred in effecting repairs which the Director of Housing deems necessary under section 30(2)(b).</li> </ul>
		Section 35(1)	<p>The delegation does not extend to:</p> <ul style="list-style-type: none"> <li>• Taking action in a court of competent jurisdiction against the owner of land or land and dwelling house to which section 35(1) applies, or</li> <li>• Letting any land or land and dwelling house that is subject to section 35(2) pending the sale of the land or land and dwelling house under section 35(2A).</li> </ul>
513352	Manager Portfolio Planning	Section 31(1)	
501768	Manager Program	Sections 15AA, 15AB, 15AC and 15AD	



SCHEDULE			
Column 1	Column 2	Column 3	Column 4
	Delivery, Housing Programs	Section 30(2)	<p>The delegation does not extend to:</p> <ul style="list-style-type: none"> <li>• Authorising a person to enter and take possession of land, or land and a dwelling house under section 30(2)(a), or</li> <li>• Entering upon land or land and a dwelling house under section 30(2)(b), or</li> <li>• Receiving payment from the borrower or purchaser to cover expenses incurred in effecting repairs which the Director of</li> </ul>
			Housing deems necessary under section 30(2)(b).
500029	Principal Housing Advisor, Housing Programs	Sections 15AA, 15AB, 15AC and 15AD	
		Section 30(2)	<p>The delegation does not extend to:</p> <ul style="list-style-type: none"> <li>• Authorising a person to enter and take possession of land, or land and a dwelling house under section 30(2)(a), or</li> <li>• Entering upon land or land and a dwelling house under section 30(2)(b), or</li> <li>• Receiving payment from the borrower or purchaser to cover expenses incurred in effecting repairs which the Director of Housing deems necessary under section 30(2)(b).</li> </ul>
520546	Principal Performance Advisor, Housing Programs	Sections 15AA, 15AB, 15AC and 15AD	
		Section 30(2)	<p>The delegation does not extend to:</p> <ul style="list-style-type: none"> <li>• Authorising a person to enter and take possession of land, or land and a dwelling house under section 30(2)(a), or</li> <li>• Entering upon land or land and a dwelling house under section 30(2)(b), or</li> </ul> <p>Receiving payment from the borrower or purchaser to cover expenses incurred in effecting repairs which the Director of Housing deems necessary under section 30(2)(b).</p>

SCHEDULE			
Column 1	Column 2	Column 3	Column 4
512470	Housing Advisor, Housing Programs	Sections 15AA, 15AB,15AC and 15AD	
		Section 30(2)	<p>The delegation does not extend to:</p> <ul style="list-style-type: none"> <li>• Authorising a person to enter and take possession of land, or land and a dwelling house under section 30(2)(a), or</li> <li>• Entering upon land or land and a dwelling house under section 30(2)(b), or</li> <li>• Receiving payment from the borrower or purchaser to cover expenses incurred in effecting repairs which the Director of Housing deems necessary under section 30(2)(b).</li> </ul>
500026 500212 517112 517113 524732 524733	Program Officer, Housing Programs	Sections 15AA, 15AB,15AC and 15AD	
		Section 30(2)	<p>The delegation does not extend to:</p> <ul style="list-style-type: none"> <li>• Authorising a person to enter and take possession of land, or land and a dwelling house under section 30(2)(a), or</li> </ul>
			<ul style="list-style-type: none"> <li>• Entering upon land or land and a dwelling house under section 30(2)(b), or</li> <li>• Receiving payment from the borrower or purchaser to cover expenses incurred in effecting repairs which the Director of Housing deems necessary under section 30(2)(b).</li> </ul>
		Section 30(2)	<p>The delegation does not extend to:</p> <ul style="list-style-type: none"> <li>• Authorising a person to enter and take possession of land, or land and a dwelling house under section 30(2)(a), or</li> </ul>
			<ul style="list-style-type: none"> <li>• Entering upon land or land and a dwelling house under section 30(2)(b), or</li> </ul>



SCHEDULE			
Column 1	Column 2	Column 3	Column 4
			<ul style="list-style-type: none"> <li>Receiving payment from the borrower or purchaser to cover expenses incurred in effecting repairs which the Director of Housing deems necessary under section 30(2)(b).</li> </ul>
518040	Manager Community Housing Programs	Sections 15AA, 15AB, 15AC and 15AD	
		Section 30(2)	<p>The delegation does not extend to:</p> <ul style="list-style-type: none"> <li>Authorising a person to enter and take possession of land, or land and a dwelling house under section 30(2)(a), or</li> <li>Entering upon land or land and a dwelling house under section 30(2)(b), or</li> <li>Receiving payment from the borrower or purchaser to cover expenses incurred in effecting repairs which the Director of Housing deems necessary under section 30(2)(b).</li> </ul>
510953	Area Manager – Greater North	Sections 15AA, 15AB, 15AC and 15AD	
510951	Area Manager – Greater South	Sections 15AA, 15AB, 15AC and 15AD	
517101	Assistant Area Manager	Sections 15AA, 15AC and 15AD	
522447	Operations Officer	Sections 15AA, 15AB, 15AC and 15AD	
522445	Tenancy Intervention Officer (Greater South)	Sections 15AA, 15AB, 15AC and 15AB	
522444	Tenancy Intervention Officer (Greater North)	Sections 15AA, 15AB, 15AC and 15AD	

SCHEDULE			
Column 1	Column 2	Column 3	Column 4
516992, 516996, 516997, 516998, 516999, 517000, 517002, 517003, 517005, 517006, 517021, 517024, 517025, 517029, 517056, 517058, 517059, 517060, 517061, 517064, 517065, 517085, 517088, 517089, 517090, 517091, 517093, 517094, 517105	Property Officer	Sections 15AA 15AB, 15AC and 15AD	
511146, 511147, 511151,	Administrative Support Officer	Sections 15AA, 15AB, 15AC and 15AD	
511153, 516153, 517010, 517043, 517074, 517105, 517106, 522515, 522516, 522811, 522812			
517038	Community Housing Programs Contract Officer	Sections 15AA, 15AB, 15AC and 15AD	



<b>SCHEDULE</b>			
<b>Column 1</b>	<b>Column 2</b>	<b>Column 3</b>	<b>Column 4</b>
522453, 522454, 522455, 522456	Zone Coordinator (Greater South)	Sections 15AA15AB, 15AC and 15AD	
522449, 522452, 522448, 522451	Zone Coordinator (Greater North)	Sections 15AA, 15AB, 15AC and 15AD	

Dated this 7<sup>th</sup> day of August 2020



Michael Pervan  
Director of Housing

## LAND USE PLANNING AND APPROVALS ACT 1993

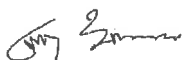
### INSTRUMENT OF DELEGATION

I, Guy Barnett MP, being the Minister for Housing and the Minister of the Crown administering land administered or owned by the Director of Housing by or under, or for the purposes of the *Homes Act 1935* for and on behalf of the Crown, pursuant to section 52(1F) of the *Land Use Planning and Approval Act 1993* and section 23AA of the *Acts Interpretation Act 1931*, hereby:

1. Revoke the delegation made by Michael Darrel Joseph Ferguson of functions under section 52(1B) of the *Land Use Planning and Approvals Act 1993* on 21 September 2021, and
2. Delegate my functions under section 52(1B) of the *Land Use Planning Approval Act 1993* to the person or persons for the time being holding, occupying or acting in the offices or positions with the position number set out in Column 1 of the below Schedule and the office or position title set out in Column 2 of the below Schedule:

SCHEDULE	
Column 1	Column 2
	Secretary Department of Communities
	Director of Housing
500018	Deputy Secretary – Community Services, Infrastructure and Housing
517891	Director - Community Infrastructure
520545	State Manager - Maintenance Services
513352	Manager - Asset Management and Planning

Dated this 1st day of August 2022



Guy Barnett MP

Minister for Housing



## Appendix B     Certificate of title

## SEARCH OF TORRENS TITLE

VOLUME 205058	FOLIO 1
EDITION 4	DATE OF ISSUE 08-Oct-2020

SEARCH DATE : 29-Apr-2022

SEARCH TIME : 11.03 AM

DESCRIPTION OF LAND

City of HOBART

Lot 1 on Plan 205058

Derivation : Part of 109A-3R-0Ps. Gtd. to J. Bell

Prior CT 2307/19

SCHEDULE 1M829817 TRANSFER to DIRECTOR OF HOUSING Registered  
08-Oct-2020 at noonSCHEDULE 2

Reservations and conditions in the Crown Grant if any

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations



ORIGINAL - NOT TO BE REMOVED FROM TITLES OFFICE

R.P. 1470

TASMANIA

REAL PROPERTY ACT, 1862, as amended



CERTIFICATE OF TITLE

Register Book

Vol. Fol.

2307 19

I certify that the person described in the First Schedule is the registered proprietor of an estate in fee simple in the land within described together with such interests and subject to such encumbrances and interests as are shown in the Second Schedule. In witness whereof I have hereunto signed my name and affixed my seal.

*M. H. H. H. H.*

Recorder of Titles.  
DESCRIPTION OF LAND



CITY OF HOBART

SIX TENTHS OF A PERCH on the Plan hereon

FIRST SCHEDULE (continued overleaf )

THE TRUSTEES OF THE PROPERTY OF THE ROMAN CATHOLIC CHURCH IN TASMANIA

SECOND SCHEDULE (continued overleaf )

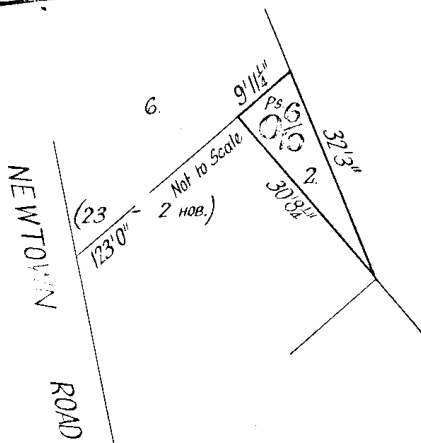
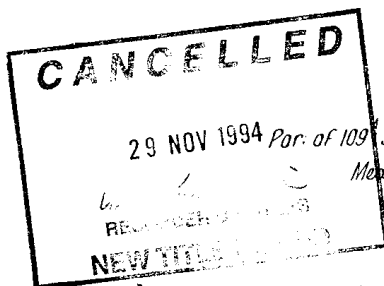
NIL

THE RECORDER OF TITLES ARE NO LONGER SUBSISTING.

Lot 1 of this plan consists of all the land comprised in the above-mentioned cancelled folio of the Register.

REGISTERED NUMBER

205058



1st Edition. Registered 23 JAN 1993

Derived from C.T. Vol. 828 Fol. 52- Transfer A257199- F.E. Scurrah.

## SEARCH OF TORRENS TITLE

VOLUME 252210	FOLIO 1
EDITION 3	DATE OF ISSUE 08-Oct-2020

SEARCH DATE : 29-Apr-2022

SEARCH TIME : 11.03 AM

DESCRIPTION OF LAND

City of HOBART

Lot 1 on Plan 252210

Derivation : Part of 109A-3R-0P Gtd. to J. Bell

Prior CT 2395/12

SCHEDULE 1

M829817    TRANSFER to DIRECTOR OF HOUSING    Registered  
08-Oct-2020 at noon

SCHEDULE 2

Reservations and conditions in the Crown Grant if any  
BURDENING EASEMENT a right of drainage (appurtenant to Lot 1  
on Sealed Plan No. 61817) over the drainage easement  
passing through the said land within described

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations



ORIGINAL - NOT TO BE REMOVED FROM TITLES OFFICE

R.P. 1470

TASMANIA

REAL PROPERTY ACT, 1862, as amended



CERTIFICATE OF TITLE

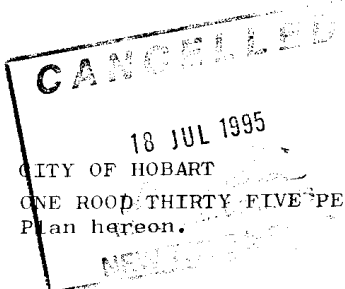
Register Book

Vol. Fol.

2395 12

I certify that the person described in the First Schedule is the registered proprietor of an estate in fee simple in the land within described together with such interests and subject to such encumbrances and interests as are shown in the Second Schedule. In witness whereof I have hereunto signed my name and affixed my seal.

Lot 1 of this plan consists of all the land comprised in the above-mentioned URE OF THE RECORDER OF TITLES ARE NO LONGER SUBSISTING. cancelled folio of the Register.



*Muthinore*

Recorder of Titles.



DESCRIPTION OF LAND

CITY OF HOBART

ONE ROOD THIRTY FIVE PERCHES AND NINE TENTHS OF A PERCH on the Plan hereon.

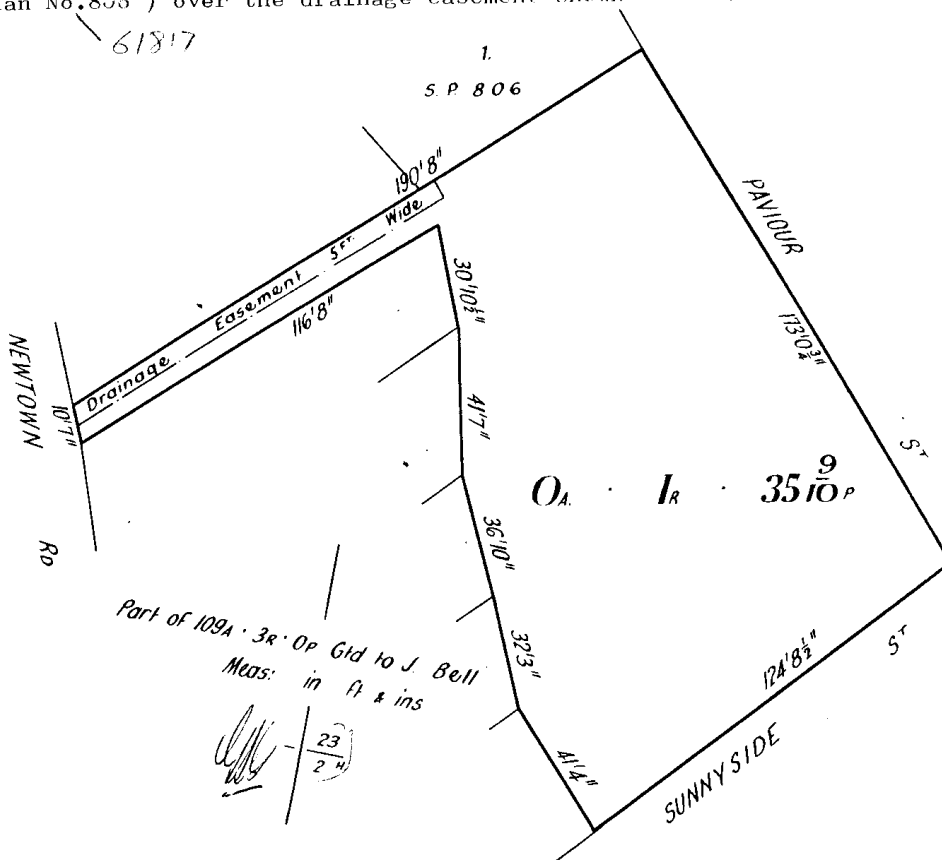
FIRST SCHEDULE (continued overleaf )

THE TRUSTEES OF THE PROPERTY OF THE ROMAN CATHOLIC CHURCH IN TASMANIA

SECOND SCHEDULE (continued overleaf )

✓ ~~SUBJECT~~ TO a right of drainage (appurtenant to Lot 1 on Sealed Plan No. 806 ) over the drainage easement shown hereon.

61817



REGISTERED NUMBER

252210

FIRST Edition. Registered 20 SEP 1968

Derived from C.T.Vol.311 Fol.189. TRANSFER NO.93075- C.R.Barnett.

## Appendix C    Development plans



## Appendix D Preliminary geotechnical investigation

# GEOTECHNICAL SITE ASSESSMENT

*73A New Town Road*

*New Town*

*February 2022*



Disclaimer: The author does not warrant the information contained in this document is free from errors or omissions. The author shall not in any way be liable for any loss, damage or injury suffered by the User consequent upon, or incidental to, the existence of errors in the information.



## *Introduction*

---

Client:	Philp Lighton Architects P/L
Date of inspection:	02/02/2022
Location:	73a New Town Road, New Town, Tasmania
Land Zoning:	11.0 Inner Residential
Building type:	Unit Block
Investigation:	Excavation
Inspected by:	JP Cumming

## *Background information*

---

Map:	Mineral Resources Tasmania map 1:25 000
Rock type:	Triassic Sediment Deposits
Soil depth:	~1.2 - 4.5m
Planning Overlays:	Heritage Precinct Paviour Street Area, Royal Hobart Hospital Helipad Airspace Specific Area Plan,
Local meteorology:	Annual rainfall approx. 750 mm
Local services:	Reticulated water and services on site.

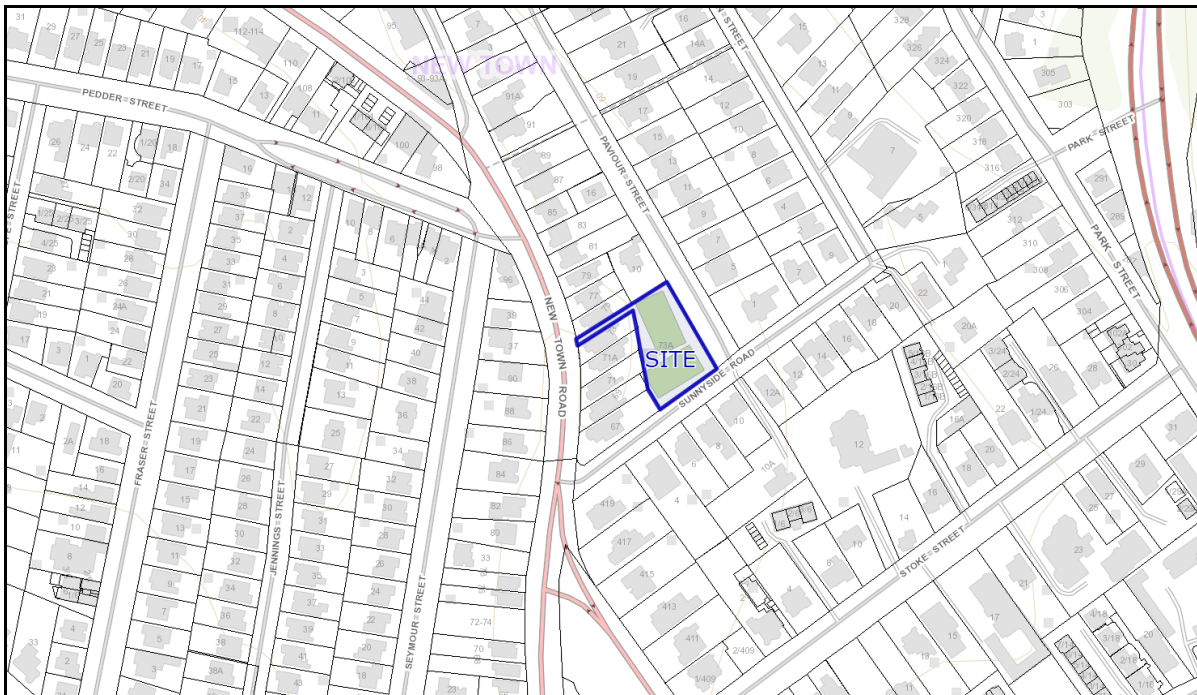
## *Site conditions*

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Slope and aspect:	Original slopes SE wall ~10-14°, NE wall ~35-75°, to flat on courts.
Site drainage:	Moderately drained
Vegetation:	Previously some small shrubs & gardens. Area striped at present.
Weather conditions:	Fine, approx. 5mm rainfall received in preceding 7 days.
Ground surface:	Grassed areas with some gardens. Area excavated and striped at present.

## Investigation

Geo-Environmental Solutions Pty. Ltd. (GES) were engaged by Philp Lighton Architects P/L ("the Client") to undertake a Geotechnical Investigation at 73A New Town Road (hereby referred to as 'The Site'), as shown in Figure 1. This report presents the findings of the Geotechnical Investigation undertaken by GES at the investigation site in New Town, Tasmania.



**Figure 1.** Location of the site, outlined in blue (The LIST).

A number of test pits were completed to identify the distribution of, and variation in soil materials on the site. Representative profiles at the location indicated in Appendix 1 were logged and chosen for classification according to AS1726-1993

The purpose of the investigation was to:

- Provide factual data from the soil material encountered on site.
- Provide information on the geotechnical conditions encountered.
- Provide advice on the bearing capacities of the material encountered
- Provide 'Site Classification' according to AS2870-2011.



## Site Summary

The underlying geology on site is part of the New Town Coal Measures formation formed during the Triassic period, *Interbedded cross-bedded white quartzose sandstone, quartz-rich lithic sandstone, siltstone, and mudstone; Hobart area- upper interval with much dark grey carbonaceous mudstone, thin lenticular coal seams and fossil plants in place.* (The LIST 1:25,000). The site was previously a quarry (possibly for building/road material with a coal sub-commodity), prior to being a tennis court (Figure 2).

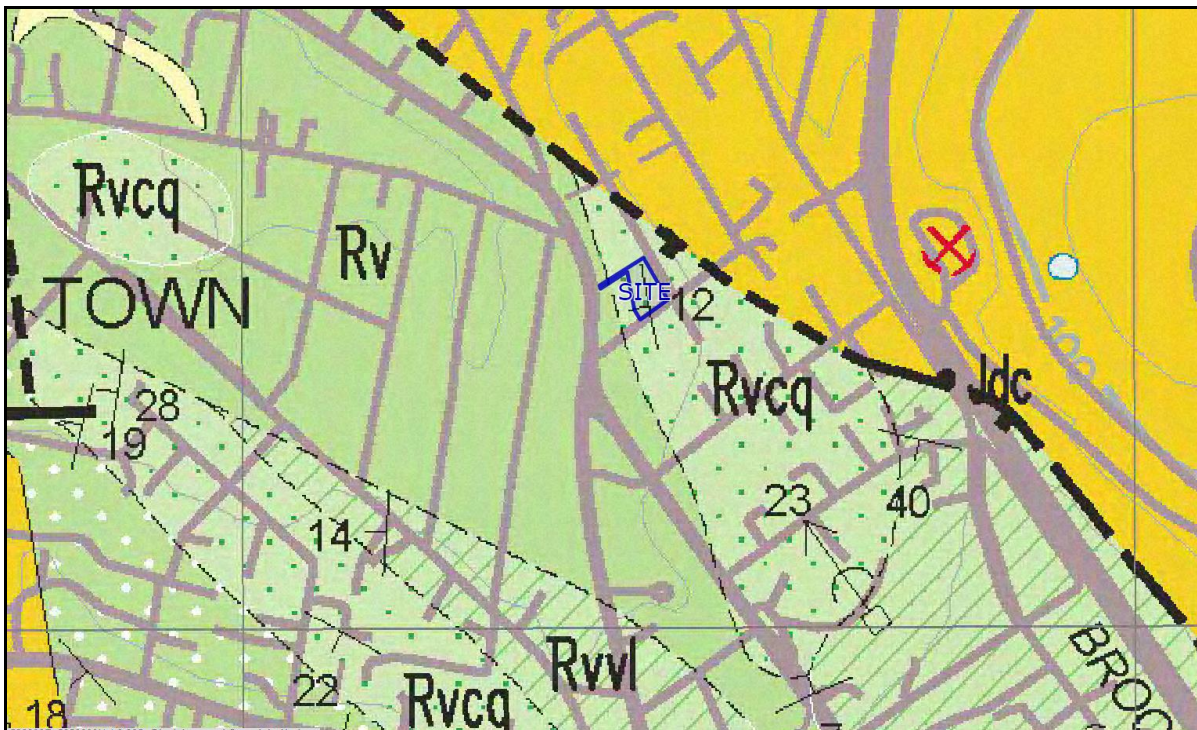


Figure 2. Mapped Geology of the area with the site outlined in blue (The LIST).

### North-eastern Wall

The long north-eastern wall has been excavated to create an embankment with a steep batter angle. The embankment has two trenches cut vertically into the wall (see Figure 3 & Appendix 2 for locations).



**Figure 3.** View of the north-eastern embankment with Trench 1 (LHS), showing sandy topsoil and sand/mudstone base. The sand/mudstone outcrop of the south-eastern wall is visible (RHS).

The exposed topsoil is extremely dry, friable, highly weathered, and non-coherent. The soil becomes more coherent and consolidated with depth. Some intermittent sections of the embankments base show outcropping sand/mudstone and loose floating rock.

The loss of vegetation on the north-eastern embankment and the recent excavations may have exacerbated any potential for slope failure or soil creep. This slope may require some form of slope consolidation such as wire netting and replanting of suitable flora to help stabilise the slope.



### South-eastern Wall

The highly weathered outcrop on the south-eastern side of the site has a textbook example of the New Town Coal Measure. The outcrop comprises cross bedded sandstone/mudstone, steeply dipping towards the south, overlying a lens of extremely weathered and eroded coal (Figure 4).



**Figure 4.** Highly weathered outcrop of New Town Coal Measure, located on the South-eastern side of the site

The nature of the cross/interbedded mud/sandstone means that the outcrop will have natural lines of partition along the cleavage, foliation, and bedding that are susceptible to separation by physical and chemical weathering. These beds are also dipping at a steep direction towards the south which is increasing pressure upon the overhang units.

The underlying coal measure is a comparable soft rock and is continually being weathered and eroded away at a greater rate and undermining the overlying mud/sandstone beds.

These factors are combining to create increasing stress and strain upon the overlying mud/sandstone unit.

This outcrop has the potential to become highly unstable in the future and may result in localised catastrophic failure of the overhanging outcrop.

Civil geotechnical engineering will be required to mitigate any potential wall and slope failure. This may require rock bolting, or some type of retaining structure (such as an engineered retaining wall or mass concrete blocks with appropriate backfill to support the rock). This should be completed prior to any further substantial earthworks.

### *Soil Profile Notes*

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The subsurface conditions encountered during field excavation were dominated by various mixed fill types with variations of depth across the site. The subsoil is generally consistent with available geological mapping of the Triassic aged deposits (MRT 1:25 000 sheets) but is only proximal to the bedrock. See Figure 2. The soil profile across the site is dominated by an upper mixed fill containing varying amounts of surface gravely sands (tennis court base), overlying a sandy gravely clay mixed fill. This overlies a parent rock subsoil consisting of sandy gravels (Table 1 & Appendix 1).

**Table 1** – TP3 only see appendix 1 for full soil bore hole logs.

Depth (m)	USCS	Description
0 – 2.50	SC	<b>FILL - SANDY GRAVEL:</b> with clay, trace building materials, orange to brown to pale grey, slightly moist, medium dense, water ingress at 1m.
2.50 – 3.30	CH	<b>FILL - Sandy CLAY:</b> medium to high plasticity, dark brown to pale grey, moist, stiff.
3.50 – 4.50	Rock	<b>SANDSTONE:</b> grey/orange/yellow, dry, low strength, highly weathered, bedding & joint spacing 10-100mm; interbedded mudstone & coal measures, dark grey/yellow, very low to low strength, extremely to highly weathered, laminations spaced 5-15mm. New Town Coal Measures. REFUSAL

### *Geotechnical Testing*

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#### **Soil and Rock Descriptions**

The bore holes and cut landscape were logged in accordance with Australian Standard AS 1726 – 2017 'Geotechnical Site Investigations'.



### Point Load Strength Index

PLSI testing conducted on lumps was converted to  $I_s(50)$ . Bad breaks through healed defects were not included in the results. Nine (9) PLSI tests were carried out on sandstone bedrock samples with results summarised in Table 2.

**Table 2 Summary of Point Load Strength Index Test Results**

Strength Classification $I_s(50)$ (MPa)	Class	Number of test results within this strength classification
0 to 0.03	Extremely Low	-
0.03 to 0.1	Very Low	2
0.1 to 0.3	Low	6
0.3 to 1	Medium	1
1 to 3	High	-
3 to 10	Very High	-
>10	Extremely High	-

The results indicate the sandstone rock is highly variable. Rock strength ranges from very low to medium strength ranging from 1.2 to 4.5 m depth.

The results of the PLSI are presented on the engineering logs in Appendix 1.

It should be noted the PLSI results provide an indication of the strength of the rock that was encountered during the investigation and that rock with higher or lower strengths than tested may be present at the site.

### Groundwater

Groundwater was encountered in test pits 1, 3, & 5 at an approximate depth of one (~1) metre the time of this site investigation.

### Site Excavation Conditions

Excavation of all soil material across the site is likely to be achieved with relative ease with conventional hydraulic excavation machinery at all locations depending on required excavation depths, which have not been provided to GES at the time this report was written. Given the groundwater ingress was encountered at relatively shallow depths below current ground surface at the time of this investigation, dewatering techniques are likely to be required to facilitate excavations for foundation preparations across the site.

## ***Bearing Capacities***

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The soil and fill material on site exhibited variable bearing capacities generally increasing with depth, there were some low bearing capacities encountered during field testing within the fill material, it is imperative that all foundations be placed into the underlying weathered sandstone. The weathered sandstone has an assigned allowable end bearing capacity of 200kPa. It must be noted this is based upon point load testing of sandstone and the rock mass view on site. No foundations should be placed in the coal seams present within the sandstone as the coal has a much lower strength.

Bearing capacities of natural soils underlying the proposed development will also exhibit a small degree of heterogeneity across the site. Localised water inflows are also likely to be encountered during excavation which may cause softening of the founding material. Therefore, it is recommended that all loose or water affected material be removed from the base of all excavations prior to construction. It is also recommended that the foundation/pavement excavations be inspected by an engineer or GES in order to confirm the foundation conditions are consistent with engineering design parameters.

## ***Site Classification***

---

The site has been assessed and classified in accordance with AS2870:2011 "Residential Slabs and Footings".

The site has been classified as:

**Class P** due to:

1. Significant volumes of uncontrolled fill material across the entire site.
2. The variability of the soil profile across the site which is anticipated to exhibit considerable differential settlement due to the nature of the fill.
3. Elevated moisture conditions including free water ingress through the fill is likely to cause additional impediments to design and construction.
4. The cutting landform/unsupported subvertical embankment also has the potential for failure and requires design and implementation of appropriate retainment structures.

Y's range: 20-40mm

**NOTE:** All foundations must be socketed into the underlying weathered bedrock.



## *Construction Recommendations*

---

Conventional foundation designs are likely to be suitable for the proposed structure on this site provided sufficient founding depth and bearing capacities.

It is recommended that:

- For areas of proposed shallow foundations all foundations **must penetrate through ALL fill material & any topsoils** and socketed into the highly weathered rock with bearing capacities >150kPa.
- Conventional pad footings are likely to be suitable only if excavated to sufficient depth and bearing.
- Dependent upon the final foundation design chosen and the loads supported, pile foundations may be required, and all piles should be driven or bored into underlying natural material with sufficient bearing capacities for the proposed design. If loads are high, further detailed site investigations will be required to obtain specific geotechnical parameters.
- Levelling and compaction of footprints with either natural rock fill or imported Class 1 fill should follow AS 1289 5.1.1
- All earthworks onsite be compliant with AS3798-2007 "Guidelines for Earthworks on commercial and residential subdivision"
- Pavements should be designed with an estimated CBR value of **1%** (based upon controlled compaction of existing layers or natural soils) although this may be increased with further stabilisation of the subgrade using lime or cement, further testing and 4-day soaked CBR analysis may provide greater CBR % value.
- Stormwater be connected as soon as any roofing is sealed.
- Drainage of the site pertinent to foundation and pavements be designed to flow away from footing areas and towards stormwater discharge points.

## *Conclusions*

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The above geotechnical investigation has found that overall, the ground conditions across the proposed areas of development may be problematic with potential geotechnical impediments to construction. Conventional foundation designs are likely to be suitable for the proposed structure provided all footings are founded in the sandstone bedrock with adequate bearing capacities for the load required for the proposed development.

It is also recommended that:

- Appropriate engineering design for stabilisation of earth batters on site must be implemented.
- Appropriate engineering design of retainment systems for the overhanging sandstone in the SE corner of the site must be undertaken.
- Further geotechnical investigations may be required to provide relevant information for foundation design once loads and depths are confirmed.
- All earthworks onsite be compliant with AS3798-2007 *"Guidelines for Earthworks on commercial and residential developments"*
- Levelling and compaction of footprints with either natural soil or imported Class 1 fill should follow AS1289 5.1.1
- Drainage of the site pertinent to foundation and pavements be designed to flow away from footing areas and towards stormwater discharge points.



## Appendix 1 – Test hole logs

[illegible]

[illegible]



<div>GES</div> <div>GEO-ENVIRONMENTAL</div> <div>SOLUTIONS</div>		PROJECT: 73A New Town Road		Log of TP3							
CLIENT: Philp Lighton Architects P/L		EASTING (GDA94):									
LOCATION: New Town		NORTHING (GDA94):									
CONTRACTOR: Fairbrother Group		EXCAVATOR: 14T		ELEVATION (m AHD):							
PIT WIDTH: 0.7m		PIT LENGTH: 1.5m		TOTAL DEPTH (m): 4.5							
EXCAVATOR REACH: 2.9m		DATE: 26/10/2021		NATURAL GROUND (m): 2.5							
LOGGED BY: JP. Cumming		DEPTH WATER STRUCK (m): 1									
DEPTH (m)	FIELD STRENGTH		SAMPLE	DCP	HAND PENO	SHEAR VANE	POINT LOAD (IS 50)	Moisture	Geology Unit	Lithology	ELEVATION (m AHD)
	SOIL	ROCK									
	V LOOSE / V SOFT M DENSE / FIRM V DENSE / STIFF HARD EXT LOW VERY LOW LOW MEDIUM HIGH VERY-EXT. HIGH		CBR (%)  Swell (%)	Blow Count Allowable Bearing Capacity (kPa) CBR	UCS (kPa) Sand Friction Angle	Undrained Shear (kPa) Cohesion (kPa) Allowable Bearing Capacity (kPa)					
0.0											
0.2											
0.4											
0.6											
0.8											
1.0											
1.2											
1.4											
1.6											
1.8											
2.0											
2.2											
2.4											
2.6											
2.8											
3.0											
3.2											
3.4											
3.6											
3.8											
4.0											
4.2											
4.4											

Pit Wall % Integrity

020406080100

1.0

M

FILL

CH

D

Rvcq

Rock

FILL - Sandy GRAVEL: with clay, trace building materials, orange to brown to pale grey, moist to wet, medium dense, water ingress at 1m.

FILL - Sandy CLAY: medium to high plasticity, dark brown to pale grey, moist, stiff.

SANDSTONE: grey/orange/yellow, dry, low strength, highly weathered, bedding & joint spacing 10-100mm; interbedded mudstone & coal measures, dark grey/yellow, very low to low strength, extremely to highly weathered, laminations spaced 5-15mm. New Town Coal Measures. REFUSAL

GEO-ENVIRONMENTAL SOLUTIONS - 29 KIRKSWAY PLACE, BATTERY POINT 7004 - T: 03 6223 1839

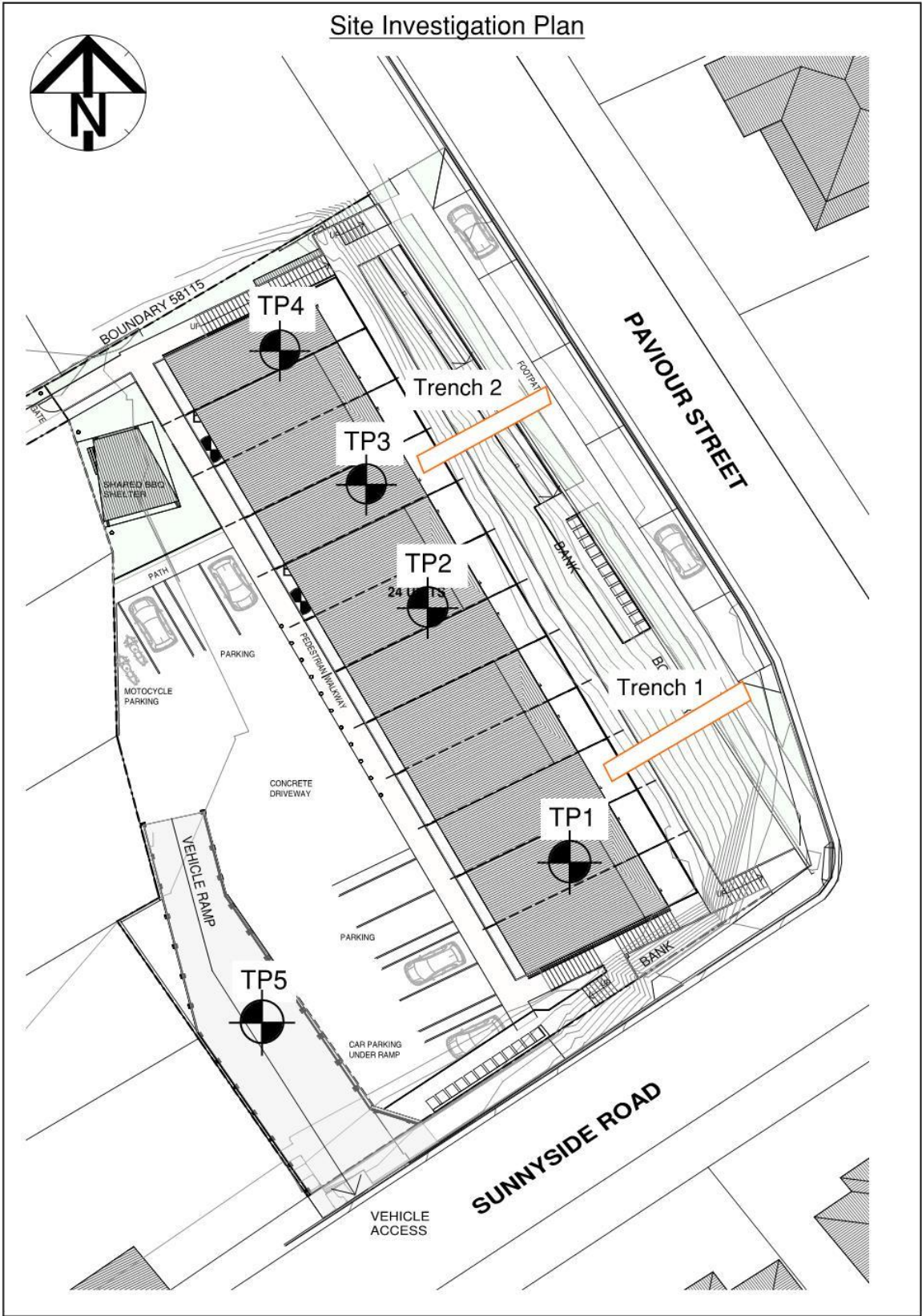
Page 1 of 1







Appendix 2 - Site Plan





## Explanatory Notes

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### 1 Scope of Works

The methods of description and classification of soils used in this report are based largely on Australian Standard 1726 – Geotechnical Site Investigations (AS1726:2017), with reference to Australian Standard 1289 – Methods for testing soils for engineering purposes (AS1289), for eventual Site Classification according to Australian Standard 2870 (AS2870:2011) – Residential Slabs and Footings and Australian Standard 1547 (AS1547:2012) On-site domestic wastewater management.

#### 1.1 Site Classification AS2870:2011

Site classification with reference to the above Australian Standards are based on site reactivity.

Class	Foundation Conditions	Characteristic Surface Movement
A	Most sand and rock sites with little or no ground movement from moisture changes.	0mm
S	Slightly reactive clay sites, which may experience only slight ground movement from moisture changes.	0 – 20mm
M	Moderately reactive clay or silt sites, which may experience moderate ground movement from moisture changes.	20 – 40mm
H-1	Highly reactive clay sites, which may experience high ground movement from moisture changes.	40 – 60mm
H-2	Highly reactive clay sites, which may experience very high ground movement from moisture changes.	60 – 75mm
E	Extremely reactive sites, which may experience extreme ground movement from moisture changes.	>75mm

*Note: Soils where foundation performance may be significantly affected by factors other than reactive soil movement are classified as **Class P**.*

A site is classified as **Class P** when:

- The bearing capacity of the soil profile in the foundation zone is generally less than 100kpa
- If excessive foundation settlement may occur due to loading on the foundation.
- The site contains uncontrolled fill greater than 0.8m in depth for sandy sites and 0.4m in depth for other soil materials.
- The site is subject to mine subsistence, landslip, collapse activity or coastal erosion.
- The site is underlain by highly dispersive soils with significant potential for erosion
- If the site is subject to abnormal moisture conditions which can affect foundation performance

## 1.2 Soil Characterisation

This information explains the terms of phrase used within the soil description area of the report.

It includes terminology for cohesive and non-cohesive soils and includes information on how the Unified Soil Classification Scheme (USCS) codes are determined.

NON COHSIVE – SAND & GRAVEL		
Consistency Description	Field Test	Dynamic Cone Penetrometer blows/100 mm
Very loose (VL)	Easily penetrated with 13 mm reinforcing rod pushed by hand.	0 - 1
Loose (L)	Easily penetrated with 13 mm reinforcing rod pushed by hand. Can be excavated with a spade; 50 mm wooden peg can be easily driven.	1 - 3
Medium dense (MD)	Penetrated 300 mm with 13 mm reinforcing rod driven with 2 kg hammer, - hard shovelling.	3 - 8
Dense (D)	Penetrated 300 mm with 13 mm reinforcing rod driven with 2 kg hammer, requires pick for excavation: 50 mm wooden peg hard to drive.	8 - 15
Very dense (VD)	Penetrated only 25 - 50 mm with 13 mm reinforcing rod driven with 2 kg hammer.	>15

COHESIVE - SILT & CLAY		
Consistency Description	Field Test	Indicative undrained shear strength kPa
Very soft	Easily penetrated >40 mm by thumb. Exudes between thumb and fingers when squeezed in	<12
Soft	Easily penetrated 10 mm by thumb. Moulded by light finger pressure	>12 and <25
Firm	Impression by thumb with moderate effort. Moulded by strong finger pressure	>25 and <50
Stiff	Slight impression by thumb cannot be moulded with finger.	>50 and <100
Very Stiff	Very tough. Readily indented by thumbnail.	>100 and <200
Hard	Brittle. Indented with difficulty by thumbnail.	>200



### 1.3 USCS Material Descriptions

Soils for engineering purposes are the unconsolidated materials above bedrock, they can be residual, alluvial, colluvial or aeolian in origin.

Major Divisions		Particle size mm	USCS Group Symbol	Typical Names	Laboratory Classification					
COARSE GRAINED SOILS (more than half of material less than 63 mm is larger than 0.075 mm)	BOULDERS	200			% < 0.075 mm (2)	Plasticity of fine fraction	$C_u = \frac{D_{60}}{D_{10}}$	$C_c = \frac{(D_{30})^2}{(D_{10})(D_{60})}$	NOTES	
	COBBLES	63								
	GRAVELS (more than half of coarse fraction is larger than 2.36 mm)	coarse 20	GW	Well graded gravels and gravel-sand mixtures, little or no fines	0-5	—	>4	Between 1 and 3	(1) Identify fines by the method given for fine-grained soils.	
		medium 6	GP	Poorly graded gravels and gravel-sand mixtures, little or no fines, uniform gravels	0-5	—	Fails to comply with above			
		fine 2.36	GM	Silty gravels, gravel-sand-silt mixtures (1)	12-50	Below 'A' line or PI<4	—	—		
			GC	Clayey gravels, gravel-sand-clay mixtures (1)	12-50	Above 'A' line and PI>7	—	—	(2) Borderline classifications occur when the percentage of fines (fraction smaller than 0.075 mm size) is greater than 5% and less than 12%. Borderline classifications require the use of SP-SM, GW-GC.	
	SANDS (more than half of coarse fraction is smaller than 2.36 mm)	coarse 0.6	SW	Well graded sands and gravelly sands, little or no fines	0-5	—	>6	Between 1 and 3		
		medium 0.2	SP	Poorly graded sands and gravelly sands, little or no fines	0-5	—	Fails to comply with above			
		fine 0.075	SM	Silty sands, sand silt mixtures (1)	12-50	Below 'A' line or PI<4	—	—		
			SC	Clayey sands, sand-clay mixtures (1)	12-50	Above 'A' line and PI>7	—	—		
FINE GRAINED SOILS (more than half of material less than 63 mm is smaller than 0.075 mm)	SILTS & CLAYS (Liquid Limit ≤50%)	ML	Inorganic silts, very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity	<div><h3>Plasticity Chart</h3><p>For classification of fine grained soils and fine fraction of coarse grained soils.</p><p>Use the gradation curve of material passing 63 mm for classification of fractions according to the criteria given in 'Major Divisions'</p></div>						
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays							
		OL	Organic silts and clays of low plasticity							
	SILTS & CLAYS (Liquid Limit >50%)	MH	Inorganic silts, micaceous or diatomaceous fine sands or silts, elastic silts							
		CH	Inorganic clays of high plasticity, fat clays							
		OH	Organic silts and clays of high plasticity							
	HIGHLY ORGANIC SOILS	PT	Peat and other highly organic soils							

Grain size analysis is performed by two processes depending on particle size. Sand silt and clay particles are assessed using a standardised hydrometer test, and coarse sand and larger is assessed through sieving by USCS certified sieves. For more detail see the following section.

Soil Classification	Particle Size
Clay	Less than 0.002mm
Silt	0.002 – 0.06mm
Fine/Medium Sand	0.06 – 2.0mm
Coarse Sand	2.0mm – 4.75mm
Gravel	4.75mm – 60.00mm

#### 1.4 Bearing Capacities and DCP testing.

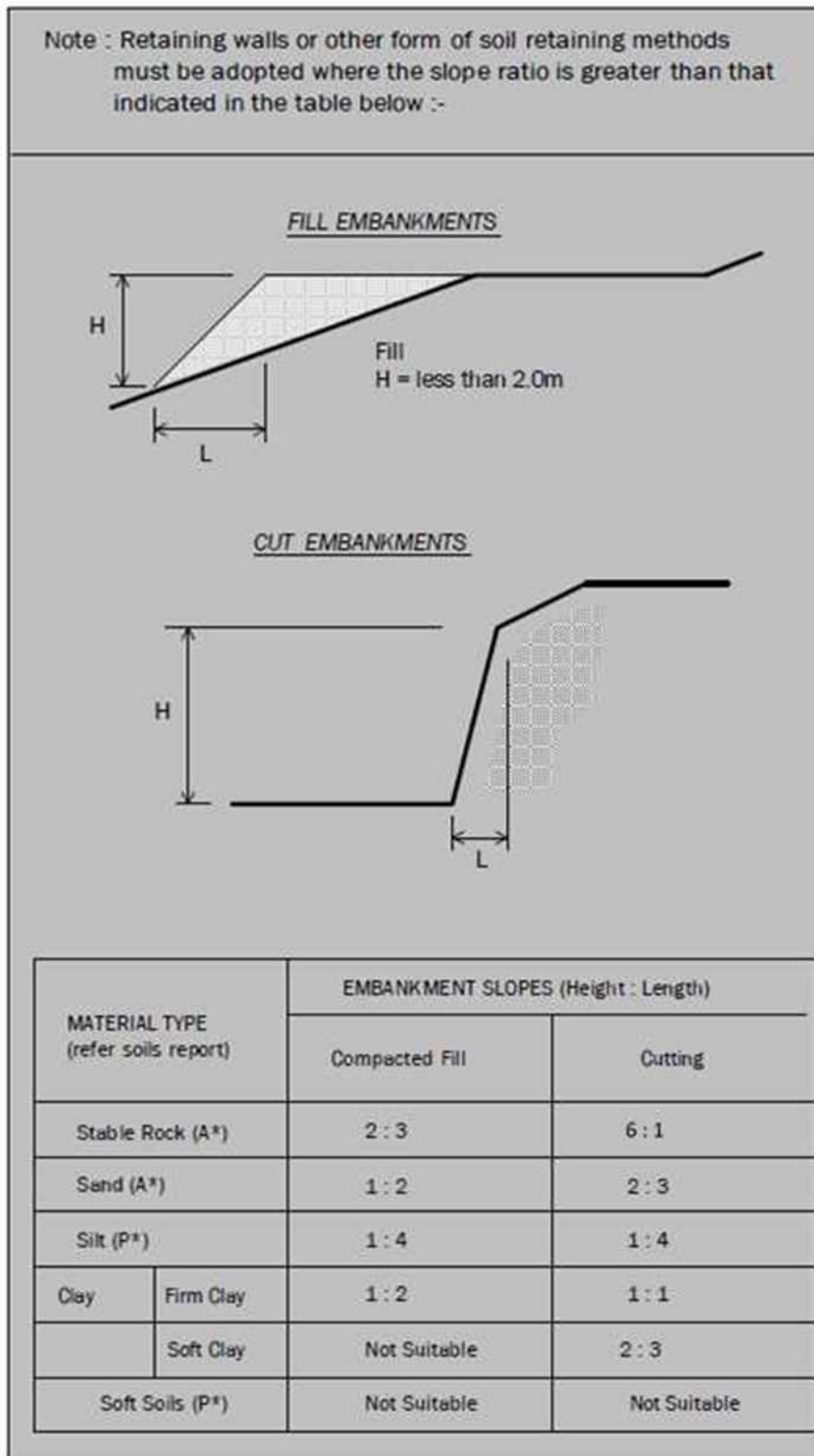
DCP and PSP weighted penetrometer tests – Dynamic Cone Penetrometer (DCP) and Perth Sand Penetrometer (PSP) tests are carried out by driving a rod into the ground with a falling weight hammer and measuring the blows for successive 100mm increments of penetration. Normally, there is a depth limitation of 1.2m but this may be extended in certain conditions by the use of extension rods. The methods for the two tests are quite similar.

- Dynamic Cone Penetrometer – a 16mm rod with a 20mm diameter cone end is driven with a 9kg hammer dropping 510mm (AS 1289, Test 6.3.2).
- Perth Sand Penetrometer – a 16mm diameter flat-ended rod is driven with a 9kg hammer, dropping 600mm (AS 1289 Test 6.3.3). This test was developed for testing the density of sands and is mainly used in granular soils and filling.

Site Anomalies – During construction GES will need to be notified of any major variation to the foundation conditions as predicted in this report.



### 1.5 Batter Angles for Embankments *(Guide Only)*



## *Glossary of Terms*

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**Bearing Capacity** – Maximum bearing pressure that can be sustained by the foundation from the proposed footing system under service loads which should avoid failure or excessive settlement.

**Clay** – (Mineral particles less than 0.002mm in diameter). Fine grained cohesive soil with plastic properties when wet. Also includes sandy clays, silty clays, and gravelly clays.

**Dynamic Cone Penetrometer (DCP)** – Field equipment used to determine underlying soil strength and therefore bearing capacity (kPa) by measuring the penetration of the device into the soil after each hammer blow.

**Dispersive soil** – A soil that has the ability to pass rapidly into suspension in water. **Footing** –

Construction which transfers the load from the building to the foundation. **Foundation** –

Ground which supports the building

**Landslip** – Foundation condition on a sloping site where downhill foundation movement or failure is a design consideration.

**Qualified Engineer** – A professional engineer with academic qualifications in geotechnical or structural engineering who also has extensive experience in the design of the footing systems for houses or similar structures.

**Reactive Site** – Site consisting of clay soil which swells on wetting and shrinks on drying by an amount that can damage buildings on light strip footings or unstiffened slabs. Includes sites classified as S, M, H-1, H-2 & E in accordance with AS2870-2011.

**Sand** – (Mineral particles greater than 0.02mm in diameter). Granular non-cohesive, non- plastic soil that may contain fines including silt or clay up to 15%.

**Services** – Means all underground services to the site including but not limited to power, telephone, sewerage, water & storm water.

**Silt** – (Mineral particles 0.002 – 0.02mm in diameter). Fine grained non-cohesive soil, non- plastic when wet. Often confers a silky smoothness of field texture, regularly includes clay and sand to form clayey silts, sandy silts and gravelly silts.

**Site** – The site title, as denoted by address, lot number, or Certificate of Title (CT) number, or Property Identification Number (PID).

**Surface Movement (Ys)** – Design movement (mm) at the surface of a reactive site caused by moisture changes.



## *Disclaimer*

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This Report has been prepared in accordance with the scope of services between Geo-Environmental Solutions Pty. Ltd. (GES) and the Client. To the best of GES's knowledge, the information presented herein represents the client's requirements at the time of printing of the Report. However, the passage of time, manifestation of latent conditions or impacts of future events may result in findings differing from that discussed in this Report. In preparing this Report, GES has relied upon data, surveys, analyses, designs, plans and other information provided by the Client and other individuals and organisations referenced herein. Except as otherwise stated in this Report, GES has not verified the accuracy or completeness of such data, surveys, analyses, designs, plans and other information.

The scope of this study does not allow for the review of every possible geotechnical parameter or the soil conditions over the whole area of the site. Soil and rock samples collected from the investigation area are assumed to be representative of the areas from where they were collected and not indicative of the entire site. The conclusions discussed within this report are based on observations and/or testing at these investigation points.

This report does not purport to provide legal advice. Readers of the report should engage professional legal practitioners for this purpose as required.

No responsibility is accepted for use of any part of this report in any other context or for any other purpose by third a party.

## Appendix G    Heritage impact assessment



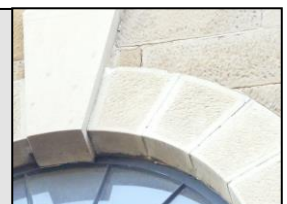
Fairbrother Pty Ltd



## Heritage Impact Assessment

Proposed Centacare Social Housing,  
73a New Town Road, New Town

John Wadsley Planning and Heritage Consultancy



# Heritage Impact Assessment Proposed Centacare Social Housing, 73a New Town Road, New Town

Prepared for Fairbrother Pty Ltd

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# 1 Introduction

## 1.1 Project outline

Centacare Evolve has engaged Fairbrother Pty Ltd to provide Communities Tasmania with 22 one- and two-bedroom units, located on the New Town Catholic Tennis Club site at 73a New Town Road, New Town, Tasmania (the project site). The proposed development is for a three-storey accommodation block.

The entire project site is within the Paviour Street Heritage Precinct (NT10) of the Hobart Interim Planning Scheme 2015. There are several properties in the vicinity of the project site that are listed in Table E13.1 Heritage Places in the Historic Heritage Code of the Hobart Interim Planning Scheme 2015 and some listed on the Tasmanian Heritage Register. As such, John Wadsley Planning and Heritage Consultancy has been commissioned to prepare a Heritage Impact Assessment (HIA), which will form part of documentation to be submitted to the City of Hobart as Planning Authority.

## 1.2 Project location

The project site is located at 73a New Town Road in the suburb of New Town, Hobart, Tasmania (see Figure 1). It comprises 1,905 m<sup>2</sup> of land on the eastern side of New Town Road, accessed by a narrow right of way, with the south-eastern boundary along Sunnyside Road and the north-eastern boundary along Paviour Street. Pedestrian access is by stairs off Sunnyside Road. The land is flat, within a former quarry cutting, with steep vegetated rock faces on the Paviour Street and Sunnyside Road boundaries. The site currently has two clay tennis courts with light poles, a small weatherboard clubroom building and a weatherboard toilet block. Each court is surrounded by steel chain mesh fencing supported on steel posts. The project site is surrounded by private residential and rental residential properties on all sides.



Figure 1 - Project Site Location Map (photo taken from The LIST)



### 1.3 Project scope

The scope of works to undertake this project is as follows:

- Become familiar with the site and the proposed development to ascertain the extent of works and potential impact on heritage values and elements.
- Establish the historic context of the site and adjoining areas to understand the historical background and identify any key places and associations.
- Undertake stakeholder consultation as necessary.
- Prepare a heritage impact assessment of the proposed development and identify heritage management prescriptions to ensure mitigation or removal of any adverse impacts.
- Prepare a report that includes the findings and recommendations arising from the above to comply with any requirements of the Planning Authority, as well as any matter that may require further investigation.

This assessment has been prepared in accordance with *The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance 2013* (Australia ICOMOS, 2013), and associated ICOMOS Practice Notes, as well as the *Works Guidelines for Historic Heritage Places* (Heritage Tasmania, November 2015).

### 1.4 Limitations

This assessment is limited to the consideration of historic cultural heritage values and significance. The assessment of Aboriginal cultural heritage values is not covered by this report. This assessment is based upon visual inspections of the subject site, its buildings and surrounding area. No intrusive or archaeological investigations were carried out as part of this assessment. While investigations have been undertaken of government archives and discussion with Council staff and local residents to better understand the history of the site, the assessment and recommendations contained in this report are limited by the nature of such research, particularly where access to material or local knowledge is restricted, and/or where the location of archival material is not known.

### 1.5 Acknowledgements

John Wadsley would like to thank the following individuals and organisations for their assistance in undertaking this project:

- City of Hobart - Sarah Waight
- Philp Lighton Architects - Peter Gaggin, Richard Headlam and Shane Cox
- Heritage Tasmania - John Stephenson
- Tasmanian Archives
- David Brown and Malcolm Ward - New Town Catholic Tennis Club members and local residents
- Brendan Lennard - local resident and former heritage officer
- Perry Foster, former local resident

## 2 Planning Instruments

### 2.1 World Heritage and National Heritage Listings

There are no places in the vicinity that are inscribed on the World Heritage List or registered on the National Heritage List or Commonwealth Heritage List.

### 2.2 Tasmanian Heritage Register

The Tasmanian Heritage Register (THR) is a register of places recognised as having historic cultural heritage significance to the whole of Tasmania. The THR is maintained by the Tasmanian Heritage Council under the *Historic Cultural Heritage Act 1995* (HCHA).

Several places nearby to the project site are listed in the THR (and identified through the LIST). It is considered that none of these will be impacted by the proposed development. However, it is worth noting those within 100m of the project site:

- Sunnyside, 7 Swanston Street (ID 2757)
- Stoke House, 12 Stoke Street (ID 2743)
- The Gables, 2-2B Stoke Street (ID 2752)
- House, 413 Argyle Street (ID 2644)
- House, 80 New Town Road (ID 2692)



Figure 2 - Sunnyside, New Town ca1880. Viewed from near Cleary's Gates looking west.  
(Tasmanian Archives, LPIC102-1-36)



## 2.3 Hobart Interim Planning Scheme 2015

Under the Hobart Interim Planning Scheme 2015, the project site and all properties surrounding it are zoned 'Inner Residential'. Properties along New Town Road further to the north from the Pedder Street junction are zoned 'Urban Mixed Use'. There is a park zoned 'Recreation' at the intersection of New Town Road and Argyle Street.

The entire project site is within the Paviour Street Heritage Precinct (NT10), listed in Table E13.2 of the Historic Heritage Code of the Hobart Interim Planning Scheme 2015 (see Figure 3). This precinct extends from the northern side of Sunnyside Road and includes properties on the eastern side of New Town Road as far north as the boundary with 91 New Town Road. It includes all properties with a Paviour Street address up to the boundary with 25 Paviour Street.



Figure 3 - Paviour Street Heritage Precinct Map (from [iplan.tas.gov.au](http://iplan.tas.gov.au))

In Table 13.2, the Paviour Street Heritage Precinct is described as having historic cultural heritage significance because:

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

Several places within 100m of the project site are listed in Table E13.1 of the Historic Heritage Code in the Hobart Interim Planning Scheme 2015 and are shown below. Note these places are all outside the Paviour Street Heritage Precinct and there are no listed properties on Sunnyside Road or Paviour Street.

- Houses at 5, 7, 8 and 12 Swanton Road (Refs 3056, 3057, 3058 and 3059)
- Houses at 413, 415, 4117 and 419 Argyle Street (Refs 120, 121, 122 and 123)
- Houses at 84, 86 and 88 New Town Road (Refs 2280, 2281 and 2282)
- Public reserve at junction of New Town Road and Argyle Street (Ref 2274)
- House at 37 Seymour Street (Ref 2904)
- Houses at 2-2B and 12 Stoke Street (Refs 3018 and 3023)

## 2.4 City of Hobart Local Heritage Precincts (2019)

This document provides a description of each precinct's heritage character based on the building stock, architectural styles, views and vistas and scale. The contributory and non-contributory elements within each precinct are identified. A statement of local historic heritage significance and a series of design criteria and conservation policies are defined for each precinct (see below).

This document is designed to provide guidance and advice on the Development Standards for Heritage Precincts in the Historic Heritage Code in the Hobart Interim Planning Scheme 2015. However, at this time there is no statutory requirement to comply with the design criteria and conservation policies listed here. But they are included here to show how the proposed development addresses the heritage characteristics of the Paviour Street area.

### 2.4.1 Paviour Street Heritage Precinct - precinct character and features

#### **Streetscape and townscape**

##### *Design and topography*

*Paviour Street reflects the topography of the area, with houses set above the street oriented towards the expansive views. The area is characterised by substantial late nineteenth and early 20th century dwellings. The few houses on the southern side of Paviour Street are generally set well below street level and do not feature prominently in the streetscape. The western side of the precinct includes houses on the southern side of the New Town Road, these residences are smaller in scale and have more modest setbacks from the road. Laneways provide pedestrian links between New Town Road and Swanston Street.*

##### *Vegetation*

*Houses in Paviour Street are set back off the road with front gardens featuring established trees, mass planting and hedges. The western side of Paviour Street features a grassed nature strip with mature eucalypts trees, wattles, and maple trees. The houses along New Town Road have small cottage gardens providing a buffer from the road.*

##### *Views and vistas*

*The precinct features westerly views over New Town, Mount Stuart, and Lenah Valley. There are also prominent views of kunanyi/Mount Wellington.*

#### **Built form**

##### *Materials*

*Houses are primarily of brick construction, and a small number clad in weatherboard, smooth stucco and roughcast. A number of houses have rusticated sandstone foundations. The majority of roofs are corrugated iron, however Marseille tiles also feature in the precinct.*

##### *Architectural styles and scales*

*Architectural styles present within the precinct include; Victorian Georgian, Federation Queen Anne, Federation Arts and Crafts, Federation Bungalow and Inter-War Californian Bungalow. Buildings are single storey, however some feature attic rooms with traditional dormers.*

##### *Orientation*

*Buildings are primarily orientated towards the street. A number of residences are set back from the street with front gardens partially obscuring views of buildings. Earlier major houses are sited for views and the houses on the northern side of Paviour Street are elevated above the street. The residences on New Town Road are set closer to the street.*



### *Building stock*

Number 1 Paviour Street is a large Federation Queen Anne brick residence that is positioned on the corner of Sunnyside Road and Paviour Street. It has a large garden and the house features projecting gables, a large veranda, prominent brick chimneys, circular 'port hole' windows, and dormer windows. Number 21 Paviour Street is a Federation Queen Anne red face brick residence with a sandstone base a projecting front gable, a tower with decorative timber detailing and a 'candle snuffer' roof. Number 23 Paviour Street is a Federation Arts and Crafts residence featuring roughcast chimneys, a tiled roof, eave brackets and veranda with sandstone and brick columns. The two houses of 81 and 83 New Town Road are matching and feature red face brick exterior and chimneys, a front dormer window, projecting gables, and 3 panel bay windows.

### *Fencing*

Fences vary in height from low to mid-level and have a degree of transparency. Hedges and mass planting also feature as do sandstone retaining walls. Higher, solid fences interrupt views of the front gardens and the houses. The desired fencing type is low-level Federation timber picket, or Federation brick fencing. There are also a number of Inter-War brick and iron fences within the precinct.

## **2.4.2 Paviour Street Heritage Precinct - statement of local historic heritage significance**

*Significance because of the collective heritage value of individual places as a group for their streetscape or townscape values and the precinct's role in, representation of, or potential for contributing to the understanding of:*

### ***For contributing to the understanding of local history:***

- The area contributes to an understanding of the pattern of development and early subdivisions of the suburb of New Town with pedestrian laneways linking residential streets.*
- The precinct is a collection of largely intact Federation Bungalow and Federation Queen Anne residences which contribute to the understanding of the pattern of development within New Town.*

### ***For the representation of aesthetic characteristics:***

- The precinct demonstrates a strong relationship of houses designed and sited to capture views, with residences visually prominent in the street, precinct and outside the precinct.*
- A general uniformity of form, scale and orientation, together with a distinctive late nineteenth century/early twentieth century subdivision pattern, has created a consistent and strong streetscape.*
- The established front gardens and street plantings are aesthetic features that reinforce and contribute to the residential character of the precinct.*
- Low and transparent front fences allow an appreciation of houses in their garden setting.*

### ***For the representation of a class of building or place:***

- The precinct has a fine collection of late nineteenth, early twentieth century, and Inter-War houses with established gardens that form a coherent and largely intact streetscape and demonstrate the key design features, styles and forms of the time.*

### 2.4.3 Paviour Street Heritage Precinct - design criteria / conservation policy

**NOTE: these are non-statutory requirements.**

1. *Elements which contribute to the precinct must be retained.*
2. *Non-contributory elements may be removed to enhance the character of the precinct.*
3. *Alterations and additions are not to dominate or detract from the original building.*
4. *New buildings, extensions or structures must be compatible with and sympathetic to the height, bulk, setback, materials and finishes, and general character of contributory and heritage listed places.*
5. *New buildings and extensions to contributory and heritage listed buildings must be compatible and visually subservient when viewed from any road or public open space.*
6. *Alterations and additions are to respect the uniformity of properties which form part of a consistent row, semi-pair or group of buildings.*
7. *Established and/or significant planted garden settings, hedges, and visually prominent trees must be retained.*
8. *Unpainted and unrendered masonry and brick exterior surfaces must remain as such.*
9. *Garages, carports, and ancillary structures are to be setback from the principal facade to enable the original building form to remain unobscured and prominent within the streetscape.*
10. *Driveways and hard stand areas are to be located at the side of the house.*
11. *Fences and gates should be appropriate in form, scale, height and materials appropriate to the architecture of the main building. Styles include Federation/Victorian timber picket, Inter-War masonry, brick and ironwork fences and gates. Detailed design guidance may be found in City of Hobart publication, New fences for old houses.*
12. *Maintain a curtilage of usable open space to provide an appropriate setting to the scale of the house.*
13. *New development must not interrupt building patterns where a subdivision pattern has resulted in a distinctive built form.*
14. *Lot boundary changes should not occur in areas where the original subdivision pattern is significant and remains intact.*



Figure 4 - View of the project site from Paviour Street/Sunnyside Road junction



## 3 Historic Context

### 3.1 Early settlement

It appears that the project site was adjacent to a large grant of 109 acres made to Captain John Bell, probably around 1830. The grant extended from where Sunnyside Road is now in the south to the shore of Stainsforth Cove (New Town Bay) in the north, bounded on the east by the Government Domain and to the west by a large land grant made to Captain Charles Swanston.

John Bell (1790-1841) was a ships master and merchant, born in Scotland. In command of the *Minerva*, he transported convicts to New South Wales in 1818. After further sailings, he was granted 1200 acres in NSW. In 1826, he bought the brig *Caledonia* in England and brought out his wife and family. However, after a storm damaged his ship, Bell arrived in Hobart Town in February 1827 for repairs. He decided to stay in Van Diemen's Land and did a deal with Captain JG Briggs where he took ownership of Brigg's wharf store, shipping agency and a fine house at New Town in exchange for the *Caledonia*. Bell became a significant merchant entering trading partnerships and arranged the export of wool and wheat. By 1830 he was a director of the Bank of Van Diemen's Land and was part of a committee established to raise funds for the construction of St John's Church at New Town, which held its first services in 1835. In 1832, he married his second wife, Louisa, daughter of George Meredith, of Swanport. In 1840, Bell retired due to ill health; he had by then accumulated more land including estates in the Midlands of some 12,000 acres. He died on 12 December 1841 at his New Town home, 'Belle Vue'.<sup>1</sup>

The project site appears on a map of the Belle Vue estate (dated 1832) as part of a triangular block, annotated as follows: '*Captain Bell: additional grant 2 acres, 3 roods, 20 perches*' (see Figure 5). Several lots have been drawn across the estate, presumably for future sale. Marshalls Lane (later to become Sunnyside Road) has been added later in pencil on the southern side of the triangle.

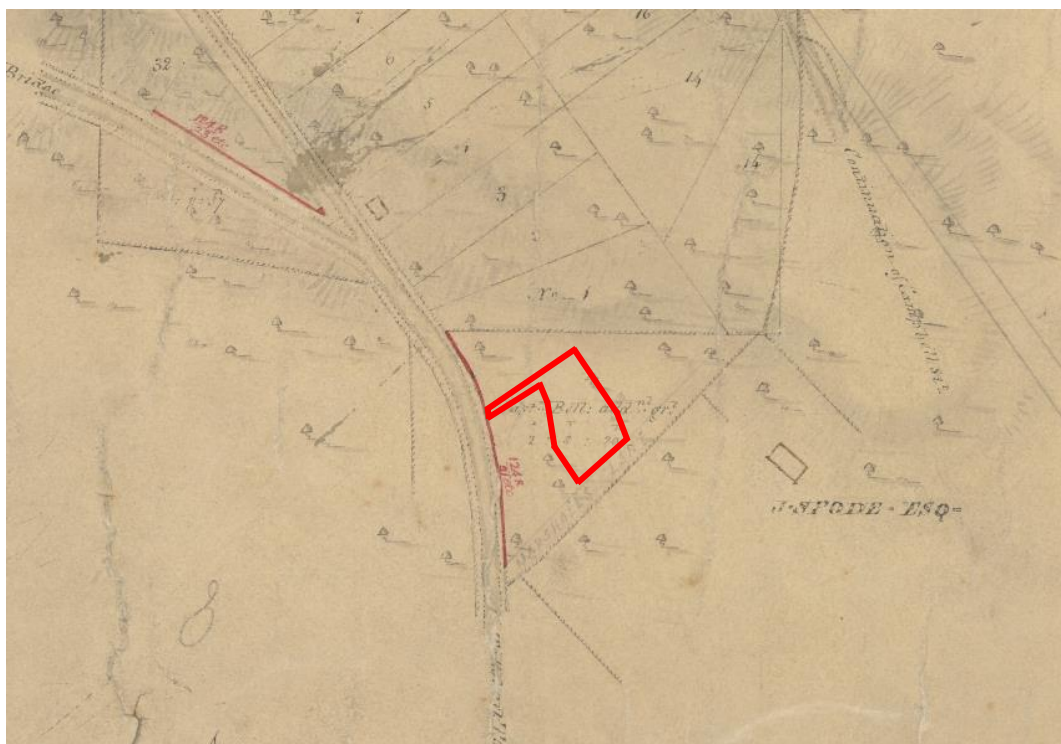


Figure 5 - Map of Belle Vue Estate (detail), dated 1832. The project site is outlined in red.  
(Tasmanian Archives, Map - N-23, New Town, AF721-3-2)

<sup>1</sup> F. C. Green, 'Chapman, Thomas Daniel (1815-1884)', Australian Dictionary of Biography, (Australian National University, 1969), accessed online 9 September 2021.

The only two buildings shown on Figure 3 are the residence of Josiah Spode, 'Stoke Cottage', east of the project site and a small building to the north next to the Pirie Street-New Town road junction. There is no development shown on the project site.

Josiah Spode (1790-1858) was the grandson of Josiah Spode, founder of the Staffordshire pottery bearing his name. He arrived in 1821 after leaving the family business. He was originally given a land grant near Hamilton then an additional grant near New Norfolk. He was part of the colonial administration as assistant police magistrate and coroner, later becoming principal superintendent of convicts from 1831 to 1844. He was also a member of the Legislative Council for a time. He built a house known as Stoke Cottage in the 1830s, before returning to England in 1854 where he died in 1858. He was regarded as a highly efficient civil servant by Lt Governor George Arthur.<sup>2</sup> The Stoke Cottage property would eventually be purchased and a grand new home, 'Stoke House' was built in 1887 by the Lt Governor Sir John Dodd. There would be later subdivision of the Stoke House property in the 1920s, including land on the southern side of Sunnyside Road.

Another grand home built near the project site was 'Sunnyside' in ca.1842, on land originally owned by Samuel Carr. This home was designed by the Government Architect William Porden Kay for the shipping merchant and whaling businessman Thomas Chapman (1815-1884). He came to Van Diemen's Land in 1841 bringing emigrants for the Van Diemen's Land Co. In 1847 he established his own business based on wool, whale oil and timber exports. He was a leading member of the Anti-Transportation League, and in 1851 was elected to the Legislative Council. He was later elected to the first House of Assembly and was treasurer then premier in 1861-63. He was in and out of Parliament until he died in 1884, widely regarded as one of the most able of Tasmania's politicians.<sup>3</sup>

At some point, the project site was developed as a sandstone quarry. No definitive date has been established for when this occurred or why but, given its proximity to Main Road (later New Town Road), it is likely the quarry provided stone for roadworks along Main Road during the 1840s and 1850s. A nearby section of Main Road was built with retaining walls and became known as the 'causeway' - this would have required a source of stone, possibly met by the project site and the quarry at Cleary's gates.



Figure 6 - Thomas Chapman (TA, NS407-1-19)

Advertisements run in *The Mercury* in 1864 by auctioneers Brent and Westbrook saw most of Chapman's New Town land put up for sale to help the Chapman business out of debt. Under the banner, '*TO CAPITALISTS, MARKET GARDENERS, BUTCHERS AND OTHERS*', 24 lots were offered including, '*A valuable block of ground known as the Quarry Paddock containing 3 acres and 20 perches, and bounded by the road leading to Sunnyside, the main road and the Sunnyside property.*' This included the project site. It is not known if the land was sold at this time<sup>4</sup>.

<sup>2</sup> F. C. Green, 'Spode, Josiah (1790-1858)', Australian Dictionary of Biography (Australian National University, 1969), accessed online 9 September 2021.

<sup>3</sup> F. C. Green, 'Chapman, Thomas Daniel (1815-1884)', Australian Dictionary of Biography (Australian National University, 1969), accessed online 9 September 2021.

<sup>4</sup> The Mercury, 17 September 1864, p4



The road leading to Sunnyside would become known as Marshalls Lane sometime in the 1880s, as is shown in Figure 7 (it is not known who Marshall was). As can be seen, Paviour Street has not yet been created. The project site remained undeveloped through the early years of the 20th century, and the photograph at Figure 8 shows a fenced paddock running on the northern side of Marshalls Lane. The latter is on the edge of the Stoke House property, which was constructed as a magnificent mansion in the Gothic Revival style in 1887 for the Lt Governor of Tasmania, Sir John Dodd. It is located beyond the tree line running up alongside Marshalls Lane.

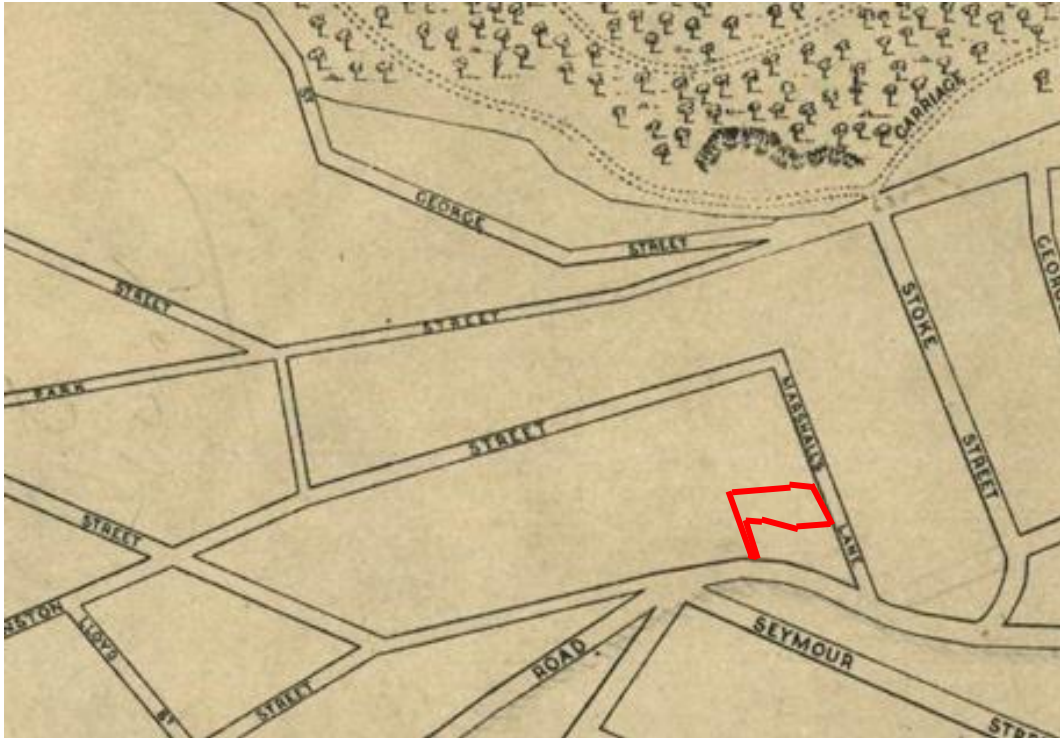


Figure 7 - Plan of Hobart and surrounding suburbs (detail), ca1890. The project site is outlined in red.  
(Tasmanian Archives Map 106, AF394-1-108)



Figure 8 - New Town from 'Carolside,' ca1900. The paddock where the project site is circled.  
(Tasmanian Archives, PH30-1-5648-1)

### 3.2 Subdivisions

Around 1907-1908 the New Town Council approved the construction of Paviour Street on private land owned by Henry Cane. He named the street after his mother Jane Paviour. Cane ran a number of successful businesses in Hobart including metal working, insurance and financial services as well as residential development. He was also responsible for subdividing land along Mortimer Avenue and Bellevue Parade.<sup>5</sup>

In February 1911, the land was advertised for sale as 12 allotments '... *having frontages to the Main-Road, Paviour and Swanston Streets, New Town adjoining Sir John Dodd's fine residence ...*' were put up for sale. The notice gave a lot of encouragement, 'EVERY THRIFTY YOUNG MAN CAN AFFORD TO PURCHASE A BLOCK, AND PROVIDE A SOUND INVESTMENT FOR A FUTURE HOME (see Figure 9).

It was expected the land would sell quickly given the views across to kunanyi/Mount Wellington, and its proximity to the tram route along Main Road.

**GRAND SUBDIVISION SALE.**  
ON THE GROUND, ON  
**SATURDAY AFTERNOON.**  
**FEB. 25, 1911.**  
**AT 3.15 O'CLOCK.**  
**12 MAGNIFICENT ALLOTMENTS. 12**

HAVING FRONTAGES TO  
THE MAIN-ROAD, PAVIOUR, AND SWANSTON STREETS, NEW TOWN  
ADJOINING SIR JOHN DODD'S FINE RESIDENCE.  
ALL WELL DRAINED, SPLENDID VIEWS, CONVENIENTLY SITUATED TO 24. TRAM TERMINUS. ALL ROADS COMPLETED. WATER AND GAS CLOSE AT HAND.

TERMS: 5 PER CENT. CASH; BALANCE IN EQUAL MONTHLY INSTALLMENTS, SPREAD OVER FIVE YEARS, WITH OPTION OF PAYING CASH AT ANY TIME.

TITLES: R.P.A.

**DARLING & REYNOLDS.**  
ASSOCIATED WITH  
**MURDOCH BROS..**  
AUCTIONEERS.

P.S.—EVERY THRIFTY YOUNG MAN CAN AFFORD TO PURCHASE A BLOCK, AND PROVIDE A SOUND INVESTMENT FOR A FUTURE HOME.

Figure 9 - Advertisement in *The Mercury*, 16 February 1911, p8

Blocks along Paviour Street did sell, as can be seen in Figure 10. This photograph taken from Mount Stuart in 1917 clearly shows the Federation Queen Anne styled building at No.1 Paviour Street, which is still there today directly above the project site on the corner with Sunnyside Road. There are a couple of other dwellings, but the 'quarry paddock' is still undeveloped. The cutting of the quarry face can be seen below Paviour Street (circled).

Advertisements to sell the 'quarry paddock' had been made in 1912 and again in 1917. Although it was well-located, the fact that it had been a quarry was obviously not a great selling point, even at a cheap price.

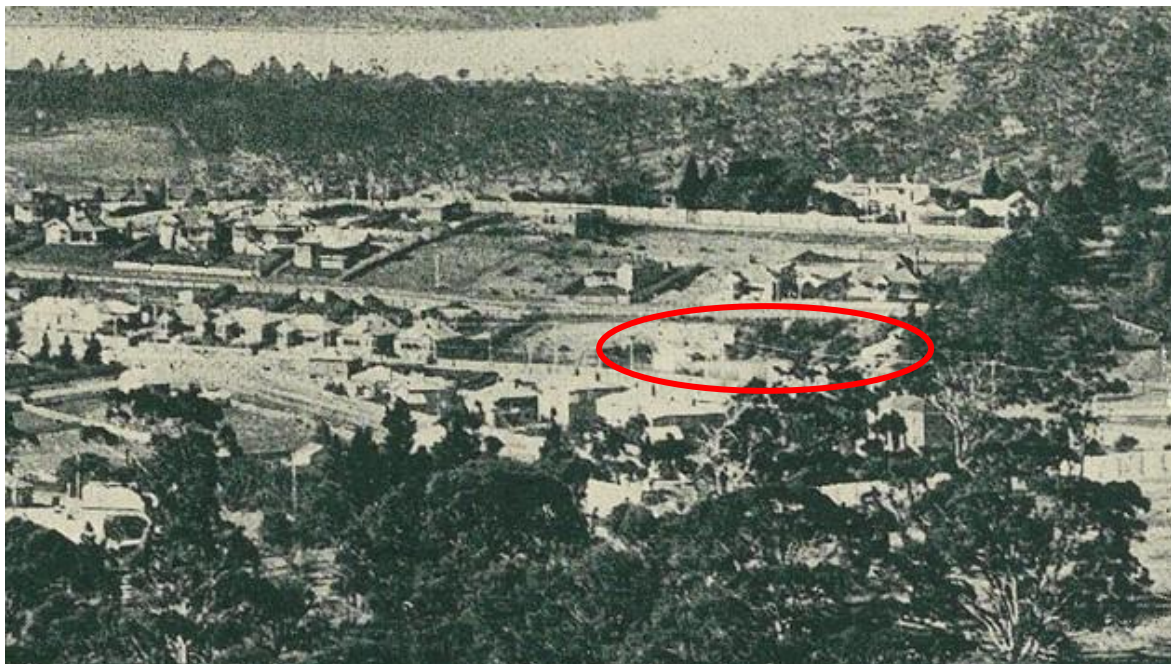


Figure 10 - New Town from St Johns Hill (detail), (*Tasmanian Mail*, 13 December 1917, p.27)

<sup>5</sup> Howatson, D., (2011) *The Story of New Town Street by Street*, p.71



Sometime during the 1910s, Marshalls Lane was renamed Sunnyside Road. During the 1920s, further subdivisions occurred along Sunnyside Road, Argyle Street and Stoke Street, known as the Stoke Subdivision. A major selling point was promoted as being part of the former Stoke Estate and near to Stoke House. By 1938, there was one block left for sale along Sunnyside Road at the sum of £250.

Land along Paviour Street, Swanston Street and Main Road was also sold as part of New Town's growing importance as a Hobart suburb. It was not only popular to people who worked in the city but also to those who were working at the new industrial sites near Hobart - the Zinc Works at Risdon and the Rosella fruit processing factory near Cornelian Bay.

At some point the quarry paddock was sold to a Mr WG Alberry, a builder and something of a property developer around Hobart and southern Tasmania. Land fronting onto Main Road was sold as lots for housing, but the quarry paddock itself remained undeveloped.

### 3.3 The tennis courts

In the 1920s, advertisements start appearing from a Mr Roy Crawford offering to give tennis lessons. He was an active member of the growing tennis scene in Hobart. It appears his business partner, a Mr Cyril Barnett, had purchased the quarry paddock and developed tennis courts on the site from at least 1929, when he and Crawford advertised them for hire.<sup>6</sup>

There are references in the local newspapers to tournaments held at the Sunnyside tennis courts (as they were known), including one held by the Romani Club in 1933. The courts were even used by basketball teams for evening training sessions, making use of the lighting system.

Then, in August 1939, the New Town Catholic Tennis Club wrote to the Catholic Archbishop of Tasmania seeking his support to purchase the property next to Sunnyside Road, noting the Club had been offered '*... two tennis courts, a club house, a lighting system for night tennis together with an adjoining block of land for £550.*'<sup>7</sup> The Club sought the support of the church for a loan to enable purchase of the property, and that although the property would be in the church's name, the loan debt would be paid off by the Tennis Club. In their submission, the Club noted they had 90 members with an annual membership fee of £1 per person, plus the opportunity to lease/hire the courts out to other organisations as well as holding their own club events on weekends and public holidays.

By October 1939, the property had been sold to the Catholic Church and the Tennis Club entered into an agreement where they would pay at least £100 a year until the loan debt had been repaid in full. The Archbishop was invited to carry out the official opening on 17 December 1939. He was also invited to become patron of the Tennis Club.

It appears the Tennis Club was quite active in holding fundraising events to assist church activities as well as social occasions, such as a Grand Ball held at St Peter's Hall, Harrington Street in 1939 and 1940.

In 1943, a ball was held at the Belvedere in Hobart raising £70 to help pay off the loan debt. That event was attended by the Premier, Mr Cosgrove MHR and his wife, Dr Gaha MHR, Mr T Corby, President of the Tasmanian Catholic Tennis Association and Mr E Freeman, President of the New Town Tennis Catholic Club. Committee members listed at the time were Mesdames E Hughes, S Freeman, J Dalton, H Wilson, D Brickhill, Misses T. Jones, L Denholm, L James, R Denholm, P Ogilvie, L Mason, M Denholm, M O' Byrne and Messrs B Denholm, E Freeman, J Brickhill, B Freeman, R Johnstone, I Lowe, J McKercher, A O'Byrne and D Orpwood.

Through the 1940s and 1950s, there are regular reports in newspapers on tennis tournaments at Sunnyside Road, as well as fundraising events, raffles and meetings. Unfortunately, no photographs of the tennis courts during this period have been found.

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<sup>6</sup> Advertisement, *The Mercury*, 19 October 1929, p1

<sup>7</sup> New Town Catholic Tennis Club file, letter dated 27 August 1939

In 1966, the Tennis Club (through the Catholic Church Trustees) sold a parcel of land on the northern side of the tennis courts to a Mr WH Cox and at the same time, the Church purchased a small triangular parcel of land on the western side from a neighbour, Mr Scurrah; the latter enabling the Club to provide more space for one of the courts.

In 2004, it appears that the Church contemplated selling the tennis courts. However, this does not seem to have eventuated into a sale. At the time, the club looked for other support to purchase the property. The Club also investigated whether they could argue that they owned the courts, not the Church, given that they had paid all costs and outgoings since 1939. However, the legal advice given to them at the time stated that, although they might have a moral claim, the agreement with the Church was clear as to where the ownership resided.

In recent years, the Club's membership has stood at approximately 30-40 members, with club matches most weekends. As the courts are clay-based, they are highly weather dependent. The Club is also an active member of the AYC competition. The project site has continued to be used by the Tennis Club right up to the present day.



Figure 11 - Looking down Sunnyside Road towards the tennis courts during the major snow event of July 1986  
(courtesy Perry Foster)

Figure 11 shows the fence above the tennis courts along the Paviour Street and Sunnyside Road boundaries. There is no evidence of significant vegetation on the property boundary. This can be compared with Figure 4.



## 4 Current Site Condition

### 4.1 Setting

The project site is located within the Hobart suburb of New Town. It has the address, 73a New Town Road but is effectively an internal block from that frontage with most visibility of the site from the Sunnyside Road and Paviour Street frontages. As the property is within a former quarry cutting, the flat ground level used for the tennis courts is set well down in the landscape and can only be seen when looking directly from the property boundaries on Sunnyside Road and Paviour Street (albeit that the view from the latter is significantly hampered by vegetation on the fence line and growing above the rock face). The outlook from Sunnyside Road and Paviour Street is towards the west across New Town towards Lenah Valley, Mount Stuart and in the distance to kunanyi/Mount Wellington (see Figures 5 and 12).

The project site is surrounded by private residential and rental residential properties on all sides, including Paviour Street and Swanston Street to the northeast; Sunnyside Road, Stoke Street and Argyle Street to the southeast; New Town Road and Seymour Street to the southwest; and New Town Road and Pirie Street to the northwest. The housing stock surrounding the project site is predominantly single storey dwellings (some with dormer rooms in roof spaces or with garages under depending on the ground slope). Most houses are low scale, of brick construction with pitched corrugated steel roofs, and collectively represent many building styles and periods, with a particular emphasis on structures dating from the 1910s to the 1940s (see Figures 12 to 15). There are a smaller number of buildings dating from the 1980s onwards. Virtually all the housing is situated on suburban sized blocks, with houses having a consistent linear frontage to the streets with front gardens and larger backyards.

The overall impression of the area surrounding the project site is very typical of early 20th century suburban development in Tasmania, with a uniformity in housing styles and property layout.



Figure 12 - Looking south from Paviour Street above the site towards Mount Stuart.  
The tennis courts are below the vegetation in the foreground.





**Figure 13 - Views of nearby housing along Paviour Street**



**Figure 14 - Views of nearby housing styles along Sunnyside Road**



**Figure 15 - Views of nearby housing styles along New Town Road**



## 4.2 Site description

The property is within a former quarry cutting, with steep vegetated rock faces on the Paviour Street and Sunnyside Road boundaries. The site currently has two clay tennis courts with light poles, a small weatherboard clubrooms building and a weatherboard toilet block. Each court is surrounded by steel chain mesh fencing supported on steel posts. There is a low timber fence on part of the Sunnyside Road boundary and along the Paviour Street boundary. Vehicle access is via a narrow right of way off New Town Road (little used) and concrete stairs for pedestrians off Sunnyside Road. There are no overhead powerlines or other utilities present.



Figure 16 - View across tennis courts looking south



Figure 17 - Clockwise from top left: clubrooms building, toilet block, access way, interior of clubrooms







## 5 Proposed Development

The proposed construction of the housing development on the project site will include the following elements:

- A three-storey accommodation block incorporating 22 one- and two-bedroom units;
- Vehicle access via a ramp off Sunnyside Road, with on-site carparking for 12 cars plus motorcycle parking;
- Pedestrian access via staircases off Paviour Street and Sunnyside Road, plus access from New Town Road via the existing right of way; and
- Landscaping and boundary fencing.

The proposed design is based on the concept of reducing the bulk of the structure by breaking the roofline at intervals and using gable roof ends and pitched roof outlines to complement the existing housing character of the area. From the Paviour Street and Sunnyside Road frontages, only the top level and rooflines will be visible from the roadway and nearby housing (see Figures 19 and 20). Given the setback of the development from New Town Road, the accommodation block will be largely hidden behind the existing housing as seen from road level.

The proposed development will not dominate the existing housing stock and given it is set down in the former quarry, the new buildings will be sympathetic in height and bulk to the general character of the precinct. Importantly the new buildings will be visually subservient when viewed from Paviour Street and Sunnyside Road. For those residents on the eastern side of Paviour Street, they will retain their views across New Town to kunanyi/Mount Wellington (see Figure 20).



Figure 19 - View of proposed development from Paviour Street  
(Image provided by Philp Lighton)



**Figure 20 - View of proposed development from Sunnyside Street**  
(Image provided by Philp Lighton)

Several materials are proposed for wall and roof finishes, including: colorbond ribbed profile roofing and wall cladding, fibre cement cladding, perforated metal screens, precast concrete panels and powder-coated steel window and door frames. On the Paviour Street and Sunnyside Road boundaries, a 1800mm high timber fence will be erected. The carpark and pedestrian walkways will be concrete. The proposed structure does not seek to imitate existing housing styles (nor should it), but it does complement them in a modern interpretation. The use of several finishes will serve to visually break the overall size of the finished structure.



**Figure 21 - View of proposed development from the internal carpark area**  
(Image provided by Philp Lighton)



## 6 Impact Assessment

This assessment has been based on best practice guidelines such as the Burra Charter (the Australia ICOMOS Charter for the Conservation of Places of Cultural Significance) and Works Guidelines for Historic Heritage Places (Heritage Tasmania), as well as professional consideration of the heritage significance of New Town and its cultural heritage elements - built, landscape and visual.

As the project site lies within the Paviour Street Heritage Precinct (NT10) listed in Table E13.2 of the Historic Heritage Code in the Hobart Interim Planning Scheme 2015, the following assessment must respond to the Scheme's Development Standards for Heritage Precincts.

Although they are not yet statutory requirements, this assessment takes account of the statement of local historic heritage significance and the design criteria and conservation policies as defined in the 'City of Hobart Local Heritage Precincts, Description, Statement of Local Historic Heritage Significance and Design Criteria/Conservation Policy' (2019).

### 6.1 Paviour Street Heritage Precinct

In Table 13.2 of the Historic Heritage Code, the Paviour Street Heritage Precinct is described as significant for reasons including:

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

The layout of the houses within the Paviour Street Heritage Precinct reflects the local topography, with views from the majority of houses oriented towards the west across New Town to Lenah Valley and beyond to kunanyi/Mount Wellington. The slope of the ground sees houses on the eastern side of Paviour Street elevated above the roadway, enjoying the vista to the west. As you look up Sunnyside Road, the topography sees houses set above one another, which ensures that most structures have good views, again to the west and northwest.

Housing is mostly early to mid-20th century dwellings, with a limited number of structures built in the last 50 years. The scale of dwellings is residential in scale with most being setback from the roads, with established front gardens, mature trees and hedges. Most houses are of brick construction, with some built in weatherboard. The majority of roofs are corrugated iron. Architectural styles include Federation Queen Anne, Federation Arts and Crafts, Federation Bungalow and Inter-War Californian Bungalow. Buildings are single storey, but often with a garage/basement built underneath due to the ground slope. Some buildings have attic rooms with traditional dormer windows. The residences on New Town Road are set closer to the street and tend to be smaller, with no basement or garage spaces.

## 6.2 Assessment against the Historic Heritage Code

<b>E13.8 Development Standards for Heritage Precincts</b> <b>E13.8.1 Demolition</b> Objective: To ensure that demolition in whole or in part of buildings or works within a heritage precinct does not result in the loss of historic cultural heritage values unless there are exceptional circumstances.	
Performance Criteria	Response
<p>P1 Demolition must not result in the loss of any of the following:</p> <p>(a) buildings or works that contribute to the historic cultural heritage significance of the precinct;</p> <p>(b) fabric or landscape elements, including plants, trees, fences, paths, outbuildings and other items, that contribute to the historic cultural heritage significance of the precinct;</p> <p>unless all of the following apply;</p> <p>(i) there are, environmental, social, economic or safety reasons of greater value to the community than the historic cultural heritage values of the place;</p> <p>(ii) there are no prudent or feasible alternatives;</p> <p>(iii) opportunity is created for a replacement building that will be more complementary to the heritage values of the precinct.</p>	<p>The demolition of the New Town Catholic Tennis Clubrooms, toilet block, tennis courts and associated infrastructure will not result in the loss of heritage fabric, nor will this have any adverse impact on the heritage character of the Paviour Street heritage Precinct.</p> <p>However, it is important that all memorabilia and artefacts from the Tennis Club are properly removed and stored in an appropriate location. If the Club cannot store this material, it should be donated to Tasmanian Archives or another archival repository.</p>



<b>E13.8 Development Standards for Heritage Precincts</b> <b>E13.8.2 Build and Works Other than Demolition</b> Objective: To ensure that development undertaken within a heritage precinct is sympathetic to the character of the precinct.	
Performance Criteria	Response
P1 Design and siting of buildings and works must not result in detriment to the historic cultural heritage significance of the precinct, as listed in Table E13.2.	<p>The proposed design and siting of the accommodation block will not have an adverse impact on the heritage significance of the Paviour Street Heritage Precinct.</p> <p>Utilising the exiting ground level (dug out as part of the former quarry) provides the opportunity to set the building well down in the landscape so that its visual impact will be minimised when viewed from most directions.</p> <p>The proposed design provides a considered and respectful solution to the task of creating a multi-unit accommodation building within a heritage area. While the overall bulk is necessarily larger than ordinary residential housing, it has been reduced visually by breaking the main roofline at intervals and using gable ends and pitched roof outlines to complement the existing heritage character of the area.</p> <p>The use of a variety of materials, colours and finishes also ensure the bulk of the overall design is broken up and will complement the existing housing styles of the Precinct.</p>
P2 Design and siting of buildings and works must comply with any relevant design criteria/ conservation policy listed in Table E13.2, except if a heritage place of an architectural style different from that characterising the precinct.	There is nothing listed in Table E13.2. However, the design does take account of the (non-statutory) design criteria listed for Paviour Street in the <i>City of Hobart Local Heritage Precincts</i> (2019).
P3 Extensions to existing buildings must not detract from the historic cultural heritage significance of the precinct.	Not applicable - there will be no extensions as this is a completely new building.
P4 New front fences and gates must be sympathetic in design, (including height, form, scale and materials), and setback to the style, period and characteristics of the precinct.	New boundary fences will complement the character of the Precinct in terms of height and materials, including visual designs on the fences that reference the mix of existing housing styles.
P5 The removal of areas of landscaping between a dwelling and the street must not result in the loss of elements of landscaping that contribute to the historic cultural significance or the streetscape values and character of the precinct.	The existing vegetation on the rock face and fence lines will be removed. However, appropriate new plantings will be made to contribute to the streetscape values. It may be possible to retain the tree on the corner of Paviour Street if that was deemed important (although it is probably less than 30 years old).

## 7 Conclusions

This Heritage Impact Assessment has examined the project site and proposed development of a new accommodation block to be constructed at 73a New Town Road in New Town, to assess any impacts on the heritage values and cultural heritage significance of the site and its surrounds.

The project site does not contain any listed heritage places, at the national, state or local level. However, the project site does lie within the Paviour Street Heritage Precinct (NT10) of the Hobart Interim Planning Scheme 2015, which requires that it be assessed under the requirements for that Precinct.

This report has identified the historical context of the land on which the New Town Catholic Tennis Club courts and clubrooms are located in New Town, as well as identifying important associations with New Town's early history and the significance of the tennis club's involvement with the site. While there are some interesting connections with New Town's history, there is nothing significant about the project site that precludes the proposed development. However, the Tennis Club has used the project site since 1939 and that association is considered important from a local perspective. While it does not have a bearing on the proposed development, it is an aspect of the area's social history that needs to be recorded.

It is recommended that the memorabilia of the New Town Catholic Tennis Club be properly recorded and stored to form an archive of the club's activities. If the club is discontinued and there is no appropriate location for long term storage, it is strongly recommended that the club's documents and artefacts be donated to the Tasmanian Archives or another archival repository.

The proposed design has addressed the requirements of the Paviour Street Heritage Precinct under the Hobart Interim Planning Scheme by proposing a three-storey building that utilises a variety of design elements and roof and wall treatments to reduce its bulk and to complement the existing heritage character of the Precinct. While the structure is necessarily large to accommodate the 22 units, it is considered that the proposed design offers a low impact solution by making the best use of the former quarry cutting that reduces any adverse visual impacts on the setting and cultural heritage values within the Precinct.

Therefore, it is the recommendation of this report that the proposed development should be approved under the Hobart Interim Planning Scheme 2015. This will allow for a new housing development to proceed which will help address the increasing demand for low-cost housing in the area.



## Appendix E    Traffic impact assessment



**SOCIAL HOUSING UNITS  
73A NEW TOWN ROAD,  
NEW TOWN**

**TRAFFIC  
IMPACT  
ASSESSMENT**

**Hubble Traffic**

MAY 2022



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## 1. Introduction

The developer has engaged Hubble Traffic Consulting to prepare an independent Traffic Impact Assessment, to consider the traffic impacts of the construction of a multi-storey building for social housing units at 73a New Town Road, New Town (development site).

This assessment considers the amount of traffic the current site generates, the likely traffic generation of the proposed development, and how traffic movements will integrate into the surrounding road network.

The development site is currently occupied with two tennis courts and related infrastructure.

This report has been prepared to satisfy the requirements of Austroads, Guide to Traffic Management Part 12: Traffic Impacts of Developments, 2019. This assessment has referred to the following information and resources:

- City of Hobart Interim Planning Scheme (planning scheme)
- Road Traffic Authority NSW (RTA) Guide to Traffic Generating Developments
- Australian Standards 2890 parts 1, 2 and 6
- SIDRA 8 intersection modelling software
- Autoturn online vehicle swept path software
- Austroads series of Traffic Management and Road Design
  - Part 4: Intersection and crossings, General
  - Part 4a: Unsignalised and Signalised Intersections
  - Part 12: Traffic Impacts of Development
- Google Earth imagery
- LIST land information database

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## 2. Site Description

The development site is located at 73a New Town Road behind existing residential properties; the site has direct frontage to both Sunnyside Road and Paviour Street, and a laneway access (around 3.5 metres wide) to New Town Road.

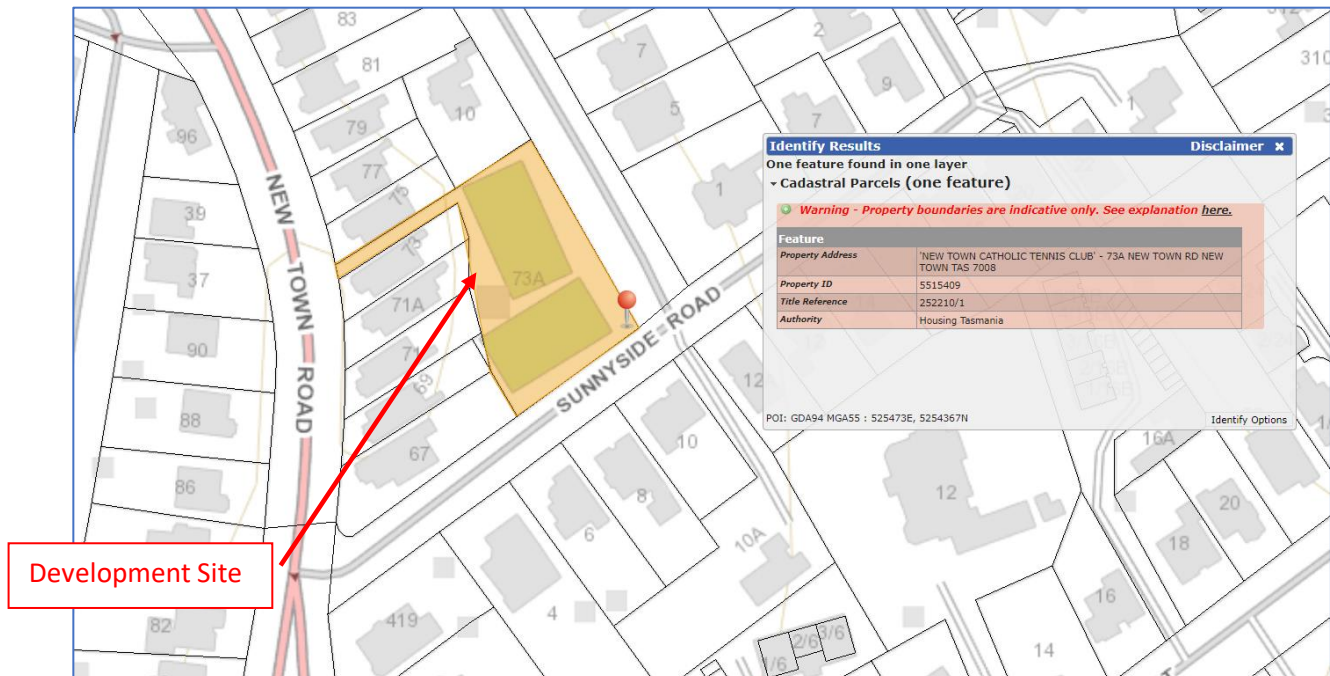
The site has existing tennis courts and associated infrastructure and is situated well below the adjacent roads, approximately 3.5 metres below Sunnyside Road and six metres below Paviour Street.

New Town is an inner-city residential suburb, located about four kilometres north of the central business district of Hobart. The main arterial road through New Town is known as 'New Town Road', and follows on from Elizabeth Street, connecting with the neighbouring city of Glenorchy.

The land-use along New Town Road is zoned Urban Mixed Use, which permits business and professional services, food services, general retail and hire, and residential development, while directly behind this arterial road the land is zoned Inner Residential.

Services within walking distance to the site include, grocery stores (Hill Street Grocer, Woolworths, Coles), cafes, doctors, pharmacies, recreational and cultural facilities. Metro Bus services are available on New Town Road within 250 metres of the site, the intercity cycleway is in close proximity and cycling lanes operate on Argyle Street, providing cycle access into the Hobart CBD. As both public transport and services are easily accessible from the site, tenants can reduce their reliance upon private motor vehicle usage, reducing the demand for on-site car parking.

Diagram 2.0 – Site location (extract from the LIST land information database)





### 3. Development proposal

The developer has advised that the development proposal includes a multi-storey (three floor) building to provide 22 social housing units, comprising 11 units with two bedrooms and 11 units with one bedroom.

The two-bedroom units will span two floors, the middle and top floor, while the one bedroom units will be situated on the ground floor.

Vehicular access to the ground floor parking area will be from Sunnyside Road, with the ground floor containing 12 on-site parking spaces, motorcycle parking, bike storage area, and shared garden space.

Pedestrian access will be available from Paviour Street at two locations, and the complex incorporates a central stairwell connecting all floors.

Pedestrian access to New Town Road will be provided by converting the existing narrow laneway to a pedestrian pathway.

Diagram 3.0 – Layout plan



## 4. Parking requirements for social housing units

### 4.1 Social housing parking requirements

Car parking is designed to meet the needs for particular occupants, with the primary objective for a development to provide sufficient off-street parking to accommodate the reasonable demand generated. For social housing developments, there is usually a reduced car parking demand based on reduced car ownership of tenants, the location of the development to public transport routes and community and recreational facilities.

The Queensland Government has considered this matter and provided guidance on the parking requirements of social housing developments. The document is 'Design Standards for new Construction of social houses and apartments, December 2015'. This parking standard is based on location categories, and the accessibility to public transport and community facilities.

Table 4.1 – Extract from Queensland Government – Design Standards for new construction of social housing units

<b>TABLE 3: Site location categories</b>	
<b>Category</b>	<b>Site location</b>
<b>A</b>	<p>Major centre</p> <p>Brisbane within 800m walking distance of the pedestrian entry to a train station; or within 600m walking distance of an express bus stop; or within 400m walking distance of an appropriate local bus stop*</p> <p>Excludes neighbourhoods zoned low density in the planning scheme (refer category C)</p>
<b>B</b>	<p>Major centre not meeting requirements of category A for proximity to public transport; or</p> <p>Large regional centres such as Gold Coast, Sunshine Coast, Cairns, Caboolture, Gladstone, Ipswich, Logan, Mackay, Pine Rivers, Redcliffe, Redlands, Rockhampton, Toowoomba, Townsville, Yeppoon etc. and</p> <p>Large towns such as Bundaberg, Maryborough, Hervey Bay within 400 metres of a local bus stop*</p> <p>Excludes neighbourhoods zoned low density in the planning scheme (refer category C)</p>
<b>C</b>	<p>Not located in a major centre, large regional centre or large town meeting category 'A' or 'B' criteria e.g. Beaudesert, Charleville, Dalby, Longreach, Mount Isa, Roma, St George etc.</p> <p>Includes sites zoned low density residential in the planning scheme (including Brisbane Suburbs Improvement Strategy sites or similar zoned low density in the planning scheme)</p>

\* Note: an appropriate local bus service constitutes a minimum of 6 days, 7am to 7pm, at least hourly



<b>TABLE 1: Reduced car parking rates Initial Allocation</b>	
<b>Applies To</b>	<b>Rate (number of covered spaces required)</b>
First 3 Units	1 space per unit

<b>TABLE 2: Reduced car parking rates Rates Applicable to Remaining Units After Initial Allocation (to be rounded up if required)</b>			
<b>Number of bedrooms</b>	<b>Site Location Category (refer table 3) Rate (number of covered spaces required)</b>		
	<b>A</b>	<b>B</b>	<b>C</b>
<b>Studio</b>	1 per 4 units	1 per 2 units	NA
<b>1 Bedroom</b>	1 per 2 units	2 per 3 units	1 per each unit
<b>2 Bedrooms</b>	2 per 3 units	1 per each unit	1 per each unit

Notes: Car parking rates may be varied with approval from the State, to meet identified site conditions, project objectives and service delivery requirements.

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

## 4.2 RTA Guide for parking requirements for high density residential units

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

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

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

### 4.3 Existing social housing apartments – Queens Walk

A recent parking demand survey was undertaken on the Queens Walk high density residential units located in Cornelian Bay. This complex contains a total of 85 social housing units, with a combination of two and one-bedroom units.

The survey found the highest parking demand was 61 vehicles, which is 0.72 parking spaces per unit. This parking survey included visitor parking.

Table 4.3 – Parking demand survey at the Queens Walk social housing units

Time	6am	9am	12noon	3pm	6pm
Number of vehicles	61	57	49	45	55
Rate compared to 85 units	0.72	0.67	0.58	0.53	0.65

Based on the existing Queens Walk social housing units, the proposed development could generate a parking demand of 16 spaces, including visitor parking.

### 4.4 Summary of social housing parking requirements

Three examples have been used to demonstrate the parking demand for social housing units are lower, and there is good consistency between the different examples, with one example including visitor parking.

It is evident that units located in close proximity to good public transport routes, and within walking distance to community facilities, do not generate a high parking demand. Given the development units are for social housing tenants, the Queensland standard is considered the most relevant, and suitable for this site. This standard requires 14 parking spaces for the tenants.

Table 4.4 – Summary of social housing parking demand

Parking method	Expected peak number of parking spaces
Queensland social housing standard	14 spaces
RTA Guide for high density units	17 spaces
Existing Queens Walk social housing units	16 spaces (includes visitors)



## 5. Planning scheme parking requirements

The planning scheme table E6.1 specifies the number of on-site parking spaces required for residential developments. For a multiple dwelling development, the planning scheme recommends:

- One bedroom unit – one parking space per bedroom (needs to include all rooms that are capable of being used as a bedroom)
- Two bedroom units – two parking spaces
- One visitor parking space per four units

Based on the planning scheme requirements, the 22 units would need to provide for 38 on-site parking spaces. Due to the constrained site this number of parking spaces is not achievable, and the planning scheme does not take into account the low car ownership for social housing tenants. Also, the planning scheme does not consider that the development site is located in close proximity to a high frequency public transport route, established bicycle facilities, and accessible walking distance to community facilities that includes a range of medical services, supermarkets, retail, and commercial businesses.

As demonstrated in section 4 of this assessment, the expected parking demand generated by these social housing units is estimated to be 14, based on the site location. The development will provide 12 on-site parking spaces for the tenants, and rely on the on-street parking for any overflow parking.

### 5.1 Supply and demand for on-street car parking

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

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

Table 5.1 – On-street parking supply and demand survey

Street	Link	Side of street	Supply	Parking demand		
				9:00am	Noon	5:00pm
Sunnyside Road	New Town to Paviour	North	11	0	0	1
	Paviour to Swanston	North	10	1	0	0
	New Town to Swanston	South	22	7	6	7
Paviour Street	Entire Street	West	25	0	0	2
		East	28	7	7	6
<b>Total</b>			<b>96</b>	<b>15</b>	<b>13</b>	<b>16</b>

On-street parking is a community asset that can be used by visitors to the surrounding properties, as the surrounding residential properties have off-street parking facilities, the demand for on-street parking is low. Along the western side of Paviour Street there is only a few properties with direct access, as most of the properties along this side of the street have vehicular access to New Town Road. Two of the New Town Road properties have been subdivided, with the second property having access to Paviour Street.

The current use (two tennis courts) has no off-street parking facilities, this use has relied on the supply of on-street parking over the years, so on-street parking generated by this development site already exists.

Given the generous supply of on-street parking that is available, and the low on-street parking demand from adjacent properties, any visitor or overflow parking from this development is unlikely to cause any adverse amenity, or traffic flow impact.



## 6. Trip generation by this development

A trip in this report is defined as a one way vehicular movement from one point to another excluding the return journey. Therefore, a return trip to and from a land use is counted as two trips.

To determine the number of trips likely to be generated by this development, reference has been taken from the RTA Guide to Traffic Generating Developments.

### 6.1 High density residential building

The RTA Guide specifies a high density residential flat building, is a building containing 20 or more dwellings (units). This does not include aged or disabled persons' housing.

- High density residential flat buildings are usually more than five levels, have basement level car parking and are located in close proximity to public transport services.

With the development site being located in close proximity to a high frequency bus route, the RTA Guide provides no guidance on the number of daily trips, but indicates 0.29 peak hour trips per unit.

To verify the RTA Guide information on trip generation, a traffic survey was conducted on the existing Queens Walk high density residential social housing units, located adjacent to the Brooker Highway at Cornelian Bay. There are 85 social housing units, and during the morning's busiest hour period the complex generated 20 vehicle movements. These 20 vehicle movements equate to a vehicle trip generation rate of 0.23 trips per unit and provides a good level of confidence with the RTA Guide trip generation rate.

Table 6.1 – Queens Walk unit vehicle movements during the AM peak period

Time	Vehicles leaving the units					Vehicles arriving at the units				Total movements	Total vehicles
	Car	Taxi	Bus	Walk	Tradie	Car	Taxi	Bus	Tradie		
7:00- 8:00am	4	0	3	2	1	4	0	0	0	14	11
8:00 -9:00am	4	2	2	4	1	7	0	0	3	18	19
9:00-10:00am	9	1	8	3	1	3	1	0	2	26	20

As determined in section 4 of this assessment, many of the trips generated by this development are not expected to be by private vehicle, but by an alternative transport mode. The number of daily vehicle trips is expected to be low and based on the RTA Guide trip generation rate of 0.29 trips per unit, the 22 residential social housing units are estimated to generate six vehicle trips in the peak hour periods.

## 6.2 Existing trips generated from the current site

The existing development site contains two tennis courts, with no off-street parking facilities, and the tennis courts are infrequently used and do not create a regular daily traffic movement.

For the purpose of this traffic assessment, the six peak hour trips will be considered as new trips.

## 7. Existing traffic Conditions

New Town Road within the surrounding road network operates as an urban collector, to carry substantial movement of traffic between Hobart and Glenorchy. The road supports one traffic lane in each direction, with parallel parking along both sides. The road operates under the 50 km/h urban default speed limit.

The development site is located on the north west corner of the junction of Sunnyside Road and Pavior Street, with direct frontage to both streets. Vehicular access from the development site will be via Sunnyside Road, and pedestrian access will be available from Pavior Street, so it is important to understand the characteristics of both of these streets.

### 7.1 Sunnyside Road

Sunnyside Road extends off New Town Road in an easterly direction for 200 metres, then turns ninety degrees to the north, changing into Swanston Street.

The road is of an urban construction standard, with bitumen carriageway, concrete kerb and channel, bitumen footpath along the southern side, and street lighting. The street has a maximum uphill vertical grade of seven percent from New Town Road, with a carriageway width of eight metres wide.

Apart from the existing tennis courts located at the development site, there are residential dwellings along both sides of the street. Although this street connects to Swanston Street, it would primarily function as a local residential street, within the surrounding street network.

Photograph 7.1 – Sunnyside Road





## 7.2 Pavior Street

Pavior Street is a no through street, 200 metres long, located north from Sunnyside Road, and of an urban construction standard, similar to Sunnyside Road.

The western side of the street is the rear boundary of the New Town Road properties, these properties have vehicular access from New Town Road and not Pavior Street, except for two properties which have been subdivided. On the eastern side of the street, there are residential properties with direct vehicular access to Paviour Street.

The street is 7.5 metres wide, which is suitable for kerb side parking and efficient traffic flow. At the end of the street, the western kerb slightly bulbs to form a formal turnaround area and is supported with no standing restrictions on both kerbs, to enable a B99 vehicle to turnaround using a three-point turn.

Photograph 7.2 – Pavior Street



## 7.3 Traffic activity at the junction of New Town Road and Sunnyside Road

With the majority of the vehicle movements generated by the development site expected to use New Town Road, it is important to understand the traffic performance of the junction of New Town Road with Sunnyside Road. A traffic survey was conducted on the junction collecting traffic data during the morning and afternoon peak periods.

Table 7.3A – Morning traffic survey results

Time	New Town Road		Sunnyside Road				Total
	North	South	Right-in	Left-In	Left-out	Right-out	
7:30 to 7:45am	90	129	1	3	11	1	235
7:45 to 8:00am	128	141	2	1	11	2	285
8:00 to 8:15am	151	200	2	1	15	0	369
8:15 to 8:30am	167	171	4	3	16	3	364
8:30 to 8:45am	159	178	5	0	14	0	356
8:45 to 9:00am	166	160	6	2	9	0	343
<b>Total peak hour</b>	<b>643</b>	<b>709</b>	<b>17</b>	<b>6</b>	<b>54</b>	<b>3</b>	<b>1432</b>

During the morning, the peak hour occurred between 8:00am and 9:00am (highlighted in yellow in the above table), where 1,432 vehicles travelled along New Town Road, with Sunnyside Road generating 80 vehicle movements.

Table 7.3B – Evening traffic survey results

Time	New Town Road		Sunnyside Road				Total
	North	South	Right-in	Left-In	Left-out	Right-out	
4:00 to 4:15pm	164	177	4	2	7	1	355
4:15 to 4:30pm	201	179	1	1	14	1	397
4:30 to 4:45pm	186	193	5	2	10	0	396
4:45 to 5:00pm	200	177	4	3	10	1	395
<b>Total</b>	<b>751</b>	<b>726</b>	<b>14</b>	<b>8</b>	<b>41</b>	<b>3</b>	<b>1543</b>

During the evening peak, 1,543 vehicle movements were recorded along New Town Road, while Sunnyside Road generated 66 vehicle movements.

In both of the survey periods, the majority of vehicles leaving Sunnyside Road turned left towards North Hobart.

The junction of Sunnyside Road and New Town Road is located downstream (north) of the traffic lights, located at the Argyle Street junction. Because the two junctions are situated in close proximity to each other, the traffic signals can create vehicle queues extending back to Sunnyside Road, these queues are generated by vehicles heading southbound along New Town Road, while southbound vehicles travelling to Argyle Street are not impeded by the lights, as there is a high-speed slip lane.

Although the traffic signals can create a southbound traffic queue that can extend to Sunnyside Road, observations from the traffic surveys indicated this did not create any adverse impact to vehicles entering or leaving Sunnyside Road. The traffic signals also create small gaps in the northbound traffic flow due to the changing in phasing, which can assist with the few vehicles turning right out of Sunnyside Road.

Overall, the proximity of the Sunnyside Road junction with the Argyle Street traffic signals did not appear to create any notable adverse traffic impact, mainly as most vehicles turned left when leaving Sunnyside Road.

On New Town Road the northbound traffic lane passing Sunnyside Road, has sufficient road width that a stationery right turning vehicle can be passed on the left, as there are standing restrictions located along the western kerb.

## 7.4 Traffic performance at the junction of New Town Road and Sunnyside Road

The simplest method to evaluate the impact of vehicles entering and leaving Sunnyside Road, is to use SIDRA traffic modelling software. Level of Service (LOS) is a quantifiable assessment of the factors that contribute to traffic performance, which includes traffic density, gaps in traffic streams, expected delays and queues. There are six levels from A to F, with A providing the highest level for give-way controlled junctions, meaning motorists are not incurring delays, with ample gaps in the traffic stream for vehicles to turn freely and safely without disrupting other users.

A traffic model of the current junction was developed for the morning peak hour, to include 57 vehicles leaving Sunnyside Road and 23 arriving, giving a total of 80 vehicle movements generated by Sunnyside Road.

Overall, the traffic modelling predicts the junction is expected to operate at the highest possible level of service for a give way control. The right turn movement out of Sunnyside Road is expected to be challenging, as drivers must select a gap in two traffic streams and a slight delay is expected. With 95 percent of the traffic choosing to undertake a left turn heading towards North Hobart, the low number of right turning vehicles creates no significant adverse impact.

During the evening peak hour, Sunnyside Road generated 66 vehicle movements, with 22 arriving and 44 leaving. The traffic modelling indicates a similar level of service as the morning peak.

The outputs from the SIDRA model for the morning and afternoon periods are shown in the diagrams below.

Diagram 7.4A – Traffic modelling for the existing traffic flows during the morning peak

<b>MOVEMENT SUMMARY</b>								
▽ Site: 101 [Sunnyside Base - AM Peak]								
New Site								
Site Category: (None)								
Giveaway / Yield (Two-Way)								
<b>Movement Performance - Vehicles</b>								
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m
<b>South: New Town Road</b>								
2	T1	643	0.0	0.339	4.2	LOS A	0.0	0.0
3a	R1	17	0.0	0.339	4.5	LOS A	0.0	0.0
Approach		660	0.0	0.339	4.2	NA	0.0	0.0
<b>NorthEast: Sunny Side</b>								
24a	L1	54	0.0	0.062	6.2	LOS A	0.2	1.6
26b	R3	3	0.0	0.062	24.7	LOS C	0.2	1.6
Approach		57	0.0	0.062	7.1	LOS A	0.2	1.6
<b>North: New Town Road</b>								
7b	L3	6	0.0	0.184	6.5	LOS A	0.0	0.0
8	T1	709	0.0	0.184	4.1	LOS A	0.0	0.0
Approach		715	0.0	0.184	4.2	NA	0.0	0.0
All Vehicles		1432	0.0	0.339	4.3	NA	0.2	1.6



Diagram 7.4B – Traffic modelling for the existing flows during the evening peak

MOVEMENT SUMMARY								
▽ Site: 101 [Sunnyside Base - PM Peak]								
New Site Site Category: (None) Giveaway / Yield (Two-Way)								
Movement Performance - Vehicles								
Mov ID	Turn	Total veh/h	Demand Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m
South: New Town Road								
2	T1	751	0.0	0.392	4.2	LOS A	0.0	0.0
3a	R1	14	0.0	0.392	4.5	LOS A	0.0	0.0
Approach		765	0.0	0.392	4.2	NA	0.0	0.0
NorthEast: Sunny Side								
24a	L1	41	0.0	0.056	6.2	LOS A	0.2	1.4
26b	R3	3	0.0	0.056	30.2	LOS D	0.2	1.4
Approach		44	0.0	0.056	7.8	LOS A	0.2	1.4
North: New Town Road								
7b	L3	8	0.0	0.189	6.5	LOS A	0.0	0.0
8	T1	726	0.0	0.189	4.1	LOS A	0.0	0.0
Approach		734	0.0	0.189	4.2	NA	0.0	0.0
All Vehicles		1543	0.0	0.392	4.3	NA	0.2	1.4

## 7.5 Surrounding land-use

The surrounding land-use in Paviour Street and Sunnyside Road is residential properties that have off-street parking available and generate a low demand for on-street parking.

## 7.6 Public transport

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

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

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

## 7.7 Cycling facilities

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

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

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

## 7.8 Crash performance

The Department of State Growth maintains a database of reported road crashes, and a check of this database found no crashes reported on the streets adjacent to the development site, and no crashes reported at the junction of Sunnyside Road and New Town Road.

This indicates motorists are not encountering any difficulty with the street system.

## 8. Impact from traffic generated by this development

As determine in section 6 of this assessment, the proposed social housing units are not expected to generate a high number of vehicle movements, with an estimated average of six trips in the peak hour periods.

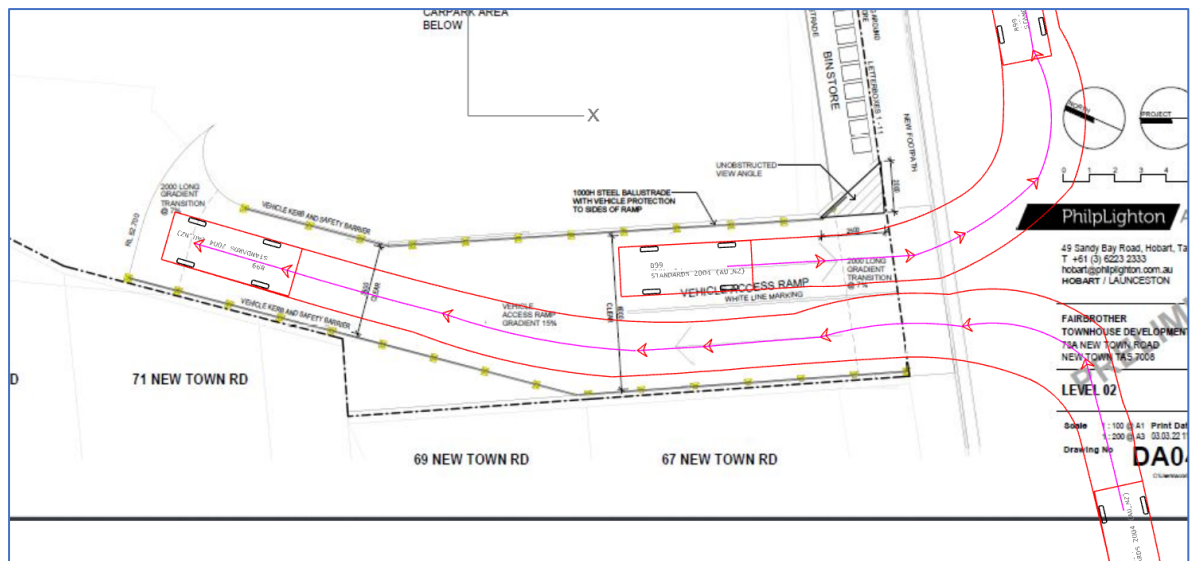
### 8.1 Traffic entering and leaving the development site

The current development site has no vehicular access.

The development will create a new vehicular access onto Sunnyside Road, that will be a standard concrete kerb crossover and comply with LGAT standard drawing TSD-R09-V1 for an urban road driveway.

The entry of this vehicular access ramp will be six metres wide and provide for two-way traffic movements through a passing bay layout; the ramp will be designed to accommodate the swept path of B99 vehicles entering and leaving Sunnyside Road, servicing the 12 on-site parking spaces for the tenants.

Diagram 8.1 – Swept path of B99 vehicles entering and leaving simultaneously



### 8.2 Sight distance for vehicles leaving the development site

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

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



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

Photograph 8.2A –Driver leaving the site viewing left



Photograph 8.2B – Driver leaving the site viewing right



### 8.3 Traffic efficiency at the junction of New Town Road and Sunnyside Road

The additional vehicle trips generated by this development, have been assigned to the traffic model replicating the junction of Sunnyside Road and New Town Road for the morning and evening peak periods. It is assumed the six vehicle trips in the morning will be leaving Sunnyside Road with 95 percent turning left.

In the evening period, an additional six vehicle trips arriving to Sunnyside Road, with 65 percent turning right and 35 percent turning left, based on the current turning percentages.

The traffic modelling indicates the additional vehicle trips are not expected to cause any notable deterioration in the level of traffic efficiency at the Sunnyside Road junction.

Diagram 8.3A – Traffic modelling of additional morning trips generated by the development

<b>MOVEMENT SUMMARY</b>								
▽ Site: 101 [Sunnyside Base - AM Peak - with additional development vehicle movements]								
New Site								
Site Category: (None)								
Giveaway / Yield (Two-Way)								
<b>Movement Performance - Vehicles</b>								
Mov ID	Turn	Total veh/h	Demand Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m
<b>South: New Town Road</b>								
2	T1	643	0.0	0.339	4.2	LOS A	0.0	0.0
3a	R1	17	0.0	0.339	4.5	LOS A	0.0	0.0
Approach		660	0.0	0.339	4.2	NA	0.0	0.0
<b>NorthEast: Sunny Side</b>								
24a	L1	60	0.0	0.072	6.2	LOS A	0.3	1.8
26b	R3	4	0.0	0.072	24.8	LOS C	0.3	1.8
Approach		64	0.0	0.072	7.3	LOS A	0.3	1.8
<b>North: New Town Road</b>								
7b	L3	6	0.0	0.184	6.5	LOS A	0.0	0.0
8	T1	709	0.0	0.184	4.1	LOS A	0.0	0.0
Approach		715	0.0	0.184	4.2	NA	0.0	0.0
All Vehicles		1439	0.0	0.339	4.3	NA	0.3	1.8

Diagram 8.3B – Traffic modelling of additional evening trips generated by the development

<b>MOVEMENT SUMMARY</b>								
▽ Site: 101 [Sunnyside Base - PM Peak - with additional development vehicle movements]								
New Site Site Category: (None) Giveaway / Yield (Two-Way)								
<b>Movement Performance - Vehicles</b>								
Mov ID	Turn	Total veh/h	Demand Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m
<b>South: New Town Road</b>								
2	T1	751	0.0	0.395	4.2	LOS A	0.0	0.0
3a	R1	19	0.0	0.395	4.5	LOS A	0.0	0.0
Approach		770	0.0	0.395	4.2	NA	0.0	0.0
<b>NorthEast: Sunny Side</b>								
24a	L1	41	0.0	0.056	6.2	LOS A	0.2	1.4
26b	R3	3	0.0	0.056	30.5	LOS D	0.2	1.4
Approach		44	0.0	0.056	7.8	LOS A	0.2	1.4
<b>North: New Town Road</b>								
7b	L3	10	0.0	0.189	6.5	LOS A	0.0	0.0
8	T1	726	0.0	0.189	4.1	LOS A	0.0	0.0
Approach		736	0.0	0.189	4.2	NA	0.0	0.0
All Vehicles		1550	0.0	0.395	4.3	NA	0.2	1.4

## 8.4 Residential amenity impact to Sunnyside Road

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

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

Table 8.4 – Extract from the RTA Guide

<b>Environmental capacity performance standards on residential streets</b>			
Road class	Road type	Maximum Speed (km/hr)	Maximum peak hour volume (veh/hr)
Local	Access way	25	100
	Street	40	200 environmental goal 300 maximum
Collector	Street	50	300 environmental goal
			500 maximum

**Note:** Maximum speed relates to the appropriate design maximum speeds in new residential developments. In existing areas maximum speed relates to 85th percentile speed.



## 8.5 Lane capacity and level of service for New Town Road

An additional six vehicle trips in both the morning and afternoon peak periods, represents less than a one percent increase in traffic movements along New Town Road, and is not expected to cause any adverse traffic capacity impact to the road performance.

## 8.6 Traffic safety impact

With no crashes reported on the surrounding streets in the last five years, this development is not expected to increase the crash risk.

## 9. Development layout and access arrangement

### 9.1 Number of parking spaces

The development is providing 12 on-site parking spaces located on the ground floor accessible by a vehicular ramp from Sunnyside Road, and this number of spaces is expected to meet the reasonable demand generated from the tenants of the social housing units.

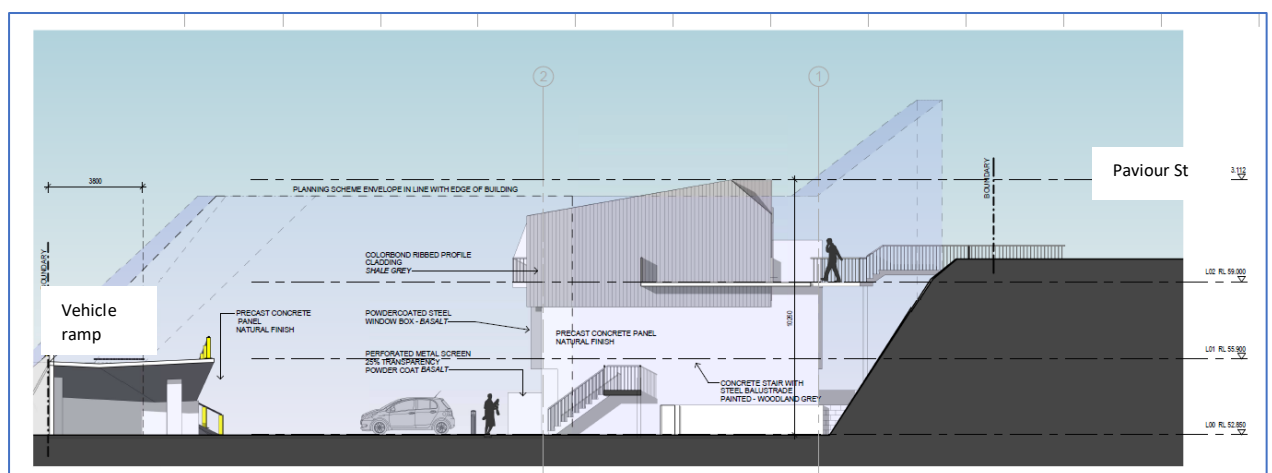
As demonstrated in section 4 of this assessment, tenants of one and two bedroom social housing units located adjacent to a high frequency public bus route, and accessible to commercial and community services generate a low parking demand.

Recent on-street parking surveys found there is a generous supply of on-street parking spaces in both Paviour Street and Sunnyside Road, and the surrounding residential properties generate a low on-street parking demand. Any parking overflow, including visitors to this development using these on-street parking spaces are not expected to cause any adverse amenity or traffic flow impacts. This development site occupies 70 metres for direct road frontage, this length of road frontage can support a minimum of 8 to 10 parked vehicles, with these vehicles not adversely impacting other residential properties

### 9.2 Vehicular ramp to the ground floor parking spaces

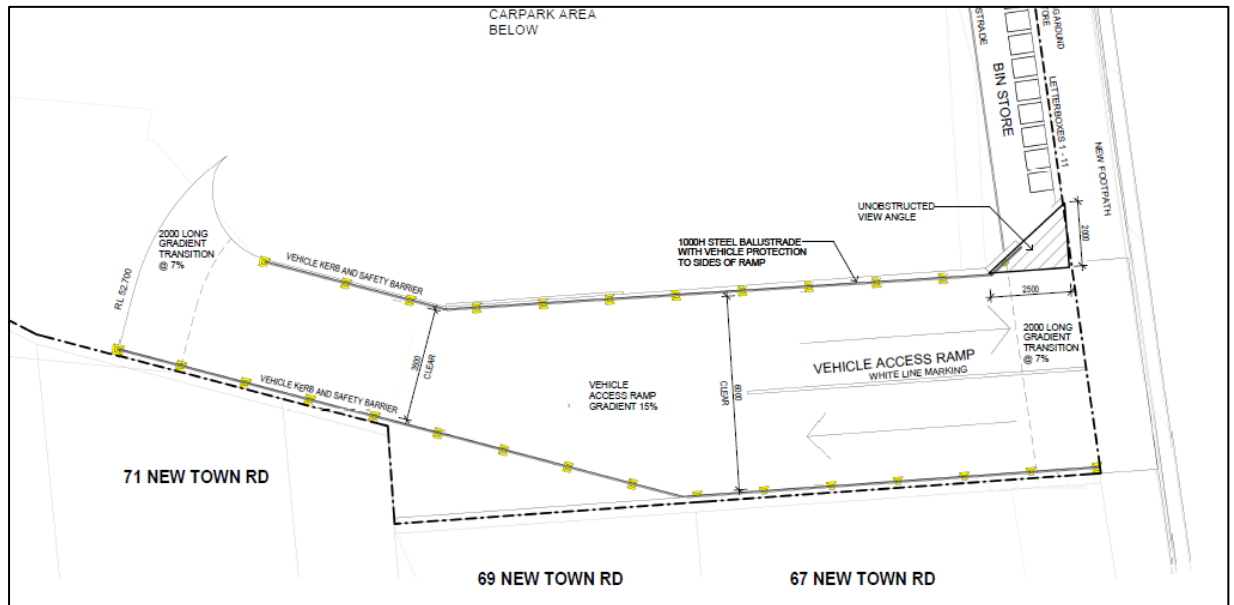
Due to the significant height difference between the natural surface level and Sunnyside Road, a vehicle ramp will be necessary, the ramp will be primarily straight and connect onto Sunnyside Road, with diagram 9.2A demonstrating the height difference between the ground floor and Paviour Street. At Sunnyside Road where the access ramp provides for vehicle movements, the width of the ramp will be a minimum of six metres clear of vertical obstructions at the street entry point, reducing to 3.5 metres wide (clear) at the ground level.

Diagram 9.2A – Height difference between the natural surface and Paviour Street



The site is constrained and to optimise the number of parking spaces on the ground floor, the access ramp has been designed to allow for two-way vehicle movements at Sunnyside Road, reducing to a single lane at the ground level.

Diagram 9.2 B – Ramp layout

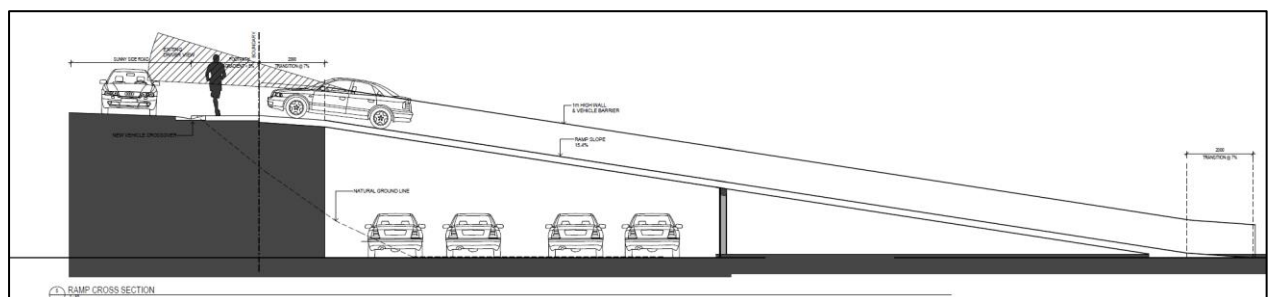


### 9.3 Ramp gradient

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

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

Diagram 9.3 – Ramp gradient to Sunnyside Road

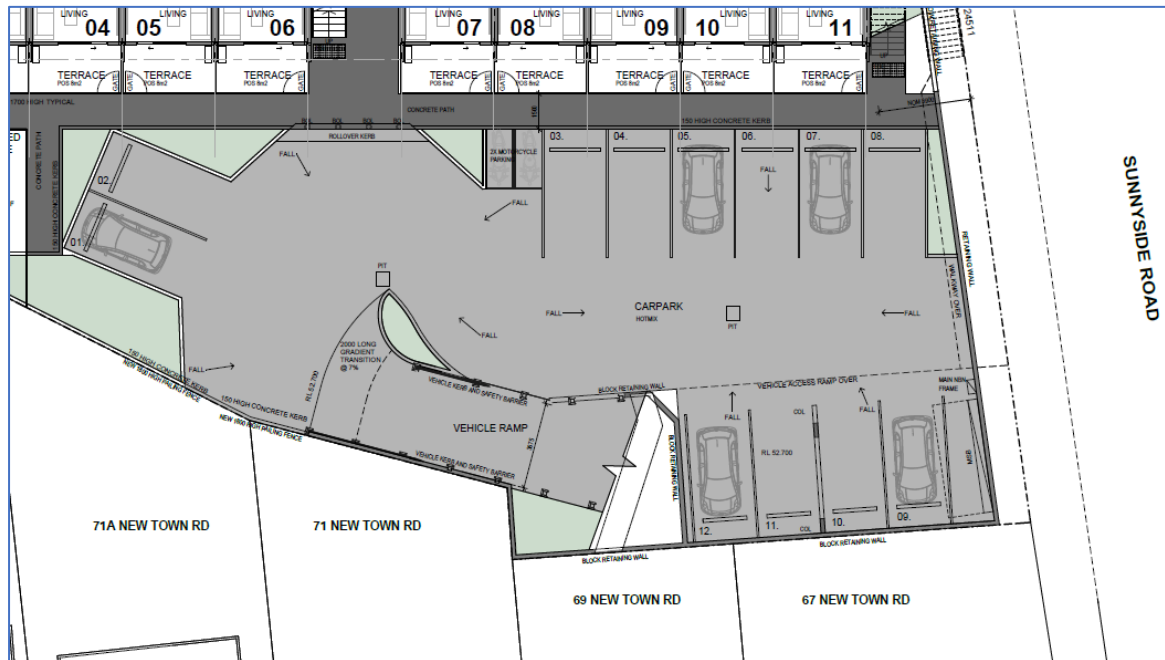




## 9.4 Layout of the ground floor parking area

The access to the ground floor parking area is via a relatively straight ramp from Sunnyside Road, where there will be 12 car parking spaces, along with motorcycle parking for tenant use.

Diagram 9.4 – Ground floor parking layout



## 9.5 Ground floor car park arrangements

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

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

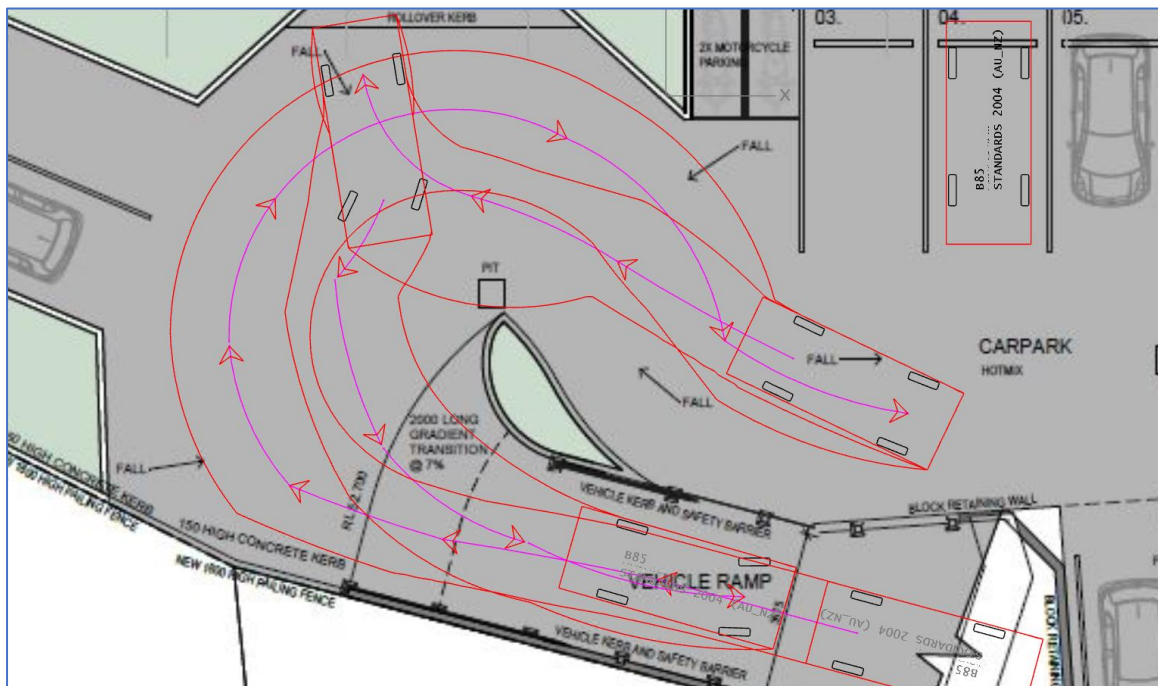
- Parking bays will be user class 1A for residential parking, allowing for 3-point turn entry and exit into ninety degree parking spaces.
- Parking bays will be a minimum of 2.6 metres wide and 5.4 metres long.
- All parking spaces to be ninety degrees to the parking aisle with wheel stops.
- At the end of the blind aisle, there will be an extension to the aisle to aid with vehicle manoeuvrability.
- The length of the parking aisle will be short in length, limiting operating speeds to an acceptable level of less than 30 km/h.

## 9.6 Manoeuvrability of vehicles within the on-site parking area

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

Overall, the swept path diagrams demonstrate there is adequate area within the ground floor layout to accommodate vehicle manoeuvring, and also allows for a B85 vehicle to turnaround, as demonstrated in the diagram below.

Diagram 9.6 – Swept path of a B85 vehicle turning around.



## 9.7 Queuing area to ground floor parking

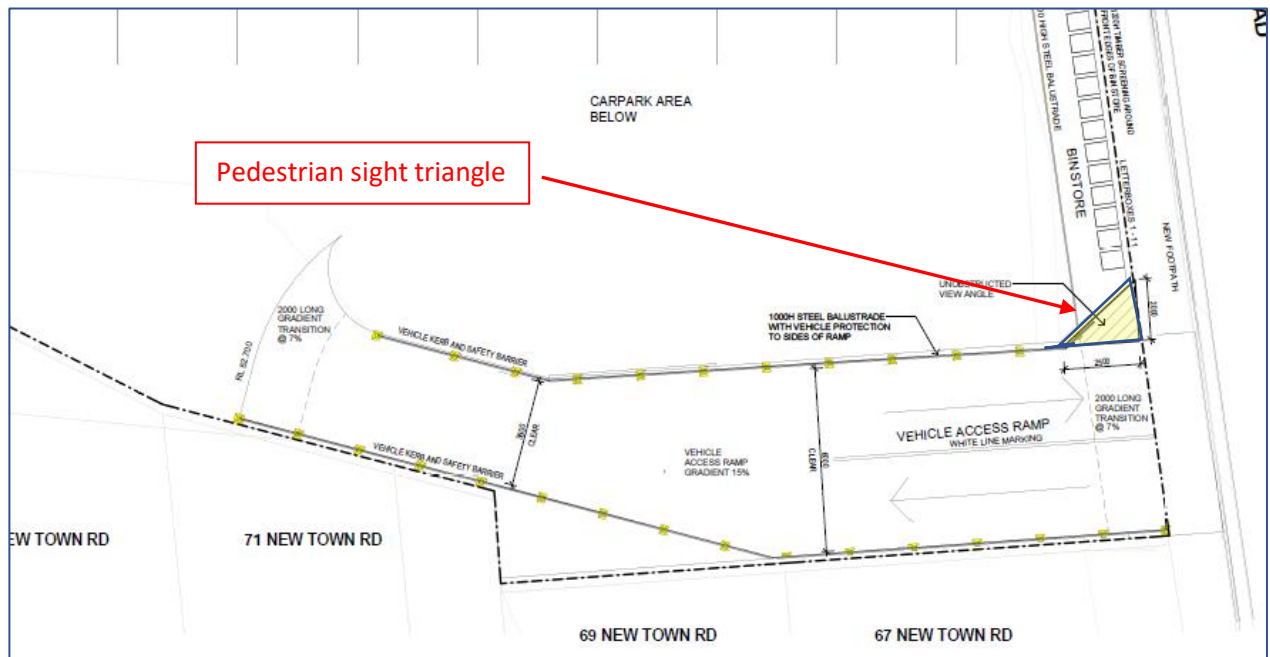
The entrance to the ground floor parking area will not be gated. There is sufficient length and width of the ramp to accommodate two vehicles entering at a time. Given the parking area supports 12 spaces, the risk of vehicles queuing on Sunnyside Road waiting to enter the ramp would be very low.

## 9.8 Pedestrian sight line for pedestrian safety

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

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

Diagram 9.8 – Pedestrian sight triangle



## 9.9 Pedestrian access to the development site

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



## 9.10 Commercial vehicles

The residential units are not expected to generate commercial vehicle activity.

### Waste collection

The council waste collection service is expected to be used; a dedicated bin storage area will be provided within the development site located along Sunnyside Road behind the new footpath. This bin storage area has been designed to house the waste bins, with 1.2-metre-high screens, so the bins are hidden from the street and do not obstruct pedestrian movement on the footpaths. The bins will be transferred to the edge of the new footpaths on the waste collection day.

## 9.11 Headroom clearance

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

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

## 9.12 Motorcycle parking spaces

The ground floor parking area will provide two motorcycle parking spaces.

## 9.13 Bicycle facilities

The development will provide facilities to promote the use of bicycles as a viable alternative to private vehicles, and each unit will be provided with a space for the storage of a bicycle within the security of the individual's unit.

The development is also providing bike racks within the common area to accommodate six bicycles, be available for visitors and residents that may have a second bicycle.

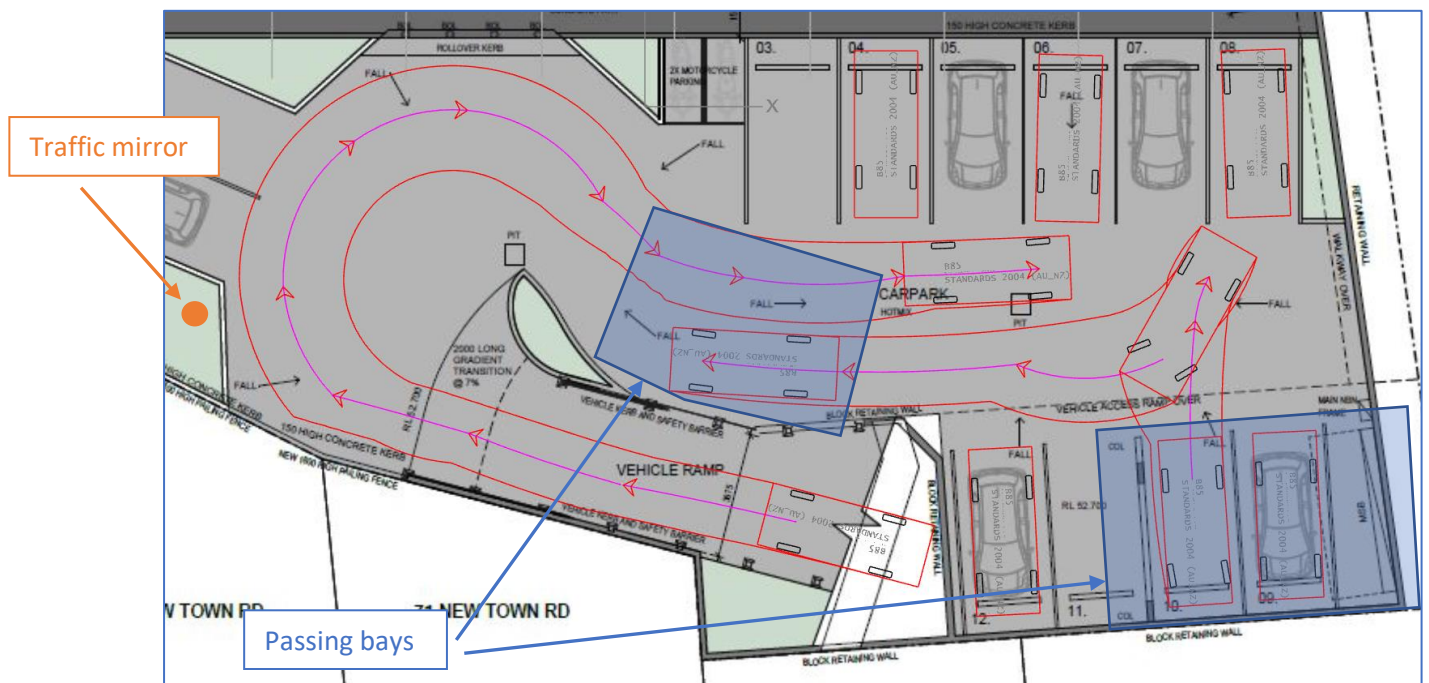
## 9.14 Passing bays

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

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

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

Diagram 9.14 – Passing bays



## 9.15 Vehicle barriers

Vehicle barriers are being provided to both sides of the access ramp.

Within the ground floor parking area, parking spaces are located adjacent to a pedestrian walkway, with wheel stops and bollards to provide adequate separation between the vehicles and pedestrian movement.

## 10. Planning scheme

### 10.1 E5.0 Road and Railway Assets Code

#### E5.6.2 Road accesses and junctions

The development site will need to create a new access onto Sunnyside Road, located on the northern side, approximately 40 metres west of Paviour Street. This access will be the only vehicular access to the development site. With the urban default 50 km/h speed limit operating on Sunnyside Road, the creation of a single development access meets the acceptable solution A2.

#### E5.6.4 Sight distance at accesses, junction, and level crossings

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

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

### 10.2 E6.0 Parking and Access Code

#### E6.6.1 Number of parking spaces

It is important to acknowledge that car ownership for social housing developments is generally less, as the tenants have a higher use of public transport. This development site was chosen due to its proximity to a high frequency public bus route, where every ten minutes a bus travels along New Town Road during the weekdays between 7:00am and 7:00pm. While the frequency of buses decreases slightly on weekends and after 7:00pm, there is still a good level of service. The development site is also located in walking distance to various commercial businesses, including supermarkets, medical services, and other community facilities. Cycling will be an alternative transport mode, as the site has good access to the on-road cycle lanes operating along Argyle Street, providing good connectivity to the Hobart City centre.

Section 4 within this assessment provided evidence, that the parking space demand for social housing units is significantly less than the planning scheme requirements, with the development to provide 12 on-site car parking spaces, and this level of parking is considered reasonable to meet the expected demand.

With the number of parking spaces for these social housing units being less than that specified by the planning scheme requirements, the use must be considered under the performance criteria and the following information is provided to support the application.



Performance criteria	Assessment
To ensure there is enough car parking to meet the reasonable needs of all users of a development, taking into account the level of parking available on or outside of the land and the access afforded of users by other modes of transport. The use or development does not detract from the amenity of users or the locality by preventing regular parking overspill and minimising the impact of car parking on heritage and local character.	
a) car parking demand;	The planning scheme specifies that 38 parking spaces are required for the 22 units. The development is providing 12 on-site parking spaces. As demonstrated in this assessment the parking demand for one and two bedroom social housing units is significantly reduced, the 12 spaces being provided by this development is expected to meet the reasonable demand generated by the tenants.
b) The availability of on-street and public car parking in the locality;	A recent parking supply and demand survey of Paviour Street and Sunnyside Road found there is 96 spaces available, within 200 metres of the development site. The patrolled parking survey found these spaces have a low occupancy rate of less than 20 percent, mainly because the surrounding residential properties have suitable off-street facilities, and along the western side of Paviour Street there is only a few property accesses, as these properties have their access off New Town Road. The survey found there is sufficient supply of on-street parking spaces to meet any overflow or visitor demand likely to be generated by this development. The development site has 70 metres of road frontage, this length of road frontage can accommodate 8 to 10 vehicles, and these vehicles would not adversely impact surrounding properties.
c) The availability and frequency of public transport within 400m walking distance of the site;	METRO Tasmania runs a high frequency bus service between Glenorchy and Hobart via New Town Road, with a bus operating every ten minutes between 7:00am and 7:00pm, Monday to Friday. With bus stops located within 250 metres of the development site, this provides the unit tenants with a convenient and viable alternative transport mode.
d) the availability and likely use of other modes of transport;	The development site is located within three kilometres of the Hobart CBD, and this makes bicycle riding a viable option, particularly with on-road cycle lanes operating along Argyle Street, extending into New Town Road. The intercity cycleway is also located within 1.2 kilometres from the development site, providing a flat and easy cycling path between Hobart and the northern suburbs.
e) the availability and suitability of alternative arrangements for car parking provisions;	The development is located within an inner residential suburb, there are a range of commercial and retail businesses within walking distance, including a range of medical services, supermarkets, and other community facilities, reducing the need for car ownership.
f) any reduction in car parking demand due to the sharing of car parking	There is evidence provided in section 4 of this assessment that social housing units located in close proximity to a high frequency bus route and community facilities, reduces the car

spaces by multiple uses, either because of variation of car parking demand over time or because of efficiencies gained from the consolidation of shared car parking spaces;	ownership. Based on Queensland Government design standard of new social housing units, the tenants of these one and two bedroom units are expected to generate a parking demand of 14 vehicles.
g) Any car parking deficiencies or surplus associated with the existing use of the land;	None.
h) Any credit which should be allowed for a car parking demand deemed to have been provided in associated with a use which existed before the change of parking requirements, except in the case of substantial redevelopment of a site;	None.
i) The appropriateness of a financial contribution in lieu of parking towards the cost of parking facilities or other transport facilities, where such facilities exist or are planned in the vicinity;	No financial contribution is considered necessary, as the level of on-site parking spaces will more than meet the needs of the development, without any adverse impact to the surrounding road network.
j) Any verified prior payment of a financial contribution in lieu of parking for the land;	None required.
k) Any relevant parking plan for the area adopted by Council;	Not aware of any.
l) The impact on the historic cultural heritage significance of the site if subject to the Local Heritage Code;	None expected.
m) Whether the provision of the parking would result in the loss, directly or indirectly of one or more significant trees listed in the Significant Trees Code.	None.

E6.7 Development standards

Development standards	Comment
6.7.1 number of vehicular accesses;	This development will create a single two-way vehicular access onto Sunnyside Road.
6.7.2 design of vehicular access;	The vehicular access will be designed to conform with the Australian Standards 2890.1:2004.
6.7.3 vehicular passing areas along an access;	Sufficient passing bays will be included within the ramp design to provide safe and efficient traffic flow between the ground floor parking area and Sunnyside Road. The passing bays will be supplemented with a traffic mirror to ensure safe and efficient traffic flow.
6.7.4 On-site turning;	All vehicles will be able to enter and leave the development site in a forward driving direction. A B85 vehicle will be able to turnaround within the site.
6.7.5 Layout of parking areas;	Designed to conform with the intent of AS 2890.1:2004.
6.7.6 Surface treatment of parking areas;	Concrete or bitumen surface.
6.7.7 Lighting of parking areas;	Lighting will be provided to satisfy the acceptable solution.
6.7.8 Landscaping of parking areas;	Landscaping will be provided within the development site.
6.7.9 Design of Motorcycle parking areas;	Motorcycle parking spaces will be accommodated within the ground floor parking area.
6.7.10 Design of Bicycle Parking facilities;	Bicycle storage facility will be provided within each of the units, and within the common area for visitors.
6.7.11 Bicycle end of trip facilities;	Not required for residential units.
6.7.12 Siting of car parking;	The on-site parking spaces will be accommodated on a ground floor level and not visible to motorists travelling along Paviour Street or Sunnyside Road.
6.7.13 Facilities for commercial vehicles;	Not required for residential units.



## 11. Conclusion

This development site is an excellent location to create inner suburban unit living, close to a high frequency public transport route, the intercity cycleway and on-road cycle lanes operating along Argyle Street, reducing the need of private motor vehicles, and within walking distance to a range of retail and commercial facilities, including a range of medical services, shopping areas, recreational and cultural facilities.

From a traffic engineering and road safety perspective, this development is expected to generate a low number of additional vehicle movements, and not expected to adversely impact the traffic efficiency of the surrounding road network.

Vehicles entering and leaving the ground floor parking area, are not expected to create any adverse safety or traffic efficiency impacts to pedestrians or existing road users, as there will be suitable sight distance, and entering vehicles are not expected to cause a queuing risk.

The number of on-site parking spaces being provided by this development, is expected to meet the reasonable demand generated by the units, there is sufficient on-street parking supply to support visitor and any overflow parking, without causing adverse impact to surrounding properties.

The development site will provide convenient, safe, and accessible access for pedestrians at street level.

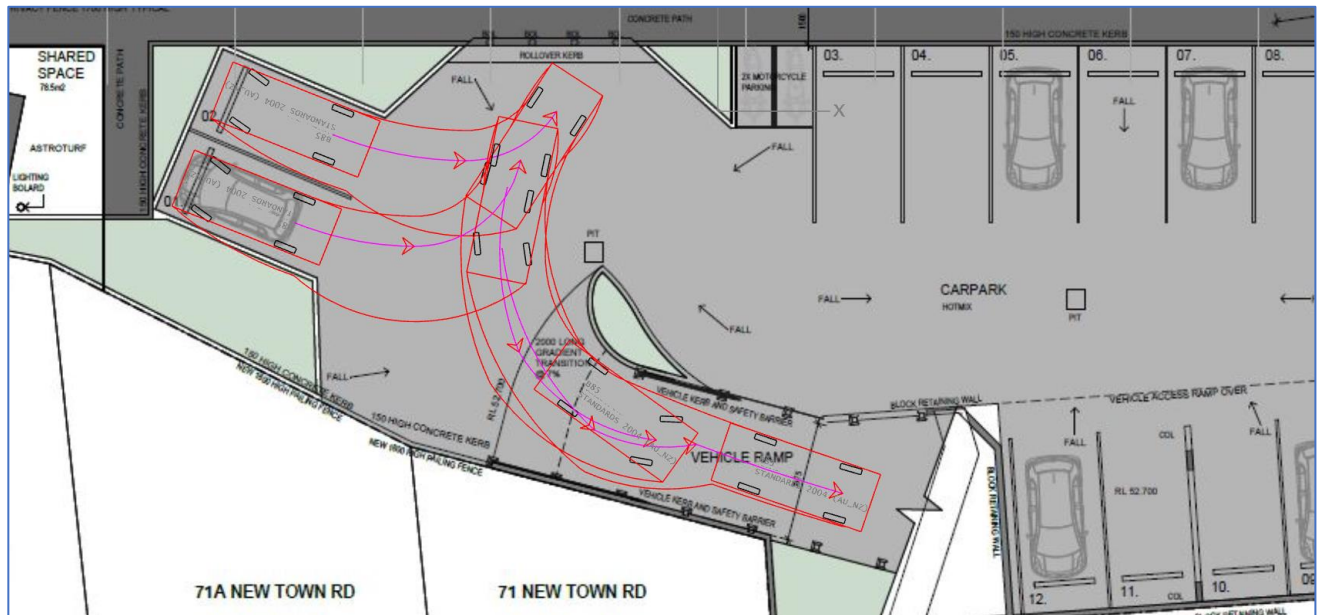
Waste collection will be arranged with the council services, a dedicated bin storage area will be created within the development site along Sunnyside Road, to enable the bins to be transferred to the edge of the footpath on collection day.

An examination of the geometric internal layout of the ground floor parking area, found general compliance with the planning scheme and the intent of the Australian Standards 2890.1:2004.

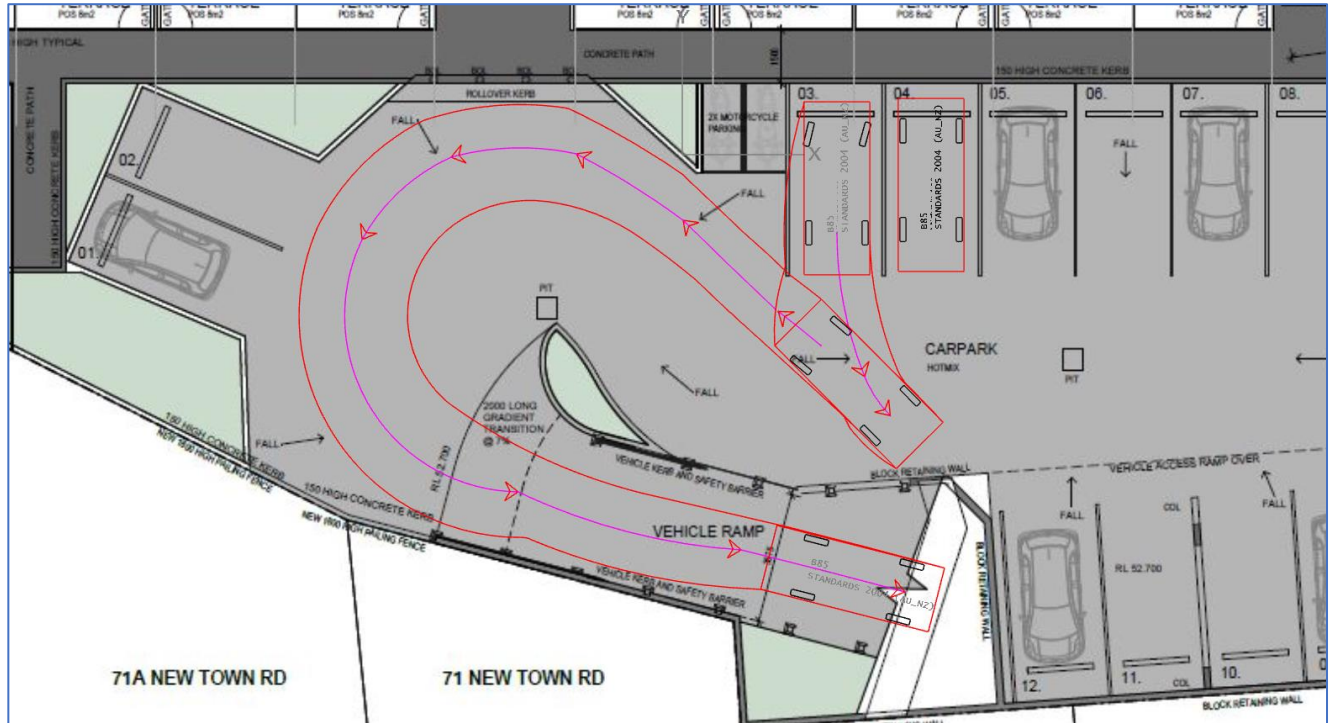
This independent Traffic Impact Assessment found no reason for this development not to proceed.

## 12. Appendix A – Vehicle manoeuvring

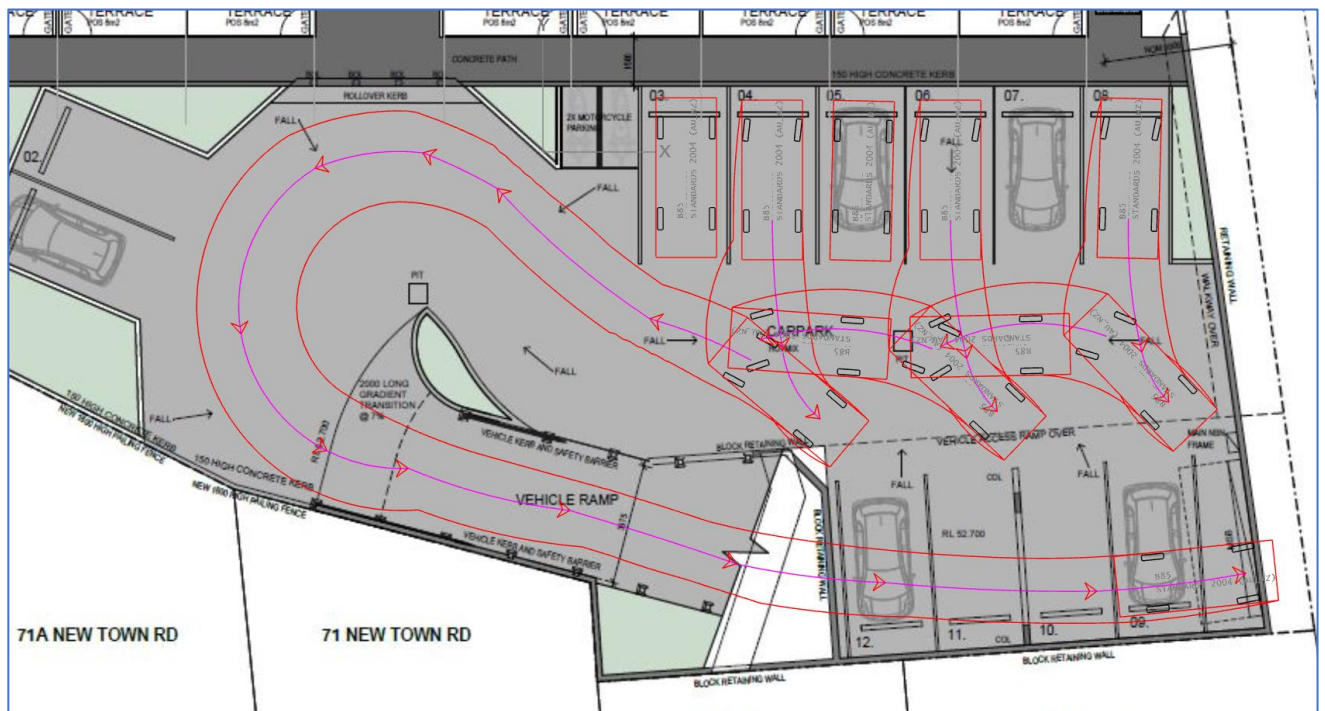
Car parking spaces 1 and 2 - B85 swept path of a vehicle leaving



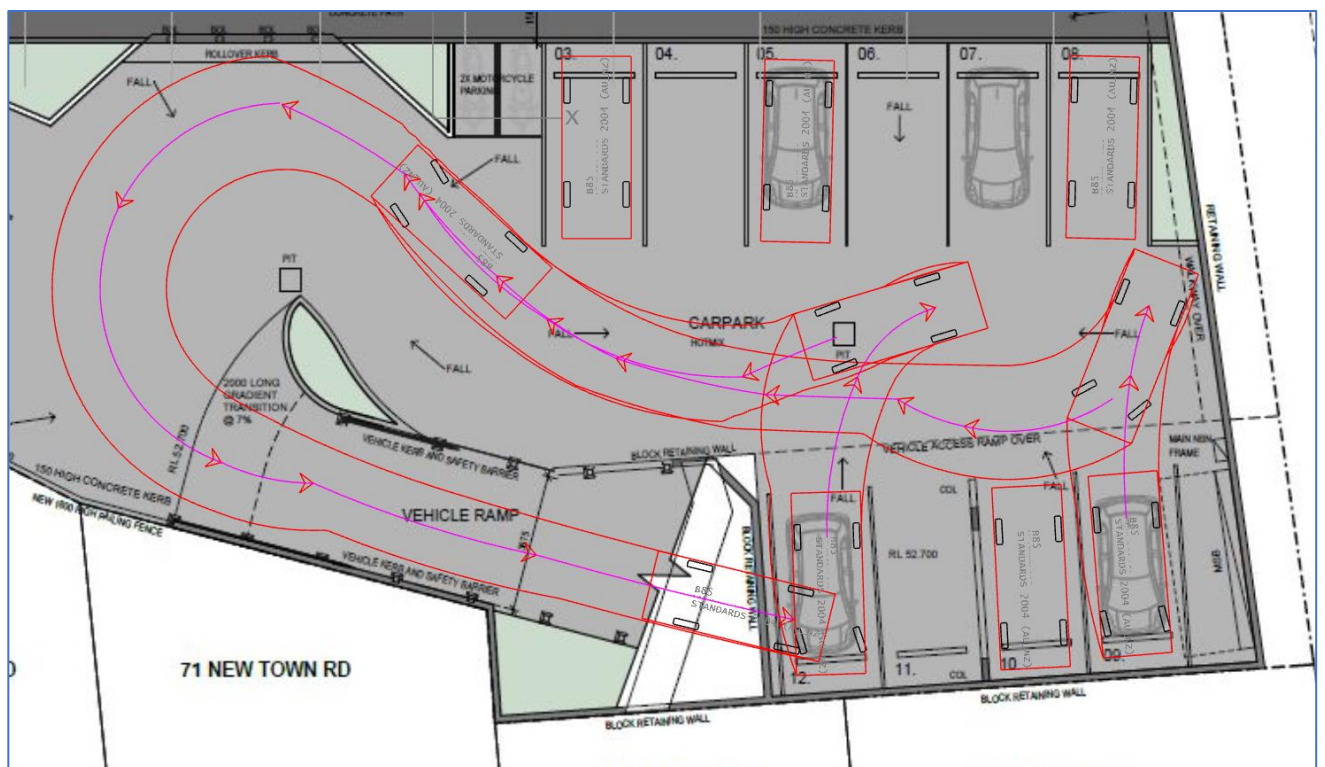
Car parking space 3 – B85 swept path of a vehicle leaving



Car parking spaces numbered 4,6 and 8 – B85 swept path of a vehicle leaving

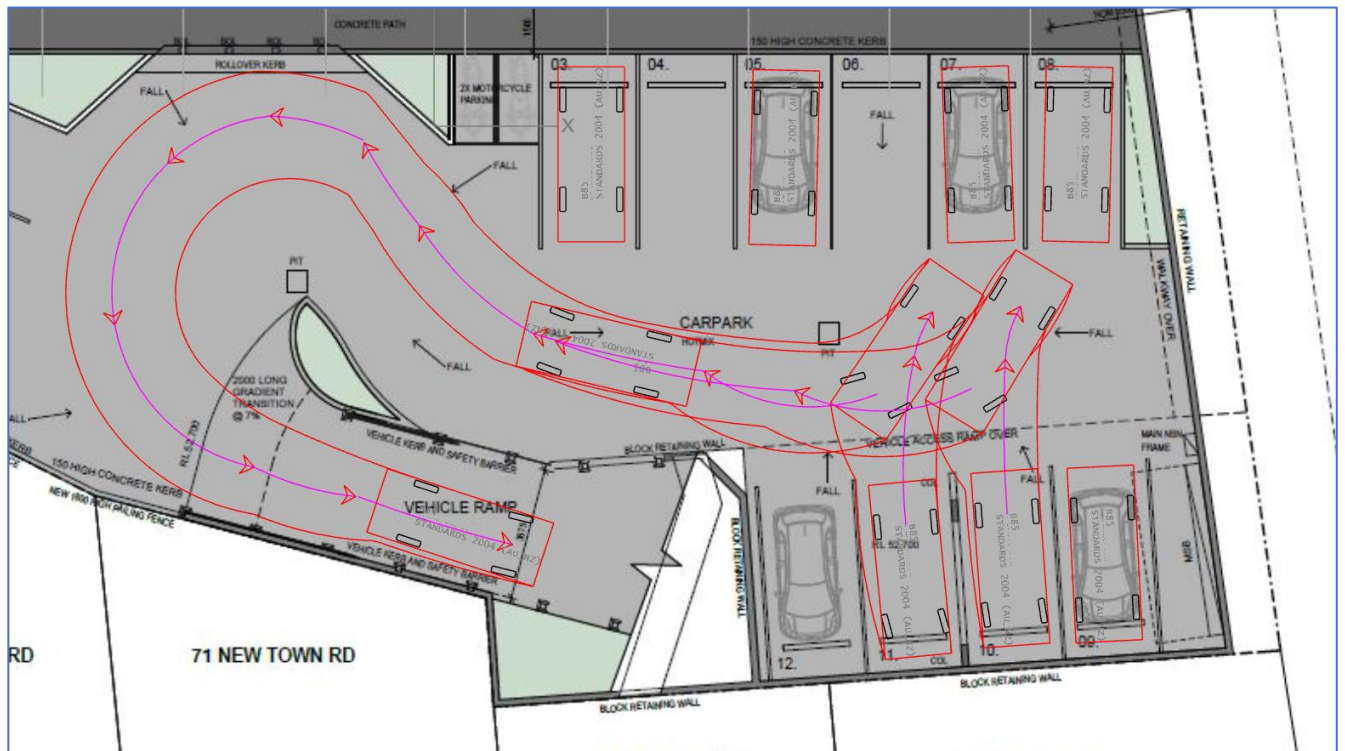


Car parking spaces numbered 9 and 12 – B85 swept path of a vehicle leaving

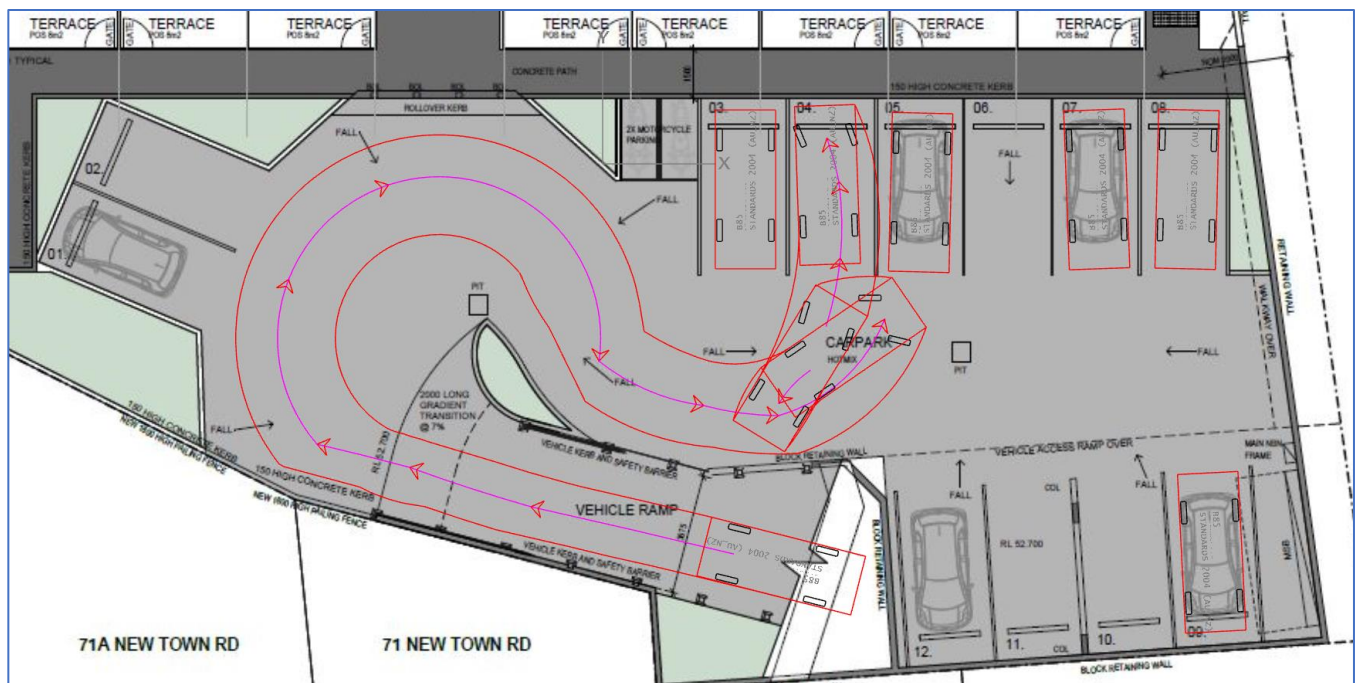




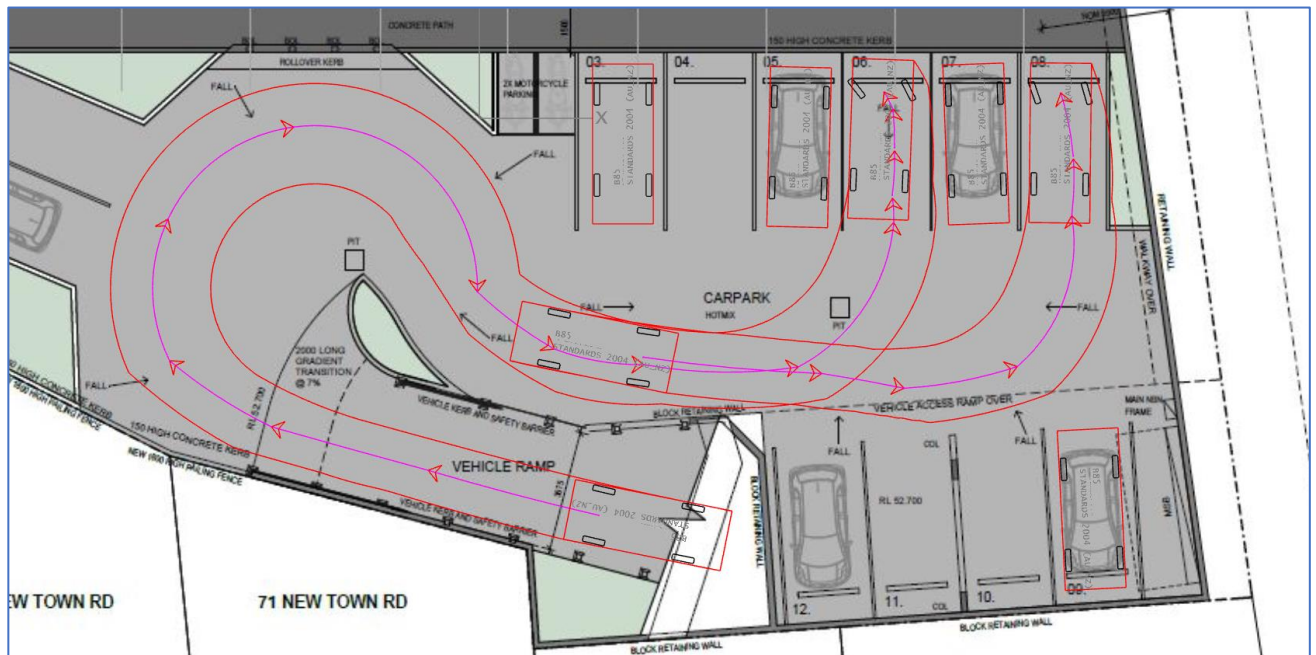
Car parking spaces numbered 10 and 11– B85 swept path of a vehicle leaving



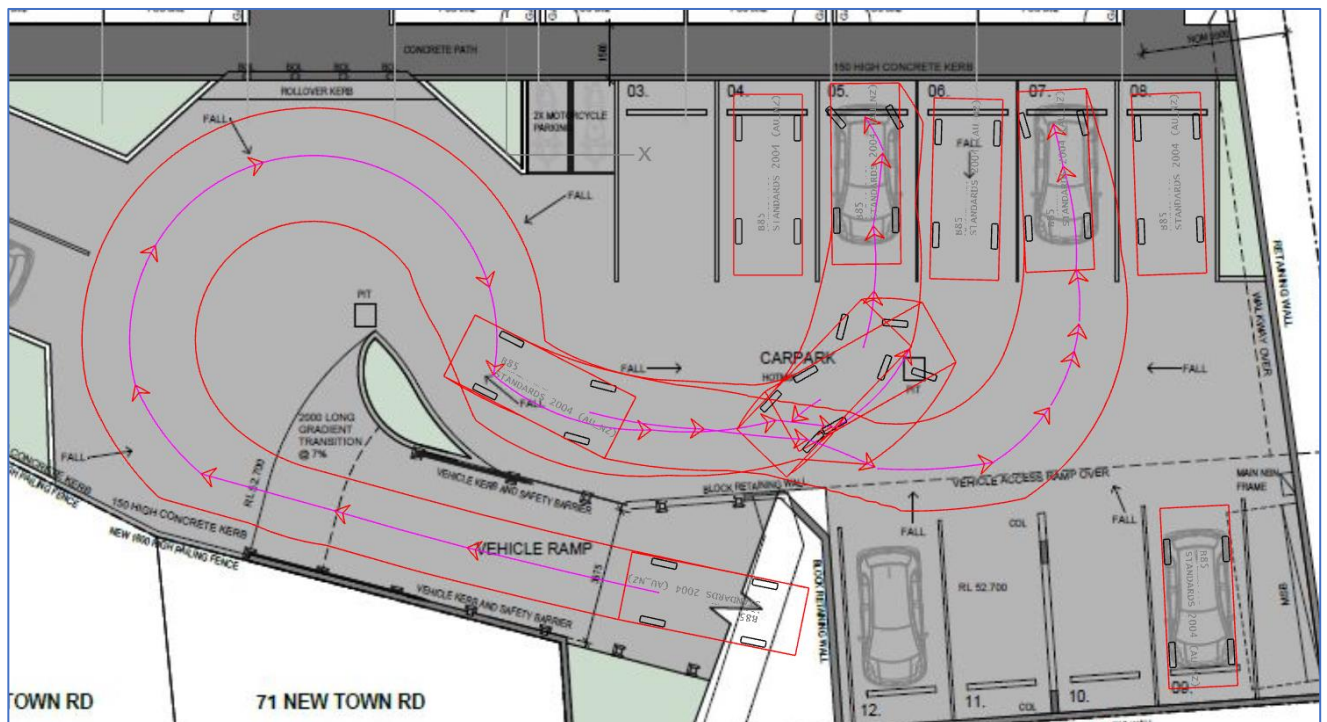
Car parking space numbered 4 – B85 swept path of a vehicle entering



Car parking spaces numbered 6 and 8 – B85 swept path of a vehicle entering

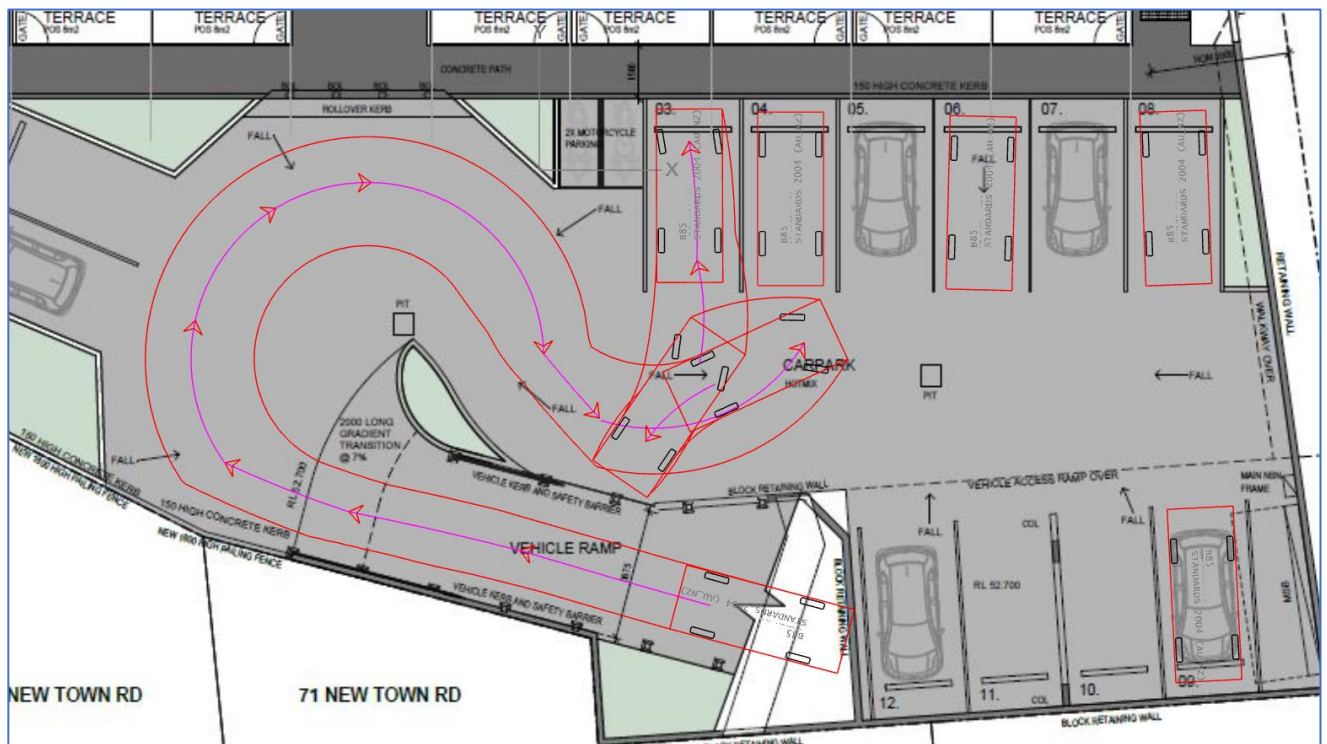


Car parking spaces numbered 5 and 7 – B86 swept path of a vehicle leaving

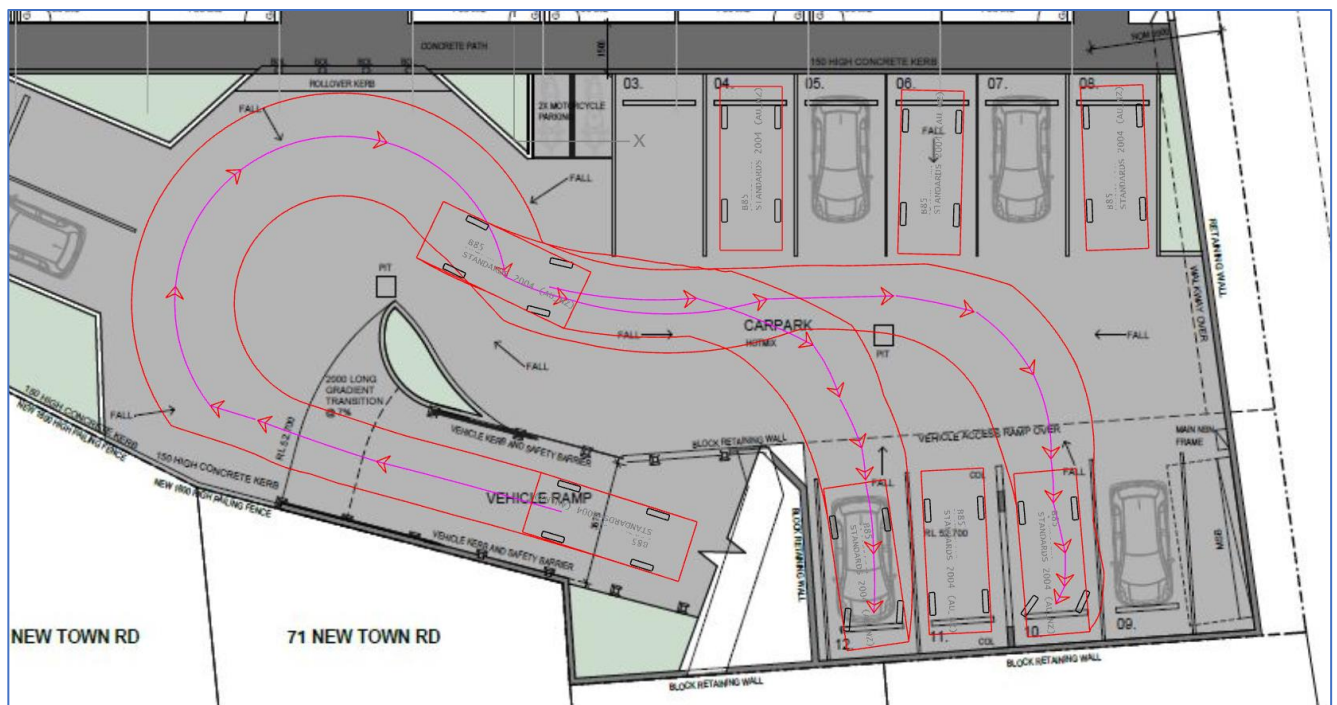




Car parking space numbered 3 – B85 swept path of a vehicle entering

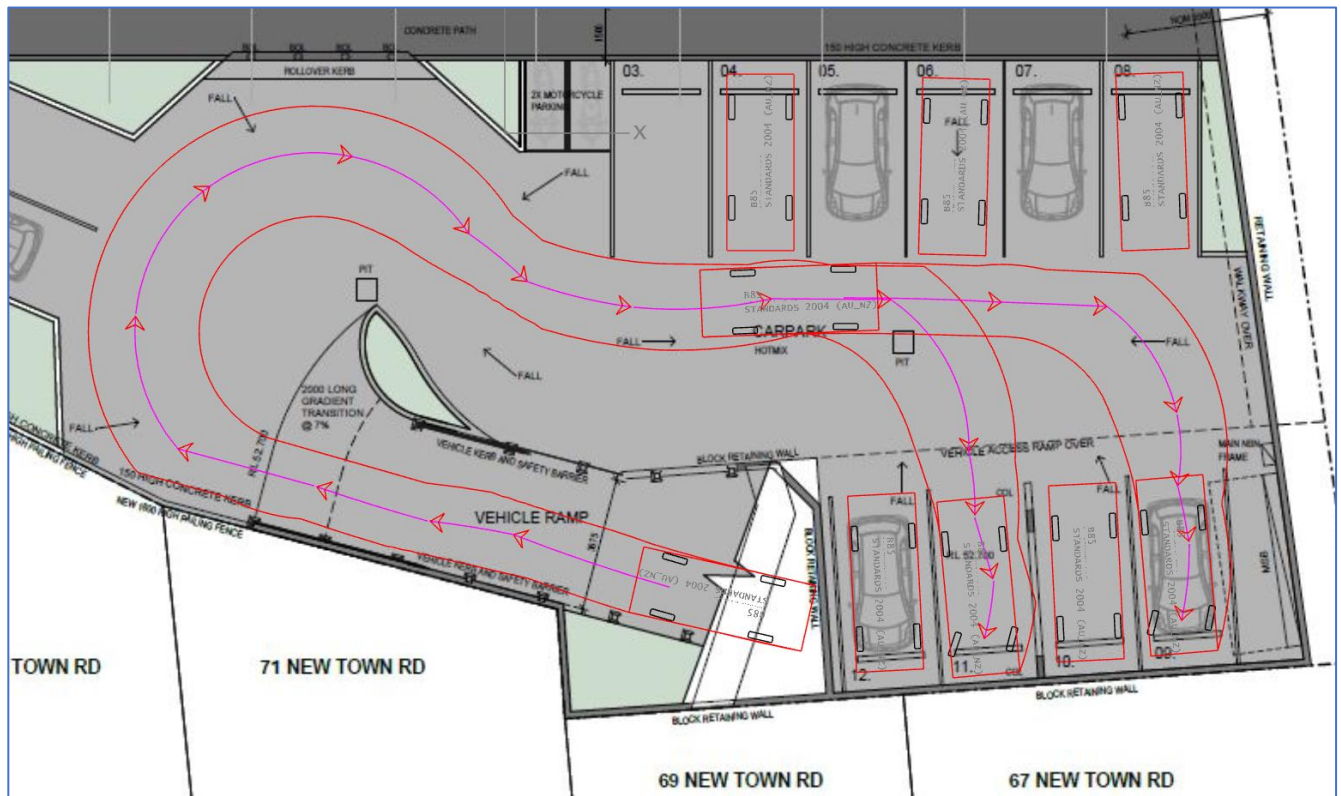


Car parking spaces numbered 10 and 12 - B85 swept path of a vehicle entering





Car parking spaces numbered 9 and 11 – B85 swept path of a vehicle entering



## Appendix F Civil infrastructure concept design

CLIENT:  
COMMUNITIES TASMANIA

PROJECT:  
SOCIAL HOUSING

ADDRESS:  
73A NEW TOWN RD, NEW TOWN


PROJECT No:  
220008

STATUS:  
CONTROLLED DOCUMENT

ISSUED FOR / DESCRIPTION:  
80% REVIEW

DRAWINGS:

- COV - COVER SHEET
- C000 - CIVIL NOTES
- C101 - EXISTING SURVEY/DEMOLITION PLAN
- C301 - BULK EARTHWORKS PLAN
- C311 - BULK EARTHWORKS SECTIONS
- C401 - CIVIL WORKS PLAN
- C501 - DRAINAGE PLAN
- C511 - STORMWATER LONG SECTIONS
- C512 - SEWER LONG SECTIONS
- ⚠ C521 - NO LONGER IN USE - FLOOD CONTROL PLAN 1% A.R.I.
- C601 - WATER RETICULATION PLAN
- C611 - FIRE HYDRANT COVERAGE PLAN - UNITS 1-11
- C612 - FIRE HYDRANT COVERAGE PLAN - UNITS 12-22
- C701 - SECTIONS & DETAILS - SHEET 1

				STATUS:		DESIGN BY: BS		<div><div>22–24 Paterson Street Launceston TAS 7250</div><div><a href="http://rarein.com.au">rarein.com.au</a> P. 03 6388 9200</div></div>	CLIENT: COMMUNITIES TASMANIA	TITLE: COVER SHEET
4	RFI RESPONSE	KL	10-12-22	PRELIMINARY/INFORMATION		DESIGN CHK: AJL				
3	80% REVIEW	KL	29-07-22	DO NOT SCALE - IF IN DOUBT, ASK <small>THIS DOCUMENT MAY ONLY BE USED FOR THE PURPOSE FOR WHICH IT WAS PREPARED. © RARE INNOVATION PTY LTD. ABN 51 619 598 257</small>		DRAWN BY: KL				
2	COUNCIL RFI	KL	17-06-22			DRAFT CHK: BS				
1	50% DESIGN DEVELOPMENT	KL	24-03-22							
0	DEVELOPMENT APPLICATION	KL	07-03-22	APPROVED: R. JESSON		ACRED. No: CC58481	DATE: 05-11-21	ADDRESS: 73A NEW TOWN RD, NEW TOWN	SCALE: - SHEET SIZE: A1 DWGS IN SET: -	
REV: ISSUED FOR / DESCRIPTION:		BY:	DATE:						PROJECT No: 220008 DWG No: COV REV: 4	



## GENERAL

### 1. NOTICE TO TENDERER

THE CONTRACTOR / TENDERER IS TO MAKE THEMSELVES AWARE OF THE LOCAL COUNCIL AND THE DEPARTMENT OF STATE GROWTH (D.S.G.) STANDARDS FOR CIVIL WORKS. CONSTRUCTION IS TO BE CARRIED OUT TO THESE STANDARDS. TENDERER IS TO ALLOW FOR THESE STANDARDS DURING PRICING. COPIES OF THE STANDARDS ARE AVAILABLE FOR INSPECTION UPON REQUEST FROM THE LOCAL COUNCIL OR D.S.G.'s WEB SITE.

### 2. NOTIFICATION

THE CONTRACTOR IS TO NOTIFY ALL RELEVANT STATUTORY AUTHORITIES PRIOR TO COMMENCING ANY WORK FOR THE POSSIBLE LOCATION OF ANY EXISTING SERVICES NOT SHOWN ON THESE PLANS, AND IS TO NOTIFY THE SUPERINTENDENT OF THE SAME. ALL EXISTING SERVICES ARE TO BE PROTECTED DURING CONSTRUCTION. ANY DAMAGE TO EXISTING SERVICES IS TO BE MADE GOOD AT THE CONTRACTOR'S EXPENSE.

### 3. DRAWINGS AND SPECIFICATIONS

THESE DRAWINGS AND SPECIFICATIONS HAVE BEEN PREPARED FOR THE PURPOSE OF OBTAINING COUNCIL APPROVAL AND CALLING OF TENDERS. THEY ARE NOT TO BE USED FOR CONSTRUCTION. A CONSTRUCTION SET OF DRAWINGS STAMPED "CONSTRUCTION SET" WILL BE ISSUED PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

### 4. COMMON TRENCHING

WHERE ANY COMMON TRENCHING IS REQUIRED, THE FOLLOWING CLEARANCE DISTANCES (BARREL TO BARREL) MUST BE MAINTAINED FROM EXISTING OR PROPOSED SERVICES:

HORIZONTALLY:

- 300mm ALONG A LENGTH GREATER THAN 2 METRES.
- 500mm MINIMUM FROM ANY MAIN GREATER THAN 200mm DIA.
- 150mm MINIMUM ALONG A LENGTH LESS THAN 2 METRES.

VERTICALLY:

- 150mm MINIMUM
- 300mm MINIMUM FROM ANY MAIN GREATER THAN 200mm DIA.

ELECTRICAL CABLES SHOULD BE LOCATED ON THE OPPOSITE SIDE OF THE STREET. WHERE THIS IS NOT POSSIBLE A 400mm MINIMUM DISTANCE MUST BE OBSERVED OF WHICH 300mm SHOULD BE IN NATURAL AND UNDISTURBED MATERIAL.

### 5. TASNETWORKS TRENCHING

THE CONTRACTOR IS TO ALLOW FOR EXCAVATION AND BACKFILLING OF ALL TRENCHES FOR THE INSTALLATION OF TASNETWORKS CABLES. CONTRACTOR IS TO LIAISE WITH THE TASNETWORKS FOR THE EXTENT OF CABLE TRENCHING, CONDUITS & PITS.

### 6. COMMUNICATION TRENCHING

THE CONTRACTOR IS TO ALLOW FOR EXCAVATION AND BACKFILLING OF ALL TRENCHES FOR THE INSTALLATION OF COMMUNICATIONS CABLES. CONTRACTOR IS TO LIAISE WITH COMMUNICATION AUTHORITY FOR THE EXTENT OF CABLE TRENCHING.

### 7. EXISTING SERVICES

LOCATE EXISTING SERVICES PRIOR TO COMMENCING DEMOLITION AND SITE WORKS. THE CONTRACTOR IS TO ARRANGE AND PAY FOR THE ON SITE MARKING AND CONFIRMATION OF DEPTH OF SERVICE LOCATIONS FOR ALL UNDERGROUND SERVICES INCLUDING COMMUNICATIONS, TASNETWORKS, TASWATER (WATER & SEWER) AND COUNCIL SERVICES (ie. STORMWATER) IN THE AREA OF NEW WORKS. LOCATION TO BE CONFIRMED USING CABLE LOCATORS AND HAND DIGGING METHODS. PRIOR TO ANY WORKS ON SITE, ANY CLASHES WITH DESIGNED SERVICES ON FOLLOWING DRAWINGS ARE TO BE REPORTED TO DESIGN ENGINEER FOR DIRECTION.

### 8. COUNCIL & AUTHORITIES APPROVALS

ALL WORKS ARE TO BE IN ACCORDANCE WITH THE FOLLOWING APPROVALS:

- NIL

### 9. SIGNAGE

ALL SIGN WORKS AND INSTALLATION TO BE IN ACCORDANCE WITH CURRENT VERSION OF MUTCD & AUSTRADRS FOR SIGNAGE DETAILS.

### 10. SCOPE OF WORKS

THE SCOPE OF WORKS ARE SHOWN IN THESE DOCUMENTS AND THE SPECIFICATION. IT IS EXPECTED THE CONTRACTOR WILL RESOLVE ALL ISSUES UNCOVERED ON SITE THAT ARE NOT DETAILED IN CONJUNCTION WITH THE SUPERINTENDENT.

## GENERAL CONT.

### 11. LINE TYPE LEGEND

	DN100 AGG PIPE OR MEGAFLW DRAIN AS NOTED @ 1:100 FALL TO STORM WATER SYSTEM
	EXISTING STORM WATER MAIN (CONFIRM EXACT LOCATION)
	PROPOSED STORM WATER MAIN (CONFIRM EXACT LOCATION)
	EXISTING SEWER MAIN (CONFIRM EXACT LOCATION)
	PROPOSED SEWER MAIN (CONFIRM EXACT LOCATION)
	EXISTING WATER MAIN (CONFIRM EXACT LOCATION)
	PROPOSED WATER MAIN (CONFIRM EXACT LOCATION)
	EXISTING GAS MAIN (CONFIRM EXACT LOCATION)
	PROPOSED GAS MAIN (CONFIRM EXACT LOCATION)
	EXISTING UNDERGROUND TELECOM / FIBRE OPTIC LINE (CONFIRM EXACT LOCATION)
	DEMOLITION

### 12. SITE WORKS SYMBOLS LEGEND

PEB	PEDESTRIAN RAMP
TYPE BK	BARRIER KERB
TYPE KC	KERB AND CHANNEL
TYPE KCS	KERB AND CHANNEL - SMALL
TYPE KCM	MOUNTABLE KERB AND CHANNEL
TYPE KCV	VEHICULAR CROSSING
	BOLLARD, REFER DETAIL
WS1	HUDSON CIVIL PRECAST CONCRETE WHEEL STOP (2000 LONG x 100 HIGH)

### 13. BUILDING SERVICES SYMBOLS LEGEND

	TELECOMMUNICATION PIT
--	-----------------------

### 14. SURVEY SYMBOLS LEGEND

e	EXISTING
	SPOT LEVEL WITH DESCRIPTION
	EXISTING SPOT LEVEL

### 15. DRAINAGE SYMBOLS LEGEND

Mfx-SW	STORMWATER MANHOLE
Mfx-S	SEWER MANHOLE
GPx-SW	GRADED/GULLY PIT - STORM WATER
GDx-SW	GRADED DRAIN - STORM WATER
SEPx-SW	SIDE ENTRY PIT - STORM WATER
uPVC	UNPLASTICIZED POLYVINYL CHLORIDE
RCF	REINFORCED CONCRETE PIPE (OR FCR) CLASS 4 (Z)
DN	NOMINAL DIAMETER
CL	COVER LEVEL
IL	INVERT LEVEL
DP	DOWN PIPE
o KS	INSPECTION OPENING
KS	INSPECTION OPENING TO SURFACE
III	GRADED PIT

### 16. WATER RETICULATION SYMBOLS LEGEND

	DN100 METER
	METER
	CHECK METER
	FIRE PLUG
	ISOLATION VALVE
	CHECK VALVE
	STRAINER
	MONITORED VALVE
	BALANCE VALVE
	STOP VALVE
	DN100 LOCKABLE STOP VALVE
	DN100 REFLEX VALVE
	BACK FLOW PREVENTION DEVICE
	PRESSURE REDUCING VALVE
	HOSE BIB COCK
	FIRE HYDRANT
	DUAL HEAD FIRE HYDRANT
	FIRE HOSE REEL

## EARTHWORKS

### 1. GENERAL

GENERAL EARTHWORKS, MATERIAL AND WORKMANSHIP SHALL COMPLY WITH THIS SPECIFICATION AND THE CURRENT EDITION OF THE S.A.A. CODE FOR EARTHWORKS AS 3798 TOGETHER WITH ANY CODES, STANDARDS OR REGULATIONS REFERRED TO THEREIN.

### 2. INSPECTIONS

THE CONTRACTOR IS TO ENGAGE AN APPROVED GEOTECHNICAL ENGINEER TO CARRY OUT LEVEL 3 TESTING OF ALL EARTH WORKS TO AS 3798, INCLUDING:

- SUBGRADE
- FILLS
- PAVEMENTS
- BACKFILLING OF SERVICE TRENCHES

CERTIFICATION OF THESE ELEMENTS IS TO BE PROVIDED PRIOR TO PRACTICAL COMPLETION

### 3. AREAS OF FILL

A. REMOVE TOP SOIL AND ORGANIC MATERIAL  
B. PROOF ROLL SUBGRADE IN ACCORDANCE WITH AS1289 TO:

- 98% STANDARD DRY DENSITY UNDER BUILDING
- 98% STANDARD DRY DENSITY UNDER ROADS AND CARPARKS
- REMOVE ANY SOFT SPOTS AND COMPACT WITH 2% OF OPTIMUM MOISTURE CONTENT TO STANDARD DRY DENSITY AS STATED ABOVE

C. PLACE FILL AS SPECIFIED AND COMPACT WITHIN 2% OF OPTIMUM MOISTURE CONTENT TO STANDARD DRY DENSITY AS STATED ABOVE

### 4. AREAS OF CUT

A. REMOVE TOP SOIL AND ORGANIC MATERIAL  
B. PROOF ROLL SUBGRADE IN ACCORDANCE WITH AS1289 TO:

- 98% STANDARD DRY DENSITY UNDER BUILDINGS
- 98% STANDARD DRY DENSITY UNDER ROADS AND CAR PARKS
- REMOVE ANY SOFT SPOTS AND COMPACT WITH 2% OF OPTIMUM MOISTURE CONTENT TO STANDARD DRY DENSITY AS STATED ABOVE

## SOIL & WATER MANAGEMENT

### 1. GENERAL

ALL WORKS ARE TO BE CARRIED OUT IN ACCORDANCE WITH 'SOIL & WATER MANAGEMENT ON BUILDING & CONSTRUCTION SITES' GUIDELINES AVAILABLE FROM NORTHERN RESOURCE MANAGEMENT (NRM).

### 2. SOIL EROSION CONTROL

SOIL EROSION CONTROL IN ACCORDANCE WITH NRM GUIDELINES. CONTRACTOR TO ALLOW TO:

- LIMIT DISTURBANCE WHEN EXCAVATING PRESERVING VEGETATED AREAS AS MUCH AS POSSIBLE
- DIVERT UP-SLOPE WATER WHERE PRACTICAL
- INSTALL SEDIMENT FENCES DOWN SLOPE OF ALL DISTURBED LANDS TO FILTER LARGE PARTICLES PRIOR TO STORM WATER SYSTEM
- WASH EQUIPMENT IN DESIGNATED AREA THAT DOES NOT DRAIN TO STORM WATER SYSTEM
- PLACE STOCK PILES AWAY FROM ON-SITE DRAINAGE & UP-SLOPE FROM SEDIMENT FENCES
- LEAVE & MAINTAIN VEGETATED FOOT PATH
- STORE ALL HARD WASTE & LITTER IN A DESIGNATED AREA THAT WILL PREVENT IT FROM BEING BLOWN AWAY & WASHED INTO THE STORM WATER SYSTEM
- RESTRICT VEHICLE MOVEMENT TO A STABILISED ACCESS

### 3. NRM GUIDELINES

CONTRACTOR TO COMPLETE ALL WORKS IN ACCORDANCE WITH NRM SOIL & WATER MANAGEMENT ON BUILDING & CONSTRUCTION SITE USING THE FACT SHEETS:

- FACT SHEET 1: SOIL & WATER MANAGEMENT ON LARGE BUILDING & CONSTRUCTION SITES
- FACT SHEET 2: SOIL & WATER MANAGEMENT ON STANDARD BUILDING & CONSTRUCTION SITES
- FACT SHEET 3: SOIL & WATER MANAGEMENT PLANS
- FACT SHEET 4: DISPERSIVE SOILS - HIGH RISK OF TUNNEL EROSION
- FACT SHEET 5: MINIMISE SOIL DISTURBANCE
- FACT SHEET 6: PRESERVE VEGETATION
- FACT SHEET 7: DIVERT UP-SLOPE WATER
- FACT SHEET 8: EROSION CONTROL MATS & BLANKETS
- FACT SHEET 9: PROTECT SERVICE TRENCHES & STOCKPILES
- FACT SHEET 10: EARLY ROOF DRAINAGE CONNECTION
- FACT SHEET 11: SCOUR PROTECTION - STORM WATER PIPE OUTFALLS & CHECK DAMS
- FACT SHEET 12: STABILISED SITE ACCESS
- FACT SHEET 13: WHEEL WASH
- FACT SHEET 14: SEDIMENT FENCES & FIBRE ROLLS
- FACT SHEET 15: PROTECTION OF STORM WATER PITS
- FACT SHEET 16: MANAGE CONCRETE, BRICK & TILE CUTTING
- FACT SHEET 17: SEDIMENT BASINS
- FACT SHEET 18: DUST CONTROL
- FACT SHEET 19: SITE RE-VEGETATION

## ROAD WORKS

### 1. GENERAL

ALL WORKS ARE TO BE CARRIED OUT TO THE LOCAL COUNCIL AND D.S.G. STANDARDS. ANY DEPARTURES FROM THESE STANDARDS REQUIRES THE PRIOR APPROVAL OF THE SUPERINTENDENT AND THE LOCAL COUNCIL WORKS SUPERVISOR.

### 2. INSPECTIONS

THE CONTRACTOR IS RESPONSIBLE FOR ORGANISING THE FOLLOWING INSPECTIONS WITH THE SUPERINTENDENT. 48 HOURS NOTICE IS REQUIRED TO BE GIVEN TO THE SUPERINTENDENT PRIOR TO THE INSPECTION.

- SUBGRADE PREPARATION
- SUB-BASE FOR ROADS, CARPARKS AND KERBS
- BASE COURSE
- FINAL TRIM PRIOR TO PLACING KERBS
- FINAL TRIM PRIOR TO SEALING

### 3. TESTING

THE CONTRACTOR IS TO BE RESPONSIBLE FOR ORGANISING AND PAYING ALL COSTS ASSOCIATED WITH TESTING IN ACCORDANCE WITH D.S.G. SPEC SECTION 173-EXAMINATION AND TESTING OF MATERIALS AND WORK (ROADWORKS).

### 4. HOTMIX

ALL HOTMIX IS TO BE BLACK/IN COLOUR AND IS TO MEET AND BE PLACED IN ACCORDANCE WITH D.S.G. SPEC SECTION 407-HOT MIX ASPHALT.

### 5. KERBS

ALL KERBS ARE TO BE AS SHOWN ON THE DRAWINGS AND BE IN ACCORDANCE WITH IPWEA LGAT STANDARD DRAWINGS.

### 6. ROAD RESERVE WORKS

ALL WORKS IN (OR REQUIRING OCCUPATION) IN THE ROAD RESERVE MUST BE UNDERTAKEN BY CONTRACTOR REGISTERED WITH COUNCIL'S (REGISTERED CONTRACTOR).

### 7. FOOTPATHS

CONSTRUCT FOOTPATHS INCLUDING EXPANSION / CONTROL / WEAKENED PLATE JOINTS IN ACCORDANCE WITH IPWEA STD DWG TSD-R11-v1

### 8. LANDSCAPE / STREET FURNITURE

- BOLLARDS, REFER DETAILS / SUPERINTENDENTS SPEC.
- LANDSCAPING & STREET FURNITURE BY CONTRACTOR - U.N.O

## STORMWATER

### 1. GENERAL

ALL WORKS ARE TO BE CARRIED OUT TO THE LOCAL COUNCIL AND DSG STANDARDS. ANY DEPARTURES FROM THESE STANDARDS REQUIRES THE PRIOR APPROVAL OF THE SUPERINTENDENT AND THE LOCAL COUNCIL WORKS SUPERVISOR. ALL STORM WATER PLUMBING & DRAINAGE TO COMPLY WITH A.S 3506.3.2003 STORM WATER DRAINAGE.

### 2. TESTING

ALL DRAINAGE WORKS SHALL BE SUBJECT TO THE TESTS PRESCRIBED BY THE AUTHORITIES HAVING JURISDICTION OVER THE VARIOUS SERVICES. ANY SECTION FAILING SUCH TESTS SHALL BE REMOVED AND PROPERLY INSTALLED AT THE CONTRACTOR'S EXPENSE.

### 3. MANHOLES

MANHOLES ARE TO BE 1050 I.D. U.N.O PRECAST CONCRETE INSTALLED TO LOCAL COUNCIL STANDARDS. ALL MANHOLES IN TRAFFICED AREAS ARE TO BE FITTED WITH HEAVY DUTY GATIC COVERS AND SURROUNDS. ALL MANHOLES ARE TO HAVE A 5 METRE LENGTH OF 75mm AG-PIPE CONNECTED TO THEM AND LAID IN THE UPSTREAM PIPE TRENCH IMMEDIATELY ADJACENT TO AND AT THE INVERT OF THE LOWEST PIPE WORK.

### 4. SIDE ENTRY PIT (SEP)

- PIT INVERT DEPTHS VARY, REFER SITE PLAN.
- BENCH OUT IN A NEAT AND TIDY MANNER TO ENGINEERS APPROVAL.
- GRATED PIT - GULLY INGERS OR OTHER TYPE APPROVED
- CONCRETE KERB LINTEL - STEEL KERB LINTEL AND 1200 LONG GALV BAR

### 5. TRENCHING AND BACKFILL

ALL TRENCHES ARE TO BE EXCAVATED AND BACKFILLED IN ACCORDANCE WITH THE DRAWINGS AND THE LOCAL COUNCIL STANDARDS.

### 6. INSPECTIONS

THE CONTRACTOR IS RESPONSIBLE FOR ORGANISING THE FOLLOWING INSPECTIONS WITH THE SUPERINTENDENT. 48 HOURS NOTICE IS REQUIRED TO BE GIVEN TO THE SUPERINTENDENT PRIOR TO THE INSPECTION.

- PIPEWORK BEDDING
- INSTALLED PIPE PRIOR TO BACKFILLING
- BACKFILLING

### 7. AS CONSTRUCTED DRAWINGS

THE CONTRACTOR WILL BE RESPONSIBLE FOR PRODUCING 'AS CONSTRUCTED' DRAWINGS TO THE STANDARD REQUIRED BY THE LOCAL COUNCIL. THE DRAWINGS SHALL BE CERTIFIED AS BEING CORRECT BY EITHER A CHARTERED CIVIL ENGINEER OR A REGISTERED SURVEYOR. RARE CAN PROVIDE THIS SERVICE, HOWEVER THE CONTRACTOR WILL BE CHARGED FOR THIS SERVICE AND SHOULD BE AWARE OF THIS WHEN PRICING.

### 8. TESTING

CONTRACTOR SHALL CAMERA TEST ALL PIPES AND SUBMIT FOOTAGE TO LOCAL COUNCIL FOR APPROVAL.

### 9. REDUNDANT PIPE WORK

FILL REDUNDANT SECTION OF PIPEWORK WITH 'LIQUIFILL' (GRADE PC.1 - 0.5-2.0 MPa)

## SEWERAGE

### 1. GENERAL

ALL SEWER WORKS TO BE IN ACCORDANCE WITH THE WSA SEWER CODE (WSA 02-2014-3.1 MRWA) AND AS AMENDED BY THE TASWATER SUPPLEMENT. TASWATER APPROVED PRODUCTS ARE CONTAINED ON THE CITY WEST WATER WEBSITE [HTTP://WWW.MRWA.COM.AU/PAGES/PRODUCTS.ASPX](http://www.mrwa.com.au/PAGES/PRODUCTS.ASPX). ANY DEPARTURES FROM THESE STANDARDS REQUIRES THE PRIOR APPROVAL OF THE SUPERINTENDENT AND TASWATER FIELD SERVICES OFFICER.

### 2. TESTING

ALL DRAINAGE WORKS SHALL BE SUBJECT TO THE TESTS PRESCRIBED BY THE AUTHORITIES HAVING JURISDICTION OVER THE VARIOUS SERVICES. ANY SECTION FAILING SUCH TESTS SHALL BE REMOVED AND PROPERLY INSTALLED AT THE CONTRACTOR'S EXPENSE.

### 3. SEWER MAIN CONNECTIONS

ALL NEW LIVE CONNECTIONS TO EXISTING TASWATER SEWER INFRASTRUCTURE INCLUDING BUT NOT LIMITED TO SEWER MAINS / MANHOLES TO BE COMPLETED BY TASWATER (UNLESS PRIOR WRITTEN APPROVAL) AT OWNERS COST. INSTALL PROPERTY SEWER CONNECTIONS (STANDARD OR SLOPED) WITH SURFACE I.O. NOMINALLY 1.0m WITHIN EACH NEW LOT IN ACCORDANCE WITH SECTION 5 OF WSA 02-2014-3.1.

### 4. MANHOLES

MANHOLES ARE TO BE 1050 I.D. PRECAST CONCRETE INSTALLED TO WSA STANDARDS. CONSTRUCT ALL MANHOLES (MH) AND MANHOLE COVERS IN ACCORDANCE WITH THE SEWERAGE CODE OF AUSTRALIA - MELBOURNE RETAIL WATER AGENCIES INTEGRATED CODE - WSA 02-2014-3.1 MRWA VERSION 2.0 AND TASWATER'S SUPPLEMENT TO THIS CODE. ALL MANHOLES IN TRAFFICABLE AREAS ARE TO BE FITTED WITH HEAVY DUTY CLASS D GATIC COVERS AND SURROUNDS. ALL MANHOLES IN NON-TRAFFICABLE AREAS ARE TO BE FITTED WITH MEDIUM DUTY CLASS B GATIC COVERS AND SURROUNDS. BENCHING TO BE FULL DEPTH OF PIPE DIAMETER AS PER DETAILS IN WSA 02-2014-3.1 MRWA VERSION 2.0

### 5. TRENCHING AND BACKFILL

ALL TRENCHES ARE TO BE EXCAVATED AND BACKFILLED IN ACCORDANCE WITH THE DRAWINGS AND TASWATER STANDARDS INCLUDING ELECTROMAGNETIC METAL IMPREGNATED TAPE IN ALL NON METALLIC PIPE TRENCHES.

CEMENT STABILISED EMBEDMENT:

FOR SEWER MAINS THE FOLLOWING CHANGES SHOULD BE APPLIED TO THE MRWA SEWERAGE STANDARDS DRAWINGS MRWA-S-202 AND MRWA-S-205 MRWA-S-202 THE REQUIREMENT IDENTIFIED IN THE THIRD DOT POINT FOR TYPE B. IN THE NOTES REGARDING TABLE 202-A SHALL BE AMENDED TO READ "WHERE SEWER AT GRADE > 1 IN 10"

MRWA-S-205 NOTE C REMAINS VALID "WHEN SOCKETED MAINS ARE LAID AT >1 IN 20 SLOPE IN AREAS THAT ARE LIKELY TO HAVE HIGH GROUND WATER, CEMENT STABILIZED EMBEDMENT SHALL BE USED AS PER MRWA-S-202"

### 6. INSPECTIONS

THE CONTRACTOR IS RESPONSIBLE FOR ORGANISING THE FOLLOWING INSPECTIONS WITH THE SUPERINTENDENT (IAS WITH TASWATER). 48 HOURS NOTICE IS REQUIRED TO BE GIVEN TO THE SUPERINTENDENT PRIOR TO THE INSPECTION.

- PIPEWORK BEDDING
- INSTALLED PIPE PRIOR TO BACKFILLING
- BACKFILLING

### 7. AS CONSTRUCTED DRAWINGS

THE CONTRACTOR WILL BE RESPONSIBLE FOR PRODUCING 'AS INSTALLED' DRAWINGS TO THE STANDARD REQUIRED BY TASWATER. THE DRAWINGS SHALL BE CERTIFIED AS BEING CORRECT BY EITHER A CHARTERED CIVIL ENGINEER OR A REGISTERED SURVEYOR. RARE CAN PROVIDE THIS SERVICE, HOWEVER THE CONTRACTOR WILL BE CHARGED FOR THIS SERVICE AND SHOULD BE AWARE OF THIS WHEN PRICING.

### 8. TESTING

CONTRACTOR SHALL CCTV ALL PIPES AND SUBMIT FOOTAGE TO TASWATER FOR APPROVAL.

### 9. REDUNDANT PIPE WORK

FILL REDUNDANT SECTION OF PIPEWORK WITH 'LIQUIFILL' (GRADE PC.1 - 0.5-2.0 MPa)

## WATER RETICULATION

### 1. GENERAL

ALL WATER SUPPLY CONSTRUCTION TO:

- WATER SUPPLY CODE OF AUSTRALIA (WSA 03-2011-3.1) VERSION MRWA EDITION V2.0) - PART 2: CONSTRUCTION
- WATER SERVICES ASSOCIATION OF AUSTRALIA - TASWATER SUPPLEMENT
- TASWATER'S STANDARD DRAWINGS TWS-W-0002 SERIES
- WATER METERING POLICY/METERING GUIDELINES
- TASWATER'S STANDARD DRAWINGS TWS-W-0003 - FOR PROPERTY SERVICE CONNECTIONS - GAGE FOR WATER METER ASSEMBLY
- BOUNDARY BACKFLOW CONTAINMENT REQUIREMENTS AND ASS3500.1:2003

ANY DEPARTURES FROM THESE STANDARDS REQUIRES THE PRIOR APPROVAL OF THE SUPERINTENDENT AND THE LOCAL WATER AUTHORITY WORKS SUPERVISOR.

### 2. TESTING

ALL WATER RETICULATION WORKS SHALL BE SUBJECT TO THE TESTS PRESCRIBED BY THE AUTHORITIES HAVING JURISDICTION OVER THE VARIOUS SERVICES. ANY SECTION FAILING SUCH TESTS SHALL BE REMOVED AND PROPERLY INSTALLED AT THE CONTRACTOR'S EXPENSE.

### 3. FIRE HYDRANTS

FIRE HYDRANTS ARE TO BE AS SHOWN ON THE DRAWINGS. THE CONTRACTOR IS TO ALLOW TO PLACE STANDARD MARKERS AS REQUIRED BY THE LOCAL AUTHORITY.

### 4. THRUST AND ANCHOR BLOCKS

THRUST AND ANCHOR BLOCKS ARE TO BE PROVIDED AT BENDS, VALVES, HYDRANTS AND LINE ENDS IN ACCORDANCE WITH TASWATER STANDARDS.

### 5. TRENCHING AND BACKFILL

ALL TRENCHES ARE TO BE EXCAVATED AND BACKFILLED IN ACCORDANCE WITH THE DRAWINGS AND TASWATER STANDARDS INCLUDING ELECTROMAGNETIC METAL IMPREGNATED TAPE IN ALL NON METALLIC PIPE TRENCHES.

CEMENT STABILISED EMBEDMENT:

THE LATEST VERSION OF DRAWING MRWA-W-208 (REV 3) INCLUDES TABLE 208-A WITH NOTE G INDICATING THAT WHEN TRENCHSTOPS OR BULKHEADS ARE USED (GRADES GREATER THAN 5%) CEMENT STABILISED EMBEDMENT MUST BE USED. THIS IS NOT TASWATER'S PREFERRED STANDARD.

FOR PIPES UP TO 10% GRADE TASWATER WILL ACCEPT THE PREVIOUS REVISION OF MRWA (REV 2), I.E. PIPES UP TO 10% GRADE DO NOT REQUIRE CEMENT STABILISED EMBEDMENT UNLESS THE CONDITIONS OF NOTE H APPLY. "WHEN SOCKETED MAINS ARE LAID AT >5% SLOPE IN AREAS THAT ARE LIKELY TO HAVE HIGH GROUND WATER, CEMENT STABILIZED EMBEDMENT SHALL BE USED."

FOR PIPES AT GRADE GREATER THAN 10% MRWA-W-208 REV 3 REMAINS VALID.

THE LATEST VERSION OF MRWA-W-203 (REV 2) EMBEDMENT SHALL BE ADOPTED NOTING THAT THE REQUIREMENT IDENTIFIED IN THE THIRD DOT POINT FOR TYPE B. IN THE NOTES REGARDING TABLE 203-A SHALL BE AMENDED TO READ "WHERE WATER MAIN GRADE > 10%".

FURTHER TO THIS IT SHOULD BE NOTED THAT MOST WATER MAINS ARE LIKELY TO REQUIRE A TYPE A EMBEDMENT SYSTEM. THE VARIOUS MATERIALS AVAILABLE FOR THIS SYSTEM ARE IDENTIFIED IN TABLE 203-B

### 6. INSPECTIONS

THE CONTRACTOR IS RESPONSIBLE FOR ORGANISING THE FOLLOWING INSPECTIONS WITH THE SUPERINTENDENT. 48 HOURS NOTICE IS REQUIRED TO BE GIVEN TO THE SUPERINTENDENT PRIOR TO THE INSPECTION.

- PIPEWORK BEDDING
- INSTALLED PIPE PRIOR TO BACKFILLING
- BACKFILLING

### 7. PIPE CLEANING - 'DISINFECTION'

THE CONTRACTOR IS TO ALLOW TO CLEANSE WATER MAINS BY FLUSHING WITH SODIUM HYPOCHLORIDE AS DIRECTED BY THE LOCAL AUTHORITY.

### 8. AS CONSTRUCTED DRAWINGS

THE CONTRACTOR WILL BE RESPONSIBLE FOR PRODUCING 'AS INSTALLED' DRAWINGS TO THE STANDARD REQUIRED BY TASWATER. THE DRAWINGS SHALL BE CERTIFIED AS BEING CORRECT BY EITHER A CHARTERED CIVIL ENGINEER OR A REGISTERED SURVEYOR. RARE CAN PROVIDE THIS SERVICE, HOWEVER THE CONTRACTOR WILL BE CHARGED FOR THIS SERVICE AND SHOULD BE AWARE OF THIS WHEN PRICING.

### 9. PROPERTY WATER CONNECTIONS

ALL PROPERTY CONNECTIONS SHALL BE CONSTRUCTED IN ACCORDANCE WITH MRWA-W-110 AND MRWA-W-111 AND TASWATER STANDARD DRAWING TWS-W-0002 SERIES. THEY SHALL BE DN25(ID:20) HOPE (PE100) SDR 11 PN16 PIPE. WHERE UNDER ROADS PIPES SHALL BE SLEEVED IN DN100 50mm PIPE FITTED WITH TRACE AND TIGHT FITTING RUBBER WRAPS AT 2M CENTRES TO PREVENT WATER HAMMER

### 10. WATER MAINS CONNECTIONS

ALL NEW LIVE CONNECTIONS TO EXISTING TASWATER WATER INFRASTRUCTURE TO BE COMPLETED BY TASWATER AT OWNERS COST.

### 11. MINIMUM COVER

MINIMUM COVER FOR WATER LINES ARE TO BE:

- UNDER ROADWAYS (EXCLUDING MAJOR ROADS) AND VEHICULAR CROSS OVERS - 750mm
- RESIDENTIAL LAND - 450mm
- NON-RESIDENTIAL LAND - 600mm

## SURVEY

### 1. SURVEY DETAILS

FOLLOWING ARE SURVEY DETAILS USED AS BASIS FOR DESIGN:

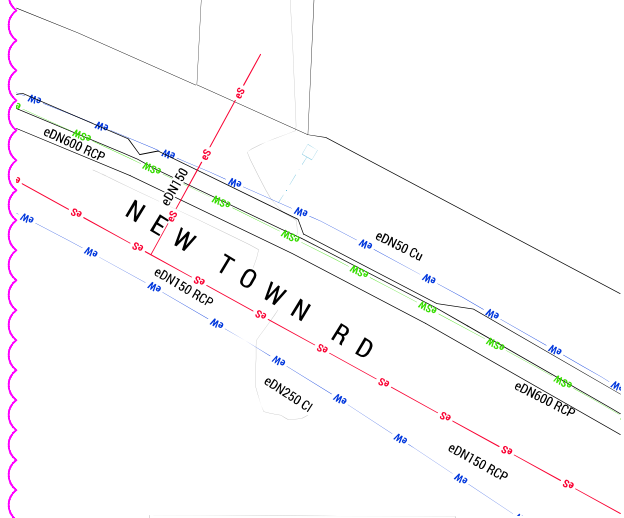
- SURVEYOR: PDA SURVEYORS
- SURVEY REF. NO. 47761CT - 1
- SURVEY DATE: 13-08-21
- SITE LOCATION: 73A NEW TOWN ROAD, NEW TOWN
- COORDINATE SYSTEM: GDA94 MGA55
- LEVEL DATUM: AHD 83
- SERVICE MARKER: -

### 2. SETOUT

- DEMOLITION NOTES**
1. PRIOR TO COMMENCING DEMOLITION AND SITE WORKS, THE CONTRACTOR IS TO ARRANGE AND PAY FOR THE ON SITE MARKING AND CONFIRMATION OF DEPTH, OF SERVICE LOCATIONS FOR ALL UNDERGROUND SERVICES INCLUDING COMMUNICATIONS, TASNETWORKS, POWERCO AND COUNCIL SERVICES (ie: WATER, STORMWATER AND SEWER) IN THE AREA OF NEW WORKS. LOCATION TO BE CONFIRMED USING CABLE LOCATORS AND HAND DIGGING METHODS. PRIOR TO ANY WORKS ON SITE, ANY CLASHES WITH DESIGNED SERVICES ON FOLLOWING DRAWINGS ARE TO BE REPORTED TO DESIGN ENGINEER FOR DIRECTION.
  2. REFER DRAWINGS FOR SET OUT DIMENSIONS & COORDINATE ALL LEVELS, CONTRACTOR TO REFER ENGINEER FOR ANY DISCREPANCIES / CLASHES.
  3. CAP & TERMINATE & REMOVE REDUNDANT DISUSED DRAINAGE SERVICES TO SATISFACTION OF ENGINEER & LOCAL AUTHORITIES
  4. INSTALL SILT FENCES & TRAPS TO PREVENT SEDIMENTS & POLLUTANTS ENTERING STORM WATER SYSTEM OR NATURAL DRAINAGE LINES
  5. STOCK PILING OF SOILS OR MATERIALS AFFECTED BY WATER TO BE STORED CLEAR OF ANY DRAINAGE PATH
  6. CLEAN SITE VEHICLES BEFORE EXITING SITE
  7. DISPOSE OF EXCAVATED MATERIAL TO LICENSED WASTE FACILITY OR APPROVED LAND FILL SITE
  8. TRENCHES WHERE SERVICES ARE REMOVED ARE TO BE FILLED WITH AN APPROVED COMPACTED MATERIAL & TO ENGINEERS COMPACTION SPECIFICATIONS. MATCH & MAKE GOOD EXISTING SURFACES TO MATCH EXISTING SURROUNDINGS.

- LEGEND**
- eSW EXISTING STORM WATER MAIN
  - eS EXISTING SEWER MAIN
  - eW EXISTING WATER MAIN
  - eCOM EXISTING COMMUNICATIONS LINE
  - EXISTING SURFACE/STRUCTURE TO BE DEMOLISHED
  - EXISTING SERVICE LINE TO BE DEMOLISHED

CONT. CIVIL WORKS PLAN - GENERAL



EXISTING SURVEY PLAN - LANEWAY  
SCALE 1:100

CONT. CIVIL WORKS PLAN - LANEWAY

EXISTING SURVEY PLAN - GENERAL  
SCALE 1:100

5	RFI RESPONSE	KL	10-12-22
4	RFI RESPONSE	KL	11-10-22
3	80% REVIEW	KL	29-07-22
2	COUNCIL RFI	KL	17-06-22
1	50% DESIGN DEVELOPMENT	KL	24-03-22
0	DEVELOPMENT APPLICATION	KL	07-03-22
REV:	ISSUED FOR / DESCRIPTION:	BY:	DATE:

STATUS:	
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APPROVED: R. JESSON	ACRED. No: CC58481

DESIGN BY:	BS
DESIGN CHK:	AJL
DRAWN BY:	KL
DRAFT CHK:	BS
DATE:	05-11-21

**rare.**  
22-24 Paterson Street  
Launceston TAS 7250

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P.03 6388 9200

CLIENT: COMMUNITIES TASMANIA  
PROJECT: SOCIAL HOUSING  
ADDRESS: 73A NEW TOWN RD, NEW TOWN

TITLE: EXISTING SITE/DEMOLITION PLAN

SCALE: 1:100 SHEET SIZE: A1 DWGs IN SET: -

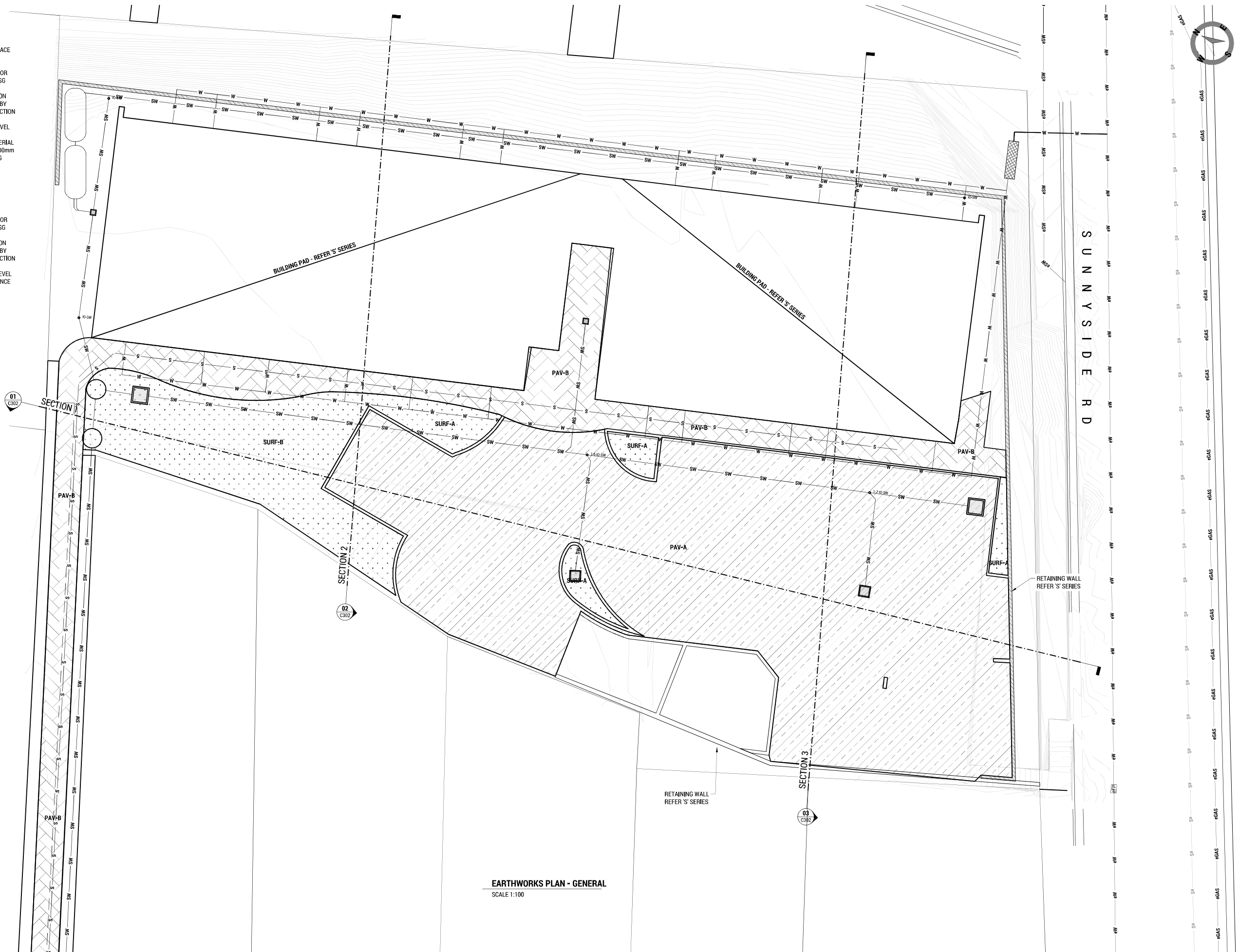
PROJECT No: 220008 DWG No: C101 REV: 5




- STRIP EXISTING TOP SOIL, VEGETATION, HARD SURFACES AND OTHER MATERIAL TO SUBGRADE LEVEL 300mm NOMINAL BELOW FINISHED SURFACE LEVEL
- PROOF ROLL EXPOSED SUB-GRADE AND CARRY OUT SUB-GRADE IMPROVEMENT WITH AN APPROVED EMBANKMENT MATERIAL IMPORTED OR STRIPPED FROM SITE AND PLACED AND TESTED IN ACCORDANCE WITH DSG SPEC. SECTION 204 FOR EMBANKMENT MATERIAL
- CUT AND/OR FILL TO 300mm BELOW FINISHED SURFACE LEVELS SHOWN ON THESE DRAWINGS WITH IMPORTED EMBANKMENT MATERIAL APPROVED BY ENGINEER AND PLACED AND TESTED IN ACCORDANCE WITH DSG SPEC. SECTION 204 FOR EMBANKMENT MATERIAL
- FILL OVER EXPOSED SUBGRADE TO 150mm BELOW FINISHED SURFACE LEVEL WITH 200mm SUB-BASE CLASS 3 MATERIAL. PLACED AND TESTED IN ACCORDANCE WITH DSG SPEC. SECTION 304 FOR SUB-BASE CLASS 3 MATERIAL.
- FILL OVER SUB-BASE TO 35mm BELOW FINISHED SURFACE LEVEL WITH 100mm BASE CLASS 2 MATERIAL. PLACED AND TESTED IN ACCORDANCE WITH DSG SPEC. SECTION 304 FOR BASE CLASS 2 MATERIAL.

- STRIP EXISTING TOP SOIL, VEGETATION, HARD SURFACES AND OTHER MATERIAL TO A MINIMUM DEPTH OF 200mm NOMINAL BELOW EXISTING SURFACE LEVEL
- PROOF ROLL EXPOSED SUB-GRADE AND CARRY OUT SUB-GRADE IMPROVEMENT WITH AN APPROVED EMBAANKMENT MATERIAL IMPORTED OR STRIPPED FROM SITE AND PLACED AND TESTED IN ACCORDANCE WITH DSG SPEC SECTION 204 FOR EMBAANKMENT MATERIAL
- CUT AND/OR FILL TO 200mm BELOW FINISHED SURFACE LEVELS SHOWN ON THESE DRAWINGS WITH IMPORTED EMBAANKMENT MATERIAL APPROVED BY ENGINEER AND PLACED AND TESTED IN ACCORDANCE WITH DSG SPEC SECTION 204 FOR EMBAANKMENT MATERIAL
- FILL OVER EXPOSED SUB-GRADE TO 100mm BELOW FINISHED SURFACE LEVEL WITH 100mm BASE CLASS 2 MATERIAL PLACED AND TESTED IN ACCORDANCE WITH DSG SPEC SECTION 304 FOR BASE CLASS 2 MATERIAL

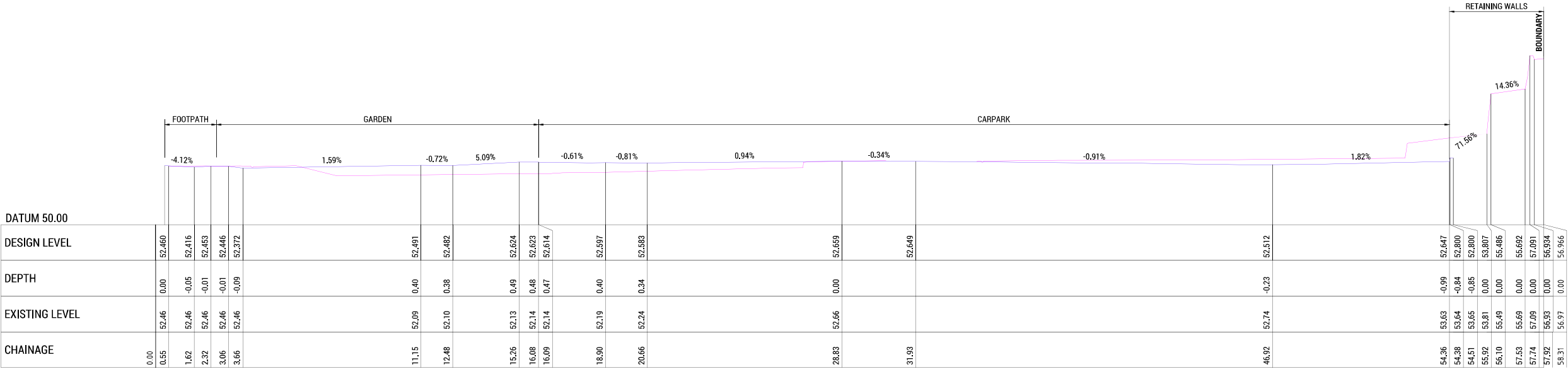
- STRIP EXISTING TOP SOIL, VEGETATION, HARD SURFACES AND OTHER MATERIAL TO A MINIMUM DEPTH OF 200mm NOMINAL BELOW FINISHED SURFACE LEVEL & PLACE 200mm TOPSOIL IN BED



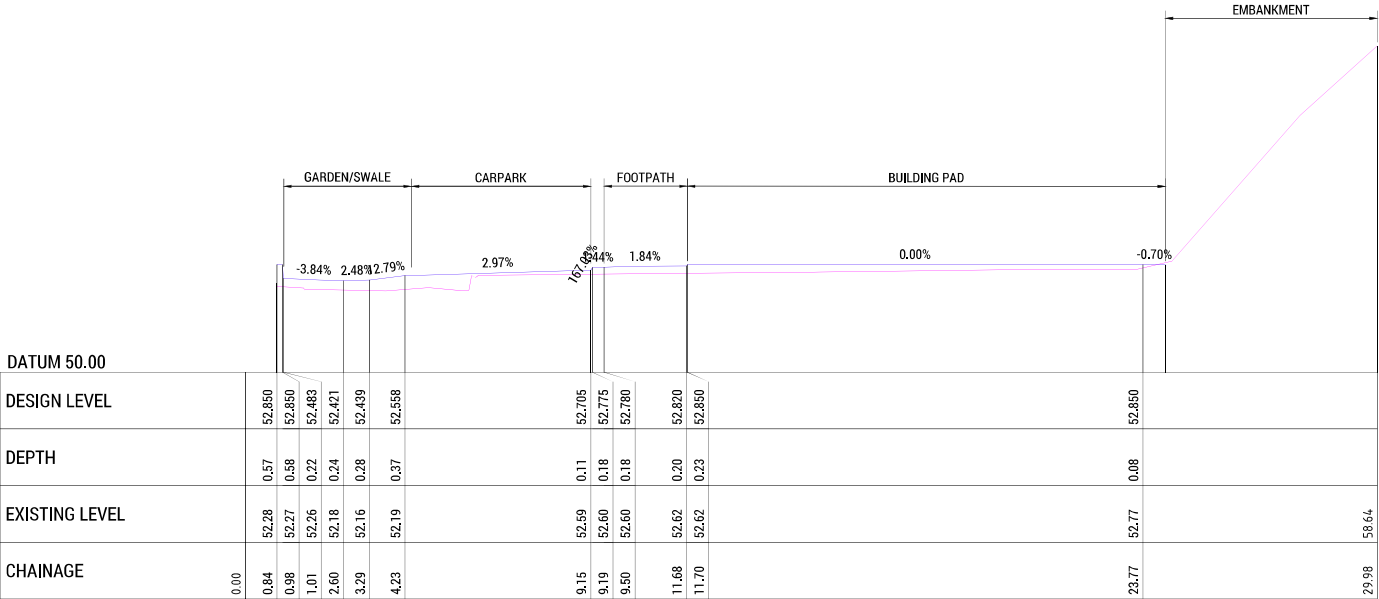
## EARTHWORKS PLAN - GENERAL

				STATUS: <b>PRELIMINARY/INFORMATION</b>		DESIGN BY: <b>BS</b> DESIGN CHK: <b>AJL</b>		<div> 22-24 Paterson Street Launceston TAS 7250 <a href="http://rarein.com.au">rarein.com.au</a> P. 03 6388 9200</div>	CLIENT: <b>COMMUNITIES TASMANIA</b>		TITLE: <b>BULK EARTHWORKS PLAN</b>	
				DO NOT SCALE - IF IN DOUBT, ASK <small>THIS DOCUMENT MAY ONLY BE USED FOR THE PURPOSES FOR WHICH IT WAS PREPARED. © RARE INNOVATION PTY LTD. ABN 51 619 598 257</small>		DRAWN BY: <b>KL</b> DRAFT CHK: <b>BS</b>			PROJECT: <b>SOCIAL HOUSING</b>		SCALE: <b>1:100</b> SHEET SIZE: <b>A1</b> DWGS IN SET: <b>-</b>	
2 <b>80% REVIEW</b> 1 <b>50% DESIGN DEVELOPMENT</b> 0 <b>DEVELOPMENT APPLICATION</b>		KL <b>29-07-22</b> KL <b>24-03-22</b> KL <b>07-03-22</b>		APPROVED: <b>R. JESSON</b> ACRED. NO: <b>CC58481</b> DATE: <b>05-11-21</b>		ADDRESS: <b>73A NEW TOWN RD, NEW TOWN</b>			PROJECT NO: <b>220008</b> DWG NO: <b>C301</b> REV: <b>2</b>			
REV: ISSUED FOR / DESCRIPTION:		BY: DATE:										

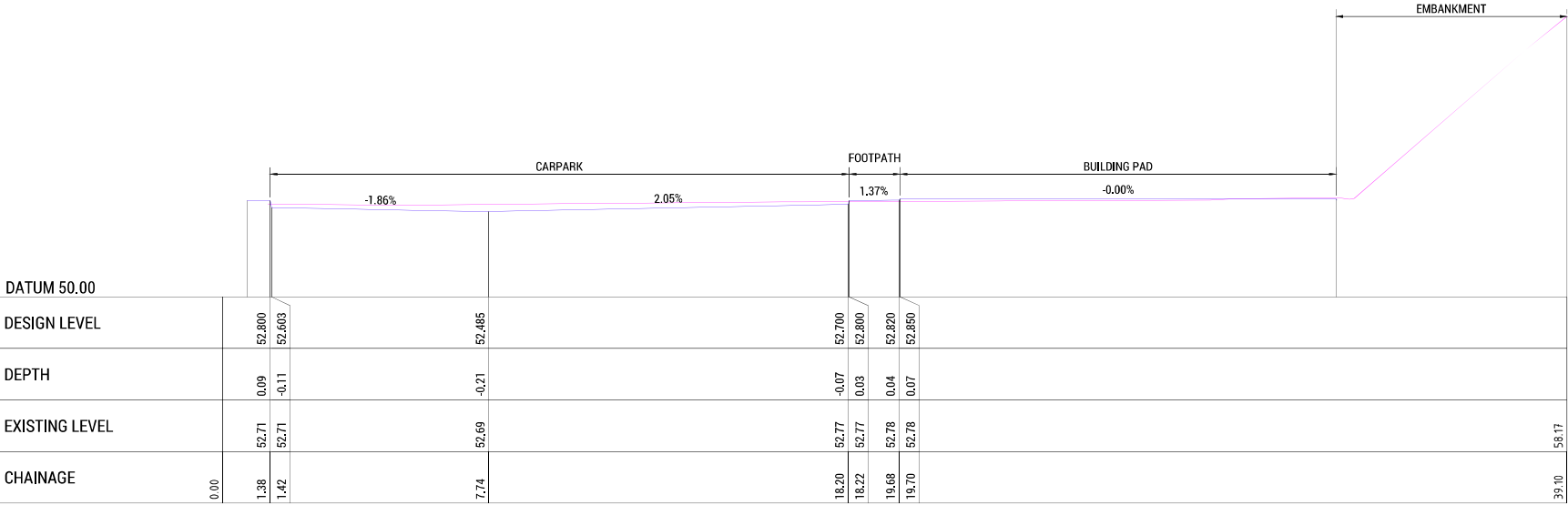




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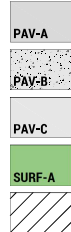
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SCALE: 1:100



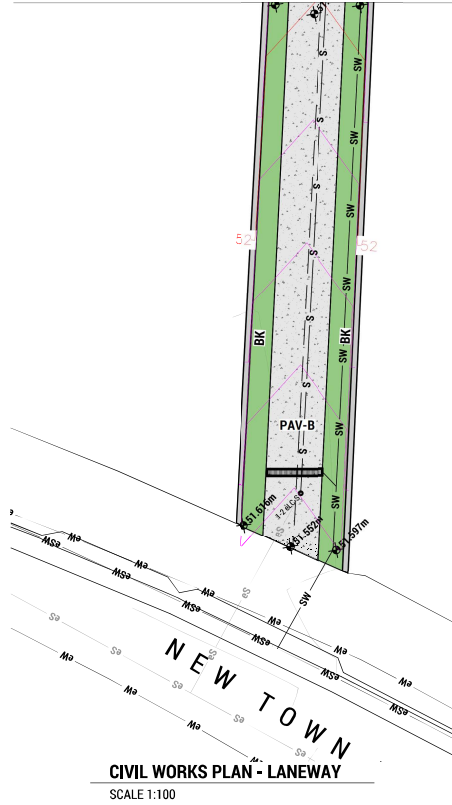
SECTION 3  
SCALE: 1:100

					STATUS:		DESIGN BY: BS		<div><div>rare.</div><div>22-24 Paterson Street Launceston TAS 7250</div><div><a href="http://rarein.com.au">rarein.com.au</a> P. 03 6388 9200</div></div>	CLIENT: COMMUNITIES TASMANIA	TITLE: BULK EARTHWORKS SECTIONS
					PRELIMINARY/INFORMATION		DESIGN CHK: AJL			PROJECT: SOCIAL HOUSING	
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					07-03-22					ADDRESS: 73A NEW TOWN RD, NEW TOWN	SCALE: 1:200 SHEET SIZE: A1 DWGS IN SET: -
					APPROVED: R. JESSON		ACRED. No: CC58481				DATE: 05-11-21
REV: ISSUED FOR / DESCRIPTION:			BY: DATE:								
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2	80% REVIEW	KL	29-07-22								
1	50% DESIGN DEVELOPMENT	KL	24-03-22								
0	DEVELOPMENT APPLICATION	KL	07-03-22								

LEGEND



- HOTMIX - TRAFFICABLE  
REFER DETAILS
- CONCRETE - PEDESTRIAN - LOWER  
REFER DETAILS
- ASPHALT - PEDESTRIAN - LOWER  
REFER DETAILS
- GRASSED / TURFED / LANDSCAPED AREA  
REFER ARCH. SPEC.  
200mm MIN GOOD QUALITY TOP SOIL
- REFER 'S' SERIES FOR DETAILS
- BK BARRIER KERB
- KC KERB & CHANNEL
- BoI BOLLARD - REFER DETAIL
- MH MANHOLE
- SEP SIDE ENTRY PIT
- GP GRATED PIT
- GD GRATED DRAIN
- ME MATCH EXISTING
- RW-1 RETAINING WALL  
REFER STRUCTURAL SERIES
- KCR&B1 KERB & CHANNEL, VEHICULAR, HEAVY DUTY - REFER DETAILS
- PED-B PEDESTRIAN ACCESS RAMP - TYPE B
- SAW SAWCUT
- WS-1 WHEEL STOP -1650x150x100
- EDGE EDGING - REFER DETAIL D15 ON SHEET C701



6	RFI RESPONSE	KL	10-12-22
5	RFI RESPONSE	KL	04-11-22
4	RFI RESPONSE	KL	11-10-22
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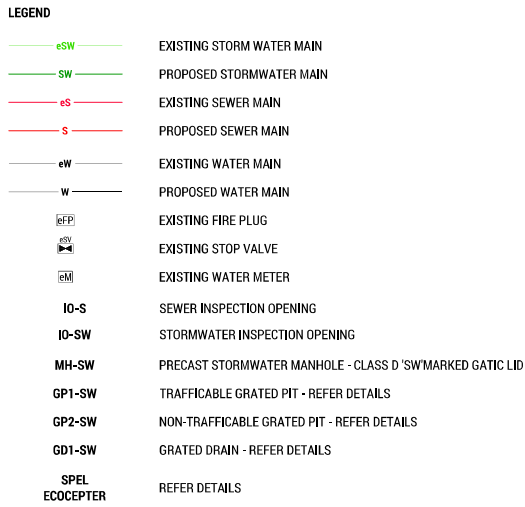
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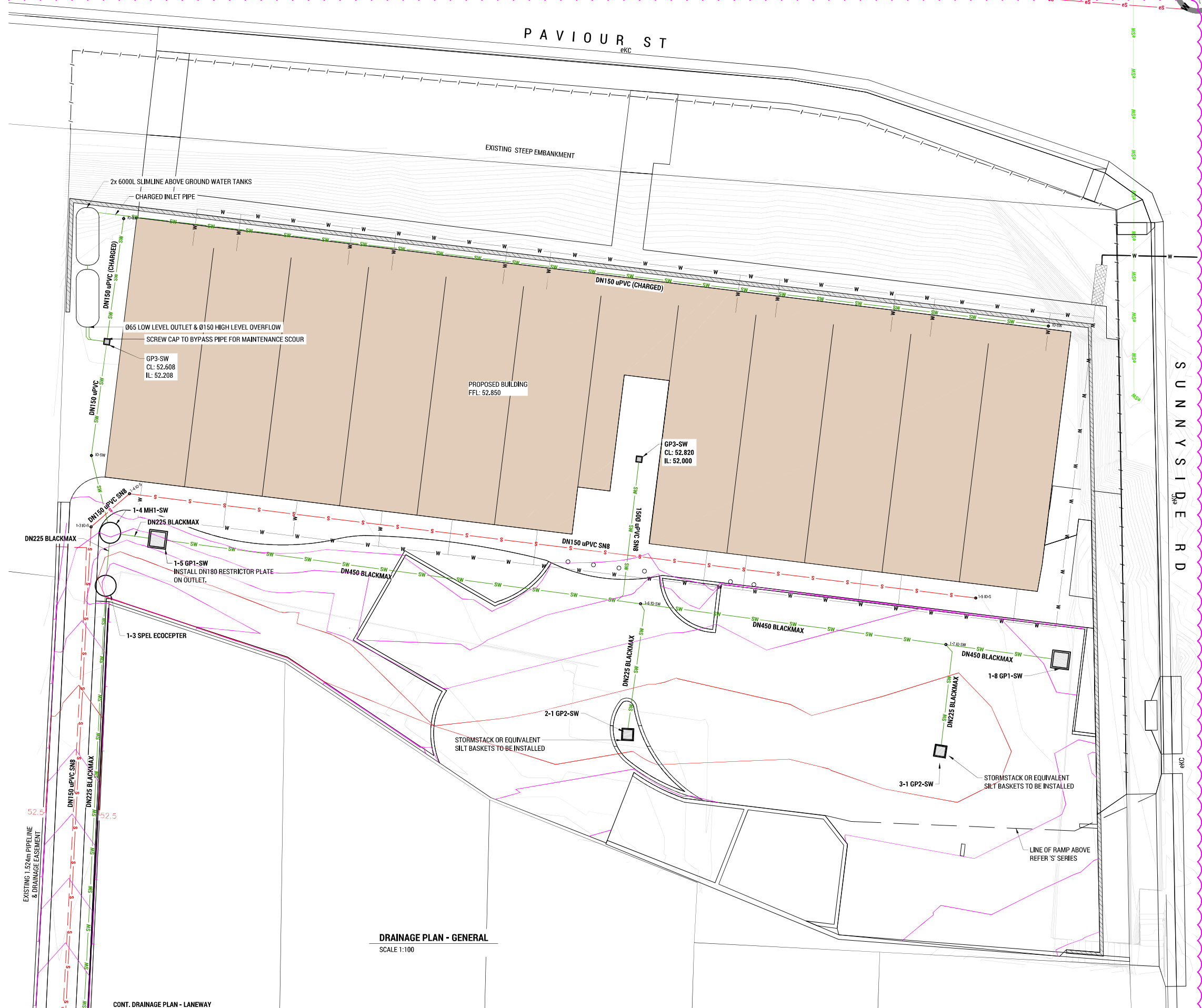
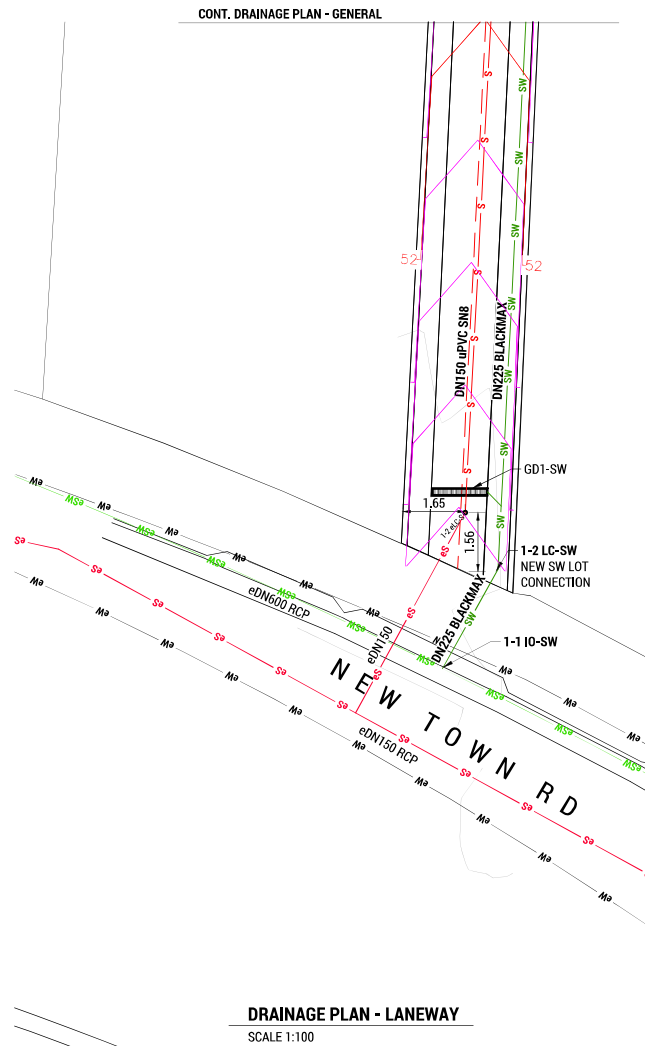
CLIENT:	COMMUNITIES TASMANIA
PROJECT:	SOCIAL HOUSING
ADDRESS:	73A NEW TOWN RD, NEW TOWN


TITLE:	CIVIL WORKS PLAN
SCALE:	1:100
SHEET SIZE:	A1
DWG's IN SET:	-
PROJECT No:	220008
DWG No:	C401
REV:	6



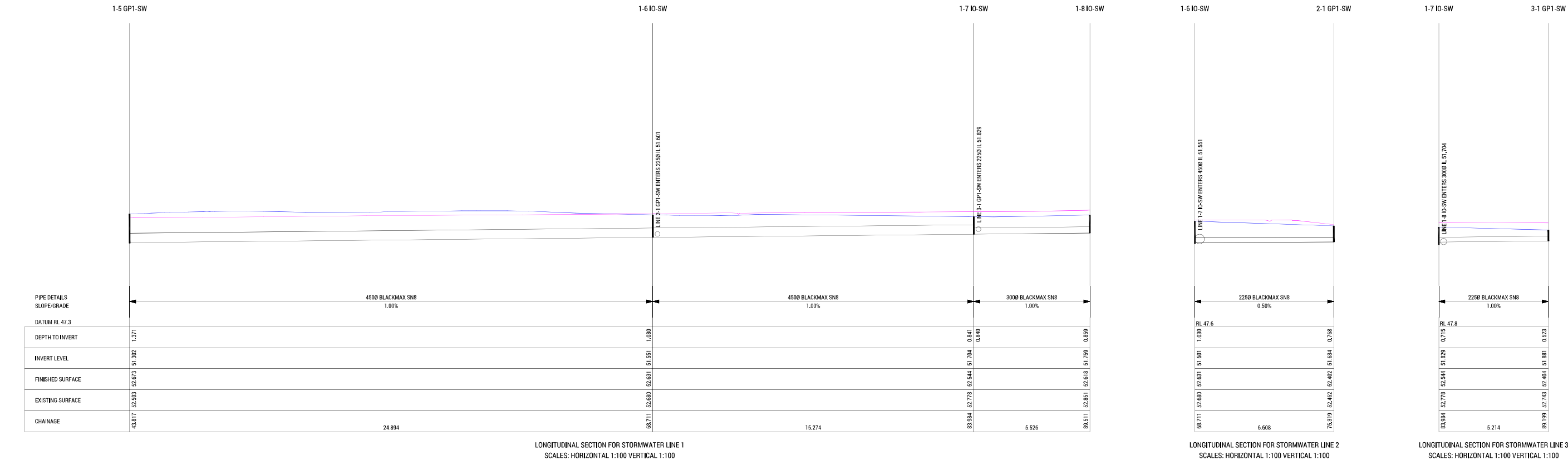
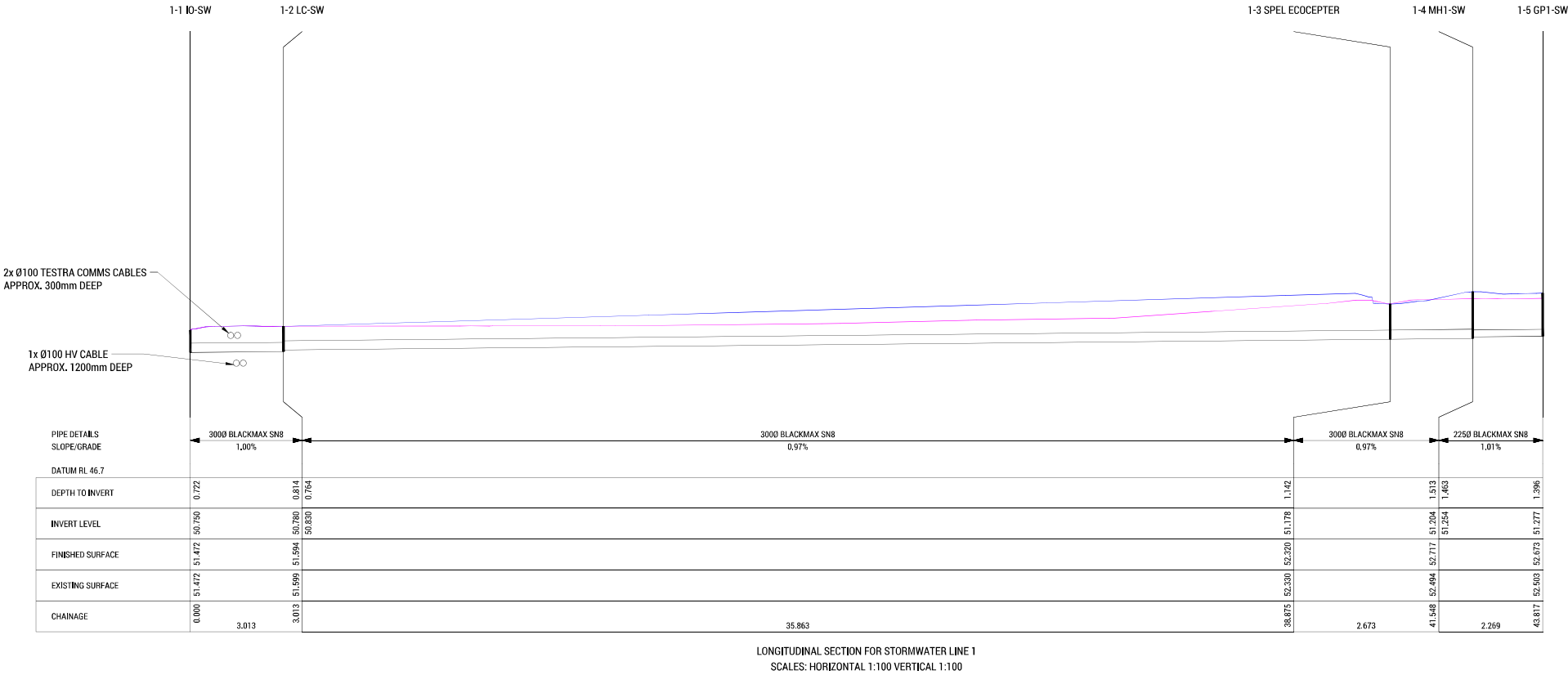


<b>MARK</b>	<b>SIZE</b>	<b>TYPE</b>	<b>ACCESSORIES</b>
GP1-SW	Ø900	PRECAST CONC.	CLASS D GALV. IRON GRATED LID
GP2-SW	Ø600	PRECAST CONC.	CLASS D GALV. IRON GRATED LID
GP3-SW	Ø300	BLACK uPVC	PLAIN ALUMINUM GRATED LID

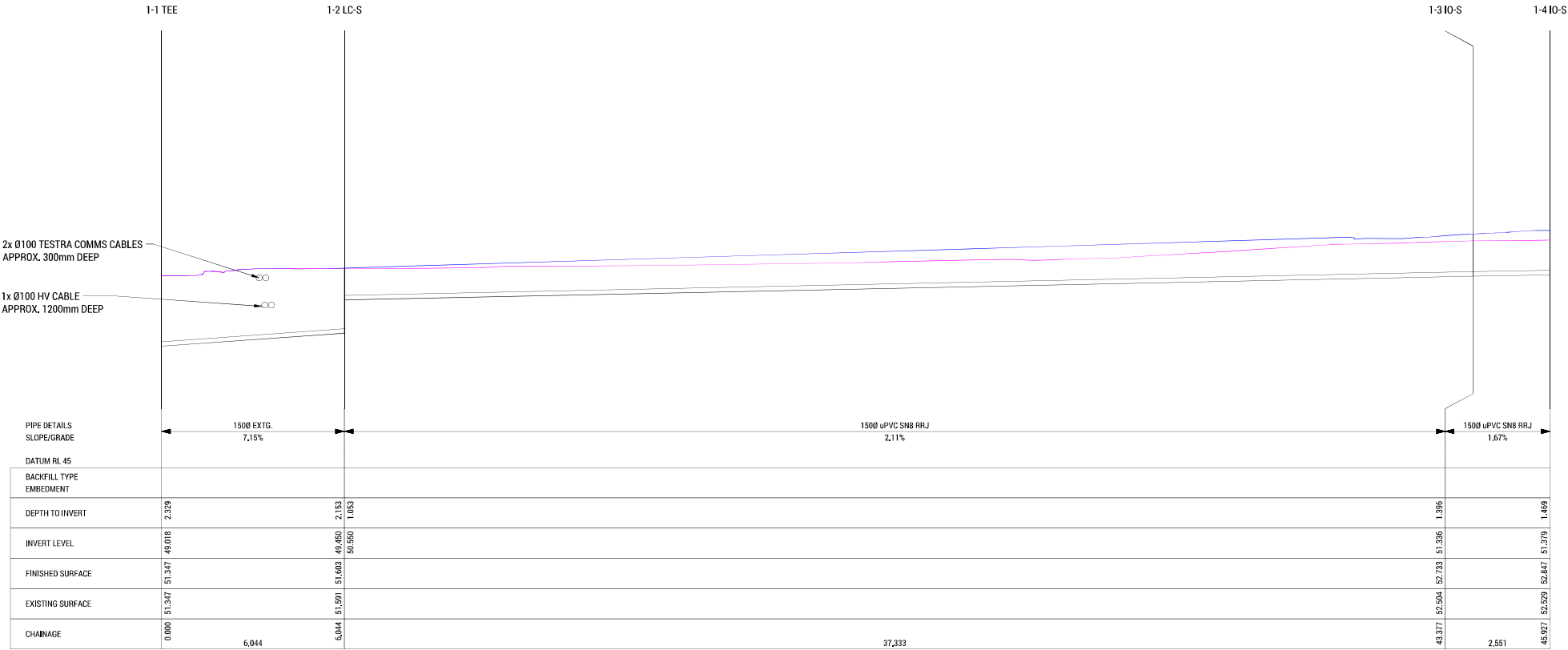


4	RFI RESPONSE	KL	10-12-22	STATUS: <b>PRELIMINARY/INFORMATION</b>		DESIGN BY: <b>BS</b>	 22-24 Paterson Street Launceston TAS 7250 <a href="http://rarein.com.au">rarein.com.au</a> P.03 6388 9200	CLIENT: <b>COMMUNITIES TASMANIA</b>	TITLE: <b>DRAINAGE PLANS</b>
3	RFI RESPONSE	KL	11-10-22			DESIGN CHK: <b>AJL</b>		PROJECT: <b>SOCIAL HOUSING</b>	SCALE: 1:100 SHEET SIZE: <b>A1</b> DWGS IN SET: <b>-</b>
2	80% REVIEW	KL	29-07-22	DO NOT SCALE - IF IN DOUBT, ASK THIS DOCUMENT MAY ONLY BE USED FOR THE PURPOSE FOR WHICH IT WAS PREPARED. © RARE INNOVATION PTY LTD. ABN 51 619 598 257		DRAWN BY: <b>KL</b>		ADDRESS: <b>73A NEW TOWN RD, NEW TOWN</b>	PROJECT No: <b>220008</b> DWG No: <b>C501</b> REV: <b>4</b>
1	50% DESIGN DEVELOPMENT	KL	24-03-22			DRAFT CHK: <b>BS</b>			
0	DEVELOPMENT APPLICATION	KL	07-03-22						
REV: ISSUED FOR / DESCRIPTION:		BY:	DATE:	APPROVED: <b>R. JESSON</b>	ACRED. No: <b>CC5481</b>	DATE: <b>05-11-21</b>			






				STATUS:	DESIGN BY: BS	CLIENT: COMMUNITIES TASMANIA	TITLE: STORMWATER LONG SECTIONS
4	RFI RESPONSE	KL	10-12-22	PRELIMINARY/INFORMATION	DESIGN CHK: AJL	PROJECT: SOCIAL HOUSING	SCALE: 1:100 SHEET SIZE: A1 DWGs IN SET: -
3	RFI RESPONSE			DO NOT SCALE - IF IN DOUBT, ASK	DRAWN BY: KL	ADDRESS: 73A NEW TOWN RD, NEW TOWN	PROJECT No: 220008 DWG No: C511 REV: 4
2	80% REVIEW			THIS DOCUMENT MAY ONLY BE USED FOR THE PURPOSE FOR WHICH IT WAS PREPARED. © RARE INNOVATION PTY LTD. ABN 51 619 598 257	DRAFT CHK: BS		
1	50% DESIGN DEVELOPMENT			APPROVED: R. JESSON	DATE: 05-11-21		
0	DEVELOPMENT APPLICATION			ACRED. No: CC58481			
REV:	ISSUED FOR / DESCRIPTION:	BY:	DATE:				



LONGITUNDINAL SECTION FOR LINE 1  
SCALES: HORIZONTAL 1:100 VERTICAL 1:100

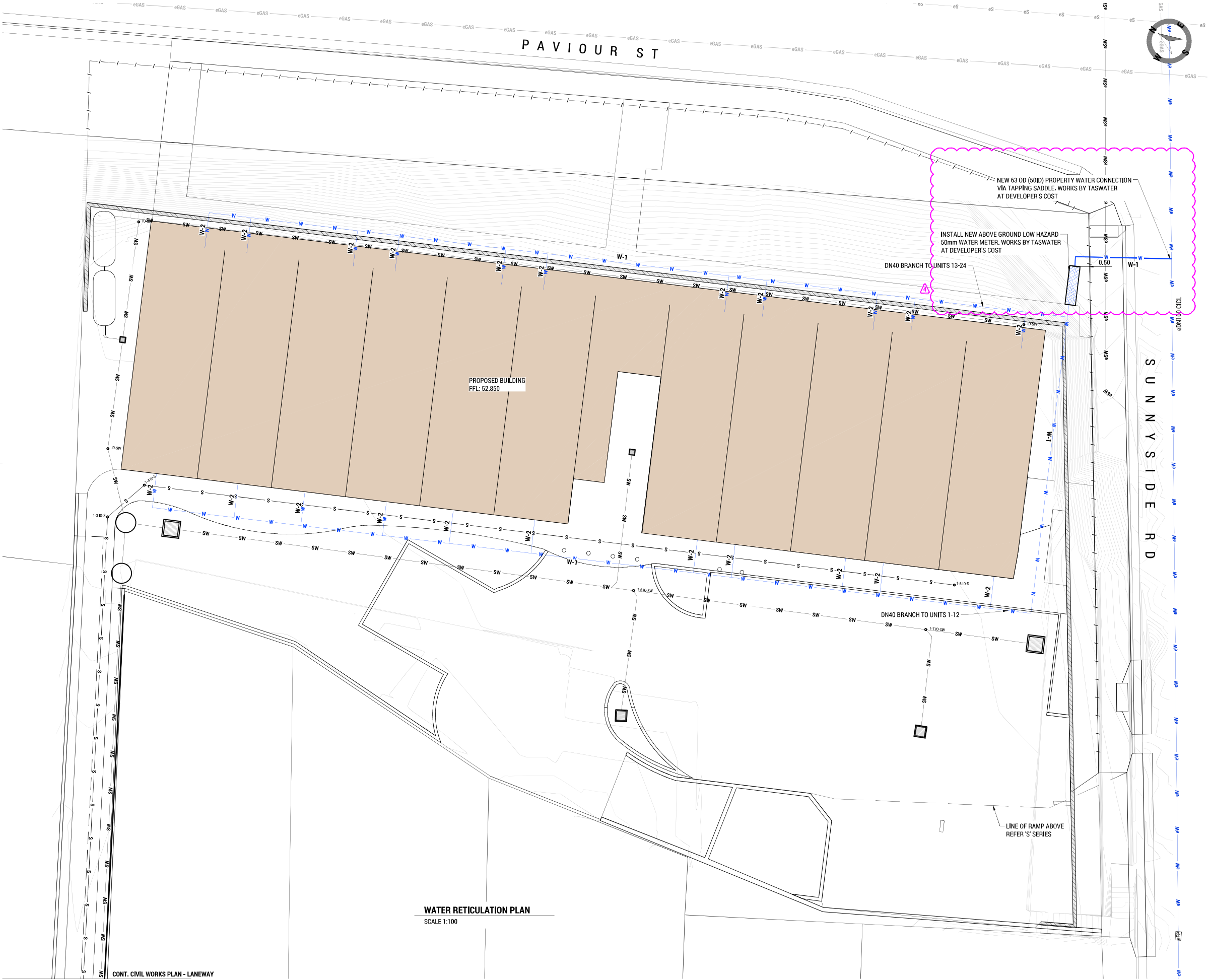




LONGITUNDINAL SECTION FOR LINE 1  
SCALES: HORIZONTAL 1:100 VERTICAL 1:100

			STATUS:		DESIGN BY: BS		<div><div></div><div>22–24 Paterson Street Launceston TAS 7250</div><div><a href="http://rarein.com.au">rarein.com.au</a> P. 03 6388 9200</div></div>	CLIENT: COMMUNITIES TASMANIA	TITLE: SEWER LONG SECTIONS		
4	RFI RESPONSE	KL	10-12-22	PRELIMINARY/INFORMATION	DESIGN CHK: AJL	PROJECT: SOCIAL HOUSING		SCALE: 1:100	SHEET SIZE: A1	DWGS IN SET: -	
3	RFI RESPONSE	KL	11-10-22		DRAWN BY: KL	22–24 Paterson Street Launceston TAS 7250		ADDRESS: 73A NEW TOWN RD, NEW TOWN	PROJECT No: 220008	DWG No: C512	REV: 4
2	80% REVIEW	KL	29-07-22		DRAFT CHK: BS						
1	50% DESIGN DEVELOPMENT	KL	24-03-22								
0	DEVELOPMENT APPLICATION	KL	07-03-22	DO NOT SCALE - IF IN DOUBT, ASK <small>THIS DOCUMENT MAY ONLY BE USED FOR THE PURPOSE FOR WHICH IT WAS PREPARED. © RARE INNOVATION PTY LTD. ABN 51 619 598 257</small>							
REV: ISSUED FOR / DESCRIPTION:		BY:	DATE:	APPROVED: R. JESSON	ACRED. No: CC5848I	DATE: 05-11-21					

- LEGEND
- eW EXISTING WATER MAIN
  - W PROPOSED WATER MAIN
  - eFP EXISTING FIRE PLUG
  - SV EXISTING STOP VALVE
  - eM EXISTING WATER METER

WATER MAIN SCHEDULE		
MARK	PIPE SIZE	TYPE
W-1	50 OD (40 ID)	POLY PE100 SDR11 PN16
W-2	25 OD (20 ID)	POLY PE100 SDR11 PN16



			STATUS: <b>PRELIMINARY/INFORMATION</b>		DESIGN BY: <b>BS</b>	  22-24 Paterson Street Launceston TAS 7250   <b>rarein.com.au</b> P. 03 6388 9200	CLIENT: <b>COMMUNITIES TASMANIA</b>	TITLE: <b>WATER RETICULATION PLAN</b>			
3	RFI RESPONSE	KL 11-10-22	DO NOT SCALE - IF IN DOUBT, ASK		DESIGN CHK: <b>AJL</b>		PROJECT: <b>SOCIAL HOUSING</b>	SCALE: <b>1:100</b>	SHEET SIZE: <b>A1</b>	DWGS IN SET: <b>-</b>	
2	80% REVIEW	KL 29-07-22	THIS DOCUMENT MAY ONLY BE USED FOR THE PURPOSE FOR WHICH IT WAS PREPARED. © RARE INNOVATION PTY LTD. ABN 51 619 598 257		DRAWN BY: <b>KL</b>			ADDRESS: <b>73A NEW TOWN RD, NEW TOWN</b>	PROJECT No: <b>220008</b>	DWG No: <b>C601</b>	REV: <b>3</b>
1	50% DESIGN DEVELOPMENT	KL 24-03-22			DRAFT CHK: <b>BS</b>						
0	DEVELOPMENT APPLICATION	KL 07-03-22			DATE: <b>05-11-21</b>						
REV:	ISSUED FOR / DESCRIPTION:		BY:	DATE:	APPROVED: <b>R. JESSON</b>	ACRED. No: <b>CC58481</b>					



LEGEND

HOSE REACH AREA


FIRE TRUCK HOSE

EFPP

EXISTING FIRE PLUG



FIRE HYDRANT COVER PLAN - UNITS 1-11  
SCALE 1:100

				STATUS: <b>PRELIMINARY/INFORMATION</b>		DESIGN BY: <b>BS</b>	<div><div></div><div>22-24 Paterson Street Launceston TAS 7250</div><div><a href="http://rarein.com.au">rarein.com.au</a> P. 03 6388 9200</div></div>	CLIENT: <b>COMMUNITIES TASMANIA</b>	TITLE: <b>FIRE HYDRANT COVER PLAN - UNITS 1-11</b>
				DO NOT SCALE - IF IN DOUBT, ASK		DESIGN CHK: <b>AJL</b>		PROJECT: <b>SOCIAL HOUSING</b>	
				THIS DOCUMENT MAY ONLY BE USED FOR THE PURPOSE FOR WHICH IT WAS PREPARED. © RARE INNOVATION PTY LTD. ABN 51 619 598 257		DRAWN BY: <b>KL</b>		ADDRESS: <b>73A NEW TOWN RD, NEW TOWN</b>	SCALE: <b>1:100</b> SHEET SIZE: <b>A1</b> DWGS IN SET: <b>-</b>
				APPROVED: <b>R. JESSON</b>		DRAFT CHK: <b>BS</b>			PROJECT No: <b>220008</b> DWG No: <b>C611</b> REV: <b>2</b>
		KL	29-07-22	BY:	DATE:	DATE: <b>05-11-21</b>			
2	80% REVIEW	KL	24-03-22						
1	50% DESIGN DEVELOPMENT	KL	07-03-22						
0	DEVELOPMENT APPLICATION	KL							
REV:	ISSUED FOR / DESCRIPTION:								

LEGEND


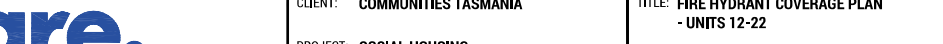
HOSE REACH AREA

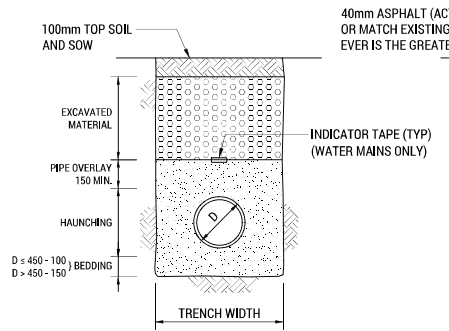
FIRE TRUCK HOSE

EXISTING FIRE PLUG

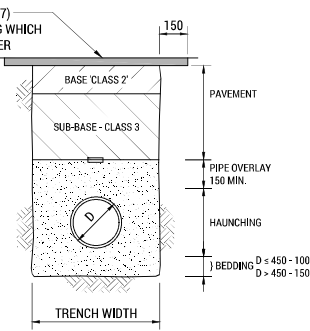


FIRE HYDRANT COVERAGE PLAN - UNITS 12-22  
SCALE 1:100

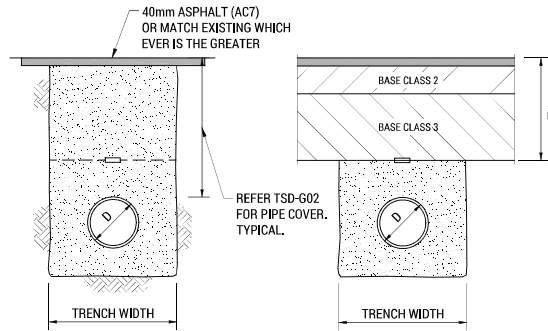
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				DO NOT SCALE - IF IN DOUBT, ASK		DESIGN CHK: <b>AJL</b>			PROJECT: <b>SOCIAL HOUSING</b>			
				THIS DOCUMENT MAY ONLY BE USED FOR THE PURPOSE FOR WHICH IT WAS PREPARED. © RARE INNOVATION PTY LTD. ABN 51 619 598 257		DRAWN BY: <b>KL</b>			ADDRESS: <b>73A NEW TOWN RD, NEW TOWN</b>			
				APPROVED: <b>R. JESSON</b>		DRAFT CHK: <b>BS</b>			SCALE: <b>1:100</b> SHEET SIZE: <b>A1</b> DWGS IN SET: <b>-</b>			
2	80% REVIEW	KL	29-07-22	BY:	DATE:	ACRED. No: <b>CC58481</b>	DATE: <b>05-11-21</b>					
1	50% DESIGN DEVELOPMENT	KL	24-03-22									
0	DEVELOPMENT APPLICATION	KL	07-03-22									
REV: ISSUED FOR / DESCRIPTION:												



**D01 TRENCHES - NON-TRAFFICABLE**  
SCALE 1:20



**D02 TRENCHES - EXISTING ROADS**  
SCALE 1:20



**D03 TRENCHES - NEW ROADS**  
SCALE 1:20

TRENCH WIDTH		
PIPE TYPE	NOM. DIA (D)	TRENCH WIDTH
CONCRETE	≤ 1500	D + 300
	> 1500	DESIGN REQ.
	100	300
OTHER PIPES	150	450
	225-300	600
	450	750
	450-1500	D + 600
	> 1500	DESIGN REQ.

MINIMUM TRENCH WIDTHS MAY BE VARIED ABOVE THE PIPE OVERLAY ZONE TO MEET 'WORKPLACE STANDARDS' REQUIREMENTS.  
ie EXCAVATIONS OVER 1.5m MAY REQUIRE RISK ASSESSMENT.

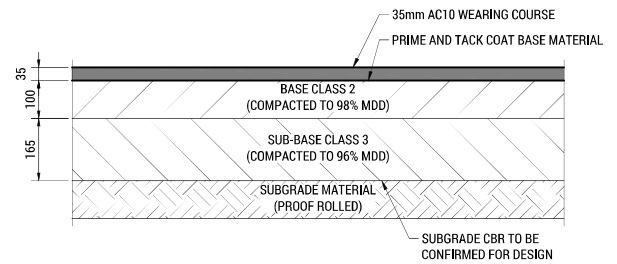
COMPACTION OF BEDDING, HAUNCHING & OVERLAY  
REFER TO AS 1289-5.5  
CONCRETE PIPES = MIN. DENSITY INDEX = 60% (85% STD. COMPACTION)  
UPVC PIPES = DENSITY INDEX = 65% (90% STD. COMPACTION)  
DCL PIPES = DENSITY INDEX = 65% (90% STD. COMPACTION)

BEDDING, HAUNCHING AND OVERLAY MATERIAL  
BEDDING, HAUNCHING AND PIPE OVERLAY MATERIAL SHALL CONTAIN NO DELETERIOUS MATERIAL OR CLAY LUMPS AND SHALL COMPLY WITH THE FOLLOWING GRADINGS:

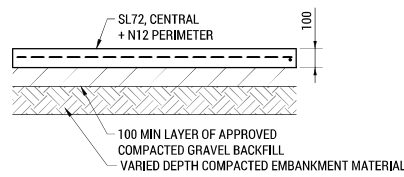
FOR UPVC AND DUCTILE IRON PIPES SAND OR CRUSHED ROCK (STONE DUST)	% PASSING (BY MASS)
SIEVE APERTURE (mm)	
TO AS 1152	
6.7	100
2.36	70-100
0.6	20-90
0.3	8-50
0.15	0-20
0.075	0-10

FOR CONCRETE PIPES CRUSHED ROCK	% PASSING (BY MASS)
SIEVE APERTURE (mm)	
TO AS 1152	
19	100
2.36	50-100
0.6	20-90
0.3	10-60
0.15	0-25
0.075	0-10

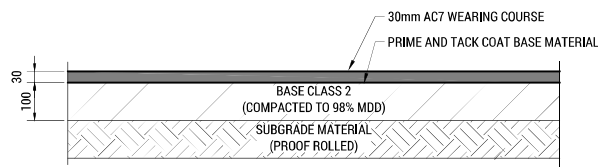
ALL MATERIAL SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH AS 3725 AND TO THE SATISFACTION OF THE SUPERINTENDENT.



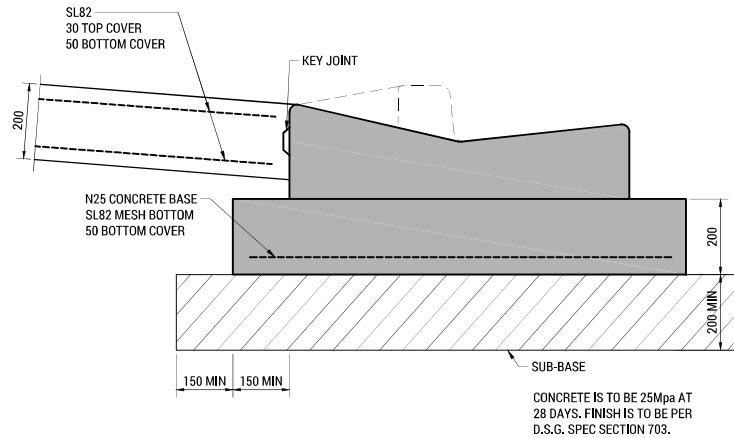
**D04 HOT MIX PAVEMENT - ROADWAYS - PAV-A**  
SCALE 1:10  
MIN CBR 4% (CONTRACTOR TO CONFIRM ONSITE)



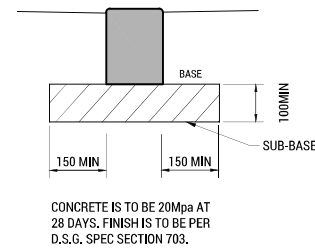
**D05 SECTION DETAIL - PAVEMENT 'B' (TYP.)**  
SCALE 1:20  
REFER IPWEA STD DWG TSD-R11-v3 FOR ADDITIONAL FOOTPATH DETAILS



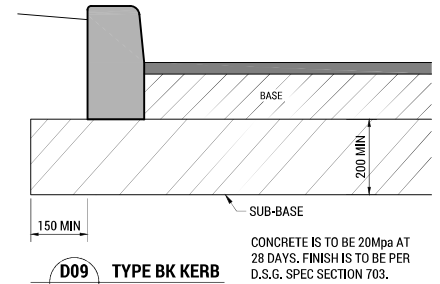
**D06 HOT MIX PAVEMENT - PEDESTRIAN - PAV-C**  
SCALE 1:10  
MIN CBR 4% (CONTRACTOR TO CONFIRM ONSITE)



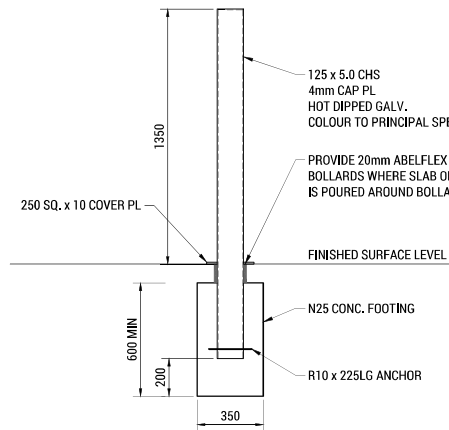
**D07 TYPE KCRB KERB - VEHICULAR CROSSING HEAVY DUTY BASE**  
SCALE 1:10



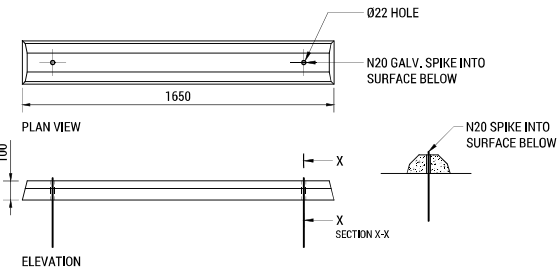
**D08 TYPE FK KERB**  
SCALE 1:10  
REFER IPWEA STD DWG TSD-R14-v3 FOR APPROVED KERB & CHANNEL PROFILES & DIMENSIONS



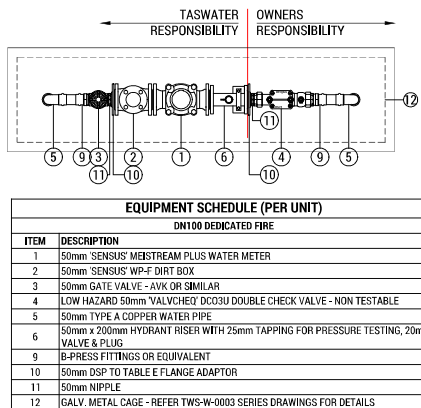
**D09 TYPE BK KERB**  
SCALE 1:10  
REFER IPWEA STD DWG TSD-R14-v3 FOR APPROVED KERB & CHANNEL PROFILES & DIMENSIONS



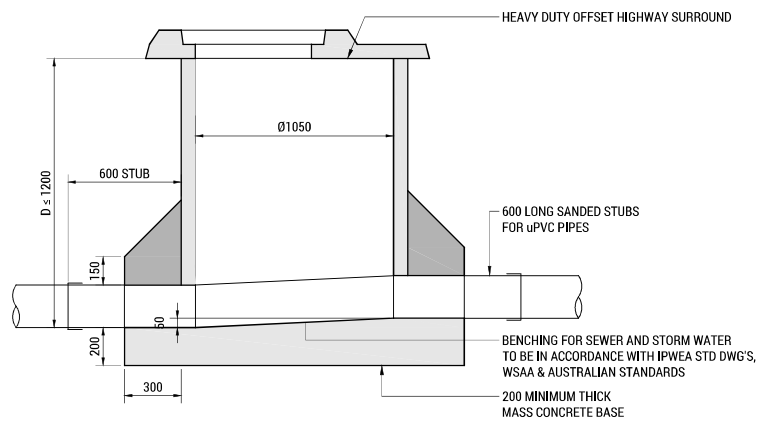
**D10 FIXED BOLLARD 'BoI' DETAIL**  
SCALE 1:20  
REFER LGAT STD DWG TSD-R31-v3 & TSD-R32-v3 FOR ADDITIONAL DETAILS



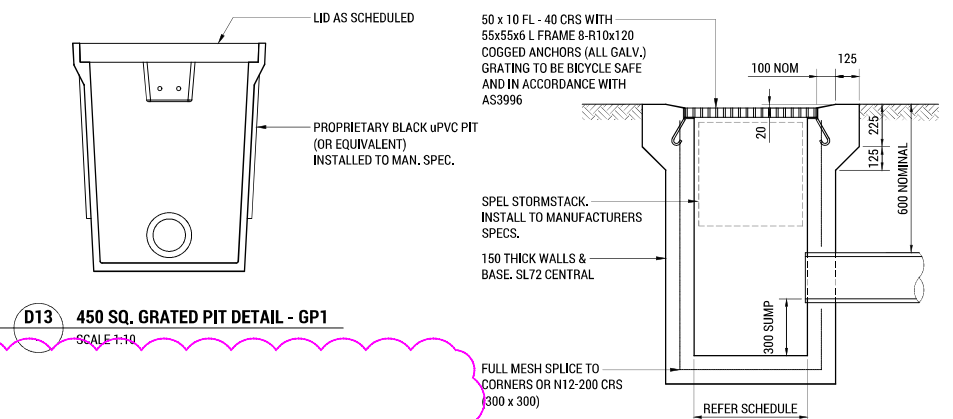
**D11 TYPICAL WHEEL STOP DETAIL**  
SCALE 1:20  
NOTE:  
HUDSON CIVIL PRODUCT WHEEL STOP (1650 LONG x 100 HIGH) INSTALLED TO MANUFACTURERS SPECIFICATION



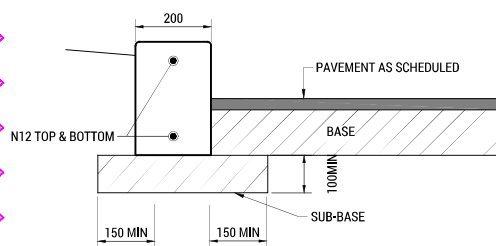
**D15 50mm LOW HAZARD METER ARRANGEMENT**  
SCALE 1:20



**D12 DETAIL OF MANHOLE - D ≤ 1200**  
SCALE 1:20  
REFER IPWEA STD DWG TSD-SW02-v3 FOR STORMWATER MANHOLE DETAILS  
REFER WSAA STD DWG'S FOR SEWER MANHOLE DETAILS



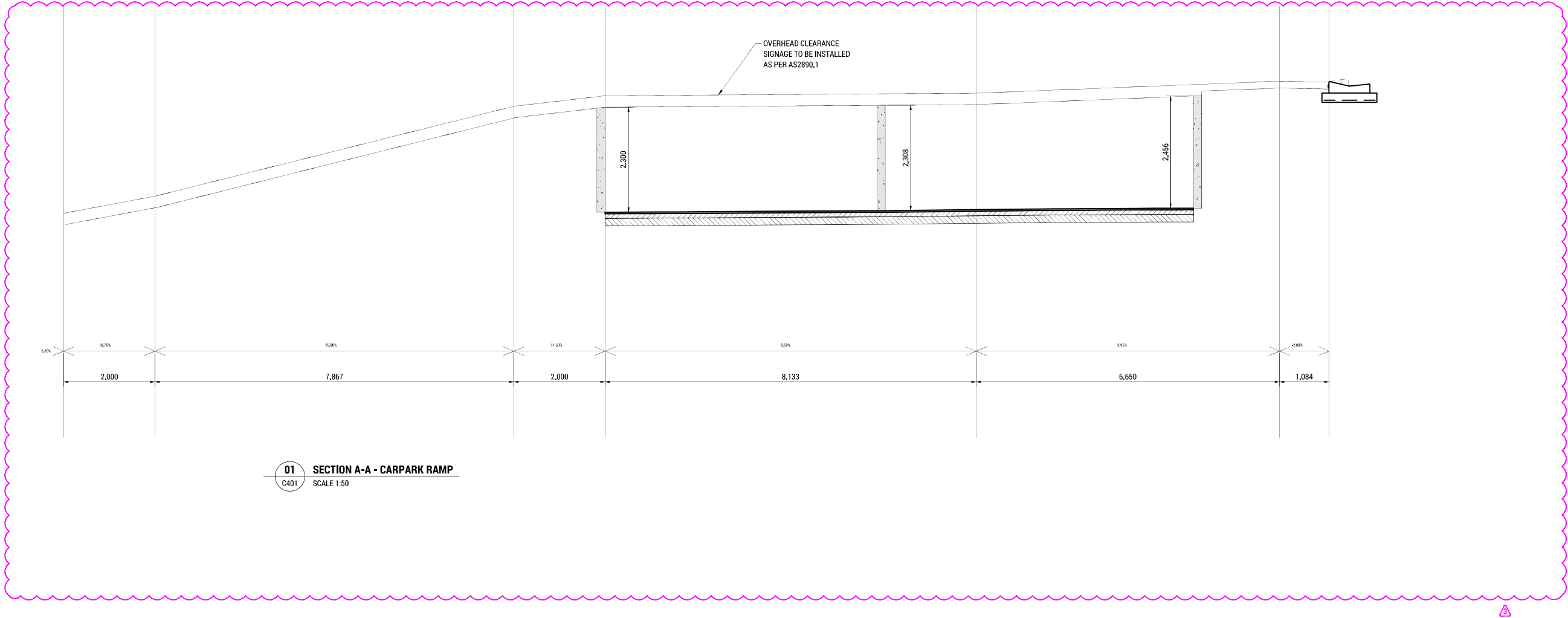
**D13 450 SQ. GRATED PIT DETAIL - GP1**  
SCALE 1:10



**D15 EDGING DETAIL (EDGE)**  
SCALE 1:10

5	RFI RESPONSE	KL	04-11-22	STATUS: <b>PRELIMINARY/INFORMATION</b>	DESIGN BY:	BS	CLIENT: <b>COMMUNITIES TASMANIA</b>	TITLE: <b>SECTIONS &amp; DETAILS - SHEET 1</b>
4	RFI RESPONSE	KL	11-10-22		DESIGN CHK:	AJL		
3	80% REVIEW	KL	29-07-22		DRAWN BY:	KL		
2	COUNCIL RFI RESPONSE	KL	17-06-22	DO NOT SCALE - IF IN DOUBT, ASK THIS DOCUMENT MAY ONLY BE USED FOR THE PURPOSE FOR WHICH IT WAS PREPARED. © RARE INNOVATION PTY LTD. ABN 51 619 598 257	DRAFT CHK:	BS	PROJECT: <b>SOCIAL HOUSING</b>	SCALE: 1:10, 1:20 SHEET SIZE: A1 DWGs IN SET: -
1	50% DESIGN DEVELOPMENT	KL	24-03-22					
0	DEVELOPMENT APPLICATION	KL	07-03-22					
REV:	ISSUED FOR / DESCRIPTION:	BY:	DATE:	APPROVED: <b>A. LEAKE</b>	ACRED. No:	CC5452A	ADDRESS: <b>73A NEW TOWN ROAD, NEW TOWN</b>	PROJECT No: <b>220008</b> DWG No: <b>C701</b> REV: <b>5</b>





				STATUS: <b>PRELIMINARY/INFORMATION</b>		DESIGN BY: BS	<b>rare.</b> <small>22-24 Paterson Street Launceston TAS 7250</small> <a href="http://rarein.com.au">rarein.com.au</a> <small>P.03 6388 9200</small>	CLIENT: COMMUNITIES TASMANIA	TITLE: SECTIONS & DETAILS - SHEET 2
3	RFI RESPONSE	KL	10-12-22	DESIGN CHK: AJL		DRAWN BY: KL		PROJECT: SOCIAL HOUSING	
2	RFI RESPONSE	KL	04-11-22	DRAFT CHK: BS				ADDRESS: 73A NEW TOWN RD, NEW TOWN	
1	RFI RESPONSE	KL	11-10-22						
0	80% REVIEW	KL	29-07-22						
REV:	ISSUED FOR / DESCRIPTION:		BY:	DATE:	APPROVED: R. JESSON	ACRED. No: CC58481	DATE: 05-11-21		PROJECT No: 220008 DWG No: C702 REV: 3

## GENERAL

### 1. NOTICE TO TENDERER

THE CONTRACTOR / TENDERER IS TO MAKE THEMSELVES AWARE OF THE LOCAL COUNCIL AND THE DEPARTMENT OF STATE GROWTH (D.S.G.) STANDARDS FOR CIVIL WORKS. CONSTRUCTION IS TO BE CARRIED OUT TO THESE STANDARDS. TENDERER IS TO ALLOW FOR THESE STANDARDS DURING PRICING. COPIES OF THE STANDARDS ARE AVAILABLE FOR INSPECTION UPON REQUEST FROM THE LOCAL COUNCIL OR D.S.G.'s WEB SITE.

### 2. NOTIFICATION

THE CONTRACTOR IS TO NOTIFY ALL RELEVANT STATUTORY AUTHORITIES PRIOR TO COMMENCING ANY WORK FOR THE POSSIBLE LOCATION OF ANY EXISTING SERVICES NOT SHOWN ON THESE PLANS, AND IS TO NOTIFY THE SUPERINTENDENT OF THE SAME. ALL EXISTING SERVICES ARE TO BE PROTECTED DURING CONSTRUCTION. ANY DAMAGE TO EXISTING SERVICES IS TO BE MADE GOOD AT THE CONTRACTOR'S EXPENSE.

### 3. DRAWINGS AND SPECIFICATIONS

THESE DRAWINGS AND SPECIFICATIONS HAVE BEEN PREPARED FOR THE PURPOSE OF OBTAINING COUNCIL APPROVAL AND CALLING OF TENDERS. THEY ARE NOT TO BE USED FOR CONSTRUCTION. A CONSTRUCTION SET OF DRAWINGS STAMPED "CONSTRUCTION SET" WILL BE ISSUED PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

### 4. COMMON TRENCHING

WHERE ANY COMMON TRENCHING IS REQUIRED, THE FOLLOWING CLEARANCE DISTANCES (BARREL TO BARREL) MUST BE MAINTAINED FROM EXISTING OR PROPOSED SERVICES:

HORIZONTALLY:

- 300mm ALONG A LENGTH GREATER THAN 2 METRES.
- 500mm MINIMUM FROM ANY MAIN GREATER THAN 200mm DIA.
- 150mm MINIMUM ALONG A LENGTH LESS THAN 2 METRES.

VERTICALLY:

- 150mm MINIMUM
- 300mm MINIMUM FROM ANY MAIN GREATER THAN 200mm DIA.

ELECTRICAL CABLES SHOULD BE LOCATED ON THE OPPOSITE SIDE OF THE STREET. WHERE THIS IS NOT POSSIBLE A 400mm MINIMUM DISTANCE MUST BE OBSERVED OF WHICH 300mm SHOULD BE IN NATURAL AND UNDISTURBED MATERIAL.

### 5. TASNETWORKS TRENCHING

THE CONTRACTOR IS TO ALLOW FOR EXCAVATION AND BACKFILLING OF ALL TRENCHES FOR THE INSTALLATION OF TASNETWORKS CABLES. CONTRACTOR IS TO LIAISE WITH THE TASNETWORKS FOR THE EXTENT OF CABLE TRENCHING, CONDUITS & PITS.

### 6. COMMUNICATION TRENCHING

THE CONTRACTOR IS TO ALLOW FOR EXCAVATION AND BACKFILLING OF ALL TRENCHES FOR THE INSTALLATION OF COMMUNICATIONS CABLES. CONTRACTOR IS TO LIAISE WITH COMMUNICATION AUTHORITY FOR THE EXTENT OF CABLE TRENCHING.

### 7. EXISTING SERVICES

LOCATE EXISTING SERVICES PRIOR TO COMMENCING DEMOLITION AND SITE WORKS. THE CONTRACTOR IS TO ARRANGE AND PAY FOR THE ON SITE MARKING AND CONFIRMATION OF DEPTH OF SERVICE LOCATIONS FOR ALL UNDERGROUND SERVICES INCLUDING COMMUNICATIONS, TASNETWORKS, TASWATER (WATER & SEWER) AND COUNCIL SERVICES (ie. STORMWATER) IN THE AREA OF NEW WORKS. LOCATION TO BE CONFIRMED USING CABLE LOCATORS AND HAND DIGGING METHODS. PRIOR TO ANY WORKS ON SITE, ANY CLASHES WITH DESIGNED SERVICES ON FOLLOWING DRAWINGS ARE TO BE REPORTED TO DESIGN ENGINEER FOR DIRECTION.

### 8. COUNCIL & AUTHORITIES APPROVALS

ALL WORKS ARE TO BE IN ACCORDANCE WITH THE FOLLOWING APPROVALS:

- NIL

### 9. SIGNAGE

ALL SIGN WORKS AND INSTALLATION TO BE IN ACCORDANCE WITH CURRENT VERSION OF MUTCD & AUSTRROADS FOR SIGNAGE DETAILS.

### 10. SCOPE OF WORKS

THE SCOPE OF WORKS ARE SHOWN IN THESE DOCUMENTS AND THE SPECIFICATION. IT IS EXPECTED THE CONTRACTOR WILL RESOLVE ALL ISSUES UNCOVERED ON SITE THAT ARE NOT DETAILED IN CONJUNCTION WITH THE SUPERINTENDENT.

## GENERAL CONT.

### 11. LINE TYPE LEGEND

	DN100 AGG PIPE OR MEGAFLW DRAIN AS NOTED @ 1:100 FALL TO STORM WATER SYSTEM
	EXISTING STORM WATER MAIN (CONFIRM EXACT LOCATION)
	PROPOSED STORM WATER MAIN
	EXISTING SEWER MAIN (CONFIRM EXACT LOCATION)
	PROPOSED SEWER MAIN
	EXISTING WATER MAIN (CONFIRM EXACT LOCATION)
	PROPOSED WATER MAIN
	EXISTING GAS MAIN (CONFIRM EXACT LOCATION)
	PROPOSED GAS MAIN
	EXISTING UNDERGROUND TELECOM / FIBRE OPTIC LINE (CONFIRM EXACT LOCATION)
	DEMOLITION

### 12. SITE WORKS SYMBOLS LEGEND

PEO	PEDESTRIAN RAMP
TYPE BK	BARRIER KERB
TYPE KC	KERB AND CHANNEL
TYPE KCS	KERB AND CHANNEL - SMALL
TYPE KCM	MOUNTABLE KERB AND CHANNEL
TYPE KCV	VEHICULAR CROSSING
	BOLLARD, REFER DETAIL
WS1	HUDSON CIVIL PRECAST CONCRETE WHEEL STOP (2000 LONG x 100 HIGH)

### 13. BUILDING SERVICES SYMBOLS LEGEND

	TELECOMMUNICATION PIT
--	-----------------------

### 14. SURVEY SYMBOLS LEGEND

e	EXISTING
	SPOT LEVEL WITH DESCRIPTION
	EXISTING SPOT LEVEL

### 15. DRAINAGE SYMBOLS LEGEND

Mfx-SW	STORMWATER MANHOLE
Mfx-S	SEWER MANHOLE
GPx-SW	GRADED/GULLY PIT - STORM WATER
GDx-SW	GRADED DRAIN - STORM WATER
SEfx-SW	SIDE ENTRY PIT - STORM WATER
uPVC	UNPLASTICIZED POLYVINYL CHLORIDE
RCF	REINFORCED CONCRETE PIPE (OR FCR) CLASS 4 (Z)
DN	NOMINAL DIAMETER
CL	COVER LEVEL
IL	INVERT LEVEL
DP	DOWN PIPE
o KS	INSPECTION OPENING
KS	INSPECTION OPENING TO SURFACE
III	GRADED PIT

### 16. WATER RETICULATION SYMBOLS LEGEND

	DN100 METER
	METER
	CHECK METER
	FIRE PLUG
	ISOLATION VALVE
	CHECK VALVE
	STRAINER
	MONITORED VALVE
	BALANCE VALVE
	STOP VALVE
	DN100 LOCKABLE STOP VALVE
	DN100 REFLEX VALVE
	BACK FLOW PREVENTION DEVICE
	PRESSURE REDUCING VALVE
	HOSE BIB COCK
	FIRE HYDRANT
	DUAL HEAD FIRE HYDRANT
	FIRE HOSE REEL

## EARTHWORKS

### 1. GENERAL

GENERAL EARTHWORKS, MATERIAL AND WORKMANSHIP SHALL COMPLY WITH THIS SPECIFICATION AND THE CURRENT EDITION OF THE S.A.A. CODE FOR EARTHWORKS AS 3798 TOGETHER WITH ANY CODES, STANDARDS OR REGULATIONS REFERRED TO THEREIN.

### 2. INSPECTIONS

THE CONTRACTOR IS TO ENGAGE AN APPROVED GEOTECHNICAL ENGINEER TO CARRY OUT LEVEL 3 TESTING OF ALL EARTH WORKS TO AS 3798, INCLUDING:

- SUBGRADE
- FILLS
- PAVEMENTS
- BACKFILLING OF SERVICE TRENCHES

CERTIFICATION OF THESE ELEMENTS IS TO BE PROVIDED PRIOR TO PRACTICAL COMPLETION

### 3. AREAS OF FILL

A. REMOVE TOP SOIL AND ORGANIC MATERIAL  
B. PROOF ROLL SUBGRADE IN ACCORDANCE WITH AS1289 TO:

- 98% STANDARD DRY DENSITY UNDER BUILDING
- 98% STANDARD DRY DENSITY UNDER ROADS AND CARPARKS
- REMOVE ANY SOFT SPOTS AND COMPACT WITH 2% OF OPTIMUM MOISTURE CONTENT TO STANDARD DRY DENSITY AS STATED ABOVE

C. PLACE FILL AS SPECIFIED AND COMPACT WITHIN 2% OF OPTIMUM MOISTURE CONTENT TO STANDARD DRY DENSITY AS STATED ABOVE

### 4. AREAS OF CUT

A. REMOVE TOP SOIL AND ORGANIC MATERIAL  
B. PROOF ROLL SUBGRADE IN ACCORDANCE WITH AS1289 TO:

- 98% STANDARD DRY DENSITY UNDER BUILDINGS
- 98% STANDARD DRY DENSITY UNDER ROADS AND CAR PARKS
- REMOVE ANY SOFT SPOTS AND COMPACT WITH 2% OF OPTIMUM MOISTURE CONTENT TO STANDARD DRY DENSITY AS STATED ABOVE

## SOIL & WATER MANAGEMENT

### 1. GENERAL

ALL WORKS ARE TO BE CARRIED OUT IN ACCORDANCE WITH 'SOIL & WATER MANAGEMENT ON BUILDING & CONSTRUCTION SITES' GUIDELINES AVAILABLE FROM NORTHERN RESOURCE MANAGEMENT (NRM).

### 2. SOIL EROSION CONTROL

SOIL EROSION CONTROL IN ACCORDANCE WITH NRM GUIDELINES. CONTRACTOR TO ALLOW TO:

- LIMIT DISTURBANCE WHEN EXCAVATING PRESERVING VEGETATED AREAS AS MUCH AS POSSIBLE
- DIVERT UP-SLOPE WATER WHERE PRACTICAL
- INSTALL SEDIMENT FENCES DOWN SLOPE OF ALL DISTURBED LANDS TO FILTER LARGE PARTICLES PRIOR TO STORM WATER SYSTEM
- WASH EQUIPMENT IN DESIGNATED AREA THAT DOES NOT DRAIN TO STORM WATER SYSTEM
- PLACE STOCK PILES AWAY FROM ON-SITE DRAINAGE & UP-SLOPE FROM SEDIMENT FENCES
- LEAVE & MAINTAIN VEGETATED FOOT PATH
- STORE ALL HARD WASTE & LITTER IN A DESIGNATED AREA THAT WILL PREVENT IT FROM BEING BLOWN AWAY & WASHED INTO THE STORM WATER SYSTEM
- RESTRICT VEHICLE MOVEMENT TO A STABILISED ACCESS

### 3. NRM GUIDELINES

CONTRACTOR TO COMPLETE ALL WORKS IN ACCORDANCE WITH NRM SOIL & WATER MANAGEMENT ON BUILDING & CONSTRUCTION SITE USING THE FACT SHEETS:

- FACT SHEET 1: SOIL & WATER MANAGEMENT ON LARGE BUILDING & CONSTRUCTION SITES
- FACT SHEET 2: SOIL & WATER MANAGEMENT ON STANDARD BUILDING & CONSTRUCTION SITES
- FACT SHEET 3: SOIL & WATER MANAGEMENT PLANS
- FACT SHEET 4: DISPERSIVE SOILS - HIGH RISK OF TUNNEL EROSION
- FACT SHEET 5: MINIMISE SOIL DISTURBANCE
- FACT SHEET 6: PRESERVE VEGETATION
- FACT SHEET 7: DIVERT UP-SLOPE WATER
- FACT SHEET 8: EROSION CONTROL MATS & BLANKETS
- FACT SHEET 9: PROTECT SERVICE TRENCHES & STOCKPILES
- FACT SHEET 10: EARLY ROOF DRAINAGE CONNECTION
- FACT SHEET 11: SCOUR PROTECTION - STORM WATER PIPE OUTFALLS & CHECK DAMS
- FACT SHEET 12: STABILISED SITE ACCESS
- FACT SHEET 13: WHEEL WASH
- FACT SHEET 14: SEDIMENT FENCES & FIBRE ROLLS
- FACT SHEET 15: PROTECTION OF STORM WATER PITS
- FACT SHEET 16: MANAGE CONCRETE, BRICK & TILE CUTTING
- FACT SHEET 17: SEDIMENT BASINS
- FACT SHEET 18: DUST CONTROL
- FACT SHEET 19: SITE RE-VEGETATION

## ROAD WORKS

### 1. GENERAL

ALL WORKS ARE TO BE CARRIED OUT TO THE LOCAL COUNCIL AND D.S.G. STANDARDS. ANY DEPARTURES FROM THESE STANDARDS REQUIRES THE PRIOR APPROVAL OF THE SUPERINTENDENT AND THE LOCAL COUNCIL WORKS SUPERVISOR.

### 2. INSPECTIONS

THE CONTRACTOR IS RESPONSIBLE FOR ORGANISING THE FOLLOWING INSPECTIONS WITH THE SUPERINTENDENT. 48 HOURS NOTICE IS REQUIRED TO BE GIVEN TO THE SUPERINTENDENT PRIOR TO THE INSPECTION.

- SUBGRADE PREPARATION
- SUB-BASE FOR ROADS, CARPARKS AND KERBS
- BASE COURSE
- FINAL TRIM PRIOR TO PLACING KERBS
- FINAL TRIM PRIOR TO SEALING

### 3. TESTING

THE CONTRACTOR IS TO BE RESPONSIBLE FOR ORGANISING AND PAYING ALL COSTS ASSOCIATED WITH TESTING IN ACCORDANCE WITH D.S.G. SPEC SECTION 173-EXAMINATION AND TESTING OF MATERIALS AND WORK (ROADWORKS).

### 4. HOTMIX

ALL HOTMIX IS TO BE BLACK/IN COLOUR AND IS TO MEET AND BE PLACED IN ACCORDANCE WITH D.S.G. SPEC SECTION 407-HOT MIX ASPHALT.

### 5. KERBS

ALL KERBS ARE TO BE AS SHOWN ON THE DRAWINGS AND BE IN ACCORDANCE WITH IPWEA LGAT STANDARD DRAWINGS.

### 6. ROAD RESERVE WORKS

ALL WORKS IN (OR REQUIRING OCCUPATION) IN THE ROAD RESERVE MUST BE UNDERTAKEN BY CONTRACTOR REGISTERED WITH COUNCIL'S (REGISTERED CONTRACTOR).

### 7. FOOTPATHS

CONSTRUCT FOOTPATHS INCLUDING EXPANSION / CONTROL / WEAKENED PLATE JOINTS IN ACCORDANCE WITH IPWEA STD DWG TSD-R11-v1

### 8. LANDSCAPE / STREET FURNITURE

- BOLLARDS, REFER DETAILS / SUPERINTENDENTS SPEC.
- LANDSCAPING & STREET FURNITURE BY CONTRACTOR - U/L0

## STORMWATER

### 1. GENERAL

ALL WORKS ARE TO BE CARRIED OUT TO THE LOCAL COUNCIL AND DSG STANDARDS. ANY DEPARTURES FROM THESE STANDARDS REQUIRES THE PRIOR APPROVAL OF THE SUPERINTENDENT AND THE LOCAL COUNCIL WORKS SUPERVISOR. ALL STORM WATER PLUMBING & DRAINAGE TO COMPLY WITH A.S 3506.3.2003 STORM WATER DRAINAGE.

### 2. TESTING

ALL DRAINAGE WORKS SHALL BE SUBJECT TO THE TESTS PRESCRIBED BY THE AUTHORITIES HAVING JURISDICTION OVER THE VARIOUS SERVICES. ANY SECTION FAILING SUCH TESTS SHALL BE REMOVED AND PROPERLY INSTALLED AT THE CONTRACTOR'S EXPENSE.

### 3. MANHOLES

MANHOLES ARE TO BE 1050 I.D. U/L0 PRECAST CONCRETE INSTALLED TO LOCAL COUNCIL STANDARDS. ALL MANHOLES IN TRAFFICED AREAS ARE TO BE FITTED WITH HEAVY DUTY GATIC COVERS AND SURROUNDS. ALL MANHOLES ARE TO HAVE A 5 METRE LENGTH OF 75mm AG-PIPE CONNECTED TO THEM AND LAID IN THE UPSTREAM PIPE TRENCH IMMEDIATELY ADJACENT TO AND AT THE INVERT OF THE LOWEST PIPE WORK.

### 4. SIDE ENTRY PIT (SEP)

- PIT INVERT DEPTHS VARY, REFER SITE PLAN.
- BENCH OUT IN A NEAT AND TIDY MANNER TO ENGINEERS APPROVAL.
- GRATED PIT - GULLY INGERS OR OTHER TYPE APPROVED
- CONCRETE KERB LINTEL - STEEL KERB LINTEL AND 1200 LONG GALV BAR

### 5. TRENCHING AND BACKFILL

ALL TRENCHES ARE TO BE EXCAVATED AND BACKFILLED IN ACCORDANCE WITH THE DRAWINGS AND THE LOCAL COUNCIL STANDARDS.

### 6. INSPECTIONS

THE CONTRACTOR IS RESPONSIBLE FOR ORGANISING THE FOLLOWING INSPECTIONS WITH THE SUPERINTENDENT. 48 HOURS NOTICE IS REQUIRED TO BE GIVEN TO THE SUPERINTENDENT PRIOR TO THE INSPECTION.

- PIPEWORK BEDDING
- INSTALLED PIPE PRIOR TO BACKFILLING
- BACKFILLING

### 7. AS CONSTRUCTED DRAWINGS

THE CONTRACTOR WILL BE RESPONSIBLE FOR PRODUCING 'AS CONSTRUCTED' DRAWINGS TO THE STANDARD REQUIRED BY THE LOCAL COUNCIL. THE DRAWINGS SHALL BE CERTIFIED AS BEING CORRECT BY EITHER A CHARTERED CIVIL ENGINEER OR A REGISTERED SURVEYOR. RARE CAN PROVIDE THIS SERVICE, HOWEVER THE CONTRACTOR WILL BE CHARGED FOR THIS SERVICE AND SHOULD BE AWARE OF THIS WHEN PRICING.

### 8. TESTING

CONTRACTOR SHALL CAMERA TEST ALL PIPES AND SUBMIT FOOTAGE TO LOCAL COUNCIL FOR APPROVAL.

### 9. REDUNDANT PIPE WORK

FILL REDUNDANT SECTION OF PIPEWORK WITH 'LIQUIFILL' (GRADE PC.1 - 0.5-2.0 MPa)

## SEWERAGE

### 1. GENERAL

ALL SEWER WORKS TO BE IN ACCORDANCE WITH THE WSA SEWER CODE (WSA 02-2014-3.1 MRWA) AND AS AMENDED BY THE TASWATER SUPPLEMENT. TASWATER APPROVED PRODUCTS ARE CONTAINED ON THE CITY WEST WATER WEBSITE [HTTP://WWW.MRWA.COM.AU/PAGES/PRODUCTS.ASPX](http://www.mrwa.com.au/PAGES/PRODUCTS.ASPX). ANY DEPARTURES FROM THESE STANDARDS REQUIRES THE PRIOR APPROVAL OF THE SUPERINTENDENT AND TASWATER FIELD SERVICES OFFICER.

### 2. TESTING

ALL DRAINAGE WORKS SHALL BE SUBJECT TO THE TESTS PRESCRIBED BY THE AUTHORITIES HAVING JURISDICTION OVER THE VARIOUS SERVICES. ANY SECTION FAILING SUCH TESTS SHALL BE REMOVED AND PROPERLY INSTALLED AT THE CONTRACTOR'S EXPENSE.

### 3. SEWER MAIN CONNECTIONS

ALL NEW LIVE CONNECTIONS TO EXISTING TASWATER SEWER INFRASTRUCTURE INCLUDING BUT NOT LIMITED TO SEWER MAINS / MANHOLES TO BE COMPLETED BY TASWATER (UNLESS PRIOR WRITTEN APPROVAL) AT OWNERS COST. INSTALL PROPERTY SEWER CONNECTIONS (STANDARD OR SLOPED) WITH SURFACE I.O. NOMINALLY 1:100 WITHIN EACH NEW LOT IN ACCORDANCE WITH SECTION 5 OF WSA 02-2014-3.1.

### 4. MANHOLES

MANHOLES ARE TO BE 1050 I.D. PRECAST CONCRETE INSTALLED TO WSA STANDARDS. CONSTRUCT ALL MANHOLES (MH) AND MANHOLE COVERS IN ACCORDANCE WITH THE SEWERAGE CODE OF AUSTRALIA - MELBOURNE RETAIL WATER AGENCIES INTEGRATED CODE - WSA 02-2014-3.1 MRWA VERSION 2.0 AND TASWATER'S SUPPLEMENT TO THIS CODE. ALL MANHOLES IN TRAFFICABLE AREAS ARE TO BE FITTED WITH HEAVY DUTY CLASS D GATIC COVERS AND SURROUNDS. ALL MANHOLES IN NON-TRAFFICABLE AREAS ARE TO BE FITTED WITH MEDIUM DUTY CLASS B GATIC COVERS AND SURROUNDS. BENCHING TO BE FULL DEPTH OF PIPE DIAMETER AS PER DETAILS IN WSA 02-2014-3.1 MRWA VERSION 2.0

### 5. TRENCHING AND BACKFILL

ALL TRENCHES ARE TO BE EXCAVATED AND BACKFILLED IN ACCORDANCE WITH THE DRAWINGS AND TASWATER STANDARDS INCLUDING ELECTROMAGNETIC METAL IMPREGNATED TAPE IN ALL NON METALLIC PIPE TRENCHES.

CEMENT STABILISED EMBEDMENT:

FOR SEWER MAINS THE FOLLOWING CHANGES SHOULD BE APPLIED TO THE MRWA SEWERAGE STANDARDS DRAWINGS MRWA-S-202 AND MRWA-S-205 MRWA-S-202 THE REQUIREMENT IDENTIFIED IN THE THIRD DOT POINT FOR TYPE B. IN THE NOTES REGARDING TABLE 202-A SHALL BE AMENDED TO READ "WHERE SEWER AT GRADE > 1 IN 10"

MRWA-S-205 NOTE C REMAINS VALID "WHEN SOCKETED MAINS ARE LAID AT >1 IN 20 SLOPE IN AREAS THAT ARE LIKELY TO HAVE HIGH GROUND WATER, CEMENT STABILIZED EMBEDMENT SHALL BE USED AS PER MRWA-S-202"

### 6. INSPECTIONS

THE CONTRACTOR IS RESPONSIBLE FOR ORGANISING THE FOLLOWING INSPECTIONS WITH THE SUPERINTENDENT (IAS WITH TASWATER). 48 HOURS NOTICE IS REQUIRED TO BE GIVEN TO THE SUPERINTENDENT PRIOR TO THE INSPECTION.

- PIPEWORK BEDDING
- INSTALLED PIPE PRIOR TO BACKFILLING
- BACKFILLING

### 7. AS CONSTRUCTED DRAWINGS

THE CONTRACTOR WILL BE RESPONSIBLE FOR PRODUCING 'AS INSTALLED' DRAWINGS TO THE STANDARD REQUIRED BY TASWATER. THE DRAWINGS SHALL BE CERTIFIED AS BEING CORRECT BY EITHER A CHARTERED CIVIL ENGINEER OR A REGISTERED SURVEYOR. RARE CAN PROVIDE THIS SERVICE, HOWEVER THE CONTRACTOR WILL BE CHARGED FOR THIS SERVICE AND SHOULD BE AWARE OF THIS WHEN PRICING.

### 8. TESTING

CONTRACTOR SHALL CCTV ALL PIPES AND SUBMIT FOOTAGE TO TASWATER FOR APPROVAL.

### 9. REDUNDANT PIPE WORK

FILL REDUNDANT SECTION OF PIPEWORK WITH 'LIQUIFILL' (GRADE PC.1 - 0.5-2.0 MPa)

## WATER RETICULATION

### 1. GENERAL

ALL WATER SUPPLY CONSTRUCTION TO:

- WATER SUPPLY CODE OF AUSTRALIA (WSA 03-2011-3.1) VERSION MRWA EDITION V2.0) - PART 2: CONSTRUCTION
- WATER SERVICES ASSOCIATION OF AUSTRALIA - TASWATER SUPPLEMENT
- TASWATER'S STANDARD DRAWINGS TWS-W-0002 SERIES
- WATER METERING POLICY/METERING GUIDELINES
- TASWATER'S STANDARD DRAWINGS TWS-W-0003 - FOR PROPERTY SERVICE CONNECTIONS - GAGE FOR WATER METER ASSEMBLY
- BOUNDARY BACKFLOW CONTAINMENT REQUIREMENTS AND ASS3500.1:2003

ANY DEPARTURES FROM THESE STANDARDS REQUIRES THE PRIOR APPROVAL OF THE SUPERINTENDENT AND THE LOCAL WATER AUTHORITY WORKS SUPERVISOR.

### 2. TESTING

ALL WATER RETICULATION WORKS SHALL BE SUBJECT TO THE TESTS PRESCRIBED BY THE AUTHORITIES HAVING JURISDICTION OVER THE VARIOUS SERVICES. ANY SECTION FAILING SUCH TESTS SHALL BE REMOVED AND PROPERLY INSTALLED AT THE CONTRACTOR'S EXPENSE.

### 3. FIRE HYDRANTS

FIRE HYDRANTS ARE TO BE AS SHOWN ON THE DRAWINGS. THE CONTRACTOR IS TO ALLOW TO PLACE STANDARD MARKERS AS REQUIRED BY THE LOCAL AUTHORITY.

### 4. THRUST AND ANCHOR BLOCKS

THRUST AND ANCHOR BLOCKS ARE TO BE PROVIDED AT BENDS, VALVES, HYDRANTS AND LINE ENDS IN ACCORDANCE WITH TASWATER STANDARDS.

### 5. TRENCHING AND BACKFILL

ALL TRENCHES ARE TO BE EXCAVATED AND BACKFILLED IN ACCORDANCE WITH THE DRAWINGS AND TASWATER STANDARDS INCLUDING ELECTROMAGNETIC METAL IMPREGNATED TAPE IN ALL NON METALLIC PIPE TRENCHES.

CEMENT STABILISED EMBEDMENT:

THE LATEST VERSION OF DRAWING MRWA-W-208 (REV 3) INCLUDES TABLE 208-A WITH NOTE G INDICATING THAT WHEN TRENCHSTOPS OR BULKHEADS ARE USED (GRADES GREATER THAN 5%) CEMENT STABILISED EMBEDMENT MUST BE USED. THIS IS NOT TASWATER'S PREFERRED STANDARD.

FOR PIPES UP TO 10% GRADE TASWATER WILL ACCEPT THE PREVIOUS REVISION OF MRWA (REV 2), I.E. PIPES UP TO 10% GRADE DO NOT REQUIRE CEMENT STABILISED EMBEDMENT UNLESS THE CONDITIONS OF NOTE H APPLY. "WHEN SOCKETED MAINS ARE LAID AT >5% SLOPE IN AREAS THAT ARE LIKELY TO HAVE HIGH GROUND WATER, CEMENT STABILIZED EMBEDMENT SHALL BE USED."

FOR PIPES AT GRADE GREATER THAN 10% MRWA-W-208 REV 3 REMAINS VALID.

THE LATEST VERSION OF MRWA-W-203 (REV 2) EMBEDMENT SHALL BE ADOPTED NOTING THAT THE REQUIREMENT IDENTIFIED IN THE THIRD DOT POINT FOR TYPE B. IN THE NOTES REGARDING TABLE 203-A SHALL BE AMENDED TO READ "WHERE WATER MAIN GRADE > 10%".

FURTHER TO THIS IT SHOULD BE NOTED THAT MOST WATER MAINS ARE LIKELY TO REQUIRE A TYPE A EMBEDMENT SYSTEM. THE VARIOUS MATERIALS AVAILABLE FOR THIS SYSTEM ARE IDENTIFIED IN TABLE 203-B

### 6. INSPECTIONS

THE CONTRACTOR IS RESPONSIBLE FOR ORGANISING THE FOLLOWING INSPECTIONS WITH THE SUPERINTENDENT. 48 HOURS NOTICE IS REQUIRED TO BE GIVEN TO THE SUPERINTENDENT PRIOR TO THE INSPECTION.

- PIPEWORK BEDDING
- INSTALLED PIPE PRIOR TO BACKFILLING
- BACKFILLING

### 7. PIPE CLEANING - 'DISINFECTION'

THE CONTRACTOR IS TO ALLOW TO CLEANSE WATER MAINS BY FLUSHING WITH SODIUM HYPOCHLORIDE AS DIRECTED BY THE LOCAL AUTHORITY.

### 8. AS CONSTRUCTED DRAWINGS

THE CONTRACTOR WILL BE RESPONSIBLE FOR PRODUCING 'AS INSTALLED' DRAWINGS TO THE STANDARD REQUIRED BY TASWATER. THE DRAWINGS SHALL BE CERTIFIED AS BEING CORRECT BY EITHER A CHARTERED CIVIL ENGINEER OR A REGISTERED SURVEYOR. RARE CAN PROVIDE THIS SERVICE, HOWEVER THE CONTRACTOR WILL BE CHARGED FOR THIS SERVICE AND SHOULD BE AWARE OF THIS WHEN PRICING.

### 9. PROPERTY WATER CONNECTIONS

ALL PROPERTY CONNECTIONS SHALL BE CONSTRUCTED IN ACCORDANCE WITH MRWA-W-110 AND MRWA-W-111 AND TASWATER STANDARD DRAWING TWS-W-0002 SERIES. THEY SHALL BE DN25(I.D.20) HOPE (PE100) SDR 11 PN16 PIPE. WHERE UNDER ROADS PIPES SHALL BE SLEEVED IN DN100 5/4" PIPE FITTED WITH TRACE AND TIGHT FITTING RUBBER WRAPS AT 2M CENTRES TO PREVENT WATER HAMMER

### 10. WATER MAINS CONNECTIONS

ALL NEW LIVE CONNECTIONS TO EXISTING TASWATER WATER INFRASTRUCTURE TO BE COMPLETED BY TASWATER AT OWNERS COST.

### 11. MINIMUM COVER

MINIMUM COVER FOR WATER LINES ARE TO BE:

- UNDER ROADWAYS (EXCLUDING MAJOR ROADS) AND VEHICULAR CROSS OVERS - 750mm
- RESIDENTIAL LAND - 450mm
- NON-RESIDENTIAL LAND - 600mm

## SURVEY

### 1. SURVEY DETAILS

FOLLOWING ARE SURVEY DETAILS USED AS BASIS FOR DESIGN:

- SURVEYOR: PDA SURVEYORS
- SURVEY REF. NO. 47761CT - 1
- SURVEY DATE: 13-08-21
- SITE LOCATION: 73A NEW TOWN ROAD, NEW TOWN

- COORDINATE SYSTEM: GDA94 MGA55
- LEVEL DATUM: AHD 83
- SERVICE MARKER: -

### 2. SETOUT

- 1. SETOUT RESPONSIBILITY
  - CONTRACTOR TO ARRANGE AND PAY FOR REGISTERED SURVEYOR TO SETOUT THE PROJECT. RARE WILL PROVIDE CAD FILES TO ASSIST.

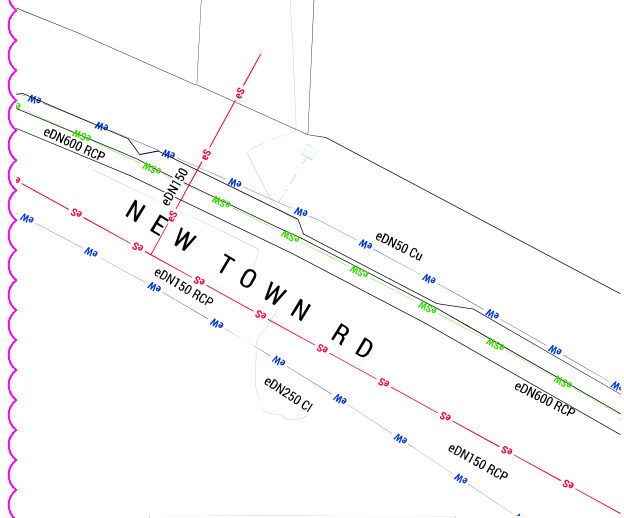
### IMPORTANT NOTE:

THESE CAN BE READ IN BLACK AND WHITE, HOWEVER THESE DRAWINGS ARE BEST PRINTED IN

- DEMOLITION NOTES**
1. PRIOR TO COMMENCING DEMOLITION AND SITE WORKS, THE CONTRACTOR IS TO ARRANGE AND PAY FOR THE ON SITE MARKING AND CONFIRMATION OF DEPTH, OF SERVICE LOCATIONS FOR ALL UNDERGROUND SERVICES INCLUDING COMMUNICATIONS, TASNETWORKS, POWERCO AND COUNCIL SERVICES (ie: WATER, STORMWATER AND SEWER) IN THE AREA OF NEW WORKS. LOCATION TO BE CONFIRMED USING CABLE LOCATORS AND HAND DIGGING METHODS. PRIOR TO ANY WORKS ON SITE, ANY CLASHES WITH DESIGNED SERVICES ON FOLLOWING DRAWINGS ARE TO BE REPORTED TO DESIGN ENGINEER FOR DIRECTION.
  2. REFER DRAWINGS FOR SET OUT DIMENSIONS & COORDINATE ALL LEVELS, CONTRACTOR TO REFER ENGINEER FOR ANY DISCREPANCIES / CLASHES.
  3. CAP & TERMINATE & REMOVE REDUNDANT DISUSED DRAINAGE SERVICES TO SATISFACTION OF ENGINEER & LOCAL AUTHORITIES
  4. INSTALL SILT FENCES & TRAPS TO PREVENT SEDIMENTS & POLLUTANTS ENTERING STORM WATER SYSTEM OR NATURAL DRAINAGE LINES
  5. STOCK PILING OF SOILS OR MATERIALS AFFECTED BY WATER TO BE STORED CLEAR OF ANY DRAINAGE PATH
  6. CLEAN SITE VEHICLES BEFORE EXITING SITE
  7. DISPOSE OF EXCAVATED MATERIAL TO LICENSED WASTE FACILITY OR APPROVED LAND FILL SITE
  8. TRENCHES WHERE SERVICES ARE REMOVED ARE TO BE FILLED WITH AN APPROVED COMPACTED MATERIAL & TO ENGINEERS COMPACTION SPECIFICATIONS. MATCH & MAKE GOOD EXISTING SURFACES TO MATCH EXISTING SURROUNDINGS.

- LEGEND**
- eSW EXISTING STORM WATER MAIN
  - eS EXISTING SEWER MAIN
  - eW EXISTING WATER MAIN
  - eCOM EXISTING COMMUNICATIONS LINE
  - EXISTING SURFACE/STRUCTURE TO BE DEMOLISHED
  - EXISTING SERVICE LINE TO BE DEMOLISHED


CONT. CIVIL WORKS PLAN - GENERAL



EXISTING SURVEY PLAN - LANEWAY  
SCALE 1:100

CONT. CIVIL WORKS PLAN - LANEWAY

EXISTING SURVEY PLAN - GENERAL  
SCALE 1:100

5	RFI RESPONSE	KL	10-12-22	STATUS: <b>PRELIMINARY/INFORMATION</b>  DO NOT SCALE - IF IN DOUBT, ASK <small>THIS DOCUMENT MAY ONLY BE USED FOR THE PURPOSE FOR WHICH IT WAS PREPARED. © RARE INNOVATION PTY LTD. ABN 51 619 598 257</small>	DESIGN BY: BS	  22-24 Paterson Street Launceston TAS 7250 <a href="http://rarein.com.au">rarein.com.au</a> P.03 6388 9200	CLIENT: <b>COMMUNITIES TASMANIA</b>  PROJECT: <b>SOCIAL HOUSING</b>  ADDRESS: <b>73A NEW TOWN RD, NEW TOWN</b>	TITLE: <b>EXISTING SITE/DEMOLITION PLAN</b>  SCALE: 1:100 SHEET SIZE: A1 DWGS IN SET: -  PROJECT No: <b>220008</b> DWG No: <b>C101</b> REV: <b>5</b>
4	RFI RESPONSE	KL	11-10-22		DESIGN CHK: AJL			
3	80% REVIEW	KL	29-07-22		DRAWN BY: KL			
2	COUNCIL RFI	KL	17-06-22	APPROVED: R. JESSON ACRED. No: CC58481	DRAFT CHK: BS			
1	50% DESIGN DEVELOPMENT	KL	24-03-22					
0	DEVELOPMENT APPLICATION	KL	07-03-22					
REV:	ISSUED FOR / DESCRIPTION:		BY:	DATE:				



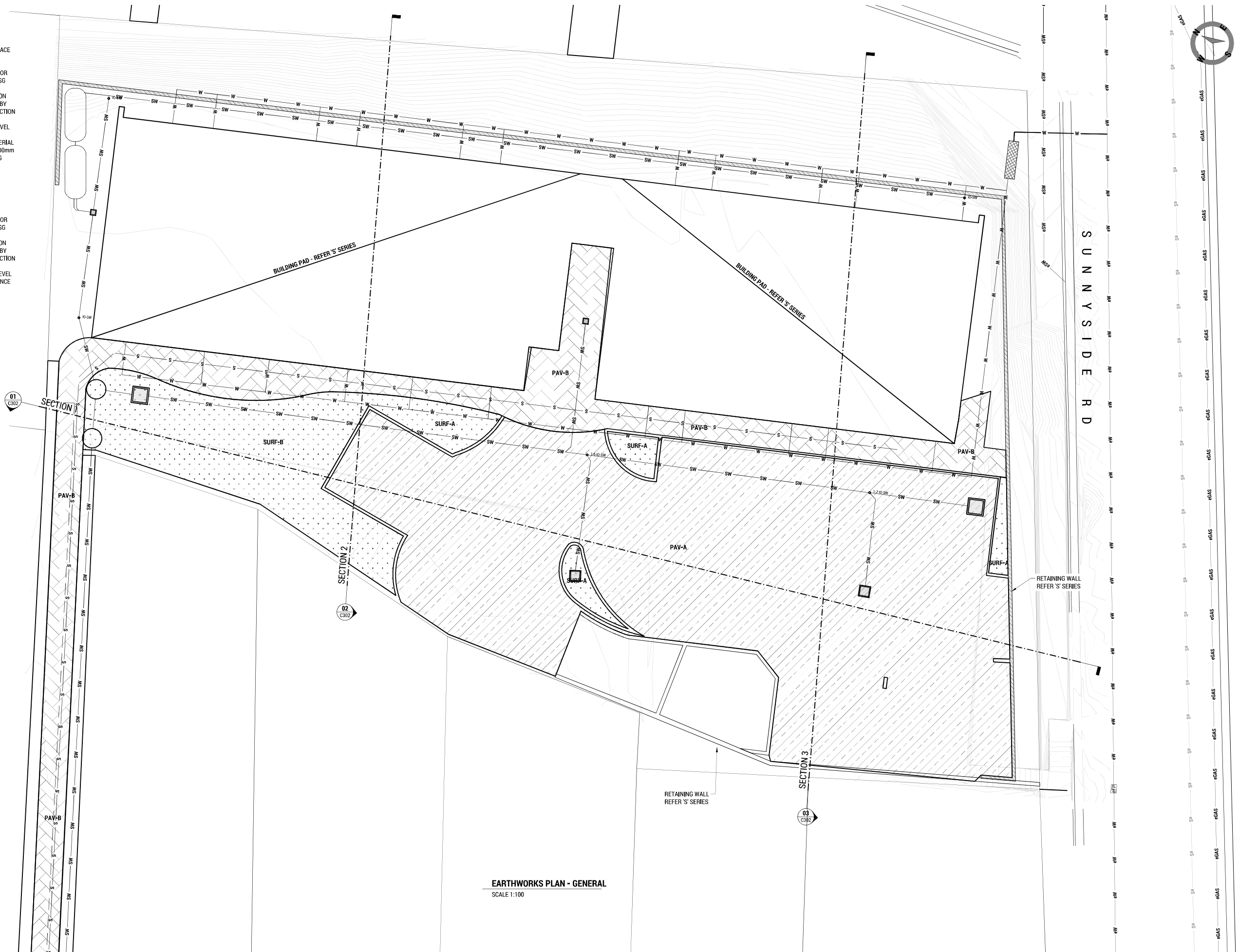
- STRIP EXISTING TOP SOIL, VEGETATION, HARD SURFACES AND OTHER MATERIAL TO SUBGRADE LEVEL 300mm NOMINAL BELOW FINISHED SURFACE LEVEL
- PROOF ROLL EXPOSED SUB-GRADE AND CARRY OUT SUB-GRADE IMPROVEMENT WITH AN APPROVED EMBANKMENT MATERIAL IMPORTED OR STRIPPED FROM SITE AND PLACED AND TESTED IN ACCORDANCE WITH DSG SPEC. SECTION 204 FOR EMBANKMENT MATERIAL
- CUT AND/OR FILL TO 300mm BELOW FINISHED SURFACE LEVELS SHOWN ON THESE DRAWINGS WITH IMPORTED EMBANKMENT MATERIAL APPROVED BY ENGINEER AND PLACED AND TESTED IN ACCORDANCE WITH DSG SPEC. SECTION 204 FOR EMBANKMENT MATERIAL
- FILL OVER EXPOSED SUBGRADE TO 150mm BELOW FINISHED SURFACE LEVEL WITH 200mm SUB-BASE CLASS 3 MATERIAL. PLACED AND TESTED IN ACCORDANCE WITH DSG SPEC. SECTION 304 FOR SUB-BASE CLASS 3 MATERIAL.
- FILL OVER SUB-BASE TO 35mm BELOW FINISHED SURFACE LEVEL WITH 100mm BASE CLASS 2 MATERIAL. PLACED AND TESTED IN ACCORDANCE WITH DSG SPEC. SECTION 304 FOR BASE CLASS 2 MATERIAL.




- STRIP EXISTING TOP SOIL, VEGETATION, HARD SURFACES AND OTHER MATERIAL TO A MINIMUM DEPTH OF 200mm NOMINAL BELOW EXISTING SURFACE LEVEL
- PROOF ROLL EXPOSED SUB-GRADE AND CARRY OUT SUB-GRADE IMPROVEMENT WITH AN APPROVED EMBAANKMENT MATERIAL IMPORTED OR STRIPPED FROM SITE AND PLACED AND TESTED IN ACCORDANCE WITH DSG SPEC SECTION 204 FOR EMBAANKMENT MATERIAL
- CUT AND/OR FILL TO 200mm BELOW FINISHED SURFACE LEVELS SHOWN ON THESE DRAWINGS WITH IMPORTED EMBAANKMENT MATERIAL APPROVED BY ENGINEER AND PLACED AND TESTED IN ACCORDANCE WITH DSG SPEC SECTION 204 FOR EMBAANKMENT MATERIAL
- FILL OVER EXPOSED SUB-GRADE TO 100mm BELOW FINISHED SURFACE LEVEL WITH 100mm BASE CLASS 2 MATERIAL PLACED AND TESTED IN ACCORDANCE WITH DSG SPEC SECTION 304 FOR BASE CLASS 2 MATERIAL

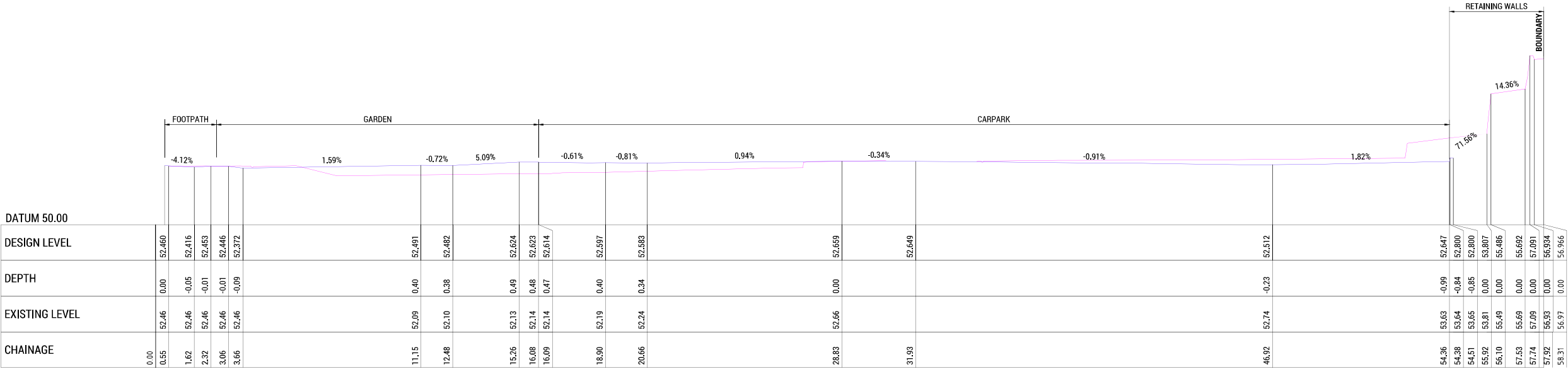


- STRIP EXISTING TOP SOIL, VEGETATION, HARD SURFACES AND OTHER MATERIAL TO A MINIMUM DEPTH OF 200mm NOMINAL BELOW FINISHED SURFACE LEVEL & PLACE 200mm TOPSOIL IN BED

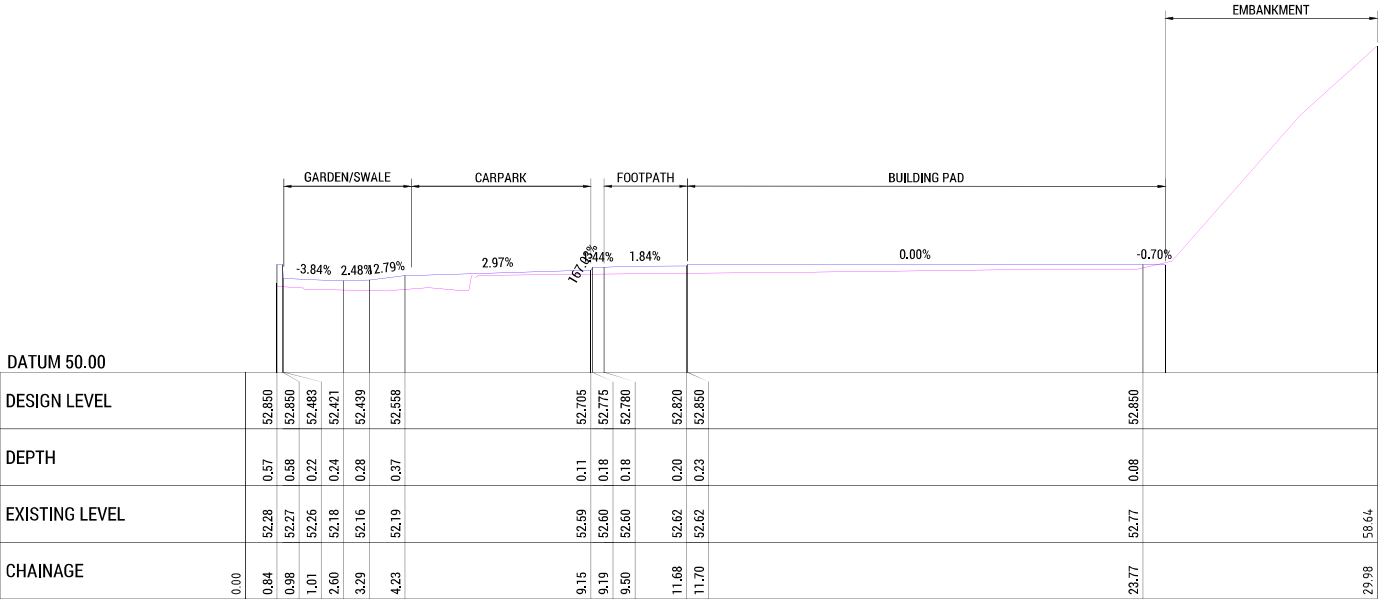


## EARTHWORKS PLAN - GENERAL

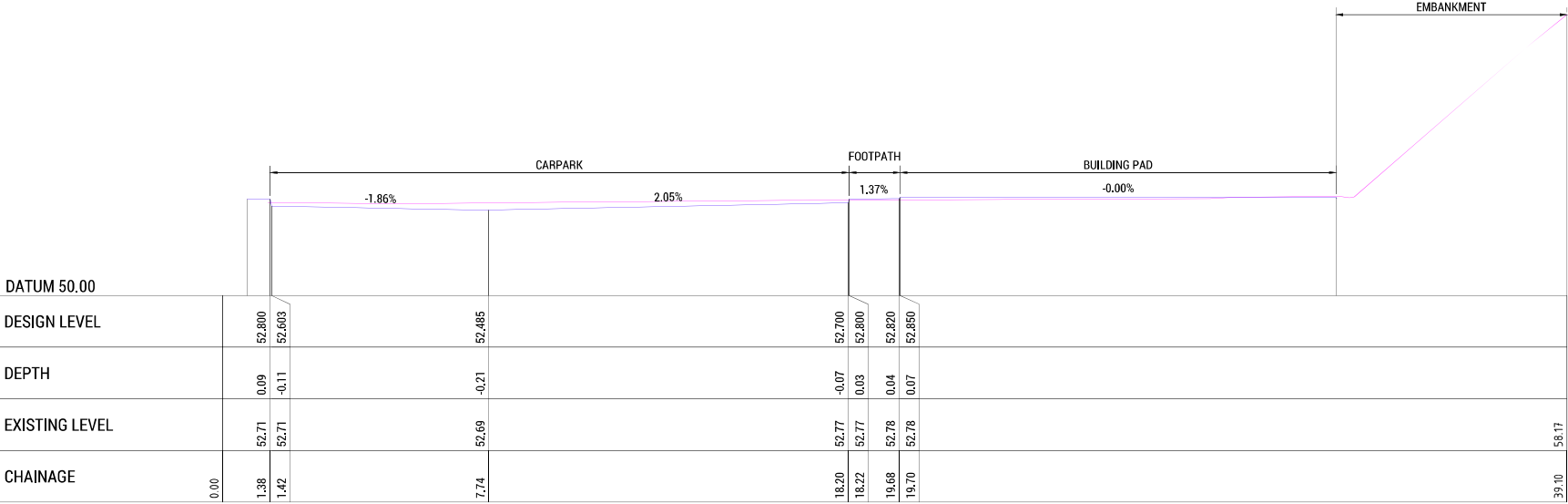
				STATUS: <b>PRELIMINARY/INFORMATION</b>		DESIGN BY: <b>BS</b> DESIGN CHK: <b>AJL</b>		<div> 22-24 Paterson Street Launceston TAS 7250 <a href="http://rarein.com.au">rarein.com.au</a> P. 03 6388 9200</div>	CLIENT: <b>COMMUNITIES TASMANIA</b>		TITLE: <b>BULK EARTHWORKS PLAN</b>	
				DO NOT SCALE - IF IN DOUBT, ASK <small>THIS DOCUMENT MAY ONLY BE USED FOR THE PURPOSES FOR WHICH IT WAS PREPARED. © RARE INNOVATION PTY LTD. ABN 51 619 598 257</small>		DRAWN BY: <b>KL</b> DRAFT CHK: <b>BS</b>			PROJECT: <b>SOCIAL HOUSING</b>			
2	80% REVIEW	KL	29-07-22									
1	50% DESIGN DEVELOPMENT	KL	24-03-22									
0	DEVELOPMENT APPLICATION	KL	07-03-22									
REV: ISSUED FOR / DESCRIPTION:		BY: DATE:		APPROVED: R. JESSON		ACRED. NO: <b>CC58481</b>		DATE: <b>05-11-21</b>		ADDRESS: <b>73A NEW TOWN RD, NEW TOWN</b>		
										SCALE: <b>1:100</b> SHEET SIZE: <b>A1</b> DWGS IN SET: <b>-</b> PROJECT NO: <b>220008</b> DWG NO: <b>C301</b> REV: <b>2</b>		




SECTION 1  
SCALE: 1:100



SECTION 2  
SCALE: 1:100



SECTION 3  
SCALE: 1:100

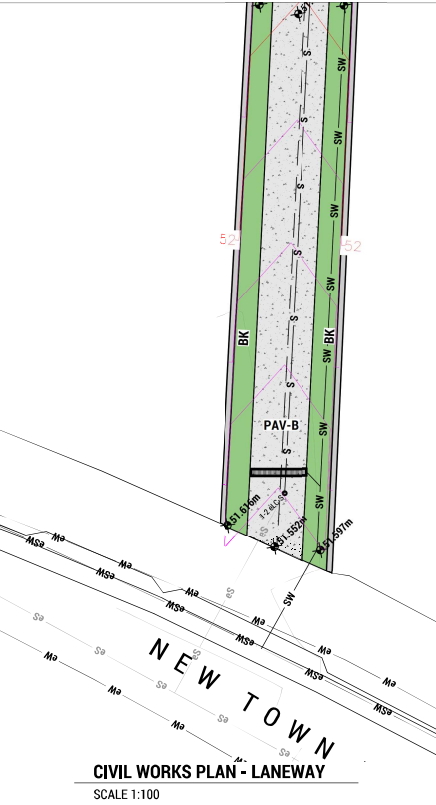
				STATUS:		DESIGN BY: BS		<div><div></div><div>22-24 Paterson Street Launceston TAS 7250</div><div><a href="http://rarein.com.au">rarein.com.au</a> P. 03 6388 9200</div></div>	CLIENT: COMMUNITIES TASMANIA	TITLE: BULK EARTHWORKS SECTIONS					
				DESIGN CHK: AJL											
3	RFI RESPONSE	KL	10-12-22	PRELIMINARY/INFORMATION		DRAWN BY: KL				PROJECT: SOCIAL HOUSING	SCALE: 1:200		SHEET SIZE: A1	DWG\$ IN SET: -	
2	80% REVIEW	KL	29-07-22	DO NOT SCALE - IF IN DOUBT, ASK		DRAFT CHK: BS					ADDRESS: 73A NEW TOWN RD, NEW TOWN	PROJECT NO: 220008		DWG NO: C311	REV: 3
1	50% DESIGN DEVELOPMENT	KL	24-03-22	THIS DOCUMENT MAY ONLY BE USED FOR THE PURPOSE FOR WHICH IT WAS PREPARED. © RARE INNOVATION PTY LTD. ABN 51 619 598 257											
0	DEVELOPMENT APPLICATION	KL	07-03-22												
REV: ISSUED FOR / DESCRIPTION:		BY:	DATE:	APPROVED: R. JESSON		ACRED. NO: CC58481		DATE: 05-11-21							



LEGEND



- HOTMIX - TRAFFICABLE  
REFER DETAILS
- CONCRETE - PEDESTRIAN - LOWER  
REFER DETAILS
- ASPHALT - PEDESTRIAN - LOWER  
REFER DETAILS
- GRASSED / TURFED / LANDSCAPED AREA  
REFER ARCH. SPEC.  
200mm MIN GOOD QUALITY TOP SOIL
- REFER 'S' SERIES FOR DETAILS
- BK BARRIER KERB
- KC KERB & CHANNEL
- BoI BOLLARD - REFER DETAIL
- MH MANHOLE
- SEP SIDE ENTRY PIT
- GP GRATED PIT
- GD GRATED DRAIN
- ME MATCH EXISTING
- RW-1 RETAINING WALL  
REFER STRUCTURAL SERIES
- KCR&B1 KERB & CHANNEL, VEHICULAR, HEAVY DUTY - REFER DETAILS
- PED-B PEDESTRIAN ACCESS RAMP - TYPE B
- SAW SAWCUT
- WS-1 WHEEL STOP -1650x150x100
- EDGE EDGING - REFER DETAIL D15 ON SHEET C701



6	RFI RESPONSE	KL	10-12-22
5	RFI RESPONSE	KL	04-11-22
4	RFI RESPONSE	KL	11-10-22
3	80% REVIEW	KL	29-07-22
2	COUNCIL RFI	KL	17-06-22
1	50% DESIGN DEVELOPMENT	KL	24-03-22
REV:	ISSUED FOR / DESCRIPTION:	BY:	DATE:

STATUS:		DESIGN BY:	BS
PRELIMINARY/INFORMATION		DESIGN CHK:	AJL
DO NOT SCALE - IF IN DOUBT, ASK		DRAWN BY:	KL
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APPROVED: R. JESSON	ACRED. No: CC58481	DATE:	05-11-21

**rare.**

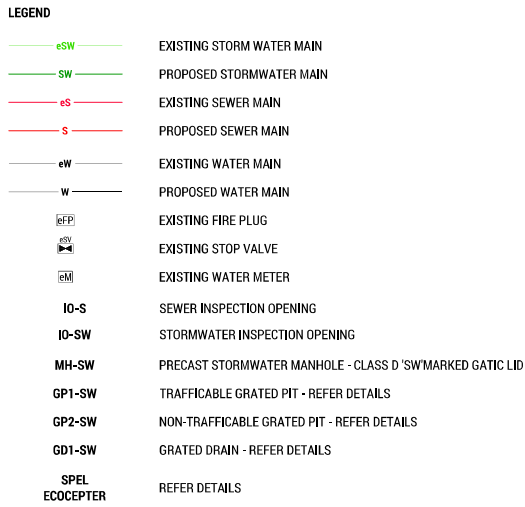
22-24 Paterson Street  
Launceston TAS 7250

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P.03 6388 9200

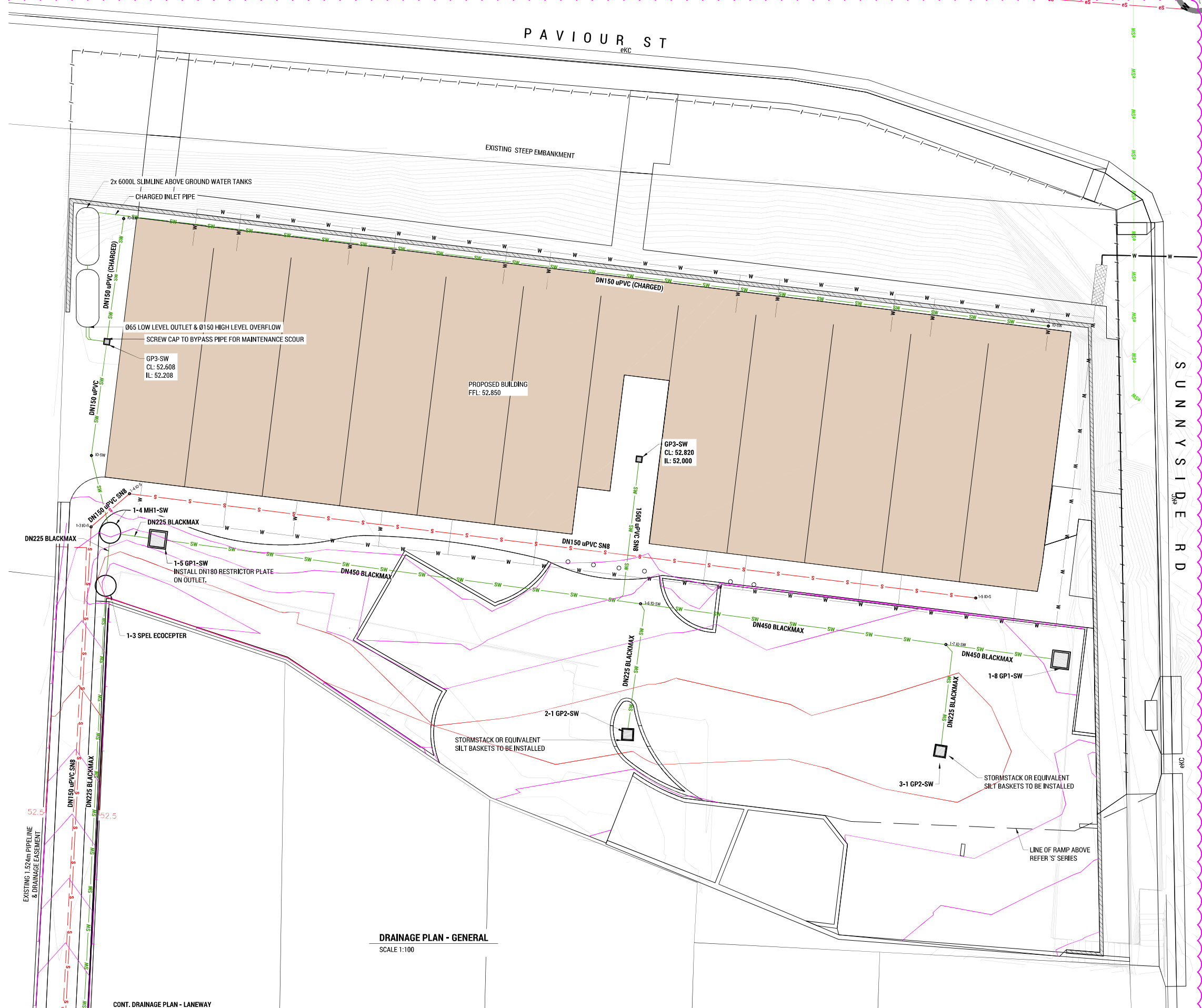
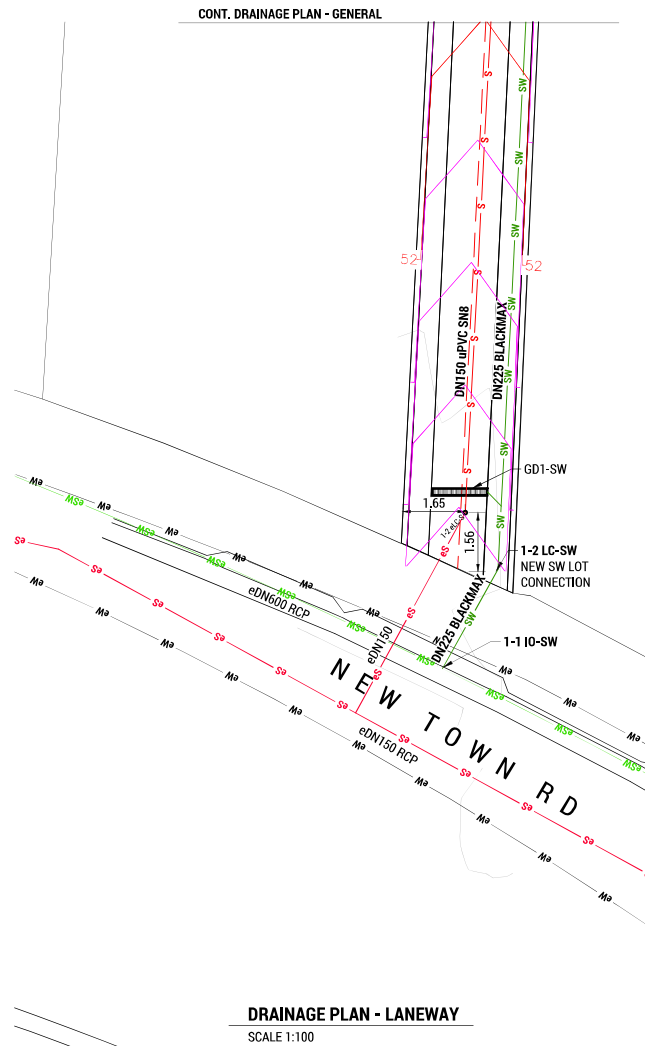
CLIENT:	COMMUNITIES TASMANIA
PROJECT:	SOCIAL HOUSING
ADDRESS:	73A NEW TOWN RD, NEW TOWN


TITLE:	CIVIL WORKS PLAN
SCALE:	1:100
SHEET SIZE:	A1
DWG's IN SET:	-
PROJECT No:	220008
DWG No:	C401
REV:	6

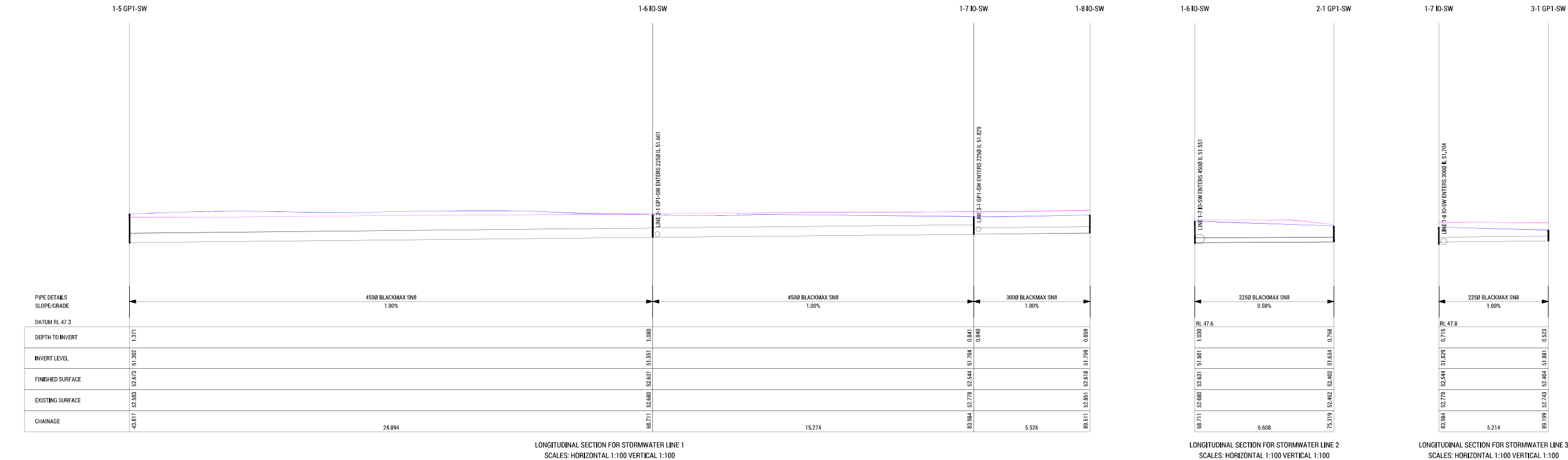
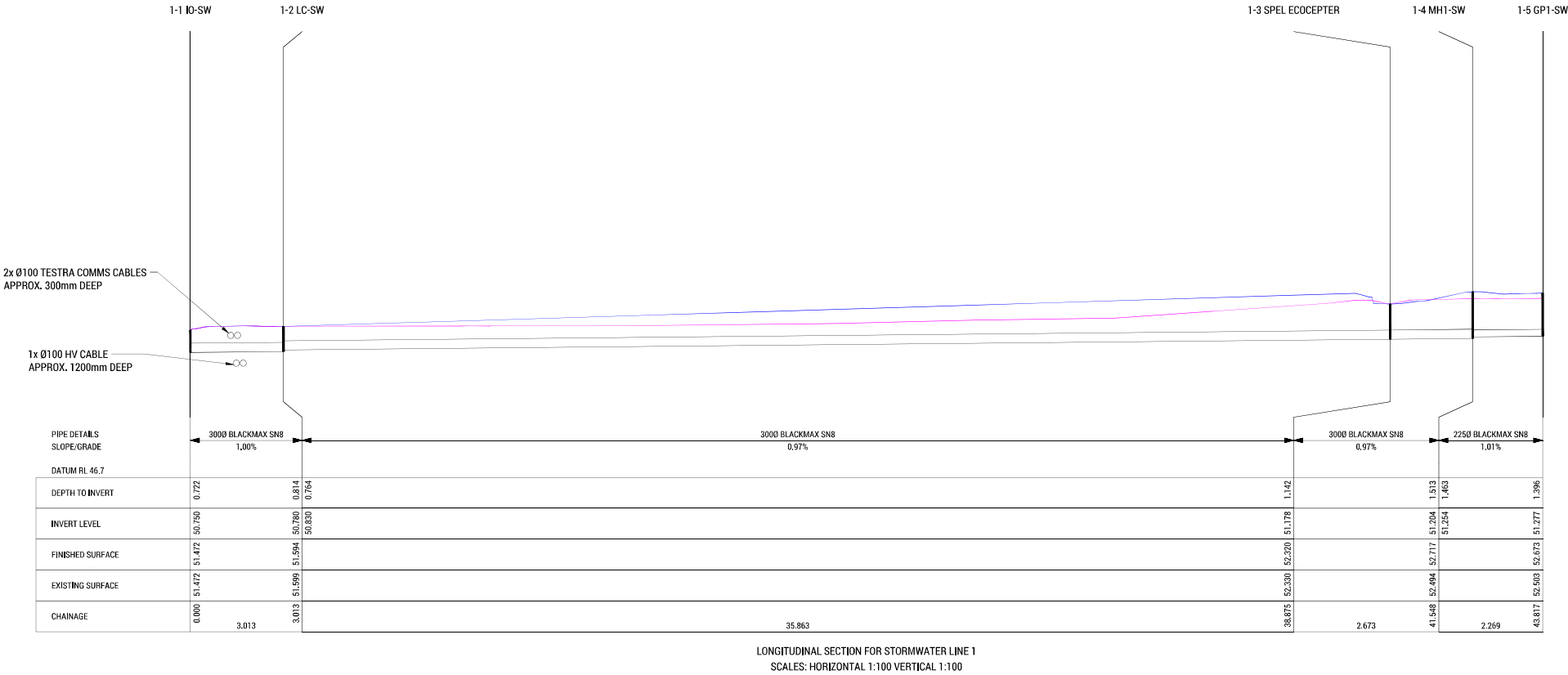




<b>MARK</b>	<b>SIZE</b>	<b>TYPE</b>	<b>ACCESSORIES</b>
GP1-SW	Ø900	PRECAST CONC.	CLASS D GALV. IRON GRATED LID
GP2-SW	Ø600	PRECAST CONC.	CLASS D GALV. IRON GRATED LID
GP3-SW	Ø300	BLACK uPVC	PLAIN ALUMINUM GRATED LID



4	RFI RESPONSE	KL	10-12-22	STATUS: <b>PRELIMINARY/INFORMATION</b>		DESIGN BY: <b>BS</b>	 22-24 Paterson Street Launceston TAS 7250 <a href="http://rarein.com.au">rarein.com.au</a> P.03 6388 9200	CLIENT: <b>COMMUNITIES TASMANIA</b>	TITLE: <b>DRAINAGE PLANS</b>	
3	RFI RESPONSE	KL	11-10-22			DESIGN CHK: <b>AJL</b>		PROJECT: <b>SOCIAL HOUSING</b>	SCALE: 1:100 SHEET SIZE: <b>A1</b> DWGS IN SET: <b>-</b>	
2	80% REVIEW	KL	29-07-22	DO NOT SCALE - IF IN DOUBT, ASK THIS DOCUMENT MAY ONLY BE USED FOR THE PURPOSE FOR WHICH IT WAS PREPARED. © RARE INNOVATION PTY LTD. ABN 51 618 598 257		DRAWN BY: <b>KL</b>				ADDRESS: <b>73A NEW TOWN RD, NEW TOWN</b>
1	50% DESIGN DEVELOPMENT	KL	24-03-22			DRAFT CHK: <b>BS</b>				
0	DEVELOPMENT APPLICATION	KL	07-03-22						PROJECT No: <b>220008</b> DWG No: <b>C501</b> REV: <b>4</b>	
REV: ISSUED FOR / DESCRIPTION:		BY:	DATE:	APPROVED: <b>R. JESSON</b>	ACRED. No: <b>CC5481</b>	DATE: <b>05-11-21</b>				

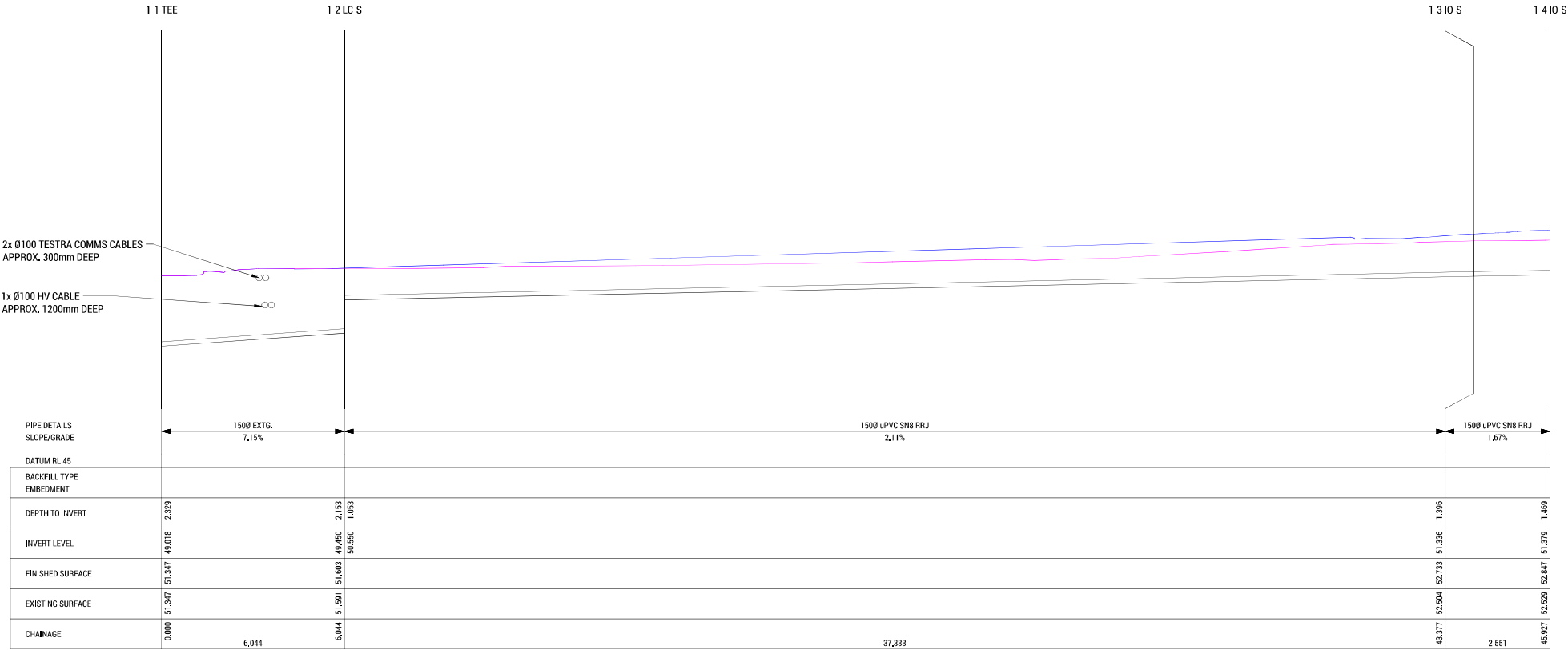


				STATUS:	DESIGN BY: BS	CLIENT: COMMUNITIES TASMANIA	TITLE: STORMWATER LONG SECTIONS
4	RFI RESPONSE	KL	10-12-22	PRELIMINARY/INFORMATION	DESIGN CHK: AJL	PROJECT: SOCIAL HOUSING	SCALE: 1:100 SHEET SIZE: A1 DWGs IN SET: -
3	RFI RESPONSE			DO NOT SCALE - IF IN DOUBT, ASK	DRAWN BY: KL	ADDRESS: 73A NEW TOWN RD, NEW TOWN	PROJECT No: 220008 DWG No: C511 REV: 4
2	80% REVIEW			THIS DOCUMENT MAY ONLY BE USED FOR THE PURPOSE FOR WHICH IT WAS PREPARED. © RARE INNOVATION PTY LTD. ABN 51 619 598 257	DRAFT CHK: BS		
1	50% DESIGN DEVELOPMENT			APPROVED: R. JESSON	DATE: 05-11-21		
0	DEVELOPMENT APPLICATION			ACRED. No: CC58481			
REV:	ISSUED FOR / DESCRIPTION:	BY:	DATE:				

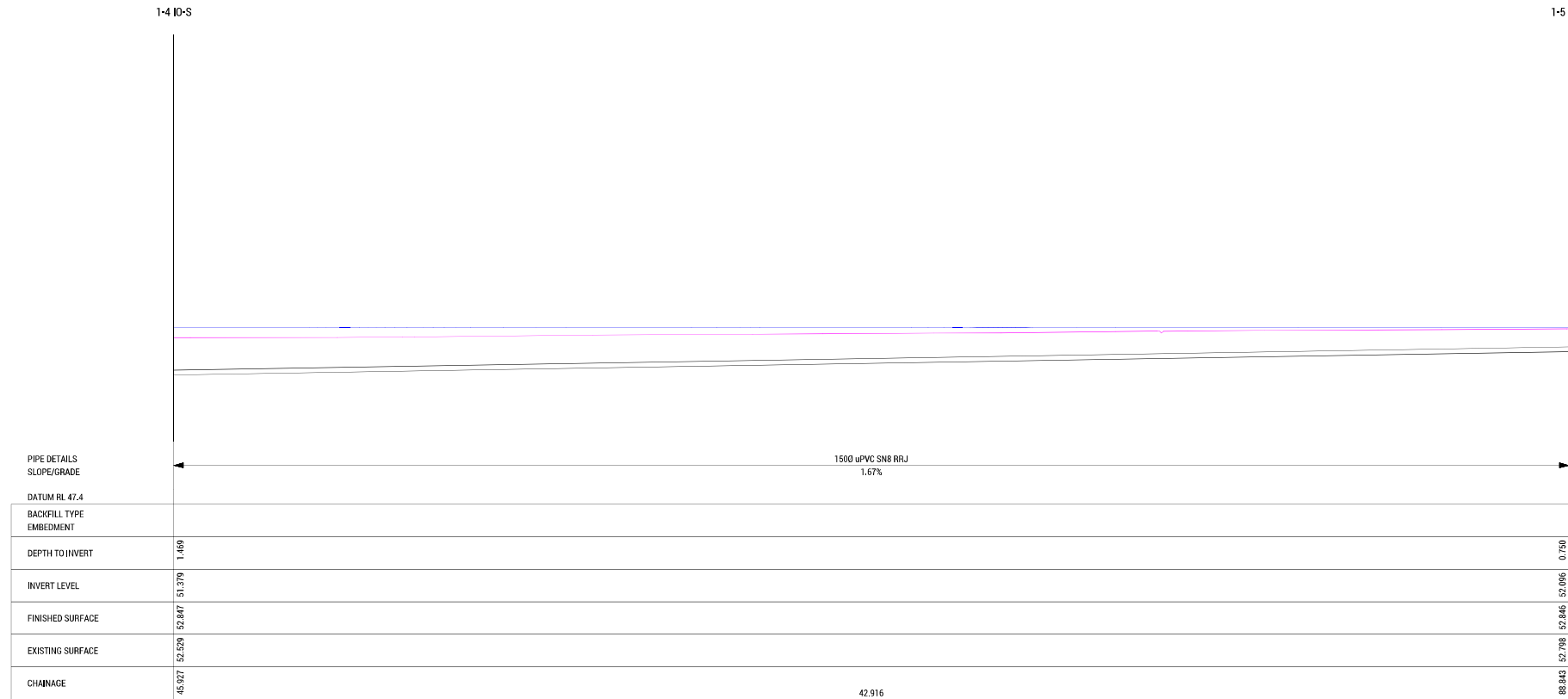
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LONGITUNDINAL SECTION FOR LINE 1  
SCALES: HORIZONTAL 1:100 VERTICAL 1:100



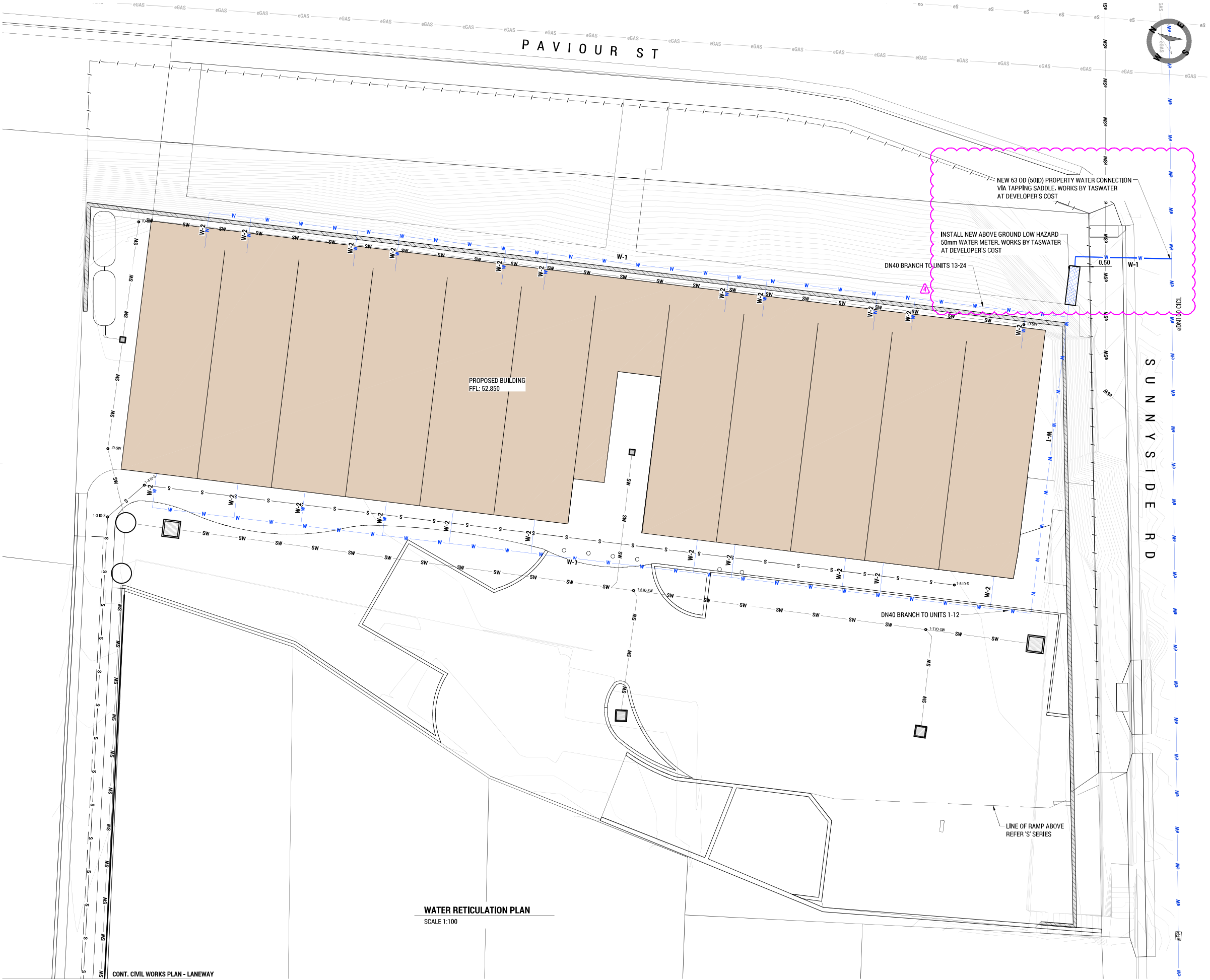
LONGITUNDINAL SECTION FOR LINE 1  
SCALES: HORIZONTAL 1:100 VERTICAL 1:100

			STATUS:		DESIGN BY: BS		<div><div></div><div>22–24 Paterson Street Launceston TAS 7250</div><div><a href="http://rarein.com.au">rarein.com.au</a> P. 03 6388 9200</div></div>	CLIENT: COMMUNITIES TASMANIA	TITLE: SEWER LONG SECTIONS		
4	RFI RESPONSE	KL	10-12-22	PRELIMINARY/INFORMATION	DESIGN CHK: AJL	PROJECT: SOCIAL HOUSING		SCALE: 1:100	SHEET SIZE: A1	DWGS IN SET: -	
3	RFI RESPONSE	KL	11-10-22		DRAWN BY: KL	DRAFT CHK: BS		ADDRESS: 73A NEW TOWN RD, NEW TOWN	PROJECT No: 220008	DWG No: C512	REV: 4
2	80% REVIEW	KL	29-07-22								
1	50% DESIGN DEVELOPMENT	KL	24-03-22								
0	DEVELOPMENT APPLICATION	KL	07-03-22	DO NOT SCALE - IF IN DOUBT, ASK <small>THIS DOCUMENT MAY ONLY BE USED FOR THE PURPOSE FOR WHICH IT WAS PREPARED. © RARE INNOVATION PTY LTD. ABN 51 619 598 257</small>							
REV: ISSUED FOR / DESCRIPTION:		BY:	DATE:	APPROVED: R. JESSON	ACRED. No: CC58481	DATE: 05-11-21					



- LEGEND
- eW EXISTING WATER MAIN
  - W PROPOSED WATER MAIN
  - eFP EXISTING FIRE PLUG
  - SV EXISTING STOP VALVE
  - eM EXISTING WATER METER

WATER MAIN SCHEDULE		
MARK	PIPE SIZE	TYPE
W-1	50 OD (40 ID)	POLY PE100 SDR11 PN16
W-2	25 OD (20 ID)	POLY PE100 SDR11 PN16



			STATUS: <b>PRELIMINARY/INFORMATION</b>		DESIGN BY: BS	<b>rare.</b> 22-24 Paterson Street Launceston TAS 7250 <a href="http://rarein.com.au">rarein.com.au</a> P.03 6388 9200	CLIENT: COMMUNITIES TASMANIA	TITLE: WATER RETICULATION PLAN
3	RFI RESPONSE	KL 11-10-22	KL 29-07-22	DO NOT SCALE - IF IN DOUBT, ASK	DESIGN CHK: AJL		PROJECT: SOCIAL HOUSING	
2	80% REVIEW	KL 24-03-22	KL 07-03-22	THIS DOCUMENT MAY ONLY BE USED FOR THE PURPOSE FOR WHICH IT WAS PREPARED. © RARE INNOVATION PTY LTD. ABN 51 619 598 257	DRAWN BY: KL		ADDRESS: 73A NEW TOWN RD, NEW TOWN	
1	50% DESIGN DEVELOPMENT	KL 07-03-22	BY: DATE:	APPROVED: R. JESSON	DRAFT CHK: BS		SCALE: 1:100 SHEET SIZE: A1 DWGs IN SET: -	
0	DEVELOPMENT APPLICATION			ACRED. No: CC58481	DATE: 05-11-21		PROJECT No: 220008 DWG No: C601	REV: 3
REV:	ISSUED FOR / DESCRIPTION:							

LEGEND

HOSE REACH AREA


FIRE TRUCK HOSE

EFPP

EXISTING FIRE PLUG



FIRE HYDRANT COVER PLAN - UNITS 1-11  
SCALE 1:100

				STATUS: <b>PRELIMINARY/INFORMATION</b>		DESIGN BY: <b>BS</b>	<div><div></div><div>22-24 Paterson Street Launceston TAS 7250</div><div><a href="http://rarein.com.au">rarein.com.au</a> P. 03 6388 9200</div></div>	CLIENT: <b>COMMUNITIES TASMANIA</b>	TITLE: <b>FIRE HYDRANT COVER PLAN - UNITS 1-11</b>
				DO NOT SCALE - IF IN DOUBT, ASK		DESIGN CHK: <b>AJL</b>		PROJECT: <b>SOCIAL HOUSING</b>	
				THIS DOCUMENT MAY ONLY BE USED FOR THE PURPOSE FOR WHICH IT WAS PREPARED. © RARE INNOVATION PTY LTD. ABN 51 619 598 257		DRAWN BY: <b>KL</b>		ADDRESS: <b>73A NEW TOWN RD, NEW TOWN</b>	SCALE: <b>1:100</b> SHEET SIZE: <b>A1</b> DWGS IN SET: <b>-</b>
				APPROVED: <b>R. JESSON</b>		DRAFT CHK: <b>BS</b>			PROJECT No: <b>220008</b> DWG No: <b>C611</b> REV: <b>2</b>
		KL	29-07-22	BY:	DATE:	DATE: <b>05-11-21</b>			
2	80% REVIEW	KL	24-03-22						
1	50% DESIGN DEVELOPMENT	KL	07-03-22						
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REV:	ISSUED FOR / DESCRIPTION:								

LEGEND


HOSE REACH AREA

FIRE TRUCK HOSE

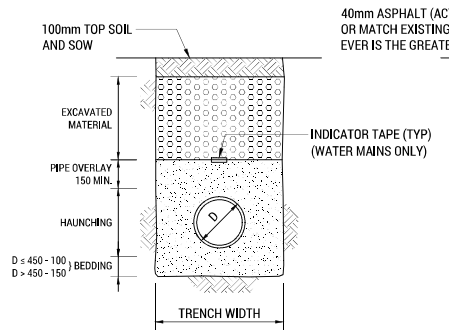
EXISTING FIRE PLUG



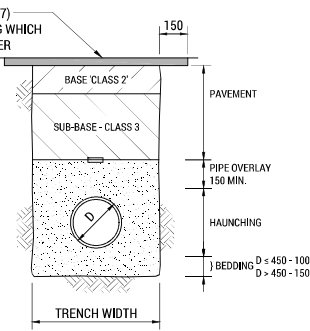
FIRE HYDRANT COVERAGE PLAN - UNITS 12-22  
SCALE 1:100

				STATUS: <b>PRELIMINARY/INFORMATION</b>		DESIGN BY: <b>BS</b>		  22-24 Paterson Street Launceston TAS 7250  <a href="http://rarein.com.au">rarein.com.au</a> P.03 6388 9200	CLIENT: <b>COMMUNITIES TASMANIA</b>	TITLE: <b>FIRE HYDRANT COVERAGE PLAN - UNITS 12-22</b>		
				DO NOT SCALE - IF IN DOUBT, ASK THIS DOCUMENT MAY ONLY BE USED FOR THE PURPOSE FOR WHICH IT WAS PREPARED. © RARE INNOVATION PTY LTD. ABN 51 619 598 257		DESIGN CHK: <b>AJL</b>			PROJECT: <b>SOCIAL HOUSING</b>	SCALE: <b>1:100</b> SHEET SIZE: <b>A1</b> DWGS IN SET: <b>-</b>		
				APPROVED: <b>R. JESSON</b>		DRAWN BY: <b>KL</b>			ADDRESS: <b>73A NEW TOWN RD, NEW TOWN</b>		PROJECT No: <b>220008</b> DWG No: <b>C612</b> REV: <b>2</b>	
				ACRED. No: <b>CC5848I</b>		DRAFT CHK: <b>BS</b>						
				DATE: <b>05-11-21</b>								
				BY: DATE:								

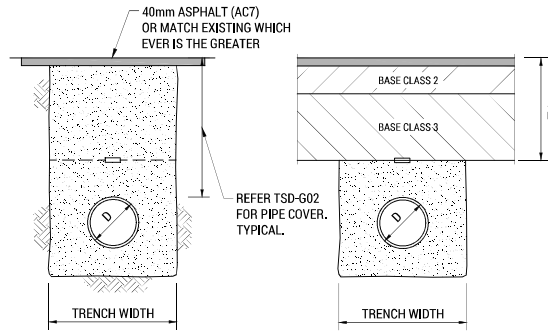




**D01 TRENCHES - NON-TRAFFICABLE**  
SCALE 1:20



**D02 TRENCHES - EXISTING ROADS**  
SCALE 1:20



**D03 TRENCHES - NEW ROADS**  
SCALE 1:20

TRENCH WIDTH		
PIPE TYPE	NOM. DIA (D)	TRENCH WIDTH
CONCRETE	≤ 1500	D + 300
	> 1500	DESIGN REQ.
OTHER PIPES	100	300
	150	450
	225-300	600
	450	750
	450-1500	D + 600
	> 1500	DESIGN REQ.

MINIMUM TRENCH WIDTHS MAY BE VARIED ABOVE THE PIPE OVERLAY ZONE TO MEET 'WORKPLACE STANDARDS' REQUIREMENTS.  
ie EXCAVATIONS OVER 1.5m MAY REQUIRE RISK ASSESSMENT.

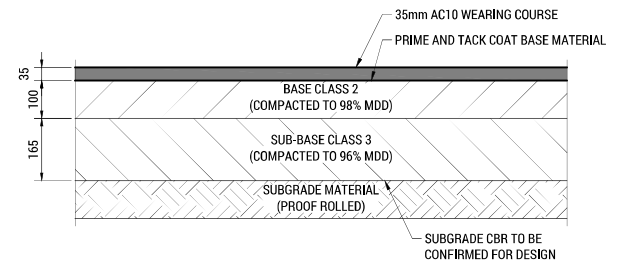
COMPACTION OF BEDDING, HAUNCHING & OVERLAY  
REFER TO AS 1289-5.5  
CONCRETE PIPES = MIN. DENSITY INDEX = 60% (85% STD. COMPACTION)  
UPVC PIPES = DENSITY INDEX = 65% (90% STD. COMPACTION)  
DCL PIPES = DENSITY INDEX = 65% (90% STD. COMPACTION)

BEDDING, HAUNCHING AND OVERLAY MATERIAL  
BEDDING, HAUNCHING AND PIPE OVERLAY MATERIAL SHALL CONTAIN NO DELETERIOUS MATERIAL OR CLAY LUMPS AND SHALL COMPLY WITH THE FOLLOWING GRADINGS:

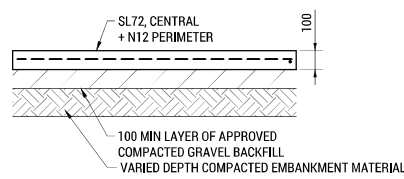
FOR UPVC AND DUCTILE IRON PIPES SAND OR CRUSHED ROCK (STONE DUST)		% PASSING (BY MASS)
SIEVE APERTURE (mm)		
TO AS 1152		
6.7	100	
2.36	70-100	
0.6	20-90	
0.3	8-50	
0.15	0-20	
0.075	0-10	

FOR CONCRETE PIPES CRUSHED ROCK		% PASSING (BY MASS)
SIEVE APERTURE (mm)		
TO AS 1152		
19	100	
2.36	50-100	
0.6	20-90	
0.3	10-60	
0.15	0-25	
0.075	0-10	

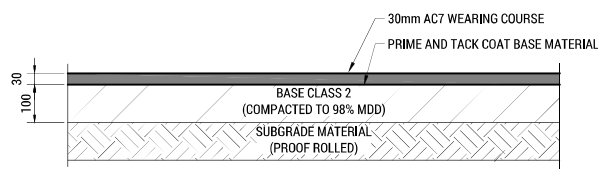
ALL MATERIAL SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH AS 3725 AND TO THE SATISFACTION OF THE SUPERINTENDENT.



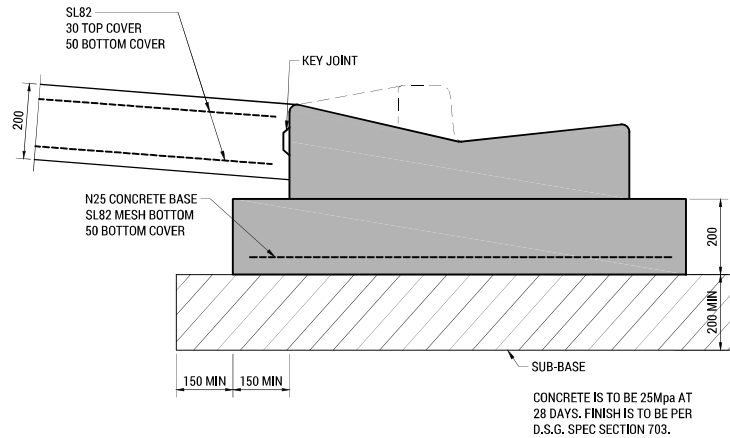
**D04 HOT MIX PAVEMENT - ROADWAYS - PAV-A**  
SCALE 1:10  
MIN CBR 4% (CONTRACTOR TO CONFIRM ONSITE)



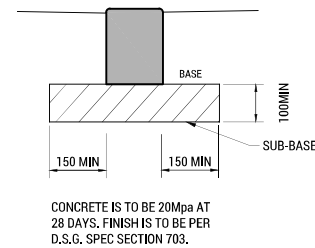
**D05 SECTION DETAIL - PAVEMENT 'B' (TYP.)**  
SCALE 1:20  
REFER IPWEA STD DWG TSD-R11-v3 FOR ADDITIONAL FOOTPATH DETAILS



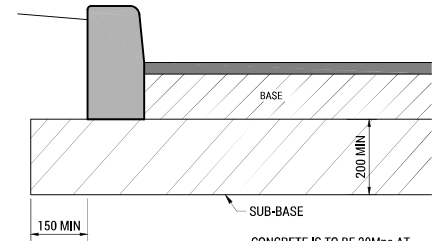
**D06 HOT MIX PAVEMENT - PEDESTRIAN - PAV-C**  
SCALE 1:10  
MIN CBR 4% (CONTRACTOR TO CONFIRM ONSITE)



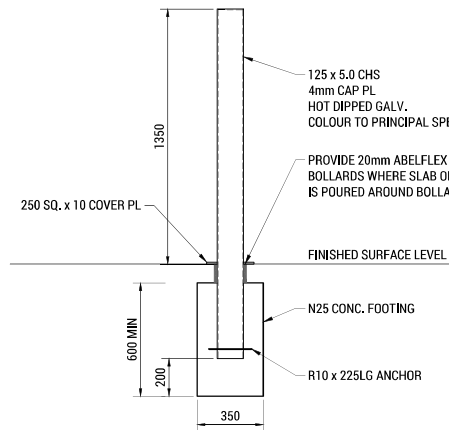
**D07 TYPE KCRB KERB - VEHICULAR CROSSING HEAVY DUTY BASE**  
SCALE 1:10



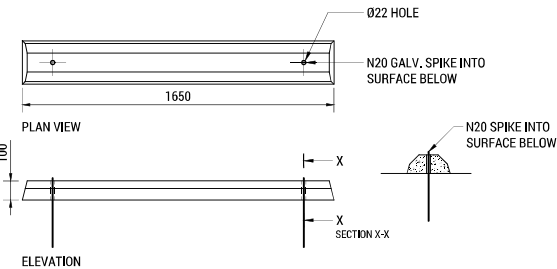
**D08 TYPE FK KERB**  
SCALE 1:10  
REFER IPWEA STD DWG TSD-R14-v3 FOR APPROVED KERB & CHANNEL PROFILES & DIMENSIONS



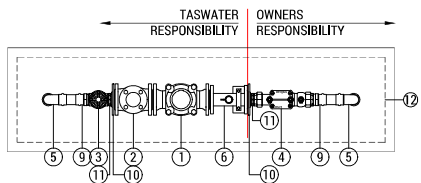
**D09 TYPE BK KERB**  
SCALE 1:10  
REFER IPWEA STD DWG TSD-R14-v3 FOR APPROVED KERB & CHANNEL PROFILES & DIMENSIONS



**D10 FIXED BOLLARD 'BoI' DETAIL**  
SCALE 1:20  
REFER LGAT STD DWG TSD-R31-v3 & TSD-R32-v3 FOR ADDITIONAL DETAILS



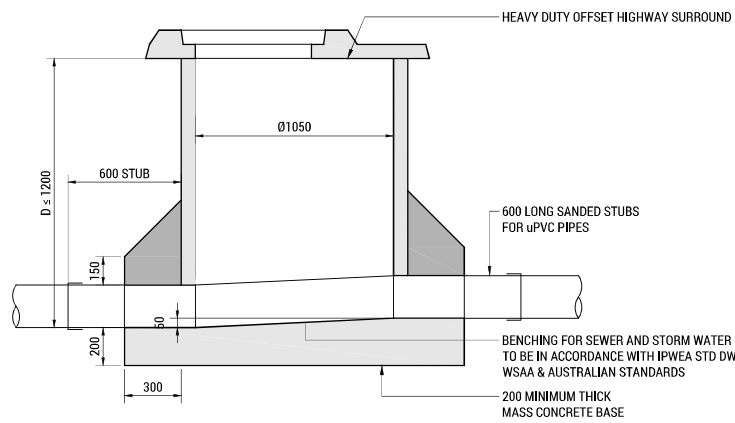
**D11 TYPICAL WHEEL STOP DETAIL**  
SCALE 1:20  
NOTE:  
HUDSON CIVIL PRODUCT WHEEL STOP (1650 LONG x 100 HIGH) INSTALLED TO MANUFACTURERS SPECIFICATION



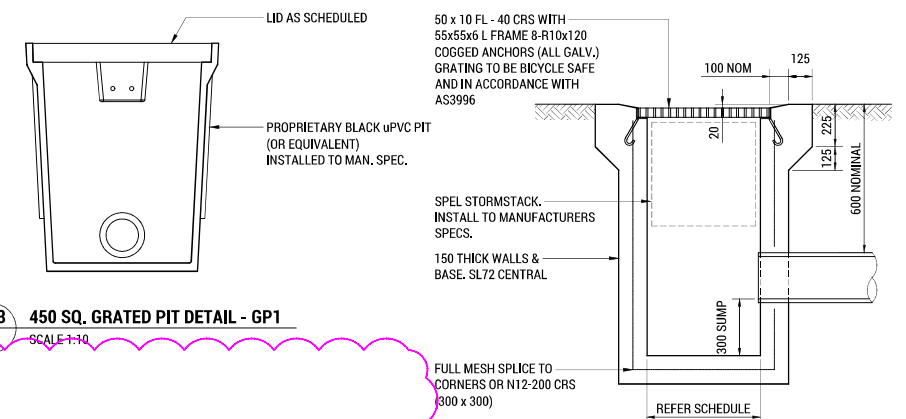
EQUIPMENT SCHEDULE (PER UNIT)	
DN100 DEDICATED FIRE	
ITEM	DESCRIPTION
1	50mm 'SENSUS' MESTREAM PLUS WATER METER
2	50mm 'SENSUS' WP-F DIRT BOX
3	50mm GATE VALVE - AVK OR SIMILAR
4	LOW HAZARD 50mm 'VALVCHQ' DC03U DOUBLE CHECK VALVE - NON TESTABLE
5	50mm TYPE A COPPER WATER PIPE
6	50mm x 200mm HYDRANT RISER WITH 25mm TAPPING FOR PRESSURE TESTING, 20mm VALVE & PLUG
9	B-PRESS FITTINGS OR EQUIVALENT
10	50mm DSP TO TABLE FLANGE ADAPTOR
11	50mm NIPPLE
12	GALV. METAL CAGE - REFER TWS-W-0003 SERIES DRAWINGS FOR DETAILS

**D15 50mm LOW HAZARD METER ARRANGEMENT**  
SCALE 1:20

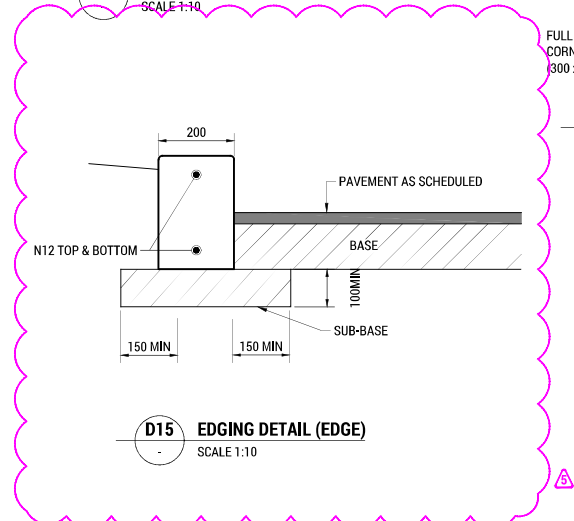
MANHOLE LIDS TO BE 'GATIC' TYPE OR SIMILAR  
• HEAVY DUTY 'CLASS D' FOR TRAFFIC AREAS  
• MEDIUM DUTY 'CLASS B' FOR ALL OTHER AREAS  
ALL STORM WATER MANHOLES TO HAVE 'SW' CAST INTO LIDS, SEWER MANHOLES TO HAVE 'S' CAST IN.



**D12 DETAIL OF MANHOLE - D ≤ 1200**  
SCALE 1:20  
REFER IPWEA STD DWG TSD-SW02-v3 FOR STORMWATER MANHOLE DETAILS  
REFER WSAA STD DWG'S FOR SEWER MANHOLE DETAILS



**D13 450 SQ. GRATED PIT DETAIL - GP1**  
SCALE 1:10

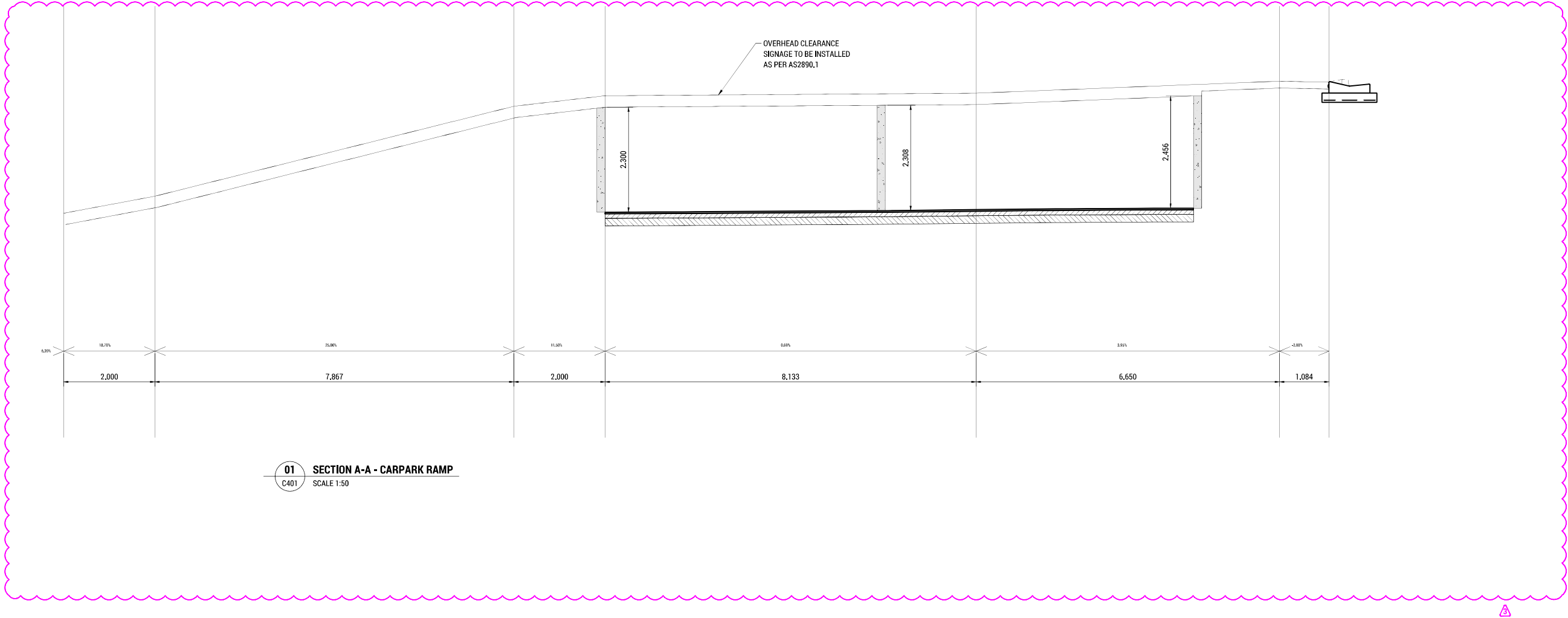



**D15 EDGING DETAIL (EDGE)**  
SCALE 1:10

**D14 GRATED PIT - TRAFFICABLE**  
SCALE 1:20  
REFER IPWEA STANDARD DRAWINGS FOR ALTERNATE PIT CONSTRUCTION DETAILS. APPROVED PRECAST UNIT MAYBE SUBSTITUTED.

5	RFI RESPONSE	KL	04-11-22	STATUS: <b>PRELIMINARY/INFORMATION</b>	DESIGN BY:	BS	CLIENT: <b>COMMUNITIES TASMANIA</b>	TITLE: <b>SECTIONS &amp; DETAILS - SHEET 1</b>
4	RFI RESPONSE	KL	11-10-22		DESIGN CHK:	AJL		
3	80% REVIEW	KL	29-07-22		DRAWN BY:	KL		
2	COUNCIL RFI RESPONSE	KL	17-06-22	DO NOT SCALE - IF IN DOUBT, ASK THIS DOCUMENT MAY ONLY BE USED FOR THE PURPOSE FOR WHICH IT WAS PREPARED. © RARE INNOVATION PTY LTD. ABN 51 619 598 257	DRAFT CHK:	BS	PROJECT: <b>SOCIAL HOUSING</b>	SCALE: 1:10, 1:20 SHEET SIZE: A1 DWGs IN SET: -
1	50% DESIGN DEVELOPMENT	KL	24-03-22					
0	DEVELOPMENT APPLICATION	KL	07-03-22					
REV:	ISSUED FOR / DESCRIPTION:	BY:	DATE:	APPROVED: <b>A. LEAKE</b>	ACRED. No:	CC5452A	ADDRESS: <b>73A NEW TOWN ROAD, NEW TOWN</b>	PROJECT No: <b>220008</b> DWG No: <b>C701</b> REV: <b>5</b>

**rare.**  
22-24 Paterson Street  
Launceston TAS 7250  
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P. 03 6388 9200



				STATUS: <b>PRELIMINARY/INFORMATION</b>		DESIGN BY: BS	<div> 22-24 Paterson Street Launceston TAS 7250 <a href="http://rarein.com.au">rarein.com.au</a> P.03 6388 9200</div>	CLIENT: COMMUNITIES TASMANIA	TITLE: SECTIONS & DETAILS - SHEET 2
3	RFI RESPONSE	KL	10-12-22	DESIGN CHK: AJL		DRAWN BY: KL		PROJECT: SOCIAL HOUSING	
2	RFI RESPONSE	KL	04-11-22	DRAFT CHK: BS				SCALE: 1:50 SHEET SIZE: A1 DWGs IN SET: -	
1	RFI RESPONSE	KL	11-10-22					ADDRESS: 73A NEW TOWN RD, NEW TOWN	
0	80% REVIEW	KL	29-07-22					PROJECT No: 220008 DWG No: C702 REV: 3	
REV: ISSUED FOR / DESCRIPTION:		BY:	DATE:	APPROVED: R. JESSON	ACRED. No: CC58481	DATE: 05-11-21			

## Appendix H     Centacare Evolve Housing letter



## LETTER OF EXPLANATION

### 73a New Town Road – Centacare Evolve Housing Development

Centacare Evolve Housing wish to provide the following brief description of the proposed project that has been lodged for approval at 73a New Town Road, New Town. The content of this letter is intended to provide an overview and understanding of why the project is being proposed, who it will provide housing for, and how the accommodation will be managed.

The provision of accessible housing options within our community is an issue that persists and continues to grow. All levels of government continue to tackle the issue and seek to support community needs and expectations. The Tasmanian Governments Action Plan on Affordable Housing is one such initiative aimed at breaking down barriers and ensuring access to safe and secure housing.

Centacare Evolve Housing are working closely with the Tasmanian Government to ensure our organisation can assist in serving the community through the provision of safe, secure and accessible housing. Centacare Evolve Housing have been involved in social and community endeavours to address housing stress and support people to find secure accommodation for many years. The proposed New Town Project is one such development that will significantly contribute to providing accessible, safe and secure housing within an established and diverse community.

### Who We Are?

Centacare Evolve Housing are a Tier 1 Community Housing Provider who owns or manages over 2100 social and affordable housing properties throughout Tasmania. We believe our business is about much more than managing and building properties. So, as well as providing a comprehensive and responsive tenancy management service, we have a strong social commitment to enhancing the wellbeing of our tenants and the communities in which we work.

Centacare Evolve Housing is committed to relieving housing stress for 4,418 Tasmanians state-wide, and provides tenancy management services in 2,103 individual social and affordable homes. In addition to providing tenancy and community support, Centacare Evolve Housing has a significant new build and construction program, with over 670 new social and affordable homes in the pipeline for construction. A key component of Centacare Evolve Housing is our maintenance division, who are continually overseeing major upgrades and refurbishments to existing homes. By increasing both the quality and supply of available housing options, our property development work is having a positive impact on the lives and wellbeing of thousands of Tasmanians.

We believe our business and opportunity to contribute, is about much more than managing and building properties, we have a strong social commitment to enhancing the wellbeing of our tenants and the communities in which we work. Centacare Evolve Housing runs a range of Community Wellbeing initiatives to support tenants and community members to thrive. A key community program is Build Up Tassie our unique pre-employment and job coaching program which supports local young job seekers with an interest in the construction industry and provides significant pathways to apprenticeships and other work opportunities. Build Up Tassie works with our construction partners to increase the number of employees who are life-ready, skill-ready, and work-ready.

*For more information on what we do, please see below link to our website:  
<https://centacareevolve.com.au/>*

### **Our Proposed New Town Road Development**

Our proposed New Town Road development is considered a key building initiative that has arisen directly from the identified need in the local area and wider New Town precinct.

New Town and the wider area have seen considerable pressure on accessible housing. Increasing property prices and rental market stress has meant many people are no longer able to continue to live and work in the local area.

The proposed New Town Road development looks to create a specific accommodation option and long-term housing solution. The development will allow people to access secure homes within a vibrant local community.

### **Who will be the residents?**

New Town is centrally located and provides excellent access to several key Hobart central zones. The proximity to New Town Road provides residents with access to the busiest public transport corridor in Hobart, servicing south into Hobart CBD and north to Glenorchy City. The location is well positioned to provide walkability to places of employment, shopping, and entertainment areas. This project provides secure housing options that support people to live in their local community and maintain conveniently sustainably access to services, places of employment and leisure activities.

The development proposal aims to provide housing for individuals who would benefit most from living in a well-connected centralised Hobart suburb.

The residents proposed would typically be within the following broad demographic cohorts:

- Young individuals and couples who are looking to live and work within the areas of Hobart CBD, North Hobart, Moonah, and surrounding areas. Typically, we have seen this cohort have reliance on public transport rather than committing to the expense of private vehicle ownership
- Single middle aged or older people who require secure affordable homes that can offer certainty of affordability. The develop supports this type of assistance and allows individuals to establish long term home life with certainty
- Small families comprising a parent with 1 child would suit the development. The central location allows access to schools and places of employment. We typically expect low car ownership in this group and the ease of access to public transport and active transport options make this development well suited to establish a long-term home certainty
- The development is not suited to larger family units and is not a project that aims to cater for this demographic

The development aims to provide long term homes for a broad mix of individuals and couples. The development does not form part of a transitional housing complex and will not be used to support this type of community service. Further to this, Centacare Evolve Housing is proud of our in-depth property allocation process which ensures that tenants suit the complexes and communities they are allocated to.

### **How will the site be managed?**

Centacare Evolve Housing provide a range of community and social support networks in conjunction with the housing and tenancy management services.

For the New Town Road project, we will establish several programs to assist in enabling resident engagement programs. These aim to strengthen connections to neighbours within the complex and engagement with groups in the wider community.

We achieve this through our network of established support and community program initiatives including:

- Community wellbeing supports – offering individual assistance in a range of services to meet needs including household management, establishing support networks, and building individual capacities to develop a home in a community
- Tenant engagement groups – used to establish a high level of resident engagement in the day-to-day operations of the development including decisions around the use, maintenance, and function of the common spaces of the development.
- Community leadership programs – these assist resident groups and individuals in developing community connection and linking leadership/mentoring for individual development and group initiatives



- Employment and training programs – these assist local young people to gain skills and identify pathways to meaningful employment, including apprenticeships in building and construction

Centacare Evolve Housing will remain the management team responsible for the entirety of the development's operation and tenant suitability management. We have an extensive maintenance and building services team and would undertake all the usual property owner responsibilities from enforcement of development rules, building up-keep, and garden maintenance.

Our tenancy management allow the flexibility to have a 'hands on' approach to the allocation of tenants to dwellings to ensure a tenant group that compliments the development and fellow tenants. Our management of some 3000 properties throughout Tasmania provides us certainty and expertise to support and grow communities. The New Town Road development is a key project that Centacare can achieve sustained and meaningful assistance to individuals to achieve a secure and affordable home that supports building community networks and enriching lives.

***We would welcome the opportunity to discuss any aspects of the proposed project and our vision for its contribution to providing homes and growing communities.***

Of beauty rich and rare.

**rare.**

Level 1a, 10-14 Paterson Street  
Launceston TAS 7250

P. 6388 9200

[rarein.com.au](http://rarein.com.au)

Our Ref: 220008

25<sup>th</sup> March 2022

Philplighton Architects  
49 Sandy Bay Road  
Hobart TAS 7004

**ATTENTION: P GAGGIN**

Dear Peter

**CENTACARE EVOLVE – 73A NEW TOWN ROAD – SITE INFRASTRUCTURE CONCEPT DESIGN FOR  
DEVELOPMENT APPLICATION**

We are writing to you to provide you concept site civil infrastructure for the submission of the Development Application.

Attached to this letter are the following drawings: -

- COV – Cover Sheet
- C000 – Civil Notes
- C101 – Existing Survey Plan
- C301 - Bulk Earthworks Plan
- C311 – Bulk Earthworks Sections
- C401 - Civil Works Plan
- C501 – Drainage Plan
- C511 – Drainage Long Sections
- C521 – Flood Control Plan 1% AEP
- C601 – Water Reticulation Plan
- C611 – Fire Hydrant Coverage Plan – Units 1-11
- C612 – Fire Hydrant Coverage Plan – Units 12-22
- C701 – Sections and Details – Sheet 1

Please review the above drawings with the following comments: -

- Stormwater
  1. The existing site stormwater connection was not identified on site, it is believed that the existing stormwater drains through the back yards of the adjacent properties. This development proposes providing a new stormwater connection to the existing DN600 RCP stormwater in the street. This connection will need to cross a number of services including comms, LV, HV and water. We have mapped these services into long sections based on invert level information provided however we recommend that this area is potholed to positively located all services (including the DN600 RCP stormwater main) to ensure that the risk around this connection is managed.
  2. The existing site has been nominated to have a pre-existing 80% impervious surfaces area by virtue of the clay/gravel tennis courts and concrete hard stand. The proposed development will

similarly be concrete hardstand and roofed areas. As is proposed that the impervious area will increase up to 90% impervious as such, Stormwater detention will be required to detain runoff above pre-existing conditions. This can be achieved through containment within the courtyard and carpark area. From our assessment we require ~10 kL with a restricted outfall pipe in the manhole downstream of the containment area.

3. The site will require stormwater treatment via a SPEL system of similar. We have engaged with SPEL to ascertain a treatment train that will achieve current practice water quality targets of 100% GP \ 80% TSS/ 45% TP /45% TN at the point of discharge by introducing 2 x SPEL Stormsack pits for Primary Treatment in the carpark and 1 x Hydrosystem 400/1 Secondary Treatment downstream prior to discharge.
  4. Any runoff that cannot be contained within the pipe network for the 1% AEP will be contained within the site using kerbing and retaining walls along the Western boundary set to a level of RL 52.80 along the Southern Boundary. There will be an overland flow path from the carpark to the laneway which will discharge from the site at a spill level of RL 52.65. A minimum freeboard of 150mm in containment areas will be maintained under these conditions.
- Sewer
    1. The existing site has an existing sewer connection, this is expected to be reused. We have mapped the likely Sewer alignment as a longsection and found adequate depth to service the proposed building block.
  - Water
    1. The existing site has a water connection, this water connection was not located on site. During demolition the contractors will be required to identify and cap the existing connection.
    2. The proposed development will require a new connection and water meter arrangement. TasWater GIS database indicates that there is a DN50 copper and a DN250 Cast Iron main in the vicinity of the existing property connection. There is also a DN100 CICL water main on Sunnyside Road and Paviour Street respectively which is above the cutting level. We have determined that the property will require a min. DN40 water connection which we propose to take off the DN100 main in Sunnyside Road at the N-E corner of the property. Noting that this is the most sensible location from our perspective for an accessible above ground meter assembly to current TasWater standards that is within the property bounds.
  - Fire fighting
    1. There are two street fire plugs (one on Sunnyside Road and one on Paviour Street). 60m radius adequately cover the proposed building. We have also mapped detailed alignments for hose lay and truck locations to comply with AS2419 using only the street fire plugs as feed hydrants. These arrangements work based on our present understanding of the design but we note that this does need to be refined with final architectural floor layouts as there is little margin for error.
    2. It is understood that there will be no internal firefighting equipment such as hose reels based on the building surveyors report.



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P. 6388 9200

**[rarein.com.au](http://rarein.com.au)**

Should you have any further queries please do not hesitate to contact us.

Yours faithfully,

A handwritten signature in black ink, appearing to be 'BS', followed by a long horizontal line extending to the right.

Brendan Stanborough  
Senior Structural Engineer  
Infrastructure Manager



City of **HOBART**

*Enquiries to:* City Life

*Phone:* (03) 6238 2711

*Email:* coh@hobartcity.com.au

5 September 2022

MONICA CAMERON  
L1 125A ELIZABETH STREET  
HOBART TAS 7000

mailto: monica@eraplanning.com.au

Dear Sir/Madam

**73 A NEW TOWN ROAD, NEW TOWN & ADJACENT ROAD RESERVE  
GMC- 22 DWELLINGS, 12 CARPARKING SPACES, 2 MOTORBIKE SPACES,  
LANDSCAPING NOTICE OF LAND OWNER CONSENT TO LODGE A PLANNING  
APPLICATION - GMC-22-36**

**Site Address:**

73A New Town Road and Adjacent Road Reserve

**Description of Proposal:**

Demolition, 22 Multiple Dwellings, Front Fencing and Associated Works

**Applicant Name:**

Monica Cameron

**PLN (if applicable):**

PLN-22-282

I write to advise that pursuant to Section 52 of the *Land Use Planning and Approvals Act 1993*, I grant my consent on behalf of the Hobart City Council as the owner/administrator of the above land for you to make application to the City for a planning permit for the development described above and as per the attached documents. I granted consent pursuant to delegation, a copy of which is enclosed.

Please note that the granting of the consent is only for the making of the application and in no way should such consent be seen as prejudicing any decision the Council is required to make

as the statutory planning authority.

This consent does not constitute an approval to undertake any works and does not authorise the owner, developer or their agents any right to enter or conduct works on any Council managed land whether subject to this consent or not.

If planning approval is granted by the planning authority, you will be required to seek approvals and permits from the City as both landlord, land manager, or under other statutory powers (such as other legislation or City By-Laws) that are not granted with the issue of a planning permit under a planning scheme. This includes the requirement for you to reapply for a permit to occupy a public space under the City's Public Spaces By-law if the proposal relates to such an area.

Accordingly, I encourage you to continue to engage with the City about these potential requirements.

Yours faithfully



(Glenn Doyle)

**HEAD OF CITY PROJECTS**

Relevant documents/plans:

Letter dated 23/08/2022.

Drawings COV, C000, C101, C301, C311, C401, C501, C511, C521, C601, C611, C612 & C701 from Rare Architecture.

Summary of interface to road verge x 2.



# City of Hobart

## INSTRUMENT OF DELEGATION

### General Delegation

### Head of City Projects

#### **Section 64 of the Local Government Act 1993**

I, Kelly Grigsby, Chief Executive Officer, being the General Manager as appointed by Council pursuant to Section 61 of the *Local Government Act 1993 (Tas)* ("the Act") hereby delegate pursuant to Section 64 of the Act, the following powers and functions to the Head of City Projects:

1. to sign an application; and
2. to provide written permission to make an application;

pursuant to section 52(1B) of the *Land Use Planning and Approvals Act 1993*, except where an application pursuant to that section is recommended for refusal by Council officers.

Dated this 24th day of February 2022



#### **SIGNED**

Kelly Grigsby  
(Chief Executive Officer)

Being the General Manager as appointed by Council pursuant to section 61 of the *Local Government Act 1993 (Tas)*



City of **HOBART**

23/08/22

Hobart City Council  
Planning assessment and General Manager Consent

ATTENTION: The Assessment Officer

**REFERENCE: 73A New Town Road – General Manager Consent**

A meeting was held on the 03/08/22 to discuss further information council was seeking to allow the provision of General Managers Consent for the planning submission concerning 73A New Town Road, New Town. The area of further information discussed in the meeting was pertaining to the Paviour Street frontage and interfaces.

In response to this meeting, we have compiled the following letter and referenced sketches to illustrate the projects intent regarding the interface of the development with Paviour Street. These designs are to illustrate the developments intent and provide the basis for realistic detailed design solutions. These detailed design solutions will be developed further upon achieving a development approval and would be subject to the usual condition consent processes and development approvals.

The details in this letter and attached sketches, were developed, and provided jointly by the project team and with the technical guidance and expertise of Alan Leake (structural engineer of RARE engineering consultants) and John Paul Cummings (geotechnical expert of (GES) Geo-Environmental Solutions)

**Item 1 – Structural footings within the Paviour Street road reserve**

It is proposed to install two linking walkways that allow pedestrian connection from the new Paviour Street foot path onto the balcony areas of the building. These walkways will be supported on the building and bridge to Paviour Street. The walkways are proposed to be founded on a bored pier foundation in the road reserve (this is illustrated in the attached markup plan). There are two walkways, one at the far northern end of the building and one at the centre of the building.

The northern walkway is illustrated in section A and is likely to be founded onto rock at a shallow level (this is consistent with the geotechnical assessment and the visible rock within the northern end of the embankment)

The central walkway is illustrated in section C and is likely to require a deeper pier to be founded onto suitable bearing capacity (this is consistent with the geotechnical trenching that was done in the embankment close to this location).

**Construction, Joinery &  
Facility Management****Devonport**

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Launceston Tasmania 7248  
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[info@fairbrother.com.au](mailto:info@fairbrother.com.au)  
[www.fairbrother.com.au](http://www.fairbrother.com.au)

**ABN 51 009 510 561**

Neither of these foundations will undermine or cause weakness in the embankment and there is no additional risk to the stability of the existing condition in founding the walkways as proposed.

## Item 2 – Proposed ground levels, embankment and shaping

Attached to this letter are a series of 4 sections illustrating the conceptual approach to treatment of the embankment along Paviour Street. These sections A, B, C & D, illustrate typical locations and show how the profiling and support of the embankment changes along the length of the site. The conceptual design is to provide:

- At the northern end, an existing rockface is visible in the embankment. It is proposed to assess this with geotechnical detailed site inspection during the works to retain this face as the supporting structure of the embankment (as is the current situation). This is illustrated in section A.
- From the geotechnical investigations undertaken on the site it is evident that the central zone of the embankment comprises sandy topsoil and sand/mudstone base. Typical this area is proposed to be retained at the base by a built retaining structure and then using a 1v:2h slope for the remainder of the embankment. As illustrated in sections B and C this has only minor shaping impact on the ground levels within the road reserve.
- At the extreme southern end of the building, it is proposed to fill the existing embankment to flatten the existing grade (illustrated in section D). this treatment terminates at the proposed retaining wall along Sunnyside Road as illustrated in plan

The above items are conceptual approaches that have been proposed in conjunction with the projects structural engineer and geotechnical expertise. The above assumptions will need detailed resolution and assessment through out detailed design and construction to confirm inground conditions remain consistent with initial investigations. The detailed design will occur as part of verifying condition endorsements for the project and achieving relevant building approvals for the works.

## Item 3 – Landscape intent and approach

The retention of the embankment is described above, and the finished graded surface is intended to be landscaped to provide both a planted edge to the development as well as assist with long term weathering of the surface. The landscape surface typical remain no steeper than 1v:2h and provide suitable base for planting of ground covers and shrubs. It is anticipated the planting will require the use of an organic fibre blanket to provide surface cover whilst the plants are established. The landscaped area will be serviced with an automated irrigation system to ensure best establishment conditions.

It is proposed to include several trees within the road reserve area these are placed at the upper part of the embankment (as illustrated in the sections) and planting would occur consistent with landscaping practices for the slope. It is proposed these trees match the existing trees along this side of paviour street which are also located within a similarly sloped road verge.



Details on final species and planting densities will be prepared following the development approval processes and expected to be part of the condition endorsement phase.

#### Item 4 – Current embankment stability and integrity

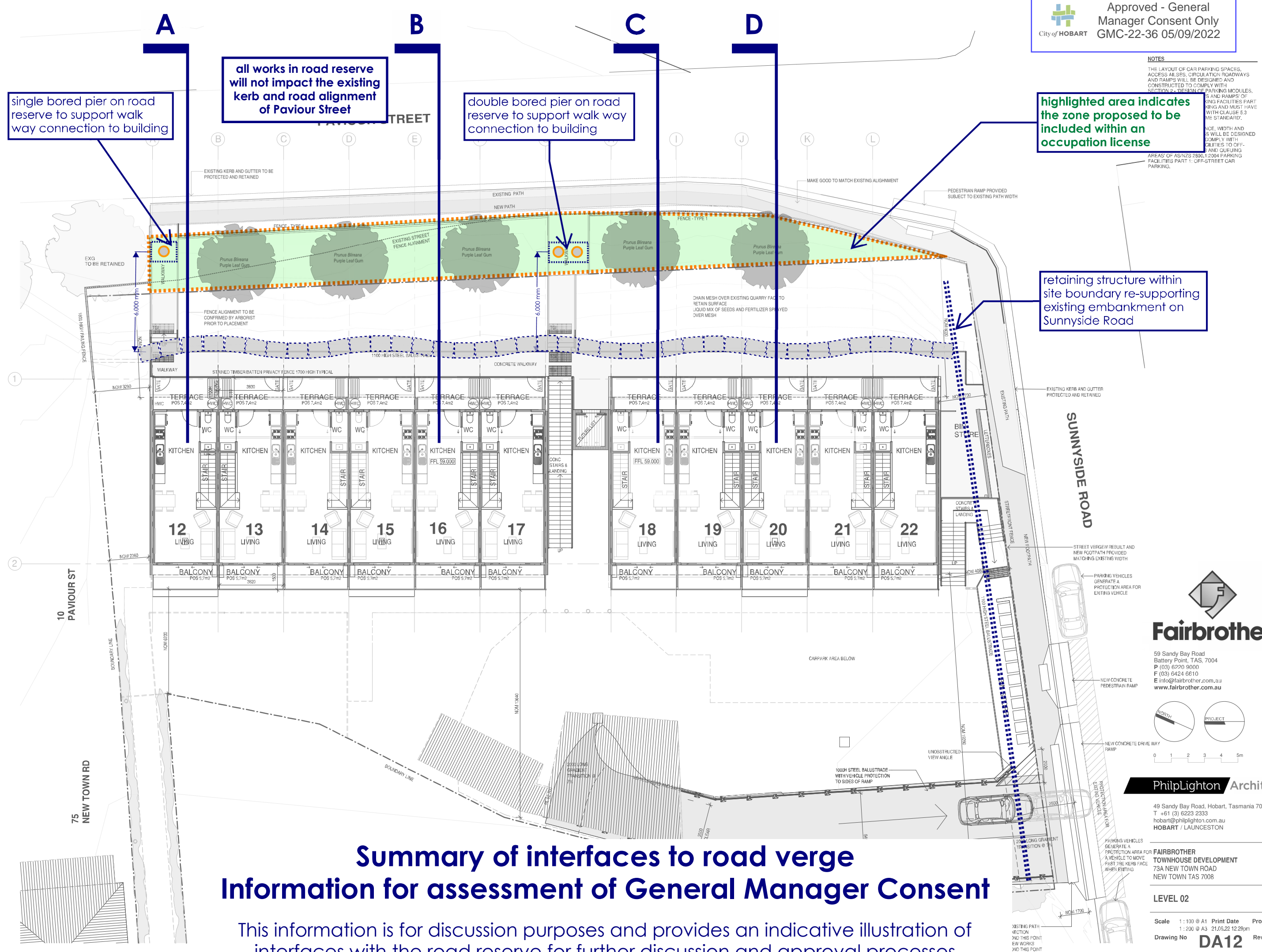
The existing embankment was cleared of vegetation during geotechnical inspection works. These works were undertaken with the supervision of geotechnical experts GES, who provided a geotechnical report on the investigation. Within the embankment area facing Paviour Street 2 trenches were excavated. These were taken to only a shallow level and do not present a risk to the stability of the bank. The embankment facing Sunnyside Road comprises a sandstone/mudstone outcrop and several concrete retaining structures (these structures are within the road reserve). The structures were not affected by the geotechnical investigation and remain stable to the degree of their original construction.

The rock outcrop and embankments are subject to ongoing erosion (as has always been the case) and whilst minor displacement of material will occur the embankments are not at any increased risk of significant failure than would be expected from their original construction. It is anticipated the embankments will remain in their existing condition for the near future but should be regularly inspected for signs of change.

As part of the detailed engineering and civil design works a slope stability assessment will be completed. This will be validated and amended as needed during the works as inground conditions are revealed and to provide site specific context yielded from excavation activities. The final embankment civil, structural and landscape composition will be subject to future design detail and approvals/endorsements.

#### Item 5 – area of future occupation licence

On the attached plan sketch the area that would be subject to a future 'occupation licence' with council and the landowner has been identified. It is anticipated that licence would be negotiated during the development of condition endorsements prior to use of the development.



# Summary of interfaces to road verge Information for assessment of General Manager Consent

This information is for discussion purposes and provides an indicative illustration of interfaces with the road reserve for further discussion and approval processes

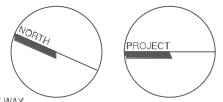
NOTES

THE LAYOUT OF CAR PARKING SPACES, ACCESS ALLEYS, CIRCULATION ROADWAYS AND RAMPS WILL BE DESIGNED AND CONSTRUCTED TO COMPLY WITH SECTION 2 - DESIGN OF PARKING MODULES, AND RAMPS OF THE TOWNHOUSE DEVELOPMENT. THE LAYOUT OF CAR PARKING SPACES, ACCESS ALLEYS, CIRCULATION ROADWAYS AND RAMPS WILL BE DESIGNED AND CONSTRUCTED TO COMPLY WITH SECTION 2 - DESIGN OF PARKING MODULES, AND RAMPS OF THE TOWNHOUSE DEVELOPMENT. THE LAYOUT OF CAR PARKING SPACES, ACCESS ALLEYS, CIRCULATION ROADWAYS AND RAMPS WILL BE DESIGNED AND CONSTRUCTED TO COMPLY WITH SECTION 2 - DESIGN OF PARKING MODULES, AND RAMPS OF THE TOWNHOUSE DEVELOPMENT.



**Fairbrother**

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**PhilpLighton Architects**

49 Sandy Bay Road, Hobart, Tasmania 7004  
T +61 (3) 6223 2333  
hobart@philplighton.com.au  
HOBART / LAUNCESTON

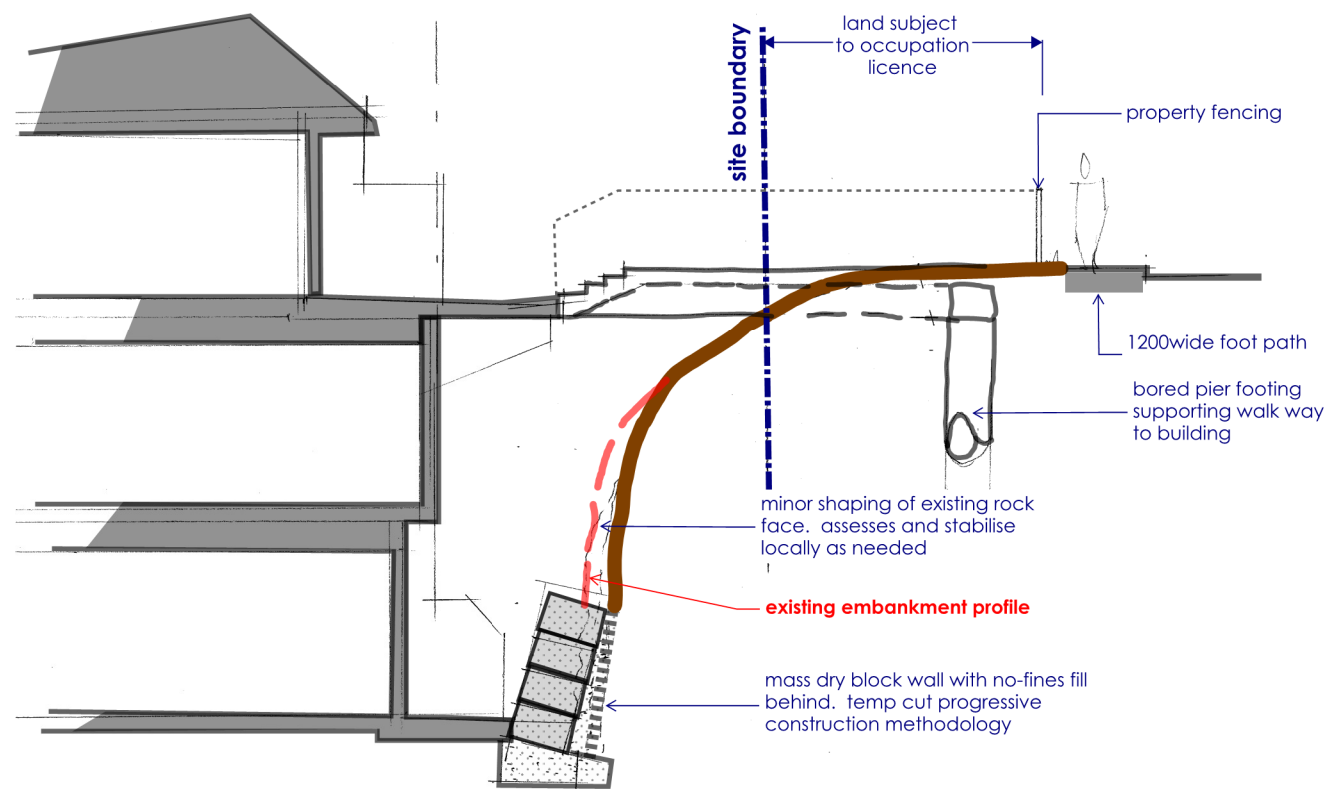
**FAIRBROTHER TOWNHOUSE DEVELOPMENT**  
73A NEW TOWN ROAD  
NEW TOWN TAS 7008

LEVEL 02

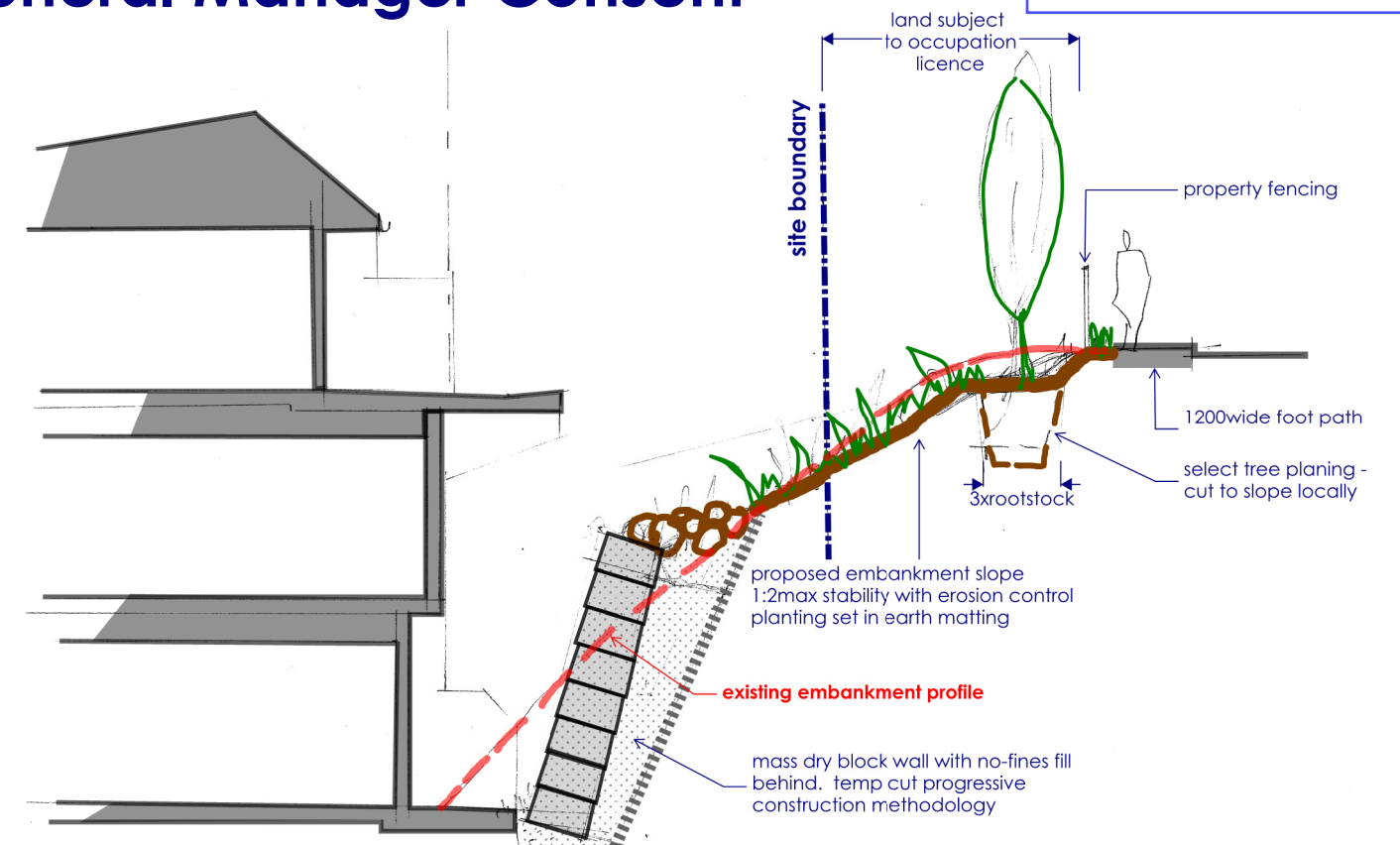
Scale 1:100 @ A1 Print Date 21.05.22 12:29pm Project 082.21144  
1:200 @ A3  
Drawing No **DA12** Rev **B**

# Summary of interfaces to road verge

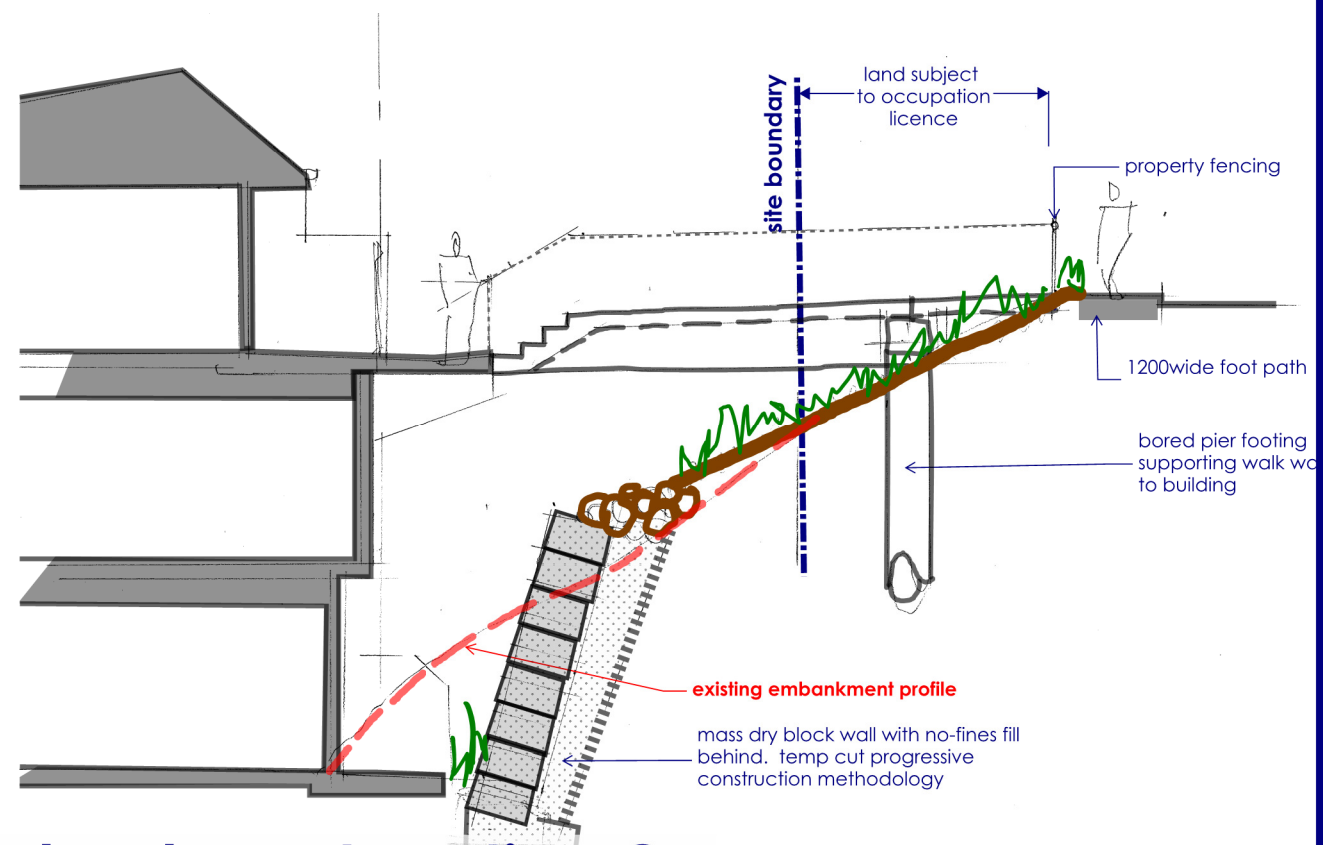
## Information for assessment of General Manager Consent



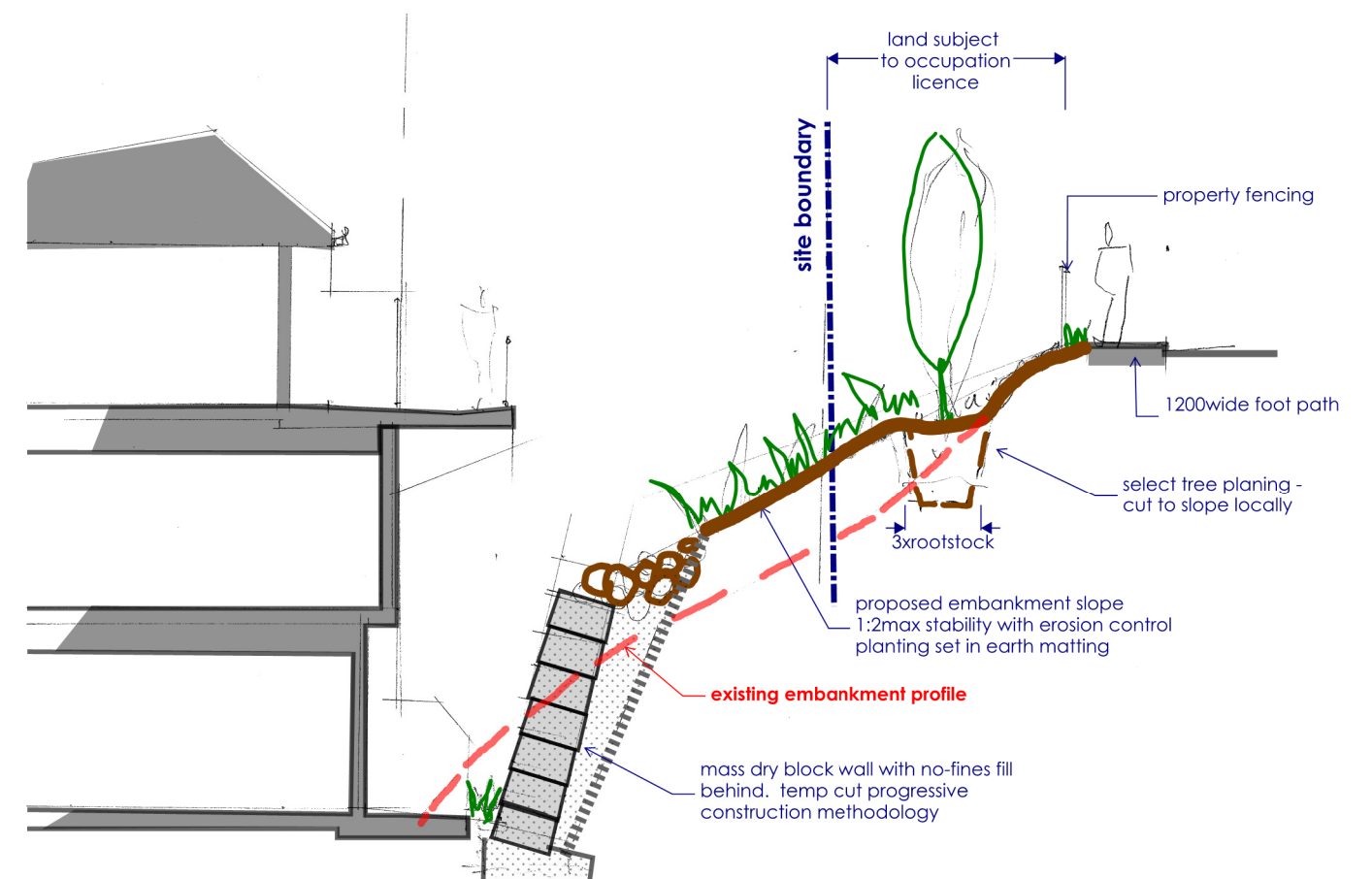
embankment section A



embankment section B



embankment section C



embankment section D



[illegible]

GENERAL

**1. NOTICE TO TENDERER**  
THE CONTRACTOR / TENDERER IS TO MAKE THEMSELVES AWARE OF THE LOCAL COUNCIL AND THE DEPARTMENT OF STATE GROWTH (D.S.G.) STANDARDS FOR CIVIL WORKS. CONSTRUCTION IS TO BE CARRIED OUT TO THESE STANDARDS. TENDERER IS TO ALLOW FOR THESE STANDARDS DURING PRICING. COPIES OF THE STANDARDS ARE AVAILABLE FOR INSPECTION UPON REQUEST FROM THE LOCAL COUNCIL OR D.S.G.'s WEB SITE.

**2. NOTIFICATION**  
THE CONTRACTOR IS TO NOTIFY ALL RELEVANT STATUTORY AUTHORITIES PRIOR TO COMMENCING ANY WORK FOR THE POSSIBLE LOCATION OF ANY EXISTING SERVICES NOT SHOWN ON THESE PLANS, AND IS TO NOTIFY THE SUPERINTENDENT OF THE SAME.  
ALL EXISTING SERVICES ARE TO BE PROTECTED DURING CONSTRUCTION. ANY DAMAGE TO EXISTING SERVICES IS TO BE MADE GOOD AT THE CONTRACTOR'S EXPENSE.

**3. DRAWINGS AND SPECIFICATIONS**  
THESE DRAWINGS AND SPECIFICATIONS HAVE BEEN PREPARED FOR THE PURPOSE OF OBTAINING COUNCIL APPROVAL AND CALLING OF TENDERS. THEY ARE NOT TO BE USED FOR CONSTRUCTION. A CONSTRUCTION SET OF DRAWINGS STAMPED "CONSTRUCTION SET" WILL BE ISSUED PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

**4. COMMON TRENCHING**  
WHERE ANY COMMON TRENCHING IS REQUIRED, THE FOLLOWING CLEARANCE DISTANCES (BARREL TO BARREL) MUST BE MAINTAINED FROM EXISTING OR PROPOSED SERVICES:  
HORIZONTALLY:  
- 300mm ALONG A LENGTH GREATER THAN 2 METRES,  
- 500mm MINIMUM FROM ANY MAIN GREATER THAN 200mm DIA,  
- 150mm MINIMUM ALONG A LENGTH LESS THAN 2 METRES.  
VERTICALLY:  
- 150mm MINIMUM  
- 300mm MINIMUM FROM ANY MAIN GREATER THAN 200mm DIA.  
ELECTRICAL CABLES SHOULD BE LOCATED ON THE OPPOSITE SIDE OF THE STREET, WHERE THIS IS NOT POSSIBLE A 400mm MINIMUM DISTANCE MUST BE OBSERVED OF WHICH 300mm SHOULD BE IN NATURAL AND UNDISTURBED MATERIAL.

**5. TASNETWORKS TRENCHING**  
THE CONTRACTOR IS TO ALLOW FOR EXCAVATION AND BACKFILLING OF ALL TRENCHES FOR THE INSTALLATION OF TASNETWORKS CABLES. CONTRACTOR IS TO LIAISE WITH THE TASNETWORKS FOR THE EXTENT OF CABLE TRENCHING, CONDUITS & PITS.

**6. COMMUNICATION TRENCHING**  
THE CONTRACTOR IS TO ALLOW FOR EXCAVATION AND BACKFILLING OF ALL TRENCHES FOR THE INSTALLATION OF COMMUNICATIONS CABLES. CONTRACTOR IS TO LIAISE WITH COMMUNICATION AUTHORITY FOR THE EXTENT OF CABLE TRENCHING.

**7. EXISTING SERVICES**  
LOCATE EXISTING SERVICES PRIOR TO COMMENCING DEMOLITION AND SITE WORKS. THE CONTRACTOR IS TO ARRANGE AND PAY FOR THE ON SITE MARKING AND CONFIRMATION OF DEPTH OF SERVICE LOCATIONS FOR ALL UNDERGROUND SERVICES INCLUDING COMMUNICATIONS, TASNETWORKS, TASWATER (WATER & SEWER) AND COUNCIL SERVICES (ie. STORMWATER) IN THE AREA OF NEW WORKS. LOCATION TO BE CONFIRMED USING CABLE LOCATORS AND HAND DIGGING METHODS. PRIOR TO ANY WORKS ON SITE, ANY CLASHES WITH DESIGNED SERVICES ON FOLLOWING DRAWINGS ARE TO BE REPORTED TO DESIGN ENGINEER FOR DIRECTION.

**8. COUNCIL & AUTHORITIES APPROVALS**  
ALL WORKS ARE TO BE IN ACCORDANCE WITH THE FOLLOWING APPROVALS:  
- NIL

**9. SIGNAGE**  
ALL SIGN WORKS AND INSTALLATION TO BE IN ACCORDANCE WITH CURRENT VERSION OF MUTCD & AUSTRADRS FOR SIGNAGE DETAILS.

**10. SCOPE OF WORKS**  
THE SCOPE OF WORKS ARE SHOWN IN THESE DOCUMENTS AND THE SPECIFICATION. IT IS EXPECTED THE CONTRACTOR WILL RESOLVE ALL ISSUES UNCOVERED ON SITE THAT ARE NOT DETAILED IN CONJUNCTION WITH THE SUPERINTENDENT.

GENERAL CONT.

11. LINE TYPE LEGEND	
	DN100 AGG PIPE OR MEGAFLOW DRAIN AS NOTED @ 1:100 FALL TO STORM WATER SYSTEM
	eSW DENOTES EXISTING STORM WATER MAIN (CONFIRM EXACT LOCATION)
	SW DENOTES PROPOSED STORM WATER MAIN
	eS DENOTES EXISTING SEWER MAIN (CONFIRM EXACT LOCATION)
	S DENOTES PROPOSED SEWER MAIN
	eW DENOTES EXISTING WATER MAIN (CONFIRM EXACT LOCATION)
	W DENOTES PROPOSED WATER MAIN
	eGAS DENOTES EXISTING GAS MAIN (CONFIRM EXACT LOCATION)
	GAS DENOTES PROPOSED GAS MAIN
	eCOM DENOTES EXISTING UNDERGROUND TELECOM / FIBRE OPTIC LINE (CONFIRM EXACT LOCATION)
	COM DEMOLITION

12. SITE WORKS SYMBOLS LEGEND	
PEO	PEDESTRIAN RAMP
TYPE BK	BARRIER KERB
TYPE KC	KERB AND CHANNEL
TYPE KCS	KERB AND CHANNEL - SMALL
TYPE KCM	MOUNTABLE KERB AND CHANNEL
TYPE KCV	VEHICULAR CROSSING
	BOLLARD, REFER DETAIL
WS1	HUDSON CIVIL PRECAST CONCRETE WHEEL STOP (2000 LONG x 100 HIGH)

13. BUILDING SERVICES SYMBOLS LEGEND	
	TELECOMMUNICATION PIT

14. SURVEY SYMBOLS LEGEND	
e	EXISTING
TK	SPOT LEVEL WITH DESCRIPTION
44.320	EXISTING SPOT LEVEL

15. DRAINAGE SYMBOLS LEGEND	
Mfx-SW	STORMWATER MANHOLE
Mfx-S	SEWER MANHOLE
GPx-SW	GRADED/GULLY PIT - STORM WATER
GDx-SW	GRADED DRAIN - STORM WATER
SEfx-SW	SIDE ENTRY PIT - STORM WATER
uPVC	UNPLASTICIZED POLYVINYL CHLORIDE
RCF	REINFORCED CONCRETE PIPE (OR FCR) CLASS 4 (Z)
DN	NOMINAL DIAMETER
CL	COVER LEVEL
IL	INVERT LEVEL
DP	DOWN PIPE
o IO	INSPECTION OPENING
o IOS	INSPECTION OPENING TO SURFACE
III	GRADED PIT

16. WATER RETICULATION SYMBOLS LEGEND	
	DN100 METER
	METER
	CHECK METER
	FIRE PLUG
	ISOLATION VALVE
	CHECK VALVE
	STRAINER
	MONITORED VALVE
	BALANCE VALVE
	STOP VALVE
	DN100 LOCKABLE STOP VALVE
	DN100 REFLEX VALVE
	BACK FLOW PREVENTION DEVICE
	PRESSURE REDUCING VALVE
	HOSE BIB COCK
	FIRE HYDRANT
	DUAL HEAD FIRE HYDRANT
	FIRE HOSE REEL

EARTHWORKS

**1. GENERAL**  
GENERAL EARTHWORKS, MATERIAL AND WORKMANSHIP SHALL COMPLY WITH THIS SPECIFICATION AND THE CURRENT EDITION OF THE S.A.A. CODE FOR EARTHWORKS AS 3798 TOGETHER WITH ANY CODES, STANDARDS OR REGULATIONS REFERRED TO THEREIN.

**2. INSPECTIONS**  
THE CONTRACTOR IS TO ENGAGE AN APPROVED GEOTECHNICAL ENGINEER TO CARRY OUT LEVEL 3 TESTING OF ALL EARTH WORKS TO AS 3798, INCLUDING  
- SUBGRADE  
- FILLS  
- PAVEMENTS  
- BACKFILLING OF SERVICE TRENCHES  
CERTIFICATION OF THESE ELEMENTS IS TO BE PROVIDED PRIOR TO PRACTICAL COMPLETION

**3. AREAS OF FILL**  
A. REMOVE TOP SOIL AND ORGANIC MATERIAL  
B. PROOF ROLL SUBGRADE IN ACCORDANCE WITH AS1289 TO:  
- 98% STANDARD DRY DENSITY UNDER BUILDING  
- 98% STANDARD DRY DENSITY UNDER ROADS AND CARPARKS  
- REMOVE ANY SOFT SPOTS AND COMPACT WITH 2% OF OPTIMUM MOISTURE CONTENT TO STANDARD DRY DENSITY AS STATED ABOVE  
C. PLACE FILL AS SPECIFIED AND COMPACT WITHIN 2% OF OPTIMUM MOISTURE CONTENT TO STANDARD DRY DENSITY AS STATED ABOVE

**4. AREAS OF CUT**  
A. REMOVE TOP SOIL AND ORGANIC MATERIAL  
B. PROOF ROLL SUBGRADE IN ACCORDANCE WITH AS1289 TO:  
- 98% STANDARD DRY DENSITY UNDER BUILDINGS  
- 98% STANDARD DRY DENSITY UNDER ROADS AND CAR PARKS  
- REMOVE ANY SOFT SPOTS AND COMPACT WITH 2% OF OPTIMUM MOISTURE CONTENT TO STANDARD DRY DENSITY AS STATED ABOVE

SOIL & WATER MANAGEMENT

**1. GENERAL**  
ALL WORKS ARE TO BE CARRIED OUT IN ACCORDANCE WITH 'SOIL & WATER MANAGEMENT ON BUILDING & CONSTRUCTION SITES' GUIDELINES AVAILABLE FROM NORTHERN RESOURCE MANAGEMENT (NRM).

**2. SOIL EROSION CONTROL**  
SOIL EROSION CONTROL IN ACCORDANCE WITH NRM GUIDELINES. CONTRACTOR TO ALLOW TO:  
• LIMIT DISTURBANCE WHEN EXCAVATING PRESERVING VEGETATED AREAS AS MUCH AS POSSIBLE  
• DIVERT UP-SLOPE WATER WHERE PRACTICAL  
• INSTALL SEDIMENT FENCES DOWN SLOPE OF ALL DISTURBED LANDS TO FILTER LARGE PARTICLES PRIOR TO STORM WATER SYSTEM  
• WASH EQUIPMENT IN DESIGNATED AREA THAT DOES NOT DRAIN TO STORM WATER SYSTEM  
• PLACE STOCK PILES AWAY FROM ON-SITE DRAINAGE & UP-SLOPE FROM SEDIMENT FENCES  
• LEAVE & MAINTAIN VEGETATED FOOT PATH  
• STORE ALL HARD WASTE & LITTER IN A DESIGNATED AREA THAT WILL PREVENT IT FROM BEING BLOWN AWAY & WASHED INTO THE STORM WATER SYSTEM  
• RESTRICT VEHICLE MOVEMENT TO A STABILISED ACCESS

**3. NRM GUIDELINES**  
CONTRACTOR TO COMPLETE ALL WORKS IN ACCORDANCE WITH NRM SOIL & WATER MANAGEMENT ON BUILDING & CONSTRUCTION SITE USING THE FACT SHEETS:  
• FACT SHEET 1: SOIL & WATER MANAGEMENT ON LARGE BUILDING & CONSTRUCTION SITES  
• FACT SHEET 2: SOIL & WATER MANAGEMENT ON STANDARD BUILDING & CONSTRUCTION SITES  
• FACT SHEET 3: SOIL & WATER MANAGEMENT PLANS  
• FACT SHEET 4: DISPERSIVE SOILS - HIGH RISK OF TUNNEL EROSION  
• FACT SHEET 5: MINIMISE SOIL DISTURBANCE  
• FACT SHEET 6: PRESERVE VEGETATION  
• FACT SHEET 7: DIVERT UP-SLOPE WATER  
• FACT SHEET 8: EROSION CONTROL MATS & BLANKETS  
• FACT SHEET 9: PROTECT SERVICE TRENCHES & STOCKPILES  
• FACT SHEET 10: EARLY ROOF DRAINAGE CONNECTION  
• FACT SHEET 11: SCOUR PROTECTION - STORM WATER PIPE OUTFALLS & CHECK DAMS  
• FACT SHEET 12: STABILISED SITE ACCESS  
• FACT SHEET 13: WHEEL WASH  
• FACT SHEET 14: SEDIMENT FENCES & FIBRE ROLLS  
• FACT SHEET 15: PROTECTION OF STORM WATER PITS  
• FACT SHEET 16: MANAGE CONCRETE, BRICK & TILE CUTTING  
• FACT SHEET 17: SEDIMENT BASINS  
• FACT SHEET 18: DUST CONTROL  
• FACT SHEET 19: SITE RE-VEGETATION

ROAD WORKS

**1. GENERAL**  
ALL WORKS ARE TO BE CARRIED OUT TO THE LOCAL COUNCIL AND D.S.G. STANDARDS. ANY DEPARTURES FROM THESE STANDARDS REQUIRES THE PRIOR APPROVAL OF THE SUPERINTENDENT AND THE LOCAL COUNCIL WORKS SUPERVISOR.

**2. INSPECTIONS**  
THE CONTRACTOR IS RESPONSIBLE FOR ORGANISING THE FOLLOWING INSPECTIONS WITH THE SUPERINTENDENT. 48 HOURS NOTICE IS REQUIRED TO BE GIVEN TO THE SUPERINTENDENT PRIOR TO THE INSPECTION.  
- SUBGRADE PREPARATION  
- SUB-BASE FOR ROADS, CARPARKS AND KERBS  
- BASE COURSE  
- FINAL TRIM PRIOR TO PLACING KERBS  
- FINAL TRIM PRIOR TO SEALING

**3. TESTING**  
THE CONTRACTOR IS TO BE RESPONSIBLE FOR ORGANISING AND PAYING ALL COSTS ASSOCIATED WITH TESTING IN ACCORDANCE WITH D.S.G. SPEC SECTION 173-EXAMINATION AND TESTING OF MATERIALS AND WORK (ROADWORKS).

**4. HOTMIX**  
ALL HOTMIX IS TO BE BLACKIN COLOUR AND IS TO MEET AND BE PLACED IN ACCORDANCE WITH D.S.G. SPEC SECTION 407-HOT MIX ASPHALT.

**5. KERBS**  
ALL KERBS ARE TO BE AS SHOWN ON THE DRAWINGS AND BE IN ACCORDANCE WITH IPWEA LGAT STANDARD DRAWINGS.

**6. ROAD RESERVE WORKS**  
ALL WORKS IN (OR REQUIRING OCCUPATION) IN THE ROAD RESERVE MUST BE UNDERTAKEN BY CONTRACTOR REGISTERED WITH COUNCIL'S (REGISTERED CONTRACTOR).

**7. FOOTPATHS**  
CONSTRUCT FOOTPATHS INCLUDING EXPANSION / CONTROL / WEAKENED PLANE JOINTS IN ACCORDANCE WITH IPWEA STD DWG TSD-R11-v1

**8. LANDSCAPE / STREET FURNITURE**  
• BOLLARDS, REFER DETAILS / SUPERINTENDENTS SPEC.  
• LANDSCAPING & STREET FURNITURE BY CONTRACTOR - U/NO

STORMWATER

**1. GENERAL**  
ALL WORKS ARE TO BE CARRIED OUT TO THE LOCAL COUNCIL AND DSG STANDARDS. ANY DEPARTURES FROM THESE STANDARDS REQUIRES THE PRIOR APPROVAL OF THE SUPERINTENDENT AND THE LOCAL COUNCIL WORKS SUPERVISOR. ALL STORM WATER PLUMBING & DRAINAGE TO COMPLY WITH A.S 3506.3.2003 STORM WATER DRAINAGE.

**2. TESTING**  
ALL DRAINAGE WORKS SHALL BE SUBJECT TO THE TESTS PRESCRIBED BY THE AUTHORITIES HAVING JURISDICTION OVER THE VARIOUS SERVICES. ANY SECTION FAILING SUCH TESTS SHALL BE REMOVED AND PROPERLY INSTALLED AT THE CONTRACTOR'S EXPENSE.

**3. MANHOLES**  
MANHOLES ARE TO BE 1050 I.D. U/NO PRECAST CONCRETE INSTALLED TO LOCAL COUNCIL STANDARDS. ALL MANHOLES IN TRAFFICED AREAS ARE TO BE FITTED WITH HEAVY DUTY GATIC COVERS AND SURROUNDS. ALL MANHOLES ARE TO HAVE A 5 METRE LENGTH OF 75mm AG-PIPE CONNECTED TO THEM AND LAID IN THE UPSTREAM PIPE TRENCH IMMEDIATELY ADJACENT TO AND AT THE INVERT OF THE LOWEST PIPE WORK.

**4. SIDE ENTRY PIT (SEP)**  
- PIT INVERT DEPTHS VARY, REFER SITE PLAN.  
- BENCH OUT IN A NEAT AND TIDY MANNER TO ENGINEERS APPROVAL.  
- GRATED PIT - GULLY ANGLED ON OTHER TYPE APPROVED  
- CONCRETE KERB LINTEL - STEEL KERB LINTEL AND 1200 LONG GALV BAR

**5. TRENCHING AND BACKFILL**  
ALL TRENCHES ARE TO BE EXCAVATED AND BACKFILLED IN ACCORDANCE WITH THE DRAWINGS AND THE LOCAL COUNCIL STANDARDS.

**6. INSPECTIONS**  
THE CONTRACTOR IS RESPONSIBLE FOR ORGANISING THE FOLLOWING INSPECTIONS WITH THE SUPERINTENDENT. 48 HOURS NOTICE IS REQUIRED TO BE GIVEN TO THE SUPERINTENDENT PRIOR TO THE INSPECTION.  
- PIPEWORK BEDDING  
- INSTALLED PIPE PRIOR TO BACKFILLING  
- BACKFILLING

**7. AS CONSTRUCTED DRAWINGS**  
THE CONTRACTOR WILL BE RESPONSIBLE FOR PRODUCING 'AS CONSTRUCTED' DRAWINGS TO THE STANDARD REQUIRED BY THE LOCAL COUNCIL. THE DRAWINGS SHALL BE CERTIFIED AS BEING CORRECT BY EITHER A CHARTERED CIVIL ENGINEER OR A REGISTERED SURVEYOR. RARE CAN PROVIDE THIS SERVICE, HOWEVER THE CONTRACTOR WILL BE CHARGED FOR THIS SERVICE AND SHOULD BE AWARE OF THIS WHEN PRICING.

**8. TESTING**  
CONTRACTOR SHALL CAMERA TEST ALL PIPES AND SUBMIT FOOTAGE TO LOCAL COUNCIL FOR APPROVAL.

**9. REDUNDANT PIPE WORK**  
FILL REDUNDANT SECTION OF PIPEWORK WITH 'LIQUIFILL' (GRADE PC.1 - 0.5-2.0 MPa)

SEWERAGE

**1. GENERAL**  
ALL SEWER WORKS TO BE IN ACCORDANCE WITH THE WSA SEWER CODE (WSA 02-2014-3.1 MRWA) AND AS AMENDED BY THE TASWATER SUPPLEMENT.  
TASWATER APPROVED PRODUCTS ARE CONTAINED ON THE CITY WEST WATER WEBSITE [HTTP://WWW.MRWA.COM.AU/PAGES/PRODUCTS.ASPX](http://www.mrwa.com.au/PAGES/PRODUCTS.ASPX)  
ANY DEPARTURES FROM THESE STANDARDS REQUIRES THE PRIOR APPROVAL OF THE SUPERINTENDENT AND TASWATER FIELD SERVICES OFFICER.

**2. TESTING**  
ALL DRAINAGE WORKS SHALL BE SUBJECT TO THE TESTS PRESCRIBED BY THE AUTHORITIES HAVING JURISDICTION OVER THE VARIOUS SERVICES. ANY SECTION FAILING SUCH TESTS SHALL BE REMOVED AND PROPERLY INSTALLED AT THE CONTRACTOR'S EXPENSE.

**3. SEWER MAIN CONNECTIONS**  
ALL NEW LIVE CONNECTIONS TO EXISTING TASWATER SEWER INFRASTRUCTURE INCLUDING BUT NOT LIMITED TO SEWER MAINS / MANHOLES TO BE COMPLETED BY TASWATER (UNLESS PRIOR WRITTEN APPROVAL) AT OWNERS COST.  
INSTALL PROPERTY SEWER CONNECTIONS (STANDARD OR SLOPED) WITH SURFACE I.O. NOMINALLY 1.0m WITHIN EACH NEW LOT IN ACCORDANCE WITH SECTION 5 OF WSA 02-2014-3.1.

**4. MANHOLES**  
MANHOLES ARE TO BE 1050 I.D. PRECAST CONCRETE INSTALLED TO WSA STANDARDS. CONSTRUCT ALL MANHOLES (MH) AND MANHOLE COVERS IN ACCORDANCE WITH THE SEWERAGE CODE OF AUSTRALIA - MELBOURNE RETAIL WATER AGENCIES INTEGRATED CODE - WSA 02-2014-3.1 MRWA VERSION 2.0 AND TASWATER'S SUPPLEMENT TO THIS CODE. ALL MANHOLES IN TRAFFICABLE AREAS ARE TO BE FITTED WITH HEAVY DUTY CLASS D GATIC COVERS AND SURROUNDS. ALL MANHOLES IN NON-TRAFFICABLE AREAS ARE TO BE FITTED WITH MEDIUM DUTY CLASS B GATIC COVERS AND SURROUNDS. BENCHING TO BE FULL DEPTH OF PIPE DIAMETER AS PER DETAILS IN WSA 02-2014-3.1 MRWA VERSION 2.0

**5. TRENCHING AND BACKFILL**  
ALL TRENCHES ARE TO BE EXCAVATED AND BACKFILLED IN ACCORDANCE WITH THE DRAWINGS AND TASWATER STANDARDS INCLUDING ELECTROMAGNETIC METAL IMPREGATED TAPE IN ALL NON METALLIC PIPE TRENCHES.

CEMENT STABILISED EMBEDMENT:

FOR SEWER MAINS THE FOLLOWING CHANGES SHOULD BE APPLIED TO THE MRWA SEWERAGE STANDARDS DRAWINGS MRWA-S-202 AND MRWA-S-205 MRWA-S-202  
THE REQUIREMENT IDENTIFIED IN THE THIRD DOT POINT FOR TYPE B IN THE NOTES REGARDING TABLE 202-A SHALL BE AMENDED TO READ "WHERE SEWER AT GRADE > 1 IN 10"  
MRWA-S-205  
NOTE C REMAINS VALID "WHEN SOCKETED MAINS ARE LAID AT >1 IN 20 SLOPE IN AREAS THAT ARE LIKELY TO HAVE HIGH GROUND WATER, CEMENT STABILIZED EMBEDMENT SHALL BE USED AS PER MRWA-S-202"

**6. INSPECTIONS**  
THE CONTRACTOR IS RESPONSIBLE FOR ORGANISING THE FOLLOWING INSPECTIONS WITH THE SUPERINTENDENT (IAS WITH TASWATER). 48 HOURS NOTICE IS REQUIRED TO BE GIVEN TO THE SUPERINTENDENT PRIOR TO THE INSPECTION.  
- PIPEWORK BEDDING  
- INSTALLED PIPE PRIOR TO BACKFILLING  
- BACKFILLING

**7. AS CONSTRUCTED DRAWINGS**  
THE CONTRACTOR WILL BE RESPONSIBLE FOR PRODUCING 'AS INSTALLED' DRAWINGS TO THE STANDARD REQUIRED BY TASWATER. THE DRAWINGS SHALL BE CERTIFIED AS BEING CORRECT BY EITHER A CHARTERED CIVIL ENGINEER OR A REGISTERED SURVEYOR. RARE CAN PROVIDE THIS SERVICE, HOWEVER THE CONTRACTOR WILL BE CHARGED FOR THIS SERVICE AND SHOULD BE AWARE OF THIS WHEN PRICING.

**8. TESTING**  
CONTRACTOR SHALL CCTV ALL PIPES AND SUBMIT FOOTAGE TO TASWATER FOR APPROVAL.

**9. REDUNDANT PIPE WORK**  
FILL REDUNDANT SECTION OF PIPEWORK WITH 'LIQUIFILL' (GRADE PC.1 - 0.5-2.0 MPa)

WATER RETICULATION

**1. GENERAL**  
ALL WATER SUPPLY CONSTRUCTION TO:  
• WATER SUPPLY CODE OF AUSTRALIA (WSA 03-2011-3.1 VERSION MRWA EDITION V2.0) - PART 2: CONSTRUCTION  
• WATER SERVICES ASSOCIATION OF AUSTRALIA - TASWATER SUPPLEMENT  
• TASWATER'S STANDARD DRAWINGS TWS-W-0002 SERIES  
• WATER METERING POLICY/METERING GUIDELINES  
• TASWATER'S STANDARD DRAWINGS TWS-W-0003 - FOR PROPERTY SERVICE CONNECTIONS - CAGE FOR WATER METER ASSEMBLY  
• BOUNDARY BACKFLOW CONTAINMENT REQUIREMENTS AND ASS3500.1:2003  
ANY DEPARTURES FROM THESE STANDARDS REQUIRES THE PRIOR APPROVAL OF THE SUPERINTENDENT AND THE LOCAL WATER AUTHORITY WORKS SUPERVISOR.

**2. TESTING**  
ALL WATER RETICULATION WORKS SHALL BE SUBJECT TO THE TESTS PRESCRIBED BY THE AUTHORITIES HAVING JURISDICTION OVER THE VARIOUS SERVICES. ANY SECTION FAILING SUCH TESTS SHALL BE REMOVED AND PROPERLY INSTALLED AT THE CONTRACTOR'S EXPENSE.

**3. FIRE HYDRANTS**  
FIRE HYDRANTS ARE TO BE AS SHOWN ON THE DRAWINGS. THE CONTRACTOR IS TO ALLOW TO PLACE STANDARD MARKERS AS REQUIRED BY THE LOCAL AUTHORITY.

**4. THRUST AND ANCHOR BLOCKS**  
THRUST AND ANCHOR BLOCKS ARE TO BE PROVIDED AT BENDS, VALVES, HYDRANTS AND LINE ENDS IN ACCORDANCE WITH TASWATER STANDARDS.

**5. TRENCHING AND BACKFILL**  
ALL TRENCHES ARE TO BE EXCAVATED AND BACKFILLED IN ACCORDANCE WITH THE DRAWINGS AND TASWATER STANDARDS INCLUDING ELECTROMAGNETIC METAL IMPREGATED TAPE IN ALL NON METALLIC PIPE TRENCHES.

CEMENT STABILISED EMBEDMENT:

THE LATEST VERSION OF DRAWING MRWA-W-208 (REV 3) INCLUDES TABLE 208\_A WITH NOTE G INDICATING THAT WHEN TRENCHSTOPS OR BULKHEADS ARE USED (GRADES GREATER THAN 5%) CEMENT STABILISED EMBEDMENT MUST BE USED. THIS IS NOT TASWATER'S PREFERRED STANDARD.  
FOR PIPES UP TO 10% GRADE TASWATER WILL ACCEPT THE PREVIOUS REVISION OF MRWA (REV 2), I.E. PIPES UP TO 10% GRADE DO NOT REQUIRE CEMENT STABILISED EMBEDMENT UNLESS THE CONDITIONS OF NOTE H APPLY. "WHEN SOCKETED MAINS ARE LAID AT >5% SLOPE IN AREAS THAT ARE LIKELY TO HAVE HIGH GROUND WATER, CEMENT STABILIZED EMBEDMENT SHALL BE USED."  
FOR PIPES AT GRADE GREATER THAN 10% MRWA-W-208 REV 3 REMAINS VALID.

THE LATEST VERSION OF MRWA-W-203 (REV 2) EMBEDMENT SHALL BE ADOPTED NOTING THAT THE REQUIREMENT IDENTIFIED IN THE THIRD DOT POINT FOR TYPE B IN THE NOTES REGARDING TABLE 203-A SHALL BE AMENDED TO READ "WHERE WATER MAIN GRADE > 10%".

FURTHER TO THIS IT SHOULD BE NOTED THAT MOST WATER MAINS ARE LIKELY TO REQUIRE A TYPE A EMBEDMENT SYSTEM. THE VARIOUS MATERIALS AVAILABLE FOR THIS SYSTEM ARE IDENTIFIED IN TABLE 203-B

**6. INSPECTIONS**  
THE CONTRACTOR IS RESPONSIBLE FOR ORGANISING THE FOLLOWING INSPECTIONS WITH THE SUPERINTENDENT. 48 HOURS NOTICE IS REQUIRED TO BE GIVEN TO THE SUPERINTENDENT PRIOR TO THE INSPECTION.  
- PIPEWORK BEDDING  
- INSTALLED PIPE PRIOR TO BACKFILLING  
- BACKFILLING

**7. PIPE CLEANING - 'DISINFECTION'**  
THE CONTRACTOR IS TO ALLOW TO CLEANSE WATER MAINS BY FLUSHING WITH SODIUM HYPOCHLORIDE AS DIRECTED BY THE LOCAL AUTHORITY.

**8. AS CONSTRUCTED DRAWINGS**  
THE CONTRACTOR WILL BE RESPONSIBLE FOR PRODUCING 'AS INSTALLED' DRAWINGS TO THE STANDARD REQUIRED BY TASWATER. THE DRAWINGS SHALL BE CERTIFIED AS BEING CORRECT BY EITHER A CHARTERED CIVIL ENGINEER OR A REGISTERED SURVEYOR. RARE CAN PROVIDE THIS SERVICE, HOWEVER THE CONTRACTOR WILL BE CHARGED FOR THIS SERVICE AND SHOULD BE AWARE OF THIS WHEN PRICING.

**9. PROPERTY WATER CONNECTIONS**  
ALL PROPERTY CONNECTIONS SHALL BE CONSTRUCTED IN ACCORDANCE WITH MRWA-W-110 AND MRWA-W-111 AND TASWATER STANDARD DRAWING  
TW-W-0002 SERIES. THEY SHALL BE DN25(ID:20) HOPE (PE100) SDR 11 PN16 PIPE, WHERE UNDER ROADS PIPES SHALL BE SLEEVED IN DN100 SNA PIPE FITTED WITH TRACE AND TIGHT FITTING RUBBER WRAPS AT 2M CENTRES TO PREVENT WATER HAMMER

**10. WATER MAINS CONNECTIONS**  
ALL NEW LIVE CONNECTIONS TO EXISTING TASWATER WATER INFRASTRUCTURE TO BE COMPLETED BY TASWATER AT OWNERS COST.

**11. MINIMUM COVER**  
MINIMUM COVER FOR WATER LINES ARE TO BE:  
• UNDER ROADWAYS (EXCLUDING MAJOR ROADS) AND VEHICULAR CROSS OVERS - 750mm  
• RESIDENTIAL LAND - 450mm  
• NON-RESIDENTIAL LAND - 600mm

SURVEY

**1. SURVEY DETAILS**  
FOLLOWING ARE SURVEY DETAILS USED AS BASIS FOR DESIGN:  
• SURVEYOR: PDA SURVEYORS  
• SURVEY REF. NO. 47761CT - 1  
• SURVEY DATE: 13-08-21  
• SITE LOCATION: 73A NEW TOWN ROAD, NEW TOWN  
• COORDINATE SYSTEM: GDA94 MGA55  
• LEVEL DATUM: AHD 83  
• SERVICE MARKER: -  
**2. SETOUT**  
1. SETOUT RESPONSIBILITY  
• CONTRACTOR TO ARRANGE AND PAY FOR REGISTERED SURVEYOR TO SETOUT THE PROJECT. RARE WILL PROVIDE CAD FILES TO ASSIST.

**IMPORTANT NOTE:**  
THESE CAN BE READ IN BLACK AND WHITE, HOWEVER THESE DRAWINGS ARE BEST PRINTED IN FULL COLOUR FOR OPTIMUM CLARITY OF NEW AND EXISTING PIPE WORK.  
A COLOUR COPY SHOULD BE RETAINED ON SITE AT ALL TIMES FOR CONTRACTORS COMPLETING WORKS.

				STATUS:		DESIGN BY: <b>BS</b>		<div><div></div><div>rare.</div><div>22–24 Paterson Street Launceston TAS 7250</div><div><div>rarein.com.au</div><div>P. 03 6388 9200</div></div></div>	CLIENT: <b>COMMUNITIES TASMANIA</b>	TITLE: <b>CIVIL NOTES</b>	
				<b>PRELIMINARY/INFORMATION</b>		DESIGN CHK: <b>AJL</b>					
				DO NOT SCALE - IF IN DOUBT, ASK		DRAWN BY: <b>KL</b>					
				THIS DOCUMENT MAY ONLY BE USED FOR THE PURPOSE FOR WHICH IT WAS PREPARED. © RARE INNOVATION PTY LTD. ABN 51 519 598 257		DRAFT CHK: <b>BS</b>					
1	50% DESIGN DEVELOPMENT	KL	24-03-22			DATE: 07-03-22					
0	DEVELOPMENT APPLICATION	KL	07-03-22								
REV:		ISSUED FOR / DESCRIPTION:		BY:	DATE:	APPROVED: <b>A. LEAKE</b>	ACRED. No: <b>CC5452A</b>	DATE: <b>07-03-22</b>	ADDRESS: <b>73A NEW TOWN ROAD, NEW TOWN</b>	SCALE: -	SHEET SIZE: <b>A1</b> DWGS IN SET: -
									PROJECT No: <b>220008</b> DWG No: <b>C000</b> REV: <b>1</b>		

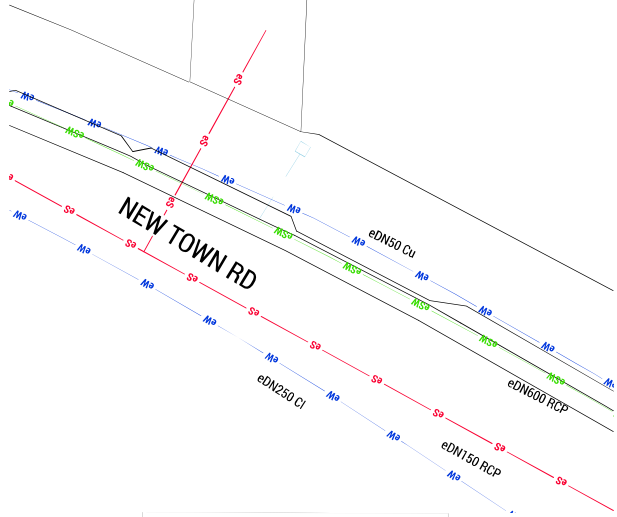
DEMOLITION NOTES

1. PRIOR TO COMMENCING DEMOLITION AND SITE WORKS, THE CONTRACTOR IS TO ARRANGE AND PAY FOR THE ON SITE MARKING AND CONFIRMATION OF DEPTH, OF SERVICE LOCATIONS FOR ALL UNDERGROUND SERVICES INCLUDING COMMUNICATIONS, TASNETWORKS, POWERCO AND COUNCIL SERVICES (ie: WATER, STORMWATER AND SEWER) IN THE AREA OF NEW WORKS. LOCATION TO BE CONFIRMED USING CABLE LOCATORS AND HAND DIGGING METHODS. PRIOR TO ANY WORKS ON SITE, ANY CLASHES WITH DESIGNED SERVICES ON FOLLOWING DRAWINGS ARE TO BE REPORTED TO DESIGN ENGINEER FOR DIRECTION.
2. REFER DRAWINGS FOR SET OUT DIMENSIONS & COORDINATE ALL LEVELS, CONTRACTOR TO REFER ENGINEER FOR ANY DISCREPANCIES / CLASHES.
3. CAP & TERMINATE & REMOVE REDUNDANT DISUSED DRAINAGE SERVICES TO SATISFACTION OF ENGINEER & LOCAL AUTHORITIES
4. INSTALL SILT FENCES & TRAPS TO PREVENT SEDIMENTS & POLLUTANTS ENTERING STORM WATER SYSTEM OR NATURAL DRAINAGE LINES
5. STOCK PILING OF SOILS OR MATERIALS AFFECTED BY WATER TO BE STORED CLEAR OF ANY DRAINAGE PATH
6. CLEAN SITE VEHICLES BEFORE EXITING SITE
7. DISPOSE OF EXCAVATED MATERIAL TO LICENSED WASTE FACILITY OR APPROVED LAND FILL SITE
8. TRENCHES WHERE SERVICES ARE REMOVED ARE TO BE FILLED WITH AN APPROVED COMPACTED MATERIAL & TO ENGINEERS COMPACTION SPECIFICATIONS, MATCH & MAKE GOOD EXISTING SURFACES TO MATCH EXISTING SURROUNDINGS.

LEGEND

- eSW EXISTING STORM WATER MAIN
- eS EXISTING SEWER MAIN
- eW EXISTING WATER MAIN
- eCOM EXISTING COMMUNICATIONS LINE
- EXISTING SURFACE/STRUCTURE TO BE DEMOLISHED
- EXISTING SERVICE LINE TO BE DEMOLISHED

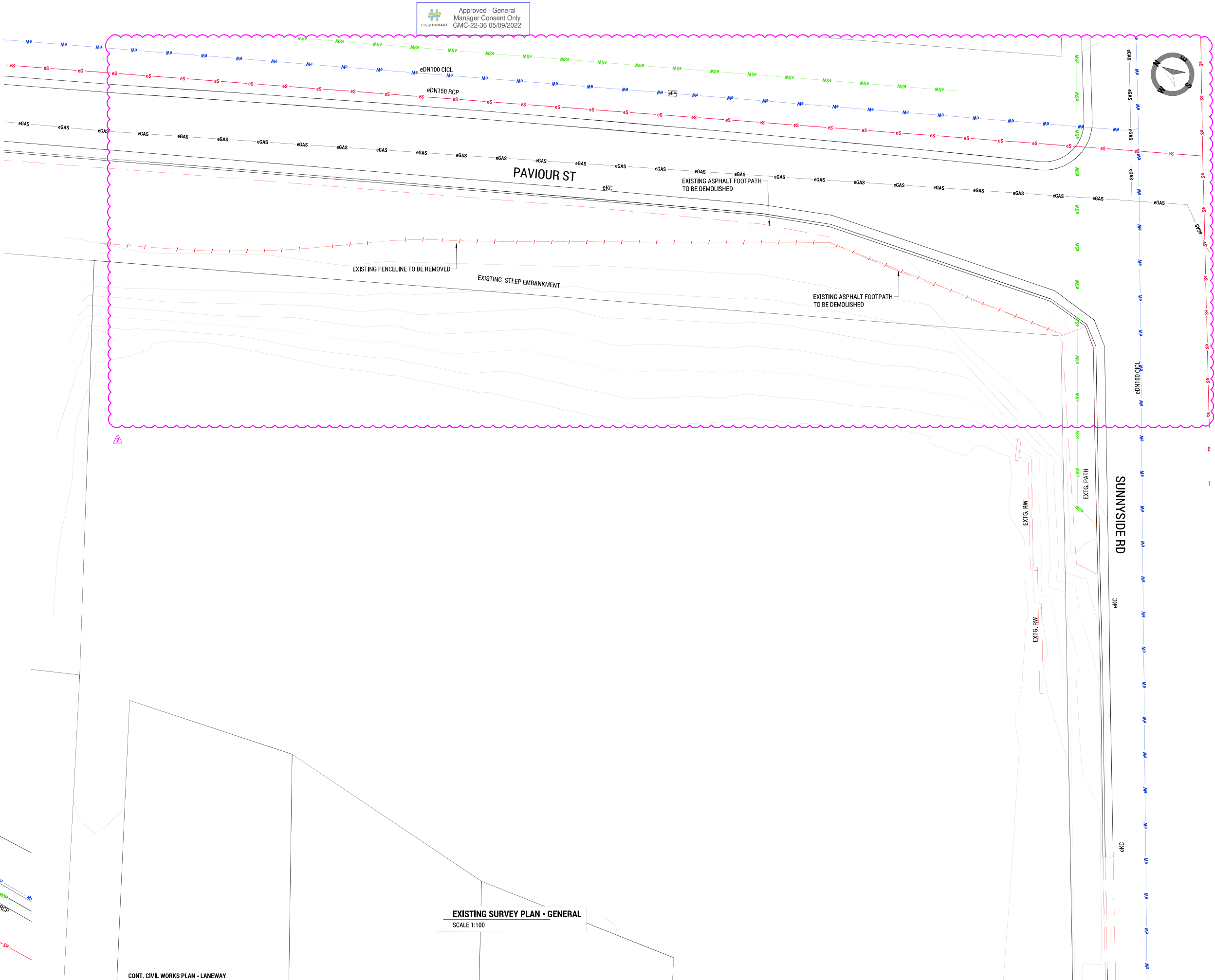
CONT. CIVIL WORKS PLAN - GENERAL





EXISTING SURVEY PLAN - LANEWAY  
SCALE 1:100

CONT. CIVIL WORKS PLAN - LANEWAY

EXISTING SURVEY PLAN - GENERAL  
SCALE 1:100



				STATUS: <b>PRELIMINARY/INFORMATION</b>		DESIGN BY: <b>BS</b>		  22-24 Paterson Street Launceston TAS 7250   P. 03 6388 9200	CLIENT: <b>COMMUNITIES TASMANIA</b>  PROJECT: <b>SOCIAL HOUSING</b>  ADDRESS: <b>73A NEW TOWN ROAD, NEW TOWN</b>	TITLE: <b>EXISTING SITE/DEMOLITION PLAN</b>		
				DO NOT SCALE - IF IN DOUBT, ASK <small>THIS DOCUMENT MAY ONLY BE USED FOR THE PURPOSE FOR WHICH IT WAS PREPARED. © RARE INNOVATION PTY LTD. ABN 51 619 598 257</small>		DESIGN CHK: <b>AJL</b>				SCALE: <b>1:100</b> SHEET SIZE: <b>A1</b> DWGS IN SET: <b>-</b>		
						DRAWN BY: <b>KL</b>						
						DRAFT CHK: <b>BS</b>						
2	COUNCIL RFI	KL	17-06-22	BY:	DATE:	APPROVED: <b>A. LEAKE</b>	ACRED. NO: <b>CC5452A</b>	DATE: <b>07-03-22</b>				
1	50% DESIGN DEVELOPMENT	KL	24-03-22									
0	DEVELOPMENT APPLICATION	KL	07-03-22									
REV: ISSUED FOR / DESCRIPTION:												



BULK EARTHWORKS LEGEND



- TYPE PAV-A - HOTMIX - ROAD**
- STRIP EXISTING TOP SOIL, VEGETATION, HARD SURFACES AND OTHER MATERIAL TO SUBGRADE LEVEL 300mm NOMINAL BELOW FINISHED SURFACE LEVEL
  - PROOF ROLL EXPOSED SUB-GRADE AND CARRY OUT SUB-GRADE IMPROVEMENT WITH AN APPROVED EMBANKMENT MATERIAL IMPORTED OR STRIPPED FROM SITE AND PLACED AND TESTED IN ACCORDANCE WITH DSG SPEC SECTION 204 FOR EMBANKMENT MATERIAL
  - CUT AND/OR FILL TO 300mm BELOW FINISHED SURFACE LEVELS SHOWN ON THESE DRAWINGS WITH IMPORTED EMBANKMENT MATERIAL APPROVED BY ENGINEER AND PLACED AND TESTED IN ACCORDANCE WITH DSG SPEC SECTION 204 FOR EMBANKMENT MATERIAL
  - FILL OVER EXPOSED SUBGRADE TO 135mm BELOW FINISHED SURFACE LEVEL WITH 200mm SUB-BASE CLASS 3 MATERIAL PLACED AND TESTED IN ACCORDANCE WITH DSG SPEC SECTION 304 FOR SUB-BASE CLASS 3 MATERIAL
  - CUT AND/OR FILL TO 35mm BELOW FINISHED SURFACE LEVEL WITH 100mm BASE CLASS 2 MATERIAL PLACED AND TESTED IN ACCORDANCE WITH DSG SPEC SECTION 304 FOR BASE CLASS 2 MATERIAL



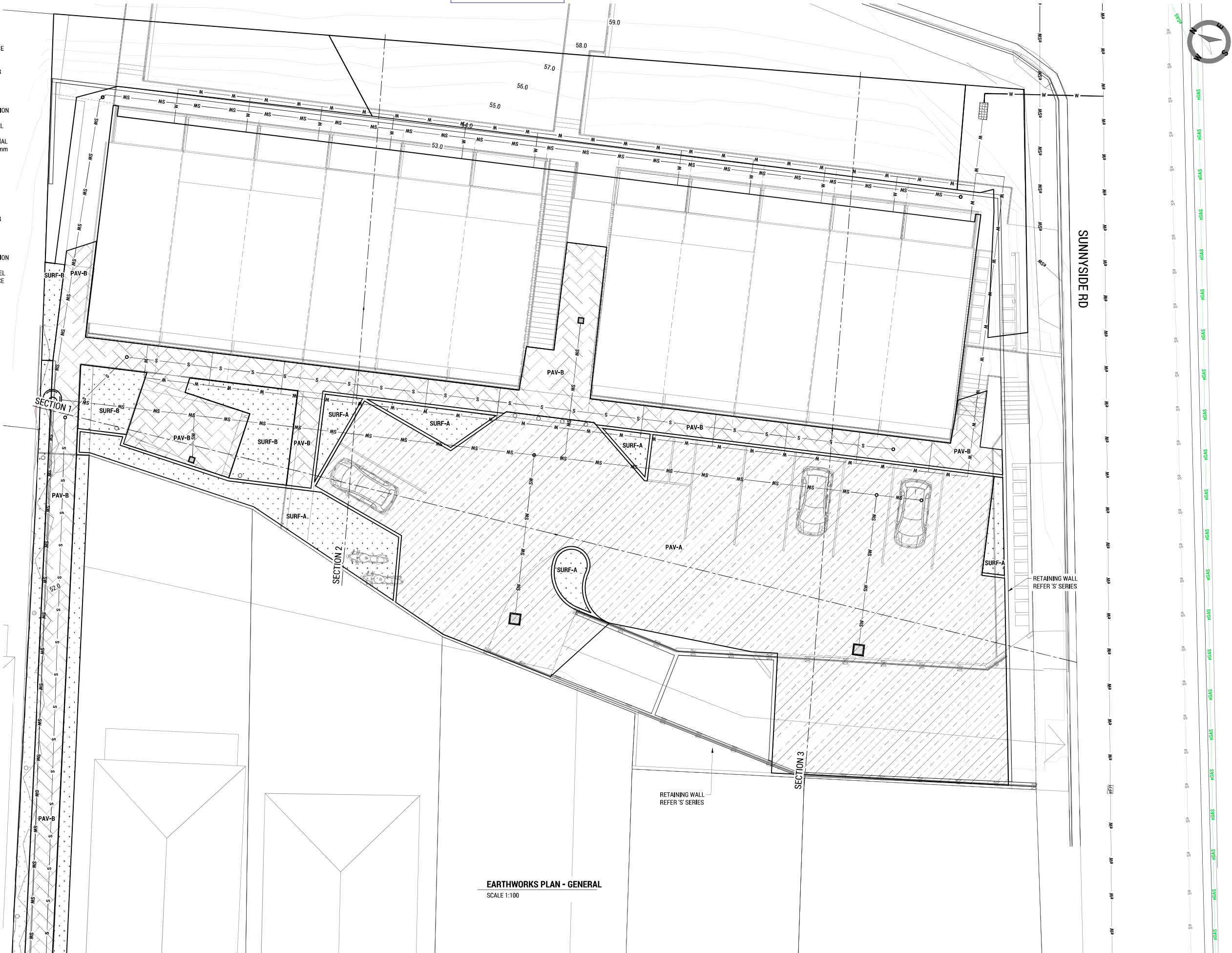
- TYPE PAV-B - CONCRETE HARDSTAND - FOOTPATHS**
- STRIP EXISTING TOP SOIL, VEGETATION, HARD SURFACES AND OTHER MATERIAL TO A MINIMUM DEPTH OF 200mm NOMINAL BELOW EXISTING SURFACE LEVEL
  - PROOF ROLL EXPOSED SUB-GRADE AND CARRY OUT SUB-GRADE IMPROVEMENT WITH AN APPROVED EMBANKMENT MATERIAL IMPORTED OR STRIPPED FROM SITE AND PLACED AND TESTED IN ACCORDANCE WITH DSG SPEC SECTION 204 FOR EMBANKMENT MATERIAL
  - CUT AND/OR FILL TO 200mm BELOW FINISHED SURFACE LEVELS SHOWN ON THESE DRAWINGS WITH IMPORTED EMBANKMENT MATERIAL APPROVED BY ENGINEER AND PLACED AND TESTED IN ACCORDANCE WITH DSG SPEC SECTION 204 FOR EMBANKMENT MATERIAL
  - FILL OVER EXPOSED SUB-GRADE TO 100mm BELOW FINISHED SURFACE LEVEL WITH 100mm BASE CLASS 2 MATERIAL PLACED AND TESTED IN ACCORDANCE WITH DSG SPEC SECTION 304 FOR BASE CLASS 2 MATERIAL



- TYPE SURF-A - LANDSCAPING**
- STRIP EXISTING TOP SOIL, VEGETATION, HARD SURFACES AND OTHER MATERIAL TO A MINIMUM DEPTH OF 200mm NOMINAL BELOW FINISHED SURFACE LEVEL & PLACE 200mm TOPSOIL IN BED




- TYPE SURF-B - ASTROTURF**
- REFER ARCH. SPEC.



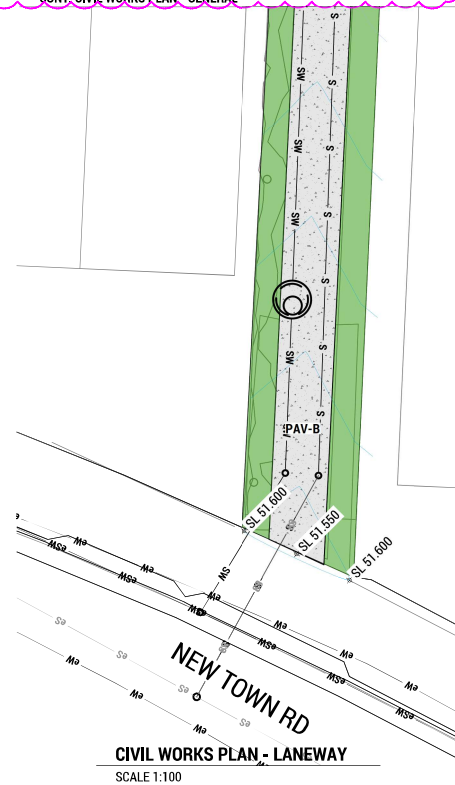
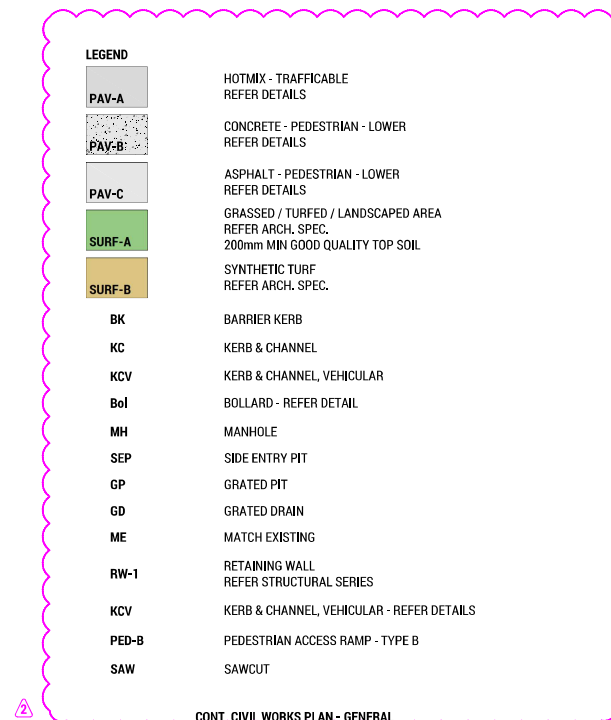
EARTHWORKS PLAN - GENERAL

SCALE 1:100

				STATUS: <b>PRELIMINARY/INFORMATION</b>		DESIGN BY: <b>BS</b>	  22-24 Paterson Street Launceston TAS 7250 <a href="http://rarein.com.au">rarein.com.au</a> P. 03 6388 9200	CLIENT: <b>COMMUNITIES TASMANIA</b>	TITLE: <b>BULK EARTHWORKS PLAN</b>
				DO NOT SCALE - IF IN DOUBT, ASK <small>THIS DOCUMENT MAY ONLY BE USED FOR THE PURPOSE FOR WHICH IT WAS PREPARED. © RARE INNOVATION PTY LTD. ABN 51 619 598 257</small>		DESIGN CHK: <b>AJL</b>		PROJECT: <b>SOCIAL HOUSING</b>	SCALE: <b>1:100</b> SHEET SIZE: <b>A1</b> DWGS IN SET: <b>-</b>
						DRAWN BY: <b>KL</b>		ADDRESS: <b>73A NEW TOWN ROAD, NEW TOWN</b>	PROJECT NO: <b>220008</b> DWG NO: <b>C301</b> REV: <b>1</b>
						DRAFT CHK: <b>BS</b>			
1	50% DESIGN DEVELOPMENT	KL	24-03-22	APPROVED: <b>A. LEAKE</b>	ACRED. NO: <b>CC5452A</b>	DATE: <b>07-03-22</b>			
0	DEVELOPMENT APPLICATION	KL	07-03-22						
REV:	ISSUED FOR / DESCRIPTION:	BY:	DATE:						





[illegible]

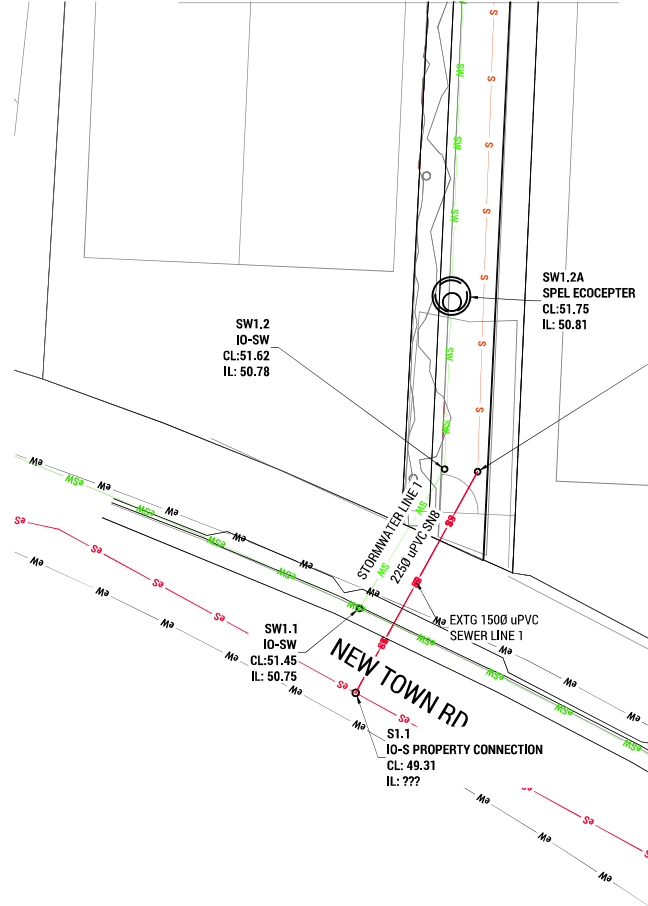




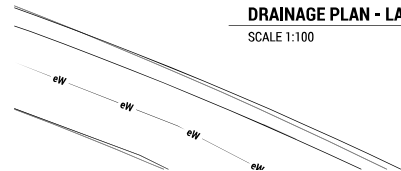
LEGEND

- |           |  |
|-----------|--|
| eSW       | EXISTING STORM WATER MAIN                                |
| SW        | PROPOSED STORMWATER MAIN                                 |
| eS        | EXISTING SEWER MAIN                                      |
| S         | PROPOSED SEWER MAIN                                      |
| eW        | EXISTING WATER MAIN                                      |
| W         | PROPOSED WATER MAIN                                      |
| eFP       | EXISTING FIRE PLUG                                       |
| eSV       | EXISTING STOP VALVE                                      |
| eM        | EXISTING WATER METER                                     |
| IO-S      | SEWER INSPECTION OPENING                                 |
| IO-SW     | STORMWATER INSPECTION OPENING                            |
| MH-SW     | PRECAST STORMWATER MANHOLE - CLASS D'SW MARKED GATIC LID |
| GP1-SW    | TRAFFICABLE GRATED PIT - REFER DETAILS                   |
| GP2-SW    | NON-TRAFFICABLE GRATED PIT - REFER DETAILS               |
| SPEL      | REFER DETAILS  |
| ECOCEPTER | REFER DETAILS  |

CONT. DRAINAGE PLAN - GENERAL



DRAINAGE PLAN - LANEWAY  
SCALE 1:100



CONT. DRAINAGE PLAN - LANEWAY

SW1.4  
MH-SW  
CHOKED OUTLET  
CL: 52.72  
IL: 51.00

S1.4  
IO-S  
CL: 52.81  
IL: 50.54

S1.3  
IO-S  
CL: 52.64  
IL: 50.43

GP2-SW  
CL: 52.639  
IL: 51.639

GP2-SW  
CL: 52.820  
IL: 52.000

S1.5  
IO-S  
CL: 52.81  
IL: 51.01

SW1.6  
IO-SW  
CL: 52.66  
IL: 51.35

SW1.7  
IO-SW  
CL: 52.89  
IL: 51.45

SW3.1  
GP1-SW  
CL: 52.47  
IL: 51.45

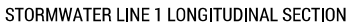
SW2.1  
GP1-SW  
CL: 52.35  
IL: 51.50

DRAINAGE PLAN - GENERAL  
SCALE 1:100


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SCALES: HORIZONTAL 1:200 VERTICAL 1:100



SCALES: HORIZONTAL 1:200 VERTICAL 1:100

				STATUS: <b>PRELIMINARY/INFORMATION</b>		DESIGN BY: <b>BS</b>	<div></div> <div>22-24 Paterson Street Launceston TAS 7250</div> <div><a href="http://rarein.com.au">rarein.com.au</a> P. 03 6388 9200</div>	CLIENT: <b>COMMUNITIES TASMANIA</b>	TITLE: <b>DRAINAGE LONG SECTIONS</b>
						DESIGN CHK: <b>AJL</b>		PROJECT: <b>SOCIAL HOUSING</b>	SCALE: <b>1:100, 1:200</b> SHEET SIZE: <b>A1</b> DWGS IN SET: <b>-</b>
				DO NOT SCALE - IF IN DOUBT, ASK THIS DOCUMENT MAY ONLY BE USED FOR THE PURPOSE FOR WHICH IT WAS PREPARED: © RARE INNOVATION PTY LTD. ABN 51 619 998 257		DRAWN BY: <b>BS</b>		ADDRESS: <b>73A NEW TOWN ROAD, NEW TOWN</b>	PROJECT No: <b>220008</b> DWG No: <b>C511</b> REV: <b>1</b>
<b>1</b>	<b>50% DESIGN DEVELOPMENT</b>	<b>KL</b>	<b>24-03-22</b>	APPROVED: <b>A. LEAKE</b>	ACRED. No: <b>CC5452A</b>	DATE: <b>07-03-22</b>			
<b>0</b>	<b>DEVELOPMENT APPLICATION</b>	<b>KL</b>	<b>07-03-22</b>						
REV:	ISSUED FOR / DESCRIPTION:	BY:	DATE:						



SUNNYSIDE RD

PROPOSED BUILDING  
FFL: 52.850

CAPACITY OF OVERFLOW CHANNEL  
= 87 L/s

OVERLAND FLOW IN V SHAPED LANEWAY

EXTENTS OF PONDING IN CARPARK.  
RAINFALL EVENT <5% A.R.I. 10.4m³ AT SPILL LEVEL (Z  
ERO FLOW)  
18.86m³ AT 1% A.R.I. FLOW 87 L/s

LINE OF RAMP ABOVE  
REFER 'S' SERIES

LEGEND




SPILLWAY LEVEL  
PONDING RL: 52.650

A.R.I. 1% LEVEL  
PONDING RL: 52.750

PROPOSED OVERLAND FLOW PATH FOR 1% A.R.I.

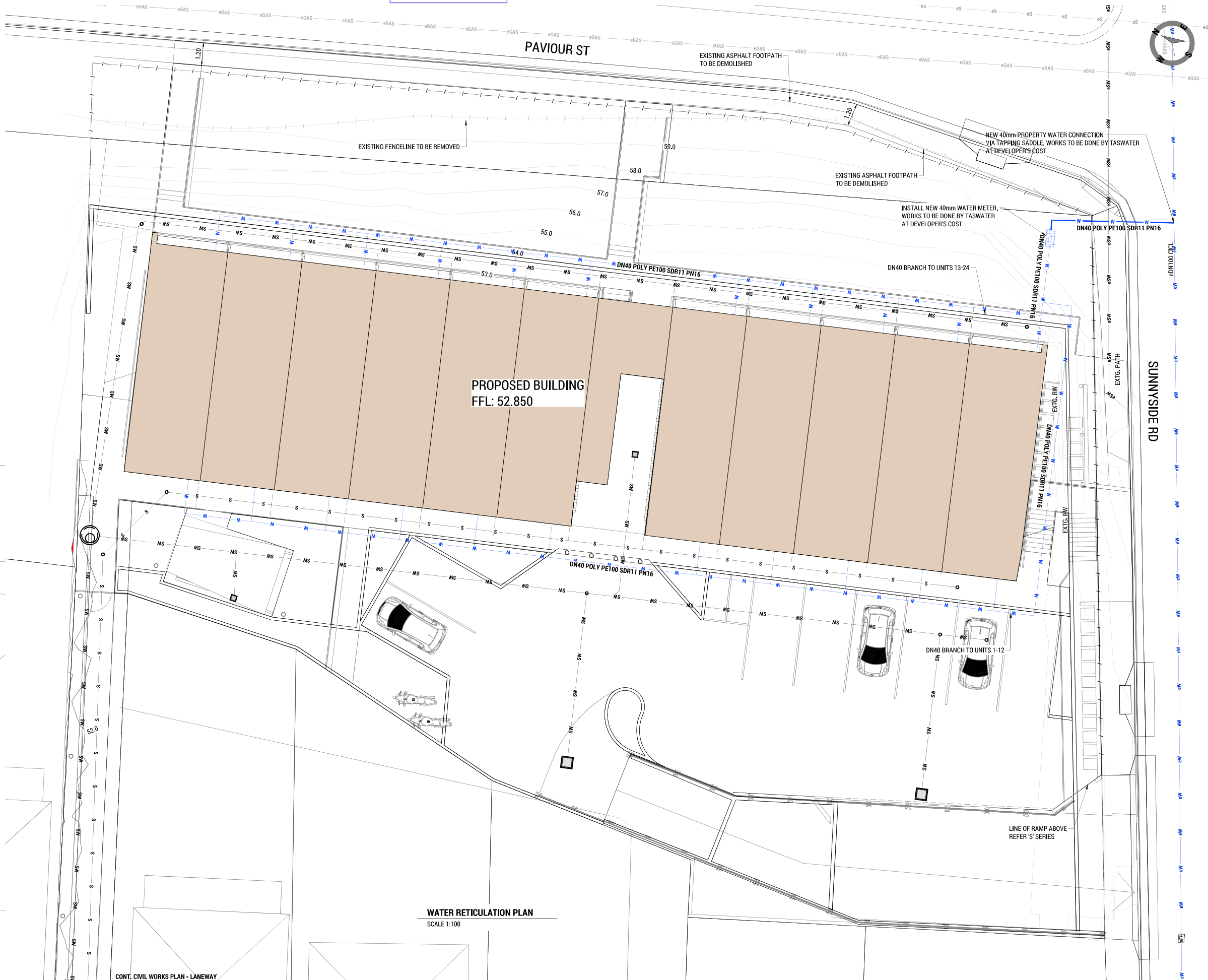
FLOODING PLAN  
SCALE 1:100

			STATUS:		DESIGN BY: BS		<div><div>22-24 Paterson Street Launceston TAS 7250</div><div><a href="http://rarein.com.au">rarein.com.au</a> P. 03 6388 9200</div></div>	CLIENT: COMMUNITIES TASMANIA		TITLE: FLOOD CONTROL PLAN 1% A.R.I.	
			PRELIMINARY/INFORMATION		DESIGN CHK: AJL			PROJECT: SOCIAL HOUSING		SCALE: 1:100 SHEET SIZE: A1 DWGS IN SET: -	
			DO NOT SCALE - IF IN DOUBT, ASK THIS DOCUMENT MAY ONLY BE USED FOR THE PURPOSE FOR WHICH IT WAS PREPARED. © RARE INNOVATION PTY LTD. ABN 51 619 598 257		DRAWN BY: KL			ADDRESS: 73A NEW TOWN ROAD, NEW TOWN		PROJECT No: 220008 DWG No: C521 REV: 1	
					DRAFT CHK: BS						
1 50% DESIGN DEVELOPMENT			KL	24-03-22	APPROVED: A. LEAKE		ACRED. No: CC5452A	DATE: 07-03-22			
0 DEVELOPMENT APPLICATION			KL	07-03-22							
REV: ISSUED FOR / DESCRIPTION:			BY:	DATE:							



LEGEND

- EW EXISTING WATER MAIN
- W PROPOSED WATER MAIN
- EPF EXISTING FIRE PLUG
- SV EXISTING STOP VALVE
- WM EXISTING WATER METER




CONT. CIVIL WORKS PLAN - GENERAL

CAP AND SEAL EXISTING  
REDUNDANT 200 CONNECTION,  
WORKS BY TASWATER AT  
DEVELOPERS COST

WATER RETICULATION PLAN  
SCALE 1:100

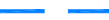
CONT. CIVIL WORKS PLAN - LANEWAY

						STATUS: <b>PRELIMINARY/INFORMATION</b>		DESIGN BY: <b>BS</b>		 <div>22-24 Paterson Street Launceston TAS 7250</div> <div><a href="http://rarein.com.au">rarein.com.au</a> P.03 6388 9200</div>	CLIENT: <b>COMMUNITIES TASMANIA</b>		TITLE: <b>WATER RETICULATION PLAN</b>		
								DESIGN CHK: <b>AJL</b>			PROJECT: <b>SOCIAL HOUSING</b>		SCALE: 1:100 SHEET SIZE: <b>A1</b> DWGS IN SET: <b>-</b>		
						DO NOT SCALE - IF IN DOUBT, ASK THIS DOCUMENT MAY ONLY BE USED FOR THE PURPOSE FOR WHICH IT WAS PREPARED. © RARE INNOVATION PTY LTD. ABN 51 619 598 257		DRAWN BY: <b>KL</b>			ADDRESS: <b>73A NEW TOWN ROAD, NEW TOWN</b>		PROJECT No: <b>220008</b> DWG No: <b>C601</b> REV: <b>1</b>		
								DRAFT CHK: <b>BS</b>							
<b>1</b>	<b>50% DESIGN DEVELOPMENT</b>	<b>KL</b>	<b>24-03-22</b>			APPROVED: <b>A. LEAKE</b>		ACRED. No: <b>CC5452A</b>		DATE: <b>07-03-22</b>					
<b>0</b>	<b>DEVELOPMENT APPLICATION</b>	<b>KL</b>	<b>07-03-22</b>												
REV: ISSUED FOR / DESCRIPTION:		BY: DATE:													

LEGEND



HOSE REACH AREA



FIRE TRUCK HOSE



EXISTING FIRE PLUG



FIRE PLAN - BOTTOM FLOOR  
SCALE 1:100

				STATUS: <b>PRELIMINARY/INFORMATION</b>		DESIGN BY: BS	<b>rare.</b> 22-24 Paterson Street Launceston TAS 7250 <a href="http://rarein.com.au">rarein.com.au</a> P.03 6388 9200	CLIENT: COMMUNITIES TASMANIA	TITLE: FIRE HYDRANT COVER PLAN - UNITS 1-11
				DO NOT SCALE - IF IN DOUBT, ASK		DESIGN CHK: AJL		PROJECT: SOCIAL HOUSING	
				THIS DOCUMENT MAY ONLY BE USED FOR THE PURPOSE FOR WHICH IT WAS PREPARED. © RARE INNOVATION PTY LTD. ABN 51 619 598 257		DRAWN BY: KL		ADDRESS: 73A NEW TOWN ROAD, NEW TOWN	
				APPROVED: A. LEAKE		DRAFT CHK: BS		SCALE: 1:100 SHEET SIZE: A1 DWGS IN SET: -	
1	50% DESIGN DEVELOPMENT	KL	24-03-22	BY:	DATE:	DATE: 07-03-22		PROJECT No: 220008 DWG No: C611	REV: 1
0	DEVELOPMENT APPLICATION	KL	07-03-22						
REV:	ISSUED FOR / DESCRIPTION:								

LEGEND



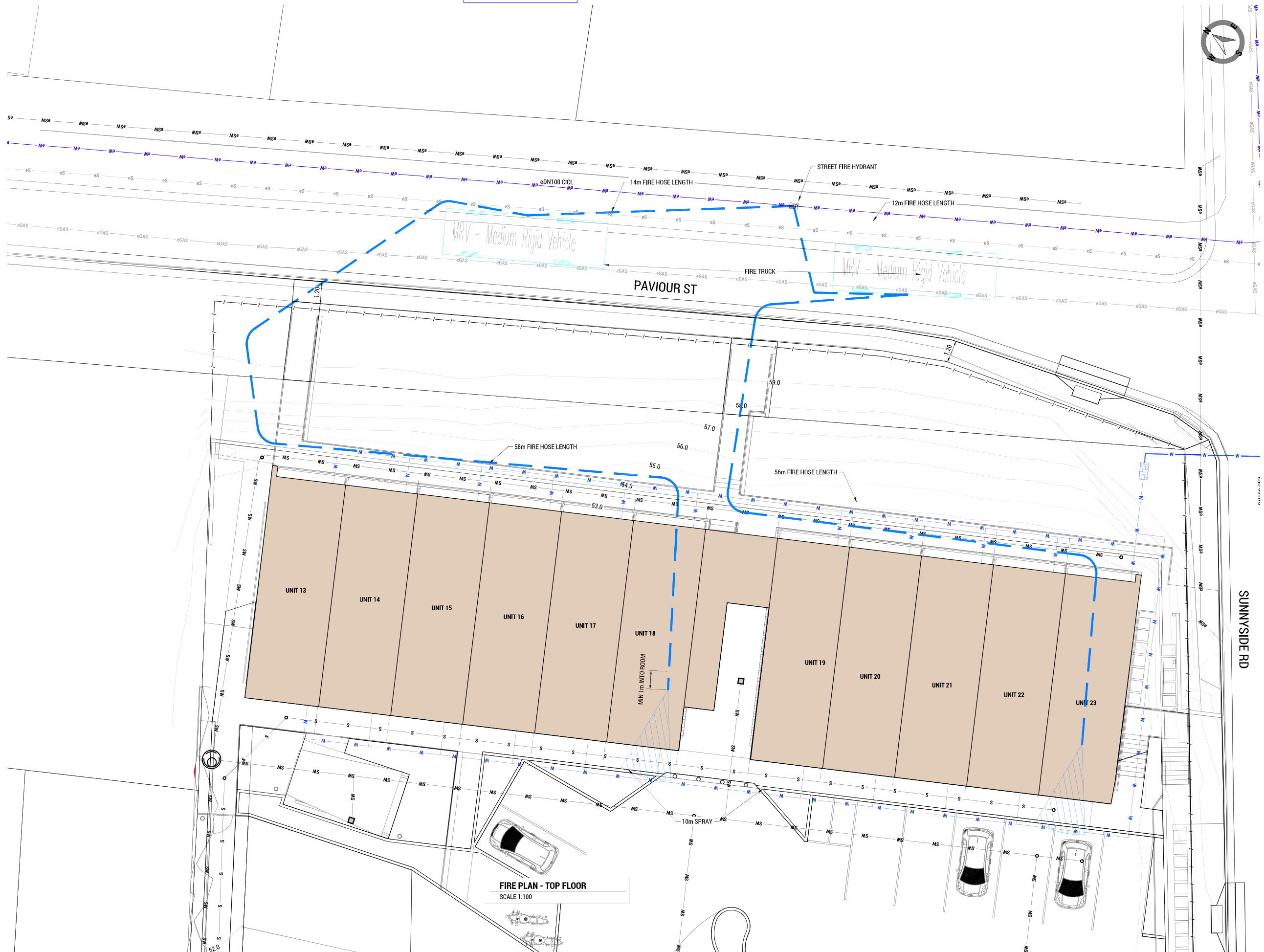
HOSE REACH AREA



FIRE TRUCK HOSE




EXISTING FIRE PLUG

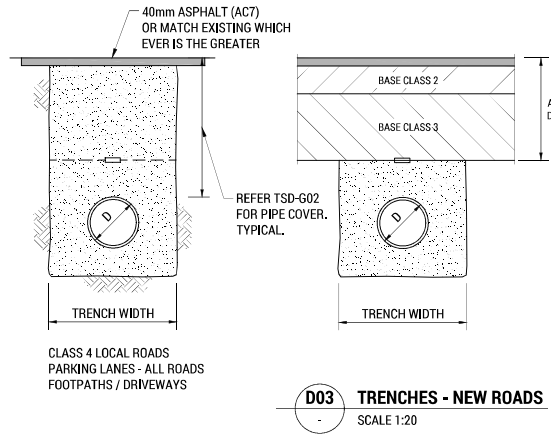
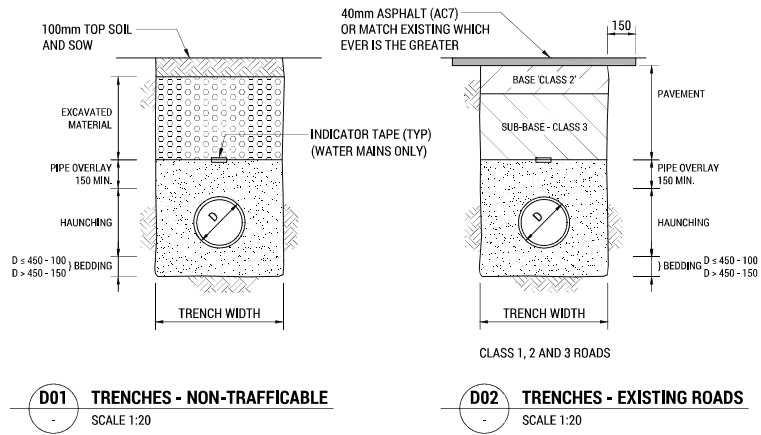


FIRE PLAN - TOP FLOOR

SCALE 1:100

				STATUS: <b>PRELIMINARY/INFORMATION</b>		DESIGN BY: <b>BS</b>	<div><div>22-24 Paterson Street Launceston TAS 7250</div><div><a href="http://rarein.com.au">rarein.com.au</a> P.03 6388 9200</div></div>	CLIENT: <b>COMMUNITIES TASMANIA</b>	TITLE: <b>FIRE HYDRANT COVERAGE PLAN - UNITS 12-22</b>
				DO NOT SCALE - IF IN DOUBT, ASK THIS DOCUMENT MAY ONLY BE USED FOR THE PURPOSE FOR WHICH IT WAS PREPARED. © RARE INNOVATION PTY LTD. ABN 51 619 598 257		DESIGN CHK: <b>AJL</b>		PROJECT: <b>SOCIAL HOUSING</b>	SCALE: <b>1:100</b> SHEET SIZE: <b>A1</b> DWGS IN SET: <b>-</b>
						DRAWN BY: <b>KL</b>		ADDRESS: <b>73A NEW TOWN ROAD, NEW TOWN</b>	PROJECT No: <b>220008</b> DWG No: <b>C612</b> REV: <b>1</b>
						DRAFT CHK: <b>BS</b>			
<b>1</b>	<b>50% DESIGN DEVELOPMENT</b>	<b>KL</b>	<b>24-03-22</b>	<b>APPROVED: A. LEAKE</b>	<b>ACRED. No: CC5452A</b>	<b>DATE: 07-03-22</b>			
<b>0</b>	<b>DEVELOPMENT APPLICATION</b>	<b>KL</b>	<b>07-03-22</b>						
REV:	ISSUED FOR / DESCRIPTION:			BY:	DATE:				





TRENCH WIDTH		
PIPE TYPE	NOM. DIA (D)	TRENCH WIDTH
CONCRETE	≤ 1500	D + 300
	> 1500	DESIGN REQ.
OTHER PIPES	100	300
	150	450
	225-300	600
	450	750
	450-1500	D + 600
	> 1500	DESIGN REQ.

MINIMUM TRENCH WIDTHS MAY BE VARIED ABOVE THE PIPE OVERLAY ZONE TO MEET WORKPLACE STANDARDS REQUIREMENTS.  
ie EXCAVATIONS OVER 1.5m MAY REQUIRE RISK ASSESSMENT.

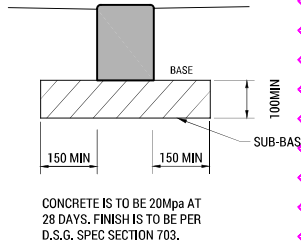
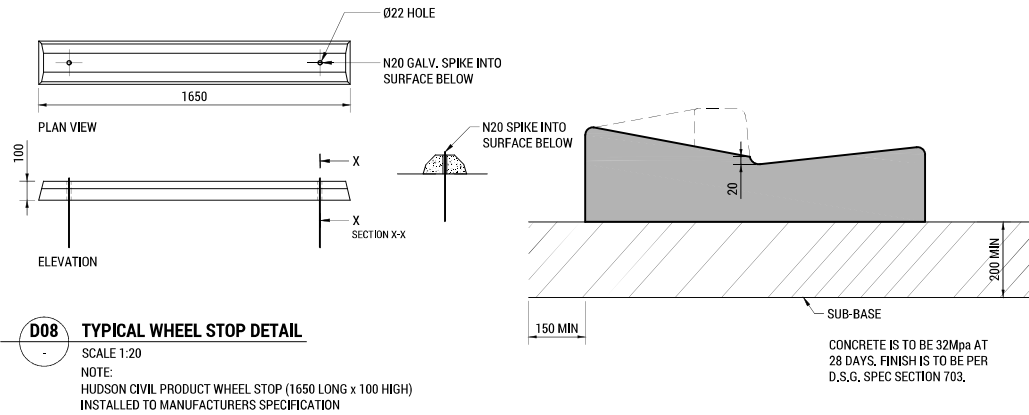
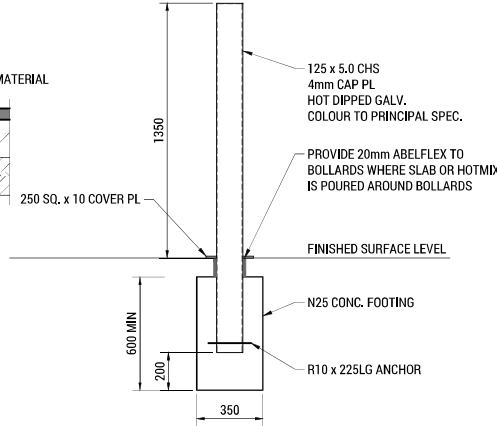
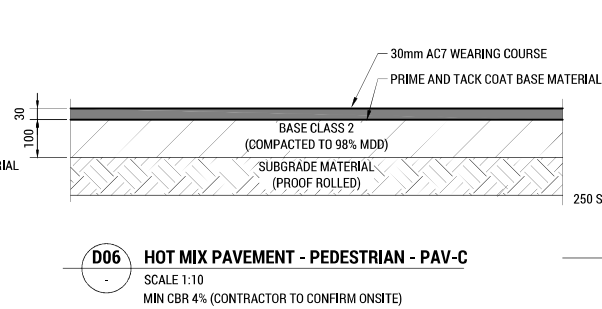
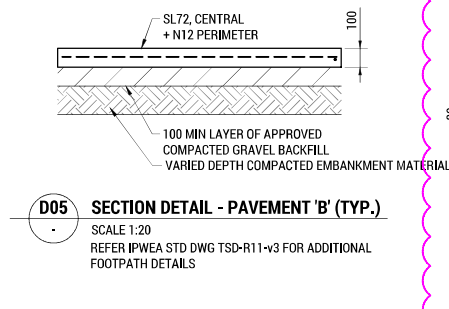
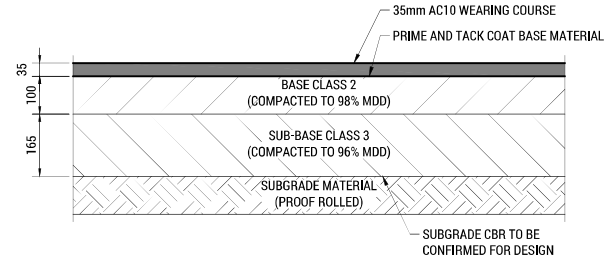
COMPACTION OF BEDDING, HAUNCHING & OVERLAY  
REFER TO AS 1289-5.5  
CONCRETE PIPES - MIN. DENSITY INDEX = 60% (8% STD. COMPACTION)  
UPVC PIPES - DENSITY INDEX = 65% (90% STD. COMPACTION)  
DCL PIPES - DENSITY INDEX = 65% (90% STD. COMPACTION)

BEDDING, HAUNCHING AND OVERLAY MATERIAL  
BEDDING, HAUNCHING AND PIPE OVERLAY MATERIAL SHALL CONTAIN NO DELETERIOUS MATERIAL OR CLAY LUMPS AND SHALL COMPLY WITH THE FOLLOWING GRADINGS:

FOR UPVC AND DUCTILE IRON PIPES SAND OR CRUSHED ROCK (STONE DUST)	
SIEVE APERTURE (mm)	% PASSING (BY MASS)
TO AS 1152	
6.7	100
2.36	70-100
0.6	20-90
0.3	8-50
0.15	0-20
0.075	0-10

FOR CONCRETE PIPES CRUSHED ROCK	
SIEVE APERTURE (mm)	% PASSING (BY MASS)
TO AS 1152	
19	100
2.36	50-100
0.6	20-90
0.3	10-60
0.15	0-25
0.075	0-10

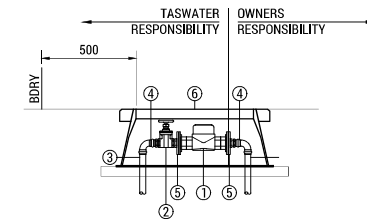
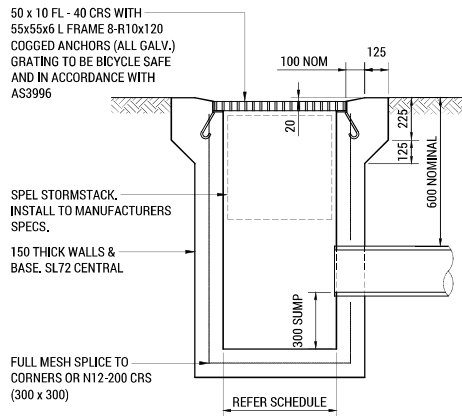
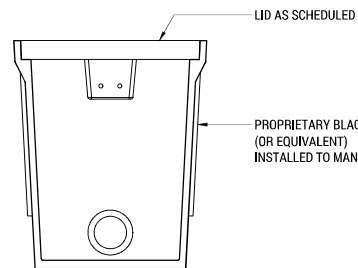
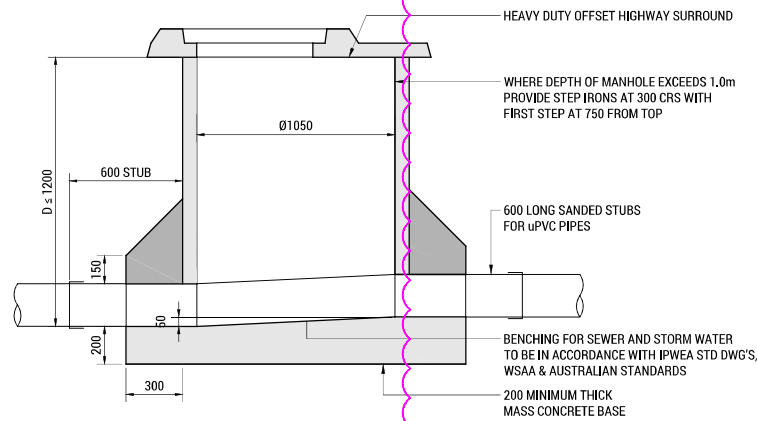
ALL MATERIAL SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH AS 3725 AND TO THE SATISFACTION OF THE SUPERINTENDENT.



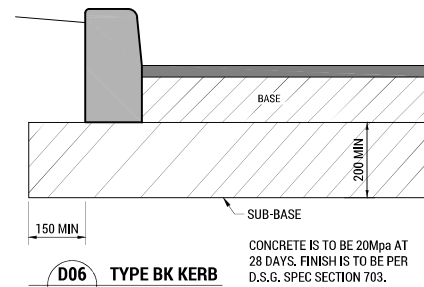
MANHOLE LIDS TO BE 'GATIC' TYPE OR SIMILAR


- HEAVY DUTY 'CLASS D' FOR TRAFFIC AREAS
- MEDIUM DUTY 'CLASS B' FOR ALL OTHER AREAS

ALL STORM WATER MANHOLES TO HAVE 'SW' CAST  
INTO LIDS. SEWER MANHOLES TO HAVE 'S' CAST IN.



EQUIPMENT SCHEDULE (PER UNIT)	
ITEM	DESCRIPTION
1	40mm 'SENSUS' IPEL WATER METER WITH DUAL CHECK VALVE - SUPPLIED BY TASWATER
2	40mm GATE VALVE - AVK OR SIMILAR - SUPPLIED BY TASWATER
3	40mm PIPE AND FITTINGS (PN. 16 MINIMUM) - REFER SCHEDULE
4	B PRESS FITTINGS OR SIMILAR
5	40mm BSP TO TABLE E FLANGE ADAPTOR
6	METER BOX - REFER TASWATER STD DWG TWS-W-0002 SH02 FOR METER BOXES IN NON-TRAFFICABLE / FOOTPATH AND PAVED AREAS (CLASS B) & TRAFFICABLE AREAS



				STATUS: <b>PRELIMINARY/INFORMATION</b>		DESIGN BY: <b>BS</b>	  22-24 Paterson Street Launceston TAS 7250  <a href="http://rarein.com.au">rarein.com.au</a> P.03 6388 9200	CLIENT: <b>COMMUNITIES TASMANIA</b>	TITLE: <b>SECTIONS &amp; DETAILS - SHEET 1</b>
				DO NOT SCALE - IF IN DOUBT, ASK		DESIGN CHK: <b>AJL</b>		PROJECT: <b>SOCIAL HOUSING</b>	
				THIS DOCUMENT MAY ONLY BE USED FOR THE PURPOSE FOR WHICH IT WAS PREPARED. © RARE INNOVATION PTY LTD. ABN 51 619 598 257		DRAWN BY: <b>KL</b>		ADDRESS: <b>73A NEW TOWN ROAD, NEW TOWN</b>	
				APPROVED: <b>A. LEAKE</b>		DRAFT CHK: <b>BS</b>		SCALE: <b>1:10, 1:20</b> SHEET SIZE: <b>A1</b> DWGS IN SET: <b>-</b>	
2	COUNCIL RFI RESPONSE	KL	17-06-22	BY:	DATE:	APPROVED: <b>A. LEAKE</b>	ACRED. NO: <b>CC5452A</b>	DATE: <b>07-03-22</b>	PROJECT NO: <b>220008</b> DWG NO: <b>C701</b> REV: <b>2</b>
1	50% DESIGN DEVELOPMENT	KL	24-03-22						
0	DEVELOPMENT APPLICATION	KL	07-03-22						
REV:	ISSUED FOR / DESCRIPTION:								

Michael McClenahan  
 Development Appraisal Unit  
 Hobart City Council  
 HOBART TAS 7001

**Re: 73a New Town Road, New Town – Car Ownership**

Dear Michael,

I refer to our Planning Application for the above address and wish to provide some data relating to car ownership across several social housing developments.

Please see below table, representing car ownership across numerous developments managed by Centacare Evolving Housing throughout Southern Tasmania. The developments are a typical cross-section of our portfolio and vary in terms of density and bedroom configurations and are representative of the 3000+ homes that we manage state wide as a Tier 1 Community Housing Provider.

Property	Number of Dwellings	Time period the properties have been managed by CEH	Car Ownership on site over management period
A	9	1.5 years	3-4 cars
B	55	2 years	20-24 cars
C	15	2 years	6-7 cars
D	8	3 years	2-3 cars
E	9	3 years	2-3 cars
F	7	25 years	1-2 cars

The data would indicate a trend of vehicle ownership of approximately one third of tenancies. Based on the 22 tenancies proposed for 73a New Town Road, the data would indicate 10-12 tenancies would require and utilise parking facilities, the proposed 12 carparking spaces would provide adequate parking to suit these requirements.

Please see below a table demonstrating the Priority Social Housing Waitlist data for the New Town area as at week ending 18<sup>th</sup> August 2022.

**Priority Housing wait list for  
New Town**

Age	1 bed	2 bed
16-24	185	76
55+	92	63

Please let me know if you have any questions relating to car ownership and our observations across our portfolio.

Yours sincerely



Ben Wilson  
Chief Executive Officer  
Centacare Evolve Housing



## Department of Communities Tasmania

GPO Box 65, HOBART TAS 7001 Australia  
Ph: 1300 135 513  
Web: [www.communities.tas.gov.au](http://www.communities.tas.gov.au)



Contact: Anna Balmforth – Manager Community Partners and Projects  
Phone: 0438 067 960  
Email: [anna.balmforth@communities.tas.gov.au](mailto:anna.balmforth@communities.tas.gov.au)

Attention:

Development Appraisal Unit

City of Hobart  
GPO Box 503

HOBART TAS 7001

### **Subject: Car parking demand – 73A New Town Rd, New Town**

The Director of Housing, constituted as a corporation's sole by Section 6A of the *Homes Act 1935* owns the land at 73A New Town Rd, New Town. This land is being developed by Centacare Evolve Housing on behalf of the Director to provide 22 new social housing dwellings under the Community Housing Growth Program. This development will provide much needed housing supply in the Hobart municipality and is due to be delivered in early 2024.

To support City of Hobart's assessment of this development application, I provide the following evidence to reiterate the reduced demand for car parking in social housing developments in inner-Hobart sites.

The New Town Rd development will provide a total of 12 car parking spaces for 22 units. The majority of these are single bedroom units. Communities Tasmania has successfully completed a number of comparable social housing developments in the Hobart municipality. This includes multi-unit complexes at Goulburn Street, Brisbane Street, Bathurst Street, Harrington Street and Campbell Street. All developments have been approved with a reduction in the number of car parking spaces provided, reflective of the low car ownership rates among tenants of these inner-Hobart dwellings.

Most recently, the Wintringham social housing development at 23-25 Goulburn Street provided 25 residential apartments, and a total of 15 car parking spaces. This site is fully tenanted and less than 30 per cent of residents own a car. Anecdotally, the occupation of the car park averages 50% of its total capacity. Close proximity and accessibility of the CBD, accessible public transport and affordability of car ownership are all key factors contributing to low car ownership rates amongst residents of these developments. The New Town Rd development will be no exception to this.

Further evidence is documented in a formal car parking survey undertaken by a qualified traffic engineer for the Department regarding the Walford Apartments (216 Harrington Street). This is a 53 unit complex comprising 40 two bedroom and 13 one bedroom units. The comprehensive survey found the parking demand was a maximum of 0.55 parked cars/unit and 0.31 parked cars/bedroom. The average number of parked vehicles on site over the period of the survey was 24 (around 53% of capacity) while the maximum number of parked vehicles at any point in time was 29 or 65% of the total car park capacity. The car park was never more than 2/3 occupied at any point in the survey period. The site is located where there are no passing bus services, but it is within one-kilometre walking distance of the Hobart CBD main city block.

Tenancy allocations to these unit developments are based on a suitability assessment to ensure that the location and type of housing suits the individual needs of the resident. Effective allocations and tenancy management is a further mechanism used to manage car parking demand.

I would strongly encourage Council to observe the existing social housing unit complexes within the Hobart municipality and evidence confirming low car ownership rates and parking demand at these sites.

If you have any further questions regarding this matter, please don't hesitate to contact Anna Balmforth, Manager Community Partners and Projects via telephone on 0438 067 960.

Yours sincerely



Richard Gilmour  
Director, Community Infrastructure  
Communities Tasmania

19 September 2022

19 October 2022

Michael McClenahan  
Development Appraisal Planner, City Life  
City of Hobart

By email: [mcclenahanm@hobartcity.com.au](mailto:mcclenahanm@hobartcity.com.au)

Dear Michael,

**73A NEW TOWN ROAD, NEW TOWN  
RESPONSE TO FURTHER INFORMATION REQUEST**

ERA Planning and Environment continue to act on behalf of Fairbrother in relation to the proposed use and development of 22 multiple dwellings at 73A New Town Road, New Town. Please find below responses to both the City of Hobart's and TasWater's requests for additional information in relation to this development application.

**City of Hobart RFI**

Item no.	Council request	Planner Response
<b>Planning</b>		
PLN Fi1	To enable Council to assess the application against the development standards of the Inner Residential Zone of the <i>Hobart Interim Planning Scheme 2015</i> , please provide the following:	
1	Details regarding security and entry process through laneway to New Town Road frontage	At New Town Road it is proposed to provide a fence and gate to delineate the entry to the site. The gate will not be locked or have any access control, it will be always free opening. Lighting is proposed for the walkway into the site, will be low-level, baffled and provided with a timer control for activation during night-time hours. It is anticipated that a small gate mounted sign/street number will be provided to the gate facing New Town Road.
2	Explanation of the hours of operation and level of visibility of security lighting in this laneway and the proposed heights of vegetation planting along the pathway	Lighting is proposed to be provided in the lane way to allow safe use of the areas during all hours. Lighting will be provided from low level bollards and in compliance with AS1158.3.1 as well as control of obtrusive lighting per AS4282. The lighting will be controlled both on a time clock and PE-cell activation. The landscape vegetation proposed



		<p>includes only low-level planting with a mature height of approx. 600mm.</p> <p>Refer to the external lighting plan prepared by Coordinated Engineering Services and the architectural and landscaping plans prepared by PhilpLighton Architects.</p>
<b>Parking and Access</b>		
PA1	To enable the Council to assess the application against the relevant provisions of the Parking and Access Code of <i>Hobart Interim Planning Scheme 2015</i> , please provide the following:	
1	Plan of the bicycle parking facilities demonstrating dimensions of the space as well as a cross section showing the height of the space under the stairs that either meet the class specified in table 1.1 of AS2890.3-1993 Parking facilities Part 3: Bicycle parking facilities in compliance with section 2 “Design of Parking Facilities” and clauses 3.1 “Security” and 3.3 “Ease of Use” of the same Standard, or which are sufficient to serve users without conflicting with vehicular or pedestrian movements or the safety of building occupants.	<p>A plan and two sections have been provided showing the dimensions and compliance with Table 1.1 of AS2890.31993.</p> <p>Refer to Sheet DA90 of the architectural plans prepared by PhilpLighton Architects.</p>
2	Details on lighting and security of bicycle parking area.	<p>Bicycle parking is provided in the form of three hoop racks under the stairs. They are not visible from the streets, and bikes can be securely attached to the hoops. Lighting is provided over the bike racks in accordance with Table 2.3 of <i>Australian/New Zealand Standard AS/NZS 1158.3.1: 2005 Lighting for roads and public spaces – Pedestrian area (Category P) lighting – Performance and design requirements</i>.</p> <p>Refer to Sheet DA90 of the architectural plans prepared by PhilpLighton Architects.</p>
<b>Heritage Code</b>		
HER Fi	To enable the Council to assess the application against the relevant provisions of the Historic Heritage Code of the <i>Hobart Interim Planning Scheme 2015</i> please provide:	
1	Please provide montages of the proposal as viewed from the streetscape of New Town Road.	<p>A streetscape montage is provided from ‘eye level’ directly across the street on New Town Road.</p> <p>Refer to Sheet DA93 of the architectural plans prepared by PhilpLighton Architects.</p>

2	Please confirm if the two Paviour Street pedestrian entrances are to be open or if pedestrian gates within the fencing are proposed.	There are two pedestrian access points to the site proposed from Paviour Street. These entrances are proposed to be free openings without any gate.
<b>Stormwater Code</b>		
	To enable Council to assess the application against the relevant provisions of the Stormwater Management Code of <i>Hobart Interim Planning Scheme 2015</i> , please provide:	
SW 1	A site plan to demonstrate how stormwater from the proposed development (including roofed areas and impervious surfaces - driveways etc) will be disposed of via gravity to public stormwater infrastructure or to a Council approved system.	Refer to the civil engineering drawings, accompanying cover letter, and Stormwater Management Report prepared by Rare Innovation.
SW 6	A stormwater drainage design prepared by a suitable qualified person which demonstrates compliance with the following: <ul style="list-style-type: none"> <li>a. accommodate a storm with an ARI of 20 years when the land serviced by the system is fully developed</li> <li>b. stormwater runoff will be no greater than pre-existing runoff or any increase can be accommodated within existing or upgraded public stormwater infrastructure.</li> </ul>	Refer to the Stormwater Management Report prepared by Rare Innovation.
SW 5	A report prepared by a suitable qualified person, demonstrating <ul style="list-style-type: none"> <li>a. that the stormwater system for the new development incorporates water sensitive urban principle for the treatment and disposal of stormwater.</li> </ul>	Refer to the Stormwater Management Report prepared by Rare Innovation.
SW 7	A stormwater drainage design prepared by a suitable qualified person which demonstrates compliance with the following: <ul style="list-style-type: none"> <li>a. designed to accommodate a storm with an ARI of 100 years.</li> </ul>	Refer to the Stormwater Management Report prepared by Rare Innovation.
<b>Roads</b>		
1	Please update the pedestrian ramp to the approved one (type B at the corner).	DA12 REV C has been amended to include the approved council pedestrian crossing type B.  Refer to the civil engineering drawings and accompanying cover letter prepared by Rare

		Innovation, and the architectural drawings prepared by Philp Lighton Architects.
2	Please correct the vehicle crossing to type KC (KCV doesn't exist), without the invert lip in the gutter.	DA12 REV C has been amended to include a highlighted area indicating the zone proposed to be included within an occupation license.  Refer to the civil engineering drawings and accompanying cover letter prepared by Rare Innovation, and the architectural drawings prepared by Philp Lighton Architects.
Note	If there will be truck access, type KCR&B1 or KCRB&B1 will be required.	Noted.

## TasWater RFI

Item no.	TasWater request	Planner Response
1	<p>The title documents submitted outline that there is a "BURDENING EASEMENT a right of drainage (appurtenant to Lot 1 on Sealed Plan No. 61817) over the drainage easement passing through the said land within described" which is indicated as being 5 feet wide (approximately 1.524 metres wide). The proposal plans outline a number of private assets to be placed inside of this easement land such as Lighting Bollards, Trees and Stormwater assets.</p> <p>It is not considered appropriate to place these private assets inside of the existing easement land unless there is a proposal to re-organise the easement land and or the assets contained inside this easement.</p> <p>It is recommended that the proposed 150mm sewer and the 225mm stormwater line, subject to council endorsement, be installed as TasWater/Council assets so that they can service the subject development as well as 10 PAVIOUR ST, NEW TOWN (Volume/Folio: 178616/1).</p> <p>TasWater would accept a 3.00 wide easement, of course subject to council endorsement. The easement and services should be positioned so that there are no private assets occupying the easement land unless crossing the easement at 90 degrees a required.</p>	<p>All services for the development have been relocated clear outside of the easement in the line so as to retain any future rights of the beneficiary(s).</p> <p>Refer to the civil engineering drawings and accompanying cover letter prepared by Rare Innovation.</p>



2	Please provide an amended concept servicing plan for water & sewer services which shows the following:	Refer to the civil engineering drawings and accompanying cover letter prepared by Rare Innovation, and the architectural drawings prepared by Philp Lighton Architects.
a	Indicative location of sewer main extension, as described in request point 1, required to service the development.	All services for the development have been relocated clear outside of the easement in the line so as to retain any future rights of the beneficiary(s).
b	Indicative location of proposed TasWater easements in accordance with the relevant TasWater supplement (outline the minimum widths);	All services for the development have been relocated clear outside of the easement in the line so as to retain any future rights of the beneficiary(s).
c	<p>The required location of property water &amp; sewer connection(s) accurately dimensioned relative to the existing/proposed boundaries noting that:</p> <p>i. The proposed meter assembly must be sized appropriately (currently it is not) and located 500mm inside property boundary and be 500mm from the edge of the driveway or alternatively 500mm from the edge of the walking entrance on Paviour Street.</p> <p>ii. The property sewer connection point should be connected to a point on the proposed main in a similar position to S1.3.</p>	This has been addressed with the new proposed location of the water meter (near the South-East pedestrian access) clearly dimensioned.

## Conclusion

It is considered that the above adequately addresses both requests for additional information, however, should you require anything additional please do not hesitate to contact me on 03 6135 0443 or at [monica@eraplaning.com.au](mailto:monica@eraplaning.com.au).

Yours sincerely,



Monica Cameron

**Senior Planner**

*Attachments      Appendix C\_Architectural plans\_18 October 2022*  
*Appendix F\_Civil infrastructure concept design\_Rev3\_29 July 2022*  
*Appendix F\_Rare Cover Letter\_11 October 2022*  
*Appendix I\_External lighting plan\_Rev4\_17 March 2022*  
*Appendix J\_Stormwater Management Report\_Rev1\_11 October 2022*

- LIGHTING DESIGN AS SHOWN COMPLIES WITH THE REQUIREMENTS OF AS/NZS 1158.3.1, FOR CARPARKS / PEDESTRIAN PATHWAYS,
- AS/NZS 4282 CONTROL OF OBTRUSIVE LIGHT CALCULATION DEMONSTRATES LIKELY COMPLIANCE FOR PRE-CURFUR HOURS ONLY. NO POST CURFUR COMPLIANCE HAS BEEN UNDERTAKEN – PENDING FINAL DESIGN OF SITE / BUILDING / LANDSCAPE & ROADWAY ELEMENTS AND ROUGHING ON SITE.
- LIMITATION OF UPWARD WASTE LIGHT (UWL)  
Maximum allowed for car parks used for solid state luminaires is 1%.  
Luminaires are post top mounted and have a fixed tilt of zero(0) degrees resulting in zero(0)% upwards waste light ratio, emitting no light at 90 degrees.



1. DRAWING TO BE READ IN CONJUNCTION WITH ELECTRICAL SPECIFICATION, ARCHITECTURAL / CIVIL / LANDSCAPING WORKS DRAWINGS AND DETAILS.
2. REFER ALSO TO ELECTRICAL FLOOR PLAN LAYOUT(S) FOR GENERAL NOTES AND LEGEND OF SYMBOLS NOT SHOWN ON THIS DRAWING.
3. NOMINAL LOCATION OF ANY EXISTING EQUIPMENT SHOWN, CONFIRM EXACT LOCATION ON SITE And/or FLOOR PLAN LAYOUT.
4. THE EXACT LOCATION OF ALL NEW EQUIPMENT SHALL BE CONFIRMED ON SITE PRIOR TO COMMENCING ANY TRENCHING, POLE FOOTINGS / CONCRETING & CABLES INSTALLATION.
5. PROVIDE TRENCHING, BACKFILLING AND MAKING GOOD OF ALL NEW/ OR RE-ROUTED UNDERGROUND SERVICES. UTILISE SHARED TRENCHING WHERE POSSIBLE, REFER DETAIL.
6. CO-ORDINATE NEW BELOW GROUND INFRASTRUCTURE/ SERVICES EQUIPMENT WITH EXISTING AND ALL AFFECTED SUB-TRADES.
7. ROUTE TRENCHING SUFFICIENTLY CLEAR OF TREES TO MINIMISE ROOT DAMAGE.
8. ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH NCC AND ALL RELEVANT STANDARDS AND IN PARTICULAR 453000.
9. ALL CONDUITS TO BE SIZED WITH 50% SPARE CAPACITY, HAVE DRAW WIRES FITTED, LONG RADIUS BENDS UTILISED AND BE SEALED TO PREVENT MOISTURE INGRESS.



NOT TO BE USED FOR TENDER OR CONSTRUCTION

P4	PRELIMINARY	17/03/2022	CS
P3	PRELIMINARY	16/03/2022	EW
P2	PRELIMINARY	15/03/2022	EW
P1	PRELIMINARY	07/03/2022	CS
ISSUE	REVISION	DATE	BY



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**ELECTRICAL SERVICES**  
SITE ROADWAY, CARPARK,  
PATHWAY & PERIMETER  
EXTERIOR LIGHTING.

PROJECT: 216098-PP Issue Legend: P = Preliminary      T = Tender      C = Construction      A = Amendment			
Drawn : EW Authorised : SCK Plot Date : 17/03/2022 Scale/Size : 1:100 @ A1 DWG File : 216098-PP	PROJECT & SHEET No:  <div style="font-size: 2em; font-weight: bold;">216098-E4</div>		ISSUE: P4  <div style="font-size: 2em; font-weight: bold;">4</div>

Our Ref: 220008

11<sup>th</sup> October 2022

Philp Lighton Architects  
49 Sandy Bay Road  
Hobart TAS 7004

**ATTENTION: P GAGGIN**

Dear Peter

**PHILP LIGHTON - COMMUNITIES TASMANIA - SOCIAL HOUSING - 73A NEW TOWN RD, NEW TOWN –  
SITE INFRASTRUCTURE DESIGN DETAILS FOR DEVELOPMENT APPLICATION**

We are writing to you to provide details of the site civil infrastructure, to support the Development Application.

Attached to this letter are the following drawings and documents: -

- COV – Cover Sheet
- C000 – Civil Notes
- C101 – Existing Survey Plan
- C301 - Bulk Earthworks Plan
- C311 – Bulk Earthworks Sections
- C401 - Civil Works Plan
- C501 – Drainage Plan
- C511 – Drainage Long Sections
- C521 – Flood Control Plan 1% AEP
- C601 – Water Reticulation Plan
- C611 – Fire Hydrant Coverage Plan – Units 1-11
- C612 – Fire Hydrant Coverage Plan – Units 12-22
- C701 – Sections and Details – Sheet 1
- 220008 - SMR-001 – Stormwater Management Report

Please review the above drawings with the following comments: -

- Stormwater
  1. Details for the stormwater design and management in accordance with WSUD principals has been provided within the attached report 220008 – SMR-001.
  2. The existing site stormwater connection was not identified on site, it is believed that the existing stormwater drains through the back yards of the adjacent properties. This development proposes providing a new stormwater connection to the existing DN600 RCP stormwater in the street. This connection will need to cross a number of services including comms, LV, HV and water. We have mapped these services into long sections based on invert level information provided however we recommend that this area is potholed to positively located all services (including the DN600 RCP stormwater main) to ensure that the risk around this connection is managed.

Distribution

- Architect Philp Lighton - [bfenton@philplighton.com.au](mailto:bfenton@philplighton.com.au) ; [pgaggin@philplighton.com.au](mailto:pgaggin@philplighton.com.au)
- Contractor Fairbrother - [cjacobson@fairbrother.com.au](mailto:cjacobson@fairbrother.com.au)
- File Copy Launceston



- Sewer
  1. The existing site has an existing sewer connection, this is expected to be reused. We have mapped the likely Sewer alignment as a long section and found adequate depth to service the proposed building block.
- Water
  1. The existing site has a water connection, this water connection was not located on site. During demolition the contractors will be required to identify and cap the existing connection.
  2. The proposed development will require a new connection and water meter arrangement. TasWater GIS database indicates that there is a DN50 copper and a DN250 Cast Iron main in the vicinity of the existing property connection. There is also a DN100 CICL water main on Sunnyside Road and Paviour Street respectively which is above the cutting level. We have determined that the property will require a min. DN50 water connection which we propose to take off the DN100 main in Sunnyside Road at the N-E corner of the property.
- Fire fighting
  1. There are two street fire plugs (one on Sunnyside Road and one on Paviour Street). 60m radius adequately cover the proposed building. We have also mapped detailed alignments for hose lay and truck locations to comply with AS2419 using only the street fire plugs as feed hydrants. These arrangements work based on our present understanding of the design, but we note that this does need to be refined with final architectural floor layouts as there is little margin for error.
  2. It is understood that there will be no internal firefighting equipment such as hose reels based on the building surveyors report.

With regard to the recently received planning RAI I respond to each line item as follows:

TW1 - TasWater's RAI has been addressed as follows

1. All services for the development have been relocated clear outside of the easement in the line so as to retain any future rights of the beneficiary(s).
2. a) and b) are generally covered by the above and no longer relevant. c) has been addressed with the new proposed location of the water meter (near the South-East pedestrian access) clearly dimensioned.

SW1 – Had already been addressed in our drawings

SW6a) – Details are provided in the SMR

SW6b) – Details are provided in the SMR

SW5 – Details are provided in the SMR

SW7 – Details are provided in the SMR

ROADS 1 – We have amended drawings to reflect the pedestrian ramp previously negotiated with HCC by C. Jacobson.

ROADS 2 – We have adopted the KCR&B1 kerbing to accommodate fire trucks.

Distribution

- Architect Philp Lighton - [bfenton@philplighton.com.au](mailto:bfenton@philplighton.com.au) ; [pgaggin@philplighton.com.au](mailto:pgaggin@philplighton.com.au)
- Contractor Fairbrother - [cjacobson@fairbrother.com.au](mailto:cjacobson@fairbrother.com.au)
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Should you have any further queries please do not hesitate to contact us.

Yours faithfully,



Brendan Stanborough  
Senior Structural Engineer  
Infrastructure Manager

Distribution

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- Contractor
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Launceston



11 November 2022

Michael McClenahan  
Development Appraisal Planner, City Life  
City of Hobart

By email: [mcclenahanm@hobartcity.com.au](mailto:mcclenahanm@hobartcity.com.au)

Dear Michael,

**73A NEW TOWN ROAD, NEW TOWN  
RESPONSE TO SECOND FURTHER INFORMATION REQUEST**

ERA Planning and Environment continue to act on behalf of Fairbrother in relation to the proposed use and development of 22 multiple dwellings at 73A New Town Road, New Town. Please find below responses to the City of Hobart's second request for additional information in relation to this development application.

Item no.	Initial request	Further Council comments
SW 1	A site plan to demonstrate how stormwater from the proposed development (including roofed areas and impervious surfaces - driveways etc) will be disposed of via gravity to public stormwater infrastructure or to a Council approved system.	Council notes that there is a private drainage easement 5ft wide in the laneway. It is a suggestion that stormwater main be laid in drainage easement as a public stormwater main, so that it benefit any future development in the vicinity. Please discuss any obstacles to this.  Show water main in long section for stormwater connection. Clarify why 1% gradient cannot be achieved. Detailed engineering drawings can be submitted as Condition Endorsement Process.
	<u>Response</u>  Obstacles against running a public drain within the laneway: The primary consideration here is the potential loss of land tenure and amenity that comes with running a public drain. Bearing in mind that this would likely also be run with a public sewer which means that the easement would by default need to be enlarged to cover the entire laneway to contain a sewer (3.0m width as per usual TasWater and Council requirements on easement sizing) which ultimately will limit what the developer can/cannot do within this area. As illustrated in the design, services for this development can be accommodated along the laneway while maintaining the drainage easement in favour of the adjoining land. Considering this practical design solution this development does not propose altering land titles to include an authority easement.	



	<p>The long section has been updated on Sheet C511 to show the stormwater connection, and also that a minimum 1% gradient can be achieved, as required.</p> <p>Please refer to the civil infrastructure concept design and stormwater management report prepared by Rare Innovation.</p>	
SW 6	<p>A stormwater drainage design prepared by a suitable qualified person which demonstrates compliance with the following:</p> <ul style="list-style-type: none"> <li>a) accommodate a storm with an ARI of 20 years when the land serviced by the system is fully developed</li> <li>b) stormwater runoff will be no greater than pre-existing runoff or any increase can be accommodated within existing or upgraded public stormwater infrastructure.</li> </ul>	<p>Detention calculations does not state the event durations modelled or examine other 5% AEP durations for overflow/ surcharging. The proposed ponding in the carpark in events less than 5% AEP to provide the detention storage is not accepted as meeting E7.7.1 A3. Please show an alternate location for the ~10kL storage volume proposed. Full engineering drawings, revised calculations and a maintenance plan will be required as Condition Endorsement Process.</p>
	<p><u>Response</u></p> <p>Notes on drawing C521 have been revised to remove confusion relating to the basis of design. Some refinements have been made to the model and the edging has been raised. To clarify the analysis/extent of ponding has been determined based on the 5 % AEP / 20 yr ARI (all durations refer the revised SMR) not on any other higher probability / lower interval occurrence.</p> <p>Please refer to the civil infrastructure concept design and stormwater management report prepared by Rare Innovation.</p>	
SW 7	<p>A stormwater drainage design prepared by a suitable qualified person which demonstrates compliance with the following:</p> <ul style="list-style-type: none"> <li>a) designed to accommodate a storm with an ARI of 100 years.</li> </ul>	<p>Section A-A on Drawing C702 Rev1 shows removal of the kerb with no positive fall back to the road. This is not accepted. There is 225mm public stormwater main on Sunnyside Road that drains (upstream for the proposed ramp/driveway) to kerb. The design of driveway needs to take this into account, so that the runoff from road does not go down the driveway and is contained in the kerb channel.</p> <p>Council requires use of a climate change loading factor of 18% as per Council's published document. Please also clarify how the 87L/s Overland Flow Path was calculated, including the rainfall intensity and duration modelled.</p> <p>Council notes the ponding depth on Drawing C521Rev2 is stated as 52.75. The report says a 150mm freeboard in the water-proofed kerbing is required, however this is not reflected in the proposed SL on this drawing. Council also notes the level stated in the report is less than 150mm</p>

		<p>above 52.75m. As it appears a height greater than a standard kerb is required, please provide indicative sections.</p> <p>Please clarify the proposed v-drain in the laneway, including indicative sections and calculation demonstrating adequate capacity and freeboard. Council notes the laneway currently appears to slope towards third-party dwelling.</p>
	<p><u>Response</u></p> <p>The driveway profile has been updated as noted. Footpath now slopes back to kerb with the road reserve.</p> <p>Please refer to the civil infrastructure concept design and stormwater management report prepared by Rare Innovation.</p>	

It is considered that the above adequately addresses the request for additional information, however, should you require anything additional please do not hesitate to contact me on 03 6135 0443 or at [monica@eraplanning.com.au](mailto:monica@eraplanning.com.au).

Yours sincerely,



Monica Cameron

**Senior Planner**

Attachments    *Appendix F\_Civil infrastructure concept design\_Rev3\_29 July 2022*

*Appendix J\_Stormwater Management Report\_Rev1\_11 October 2022*

Of beauty rich and rare.

## Stormwater Management Report

Multi-Unit Development  
73A Newtown Road, Newtown

Prepared for:	Catholic Care
Project No:	220008
Document No:	220008 SMR – 001
Issue No:	01
Revision No:	B

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## DOCUMENT CONTROL

<b>Project</b>	Centacare Evolve – Multi-unit development, 73A Newtown Road, Newtown
<b>Report Title</b>	Stormwater Management Report
<b>Project No</b>	220008
<b>Document ID</b>	220008 SMR - 001
<b>File Path</b>	R:\Projects\2022\220000 Buildings\220008 - PL - Communities Tasmania - Social Housing - 73A New Town Rd, New Town\03 Internal Design\04 File Notes
<b>Client</b>	Philp Lighton Architects

Record of Report					
Issue	Reason	Revision	Date	Prepared By	Approved By
01	Client Issue	-	11/10/2022	BS	AL
01	For HCC RAI	A	2/11/2022	BS	AL
01	For HCC RAI 2	B	1/12/2022	BS	AL

Distribution of Report			
Company	Name & Address	Contact	Copies
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## 1. INTRODUCTION

Rare Innovation have been engaged to prepare an engineering design to address stormwater management for the proposed multi-unit development at 73A Newtown Road, Newtown.

This report has been prepared based on available data for the site at the time of investigation.

## 2. SITE EVALUATION

### 2.1. Site Description

The site is a battle-axe shape with level access from Newtown Road. The site has been previously excavated and developed as tennis courts. The pre-existing site coverage consists predominantly of granular surfaces with strips of vegetation. The topography within the lot proper is predominately flat with the battle-axe leg falling generally towards the West at approximately 3%.

### 2.2. Existing Services

An existing easement (approximately 1.5m width) exists within the battle-axe leg. No public assets are located within the lot or within the easement. There is an existing water connection from Newtown Road. Piped stormwater, sewer and water are available in Newtown Road and also within Sunnyside Road and Pavior Street.

### 2.3. Flood Risk

The proposed site is identified as not subject to risk of flooding under the flood prone areas code, nor subject to risk under the coastal inundation hazard bands

## 3. STORMWATER ASSESSMENT

### 3.1. Water Sensitive Urban Design

The design of the stormwater must adhere to water sensitive urban design principals required by Hobart City Council. These are:

- Discharge from the site must not exceed pre-development levels for ARI 1:20 (AEP 5%)
- Climate Change Factor 18%
- Stormwater must be treated to achieve a reduction target as set out in the Derwent Estuary Program Design Guidelines of:
  - TSS 80%
  - TP 45%
  - TN 45%

### 3.2. Analysis

Multiple methods have been used to design/assess the proposed development to be in accordance with relevant design standards.

Stormwater has been analysed using AR&R 2019 along with the rational method and established engineering hydraulic principals to determine peak site discharge (PSD), pipework flows, capacity, flow restrictions, on-site detention for AEP 5%. All stormwater is required to be contained within the site and conveyed through below ground pipework in this scenario. The site and system has also been analysed to accommodate a the AEP 1% storm scenario which it achieves within the below ground piped system but



also has an overland flow path within the surface topography to relieve excess water build up in the case of blockage.

eWATER's *MUSICX* is a software package for water sensitive urban design (WSUD) that analyses the effectiveness of treatment solutions incorporated into a development's drainage design by providing measures of reductions in key pollutants. *MUSICX* has been used to design/assess the proposed treatment measures for this development.

The results provided by both methods are discussed in the subsequent relevant sections of this report.

### 3.3. Proposed Drainage Infrastructure

Refer to Rare project drawings 220008-C for plans and details of the proposed drainage infrastructure for the site.

#### 3.3.1. 5% AEP Storm Event

The minor drainage (piped stormwater drainage system) for the proposed development has been designed to accommodate flows for a rainfall event with an ARI of 20 years (5% AEP). A climate change factor of 1.018 has been applied to all rainfall data (including the 1% AEP event) using HCC's published value.

The piped drainage system consists of:

- Roof drainage directed via gutters to a charged downpipe system feeding two slimline storage tanks. The tanks provide temporal storage to attenuate the downstream flow using restricted outlet pipes.
- Carpark and hardstand drainage directed into three grated pits feeding the main internal pipe drainage line. The main pipe is oversized to provide inherent storage and an orifice plate is provided to attenuate downstream flow.
- The piped system flows through multiple water quality treatment devices prior to discharging to the lot connection at Newtown Road.

The total catchment for the site consists of the proposed development area. The catchments are identified as follows:

Catchment	Area (m <sup>2</sup> )	Permeability	Run-Off (l/s)
Ex. Granular	975	0.9	26
Ex Vegetated	975	0.3	9
Total	1950	0.6	35

Table 1 – Pre-Development Catchment Analysis

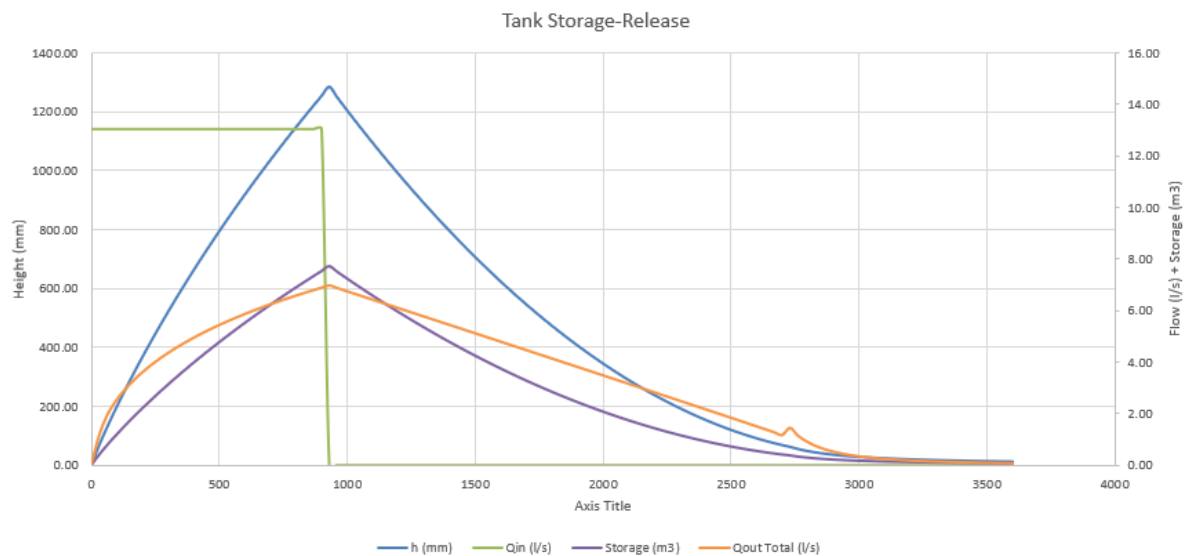
Catchment	Area (m <sup>2</sup> )	Permeability	Run-Off (l/s)
Roofs	800	0.95	23
Carpark/ Hardstand	800	0.95	23
Landscape	350	0.3	3
Total	1950	0.6	49

Table 2 – Post-Development Catchment Analysis

By inspection comparing pre-development total to post-development total there is an increase in runoff generated by the development and therefore on-site detention is required to restrict discharge flows.

#### Roof Attenuation

The following chart shows the analysis of the roof run-off catchment for the 5% AEP rainfall event, with intensity  $^{20}I_{15min} = 52.40$  mm/hr (i.e. peak inflow flow  $Q = 13.05$  l/s), for the worst case storage scenario of 15 min duration. The analysis is based on a restricted outlet of 65 dia. pipe and two 'in series' slimline 6000 L tanks.



**Figure 1 – Tank Discharge-Storage Curve –5% AEP rainfall event 15min Duration**

The volume utilised is 7,700 L to a depth of 1300 mm resulting in an attenuated peak outflow of 7.0 l/s.

#### Carpark/Hardstand Attenuation

Similarly the following chart shows the analysis of the carpark/hardstand run-off catchment for the 5% AEP rainfall event, with intensity  $^{20}I_{15min} = 52.40$  mm/hr (i.e. peak inflow  $Q=18.8$  l/s), for the worst case storage scenario of 15 min duration. The analysis is based on a restricted outlet of 150 dia. pipe and with oversized pipes of 450 dia. x 50m long providing inherent storage (utilising max 80% of the pipe cross section) of 7,900 L.

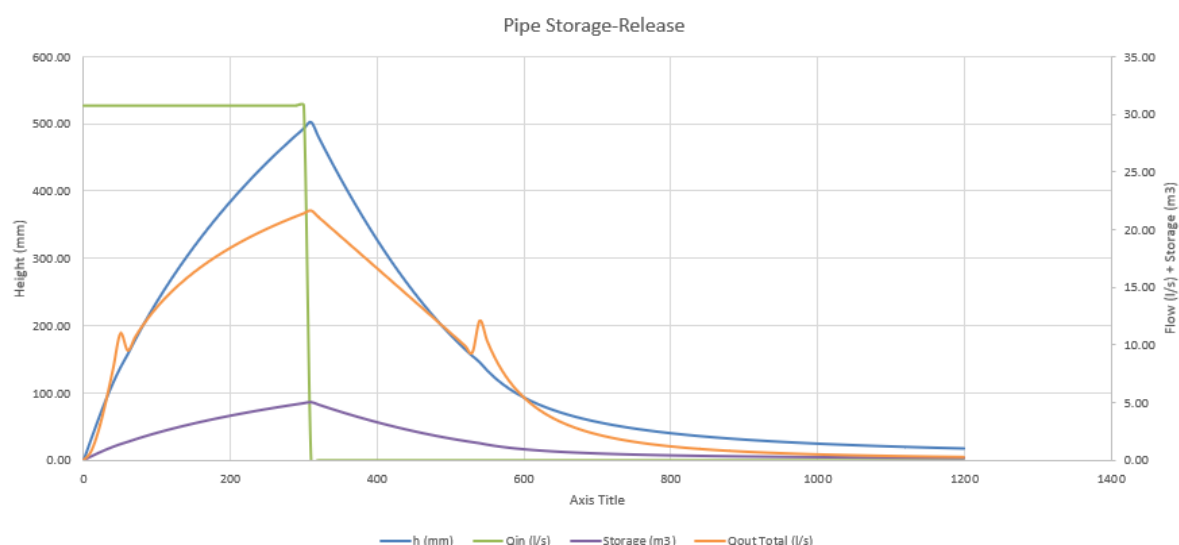


Figure 1 – Pipe Discharge-Storage Curve –5% AEP rainfall event 5min Duration

The volume utilised is 4,900 L to a depth of ~320 mm resulting in an attenuated peak outflow of 23.1 l/s.

The same conditions have been applied to other durations with the results summarised as per the below table.

Duration	Intensity (mm/hr)	Tank Storage Utilisation (kL)	Pipe Storage Utilisation (kL)	Attenuated Outflow (l/s)
5 min	85.90	5.5	5.5	28.9
10 min	64.6	7.2	4.4	28.3
15 min	52.4	<b>7.7</b>	2.6	25.7
20 min	44.6	<b>7.7</b>	2.4	22.9
30 min	35.1	7.2	2.0	19.3
1 hr	23.0	4.8	1.6	13.7
2 hr	15.4	2.5	1.3	9.34
>2 hr	<15.4	-	-	Negligible Attenuation

**Bold** Indicates Local Maximum

Table 3 – Summary of Attenuated Flows vs Duration 5% AEP

The conclusion is that both these systems combined are able to accommodate the AEP 5% flows for the full range of durations and limit the discharge to the lot connection to below pre-development levels with a peak attenuated outflow rate of 28.9 L/s (<35 l/s) occurring for the 5 min duration expected to discharge at the lot connection.

The peak combined storage utilisation of 11.6 kL (<18.9 kL provided) occurs in the 10 min duration. This is achieved by providing at least 12 kL of above ground and 6.9 kL of inherent pipe storage below ground with a 65 dia. and 150 dia. choked outlet respectively (e.g. using an orifice plate or similar).



It is notable that the peaks within the system occur under different durations. Notwithstanding it is observed that no ponding occurs for any duration as all storage is contained below ground.

A small amount of run-off (<2l/s) is generated by the laneway which will spill directly into the drainage system, making the total peak site discharge at the boundary ~27.8 L/s. As the attenuation effect controlling runoff from the development proper is more than needed the design intent is unaffected.

Calculation spreadsheets and IFD values have been provided for the critical duration(s) in Appendix A.

### 3.3.2. 1% AEP Storm Event

Given the constrained nature of the site and the desire to maintain practical surface levels and grades in the near vicinity between carpark and the main entry the approach for the major drainage system for the development is to convey a stormwater event for ARI of 100 years (1% AEP) contained within the below ground piped network. Overland flow drainage routes have been identified but are not required for normal operational circumstances, rather to provide an alternative route to alleviate flows in the case of blockage.

Following a similar rationale to the analysis in section 3.3.1 the following table summarises the storage utilisation to demonstrate that the system does not become inundated or surcharge under the AEP 1% condition:

Duration	Intensity (mm/hr)	Tank Storage Utilisation (kL)	Pipe Storage Utilisation (kL)	Water Level Above Orifice Invert (mm)
5 min	118	7.4	7.0	470
10 min	91.9	10.7	<b>7.1</b>	<b>470</b>
15 min	74.9	11.9	5.8	390
20 min*	63.5	<b>12.0</b>	4.7	320
30 min	49.2	11.5	2.5	170
1 hr	31.1	8.1	1.9	130
2 hr	15.4	4.1	1.3	90
6 hr	11.3	1.4	-	-
>6 hr	<11.3	-	-	-

**Bold** Indicates Local Maximum

\* Indicates that the above ground tank overflow activates in this duration but with negligible flow (<0.5 l/s)

**Table 3 – Summary of Storage and Level vs Duration 1% AEP**

The conclusion is that both these systems combined are able to accommodate the AEP 1% flows for the full range of durations without surcharging or ponding occurring above ground. This maintains a minimum free board of >> 300mm to the building FFL (~1.08m freeboard Based on RL of 51.300 at orifice and FFL of 52.850) under these conditions thereby satisfying the requirements of AS3500.3 for on-site detention.

### 3.3.3. Overland Flow Path

As discussed in section 3.3.2 the overland flow path is only required in the event of blockage. Therefore the system is not reliant on the overland flow path. It is however provided as a measure of resilience in the case of blockage.

#### Carpark

The scenario considered most critical/susceptible for blockage is the carpark pavement area, calculated at 600 m<sup>2</sup> of hardstand, as identified below:

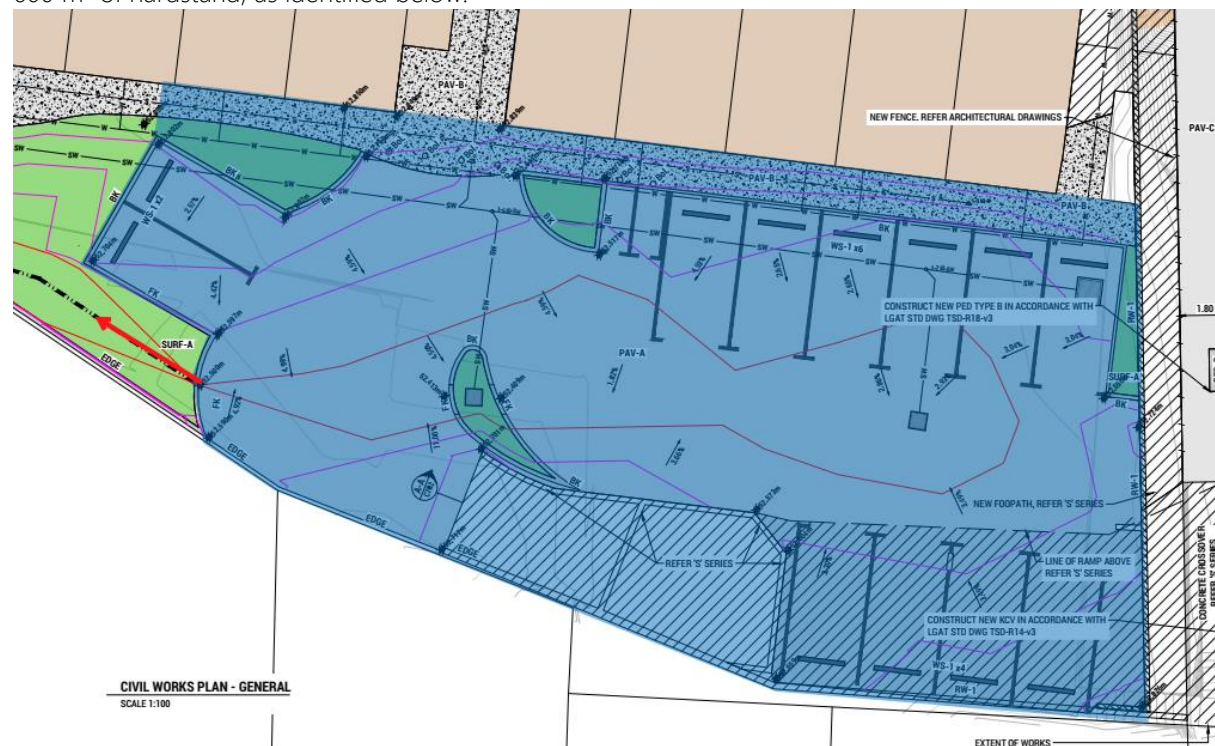


Figure 2 – Catchment Area for Critical Blockage Scenario

This area is drained by grated inlets at local sag points which can be blocked by detritus and debris under significant rainfall events. The crest to the overland flow path is marked accordingly which is the point at which any water build-up will be relieved.

From this the critical PSD considered from the 1% AEP 5min duration event can be calculated for the site using the rational method, with  $^{20}I_{5min} = 118 \text{ mm/hr}$  over the carpark pavement area (600m<sup>2</sup> with 0.95 runoff coefficient). From this the PSD is calculated as 23 l/s.

The critical cross section occurs at the weir crest point as the top water level under these conditions should not contravene 300mm freeboard to FFL. The cross section at this location (to TWL = 52.550) is a v-shaped channel section 2.25m wide with an IL=52.500 and ~50mm depth as indicated in the model cross section diagram below:

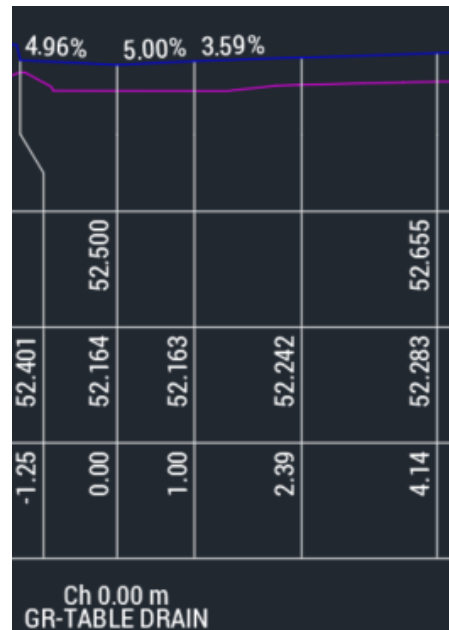


Figure 2 – Carpark Overflow V-channel Cross Section

Using the mannings equation with a coefficient of friction = 0.014 and a longitudinal gradient of 1% the capacity of this critical cross section is  $Q_{cap}=34.4$  l/s which is adequate to convey flows from the carpark catchment area in the case of 100% blockage. All other cross sections through the landscape corridor have greater capacity than this section. Further to this there is ample resilience in the system as the capacity increases dramatically with only small changes of depth as the cross section becomes considerably wider as depth increases.

#### Laneway

In the case of full site blockage (which is considered highly improbable) the laneway has been designed to carry the full site overland flow to the road reserve. The PSD considered from the 1% AEP 5min duration event can be calculated for the site using the rational method, with  $^{20}I_{5min} = 118$  mm/hr over the entire site (1950m<sup>2</sup> with 0.95 runoff coefficient). From this the PSD is calculated as 75 l/s.

The laneway is regular and the typical cross section is characterised by a v-shaped channel section 2.60m wide with a depth of ~150mm (includes 100mm barriers kerbs) as indicated in the model cross section diagram below:



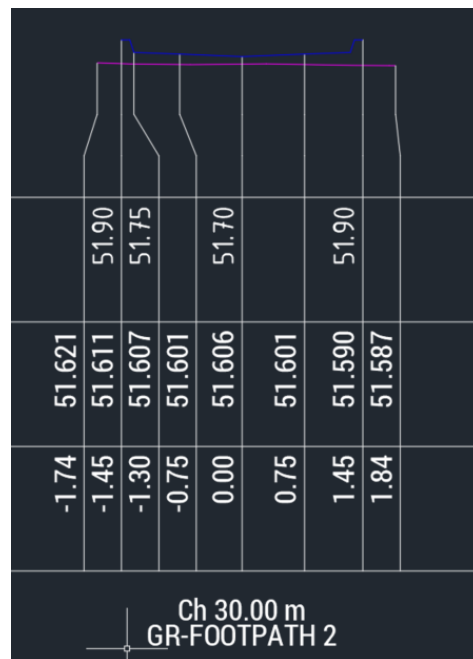


Figure 2 – Laneway Cross Section

Using the mannings equation with a coefficient of friction = 0.014 and a longitudinal gradient of 3.0% the capacity of the typical cross section is  $Q_{cap} = 423$  l/s which is adequate to convey flows from the entire site to catchment area in the case of 100% blockage in both roof and carpark areas. All other cross sections through the landscape corridor have greater capacity than this section.

In conclusion there is considerable redundancy in the drainage system to cover the AEP 1% / ARI 1:100 yr event following the hierarchy as follows:

- Design Conditions: All drainage is piped
- Blockage in carpark: Overland flow can convey flow without contravening 300mm freeboard to FFL
- Site wide blockage: Overland flows can be conveyed through the laneway

In addition to this an edging shall be provided along the Western internal boundary to provide further protection to the adjacent properties.

### 3.4. Maintenance of Detention/Storage Systems

Above ground storage systems are provided in the design. These consist of a charged drainage system discharging into above ground tanks with restricted outflows. These items are maintainable as follows:

- The charged system has been provided with a bypass and scour line draining into a dispersion pit which allows for period emptying and cleanout
- Tanks are normally fitted with an inlet grate to inhibit ingress of leaves and other coarse matter and a scour point at the base. The tanks are inspectable from surface and are normally empty in dry periods so they are able to be visually inspected periodically by removing the inlet grate and viewing the internal of the tanks. Any internal blockages can then be cleaned out by jetting or vacuum.
- The below ground pipe storage system has been provided with a grated pit at each end which facilitates visibility, accessibility and ventilation. It also provides an alternative means of surcharging in the case of blockage. The downstream pit (which contains the orifice restrictor plate) is the most

likely location for blockage. This pit and the plate are always visible through the grate and can be easily maintained by removing the grate and cleaning out.

- Upstream pipework can be periodically maintained by jetting from the upstream pit.

### 3.5. Stormwater Quality

The proposed development has been modelled using MUSICX software to design and analyse the effectiveness of proposed stormwater treatment measures to achieve the acceptable stormwater quality targets.

The proposed treatment measures for the development include installation of 3x SPEL Stormacks within the Grated Pits in the carpark in train with a SPEL Ecoceptor. Node data for these elements has been obtained from SPEL and input into the MUSICX model.

The following results have been obtained from the model:

	Sources	Residual Load	% Reduction
<b>Flow (ML/yr)</b>	0.8168	0.8168	2.718E-14
<b>Total Suspended Solids (kg/yr)</b>	145.8	26.59	81.76
<b>Total Phosphorus (kg/yr)</b>	0.2917	0.08409	71.17
<b>Total Nitrogen (kg/yr)</b>	1.883	0.8552	54.57
<b>Gross Pollutants (kg/yr)</b>	27.27	1.317	95.17

**Table 3 – MUSICX Analysis Results**

MUSICX modelling has determined that the proposed treatment train meets the required annual targets.

#### 4. SUMMARY

The proposed development incorporates a piped stormwater drainage system with on-site detention that is capable of conveying flows from the 5% AEP event whilst limiting peak discharge to pre-development levels. The piped drainage system is also able to accommodate the 1% AEP event without any surcharge or inundation under normal operating conditions. There is further resilience provided in the event of blockage with overland overflow routes provide to safely convey any bypassed flows for the 1% AEP event to the road reserve.

The proposed treatment train for the development is capable to provide stormwater treatment which meets the required reduction targets for stormwater quality.

The full proposed stormwater solution is documented in Rare project drawings 220008-C and should be viewed in conjunction with this report.

Should you have any further queries please do not hesitate to contact us.

Yours faithfully,



Brendan Stanborough  
Senior Civil Engineer | Infrastructure and Temporary Works Division Manager  
BEng(Civil) (Hons) MIEAust CPEng  
Tasmanian BSP Accreditation 951733914



Of beauty rich and rare.

**rare.**

## Appendix A – Calculation Sample and Input Data



## Location

**Label:** Not provided

**Latitude:** -42.8627 [Nearest grid cell: 42.8625 (S)]

**Longitude:** 147.3113 [Nearest grid cell: 147.3125 (E)]

## IFD Design Rainfall Intensity (mm/h)

Issued: 11 October 2022

Rainfall intensity for Durations, Exceedance per Year (EY), and Annual Exceedance Probabilities (AEP).

[FAQ for New ARR probability terminology](#)

Unit:  ▼

Duration	Annual Exceedance Probability (AEP)						
	63.2%	50%#	20%*	10%	5%	2%	1%
1 min	61.3	69.6	97.6	118	140	171	196
2 min	52.8	59.5	81.1	96.1	111	130	145
3 min	46.7	52.7	72.3	86.2	100	118	133
4 min	42.1	47.6	65.9	78.9	92.3	110	125
5 min	38.4	43.6	60.7	73.1	85.9	104	118
10 min	27.8	31.6	44.6	54.3	64.6	79.4	91.9
15 min	22.5	25.6	36.2	44.1	52.4	64.7	74.9
20 min	19.3	21.9	30.8	37.5	44.6	54.9	63.5
25 min	17.0	19.4	27.2	33.0	39.1	47.9	55.3
30 min	15.4	17.5	24.5	29.7	35.1	42.8	49.2
45 min	12.3	14.0	19.4	23.3	27.4	33.0	37.6
1 hour	10.5	11.9	16.5	19.7	23.0	27.5	31.1
1.5 hour	8.45	9.57	13.1	15.6	18.1	21.4	24.0
2 hour	7.25	8.22	11.3	13.3	15.4	18.1	20.2
3 hour	5.86	6.65	9.12	10.8	12.4	14.5	16.0
4.5 hour	4.73	5.39	7.42	8.76	10.1	11.7	13.0
6 hour	4.05	4.63	6.41	7.59	8.71	10.2	11.3
9 hour	3.24	3.72	5.20	6.18	7.13	8.40	9.37
12 hour	2.74	3.15	4.45	5.31	6.15	7.29	8.17
18 hour	2.13	2.46	3.51	4.23	4.93	5.90	6.66
24 hour	1.76	2.04	2.92	3.54	4.15	5.00	5.66
30 hour	1.50	1.74	2.51	3.05	3.59	4.34	4.93
36 hour	1.32	1.52	2.20	2.68	3.17	3.83	4.36
48 hour	1.06	1.22	1.77	2.16	2.55	3.09	3.53
72 hour	0.761	0.878	1.26	1.54	1.83	2.20	2.51
96 hour	0.598	0.688	0.983	1.19	1.41	1.69	1.92
120 hour	0.495	0.569	0.806	0.973	1.14	1.37	1.54

<b>144 hour</b>	0.425	0.487	0.685	0.823	0.960	1.14	1.29
<b>168 hour</b>	0.375	0.429	0.599	0.715	0.829	0.983	1.10

**Note:**

# The 50% AEP IFD **does not** correspond to the 2 year Average Recurrence Interval (ARI) IFD.  
Rather it corresponds to the 1.44 ARI.

\* The 20% AEP IFD **does not** correspond to the 5 year Average Recurrence Interval (ARI) IFD.  
Rather it corresponds to the 4.48 ARI.

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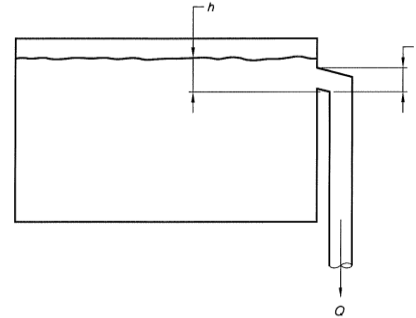
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Time Step		30 s						
t (s)	Qin (l/s)	h (mm)	Qout 1 (l/s)	Qout 2 (l/s)	Qout Total	delta s,n (l)	Storage (m3)	
0	0	13.05	0.00	0.00	0.00	0.00	391.60	0.00
1	30	13.05	65.27	1.13	0.00	1.13	357.79	0.39
2	60	13.05	124.90	1.89	0.00	1.89	334.83	0.75
3	90	13.05	180.70	2.40	0.00	2.40	319.70	1.08
4	120	13.05	233.99	2.79	0.00	2.79	307.76	1.40
5	150	13.05	285.28	3.13	0.00	3.13	297.69	1.71
6	180	13.05	334.90	3.42	0.00	3.42	288.89	2.01
7	210	13.05	383.04	3.69	0.00	3.69	281.02	2.30
8	240	13.05	429.88	3.92	0.00	3.92	273.86	2.58
9	270	13.05	475.52	4.14	0.00	4.14	267.28	2.85
10	300	13.05	520.07	4.35	0.00	4.35	261.18	3.12
11	330	13.05	563.60	4.54	0.00	4.54	255.48	3.38
12	360	13.05	606.18	4.72	0.00	4.72	250.13	3.64
13	390	13.05	647.87	4.88	0.00	4.88	245.08	3.89
14	420	13.05	688.72	5.04	0.00	5.04	240.30	4.13
15	450	13.05	728.77	5.20	0.00	5.20	235.75	4.37
16	480	13.05	768.06	5.34	0.00	5.34	231.41	4.61
17	510	13.05	806.62	5.48	0.00	5.48	227.26	4.84
18	540	13.05	844.50	5.61	0.00	5.61	223.29	5.07
19	570	13.05	881.72	5.74	0.00	5.74	219.48	5.29
20	600	13.05	918.30	5.86	0.00	5.86	215.81	5.51
21	630	13.05	954.27	5.98	0.00	5.98	212.28	5.73
22	660	13.05	989.64	6.09	0.00	6.09	208.87	5.94
23	690	13.05	1024.46	6.20	0.00	6.20	205.57	6.15
24	720	13.05	1058.72	6.31	0.00	6.31	202.39	6.35
25	750	13.05	1092.45	6.41	0.00	6.41	199.30	6.55
26	780	13.05	1125.67	6.51	0.00	6.51	196.31	6.75
27	810	13.05	1158.39	6.61	0.00	6.61	193.41	6.95
28	840	13.05	1190.62	6.70	0.00	6.70	190.60	7.14
29	870	13.05	1222.39	6.79	0.00	6.79	187.86	7.33
30	900	13.05	1253.70	6.88	0.00	6.88	185.19	7.52
31	930	0	1284.56	6.97	0.00	6.97	-209.00	7.71
32	960	0	1249.73	6.87	0.00	6.87	-206.07	7.50
33	990	0	1215.38	6.77	0.00	6.77	-203.14	7.29
34	1020	0	1181.53	6.67	0.00	6.67	-200.22	7.09
35	1050	0	1148.16	6.58	0.00	6.58	-197.29	6.89
36	1080	0	1115.28	6.48	0.00	6.48	-194.36	6.69
37	1110	0	1082.88	6.38	0.00	6.38	-191.43	6.50
38	1140	0	1050.98	6.28	0.00	6.28	-188.50	6.31
39	1170	0	1019.56	6.19	0.00	6.19	-185.57	6.12
40	1200	0	988.63	6.09	0.00	6.09	-182.64	5.93
41	1230	0	958.19	5.99	0.00	5.99	-179.71	5.75
42	1260	0	928.24	5.89	0.00	5.89	-176.78	5.57
43	1290	0	898.78	5.79	0.00	5.79	-173.85	5.39
44	1320	0	869.81	5.70	0.00	5.70	-170.91	5.22
45	1350	0	841.32	5.60	0.00	5.60	-167.98	5.05
46	1380	0	813.32	5.50	0.00	5.50	-165.05	4.88
47	1410	0	785.81	5.40	0.00	5.40	-162.11	4.71
48	1440	0	758.80	5.31	0.00	5.31	-159.18	4.55
49	1470	0	732.27	5.21	0.00	5.21	-156.25	4.39
50	1500	0	706.22	5.11	0.00	5.11	-153.31	4.24
51	1530	0	680.67	5.01	0.00	5.01	-150.38	4.08
52	1560	0	655.61	4.91	0.00	4.91	-147.44	3.93
53	1590	0	631.04	4.82	0.00	4.82	-144.50	3.79
54	1620	0	606.95	4.72	0.00	4.72	-141.57	3.64
55	1650	0	583.36	4.62	0.00	4.62	-138.63	3.50
56	1680	0	560.25	4.52	0.00	4.52	-135.69	3.36
57	1710	0	537.64	4.43	0.00	4.43	-132.75	3.23
58	1740	0	515.51	4.33	0.00	4.33	-129.81	3.09
59	1770	0	493.88	4.23	0.00	4.23	-126.87	2.96
60	1800	0	472.73	4.13	0.00	4.13	-123.93	2.84

Climate	Catchment	Runoff	Tank		Tank fill		Sump Outlet Capacity Calculator	
Rainfall (mm/hr)	Change	Coeficient	Qin (l/s)	d 1 (mm)	Area (m2)	rate (l/mm)	SF	
52.40	0.18	800.00	0.95	13.05	65	6	6.00	1

High Overflow d 2 (mm)	Height 2 (mm)
Yes	150 2000

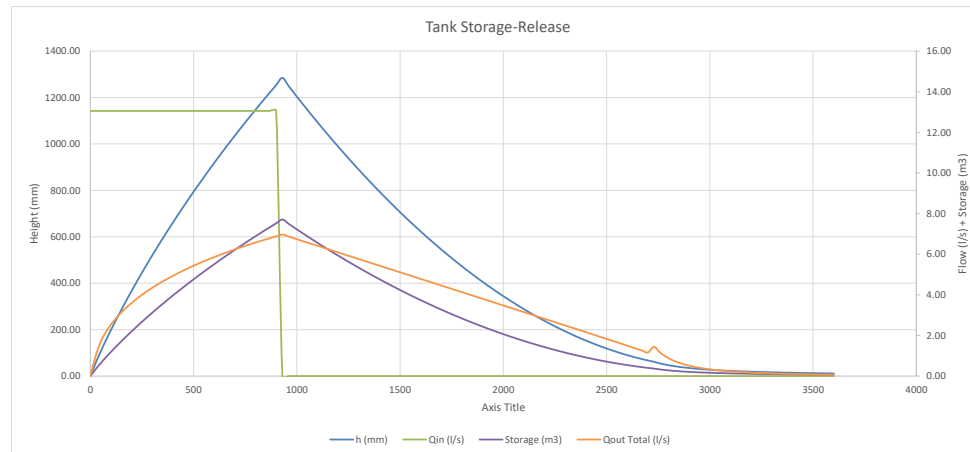


Flow rates shall be determined from the following equations:

$$\begin{aligned} \text{Weir flow, } h \leq d & \quad Q = 4.66 \times 10^{-6} \times d^{0.7} \times h^{1.8} \\ \text{Orifice flow, } h > d & \quad Q = 4.66 \times 10^{-6} \times d^2 \times \sqrt{h - d/2} \end{aligned}$$

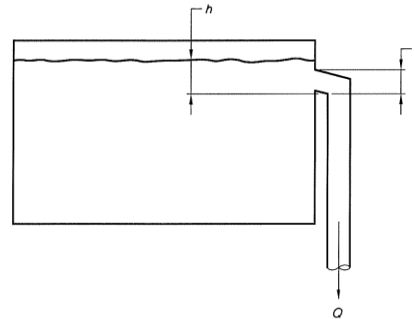
Totals	Storage by Height	Volume In	Discharged Volume	Storage by Change in Volume	litres
	Height	Volume In	Discharged Volume	in Volume	
	7707.38	12139.68	4432.31	7707.38	

If h0 is set to pipe diameter analysis assumes that pipe is at invert of tank and already inundated at start of event



Time Step								10 s
t (s)	Qin (l/s)	h (mm)	Qout 1 (l/s)	Qout 2 (l/s)	Qout Total	delta s,n (l)	Storage (m3)	
0	0	30.76	0.00	0.00	0.00	0.00	307.61	0.00
1	10	30.76	20.51	0.41	0.00	0.41	303.55	0.31
2	20	30.76	40.74	1.40	0.00	1.40	293.64	0.61
3	30	30.76	60.32	2.83	0.00	2.83	279.30	0.90
4	40	30.76	78.94	4.59	0.00	4.59	261.66	1.18
5	50	30.76	96.38	6.58	0.00	6.58	241.80	1.45
6	60	30.76	112.50	8.69	0.00	8.69	220.67	1.69
7	70	30.76	127.21	10.85	0.00	10.85	199.15	1.91
8	80	30.76	140.49	12.97	0.00	12.97	177.93	2.11
9	90	30.76	152.35	15.00	0.00	15.00	157.56	2.29
10	100	30.76	162.86	16.92	0.00	16.92	138.43	2.44
11	110	30.76	172.09	18.68	0.00	18.68	120.79	2.58
12	120	30.76	180.14	14.33	0.00	14.33	164.26	2.70
13	130	30.76	191.09	15.18	0.00	15.18	155.80	2.87
14	140	30.76	201.48	15.94	0.00	15.94	148.19	3.02
15	150	30.76	211.36	16.63	0.00	16.63	141.28	3.17
16	160	30.76	220.77	17.27	0.00	17.27	134.95	3.31
17	170	30.76	229.77	17.85	0.00	17.85	129.11	3.45
18	180	30.76	238.38	18.39	0.00	18.39	123.69	3.58
19	190	30.76	246.62	18.90	0.00	18.90	118.65	3.70
20	200	30.76	254.53	19.37	0.00	19.37	113.94	3.82
21	210	30.76	262.13	19.81	0.00	19.81	109.52	3.93
22	220	30.76	269.43	20.22	0.00	20.22	105.36	4.04
23	230	30.76	276.45	20.62	0.00	20.62	101.44	4.15
24	240	30.76	283.22	20.99	0.00	20.99	97.73	4.25
25	250	30.76	289.73	21.34	0.00	21.34	94.22	4.35
26	260	30.76	296.01	21.67	0.00	21.67	90.89	4.44
27	270	30.76	302.07	21.99	0.00	21.99	87.73	4.53
28	280	30.76	307.92	22.29	0.00	22.29	84.72	4.62
29	290	30.76	313.57	22.58	0.00	22.58	81.85	4.70
30	300	30.76	319.03	22.85	0.00	22.85	79.11	4.79
31	310	0	324.30	23.11	0.00	23.11	-231.11	4.86
32	320	0	308.89	22.34	0.00	22.34	-223.38	4.63
33	330	0	294.00	21.56	0.00	21.56	-215.65	4.41
34	340	0	279.63	20.79	0.00	20.79	-207.91	4.19
35	350	0	265.76	20.02	0.00	20.02	-200.17	3.99
36	360	0	252.42	19.24	0.00	19.24	-192.42	3.79
37	370	0	239.59	18.47	0.00	18.47	-184.67	3.59
38	380	0	227.28	17.69	0.00	17.69	-176.90	3.41
39	390	0	215.49	16.91	0.00	16.91	-169.13	3.23
40	400	0	204.21	16.14	0.00	16.14	-161.36	3.06
41	410	0	193.46	15.36	0.00	15.36	-153.57	2.90
42	420	0	183.22	14.58	0.00	14.58	-145.77	2.75
43	430	0	173.50	13.96	0.00	13.96	-139.59	2.60
44	440	0	160.86	16.55	0.00	16.55	-165.46	2.41
45	450	0	149.83	14.56	0.00	14.56	-145.60	2.25
46	460	0	140.12	12.91	0.00	12.91	-129.06	2.10
47	470	0	131.52	11.51	0.00	11.51	-115.15	1.97
48	480	0	123.84	10.33	0.00	10.33	-103.33	1.86
49	490	0	116.95	9.32	0.00	9.32	-93.22	1.75
50	500	0	110.74	8.45	0.00	8.45	-84.49	1.66
51	510	0	105.11	7.69	0.00	7.69	-76.91	1.58
52	520	0	99.98	7.03	0.00	7.03	-70.29	1.50
53	530	0	95.29	6.45	0.00	6.45	-64.47	1.43
54	540	0	90.99	5.93	0.00	5.93	-59.33	1.36
55	550	0	87.04	5.48	0.00	5.48	-54.77	1.31
56	560	0	83.39	5.07	0.00	5.07	-50.71	1.25
57	570	0	80.01	4.71	0.00	4.71	-47.07	1.20
58	580	0	76.87	4.38	0.00	4.38	-43.80	1.15
59	590	0	73.95	4.08	0.00	4.08	-40.85	1.11
60	600	0	71.23	3.82	0.00	3.82	-38.18	1.07

Rainfall (mm/hr)	Climate Change	Catchment (m2)	Runoff Coefficient	Qin (l/s)	d 1 (mm)	Pipe Average Area (m2)	Pipe Average fill rate (l/mm)	SF	Sump Outlet Capacity Calculator
85.90	0.18	1150.00	0.95	30.76	180	15	15.00	1	
High Overflow d 2 (mm)					Height 2 (mm)				
No									

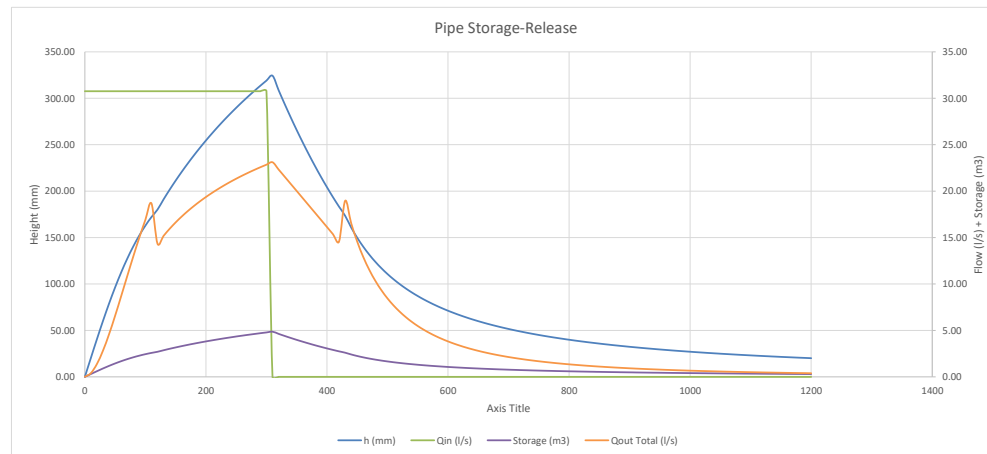


Flow rates shall be determined from the following equations:

Weir flow,  $h \leq d$   $Q = 4.66 \times 10^{-6} \times d^{0.7} \times h^{1.8}$   
Orifice flow,  $h > d$   $Q = 4.66 \times 10^{-6} \times d^2 \times \sqrt{h - d/2}$

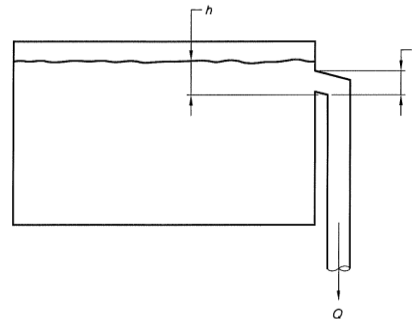
Totals	Storage by		Storage by Change		litres
	Height	Volume In	Discharged Volume	in Volume	
	4864.53	9535.77	4671.24	4864.53	

If h0 is set to pipe diameter analysis assumes that pipe is at invert of tank and already inundated at start of event



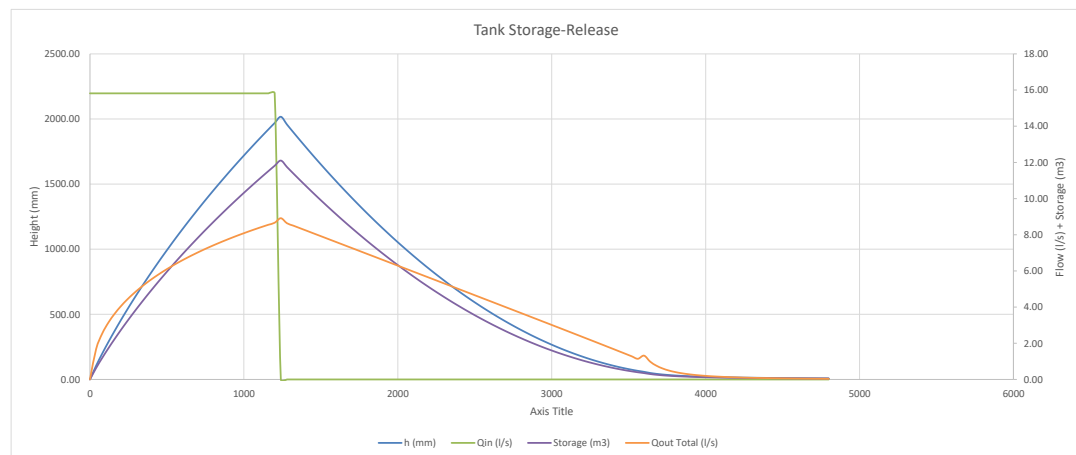
40

High Overflow d 2 (mm)	Height 2 (mm)
Yes	150
	2000



Weir flow, $h \leq d$	$Q = 4.66 \times 10^{-5} \times d^{0.7} \times h^{1.8}$
Orifice flow, $h > d$	$Q = 4.66 \times 10^{-5} \times d^2 \times \sqrt{(h-d/2)}$

*If  $h_0$  is set to pipe diameter analysis assumes that pipe is at invert of tank and already inundated at start of event*



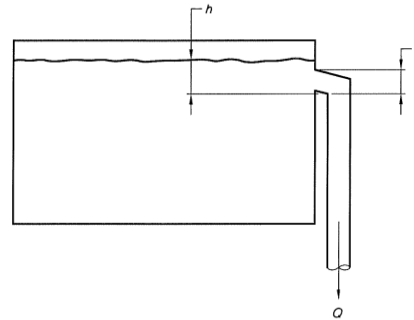


Time Step							
t (s)	Qin (l/s)	h (mm)	Qout 1 (l/s)	Qout 2 (l/s)	Qout Total	delta s,n (l)	Storage (m3)
0	32.91	0.00	0.00	0.00	0.00	658.18	0.00
1	20	32.91	43.88	1.60	0.00	1.60	626.26
2	40	32.91	85.63	5.32	0.00	5.32	551.81
3	60	32.91	122.42	10.12	0.00	10.12	455.78
4	80	32.91	152.80	15.08	0.00	15.08	356.51
5	100	32.91	176.57	19.57	0.00	19.57	266.84
6	120	32.91	194.36	15.42	0.00	15.42	349.70
7	140	32.91	217.67	17.06	0.00	17.06	316.98
8	160	32.91	238.80	18.42	0.00	18.42	289.83
9	180	32.91	258.13	19.58	0.00	19.58	266.64
10	200	32.91	275.90	20.59	0.00	20.59	246.46
11	220	32.91	292.33	21.48	0.00	21.48	228.65
12	240	32.91	307.58	22.27	0.00	22.27	212.77
13	260	32.91	321.76	22.99	0.00	22.99	198.48
14	280	32.91	334.99	23.63	0.00	23.63	185.54
15	300	32.91	347.36	24.22	0.00	24.22	173.75
16	320	32.91	358.94	24.76	0.00	24.76	162.97
17	340	32.91	369.81	25.26	0.00	25.26	153.07
18	360	32.91	380.01	25.71	0.00	25.71	143.94
19	380	32.91	389.61	26.13	0.00	26.13	135.50
20	400	32.91	398.64	26.53	0.00	26.53	127.68
21	420	32.91	407.15	26.89	0.00	26.89	120.41
22	440	32.91	415.18	27.23	0.00	27.23	113.65
23	460	32.91	422.76	27.54	0.00	27.54	107.34
24	480	32.91	429.92	27.84	0.00	27.84	101.45
25	500	32.91	436.68	28.11	0.00	28.11	95.94
26	520	32.91	443.07	28.37	0.00	28.37	90.78
27	540	32.91	449.13	28.61	0.00	28.61	85.93
28	560	32.91	454.86	28.84	0.00	28.84	81.39
29	580	32.91	460.28	29.05	0.00	29.05	77.12
30	600	32.91	465.42	29.25	0.00	29.25	73.10
31	620	0	470.30	29.44	0.00	29.44	-588.87
32	640	0	431.04	27.88	0.00	27.88	-557.65
33	660	0	393.86	26.32	0.00	26.32	-526.38
34	680	0	358.77	24.75	0.00	24.75	-495.05
35	700	0	325.76	23.18	0.00	23.18	-463.66
36	720	0	294.85	21.61	0.00	21.61	-432.20
37	740	0	266.04	20.03	0.00	20.03	-400.65
38	760	0	239.33	18.45	0.00	18.45	-369.01
39	780	0	214.73	16.86	0.00	16.86	-337.25
40	800	0	192.25	15.27	0.00	15.27	-305.34
41	820	0	171.89	13.64	0.00	13.64	-273.27
42	840	0	147.03	14.07	0.00	14.07	-281.48
43	860	0	128.27	11.01	0.00	11.01	-220.15
44	880	0	113.59	8.84	0.00	8.84	-176.90
45	900	0	101.80	7.26	0.00	7.26	-145.22
46	920	0	92.12	6.07	0.00	6.07	-121.31
47	940	0	84.03	5.14	0.00	5.14	-102.82
48	960	0	77.17	4.41	0.00	4.41	-88.22
49	980	0	71.29	3.82	0.00	3.82	-76.49
50	1000	0	66.19	3.35	0.00	3.35	-66.92
51	1020	0	61.73	2.95	0.00	2.95	-59.02
52	1040	0	57.80	2.62	0.00	2.62	-52.42
53	1060	0	54.30	2.34	0.00	2.34	-46.86
54	1080	0	51.18	2.11	0.00	2.11	-42.12
55	1100	0	48.37	1.90	0.00	1.90	-38.05
56	1120	0	45.83	1.73	0.00	1.73	-34.53
57	1140	0	43.53	1.57	0.00	1.57	-31.47
58	1160	0	41.43	1.44	0.00	1.44	-28.80
59	1180	0	39.51	1.32	0.00	1.32	-26.44
60	1200	0	37.75	1.22	0.00	1.22	-24.35

Rainfall (mm/hr)	Climate Change	Catchment (m2)	Runoff Coefficient	Qin (l/s)	d 1 (mm)	Pipe Average Area (m2)	Pipe Average fill rate (l/mm)	SF
91.90	0.18	1150.00	0.95	32.91	180	15	15.00	1

High Overflow d 2 (mm) Height 2 (mm)

No



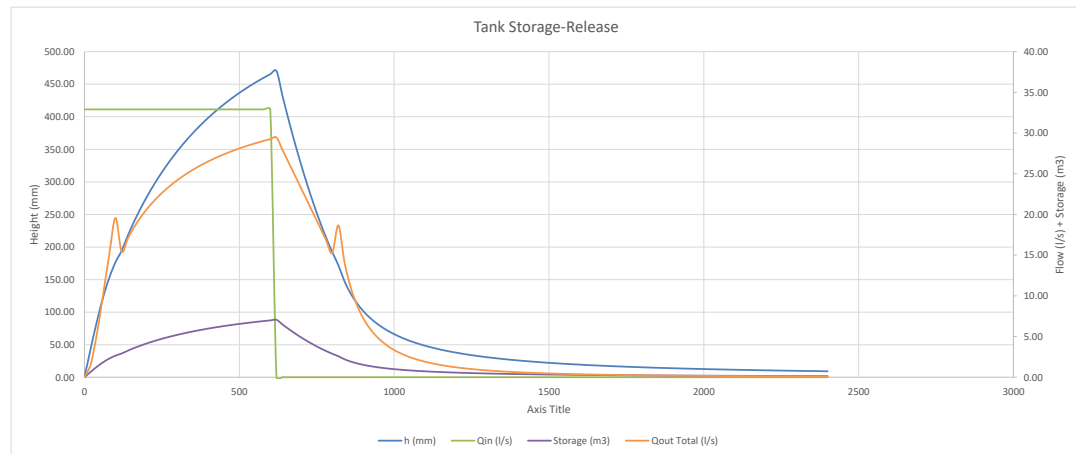
Flow rates shall be determined from the following equations:

Weir flow,  $h \leq d$   $Q = 4.66 \times 10^{-6} \times d^{0.7} \times h^{1.8}$

Orifice flow,  $h > d$   $Q = 4.66 \times 10^{-6} \times d^2 \times \sqrt{h - d/2}$

Totals	Storage by		Storage by Change	
	Height	Volume In	Discharged Volume	in Volume
	7054.43	20403.66	13349.24	7054.43

If h0 is set to pipe diameter analysis assumes that pipe is at invert of tank and already inundated at start of event



For a Trapezoidal channel

Top Width	2250	mm
Base Width	0	mm
Depth	50	mm
Angle	2.55	deg
Freeboard	0	mm
Flow Depth	50	mm
Slope	1.00%	
mannings		
co-		
efficient	0.014	

Ah	5.62E+04	mm2
	0.056176	m2

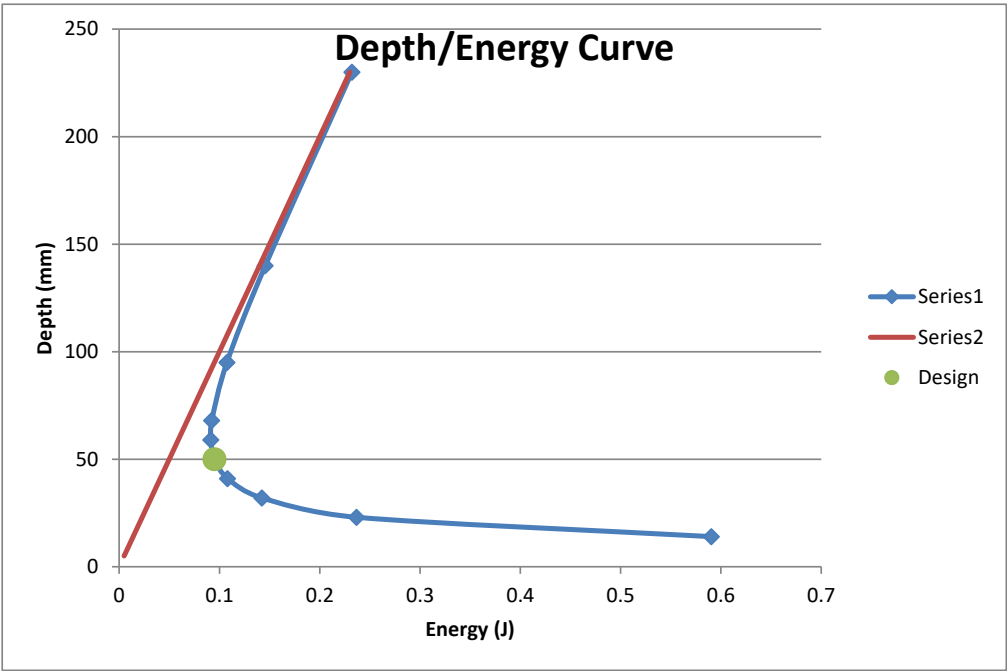
Rh	24.975	mm
	0.025	m

Velocity		
(V)	0.61	m/s

Flow		
(Q)	0.03428	m3/s
	34.28	l/s

Froude	
(Fr)	0.87
	Sub-Critical

Chart Scaling	0.18
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For a Trapezoidal channel

Top Width	2600	mm
Base Width	0	mm
Depth	150	mm
Angle	6.64	deg
Freeboard	0	mm
Flow Depth	150	mm
Slope	3.00%	
mannings		
co-		
efficient	0.014	

Ah	1.93E+05	mm2
	0.193264	m2

Rh	74.497	mm
	0.074	m

Velocity		
(V)	2.19	m/s

Flow		
(Q)	0.42333	m3/s
	423.33	l/s

Froude	
(Fr)	1.81
	Super-Critical

Chart Scaling	0.18
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