DEVELOPMENT APPLICATION

APPLICATION NUMBER:	PLN-25-223
PROPOSED DEVELOPMENT:	Multiple Dwellings (1 existing and 4 new)
LOCATION:	40 Central Avenue Moonah
APPLICANT:	Woolcott Land Services
ADVERTISING START DATE:	19/12/2025
ADVERTISING EXPIRY DATE:	13/01/2026

Plans and documentation are available for inspection at Council's Offices, located at 374 Main Road, Glenorchy between 8.30 am and 5.00 pm, Monday to Friday (excluding public holidays) and the plans are available on Glenorchy City Council's website (**www.gcc.tas.gov.au**) until **13/01/2026.**

During this time, any person may make representations relating to the applications by letter addressed to the Chief Executive Officer, Glenorchy City Council, PO Box 103, Glenorchy 7010 or by email to gccmail@gcc.tas.gov.au.

Representations must be received by no later than 11.59 pm on **13/01/2026,** or for postal and hand delivered representations, by 5.00 pm on **13/01/2026.**

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August 2025

PLANNING REPORT

MULTIPLE DWELLINGS - 5 Units

40 Central Avenue MOONAH

Woolcott LAND SERVICES

EAST COAST SURVEYING
CONSULTING SURVEYORS & LAND PLANNERS

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Rev.no	Description	Date
1	Version	15 July 2025
2	Version	28 July 2025
3	Final	7 August 2025
4	Review	6 October 2025
5	Revision	12 November 2025
6	Final	11 December 2025

References

Annexures

Annexure 1 Copy of Title plan and Folio text
Annexure 2 Site Plan and building design
Annexure 3 Traffic Impact Assessment (TIA)
Annexure 4 Preliminary civil design and stormwater report

Contents

1. Introduction

This report has been prepared in support of a planning permit application under Section 57 of the *Land Use Planning and Approvals Act 1993*.

Proposed development
Development of multiple dwellings on the lot (4 dwellings) with 1 existing dwelling.

This application is to be read in conjunction with the following supporting documentation:

Document	**Consultant**
Proposal Plan & building design	Jaws Architects
Traffic Impact Assessment	Midson traffic Pty Ltd.
Stormwater Management Report and calculations	Collective Consulting
Preliminary civil design	Collective Consulting

2. Subject site and proposal

2.1 Site details

Address	40 Central Avenue, Moonah TAS 7009 *44-46 Central Avenue, Moonah TAS 7009 (stormwater connection)*
Property ID	5414683 *5414704*
Title	55187/121 *59654/4*
Land area	1087m^2 (estimated from title)
Planning Authority	Glenorchy Council
Planning Scheme	Tasmanian Planning Scheme – Glenorchy (Scheme)
Easements	None on title
Application status	Discretionary
Existing Access	Single access from Central Avenue
Zone	Inner Residential
General Overlay	None

Overlays	None
Existing development	Single dwelling
Existing services and infrastructure	
Water	Serviced
Sewer	Serviced
Stormwater	Serviced

2.2 Proposal

The proposal is for the development of 4 dwellings on the site to make a total of 5 dwellings on the site. The development will include demolition of the existing outbuilding and car port (and includes tree removal) and will also include one new vehicle access.

The four proposed dwellings will each be 2 storeys with living and kitchen areas on the ground floor, two bedrooms, two bathrooms and study on the first floor. Each dwelling has private open space on the ground floor and as a balcony. Two car parking spaces are provided for each dwelling.

The existing dwelling will have minor alterations including a replacement window on the south, west and north elevations. Those windows near to the driveway will have opaque finish to ensure privacy. The existing dwelling's vehicle access will be retained and the car port will be demolished with space for two car parks retained.

A stormwater connection is proposed to connect to the public stormwater system at 44-46 Central Avenue; as such, this lot is included to the application.

2.3 Subject site

The subject site for development is identified as 40 Central Avenue, Moonah, Volume 55187 Folio 121. The site is a single lot of approximately 1087m^2 according to title, and 1107m^2 based on survey. It is located on the west side of Central Avenue and it is around 400m west of Brooker Highway.

The site includes an existing dwelling with outbuilding and car port with vehicle crossing from Central Avenue.

The land is gently sloped downwards towards the west.

2.4 Images

Figure 1 Aerial view of the subject site (Source: LIST)

Figure 2 Subject site – as existing from Central Avenue

Figure 3 Subject site – view along south boundary from frontage.

Figure 4 Subject site – view along south boundary

Figure 5 View towards rear of site. Existing outbuilding to be removed.

Figure 6 Showing rear of existing dwelling

Figure 7 Looking east over subject site

3. Zone and overlays

3.1 Zoning

The site is zoned Inner Residential under the Scheme.

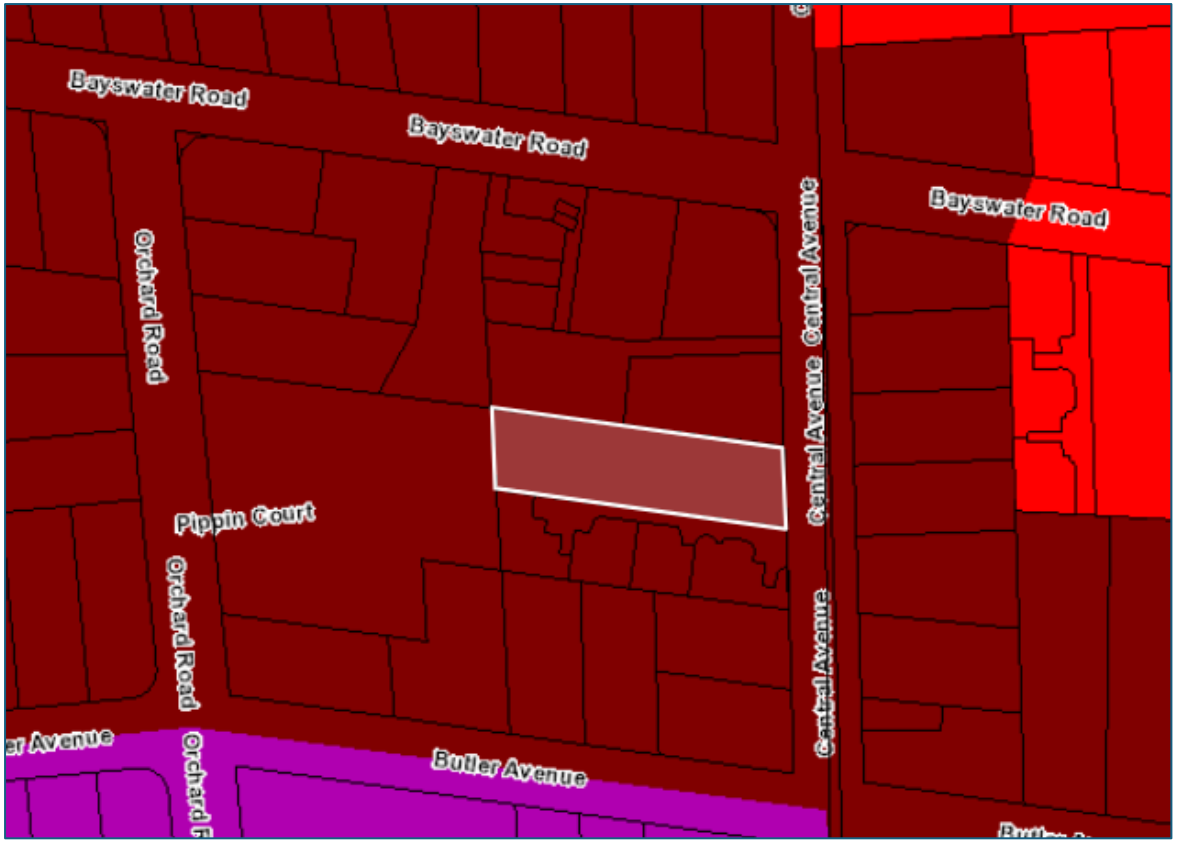

Figure 8 Zoning for the subject site and surrounding area (Source: LIST)

3.2 Overlays

The subject site is not affected by any General or Code overlays.

Figure 9 Showing overlays in the surrounding area (source: LIST)

4. Planning Scheme Assessment

4.1 Zone assessment

9.0 Inner Residential Zone

9.1 Zone Purpose

9.1.1	To provide for a variety of residential use or development that accommodates a range of dwelling types at higher densities.
9.1.2	To provide for the efficient utilisation of available social, transport and other service infrastructure.
9.1.3	To provide for non-residential use that: a. primarily serves the local community; and b. does not cause an unreasonable loss of amenity through scale, intensity, noise, activity outside of business hours, traffic generation and movement, or other off site impacts.
9.1.4	To provide for Visitor Accommodation that is compatible with residential character.

Response

The proposed residential use and development is in accord with the purpose of the zone. The Use is Permitted, as such, the Use standards of the zone are not addressed in this report.

9.4 Development Standards for Dwellings

9.4.1 Residential density for multiple dwellings

Objective	
That the density of multiple dwellings: a. makes efficient use of land for housing; and b. optimises the use of infrastructure and community services.	
Acceptable Solutions	**Performance Criteria**
A1 Multiple dwellings must have a site area per dwelling of not less than 200m^2.	P1 Multiple dwellings must only have a site area per dwelling less than 200m^2 if: a) the development contributes to a range of dwelling types and sizes appropriate to the surrounding area; or b) the development provides for a specific accommodation need with significant social or community benefit.

Response

A1 The acceptable solution is achieved. The calculated density is 206m^2 per dwelling based on surveyed land area (1107m^2) minus the access strip (access strip being 3m x 25m) resulting in 1032m^2 site area for 5 dwellings.

9.4.2 Setbacks and building envelope for all dwellings

Objective	
The siting and scale of dwellings: a. provides reasonably consistent separation between dwellings and their frontage within a street; b. provides consistency in the apparent scale, bulk, massing and proportion of dwellings; c. provides separation between dwellings on adjoining properties to allow reasonable opportunity for daylight and sunlight to enter habitable rooms and private open space.	
Acceptable Solutions	**Performance Criteria**
A1 Unless within a building area on a sealed plan, a dwelling, excluding garages, carports and protrusions that extend not more than 0.9m into the frontage setback, must have a setback from a frontage that is: 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, from the primary frontage, of any existing dwelling on the site; 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; 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 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.	P1 A dwelling must have a setback from a frontage that is compatible with the streetscape, having regard to any topographical constraints.

Response

A1 The acceptable solution is achieved. The setback is existing; existing dwelling to the primary frontage.

A2 A garage or carport for a dwelling must have a setback from a primary frontage of not less than: a) 4m, or alternatively 1m behind the building line; b) the same as the building line, if a portion of the dwelling gross floor	P2 A garage or carport for a dwelling 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.

area is located above the garage or carport; or c) 1m, if the existing ground level slopes up or down at a gradient steeper than 1 in 5 for a distance of 10m from the frontage.	

Response

A1 The acceptable solution is achieved. The proposed car ports are all behind the building line of the existing dwelling.

A3 A dwelling, excluding outbuildings with a building height of not more than 2.4m and protrusions that extend not more than 0.9m horizontally beyond the building envelope, must: a) be contained within a building envelope (refer to Figures 9.1, 9.2 and 9.3) determined by: i. a distance equal to the frontage setback or, for an internal lot, a distance of 3m from the rear boundary of a property with an adjoining frontage; and ii. projecting a line at an angle of 45 degrees from the horizontal at a height of 3m above existing ground level at the side and rear boundaries to a building height of not more than 9.5m above existing ground level; and b) only have a setback of less than 1.5m from a side or rear boundary if the dwelling: i. does not extend beyond an existing building built on or within 0.2m of the boundary of the adjoining property; or ii. does not exceed a total length of 9m or one third the length of the side boundary (whichever is the lesser).	P3 The siting and scale of a dwelling must: a) not cause an unreasonable loss of amenity to adjoining properties, having regard to: i. reduction in sunlight to a habitable room (other than a bedroom) of a dwelling on an adjoining property; ii. overshadowing the private open space of a dwelling on an adjoining property; iii. overshadowing of an adjoining vacant property; and iv. visual impacts caused by the apparent scale, bulk or proportions of the dwelling when viewed from an adjoining property; b) provide separation between dwellings on adjoining properties that is consistent with that existing on established properties in the area; and c) not cause an unreasonable reduction in sunlight to an existing solar energy installation on: i. an adjoining property; or ii. another dwelling on the same site.

Response

A3 The acceptable solution is met. All buildings are within the building envelope. Setbacks are achieved.

9.4.3 Site coverage and private open space for all dwellings

Objective
That dwellings are compatible with the amenity and character of the area and provide: a. for outdoor recreation and the operational needs of the residents; b. opportunities for the planting of gardens and landscaping; and

c. private open space that is conveniently located and has access to sunlight.

Acceptable Solutions	Performance Criteria
A1 Dwellings must have: a) a site coverage of not more than 65% (excluding eaves up to 0.6m wide); and b) for multiple dwellings, a total area of private open space of not less than 40m^2 associated with each dwelling, unless the dwelling has a finished floor level that is entirely more than 1.8m above the finished ground level (excluding a garage, carport or entry foyer).	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 with dimensions that are appropriate for the size of the dwelling and is able to accommodate: i. outdoor recreational space consistent with the projected requirements of the occupants and, for multiple dwellings, take into account any common open space provided for this purpose within the development; and ii. operational needs, such as clothes drying and storage; and c) reasonable space for the planting of gardens and landscaping.

Response

P1 The performance criteria are addressed.

a. The acceptable solution for site coverage is achieved at 47 percent.

b. Unit 4 will have 49m^2 of private open space (POS) on the ground floor, meeting the acceptable solutions. The existing dwelling will retain sufficient POS, 47m^2, at the north of the dwelling, together with the front yard.

Units 1-3 are each 2 bedroom and will each have 18m^2 of POS on the ground floor (north facing), together with 4m^2 balcony (south facing).

i. The ground floor open space is a compact but a well dimensioned space to allow for low impact outdoor activities with low maintenance requirements.

ii. The outdoor space can allow for operational needs commensurate to the projected need of the occupants, being a small household.

c. The ground floor POS for each unit provides for gardens and landscaping opportunities. The existing dwelling will retain front and rear garden.

The site is within walking distance of a park (7 Gormanston Road) and outdoor sports centre (37 Bayswater Road), and the neighbourhood is well provided with pedestrian infrastructure to allow for public open space leisure opportunities together with private open space enjoyment.

A2	A dwelling must have private open space that: a) is in one location and is not less than:	P2	A dwelling must have private open space that includes an area capable of serving as an extension of the dwelling for outdoor relaxation, dining,

i. 24m^2; or ii. 12m^2, if the dwelling is a multiple dwelling with a finished floor level that is entirely more than 1.8m above the finished ground level (excluding a garage, carport or entry foyer); b) has a minimum horizontal dimension of not less than: i. 4m; or ii. 2m, if the dwelling is a multiple dwelling with a finished floor level that is entirely more than 1.8m above the finished ground level (excluding a garage, carport or entry foyer); 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 d) has a gradient not steeper than 1 in 10.	entertaining and children's play and is: a) conveniently located in relation to a living area of the dwelling; and b) orientated to take advantage of sunlight

Response

P2 The performance criteria are addressed. Each dwelling has private open space (POS) allocated, but the minimum dimension is 2.5m. The POS is adequate in area and dimension to allow an outdoor extension of living areas.

a. each dwelling POS is located as accessible from the ground floor living area. Each dwelling will also have a 4m^2 balcony accessible from a bedroom.

b. The ground floor POS for each dwelling is north facing and will have maximum access to available sunlight.

9.4.4 Sunlight to private open space of multiple dwellings

Objective	
That the separation between multiple dwellings provides reasonable opportunity for sunlight to private open space for dwellings on the same site.	
Acceptable Solutions	Performance Criteria
A1 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 8.4.3, must satisfy (a) or (b), unless excluded by (c): a) the multiple dwelling is contained within a line projecting (see Figure 8.4): i. at a distance of 3m from the northern edge of the private open space; and ii. vertically to a height of 3m above	P1 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 8.4.3 of this planning scheme.

existing ground level and then at an angle of 45 degrees from the horizontal; b) the multiple dwelling does not cause 50% of the private open space to receive less than 3 hours of sunlight between 9.00am and 3.00pm on 21st June; and c) this Acceptable Solution excludes that part of a multiple dwelling consisting of: i. an outbuilding with a building height not more than 2.4m; or ii. protrusions that extend not more than 0.9m horizontally from the multiple dwelling.	

Response

A1 The acceptable solution is achieved. No one dwelling is to the north of another on the lot.

9.4.5 Width of openings for garages and carports for all dwellings

Objective	
To reduce the potential for garage or carport openings to dominate the primary frontage.	
Acceptable Solutions	Performance Criteria
A1 A garage or carport for a dwelling within 12m 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 6m or half the width of the frontage (whichever is the lesser).	P1 A garage or carport for a dwelling 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.

Response

A1 The acceptable solution is achieved.

9.4.6 Privacy for all dwellings

Objective	
To provide a reasonable opportunity for privacy for dwellings.	
Acceptable Solutions	Performance Criteria
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 1m above existing ground level must have a permanently fixed screen to a height of not less than 1.7m above the finished surface or floor level, with a uniform transparency of not more than 25%, along	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 1m above existing ground level, must be screened, or otherwise designed, to minimise overlooking of: a) a dwelling on an adjoining property or its private open space; or

	the sides facing a: a) side boundary, unless the balcony, deck, roof terrace, parking space, or carport has a setback of not less than 3m from the side boundary; b) rear boundary, unless the balcony, deck, roof terrace, parking space, or carport has a setback of not less than 4m from the rear boundary; and c) dwelling on the same site, unless the balcony, deck, roof terrace, parking space, or carport is not less than 6m: i. from a window or glazed door, to a habitable room of the other dwelling on the same site; or ii. from a balcony, deck, roof terrace or the private open space of the other dwelling on the same site.	b) another dwelling on the same site or its private open space.

Response

A1 The acceptable solution is achieved.

Each unit has a balcony that is more than 3m from the side or rear boundary. Each balcony includes screening to not more than 25 percent transparency where the balcony faces a window.

A2	A window or glazed door to a habitable room of a dwelling, that has a floor level more than 1m above existing ground level, must satisfy (a), unless it satisfies (b): a) the window or glazed door: i. is to have a setback of not less than 3m from a side boundary; ii. is to have a setback of not less than 4m from a rear boundary; iii. if the dwelling is a multiple dwelling, is to be not less than 6m from a window or glazed door, to a habitable room, of another dwelling on the same site; and iv. if the dwelling is a multiple dwelling, is to be not less than 6m from the private open space of another dwelling on the same site. b) the window or glazed door: i. is to be offset, in the horizontal plane, not less than 1.5m from the edge of a window or glazed door, to a habitable room of another dwelling; ii. is to have a sill height of not less than 1.7m above the floor level or have fixed obscure glazing extending to a height of not less	P2 A window or glazed door to a habitable room of a dwelling that has a floor level more than 1m above existing ground level, must be screened, or otherwise located or designed, to minimise direct views to: a) a window or glazed door, to a habitable room of another dwelling; and b) the private open space of another dwelling.

	than 1.7m above the floor level; or iii. is to have a permanently fixed external screen for the full length of the window or glazed door, to a height of not less than 1.7m above floor level, with a uniform transparency of not more than 25%.	

Response

P2 The performance criteria are addressed.

The windows to the rear of the buildings (north elevation) have 3m setback, meeting the Acceptable Solution.

Any upper floor windows for Unit 4 will have a minimum 4.5m setback to the rear boundary meeting the Acceptable Solution.

The existing dwelling will have a window to the west elevation (facing Unit 1). This window is above the kitchen bench of the existing dwelling (from the interior perspective) and under the exterior eave. The window affords a level of natural light to the kitchen space, but does not afford overlooking from Unit 1 window due to the sharp vertical angle between the two, the eave that overhangs the window, and the horizontal offset, thus fulfilling the objective of a reasonable level of privacy for all dwellings.

No other overlooking is afforded.

A3	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: a) 2.5m; or b) 1m if: i. it is separated by a screen of not less than 1.7m in height; or ii. the window, or glazed door, to a habitable room has a sill height of not less than 1.7m above the shared driveway or parking space, or has fixed obscure glazing extending to a height of not less than 1.7m above the floor level.	P3 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

Response

P3 The performance criteria are addressed. The proposed driveway will be in proximity to the existing dwelling windows. The windows will be treated with opaque film to act as screening to

mitigate vehicle disturbance to south elevation of the building without impacting access to natural light.

The entrance doors to the proposed dwellings are within proximity to the shared driveway space. The doors include a glass panel which allows controlled surveillance from inside the house, but does not afford unreasonable levels of noise or light intrusion to the living areas of the dwellings. There is minimal likelihood of vehicle lights shining directly to the front door.

8.4.7 Frontage fences for all dwellings

Objective	
The height and transparency of frontage fences: a. provides adequate privacy and security for residents; b. allows the potential for mutual passive surveillance between the road and the dwelling; and c. is reasonably consistent with that on adjoining properties.	
Acceptable Solutions	**Performance Criteria**
A1 No Acceptable Solution.	P1 A fence (including a free-standing wall) for a dwelling within 4.5m of a frontage must: a) provide for security and privacy while allowing for passive surveillance of the road; and b) be compatible with the height and transparency of fences in the street, having regard to: i. the topography of the site; and ii. traffic volumes on the adjoining road.

Response

Not applicable – the fencing as proposed is exempt according to 4.6.3 and 4.6.4.

8.4.8 Waste storage for multiple dwellings

Objective	
To provide for the storage of waste and recycling bins for multiple dwellings.	
Acceptable Solutions	**Performance Criteria**
A1 A multiple dwelling must have a storage area, for waste and recycling bins, that is not less than 1.5m2 per dwelling and is within one of the following locations: a) an area for the exclusive use of each dwelling, excluding the area in front of the dwelling; or b) a common storage area with an	P1 A multiple dwelling must have storage for waste and recycling bins that is: a) capable of storing the number of bins required for the site; b) screened from the frontage and any dwellings; and c) if the storage area is a common storage area, separated from any

	impervious surface that: i. has a setback of not less than 4.5m from a frontage; ii. is not less than 5.5m from any dwelling; and iii. is screened from the frontage and any dwelling by a wall to a height not less than 1.2m above the finished surface level of the storage area.	dwellings to minimise impacts caused by odours and noise.

Response

A1 The acceptable solution is achieved. Each dwelling has an exclusive area for the storage of waste bins that is not in front of the dwelling.

4.2 Code Assessment

C2.0 Parking and Sustainable Transport Code

C3.0 Road and Railway Assets Code

Please refer to the TIA provided.

5. Conclusion

This application is for multiple dwellings and will result in five dwellings on the site, one as existing, four as proposed. The proposed dwellings are suited to a low maintenance lifestyle and provide exceptional living standards and high land use efficiency. The proposed is in accord with the provisions of the Scheme and a planning permit is sought from Council.

OPERATION & MAINTENANCE MANUAL

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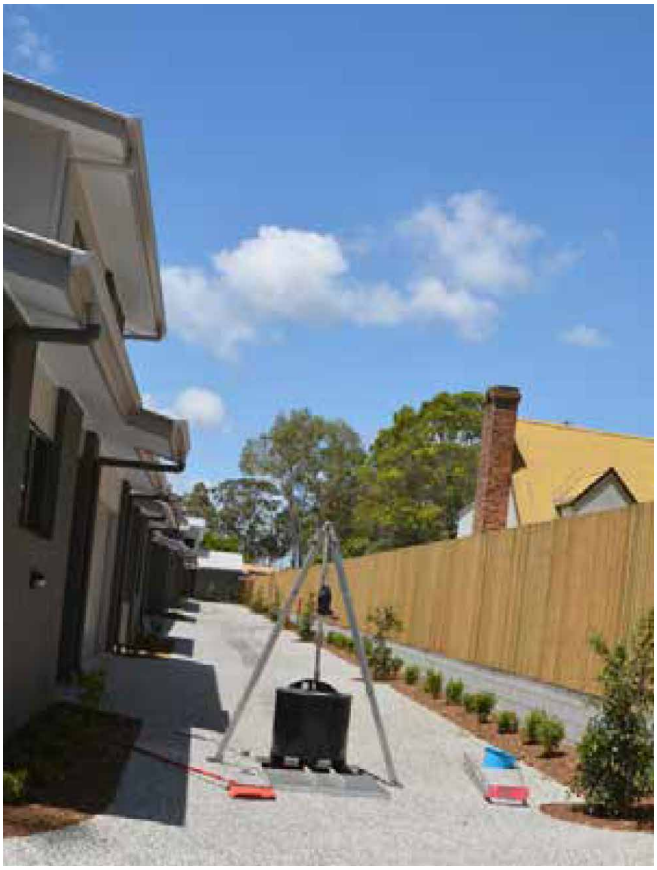
STORMWATER

CONTENTS



COLLECTIVE CONSULTING

STORMWATER MANAGEMENT REPORT

NOVEMBER 2025

PREPARED FOR

INDUSTRO PARK PTY LTD - 40 CENTRAL AVENUE, MOONAH

256023 – SWMR01 ISSUE 01 VERSION 04

DOCUMENT TRANSMITTAL

RECORD OF ISSUE

Issue	Reason	Version	Date	Prepared By	Approved By
01	Development Application	04	17/11/2025	OWM	JTA

RECORD OF ISSUE

Company	Name & Address	Contact	Copies
Industro Park Pty			

1. INTRODUCTION

This Stormwater Management report has been prepared to provide supplementary information to Glenorchy City Council for a development application for 40 Central Avenue, Moonah.

The Lot (Property ID 5414683) currently contains 1 dwelling and a shed. Four units are proposed to be constructed at the rear of the property. The existing shed is to be demolished to accommodate for the dwellings.

Figure 1 – 40 Central Avenue, Moonah

This report details the stormwater management strategy for the proposed development.

2. STORMWATER MANAGEMENT

2.1. Stormwater Introduction

The stormwater drainage system on the development application documents produced by Collective Consulting, project number 256023, have been prepared with reference to the State Stormwater Policy and the Glenorchy City Council Stormwater Management Policy (GCCSWMP). The purpose of this report is to supplement the afore mentioned documents to show compliance with the council and state policies and to ensure that Councils' downstream infrastructure and adjacent properties will not be negatively affected by the development.

This report should be read in conjunction with the Development Application Plans provided by Industro Park Pty Ltd, and drawings prepared by Collective Consulting, project number 256023 (Appendix A)

The following items have been used in the preliminary design: -

2.1.1. Design Storm Events and Climate Effects

- Design Storm Event, 5% AEP.
- Climate Change Allowance as per Australian Rainfall and Runoff (AR&R) scenario RCP 8.5 for the year 2090 equating to 16.3% increase in rainfall.

2.1.2. Stormwater Quality Targets

This development does not meet any of the exemptions stated within the State Stormwater Policy. As such the following stormwater quality targets are allowed for:

- 90% reduction in the average annual load of litter/gross pollutants based on typical urban stormwater concentrations; AND
- 80% reduction in the average annual load of total suspended solids (TSS) based on typical urban stormwater TSS concentrations; AND
- 45% reduction in the average annual load of total phosphorus (TP) based on typical urban stormwater TP concentrations; AND
- 45% reduction in the average annual load of total nitrogen (TN) based on typical urban stormwater TN concentrations.

2.1.3. Onsite Stormwater Detention

The onsite stormwater detention has been assessed based on restricting the stormwater flow off the site to the predevelopment levels for the design storm events.

2.1.4. Climate Change

Climate change is expected to reduce annual rainfall but generate more intense rainfall events in a warming climate. This will intensify the challenges of providing secure water supplies and mitigating urban stormwater runoff. To allow for the effects of climate change the stormwater design has incorporated a climate change allowance as per the AR&R scenario 8.5. This results in an estimated 16.3% increase in rainfall intensity.

2.2. Pre-development Hydrology

The site is a 1107m^2 residential lot. The site in its predevelopment state consists of a residential dwelling, a shed and a small concrete driveway. All other site areas are grassed or landscaped. The development site has a time of concentration of approximately 10 minutes.

2.3. Post-development Hydrology

The site is to be developed to a multi-residential site containing 4 new unit dwellings at the rear of the site a new driveway for access. The existing dwelling and driveway are remaining.

SITE AREA TABLE

Type / Location	Pre-Development Area	Post-Development Area
Buildings	207 m2	350 m2
Concrete / Asphalt Hardstand / Gravel	83 m2	510 m2
Landscaping	817 m2	247 m2
Total Site Area	1107 m2	1107 m2

2.4. Calculation of On-Site Detention Requirements

The post-development impervious fraction for the site is 78%. This gives a Rational Method coefficient of C_{10} = 0.70 which is an increase from the pre-development coefficient of C_{10} = 0.30.

The on-site stormwater detention calculations review a series of storm events for the 5% AEP. Storms from 5 minutes through to 72 hours storms have been considered in the detention calculations. The calculations utilise the AR&R Rational Method and GCCSWMP to calculate the permissible site discharge (PSD) based on the predevelopment discharge rate. Site volume rainfall and thus the required storage volume to maintain the PSD have been calculated for the post-developed site.

The pre-development discharge rate for the 5% AEP storm event is 4.3 L/s (refer calculations Appendix B – Stormwater Calculations). This has been used as the PSD.

To maintain the PSD for the post developed state, an underground detention tank has been designed to accommodate the difference in the PSD and the post development discharge.

The peak storage requirement for the 5% AEP is 8.8 m^3. A reduced outlet will be installed to restrict flow from the detention tank to 4.3 L/s. The storage calculations can be reviewed in (refer Appendix B – Stormwater Calculations).

Storms less likely than the 5% design event will cause the detention system to overflow. In these events stormwater will exit the detention system via a surcharge pit and continue as overland flow to the Northwest of the site in a safe manner, following the stormwater infrastructure.

2.5. Stormwater Summary

In conclusion this report, and accompanying calculations and drawings indicate that the development will not detrimentally affect the downstream council assets, nor will it detrimentally affect the adjacent properties for all storm events up to and including the 1% AEP storm.

3. APPENDICES

3.1. Appendix A – Collective Consulting Design Drawings: 256023-C

3.2. Appendix B – Stormwater Calculations

3.3. Appendix C - 25-84272 TDS for 40 Central Avenue, Moonah

Our Ref: 256023-DT-03

DOCUMENT TRANSMITTAL

TRANSMITTAL

HEALEY – MULTI-RESIDENTAIL DEVELOPMENT – 40 CENTRAL AVENUE, MOONAH

Project #	Subject	Transmittal	Transmittal Date
256023	Document Transmittal	03	17/11/2025

Recipient	Attention	Role	Email
Industro Park Pty Ltd	Oscar Healey	Client	ohealey@diggaco.com.au

1 RECORD OF DOCUMENTS ISSUED

		Date, Issue & Revision									
		11/08/25	06/10/25	17/11/25							
Document ID	Description	01	02	03	04	05	06	07	08	09	10
256023 - COV	Cover Sheet	A	B	C							
C101	Existing Site / Demolition Plan	A	B	C							
C401	Infrastructure Plan	A	B	C							
C501	Civil Works Plan	A	B	C							
C801	Sections & Details – Sheet 1	-	A	B							

COLLECTIVE CONSULTING

Engineering a future of possibilities.

Our Ref: 256023-L251006-04

17th November 2025

Industro Park Pty Ltd
279 Haggerston Road
Breadalbane TAS 7258

DEVELOPMENT APPLICATION DOCUMENTS: MULTI-RESIDENTIAL DEVELOPMENT

40 CENTRAL AVENUE, MOONAH

ATTENTION: O HEALEY

Dear Oscar,

Please find enclosed the following documentation:

- 256023 Storm Water Management Report – SWMR-04
- Appendix A - Civil project drawings 256023 – COV, C101, C401, C501, C801
- Appendix B - Stormwater Calculations
- Appendix C - 25-84272 TDS for 40 Central Avenue, Moonah
- Transmittal

Should you have any queries please do not hesitate to contact us.

Yours faithfully,

Oliver Marshall

Graduate Structural & Civil Engineer
B.E.Hons (Civil)

Appendix B - Stormwater Detention Calculations

Site Area	1107	m^2
Predevelopment Impervious Site Area	268	m^2
Building Impervious Site Area	350	m^2
Hardstand Impervious Site Area	510	m^2
Total Post Development Impervious Site Area	860	m^2

Permissible Site Discharge Conditions

Rational Method

Q	L/s	Peak Flow
C		Rational Method Runoff Coefficient
I	mm/hr	Average Rainfall Invensity
A	m2	Catchment Area
F	1/3600	Conversion Factor

Q =F.C.I.A

Site Location Storm Rainfall

Time Interval		Rain Fall Intensity	
		20 Year	100 Year
		5%	1%
Minutes	Hours	mm/hr	mm/hr
5		**84.9**	**116**
6		**79.5**	**110**
10		**63.9**	**91**
20		**44.2**	**63**
30		**34.8**	**48.7**
60	1	**22.7**	**30.7**
120	2	**15.1**	**19.7**
180	3	**12**	**15.5**
360	6	**8.33**	**10.8**
720	12	**5.8**	**7.7**
1440	24	**3.89**	**5.3**
2880	48	**2.39**	**3.3**
4320	72	**1.71**	**2.35**

$^{10}I_1$

10%, 1Hr 19.5 mm/hr

C_{10} =0.9 x f + $C^{'}_{10}$ x (1 - f)

$C^{'}_{10}$ =0.1 + 0.0133 x ($^{10}/_{1}$ - 25)

C_{10} Lookup Table

f	25	30	35	40	45	50	55	60	65	70
0	0.1	0.1665	0.233	0.2995	0.366	0.4325	0.499	0.5655	0.632	0.6985
0.05	0.14	0.203175	0.26635	0.329525	0.3927	0.455875	0.51905	0.582225	0.6454	0.708575
0.1	0.18	0.23985	0.2997	0.35955	0.4194	0.47925	0.5391	0.59895	0.6588	0.71865
0.15	0.22	0.276525	0.33305	0.389575	0.4461	0.502625	0.55915	0.615675	0.6722	0.728725
0.2	0.26	0.3132	0.3664	0.4196	0.4728	0.526	0.5792	0.6324	0.6856	0.7388
0.25	0.3	0.349875	0.39975	0.449625	0.4995	0.549375	0.59925	0.649125	0.699	0.748875
0.3	0.34	0.38655	0.4331	0.47965	0.5262	0.57275	0.6193	0.66585	0.7124	0.75895

0.35	0.38	0.423225	0.46645	0.509675	0.5529	0.596125	0.63935	0.682575	0.7258	0.769025
0.4	0.42	0.4599	0.4998	0.5397	0.5796	0.6195	0.6594	0.6993	0.7392	0.7791
0.45	0.46	0.496575	0.53315	0.569725	0.6063	0.642875	0.67945	0.716025	0.7526	0.789175
0.5	0.5	0.53325	0.5665	0.59975	0.633	0.66625	0.6995	0.73275	0.766	0.79925
0.55	0.54	0.569925	0.59985	0.629775	0.6597	0.689625	0.71955	0.749475	0.7794	0.809325
0.6	0.58	0.6066	0.6332	0.6598	0.6864	0.713	0.7396	0.7662	0.7928	0.8194
0.65	0.62	0.643275	0.66655	0.689825	0.7131	0.736375	0.75965	0.782925	0.8062	0.829475
0.7	0.66	0.67995	0.6999	0.71985	0.7398	0.75975	0.7797	0.79965	0.8196	0.83955
0.75	0.7	0.716625	0.73325	0.749875	0.7665	0.783125	0.79975	0.816375	0.833	0.849625
0.8	0.74	0.7533	0.7666	0.7799	0.7932	0.8065	0.8198	0.8331	0.8464	0.8597
0.85	0.78	0.789975	0.79995	0.809925	0.8199	0.829875	0.83985	0.849825	0.8598	0.869775
0.9	0.82	0.82665	0.8333	0.83995	0.8466	0.85325	0.8599	0.86655	0.8732	0.87985
0.95	0.86	0.863325	0.86665	0.869975	0.8733	0.876625	0.87995	0.883275	0.8866	0.889925
1	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9

Percentage Impervious - Post Development

f	0.78	
$^{10}I_1$	25	mm/hr
C_{10}	0.70	

Percentage Impervious - Predevelopment

f	0.24	
$^{10}I_1$	25.00	mm/hr
C_{10}	0.30	

ARI	% AEP		Freq.Factor	C_x
1	0.632	63.2	0.8	0.56
2	0.393	39.3	0.85	0.595
5	0.181	18.1	0.95	0.665
10	0.095	9.5	1	0.7
20	0.049	4.9	1.05	0.735
50	0.02	2	1.15	0.805
100	0.01	1	1.2	0.84

Catchment Discharge (Q, L/s)

Q=	C.I.A/3600		
C_{20}	0.315		Figure 1.13 from AR&R Book 8, 2001
I	44.2	mm/hr	From Bureau of Meteorology
A	1107	m^2	
Q_{20}	4.28	L/s	

∴ Allowable Catchment Discharge (5%) = **4.3** L/s

Catchment Discharge (Q, L/s)

Q=	C.I.A/3600		
C_{100}	0.36		Figure 1.13 from AR&R Book 8, 2001
I	116	mm/hr	From Bureau of Meteorology
A	1107	m^2	
Q_{100}	12.84	L/s	

∴ Allowable Catchment Discharge (1%) = **12.8** L/s

Design Flow

Design Storm for Detention		1:20 ARI or 5% AEP	
Design Flow	Q	**4.3**	L/s

Runoff Coefficient for Developed Site

C_{20}	**0.735**
C_{100}	0.84

Climate Change Allowance (as required by Council)

% Increase in rainfall 0.163

Climate Change Allowance 16.3% increase in rainfall

Time Interval		Rain Fall Intensity		Permissible Discharge		Site Volume		Required Storage	
		20 Year	100 Year	20 Year	100 Year	20 Year	100 Year	20 Year	100 Year
Minutes	Hours	mm/hr	mm/hr	m	m	m	m	m	m
5		98.7	134.9	1.28	3.85	6.69	10.45	5.41	6.60
6		92.5	105.8	1.54	4.62	7.52	9.84	5.98	5.22
10		74.3	73.3	2.57	7.70	10.08	11.36	7.51	3.65
20		51.4	56.6	5.14	15.41	13.94	17.56	8.80	2.15
30		40.5	35.7	7.71	23.11	16.47	16.60	8.76	-6.51
60	1	26.4	22.9	15.41	46.23	21.48	21.30	6.07	-24.92
120	2	17.6	18.0	30.83	92.46	28.58	33.52	-2.25	-58.93
180	3	14.0	12.6	46.24	138.68	34.07	35.04	-12.17	-103.65
360	6	9.7	9.0	92.48	277.37	47.29	49.96	-45.18	-227.41
720	12	6.7	6.2	184.95	554.74	65.86	68.78	-119.09	-485.96
1440	24	4.5	3.8	369.91	1109.48	88.34	85.65	-281.56	-1023.83
2880	48	2.8	2.7	739.81	2218.96	108.56	121.99	-631.26	-2096.97
4320	72	2.0	0.0	1109.72	3328.44	116.50	0.00	-993.21	-3328.44
								Max. Volumes	
							m^3	**8.80**	**6.60**

Discharge Orifice Size

Permissible Discharge Flow Rates

Q_{20}	4.28	L/s	0.004	m^3/s
Q_{100}	12.84	L/s	0.013	m^3/s

Average depth of storage for 100 year rainfall event

h= 1.8 m (depth of ponded water + depth to centre of the orifice)

Flow through an orifice

Q= k.A.V

k= Shape factor 0.62

A= Area of the orifice

V= Flow velocity

Velocity

V= √2.g.h

g= gravity (9.81m/s^2)

h= pressure head

∴ V= 5.9 m/s

Required area of the orifice for 100 year rainfall event discharge

A= Q/(k.V)

∴ A= 0.0012 m^2

1162 mm^2

Diametre of the orifice

A= $\Pi D^2/4$

D= √(4.A/Π)

∴ D= 39 mm

Detention Storage Calculation

Considering pond as a Triangluar Prism and a Square Pyramid

Area 1 - Triangular Prism

Pit Dimensions

ave. h = 0.3 m

w = 40 m

Area A1 = 6 m2

l = 70 m

Pond Area

Volume V1 = 420 m2

Area 2 - Square Pyramid

Pit Dimensions

h = 0.5 m

w = 40 m

b = 30 m

Pond Area

Volume V1 = 100 m2

Total Above Ground Storage

V = 520.00 m3

Atlan
STORMWATER

IN PARTNERSHIP WITH

Collective Consulting

TECH DATA SUBMISSION

40 Central Avenue, Moonah TAS, Australia

Created by:
Sam Williams
Atlan Stormwater

atlan.com.au

Submission Date: 14-11-2025

Oliver Marshall
Collective Consulting
10-14 Paterson St
Launceston TAS

RE: Project Tech Data for 40 Central Avenue, Moonah TAS, Australia

Dear Oliver,

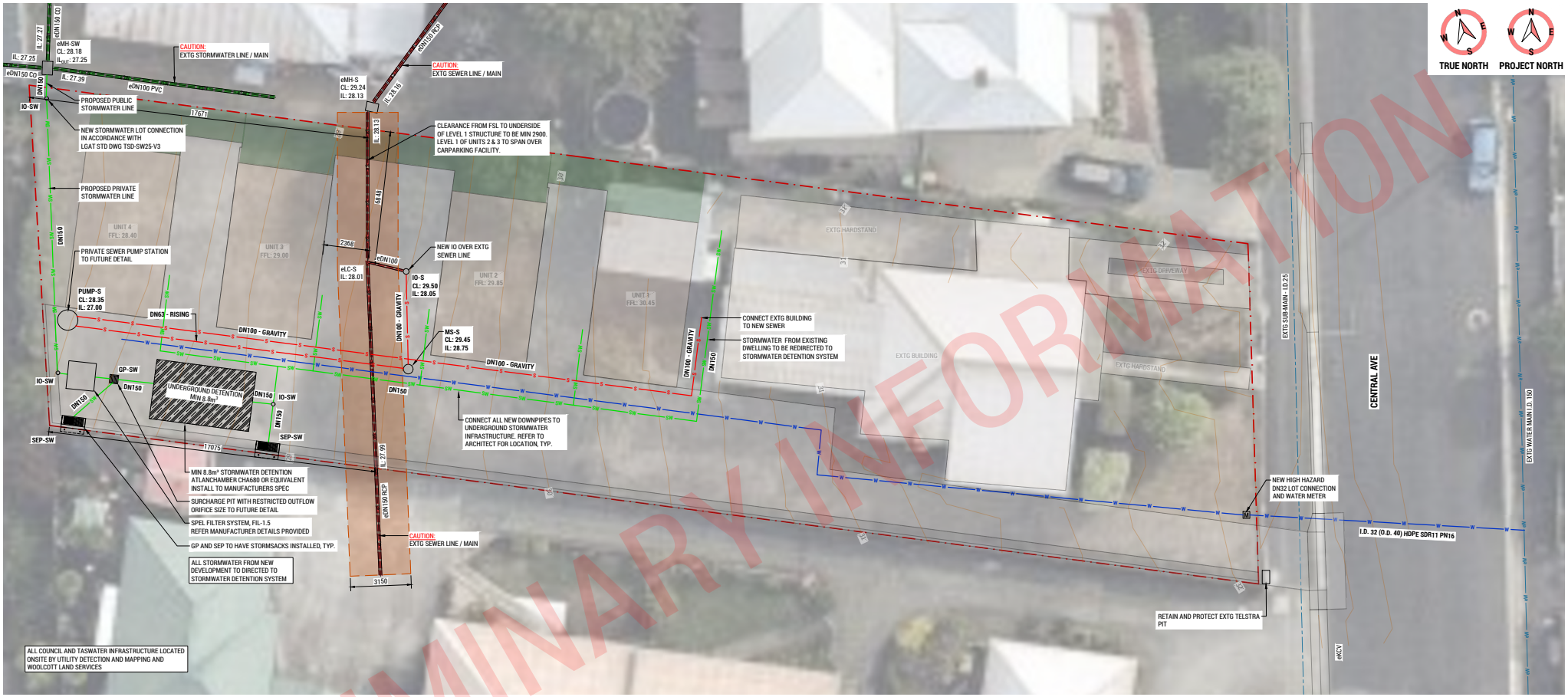
This document is to provide relevant tech data to be assessed by the client to prove that the stormwater systems proposed meet and exceed the requirements in the project design for the 40 Central Avenue, Moonah TAS, Australia project.

The information included is as follows:

Let me know if you have any questions or queries.

Best regards:
Sam Williams

Appendix - Project Drawings



INFRASTRUCTURE NOTES:

1. THE FOLLOWING IS TO BE READ IN CONJUNCTION WITH NOTES ON DRAWING C001.
2. STORMWATER PIPES SHALL BE INSTALLED WITH MIN. 0.5% GRADE FOR SIZES Ø225 AND ABOVE UNLESS NOTED / SCHEDULED OTHERWISE.
3. STORMWATER PIPES SHALL BE INSTALLED WITH MIN. 1.0% GRADE FOR PIPE SIZES Ø150 AND BELOW UNLESS NOTED / SCHEDULED OTHERWISE.
4. SEWER PIPES SHALL BE INSTALLED WITH MIN. 1.0% GRADE FOR PIPE SIZES Ø150 AND AND ABOVE UNLESS NOTED / SCHEDULED OTHERWISE.
5. SEWER PIPES SHALL BE INSTALLED WITH MIN. 1.65% GRADE FOR PIPE SIZES Ø100 AND BELOW UNLESS NOTED / SCHEDULED OTHERWISE.
6. ALL 'DN' SIZES SCHEDULED OR NOTED INDICATE INTERNAL DIAMETER.
7. REFER SECTIONS AND DETAILS FOR PIPE TRENCHING SPEC'S.
8. WATER LINES SHALL GENERALLY BE LAID ABOVE SEWER PIPES WHEREVER POSSIBLE.
9. ALL PIPES SHALL BE INSTALLED WITH MIN. 750mm COVER (U.N.O.)

LINETYPE LEGEND:

- SW — PROPOSED STORMWATER LINE / MAIN
- S — PROPOSED SEWER LINE / MAIN
- W — PROPOSED WATER LINE / MAIN

INFRASTRUCTURE LEGEND:

CL	COVER LEVEL
DN	NOMINAL PIPE DIAMETER - INTERNAL DIAMETER (U.N.O.)
DP	DOWNPIPE - AS SCHEDULED
e / EXTG	EXISTING ITEM / ELEMENT
FH	FIRE HYDRANT - REFER SECTIONS AND DETAILS
FM	FIRE WATER SERVICE LINE / MAIN
FP	FIRE PLUG
GD	GRATED DRAIN - AS SCHEDULED / REFER SECTIONS AND DETAILS
GP	GRATED / GULLY PIT - AS SCHEDULED / REFER SECTIONS AND DETAILS
HBC	HOSE BIB COCK
IL	INVERT LEVEL
IO	INSPECTION OPENING - FINISHED TO SURFACE LEVEL
LC	LOT CONNECTION
M	METER
MH	MANHOLE - AS SCHEDULED / REFER SECTIONS AND DETAILS
MS	MAINTENANCE SHAFT
ORG	OVERFLOW RELIEF GULLY
RL	REDUCED LEVEL
S	SEWER
SEP	SIDE ENTRY PIT - AS SCHEDULED / REFER SECTIONS AND DETAILS
SV	STOP / SWITCH VALVE
SW	STORMWATER
VD	VEE DRAIN - AS SCHEDULED / REFER SECTIONS AND DETAILS
W	WATER

C	REVISED DEVELOPMENT APPLICATION	OWM	14-11-25
B	REVISED DEVELOPMENT APPLICATION	OWM	06-10-25
A	DEVELOPMENT APPLICATION	EJW	11-08-25
REV	DESCRIPTION	BY	DATE:

COLLECTIVE CONSULTING

CLIENT / ARCHITECT:
INDUSTRO PARK PTY LTD / JAWS ARCHITECT

PROJECT DETAILS:
MULTI RESIDENTIAL DEVELOPMENT
40 CENTRAL AVENUE, MOONAH

DESIGN BY:	DESIGN CHECK:	DRAWN BY:	DRAFT CHECK:	CERTIFIER:
OWM	JTA	EJW	JTA	

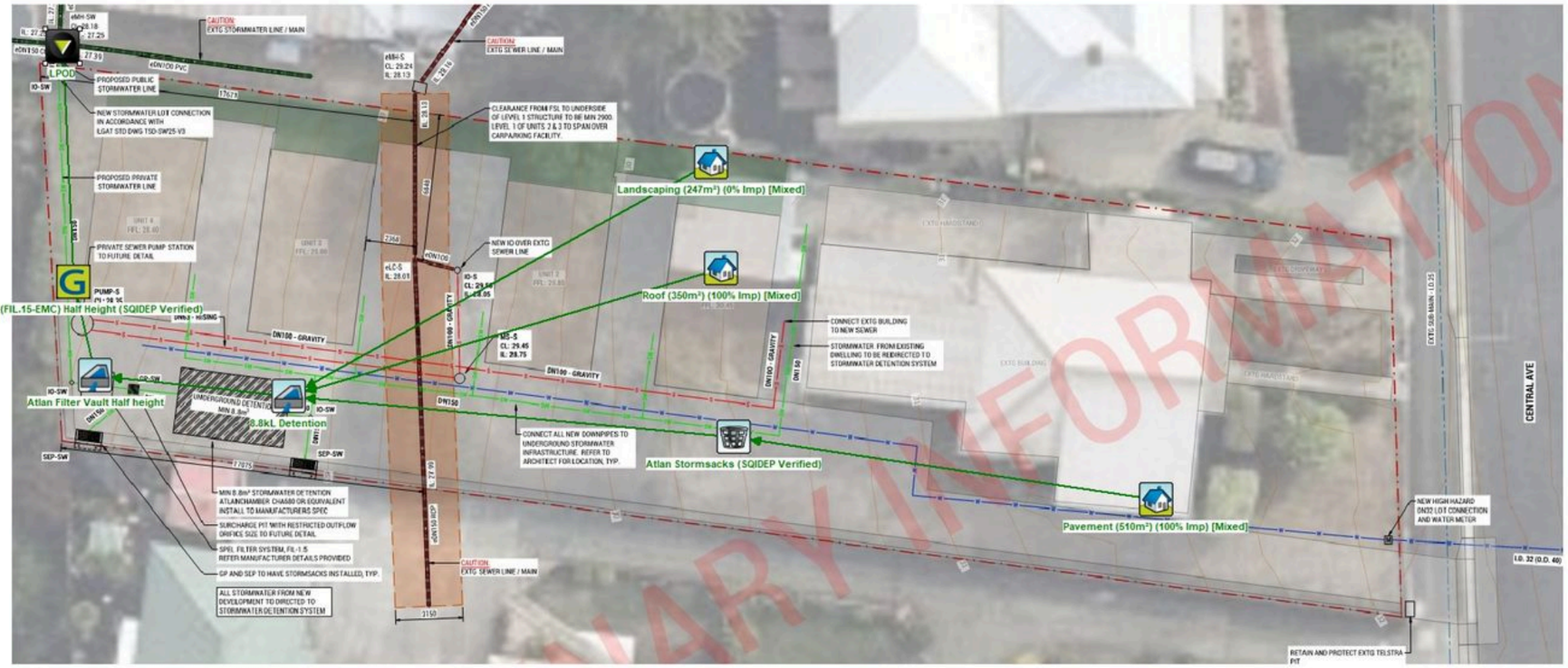
DRAWING TITLE:
INFRASTRUCTURE PLAN

SCALE @ A1:	PROJECT No:	DRAWING No:	REVISION:
1:100	256023	C401	C

Appendix – MUSIC Model

Treatment Train Effectiveness - LPOD

	Sources	Residual Load	% Reduction
Flow (ML/yr)	0.376	0.376	0
Total Suspended Solids (kg/yr)	83.5	9.28	88.9
Total Phosphorus (kg/yr)	0.153	0.0279	81.8
Total Nitrogen (kg/yr)	0.905	0.337	62.7
Gross Pollutants (kg/yr)	13.8	0	100



TOLERANCE: All Dimensions to Closest 10 mm & +/- 30 mm

ALL INTERCONNECTING PIPEWORK, PITS AND ASSOCIATED DRAINAGE BY OTHERS

GLENORCHY CITY COUNCIL

COLLECTIVE CONSULTING

REV	DATE	BY	DESCRIPTION	CHK
3	14-11-2025	OT		

Drawn	Date
Check	Date
Verified	Date
Approved	Date

Atlan STORMWATER

PROJECT
40 Central Avenue, Moonah TAS

TITLE
MUSIC Modelling

SCALE	SIZE	SHEET	REV
N.T.S	A3	1 OF 1	3

CUSTOMER CODE : 25-84272 | DWG No.

C:\Users\Robin Radoc\OneDrive\Documents\Vault\Designs\ATLAN\03 - PROJECTS\YEAR 2023\NOVEMBER 2023\2357399 - STAGE 2 GREENLINK\2357399.C.01.10\2357399.C.01.10.GA (PIT 8 BIO).idw

Appendix – Treatment System Specifications

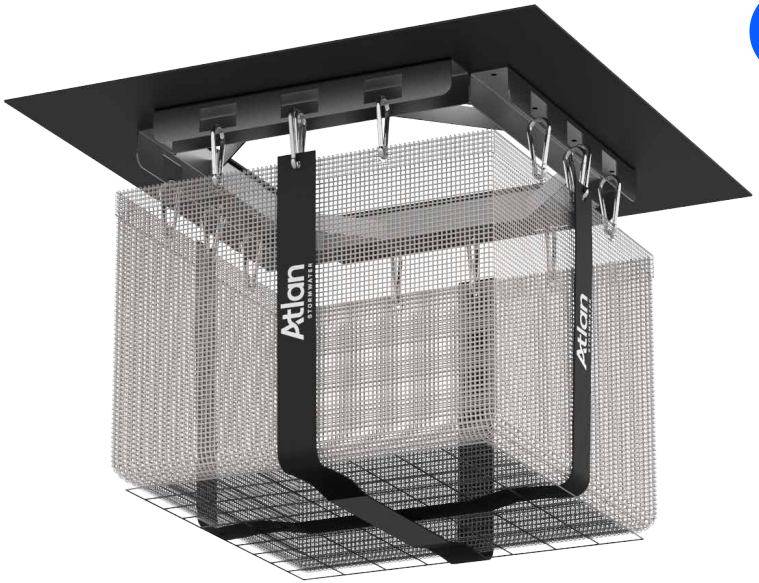
Atlan® STORMWATER

StormSack

At-Source Gross Pollutant Trap

Efficient At-Source Gross Pollutant Capture

Designed to capture gross pollutants, sediment, litter, and oil and grease effectively within storm drains.



Retrofit Capability

Easily integrates into new or existing stormwater infrastructure, repurposing traditional systems to meet specific site water quality goals.

Engineered for Water Quality

Provides a decentralized stormwater treatment approach, aligning with LID (Low Impact Development) criteria for sustainable water management.

Adjustable Design

Features a typical adjustable frame range of 127mm and requires a minimum clearance of 50mm for optimal installation. Customise to suit your pit size.

Standard sizes include

- 450x450mm
- 600x600mm
- 900x600mm
- 900x900mm
- Custom sizes (i.e. 1200x900mm) can be manufactured on short lead times.

MUSIC Modelling

Can be modelled in MUSIC in conjunction with bioretention or other Atlan systems.

Ease of Maintenance

Pollutants are trapped just under the grate, making cleaning faster and simpler with conventional vacuum suction equipment.

The Atlan StormSack is specifically designed for the capture of gross pollutants, sediment, litter, and oil and grease. Ideally suited for storm drain retrofits, the StormSack's unique design allows maintenance to be performed using conventional vacuum suction equipment.

StormSack filtration solutions are highly engineered water quality devices that are deployed directly in the stormwater system to capture contaminants close the surface for ease of maintenance. Easily retrofitted into new or existing structures, StormSack filtration technology is a decentralized approach to stormwater treatment that essentially repurposes traditional site infrastructure and customizes it to meet specific site water quality goals. In this way, it satisfies important objectives of today's LID (Low Impact Development) criteria.

From an operations perspective, catch basins with StormSack filters are also easier and quicker to clean out because pollutants are trapped just under the grate.

Applications

- Council storm drain retrofits
- Commercial / retail / residential
- Litter prone urban areas
- Scrap metal / solid waste / oil storage
- Part of treatment train
- Construction sediment / erosion

SQIDEP Tested Treatment Efficiencies*

POLLUTANT	EFFICIENCY
Gross Pollutants (GP)	100%
Total Suspended Solids (TSS)	45%
Total Phosphorus (TP)	47%
Total Nitrogen (TN)	25%

*Contact Atlan to confirm approved performance for the project LGA

Additional Research Removal Rates

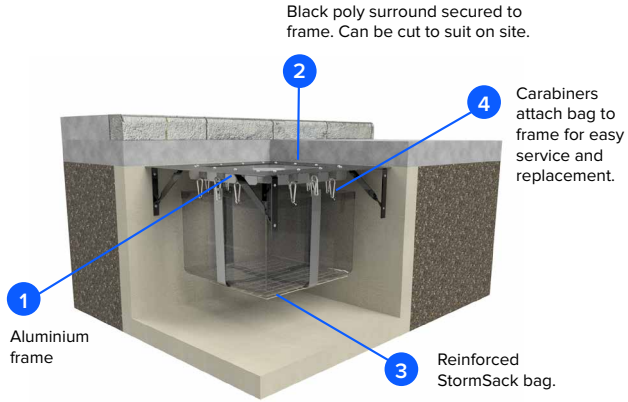
POLLUTANT	EFFICIENCY
Microplastics	35-88%

StormSack is SQIDEP approved after passing Stormwater Australia's rigorous testing and performance assessment process.

How it works

The StormSack provides effective filtration of solid pollutants and debris typical of urban runoff, while utilising existing or new storm drain infrastructure. The StormSack is designed to rest on the flanges of conventional catch basin frames and is engineered to suit typical project constraints.

Installation procedures include removing the storm grate, cleaning the frame of debris and solids, measuring catch basin clear opening and trimming flanges to rest on the grate support ledge. Install StormSack with splash guard under curb opening so the adjustable flanges are resting on the grate support ledge. Install corner filler pieces. Reinstall storm grate directly on support flanges rise shall be no more than 3mm.



Maintenance

Typically the StormSack is serviceable from ground level, and therefore maintenance does not require confined space entry. The unit is designed to be maintained in place with a vacuum hose attached to a sweeper or a vacuum truck.

AtlanFilter®

Cartridge filter for tertiary stormwater treatment

Document Set ID: 3566459
Version: 1, Version Date: 19/12/2025

Advanced Filtration Technology

Utilises up-flow filtration to effectively capture pollutants such as sediment, hydrocarbons, heavy metals, phosphorus, nitrogen, and total suspended solids (TSS).

Compact Design

Compact footprint with fully customizable configurations, accommodating anywhere from 1 to an unlimited number of filter cartridges, making it ideal for constrained sites with minimal installation space.

High-Efficiency Inorganic Media

AtlanFilter's inorganic filter media ensures it doesn't leach nitrogen and other nutrients. Providing high removal efficiencies, the cartridge system is designed for high flow capacity and greater surface area for stormwater treatment.

Durable Construction

AtlanFilter's design has no moving parts which increases reliability, longevity and durability.

Versatile Applications

Suitable for manholes, OSD tanks, vaults, and both trafficable and non-trafficable zones, providing adaptable stormwater solutions.

Easy Installation and Maintenance

Lightweight, no-crane installation with straightforward maintenance and easy cartridge access for pollutant removal.

Flexible Flow Rate Capability

Offers 3 LPS for full height and 1.5 LPS for half height filters, with SQIDEP-verified performance.

Sustainable Performance

Inorganic media prevents nutrient leaching, ensuring efficient and reliable treatment outcomes.

Tertiary stormwater filtration cartridges

Our cartridge filter system, AtlanFilter®, is a tertiary stormwater filtration system that incorporates an upflow treatment process which maximises surface treatment area. Flow through the filter cartridges utilises a self-regulating siphon which results in a low maintenance and high performance treatment of stormwater runoff. The automatic backwash at the end of each storm event further lengthens the lifespan of the stormwater treatment filter.

Hydraulic pressure forces water through the filter media — causing a constant velocity throughout the filter area realising a consistent media contact time and therefore treatment. Upon completion of a stormwater treatment cycle, the filter backwashes and effectively dislodges particulates from the filtration layers.

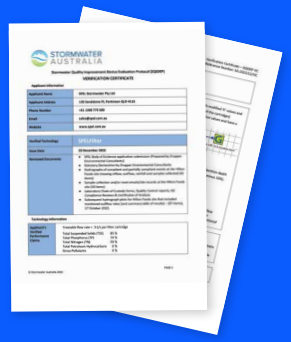
Applications

- Car parks & shopping centres
- Council depots
- Industrial estates
- Heavy vehicle maintenance
- Airport aprons & tarmacs
- Transport depots & loading bays
- Tunnels
- Highways & transport corridors
- Recycling yards

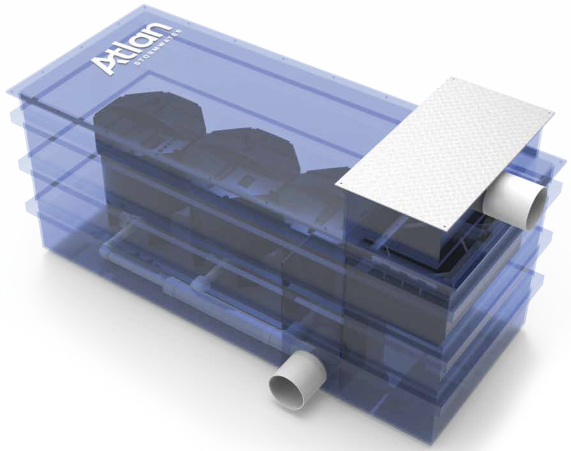
SQIDEP Tested Treatment Efficiencies*

POLLUTANT	EFFICIENCY
Total Suspended Solids (TSS)	85%
Total Phosphorus (TP)	74%
Total Nitrogen (TN)	59%

*Contact Atlan to confirm approved performance for the project LGA



AtlanFilter is SQIDEP approved after passing Stormwater Australia's rigorous testing and performance assessment process.



How it works

The AtlanFilter has an upflow treatment process that maximises surface area. The innovative cartridge filter system provides excellent pollutant removal in a small footprint.

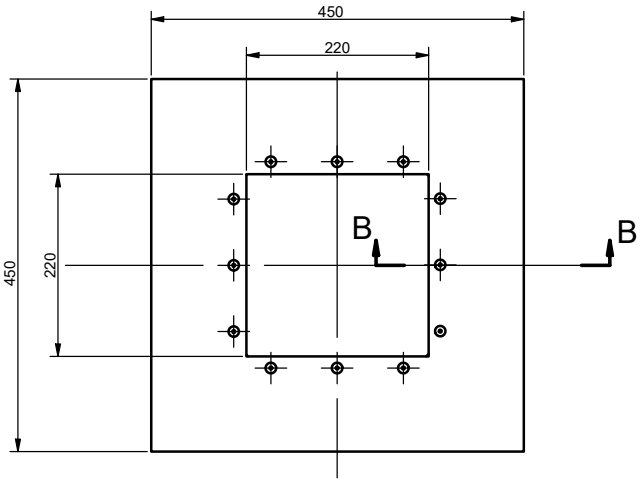
Hydraulic pressure forces water through the filter media, which discharges through the centre tube and out through the outlet collection manifold.

Upon completion of a treatment cycle, each cartridge backwashes and effectively dislodges particulates from the filtration layers. This reestablishes filter media porosity. The dislodged particles accumulate on the vault floor for easy removal during maintenance.
AtlanFilter's design has no moving parts and generates a true siphon effect.

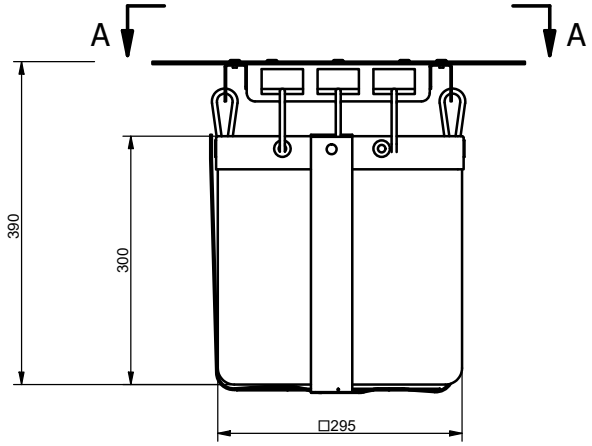
AtlanFilters are often installed downstream of nearby devices in a treatment train. For example, an Atlan GPT upstream greatly increases the life cycle interval of the AtlanFilter. These devices will remove larger gross pollutants, coarse sediments, total suspended solids and hydrocarbons - enabling the AtlanFilter to target fine particulate matter and nutrients.

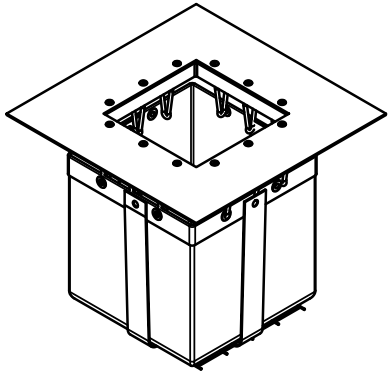
ATLAN FILTER	FULL HEIGHT FIL-3.0	HALF HEIGHT FIL-1.5
Total height	860mm	660mm
Diameter	740mm	740mm
Minimum head required	850mm	550mm
Treatment flow rate	3.0L/s	1.5 L/s
Height of inlet ports above vault floor	250mm	250mm
Filtered water collection pipe diameter	50mm	50mm

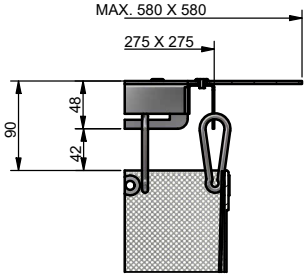
Appendix - Treatment System Drawings



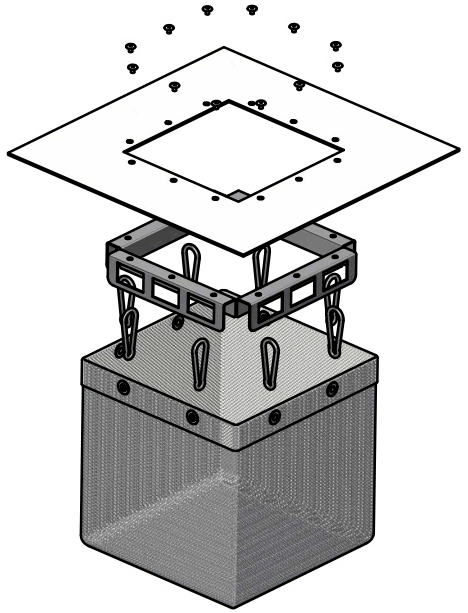
VIEW A-A







SECTION B-B



TOLERANCE: All Dimensions to Closest 10 mm & +/- 30 mm

ALL INTERCONNECTING PIPEWORK, PITS AND ASSOCIATED DRAINAGE BY OTHERS

REV	DATE	BY	DESCRIPTION	CHK
1	19/04/2024	R.J.	INITIAL RELEASE	

CLIENT:

Drawn	R.J.	Date 19/04/2024
Check		Date
Verified		Date
Approved		Date
Request No.		

ATLAN STORMWATER

PROJECT :

TITLE
ATLAN STORMSACK
STS.4545.C1
GENERAL ARRANGEMENT

SCALE	SIZE	SHEET	REV
N.T.S	A3	1	1

CUSTOMER CODE :

DWG No. STS.4545.C1

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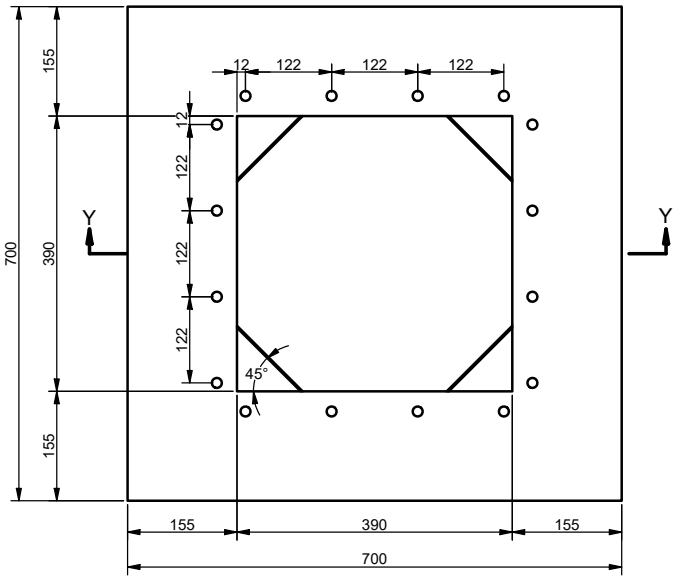
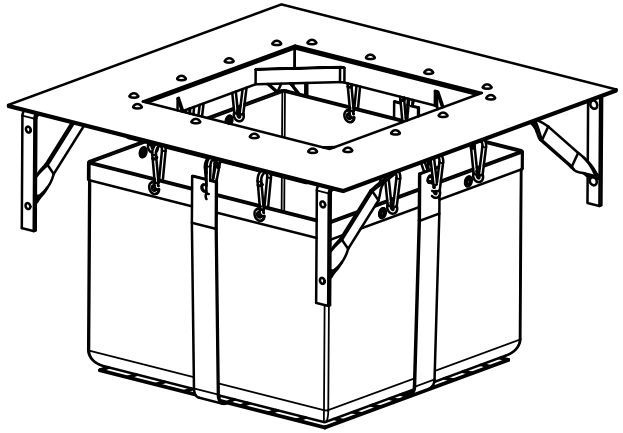
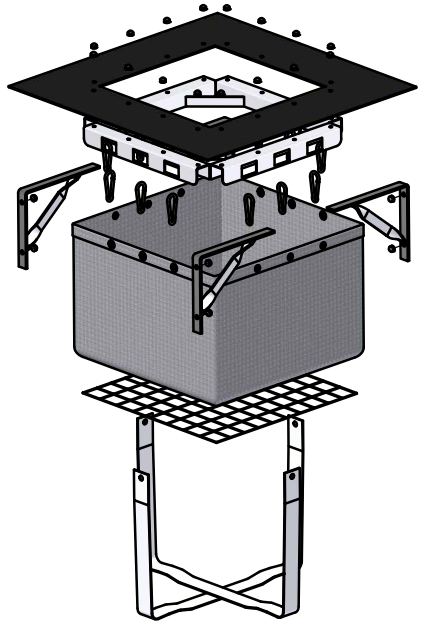


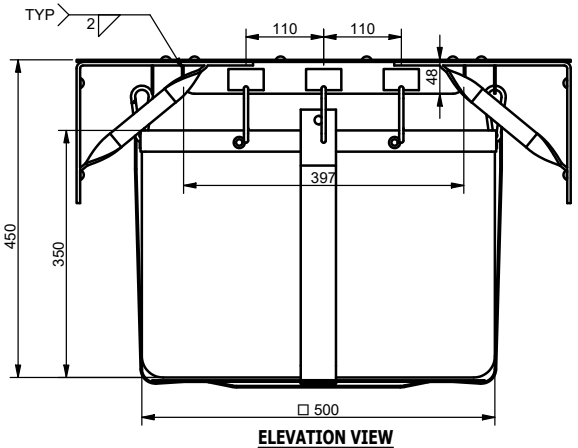
PLAN VIEW



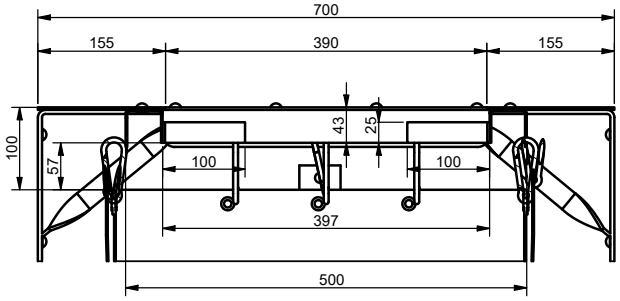
ISOMETRIC VIEW



ISOMETRIC VIEW
EXPLOSION



ELEVATION VIEW



SECTION Y-Y

TOLERANCE: All Dimensions to Closest 10 mm & +/- 30 mm

ALL INTERCONNECTING PIPEWORK, PITS AND ASSOCIATED DRAINAGE BY OTHERS

REV	DATE	BY	DESCRIPTION	CHK
1	19/04/2024	R.J.	INITIAL RELEASE	

CLIENT:

Drawn	R.J.	Date 19/04/2024
Check		Date
Verified		Date
Approved		Date
Request No.		

ATLAN STORMWATER

PROJECT :

TITLE
ATLAN STORMSACK
STS.6060.C1
GENERAL ARRANGEMENT

SCALE	SIZE	SHEET	REV
N.T.S	A3	1	1

CUSTOMER CODE :

DWG No. STS.6060.C1

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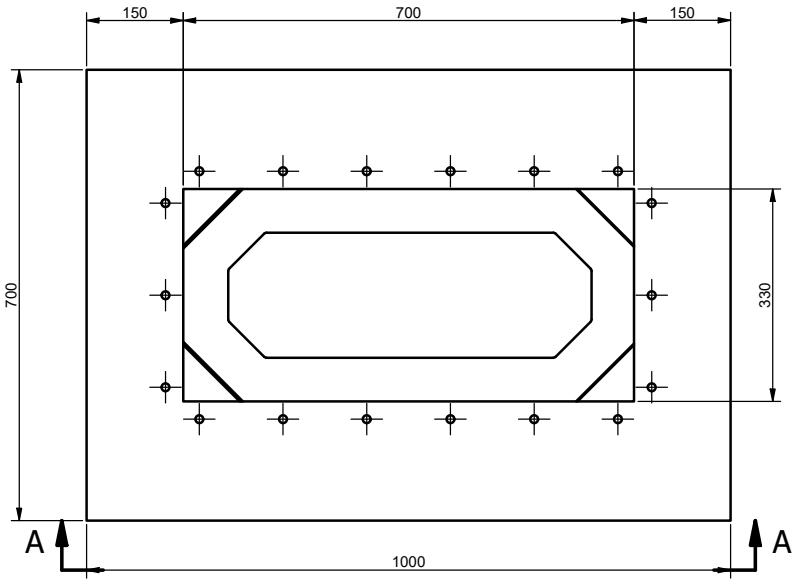

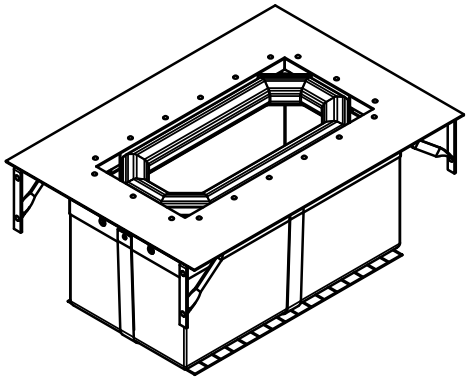

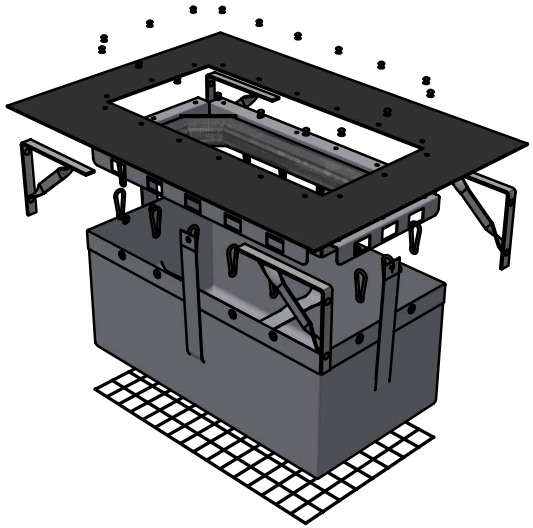

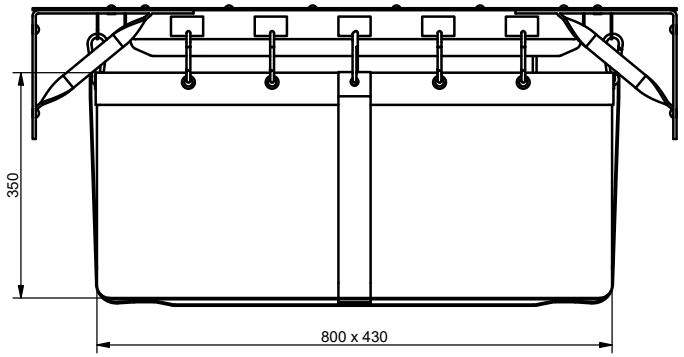

VIEW A-A

TOLERANCE: All Dimensions to Closest 10 mm & +/- 30 mm

ALL INTERCONNECTING PIPEWORK, PITS AND ASSOCIATED DRAINAGE BY OTHERS

REV	DATE	BY	DESCRIPTION	CHK
1	19/04/2024	R.J.	INITIAL RELEASE	

CLIENT:

Drawn	R.J.	Date 19/04/2024
Check		Date
Verified		Date
Approved		Date
Request No.		

Atlan STORMWATER

PROJECT :

TITLE
ATLAN STORMSACK
STS.6090.C1
GENERAL ARRANGEMENT

SCALE	SIZE	SHEET	REV
N.T.S	A3	1	1

CUSTOMER CODE :

DWG No. STS.6090.C1

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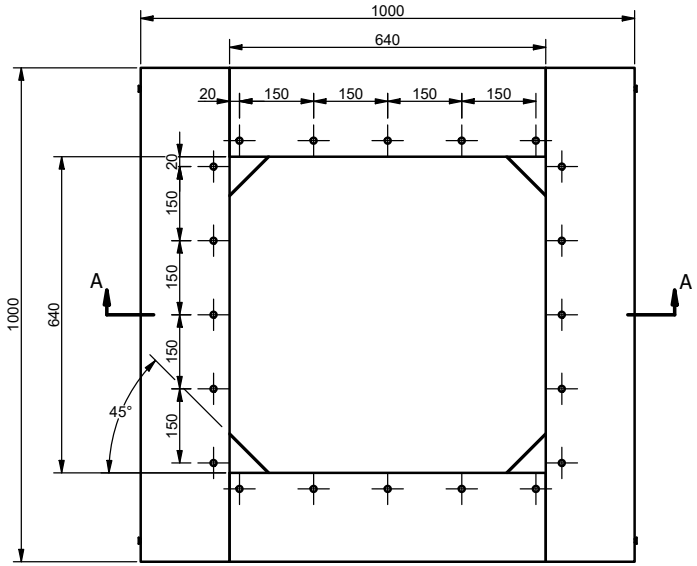
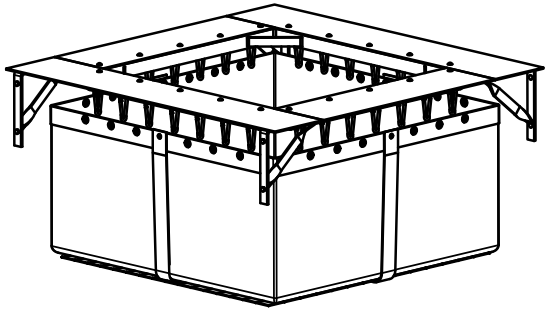


PLAN VIEW



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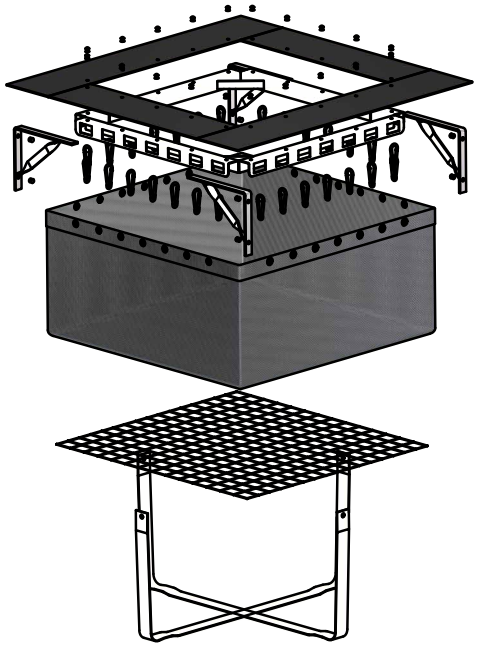
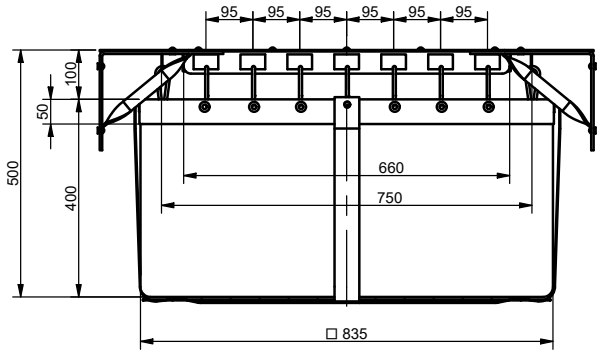
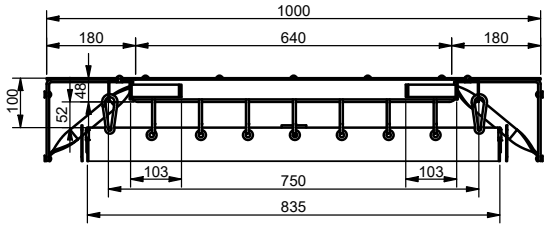


ISOMETRIC VIEW
EXPLOSION



ELEVATION VIEW



SECTION A-A

TOLERANCE: All Dimensions to Closest 10 mm & +/- 30 mm

ALL INTERCONNECTING PIPEWORK, PITS AND ASSOCIATED DRAINAGE BY OTHERS

REV	DATE	BY	DESCRIPTION	CHK
1	17/04/2024	R.J.	INITIAL RELEASE	

CLIENT:

Drawn	R.J.	Date 17/04/2024
Check		Date
Verified		Date
Approved		Date
Request No.		

Atlan STORMWATER

PROJECT :

TITLE
ATLAN STORMSACK
STS.7575.C1
GENERAL ARRANGEMENT

SCALE	SIZE	SHEET	REV
N.T.S	A3	1	1

CUSTOMER CODE :

DWG No. STS.7575.C1

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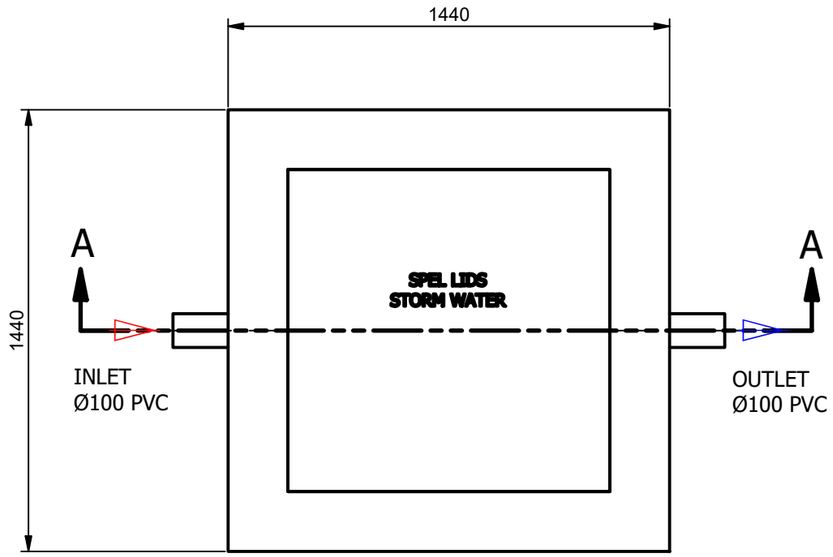
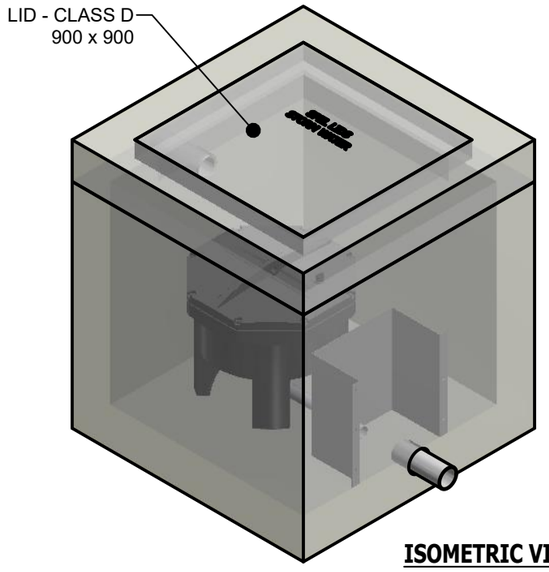
ISSUE FOR APPROVAL
NOT FOR CONSTRUCTION



PLAN VIEW

Site Level Confirmation		
Finished Surface Level (FSL)	RL:	
Access Cover Thickness		mm
Inlet Invert Level	RL:	
Outlet Invert Level	RL:	
Company:		
Name:		
Date:		



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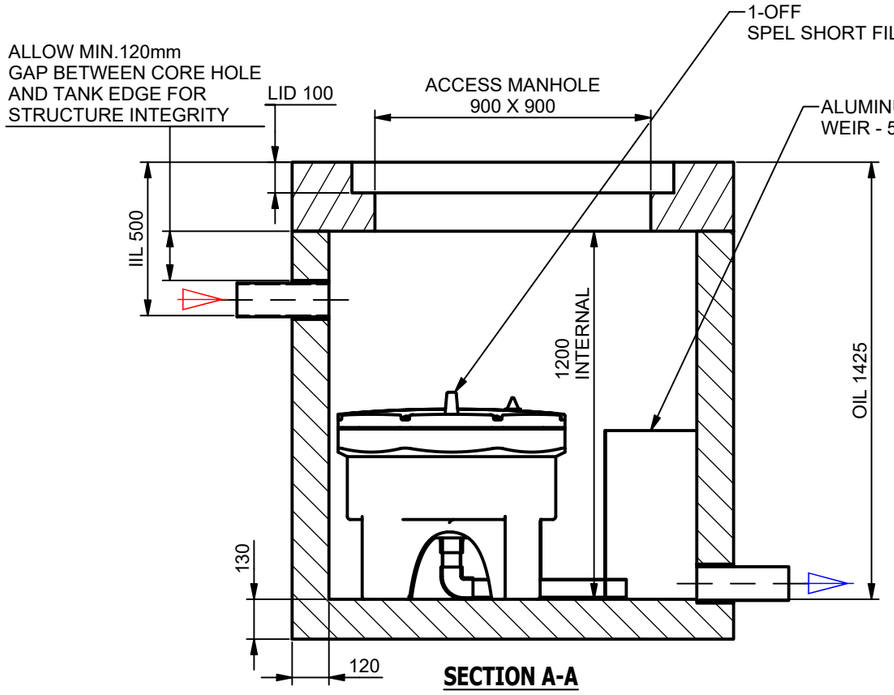
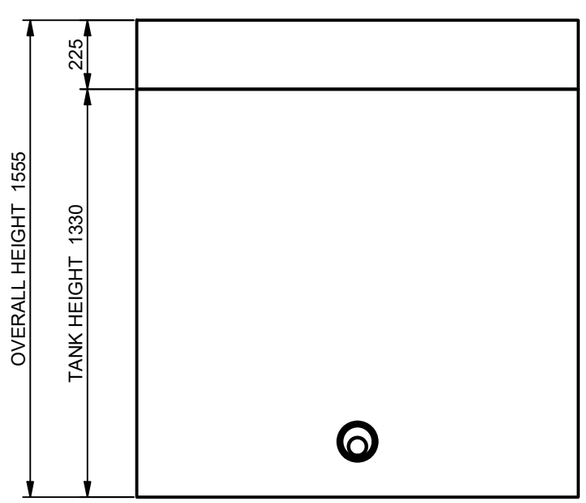
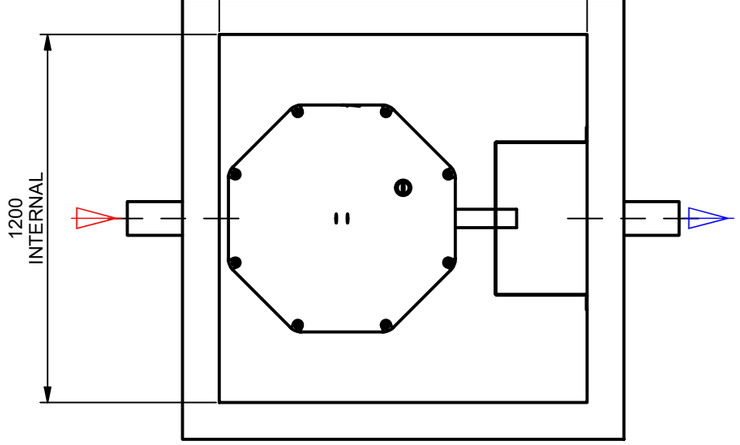


SECTION A-A



END VIEW



PLAN VIEW
(LID REMOVED FOR CLARITY)

TOLERANCE: All Dimensions to Closest 10 mm & +/- 30 mm

ALL INTERCONNECTING PIPEWORK, PITS AND ASSOCIATED DRAINAGE BY OTHERS

REV	DATE	BY	DESCRIPTION	CHK
1	07/07/2022		INITIAL RELEASE	

CLIENT:

Drawn	R.R.	Date 07/07/2022
Check		Date
Verified		Date
Approved		Date
Request No.	RN217865	

spelstormwater
joy in water
spel.com.au

PROJECT

TITLE
SPEL FILTER SYSTEM
SF.1212/01-15.CON
1 SPEL SHORT FILTER CARTRIDGE
GENERAL ARRANGEMENT

SCALE	SIZE	SHEET	REV
N.T.S	A3	1	1

CUSTOMER CODE :
DWG No. SP22-SF35550-P

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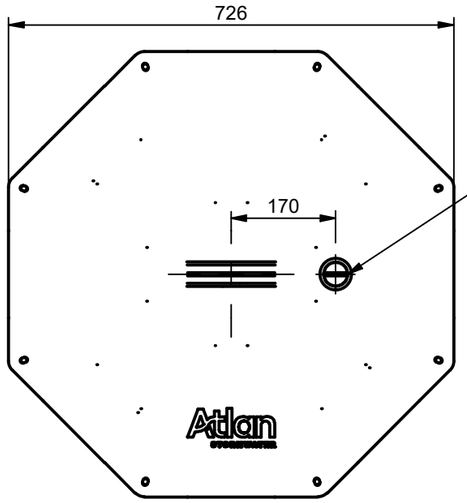
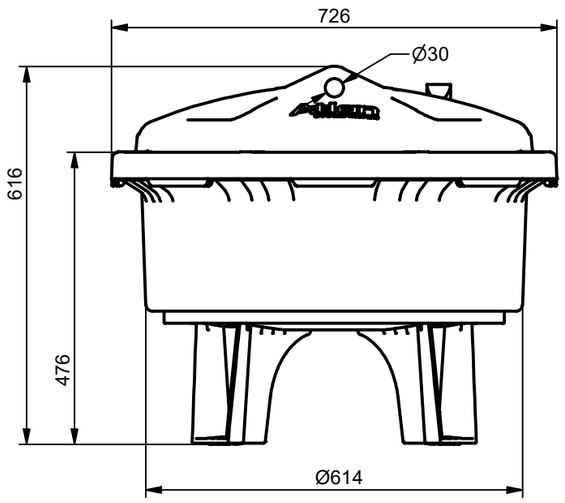
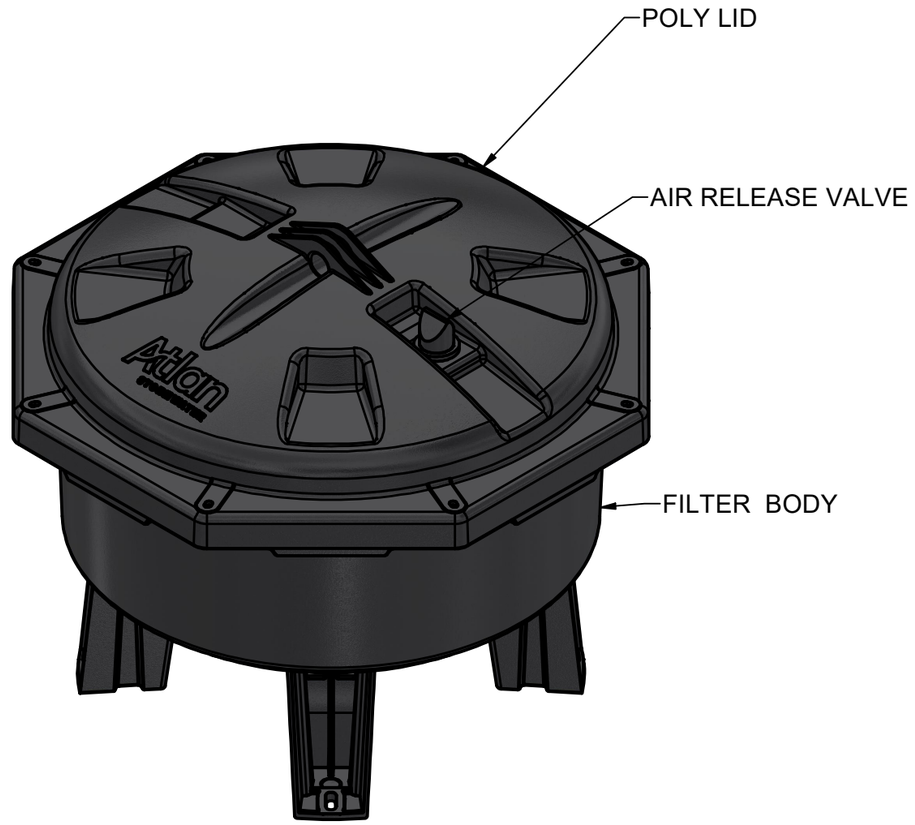


PLAN VIEW



ELEVATION VIEW



ISOMETRIC VIEW

TOLERANCE: All Dimensions to Closest 10 mm & +/- 30 mm

ALL INTERCONNECTING PIPEWORK, PITS AND ASSOCIATED DRAINAGE BY OTHERS

REV	DATE	BY	DESCRIPTION	CHK
1	15/04/2025	R.J.	INITIAL RELEASE	P.Z.

CLIENT:

Drawn	R.J.	Date 15/04/2025
Check	P.Z.	Date
Verified		Date
Approved		Date
Request No.		

ATLAN STORMWATER

PROJECT :

TITLE
ATLANFILTER
MODEL : FIL-1.5
GENERAL ARRANGEMENT

SCALE	SIZE	SHEET	REV
N.T.S	A3	1	1

CUSTOMER CODE : | DWG No. FIL-1.5

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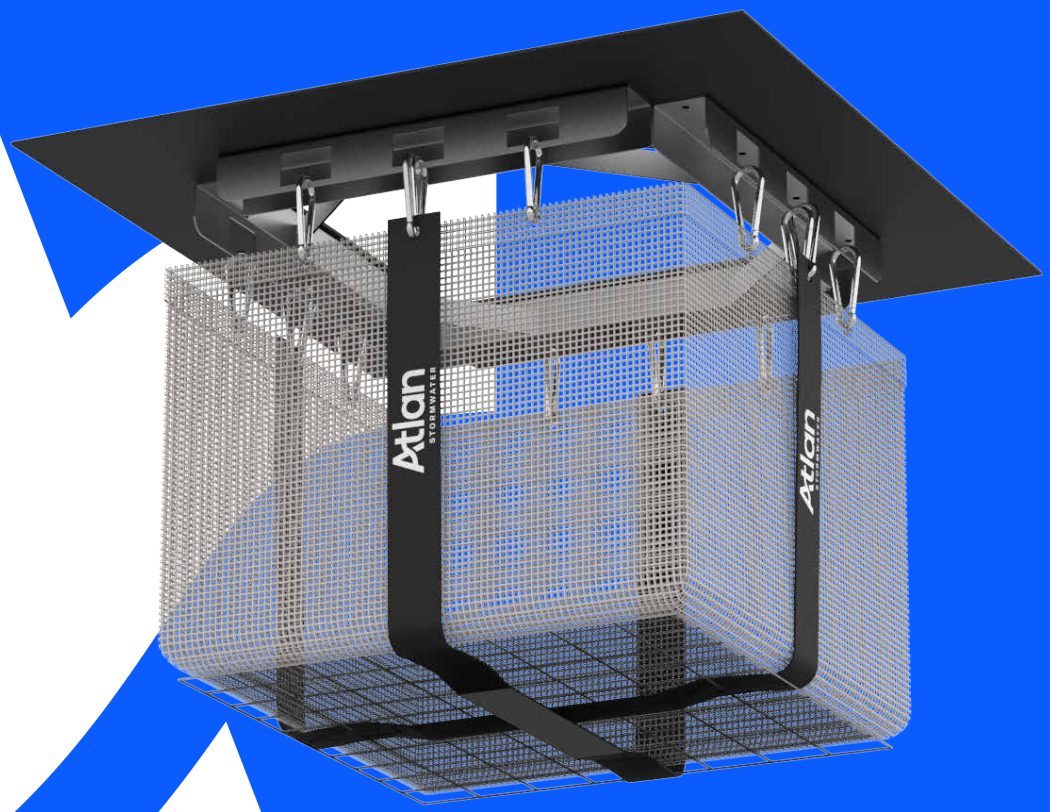
Appendix - Maintenance

OPERATION & MAINTENANCE MANUAL

StormSack



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Atlan
STORMWATER

INTRODUCTION

Maintenance of the Atlan StormSack is essential to preservation of its condition to ensure lifetime operational effectiveness.

The Atlan StormSack is a highly engineered water quality device that is deployed directly in the stormwater system as primary treatment to capture contaminants close to the surface for ease of maintenance.

To ensure full operational capacity, it is vital to ensure that the pollutants it captures are periodically removed, and filtration components are thoroughly cleaned.

This manual should be used in conjunction with the relevant site traffic management and safety plans, as well as any other provided documentation from Atlan.

The Atlan StormSack provides effective filtration of solid pollutants and debris typical of urban runoff, while utilising the existing or new storm drain infrastructure. The StormSack is designed to rest on the flanges of conventional catch basin frames and is engineered for most hydraulic and cold climate conditions.

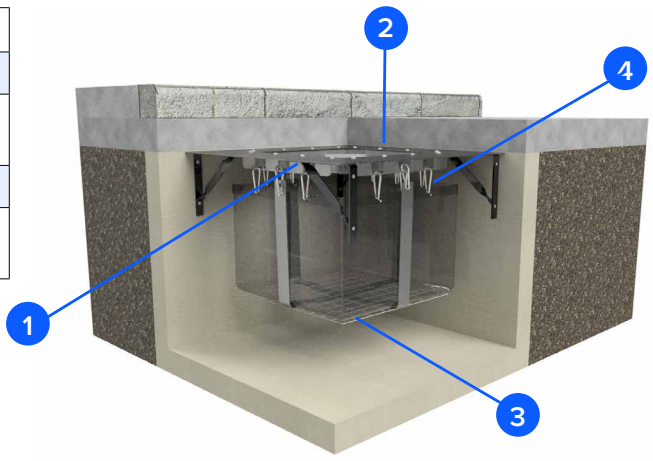
Typically the StormsSack is serviceable from the street level, and therefore maintenance does not usually require confined space entry into the catch basin structure. The unit is designed to be maintained in place with a vacuum hose attached to a sweeper or sucker truck.

COMPONENTS

- Adjustable Flange Deflector: Black HDPE attached to support frame
- Catchment Bag: 200micron woven poly fabric
- Support Hardware: Stainless steel 304
- Bag Support: Stainless steel 304 mesh
- Replaceable Oil Boom: Polypropylene 3 inch (76 mm) diameter (optional add-on)

Application	Regulatory Issue	Target Pollutants
Council Storm Drain Retrofits	At-source litter capture	Sediment, Litter, O&G
Commercial/Retail/Residential	Stormwater Compliance	Sediment, Litter, O&G
Litter Prone Urban Areas	Cost effective litter control	Litter ≥ 5 mm
Scrap Metal/Solid Waste/Oil Storage/Etc	Industrial Multi-Sector General Permit	Gross Pollutants, O&G
Part of Treatment Train	Council Stormwater Quality Improvement Targets	Sediment, Litter, O&G
Construction Sediment/Erosion	Sediment Control Plan	Sediment/Erosion Control

Features	
1.	Aluminium frame
2.	Black poly surround secured to frame • Can be cut to suit on site
3.	Reinforced StormSack bag
4.	Carabiners attach bag to frame for easy service and replacement



Standard StormSack to suit Pit Sizes
450x450mm
600x600mm
900x600mm
900x900mm

Custom sizes (i.e. 1200x900mm) can be manufactured on short lead times.

HEALTH & SAFETY

IMPORTANT: A full site based risk assessment should be completed prior to commencing work on your Atlan StormSack.

PERSONAL HEALTH & SAFETY

When carrying out maintenance operations of the Atlan StormSack all contractors and staff personnel must comply with all current workplace health and safety legislation. The below measures should be adhered as practically as possible:

- Comply with all applicable laws, regulations and standards.
- All those involved are informed and understand their obligations in respect of the workplace health and safety legislation.
- Ensure responsibility is accepted by all employees to practice and promote a safe and healthy work environment.

PERSONAL PROTECTIVE EQUIPMENT

When carrying out maintenance operations of the Atlan StormSack, wearing the appropriate personal protective equipment is vital to reducing potential hazards. Personal protective equipment in this application includes:

- Eye protection
- Safety apron
- Fluorescent safety vest
- Form of skin protection
- Puncture resistant gloves
- Steel capped safety boots

CAPTURED POLLUTANTS

The material captured by the Atlan StormSack can be harmful and needs to be handled correctly. The nature and amount of the captured pollutants depends on the characteristics of the site.

Pollutants can include from organic material such as leaves and sticks through to debris such as plastics, glass and other foreign objects such as syringes.

EQUIPMENT HANDLING

Handling activities such as a removing the drain grate a well as managing pedestrians and other non-worker personnel at the site should be exercised in accordance with specified safety procedures and guidelines.

CONFINED SPACES

Confined space entry procedures are not covered in this manual. It is requested that all personnel carrying out maintenance of the Atlan StormSack must evaluate their own needs for confined space entry and compliance with occupational health and safety regulations. Non trained staff are not permitted to participle in any confined space entries.

When maintenance operations cannot be carried out from the surface and there is a need to enter confined space, only personnel that currently hold a Confined Space Entry Permit are allowed to enter the confined space.

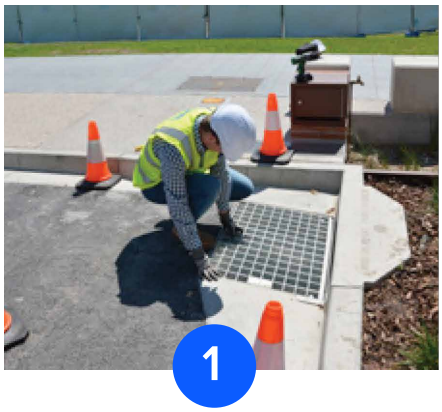
TRAFFIC MANAGEMENT

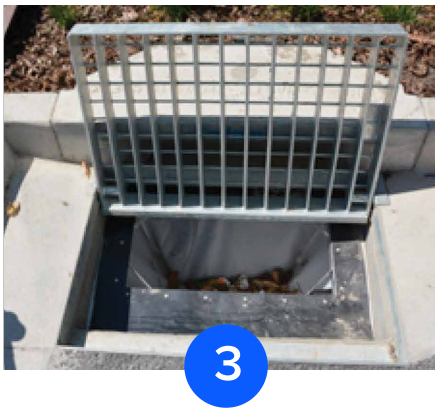
Typically stormwater gully pits are situated on roads and carparks, or adjacent to roads in a footpath or swale. As traffic requirements vary depending on the circumstance of the site, separate traffic control plans should be prepared for each site.

The specific road safety requirements for each site can be obtained from the relevant road authority to ensure all maintenance operations comply with the laws and regulations. State government publications can also be useful to find out the signage requirements, placement of safety cones and barricades that are required when working on public roads.

MAINTENANCE OF THE ATLAN STORMSACKS IS A SPECIALIST ACTIVITY

When carrying out maintenance operations of the Atlan StormSack, factors such as equipment handling methods, pollutants and site circumstances can impose potential risks to the maintainer and nearby civilians.





OPERATIONS

GENERAL MONITORING

The Atlan StormSack must be checked on a regular basis to analyse whether it requires maintenance or cleaning. As gully pit grates are usually quite heavy, it is vital to exercise the correct lifting techniques and also ensure that the area surrounding the open pit is shielded from access of non-work personnel.

To ensure optimal performance of the Atlan StormSack, the material collected by the filter bag should not exceed the level of approximately a half to two thirds of the total bag depth. When this material collected is showing signs of exceeding this level they should be scheduled to be emptied.

It is also recommended that additional monitoring is conducted following moderate to extreme rainfall events, especially when previous months have had little or no rainfall.

GULLY PIT COVER REMOVAL

Opening a hinged pit cover

1. Insert the lifting hooks beneath the grate.
2. Check hinge points are not damaged and debris is not caught in the hinge area.
3. Fully open pit grate, ensuring that the grate will stay in the open position without any external forces applied. Grates that do not remain open without being held, should be removed or secured during maintenance activities.

Opening a non-hinged pit cover

1. Place lifting hooks beneath grate, where possible in the four corners of the grate. Concrete lids may have Gatic lifting points, a key arrangement or holes in the lid, which may require special equipment such as Gatic lifters. Alternatively if safe to do so grip the grade with your hands.
2. Position each person on either side of the grate.
3. Lift the grate, ensuring that good heavy lifting posture is used at all times.
4. Place the grate on angle on the gutter, to allow for the lifting hooks to be removed.
5. For extremely heavy one-piece grates and concrete Gatic covers, insert the lifters in place and slide the lids back.

REPAIRS

Depending on the extent of the damage to the Atlan StormSack unit, it can usually be repaired.

Filter Bag Tears

Small tears to the filter bag can be repaired by either sewing the tear back together with additional fabric to increase the strength of the stitching, or by sewing a patch of filter material onto the filter bag.

Spill Procedures

In the event of a spill discharging into a gully pit, all effected sediment must be removed from the filter bags and the filter bags are to be removed and replaced with new filter bags.

Replacement Parts

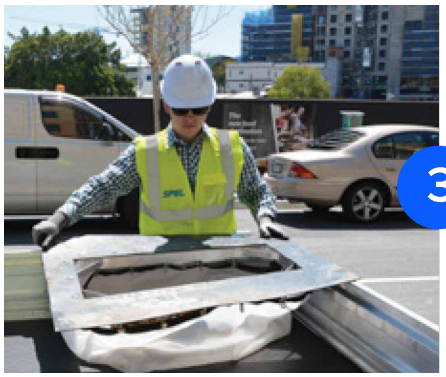
If large tears or irreparable damage to the frame and structure are present, it is advisable to replace the components.

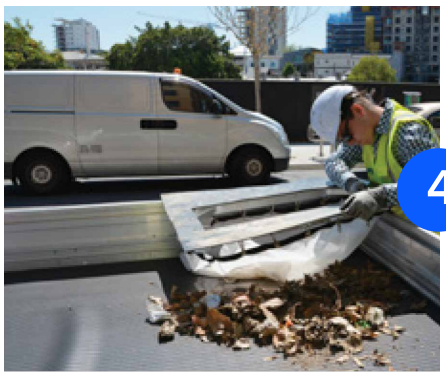
All required spare parts can be sourced directly from Atlan Stormwater.

CLEANING METHODS

CLEANING USING AN VACUUM TRUCK

1. Open gully pit.
2. Place the vacuum hose, suck out all of the sediment, organic leaf material, litter and other materials that were collected in the filter bag.
3. Allow the filter bag to be sucked up in the vacuum hose for a few seconds to allow for the filter mesh pores to be cleaned.
4. Use the vacuum hose to remove any build-up of material around the overflows and in the bottom of the pit.
5. Remove filter back from pit.
6. Remove any sediment and litter caught in the gully pit grate.
7. Back opening channels are to be cleared of any debris to ensure flow is not hindered.
8. Thoroughly examine the structural integrity of the filter bag and frame.
9. Reinstate filter bag and gully pit covers.





CLEANING BY HAND

CAUTION: Correct PPE must be warn - refer to page three. Remain alert for dangerous objects and wildlife.

1. Open gully pit.
2. Using the correct lifting technique, lift the StormSack out by the diagonal lifting corners fitted to the frame. For extremely heavy and overfilled bags either use a hydraulic lifting arm to lift the StormSack, or remove excess material using a shovel or etc. Take care not to damage the bag when removing litter form the bag.
3. Lift the StormSack clear of the stormwater pit and position over the collection bin or vehicle.
4. Lift and empty the bag by holding the bottom lifting loops only.
5. Brush the StormSack with a stiff brush to remove the sediment from the filter pores.
6. Thoroughly examine the structural integrity of the filter bag and frame.
7. Reinstate StormSack and gully pit covers.

MATERIAL DISPOSAL

Collected materials can be potentially harmful to humans and the environment. Once all captured material from the Atlan StormSack has been removed, it must be taken off site and disposed of at a transfer station or a similar approved disposal site.

BLOCKAGE TROUBLESHOOTING

In the unlikely event of surface flooding around a gully pit which has a Atlan StormSack fitted, the following steps should be carried out:

- Check the overflow bypass.
- If overflow is clear and surface flooding still exists remove the Atlan StormSack and check the outlet pipe for blockages.
- Removal of the Atlan StormSack can be difficult if clogged with sediment and holding water.
- If the filter is clogged brush the side walls to dislodge particles trapped at the interface allowing water to flow through the filter.
- If the outlet pipe is blocked a vacuum truck may be required to unblock it. Litter can be removed from the Atlan StormSack using the vacuum truck before removal. If a vacuum truck is not available please follow the hand maintenance cleaning steps prior to unblocking the outlet pipe.

INTRODUCTION

Understanding how to correctly and safely maintain the AtlanFilter (formerly SPELFilter) is essential for the preservation of the filter's condition and its operational effectiveness. The AtlanFilter is a highly engineered stormwater filtration device designed to remove sediments, heavy metals, nitrogen and phosphorus from stormwater runoff.

The filters can be housed in either a concrete or fibreglass structure that evenly distributes the flow between cartridges.

Flow through the filter cartridges is gravity driven and self-regulating, which makes the AtlanFilter system a low maintenance, high performance stormwater treatment device.

This guide will provide the necessary steps that are to be taken to correctly and efficiently ensure the life of the AtlanFilter product.

Figure 1 - AtlanFilters in a concrete chamber / vault

FEATURES

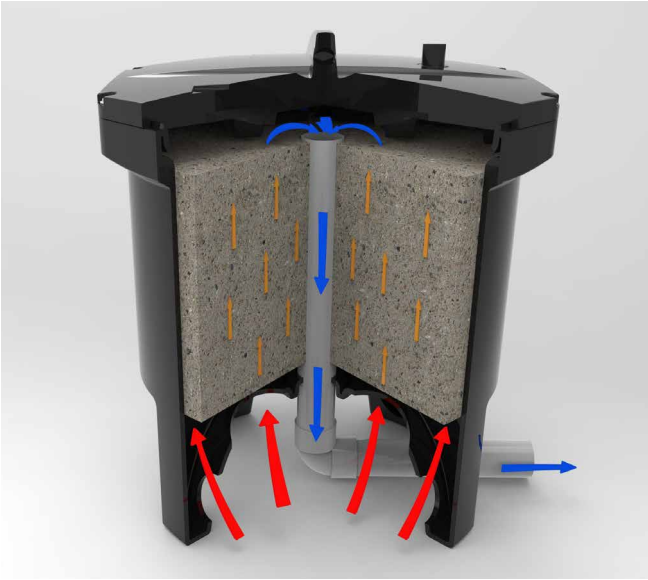


Figure 2 - Diagram of water flow through AtlanFilter

The AtlanFilter has a patented design that facilitates influent flow over the entire surface area of the media, providing consistent pollutant removal within a small footprint.

The AtlanFilter provides highly effective media filtration using gravity flow conditions, without the need for moving parts or floating valves. This eliminates the risk of mechanical failure, such as stuck valves and seizing components during its service life. This provides highly robust treatment performance.

Hydraulic head provided by a suitably sized weir in the filter vault forces stormwater through the filter media via the inlet ports underneath the filter cartridge.

Refer to the table below for minimum head required for the AtlanFilter cartridges to assist in sizing the weir.

The water to be treated enters the AtlanFilter cartridge via an upwards direction as the water level builds up around the AtlanFilter. This ‘up flow’ reduces the amount of sediment that could enter the media cartridge, as the sediment is allowed to drop to the vault floor under gravity. Any remaining sediment in the water is introduced through the filter media under hydraulic pressure and is filtered.

Water is filtered through the media, where dissolved and particulate Total Nitrogen and Total Phosphorus are removed via reaction with the media, in addition to the removal of Total Suspended Solids / sediment.

AtlanFilter Media Self-Backwash feature

A one-way air release valve located at the top of the filter cartridge allows air to escape as the cartridge fills up with water. This creates a siphonic flow condition as the air is completely evacuated from inside the AtlanFilter cartridge. Siphonic flow conditions are maintained until such time the water level outside of the cartridge falls beneath the inlet ports underneath the filter. At this moment, the water level inside the AtlanFilter cartridge is higher than the surrounding water level.

The water inside the AtlanFilter cartridge is then expelled upon the break of the siphon, and the water flows down and out of the inlet ports under gravity, onto the vault floor.

This is a highly effective backwash of the media and allows the expulsion of a high proportion of sediment out from the AtlanFilter media. The expelled sediment can be removed either manually or with a vacuum from the vault floor.

This backwash effect allows the media to remain highly conductive and is the key to the industry leading longevity of the AtlanFilter cartridge system, which does not need replacement for at least 5 years, and typically will achieve up to 6-8years of service, subject to the AtlanFilter being regularly maintained in accordance with this guideline and in accordance with the specific needs of the catchment.

Figure 3 - Typical Outlet Weir Wall

FEATURES

Self Supporting Feet

Each AtlanFilter cartridge stands on 4 feet, which negates the need for the construction of a false floor in the vault. The feet are bolted to the vault floor with the supplied stainless steel angles and M10 bolts. The feet allow a clear height from the vault floor up to the inlet ports of 240mm. The absence of a false floor allows plenty of room for backwashed sediment to evacuate from underneath the cartridges and thereby avoid blocking the inlet ports to the AtlanFilter from sediment buildup. It is for this reason that Atlan recommended the sediment buildup not exceed 150mm above the vault floor, so as to avoid blocking the inlet ports of the AtlanFilter. Blockage of the inlet ports due to sediment accumulation in the vault floor will cause the AtlanFilter to go into bypass and be ineffective. Hence it is important to keep up to date with monitoring and maintaining the AtlanFilter vault.

Figure 4 - Bolting the feet.

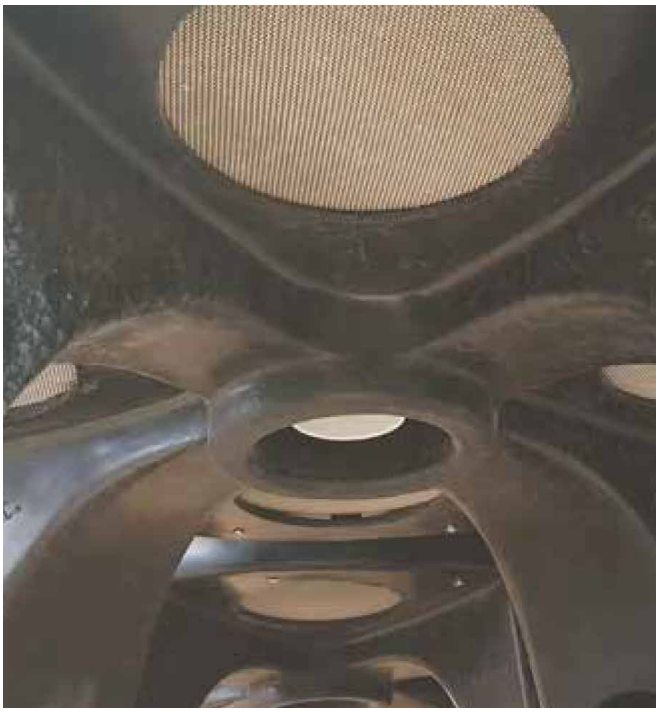


Figure 5 - Underside of the AtlanFilter showing the screened inlet ports and the connection for the outlet pipe in the middle.

Figure 6 - the top of the AtlanFilter showing the location of the one way air valve.

SIZES

Atlan Stormwater manufactures two height cartridges for varying site constraints as shown below. Each cartridge is designed to treat stormwater at a flow rate of 1.5 litres per second and 3.0 litres per second for the half height cartridge (model no. FIL-1.5) and full-height cartridge (model no. FIL-3.0) respectively.

	Full Height FIL-3.0	Half Height FIL-1.5
AtlanFilter total height	860mm	660mm
AtlanFilter Diameter	740mm	740mm
Minimum Head required	850mm	550mm
Treatment flow rate	3.0 L/s	1.5 L/s
Height of inlet ports above vault floor	250mm	250mm
Filtered water collection pipe diameter	50mm	50mm

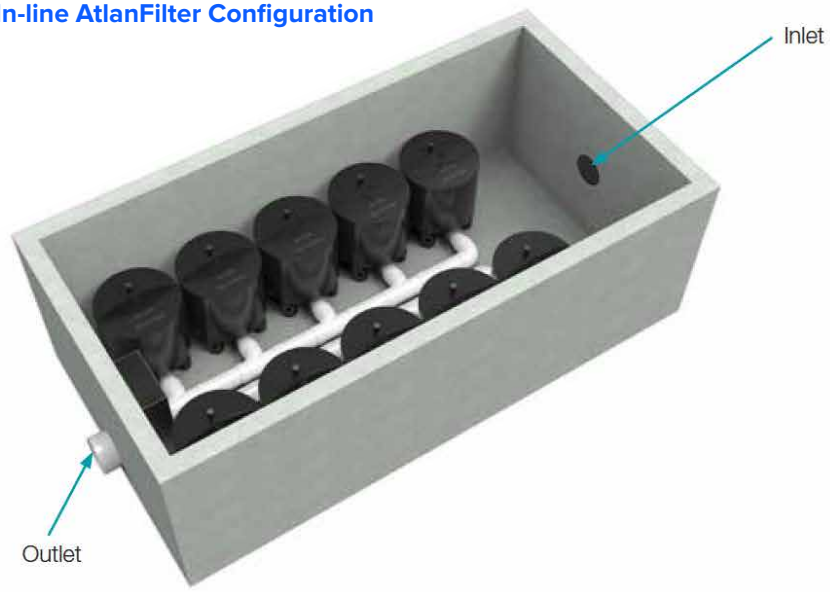
AtlanFilter Full Height - FIL-3.0

AtlanFilter Half Height - FIL1.5

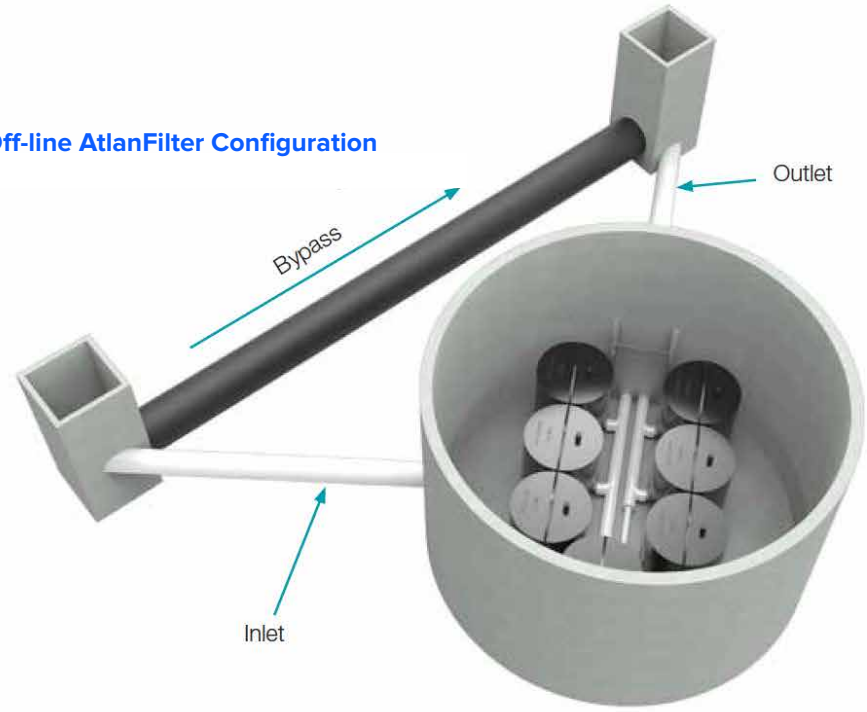
SYSTEM CONFIGURATION

AtlanFilter cartridges are installed in concrete or fibreglass tanks commonly referred to as ‘vaults’. The vault selection and configuration are based on site characteristics and/or constraints; computational stormwater quality modelling; and selected AtlanFilter models. Typical AtlanFilter system configurations are shown below.

In-line AtlanFilter Configuration



Off-line AtlanFilter Configuration



HEALTH AND SAFETY

A. Personal health & safety

When carrying out the necessary installation operations of the AtlanFilter all contractors and staff personnel must comply with all current workplace health and safety legislation.

The below measures should be adhered to as practically as possible.

- Comply with all applicable laws, regulations and standards.
- All those involved are informed and understand their obligations in respect of the workplace health and safety legislation.
- Ensure responsibility is accepted by all employees to practice and promote a safe and healthy work environment.

B. Personal protective equipment/safety equipment

When carrying out the necessary installation operations of the AtlanFilter, wearing the appropriate personal protective equipment and utilising the adequate safety equipment is vital to reducing potential hazards.

Personal protective equipment / safety equipment in this application includes:

- Eye protection
- Safety apron
- Fluorescent safety vest
- Form of skin protection
- Puncture resistant gloves
- Steel capped safety boots
- Ear muffs
- Hard hat/s
- Sunscreen

C. Confined space

In the event access is required into the vault, confined space permits will be required which is not covered in this Guide. Typical equipment required for confined space entry include:

- Harness
- Gas detector
- Tripod
- Spotter

D. Traffic Control

It is not uncommon for Atlan Filter cartridges to be installed underneath trafficable areas. Minimum traffic control measures will need to be put in place in accordance with traffic control plans set out by respective local and state road authorities.

Vaults are to be treated as confined space.

Entry by permit only.

Monitor weather conditions prior to operation maintenance. Do not enter a vault during an episode of heavy rain as this can create a risk of drowning.

MAINTENANCE FREQUENCY

The AtlanFilter's design allows for a greater life span when frequently maintenance. Maintenance is broken up into three categories which include:

- Standard inspection
- General cleaning
- Cartridge replacement.

Standard Inspection

Standard inspections are conducted at regular four month intervals. At this time, an approved trained maintenance officer or Atlan representative shall undertake all measures outlined in Maintenance Procedure, Standard Inspection.

General Cleaning

At the end of each standard inspection, trigger measures will identify if general cleaning is required.

General cleaning will need to be executed immediate during standard inspections if the follow triggers are satisfied:

- Build-up of debris/pollutants within the vault greater than 150mm;
- Accumulation of debris/pollutants on the outlet chamber of the AtlanFilter vault;
- After large storm events, tidal or flooding impacts at the request of the owner;

Cartridge Replacement

Stormwater treatment is dependent on the effectiveness of the AtlanFilter cartridge system. As the AtlanFilter ages, pollutants will inundate the cartridge and ultimately reduce the treatment flow rate. At this point, a AtlanFilter flow test apparatus will be utilities to determine if replacement cartridges are required.

Based on the [site] concept modelling (MUSIC) and previous industry experience, we estimate the life of the AtlanFilter to be between 6 - 8 years. As a minimum requirement, each AtlanFilter cartridge should be replaced within 10 years.

The life cycle of the AtlanFilter can be impacted if standard inspections and general maintenance is not undertaken in accordance with this operation and maintenance Guide.

Other factors that will affect the above life cycle of the AtlanFilter include:

- Installation of cartridge system during construction phase and impacted by construction sediment loads;
- Neglecting to install pre-treatment using an industry approved GPT or a surface inlet pit trash bag such as the Atlan StormSack.
- Unforeseen environmental hazards affecting the AtlanFilter functionality.

MAINTENANCE PROCEDURES

Stormwater pollutants captured and retained by the AtlanFilter system need to be periodically removed to ensure environmental values are upheld. All associated maintenance works is heavily dependent on the site's operational activities and generated stormwater pollutants. To ensure the longevity of the installed AtlanFilter treatment system, it is imperative that the procedures detailed in this Guide are followed and all appropriate measures are actioned immediately.

Standard inspection

The standard inspection requires personal experience of Atlan products to visual inspection the vault and filter conditions.

Confined space requirements may not be required if a full inspection and assessment of each AtlanFilter can be achieved at surface level without being deemed a confined space entry.

The standard inspection requires personal experience of Atlan products to visual inspection the vault and filter conditions.

Confined space requirements may not be required if a full inspection and assessment of each AtlanFilter can be achieved at surface level without being deemed a confined space entry.

Site Inspection Procedures

1. Implement pre-start safety measures

Ensure that the area in which operational works are to be carried out is cordoned off, to prevent unauthorised access. Adequate safety barriers must be erected.

Area in which work is to be carried out must be clean, safe and hazard free. (Refer to figure 4.)

2. Set-up gantry tripod above manhole

Assemble and position the gantry above the manhole safely and as practically as possible. Attach the winch or chain block to the gantry for lifting the Atlan Filters.

Perform safety procedures ie. Attach harnesses etc. (if confined space).

3. Open manhole lid

Once you have set up the Gantry and ensured that the area is safe to operate in, you can proceed to open the manhole lid, using lid lifters.

4. Conduct gas tests

(If tank is classed confined space)

Once the lids have been removed to a safe distance to prevent tripping, you must then proceed to conduct gas tests. Perform necessary gas tests according to the confined space regulations.

5. Once confined space has been deemed safe to operate in, enter tank safely

Once you have carried out the required gas test and the work area is deemed safe, you may then enter the pit via a ladder or winch system to assess the work area you will be operating in. Ensure all confined space

6. AtlanFilter system assessment

Perform a review of the AtlanFilter system using the AtlanFilter assessment report/checklist. Sign off and forward a copy of the report to property manager and Atlan representative.

7. Reinstate AtlanFilter system and disposal

At the completion of the site inspection, ensure the site is reinstated back to its initial state and all pollutants are removed from the site in line with pollutant disposal procedures.

8. Sign off and forward a copy of the report to property manager and Atlan representative

GENERAL CLEANING

Vacuum out of Filter tank, removal, and disposal of pollutants at the completion of a standard inspection, general cleaning may be deemed necessary immediately or scheduled for a future date. Steps undertaken for general cleaning should be in general accordance with the procedure outlined below but not limited.

1. Implement pre-start safety measures

Ensure that the area in which operational works are to be carried out is cordoned off, to prevent unauthorised access. Adequate safety barriers must be erected.

Area in which work is to be carried out must be clean, safe and hazard free. (Refer to figure 4.)

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6. AtlanFilter system assessment

Perform a review of the AtlanFilter system using the AtlanFilter assessment report/checklist.

7. Pollutant removal from tank

Perform clean-up using a licenced vacuum truck contractor or wet/dry vacuum, depending on level of sediment built up and/or tank size.

8. Reinstate AtlanFilter system and disposal

At the completion of the site inspection, ensure the site is reinstated back to its initial state and all pollutants are removed from the site in line with pollutant disposal procedures.

9. Sign off and forward a copy of the report to property manager and Atlan representative

CARTRIDGE RECYCLING AND REPLACEMENT

AtlanFilter cartridges can be swapped out for new cartridges. The spent AtlanFilter cartridges can be collected from site and sent to Atlan Stormwater's facilities, where the spent media will be removed from the cartridge in factory conditions and disposed of in accordance with environmental regulations.

The AtlanFilter cartridge will be recharged with new media, thereby recycling and repurposing the cartridge.

AtlanFilter replacement procedures may vary depending on the configuration of the AtlanFilters, the type of vault and engineers' specs. Replacement instructions for manhole AtlanFilter systems and precast vault AtlanFilter systems are contained in this section.

At the completion of a standard inspection, AtlanFilter replacement may be deemed necessary immediately or scheduled for a future date. Steps undertaken for cartridge replacement should be in general accordance with the procedure outlined below but not limited.

1. Implement pre-start safety measures

Ensure that the area in which operational works are to be carried out is cordoned off, to prevent unauthorised access. Adequate safety barriers must be erected.

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Once the lids have been removed to a safe distance to prevent tripping, you must then proceed to conduct gas tests. Perform necessary gas tests according to the confined space regulations.

5. Once confined space has been deemed safe to operate in, enter tank safely

Once you have carried out the required gas test and the work area is deemed safe, you may then enter the pit via a ladder or winch system to assess the work area you will be operating in. Ensure all confined space procedures are followed.

6. Remove exhausted cartridges

Disconnect all internal pipe work from inside the vault. Unbolt anti-floatation measures and remove cartridges from the vault using Gantry Tripod method.

7. Pollutant removal

Using a wet/dry vacuum or sucker truck, suck out all the residual pollutant from the vault.

8. Install pipework and AtlanFilters

Please refer to the below standard install diagrams for the AtlanFilters. Then refer to your site specific drawings, as site requirements may require something different to the standard layout. Lower filters into tank, position into place, connect filter outlet pipework with the supplied fittings.

9. Install anti–floatation system

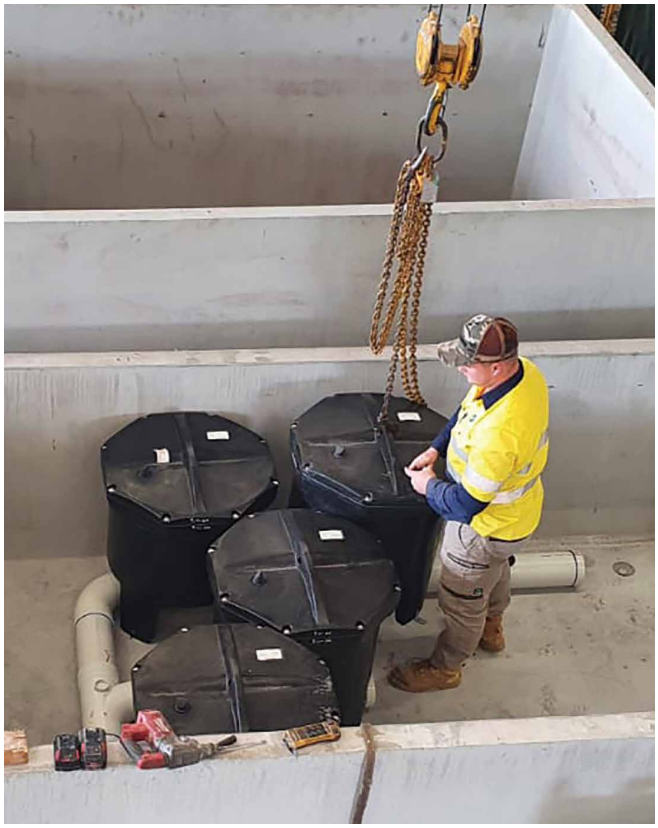
Please refer to the detailed drawings showing how the anti-floatation (anchor) bars are to be installed.

10. Sign off and forward a copy of the report to property manager and Atlan representative

SITE EXIT & CLEAN UP

At the end of the scheduled maintenance, approved contractors or Atlan maintenance crew are required to reinstate the site to pre-existing conditions. Steps included but limited to are:

- Ensure all access covers are securely inserted back into their frames;
- Remove and dispose collected pollutants from the site in accordance with local regulator authorities;
- Retrieve all traffic control measures and maintenance tools; and
- Return all exhausted and/or damaged Atlan products to Atlan Stormwater to begin recycling program.



Appendix - System Warranty

WARRANTY

THE ATLANFILTER & STORMSACK PRODUCT

Manufacturer's Warranty

Solely a warranty on the structural integrity of the supplied Atlan Filters & StormSacks. This warranty is automatic with supply and last 5 years on Atlan Filters & 2 Year on Atlan StormSacks

Operational Warranty

For as long as the Atlan products were commissioned at the time of construction completion and there is an active maintenance contract currently in place with Atlan, Atlan warrants that the operating components of the Atlan Stormwater treatment system are in full operatable condition.

Atlan Filter Operational Warranty Caveats;

1. Warranty will not apply if Atlan Filters are subjected to construction silt load
2. Warranty only applied to projects that have StormSacks fitted in all upstream pits or an Atlan approved GPT
3. Atlan have an active maintenance contract in place for the site

StormSack Operational Warranty Caveats;

1. Warranty does not apply to StormSack bags damaged by cigarette butt burns
2. Warranty doesn't apply to damage caused by vandalism
3. Warranty doesn't apply if Atlan does not have an active maintenance contract in place

Commissioning is a standard requirement of the Operational Warranty and is intended to ensure that all Atlan products are installed correctly and they are in a clean operatable condition at the time of site hand over/ construction completion. As part of the Commissioning process an Atlan representative will attend site, inspect and provide a report of approval. This report can be provided to any involved parties for their general records. This report of approval is also generally used by the installer as a record to say that they have installed as per manufacturer's specifications and requirements. If the client chooses to forfeit the Atlan onsite Commissioning, Atlan has no operational warranty obligation in this instance.

The Atlan Maintenance Contract is a maintenance program offered by Atlan for all sites and all Atlan products and is also a standard requirement of the Operational Warranty. Included in the maintenance program, Atlan technicians conduct scheduled periodic maintenance inspections to ensure the Atlan products are operating in accordance to their to requirements and provide a report on their findings. Based on the report will further action additional to the contract be required if there is repairs, rectifications or extensive cleans etc needed to restore the Atlan products back to full operating condition. For as long as there is an active maintenance contract in place with Atlan, Atlan will guarantee that the Atlan products are operating in their designed manner. If the client chooses to tender out/award the Maintenance and Operational Warranty to another service provider, this is fine with Atlan and it is now the new service providers responsibility to warrant that the operating components of the Atlan Stormwater treatment system are in full operatable condition. Atlan has no operational warranty obligation in this instance.

Atlan STORMWATER

On-Site Stormwater Detention (OSD) Tank Maintenance Schedule

Regular inspection and maintenance of the OSD tank are essential to ensure proper operation, prevent flooding, and maintain compliance with council and environmental requirements. The following schedule outlines recommended maintenance tasks and frequencies.

Frequency	Maintenance Task	Tick / Notes
Weekly–Fortnightly	• Inspect grates, pits, and inlets for debris, litter, and sediment. • Ensure orifice plates and outlets are clear. • Check that the tank drains within the designed period (typically 24–72 hours).	
Monthly	• Inspect structural condition (cracks, leaks, displacement). • Check access covers and gratings. • Test pumps and float switches (if installed).	
Quarterly (3-Monthly)	• Clean outlet pits, orifice plates, and discharge pipes. • Check energy dissipators and downstream drainage. • Mow or remove vegetation obstructing flow (if applicable).	
Bi-Annually (6-Monthly)	• Remove sediment and sludge build-up from tank and sump. • Perform functional test by simulating inflow. • Repair erosion or scouring.	
Annually	• Conduct comprehensive inspection of all components. • Verify signage, safety rails, and access compliance. • Engage a qualified contractor for professional clean-out and report.	

Record Keeping

A maintenance logbook should be kept recording all inspections, cleaning, repairs, and professional servicing. Include the date, description of works, and name of the person or contractor performing the maintenance.

Inspector / Contractor: _____

Date: _____

Signature: _____

40 CENTRAL AVENUE | MULTI-UNIT RESIDENTIAL DEVELOPMENT

MOONAH, TAS 7009

SITE INFORMATION

LAND TITLE REFERENCE		**55187/121**
PROPERTY ID		**5414683**
WIND CLASSIFICATION	**A**	SITE CLASSIFICATION TO AS4055-2012
SOIL CLASSIFICATION		SITE CLASSIFICATION TO AS2870-2011
CLIMATE ZONE	**7**	(www.abcb.gov.au.map)
BAL LEVEL		No areas of bushfire prone vegetation >1ha within 100m of the building
ALPINE AREA		BCA Figure 3.7.5.2
OTHER HAZARDS	**N/A**	High wind, earthquake, flooding, landslip, dispersive soils, sand dunes, mine subsidence, landfill, snow & ice or other relevant factors.
TOTAL AREA	**SITE**	**1107 m²**
HOUSE EXISTING		**170 m²**
BUILDING AREA PROPOSED	**Refer drawings**	
DECK / PATIO AREA	**Refer drawings**	

ACCREDITED DESIGNER

DESIGNER	**HL**
ACCREDITATION NUMBER	**682220660**

ARCHITECTURAL SHEET LIST

No.	SHEET NAME	REVISION
DA- 000	COVER SHEET	D
DA- 100	LOCATION PLAN	B
DA- 101	SITE PLAN - EXISTING	A
DA- 200	SITE PLAN - DEMOLITION	B
DA- 300	SITE PLAN - GROUND FLOOR	C
DA- 301	SITE PLAN - UPPER FLOOR	C
DA- 302	SITE PLAN - ROOF PLAN	C
DA- 303	TYPICAL FLOOR PLAN - UNIT 1&2	C
DA- 304	UNIT 1 & 2 SECTIONS	C
DA- 305	TYPICAL FLOOR PLAN - UNIT 3&4	C
DA- 306	UNIT 3 & 4 SECTIONS	C
DA- 307	SITE 3D DIAGRAM	A
DA- 400	ELEVATIONS	D
DA- 500	3D PERSPECTIVE VIEW - FRONT 1	A
DA- 501	3D PERSPECTIVE VIEW - FRONT 2	A
DA- 502	3D PERSPECTIVE VIEW - FRONT 3	A

TOTAL SHEETS: 16

P25050_DA- 000

JAWS ARCHITECTS

HOBART
THE ORDNANCE STORE
21 CASTRAY ESPLANADE
BATTERY POINT TAS 7004

LAUNCESTON
LEVEL 1, 3 QUADRANT MALL
LAUNCESTON TAS 7250

JACOB ALLOM WADE PTY LTD
ABN 92 009 559 479

TELEPHONE 03 6223 4366
FAX 03 6223 5726
jaws@jawsarchitects.com
www.jawsarchitects.com

PROJECT

Project Name
40 CENTRAL AVENUE, MOONAH, TAS 7009

For

INDUSTRO PARK PTY

DRAWING

Development Application

REVISIONS

REV	DESCRIPTION	DATE
A	Development Application	12/08/2025
B	RFI	26/09/2025
C	RFI	11/11/2025
D	RAI	11/12/2025

DRAWING NAME **COVER SHEET**

SCALE: **1 : 100@A3**
DRAWN: **ML**
CHECKED: **HL**
ACCREDITED DESIGNER: **HL**

PLOT DATE: **11/12/2025**

GLENORCHY CITY COUNCIL
PLANNING SERVICES

APPLICATION No PLN-25-223

DATE RECEIVED 11 December 2025

LOCATION PLAN

SCALE: 1 : 2000

P25050_DA- 100

JAWS ARCHITECTS

HOBART
THE ORDNANCE STORE
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REVISIONS

REV	DESCRIPTION	DATE
A	Development Application	12/08/2025
B	RFI	11/11/2025

DRAWING NAME **LOCATION PLAN**

SCALE: **1 : 2000@A3**
DRAWN: **ML**
CHECKED: **HL**
ACCREDITED DESIGNER: **HL**

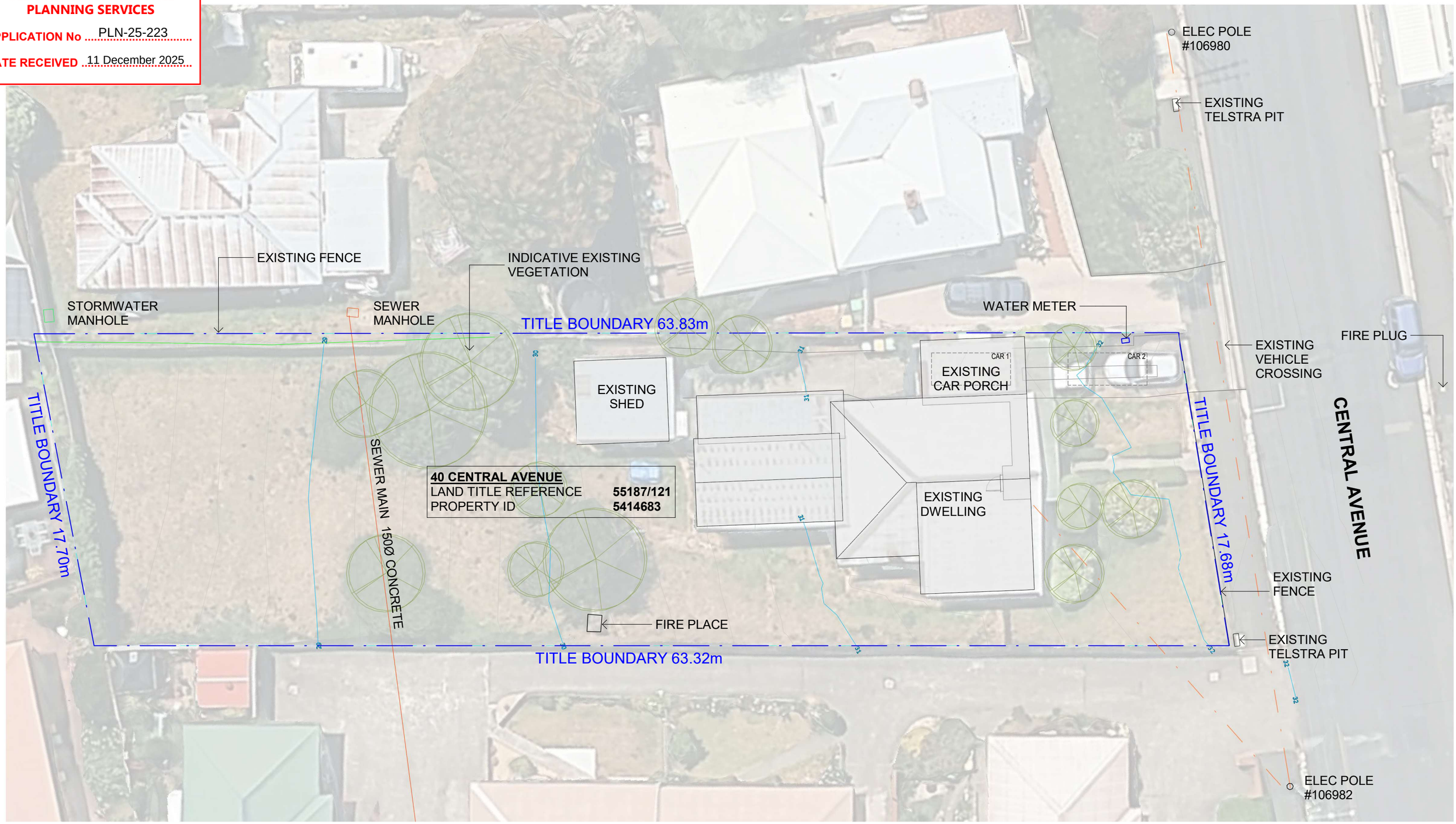
PLOT DATE: **19/11/2025**

NORTH

GLENORCHY CITY COUNCIL
PLANNING SERVICES

APPLICATION No PLN-25-223

DATE RECEIVED 11 December 2025



SITE PLAN - EXISTING

SCALE: 1 : 200

P25050_DA- 101

JAWS ARCHITECTS

HOBART
THE ORDNANCE STORE
21 CASTRAY ESPLANADE
BATTERY POINT TAS 7004

LAUNCESTON
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www.jawsarchitects.com

PROJECT

Project Name
40 CENTRAL AVENUE, MOONAH, TAS 7009

For

INDUSTRO PARK PTY

DRAWING

Development Application

REVISIONS

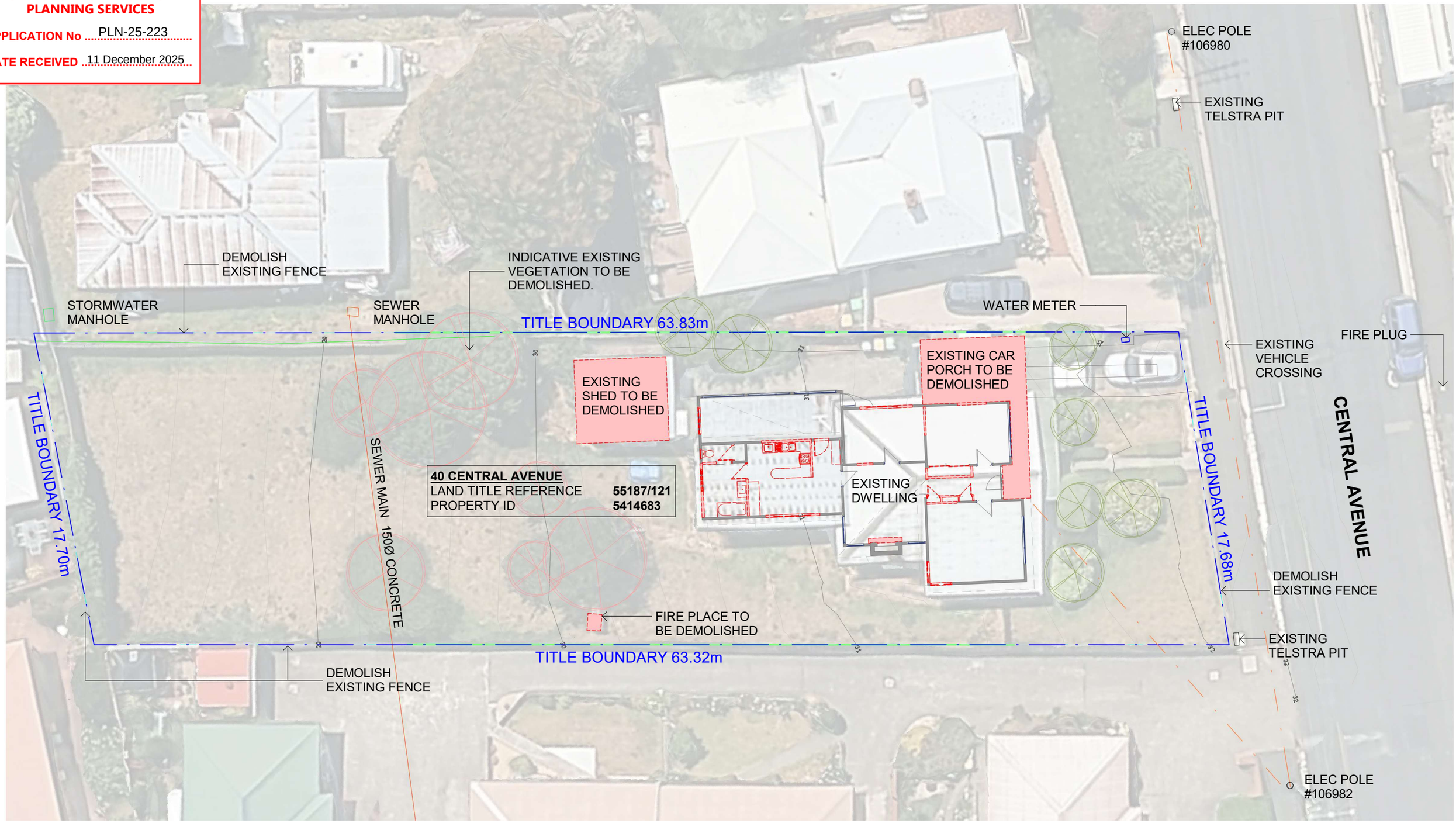
REV	DESCRIPTION	DATE
A	Development Application	12/08/2025

DRAWING NAME SITE PLAN - EXISTING

SCALE: 1 : 200@A3
DRAWN: ML
CHECKED: HL
ACCREDITED DESIGNER: HL

PLOT DATE: 19/11/2025

NORTH



SITE PLAN - DEMOLITION

SCALE: 1 : 200

P25050_DA- 200

JAWS ARCHITECTS

HOBART
THE ORDNANCE STORE
21 CASTRAY ESPLANADE
BATTERY POINT TAS 7004

LAUNCESTON
LEVEL 1, 3 QUADRANT MALL
LAUNCESTON TAS 7250

JACOB ALLOM WADE PTY LTD
ABN 92 009 559 479

TELEPHONE 03 6223 4366
FAX 03 6223 5726
jaws@jawsarchitects.com
www.jawsarchitects.com

PROJECT

Project Name
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For

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Development Application

REVISIONS

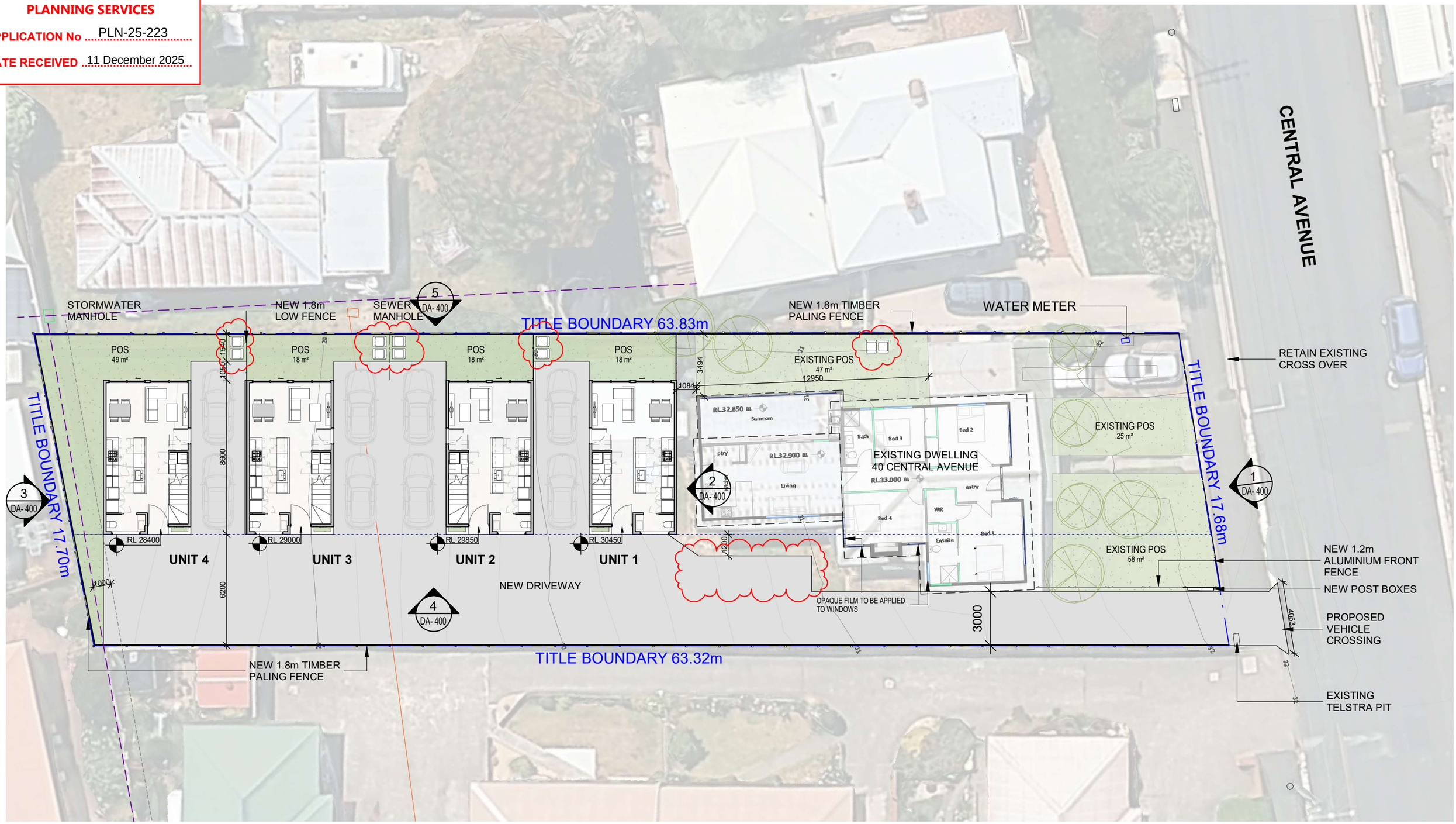
REV	DESCRIPTION	DATE
A	Development Application	12/08/2025
B	RFI	26/09/2025

DRAWING NAME SITE PLAN - DEMOLITION

SCALE: 1 : 200@A3
DRAWN: ML
CHECKED: HL
ACCREDITED DESIGNER: HL

PLOT DATE: 19/11/2025

NORTH



SITE PLAN - GROUND FLOOR

SCALE: 1 : 200

P.O.S. = PRIVATE OPEN SPACE

P25050_DA- 300

JAWS ARCHITECTS

HOBART
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Project Name
40 CENTRAL AVENUE, MOONAH, TAS 7009

For

INDUSTRO PARK PTY

DRAWING

Development Application

REVISIONS

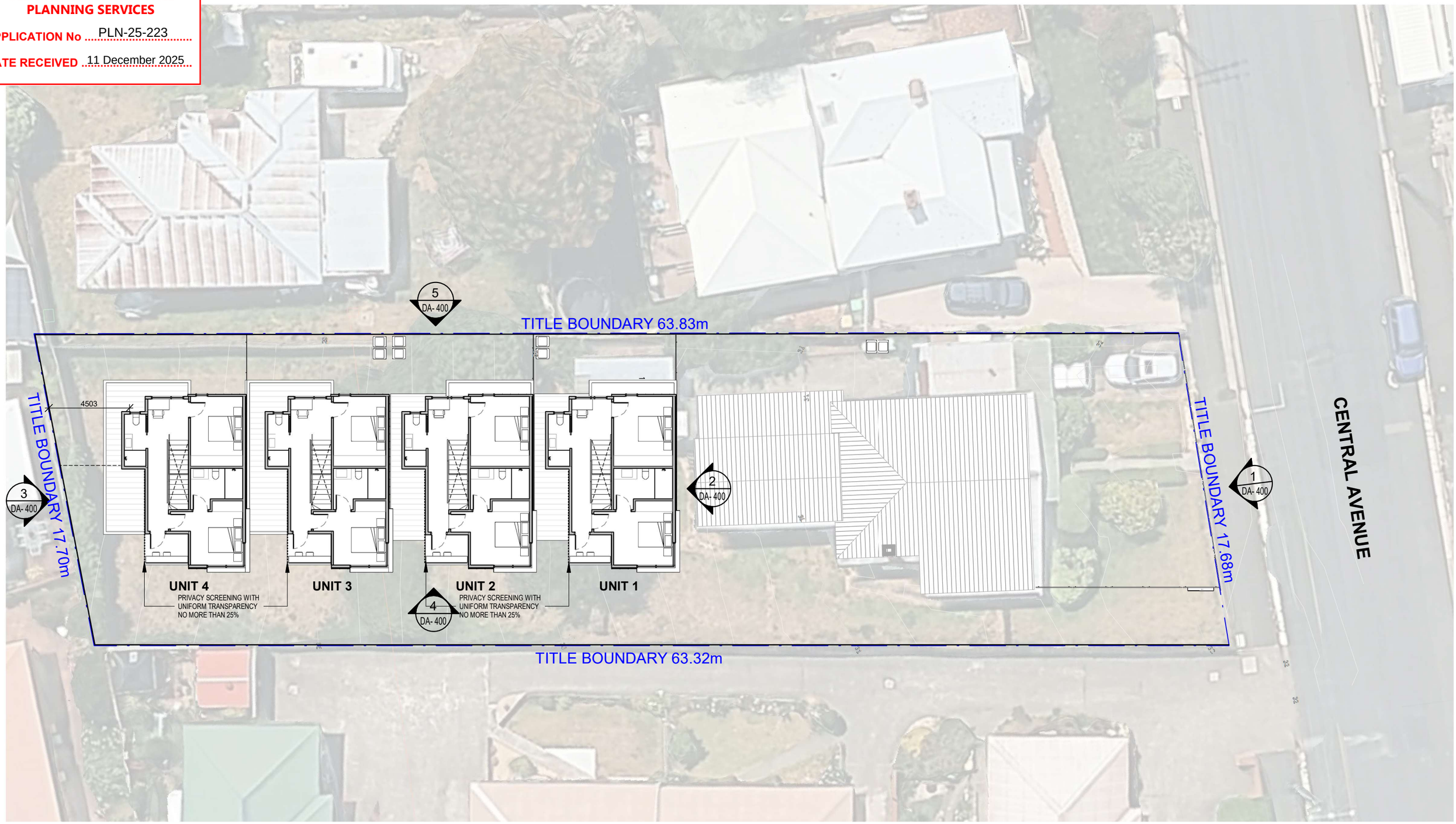
REV	DESCRIPTION	DATE
A	Development Application	12/08/2025
B	RFI	26/09/2025
C	RAI	11/12/2025

DRAWING NAME SITE PLAN - GROUND FLOOR

SCALE: 1 : 200@A3
DRAWN: ML
CHECKED: HL
ACCREDITED DESIGNER: HL

PLOT DATE: 11/12/2025

NORTH



SITE PLAN - UPPER FLOOR

SCALE: 1 : 200

P25050_DA- 301

JAWS ARCHITECTS

HOBART
THE ORDNANCE STORE
21 CASTRAY ESPLANADE
BATTERY POINT TAS 7004

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Project Name
40 CENTRAL AVENUE, MOONAH, TAS 7009

For

INDUSTRO PARK PTY

DRAWING

Development Application

REVISIONS

REV	DESCRIPTION	DATE
A	Development Application	12/08/2025
B	RFI	26/09/2025
C	RFI	11/11/2025

DRAWING NAME SITE PLAN - UPPER FLOOR

SCALE: 1 : 200@A3
DRAWN: ML
CHECKED: HL
ACCREDITED DESIGNER: HL

PLOT DATE: 19/11/2025

NORTH

TITLE BOUNDARY 63.83m

TITLE BOUNDARY 17.70m

TITLE BOUNDARY 17.68m

TITLE BOUNDARY 63.32m

CENTRAL AVENUE

5 DA- 400

3 DA- 400

2 DA- 400

1 DA- 400

4 DA- 400

SKYLIGHT

SKYLIGHT

SKYLIGHT

SKYLIGHT

UNIT 4

UNIT 3

UNIT 2

UNIT 1

EXISTING DWELLING

SITE PLAN - ROOF PLAN

SCALE: 1 : 200

SITE AREA	: 1107 m²
EXISTING DWELLING ROOF COVERAGE	: 165 m²
PROPOSED NEW-BUILT ROOF COVERAGE	: 314 m²
TOTAL SITE ROOF COVERAGE	**: 479 m²**

P25050_DA- 302

JAWS ARCHITECTS

HOBART
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PROJECT

Project Name
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For

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DRAWING

Development Application

REVISIONS

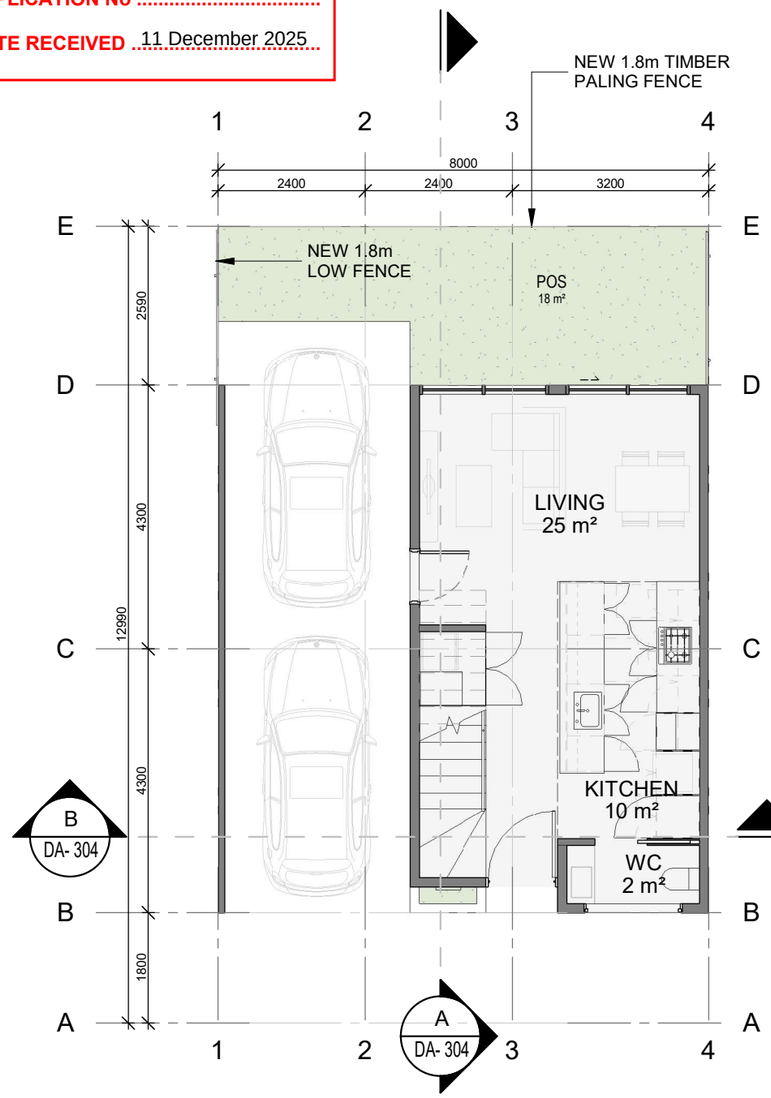
REV	DESCRIPTION	DATE
A	Development Application	12/08/2025
B	RFI	26/09/2025
C	RFI	11/11/2025

DRAWING NAME **SITE PLAN - ROOF PLAN**

SCALE: **1 : 200@A3**
DRAWN: **ML**
CHECKED: **HL**
ACCREDITED DESIGNER: **HL**

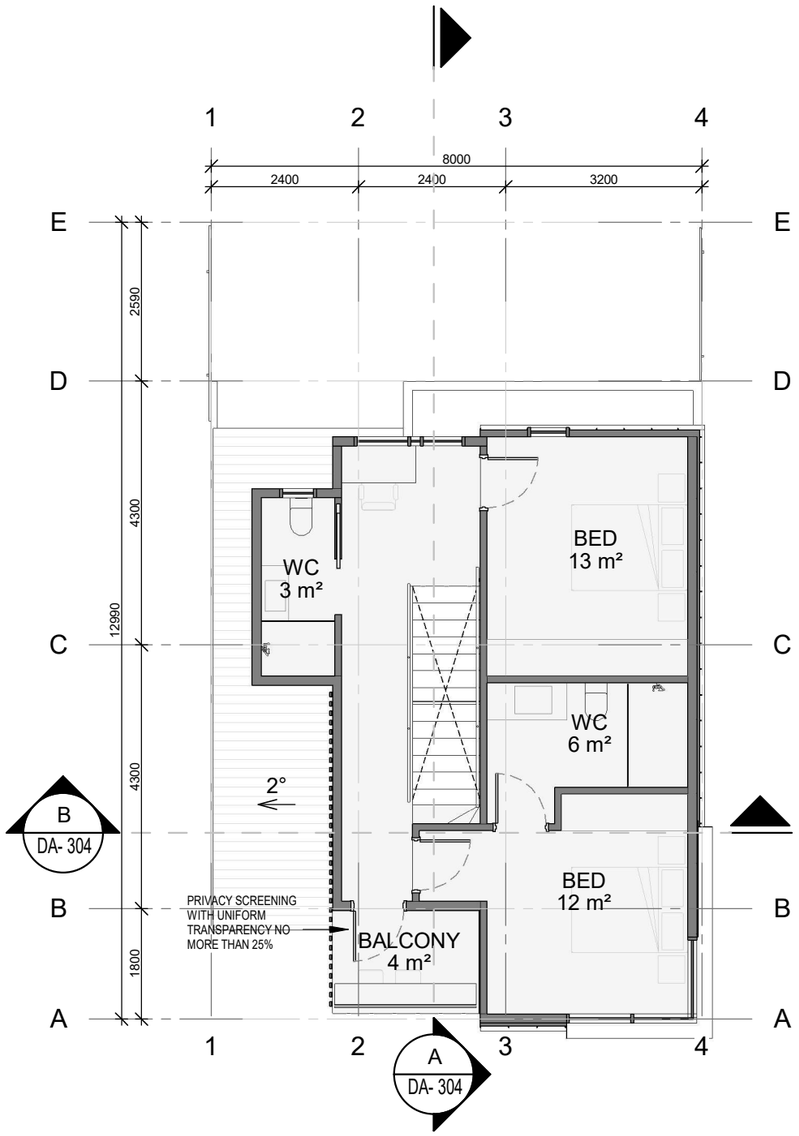
PLOT DATE: **19/11/2025**

NORTH



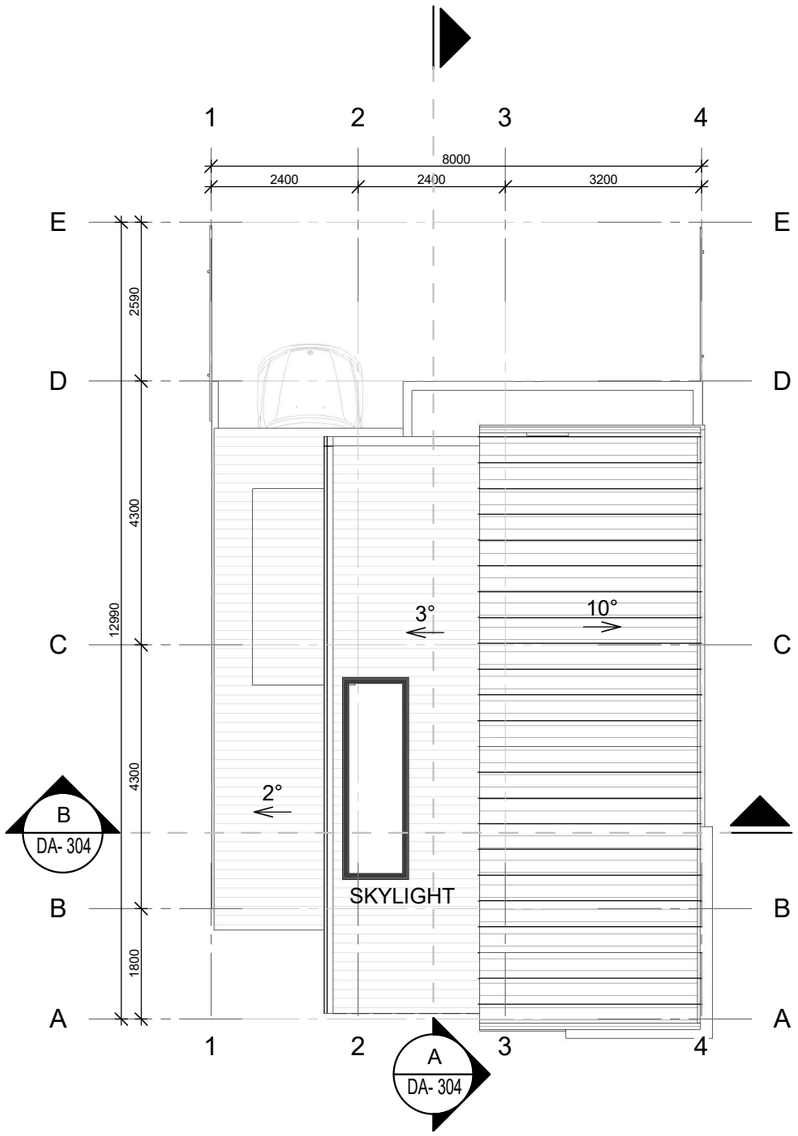
TYPICAL GROUND FLOOR PLAN - UNIT 1&2

SCALE: 1 : 100



TYPICAL UPPER FLOOR PLAN - UNIT 1&2

SCALE: 1 : 100



TYPICAL ROOF PLAN - UNIT 1&2

SCALE: 1 : 100

TOTAL FLOOR AREA : UNIT 1 & 2 = 98.5 m²

P25050_DA- 303

JAWS ARCHITECTS

HOBART
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PROJECT

Project Name
40 CENTRAL AVENUE, MOONAH, TAS 7009

For

INDUSTRO PARK PTY

DRAWING

Development Application

REVISIONS

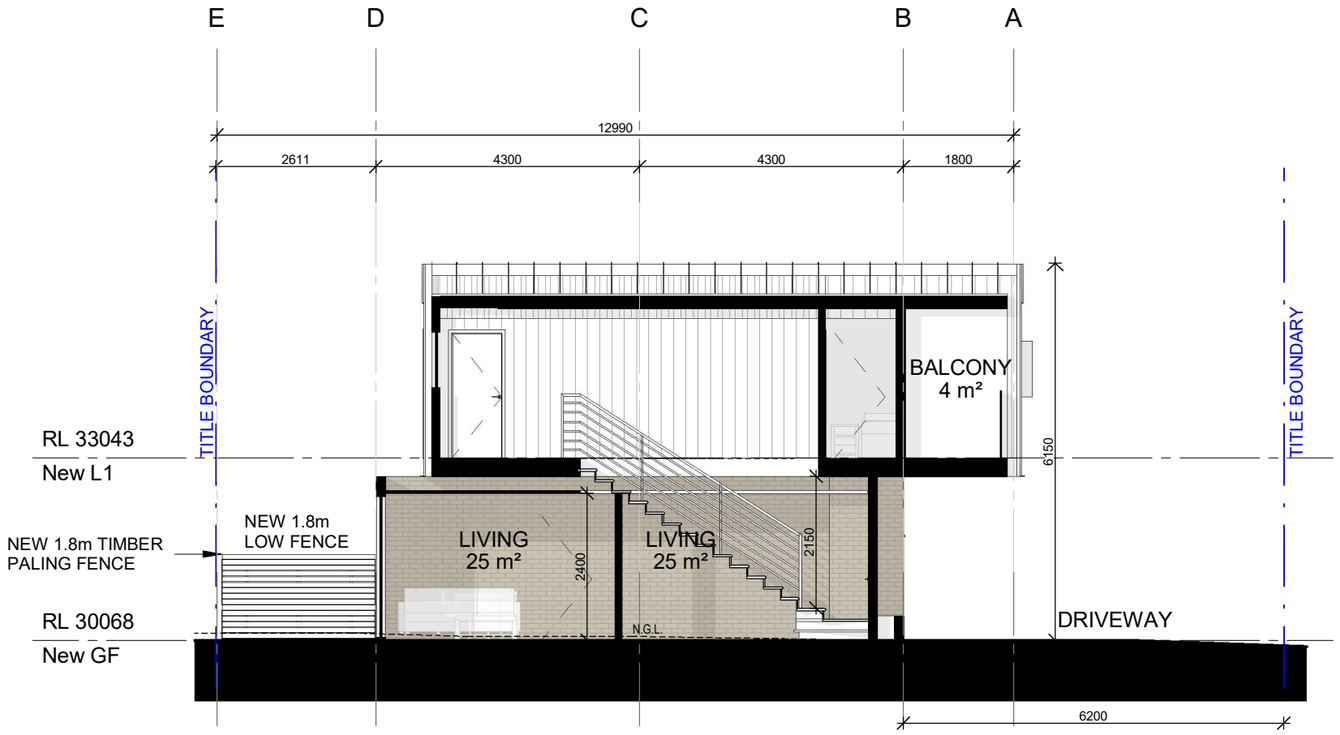
REV	DESCRIPTION	DATE
A	Development Application	12/08/2025
B	RFI	26/09/2025
C	RFI	11/11/2025

DRAWING NAME TYPICAL FLOOR PLAN - UNIT 1&2

SCALE: 1 : 100@A3
DRAWN: ML
CHECKED: HL
ACCREDITED DESIGNER: HL

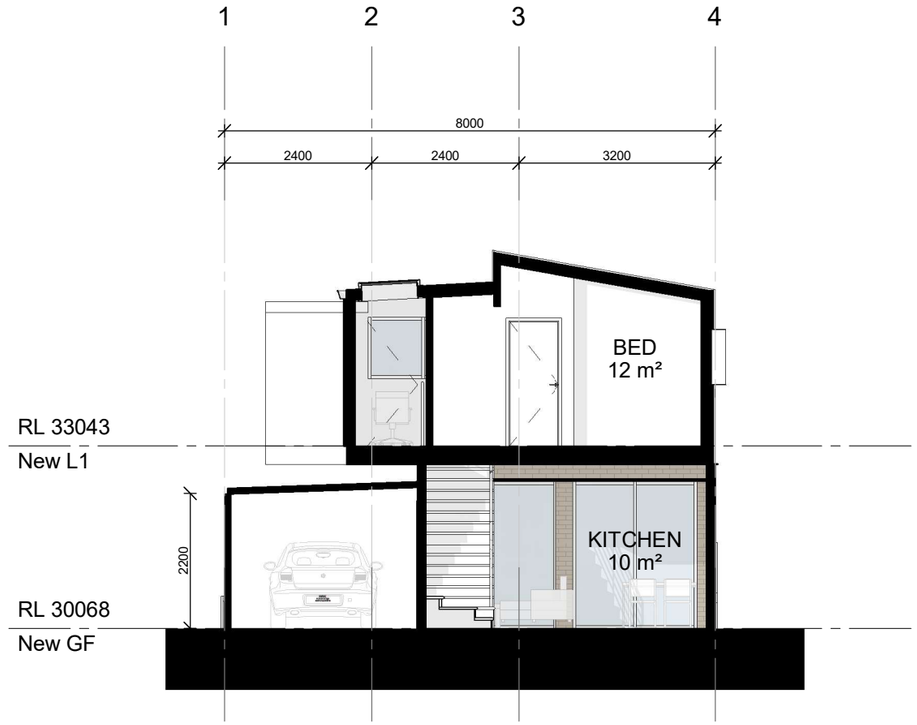
PLOT DATE: 19/11/2025

NORTH



A UNIT 1 & 2 SECTION A

SCALE: 1 : 100



B UNIT 1 & 2 SECTION B

SCALE: 1 : 100

P25050_DA- 304

JAWS ARCHITECTS

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DO NOT SCALE DRAWINGS. WRITTEN DIMENSIONS GOVERN. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE. ALL DIMENSIONS SHALL BE VERIFIED ON SITE BEFORE PROCEEDING WITH THE WORK. JAWS SHALL BE NOTIFIED IN WRITING OF ANY DISCREPANCIES. THIS DRAWING MUST BE READ IN CONJUNCTION WITH ALL RELEVANT CONTRACTS, SPECIFICATIONS, REPORTS AND DRAWINGS.

NOTE:-
INFORMATION OF OTHER SERVICES INDICATED ON PLAN ARE INDICATIVE ONLY FOR GENERAL COORDINATION.

FINAL LOCATION OF ALL FITTINGS & FIXTURES ARE TO BE COORDINATED AND VERIFIED BY THE CONTRACTOR ONSITE.

PRINT IN FULL COLOUR ONLY COLOUR USED TO IDENTIFY (WHERE APPLICABLE) CRITICAL DETAILS OF THE DESIGN. NO RESPONSIBILITY OF ANY KIND WILL BE ACCEPTED IN CASE BLACK AND WHITE OR GREYSCALE PRINT OUTS ARE USED INSTEAD.

PROJECT

Project Name
40 CENTRAL AVENUE, MOONAH, TAS 7009

For

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Development Application

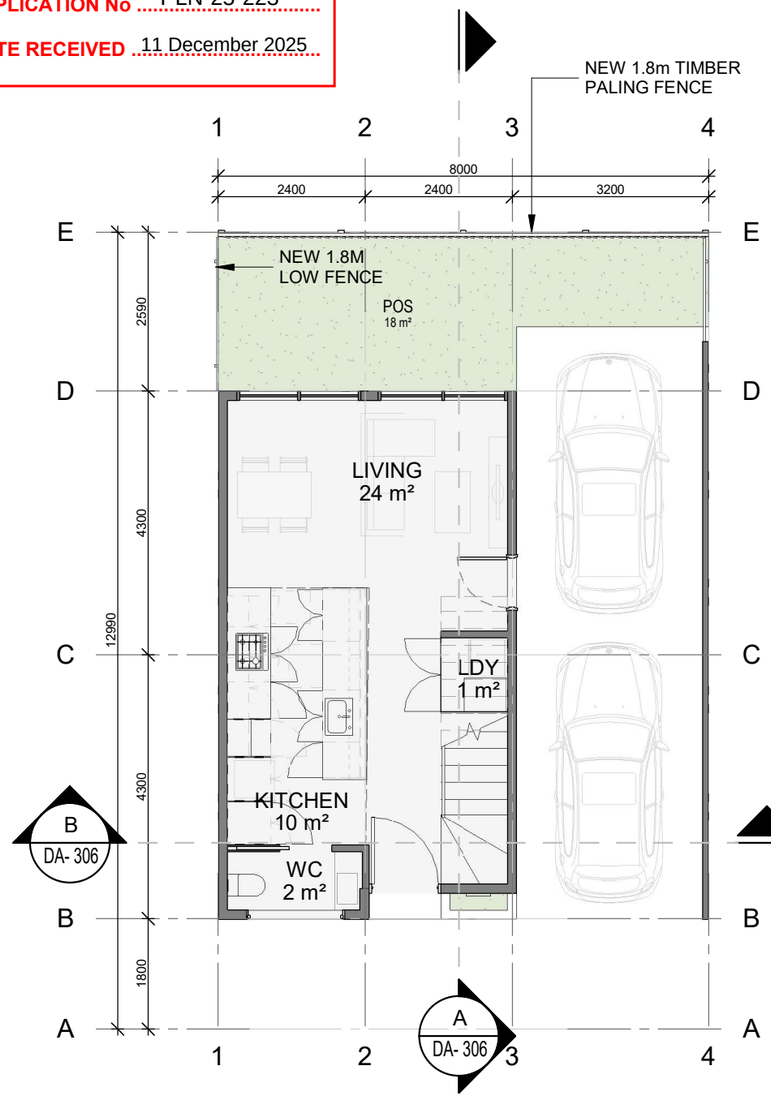
REVISIONS

REV	DESCRIPTION	DATE
A	Development Application	12/08/2025
B	RFI	26/09/2025
C	RFI	11/11/2025

DRAWING NAME **UNIT 1 & 2 SECTIONS**

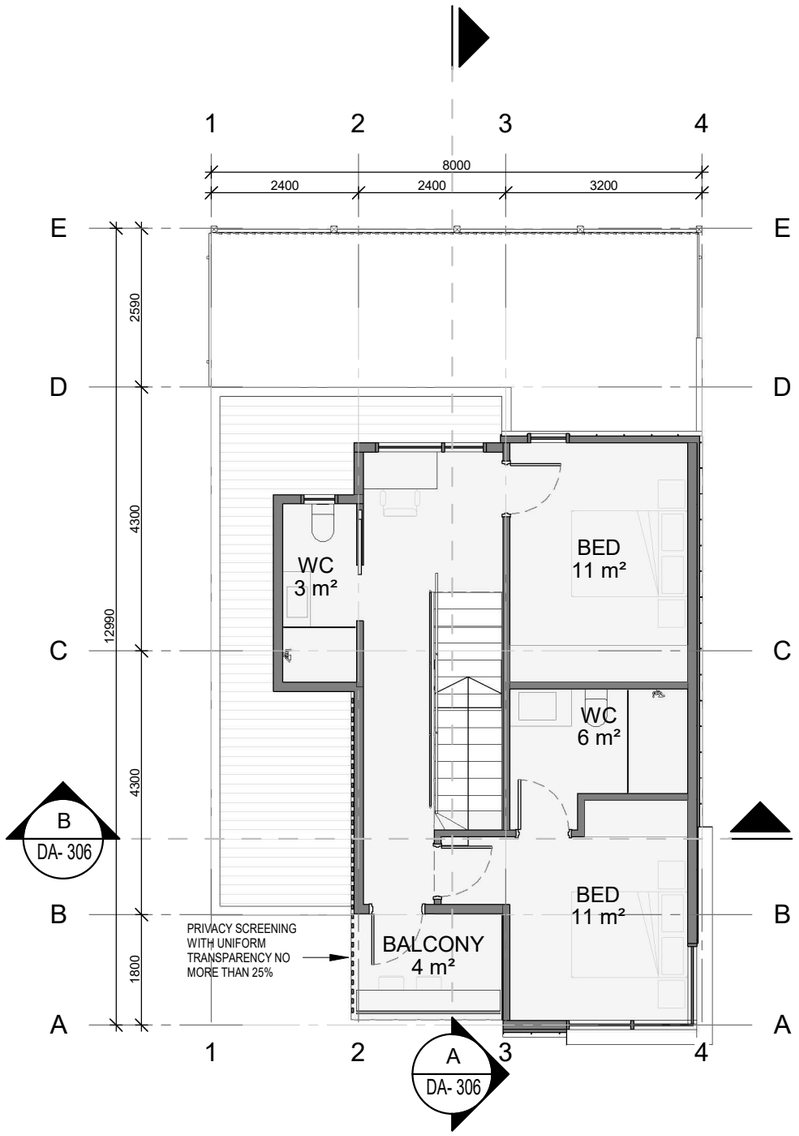
SCALE: **1 : 100@A3**
DRAWN: **ML**
CHECKED: **HL**
ACCREDITED DESIGNER: **HL**

PLOT DATE: **19/11/2025**



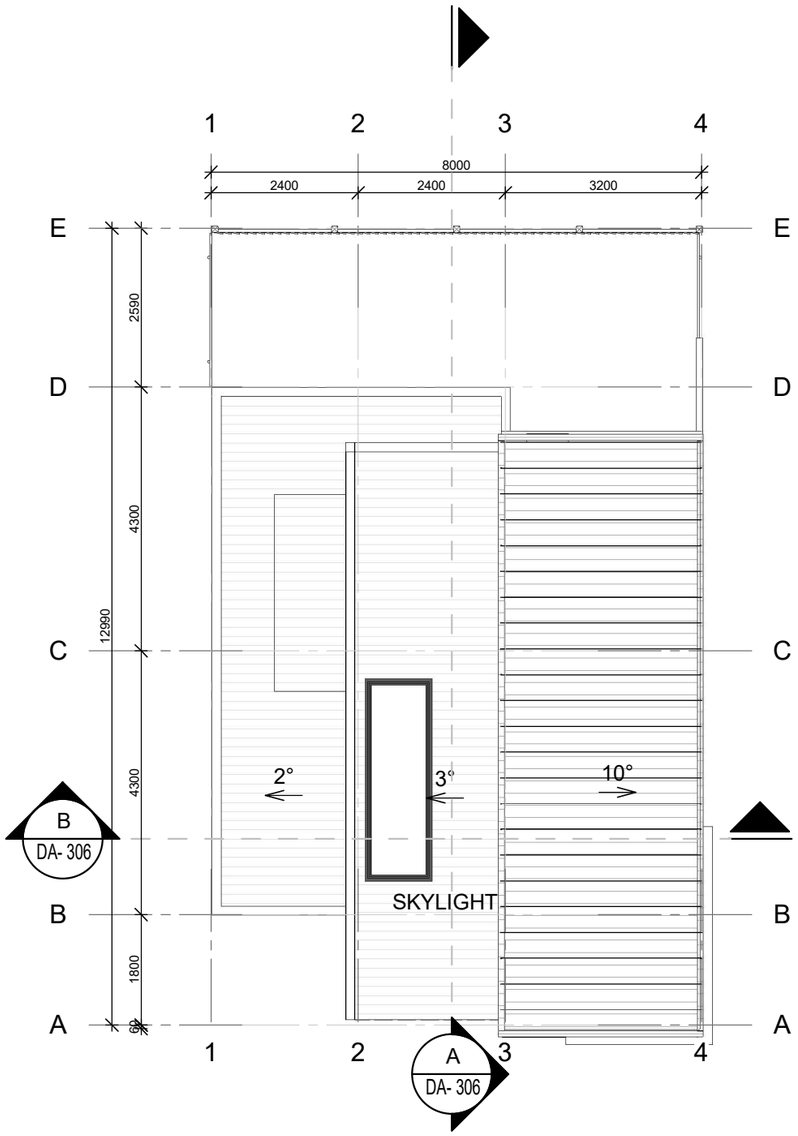
TYPICAL GROUND FLOOR PLAN - UNIT 3&4

SCALE: 1 : 100



TYPICAL UPPER FLOOR PLAN - UNIT 3&4

SCALE: 1 : 100



TYPICAL ROOF PLAN - UNIT 3&4

SCALE: 1 : 100

TOTAL FLOOR AREA : UNIT 3 & 4 = 95.1 m²

P25050_DA- 305

JAWS ARCHITECTS

HOBART
THE ORDNANCE STORE
21 CASTRAY ESPLANADE
BATTERY POINT TAS 7004

LAUNCESTON
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PROJECT

Project Name
40 CENTRAL AVENUE, MOONAH, TAS 7009

For

INDUSTRO PARK PTY

DRAWING

Development Application

REVISIONS

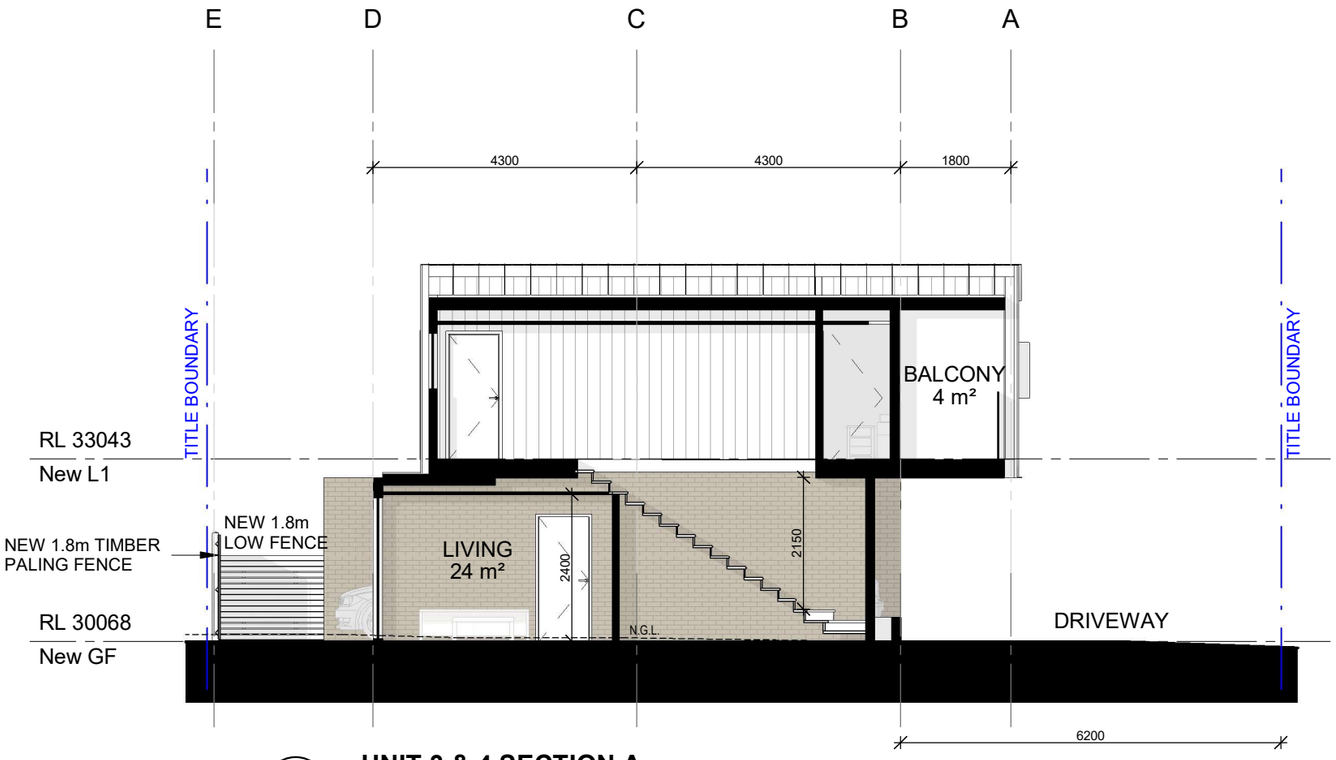
REV	DESCRIPTION	DATE
A	Development Application	12/08/2025
B	RFI	26/09/2025
C	RFI	11/11/2025

DRAWING NAME TYPICAL FLOOR PLAN - UNIT 3&4

SCALE: 1 : 100@A3
DRAWN: ML
CHECKED: HL
ACCREDITED DESIGNER: HL

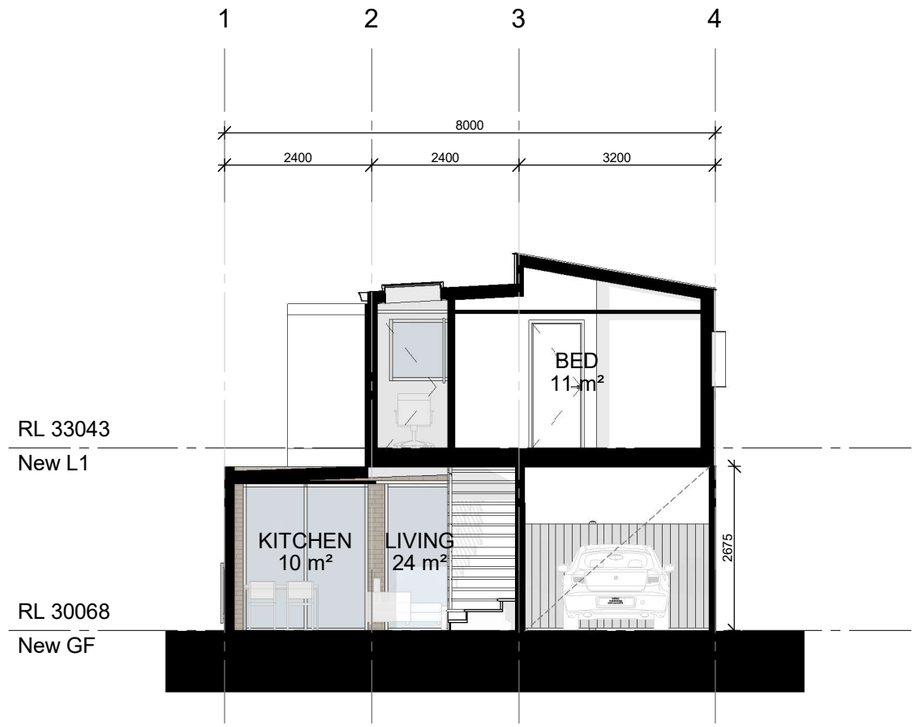
PLOT DATE: 19/11/2025

NORTH



A **UNIT 3 & 4 SECTION A**

SCALE: 1 : 100



B **UNIT 3 & 4 SECTION B**

SCALE: 1 : 100

P25050_DA- 306

JAWS ARCHITECTS

HOBART
THE ORDNANCE STORE
21 CASTRAY ESPLANADE
BATTERY POINT TAS 7004

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PROJECT

Project Name
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For

INDUSTRO PARK PTY

DRAWING

Development Application

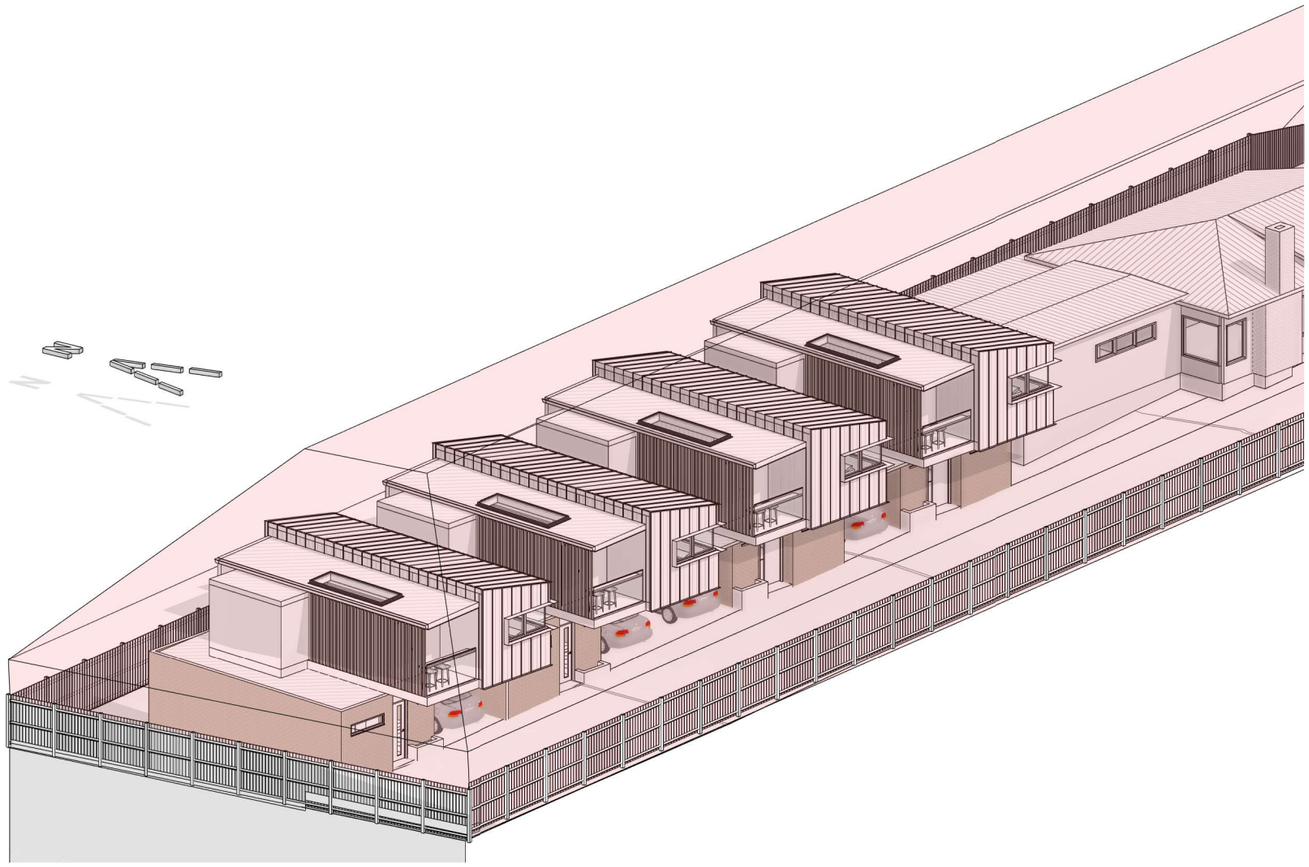
REVISIONS

REV	DESCRIPTION	DATE
A	Development Application	12/08/2025
B	RFI	26/09/2025
C	RFI	11/11/2025

DRAWING NAME **UNIT 3 & 4 SECTIONS**

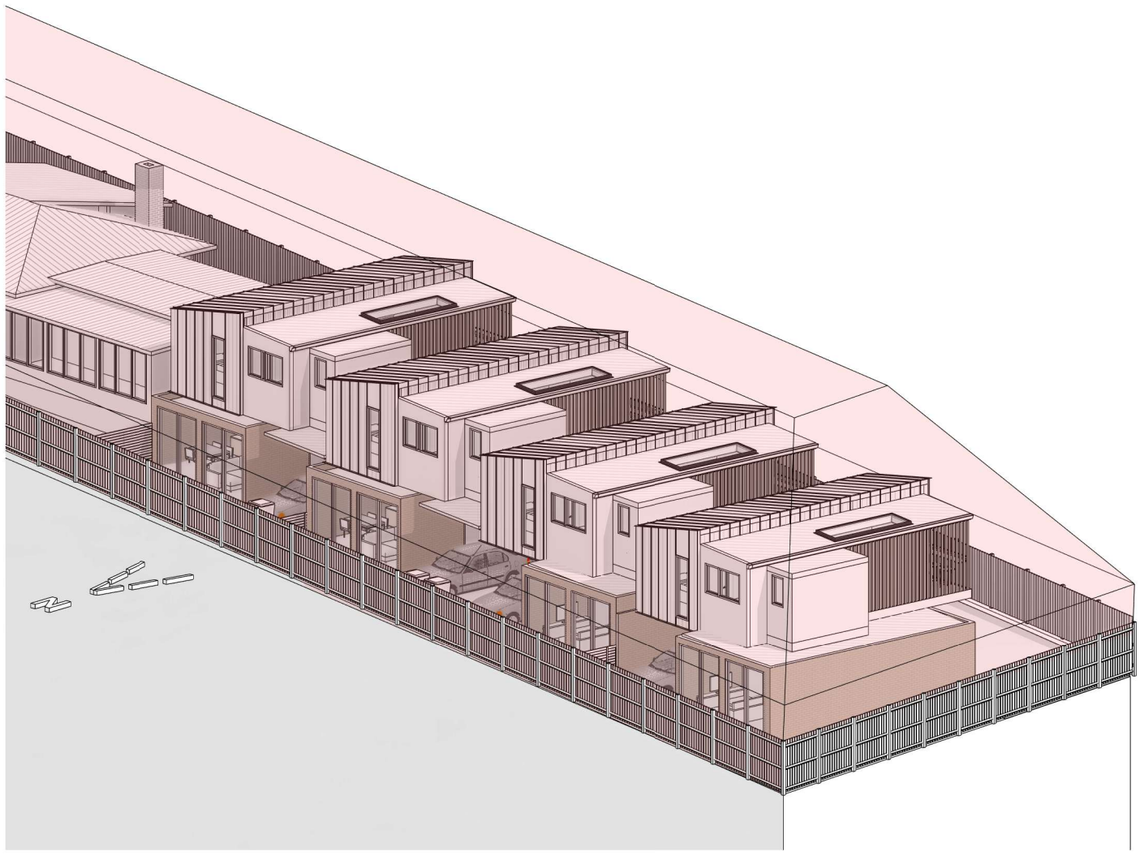
SCALE: **1 : 100@A3**
DRAWN: **ML**
CHECKED: **HL**
ACCREDITED DESIGNER: **HL**

PLOT DATE: **19/11/2025**



1 SITE 3D DIAGRAM 1

SCALE:



2 SITE 3D DIAGRAM 2

SCALE:

P25050_DA- 307

JAWS ARCHITECTS

HOBART
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DRAWING

Development Application

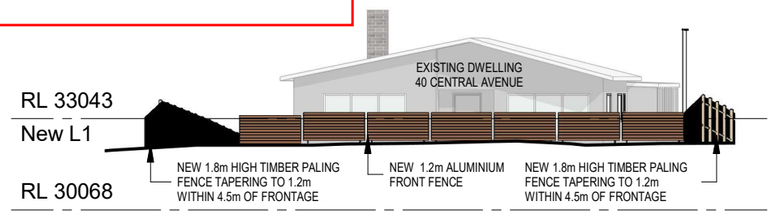
REVISIONS

REV	DESCRIPTION	DATE
A	RFI	11/11/2025

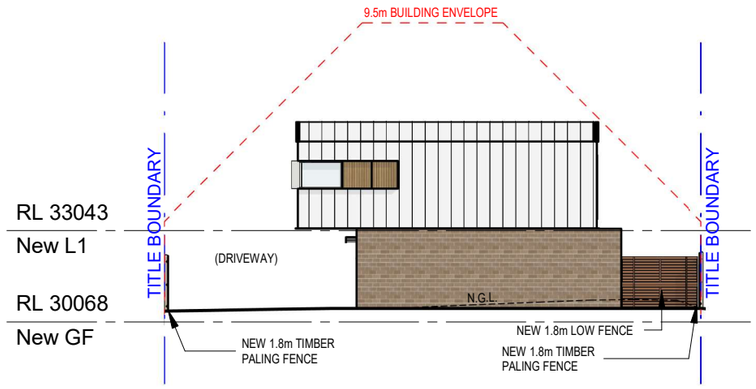
DRAWING NAME **SITE 3D DIAGRAM**

SCALE: **@A3**
DRAWN: **ML**
CHECKED: **HL**
ACCREDITED DESIGNER: **HL**

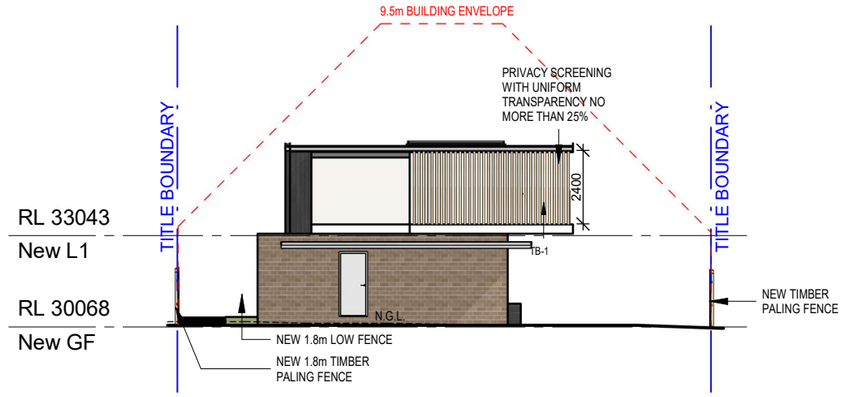
PLOT DATE: **19/11/2025**



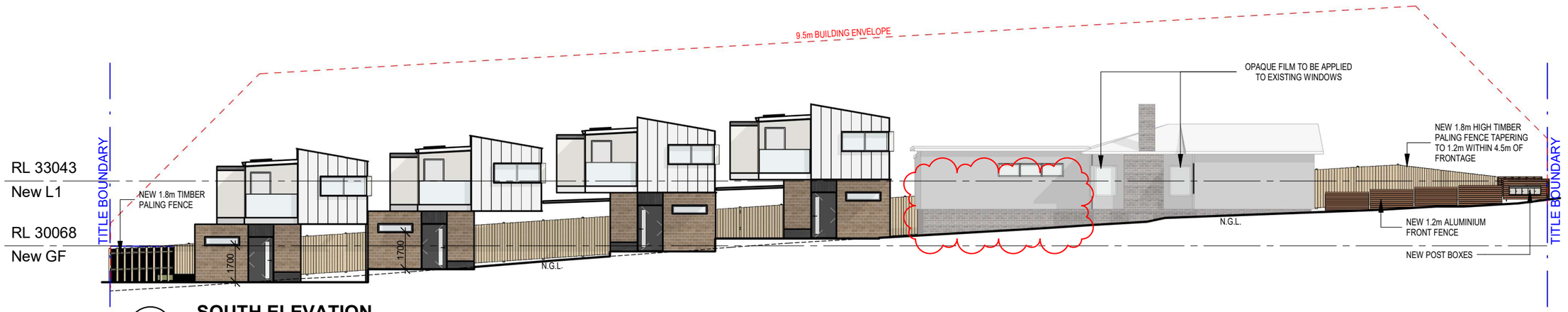
1 **FRONT ELEVATION**
SCALE: 1 : 200



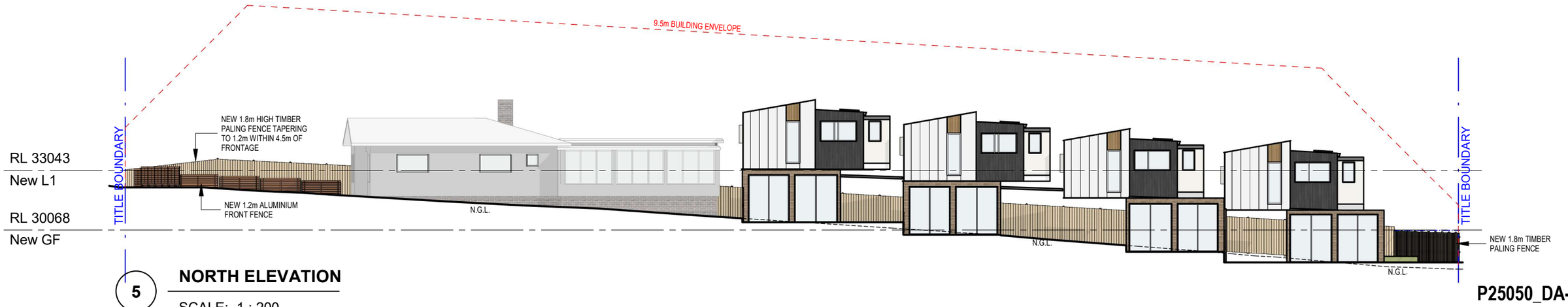
2 **EAST ELEVATION**
SCALE: 1 : 200



3 **WEST ELEVATION**
SCALE: 1 : 200



4 **SOUTH ELEVATION**
SCALE: 1 : 200



5 **NORTH ELEVATION**
SCALE: 1 : 200

MATERIAL...

CODE	DETAIL	IMAGE
BR-01	Masonry Finish	
MC-1	Metal Cladding Light Tone	
TB-1	Timber-look Battens	
TM-1	Timber-look Cladding	
TM-2	Vertical Dising Dark Grey	

P25050_DA- 400

JAWS ARCHITECTS

HOBART
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PROJECT

Project Name
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For

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REV	DESCRIPTION	DATE
A	Development Application	12/08/2025
B	RFI	26/09/2025
C	RFI	11/11/2025
D	RAI	11/12/2025

DRAWING NAME **ELEVATIONS**

SCALE: **1 : 200@A3**
DRAWN: **ML**
CHECKED: **HL**
ACCREDITED DESIGNER: **HL**

PLOT DATE: **11/12/2025**

P25050_DA- 500

JAWS ARCHITECTS

HOBART
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PROJECT

Project Name
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For

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DRAWING

Development Application

REVISIONS

REV	DESCRIPTION	DATE
A	Development Application	12/08/2025

DRAWING NAME 3D PERSPECTIVE VIEW - FRONT 1

SCALE: @A3
DRAWN: ML
CHECKED: HL
ACCREDITED DESIGNER: HL

PLOT DATE: 19/11/2025

P25050_DA- 501

JAWS ARCHITECTS

HOBART
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PROJECT

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For

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Development Application

REVISIONS

REV	DESCRIPTION	DATE
A	Development Application	12/08/2025

DRAWING NAME 3D PERSPECTIVE VIEW - FRONT 2

SCALE: @A3
DRAWN: ML
CHECKED: HL
ACCREDITED DESIGNER: HL

PLOT DATE: 19/11/2025

P25050_DA- 502

JAWS ARCHITECTS

HOBART
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PROJECT

Project Name
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For

INDUSTRO PARK PTY

DRAWING

Development Application

REVISIONS

REV	DESCRIPTION	DATE
A	Development Application	12/08/2025

DRAWING NAME 3D PERSPECTIVE VIEW - FRONT 3

SCALE: @A3
DRAWN: ML
CHECKED: HL
ACCREDITED DESIGNER: HL

PLOT DATE: 19/11/2025

NORTH

CLIENT / ARCHITECT:

INDUSTRO PARK PTY LTD / JAWS ARCHITECT

PROJECT DETAILS:

MULTI RESIDENTIAL DEVELOPMENT
40 CENTRAL AVENUE, MOONAH

PROJECT No:

256023

DISCIPLINE:

CIVIL

DRAWINGS:

REV:	ISSUED FOR / DESCRIPTION:	BY:	DATE:
C	REVISED DEVELOPMENT APPLICATION	OWM	17-11-25
B	REVISED DEVELOPMENT APPLICATION	OWM	06-10-25
A	DEVELOPMENT APPLICATION	EJW	11-08-25

COLLECTIVE CONSULTING
E admin@collectiveconsulting.com.au
Level 1, 10-14 Paterson Street
Launceston TAS 7250
P (03) 6334 0834
collectiveconsulting.com.au

CLIENT / ARCHITECT: INDUSTRO PARK PTY LTD / JAWS ARCHITECT

PROJECT DETAILS: MULTI RESIDENTIAL DEVELOPMENT
40 CENTRAL AVENUE, MOONAH

DRAWING TITLE: COVER SHEET

DESIGN BY:	DESIGN CHECK:	DRAWN BY:	DRAFT CHECK:	CERTIFIER:
OWM	JTA	EJW	JTA	

SCALE @ A1:	PROJECT No:	DRAWING No:	REVISION:
-	256023	COV	C

EXISTING SITE / DEMOLITION NOTES:

1. THE FOLLOWING IS TO BE READ IN CONJUNCTION WITH NOTES ON DRAWING C001.
2. LOCATE ALL EXISTING UNDERGROUND INFRASTRUCTURE PRIOR TO COMMENCING ANY SITE AND DEMOLITION WORKS. REFER 'EXISTING INFRASTRUCTURE' NOTES ON DRAWING C001 FOR METHODS.
3. ANY CLASHES WITH DESIGNED INFRASTRUCTURE ON THE FOLLOWING DESIGN DRAWINGS ARE TO BE REPORTED TO DESIGN ENGINEER FOR DIRECTION.
4. ALL EXISTING INFRASTRUCURE IS TO BE PROTECTED DURING CONSTRUCTION. ANY DAMAGE TO EXISTING INFRASTRUCTURES IS TO BE MADE GOOD AT THE CONTRACTOR'S EXPENSE.
5. CONTRACTOR TO MAKE ALL NECESSARY ALLOWANCES FOR REQUIRED DEMOLITIONS, REMOVALS AND RELOCATIONS TO SUIT NEW WORKS. REFER 'DEMOLITION WORKS' NOTES ON DRAWING C001.
6. CAP, TERMINATE AND REMOVE REDUNDANT DISUSED DRAINAGE SERVICES TO SATISFACTION OF ENGINEER, LOCAL AUTHORITIES AND IN ACCORDANCE WITH AS3500.
7. TRENCHES WHERE SERVICES ARE REMOVED ARE TO BE FILLED WITH AN APPROVED COMPACTED MATERIAL AND TO ENGINEERS COMPACTION SPECIFICATIONS. MATCH AND MAKE GOOD EXISTING SURFACES TO MATCH EXISTING SURROUNDINGS.
8. CONTRACTOR TO ALLOW TO MAKE GOOD ALL SURFACES AFFECTED BY DEMOLITION WORKS TO SUPERINTENDENT / PRINCIPAL SATISFACTION.

EXISTING SITE LEGEND:

CL	COVER LEVEL
e / EXTG	EXISTING ITEM / ELEMENT
eEP	EXISTING ELECTRICAL / COMMS PIT
eET	EXISTING ELECTRICAL TURRET
eFP	EXISTING FIRE PLUG
eGP	EXISTING GRATED / GULLY PIT
eHW	EXISTING HEADWALL
eLP	EXISTING LIGHT POLE
eMH	EXISTING MANHOLE
ePOLE	EXISTING ELECTRICAL / COMMS POLE
ePP	EXISTING POWER / LIGHT POLE
eSEP	EXISTING SIDE ENTRY PIT
eSIGN	EXISTING SIGN
eSV	EXISTING STOP / SWITCH VALVE
eTP	EXISTING TELSTRA PIT
IL	INVERT LEVEL
S	SEWER
SW	STORMWATER
W	WATER

DEMOLITION LEGEND:

- D1 — DEMOLISH EXTG BUILDINGS (INCLUDING ROOFS, WALLS, FLOORS, FOOTINGS, ETC.) CAP AND TERMINATE REDUNDANT INFRASTRUCTURE CLEAR OF NEW WORKS. READ IN CONJUNCTION WITH ARCH. DEMOLITION PLANS - ALL WORKS TO A SAW CUT EDGE. MAKE GOOD AREAS AND EXTG SURFACES AND PREPARE FOR NEW WORKS
- D2 — DEMOLISH AND REMOVE EXTG LANDSCAPING / TREES / PLANTING / SOFT AREAS / ETC. READ IN CONJUNCTION WITH ARCH. DEMOLITION PLANS. MAKE GOOD AREAS AND EXTG SURFACES AND PREPARE FOR NEW WORKS
- D3 — DEMOLISH AND REMOVE EXTG CONC. KERBS. READ IN CONJUNCTION WITH ARCH. DEMOLITION PLANS - ALL WORKS TO A SAW CUT EDGE. MAKE GOOD AREAS AND EXTG SURFACES AND PREPARE FOR NEW WORKS
- S1 — DEMOLISH AND REMOVE EXISTING SEWER INFRASTRUCTURE AND ASSOCIATED PIPEWORK WORKS TO EXTENT SHOWN. MAKE GOOD AREAS ADJACENT AND PREPARE FOR NEW WORKS
- SW1 — REDIRECT EXISTING STORMWATER INFRASTRUCTURE FROM SEWER CONNECTION TO NEW STORMWATER INFRASTRUCTURE. REFER SHEET C401
- W1 — CAP AND TERMINATE EXISTING WATER INFRASTRUCTURE AND ASSOCIATED PIPEWORK WORKS TO BE COMPLETED BY TASWATER AT DEVELOPERS COST. MAKE GOOD AREAS ADJACENT AND PREPARE FOR NEW WORKS

GLENORCHY CITY COUNCIL
PLANNING SERVICES
APPLICATION No PLN-25-223
DATE RECEIVED 19 November 2025

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DANGER OVERHEAD POWER LINES

REV:	ISSUED FOR / DESCRIPTION:	BY:	DATE:
C	REVISED DEVELOPMENT APPLICATION	OWM	17-11-25
B	REVISED DEVELOPMENT APPLICATION	OWM	06-10-25
A	DEVELOPMENT APPLICATION	EJW	11-08-25

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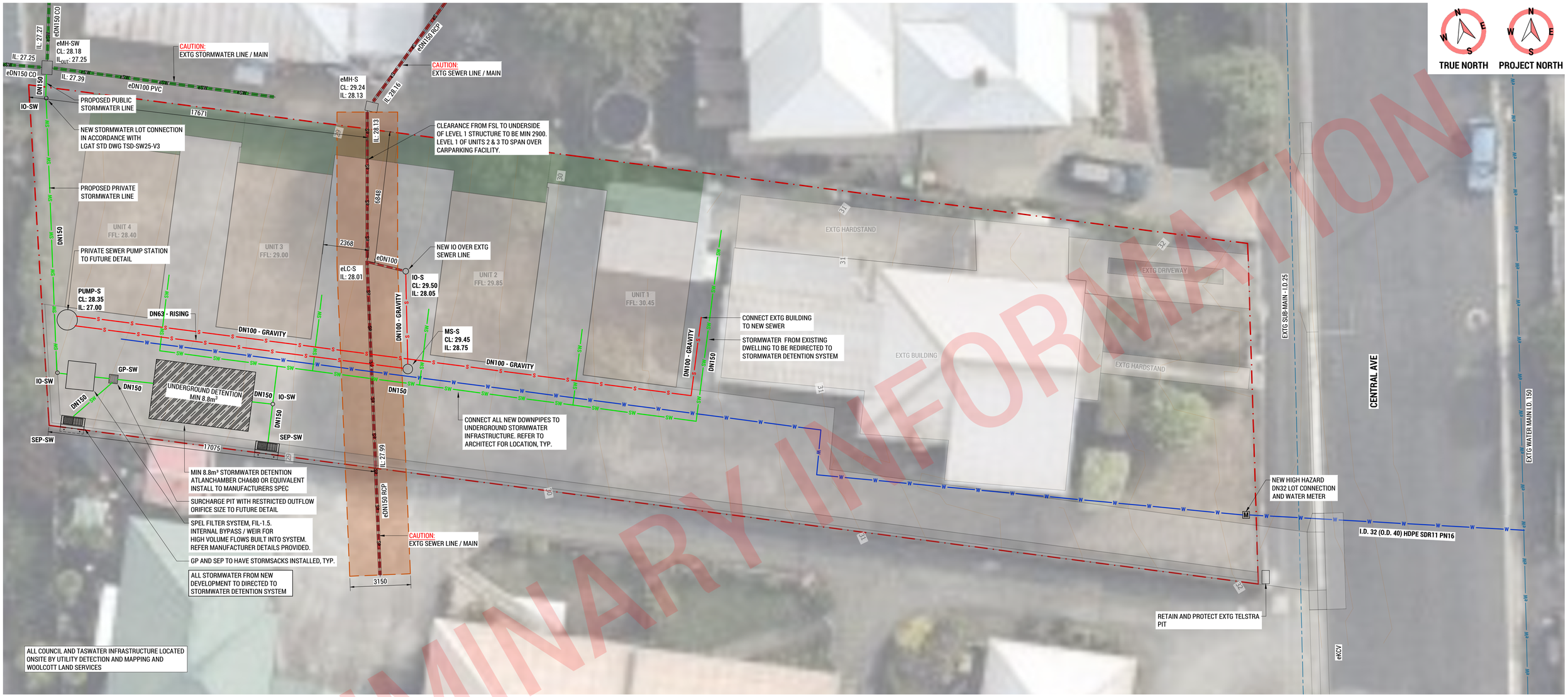
CLIENT / ARCHITECT:
INDUSTRO PARK PTY LTD / JAWS ARCHITECT

PROJECT DETAILS:
MULTI RESIDENTIAL DEVELOPMENT
40 CENTRAL AVENUE, MOONAH

DRAWING TITLE:
EXISTING SITE / DEMOLITION PLAN

DESIGN BY:	DESIGN CHECK:	DRAWN BY:	DRAFT CHECK:	CERTIFIER:
OWM	JTA	EJW	JTA	

SCALE @ A1:	PROJECT No:	DRAWING No:	REVISION:
1:100	256023	C101	C



INFRASTRUCTURE NOTES:

1. THE FOLLOWING IS TO BE READ IN CONJUNCTION WITH NOTES ON DRAWING C001.
2. STORMWATER PIPES SHALL BE INSTALLED WITH MIN. 0.5% GRADE FOR SIZES Ø225 AND ABOVE UNLESS NOTED / SCHEDULED OTHERWISE.
3. STORMWATER PIPES SHALL BE INSTALLED WITH MIN. 1.0% GRADE FOR PIPE SIZES Ø150 AND BELOW UNLESS NOTED / SCHEDULED OTHERWISE.
4. SEWER PIPES SHALL BE INSTALLED WITH MIN. 1.0% GRADE FOR PIPE SIZES Ø150 AND AND ABOVE UNLESS NOTED / SCHEDULED OTHERWISE.
5. SEWER PIPES SHALL BE INSTALLED WITH MIN. 1.65% GRADE FOR PIPE SIZES Ø100 AND BELOW UNLESS NOTED / SCHEDULED OTHERWISE.
6. ALL 'DN' SIZES SCHEDULED OR NOTED INDICATE INTERNAL DIAMETER.
7. REFER SECTIONS AND DETAILS FOR PIPE TRENCHING SPEC'S.
8. WATER LINES SHALL GENERALLY BE LAID ABOVE SEWER PIPES WHEREVER POSSIBLE.
9. ALL PIPES SHALL BE INSTALLED WITH MIN. 750mm COVER (U.N.O.)

LINETYPE LEGEND:

- SW — PROPOSED STORMWATER LINE / MAIN
- S — PROPOSED SEWER LINE / MAIN
- W — PROPOSED WATER LINE / MAIN

INFRASTRUCTURE LEGEND:

CL	COVER LEVEL
DN	NOMINAL PIPE DIAMETER - INTERNAL DIAMETER (U.N.O.)
DP	DOWNPIPE - AS SCHEDULED
e / EXTG	EXISTING ITEM / ELEMENT
FH	FIRE HYDRANT - REFER SECTIONS AND DETAILS
FM	FIRE WATER SERVICE LINE / MAIN
FP	FIRE PLUG
GD	GRATED DRAIN - AS SCHEDULED / REFER SECTIONS AND DETAILS
GP	GRATED / GULLY PIT - AS SCHEDULED / REFER SECTIONS AND DETAILS
HBC	HOSE BIB COCK
IL	INVERT LEVEL
IO	INSPECTION OPENING - FINISHED TO SURFACE LEVEL
LC	LOT CONNECTION
M	METER
MH	MANHOLE - AS SCHEDULED / REFER SECTIONS AND DETAILS
MS	MAINTENANCE SHAFT
ORG	OVERFLOW RELIEF GULLY
RL	REDUCED LEVEL
S	SEWER
SEP	SIDE ENTRY PIT - AS SCHEDULED / REFER SECTIONS AND DETAILS
SV	STOP / SWITCH VALVE
SW	STORMWATER
VD	VEE DRAIN - AS SCHEDULED / REFER SECTIONS AND DETAILS
W	WATER

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PROJECT DETAILS:
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DRAWING TITLE:
INFRASTRUCTURE PLAN

DESIGN BY:	DESIGN CHECK:	DRAWN BY:	DRAFT CHECK:	CERTIFIER:
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SCALE @ A1:	PROJECT No:	DRAWING No:	REVISION:
1:100	256023	C401	C

CIVIL WORKS LEGEND:

PAV-A — **PAV-A - HOTMIX - TRAFFICABLE**
REFER SECTIONS AND DETAILS

SURF-A — **SURF-A - LANDSCAPING / SOFT AREAS**
200mm MINIMUM GOOD QUALITY TOPSOIL
(UNLESS SPECIFIED OTHERWISE BY ARCHITECT / LANDSCAPE ARCHITECT / PRINCIPAL)

BK	BARRIER KERB - REFER SECTIONS AND DETAILS
Bol	BOLLARD - REFER SECTIONS AND DETAILS
CL	COVER LEVEL
DN	NOMINAL PIPE DIAMETER - INTERNAL DIAMETER (U.N.O.)
DP	DOWNPIPE - AS SCHEDULED
e / EXTG	EXISTING ITEM / ELEMENT
FFL	FINISHED FLOOR LEVEL
FH	FIRE HYDRANT - AS SCHEDULED / REFER SECTIONS AND DETAILS
FK	FLUSH KERB - REFER SECTIONS AND DETAILS
FM	FIRE MAIN SERVICE LINE
FP	FIRE PLUG
FSL	FINISHED SURFACE LEVEL
GD	GRATED DRAIN - AS SCHEDULED / REFER SECTIONS AND DETAILS
GP	GRATED / GULLY PIT - AS SCHEDULED / REFER SECTIONS AND DETAILS
GVP	GRATED VEE PIT - AS SCHEDULED / REFER SECTIONS AND DETAILS
HBC	HOSE BIB COCK
HW	HEADWALL - AS SCHEDULED / REFER SECTIONS AND DETAILS
IL	INVERT LEVEL
IO	INSPECTION OPENING
KC	KERB AND CHANNEL - REFER SECTIONS AND DETAILS
KCM	KERB AND CHANNEL - MOUNTABLE - REFER SECTIONS AND DETAILS
KCS	KERB AND CHANNEL - SMALL - REFER SECTIONS AND DETAILS
KCV	KERB AND CHANNEL - VEHICULAR - REFER SECTIONS AND DETAILS
M	WATER METER - AS SCHEDULED / REFER SECTIONS AND DETAILS
ME	MATCH EXISTING / MAKE GOOD TO PRINCIPAL SATISFACTION
MH	MANHOLE - AS SCHEDULED / REFER SECTIONS AND DETAILS
NSL	NATURAL SURFACE LEVEL
PED	PEDESTRIAN ACCESS RAMP - REFER SECTIONS AND DETAILS
PCBC	PRECAST CONC. BOX CULVERT - AS SCHEDULED / REFER SECTIONS AND DETAILS
RL	REDUCED LEVEL
RW	RETAINING WALL - AS SCHEDULED / REFER SECTIONS AND DETAILS
S	SEWER
SC	WORKS TO A SAWCUT EDGE - MAKE GOOD TO PRINCIPAL SATISFACTION
SCJ	SLAB SAWCUT JOINT - AS SCHEDULED / REFER SECTIONS AND DETAILS
SEP	SIDE ENTRY PIT - AS SCHEDULED / REFER SECTIONS AND DETAILS
SL	SURFACE LEVEL
SV	STOP / SWITCH VALVE
SW	STORMWATER
TOK	TOP OF KERB
TOW	TOP OF WALL
VC	VEE CHANNEL - REFER SECTIONS AND DETAILS
VD	VEE DRAIN - AS SCHEDULED / REFER SECTIONS AND DETAILS
W	WATER
WS	WHEEL STOP - IN ACCORDANCE WITH AS2890.1 - REFER SECTIONS AND DETAILS

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CIVIL WORKS PLAN

DESIGN BY:	DESIGN CHECK:	DRAWN BY:	DRAFT CHECK:	CERTIFIER:
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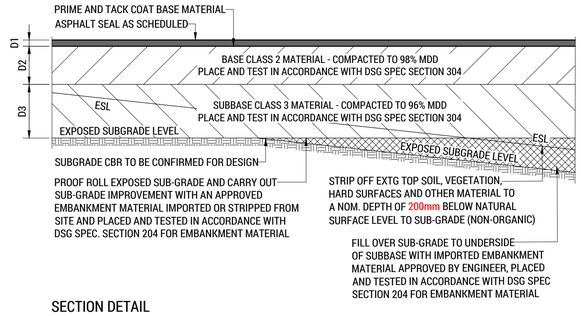
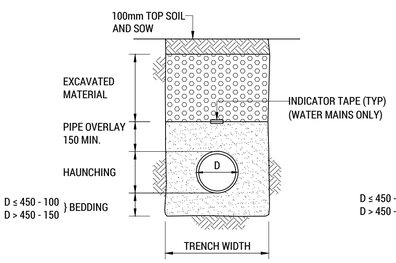


SECTION DETAIL

PAVEMENT - 'PAV-A' - ASPHALT SEAL - TRAFFICABLE (TYP.)

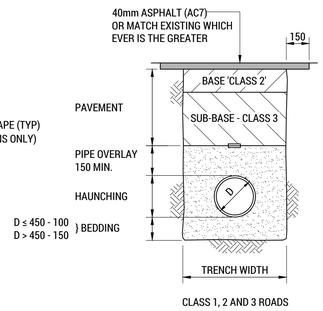
SCALE 1:20

NOTE: REFER CIVIL WORKS PAVEMENT / SURFACE SCHEDULE FOR DEPTHS



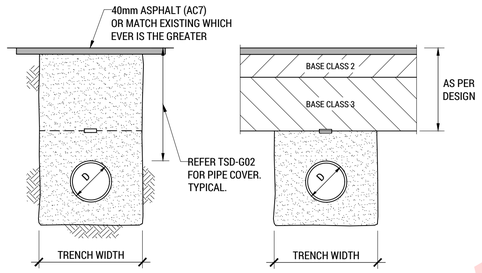
TRENCHES - NON-TRAFFICABLE

SCALE 1:20



TRENCHES - EXISTING ROADS

SCALE 1:20



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)
DICL 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:

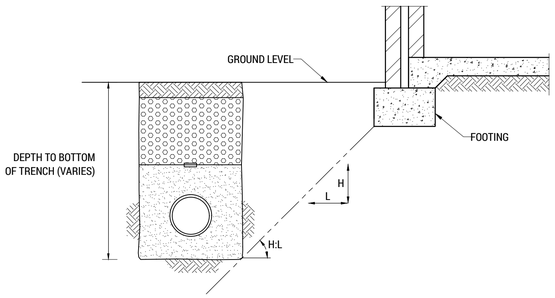
FOR uPVC AND DUCTILE IRON PIPES
SAND OR CRUSHED ROCK (STONE DUST)

SIEVE APERTURE (mm) TO AS1152	% PASSING (BY MASS)
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 APERTER (mm) TO AS1152	% PASSING (BY MASS)
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 AS3725 AND TO THE SATISFACTION OF THE SUPERINTENDENT.

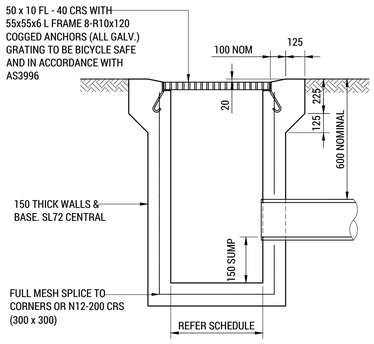


SOIL TYPE	SLOPE H:L	
	COMPACTED FILL	UNDISTURBED GROUND
STABLE ROCK	2:3	8:1
SAND	1:2	1:2
SILT	1:4	1:4
FIRM CLAY	1:2	1:1
SOFT CLAY	NOT SUITABLE	2:3
SOFT SOILS	NOT SUITABLE	NOT SUITABLE

(TABLE ADAPTED FROM NCC 2016 BCA - VOLUME TWO)

TYPICAL 'ZONE OF INFLUENCE' DETAIL

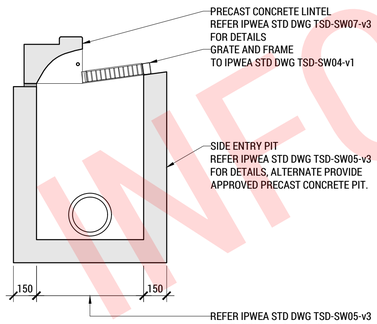
SCALE 1:20



GRATED PIT - TRAFFICABLE

SCALE 1:20

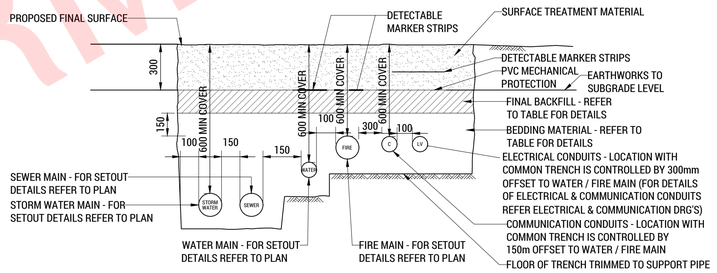
REFER IPWEA STANDARD DRAWINGS FOR ALTERNATE PIT CONSTRUCTION DETAILS.
APPROVED PRECAST UNIT MAYBE SUBSTITUTED.



SIDE ENTRY PIT 'TYPE 1' - SEP

SCALE 1:20

REFER IPWEA STANDARD DRAWINGS FOR ADDITIONAL SIDE ENTRY PIT DETAILS

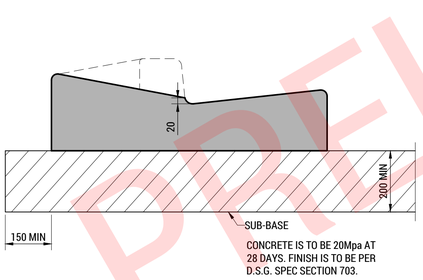


TYPICAL COMBINED TRENCH DETAIL

SCALE 1:10

COMPACTION DETAILS		
EXPRESSED AS MMDD		
MATERIAL	GENERAL	UNDER ROADS*
BEDDING MATERIAL	90%	90%
INITIAL BACKFILL	90%	95%
FINAL BACKFILL	SAME AS SURROUNDING SOIL	95%

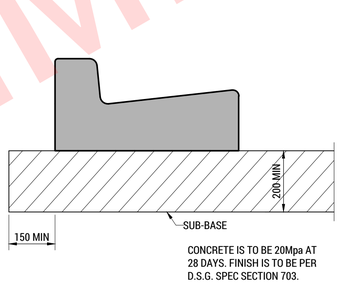
* OR AS DIRECTED BY SUPERINTENDENT



KERB AND CHANNEL VEHICULAR CROSSING 'KCV' (TYP.)

SCALE 1:10

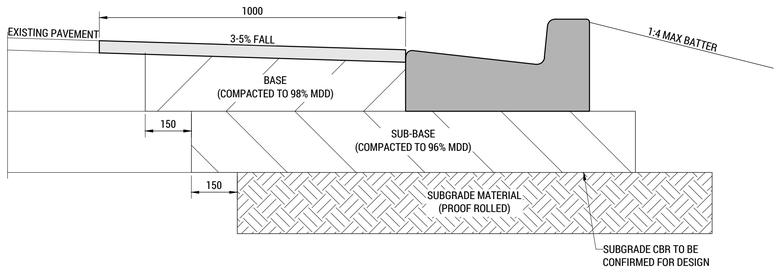
REFER IPWEA STD DWG TSD-R14-v3
FOR APPROVED KERB & CHANNEL
PROFILES & DIMENSIONS



KERB AND CHANNEL 'KC' (TYP.)

SCALE 1:10

REFER IPWEA STD DWG TSD-R14-v3
FOR APPROVED KERB & CHANNEL
PROFILES & DIMENSIONS



KERB CUT IN DETAIL (TYP.)

SCALE 1:10

NOTE - HOTMIX PAVEMENT - ROADWAYS FOR BASE MATERIAL TYPES & DEPTHS

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DRAWING TITLE:
SECTIONS & DETAILS - SHEET 1

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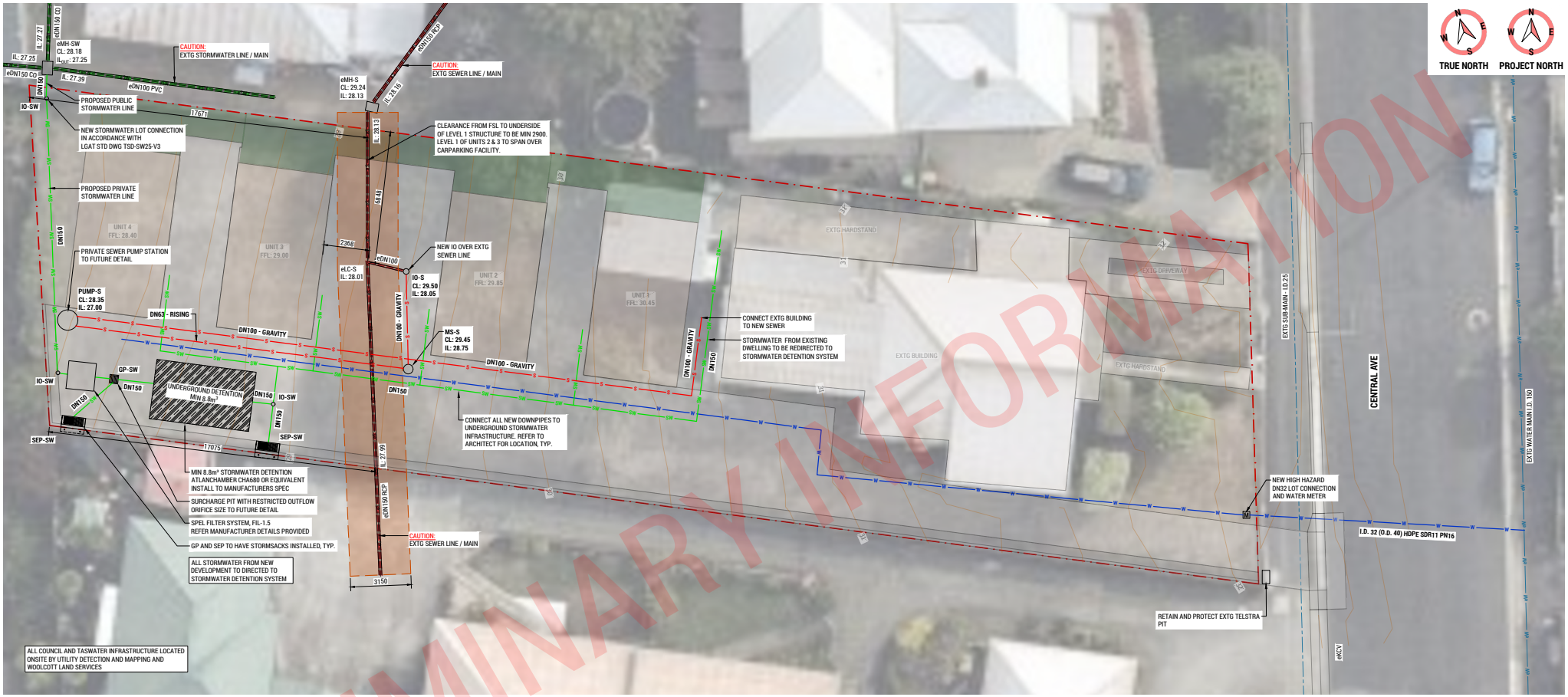
1:20, 1:10	256023	C801	B



INFRASTRUCTURE NOTES:

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7. REFER SECTIONS AND DETAILS FOR PIPE TRENCHING SPEC'S.
8. WATER LINES SHALL GENERALLY BE LAID ABOVE SEWER PIPES WHEREVER POSSIBLE.
9. ALL PIPES SHALL BE INSTALLED WITH MIN. 750mm COVER (U.N.O.)

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INFRASTRUCTURE LEGEND:

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SV	STOP / SWITCH VALVE
SW	STORMWATER
VD	VEE DRAIN - AS SCHEDULED / REFER SECTIONS AND DETAILS
W	WATER

GLENORCHY CITY COUNCIL PLANNING SERVICES

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			DATE:

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2. THESE DRAWINGS MUST BE APPROVED BY COUNCIL, TASWATER AND ANY OTHER REQUIRED AUTHORITIES PRIOR TO COMMENCING CONSTRUCTION.
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CLIENT / ARCHITECT:
INDUSTRO PARK PTY LTD / JAWS ARCHITECT

PROJECT DETAILS:
MULTI RESIDENTIAL DEVELOPMENT
40 CENTRAL AVENUE, MOONAH

DESIGN BY:	DESIGN CHECK:	DRAWN BY:	DRAFT CHECK:	CERTIFIER:
OWM	JTA	EJW	JTA	

DRAWING TITLE:
INFRASTRUCTURE PLAN

SCALE @ A1:	PROJECT No:	DRAWING No:	REVISION:
1:100	256023	C401	C

Treatment Train Effectiveness - LPOD

	Sources	Residual Load	% Reduction
Flow (ML/yr)	0.376	0.376	0
Total Suspended Solids (kg/yr)	83.5	9.28	88.9
Total Phosphorus (kg/yr)	0.153	0.0279	81.8
Total Nitrogen (kg/yr)	0.905	0.337	62.7
Gross Pollutants (kg/yr)	13.8	0	100

GLENORCHY CITY COUNCIL
PLANNING SERVICES
APPLICATION No PLN-25-223
DATE RECEIVED 19 November 2025

TOLERANCE: All Dimensions to Closest 10 mm & +/- 30 mm

ALL INTERCONNECTING PIPEWORK, PITS AND ASSOCIATED DRAINAGE BY OTHERS

GLENORCHY CITY COUNCIL

COLLECTIVE CONSULTING

REV	DATE	BY	DESCRIPTION	CHK
3	14-11-2025	OT		

Drawn	Date
Check	Date
Verified	Date
Approved	Date

Atlan STORMWATER

PROJECT
40 Central Avenue, Moonah TAS

TITLE
MUSIC Modelling

SCALE	SIZE	SHEET	REV
N.T.S	A3	1 OF 1	3

CUSTOMER CODE : 25-84272 | DWG No.

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