

DEVELOPMENT APPLICATION

APPLICATION NUMBER:	PLN-25-194
PROPOSED DEVELOPMENT:	Multiple dwellings (15 new)
LOCATION:	25 Thornleigh Street Glenorchy
APPLICANT:	Homes Tasmania (Hobart)
ADVERTISING START DATE:	31/10/2025
ADVERTISING EXPIRY DATE:	14/11/2025

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 **14/11/2025**.

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.

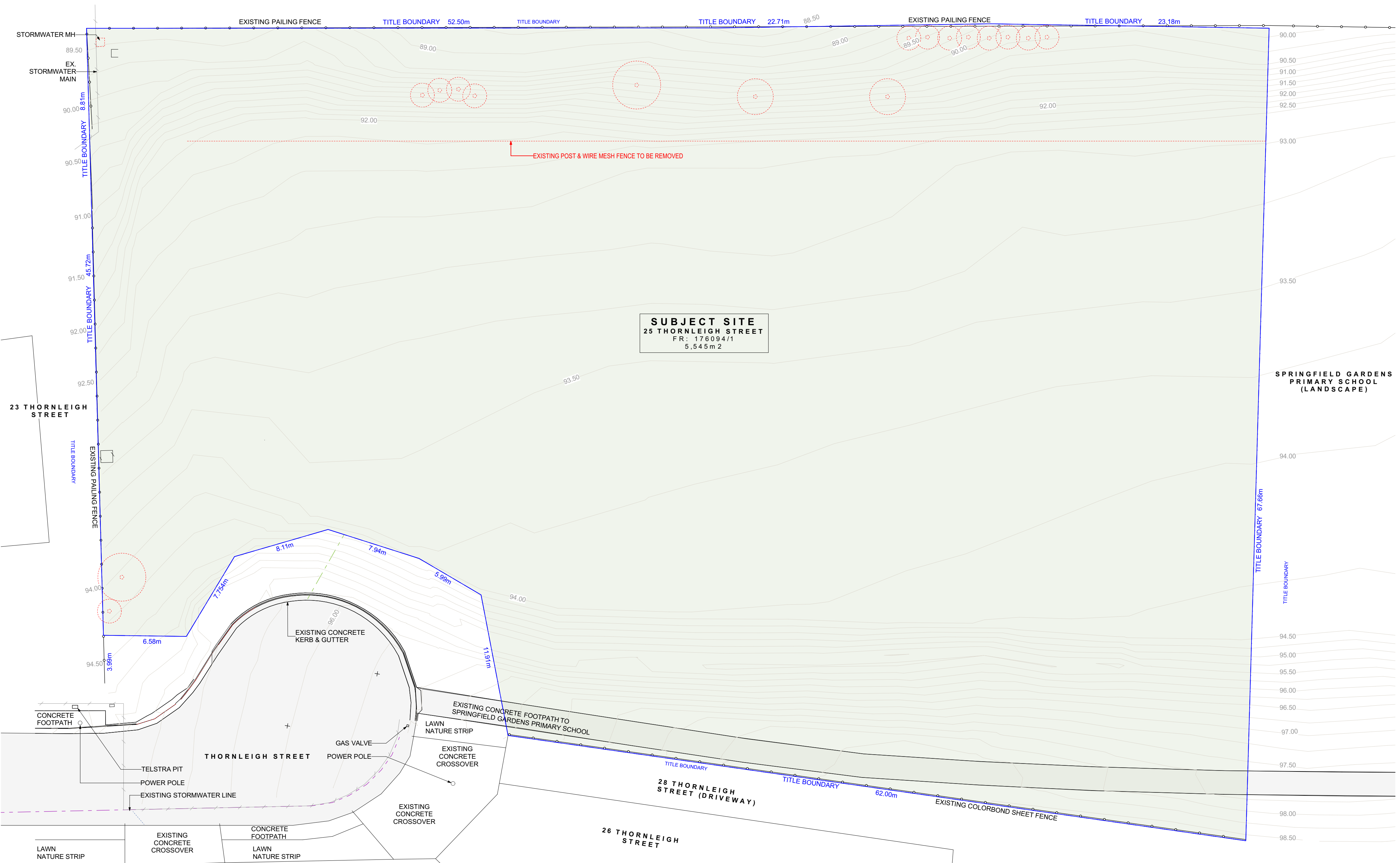
Representations must be received by no later than 11.59 pm on **14/11/2025**, or for postal and hand delivered representations, by 5.00 pm on **14/11/2025**.



1 LOCATION PLAN

Scale 1:1000
NOTE: REFER CIVIL ENGINEER'S DRAWINGS FOR FURTHER INFORMATION





1 EXISTING / DEMOLITION SITE PLAN
Scale 1:200



1

STRATA PLAN
Scale 1:200

NOTE: REFER CIVIL ENGINEER'S DRAWINGS FOR FURTHER INFORMATION

PROJECT

Thornleigh Street Housing

25 Thornleigh St Glenorchy TAS

For

Homes Tasmania

DRAWING

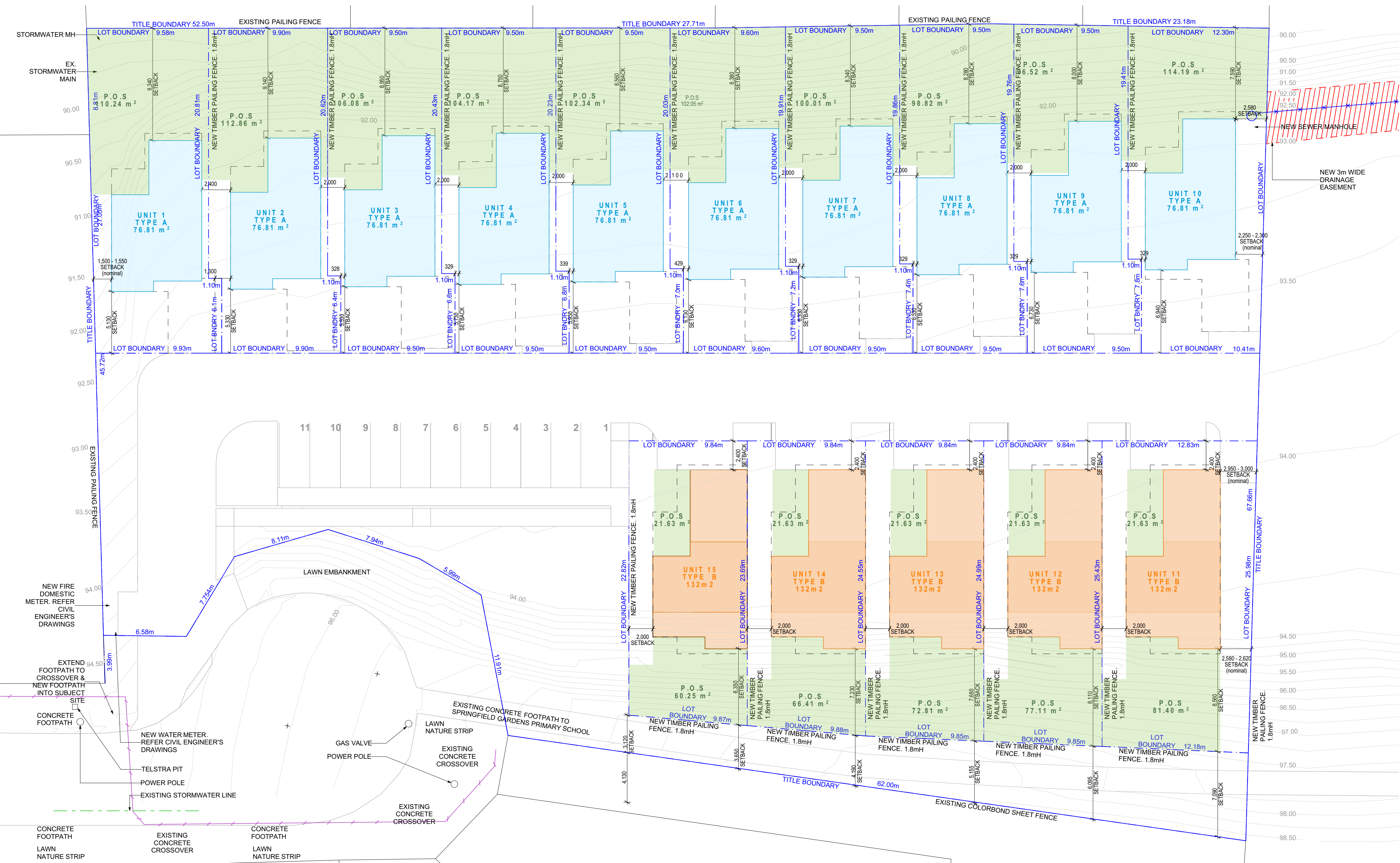
STATUS

RFI-03

DEVELOPMENT APPLICATION

DRAWING NAME

STRATA PLAN



1

SITE PLAN - PLANNING SETBACKS
Scale 1:200

NOTE: REFER CIVIL ENGINEER'S DRAWINGS FOR FURTHER INFORMATION

PROJECT

Thornleigh Street Housing
25 Thornleigh St Glenorchy TAS
For
Homes Tasmania

DRAWING

STATUS **RFI-03**

REVISIONDESCRIPTIONDATE
DA-04 - WIPRFI-03WIPWork in Progress
08DA Full Issue17/06/2025

DEVELOPMENT APPLICATION

DRAWING NAME

SITE PLAN - PLANNING SETBACKS

SCALE DATE
1:200 @ A2 17/10/2025
ACCREDITED DESIGNER SV
ACCREDITED NUMBER CC 54711
DRAWN BW / TA / EC
CHECKED AH/MG/CW

CAD REF

1

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0 2 4 6 8 10
m @ 1:200

N

P24043_DA-04

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1 GROUND FLOOR
Scale 1:200

NOTE: REFER CIVIL ENGINEER'S DRAWINGS FOR FURTHER INFORMATION

JAWSARCHITECTS

JACOB ALLOM WADE PTY LTD
ABN 62 009 558 479
THE ORNAMENT STORE
21 CASTRAY ESPRANDE
BATTER POINT TASMANIA
AUSTRALIA 7004

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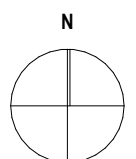
PROJECT
Thornleigh Street Housing
25 Thornleigh St Glenorchy TAS
For
Homes Tasmania



DRAWING		
STATUS	RFI-03	
REVISION	DESCRIPTION	DATE
DA-04 - WIP	RFI-03	Work in Progress
DA-03	RFI-02	1/10/2025

DEVELOPMENT APPLICATION
DRAWING NAME LOWER SITE PLAN - PROPOSED

SCALE 1:200 @ A2
DATE 17/10/2025
ACCREDITED DESIGNER SV
ACCREDITED NUMBER CC 54711
DRAWN BW / TA / EC
CHECKED AH/MG/CW



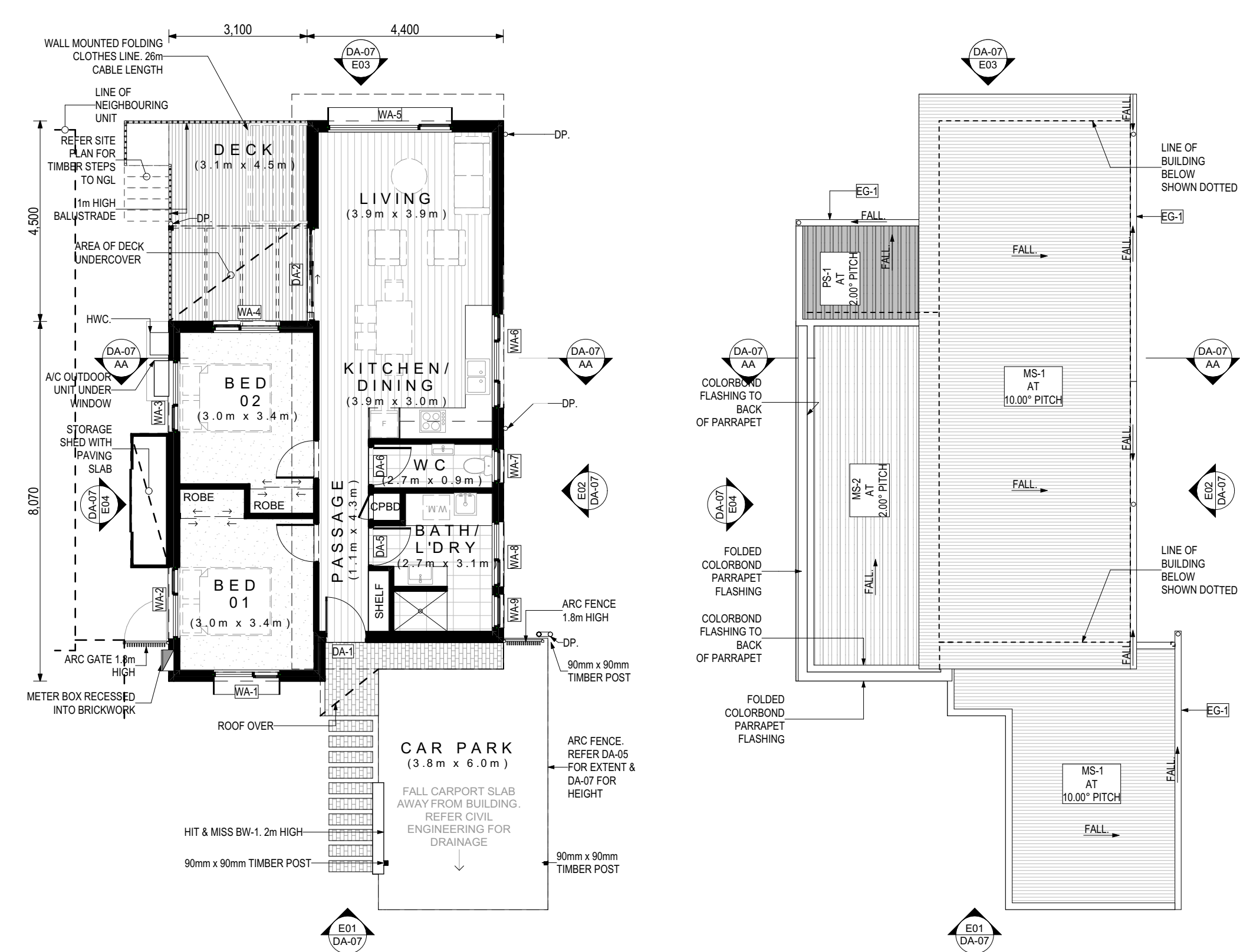
P24043_DA-05



Document Set ID: 3549974
Version: 1, Version Date: 30/10/2025

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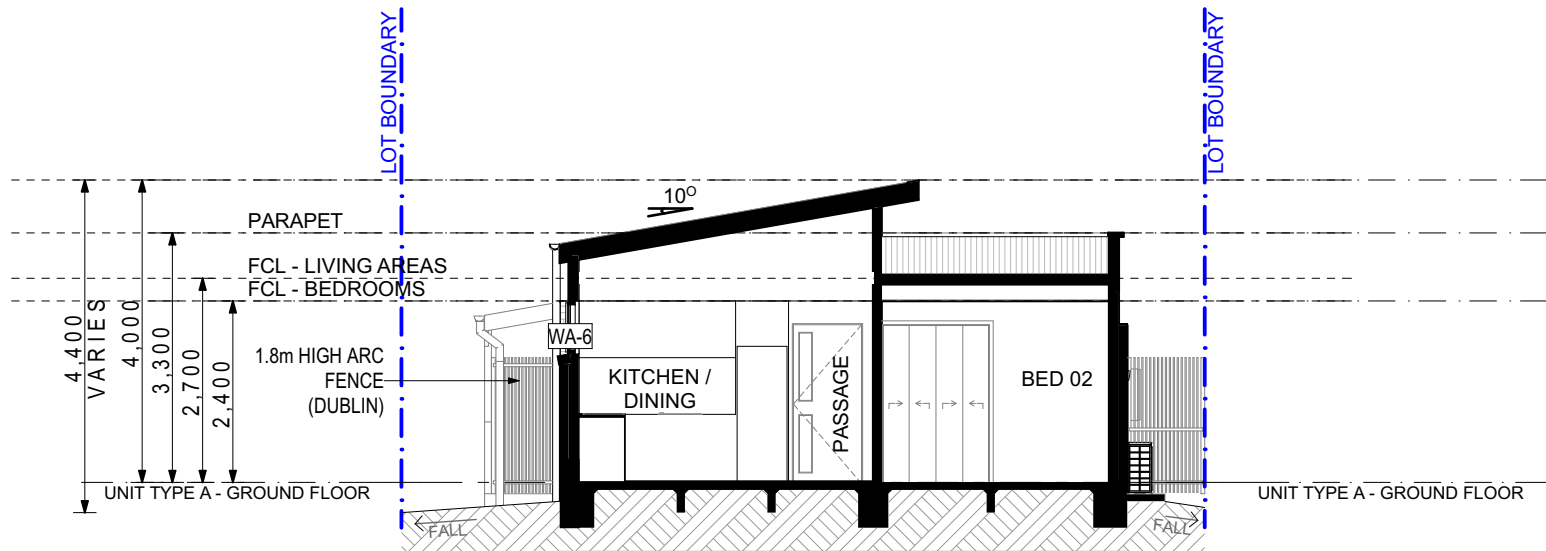


UNIT TYPE A - GROUND FLOOR

Scale 1:100

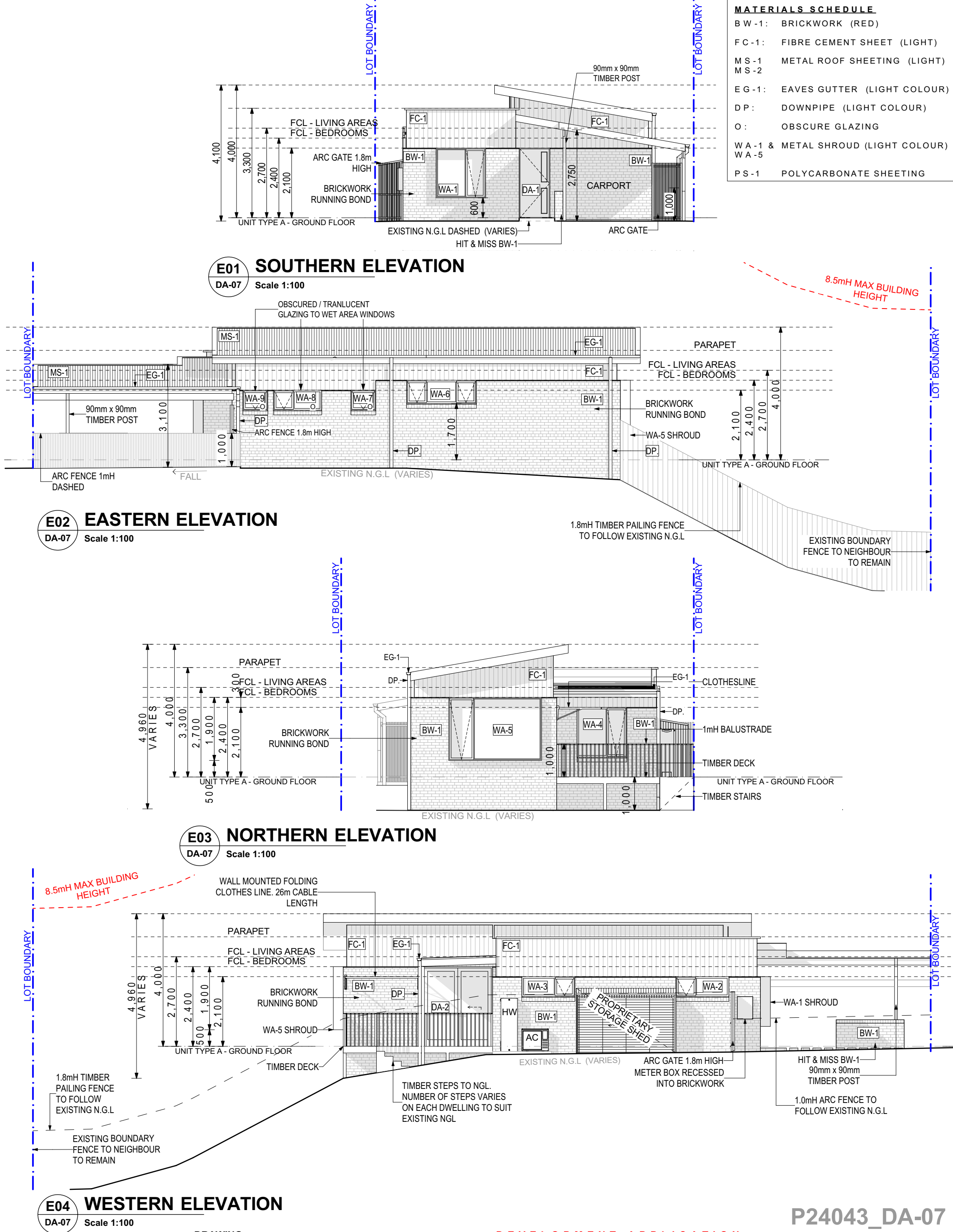
UNIT TYPE A - ROOF PLAN

Scale 1:100



AA SECTION A

DA-07 Scale 1:100



MATERIALS SCHEDULE

- BW-1: BRICKWORK (RED)
FC-1: FIBRE CEMENT SHEET (LIGHT)
MS-1: METAL ROOF SHEETING (LIGHT)
MS-2:
EG-1: EAVES GUTTER (LIGHT COLOUR)
DP: DOWNPIPE (LIGHT COLOUR)
O: OBSCURE GLAZING
WA-1 & METAL SHROUD (LIGHT COLOUR)
WA-5
PS-1 POLYCARBONATE SHEETING

PROJECT

- HOMES TASMANIA
25 Thornleigh St Glenorchy TAS

For

Homes Tasmania



DRAWING

STATUS FULL DA LODGEMENT

REVISION	DESCRIPTION	DATE
08	DA Full Issue	17/06/2025
07	MINOR AMENDMENT TO PLN-20-199	16/01/2025
06	CLIENT SIGN OFF	6/12/2024

DEVELOPMENT APPLICATION

DRAWING NAME UNIT TYPE A - TYPICAL PLANS, ELEVATIONS & SECTIONS

SCALE 1:200 @ A2
DATE 17/06/2025
ACCREDITED DESIGNER SV
ACCREDITED NUMBER CC 54711
DRAWN BW / TA / EC
CHECKED AH/MG/CW

CAD REF

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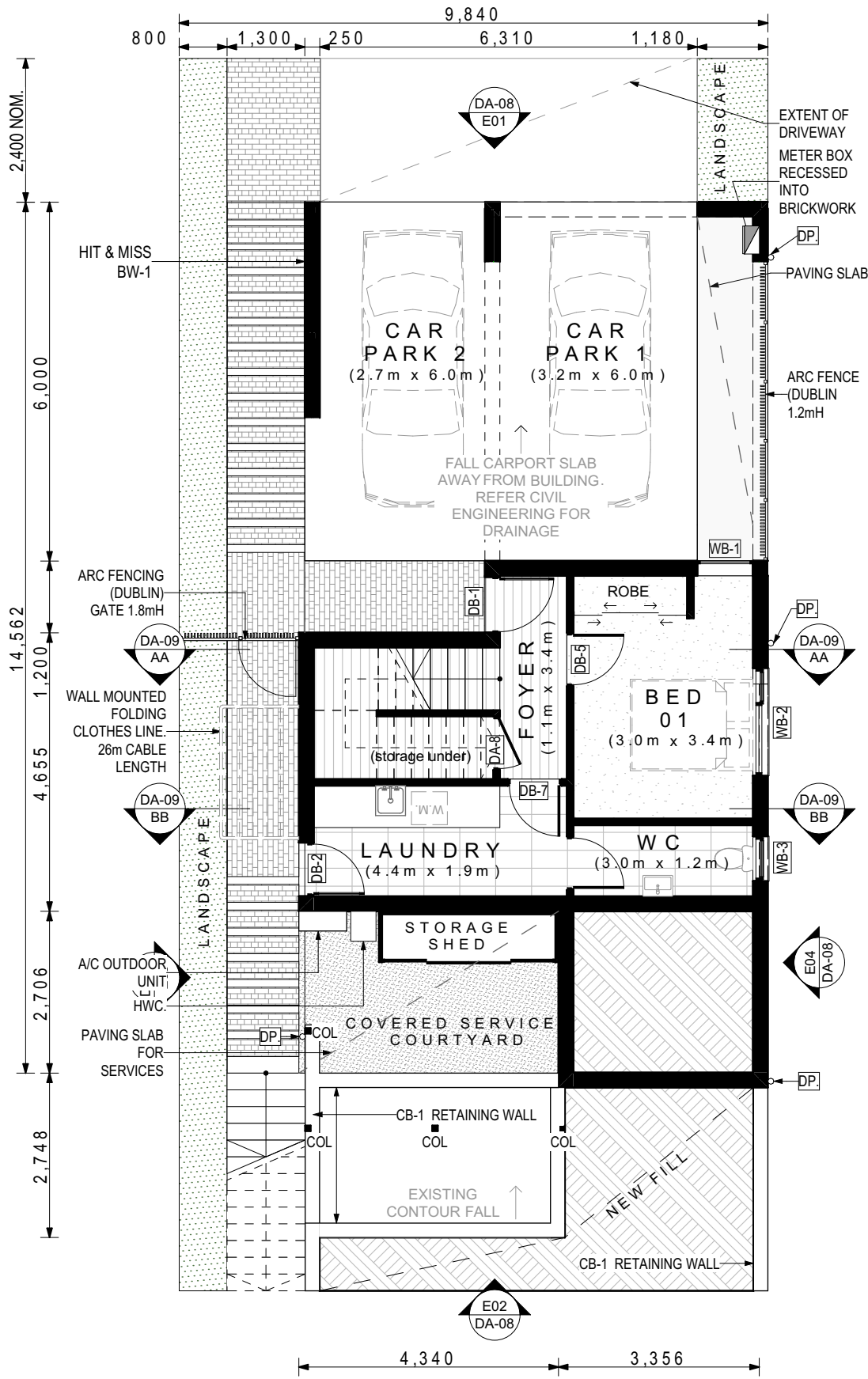
JAWSARCHITECTS

JACOB ALLOM WADE PTY LTD
ABN 62 009 559 479
THE ORDNANCE STORE
21 CASTRAY ESPRANDE
BATTERY POINT, TASMANIA
AUSTRALIA 7004

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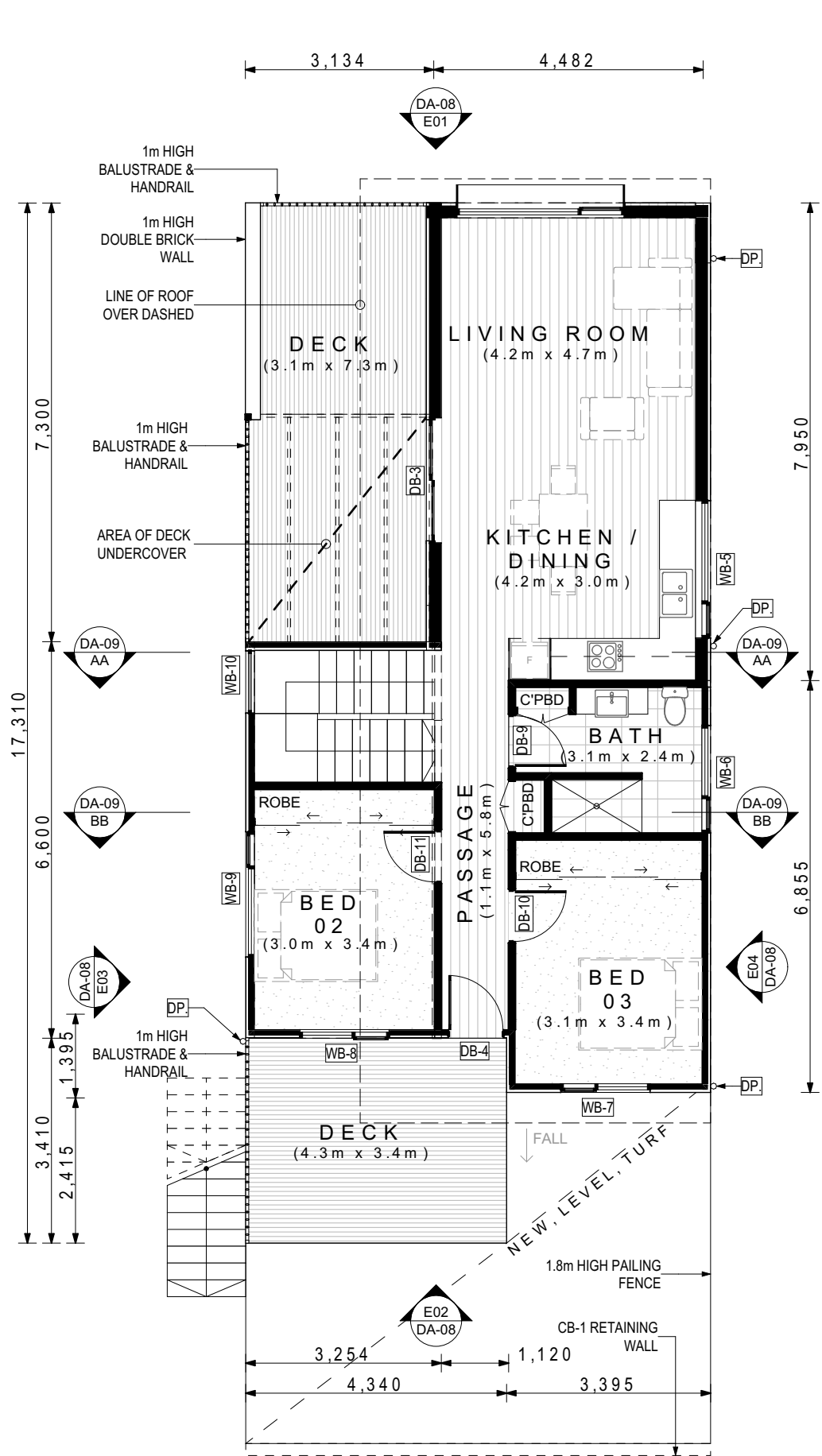
Document Set Id: 3549974
Version: 1, Version Date: 30/10/2025

P24043_DA-07



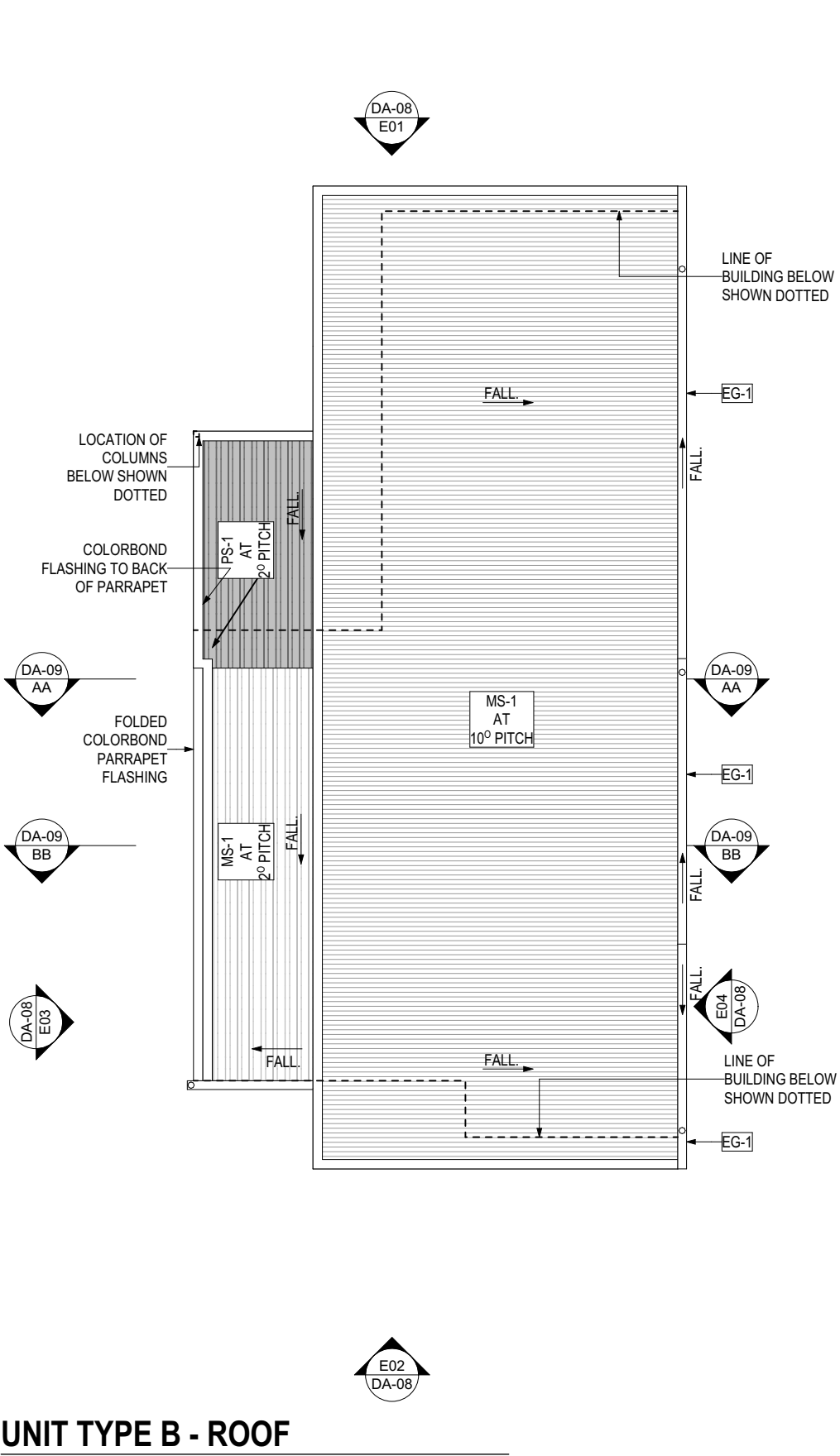
UNIT TYPE B - GROUND FLOOR

Scale 1:100



UNIT TYPE B - FIRST FLOOR

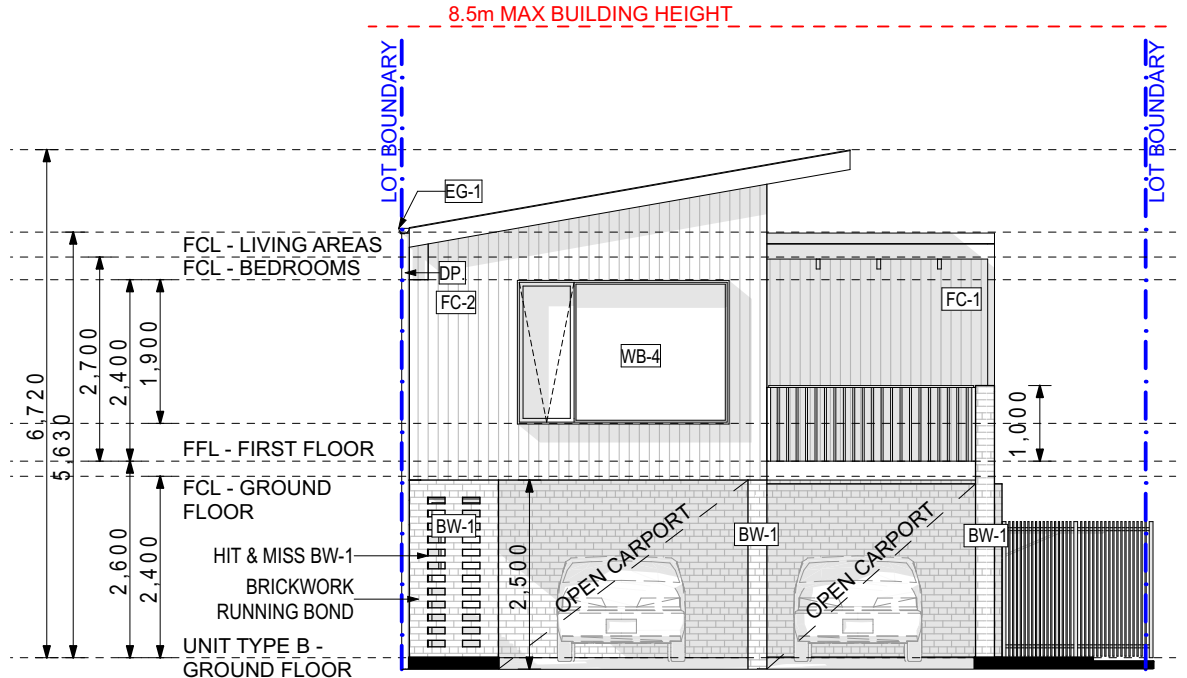
Scale 1:100



UNIT TYPE B - ROOF

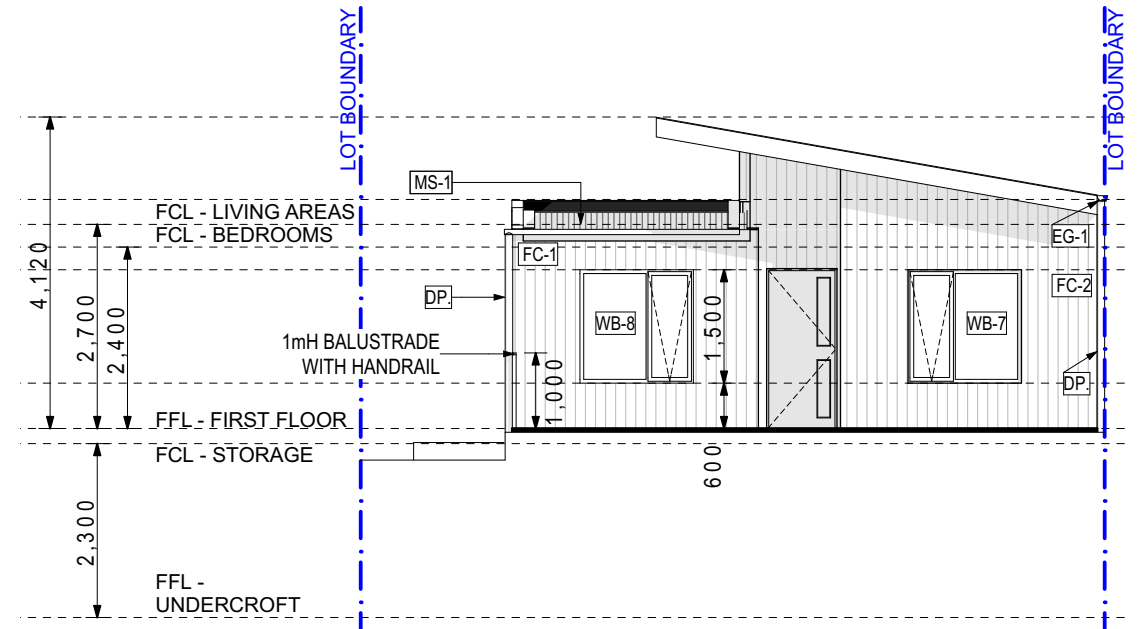
Scale 1:100

MATERIALS SCHEDULE	
BW-1:	BRICKWORK (RED)
FC-1:	FIBRE CEMENT SHEET (LIGHT)
MS-1	METAL ROOF SHEETING (LIGHT)
MS-2	
EG-1:	EAVES GUTTER (LIGHT COLOUR)
DP:	DOWNPIPE (LIGHT COLOUR)
O:	OBSCUR E GLAZING
WA-1 & WA-5	METAL SHROUD (LIGHT COLOUR)
PS-1	POLYCARBONATE SHEETING
CB-1	CONCRETE BLOCKWORK (RAW)



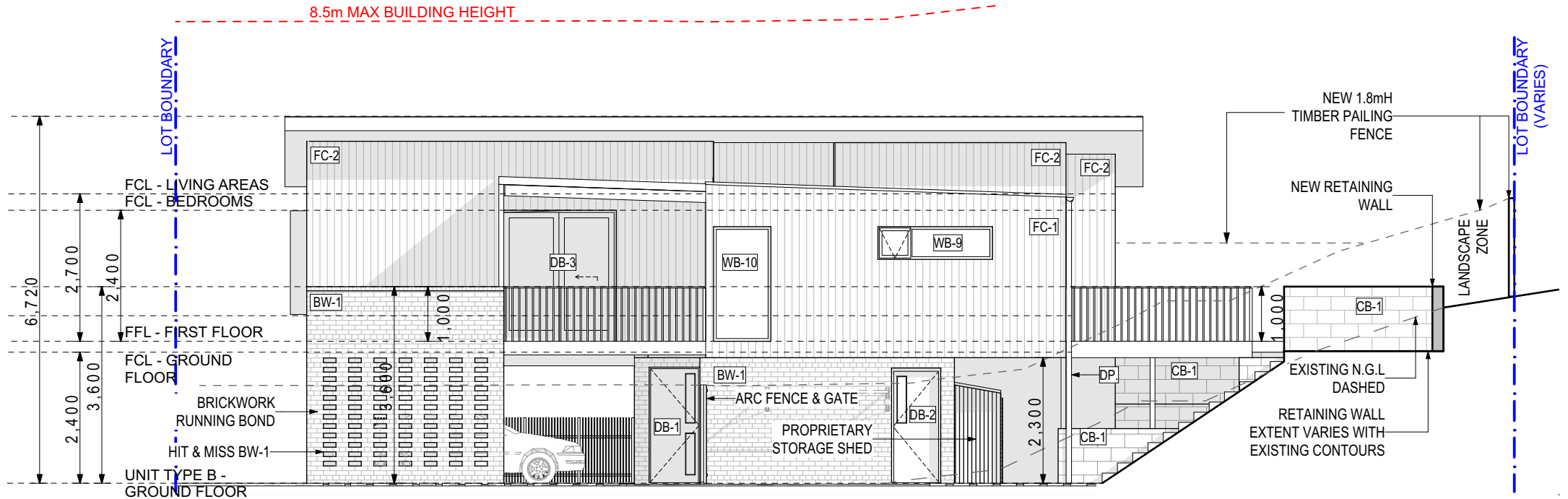
E01 NORTHERN ELEVATION

DA-07 Scale 1:100



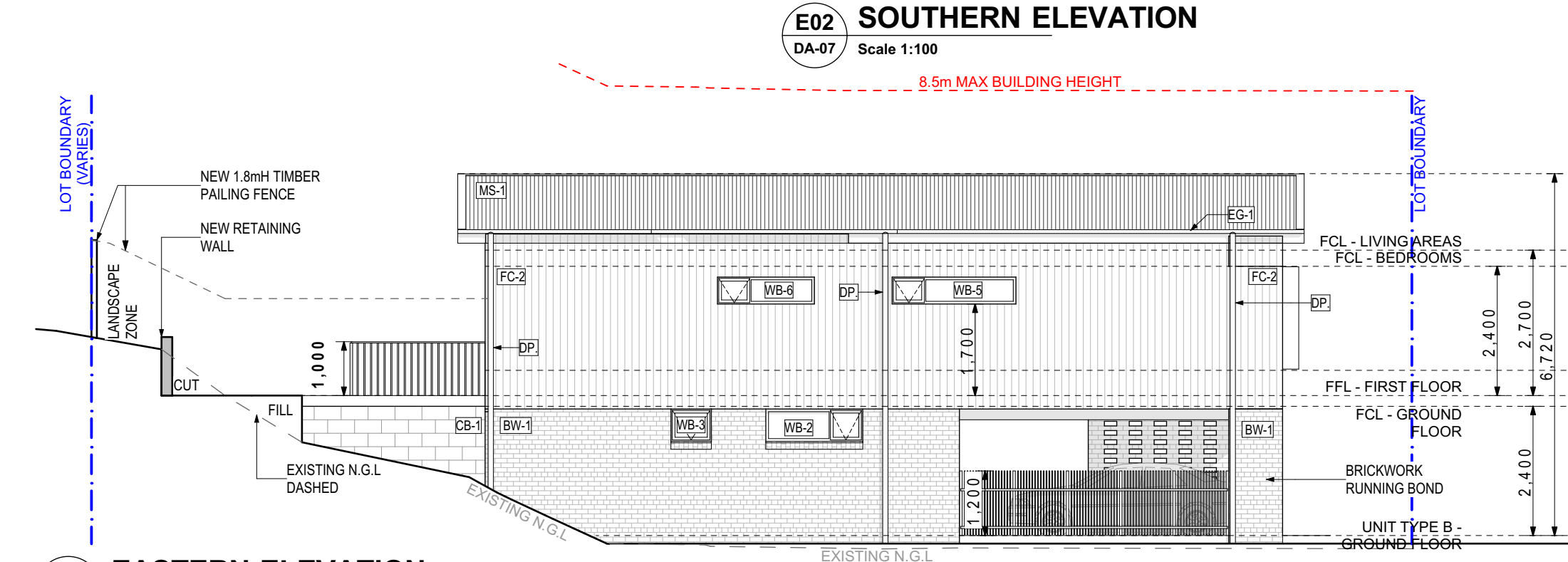
E02 SOUTHERN ELEVATION

DA-07 Scale 1:100



E03 WESTERN ELEVATION

DA-07 Scale 1:100



E04 EASTERN ELEVATION

DA-07 Scale 1:100

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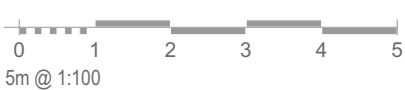
PROJECT

- HOMES TASMANIA

25 Thornleigh St Glenorchy TAS

For

Homes Tasmania



DRAWING

STATUS FULL DA LODGEMENT

REVISION	DESCRIPTION	DATE
08	DA Full Issue	17/06/2025
07	MINOR AMENDMENT TO PLN-20-199	16/01/2025
06	CLIENT SIGN OFF	6/12/2024

DEVELOPMENT APPLICATION

DRAWING NAME UNIT TYPE B - TYPICAL PLANS & ELEVATIONS

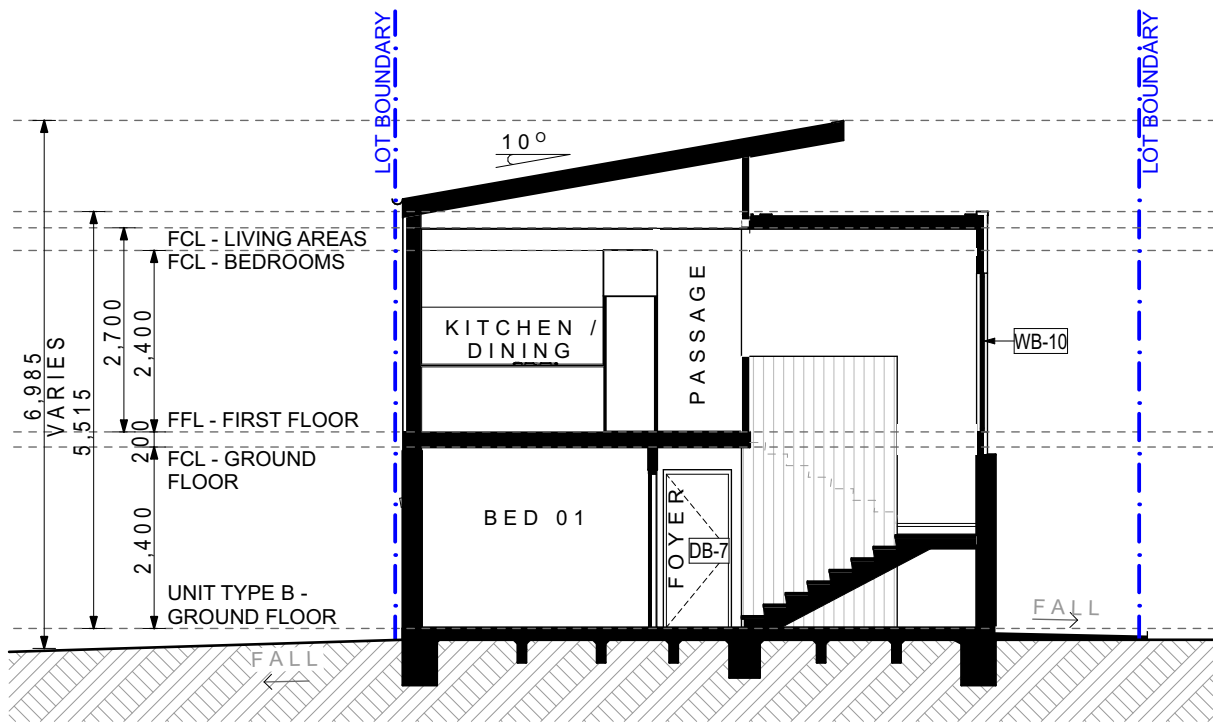
SCALE 1:200 @ A2
DATE 17/06/2025
ACCREDITED DESIGNER SV
ACCREDITED NUMBER CC 54711
CHECKED BW / TA / EC
AH/MG/CW

CAD REF

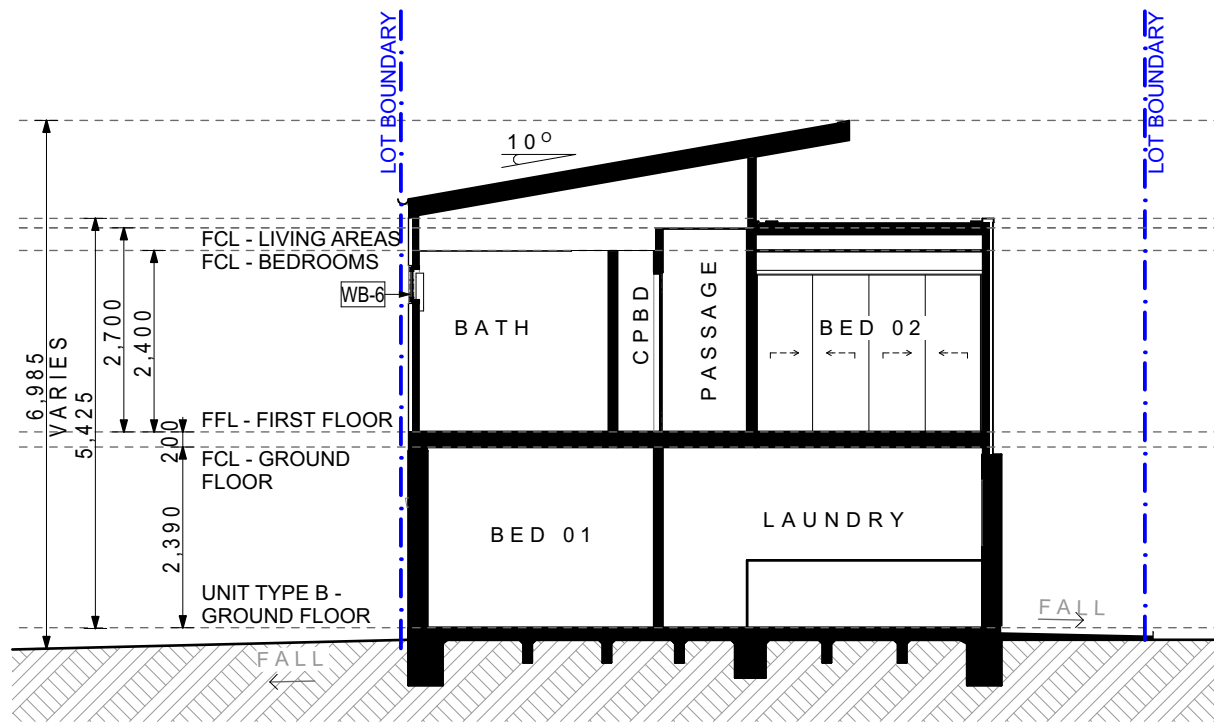
1:200 @ A2
17/06/2025
SV
CC 54711
BW / TA / EC
AH/MG/CW

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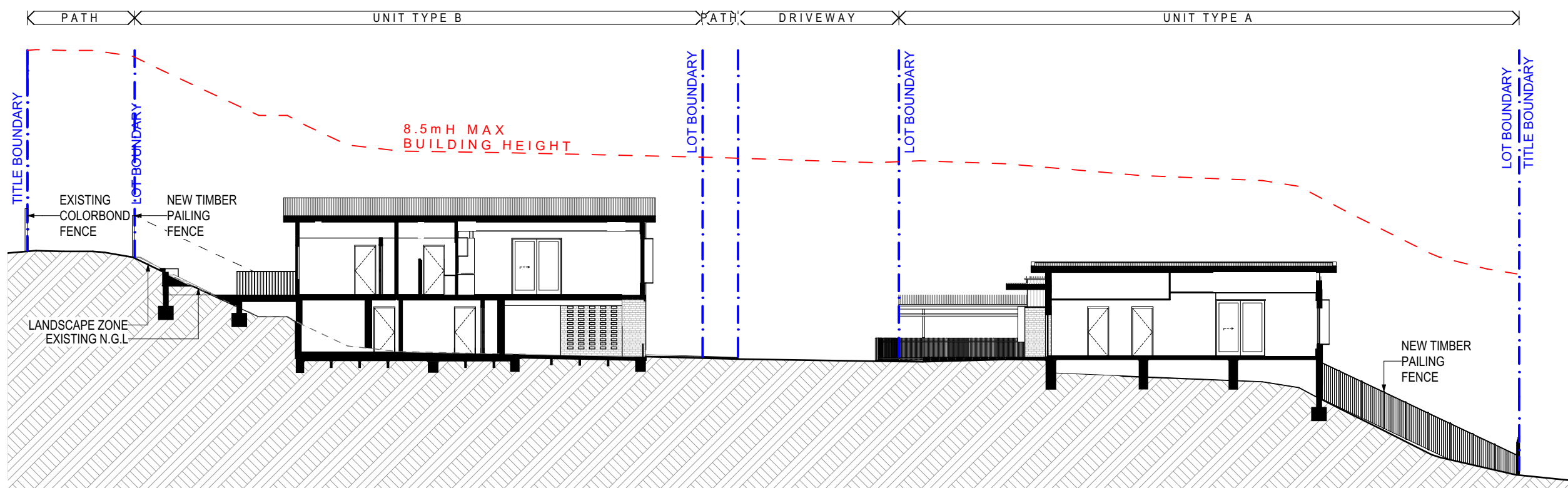
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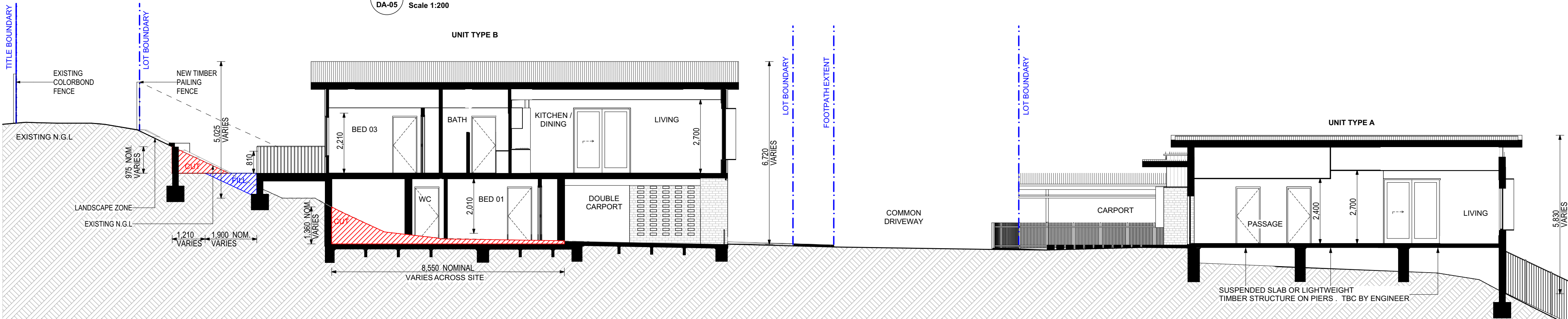
AA SECTION AA - TYPE B
DA-08 Scale 1:100



BB SECTION AA - TYPE B
DA-08 Scale 1:100



1 SITE SECTION
DA-05 Scale 1:200



2 PART SITE SECTION
DA-09 Scale 1:100

P24043_DA-09

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PROJECT
- HOMES TASMANIA
25 Thornleigh St Glenorchy TAS
For
Homes Tasmania

DRAWING
STATUS **FULL DA LODGEMENT**

REVISION	DESCRIPTION	DATE
08	DA Full Issue	17/06/2025
07	MINOR AMENDMENT TO PLN-20-199	16/01/2025
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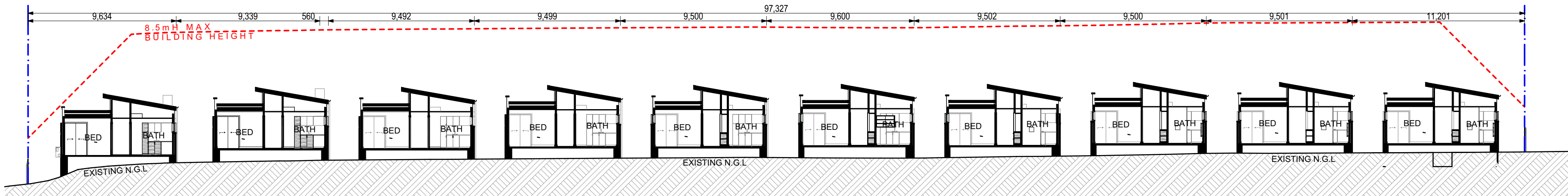
DEVELOPMENT APPLICATION
DRAWING NAME **SITE SECTIONS & DETAIL SECTION**

SCALE
DATE
ACCREDITED DESIGNER
ACCREDITED NUMBER
DRAWN
CHECKED

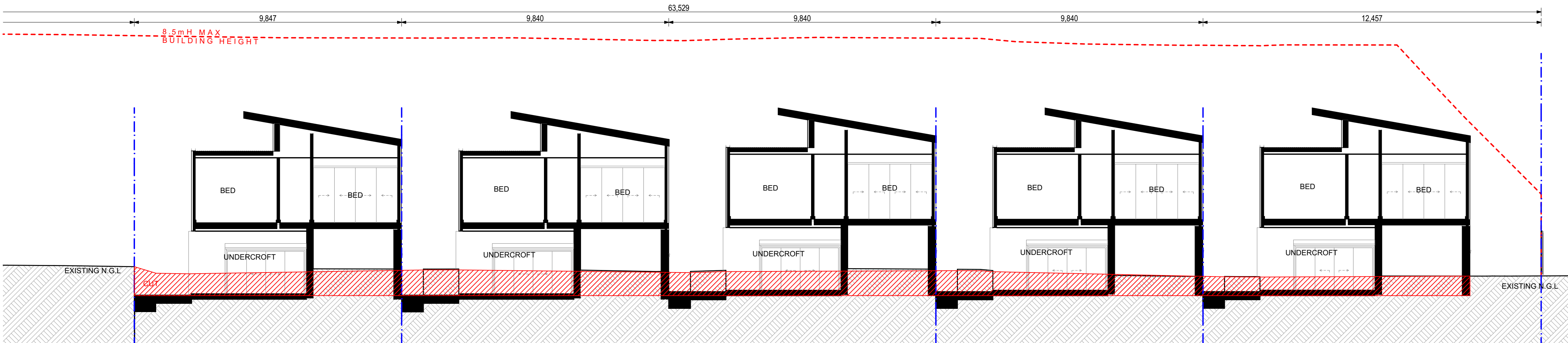
1:200 @ A2
17/06/2025
SV
CC 54711
BW / TA / EC
AH/MG/CW

CAD REF

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1 SITE SECTION - UNIT TYPE A
Scale 1:200



2 SITE SECTION - UNIT TYPE B
Scale 1:100

JAWSARCHITECTS

JACOB ALLOM WADE PTY LTD
ABN 92 009 559 479
THE ORCHARD STORE
21 CASTRAY ESPRANADE
BATTERY POINT TASMANIA
AUSTRALIA 7004

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

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PROJECT
- HOMES TASMANIA
25 Thornleigh St Glenorchy TAS
For
Homes Tasmania

DRAWING
STATUS FULL DA LODGEMENT

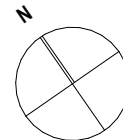
REVISION	DESCRIPTION	DATE
DA-01	RFI - 01	21/08/2025

DEVELOPMENT APPLICATION

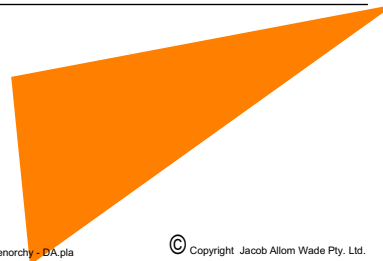
DRAWING NAME SITE SECTIONS

SCALE
DATE
ACCREDITED DESIGNER
ACCREDITED NUMBER
DRAWN
CHECKED
CAD REF

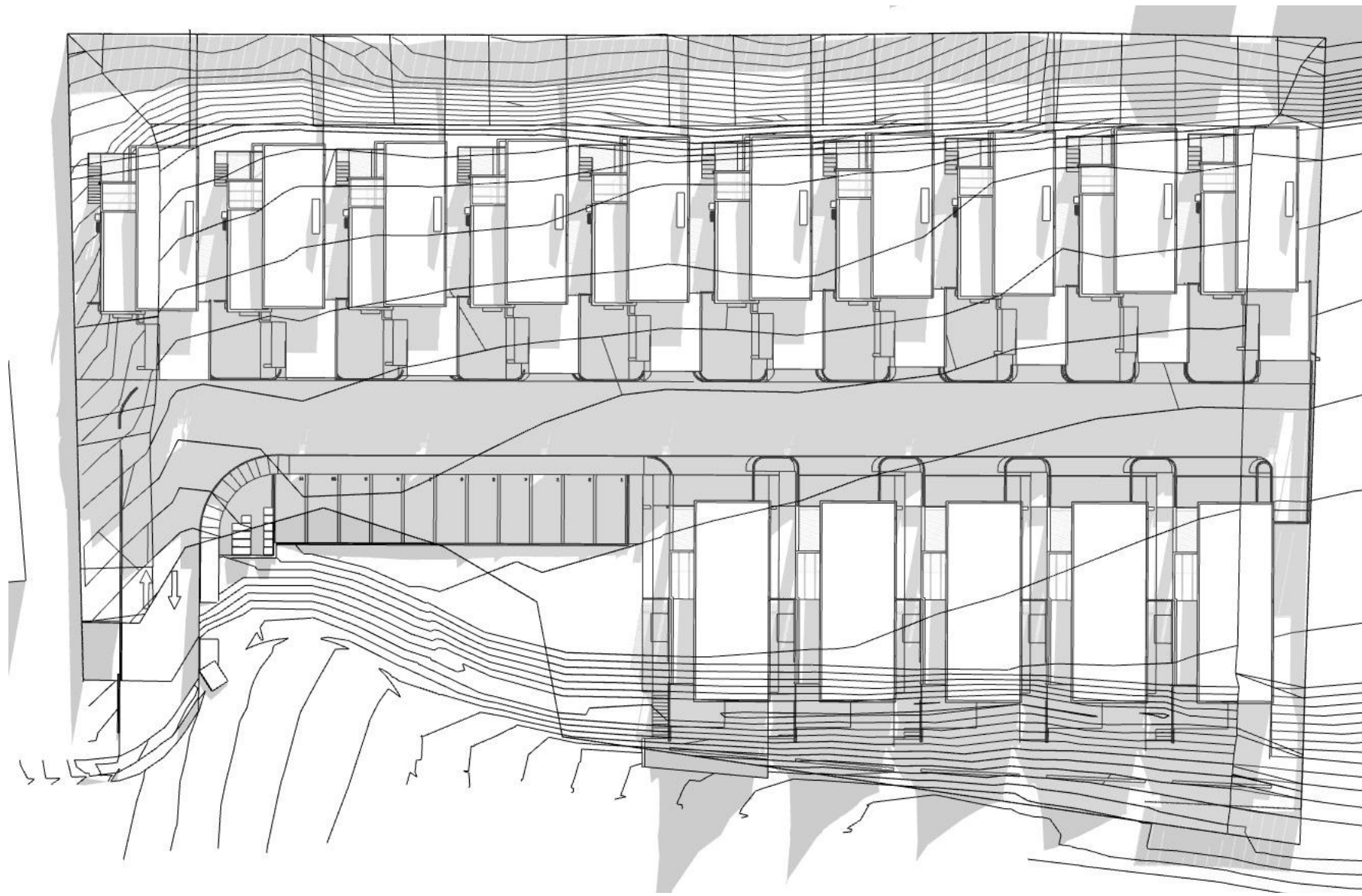
1:200 @ A2
21/08/2025
SV
CC 54711
BW / TA / EC
AH/MG/CW



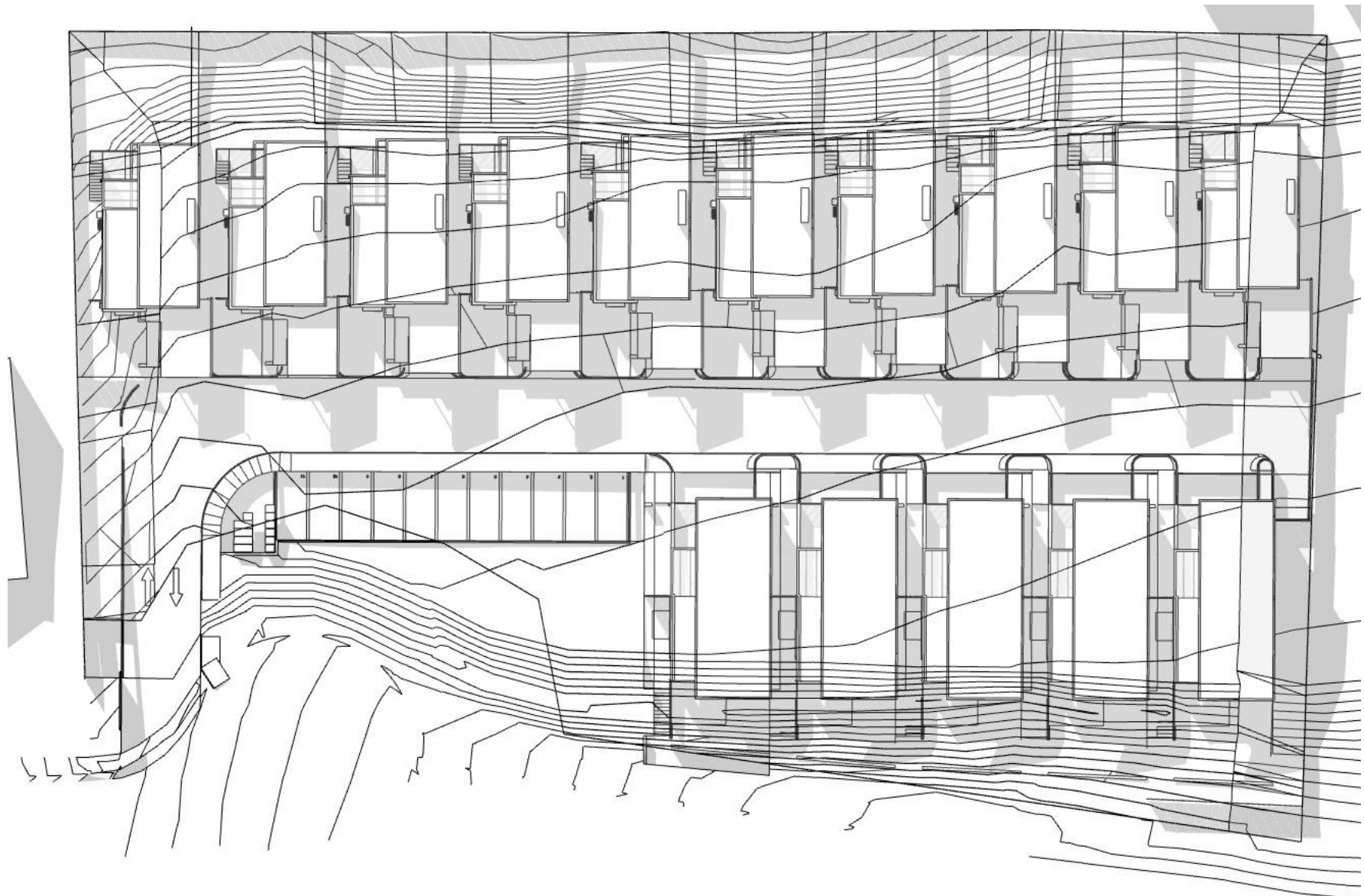
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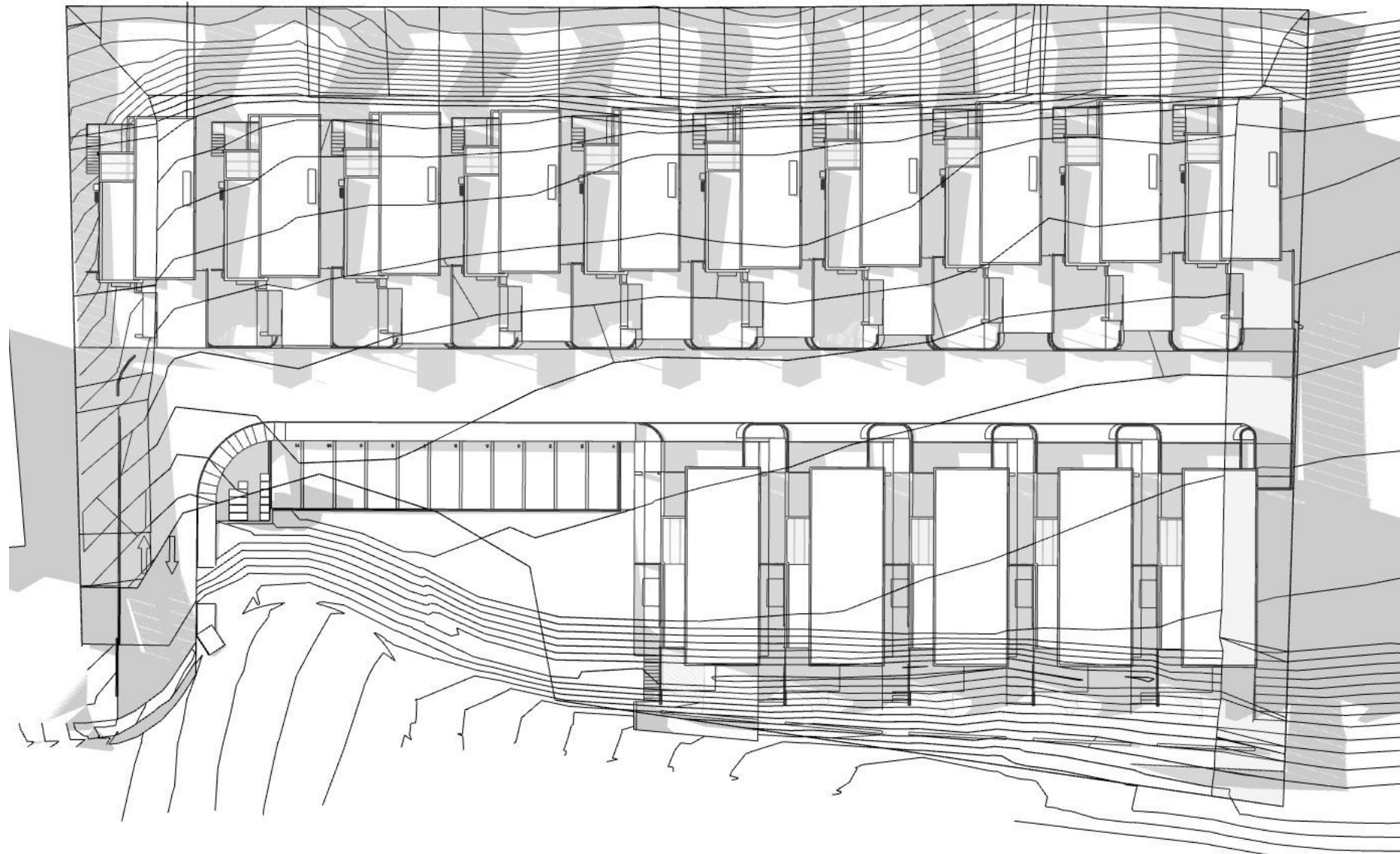
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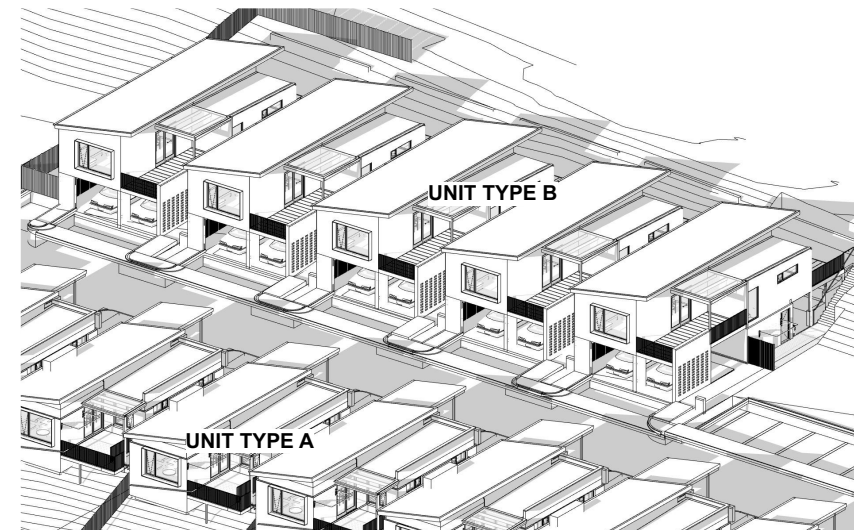
01 June 21st 9am
Scale: 1:2000



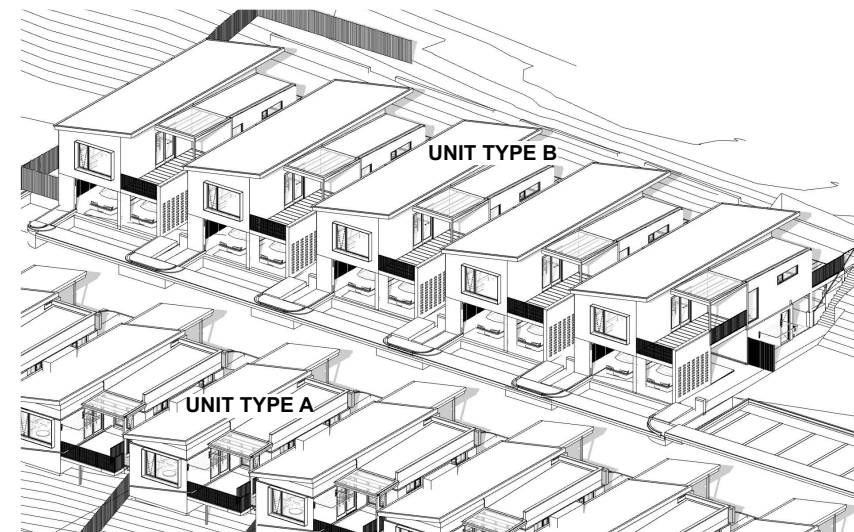
02 June 21st 12pm
Scale: 1:2000



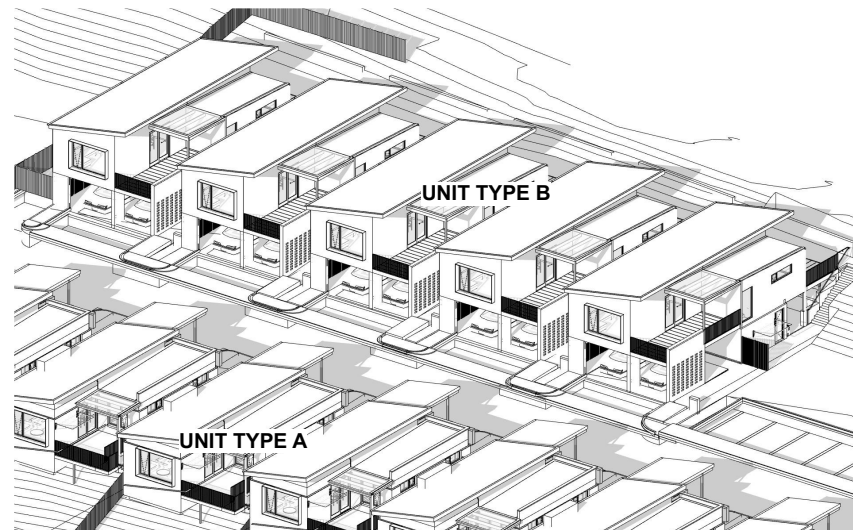
03 June 21st 3pm
Scale: 1:2000



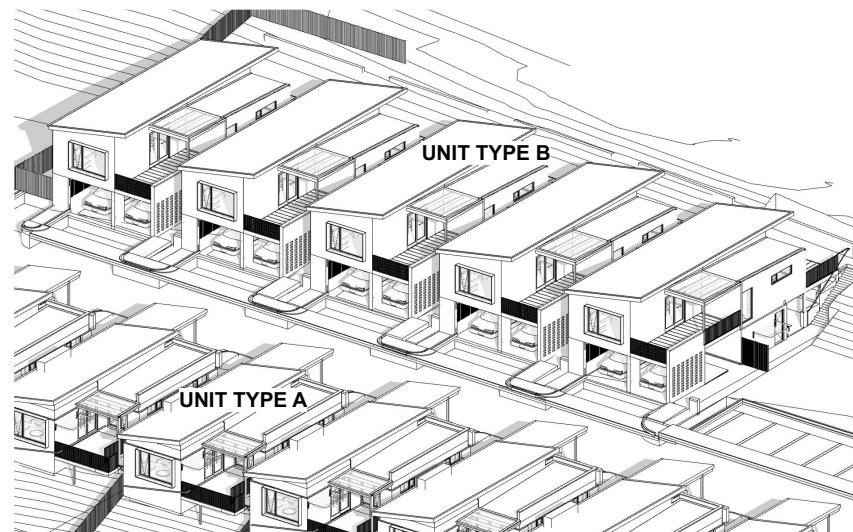
04 June 21st - 10am



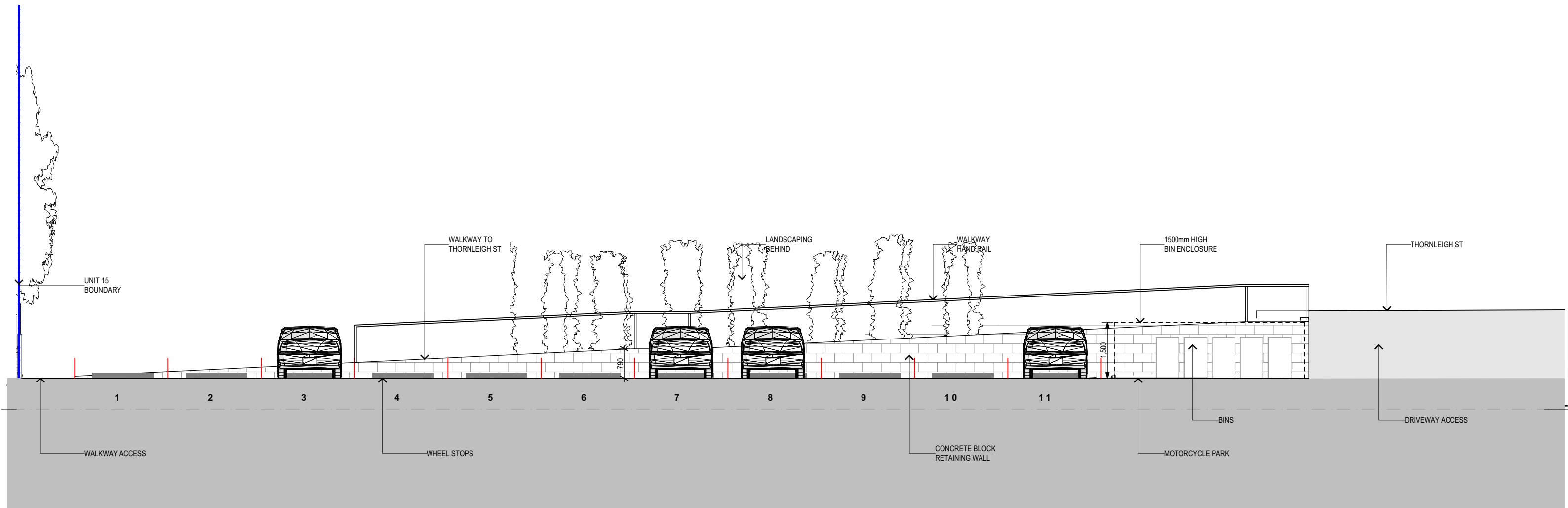
06 June 21st - 12pm



05 June 21st - 11am



07 June 21st - 1pm



1 RETAINING WALL ELEVATION
Scale 1:100

CLIENT / ARCHITECT:

HOMES TASMANIA / JAWS ARCHITECTS

PROJECT DETAILS:

UNIT DEVELOPMENT

25 THORNLEIGH STREET, WEST MOONAH

PROJECT No:

242038

DISCIPLINE:

CIVIL

DRAWINGS:

- COV-C - COVER SHEET
- C001 - CIVIL NOTES
- C011 - OVERALL SITE PLAN
- C101 - EXISTING SITE / DEMOLITION PLAN
- C201 - EROSION CONTROL PLAN
- C401 - INFRASTRUCTURE PLAN - OVERALL SITE
- C402 - INFRASTRUCTURE PLAN - AREA A
- ~~C403 - INFRASTRUCTURE PLAN - AREA B~~
- C411 - SEWER LONGITUDINAL SECTION
- C412 - STORMWATER LONGITUDINAL SECTION
- C501 - CIVIL WORKS PLAN
- C511 - CIVIL LEVELS PLAN
- C701 - VEHICLE TURNING MOVEMENTS PLAN - SHEET 1
- C702 - VEHICLE TURNING MOVEMENTS PLAN - SHEET 2
- C703 - VEHICLE TURNING MOVEMENTS PLAN - SHEET 3
- C801 - CIVIL SECTIONS & DETAILS - SHEET 1
- C802 - CIVIL SECTIONS & DETAILS - SHEET 2
- C803 - CIVIL SECTIONS & DETAILS - SHEET 3
- C804 - CIVIL SECTIONS & DETAILS - SHEET 4

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C	REVISED DEVELOPMENT APPLICATION		OWM	15-10-25		DESIGN BY:		JTA	DESIGN CHECK:	AJL	DRAWN BY:	OWM	DRAFT CHECK:	AJL	CERTIFIER:		SCALE @ A1:	-	PROJECT No:	242038	DRAWING No:	COV-C	REVISION:	C
B	REVISED DEVELOPMENT APPLICATION		OWM	29-09-25																				
A	DEVELOPMENT APPLICATION		MRP	15-11-24																				
REV:	ISSUED FOR / DESCRIPTION:		BY:	DATE:																				

- 1 // GENERAL**
- A. THESE DRAWINGS AND NOTES SHALL BE READ IN CONJUNCTION WITH ARCHITECTURAL, LANDSCAPE ARCHITECTS, STRUCTURAL, BUILDING SERVICES AND OTHER DISCIPLINES' DRAWINGS AND SPECIFICATIONS AND WITH ANY WRITTEN ENGINEERS' INSTRUCTIONS ISSUED DURING THE CONTRACT.
- B. THE CONTRACTOR SHALL ENSURE THAT ALL CIVIL WORKS, MATERIALS, INFRASTRUCTURE AND WORKMANSHIP COMPLY WITH PLANNING AND BUILDING PERMITS, THE NATIONAL CONSTRUCTION CODE OF AUSTRALIA (NCC), AUSTRALIAN STANDARDS (AS), DEPARTMENT OF STATE GROWTH (DSG), INSTITUTE OF PUBLIC WORKS ENGINEERING AUSTRALIA (IPWEA) - TAS DIVISION, LOCAL GOVERNMENT ASSOCIATION TASMANIA (LGAT), WATER SERVICES ASSOCIATION OF AUSTRALIA (WSAA) AND ANY OTHER STATE / TERRITORY / LOCAL GOVERNMENT REGULATIONS.
- C. ALL AUSTRALIAN STANDARDS REFERENCED IN THESE DRAWINGS ARE TO BE NOTED AS THE CURRENT VERSIONS.
- D. ANY DISCREPANCIES ARE TO BE REPORTED TO THE SUPERINTENDENT BEFORE PROCEEDING WITH THE WORK.
- E. THESE GENERAL NOTES DO NOT HAVE PRECEDENCE OVER THE SPECIFICATION OR DRAWING NOTES.
- F. ALL SET OUT DIMENSIONS ON THE DRAWINGS ARE TO BE VERIFIED BY THE CONTRACTOR ON SITE BEFORE COMMENCING WORK.
- G. DO NOT SCALE FOR DIMENSIONS OF THESE DRAWINGS.
- H. UNLESS NOTED OTHERWISE, ALL DIMENSIONS SHOWN ARE IN MILLIMETRES WITH THE EXCEPTION OF SURVEY LEVELS, WHICH ARE IN METRES.
- I. THE CONTRACTOR IS TO ENSURE THAT ANY PROFESSIONALS, TRADESMEN OR SUPPLIERS ENGAGED THROUGHOUT THE DURATION OF THE CONTRACT ARE ACCREDITED AND QUALIFIED FOR THEIR DUTY OF WORK AND CARRY ALL NECESSARY PERMITS REQUIRED BY ANY STATUTORY AUTHORITY.
- J. INSTALL ANY AND ALL PROPRIETARY ITEMS IN ACCORDANCE WITH SPECIFIC MANUFACTURERS REQUIREMENTS, SPECIFICATIONS AND RECOMMENDATIONS.

- 2 // NOTICE TO CONTRACTOR / TENDERER**
- A. THE CONTRACTOR / TENDERER IS TO MAKE THEMSELVES AWARE OF THE LOCAL COUNCIL AND THE DEPARTMENT OF STATE GROWTH (DSG) STANDARDS FOR CIVIL WORKS. TENDERER IS TO ALLOW FOR THESE STANDARDS DURING PRICING.
- B. CONSTRUCTION IS TO BE CARRIED OUT IN ACCORDANCE WITH THESE STANDARDS THROUGHOUT THE DURATION OF THE CONTRACT.
- C. COPIES OF THESE STANDARDS ARE AVAILABLE UPON REQUEST FROM THE LOCAL COUNCIL AND DSG'S WEBSITE.
- 3 // DESIGN LEVELS**
- A. CONFIRM / DETERMINE FINISHED FLOOR LEVELS ON SITE TO ACHIEVE DESIGN INTENT. REFER ARCHITECT FOR ANY DISCREPANCIES, ISSUES OR CHANGES TO FLOOR LEVELS. GENERALLY, SURFACES ARE TO BE SLOPED AWAY FROM BUILDINGS.
- 4 // SCOPE OF WORKS**
- A. THE SCOPE OF WORKS ARE SHOWN IN THESE DOCUMENTS AND THE SPECIFICATION.
- B. THE CONTRACTOR IS EXPECTED TO RESOLVE ALL ISSUES UNCOVERED ON SITE THAT ARE NOT DETAILED IN THESE DOCUMENTS, IN CONJUNCTION WITH THE SUPERINTENDENT / PRINCIPAL.
- 5 // DISPOSAL OF EXCAVATED MATERIAL**
- A. DISPOSAL OF EXCAVATED MATERIAL TO A LICENSED WASTE FACILITY OR APPROVED LAND FILL SITE.
- 6 // APPROVALS**
- ALL WORKS ARE TO BE CARRIED OUT IN ACCORDANCE WITH THE FOLLOWING APPROVALS:
- 7 // LINE TYPE LEGEND**

- eCOM — EXISTING COMMUNICATIONS LINE - CONFIRM EXACT LOCATION
- COM — PROPOSED COMMUNICATIONS LINE
- eFM — EXISTING FIRE WATER LINE / MAIN - CONFIRM EXACT LOCATION
- FM — PROPOSED FIRE WATER LINE / MAIN
- eGAS — EXISTING GAS LINE / MAIN - CONFIRM EXACT LOCATION
- GAS — NEW GAS LINE / MAIN
- ePWR — EXISTING POWER LINE - CONFIRM EXACT LOCATION
- PWR — PROPOSED POWER LINE
- eS — EXISTING SEWER SERVICE LINE / MAIN - CONFIRM EXACT LOCATION
- S — PROPOSED SEWER SERVICE LINE / MAIN
- eS-RM — EXISTING SEWER RISING MAIN - CONFIRM EXACT LOCATION
- S-RM — PROPOSED SEWER RISING MAIN
- eSW — EXISTING STORMWATER LINE / MAIN - CONFIRM EXACT LOCATION
- SW — PROPOSED STORMWATER LINE / MAIN
- eSW-RM — EXISTING STORMWATER RISING MAIN - CONFIRM EXACT LOCATION
- SW-RM — PROPOSED STORMWATER RISING MAIN
- eAG — EXISTING AGRICULTURAL DRAIN (AG DRAIN)
- AG — PROPOSED SLOTTED AGRICULTURAL DRAIN (AG DRAIN)
- eW — EXISTING WATER SERVICE LINE / MAIN - CONFIRM EXACT LOCATION
- W — PROPOSED WATER SERVICE LINE / MAIN
- VEE — PROPOSED VEE DRAIN - REFER SECTIONS AND DETAILS
- — EXISTING SERVICE LINE / MAIN TO BE DEMOLISHED
- — EXISTING SURFACE / STRUCTURE TO BE DEMOLISHED
- — TITLE BOUNDARY
- — DRAINAGE EASEMENT / RIGHT OF WAY
- — EROSION CONTROL BARRIER

- 1 // LOCATION OF EXISTING INFRASTRUCTURE**
- A. LOCATE ALL EXISTING UNDERGROUND INFRASTRUCTURE PRIOR TO COMMENCING ANY SITE AND DEMOLITION WORKS WITH THE FOLLOWING METHODS:
- A1. THE CONTRACTOR IS TO NOTIFY ALL RELEVANT STATUTORY AUTHORITIES PRIOR TO COMMENCING ANY WORK FOR THE POSSIBLE LOCATION OF ANY EXISTING INFRASTRUCTURE NOT SHOWN ON THESE PLANS, AND IS TO NOTIFY THE SUPERINTENDENT OF THE SAME.
- A2. THE CONTRACTOR IS TO COMPLETE A BEFORE YOU DIG:
- A3. THE CONTRACTOR IS TO REVIEW ALL SURVEY AND UNDERGROUND ASSET DATA.
- A4. THE CONTRACTOR IS TO ARRANGE AND PAY FOR THE ON SITE MARKING AND CONFIRMATION OF DEPTH OF SERVICES LOCATIONS FOR ALL UNDERGROUND INFRASTRUCTURE INCLUDING BUT NOT LIMITED TO: COMMUNICATIONS, TASNETWORKS, TASGAS, TASWATER AND COUNCIL INFRASTRUCTURE (IE SEWER, STORMWATER, WATER ETC.) IN THE AREA OF NEW WORKS. CONFIRM LOCATIONS USING: CABLE LOCATORS, POT HOLING, SECTION TRUCK, HAND DIGGING AND UNDERGROUND CCTV CAMERA INSPECTIONS.
- A5. THE CONTRACTOR IS TO WALK SITE AND IDENTIFY ANY ASSETS THAT MAY HAVE BEEN MISSED AND REPORT TO SUPERINTENDENT.

- 2 // GENERAL**
- A. ANY CLASHES WITH DESIGNED INFRASTRUCTURE ON THE FOLLOWING DESIGN DRAWINGS ARE TO BE REPORTED TO DESIGN ENGINEER FOR DIRECTION.
- B. ALL EXISTING INFRASTRUCTURE IS TO BE PROTECTED DURING CONSTRUCTION. ANY DAMAGE TO EXISTING INFRASTRUCTURE IS TO BE MADE GOOD AT THE CONTRACTOR'S EXPENSE.
- C. TRENCHES WHERE SERVICES ARE REMOVED ARE TO BE FILLED WITH AN APPROVED COMPACTED MATERIAL AND TO ENGINEERS COMPACTION SPECIFICATIONS. MATCH AND MAKE GOOD SURFACES TO MATCH EXISTING SURROUNDINGS.

SAFETY IN DESIGN

- 1 // GENERAL**
- A. THE SAFETY IN DESIGN RISK MITIGATION MEASURES FOR THIS PROJECT DO NOT ACCOUNT FOR ALL RESIDUE RISK. CONSTRUCTION, OPERATION, MAINTENANCE AND DEMOLITION ASSESSMENTS.
- B. THEY DO NOT REDUCE OR LIMIT THE OBLIGATIONS OF THE CONTRACTOR, CONSTRUCTOR, USER, OPERATOR, MAINTAINERS OR DEMOLISHER TO PERFORM THEIR OWN SAFETY IN DESIGN RISK ASSESSMENTS.
- C. CONSTRUCTION AND INSTALLATION SAFE WORK METHOD STATEMENTS ARE TO BE REVIEWED BY A QUALIFIED PERSON TO ELIMINATE AND MINIMISE INSTALLATION RISKS.

DEMOLITION WORKS

- 1 // GENERAL**
- A. DEMOLITION WORKS ARE TO BE READ IN CONJUNCTION WITH ARCHITECTS AND OTHER CONSULTANTS' DEMOLITION PLANS. CONTRACTOR TO NOTIFY ARCHITECT AND CONFIRM ANY ISSUES / CONTRADICTIONS WITH ARCHITECT.
- B. CONTRACTOR TO MAKE ALL NECESSARY ALLOWANCES FOR REQUIRED DEMOLITIONS, REMOVALS AND RELOCATIONS TO SUIT NEW WORKS.
- C. ALL EXISTING INFRASTRUCTURE IS TO BE PROTECTED DURING CONSTRUCTION. ANY DAMAGE TO EXISTING INFRASTRUCTURE IS TO BE MADE GOOD AT THE CONTRACTOR'S EXPENSE.
- D. CAP, TERMINATE AND REMOVE REDUNDANT DISUSED DRAINAGE SERVICES TO SATISFACTION OF ENGINEER, LOCAL AUTHORITIES AND IN ACCORDANCE WITH ASS500.
- E. TRENCHES WHERE SERVICES ARE REMOVED ARE TO BE FILLED WITH AN APPROVED COMPACTED MATERIAL AND TO ENGINEERS COMPACTION SPECIFICATIONS. MATCH AND MAKE GOOD SURFACES TO MATCH EXISTING SURROUNDINGS.
- F. CONTRACTOR TO ALLOW TO MAKE GOOD ALL SURFACES AFFECTED BY DEMOLITION WORKS TO SUPERINTENDENT / PRINCIPAL / LOCAL COUNCIL'S SATISFACTION.

EXISTING SURVEY

- 1 // EXISTING SURVEY DETAILS**
- A. THE FOLLOWING ARE THE SURVEY DETAILS USED AS A BASIS FOR THE DESIGN:
- | SURVEYOR: | PDA SURVEYORS |
|--------------------------|------------------|
| SURVEY REFERENCE NUMBER: | 49714CT-1A |
| SURVEY DATE: | 21 JUNE 2023 |
| SITE LOCATION: | 25 THORNLEIGH ST |
| COORDINATION SYSTEM: | MXA2020 |
| LEVEL DATUM: | AHD |
| SERVICE MARKER: | SPW6609 |

SITE SETOUT

- 1 // GENERAL**
- A. SETOUT IS THE RESPONSIBILITY OF THE CONTRACTOR AND SURVEYOR.
- B. THE CONTRACTOR IS TO ARRANGE AND PAY FOR A REGISTERED SURVEYOR TO SETOUT THE BUILDINGS, CIVIL WORKS AND ANY OTHER COMPONENT.
- C. COLLECTIVE CONSULTING TAKE NO RESPONSIBILITY FOR THE SETOUT OF BUILDINGS, CIVIL WORKS AND ANY OTHER COMPONENT.
- D. REFER ARCH. FOR SETOUT OF ALL BUILDINGS AND RELATED COMPONENTS.
- E. ALL SETOUT DIMENSIONS ON THESE DRAWINGS ARE TO BE VERIFIED BY THE CONTRACTOR ON SITE BEFORE COMMENCING WORK.
- F. DO NOT SCALE FOR DIMENSIONS OF THESE DRAWINGS.
- G. UNLESS NOTED OTHERWISE, ALL DIMENSIONS SHOWN ARE IN MILLIMETRES WITH THE EXCEPTION OF SURVEY LEVELS, WHICH ARE IN METRES.

- 1 // GENERAL**
- A. GENERAL, EARTHWORKS, MATERIAL AND WORKMANSHIP SHALL COMPLY WITH THE SPECIFICATION AND THE CURRENT EDITION OF THE SAA CODE FOR EARTHWORKS, AS3798. THE NCC, SAFE WORK AUSTRALIA CODE OF PRACTICE FOR EXCAVATION WORK, TOGETHER WITH ANY CODES, STANDARDS OR REGULATIONS REFERRED TO THEREIN.
- B. INFRASTRUCTURE NOT SHOWN ON THESE PLANS, AND IS TO NOTIFY THE SUPERINTENDENT OF THE SAME.
- 2 // TESTING & INSPECTIONS**
- A. THE CONTRACTOR IS TO BE RESPONSIBLE FOR ENGAGING AND PAYING ALL COSTS FOR AN APPROVED CONSTRUCTION MATERIALS TESTING COMPANY TO CARRY OUT TESTING OF ALL EARTHWORKS INCLUDING, BUT NOT LIMITED TO:

TESTING TYPE	TESTING REQUIREMENTS:
SUBGRADE	LEVEL 1 TESTING
BACKFILL OF SERVICE TRENCHES	LEVEL 1 TESTING
FILLS	LEVEL 1 TESTING
PAVEMENTS	LEVEL 1 TESTING

- CERTIFICATION OF THESE ELEMENTS ARE TO BE PROVIDED PRIOR TO PRACTICAL COMPLETION.
- 3 // AREAS OF CUT**
- A. STRIP EXISTING TOP SOIL, VEGETATION, HARD SURFACES AND OTHER MATERIAL TO SUBGRADE LEVEL.
- B. PROOF ROLL SUBGRADE IN ACCORDANCE WITH AS1289 TO:
- 98% STANDARD DRY DENSITY UNDER BUILDINGS
 - 98% STANDARD DRY DENSITY UNDER ROADS AND CARPARKS
 - REMOVE ANY SOFT SPOTS AND COMPACT WITH 2% OF OPTIMUM MOISTURE
 - CONTENT TO STANDARD DRY DENSITY AS STATED ABOVE

- 4 // AREAS OF FILL**
- A. STRIP EXISTING TOP SOIL, VEGETATION, HARD SURFACES AND OTHER MATERIAL TO SUBGRADE LEVEL.
- B. PROOF ROLL SUBGRADE IN ACCORDANCE WITH AS1289 TO:
- 98% STANDARD DRY DENSITY UNDER BUILDINGS
 - 98% STANDARD DRY DENSITY UNDER ROADS AND CARPARKS
 - REMOVE ANY SOFT SPOTS AND COMPACT WITH 2% OF OPTIMUM MOISTURE
 - CONTENT TO STANDARD DRY DENSITY AS STATED ABOVE
- C. PLACE FILL AS SPECIFIED AND COMPACT WITHIN 2% OF OPTIMUM MOISTURE CONTENT TO STANDARD DRY DENSITY AS STATED ABOVE.

- 5 // DISPOSAL OF EXCAVATED MATERIAL**
- A. DISPOSAL OF EXCAVATED MATERIAL TO A LICENSED WASTE FACILITY OR APPROVED LAND FILL SITE.

SOIL AND WATER MANAGEMENT

- 1 // GENERAL**
- A. ALL WORKS ARE TO BE CARRIED OUT IN ACCORDANCE WITH 'SOIL & WATER MANAGEMENT ON BUILDING & CONSTRUCTION SITES' GUIDELINES AVAILABLE FROM NORTHERN RESOURCE MANAGEMENT (NRM) AND DETAILS SUPPLIED IN THESE DESIGN DRAWINGS.
- B. COMPLY WITH ALL REQUIREMENTS TO LIMIT STORMWATER RUNOFF FROM THE SITE DURING CONSTRUCTION.
- C. IT IS STRONGLY RECOMMENDED THAT THE DEVELOPER RE-COVERS ANY DISTURBED AREAS WITH TOPSOIL AS QUICKLY AS POSSIBLE AFTER BULK EARTHWORKS ARE COMPLETED, TO PREVENT SOIL DISPERSION.

- 2 // SOIL EROSION CONTROL**
- A. CONTRACTOR TO ALLOW TO:
- A1. LIMIT DISTURBANCE WHEN EXCAVATING BY PRESERVING VEGETATED AREAS AS MUCH AS POSSIBLE.
 - A2. DIVERT UP-SLOPE WATER WHERE PRACTICAL.
 - A3. INSTALL SEDIMENT FENCES DOWN SLOPE OF ALL DISTURBED LANDS TO FILTER LARGE PARTICLES PRIOR TO STORMWATER SYSTEM.
 - A4. WASH EQUIPMENT IN DESIGNATED AREA THAT DOES NOT DRAIN TO STORMWATER SYSTEM OR NATURAL DRAINAGE LINES.
 - A5. PLACE STOCK PILES AWAY FROM ON-SITE DRAINAGE & UP-SLOPE FROM SEDIMENT FENCES.
 - A6. LEAVE AND MAINTAIN VEGETATED FOOTPATHS.
 - A7. STORE ALL HARD WASTE AND LITTER IN A DESIGNATED AREA THAT WILL PREVENT IT FROM BEING BLOWN AWAY AND WASHED INTO THE STORMWATER SYSTEMS.
 - A8. RESTRICT VEHICLE MOVEMENT TO A STABILISED ACCESS.
- 3 // NRM GUIDELINES**
- A. CONTRACTOR TO COMPLETE ALL WORKS IN ACCORDANCE WITH NRM SOIL & WATER MANAGEMENT ON BUILDING & CONSTRUCTION SITE USING THE FOLLOWING FACT SHEETS:

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

- 1 // GENERAL**
- A. THE CONTRACTOR SHALL ENSURE THAT ALL CIVIL WORKS, MATERIALS AND WORKMANSHIP COMPLY WITH PLANNING AND BUILDING PERMITS, THE NATIONAL CONSTRUCTION CODE OF AUSTRALIA (NCC), AUSTRALIAN STANDARDS (AS), DEPARTMENT OF STATE GROWTH (DSG), INSTITUTE OF PUBLIC WORKS ENGINEERING AUSTRALIA (IPWEA) - TAS DIVISION, LOCAL GOVERNMENT ASSOCIATION TASMANIA (LGAT), AND ANY OTHER STATE / TERRITORY / LOCAL GOVERNMENT REGULATIONS.
- B. ANY DEPARTURE FROM THESE STANDARDS AND REGULATIONS REQUIRES THE PRIOR WRITTEN APPROVAL FROM THE SUPERINTENDENT AND THE WORKS SUPERVISOR / INSPECTOR.

- 2 // INSPECTIONS**
- A. THE CONTRACTOR IS TO BE RESPONSIBLE FOR ORGANISING INSPECTIONS WITH THE SUPERINTENDENT.
- B. THE FOLLOWING SITE INSPECTIONS ARE REQUIRED DURING CONSTRUCTION / HOLD POINTS AS A MINIMUM, BEFORE COMMENCEMENT OF FURTHER WORKS:
- REQUIRED SITE INSPECTIONS:**
- PIPEWORK BEDDING
 - INSTALLED PIPE PRIOR TO BACKFILLING
 - BACKFILLING
- C. THE CONTRACTOR IS TO MAKE THEMSELVES AWARE OF ANY ADDITIONAL INSPECTIONS REQUIRED BY THE LOCAL COUNCIL TO ACHIEVE PRACTICAL COMPLETION AND NOTIFY COLLECTIVE CONSULTING.
- D. COLLECTIVE CONSULTING REQUIRE MIN. 48 HOURS NOTICE PRIOR TO ALL REQUIRED INSPECTIONS.

- 3 // TESTING**
- A. THE CONTRACTOR IS TO BE RESPONSIBLE FOR ENGAGING AND PAYING ALL COSTS FOR AN APPROVED CONSTRUCTION MATERIALS TESTING COMPANY TO CARRY OUT TESTING IN ACCORDANCE WITH DSG SPEC. SECTION 173 - EXAMINATION AND TESTING OF MATERIALS AND WORK (ROADWORKS).
- 4 // HOTMIX ASPHALT**
- A. ALL HOTMIX ASPHALT IS TO BE BLACK IN COLOUR (U.N.O.) AND IS TO BE PLACED IN ACCORDANCE WITH AND MEET THE REQUIREMENTS OF DSG SPEC. SECTION 407 - HOTMIX ASPHALT.
- 5 // KERBS AND CHANNELS**
- A. ALL KERBS AND CHANNELS AND ACCESS RAMPS SHOWN ON THE DRAWINGS ARE TO BE IN ACCORDANCE WITH STANDARD DRAWINGS TSD-R14-V3 TO TSD-R18-V3.
- 6 // FOOTPATHS**
- A. CONSTRUCT FOOTPATHS (INCLUDING EXPANSION JOINTS, CONTROL JOINTS, WEAKENED PLANE JOINTS, ETC.) IN ACCORDANCE WITH LGAT STANDARD DRAWING TSD-R11-V3.
- 7 // LANDSCAPE / STREET FURNITURE**
- A. LANDSCAPE AND STREET FURNITURE DESIGN AND DETAILING BY OTHERS.
- 8 // ROAD RESERVE WORKS**
- A. ALL WORKS IN (OR REQUIRING OCCUPATION) IN THE ROAD RESERVE MUST BE UNDERTAKEN BY CONTRACTOR REGISTERED WITH COUNCIL'S REGISTERED CONTRACTORS OR AS APPROVED BY COUNCIL.

SIGNAGE AND LINE MARKING

- 1 // GENERAL**
- A. LINE MARKING AND SIGNAGE SHOWN ON THE DESIGN PLANS ARE FOR INFORMATION ONLY. REFER TO THE ARCHITECTURAL PLANS FOR DETAILS.
- B. CONTRACTOR TO INSTALL ALL SIGNAGE AND LINE MARKING AS PER THE ARCHITECTURAL PLANS.
- C. CAR PARKING SPACES AND LINE MARKING TO BE IN ACCORDANCE WITH AS2890.
- D. ACCESS CAR PARKING SPACES, SIGNAGE, SHARED AREA, BOLLARD AND LINE MARKING TO BE IN ACCORDANCE AS2890.6.
- E. ALL LINE MARKING TO BE WITH DULUX ROADMASTER (OR EQUIVALENT) U.N.O.
- F. ALL SIGN WORKS AND INSTALLATION TO BE IN ACCORDANCE WITH CURRENT VERSION OF MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) & AUSTRALIAN FOR SIGNAGE DETAILS.

- 1 // GENERAL**
- A. WHERE THE LOCATION OF SEWER OR STORMWATER INFRASTRUCTURE REQUIRING FILL OR CONSTRUCTION IN AN EMBANKMENT, ALONG THE ROUTE SHOWN IN THE DESIGN DRAWINGS, PROCEED AS FOLLOWS:
- A.1. PREPARE THE FOUNDATION FOR THE FILL BY CLEANING AWAY ALL DEBRIS.
 - A.2. VEGETATION, ORGANIC MATERIAL AND TOPSOIL FOR THE FULL WIDTH OF THE FILL AREA.
 - A.3. PLACE THE CLEANED SOIL SURFACE TO NOT LESS THAN 95% OF ITS STANDARD MAXIMUM DRY DENSITY (AS3798).
 - A.4. BRING THE COMPACTED FILL LEVEL UP TO A HEIGHT OF AT LEAST 300MM ABOVE THE DESIGN LEVEL OF THE TOP OF THE PIPE.
 - A.5. PLACE THE REMAINDER OF THE FILL IN LAYERS NOT EXCEEDING 300MM THICKNESS AND COMPACT EACH LAYER TO NOT LESS THAN 95% OF ITS STANDARD MAXIMUM DRY DENSITY (AS3798).
- B. NOTE THAT ALL EARTHWORKS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH AS3798.

CONTRACTOR SPECIFIC WORKS - PLUMBING

- 1 // GENERAL**
- A. DUE TO THE AGE OF BUILDING AND THE REQUIREMENTS FOR NEW BUILDING WORKS TO COMPLY WITH THE NATIONAL CONSTRUCTION CODE OF AUSTRALIA (NCC), AUSTRALIAN STANDARDS (AS), DEPARTMENT OF STATE GROWTH (DSG), INSTITUTE OF PUBLIC WORKS ENGINEERING AUSTRALIA (IPWEA) - TAS DIVISION, LOCAL GOVERNMENT ASSOCIATION TASMANIA (LGAT), WATER SERVICES ASSOCIATION OF AUSTRALIA (WSAA) TASMANIA FIRE SERVICE REQUIREMENTS AND ANY OTHER STATE / TERRITORY / LOCAL GOVERNMENT REGULATIONS, CONTRACTORS ARE TO COMPLETE ALL NECESSARY CHECKS AND ASSESSMENTS LISTED BELOW TO ENSURE THE BUILDING WORKS ARE READY FOR CERTIFICATE OF OCCUPANCY & CERTIFICATE OF COMPLETION.
- B. ON SITE TESTING IS TO BE CARRIED OUT DURING ESTABLISHMENT AND PRIOR TO COMMENCEMENT OF NEW WORKS. PROVIDE LATENT CONDITIONS REPORT TO ENGINEER FOR PRICING. THIS REPORT IS TO IDENTIFY INFRASTRUCTURE UPGRADE WORKS AT THE FRONT END OF THE PROJECT.
- C. NO VARIATION WILL BE PAID FOR LATENT PLUMBING CONDITIONS THAT HAVE NOT BEEN IDENTIFIED DURING THE ON-SITE TESTING & LATENT CONDITIONS REPORT.
- D. THESE WORKS ARE TO BE INCLUDED IN CONTRACTORS TENDER AS AGREED WITH SUPERINTENDENT.
- E. LOCATE EXISTING INFRASTRUCTURE USING CABLE LOCATORS, POT HOLING, SUCTION TRUCK, HAND DIGGING AND UNDERGROUND CCTV CAMERA INSPECTIONS.
- 2 // COMPLIANCE WORKS**
- A. CONTRACTORS ARE TO COMPLETE THE FOLLOWING WORK:
- A.1. FLOW TEST ALL EXTERNAL & INTERNAL FIRE HYDRANTS FOR COMPLIANCE WITH AS 2419.1. NOTIFY RESULTS TO ENGINEER FOR APPROVAL.
 - A.2. FLOW TEST ALL FIRE HOSE REELS FOR COMPLIANCE WITH AS1851.9. NOTIFY RESULTS TO ENGINEER FOR APPROVAL.
 - A.3. UPGRADE FIRE HOSE REEL & HYDRANTS TO ACHIEVE COMPLIANCE WITH CURRENT STANDARDS TO ALLOW ISSUE OF CERTIFICATE OF OCCUPANCY & COMPLETION.
 - A.4. PRESSURE TEST & DIE TEST EXISTING SEWER SYSTEM PRIOR TO COMMENCING WORKS & CHECK FOR LEAKS OR DEFECTS. MAKE GOOD DEFECTIVE AREAS & PROVIDE CERTIFIED RESULTS TO ENGINEER FOR APPROVAL AS PART OF LATENT CONDITIONS REPORT. PREPARED AT FRONT END OF PROJECT, RE-TEST AFTER COMPLETION OF WORKS & PROVIDE RESULTS PRIOR TO HAND OVER.

- 1 // GENERAL**
- A. ALL STORMWATER INFRASTRUCTURE WORKS TO BE IN ACCORDANCE WITH THE LOCAL COUNCIL AND DSG STANDARDS AND REGULATIONS.
- B. ALL STORMWATER PLUMBING INFRASTRUCTURE AND DRAINAGE TO COMPLY WITH AS3500.3.
- C. TASNWATER DEPARTURE FROM THESE STANDARDS AND REGULATIONS REQUIRES THE PRIOR WRITTEN APPROVAL FROM THE SUPERINTENDENT AND LOCAL COUNCIL'S WORKS SUPERVISOR / INSPECTOR.
- 2 // TESTING**
- A. ALL DRAINAGE WORKS SHALL BE SUBJECT TO THE TESTS PRESCRIBED BY THE AUTHORITIES WHO HAVE JURISDICTION OVER THE VARIOUS SERVICES.
- B. ANY SECTION FAILING SUCH TESTS SHALL BE REMOVED AND REINSTALLED AT THE CONTRACTOR'S EXPENSE.
- 3 // AS CONSTRUCTED DRAWINGS**
- A. THE CONTRACTOR WILL BE RESPONSIBLE FOR PRODUCING 'AS INSTALLED' DRAWINGS TO THE STANDARD REQUIRED BY TASWATER.
- B. THE DRAWINGS SHALL BE CERTIFIED AS BEING CORRECT BY EITHER A CHARTERED CIVIL ENGINEER OR A REGISTERED SURVEYOR.
- C. COLLECTIVE CONSULTING CAN PROVIDE THIS SERVICE, AT AN ADDITIONAL FEE. THIS HAS NOT BEEN ALLOWED FOR AS PART OF THESE WORKS / CONTRACT.
- 8 // REDUNDANT PIPEWORK**
- A. FILL ALL REDUNDANT SECTION OF PIPEWORK WITH 'LIQUIFILL' (GRADE PC.1 - 0.5-2.0 MPa), U.N.O.

REQUIRED SITE INSPECTIONS:
PIPEWORK BEDDING
INSTALLED PIPE PRIOR TO BACKFILLING
BACKFILLING

- C. THE CONTRACTOR IS TO MAKE THEMSELVES AWARE OF ANY ADDITIONAL INSPECTIONS REQUIRED BY THE LOCAL COUNCIL TO ACHIEVE PRACTICAL COMPLETION AND NOTIFY COLLECTIVE CONSULTING.
- D. COLLECTIVE CONSULTING REQUIRE MIN. 48 HOURS NOTICE PRIOR TO ALL REQUIRED INSPECTIONS.
- 7 // AS CONSTRUCTED DRAWINGS**
- A. THE CONTRACTOR WILL BE RESPONSIBLE FOR PRODUCING 'AS INSTALLED' DRAWINGS TO THE STANDARD REQUIRED BY TASWATER.
- B. THE DRAWINGS SHALL BE CERTIFIED AS BEING CORRECT BY EITHER A CHARTERED CIVIL ENGINEER OR A REGISTERED SURVEYOR.
- C. COLLECTIVE CONSULTING CAN PROVIDE THIS SERVICE, AT AN ADDITIONAL FEE. THIS HAS NOT BEEN ALLOWED FOR AS PART OF THESE WORKS / CONTRACT.

SEWER INFRASTRUCTURE

- 1 // GENERAL**
- A. ALL SEWER INFRASTRUCTURE WORKS TO BE IN ACCORDANCE WITH THE WSAA SEWER CODE 02-2014-3.1 (GRAVITY SEWERAGE CODE OF AUSTRALIA - MELBOURNE RETAIL WATER AGENCIES INTEGRATED (MRWA) VERSION 2.0 AND AS AMENDED BY THE TASWATER SUPPLEMENT.
- B. TASWATER APPROVED PRODUCTS CAN BE FOUND AT THE FOLLOWING WEBSITE: <https://www.cw.com.au/Pages/ProductIndex.aspx>
- C. ANY DEPARTURE FROM THESE STANDARDS AND REGULATIONS REQUIRES THE PRIOR WRITTEN APPROVAL FROM THE SUPERINTENDENT AND TASWATER FIELD SERVICES OFFICE.
- 2 // TESTING**
- A. ALL DRAINAGE WORKS SHALL BE SUBJECT TO THE TESTS PRESCRIBED BY THE AUTHORITIES WHO HAVE JURISDICTION OVER THE VARIOUS SERVICES.
- B. ANY SECTION FAILING SUCH TESTS SHALL BE REMOVED AND REINSTALLED AT THE CONTRACTOR'S EXPENSE.
- C. ONCE DRAINAGE INFRASTRUCTURE HAS BEEN INSTALLED, CONTRACTORS SHALL CCTV ALL PIPES AND SUBMIT FOOTAGE TO TASWATER FOR APPROVAL.
- 3 // SEWER MAIN CONNECTIONS**
- A. ALL NEW LIVE CONNECTIONS TO EXISTING TASWATER SEWER INFRASTRUCTURE INCLUDING, BUT NOT LIMITED TO: SEWER MAINS AND MANHOLES, ARE TO BE COMPLETED BY TASWATER (UNLESS PRIOR WRITTEN APPROVAL) AT OWNERS COST.
- B. INSTALL PROPERTY SEWER CONNECTIONS (STANDARD OR SLOPED) WITH A SURFACE INSPECTION OPENING 100 MM x 100 mm WITHIN EACH NEW LOT IN ACCORDANCE WITH SECTION 5 OF WSAA SEWER CODE 02-2014-3.1 GRAVITY SEWERAGE CODE OF AUSTRALIA (MRWA) VERSION 2.0.
- 4 // MANHOLES (MH)**
- A. MANHOLES ARE TO BE 01050 ID (U.N.O.) PRECAST CONCRETE, INSTALLED IN ACCORDANCE WITH WSAA STANDARDS.
- B. CONSTRUCTION AND INSTALLATION OF ALL MANHOLES AND MANHOLE COVERS TO BE IN ACCORDANCE WITH THE WSAA SEWER CODE 02-2014-3.1 GRAVITY SEWERAGE CODE OF AUSTRALIA - MELBOURNE RETAIL WATER AGENCIES INTEGRATED (MRWA) VERSION 2.0 AND AS AMENDED BY THE TASWATER SUPPLEMENT.
- C. ALL MANHOLES IN NON-TRAFFICABLE AREAS ARE TO BE FITTED WITH HEAVY DUTY CLASS D GATIC COVERS AND SURROUNDS (U.N.O.).
- D. ALL MANHOLES IN NON-TRAFFICABLE AREAS ARE TO BE FITTED WITH MEDIUM DUTY CLASS B GATIC COVERS AND SURROUNDS (U.N.O.).
- E. BENCHING TO BE FULL DEPTH OF PIPE DIA. AS PER DETAILS IN WSAA SEWER CODE 02-2014-3.1 GRAVITY SEWERAGE CODE OF AUSTRALIA - MELBOURNE RETAIL WATER AGENCIES INTEGRATED (MRWA) VERSION 2.0 AND AS AMENDED BY THE TASWATER SUPPLEMENT.
- 5 // TRENCHING AND BACKFILLING**
- A. ALL TRENCHES ARE TO BE EXCAVATED AND BACKFILLED IN ACCORDANCE WITH THESE DRAWINGS AND TASWATER STANDARDS, INCLUDING ELECTROMAGNETIC METAL IMPREGNATED TAPE IN ALL NON METALLIC PIPE TRENCHES.
- B. CEMENT STABILISED EMBEDMENT:
- FOR SEWER MAINS, IN ACCORDANCE WITH MRWA SEWERAGE STANDARDS DRAWING RWA-S AND AS AMENDED BY THE TASWATER SUPPLEMENT.

- 6 // INSPECTIONS**
- A. THE CONTRACTOR IS TO BE RESPONSIBLE FOR ORGANISING INSPECTIONS WITH THE SUPERINTENDENT - LIAISE WITH TASWATER.
- B. THE FOLLOWING SITE INSPECTIONS ARE REQUIRED DURING CONSTRUCTION / HOLD POINTS AS A MINIMUM, BEFORE COMMENCEMENT OF FURTHER WORKS:
- REQUIRED SITE INSPECTIONS:**
- PIPEWORK BEDDING
 - INSTALLED PIPE PRIOR TO BACKFILLING
 - BACKFILLING
- C. THE CONTRACTOR IS TO MAKE THEMSELVES AWARE OF ANY ADDITIONAL INSPECTIONS REQUIRED BY TASWATER TO ACHIEVE PRACTICAL COMPLETION AND NOTIFY COLLECTIVE CONSULTING.
- D. COLLECTIVE CONSULTING REQUIRE MIN. 48 HOURS NOTICE PRIOR TO ALL REQUIRED INSPECTIONS.
- 7 // AS CONSTRUCTED DRAWINGS**
- A. THE CONTRACTOR WILL BE RESPONSIBLE FOR PRODUCING 'AS INSTALLED' DRAWINGS TO THE STANDARD REQUIRED BY TASWATER.
- B. THE DRAWINGS SHALL BE CERTIFIED AS BEING CORRECT BY EITHER A CHARTERED CIVIL ENGINEER OR A REGISTERED SURVEYOR.
- C. COLLECTIVE CONSULTING CAN PROVIDE THIS SERVICE, AT AN ADDITIONAL FEE. THIS HAS NOT BEEN ALLOWED FOR AS PART OF THESE WORKS / CONTRACT.

- 8 // REDUNDANT PIPEWORK**
- A. FILL ALL REDUNDANT SECTION OF PIPEWORK WITH 'LIQUIFILL' (GRADE PC.1 - 0.5-2.0 MPa), U.N.O.

- 1 // GENERAL**
- A. ALL WATER INFRASTRUCTURE WORKS TO BE IN ACCORDANCE WITH THE FOLLOWING:
- A.1. WSAA WATER SUPPLY CODE 03-2011-3.1 WATER SUPPLY CODE OF AUSTRALIA - MELBOURNE RETAIL WATER AGENCIES INTEGRATED (MRWA) VERSION 2.0 AND AS AMENDED BY THE TASWATER SUPPLEMENT.
 - A.2. TASWATER STANDARD DRAWINGS TWS-0002 SERIES.
 - A.3. WATER METERING POLICY / METERING GUIDELINES.
 - A.4. TASWATER'S STANDARD DRAWINGS TWS-W-0003 SERIES - FOR PROPERTY SERVICE CONNECTIONS - CASE FOR WATER METER ASSEMBLY.
 - A.5. BOUNDARY BACKFLOW CONTAINMENT REQUIREMENTS AND ASS3500.1.
 - B. ANY DEPARTURE FROM THESE STANDARDS AND REGULATIONS REQUIRES THE PRIOR WRITTEN APPROVAL FROM THE SUPERINTENDENT AND TASWATER'S FIELD SERVICES OFFICE.
- 2 // TESTING**
- A. ALL DRAINAGE WORKS SHALL BE SUBJECT TO THE TESTS PRESCRIBED BY THE AUTHORITIES WHO HAVE JURISDICTION OVER THE VARIOUS SERVICES.
- B. ANY SECTION FAILING SUCH TESTS SHALL BE REMOVED AND REINSTALLED AT THE CONTRACTOR'S EXPENSE.
- 3 // FIRE HYDRANTS (FH)**
- A. INSTALLATION, COMMISSIONING AND TESTING OF FIRE HYDRANTS TO BE IN ACCORDANCE WITH AS2419.
- B. FIRE HYDRANTS ARE TO BE AS SHOWN ON THE DRAWINGS. THE CONTRACTOR IS TO ALLOW TO PLACE STANDARD MARKERS AS REQUIRED BY THE LOCAL AUTHORITY.

- 4 // THRUST AND ANCHOR BLOCKS**
- A. THRUST AND ANCHOR BLOCKS ARE TO BE PROVIDED AT BENDS, VALVES, HYDRANTS AND LINE ENDS IN ACCORDANCE WITH TASWATER STANDARDS.
- 5 // TRENCHING AND BACKFILLING**
- A. ALL TRENCHES ARE TO BE EXCAVATED AND BACKFILLED IN ACCORDANCE WITH THESE DRAWINGS AND TASWATER STANDARDS, INCLUDING ELECTROMAGNETIC METAL IMPREGNATED TAPE IN ALL NON METALLIC PIPE TRENCHES.
- B. CEMENT STABILISED EMBEDMENT:
- FOR SEWER MAINS, IN ACCORDANCE WITH MRWA W-208 (REV 3) INCLUDES TABLE 208-A
- C. THE LATEST VERSION OF DRAWING MRWA-W-208 (REV 3) INCLUDES TABLE 208-A WITH NOTE G INDICATING THAT WHEN TRENCHSTOPS OR BULKHEADS ARE USED (GRADES GREATER THAN 5%) CEMENT STABILISED EMBEDMENT MUST BE USED.
- D. FOR PIPES UP TO 10% GRADE TASWATER WILL ACCEPT THE PREVIOUS REVISION OF MRWA (REV 2). IF PIPES UP TO 10% GRADE DO NOT REQUIRE CEMENT STABILISED EMBEDMENT UNLESS THE CONDITIONS OF NOTE H APPLY - WHEN SOCKETED MAINS ARE LAD AT >5% SLOPE AREAS THAT ARE LIKELY TO HAVE HIGH GROUND WATER, CEMENT STABILISED EMBEDMENT SHALL BE USED.
- E. FOR PIPES AT GRADE GREATER THAN 10% MRWA-W-208 (REV 3) REMAINS VALID.
- B.4. THE LATEST VERSION OF MRWA-W-203 (REV 2) EMBEDMENT SHALL BE ADAPTED NOTING THAT THE REQUIREMENT IDENTIFIED IN THE THIRD DOT POINT FOR TYPE B IN THE NOTES REGARDING TABLE 203-A SHALL BE AMENDED TO READ 'WHERE WATER MAIN GRADE >10%.
- B.5. FURTHER TO THIS IT SHOULD BE NOTED THAT MOST WATER MAINS ARE LIKELY TO REQUIRE A TYPE A EMBEDMENT SYSTEM. THE VARIOUS MATERIALS AVAILABLE FOR THIS SYSTEM ARE IDENTIFIED IN TABLE 203-B.

- 6 // INSPECTIONS**
- A. THE CONTRACTOR IS TO BE RESPONSIBLE FOR ORGANISING INSPECTIONS WITH THE SUPERINTENDENT - LIAISE WITH LOCAL COUNCIL.
- B. THE FOLLOWING SITE INSPECTIONS ARE REQUIRED DURING CONSTRUCTION / HOLD POINTS AS A MINIMUM, BEFORE COMMENCEMENT OF FURTHER WORKS:
- REQUIRED SITE INSPECTIONS:**
- PIPEWORK BEDDING
 - INSTALLED PIPE PRIOR TO BACKFILLING
 - BACKFILLING
- C. THE CONTRACTOR IS TO MAKE THEMSELVES AWARE OF ANY ADDITIONAL INSPECTIONS REQUIRED BY TASWATER TO ACHIEVE PRACTICAL COMPLETION AND NOTIFY COLLECTIVE CONSULTING.
- D. COLLECTIVE CONSULTING REQUIRE MIN. 48 HOURS NOTICE PRIOR TO ALL REQUIRED INSPECTIONS.
- 7 // PIPE CLEANING - 'DISINFECTION'**
- A. THE CONTRACTOR IS TO ALLOW TO CLEANSE WATER MAINS BY FLUSHING WITH SODIUM HYPOCHLORITE (OR SIMILAR), AS DIRECTED BY THE LOCAL AUTHORITY.

- 8 // AS CONSTRUCTED DRAWINGS**
- A. THE CONTRACTOR WILL BE RESPONSIBLE FOR PRODUCING 'AS INSTALLED' DRAWINGS TO THE STANDARD REQUIRED BY TASWATER.
- B. THE DRAWINGS SHALL BE CERTIFIED AS BEING CORRECT BY EITHER A CHARTERED CIVIL ENGINEER OR A REGISTERED SURVEYOR.
- C. COLLECTIVE CONSULTING CAN PROVIDE THIS SERVICE, AT AN ADDITIONAL FEE. THIS HAS NOT BEEN ALLOWED FOR AS PART OF THESE WORKS / CONTRACT.
- 9 // PROPERTY WATER CONNECTIONS**
- A. ALL PROPERTY CONNECTIONS SHALL BE CONSTRUCTED IN ACCORDANCE WITH MRWA-W-110, MRWA-W-111 AND TASWATER TWS-0002 SERIES' STANDARD DRAWINGS.
- B. UNLESS NOTED OTHERWISE, PROPERTY WATER CONNECTIONS SHALL BE DN25 (800 ID) HDPE (PE100) SDR 11 P116 PIPES, WHERE INSTALLED UNDER ROADS, PIPES SHALL BE SLEEVED IN DN100 SM4 PIPES, FITTED WITH TRACE AND TIGHT FITTING RUBBER WRAPS AT 2M MAX CENTRES TO PREVENT WATER HAMMER.

- 10 // WATER MAINS CONNECTIONS**
- A. ALL NEW LIVE CONNECTIONS TO EXISTING TASWATER WATER INFRASTRUCTURE ARE TO BE COMPLETED BY TASWATER (UNLESS PRIOR WRITTEN APPROVAL) AT OWNERS COST.
- 11 // MINIMUM COVER**
- A. MINIMUM COVER FOR WATER LINES ARE TO BE:
- | CONDITIONS / POSITION: | MINIMUM COVER: |
|--|----------------|
| UNDER ROADWAYS AND VEHICLE CROSSOVERS (EXCLUDING MAJOR ROADWAYS) | 750mm |
| RESIDENTIAL LAND | 450mm |
| NON-RESIDENTIAL LAND | 600mm |

- 12 // TASWATER APPLICATIONS AND SIGN-OFF**
- A. THE CONTRACTOR IS RESPONSIBLE FOR LOGGING ALL FURTHER APPLICATIONS FOR THE CONNECTION OR DISCONNECTION OF ANY LIVE TAPPINGS, PROPERTY CONNECTIONS, ETC.
- B. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING ALL FINAL SIGN OFF BY TASWATER.

C	REVISED DEVELOPMENT APPLICATION	OWM	15-10-25		
B	REVISED DEVELOPMENT APPLICATION	OWM	29-09-25		
A	DEVELOPMENT APPLICATION	MRP	15-11-24		
REV:	ISSUED FOR / DESCRIPTION:	BY:	DATE:		

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E admin@collectiveconsulting.com.au
Level 1, 10-14 Paterson Street
Launceston TAS 7250
P (03) 6394 0854
collectiveconsulting.com.au

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C	REVISED DEVELOPMENT APPLICATION	OWM	15-10-25	DESIGN BY:	DESIGN CHECK:		DRAWN BY:	DRAFT CHECK:	CERTIFIER:	SCALE @ A1:	PROJECT No:	DRAWING No:	REVISION:
B	REVISED DEVELOPMENT APPLICATION	OWM	29-09-25	JTA	AJL		OWM	AJL		1:500	242038	C011	C
A	DEVELOPMENT APPLICATION	MRP	15-11-24										
REV:	ISSUED FOR / DESCRIPTION:	BY:	DATE:										



- EXISTING SITE / DEMOLITION NOTES:**
- THE FOLLOWING IS TO BE READ IN CONJUNCTION WITH NOTES ON DRAWING C001.
 - LOCATE ALL EXISTING UNDERGROUND INFRASTRUCTURE PRIOR TO COMMENCING ANY SITE AND DEMOLITION WORKS. REFER 'EXISTING INFRASTRUCTURE' NOTES ON DRAWING C001 FOR METHODS.
 - ANY CLASHES WITH DESIGNED INFRASTRUCTURE ON THE FOLLOWING DESIGN DRAWINGS ARE TO BE REPORTED TO DESIGN ENGINEER FOR DIRECTION.
 - ALL EXISTING INFRASTRUCTURE IS TO BE PROTECTED DURING CONSTRUCTION. ANY DAMAGE TO EXISTING INFRASTRUCTURES IS TO BE MADE GOOD AT THE CONTRACTOR'S EXPENSE.
 - CONTRACTOR TO MAKE ALL NECESSARY ALLOWANCES FOR REQUIRED DEMOLITIONS, REMOVALS AND RELOCATIONS TO SUIT NEW WORKS. REFER 'DEMOLITION WORKS' NOTES ON DRAWING C001.
 - CAP, TERMINATE AND REMOVE REDUNDANT DISUSED DRAINAGE SERVICES TO SATISFACTION OF ENGINEER, LOCAL AUTHORITIES AND IN ACCORDANCE WITH AS3500.
 - 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.
 - CONTRACTOR TO ALLOW TO MAKE GOOD ALL SURFACES AFFECTED BY DEMOLITION WORKS TO SUPERINTENDENT / PRINCIPAL SATISFACTION.

- EXISTING SITE LEGEND:**
- eCOM eCOM EXISTING COMMUNICATIONS LINE - CONFIRM EXACT LOCATION
 - eFM eFM EXISTING FIRE WATER SERVICE LINE / MAIN - CONFIRM EXACT LOCATION
 - eGAS eGAS EXISTING GAS LINE / MAIN - CONFIRM EXACT LOCATION
 - ePWR ePWR EXISTING POWER LINE - CONFIRM EXACT LOCATION
 - eS eS EXISTING SEWER SERVICE LINE / MAIN - CONFIRM EXACT LOCATION
 - eSW eSW EXISTING STORMWATER SERVICE LINE / MAIN - CONFIRM EXACT LOCATION
 - eW eW EXISTING WATER SERVICE LINE / MAIN - CONFIRM EXACT LOCATION

- CL
- e / EXTG
- eEP
- eET
- eFP
- eGP
- eHW
- eLP
- eMH
- ePOLE
- ePP
- eSEP
- eSIGN
- eSV
- eTP
- IL
- S
- SW
- W

- COVER LEVEL**
- EXISTING ITEM / ELEMENT
 - EXISTING ELECTRICAL / COMMS PIT
 - EXISTING ELECTRICAL TURRET
 - EXISTING FIRE PLUG
 - EXISTING GRATED / GULLY PIT
 - EXISTING HEADWALL
 - EXISTING LIGHT POLE
 - EXISTING MANHOLE
 - EXISTING ELECTRICAL / COMMS POLE
 - EXISTING POWER / LIGHT POLE
 - EXISTING SIDE ENTRY PIT
 - EXISTING SIGN
 - EXISTING STOP / SWITCH VALVE
 - EXISTING TELSTRA PIT
 - INVERT LEVEL
 - SEWER
 - STORMWATER
 - WATER

EXISTING STORMWATER PIPE SCHEDULE		
MARK	EXISTING PIPE SIZE	EXISTING PIPE TYPE
eSW-225	DN225	RCP

EXISTING SEWER PIPE SCHEDULE		
MARK	EXISTING PIPE SIZE	EXISTING PIPE TYPE
eS-150	DN150	CONC.

EXISTING WATER MAIN SCHEDULE		
MARK	EXISTING PIPE SIZE	EXISTING PIPE TYPE
eW-150	DN150	CAST IRON
eW-50	DN50	PE

- DEMOLITION LEGEND:**
-  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

REV:	ISSUED FOR / DESCRIPTION:	BY:	DATE:
C	REVISED DEVELOPMENT APPLICATION	OWM	15-10-25
B	REVISED DEVELOPMENT APPLICATION	OWM	29-09-25
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E admin@collectiveconsulting.com.au
Level 1, 10-14 Paterson Street
Launceston TAS 7250
P (03) 6334 0834
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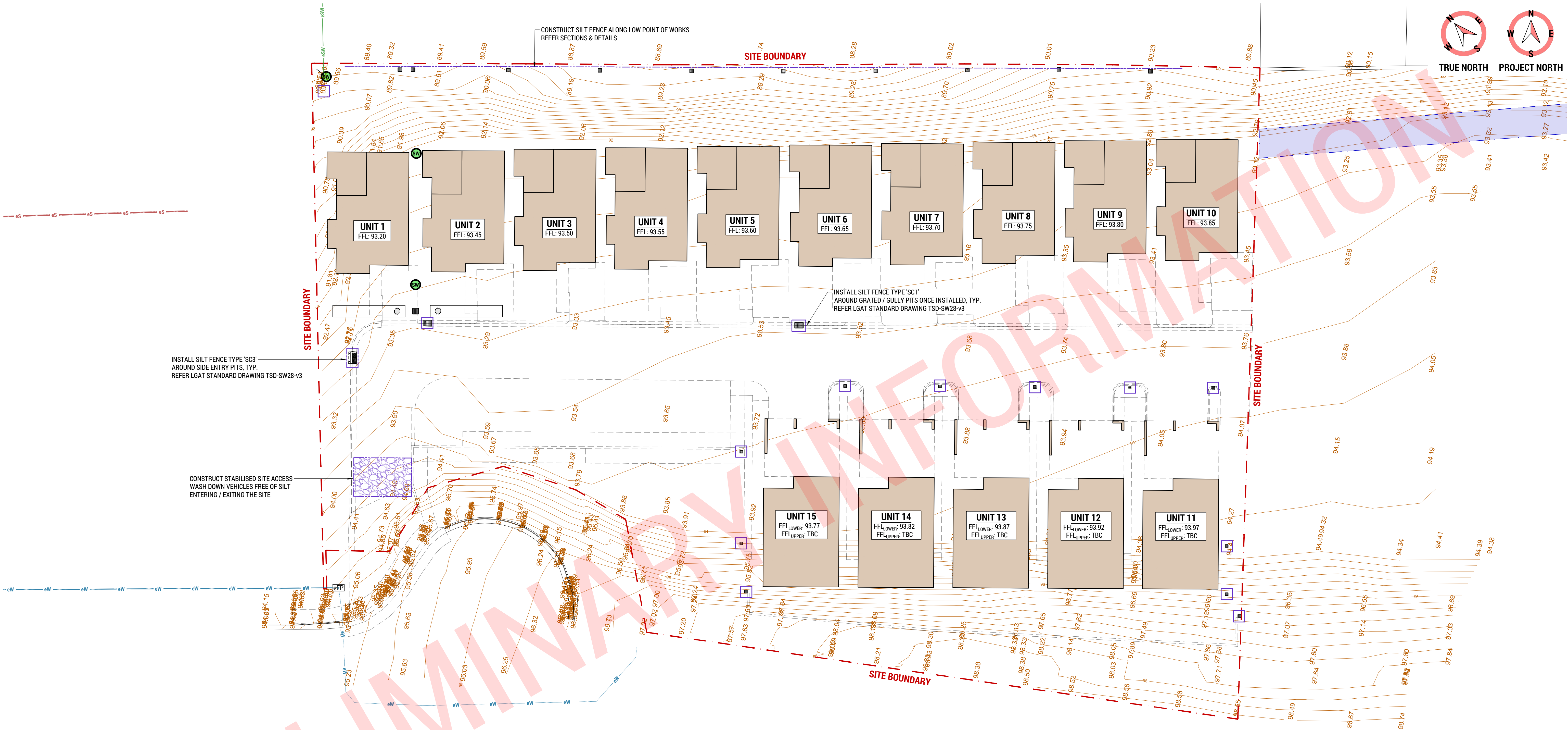
PROJECT DETAILS:
**UNIT DEVELOPMENT
25 THORNLEIGH, WEST MOONAH**

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

DRAWING TITLE:
EXISTING SITE / DEMOLITION PLAN

SCALE @ A1:	PROJECT No:	DRAWING No:	REVISION:
1:200	242038	C101	C



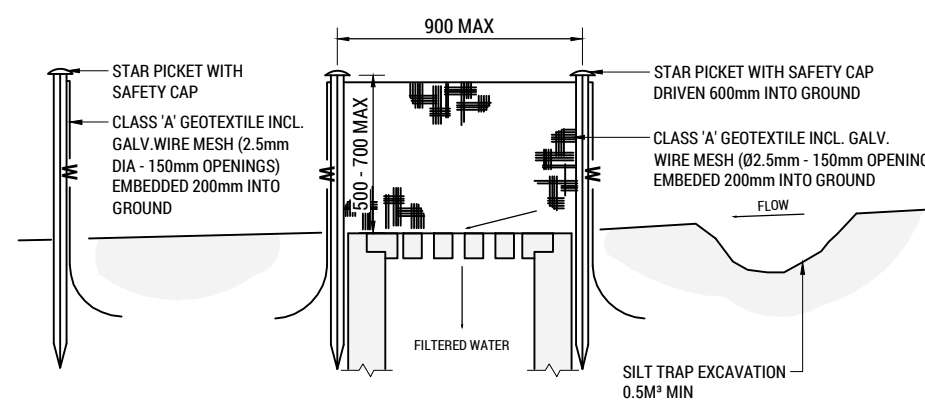


EROSION AND SEDIMENT CONTROL NOTES:

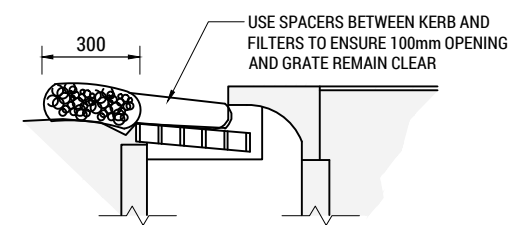
- THE FOLLOWING IS TO BE READ IN CONJUNCTION WITH NOTES ON DRAWING C001.
- COMPLY WITH ALL REQUIREMENTS TO LIMIT STORMWATER RUNOFF FROM THE SITE DURING CONSTRUCTION.
- EROSION AND SEDIMENT CONTROL MEASURES TO BE CARRIED OUT IN ACCORDANCE WITH 'SOIL AND WATER MANAGEMENT ON BUILDING AND CONSTRUCTION SITES' GUIDELINES AVAILABLE FROM NORTHERN RESOURCE MANAGEMENT (NRM) AND DETAILS SUPPLIED IN THESE DESIGN DRAWINGS. REFER 'SOIL AND WATER MANAGEMENT' NOTES ON DRAWING C001 FOR ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES.
- INSTALL SILT FENCES AND TRAPS TO PREVENT SEDIMENTS AND POLLUTANTS ENTERING STORMWATER SYSTEM OR NATURAL DRAINAGE LINES.
- REFER LGAT STANDARD DRAWING TSD-SW28-v3 FOR GUIDELINE / DETAILS FOR SEDIMENT CONTROL. CONSTRUCT AS DETAILED AND INSTALL CLASS 'A' GEOTEXTILE OR USE PROPRIETARY SILT FENCE, EG; MACCAFERRI 'SILT LOK'.
- ALL RUNOFF AND SEDIMENT CONTROL STRUCTURES TO BE INSPECTED AND CLEANED DAILY TO PREVENT BREAKAGE / OVERTOPPING AND MAINTAINED IN A FUNCTIONING CONDITION.
- IT IS THE RESPONSIBILITY OF THE DEVELOPER TO INSTALL, MAINTAIN AND (UPON COMPLETION) REMOVE ALL TEMPORARY SEDIMENT CONTROL MEASURES.
- ALL VEGETATION OUTSIDE OF THE BUILDING ENVELOPE TO BE RETAINED WHERE ABLE.
- IT IS STRONGLY RECOMMENDED THAT THE DEVELOPER RE-COVERS ANY DISTURBED AREAS WITH TOPSOIL AS QUICKLY AS POSSIBLE AFTER BULK EARTHWORKS ARE COMPLETED, TO PREVENT SOIL DISPERSION.
- STOCK PILING OF SOILS OR OTHER MATERIALS AFFECTED BY WATER TO BE STORED CLEAR OF ANY DRAINAGE PATHS.
- WASH DOWN VEHICLES FREE OF SILT ENTERING / EXITING THE SITE.

EROSION AND SEDIMENT CONTROL LEGEND:

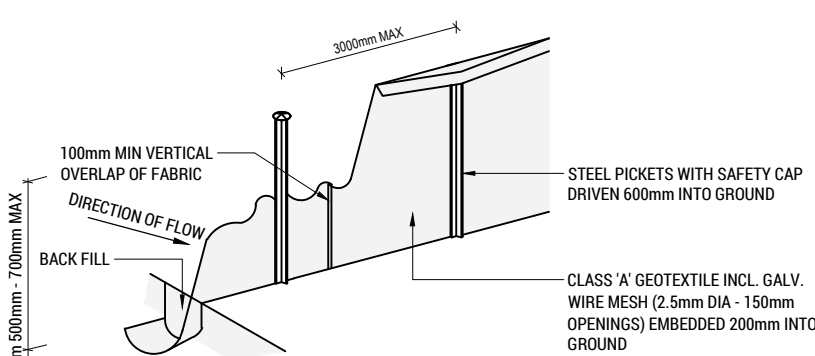
- | | | |
|--------|--------|--|
| — eCOM | — eCOM | — EROSION CONTROL BARRIER |
| — eFM | — eFM | — EXISTING COMMUNICATIONS LINE - CONFIRM EXACT LOCATION |
| — eGAS | — eGAS | — EXISTING FIRE WATER SERVICE LINE / MAIN - CONFIRM EXACT LOCATION |
| — ePWR | — ePWR | — EXISTING GAS LINE / MAIN - CONFIRM EXACT LOCATION |
| — eS | — eS | — EXISTING POWER LINE - CONFIRM EXACT LOCATION |
| — eSW | — eSW | — EXISTING SEWER SERVICE LINE / MAIN - CONFIRM EXACT LOCATION |
| — eW | — eW | — EXISTING STORMWATER SERVICE LINE / MAIN - CONFIRM EXACT LOCATION |
| — eW | — eW | — EXISTING WATER SERVICE LINE / MAIN - CONFIRM EXACT LOCATION |



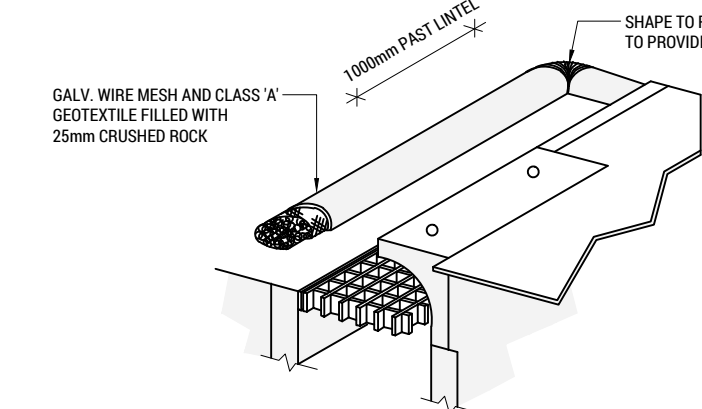
EROSION CONTROL - SILT FENCE AT GRATE PIT
SCALE N.T.S.



EROSION CONTROL - SILT FENCE AT GULLY PIT
SCALE N.T.S.



EROSION CONTROL - SILT FENCE
SCALE N.T.S.



EROSION CONTROL - SILT FENCE AT GULLY PIT
SCALE N.T.S.

REV:	ISSUED FOR / DESCRIPTION:	BY:	DATE:
C	REVISED DEVELOPMENT APPLICATION	OWM	15-10-25
B	REVISED DEVELOPMENT APPLICATION	OWM	29-09-25
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E admin@collectiveconsulting.com.au
Level 1, 10-14 Paterson Street
Launceston TAS 7250
P (03) 6354 0854
collectiveconsulting.com.au

CLIENT / ARCHITECT:

HOMES TASMANIA / JAWS ARCHITECTS

PROJECT DETAILS:

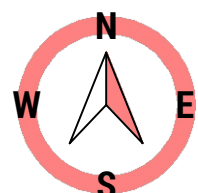
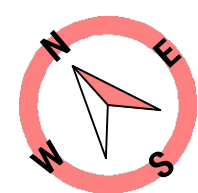
UNIT DEVELOPMENT
25 THORNLEIGH, WEST MOONAH

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

DRAWING TITLE:

EROSION CONTROL PLAN

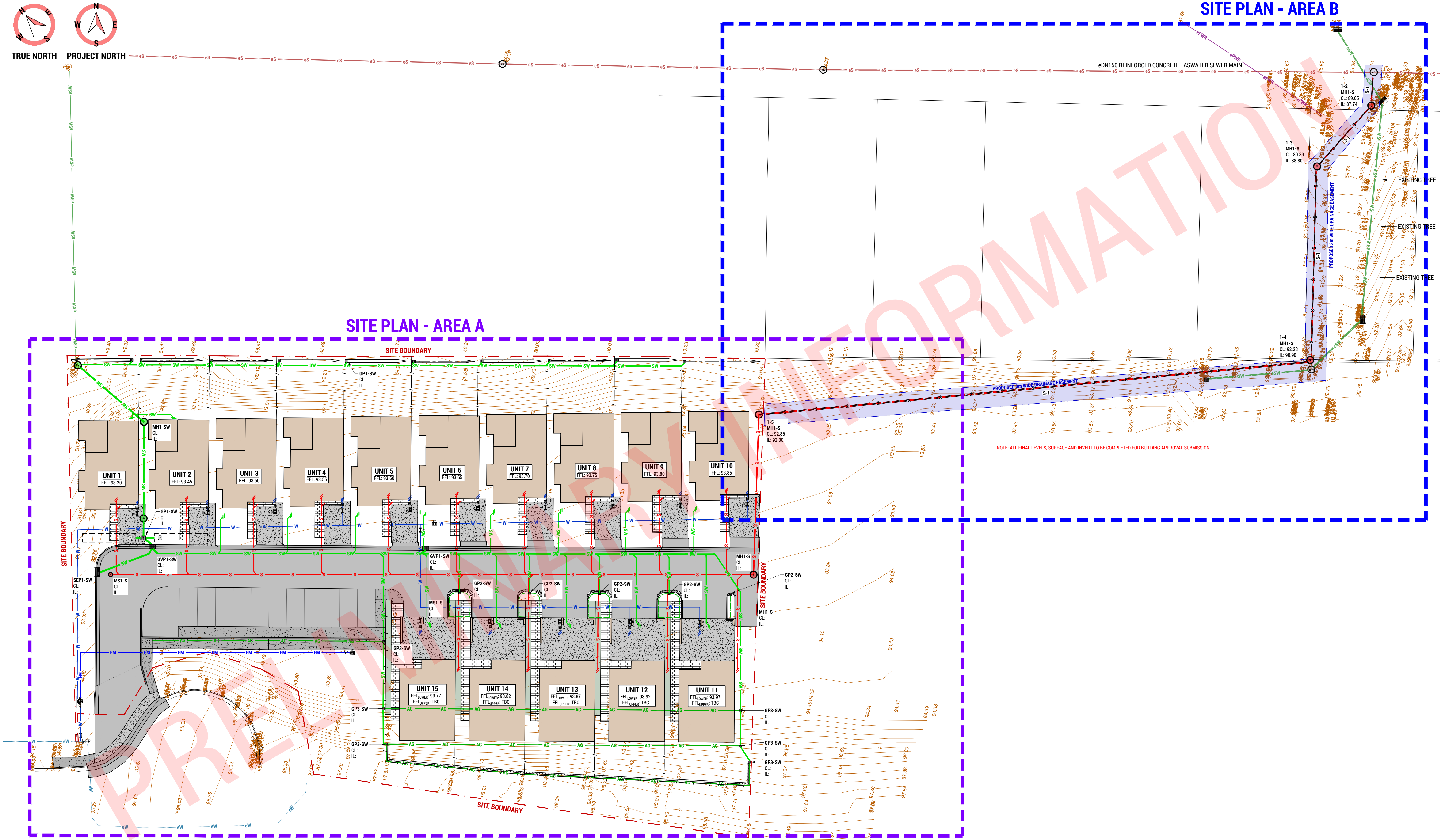
SCALE @ A1:	PROJECT No:	DRAWING No:	REVISION:
1:200	242038	C201	C



TRUE NORTH PROJECT NORTH

SITE PLAN - AREA B

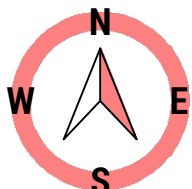
SITE PLAN - AREA A



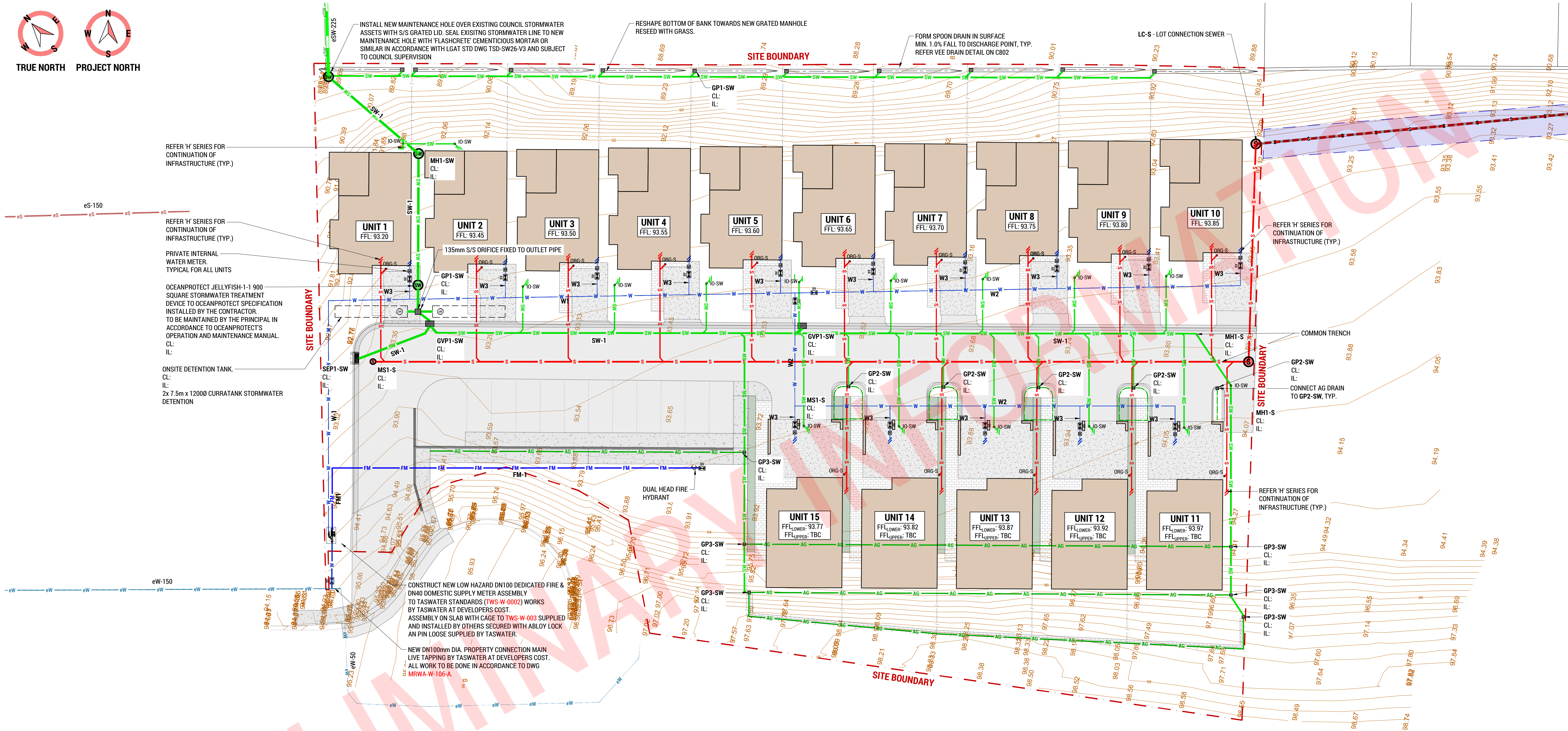
		COLLECTIVE CONSULTING DISCLAIMER:				CLIENT / ARCHITECT:		PROJECT DETAILS:		DRAWING TITLE:	
		1. THIS DRAWING HAS BEEN PRODUCED FOR THE NAMED CLIENT AND FOR USE OF THIS PROJECT ONLY, AND IS NOT TO BE USED FOR ANY OTHER PURPOSE.				HOMES TASMANIA / JAWS ARCHITECTS		UNIT DEVELOPMENT		INFRASTRUCTURE PLAN - OVERALL	
C		REVISED DEVELOPMENT APPLICATION		OWM		Level 11, 10-14 Paterson Street		25 THORNLEIGH, WEST MOONAH			
B		REVISED DEVELOPMENT APPLICATION		OWM		Launceston TAS 7250					
A		DEVELOPMENT APPLICATION		MRP		P (03) 6354 0854					
REV:		ISSUED FOR / DESCRIPTION:		BY:		collectiveconsulting.com.au		DESIGN BY:		SCALE @ A1:	
				DATE:				JTA		1:250	
								DESIGN CHECK:		PROJECT No:	
								AJL		242038	
								DRAWN BY:		DRAWING No:	
								OWM		C401	
								DRAFT CHECK:		REVISION:	
								AJL		C	
								CERTIFIER:			



E admin@collectiveconsulting.com.au
Level 11, 10-14 Paterson Street
Launceston TAS 7250
P (03) 6354 0854
collectiveconsulting.com.au



TRUE NORTH PROJECT NORTH



INFRASTRUCTURE NOTES:

- THE FOLLOWING IS TO BE READ IN CONJUNCTION WITH NOTES ON DRAWING C001.
- STORMWATER PIPES SHALL BE INSTALLED WITH MIN. 0.5% GRADE FOR SIZES Ø225 AND ABOVE UNLESS NOTED / SCHEDULED OTHERWISE.
- STORMWATER PIPES SHALL BE INSTALLED WITH MIN. 1.0% GRADE FOR PIPE SIZES Ø150 AND BELOW UNLESS NOTED / SCHEDULED OTHERWISE.
- SEWER PIPES SHALL BE INSTALLED WITH MIN. 1.0% GRADE FOR PIPE SIZES Ø150 AND ABOVE UNLESS NOTED / SCHEDULED OTHERWISE.
- SEWER PIPES SHALL BE INSTALLED WITH MIN. 1.65% GRADE FOR PIPE SIZES Ø100 AND BELOW UNLESS NOTED / SCHEDULED OTHERWISE.
- ALL DN SIZES SCHEDULED OR NOTED INDICATE INTERNAL DIAMETER.
- REFER SECTIONS AND DETAILS FOR PIPE TRENCHING SPECS.
- WATER LINES SHALL GENERALLY BE LAID ABOVE SEWER PIPES WHEREVER POSSIBLE.
- ALL PIPES SHALL BE INSTALLED WITH MIN. 750mm COVER (UNLESS NOTED).

INFRASTRUCTURE LEGEND:

- COM** - EXISTING COMMUNICATIONS LINE - CONFIRM EXACT LOCATION
- CPM** - PROPOSED COMMUNICATIONS LINE
- FM** - EXISTING FIRE WATER SERVICE LINE / MAIN - CONFIRM EXACT LOCATION
- FM** - PROPOSED FIRE WATER SERVICE LINE / MAIN
- W** - EXISTING WATER SERVICE LINE / MAIN - CONFIRM EXACT LOCATION
- W** - PROPOSED WATER SERVICE LINE / MAIN
- W** - EXISTING POWER LINE - CONFIRM EXACT LOCATION
- W** - PROPOSED POWER LINE
- W** - EXISTING SEWER SERVICE LINE / MAIN - CONFIRM EXACT LOCATION
- W** - PROPOSED SEWER SERVICE LINE / MAIN
- SW** - EXISTING STORMWATER SERVICE LINE / MAIN - CONFIRM EXACT LOCATION
- SW** - PROPOSED STORMWATER SERVICE LINE / MAIN
- AG** - EXISTING AGRICULTURAL DRAIN (AG DRAIN)
- AG** - PROPOSED SLOTTED AGRICULTURAL DRAIN (AG DRAIN)
- W** - EXISTING WATER SERVICE LINE / MAIN - CONFIRM EXACT LOCATION
- W** - PROPOSED WATER SERVICE LINE / MAIN
- W** - PROPOSED VEE DRAIN - AS SCHEDULED / REFER SECTIONS AND DETAILS

INFRASTRUCTURE LEGEND - CONTINUED:

- CL** - COVER LEVEL
- DN** - NOMINAL PIPE DIAMETER - INTERNAL DIAMETER (UNLESS NOTED)
- DP** - DOWNPIPE - AS SCHEDULED
- EX** - EXISTING ITEM / ELEMENT
- FI** - FIRE HYDRANT - REFER SECTIONS AND DETAILS
- FM** - FIRE WATER SERVICE LINE / MAIN
- FP** - FIRE PUMP
- GD** - GRATED DRAIN - AS SCHEDULED / REFER SECTIONS AND DETAILS
- GP** - GRATED VEE PIT - AS SCHEDULED / REFER SECTIONS AND DETAILS
- GVP** - GRATED VEE PIT - AS SCHEDULED / REFER SECTIONS AND DETAILS
- HBC** - HOSE BIB COCK
- IL** - INVERT LEVEL
- IO** - INSPECTION OPENING - FINISHED TO SURFACE LEVEL
- M** - METER
- MH** - MANHOLE - AS SCHEDULED / REFER SECTIONS AND DETAILS
- ORG** - OVERFLOW RELIEF GULLY
- RL** - REDUCED LEVEL
- RPZD** - REDUCED PRESSURE ZONE DEVICE
- S** - SEWER
- SEP** - SIDE ENTRY PIT - AS SCHEDULED / REFER SECTIONS AND DETAILS
- SM** - SIDE METER
- SV** - STOP / SWITCH VALVE
- SW** - STORMWATER
- VD** - VEE DRAIN - AS SCHEDULED / REFER SECTIONS AND DETAILS
- W** - WATER

STORMWATER PIPE SCHEDULE				
MARK	PIPE SIZE	TYPE	CLASS	GRADE
SW-1	DN225	CORRUTECH	SN8	1% MIN.
SW-2	DN150	uPVC	SN2	1% MIN.
AG-1	DN100	SLOTTED uPVC	SN2	1% MIN.

STORMWATER DRAIN / PIT / MANHOLE SCHEDULE			
MARK	SIZE	TYPE	ACCESSORIES
GP1-SW	450x450	BLACK PVC	CLASS D, GALV. GRATED LID
GP2-SW	300x300	BLACK PVC	CLASS B, GALV. GRATED LID
GVP1-SW	900 x 600	PRECAST CONC.	CLASS D, GALV. GRATED LID
SEP1-SW	1200	PRECAST CONC.	TYPE 1
MH1-SW	Ø1050	PRECAST CONC. MANHOLE	CLASS D GATIC COVER

EXISTING STORMWATER PIPE SCHEDULE		
MARK	EXISTING PIPE SIZE	EXISTING PIPE TYPE
eSW-225	DN225	RCP

SEWER PIPE SCHEDULE				
MARK	PIPE SIZE	TYPE	CLASS	GRADE
S-1	DN150	uPVC	SN8	1.00% MIN.

SEWER PIT / MANHOLE SCHEDULE			
MARK	SIZE	TYPE	ACCESSORIES
MH1-S	Ø1050	PRECAST CONC. MANHOLE	CLASS D GATIC COVER
MS1-S	Ø600	PRECAST CONC. MAINTENANCE SHAFT	CLASS D GATIC COVER

EXISTING SEWER PIPE SCHEDULE		
MARK	EXISTING PIPE SIZE	EXISTING PIPE TYPE
eS-150	DN150	CONC.

WATER MAIN SCHEDULE		
MARK	PIPE SIZE	TYPE
W-1	DN40	HDPE PE100
W-2	DN32	HDPE PE100
W-3	DN20	HDPE PE100

FIRE MAIN SCHEDULE		
MARK	PIPE SIZE	TYPE
FM-1	DN100	HDPE PE100 PN16

EXISTING WATER MAIN SCHEDULE		
MARK	EXISTING PIPE SIZE	EXISTING PIPE TYPE
eW-150	DN150	CAST IRON
eW-50	DN50	PE

REV.	ISSUED FOR / DESCRIPTION:	BY:	DATE:
C	REVISED DEVELOPMENT APPLICATION	OWM	15-10-25
B	REVISED DEVELOPMENT APPLICATION	OWM	29-09-25
A	DEVELOPMENT APPLICATION	MRP	15-11-24

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3. THE RECIPIENT IS RESPONSIBLE FOR ENSURING THAT THEY REVIEW THE STATUS OF THIS DRAWING, AND IN RECEIPT OF THE CURRENT REVISION PRIOR TO USE.

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5. DO NOT SCALE DRAWINGS. COLLECTIVE CONSULTING IS NOT RESPONSIBLE FOR THE DIMENSIONING AND SETTING OUT OF COMPONENTS WITHIN THESE PROJECT DOCUMENTS.



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Launceston TAS 7250
P (03) 6354 0854
collectiveconsulting.com.au

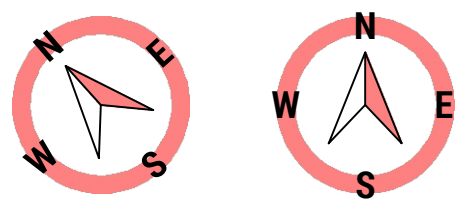
CLIENT / ARCHITECT:
HOMES TASMANIA / JAWS ARCHITECTS

PROJECT DETAILS:
**UNIT DEVELOPMENT
25 THORNLEIGH, WEST MOONAH**

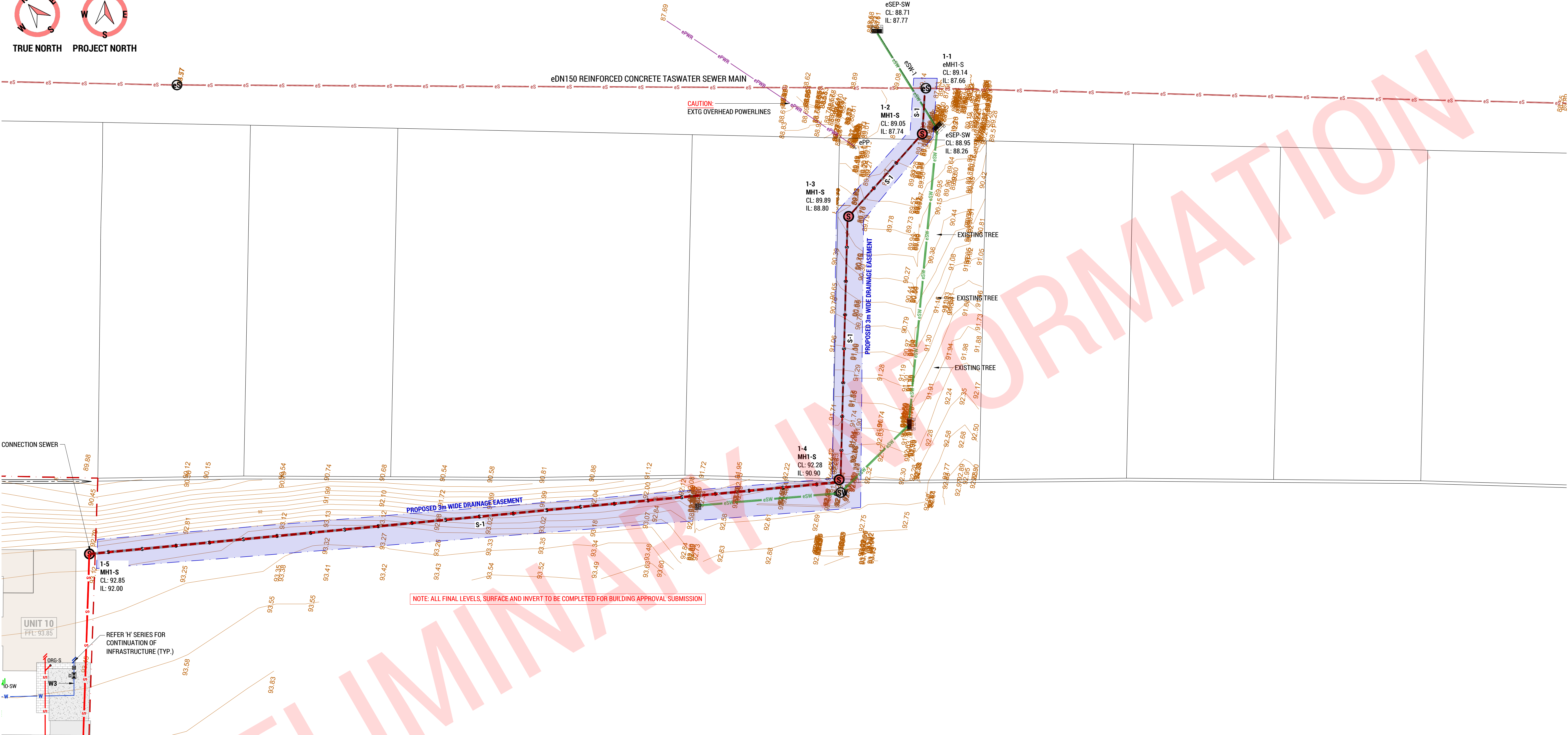
DESIGN BY:	DESIGN CHECK:	DRAWN BY:	DRAFT CHECK:	CERTIFIER:
JTA	AJL	OWM	AJL	

DRAWING TITLE:
INFRASTRUCTURE PLAN - AREA A

SCALE @ A1:	PROJECT No:	DRAWING No:	REVISION:
1:200	242038	C402	C



TRUE NORTH PROJECT NORTH



- INFRASTRUCTURE NOTES:
- THE FOLLOWING IS TO BE READ IN CONJUNCTION WITH NOTES ON DRAWING C001.
 - STORMWATER PIPES SHALL BE INSTALLED WITH MIN. 0.5% GRADE FOR PIPE SIZES Ø225 AND ABOVE UNLESS NOTED / SCHEDULED OTHERWISE.
 - STORMWATER PIPES SHALL BE INSTALLED WITH MIN. 1.0% GRADE FOR PIPE SIZES Ø150 AND BELOW UNLESS NOTED / SCHEDULED OTHERWISE.
 - SEWER PIPES SHALL BE INSTALLED WITH MIN. 1.0% GRADE FOR PIPE SIZES Ø150 AND ABOVE UNLESS NOTED / SCHEDULED OTHERWISE.
 - SEWER PIPES SHALL BE INSTALLED WITH MIN. 1.65% GRADE FOR PIPE SIZES Ø100 AND BELOW UNLESS NOTED / SCHEDULED OTHERWISE.
 - ALL DN SIZES SCHEDULED OR NOTED INDICATE INTERNAL DIAMETER.
 - REFER SECTIONS AND DETAILS FOR PIPE TRENCHING SPECS.
 - WATER LINES SHALL GENERALLY BE LAID ABOVE SEWER PIPES WHEREVER POSSIBLE.
 - ALL PIPES SHALL BE INSTALLED WITH MIN. 750mm COVER (U.N.O.)

- INFRASTRUCTURE LEGEND:
- eCOM - EXISTING COMMUNICATIONS LINE - CONFIRM EXACT LOCATION
 - COM - PROPOSED COMMUNICATIONS LINE
 - eFM - EXISTING FIRE WATER SERVICE LINE / MAIN - CONFIRM EXACT LOCATION
 - FM - PROPOSED FIRE WATER SERVICE LINE / MAIN
 - eGAS - EXISTING GAS LINE / MAIN - CONFIRM EXACT LOCATION
 - GAS - NEW GAS LINE / MAIN
 - ePWR - EXISTING POWER LINE - CONFIRM EXACT LOCATION
 - PWR - PROPOSED POWER LINE
 - eS - EXISTING SEWER SERVICE LINE / MAIN - CONFIRM EXACT LOCATION
 - S - PROPOSED SEWER SERVICE LINE / MAIN
 - eSW - EXISTING STORMWATER SERVICE LINE / MAIN - CONFIRM EXACT LOCATION
 - SW - PROPOSED STORMWATER SERVICE LINE / MAIN
 - eAG - EXISTING AGRICULTURAL DRAIN (AG DRAIN)
 - AG - PROPOSED SLOTTED AGRICULTURAL DRAIN (AG DRAIN)
 - eW - EXISTING WATER SERVICE LINE / MAIN - CONFIRM EXACT LOCATION
 - W - PROPOSED WATER SERVICE LINE / MAIN
 - - PROPOSED VEE DRAIN - AS SCHEDULED / REFER SECTIONS AND DETAILS

- INFRASTRUCTURE LEGEND - CONTINUED:
- 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
 - FMI FIRE WATER SERVICE LINE / MAIN
 - FP FIRE PUMP
 - 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
 - IL INVERT LEVEL
 - IO INSPECTION OPENING - FINISHED TO SURFACE LEVEL
 - M METER
 - MH MANHOLE - AS SCHEDULED / REFER SECTIONS AND DETAILS
 - ORG OVERFLOW RELIEF GULLY
 - RL REDUCED LEVEL
 - RPZD REDUCED PRESSURE ZONE DEVICE
 - S SEWER
 - SEP SIDE ENTRY PIT - AS SCHEDULED / REFER SECTIONS AND DETAILS
 - SM SUB-METER
 - SV STOP / SWITCH VALVE
 - SW STORMWATER
 - VD VEE DRAIN - AS SCHEDULED / REFER SECTIONS AND DETAILS
 - W WATER

STORMWATER PIPE SCHEDULE				
MARK	PIPE SIZE	TYPE	CLASS	GRADE
SW-1	DN225	CORRUTECH	SN8	1% MIN.
SW-2	DN150	uPVC	SN2	1% MIN.
AG-1	DN100	SLOTTED uPVC	SN2	1% MIN.

STORMWATER DRAIN / PIT / MANHOLE SCHEDULE			
MARK	SIZE	TYPE	ACCESSORIES
GP1-SW	450x450	BLACK PVC	CLASS D, GALV. GRATED LID
GP2-SW	300x300	BLACK PVC	CLASS B, GALV. GRATED LID
GVP1-SW	900 x 600	PRECAST CONC.	CLASS D, GALV. GRATED LID
SEP1-SW	1200	PRECAST CONC.	TYPE 1
MH1-SW	Ø1050	PRECAST CONC. MANHOLE	CLASS D GATIC COVER

EXISTING STORMWATER PIPE SCHEDULE		
MARK	EXISTING PIPE SIZE	EXISTING PIPE TYPE
eSW-225	DN225	RCP

SEWER PIPE SCHEDULE				
MARK	PIPE SIZE	TYPE	CLASS	GRADE
S-1	DN150	uPVC	SN8	1.00% MIN

SEWER PIT / MANHOLE SCHEDULE			
MARK	SIZE	TYPE	ACCESSORIES
MH1-S	Ø1050	PRECAST CONC. MANHOLE	CLASS D GATIC COVER
MS1-S	Ø600	PRECAST CONC. MAINTENANCE SHAFT	CLASS D GATIC COVER

EXISTING SEWER PIPE SCHEDULE		
MARK	EXISTING PIPE SIZE	EXISTING PIPE TYPE
eS-150	DN150	CONC.

WATER MAIN SCHEDULE		
MARK	PIPE SIZE	TYPE
W-1	DN40	HDPE PE100
W-2	DN32	HDPE PE100
W-3	DN20	HDPE PE100

FIRE MAIN SCHEDULE		
MARK	PIPE SIZE	TYPE
FM-1	DN100	HDPE PE100 PN16

EXISTING WATER MAIN SCHEDULE		
MARK	EXISTING PIPE SIZE	EXISTING PIPE TYPE
eW-150	DN150	CAST IRON
eW-50	DN50	PE

REV.	ISSUED FOR / DESCRIPTION:	BY:	DATE:
C	REVISED DEVELOPMENT APPLICATION	OWM	15-10-25
B	REVISED DEVELOPMENT APPLICATION	OWM	29-09-25
A	DEVELOPMENT APPLICATION	MRP	15-11-24

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Level 1, 10-14 Paterson Street
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P (03) 6354 0854
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CLIENT / ARCHITECT:

HOMES TASMANIA / JAWS ARCHITECTS

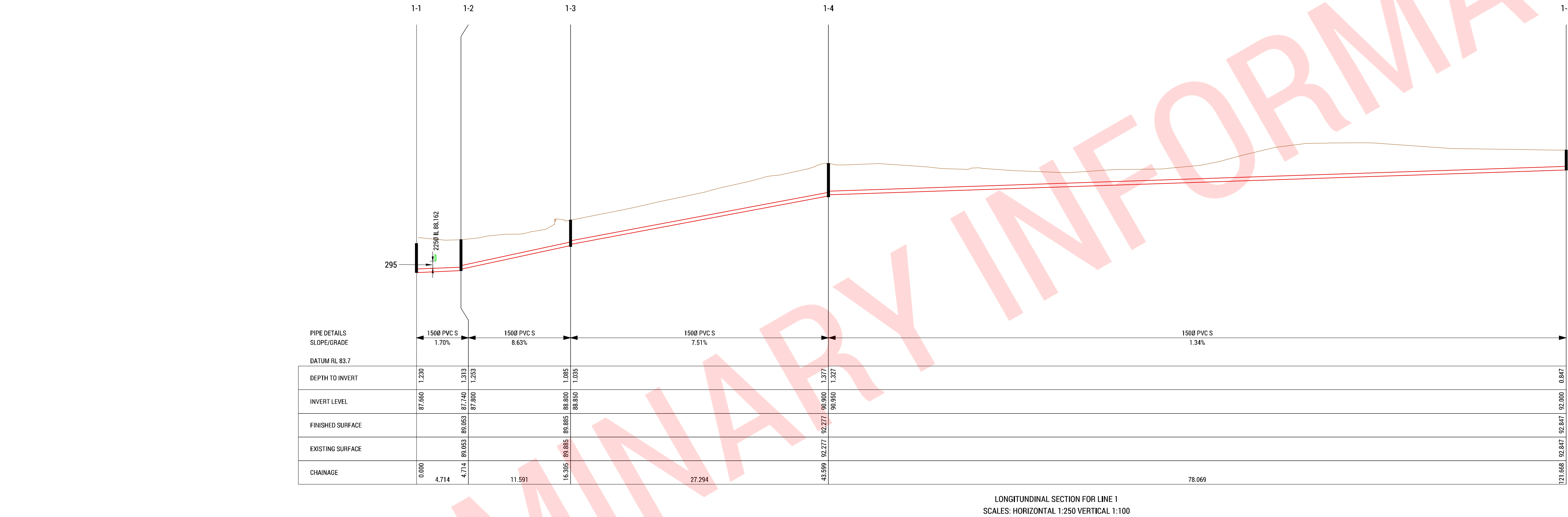
PROJECT DETAILS:

UNIT DEVELOPMENT
25 THORNLEIGH, WEST MOONAH

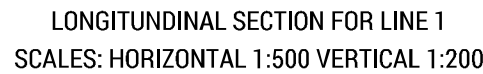
DRAWING TITLE:

INFRASTRUCTURE PLAN - AREA B

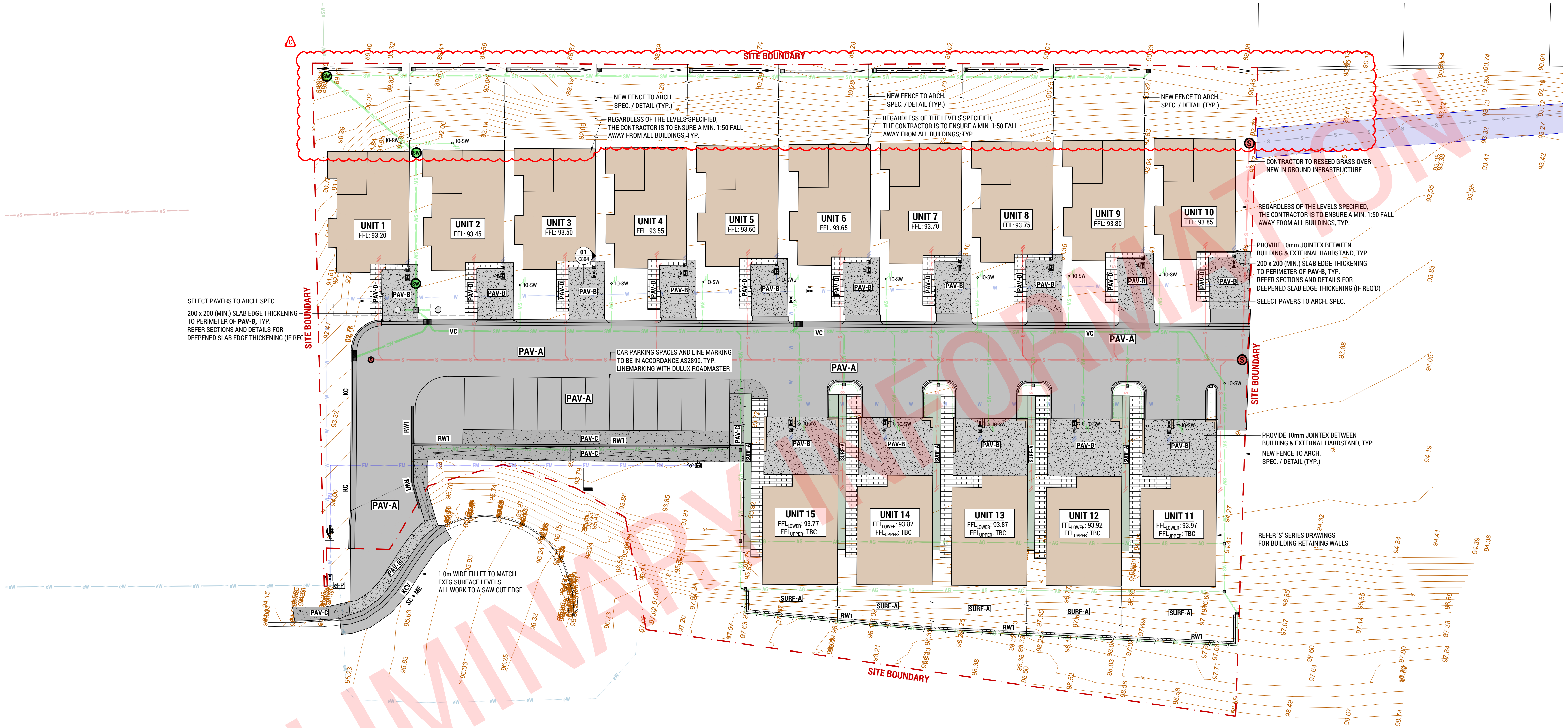
DESIGN BY:	DESIGN CHECK:	DRAWN BY:	DRAFT CHECK:	CERTIFIER:	SCALE @ A1:	PROJECT No:	DRAWING No:	REVISION:
JTA	AJL	OWM	AJL		1:200	242038	C403	C



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C	REVISED DEVELOPMENT APPLICATION	OWM	15-10-25														
B	REVISED DEVELOPMENT APPLICATION	OWM	29-09-25														
A	DEVELOPMENT APPLICATION	MRP	15-11-24														
REV:	ISSUED FOR / DESCRIPTION:	BY:	DATE:														



SCALE @ A1: PROJECT No: DRAWING No: REVISION:
VARIES 242038 C412 C



CIVIL WORKS NOTES:
1. THE FOLLOWING IS TO BE READ IN CONJUNCTION WITH NOTES ON DRAWING C001.

CIVIL WORKS PAVEMENT / SURFACE SCHEDULE					
MARK	PAVEMENT / SURFACE TREATMENT	SURFACE: DEPTH 'D1'	BASE CLASS 2 GRAVEL: DEPTH 'D2'	BASE CLASS 3 GRAVEL: DEPTH 'D3'	NOTES
PAV-A	ASPHALT SEAL: AC14 WEARING COURSE	40mm	150mm	250mm	MIN. CBR 4% (CONTRACTOR TO CONFIRM ON SITE)
PAV-B	CONCRETE HARDSTAND: TRAFFICABLE	150mm	150mm	N/A	GRADE N32 CONC. + FORTECON LAYER SL82 TOP AND BOTTOM, 30 COVER FINISH: BROOM SURFACE FINISH
PAV-C	CONCRETE HARDSTAND: NON-TRAFFICABLE	100mm	150mm	N/A	GRADE N32 CONC. + FORTECON LAYER SL72 CENTRAL FINISH: BROOM SURFACE FINISH
PAV-D	PAVERS	-	200mm	-	REFER ARCH FOR PAVERS
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	GRADED DRAIN - AS SCHEDULED / REFER SECTIONS AND DETAILS
GP	GRADED / GULLY PIT - AS SCHEDULED / REFER SECTIONS AND DETAILS
GVP	GRADED 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

C	REVISED DEVELOPMENT APPLICATION	OWM	15-10-25
B	REVISED DEVELOPMENT APPLICATION	OWM	29-09-25
A	DEVELOPMENT APPLICATION	MRP	15-11-24
REV:	ISSUED FOR / DESCRIPTION:	BY:	DATE:

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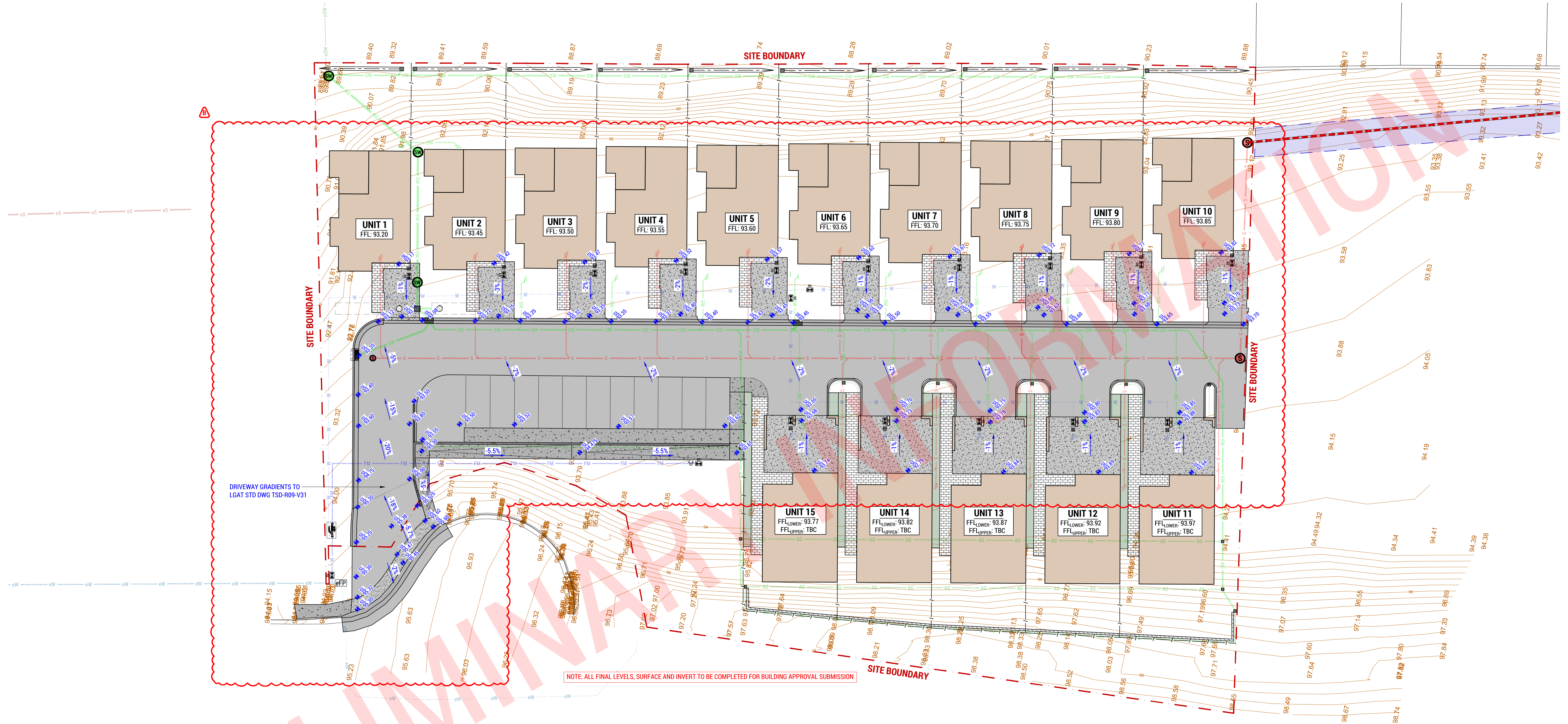
CLIENT / ARCHITECT:
HOMES TASMANIA / JAWS ARCHITECTS

PROJECT DETAILS:
UNIT DEVELOPMENT
25 THORNLEIGH, WEST MOONAH

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

DRAWING TITLE:
CIVIL WORKS PLAN

SCALE @ A1:	PROJECT No:	DRAWING No:	REVISION:
1:200	242038	C501	C



CIVIL LEVELS NOTES:
1. THE FOLLOWING IS TO BE READ IN CONJUNCTION WITH NOTES ON DRAWING C001.

CIVIL LEVELS LEGEND:	
CL	COVER LEVEL
e / EXTG	EXISTING ITEM / ELEMENT
FFL	FINISHED FLOOR LEVEL
FSL	FINISHED SURFACE LEVEL
IL	INVERT LEVEL
NSL	NATURAL SURFACE LEVEL
SL	SURFACE LEVEL
TOK	TOP OF KERB
TOW	TOP OF WALL
eSL 100.0	EXISTING SURFACE LEVEL MARKER AND HEIGHT / RL
100.0	PROPOSED SURFACE LEVEL MARKER AND HEIGHT / RL

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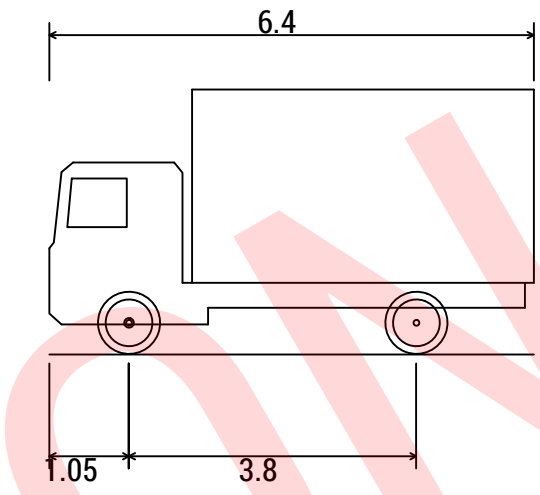
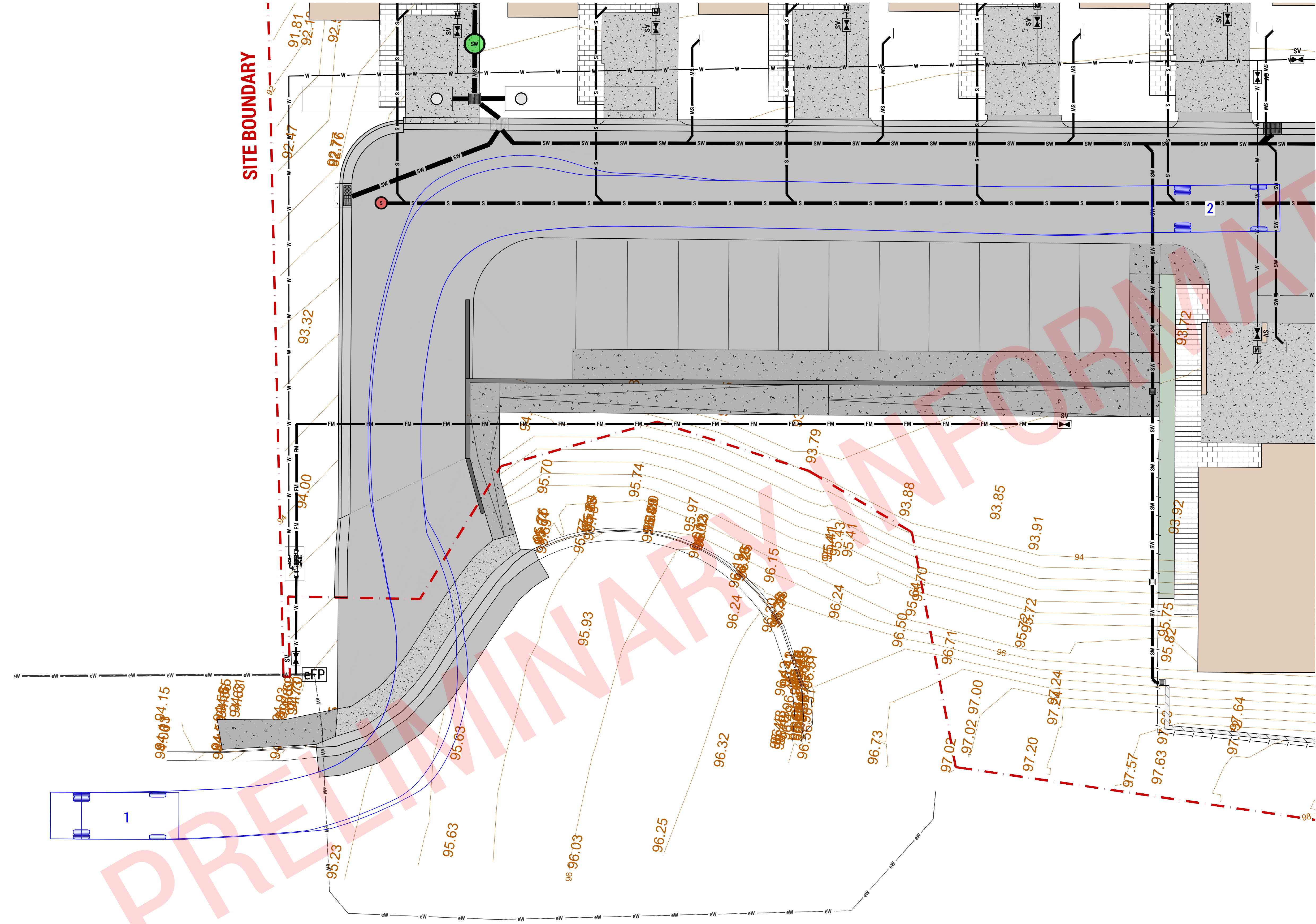
E admin@collectiveconsulting.com.au
Level 1, 10-14 Paterson Street
Launceston TAS 7250
P (03) 6354 0854
collectiveconsulting.com.au

CLIENT / ARCHITECT:
HOMES TASMANIA / JAWS ARCHITECTS

PROJECT DETAILS:
**UNIT DEVELOPMENT
25 THORNTON, WEST MOONAH**

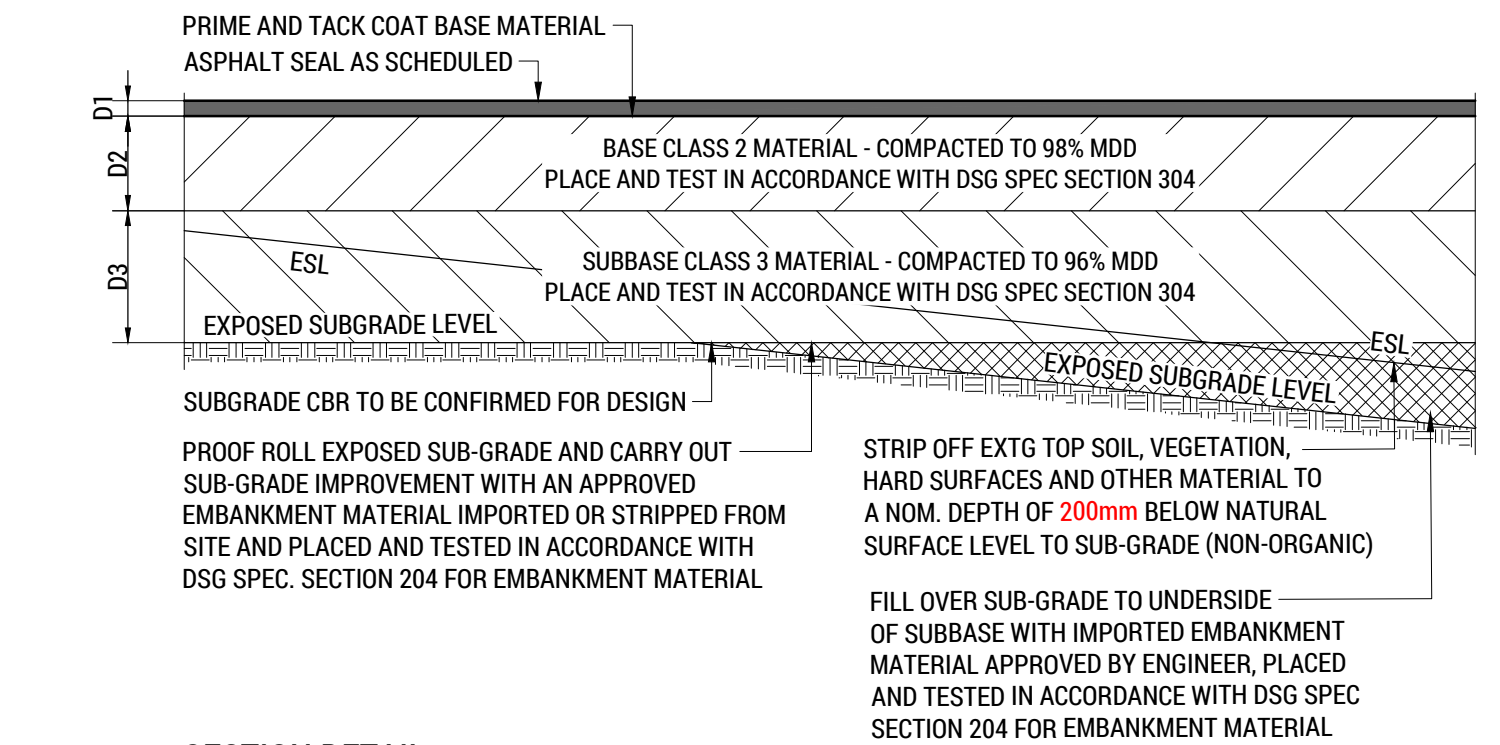
DRAWING TITLE:
CIVIL LEVELS PLAN

DESIGN BY: JTA	DESIGN CHECK: AJL	DRAWN BY: OWM	DRAFT CHECK: AJL	CERTIFIER:	SCALE @ A1: 1:200	PROJECT No: 242038	DRAWING No: C511	REVISION: C
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AMBULANCE
Overall Length 6.400m
Overall Width 2.330m
Overall Body Height 3.500m
Min Body Ground Clearance 0.398m
Track Width 2.330m
Lock-to-lock time 4.00s
Curb to Curb Turning Radius 7.100m

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C	REVISED DEVELOPMENT APPLICATION	OWM	15-10-25	A	REVISED DEVELOPMENT APPLICATION	OWM	29-09-25	B	DEVELOPMENT APPLICATION	MRP	15-11-24	DESIGN BY:	JTA	DESIGN CHECK:	AJL	DRAWN BY:	OWM	DRAFT CHECK:	AJL	CERTIFIER:		SCALE @ A1:	1:100	PROJECT No:	242038	DRAWING No:	C702	REVISION:	C
REV:	ISSUED FOR / DESCRIPTION:	BY:	DATE:																										

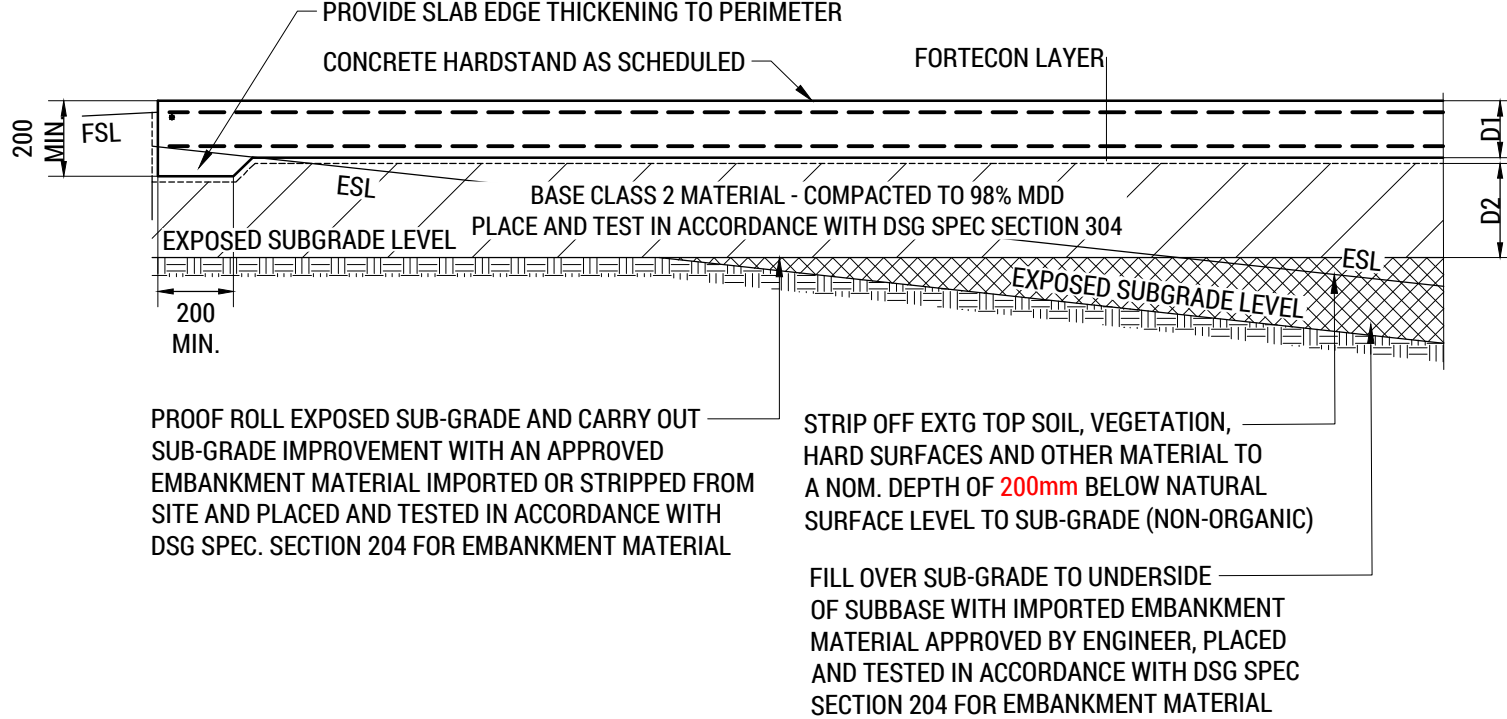


SECTION DETAIL

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

SCALE 1:20

NOTE: REFER CIVIL WORKS PAVEMENT / SURFACE SCHEDULE FOR DEPTHS

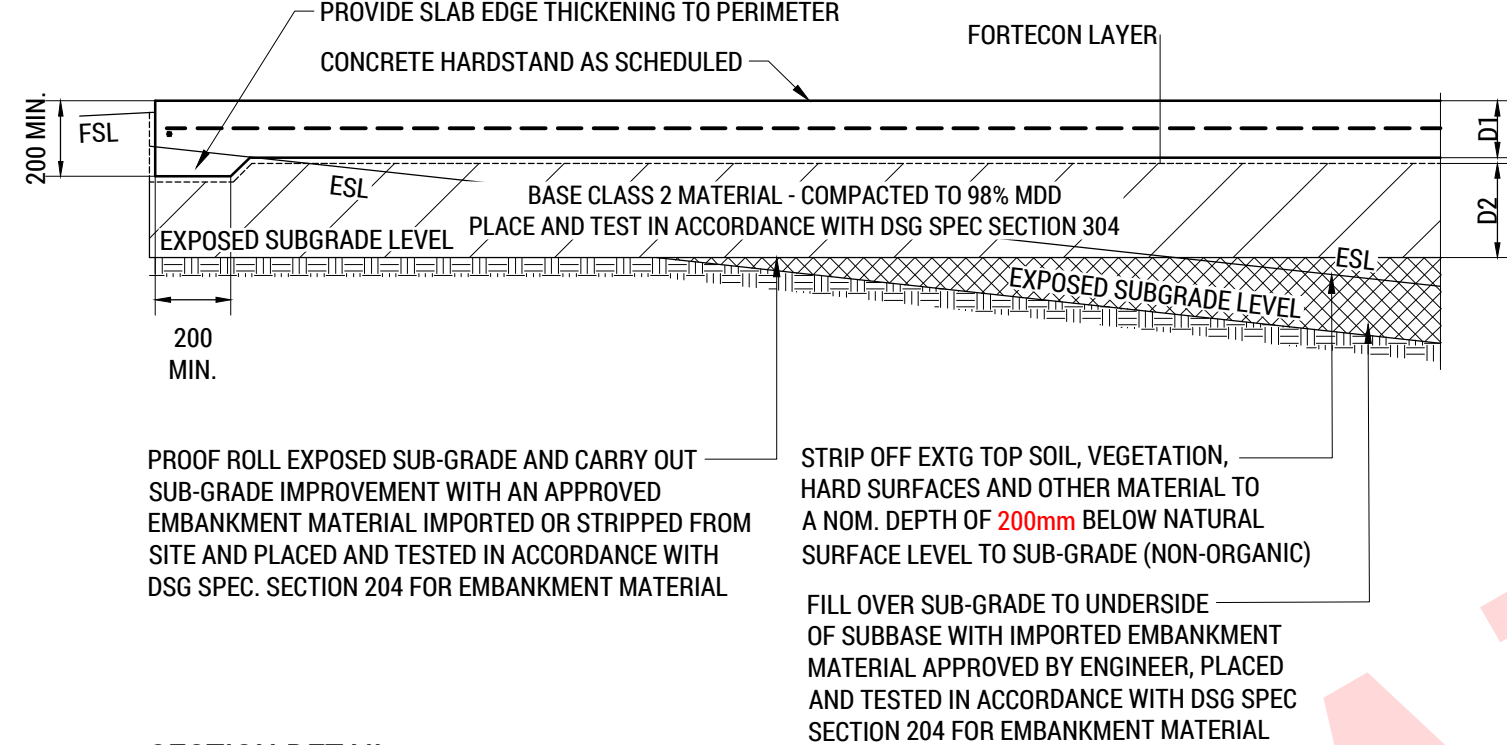


SECTION DETAIL

PAVEMENT - 'PAV-B' - CONCRETE HARDSTAND - TRAFFICABLE (TYP.)

SCALE 1:20

NOTE: REFER CIVIL WORKS PAVEMENT / SURFACE SCHEDULE FOR DEPTHS
REFER LGAT STANDARD DRAWING TSD-R09-v3 FOR ADDITIONAL DRIVEWAY DETAILS

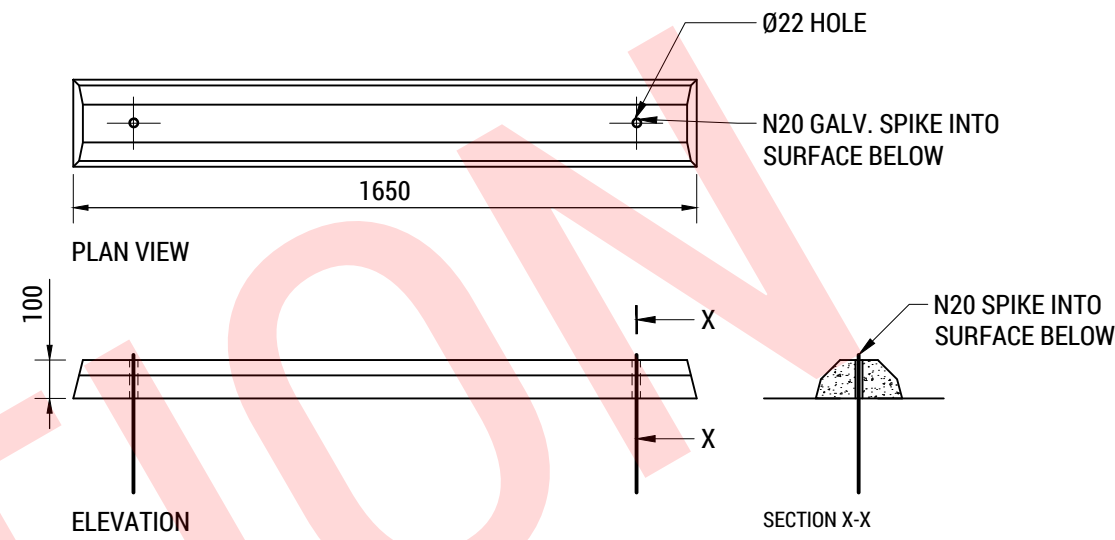


SECTION DETAIL

PAVEMENT - 'PAV-C' - CONCRETE HARDSTAND - NON-TRAFFICABLE (TYP.)

SCALE 1:20

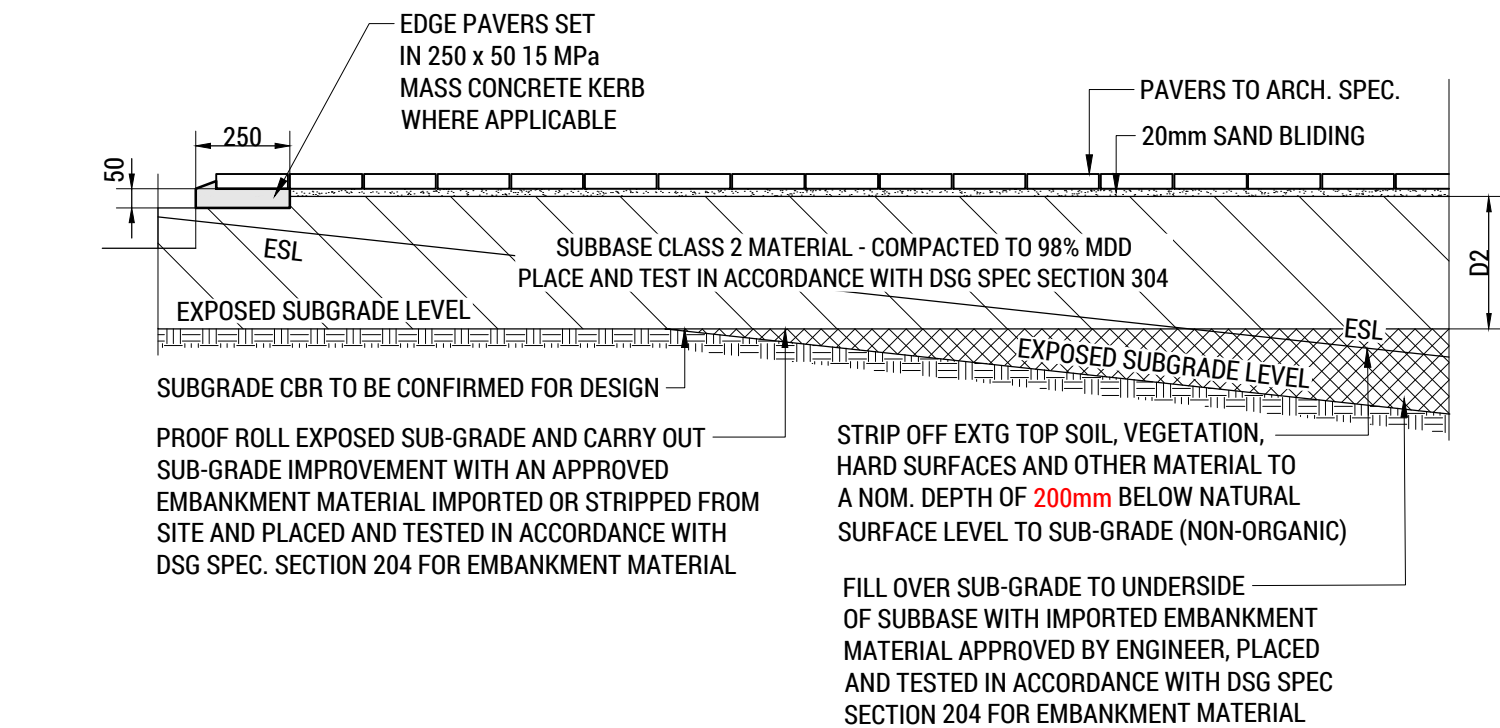
NOTE: REFER CIVIL WORKS PAVEMENT / SURFACE SCHEDULE FOR DEPTHS
REFER LGAT STANDARD DRAWING TSD-R09-v3 FOR ADDITIONAL DRIVEWAY DETAILS



TYP WHEEL STOP DETAIL

SCALE 1:20

NOTE:
HUDSON CIVIL PRODUCT WHEEL STOP (1650 LONG x 100 HIGH)
INSTALLED TO MANUFACTURERS SPECIFICATION



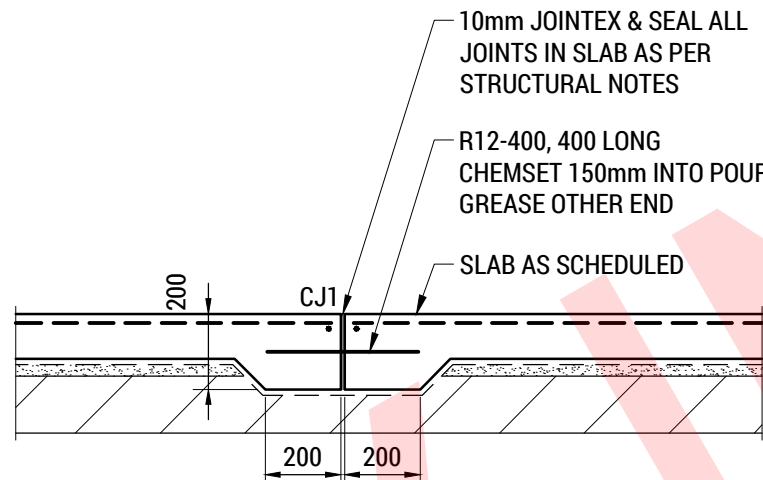
SECTION DETAIL

PAVEMENT - 'PAV-D' - PAVERS - NON-TRAFFICABLE (TYP.)

SCALE 1:20

NOTE: REFER CIVIL WORKS PAVEMENT / SURFACE SCHEDULE FOR DEPTHS

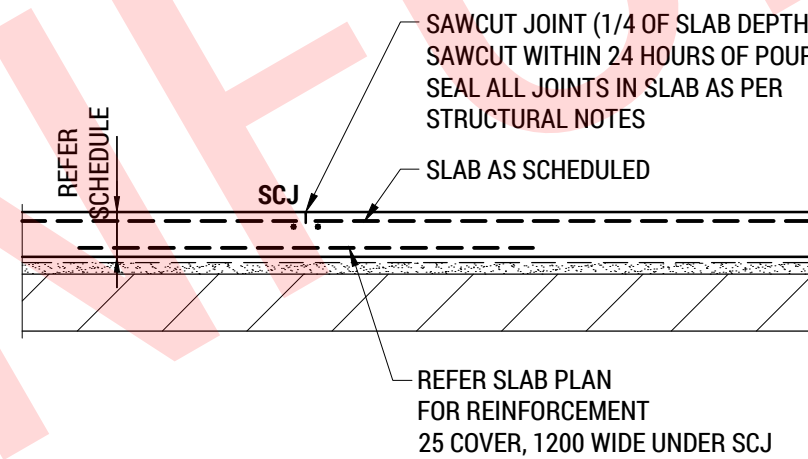
A.S. SIEVE SIZE (mm)	BEDDING SAND		JOINT FILLING SAND	
	CONCRETE % PASSING	CLAY % PASSING	CONCRETE % PASSING	CLAY % PASSING
9.52	100	100		
4.75	95-100	90-100		
2.36	80-100	75-100	100	100
1.18	50-85	55-90	90-100	75-95
600 MICRONS	25-60	35-59	60-90	50-85
300 MICRONS	10-30	8-30	30-60	20-45
150 MICRONS	5-15	0-10	15-30	5-15
75 MICRONS	0-10	0-5	5-10	0-15



CONSTRUCTION JOINT DETAIL - C.J1

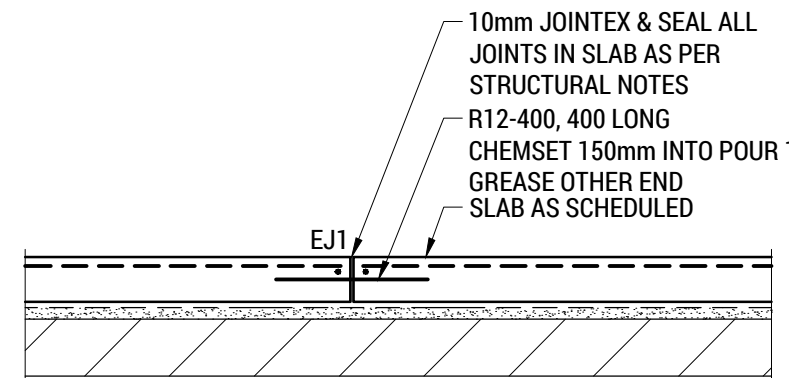
SCALE 1:20

PROVIDE CONSTRUCTION JOINTS AT 6.0m MAX CRS
REFER IPWEA STD DWG TSD-R11-v3 FOR DETAILS



SAW CUT JOINT DETAIL - SCJ

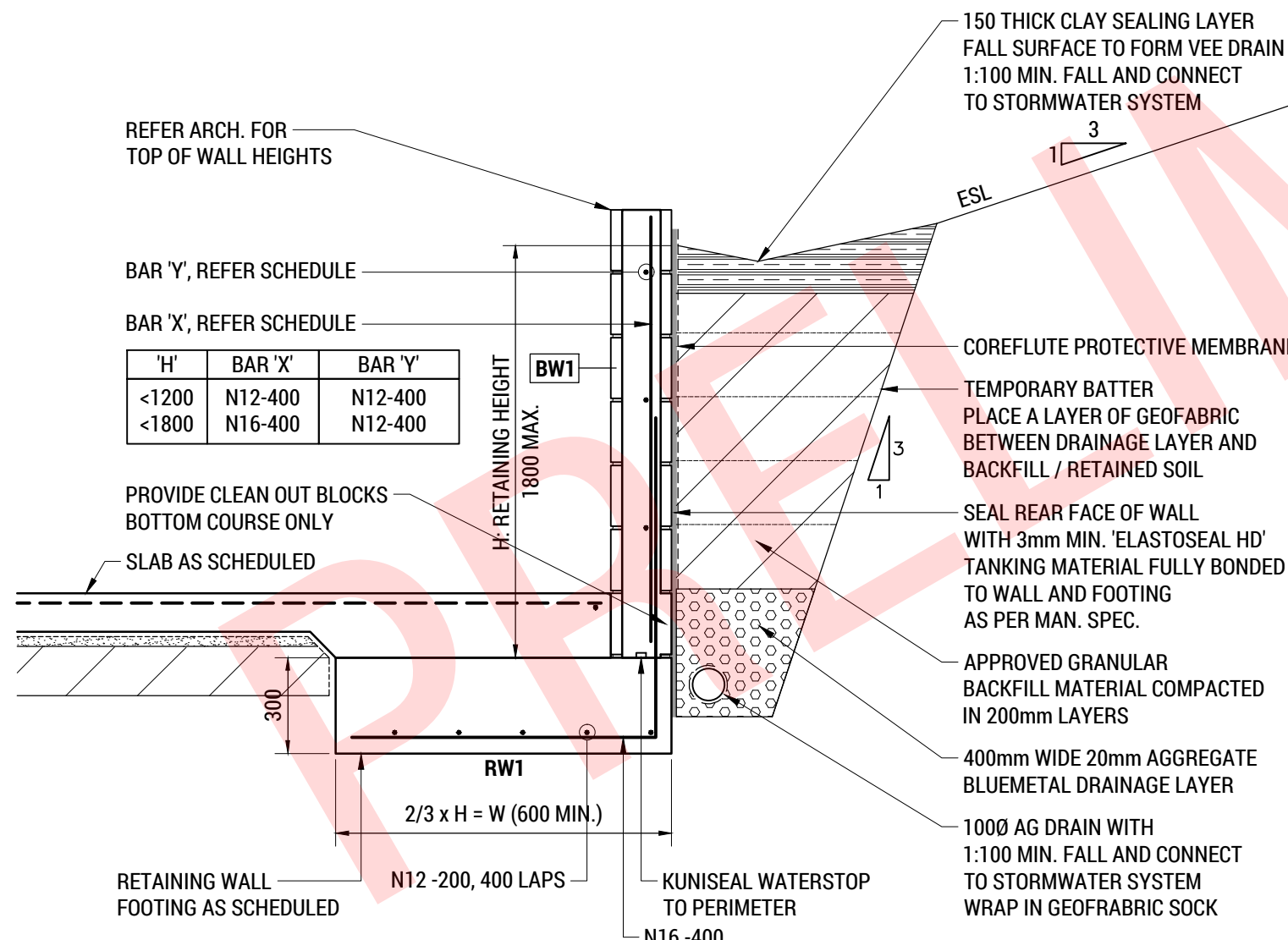
SCALE 1:20



EXPANSION JOINT DETAIL - E.J1

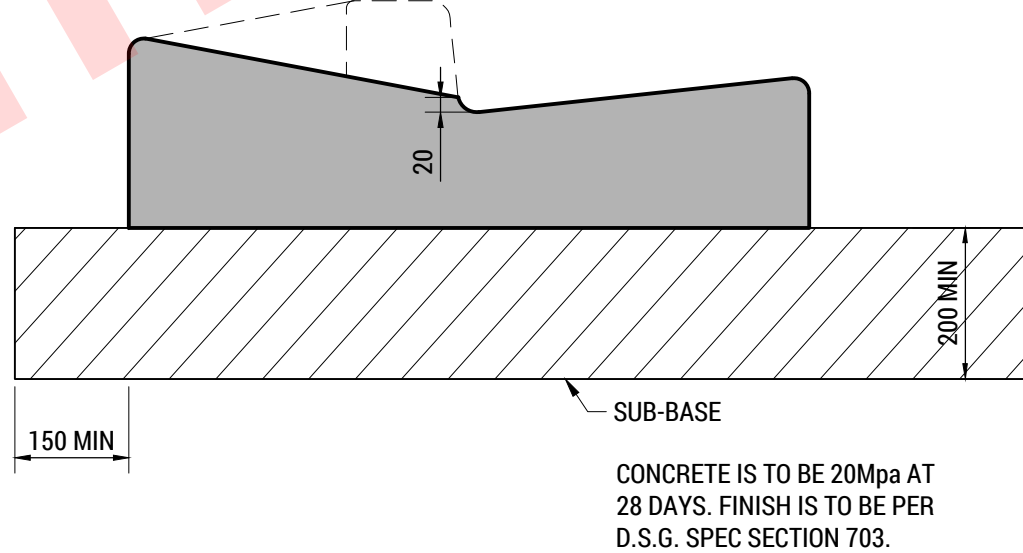
SCALE 1:20

PROVIDE EXPANSION JOINTS EACH SIDE DRIVEWAYS AND AT
18.0m MAX CRS
REFER IPWEA STD DWG TSD-R09-v3 & TSD-R11-v3 FOR DETAILS



SECTION DETAIL -- RETAINING WALL 'RW1' (TYP.)

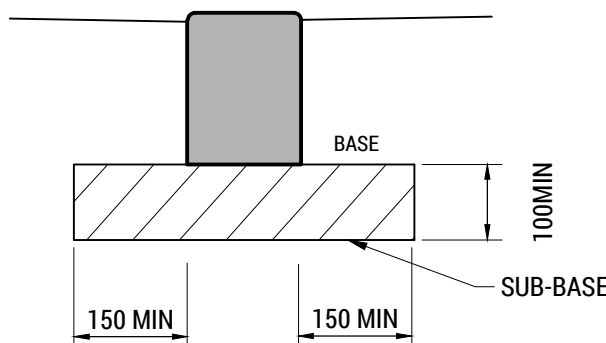
SCALE 1:20



TYP KCV KERB VEHICULAR CROSSING

SCALE 1:10

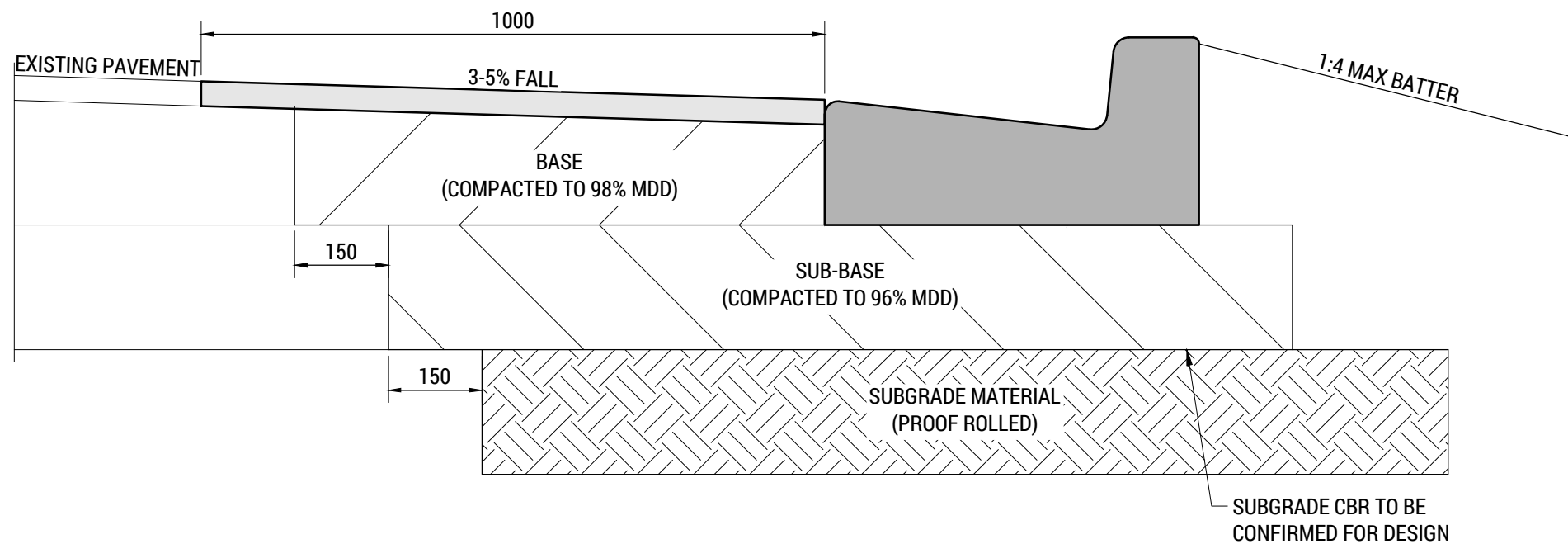
REFER IPWEA STD DWG TSD-R14-v3
FOR APPROVED KERB & CHANNEL
PROFILES & DIMENSIONS



TYP FK KERB

SCALE 1:10

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



TYP KERB CUT IN DETAIL

SCALE 1:10

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

C	REVISED DEVELOPMENT APPLICATION	OWM	15-10-25
B	REVISED DEVELOPMENT APPLICATION	OWM	29-09-25
A	DEVELOPMENT APPLICATION	MRP	15-11-24
REV:	ISSUED FOR / DESCRIPTION:	BY:	DATE:

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HOMES TASMANIA / JAWS ARCHITECTS

PROJECT DETAILS:

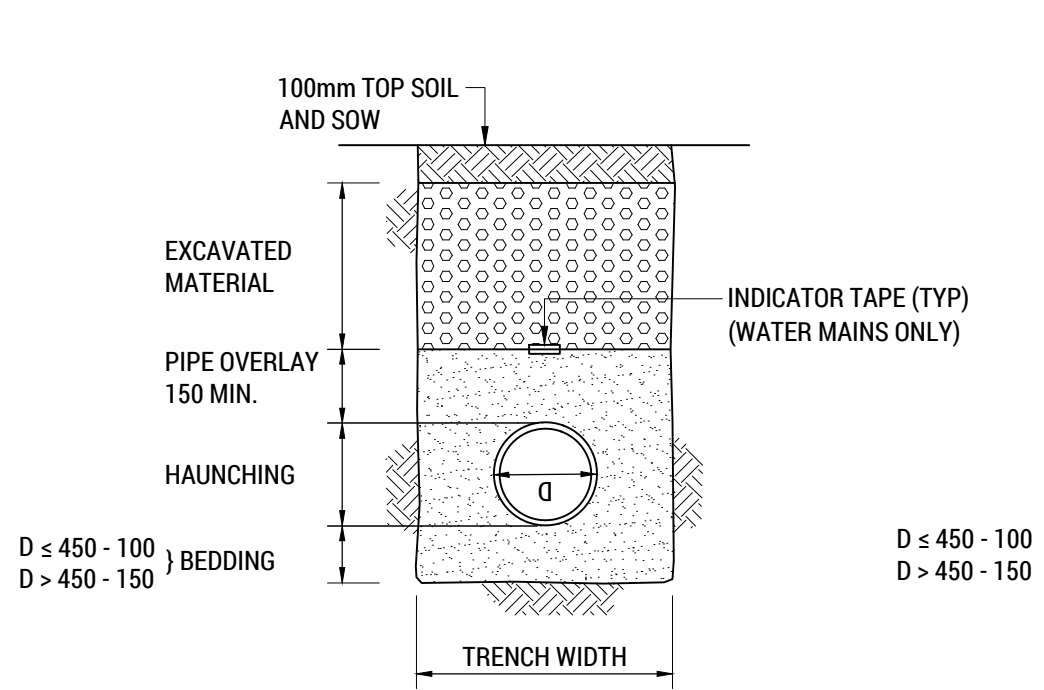
UNIT DEVELOPMENT
25 THORNLEIGH, WEST MOONAH

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

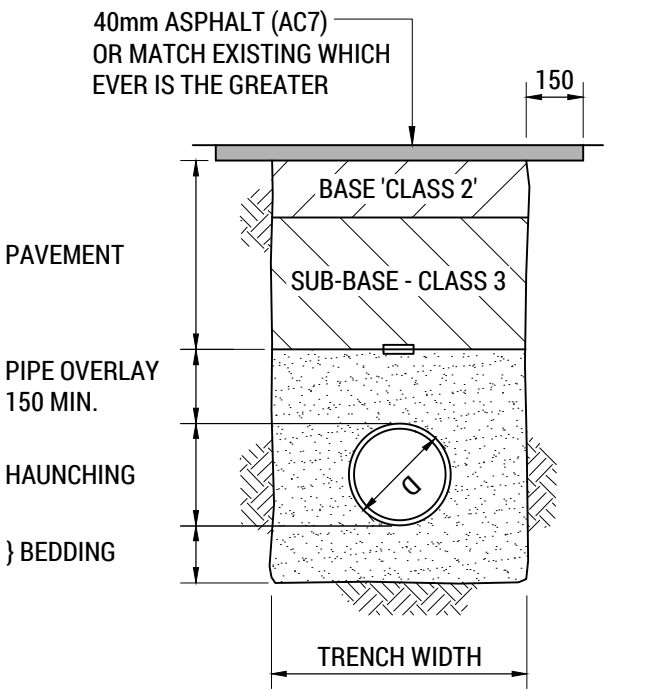
DRAWING TITLE:

CIVIL SECTIONS & DETAILS - SHEET 1

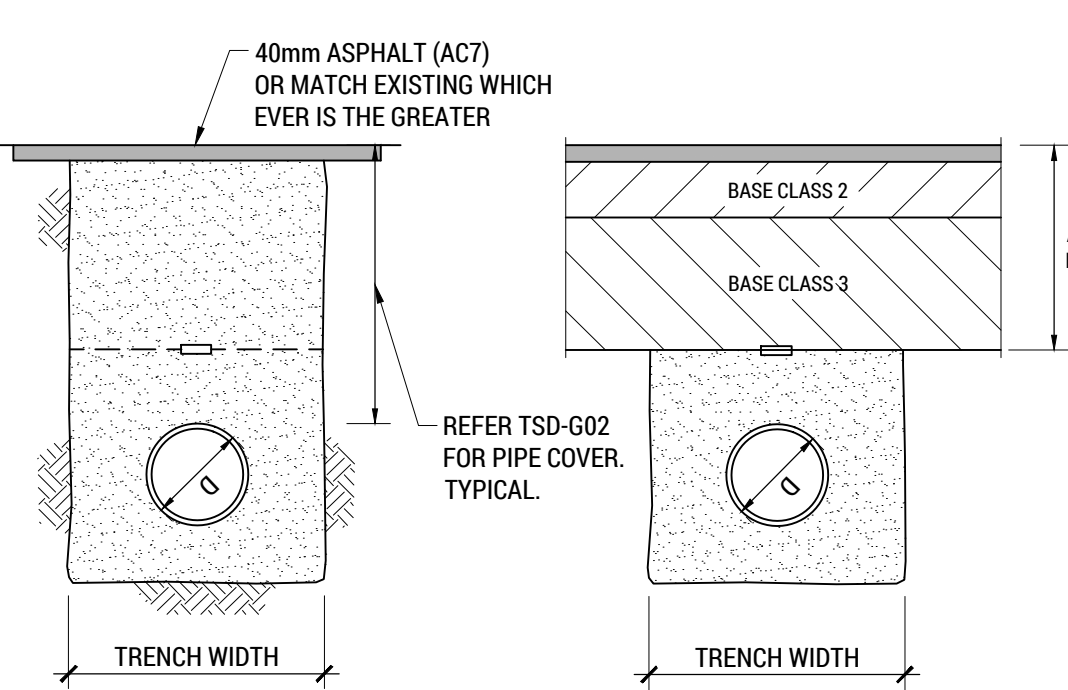
SCALE @ A1:	PROJECT No:	DRAWING No:	REVISION:
1:20, 1:10	242038	C801	C



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.

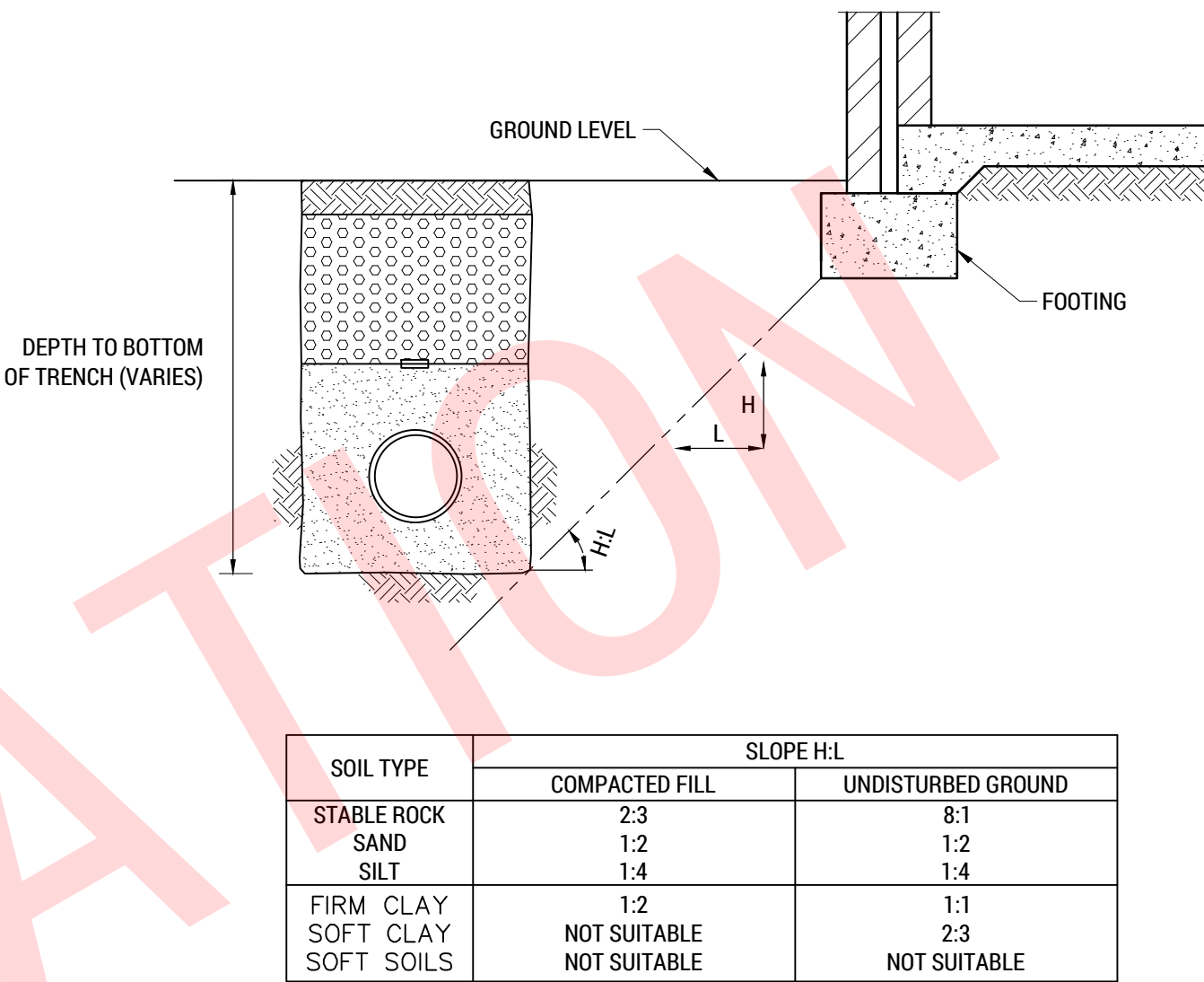
COMPACTION OF BEDDING, HAUNCHING & OVERLAY REFER TO AS 1289.5.5
CONCRETE PIPES = MIN. DENSITY INDEX = 60% (85% STD. COMPACTION)
uPVC PIPES = DENSITY INDEX = 65% (90% STD. COMPACTION)
DICI PIPES = DENSITY INDEX = 65% (90% STD. COMPACTION)

BEDDING, HAUNCHING AND OVERLAY MATERIAL BEDDING, HAUNCHING AND PIPE OVERLAY MATERIAL SHALL CONTAIN NO DELETERIOUS MATERIAL OR CLAY LUMPS AND SHALL COMPLY WITH THE FOLLOWING GRADINGS:

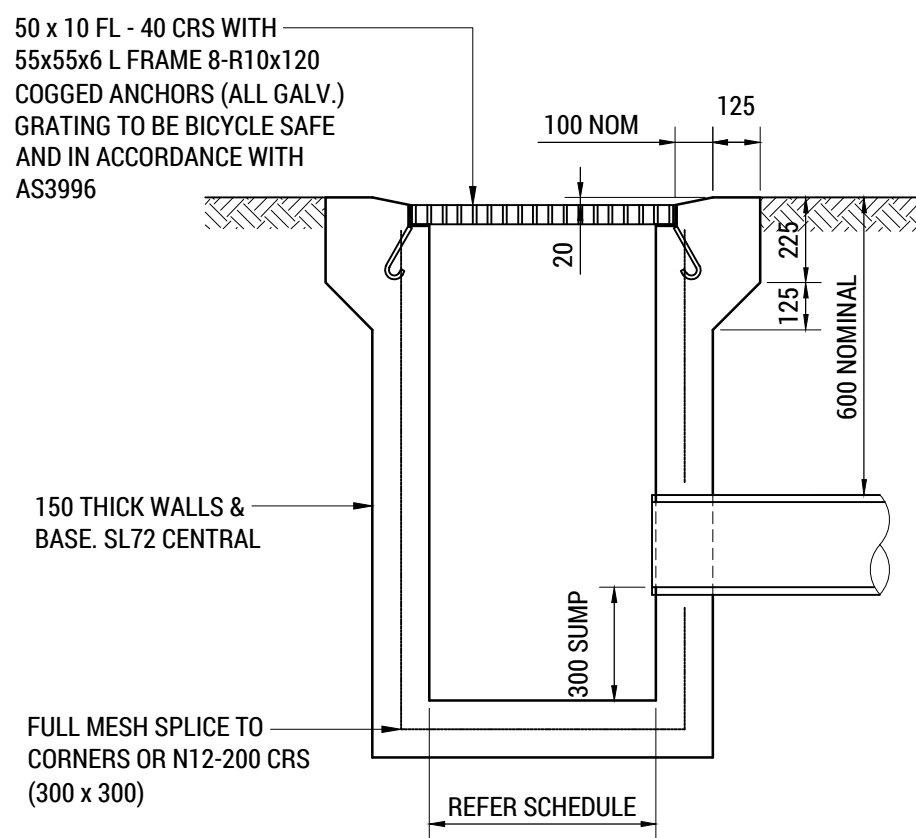
FOR uPVC AND DUCTILE IRON PIPES	
SAND OR CRUSHED ROCK (STONE DUST)	% PASSING (BY MASS)
SIEVE APERTURE (mm)	TO AS1152
6.7	100
2.36	70-100
0.6	20-90
0.3	8-50
0.15	0-20
0.075	0-10

FOR CONCRETE PIPES	
CRUSHED ROCK	% PASSING (BY MASS)
SIEVE APERTURE (mm)	TO AS1152
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.

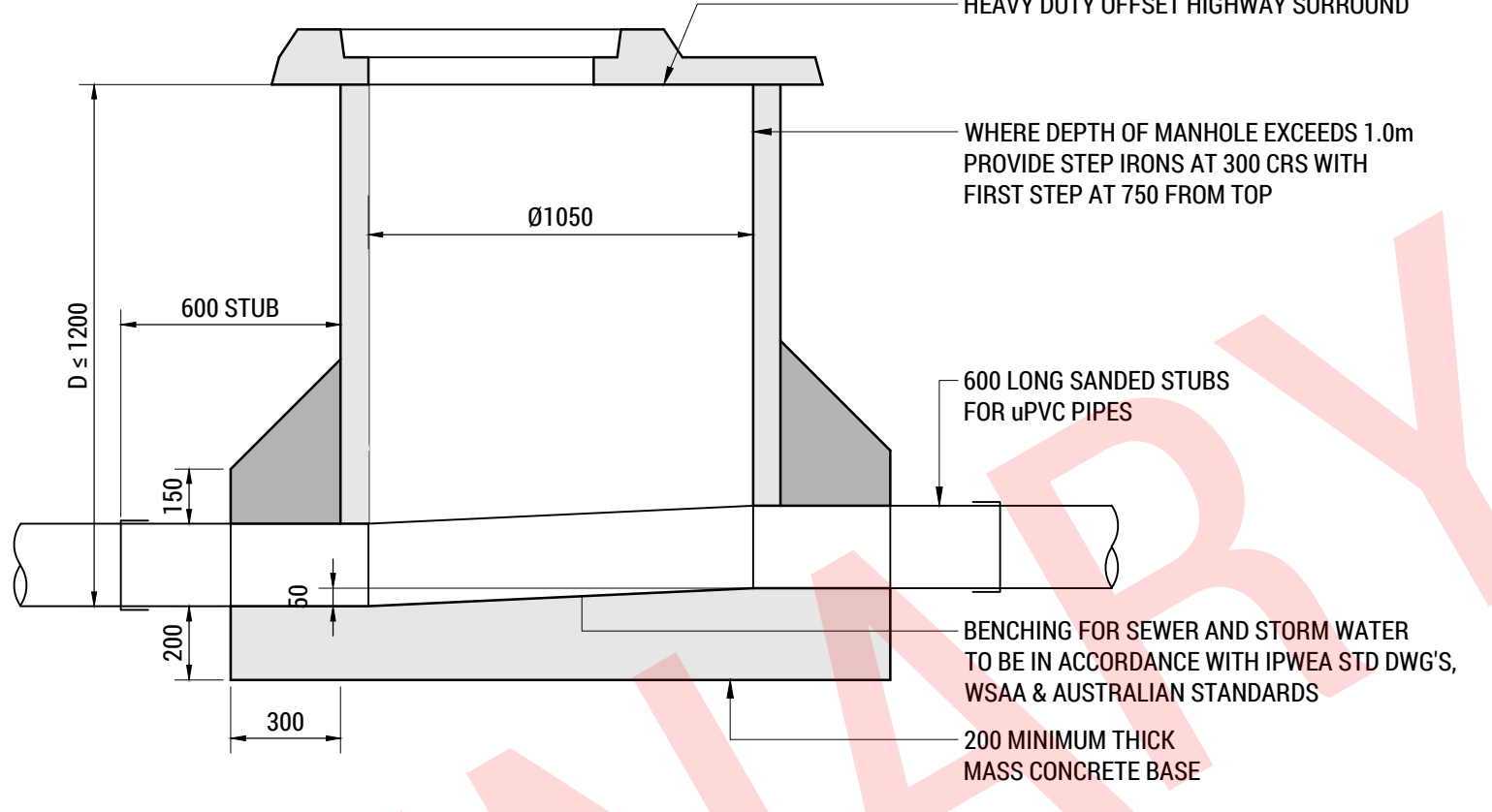


TYPICAL 'ZONE OF INFLUENCE' DETAIL
SCALE 1:20



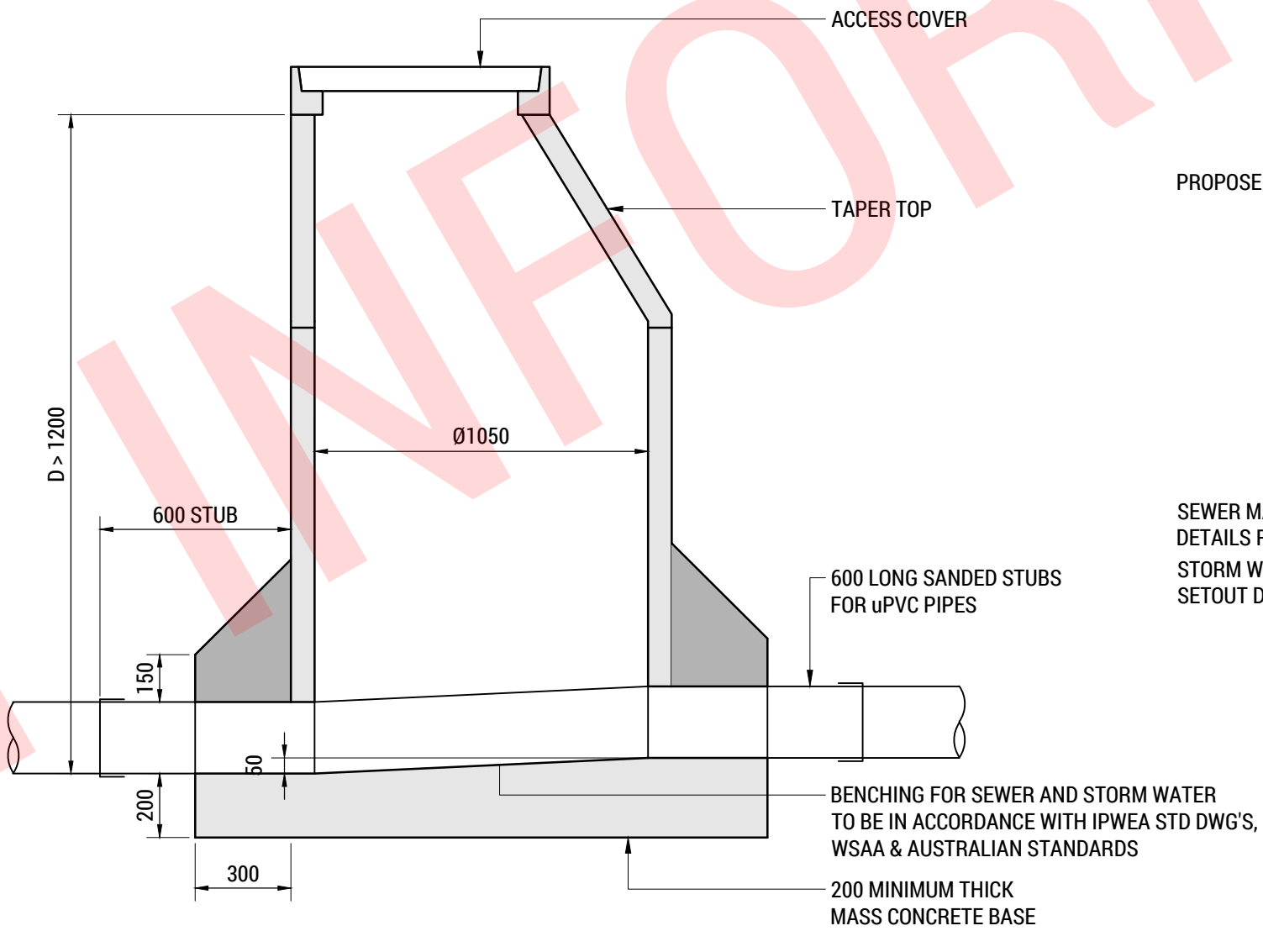
GRADED PIT DETAIL - TRAFFICABLE
SCALE 1:20

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

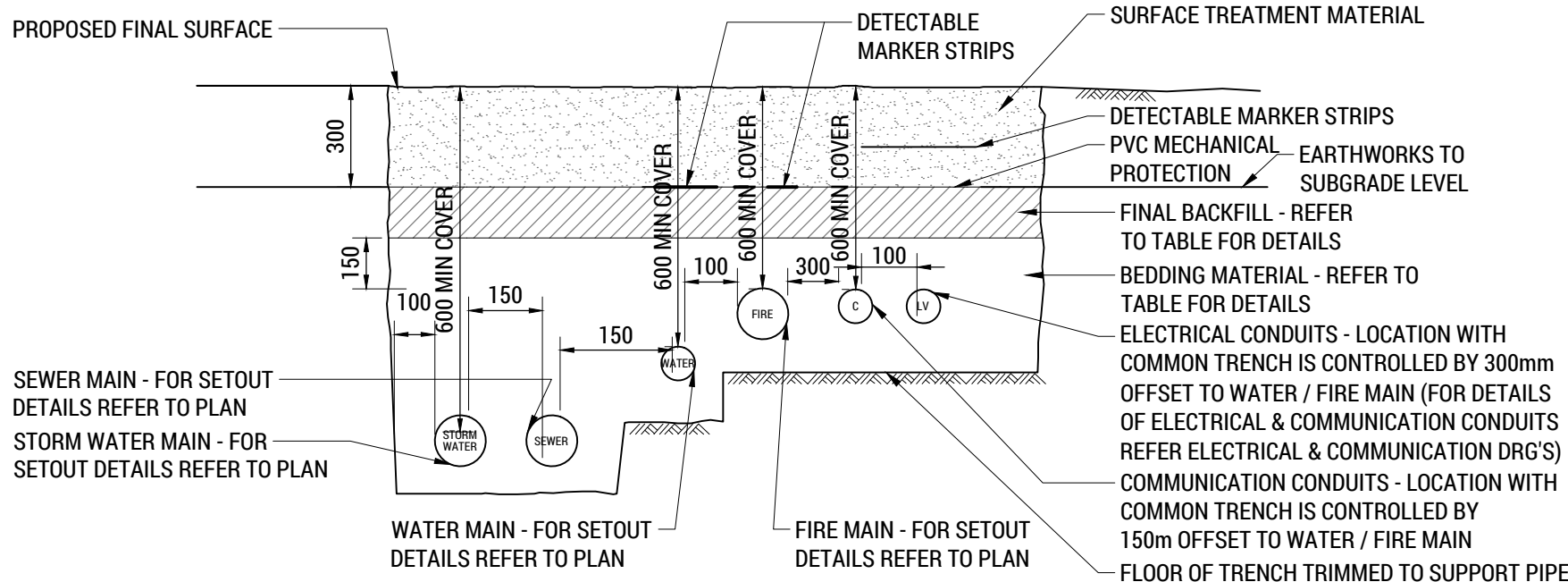


DETAIL OF MANHOLE - D < 1200
SCALE 1:20

REFER IPWEA STD DWG TSD-SW02-v3 FOR STORMWATER MANHOLE DETAILS
REFER WSAA STD DWG'S FOR SEWER MANHOLE DETAILS



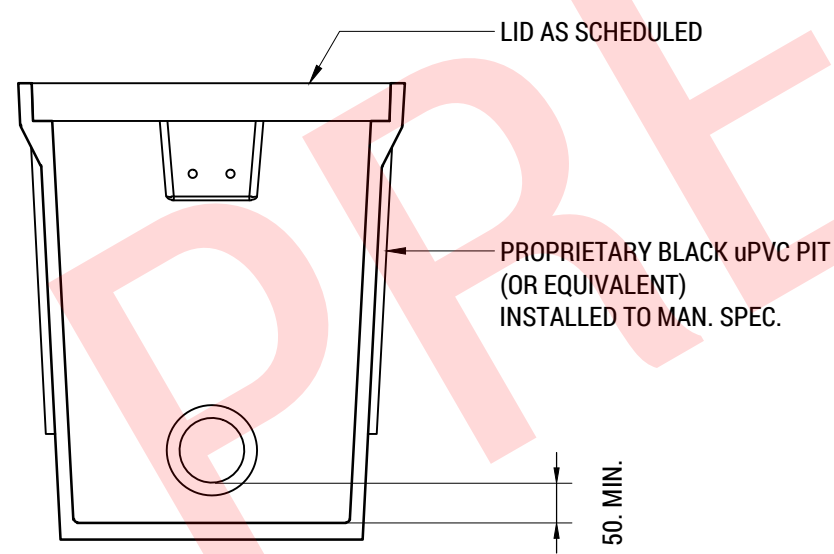
DETAIL OF MANHOLE - D > 1200
SCALE 1:20



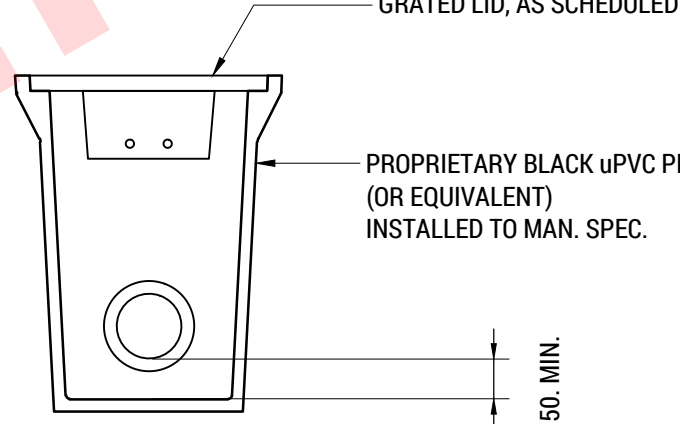
COMPACTION DETAILS		
EXPRESSED AS MMDD		
MATERIAL	GENERAL	UNDER ROADS*
BEDDING MATERIAL	90%	90%
INITIAL BACKFILL	90%	95%
FINAL BACKFILL	SAME AS SURROUNDING SOIL	95%

* OR AS DIRECTED BY SUPERINTENDENT

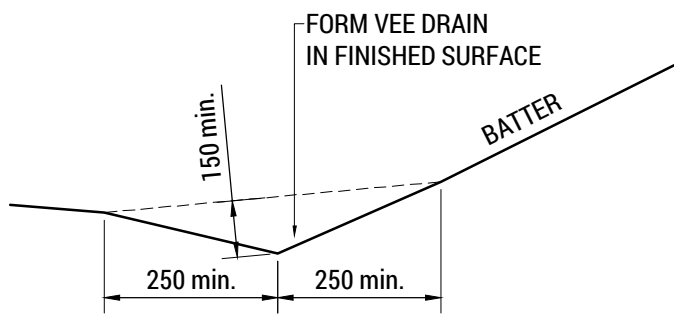
TYPICAL COMBINED TRENCH DETAIL
SCALE 1:10



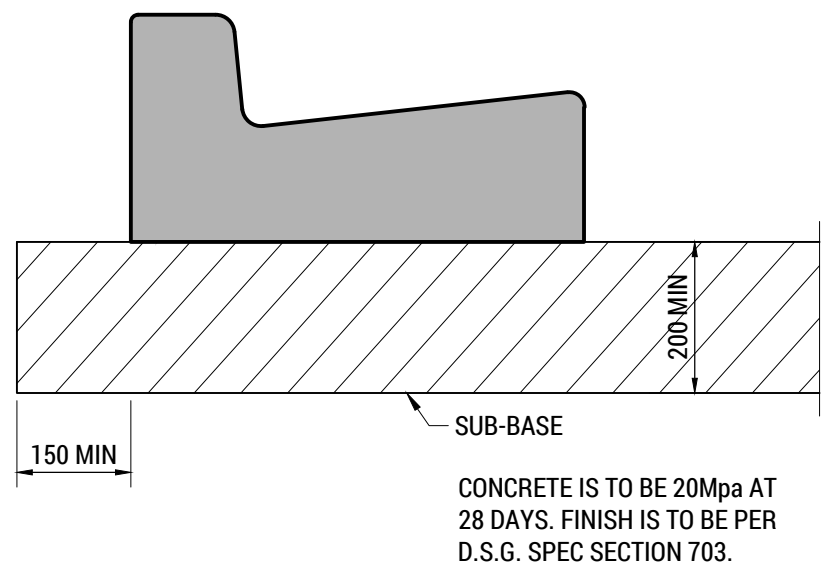
450 SQ. GRADED PIT DETAIL
SCALE 1:10



300 SQ. GRADED PIT DETAIL
SCALE 1:10

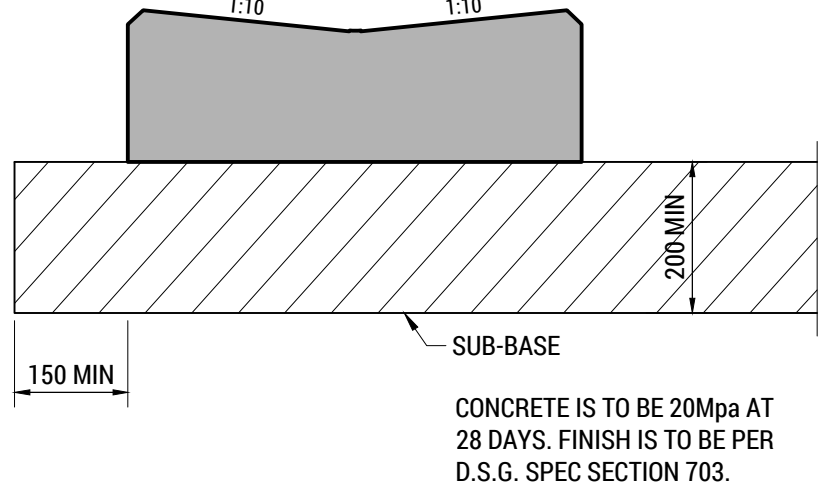


VEE DRAIN DETAIL
SCALE 1:10



TYP KC KERB
SCALE 1:10

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



TYP VC VEE CHANNEL
SCALE 1:10

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

REV:	ISSUED FOR / DESCRIPTION:	BY:	DATE:
C	REVISED DEVELOPMENT APPLICATION	OWM	15-10-25
B	REVISED DEVELOPMENT APPLICATION	OWM	29-09-25
A	DEVELOPMENT APPLICATION	MRP	15-11-24

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HOMES TASMANIA / JAWS ARCHITECTS

PROJECT DETAILS:

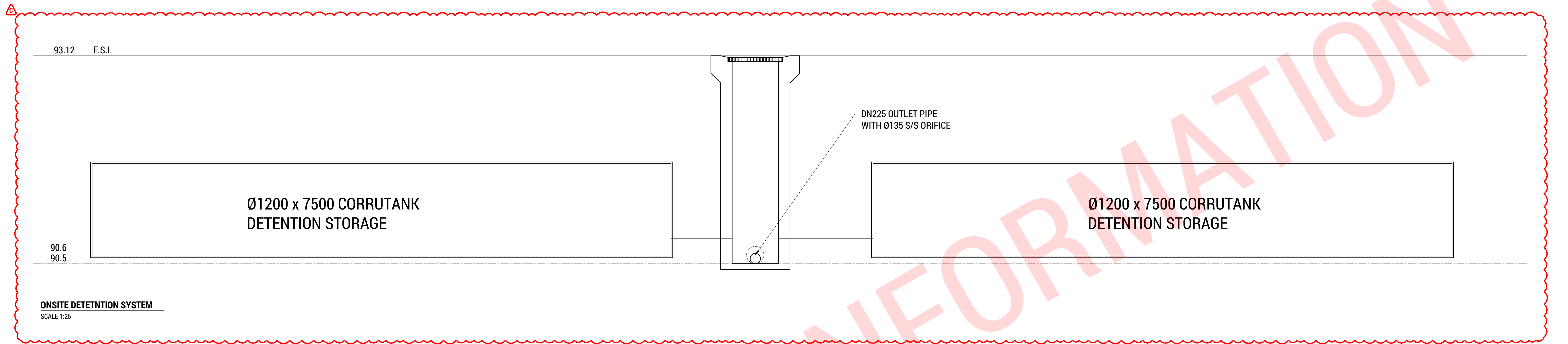
UNIT DEVELOPMENT
25 THORNLEIGH, WEST MOONAH

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

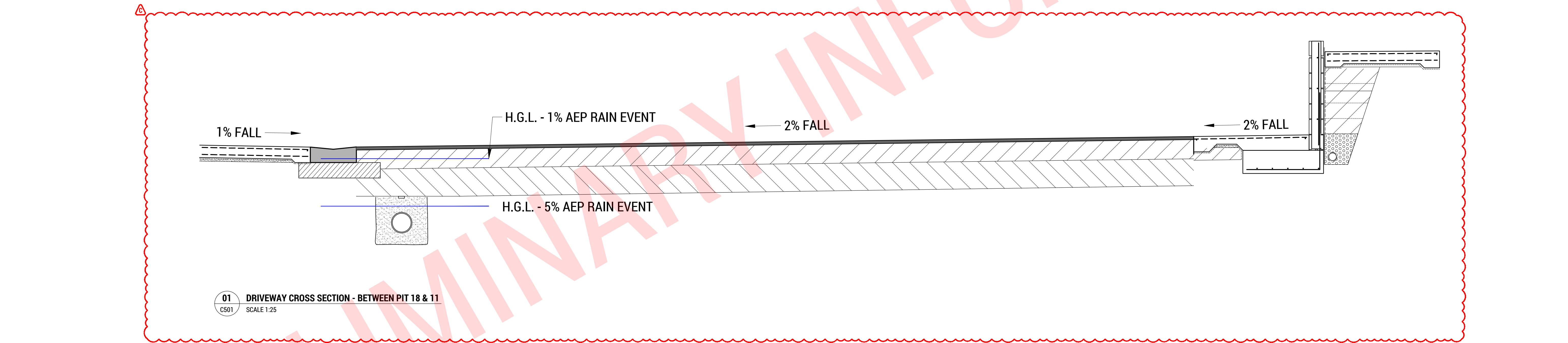
DRAWING TITLE:

CIVIL SECTIONS & DETAILS - SHEET 2

SCALE @ A1:	PROJECT No:	DRAWING No:	REVISION:
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MULTIPLE DWELLING DEVELOPMENT

25 THORNLEIGH STREET, WEST MOONAH

HOMES TASMANIA

TRAFFIC IMPACT ASSESSMENT

OCTOBER 2025





Multiple Dwelling Development 25 Thornleigh Street, West Moonah Homes Tasmania

TRAFFIC IMPACT ASSESSMENT

- Final #3
- October 2025

Traffic & Civil Services
ABN 72617648601
1 Cooper Crescent
RIVERSIDE
Launceston TAS 7250 Australia
P: +61 3 634 8168
M: 0456 535 746
E: Richard.burk@trafficandcivil.com.au
W: www.trafficandcivil.com.au



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1. Introduction

1.1 Background

This TIA reviews the proposed Homes Tasmania multiple dwelling development at 25 Thornleigh Street, West Moonah. The review considers the adjacent road network, road safety, parking requirements and impact of traffic due to the proposal.

This Traffic Impact Assessment (TIA) should be submitted with the development application for the proposal and has been prepared based on Department of State Growth guidelines and provides details as follows:

- Anticipated additional traffic and pedestrian movements.
- The significance of the impact of these movements on the existing road network
- Any changes required to accommodate the additional traffic.

1.2 Objectives

A traffic impact assessment is a means for assisting in the planning and design of sustainable development proposals that consider:

- Safety and capacity
- Equity and social justice
- Economic efficiency and the environment and
- Future development with traffic projections for 10 years

1.3 Scope of Traffic Impact Assessment (TIA)

This TIA considers in detail the impact of the proposal on Thornleigh Street and nearby intersection with Reibey Street.

1.4 References

- AS 1742.1 – 2014 – General introduction and index of signs
- AS /NZS 2890.1- 2004 – Off-street carparking
- NSW Guide to Transport Impact Assessment – 2024
- ITE Parking Generation Rates - 4th Edition 2010
- Tasmanian Planning Scheme - Glenorchy
- Austroads Guidelines
 - Road Design Part 4A: Unsignalised & Signalised Intersections 2021
 - Traffic Management Part 6: Intersections, Interchanges & Crossings 2020.



1.5 Statement of Qualifications and Experience

This TIA has been prepared by Richard Burk, an experienced and qualified traffic engineer in accordance with the requirements of the Department of State Growth's guidelines and Council's requirements.

Richard Burk is an experienced and qualified traffic engineer with:

- 38 years professional experience in road and traffic engineering industry
 - Director Traffic and Civil Service Pty Ltd since May 2017.
 - Manager Traffic Engineering at the Department of State Growth until May 2017.
 - Previous National committee membership with Austroads Traffic Management Working Group and State Road Authorities Pavement Marking Working Group
- Certified Professional Engineer with Engineers Australia
- Master of Traffic, Monash University, 2004
- Post Graduate Diploma in Management, Deakin University, 1995
- Bachelor of Civil Engineering, University of Tasmania, 1987

A handwritten signature in blue ink, appearing to read 'R Burk', is shown on a light blue background.

Richard Burk

BE (Civil) M Traffic Dip Man. MIE Aust CPEng

Director Traffic and Civil Services Pty Ltd



1.6 Glossary of Terms

AADT	Annual Average Daily Traffic - The total number of vehicles travelling in both directions passing a point in a year divided by the number of days in a year.
Acceleration Lane	An auxiliary lane used to allow vehicles to increase speed without interfering with the main traffic stream. It is often used on the departure side of intersections.
Access	The driveway by which vehicles and/or pedestrians enter and/or leave the property adjacent to a road.
ADT	Average Daily Traffic – The average 24-hour volume being the total number of vehicles travelling in both directions passing a point in a stated period divided by the stated number of days in that period.
Austroroads	The Association of Australian and New Zealand road transport and traffic authorities and includes the Australian Local Government Association.
Delay	The additional travel time experienced by a vehicle or pedestrian with reference to a base travel time (e.g. the free flow travel time).
DSG	Department of State Growth – The Tasmanian Government Department which manages the State Road Network.
GFA	Gross Floor Area
Intersection Kerb	The place at which two or more roads meet or cross. A raised border of rigid material formed at the edge of a carriageway, pavement or bridge.
km/h	Kilometres per hour
Level of Service	An index of the operational performance of traffic on a given traffic lane, carriageway or road when accommodating various traffic volumes under different combinations of operating conditions. It is usually defined in terms of the convenience of travel and safety performance.
m	Metres
Median	A strip of road, not normally intended for use by traffic, which separates carriageways for traffic in opposite directions. Usually formed by painted lines, kerbed and paved areas grassed areas, etc.
Movement	A stream of vehicles that enters from the same approach and departs from the same exit (i.e. with the same origin and destination).
Phase	The part of a signal cycle during which one or more movements receive right-of-way subject to resolution of any vehicle or pedestrian conflicts by priority rules. A phase is identified by at least one movement gaining right-of-way at the start of it and at least one movement losing right-of-way at the end of it.



Sight Distance	The distance, measured along the road over which visibility occurs between a driver and an object or between two drivers at specific heights above the carriageway in their lane of travel.
Signal Phasing	Sequential arrangement of separately controlled groups of vehicle and pedestrian movements within a signal cycle to allow all vehicle and pedestrian movements to proceed.
SISD	Safe Intersection Sight Distance – The sight distance provides sufficient distance for a driver of a vehicle on the major road to observe a vehicle on a minor road approach moving into a collision situation and to decelerate to a stop before reaching the collision point.
Speed	Distance travelled per unit time.
85th Percentile	The speed at which 85% of car drivers will travel slower and 15% will travel faster. A control method that allows a variable sequence and variable duration of signal displays depending on vehicle and pedestrian traffic demands.
Traffic-actuated Control	A control method that allows a variable sequence and variable duration of signal displays depending on vehicle and pedestrian traffic demands.
Traffic Growth Factor	A factor used to estimate the percentage annual increase in traffic volume.
Trip	A one-way vehicular movement from one point to another excluding the return journey. Therefore, a vehicle entering and leaving a land use is counted as two trips. (RTA Guide to Traffic generating Developments).
Turning Movement	The number of vehicles observed to make a particular turning movement (left or right turn, or through movement) at an intersection over a specified period.
Turning Movement Count	A traffic count at an intersection during which all turning movements are recorded.
Vehicle Actuated Traffic Signals	Traffic signals in which the phasing varies in accordance with the detected presence of vehicles on the signal approaches.
vpd	vehicles per day – The number of vehicles travelling in both directions passing a point during a day from midnight to midnight.
vph	vehicles per hour – The number of vehicles travelling in both directions passing a point during an hour.

1.7 Site Specific Glossary of Terms

GCC	Glenorchy City Council
SSA	Safe System Assessment

2. Site Description

The development site is at the Eastern end of Thornleigh Street, West Moonah, see Figures 1 to 3. The topography is sloped downhill towards the North with a natural grade of some 13% . The property is within an urban residential setting.

Figure 1 - Location of proposed development site at 25 Thornleigh St., West Moonah.



Source: LISTmap, DPIPW

[illegible]

An aerial photograph of a suburban neighborhood. A large, rectangular, undeveloped lot with dry, brownish grass is the central focus. It is bordered by a paved road to the north and a residential street to the east. The surrounding area is filled with houses of various sizes, mostly with light-colored roofs, and green lawns. A winding road is visible on the left side of the image. The overall scene depicts a typical suburban development with a large vacant parcel.

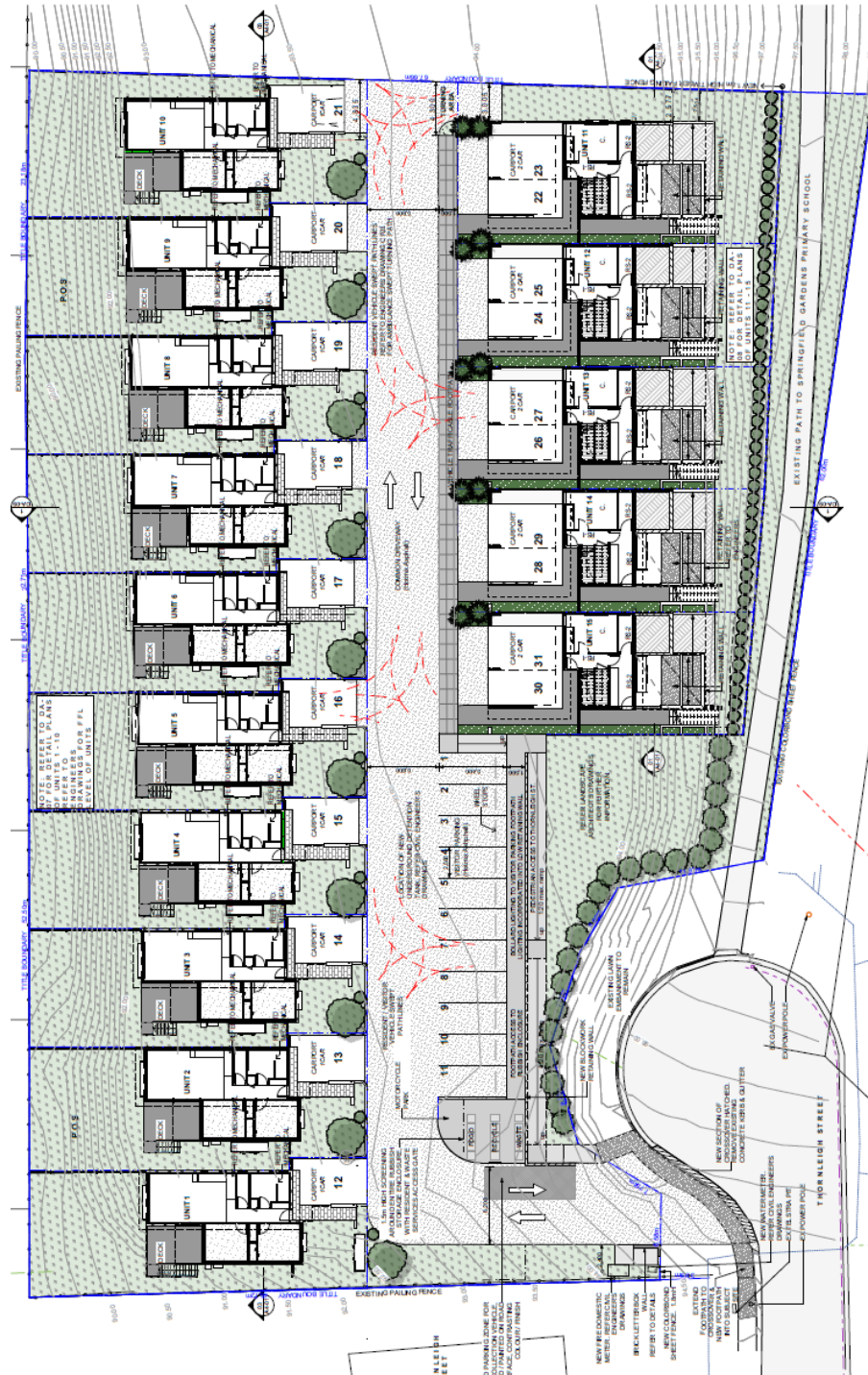
10 | Page

3. Proposal, Planning Scheme and Road Owner objectives.

3.1 Description of Proposed Development

The proposal involves 10*2-bedroom & 5*3-bedroom residential units, see Appendix A for design plans.

Figure 4 – Proposed site layout

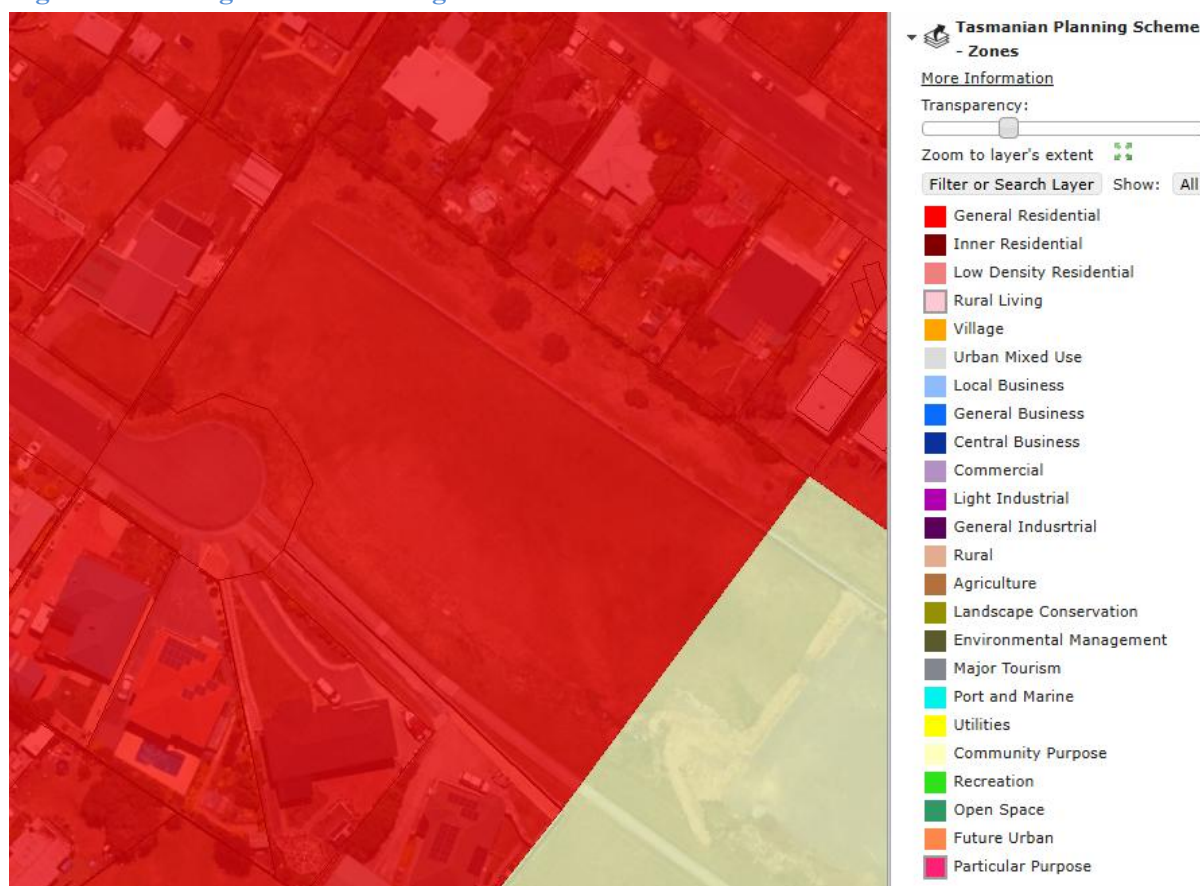




3.2 Tasmanian Planning Scheme - Glenorchy

The proposed development involves land currently zoned in accordance with the Tasmanian Planning Scheme - Glenorchy, see Figure 5.

Figure 5 – Zoning for 25 Thornleigh Street is General Residential



Source: LISTmap, DPIPWE

3.3 Local Road Network Objectives

The Glenorchy City Council objectives are to maintain traffic safety and transport efficiency.

4. Existing Conditions

4.1 Transport Network

The adjacent road network consists of Council Roads. Thornleigh Street provides access to the site and the General Urban Speed Limit applies on all the roads in the vicinity of the development. The Council roads surrounding the development site are not part of the Tasmanian 26m B Double Network, see Appendix C.

Thornleigh Street provides access to Stansbury Street and the Glenorchy CBD via Barossa Road and Tolosa Street which are Collector Roads.

Thornleigh Street also provides access to Reiby Street and West Moonah via Ashbourne Grove, Second Avenue and Springfield Avenue which are Collector Roads.

4.1.1 Thornleigh Street

Thornleigh Street is a residential street for local access to residential properties. The road has a trafficable width of 7.2m from face to face of kerb and footpath both sides. Estimated AADT is 80 vpd (2024), see Appendix B.

4.1.2 Reiby Street

Reibey Street is a residential street for access to residential properties. The road has a trafficable width of 7.2m from face to face of kerb and footpath both sides. Estimated AADT is 100 vpd (2024), see Appendix B.

4.1.3 Reiby Street / Thornleigh Street intersection

Figures 6 – 13 show the nature of the intersection and approaches.

Figure 6 – Aerial view of Reibey / Thornleigh Street intersection



Source: LISTmap, DPIPWE

Western approach to Thornleigh Street intersection

Figure 7 – Reibey Street West approach to Thornleigh Street



Figure 8 – Looking right along Thornleigh Street from Reibey St West



Sight distance
right is 80m.

Figure 9 – Looking left along Thornleigh Street from Reibey St West



Sight distance
Left is 160m.

Eastern approach to Thornleigh Street intersection

Figure 10 – Reibey Street Eastern approach to Thornleigh Street



Figure 11 – Looking right along Thornleigh Street from Reibey St East



Sight distance
right is 160m.

Figure 12 – Looking left along Thornleigh Street from Reibey St East



Sight distance
left is 80m.



Figure 13 – Thornleigh Street Southern approach to Reibey Street



4.1.4 Access to 25 Thornleigh Street

The proposed access is adjacent the Northeast end of the Thornleigh Street Cul-De-Sac.

At the head of the Cul-De-Sac there is a shared way for pedestrian and cyclist access to Springfield Gardens Primary School.

Figures 14 – 21 show the approaches to 25 Thornleigh Street and the shared way.

Figure 14 – Aerial view of proposed access to 25 Thornleigh Street.



Source: LISTmap, DPIPWE

Figure 15 – Thornleigh Street approach to proposed access to #25



Figure 16 – Thornleigh Street approach to proposed access to #25



Figure 17 – Elevation view of Thornleigh St. access to Springfield Gardens Primary.



Figure 18 – Proposed access approach to Thornleigh Street



Figure 19 – Looking left along Thornleigh Street from proposed access.



Sight distance
left is 25m.

Figure 20 – Looking right along Thornleigh Street from proposed access.



Sight distance
right is 60m.



Figure 21 – Elevation view of proposed access to 25 Thornleigh Street



4.2 Traffic Activity

4.2.1 Estimated AADT from Surveys 2024

See Appendix B for traffic survey data,

- Thornleigh Street (South of Reibey Street) – 80 vpd
- Reibey Street (East of Thornleigh Street) – 100 vpd

4.2.2 Estimated Traffic Data 2034 (with 1% annual compound growth)

The following traffic is estimated without the proposal:

- Thornleigh Street (South of Reibey Street) – 88 vpd
- Reibey Street (East of Thornleigh Street) – 110 vpd

4.3 Crash History

The Department of State Growth is supplied with reported crashes by Tasmania Police. The Department maintains a crash database from the crash reports which is used to monitor road safety, identify problem areas and develop improvement schemes. The 5-year reported crash history for Thornleigh Street records one Property Damage Only crash at the Reiby Street intersection 20 Feb 2022, see Appendix E for details. There is no evidence of a crash propensity in the vicinity of the proposed access.



4.4 Services

There do not appear to be any services that would be disaffected by the proposed vehicular access to the development site. Additional street lighting or roadside furniture is not required.

4.5 Road Safety Review

From site inspection of Thornleigh Street no road safety issues were identified.

4.6 Austroads Safe System Assessment

Thornleigh Street has been assessed in accordance with the Austroads Safe System assessment framework. This framework involves consideration of exposure, likelihood and severity to yield a risk framework score. High risk crash types and vulnerable road user crash types are assessed for each site and aggregated to provide an overall crash risk. Crash risk is considered in terms of three components:

- Exposure (is low where low numbers of through and turning traffic) i.e. 1 out of 4
- Likelihood (is low where the infrastructure standard is high) i.e. 1 out of 4
- Severity (is low where the speed environment is low) i.e. 1 out of 4

The Austroads Safe System Assessment process enables the relative crash risk of an intersection or road link to be assessed. Vulnerable Road users are considered along with the most common crash types.

The crash risk score is an indication of how well the infrastructure satisfies the *safe system objective which is for a forgiving road system where crashes do not result in death or serious injury*.

From safe system assessment, there is evidence of good alignment with the Safe System Objective with a crash risk score of 12/448, see Figures 22 and 23.

Figure 22 – Austroads Safe System Assessment alignment between crash score and risk



Existing situation - Thornleigh Street

Safe System Assessment



4.7 Sight Distance Review

Sight distance availability and requirements are summarised in Figure 24.

Figure 24 – Sight Distance Summary

Major Rd - Minor Rd	Speed Limit (km/h)	Speed Environ. (km/h)	Road frontage sight distance			
			Table E5.1 SISD (m)	Available		AS/NZS 2890.1 SSD (m)
				Left(m)	Right(m)	
Eastern approach to Thornleigh / Reiby	50	40	80	80	160	
Western approach to Thornleigh / Reiby	50	40	80	160	80	
25 Thornleigh	50	40	80	NA	60	35

Austroads Compliant

AS /NZS 2890.1 Compliant

4.8 Access Standard

Thornleigh Street is within a built-up urban area with General Residential zoning where LGAT Standard Drawings TSD-R09 for Urban Road driveways is applicable. This standard is accessible online at.

https://www.lgat.tas.gov.au/_data/assets/pdf_file/0027/813735/Tasmanian-Municipal-Standards-Drawings-v3-December-20202.pdf



5. Traffic Generation and Assignment

This section of the report describes how traffic generated by the proposal is distributed within the adjacent road network now and in ten years (2034).

5.1 Traffic Growth

Compound annual traffic growth at the Thornleigh Street Cul De Sac is 0% with estimated traffic flow:

- 40 vpd (2024) and 4 vph
- 40 vpd (2034) and 4 vph

5.2 Trip Generation

The applicable traffic generation rates for the proposal are as follows for medium density residential buildings:

- 2-bedroom units: 4-5 vpd and 0.4 - 0.5vph
- 3-bedroom units: 5-6.5vpd and 0.5 - 0.65vph

The proposal involves 10*2-bedroom & 5*3-bedroom residential units, see Appendix A for design plans. Accordingly, once fully developed by 2034 the site is estimated to generate:

- 74 vpd & 8vph at peak times.

This is consistent with Traffic Generation Rates for Key Land Uses from the NSW Guide to Transport Impact Assessment under section 1.4 References.

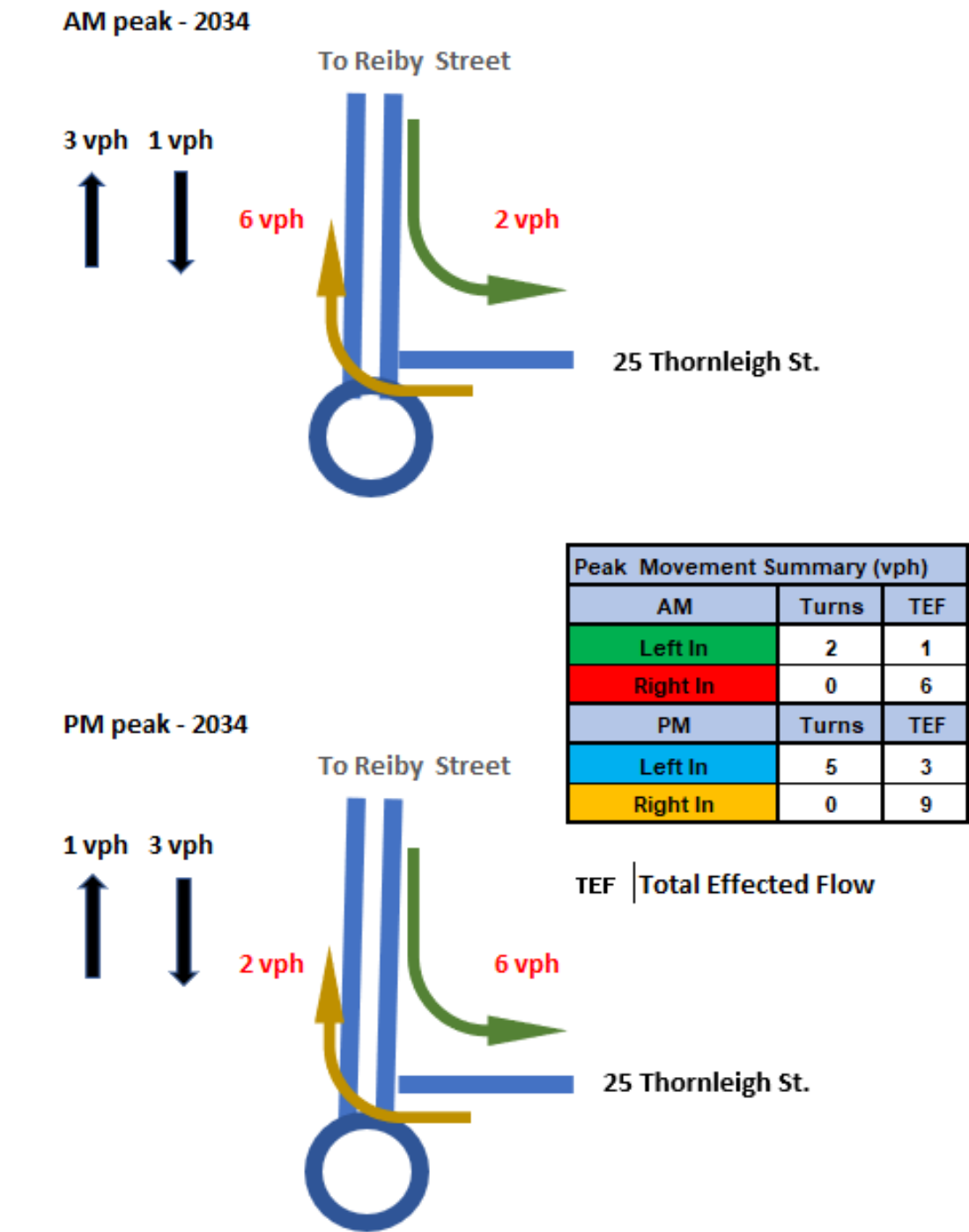
5.3 Trip Assignment

Traffic assignments for 2034 at 25 Thornleigh Street is shown in Figure 25.



Figure 25 – Projected AM & PM traffic movements at proposed 25 Thornleigh Street

Figures shown in red are due to the proposal



6. Impact on Road Network

6.1 Intersection warrant

Intersection layouts are based on Austroads Guidelines which take into account the speed limit and volume of through and turning traffic.

Thornleigh / Reiby Street intersection

2034 peak traffic flow on Thornleigh and Reiby Streets is estimated at 8 vph without the proposal. Figure 26 shows the applicable warrant chart and the green shaded zone indicates the turn facility required for 2034 traffic activity with the proposal.

Figure 26 – Warrant for 2034 – Thornleigh / Reiby Street intersection.

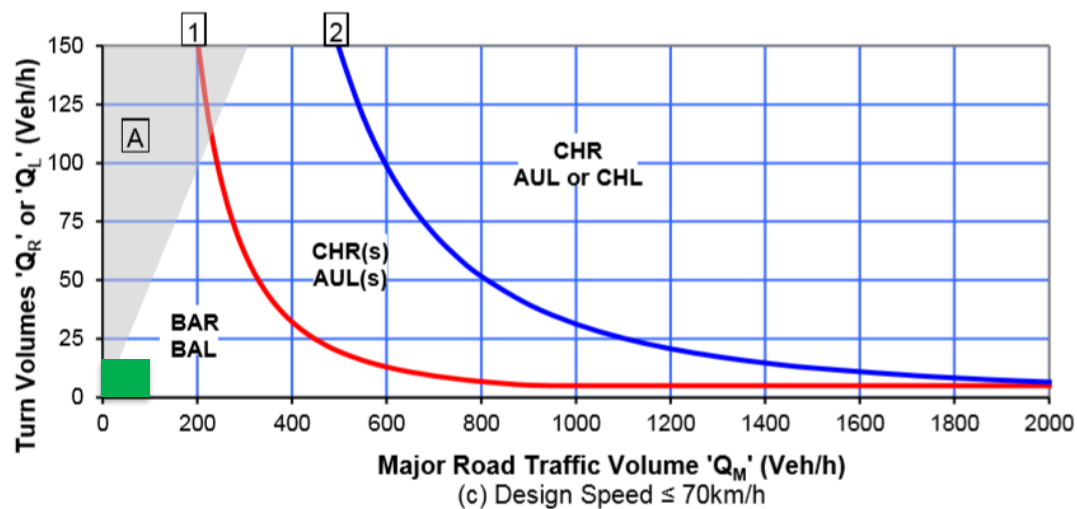
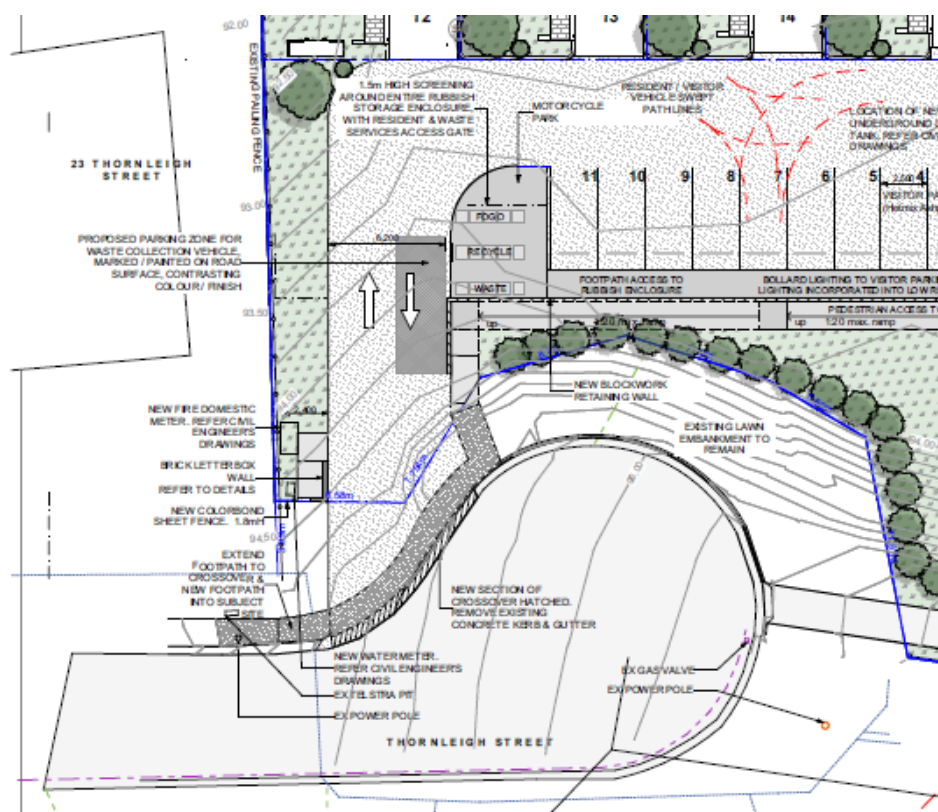


Figure 26 demonstrates that the intersection operates in a very low traffic activity range, Accordingly the existing simple cross intersection layout is considered adequate though technically an Austroads BAR and BAL layout is the default standard.





6.4 Other impacts

6.4.1 Environmental

No environmental impacts were identified in relation to:

- Noise, Vibration and Visual Impact
- Community Severance and Pedestrian Amenity
- Hazardous Loads
- Air Pollution, Dust and Dirt and Ecological Impacts
- Heritage and Conservation values

6.4.2 Street Lighting and Furniture

The proposal does not require additional street lighting in Thornleigh Street or justify further roadside furniture such as bus shelters, seats, direction signs, cycle racks, landscaping, street trees or fencing.



7. Tasmanian Planning Scheme - Glenorchy

7.1 Parking and Sustainable Transport Code C2

C2.5.1 Car parking numbers

Acceptable Solution A1

The number of on-site car parking spaces must be no less than the number specified in Table C2.1, excluding if:

- (a) The site is subject to a parking plan for the area adopted by Council, in which case parking provision (spaces or cash in lieu) must be in accordance with that plan,*
- (b) The site is contained within a parking precinct plan and subject to Clause C2.7,*
- (c) The site is subject to Clause C2.5.5; or*
- (d) It relates to an intensification of an existing use or development or a change of use where:*
 - i. The number of onsite car parking spaces for the existing use or development specified in Table C2.1 is greater than the number of car parking spaces specified in Table C2.1 for the proposed use or development, in which case no additional onsite car parking is required; or*
 - ii. The number of onsite car parking spaces for the existing use or development specified in Table C2.1 is less than the number of car parking spaces specified in Table C2.1 for the proposed use or development, in which case on-site car parking must be calculated as follows:*

The proposal is in accordance with (d)(ii). From Table C2.1 Residential use:

- 2 spaces / dwelling for 2 or more-bedroom dwelling in General Residential Zone
- 1 visitor parking space / 3 dwellings in General Residential Zone

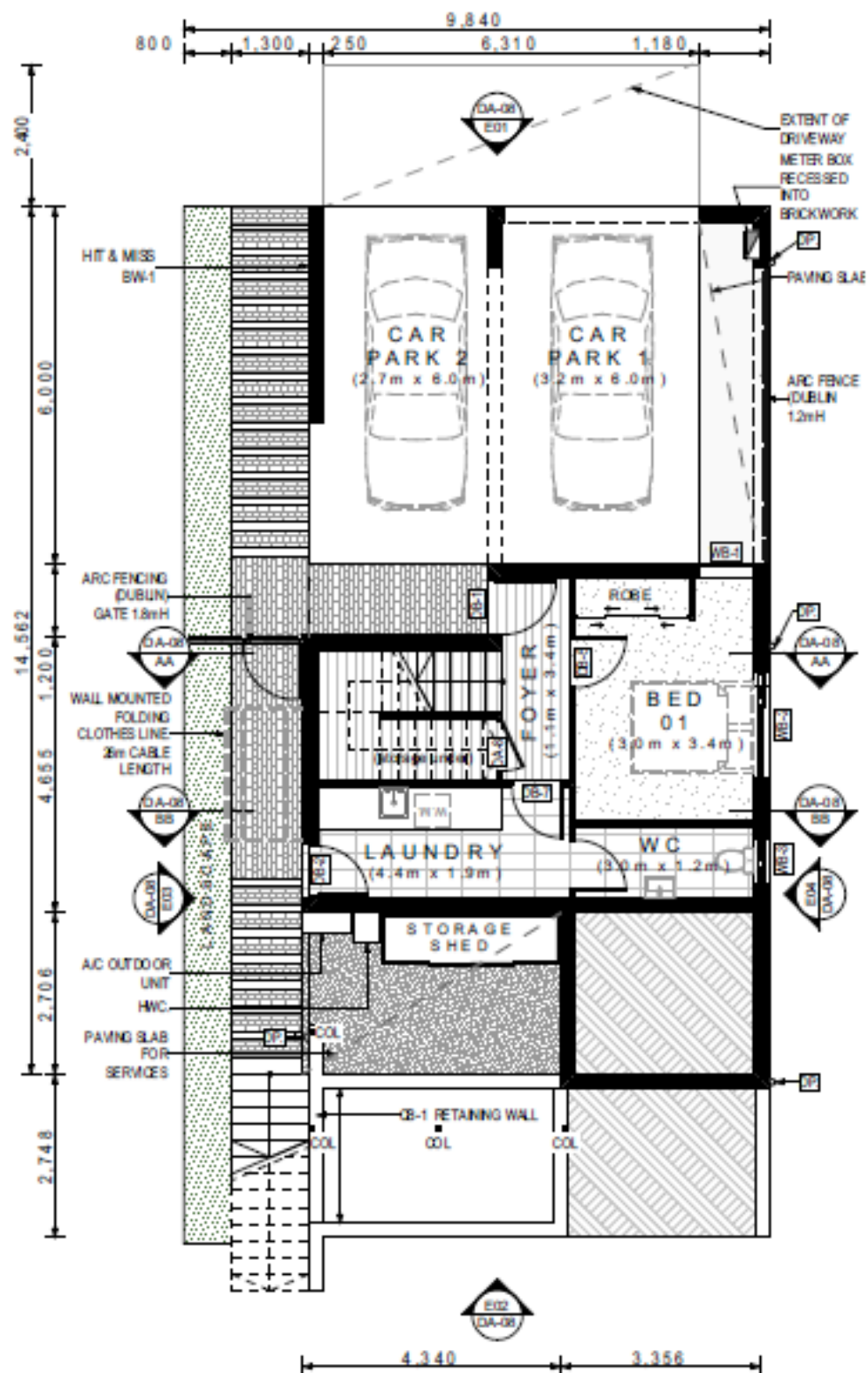
As 15 *2 or more bedroom dwellings are proposed 30 resident, and 5 visitor parking spaces are required i.e. 35 spaces.

Proposal is for 31 parking spaces as follows:

- 1 resident parking spaces for each of the 10*2 -bedroom Type A dwellings (Units 1 -10)
- 2 resident parking spaces for each of the 5*3 -bedroom Type B dwellings (Units 11 -15), see Figure 28.
- 11 visitor parking spaces.

A1 is not satisfied.

Figure 28 – Type B dwellings with double lock up garages.



UNIT TYPE B - GROUND FLOOR

Scale 1:100



Performance Criteria P1.1 *The number of on-site car parking spaces for uses excluding dwellings, must meet the reasonable needs of the use, having regard to:*

- (a) *The availability of off-street public car parking spaces within reasonable walking distance of the site.*
Off streetcar public car parking spaces are available at the Springfield Gardens Primary School within reasonable walking distance of the site, see Appendix I.
- (b) *The ability of multiple users to share spaces because of:*
 - (i) *variations in car parking demand over time; or*
 - (ii) *efficiencies gained by consolidation of car parking spaces*Shared car parking space use is possible but not expected to impact parking demand.
- (c) *The availability and frequency of public transport within reasonable walking distance of the site.*
Metro bus services operate in Stansbury Street some 350m West of the development.
- (d) *The availability and frequency of other transport alternatives.*
Walking and cycling to a from the adjacent Springfield Gardens Primary School.
Taxi services.
- (e) *Any site constraints such as existing buildings, slope, drainage, vegetation, and landscaping.*
The site is constrained by the land area available for parking.
- (f) *The availability, accessibility, and safety of on-street parking, having regard to the nature of the roads, traffic management and other uses in the vicinity.*
Parking demand is expected to be lower than the standard rate as the project provides social housing. Peak Parking demand with Social Housing developments is some 65% of Table C2.1 requirement. 65% of 35 spaces (Table C2.1 requirements) is 23 spaces and 31 spaces are proposed. Also see Advice from Homes Tasmania in Appendix G.
On street parking is available in Thornleigh St estimated at 4 spaces, see Appendix H.
- (g) *The effect on streetscape.*
Proposal has negligibly impact on streetscape.
- (h) *Any assessment by a suitably qualified person of the actual car parking demand determined having regard to the scale and nature of the use and development.*



This Traffic Impact Statement assesses the proposed parking is adequate as:

- the proposal is a Social Housing development, see Appendix G.
- There are some 4 on street car parking spaces available in Thornleigh Street within 80m of the proposal, see Appendix H.
- Public off-street car parking is available at the Springfield Gardens Primary School, see Appendix I.

P1.1 is satisfied.

C2.5.2 Bicycle parking numbers

No requirement.

C2.5.3 Motorcycle parking numbers

Acceptable Solution A1

The number of on-site motorcycle parking spaces for all uses must:

- (a) Be no less no less than the number specified in Table C2.4. and*
- (b) if an existing use or development is extended or intensified , the number of on-site motorcycle parking spaces must be based on the proposed extension or intensification, provided the existing number of motorcycle spaces is maintained.*

Table C2.5.3 has requirement for 1 motorcycle parking space where 21-40 spaces are proposed. As the proposal required 35 spaces, 1 motorcycle space is required and provided beside Visitor parking space #1 as shown on the plans. **A1 is satisfied,**

C2.5.4 Loading Bays

Acceptable Solution A1

A loading bay must be provided for uses with a floor area of more than 1000m² in a single occupancy.

Dwelling floor areas are less than 1000m². **A1 is not applicable.**



C2.6.1 Construction of parking areas

Acceptable Solution A1

All parking, access ways, manoeuvring and circulation spaces must:

- (a) be constructed with a durable all-weather pavement,*
- (b) be drained to the public stormwater system, or contain stormwater on the site; and*
- (c) excluding all uses in the Rural Zone, Agricultural Zone, Landscape Conservation Zone, Environmental Management Zone, Recreation Zone and Public Open Space Zone, be surfaced by a spray seal, asphalt, concrete, pavers or equivalent material to restrict abrasion from traffic and minimise entry of water to the pavement.*

Sealed parking spaces and driveway are proposed, see Appendix A.

Drainage of the parking, access way and driveway is provided to the public stormwater system, see Appendix A. **A1 is satisfied.**

C2.6.2 Design and layout of parking areas

Acceptable Solution A1.1

Parking, accessways, manoeuvring and circulation spaces must All parking, access ways, manoeuvring and circulation spaces must either:

- (a) comply with the following:*
 - i. *have a gradient in accordance with Australian Standard AS 2890 Parking facilities, Parts 1-6. All car parking spaces between or adjacent to each unit will have a fall in both directions no steeper than 1:33. i.e 3 %. Satisfied.*
 - ii. *Provide for vehicles to enter and exit the site in a forward direction where providing for more than 4 parking spaces. Satisfied*
 - iii. *Have an access width not less than the requirements in Table C2.2.*
Proposal provides an access width of 6.2m, see Figure 27, which satisfies Table C2.2 minimum requirement of 5.5m.
 - iv. *Have car parking space dimensions which satisfy the requirements in Table C2.3.*
90-degree parking spaces are proposed which are all 2.6m or wider and 5.4m long satisfying Table C2.3.
 - v. *Have a combined access and manoeuvring width adjacent to parking spaces not less than the requirements in Table C2.3 where there are 3 or more car parking spaces.*
Manoeuvre space of 6.8m is available satisfying Table C2.3.



- vi. *Have a vertical clearance of not less than 2.1 metres above the parking surface level, Satisfied.*
- vii. *Excluding a single dwelling, be delineated by line marking or other clear physical means. Satisfied.*

A1.1 is satisfied.

Acceptable Solution A1.2

Parking spaces provided for use by persons with a disability must satisfy the following:

- (a) Be located as close as practical to the main entry point to the building. Satisfied.*
- (b) be incorporated into the overall car park design. Satisfied.*
- (c) be designed and constructed in accordance with Australian/ New Zealand Standard AS/NZS 2890.6-2009 Parking facilities - Off-street parking for people with disabilities.*

Not Applicable.

C2.6.3 Number of accesses for vehicles

Acceptable Solution A1

The number of accesses provided for each frontage must:

- (a) be no more than 1; or*
- (b) no more than the existing number of accesses whichever is greater.*

A two-way access is proposed. **A1 is satisfied.**

C2.6.5 Pedestrian access

Acceptable Solution A1.1

Applies to uses that require 10 or more car parking space must:

- (a) have a 1m wide footpath that is separated from the access ways or parking aisles, excluding where crossing access ways or parking aisles, by:*
 - i. a horizontal distance of 2.5m between the edge of the footpath and the access way or parking aisle; or*
 - ii. protective devices such as bollards, guard rails or planters between the footpath and the access way or parking aisle; and*
- (b) be signed and line marked at points where pedestrians cross access ways or parking aisles.*

A 1.5m wide footpath is provided along the edge of the 6.8m wide driveway, see Figure 29. 2.5m clearance between the footpath & driveway is not proposed due to site constraints.

A1.1 is not satisfied.



Performance Criteria P1

Safe and convenient pedestrian access must be provided within parking areas, regarding:

- (a) the characteristics of the site.*
- (b) the nature of the use*
- (c) the number of parking spaces*
- (d) the frequency of vehicle movements*
- (e) the needs of persons with a disability*
- (f) the location and number of footpath crossings*
- (g) vehicle and pedestrian traffic safety*
- (h) the location of any access ways or parking aisles*
- (i) any protective devices proposed for pedestrian safety.*

The site topography constrains how the site can be developed. It has been possible to provide footpath but without 2.5m separation to the driveway.

The use is residential in a low-speed environment < 30km/h and adequate off-street parking is proposed.

Vehicle activity is low with peak vehicle movements at some 8 vph at the entrance to the property.

Sealed surfaces are provided in all areas that are conducive for safe pedestrian use.

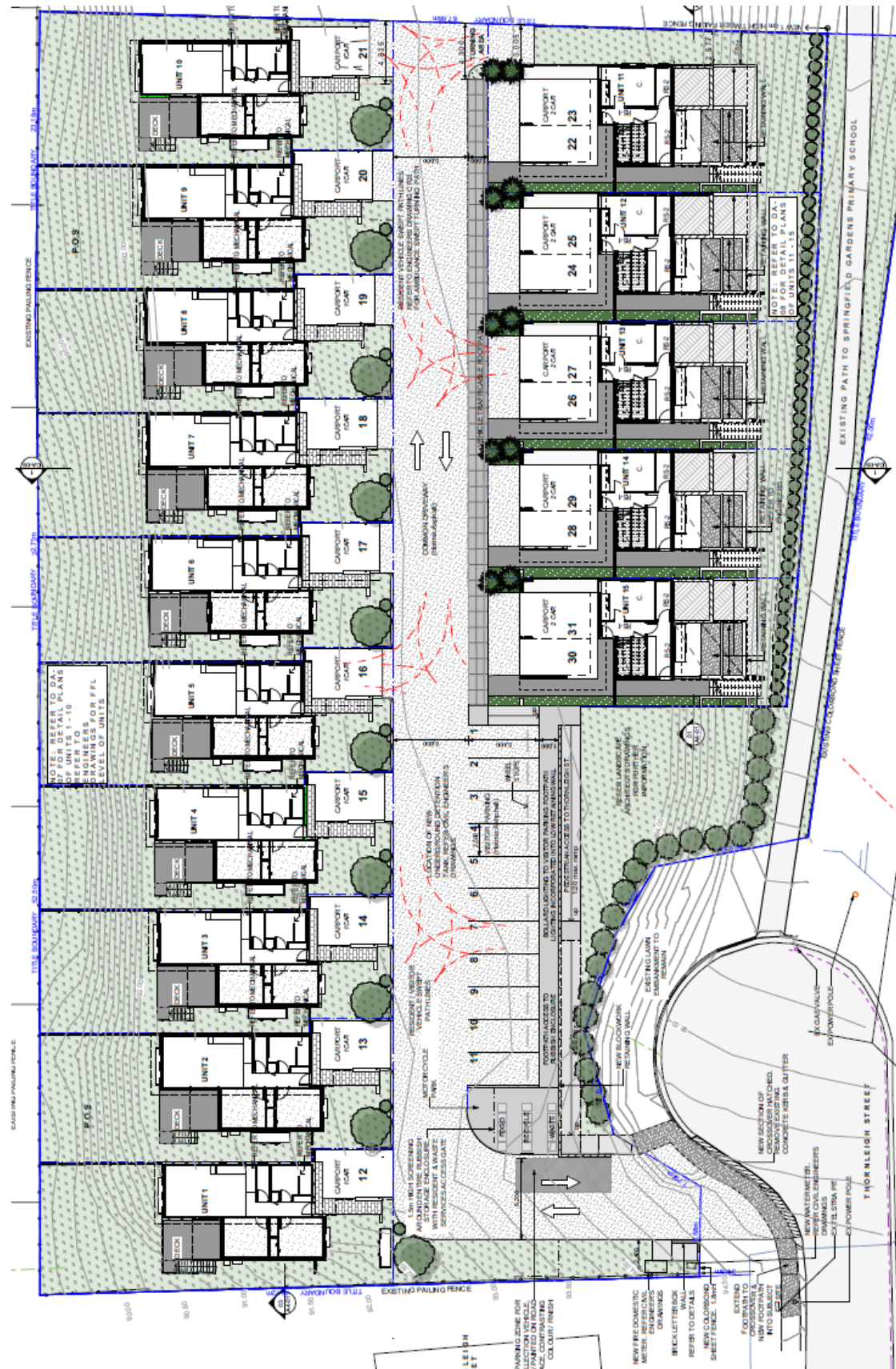
From Austroads Safe System Assessment pedestrian crash risk is considered very low:

- Crash exposure is very low as traffic activity levels are very low and pedestrian activity in the vicinity of vehicles is low i.e low crash exposure.
- Crash likelihood is low as Australian Standard off street parking is provided, sight lines are open and pedestrian activity and parking areas are reasonable separate with wide footpath (1.5m) and wide driveway (6.8m) and low activity levels.
- Crash severity is low as the vehicle speed environment is low < 30km/h.

Accordingly, given the site topography constraints, how the layout has been tailored to suit the site and the very low pedestrian crash risk, the proposed pedestrian facilities are considered safe and fit for purpose for the situation.

P1 is satisfied.

Figure 29 – Proposed footpath provision.





Acceptable Solution A1.2

In parking areas containing accessible car parking spaces for uses by persons with a disability, a footpath having a width not less than 1.5m and a gradient not steeper than 1 in 14 is required from those spaces to the main entry point to the building.

A1.2 is not applicable.

C2.6.6 Loading bays

Acceptable Solution A1

The area and dimensions of loading bays and access way areas must be designed in accordance with Australian Standard AS 2890.2-2002, Parking facilities, Part 2: Off-street commercial vehicle facilities, for the type of vehicles likely to use the site.

The proposed access caters for 8.8m MRV trucks to turn within the Thornleigh Street Cul-De-Sac, see Appendix J, compliant with AS 2890.2

The proposed access caters for 6.4m Ambulances to turn within the development, see Appendix J compliant with AS 2890.2

A1 is satisfied.



7.2 Road and Railway Assets Code C3

C3.5.1 Traffic generation at a vehicle crossing, level crossing or new junction

Acceptable Solution A1.1 – For a category 1 road or a limited access road, vehicular traffic to and from the site will not require:

- (a) *A new junction*
- (b) *A new vehicle crossing*
- (c) *A new level crossing*

Not applicable as the roads are not Category 1.

Acceptable Solution A1.2 – For a road, excluding a Category 1 road or a limited access road, written consent for a new junction, vehicle crossing, or level crossing to serve the use and development has been issued by the road authority.

A1.2 is likely to be satisfied. No written consent has been issued by the road authority, but this TIA has been prepared to assist Council and demonstrates no traffic safety or capacity issues with the proposal.

Acceptable Solution A1.3 – For the rail network, written consent for a new private level crossing to serve the use and development has been issued by the rail authority.

Not applicable as no rail network is involved.

Acceptable solution A1.4:

Vehicular traffic to and from the site, using and existing vehicle crossing or private level crossing will not increase by more than:

- (a) *The amounts in Table C3.1*
- (b) *Allowed by a licence issued under Part IVA of the Roads and Jetties Act 1935 in respect to a limited access road; and*

From Table C3.1 for vehicle crossings on “other roads”, the acceptable increase in AADT at the site is 20% or 40vpd whichever is greater. The proposal is estimated to generate peak arrival rate of 8vph and 74vpd at the 25 Thornleigh Street (within an urban Cul De Sac) access on an “other road.”

A1.4 is not satisfied.



Performance Criteria P1: *Vehicular traffic to and from the site must minimise any adverse effects on the safety of a junction, vehicle crossing or level crossing or safety or efficiency of the road or rail network, having regard to:*

(a) *any increase in traffic caused by the use.*

The increase in traffic due to the proposal is estimated at 74 vpd. Analysis shows that by 2034:

- the proposed access is estimated to operate at LOS A.
- the Thornleigh St. / Reiby St. intersection will operate at LOS A.

(b) *the nature of the traffic generated by the use.*

The traffic generated by the use will be light vehicles.

(c) *the nature of the road.*

Thornleigh St. is of suitable standard for the estimated increase in traffic and the Cul-De-Sac provides a calmed and appropriate access point to the development site.

(d) *the speed limit and traffic flow of the road.*

The General Urban Speed Limit of 50km/h applies however the speed environment at the site access is estimated at < 30km/h which suits the proposal.

(e) *any alternative access to a road.*

There is no alternative access available.

(f) *the need for the use.*

The proposed use is justified on demand for services determined by Homes Tasmania who are proposing the development.

(g) *any traffic impact assessment; and*

This TIA finds no reason to disallow the proposal due to traffic impacts.

(h) *any advice received from the rail or road authority.*

No specific advice has been received for GCC concerning the proposal.

In summary the proposal is considered suitable for safe and efficient traffic operation on Thornleigh Street and the nearby intersection with Reiby Street. **P1 is satisfied.**

A1.5: *Vehicular traffic must be able to enter and leave a major road in a forward direction.*

A1.5 is satisfied.



Additional GCC request in relation to C3.5.1 which is not within the TPS Code C3.5.1

A copy of the GCC request for information is attached in Appendix F, also see extract below.

C3.5.1 Traffic generation at vehicle crossing

In the TIA address the acceptable solution, otherwise the performance criteria.

Advice:

- *Outline if there is adequate parking within the site or if parking will occur on-street*
- *RTA guide has been superseded by the NSW Guide to Transport Impact Assessment*
- *Detail how the existing traffic volume on Thornleigh Street was estimated*
- *Explain how waste bins will be collected and from where*
- *Show where and how using swept paths, that the waste truck will be able turn*
- *Outline how the laneway between Thornleigh Street and the school will operate and be maintained*

Detail how pedestrians will safely access the laneway from the end of the existing footpath

Parking adequacy within the site

- See response under C2.5.1 showing Performance Criteria is satisfied. It is considered that adequate parking is provided within the site and there is some capacity for on street parking in Thornleigh Street if required.

RTA guide superseded by NSW Guide to Traffic Impact Assessment – noted.

Existing traffic on Thornleigh Street:

- was estimated from TCS traffic survey, see Appendix B.

Waste bin collection & location

- Refer to Section C2.6.6.

Thornleigh Street to Springfield Gardens Primary School Laneway maintenance

- Maintenance to continue under existing arrangement.
- Pedestrians will access the laneway from the end of the existing footpath in the same way as currently accessed i.e. by walking across the grassed area behind the kerb and channel as shown in Figure 30 and Figures 14 to 21.

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Not applicable as the proposal does not involve a road or railway attenuation area.

Not applicable as the proposal does not involve a road or railway attenuation area.



8. Recommendations and Conclusions

This traffic impact assessment has been prepared to consider the proposed 15 residential unit development at 25 Thornleigh Street, West Moonah.

2024 traffic flow on Thornleigh Street is estimated at 80 vpd without the proposal.

The proposal will result in an additional 74 vpd which can easily be absorbed.

The proposed access is estimated to operate at LOS A.

The Thornleigh Street / Reiby Street intersection is estimated to operate at LOS A for all traffic movements as traffic volumes are low. LOS A is the highest Level of Service.

The assessment has reviewed the existing road conditions, crash history and road safety including an Austroads Safe System assessment.

From site inspection of Thornleigh Street no road safety issues were identified. Safe System Assessment of Thornleigh Street indicates a very low overall crash risk.

Evidence is provided to demonstrate that the proposal satisfies Tasmanian Planning Scheme – Glenorchy – Road & Railway Assets Code C2 and Parking & Access Code C3 requirements.

Recommendations:

- *There are no recommendations.*

Overall, it has been concluded that the proposed development will not create any traffic issues and traffic will continue to operate safely and efficiently along Thornleigh Street.

Based on the findings of this report and subject to the recommendation above, the proposed development is supported on traffic grounds.



Appendices

25 Thornleigh St - HOMES TASMANIA
FULL DA LODGEMENT - 21/08/2025



1 LOCATION PLAN
Scale 1:1000

Scale 1:1000
NOTE: REFER CIVIL ENGINEER'S DRAWINGS
FOR FURTHER INFORMATION

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ARCHITECTURE		S&P	
PROJECT DATA		S&P DATA	
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CA-02	SITE PLAN - DOWNSIDE	DA-02	
CA-03	STREET PLAN - DOWNSIDE	DA-03	
CA-04	STREET PLAN - PLANNING ZONE AREA	DA-04	
CA-05	STREET PLAN - PLANNING ZONE AREA	DA-05	
CA-06	IMPROVED SITE PLAN - PROPOSED	DA-06	
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P24043_DA-01

DEVELOPMENT APPLICATION LOCATION PLAN + DRAWING SCHEDULE
DRAWING NAME

DRAWING
STATUS **FULL A LODGEMENT**

PROJECT
- HOMES TASMANIA**JAWS ARCHITECTS**

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 Full 100% recycled
 100% recycled materials
 100% recycled materials

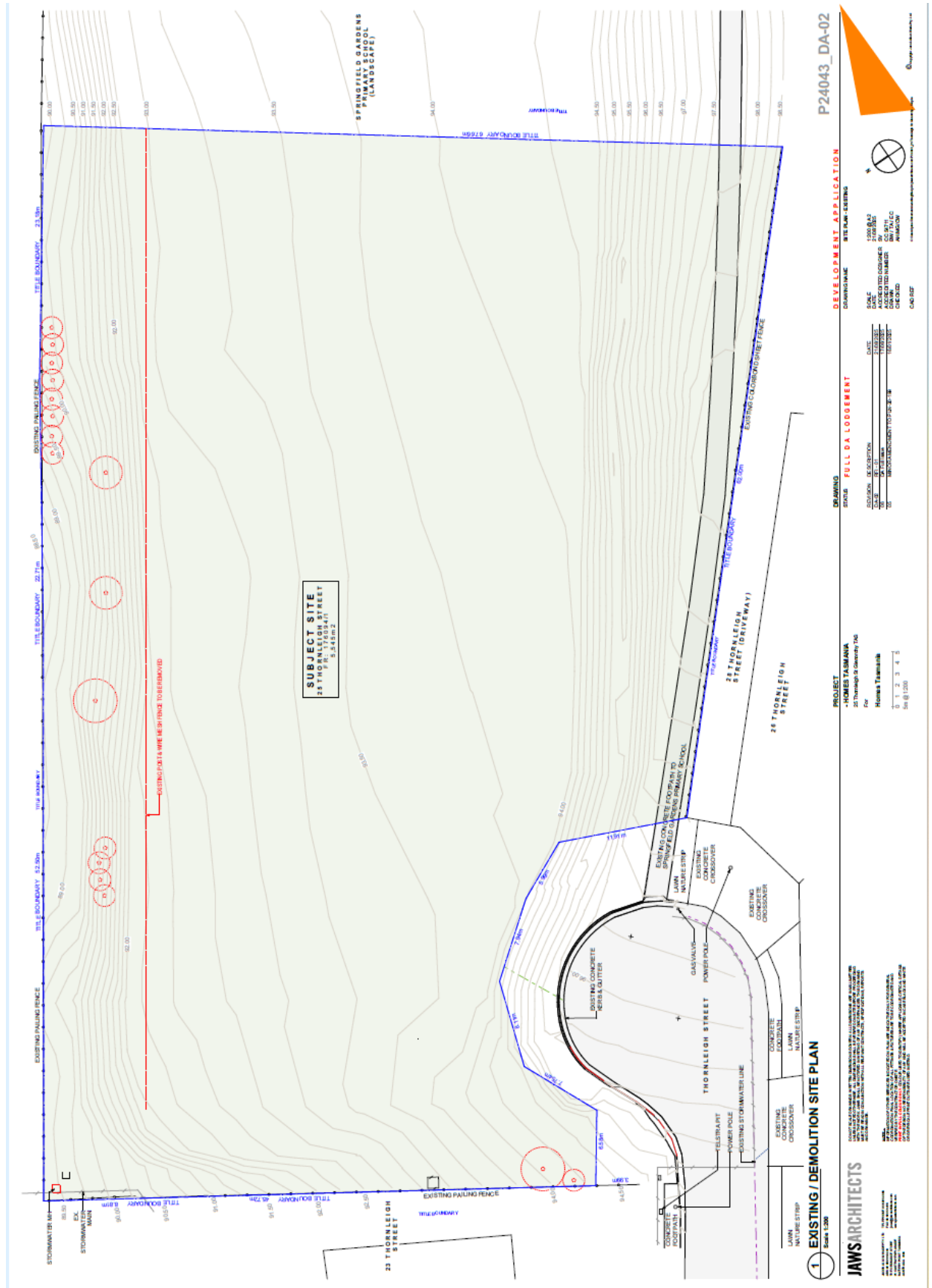
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10/15/2025	UTILITIES	75.00	1003	CHASE	10/15/2025
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10/25/2025	INVENTORY	30.00	1004	CHASE	10/25/2025
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DEVELOPMENT APPLICATION

DRAWING
STATUS **RFI-03**

PROJECT
Thornleigh Street Housing

NOTE: REFER CIVIL ENGINEER DRAWINGS
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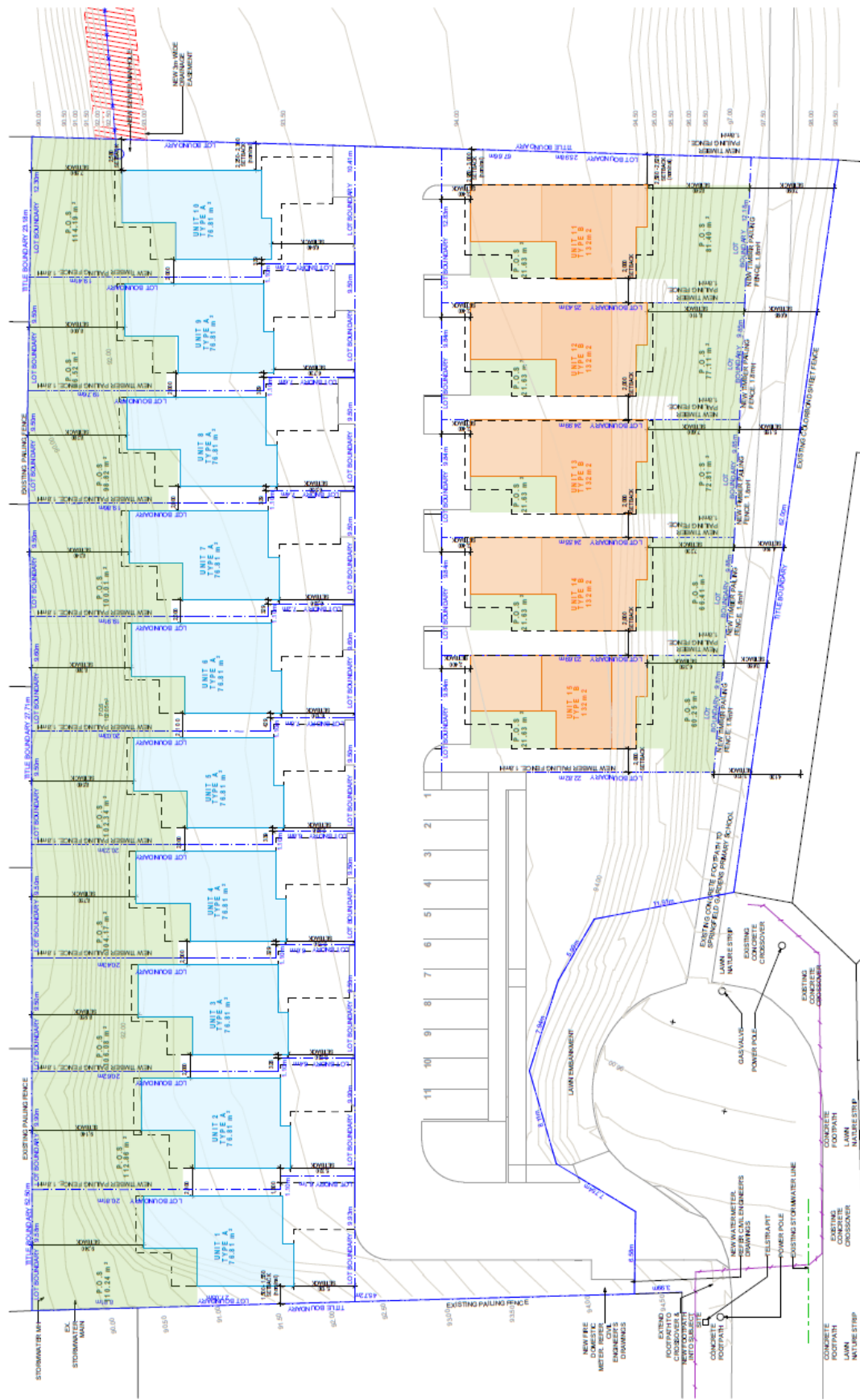
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Journal of Internal Medicine 255: 1-12



P24043_DA-04

DEVELOPMENT APPLICATION

STATUS: REF-1-03

PROJECT: Thompson & Greyhound

20 Thompson & Greyhound

For: Home & Translink

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1 SITE PLAN - PLANNING SETBACKS

NOTE: REFER TO CIVIL ENGINEER'S DRAWINGS FOR FURTHER INFORMATION

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JAWS ARCHITECTS
Jaws Architects Pty Ltd
10/100 The Esplanade
Sydney NSW 1502
Australia
Phone: 02 9550 1234
Email: info@jawsarchitects.com.au
Website: www.jawsarchitects.com.au

PROJECT
Thornleigh Street Housing
20 Thornleigh Street, Sydney 1502
For: Homes Tasmania

DATE
10/10/2023

SCALE
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PROJECT NUMBER
P24043_DA-06

DESIGNER
Jaws Architects

CHECKED BY
Jaws Architects

NOTE: REFER TO CIVIL ENGINEER'S DRAWINGS FOR FURTHER INFORMATION

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NOTE: REFER TO DA-95 FOR FURTHER INFORMATION

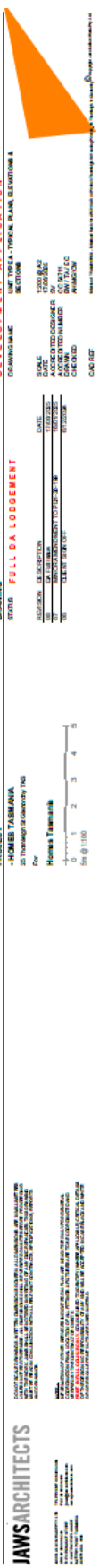
NOTE: REFER TO DA-96 FOR FURTHER INFORMATION

NOTE: REFER TO DA-97 FOR FURTHER INFORMATION

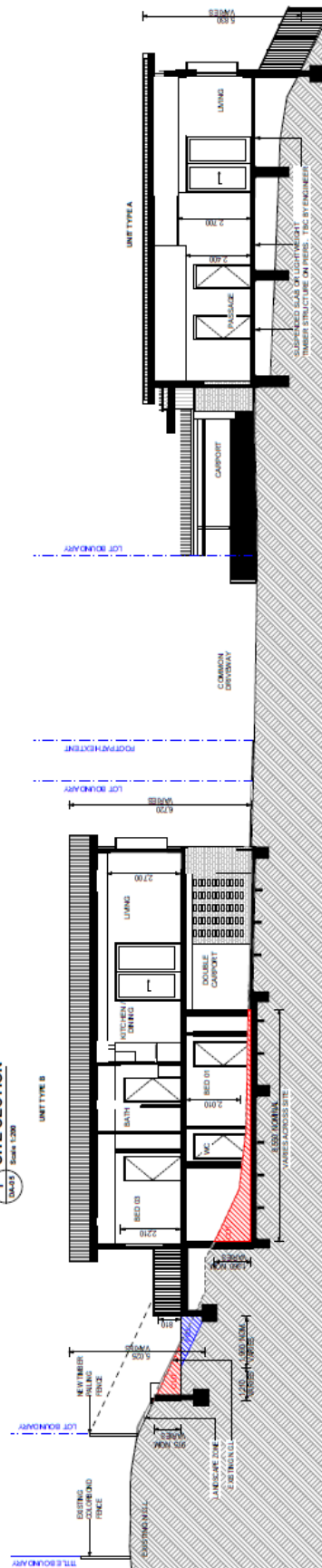
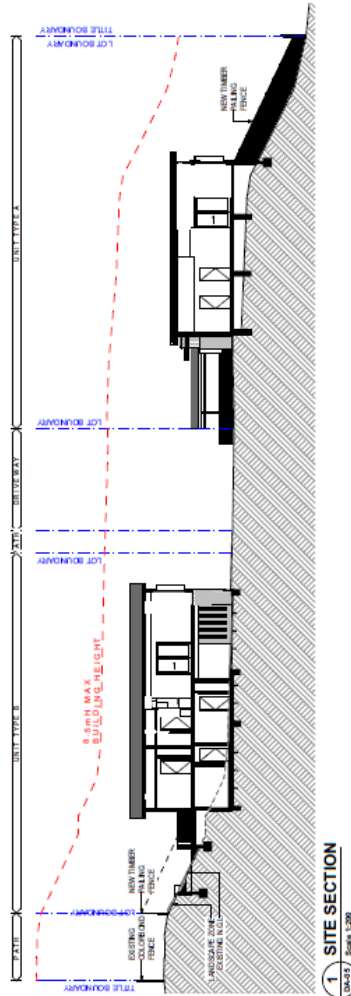
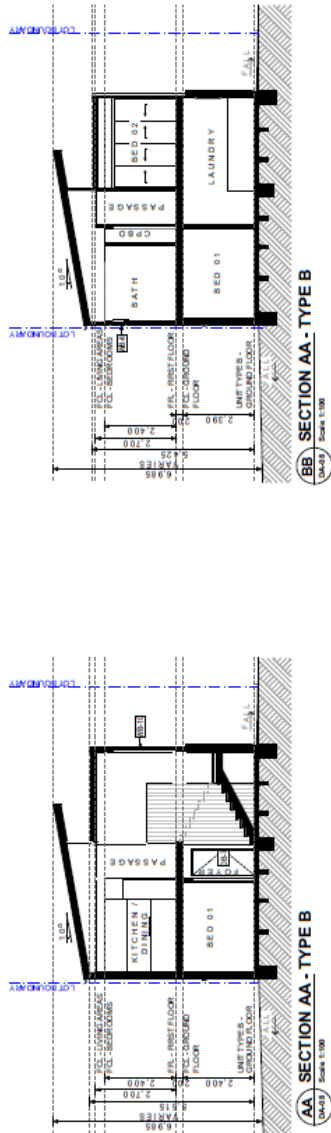
NOTE: REFER TO DA-98 FOR FURTHER INFORMATION

NOTE: REFER TO DA-99 FOR FURTHER INFORMATION

NOTE: REFER TO DA-100 FOR FURTHER INFORMATION







JAWS ARCHITECTS

PROJECT
HOMES TASMANIA
20 Thompsons Way
Hobart Tasmania

DRAWING
STAGE: FULL DA LODGEMENT
DRAWING NAME: SITE AND FLOOR DETAIL SECTION

DEVELOPMENT APPLICATION

SCALE
1:100 (PLAN)
1:50 (SECTION)

DATE
10/10/2025

DESIGNED BY
JAWS ARCHITECTS

CHECKED BY
JAWS ARCHITECTS

DATE
10/10/2025

PROJECT NO.
P24043

CLIENT
JAWS ARCHITECTS



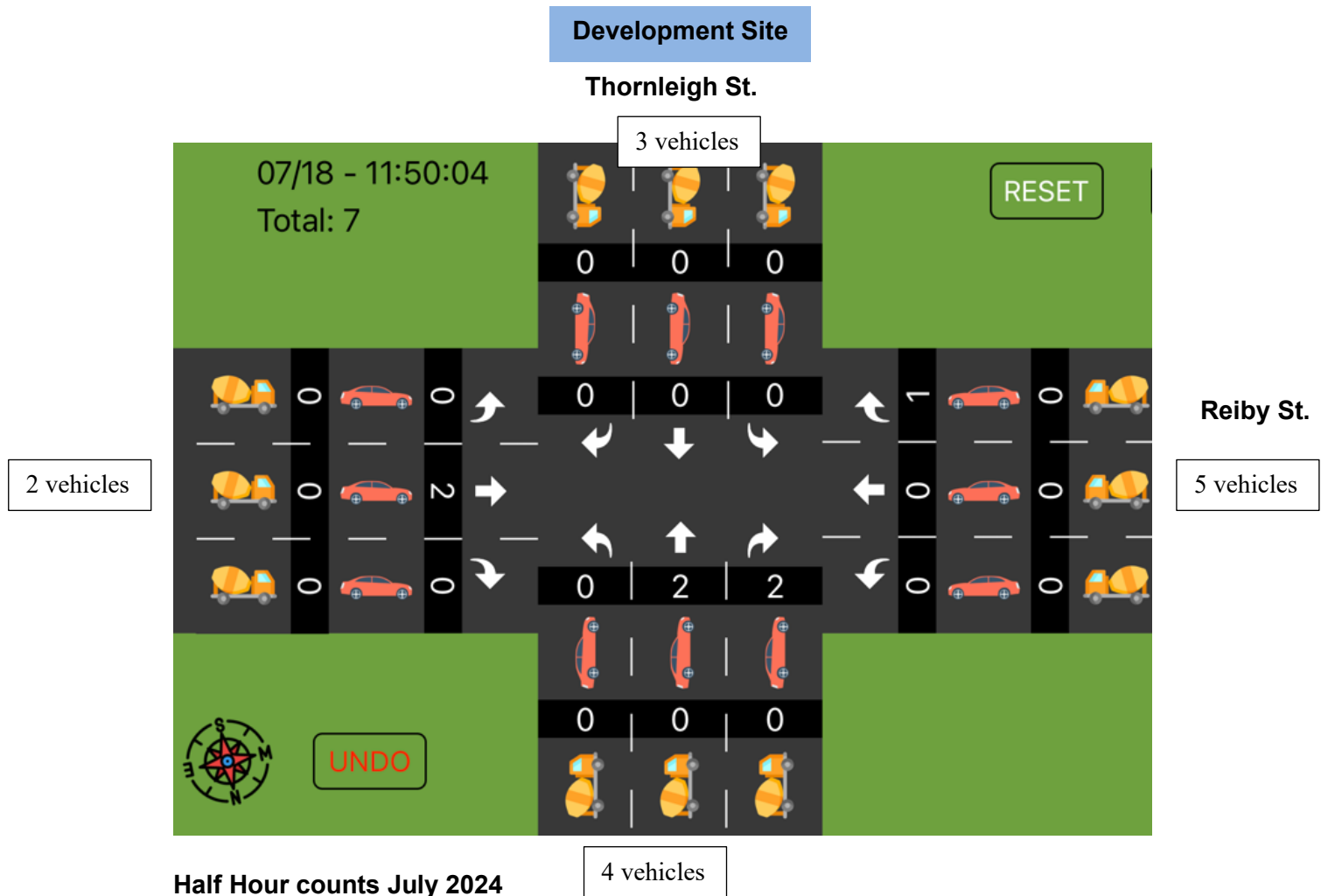




Appendix B – Thornleigh / Reibey St. Traffic

Intersection Turning Count Survey

18th July 2024 11:20 to 11:50 AM



Half Hour counts July 2024

- Thornleigh St – 3 vehicles i.e 6 vph at development site end of the street
- Reibey St – 7/2 vehicles i.e. 7 vph

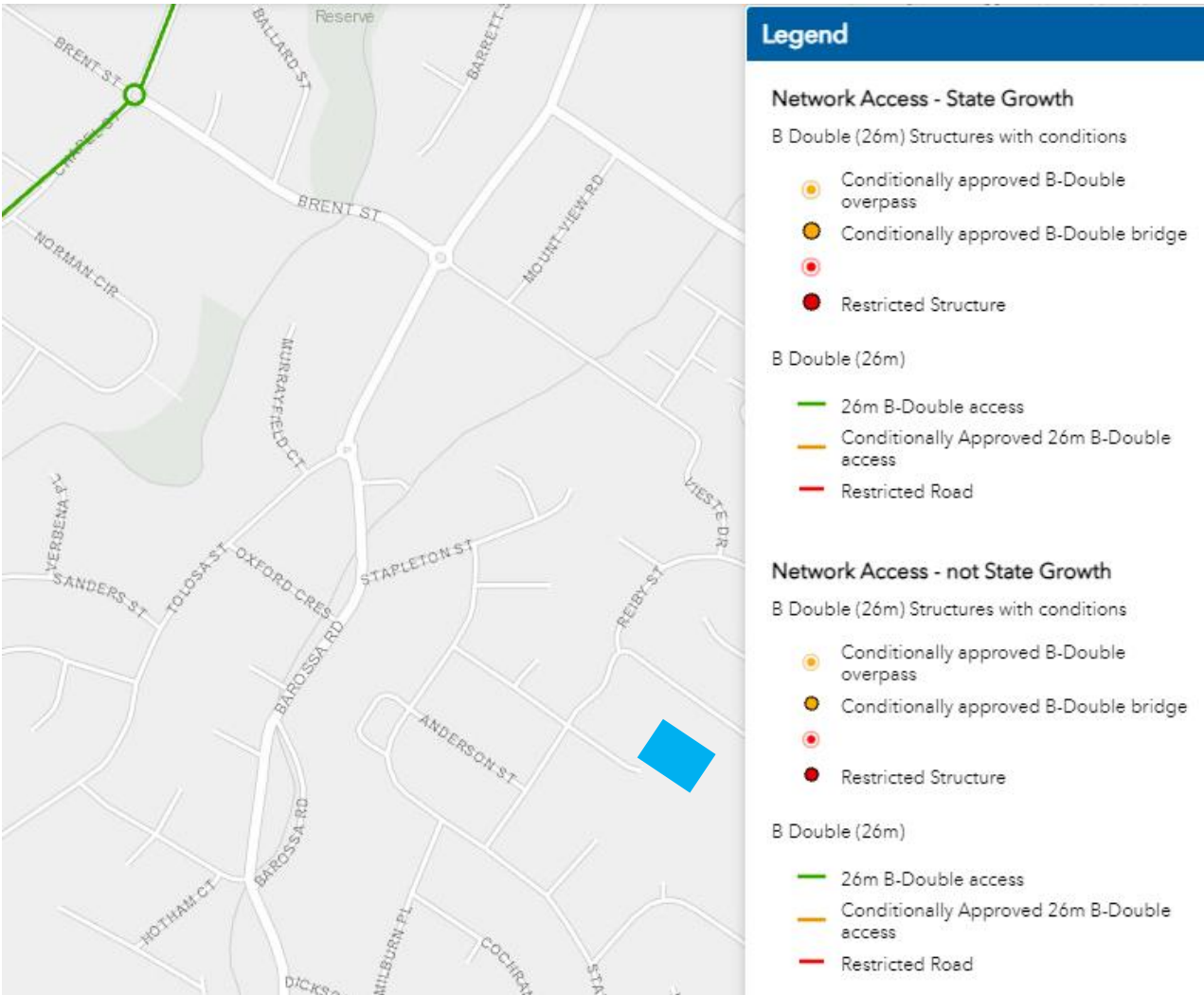
From traffic engineering practice daily traffic is some 10 times the off-peak hourly rate.

Estimated AADT 2024

- Thornleigh St (South of Reibey St) – 80 vpd
- Reibey St (East of Thornleigh St) – 100 vpd



Appendix C – Tas 26m B Double Network





Appendix D – Level of Service Descriptions

Level of service A	A condition of free-flow in which individual drivers are virtually unaffected by the presence of others in the traffic stream. Freedom to select desired speeds and to manoeuvre within the traffic stream is extremely high, and the general level of comfort and convenience provided is excellent.
Level of service B	In the zone of stable flow where drivers still have reasonable freedom to select their desired speed and to manoeuvre within the traffic stream. The general level of comfort and convenience is a little less than with level of service A.
Level of service C	Also in the zone of stable flow, but most drivers are restricted to some extent in their freedom to select their desired speed and to manoeuvre within the traffic stream. The general level of comfort and convenience declines noticeably at this level.
Level of service D	Close to the limit of stable flow and approaching unstable flow. All drivers are severely restricted in their freedom to select their desired speed and to manoeuvre within the traffic stream. The general level of comfort and convenience is poor, and small increases in traffic flow will generally cause operational problems.
Level of service E	Traffic volumes are at or close to capacity, and there is virtually no freedom to select desired speeds or to manoeuvre within the traffic stream. Flow is unstable and minor disturbances within the traffic stream will cause breakdown.
Level of service F	In the zone of forced flow, where the amount of traffic approaching the point under consideration exceeds that which can pass it. Flow breakdown occurs, and queuing and delays result.

Appendix E – Thornleigh St. Reported Crashes

One reported property damage only crash at Thornleigh / Reiby Street intersection.

RE: 5 Year reported crash histories



Buddle, Simon <Simon.Buddle@stategrowth.tas.gov.au>
To Richard Burk



Traffic Crash Reporting Number: 22000900

Tasmania Police

Report Created: 20/02/2022 18:24
District: Southern District
Division: South Support Division
Station: Southern RPOS
Officer: u2722

Crash Details

Time Of Crash: Sun., 20/02/2022 16:00
Scene Visited: yes
Action: Court Proceedings
PIN:
Crash Location: Reiby Street, Glenorchy 7010 Tasmania
Speed Limit(kph): 050
Surface Type: Sealed
Contributing Factors: Fail to give way
Contributing Factors - Other:
Surface Conditions: Dry
Road Edge: Edgeline with sealed shoulder, No Edgeline
Light Condition: Daylight
Road Centre Line: None
Visibility: Clear

Description

Unit 1 was travelling south up Thornleigh Street, Unit 2 was travelling east on Reiby Street and was required to Give Way at the intersection.
Unit 2 failed to stop and hit Unit 1 in the driver's side door. The driver of Unit 2 was wearing slippers and stated her foot slipped off the brake pedal.
The drivers of both vehicles were checked over by Paramedics at the scene, but neither were transported to hospital.



Appendix F – Council Request for Information



File ref: 9554765
Enquiries: Sylvia Jeffreys
Direct phone: (03) 6216 6800
Email: gccmail@gcc.tas.gov.au

<<DATE>>

Thomas Chandler
Homes Tasmania (Hobart)
GPO Box 65
Hobart TAS 7001

Email: thomas.chandler@homes.tas.gov.au

Dear Sir/Madam

PROPOSED USE/DEVELOPMENT: MULTIPLE DWELLINGS (15 NEW)
ADDRESS: 25 THORNLEIGH STREET GLENORCHY
APPLICATION NUMBER: PLN-25-194

I refer to your planning permit application and advise that additional information is required to continue assessing the application.

The assessment of your application will not recommence until all the information requested in this notice has been received to a satisfactory standard. Providing only some of the information will delay the assessment of your application.

If your response to this request is complete and to the Planning Authority's satisfaction, the assessment of your application will proceed without further notice, it will be advertised (if required) and decided by the Planning Authority in accordance with statutory timeframes.

However, if the information provided is not complete and/or not to the Planning Authority's satisfaction, a further additional information request will be issued within eight business days of receiving your response.

You may appeal this request to the Tasmanian Civil and Administrative Tribunal within 14 days of this notice being served.

If you have any questions about this notice, please contact me using the details at the top of this letter.

Yours faithfully

Sylvia Jeffreys
Planning Officer

374 Main Road, Glenorchy
PO Box 103, Glenorchy TAS 7010
(03) 6216 6800 | gccmail@gcc.tas.gov.au
www.gcc.tas.gov.au
ABN 19 753 252 483



REQUEST FOR ADDITIONAL INFORMATION

Section 54(1) of the Land Use Planning and Approvals Act 1993

This request includes references to sections of the Tasmanian Planning Scheme - Glenorchy. To help you provide a response to this request, you can view this planning scheme online at <https://www.planning.tas.gov.au/other-resources/Tasmanian-planning-scheme>.

The following additional information is required:

General Residential Zone

- Please provide a north point on the site plan.
- In order to satisfy the application requirements provided at clause 6.1.3(c), please provide a whole of site section taken from each property boundary. The sections should show the relationship of the elevations of the proposed dwellings to existing ground level and any proposed cut or fill.
- In order to demonstrate whether the proposal complies with the acceptable solution for clause 8.4.4, please provide more accurate shadow diagrams drawn at an appropriate scale that demonstrate whether the proposed type B dwellings would cause 50% of the private open space (POS) of other dwellings to receive less than 3 hours of sunlight between 9am and 3pm on 21 June. The requested shadow diagrams should show areas of POS more accurately and differentiate between overshadowing caused by the dwelling associated with the POS and that caused by other dwellings.
- In order to demonstrate whether the proposal complies with the acceptable solutions A1 and A2 for clause 8.4.6, please provide an elevation plan for proposed unit 1 that shows its relationship to existing ground level. If it appears likely that unit 1 does not comply with these acceptable solutions, please show any screening or other measures intended to maintain the privacy of the adjoining property to the north-west of the site on this elevation plan.

Parking and Sustainable Transport Code and Road and Railway Assets Code

C2.5.1 Car parking numbers

In the TIA address the acceptable solution, otherwise the performance criteria.

Advice: The site plan shows 26 parking spaces, not 31 as per the TIA, please clarify

C2.5.3 Motorbike parking

In the TIA address the acceptable solution, otherwise the performance criteria.

C2.6.1 Construction of parking area

In the TIA address the acceptable solution, otherwise the performance criteria.



C2.6.2 Design and layout of parking areas

In the TIA address the acceptable solution, otherwise the performance criteria.

Advice:

- *Clearly show the location and dimensions of parking spaces and aisle widths*
- *Show the parking spaces dedicated to the units and to visitor parking*
- *Demonstrate that a MRV is able to enter the site, turn and exit forward facing using swept paths*

C2.6.5 Pedestrian access

In the TIA address the acceptable solution, otherwise the performance criteria.

C3.5.1 Traffic generation at vehicle crossing

In the TIA address the acceptable solution, otherwise the performance criteria.

Advice:

- *Outline if there is adequate parking within the site or if parking will occur on-street*
- *RTA guide has been superseded by the NSW Guide to Transport Impact Assessment*
- *Detail how the existing traffic volume on Thornleigh Street was estimated*
- *Explain how waste bins will be collected and from where*
- *Show where and how using swept paths, that the waste truck will be able turn*
- *Outline how the laneway between Thornleigh Street and the school will operate and be maintained*

Detail how pedestrians will safely access the laneway from the end of the existing footpath

General Manager's Consent for Interference with Public Stormwater Systems

In addition to the above, you are required to provide the following information to enable Council to assess stormwater management aspects of the proposal under Section 14(1) of the *Urban Drainage Act 2013*.

1. Please provide long sections of the proposed stormwater network including hydraulic grade line data, based on a 5% aep rain event.
2. Please provide a detail of the proposed on site detention (osd) tank including pipe invert levels, temporary storage, discharge control pit, the outlet/orifice and the overflow structure.
3. Provide a detail of the proposed spoon drain, including dimensions and finish treatment
4. Provide a maintenance schedule for the proposed osd elements.

Appendix G – Social Housing Parking Demand



Glenorchy City Council
Planning and Building
PO Box 103
GLENORCHY 7010

To whom it may concern,

Subject: Car parking demand – 25 Thornleigh Street, Glenorchy

To support City of Glenorchy's assessment of C2.0 Parking and Sustainable Transport Code for this development application, I provide the following evidence to reiterate the reduced demand for car parking in social housing developments.

The development at 25 Thornleigh Street, Glenorchy will provide a total of 31 car parking spaces for ten two and five three-bedroom houses. In the past five years, Homes Tasmania and Community Housing Providers have successfully completed or currently have underway a number of comparable social housing developments in the Glenorchy City Council municipality. This includes multi-unit complexes on Allunga Road, Coraki (Taree) Street and Teering Road. All developments have been approved with a reduction in the number of car parking spaces provided, which reflects the low car ownership rates among tenants of social housing.

The two project summaries below demonstrate the most recent examples of approved developments with reduced carparking provisions. We anticipate that usage of carparking once complete will follow the trend of our tenanted social housing properties with car ownership rates significantly below the carparking provisions full capacity.

15 - 17 Coraki Street, Chigwell (5A Taree Street): Approved and currently under development 2025, this development will provide 23 two-bedroom dwellings, and 32 carparking spaces for residents with eight visitor parks.

1 - 7 Teering Road, Berridale: Approved and currently under development 2025, this development will provide 15 two-bedroom dwellings, and 15 carparking spaces for residents with four visitor parks.

The project summaries below demonstrates the most recent examples of reduced carparking provision and corresponding demand of fully tenanted premises:

1 - 5 Allunga Road, Glenorchy: Completed in 2024, this development provides 20 dwellings, and 18 carparking spaces for residents and two visitor carparks. At present, around 50 per cent of residents own a car, with the carpark consistently occupied at half of its full capacity. It is noted that on-street parking is also available at this site.

GPO Box 65
Hobart, TAS, 7001
homestasmania.com.au
HousingProjects@homes.tas.gov.au

Contact Officer: Thomas Chandler
Phone: 0499 835 564
Email: thomas.chandler@homes.tas.gov.au



79 - 89 Allunga Road, Glenorchy: Completed in 2023, this development provides 22 dwellings as a mixture of one- and two-bedroom units, with 27 resident carparking space and an additional five visitor carparking spaces. Currently, around 60 per cent of long-term tenants own a car.

The project summaries below demonstrate recent examples of reduced carparking provision and corresponding demand of fully tenanted premises in other municipalities:

71A Letitia Street, North Hobart: Completed in 2024, this development provides 29 dwellings, and 22 carparking spaces. At present, around 65 per cent of residents own a car, with the carpark consistently occupied at around 85 per cent of its full capacity. It is noted that on-street parking is also available at this site.

Campbell Street Y2i, Hobart: Completed in 2023, this supported accommodation facility for young Tasmanians provides 26 dwellings, and 28 car parking spaces. At present, less than 25 per cent of residents own a car, with the carpark consistently occupied at around 20 per cent of its full capacity.

Campbell Street, Hobart: This existing supported accommodation, adjacent to the new youth facility, provides 50 dwellings, and 44 car parking spaces. At present, less than 25 per cent of residents own a car, with the carpark consistently occupied at around 25 per cent of its full capacity.

Trinity Hill, North Hobart: This existing supported accommodation facility for young Tasmanians provides 46 dwellings, and 28 parking spaces. At present, around 25 per cent of residents own a car, with the carpark consistently occupied at around 40 per cent of its full capacity.

Close proximity to the CBD of Glenorchy, accessible public transport and the expense of car ownership are all key factors contributing to low car ownership rates amongst residents of these developments. The Lot 1 Allunga Road development will be no exception to this.

Further evidence is documented in a formal car parking survey undertaken by a qualified traffic engineer for Homes Tasmania regarding the Walford Apartments (216 Harrington Street). This is a 53 unit complex comprising 40 two bedroom and 13 one bedroom units. The comprehensive survey found the parking demand was a maximum of 0.55 parked cars/unit and 0.31 parked cars/bedroom. The average number of parked vehicles on site over the period of the survey was 24 (around 53% of capacity) while the maximum number of parked vehicles at any point in time was 29 or 65% of the total car park capacity. The car park was never more than 2/3 occupied at any point in the survey period. The site is located where there are no passing bus services, but it is within one-kilometre walking distance of the Hobart CBD main city block.

Tenancy allocations to these unit developments are based on a suitability assessment to ensure that the location and type of housing suits the individual needs of the resident. Effective allocations and tenancy management is another mechanism used to manage car parking demand.

GPO Box 65
Hobart, TAS, 7001
hometasmania.com.au
HousingProjects@homes.tas.gov.au

Contact Officer: Thomas Chandler
Phone: 0499 835 564
Email: thomas.chandler@homes.tas.gov.au



I would strongly encourage Council to observe the existing social housing unit complexes within the Glenorchy municipality and evidence confirming low car ownership rates and parking demand at these sites.

If you have any further questions regarding this matter, please don't hesitate to contact Thomas Chandler, Capital Project Manager at thomas.chandler@homes.tas.gov.au

Yours sincerely

A handwritten signature in blue ink, appearing to read 'R. Gilmour'.

Richard Gilmour
Acting CEO
Homes Tasmania
/7 October 2025

GPO Box 65
Hobart, TAS, 7001
homestasmania.com.au
HousingProjects@homes.tas.gov.au

Contact Officer: Thomas Chandler
Phone: 0499 835 564
Email: thomas.chandler@homes.tas.gov.au

Appendix H – On Street Parking

Thornleigh St On Street Parking Supply & Demand

Within 80m (walking distance of the proposal)

- **Parking Supply** (assuming parking on one side leaving width for traffic flow) – 7 spaces.
- **Parking Demand** (site observations 18 July 2024) – 2 to 3 spaces



Conclusion

It is estimated that there are typically 4 on street parking spaces available on Thornleigh Street between Reibey Street and the proposed access for visitors.

Appendix I – Off Street Public Car Parking

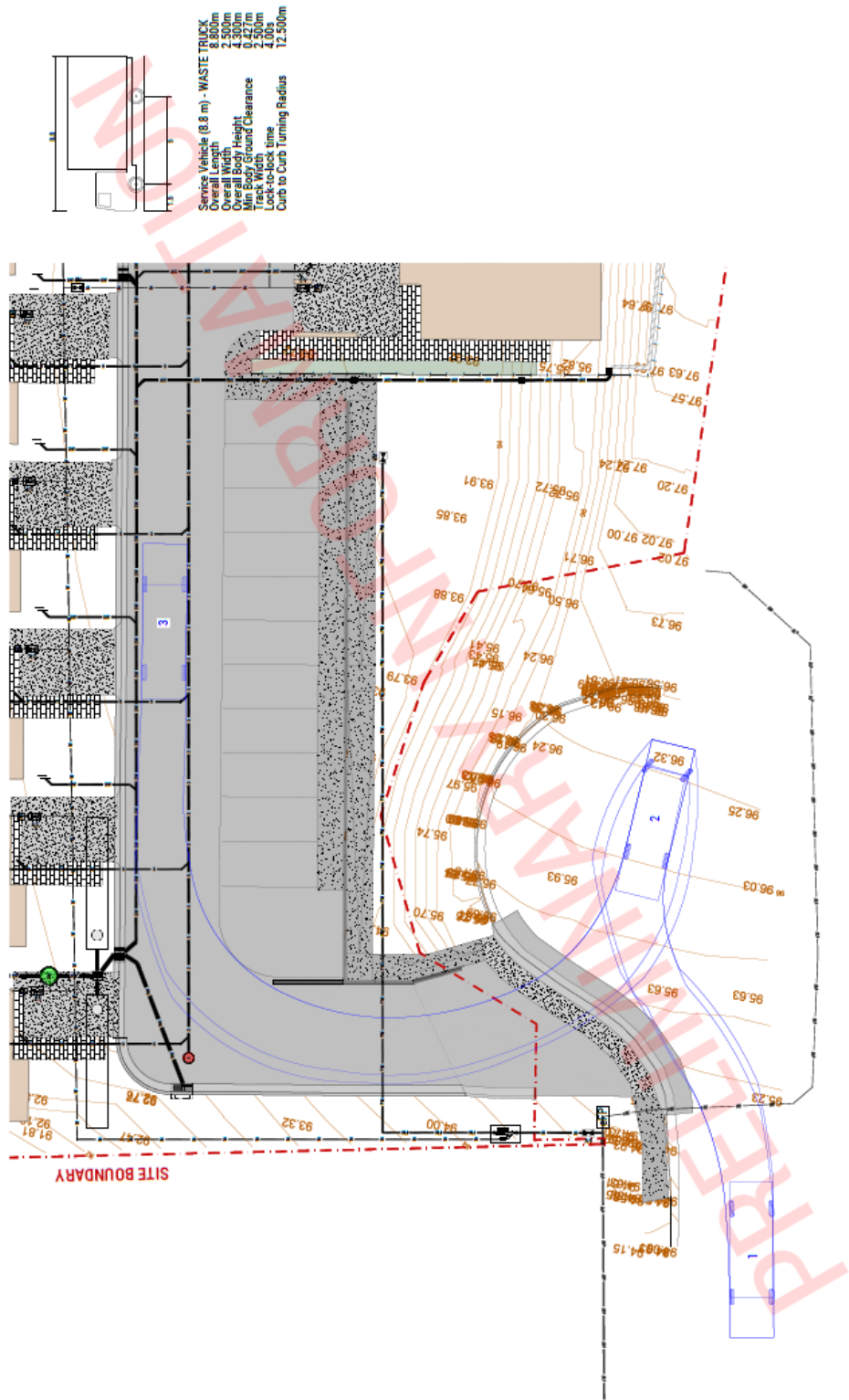
Car parking spaces are available at the Springfield Gardens Primary School within 100m of the proposal.





Appendix J – Turning Path Checks

Service Vehicle (8.8m MRV) e.g. Waste Truck



PROJECT TITLE		PROJECT NO.		CLIENT / ARCHITECT		COLLECTIVE CONSULTING ENGINEERS		DATE	
VEHICLE TURNING MOVEMENTS PLAN - SHEET 1		UNIT DEVELOPMENT		SHAMES TASHMAN / JAWA ARCHITECTS		COLLECTIVE CONSULTING ENGINEERS		2025-10-30	
VEHICLE #1		VEHICLE #2		VEHICLE #3		VEHICLE #4		VEHICLE #5	
WASTE TRUCK		WASTE TRUCK		WASTE TRUCK		WASTE TRUCK		WASTE TRUCK	
24000		24000		24000		24000		24000	
C200		C200		C200		C200		C200	

6,400m
2,330m
3,500m
9,386m
47,630m
7,100m

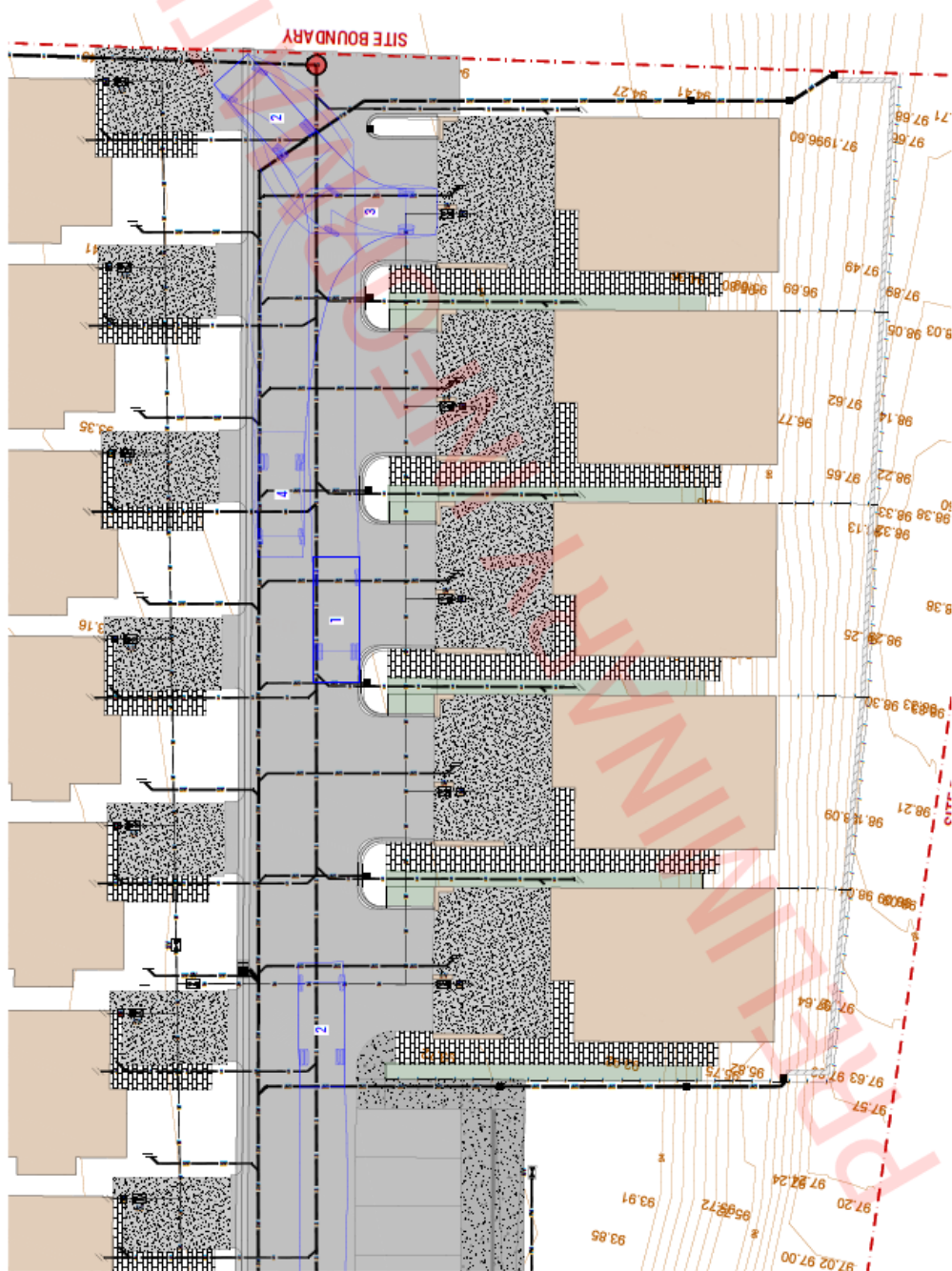
AMBULANCE
Overall Length
Overall Width
Overall Body Height
Min Body Ground Clearance
Track Width
Turning Radius
Curb to Curb Turning Radius

6,400m
2,330m
3,500m
9,386m
47,630m
7,100m

[illegible]

Technical drawing of an ambulance showing dimensions. The drawing includes a side profile of the vehicle with a red cross on the side. Dimensions are indicated with arrows and numbers: 4.4m for the overall length, 2.50m for the overall width, 2.50m for the overall height, 0.398m for the minimum ground clearance, 2.430m for the track width, 4.00m for the lock-to-lock time, and 7.100m for the curb to curb turning radius.

AMBULANCE	
Overall Length	6.400m
Overall Width	2.500m
Overall Height	2.500m
Min Ground Clearance	0.398m
Track Width	2.430m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	7.100m

[illegible]

Glenorchy City Council
Planning and Building
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GLENORCHY 7010

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I would strongly encourage Council to observe the existing social housing unit complexes within the Glenorchy municipality and evidence confirming low car ownership rates and parking demand at these sites.

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Yours sincerely



Richard Gilmour
Acting CEO

Homes Tasmania

17 October 2025



COLLECTIVE
CONSULTING



INFRASTRUCTURE SERVICES REPORT

AUGUST 2024

PREPARED FOR

JAWS ARCHITECTURE / HOMES TASMANIA
25 THORNLEIGH STREET, WEST MOONAH

242038 – IR01 ISSUE 04 VERSION 01

DOCUMENT TRANSMITTAL

RECORD OF ISSUE

Issue	Reason	Version	Date	Prepared By	Approved By
01	Client Review	01	30/10/2024	MRP	MRP
02	Development Application	01	14/11/2024	MRP	MRP
03	Response to TasWater RAI	01	24/09/2025	JTA	AJL
04	Response to TasWater & Council RAI	01	02/10/2025	JTA	AJL

RECORD OF ISSUE

Company	Name & Address	Contact	Copies
Jaws Architecture	Matthew Green Level 1, 3 Quadrant Mall Launceston TAS 7250	Ph. 02 6218 2117 E. matthew.green@jawsarchitects.com	1

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2. INTRODUCTION

2.1. Project Appreciation

Collective Consulting (Collective) have been engaged by Jaws Architects to carry out Structural, Civil and Hydraulic Engineering services for a proposed unit development for Homes Tasmania at 25 Thornleigh Street, West Moonah.

The site currently exists as a sports field that has been cut and filled to form a relatively level playing field. The site currently does not have a water, stormwater or sewer connection. Stormwater does drain to council assets via an overland flow path, however a piped connection to the council assets will be required.

The project Principal (Homes Tasmania) is seeking to develop the site to house 15 units as part of its commitment to develop 10,000 homes by 2030 as detailed in their Tasmanian Housing Strategy. This consists of ten 2-bedroom units and five 3-bedroom units.

Preliminary site layouts have been proposed by Jaws Architects for the purpose of preparing a development application for the site.

This document has been prepared as part of the Civil Engineering portion of the Development Application as a means of informing the relevant stakeholders, being the Authorities, Consultants and Principal, of the current site infrastructure situation and the required upgrades to develop the site.

2.2. Reference Documents and Data Sources

The following documents and data sources have been relied upon to develop this report:

2.2.1. Documents

- Glenorchy Interim Planning Scheme
- RFQ HT20240616 – 25 Thornleigh Street, including attachments 1, 2, and 3, prepared by Homes Tasmania
- Detailed Survey (49714CT-1A), prepared by PDA Surveyors, Engineers and Planners.
- Site Classification to AS2870-2011 (SR05034v2), prepared by Strata Geoscience and Environmental.
- State Stormwater Policy, prepared by the Department of Primary Industries, Water and Environmental, Tasmania
- Glenorchy City Council Stormwater Management Policy, prepared by the Glenorchy City Council.
- TasWater's Supplement to WSA03-2011-3.1 v2
- TasWater's Supplement to WSA02-2014-3.1 v2
- AS3500.1:2021 – Plumbing and Drainage Part 1: Water Services

2.2.2. Data Sources

- The Land Information System Tasmania (LIST) Map website, prepared by the Department of Natural Resources and Environment Tasmania, <https://maps.thelist.tas.gov.au/listmap/app/list/map>
- TasWater Asset Information Portal, Tasmanian Water and Sewerage Asset Infrastructure Data by TasWater, <https://taswater.maps.arcgis.com/apps/webappviewer>
- Glenorchy City Council Infrastructure Asset Map, prepared by the Glenorchy City Council, <https://maps.gcc.tas.gov.au/connect/analyst/mobile/#/main?mapcfg=%2FAnalyst%2FNamedProjects%2FInfrastructure>
- Solstice Energy Pipeline Locator, prepared by Solstice Energy, <https://www.solsticeenergy.com.au/pipeline-locator>
- Dial Before You Dig, <https://www.byda.com.au/>

3. EXISTING CONDITIONS

3.1. The Site

The site is an existing lot on following cadastre parcels:

- 25 Thornleigh Street, Glenorchy (Homes Tasmania, Title References 176094/1, Property ID 9554765)

The site is located on the boundary of the Glenorchy and West Moonah, with a cul-de-sac on Thornleigh Street located in the Western corner of the lot. The intended buildings sit on the existing levelled sports field building pad. Access will be via Thornleigh Street, with a ramp required to access the building pad.

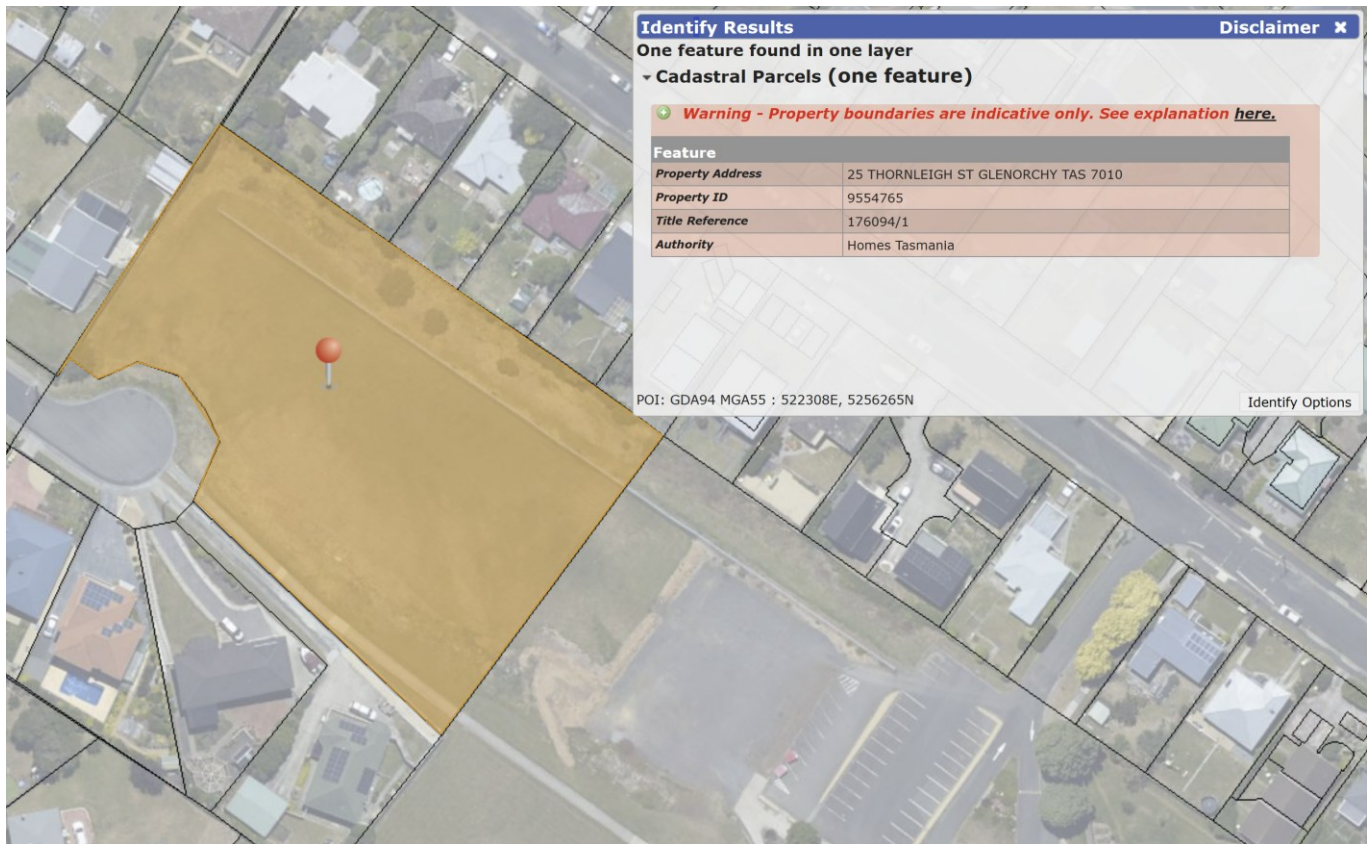


Figure 1 – The development site as detailed on the LISTMap.

3.2. Planning Codes

A desktop analysis confirms the following:

PROPERTY IDENTIFIER	9554765
CERTIFICATE OF TITLE REFERENCE (VOLUME/FOLIO)	176094/1
LOCALITY	Glenorchy
MUNICIPALITY	Glenorchy
PLANNING ZONES	General Residential, Community Purpose
PLANNING CODES OVERLAY	N/A
PLANNING SCHEME	Tasmanian Planning Scheme

- The site has the following services adjacent:
 - Water
 - Stormwater
 - Sewer
 - Gas
- The site is outside of the 10.0 Coastal Erosion Hazard Code overlay
- The site is outside of the 11.0 Coastal Inundation Hazard Code overlay
- The site is outside of the 12.0 Flood-prone Hazard Areas Code overlay
- The site is outside the 2016 flood inundation area (considered to be above the 1% flood level).

3.3. Existing Site Conditions

The site is located on the boundary of the Glenorchy and West Moonah, with a cul-de-sac on Thornleigh Street located in the Western corner of the lot. To the south is Springvale Primary School.



Figure 2 - Aerial photo of the site via Nearmaps

Existing infrastructure servicing the site include: -

- Stormwater (note stormwater is present on the site, however the site does not have a formal lot connection)

New infrastructure required to support the development include:

- Water (domestic supply), a lot water connection is required to service the site. TasWater infrastructure is available adjacent the site.
- Water (fire hydrant coverage), a lot fire connection is required to service the site. TasWater infrastructure is available adjacent the site.
- Sewer, a sewer lot connection is required to service the site. TasWater infrastructure is available to connect through Springvale Primary School. This will create an easement over the adjacent property. This asset will be handed over to TasWater at completion and will be required to go through TasWater's Engineering Design Approval Process

3.4. Site Grading

The site is located on the boundary of the Glenorchy and West Moonah, near the top of its local hill. It is not considered to be within a flood risk zone either now nor into the projected future.

The site has previously been graded relatively flat though cut and fill with the bulk pad at nominally 93.52. The building pad has a meter of fall across its nominal 40m width. The pad has a cut batter up hill and a fill batter downhill. The nominal ground relative level for proposed 15 units on the site will generally be tailored to suit the existing pad:

- Ground Floor Est RL + 250mm from adjacent stormwater pits

There are a number of competing demands with regard to establishing a floor level for new buildings for the site, which are:

- Building design intent.
- Impact on cost.
- Ground water level.
- Overland flow path.
- A higher floor level results in increase fill depths and cost.
- A higher floor level allows better site grades and creation of overland flow paths away from the building.
- Accessibility considerations.

3.5. Key Project Risks

Any construction project faces risks that can change the costs, timing, and achieved outcomes of the project. Typically, these are dominated by risks involved in 'getting out of the ground'. As the site has previously been cut and fill without geotechnical supervision the structural system will be supported on piles or piers through the fill to the underlying natural soils below.

Projects being undertaken currently face risks centred around supply constraints and rapidly changing material costs.

Finally, the nature of this specific project in terms of planning requirements, approvals and creation of TasWater assets across land owned by others presents its own risks related to the negotiations of the works with other stakeholders.

4. WATER INFRASTRUCTURE

4.1. Existing Water Infrastructure

A desktop analysis and land survey confirm the following.

A 150-cast iron water main on the northern side of Thornleigh Street adjacent the development site. The water main cease adjacent the property boundary on a fire hydrant. A new water connection will be required, a new meter will need to be located in the north-western corner of the development property.

4.2. Domestic Water Supply

The responsible authority for water reticulation is Taswater the development will be subject to their approval.

The Equivalent Tennants for this development based on the number of units detailed in section 2.1 are 10.

The sewer demand has been calculated and presented in Appendix C. The demand has been calculated in accordance with the Water Service Association of Australia Gravity Sewer Code along with TasWater's supplements and AS3500.2.

The development consists of ten, 2 bedroom units and five, 3 bedroom units. The equivalent tenements of this development have been calculated to be 10. The fixture loading units have been calculated to be 550. The water demand flow rate has been calculated via the Probable Simultaneous Flow Rate method of AS3500. of 2.12 L/s. Detailed calculations are available in Appendix C.

All water connections and lines are to be installed in accordance with local council, water authority and AS 3500 Plumbing Code requirements. Live connections will be completed by TasWater at the developers expense.

5. SEWER INFRASTRUCTURE

5.1. Existing Sewer Infrastructure

A desktop analysis and land survey confirm the following: -

- The address does not contain lot sewer connection.

5.2. Sewer Drainage

04 The responsible authority for sewer drainage is TasWater and the development will be subject to their approval. As the site does not have an existing sewer lot connection this development will be required to create the lot connection to TasWater's assets.

In Response to TasWater's Request for Additional Information item 3, the following options were considered for providing the development site with a lot sewer connection, they are listed in order of TasWater preference:

- Connection through 84 Ashbourne Grove.
- Connection through 78 or 80 Ashbourne Grove.
- Connection through 23 Thornleigh Street.
- Connection through Springvale Primary School.
- Connection through 26 Thornleigh Street.

5.2.1. New Connection Through 84 Ashbourne Grove

84 Ashbourne Grove is a privately owned residential property. There is an existing stormwater line servicing 25 Thornleigh Street that runs down the north-western boundary of the property. There is sufficient undeveloped area adjacent the existing stormwater line to accommodate a new sewer line. Constructing a new line alongside the stormwater main in a trench is problematic but may be achievable. A more preferable option would be to direct bore. The findings of the geotechnical report suggests that boring may be achievable. It is unclear if the stormwater line has a dedicated easement over the title and a drainage easement would need to be enacted on the title to accommodate the new line. It is recommended Homes Tasmania directly engage with the property owner to determine if an agreement could be expedited, noting that delays in approval could cause the project to fall through. Council have also indicated that they have concerns with offsets if the sewer is run down alongside their stormwater assets.

5.2.2. New Connection Through 78 or 80 Ashbourne Grove

78 and 80 Ashbourne Grove are residential properties owned by Homes Tasmania. Construction of a new sewer line through either of these properties is unachievable due to the minimal offset of the dwellings from the property boundaries. Demolition of one of the dwellings would be required to provide an easement for a new line which is extremely costly and not a preferred option of Homes Tasmania.

5.2.3. New Connection Through 23 Thornleigh Street

23 Thornleigh Street is a privately owned residential property. There is an existing sewer maintenance hole in the north-western section of the property. An existing residential shed in the north-eastern corner of 23 Thornleigh Street prevents a new line being constructed near the lowest point of the site. However, there is sufficient undeveloped area between the dwelling and shed at 23 Thornleigh Street to accommodate a new sewer line. A new line that would service the proposed development is achievable, however, due to the depth of the existing manhole, servicing the entire lot would not be achievable without the use of a private pump station. A private pump station is not desirable for Homes Tasmania nor TasWater. It is recommended Homes Tasmania directly engage with the property owner to determine if an agreement could be expedited, noting that delays in approval could cause the project to fall through.

5.2.4. New Connection Through Springvale Primary School

The TasWater sewer infrastructure on Ashbourne Grove can be accessed through Springvale Primary School. It is understood that Homes Tasmania have approval from the Department of Education, Children and Young People about servicing the development through this lot. The



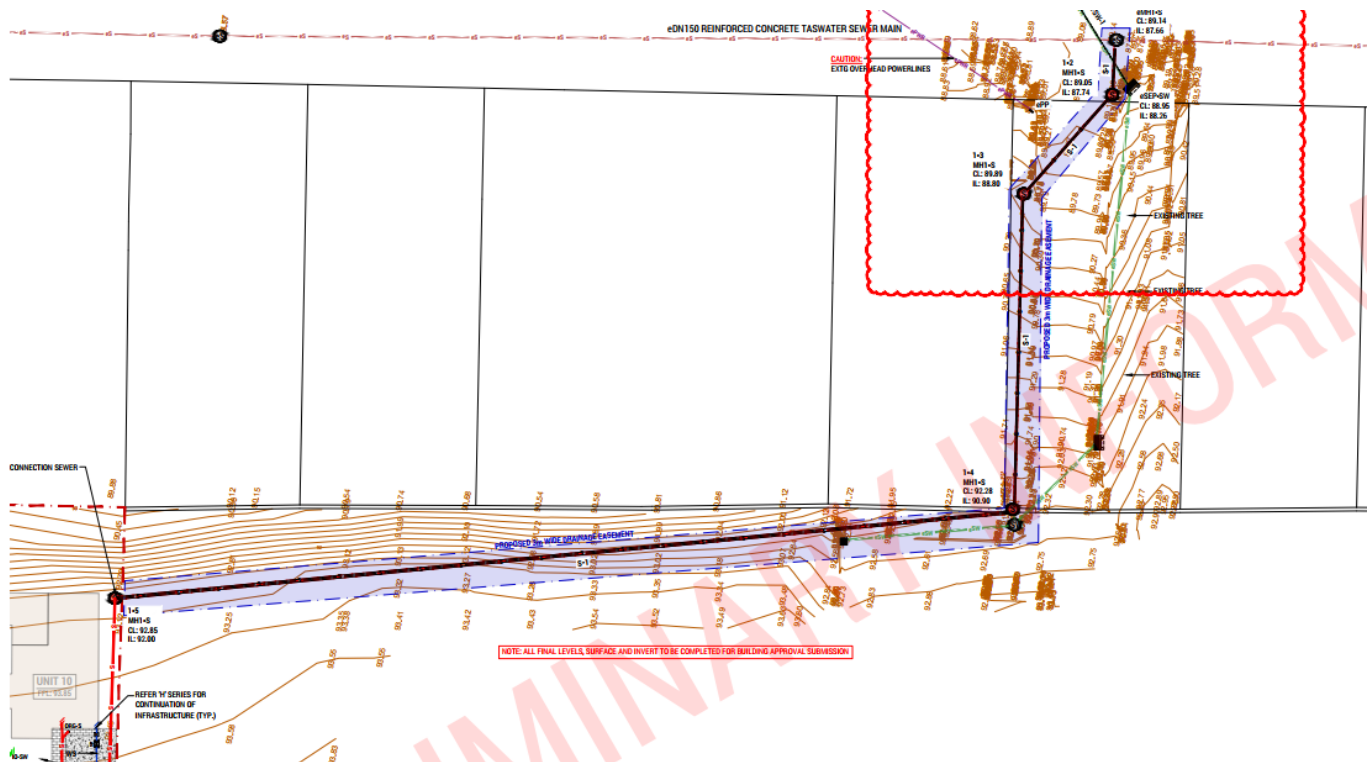
maintenance hole adjacent the access to the school is located within the road reserve. TasWater's GIS data indicates an invert of 1.5m. A survey prepared by PDA Surveyors measured that the invert depth is 1.46m. The required length of sewer main to reach this maintenance hole is 140m and will require 3 new maintenance holes. The cover level of a new maintenance hole on the development site will sit at approximately 92.8m with an invert of 92.1m. This main will fall via gravity.

This will require creating a 3m drainage easement near the northeastern boundary of the school and along the north-west boundary of the driveway.

The key risks associated with this option include:

- Additional up-front cost associated with construction of a significant sewer infrastructure.
- Creation of easements across a public school and the likely engagement this will require from school stakeholders.
- Potential cost of compensation to the landowner for loss of developable land.
- Works within the road easement.
- Existing stormwater, telecommunications and power infrastructure.

The proposed sewer main will generally be laid as per the below extract of the Development Application Civil Drawings. The alignment has been chosen for ease of construction, allowance of fall and protection of existing boundary fences etc. Construction of a sewer line along the back boundary of the properties fronting Ashbourne Grove is not achievable due to cover, fall, inability to fill over the existing embankment and existing boundary fences.





04

Previous consultant work has been based on Option 4. Homes Tasmania's direction was to continue with this option to avoid the construction of pump stations or delays with new development applications and negotiations with private property owners. It is our understanding that Homes Tasmania has also already engaged with the adjacent property owner over the creation of works within their land.

5.3. Demand

The sewer demand has been calculated and presented in Appendix D. The demand has been calculated in accordance with the Water Service Association of Australia Gravity Sewer Code along with TasWaters supplements and AS3500.2.

The development consists of ten, 2-bedroom units and five, 3-bedroom units. The equivalent tenements of this development has been calculated to be 12.5. The design flow for sewer has been calculated as 0.27L/s.

5.4. Authority Approval

All connections to existing town sewer are to be carried out in accordance with TasWater standards and AS3500 Plumbing Code. These assets will be handed over to TasWater at completion and as such will be required to be undertaken via TasWater's Engineering Design Approval (EDA) process. Preliminary advice from TasWater indicated that there would not likely be any time saving in an early works package for the EDA. As such the development will submit the EDA along with the Certificate of Certifiable Works application.



6. STORMWATER INFRASTRUCTURE

6.1. Existing Stormwater Services

A desktop analysis and land survey confirm the following:

- An existing stormwater network proceeds to the site. This asset continues through the property 84 Ashbourne Grove and connects to the street stormwater.
- It is expected Council will allow a new lot connection to the existing square stormwater pit located on site.
- The total site area is 5544 m².
- The existing impervious area – including hardstand and roofed areas – 0 m², which equates to 0% impervious.
- There is no formalised overland flow path along the downhill side of the property. The survey information indicates that this passed into the neighbouring properties.

6.2. Stormwater Policy

The Glenorchy City Council Stormwater Management Policy is the relevant policy for this development.

6.3. Stormwater Design Parameters

The stormwater drainage system designed by Collective Consulting has been prepared with reference to the Stormwater Policy listed in section 6.2, State Stormwater Strategy and the Tasmanian Stormwater Policy Guidance. This report is to supplement the aforementioned documents to ensure that the Council's downstream infrastructure will not be negatively affected by the development.

The following items have been determined based on the Stormwater Policy listed in section 6.2, State Stormwater Strategy and the Tasmanian Stormwater Policy Guidance:

6.3.1. Stormwater Quality Targets

This development does not meet any of the exemptions stated within the State Stormwater Strategy. 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.

6.3.2. Onsite Stormwater Detention Requirements

The stormwater detention system designed by Collective Consulting has been prepared with reference to the Stormwater Policy listed in section 6.2 Specifically: -

- Any OSD required by 6(e) must cater for the difference between the Permissible Site Discharge (PSD) and the peak discharge over the period of the design storm, and the OSD shall be designed to cater for 5% AEP storm events and ensure that the development does not detrimentally impact on downstream properties in event more severe than 5% AEP.
- The minor stormwater drainage system for the new development has been designed to accommodate a storm with a 5%.
- The major stormwater drainage system for the new development has been designed for the safe conveyance of the 1% AEP storm event with an allowance for climate change.

6.3.3. Design Storm Events and Climate Effects

- Major Design Storm Event: 1% AEP from 5min to 6hr ensembles.
- Minor Design Storm Event, 5% AEP from 5min to 6hr ensembles.
- Climate Change Allowance as per AR&R scenario RCP 8.5 for the year 2090 (see below Section 6.5).



6.3.4. Onsite Stormwater Disposal Design Requirements

- Detailed hydraulic designs must be submitted in accordance with the Australian Rainfall and Runoff (AR&R) to achieve a peak discharge rate for the site equivalent to or less than an assumed runoff coefficient for the entire site of 0.55.
- For the purposes of calculating the peak runoff, a runoff coefficient of 0.9 shall be used for impervious areas and a coefficient of 0.4 shall be used for pervious areas.
- The impervious rates for calculating runoff from various surfaces are specified below:
 - Roofs, driveways and carports, and other impervious hard standing areas will be 100% impervious for drainage calculation purposes.
 - Driveways constructed with gravel or "grass-crete" or pervious pavers will be 80 % impervious for drainage calculation purposes.
 - Courtyards and paths paved with pervious pavers and proper subsurface drainage system constructed underneath will be 25 % impervious for drainage calculation purposes; and
 - Unroofed decks constructed with open timber decking will also be 25% impervious for the overall runoff coefficient calculation purposes.
- The PSD shall be calculated based on the critical storm duration of the entire catchment calculated by a suitably qualified person, unless specified otherwise by the Council's Senior Civil Engineer.
- The Site Storage Requirement (SSR) shall be determined by calculating runoff volumes for the full range of site storm durations for the 5% AEP to determine the maximum SSR.
- The following three (3) main elements shall be included in the OSD system design:
 - Temporary storage: this may consist of an open surface pond/tank or underground tank. It is designed to contain the excess volume of stormwater resulting from limits on the peak discharge flow rate.
 - Discharge Control Pit: a flow control pit and litter and sediment removal component must be included in the OSD design. The outlet/orifice shall be a minimum internal diameter or width of at least 25 mm and protected by an approved mesh screen. An overflow structure must be designed to cater for flows exceeding the capacity of the OSD. The overflow structure must direct excess flows in a manner to minimise any detrimental effects on property downstream.
 - Maintenance Scheme: a maintenance schedule/plan for the OSD must be submitted to the Council with the OSD engineering design. The cleaning of below ground storage facilities should be conducted in accordance with the requirements and risk control measures specified in AS2865-2009 Confined Spaces

6.4. Hydrologic Analysis

ARR19 will be the current guide for hydrological design. For this development, all hydrological analysis has been undertaken using the rational method, utilising approaches as per the Australian Rainfall and Runoff (ARR) series. Intensity, frequency and duration (IDF) information was obtained from the Bureau of Meteorology using the 2016 IFD generator.

The rational method is a proven method and has provided an adequate level of safety for a long period of time. The rational method is considered standard practise for stormwater analysis for minor projects.

6.4.1. Average Recurrence Interval (ARI) and Annual Exceedance probability (AEP)

The Bureau of Meteorology defines the average recurrence interval (ARI) as the average value of the periods between exceedances of a given rainfall total accumulated over a given duration. The Bureau notes that the periods between exceedances are generally random.

The Bureau of Meteorology defines the annual exceedance probability (AEP) as the probability that a given rainfall total accumulated over a given duration will be exceeded in any one year.

The 1987 edition of Intensity Frequency Duration IFD uses ARI to calculate the rainfall intensity for given intervals. The new version of IFD uses (AEP) to calculate the rainfall intensities for given intervals. The current AEP IFD information has been adopted.

6.5. 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 per the Australian Rainfall and Runoff guidelines. This equates to a 16.3% increase in rainfall intensity for an RCP 8.5 year 2090.

6.6. Stormwater Concept Design

The site is to be re-developed from a playing field to a housing development. The site will contain 15 units, asphalt access road / circulation spaces and carparking.

The proposed impervious area of the site is approximately 2848m², which equates to 51% impervious. Noting some areas of hardstand are covered by the building and hence collect minimal stormwater. That is to say, stormwater is routed from the building roof and not hardstand.

Location	Area
Buildings	1540m ²
Hardstand	1308m ²
Landscaping	2692m ²
Total Area	5540m ²

The roofed, hardstand and landscaped areas will discharge to an underground gravity reticulated stormwater system to a lot connection point North-East of the site. Units 1 through 10 may require partial charged stormwater lines to ensure the roof drainage can be discharged through the detention basin and stormwater treatment

6.7. Site Grading & Floor Level

The site is located in West Moonha, on the side of a hill. It is not considered to be within a flood risk zone either now nor into the projected future as analysed in Section 2 above.

The site is generally leveled flat through cut and fill and grades to north. The nominal ground relative level for buildings on the site is approximately as follows:

- Bulk Pad RL 93.52 ±

There are a number of competing demands with regard to establishing a floor level for new buildings for the site, which are:

- Building design intent.
- Impact on cost.
- Ground water level.
- Access off Thornleigh Street
- Overland flow path.
- A higher floor level results in increase fill depths and cost.
- A higher floor level allows better site grades and creation of overland flow paths away from the building.

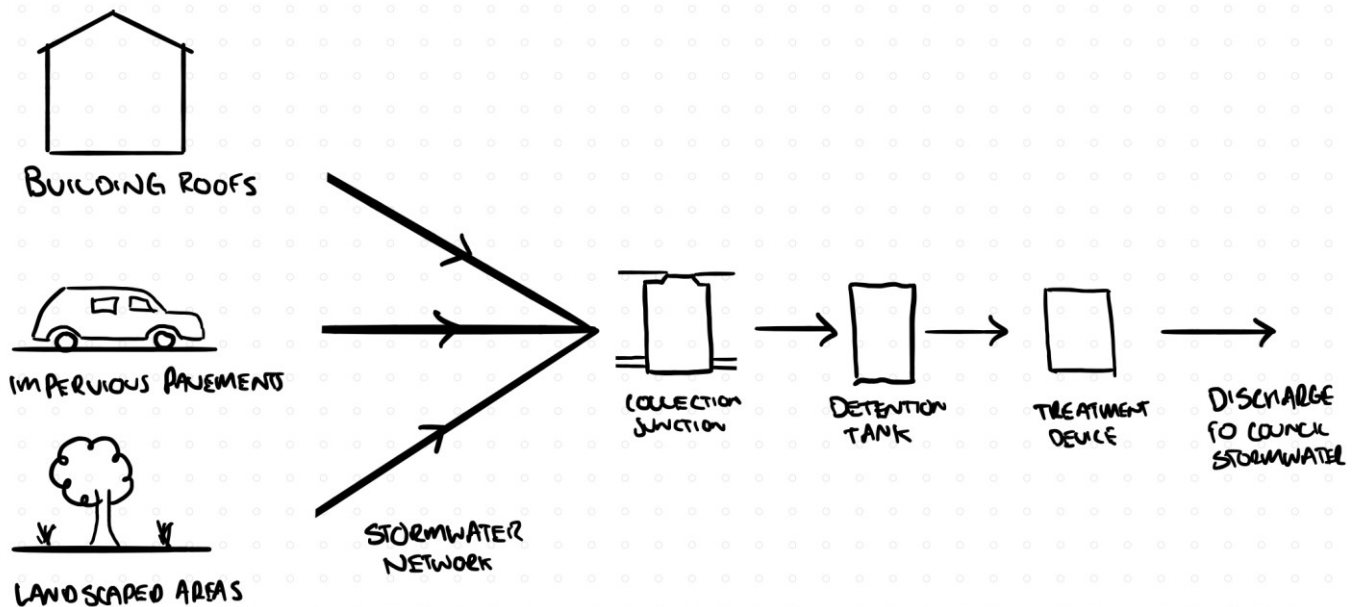
After considering above, the proposed floor level for each building is as follows:

- Unit 1 RL 93.20 ±
- Unit 2 RL 93.45 ±
- Unit 3 RL 93.50 ±
- Unit 4 RL 93.55 ±
- Unit 5 RL 93.60 ±
- Unit 6 RL 93.65 ±



• Unit 7	RL 93.70 ±
• Unit 8	RL 93.75 ±
• Unit 9	RL 93.80 ±
• Unit 10	RL 93.85 ±
• Unit 11	RL 93.97 ±
• Unit 12	RL 93.92 ±
• Unit 13	RL 93.87 ±
• Unit 14	RL 93.82 ±
• Unit 15	RL 93.77 ±

6.8. Visual Stormwater Concept



6.9. Onsite Stormwater Detention Design

The onsite stormwater design calculations are attached as Appendix C to this report.

The stormwater detention design calculations have been prepared based on the following information and modelling.

- Pre-development site area: 5540m²
- Post-development site area:
 - Impervious areas:
 - Buildings: 1540m²
 - Pavements: 1308m²
 - Pervious areas:
 - Landscaping: 2692m²
- Coefficients of run-off adopted for design:
 - Pre-development:
 - Entire site, C = 0.55
 - Time of concentration, T_c = 30 minutes
 - 30 minute 5% AEP rainfall event, I = 34.8mm/hr (BOM Intensity, Frequency, Duration data)
 - Post-development:



- Entire site, $C_{10} = 0.85$, $C_{20} = 0.89$, $C_{100} = 1.02$,
- Time of concentration, $T_c = 6$ minutes
- Storm Rainfall events including 5, 10, 20, 30 minute, 1, 2, 3, 6, 12, 24, 48, 72 hour storms
- Calculations are based on the Modified Rational Method
- Calculations include a Climate Change allowance loading of 16.3% (detailed below).

6.10. Stormwater Treatment Design

Stormwater quality management through treatment trains are an essential part of the stormwater design. Each development relies on the networks of stormwater infrastructure downstream to manage the runoff impacts. Effective water quality treatments as the source collection points are essential in improving water quality and minimising the potential harm caused to waterways, estuaries and the ocean environments.

Stormwater treatment is achieved through Water Sensitive Urban Design (WSUD). WSUD is as the integration of urban planning with the management, protection and conservation of the urban water cycle, that ensures urban water management is sensitive to natural hydrological and ecological processes. The Environmental Protection Authority Tasmania (EPATAS) has prepared the State Stormwater Strategy (2010) which states the minimum stormwater quality targets as listed above.

Generally, each pit will be protected by a filter system of minimum 200µm mesh bag and filtration cartridges will be located in maintenance holes at the end of the line prior to discharging from the site.

The design of the stormwater treatment has been designed by Oceanprotect and is included in Appendix F.

6.11. Flood Risk and Overland Flow

The site is outside noted flood overlays. The site is not identified as being at risk of flooding. No overland flow has been allow in the design of this site. The driveway forms a basin above and beyond the dedicated underground stormwater detention to prevent overland flow occurring. Cut off drains have been provided to landscaped areas to prevent local overland flow over the boundaries of the property.

6.12. Flood Management Plan

It is our understanding that an Flood Management Plan will not be required.

7. FIRE PROTECTION

7.1. Existing Fire Protection Infrastructure

A desktop analysis and land survey confirm the following.

- A fire hydrant plug is located in the cul-de-sac of Thornleigh Street.
- The location of this fire hydrant plug does not

7.2. Fire Protection Supply

The responsible authorities for fire coverage and water reticulation are TasWater and Tasmanian Fire Services.

TasWater GIS data indicate the main in the street is a DN150 Cast Iron. There is a fire plug on the Northern side of Thornleigh Street at the start of the cul-de-sac.

A pressure and flow test has not yet been completed. This will be completed prior to the detailed design.

Hydrant	Static Pressure	Flow @ 350kPa	Flow Fully Open
Street Hydrant	TBC kPa	TBC L/s	TBC L/s

7.3. Fire Coverage

Fire coverage for all 15 units is not achieved from the street hydrant. An internal hydrant will be required.

It is anticipated to supply the lot will be a DN100 water main of a combined fire and domestic supply arrangement. The valve and meter assemblies will be for a combined fire and domestic supply arrangement. All water connections and lines are to be installed in accordance with local council, water authority and AS 3500 Plumbing Code requirements.

8. GAS INFRASTRUCTURE

8.1. Disclaimer

The design and documentation of any gas network is to be completed by others, typically the building services engineer. It is anticipated that gas supply is not required for this site.

The information included below is to inform the stakeholders of the presence of gas infrastructure within the proximity of the development site.

8.2. Existing Gas Infrastructure

A desktop analysis and land survey confirm the following.

There is existing gas infrastructure in proximity to the development site.



Figure 1 - Existing Gas Infrastructure from Solstice Energy Pipeline Map

APPENDIX A – ARCHITECTURAL DEVELOPMENT APPLICATION SITE PLAN DRAWINGS

APPENDIX B – CIVIL DEVELOPMENT APPLICATION DRAWINGS

APPENDIX C – DEMAND CALCULATIONS - WATER

APPENDIX D – DEMAND CALCULATIONS - SEWER

APPENDIX E – ONSITE STORMWATER DETENTION CALCULATIONS

APPENDIX F – STORMWATER TREATMENT PLAN

Stormwater Treatment System Design for Jaws - Homes Tasmania 25 Thornleigh Street, West Moonah

Job ID: 23963

Date: 29 October 2024

Client: Collective Consulting



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Ocean Protect Maintenance Service

Approved By:	Lily Dorraj
Position:	Specification Engineer
Signed:	
Date:	29 October 2024
Revision:	A

Ocean Protect develops innovative, efficient stormwater solutions for governments, developers, engineers and builders across Australia.

With more than two decades of experience and industry renown, we are national leaders in the design, installation and maintenance of stormwater treatment assets and infrastructure.

Beyond its extensive impact on the built environment, we also know that contaminated stormwater is the single biggest cause of marine pollution. When we manage stormwater runoff in an ecologically sustainable way, we are protecting our planet's most precious resource.

What We Do

Ocean Protect engineers, installs and maintains custom stormwater quality product solutions that:

- achieve site-specific stormwater treatment objectives, in the most cost-effective and ecologically sustainable way
- align with industry best practice, meeting the most stringent regulatory requirements
- maximises whole-of-life efficiency, through responsible maintenance practices

We have the proven expertise and product range to deliver a truly end-to-end service that covers:

- Design & Specification
- Manufacture & Supply
- Installation
- Maintenance
- Procurement options including leasing (FMP)



As a proud profit-for-purpose enterprise, we deliver premium-quality products and services that promise long-term efficiency AND genuine environmental impact.

Who We Work With

Protecting the Ocean is a collaborative effort. We work with a range of stakeholders who play integral roles in managing stormwater and the protection of our oceans and waterways including:

- Local Councils
- Engineers
- Civil Contractors
- Regulators
- Developers
- Builders
- Plumbers

Some of Our Clients

Owner/Developers



coles

QIC



mirvac



BUNNINGS
warehouse



MERITON



Local Councils



PENRITH
CITY COUNCIL



Builders/Construction Companies



FDC

RICHARD CROOKES
CONSTRUCTIONS



PROBUILD

Plumbing Contractors



Civil Contractors



AWJ
CIVIL



TRN
GROUP



Projects

- Barangaroo, NSW
- Darling Harbour SCIEEP, NSW
- Taronga Zoo, NSW
- Northern Beaches Hospital, NSW
- Sydney University, NSW
- Macquarie University, NSW
- University of Wollongong, NSW
- Riverview Estate, Angle Vale, SA
- Cardinia Park, Geelong, VIC
- Waverley Private Hospital, VIC
- Suncorp Stadium, QLD
- Gold Coast Stadium, QLD
- Robina Town Centre, QLD
- RAAF Amberley, QLD
- Lavarack Barracks, QLD
- Bulimba Barracks, QLD
- The Star Gold Coast (Jupiters), QLD
- The University of Queensland, QLD
- Mater Hospital, Springfield, QLD
- St Ann's Living, Old Beach, TAS

Contact us



1300 354 722



enquiries@oceanprotect.com.au



www.oceanprotect.com.au



@ocean.protect



OceanProtectAu



/company/oceanprotect

Locations

NEW SOUTH WALES

Unit 1, 6-8 Huntley St,
Alexandria, NSW 2015

QUEENSLAND

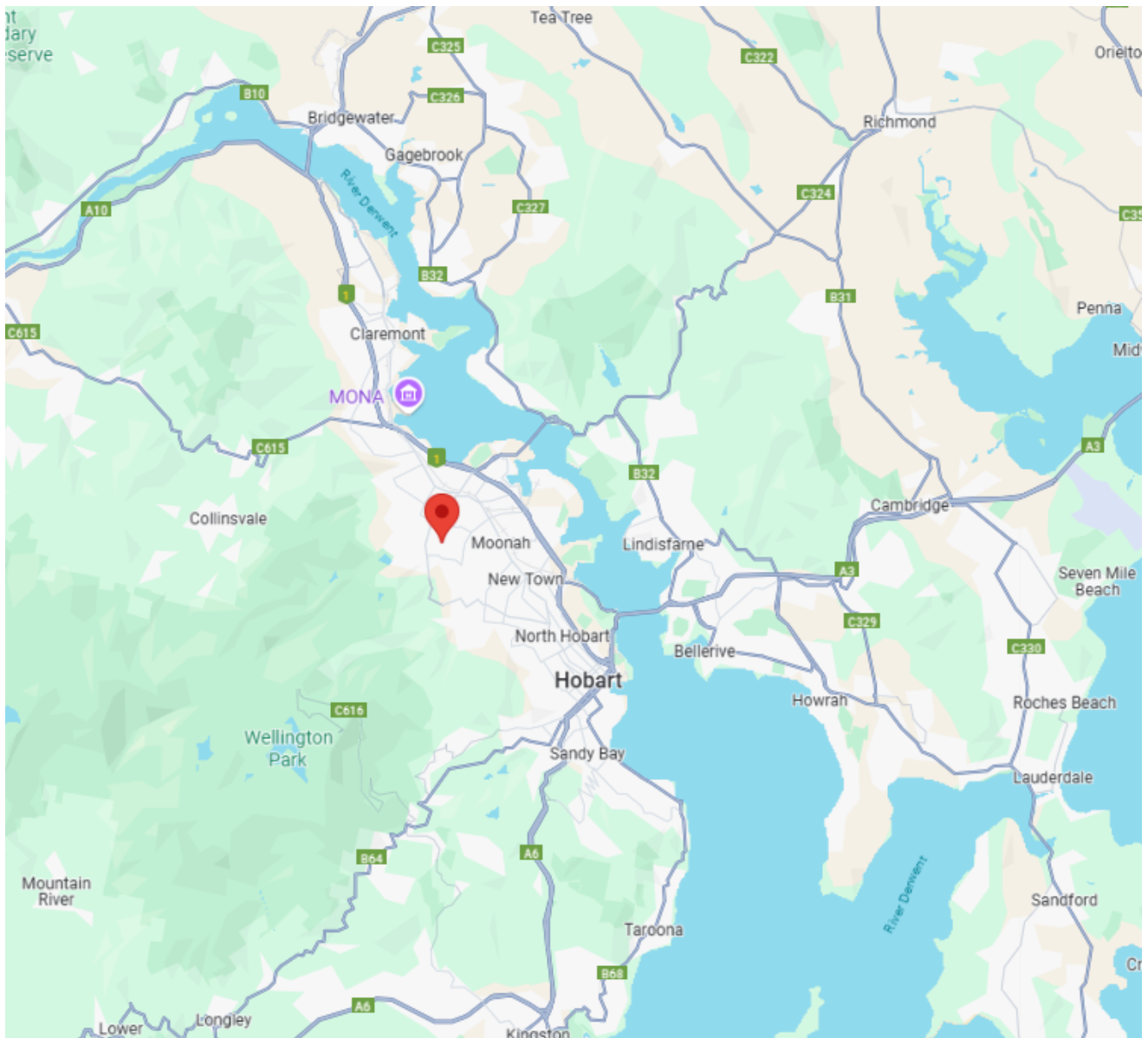
29 Chetwynd St,
Loganholme, QLD, 4129

VICTORIA

PO BOX 2633,
Cheltenham, VIC, 3192



SITE LOCATION



Executive Summary

We have modelled the systems to meet current Tasmania Guidelines These are;

- 80% Total Suspended Solids Reduction
- 45% Total Phosphorus Reduction
- 45% Total Nitrogen Reduction
- 90% Gross Pollutant Reduction

As per your request please see Ocean Protect's treatment design for the above-mentioned site. I have modelled the catchment in MUSIC in accordance with the following guidelines & parameters. These are;

- MUSIC Version 6.3.0
- Rainfall station Ellerslie Road Station 094029 Jan 1990 to 01 Jun 2010 6min
- Melbourne MUSIC Guidelines (Melbourne Water 2016) utilizing modified % impervious area, rainfall threshold, soil properties & pollutant concentration
- No drainage routing between nodes.

Site specific MUSIC modelling notes:

OceanGuards have been modelled as pre-treatment within the impervious areas. The number of OceanGuards are based on one OceanGuard for every 1000m². If for drainage purposes more pits are required for this catchment, additional OceanGuards may be required (one OceanGuard per pit). Please note that adding more OceanGuards will not change the MUSIC model results.

A JellyFish is used for tertiary treatment. The system can be online as long as the pipe size is less than 300mm. Please let me know if the pipe is larger and we can look at the offline arrangement.

Preliminary Design:

- 2 x OceanGuards with 200µm mesh bags (OG-200).
- 1 x JellyFish JF900-1-1(686) 460mm Head

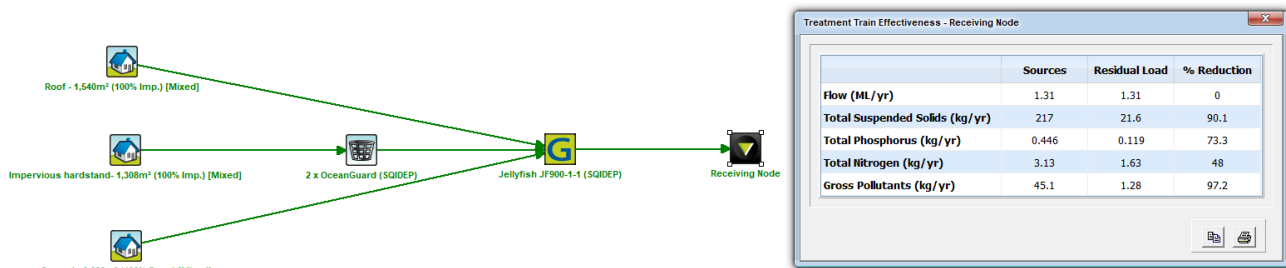
All treatment systems create a hydraulic loss for them to function as per design. These are:

- JellyFish (460): typical hydraulic loss of 460mm

Please note - Jellyfish units are not generally suitable for installation on sites that have tidal/backflow conditions on the outlet of the drainage network. Please contact Ocean Protect to discuss options if backwater may be present.

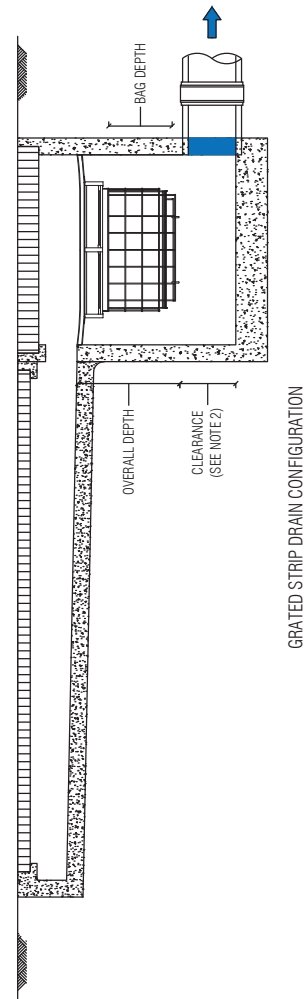
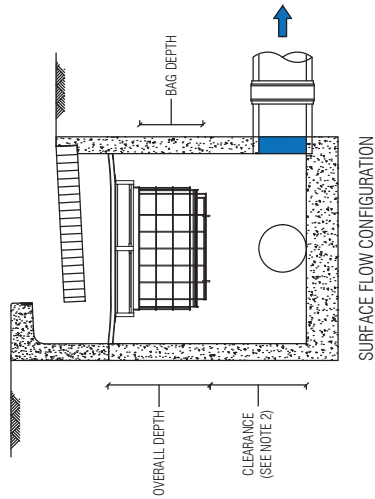
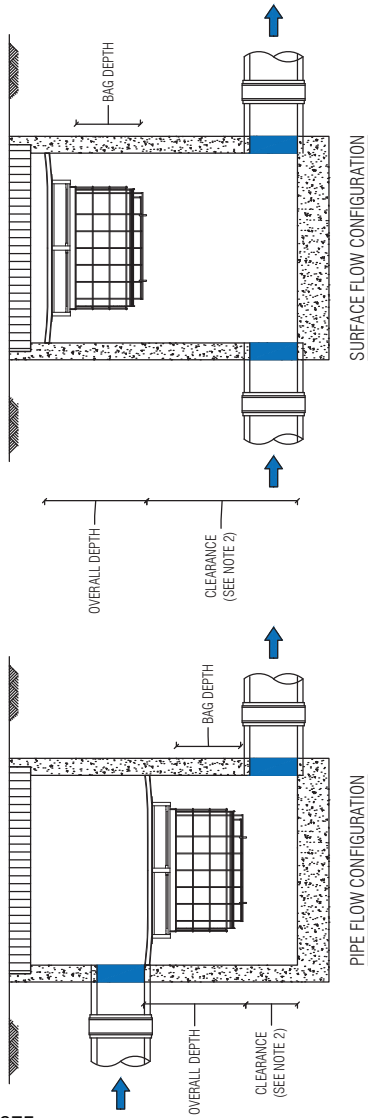
Treatment Train Effectiveness - Receiving Node MUSIC Model

Jellyfish and OceanGuard System



MUSIC FILE

- We have prepared and attach the MUSIC files (.sqz) to this proposal.
- Ocean Protect provides such information in an open and transparent manner and welcome any comments/clarifications that you may have and this open approach appropriately demonstrates that we do not overstate our performance claims.

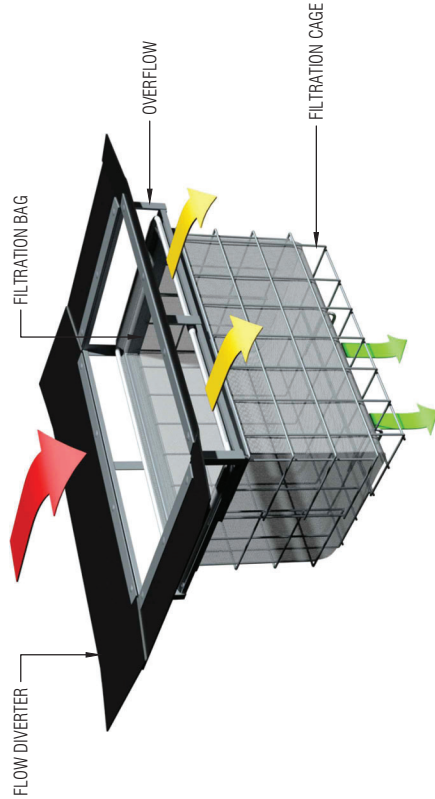


GRATED STRIP DRAIN CONFIGURATION

PLAN ID	MAXIMUM PIT PLAN DIMENSIONS
S	450mm x 450mm
M	600mm x 600mm
L	900mm x 900mm
XL	1200mm x 1200mm

DEPTH ID	BAG DEPTH	OVERALL DEPTH
1	170	270
2	300	450
3	600	700

PLAN ID	DEPTH ID		
	1	2	3
S	■	■	■
M	■	■	■
L	■	■	■
XL	■	■	■



GENERAL NOTES

1. THE MINIMUM CLEARANCE DEPENDS ON THE CONFIGURATION (SEE NOTE 2) AND THE LOCAL COUNCIL REQUIREMENTS.
2. CLEARANCE FOR ANY PIT WITHOUT AN INLET PIPE (ONLY USED FOR SURFACE FLOW) CAN BE AS LOW AS 50mm. FOR OTHER PITS, THE RECOMMENDED CLEARANCE SHOULD BE GREATER OR EQUAL TO THE PIPE OBVERT SO AS NOT TO INHIBIT HYDRAULIC CAPACITY.
3. OCEAN PROTECT PROVIDES TWO FILTRATION BAG TYPES:- 200 MICRON BAGS FOR HIGHER WATER QUALITY FILTERING AND A COARSE BAG FOR TARGETING GROSS POLLUTANTS.
4. DRAWINGS NOT TO SCALE.



OCEAN PROTECT
OCEANGUARD
TYPICAL ARRANGEMENTS
SPECIFICATION DRAWING

PHONE: 1 300 354 722
www.oceaproduct.com.au

JELLYFISH DESIGN TABLE

JELLYFISH TREATMENT FLOW IS A FUNCTION OF THE NUMBER OF CARTRIDGES AND THE DEVICE TOTAL HEAD DIFFERENTIAL. IF THE PIPE FLOW EXCEEDS THE TREATMENT FLOW THEN AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.

REQUIRED DEVICE TOTAL HEAD DIFFERENTIAL [mm]	460	230
CARTRIDGE FLOW RATE FOR HIGH-FLOW / DRAINDOWN [L/s]	2.5 / 1.3	1.27 / 0.79
CARTRIDGE LENGTH [mm]	690	690
OUTLET INVERT TO STRUCTURE INVERT (mm)	1985	1985

SITE SPECIFIC
DATA REQUIREMENTS

STRUCTURE ID	JF900-1-1
WATER QUALITY FLOW RATE (L/s)	2.06
# OF CARTRIDGES REQUIRED (HF - DD)	1-1
CARTRIDGE SIZE	690

PIPE DATA:	I.L.	MATERIAL	DIAMETER
INLET PIPE	[]	[]	[]
OUTLET PIPE	[]	[]	[]

LID WEIGHT	TBC
PART A & B WEIGHT (SEPARATE)	TBC

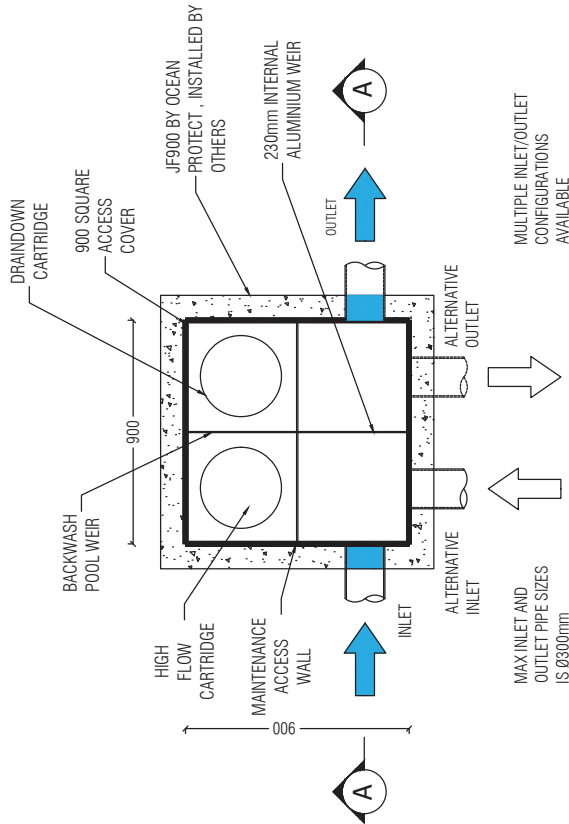
NOTE: TANK SUPPLIED IN TWO PARTS; PARTS A & B TO BE JOINED ON SITE

GENERAL NOTES

- JELLYFISH WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF THE PROJECT.
- PRECAST STRUCTURE SUPPLIED WITH CORE HOLES TO SUIT OUTER DIAMETER OF NOMINATED PIPE SIZE / MATERIAL.
- STRUCTURE AND ACCESS COVERS TO BE DESIGNED TO MEET AUSTRALAS T44 LOAD RATING WITH 0.0m TO 2.0m FILL. MAXIMUM (CLASS D) UNLESS OTHERWISE NOTED. THE OUTLET PIPE INVERT ELEVATION, CERTIFYING ENGINEER TO CONFIRM ACTUAL GROUNDWATER ELEVATION PRECAST STRUCTURE SHALL BE IN ACCORDANCE WITH A33000.
- IF THE PEAK FLOW RATE, AS DETERMINED BY THE CERTIFYING ENGINEER, EXCEEDS THE TREATMENT FLOW RATE OF THE SYSTEM, AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.
- ALL WATER QUALITY TREATMENT DEVICES REQUIRE PERIODIC MAINTENANCE. REFER TO OPERATION AND MAINTENANCE MANUAL FOR GUIDELINES AND ACCESS REQUIREMENTS.
- SITE SPECIFIC PRODUCTION DRAWING WILL BE PROVIDED ON PLACEMENT OF ORDER.
- DRAWING NOT TO SCALE.

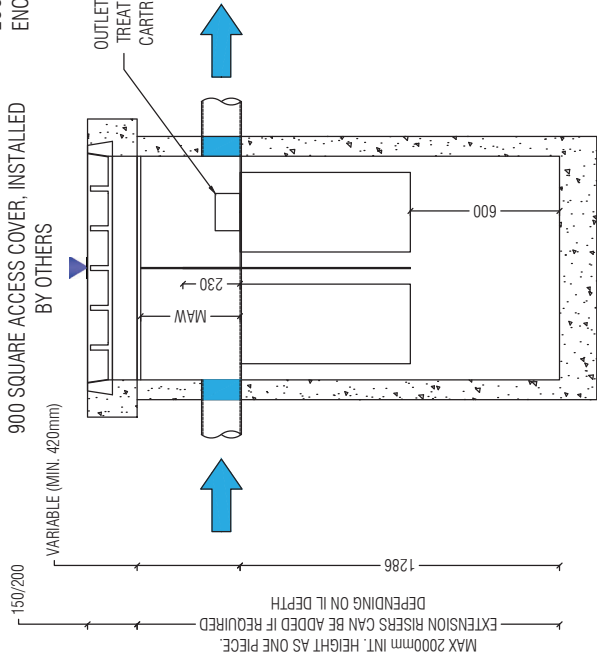
INSTALLATION NOTES

- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE SPECIFIC DESIGN CONSIDERATION AND SHALL BE SPECIFIED BY THE CERTIFYING ENGINEER.
- CONTRACTOR TO PROVIDE ALL EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE (LIFTING DETAIL PROVIDED SEPARATELY).
- CONTRACTOR TO INSTALL AND LEVEL THE STRUCTURE, APPLY SEALANT TO ALL JOINTS AND TO PROVIDE, INSTALL AND GROUT INLET AND OUTLET PIPES.
- CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.
- CARTRIDGE INSTALLATION, BY OCEANPROTECT, SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE JELLYFISH UNIT IS CLEAN AND FREE OF DEBRIS. CONTACT OCEAN PROTECT TO COORDINATE CARTRIDGE INSTALLATION WITH SITE COMPLETION.



PLAN LAYOUT

CAST IRON CAN BE SUPPLIED
LOOSE, OR CONCRETE
ENCASED (150/200mm THICK)



SECTION A-A

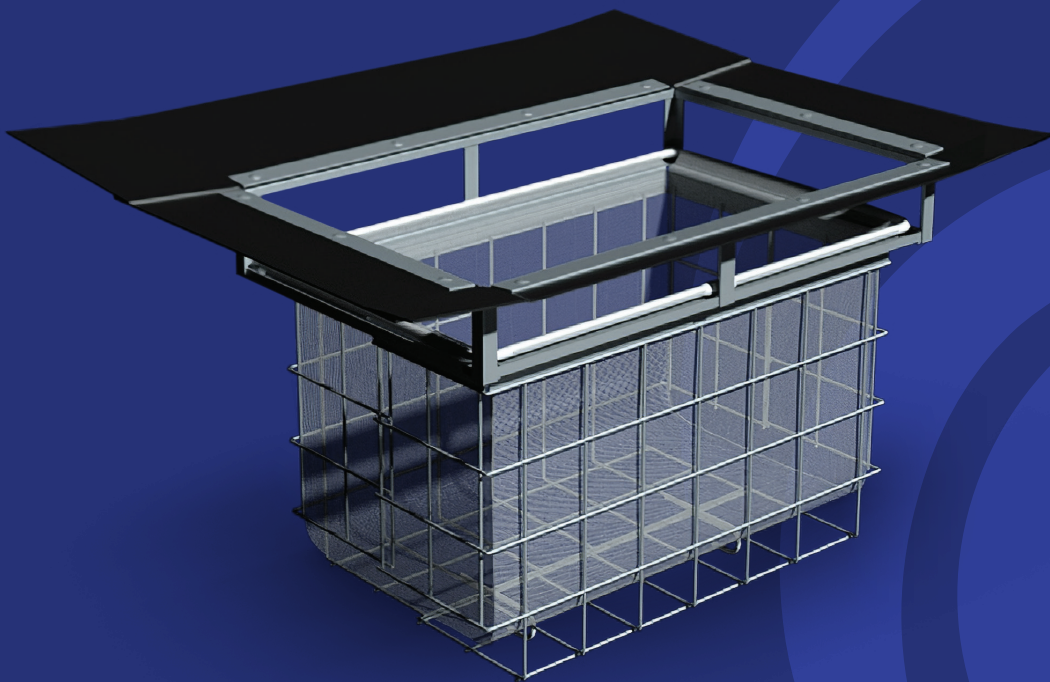


OCEAN PROTECT
JELLYFISH-1-1 900 SQUARE
INTERNAL OFFLINE ARRANGEMENT

PHONE: 1300 354 722
www.oceanprotect.com.au

OceanGuard®

Technical Design Guide



Stopping Pollution Entering Waterways



www.oceanprotect.com.au

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Design Basics	7



Introduction

The OceanGuard® technology is a gully pit basket designed to fit within new and existing stormwater pits targeting pollution in stormwater runoff. The system is offered with a choice of filtration bag liners, designed to remove gross pollutants, total suspended solids and attached pollutants. It can be applied as a stand-alone technology or as part of a treatment train with our StormFilter® or Jellyfish® filtration products.

The filtration bag, filtration cage and flow diverter work together to maximise the flow treated, pollutant capture, hydraulic efficiency and ultimately retaining captured pollutants dry. OceanGuard® pit inserts are highly effective, easy to install and simple to maintain.

Operational Overview

The OceanGuard® is installed into field or kerb inlet gully pits. The flow diverter at top of the unit has a rigid recycled plastic HDPE skirt that is installed against the walls directing all incoming stormwater flows into the filtration bag.

The stormwater is then filtered via direct screening through the filtration bag liner ensuring that any debris larger than the openings in the filtration bag are captured and retained.

During large storm events the water elevation in the filtration bag can rise and peak flows are internally bypassed through slots created in the flow diverter which has no moving parts that may prematurely fail.

At the end of the storm event, debris and stormwater rest at the base of the filtration bag where the stored material will start to dry until the next storm event.

Features

The OceanGuard® technology has the following features:

- **Flow Diverter:** Directs flow into the unit for filtration of stormwater flows and includes an in-built rigid bypass to divert stormwater overflows in high-intensity and peak storm flows
- **Filtration Bag:** Removable coarse (gross pollutant removal) and fine grade (200micron) filtration bags
- **Filtration Cage:** The supporting cage that allows for the use of larger filtration bags

The OceanGuard® can also be fitted with an oil/hydrocarbon adsorbent material (optional) to capture and retain oil and grease. The adsorbent material is contained in socks that are designed to ensure maximum contact with stormwater as it enters the gully pit.

The OceanGuard® is designed to be easily retrofitted into new and existing stormwater pits, requiring no construction or land take. The OceanGuard® is often the most practical solution and reduces the pollutant load and maintenance burden on downstream infrastructure.

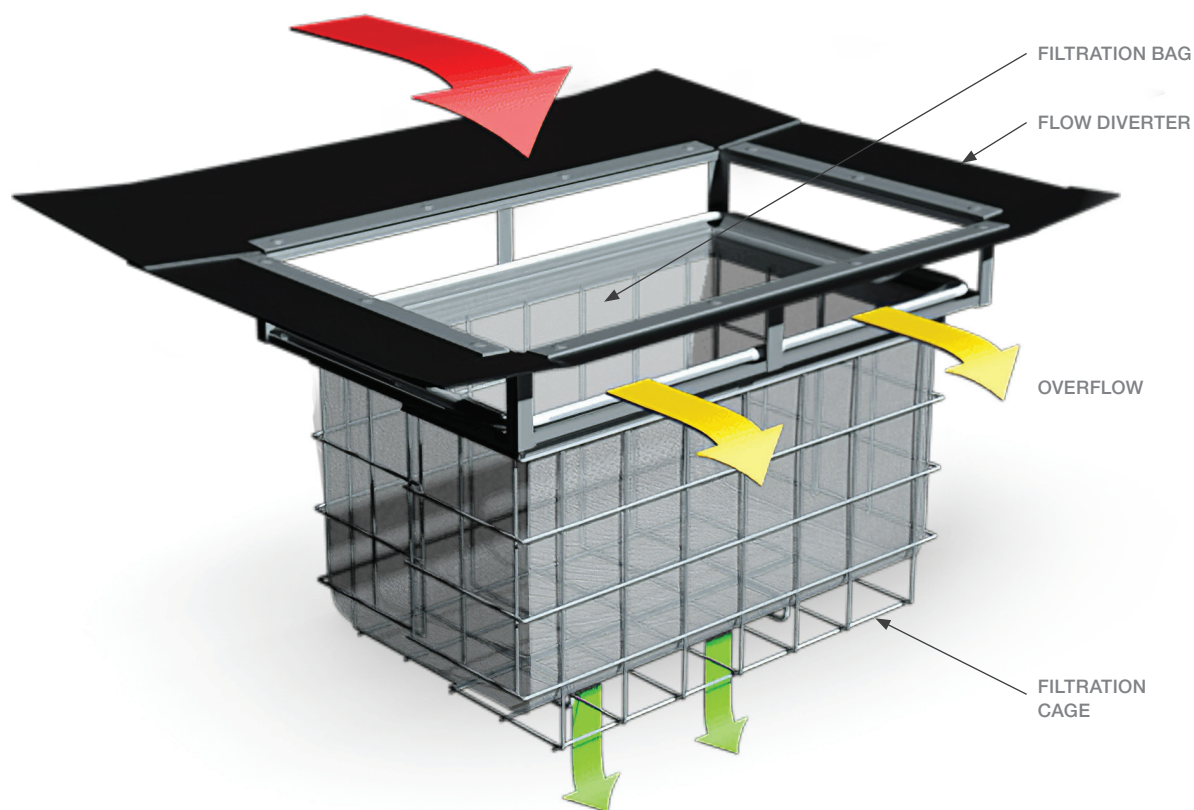


Figure 1: OceanGuard® components

Configurations

The OceanGuard® can fit a range of pits typically found in Australia including, kerb entry, rear entry with grated drain entry as well as field gully pits. There are multiple sizes to suit pits ranging in plan dimensions of 450 x 450mm – 1200 x 1200mm. Additional custom sizes are available to suit circular and non-standard pits.

The standard OceanGuard® configuration treats surface flow only (see Figure 2). In some instances, it may be necessary to treat pipe flow (see Figure 3). Remember to limit the upstream catchment to the basket to no more than 1000m² (or DN300mm pipe) otherwise the peak flows may cause structural damage to the OceanGuard®. Furthermore, to assist design checks by a suitable qualified engineer need to be undertaken to ensure the upstream catchment is not excessively large. Please note that the OceanGuard® technology is not a replacement for an in-line gross pollutant trap.

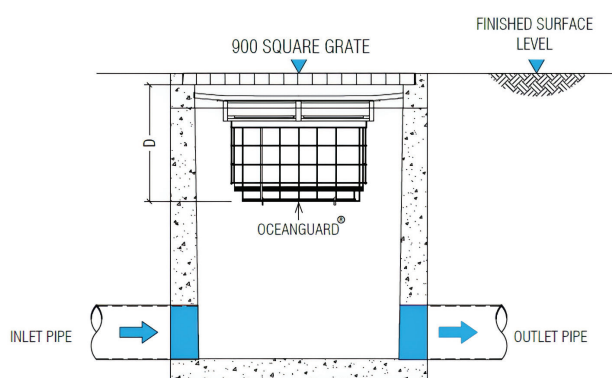


Figure 2: Standard configuration – surface flow

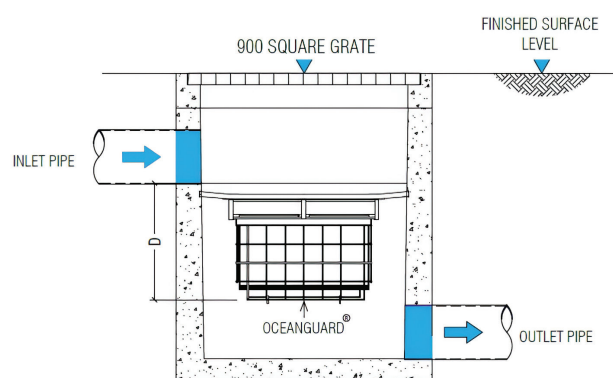


Figure 3: Example configuration – pipe flow

Another typical configuration required, is where the runoff collected by grated strip or trench drains needs to be treated (see Figure 4).

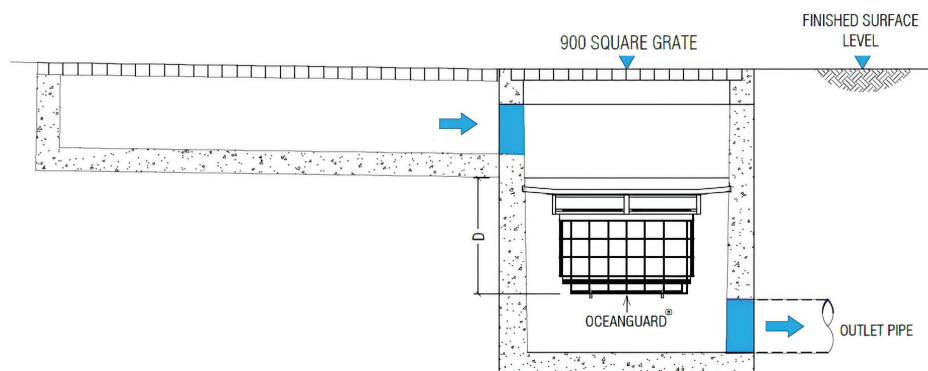


Figure 4: Example configuration – Grated strip/trench drain

Performance

Typically, laboratory testing provides a means to generate hydraulic and basic performance data, but it should also be complemented with long-term field data. Gully pit baskets that operate under unrestricted flows require both a combination lab and field studies to accurately understand performance.

Ocean Protect has and is undertaking field testing locally in Australia. Further information on these studies is available in *A review of the application of OceanGuard® in Australia*.

Since 2001, the OceanGuard® (and previous generation Enviropod®) technology has been installed in a variety of applications to meet regulatory requirements set by authorities throughout Australia. Over 20,000 OceanGuard® (and previous generation Enviropod®) technologies have been installed within Australia by Ocean Protect. OceanGuard® has also been accepted by many of the most stringent stormwater quality regulators within other parts of Australia, including Blacktown City Council, Brisbane City Council and Gold Coast City Council.

Please contact your Ocean Protect representative to obtain the OceanGuard® approval status in your area.

Maintenance

Maintenance of the OceanGuard® is simple, effective and seldom requires confined space entry or specialised equipment, often being completed by hand without the need of vacuum equipment. Simply remove the OceanGuard® from the pit with the tags provided and invert the bag into a waste bin. Inspect the liner and brush by hand or spray with a pressure washer if required to rejuvenate the filtration bag. Record the information and replace the filtration bag.

Inspection & Cleaning

The OceanGuard® should be inspected at regular intervals from 1-2 months during the first year of installation to ensure optimum performance. The frequency at which the OceanGuard® will need to be maintained will depend on site activities, land uses, catchment area and this size of OceanGuard® installed, but is typically 3 to 4 times per year.

For further information please refer to the *OceanGuard® Operations and Maintenance Manual*.

Design Basics

The design requirements of any OceanGuard® system is detailed in 3 typical steps:

- 1 Hydraulic Design & Configuration**
- 2 Water Quality Design**
- 3 Mass Load Design**

1 Hydraulic Design

All OceanGuard® must be designed to ensure that the hydraulic requirements of the system are met without adversely impacting the upstream hydraulics (limiting the likelihood of localised flooding).

2 Water Quality Design

Ocean Protect recommends and uses the widely endorsed Model for Urban Stormwater Improvement Conceptualisation (MUSIC), which makes it easy for correctly sizing an appropriate OceanGuard® system for your site.

A complimentary design service which includes MUSIC modelling is provided by the Ocean Protect engineering team. Simply email your project details to design@oceanprotect.com.au or alternatively you can always call one of our engineers for a discussion or to arrange a meeting in your office. The team will provide you with an efficient design containing details of the devices required to meet your water quality objectives together with budget estimates, product drawings and the MUSIC (.sqz) file.

Alternatively, you can download the MUSIC treatment nodes for the Ocean Protect products from our website www.oceanprotect.com.au

When designing/modelling an OceanGuard® system for water quality purposes in MUSIC, a single GPT node is utilised. The GPT node is utilised with relevant removal efficiencies inserted. These parameters can vary based on the jurisdiction (authority) of your project, relevant details can be obtained from Ocean Protect. When modelling, the high-flow bypass is modified in node by adding the total number of OceanGuards installed and multiplying this number by 20L/s, eg. 10 x OceanGuards = 0.2m³/s.

All details such as drawings, specifications and maintenance manuals can also be downloaded for integration into your project's documentation. Additionally, the Ocean Protect team is available to review your model and provide additional assistance and guidance on the configuration of the OceanGuard® system(s) for your project.

3 Mass Load Design

Always be mindful of the magnitude of upstream catchment areas pay particular attention to perceived dirty or high loading sites. The Ocean Protect team can provide assistance and details on this process.



Ocean Protect supplies and maintains a complete range of filtration, hydrodynamic separation, screening and oil/water separation technologies.

Call 1300 354 722

www.oceanprotect.com.au

Jellyfish[®] Filter

Technical Design Guide



Stopping Pollution Entering Waterways



www.oceanprotect.com.au

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Introduction

The Ocean Protect Jellyfish® is a compact, below ground stormwater treatment device, configured offline to capture pollutants in stormwater run-off. The Jellyfish® Filter uses high flow rate membrane filtration at low driving head with a large surface area to filter stormwater. By incorporating pre-treatment with light-weight membrane filtration, the Jellyfish® removes floatables, litter, oil, debris, TSS, fine silt-sized particles, and a high percentage of particulate-bound pollutants; including phosphorus and nitrogen, metals and hydrocarbons. The large surface area membrane cartridges, combined with up flow hydraulics, frequent backwashing, and rinsable/reusable cartridges ensure long-lasting performance.

Operational Overview

During a storm, the upstream bypass structure directs low flows to the Jellyfish®. The system builds driving head, traps floating pollutants behind the Maintenance Access Wall (MAW) and drives flow below the cartridge deck where a separation skirt around the cartridges isolates oil, litter and debris outside the filtration zone. As a result of the upstream driving head, water is conveyed up from the treatment chamber through membrane tentacles and into the backwash pool. Once the water has filled the backwash pool, water overflows the weir and exits via the outlet pipe.

Once the rain event subsides flow reverses such that the water in the backwash pool flows back into the lower chamber. This passive backwash extends cartridge life and prepares the system for the next rainfall event. The drain down cartridge(s) located outside the backwash pool enables water levels to balance.

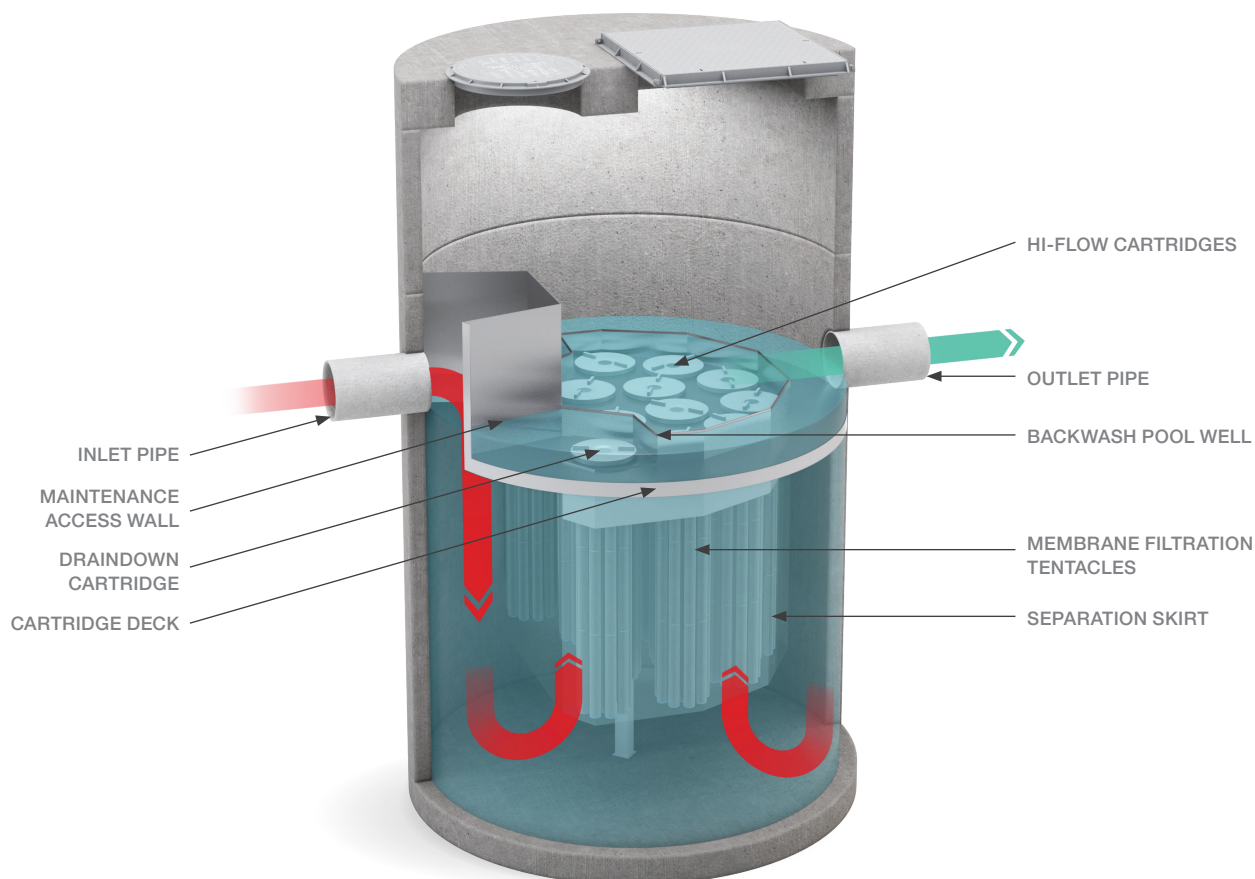


Figure 1: Jellyfish® operation

Features

Each Jellyfish® system consists of the following components:

- Maintenance Access Wall (MAW)
- Separation Skirt
- Filtration Zone (High-flow cartridges)
- Backwash Pool
- Drain-down cartridges

The Maintenance Access Wall is connected to the stormwater inlet pipe. It allows for the dissipation of flows and capture of floatable pollutants whilst reducing the quantity of coarse material and debris entering the Filtration Zone. The Separation Skirt provides further protection of the cartridges from coarse materials and hydrocarbons.

The High-flow and draindown cartridges available from Ocean Protect are offered in a 1375mm length. Each cartridge consists of 11 tentacles that are washable and re-usable. Each cartridge has a large surface area membrane together with a flow rate per cartridge of 5L/s providing the most compact footprint available on the market.



Figure 2: Jellyfish® tentacle components

There are 2 hydraulic loss options for the Jellyfish® system. Typically, 460mm of hydraulic loss is adopted, however for low drop sites, the designed hydraulic loss can be reduced to 230mm. The flow rates, head loss, and head drop for each system are shown in *Table 1* below.

Hydraulic Loss (mm)	High Flow cartridge flow rate (L/s)	Drain Down cartridge flow rate (L/s)	Minimum hydraulic drop (mm)
460	5.0	2.5	150
230	2.5	1.25	150

Table 1: Jellyfish® cartridge details

Configurations

The Jellyfish® treatment system can be housed in a variety of ways such that it suits the site specific requirements for flowrate, hydraulics, accessibility and footprint restrictions. The standard configuration offered by Ocean Protect is pre-cast concrete manholes. These systems are simple to install, as they arrive on site after being manufactured offsite to suit site specific requirements (pipe size, inlet/outlet orientation, levels etc.). Larger cast-in-place Jellyfish® Filter vaults are available to treat larger flows. Pre-cast Manhole Jellyfish® Filter systems pre-configured (pipe size, location, unit height etc.) prior to arrival upon site for ease of installation.



Figure 3: Jellyfish® precast manhole



Figure 4: Jellyfish® vault

Performance and Select Approvals

While laboratory testing provides a means to generate hydraulic and basic performance data, all filtration devices should also be complemented with long-term field data evaluations. As a minimum, field studies should generally comply with a recognised field testing protocol, for example, the Technology Acceptance Reciprocity Partnership (TARP) or the Technology Assessment Protocol – Ecology (TAPE) in the USA.

To be considered valid, all field monitoring programs should be peer reviewed by a reputable third party and replicate local pollutant concentrations including soluble fractions of nutrients together with rainfall. Such field testing has been undertaken for the Jellyfish® – both locally in Australia and overseas. Further information on these studies is available in *A review of the application of Jellyfish® in Australia*.

Since 2017, over 1700 Jellyfish® have been installed within Australia by Ocean Protect. These assets have been successfully installed in a variety of applications to meet regulatory requirements set by authorities throughout Australia.

Specifically, Jellyfish® has been accepted by some of the most stringent stormwater quality regulators around the globe including:

- Brisbane City Council
- Wollondilly Shire Council
- Campbelltown City Council
- Blacktown City Council
- Washington State Department of Ecology (TAPE) GULD – Basic
- New Jersey Corporation of Advanced Technology (NJCAT)
 - » Field Performance per TARP Tier II Protocol
- Canada ISO 14034 Environmental Management – Environmental Technology Verification (ETV)

Please contact your Ocean Protect representative to obtain the Jellyfish® approval status in your area.

Maintenance

Every filtration device will eventually need routine maintenance. The question is how often and how much it will cost. Proper evaluation of long-term maintenance costs should be a consideration when selecting a manufactured treatment device.

Jellyfish® cartridges are lightweight and reusable and minor maintenance of the filter cartridges is performed by removing, rinsing and reusing the cartridge tentacles. Vacuum extraction of captured pollutants in the sump is recommended at the same time.

Full cartridge replacement intervals differ by site due to varying pollutant loading and type, and maintenance frequency and replacement is anticipated to be every 2-5 years.

Maintenance support

Ocean Protect provides flexible options and contract terms. A detailed maintenance guide and mass load calculation spreadsheet is available upon request.

For further information please refer to the *Jellyfish® Operations and Maintenance Manual*.

Design Basics

The design requirements of any Jellyfish® system is detailed in 3 typical steps:

- 1 Hydraulic Design
- 2 Water Quality Design
- 3 Mass Load Design

1 Hydraulic Design

All Jellyfish® systems must be designed to ensure that the hydraulic requirements of the system are met without adversely impacting the upstream hydraulics (limiting the likelihood of localised flooding). *Table 1* (page 5) details the available head loss options. **The designer must initially select an option and ensure the corresponding head loss can be catered for.**

For a Jellyfish® Filter, **head loss does not have to equal head drop.** Head loss should be achieved through a differential of height between the inlet and outlet pipes, at a **minimum of 150mm** with the remainder created by an upstream diversion weir.

Jellyfish® cartridges have a unique backflush mechanism that is passively activated at the end of each storm peak to increase the longevity of each cartridge. Consequently, captured pollutants are stored within the system and in order to minimise scour peak flows into the cartridge bay need to be limited. Specifically when **peak flows surpass the combined cartridge treatment flow rate the system needs to be arranged off-line.**

It is also necessary to consider the impacts that tail water/submergence has on all stormwater treatment devices.

In the case of the Jellyfish®, tailwater can adversely affect the long term cartridge operation. As such measures should be implemented during design to ensure that the system can operate effectively. If this cannot be achieved on your project an alternative treatment option, such as StormFilter®, should be considered.

2 Water Quality Design

Ocean Protect recommends and uses the widely endorsed Model for Urban Stormwater Improvement Conceptualisation (MUSIC), which makes it easy to correctly sizing an appropriate Jellyfish® system for your site.

A complimentary design service which includes MUSIC modelling is provided by the Ocean Protect engineering team. Simply email your project details to design@oceanprotect.com.au or alternatively you can always call one of our engineers for a discussion or to arrange a meeting in your office. The team will provide you with an efficient design containing details of the devices required to meet your water quality objectives together with budget estimates, product drawings and the MUSIC (.sqz) file.

When designing/modelling a Jellyfish® system for water quality purposes in MUSIC, a single generic treatment node is utilised. The generic treatment node is utilised with relevant removal efficiencies inserted. These parameters can vary based on the jurisdiction (authority) of your project, relevant details can be obtained from Ocean Protect. The high-flow bypass figure is adjusted within the node to represent the treatable flow rate required to obtain water quality targets. Once finalised this figure can be matched with the system flow rates provided in *Appendix 1*.

All details such as drawings, specifications and maintenance manuals can also be downloaded from www.oceanprotect.com.au for integration into your project's documentation. Additionally, the Ocean Protect team is available to review your model and provide additional assistance and guidance on the configuration of the Jellyfish® system(s) for your project.

3 Mass Load Design

At the completion of your water quality design process (as above), it is necessary that maintenance frequency is considered in order to prevent excessive ongoing maintenance requirements. Ocean Protect recommends a minimum minor maintenance frequency of 6 months (rinsing) for the Jellyfish®.

All filtration devices occlude overtime, consequently they have a maximum sediment capacity (TSS load). By analysing the mean annual load figures for the Jellyfish® generic treatment node, the total annual retained TSS can be determined. To determine the minimum cartridge quantity required by mass load design, the annual retained TSS should be divided by the relevant cartridge sediment capacity. The Ocean Protect team can provide assistance and details on this process.

In determining the final cartridge quantity for your project, you must utilise the largest number of cartridges obtained from undertaking Water Quality and Mass Load design steps.

Appendix 1 – Jellyfish® Precast Manhole Standard Configurations

Model	High-flow Cartridges	Drain-down Cartridges	Flow Rate (L/s)	Approximate unit Diameter (m)
JF1200-1-1	1	1	7.5	1.2
JF1200-2-1	2	1	12.5	
JF2250-3-1	3	1	17.5	2.25
JF2250-4-1	4	1	22.5	
JF2250-5-1	5	1	27.5	
JF2250-6-1	6	1	32.5	
JF2250-7-2	7	2	40	
JF2250-8-2	8	2	45	
JF2250-9-2	9	2	50	
JF2250-10-2	10	2	55	
JF3250-11-2	11	2	60	3.25
JF3250-12-2	12	2	65	
JF3250-13-3	13	3	72.5	
JF3250-14-3	14	3	77.5	
JF3250-15-3	15	3	82.5	
JF3250-16-3	16	3	87.5	
JF3250-17-3	17	3	92.5	
JF3250-18-3	18	3	97.5	
JF3250-19-4	19	4	105	
JF3250-20-4	20	4	110	
JF3250-21-4	21	4	115	
JF3250-22-4	22	4	120	
JF3250-23-4	23	4	125	
JF3250-24-4	24	4	130	
JF3250-25-5	25	5	137.5	
JF3250-26-5	26	5	142.5	
JF3250-27-5	27	5	147.5	
JF3250-28-5	28	5	152.5	



Ocean Protect supplies and maintains a complete range of filtration, hydrodynamic separation, screening and oil/water separation technologies.

Call 1300 354 722

www.oceanprotect.com.au

Ocean Protect maintenance service

Inspect. Clean. Report.





Ocean Protect

Integrated end-to-end stormwater management solutions.

Ocean Protect is a leader in developing innovative and efficient site-specific solutions that manage the impact of urban stormwater runoff on the built environment and prevent contaminants in the runoff from entering aquatic ecosystems.

Our turnkey solutions cover every aspect of stormwater management from conceptual design and product supply, through to implementation, construction and ongoing infrastructure or facility management.

Just as importantly, with stormwater regulations and water quality standards becoming increasingly complex and onerous, our best management practice filtration, screening and treatment systems meet the most stringent regulatory requirements, while our comprehensive maintenance services ensure optimal performance and ongoing regulatory compliance.



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The Ocean Protect Maintenance Service has been designed to assist you achieve a cost-effective turnkey solution for maintaining your stormwater system while also ensuring ongoing regulatory compliance.

Total stormwater system maintenance

Optimising performance and ensuring ongoing regulatory compliance

The effectiveness of stormwater management systems is largely based on three factors:

- the suitability of the implemented solution to deal with the site's stormwater runoff
- the ability of the installed products (such as screening, filtration and treatment devices) to remove the pollutant load
- the existence of a comprehensive maintenance regime that includes regular inspection and cleaning.

While many stormwater management facilities meet the first two criteria, the failure to conduct timely maintenance is one of the leading causes of inadequate performance, system malfunction and a failure to achieve acceptable standards in water quality. It can also lead to the degradation of the downstream aquatic ecosystem's health.

The Ocean Protect Maintenance Service has been designed to assist you achieve a cost-effective turnkey solution for maintaining your stormwater system whilst also ensuring ongoing regulatory compliance.

Why maintenance matters

Maintenance is as integral to every stormwater management system as it is to any other item of machinery or equipment. While the capital costs of constructing and installing a stormwater facility are usually given careful consideration, it is important to ensure that there is also an ongoing allocation of funds for operational costs, including a system-specific maintenance schedule for the life of the facility.

A lack of proper maintenance can lead to:

- Stormwater structures or storage facilities becoming clogged with debris or sediment, leading to reduced flow or storage capacity, which in turn may result in flooding of the site and damage to Stormwater assets and nearby infrastructure
- A reduction in the ability of stormwater treatment devices to efficiently and effectively remove and prevent pollutants from entering waterways
- A failure to comply with local authority regulations relating to stormwater quality standards, which may result in penalties for the site's owners or property managers
- The likelihood of costly repairs, increased ongoing maintenance costs and the potential of damage to other infrastructure or drainage assets
- An erosion of the asset's capital value.



Comprehensive service across all stormwater systems

The Ocean Protect Maintenance Service covers all major types of stormwater systems, and is not limited to those we have designed and installed.

The maintenance solutions we develop are tailored to the specific needs and attributes of each site, including its usage, the type and quantity of pollutants, as well as the frequency and extent of storm activity and its associated stormwater runoff. We also take into account the primary focus of the installation, such as flood mitigation, water quality, runoff management or stormwater harvesting.

While we design our own tertiary filter systems to meet the requirements of a minimum 12-month maintenance frequency, primary and secondary pollution control devices will require more frequent inspection and cleaning.

How maintenance is carried out

Ocean Protect has developed a systematic maintenance approach to inspecting, cleaning and repairing different types of stormwater systems. We utilise fully trained experts who are familiar with the characteristics of each type of system, and the processes required to optimise its efficiency and performance.

Catch basins with gross pollutant traps

Indirect maintenance can help minimise the build up of trash and sediments, which is usually best achieved by simply cleaning the surrounding areas regularly. An example of this would be a public car park that is cleared of debris daily by using an industrial sweeper.

In many stormwater systems, gully pits form the front-line defence for controlling stormwater pollution. Gully pits can be fitted with gross pollutant traps such as litter baskets that prevent trash and debris in the stormwater runoff from entering the attached drainage system. They can also be fitted with fine mesh screens and absorbent material that will help trap products such as oil and nutrients like phosphorous.

Our regular maintenance of these devices includes inspection, recording and reporting, and is accompanied by periodic cleaning to remove accumulated debris and ensure optimal performance. Depending on the size of the system, it may be cleaned from the surface by hand, or may need to be accessed via a manhole and the debris removed using a large vacuum hose attached to an inductor truck.



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With more than 12 years experience in maintaining stormwater management assets, we can inspect the system and determine the key issues that need to be addressed for effective ongoing maintenance.

Stormwater treatment systems

A gully pit litter basket is usually one element of a stormwater treatment train, and depending on the facility may include a siphon-actuated cartridge-based filtration product (such as the StormFilter) that can target the full spectrum of Stormwater pollutants, or a hydrodynamic separator (such as the Vortechs System), which removes suspended sediment, hydrocarbons and floating debris.

In other facilities, such as public reserves along roadways, bio-filtration methods provide small-scale, at-source treatment of runoff that blends biological processes and engineered media filtration to create the perfect balance for the removal of pollutants.

As the primary purpose of these stormwater treatment trains is to remove and prevent pollutants from entering waterways and impacting on aquatic ecosystems, it is important that these pollutants are periodically removed to restore the device to its full efficiency and effectiveness.

The Ocean Protect Maintenance Service carries out every aspect of this cleaning process, which may involve sediment removal and disposal (following regulatory mandates), cleaning of the vault or manhole, and replenishing cartridges or components. A visual inspection and comprehensive data tracking of the system is also undertaken to assist with the ongoing management of the infrastructure. Data identifying the pollutant type and load can be fed back to the client to ultimately help reduce pollutant build up and the cost of maintenance.

Vegetated assets

In addition to the above systems, Ocean Protect's services can extend to the management of other treatment systems. We utilise the expertise of our specialists in inspecting and maintaining vegetated assets and bioretention systems, which help reduce stormwater impacts and create buffers that arrest the flow of nutrients into waterways.

With more than 12 years experience in maintaining stormwater management assets, we can inspect the system and determine the key issues that need to be addressed for effective ongoing maintenance. We are also able to provide a cost-benefit analysis for retrofitting devices that will increase the efficiency of the overall WSUD design.





The Ocean Protect difference

Driven by a passion for better stormwater solutions

Ocean Protect has widespread experience and expertise in managing every aspect of stormwater management. We are focussed on mitigating the impacts of stormwater run-off on infrastructure and built environments, but equally passionate about protecting Australia's waterways, estuaries, coastline and marine life from the rising levels of harmful containments found in stormwater runoff. We view stormwater within the context of delivering one of the earth's most precious commodities – water – and have the products to cover every aspect of harnessing this resource, including rainwater harvesting, retention and detention.

Maintenance of your stormwater system not only ensures the facility operates in the manner for which it was designed, but also lies at the core of maintaining downstream water quality health. For our own designed and installed applications we always offer an ongoing operations and maintenance service. Now, we have extended that service to all site owners and property managers, regardless of their systems origins.

Benefit from the Ocean Protect Maintenance Service today

The ongoing efficiency and reliability of all stormwater management systems relies on reliable, effective and repeatable maintenance regimes.

Outsourcing your system's maintenance program – including inspection, reporting, cleaning and repairs – to Ocean Protect delivers you the most cost-effective solution for optimising the performance of your asset and provides the assurance of compliance with the current regulatory environment.



For more information about the
Ocean Protect Maintenance
Service, simply visit
oceanprotect.com.au or call 1300
354 722

With more than 12 years of expertise in maintaining stormwater devices, Ocean Protect can also provide advice on ways that may reduce the pollutant load coming off your site and assist you reduce the overall cost of stormwater infrastructure maintenance.

Ocean Protect Maintenance Service contract also includes a warranty on all filter parts serviced. Should any filter part be damaged, Ocean Protect will replace it free-of-charge at the time of servicing.

With maintenance such a key component to the effective operation of a stormwater management system, a Ocean Protect Maintenance Service contract makes sound economic and environmental sense. Such ongoing maintenance not only ensure the optimal functioning of the system, but also provides you with the peace of mind that you are protecting the built infrastructure from the impacts of stormwater damage, while also maintaining the quality of water flowing into downstream aquatic ecosystems.



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: _____