DEVELOPMENT APPLICATION

PDPLANPMTD-2026/059654

PROPOSAL: Dwelling

LOCATION: 16 Marsh Street, Opossum Bay

RELEVANT PLANNING SCHEME: Tasmanian Planning Scheme - Clarence

ADVERTISING EXPIRY DATE: 01/04/2026 00:00:00

The relevant plans and documents can be inspected at the Council offices, 38 Bligh Street, Rosny Park, during normal office hours until 01/04/2026 00:00:00. In addition to legislative requirements, plans and documents can also be viewed at www.ccc.tas.gov.au during these times.

Any person may make representations about the application to the Chief Executive Officer, by writing to PO Box 96, Rosny Park, 7018 or by electronic mail to clarence@ccc.tas.gov.au. Representations must be received by Council on or before 01/04/2026 00:00:00.

To enable Council to contact you if necessary, would you please also include a day time contact number in any correspondence you may forward.

Any personal information submitted is covered by Council's privacy policy, available at www.ccc.tas.gov.au or at the Council offices.

City of Clarence
38 Bligh St Rosny Park
PO Box 96
Rosny Park TAS, 7018

03 6217 9500
clarence@ccc.tas.gov.au
ccc.tas.gov.au

Planning Application

Use this form to obtain planning approval for the use and development of land, including change of use, subdividing land into smaller lots, lot consolidation, or signage.

Please refer to the Planning Application checklist on the following pages to determine what documentation must be submitted with your application.

Proposal: New Dwelling

Location: 16 Marsh Street, Opossum Bay

Personal Information Removed

City of Clarence

exemptions may apply which may save you time on your proposal.

If you had pre-application discussions with City of Clarence, please provide planner's name:

N/A

Current use of site: Vacant

Does the proposal involve land administered or owned by the Crown or Council? Yes ☐ No ☐

Declaration

- I have read the Certificate of Title and Schedule of Easements for the land and am satisfied that this application is not prevented by any restrictions, easements or covenants.
- I authorise the provision of a copy of any documents relating to this application to any person for the purposes of assessment or public consultation. I agree to arrange for the permission of the copyright owner of any part of this application to be obtained. I have arranged permission for Council's representatives to enter the land to assess this application
- I declare that, in accordance with Section 52 of the Land Use Planning and Approvals Act 1993, that I have notified the owner of the intention to make this application. Where the subject property is owned or controlled by Council or the Crown, their signed consent is attached.
- I declare that the information in this declaration is true and correct.

Acknowledgement

- I acknowledge that the documentation submitted in support of my application will become a public record held by Council and may be reproduced by Council in both electronic and hard copy format in order to facilitate the assessment process; for display purposes during public consultation; and to fulfil its statutory obligations. I further acknowledge that following determination of my application, Council will store documentation relating to my application in electronic format only.

Personal Information Removed

City of Clarence

Planning Application checklist

Mandatory Documents
This information is required for the application to be valid. We are unable to proceed with an application without these documents.

- ☐ Details of the location of the proposed use or development.
- ☐ A copy of the current Certificate of Title, Sealed Plan, Plan or Diagram and Schedule of Easements and other restrictions for each parcel of land on which the use or development is proposed.
- ☐ Full description of the proposed use or development.
- ☐ Description of the proposed operation. May include where appropriate: staff/student/customer numbers; operating hours; truck movements; and loading/unloading requirements; waste generation and disposal; equipment used; pollution, including noise, fumes, smoke or vibration and mitigation/management measures.
- ☐ Declaration the owner has been notified if the applicant is not the owner.
- ☐ Crown or Council consent (if publically-owned land).
- ☐ Any reports, plans or other information required by the relevant zone or code.
- ☐ Fees prescribed by the City of Clarence.

Application fees (please phone 03 6217 9550 to determine what fees apply). An invoice will be emailed upon lodgement.

Additional Documents
In addition to the mandatory information required above, Council may, to enable it to consider an application, request further information it considers necessary to ensure that the proposed use or development will comply with any relevant standards and purpose statements in the zone, codes or specific area plan, applicable to the use or development.

- ☐ Site analysis and site plan, including where relevant:
  - Existing and proposed use(s) on site.
  - Boundaries and dimensions of the site.
  - Topography, including contours showing AHD levels and major site features.
  - Natural drainage lines, watercourses and wetlands on or adjacent to the site.
  - Soil type.
  - Vegetation types and distribution, and trees and vegetation to be removed.
  - Location and capacity of any existing services or easements on/to the site.
  - Existing pedestrian and vehicle access to the site.
  - Location of existing and proposed buildings on the site.
  - Location of existing adjoining properties, adjacent buildings and their uses.
  - Any natural hazards that may affect use or development on the site.
  - Proposed roads, driveways, car parking areas and footpaths within the site.
  - Any proposed open space, communal space, or facilities on the site.

- Main utility service connection points and easements.
- Proposed subdivision lot boundaries.

☐ Where it is proposed to erect buildings, detailed plans with dimensions at a scale of 1:100 or 1:200 showing:
- Internal layout of each building on the site.
- Private open space for each dwelling.
- External storage spaces.
- Car parking space location and layout.
- Major elevations of every building to be erected.
- Shadow diagrams of the proposed buildings and adjacent structures demonstrating the extent of shading of adjacent private open spaces and external windows of buildings on adjacent sites.
- Relationship of the elevations to natural ground level, showing any proposed cut or fill.
- Materials and colours to be used on rooves and external walls.

☐ Where it is proposed to erect buildings, a plan of the proposed landscaping showing:
- Planting concepts.
- Paving materials and drainage treatments and lighting for vehicle areas and footpaths.
- Plantings proposed for screening from adjacent sites or public places.

☐ Any additional reports, plans or other information required by the relevant zone or code.

This list is not comprehensive for all possible situations. If you require further information about what may be required as part of your application documentation, please contact City of Clarence Planning team on (03) 6217 9550.

RESULT OF SEARCH

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980

Tasmanian Government

SEARCH OF TORRENS TITLE

VOLUME	FOLIO
184232	3
EDITION	DATE OF ISSUE
2	27-July-2024

SEARCH DATE : 16-Dec-2025
SEARCH TIME : 03.13 pm

DESCRIPTION OF LAND

City of CLARENCE
Lot 3 on Sealed Plan 184232
Derivation : Part of 3900 Acres Gtd. to George Henry Blake Gellibrand
Prior CT 165932/1

SCHEDULE 1

N201315 TRANSFER to CONNOR FAIN TEW Registered 27-July-2024 at noon

SCHEDULE 2

Reservations and conditions in the Crown Grant if any
SP184232 FENCING PROVISION in Schedule of Easements
SP165932 FENCING PROVISION in Schedule of Easements
94450 BOUNDARY FENCES CONDITION in Transfer
E331389 AGREEMENT pursuant to Section 78 of the Land Use Planning and Approvals Act 1993 Registered 07-Mar-2023 at noon
E388119 MORTGAGE to National Australia Bank Limited Registered 27-July-2024 at 12.01 pm

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

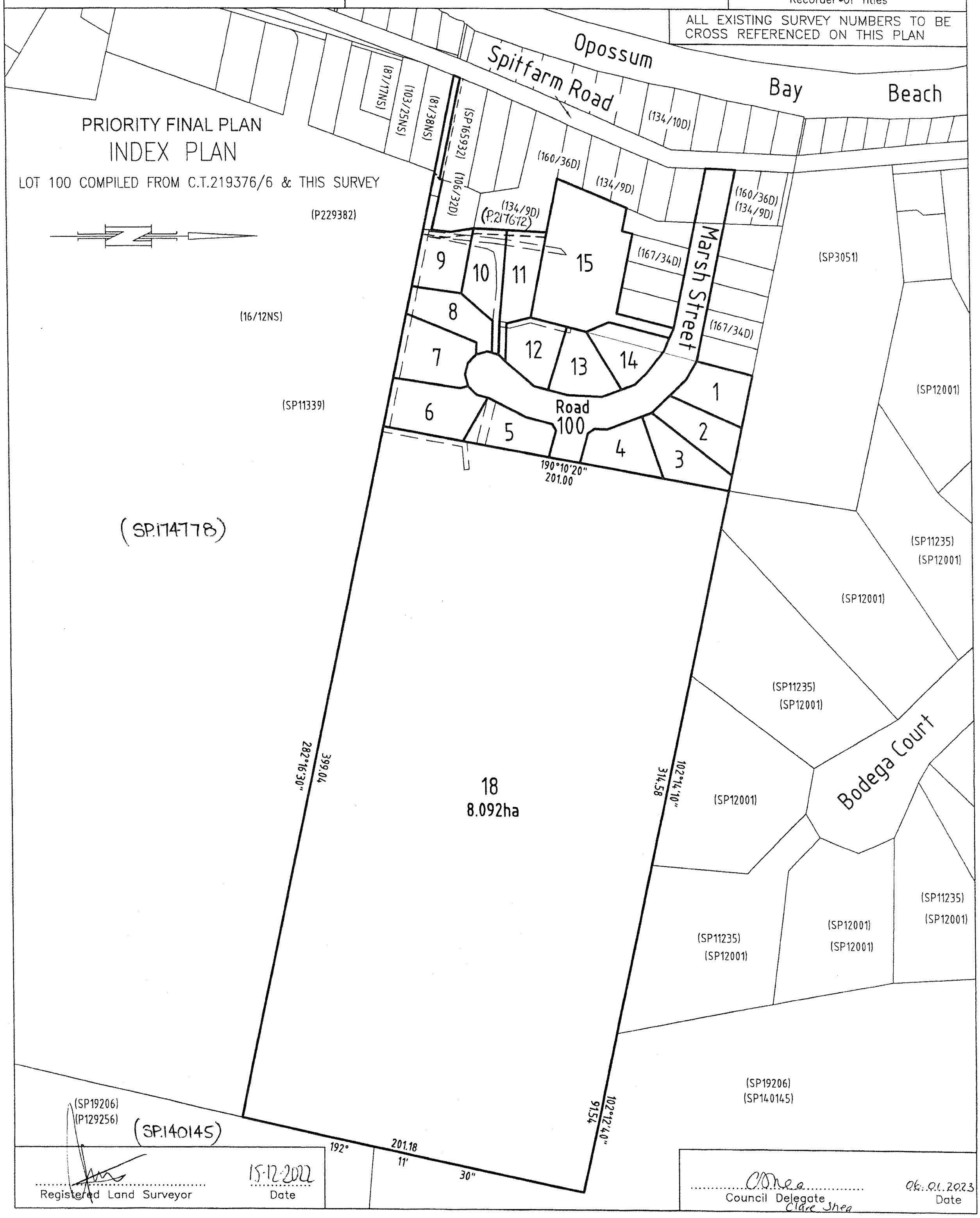
FOLIO PLAN

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980

Tasmanian Government

OWNER: PAUL GEAPPEN & JENNY-ANN GEAPPEN, A J CARR DEVELOPMENT CORPORATION PTY LTD FOLIO REFERENCE: C.T.219376/6 & C.T.165932/1 & C.T.249718/1 GRANTEE: PART OF 3900 ACRES GTD TO GEORGE HENRY BLAKE GELLIBRAND	PLAN OF SURVEY BY SURVEYOR CRAIG BRADLEY ROGERSON **ROGERSON AND BIRCH SURVEYORS** UNIT 1 – 2 KENNEDY DRIVE, CAMBRIDGE PARK PH 6248-5898 MOB. 0418-120-796 CITY OF CLARENCE SCALE 1: 2000 LENGTHS IN METRES	REGISTERED NUMBER **SP184232** ~~APPROVED~~ EFFECTIVE FROM -7 MAR 2023 Recorder of Titles



Registered Land Surveyor — Date 15-12-2022

Council Delegate Clare Shea — Date 06.01.2023

PLAN OF SURVEY
ANNEXURE SHEET

SHEET 1 OF 4 SHEETS

OWNER: See below

FOLIO REFERENCE: See below

SCALE 1:500 LENGTH IN METRES

Registered Number

SP 184232

SIGNED FOR IDENTIFICATION PURPOSES

Council Delegate 06.01.2023 Date

THIS ANNEXURE SHEET FORMS PART OF THE ATTACHED INDEX PLAN.

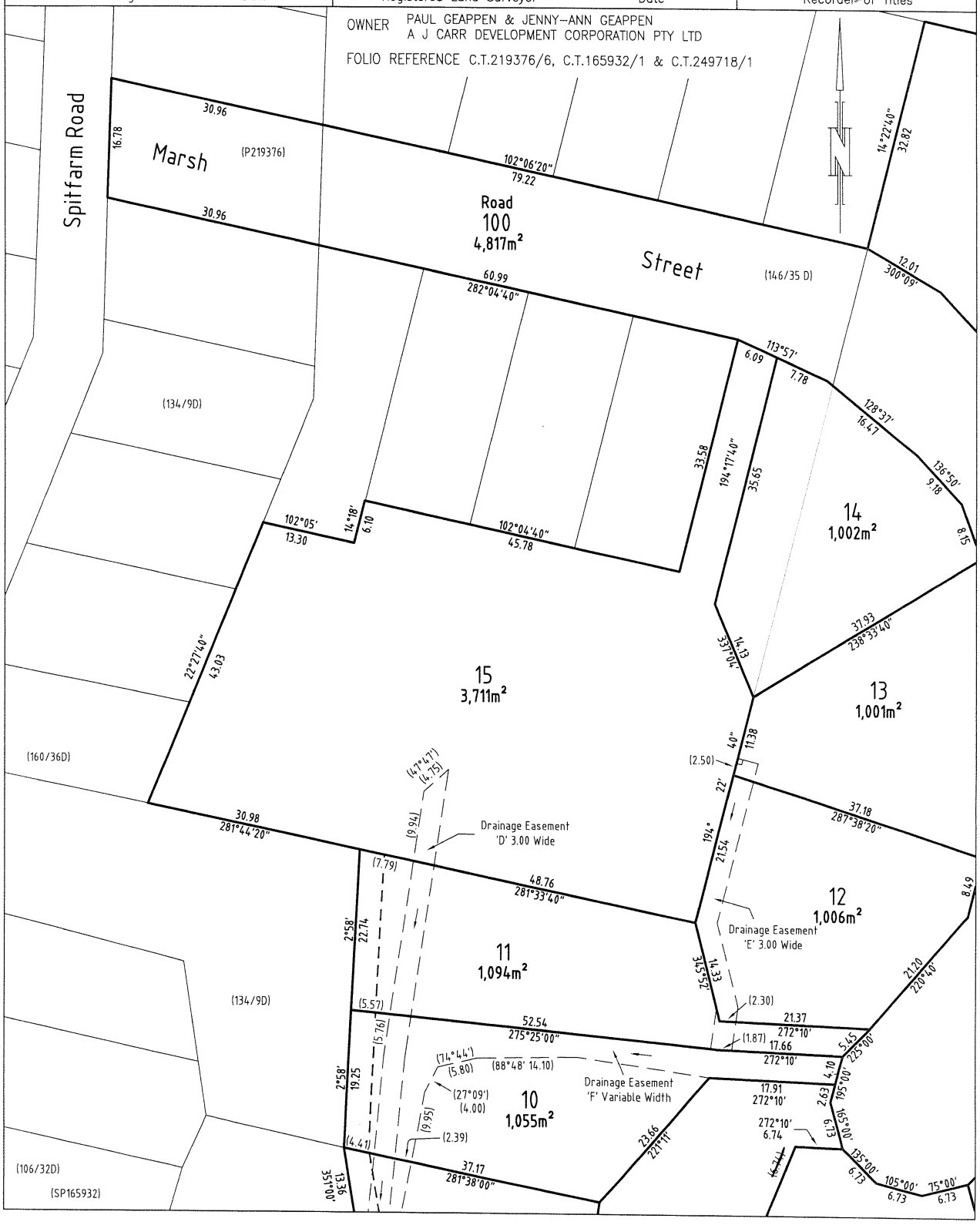
Registered Land Surveyor 15.12.2022 Date

~~APPROVED~~ EFFECTIVE FROM -7 MAR 2023

Recorder of Titles

OWNER PAUL GEAPPEN & JENNY-ANN GEAPPEN
A J CARR DEVELOPMENT CORPORATION PTY LTD

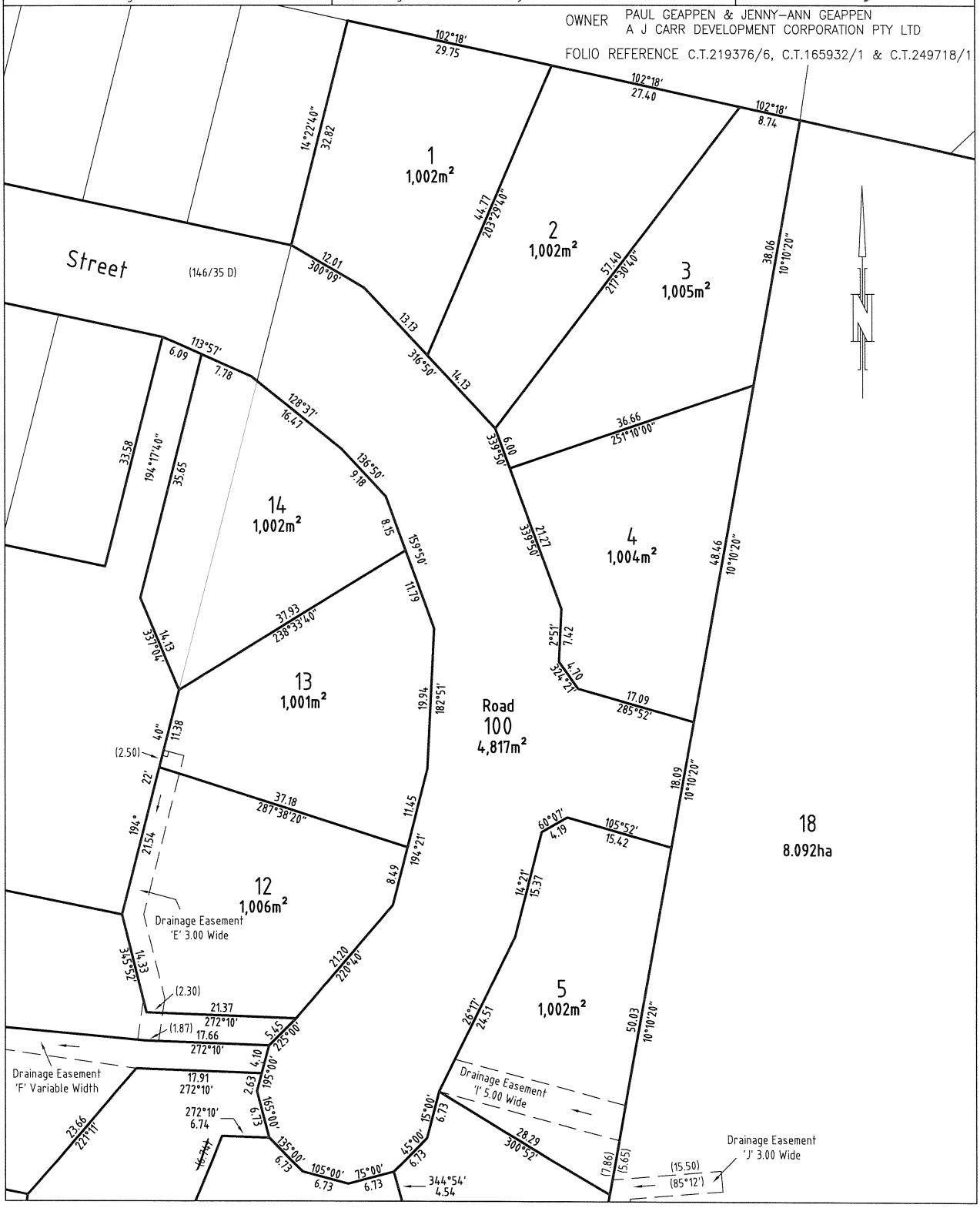
FOLIO REFERENCE C.T.219376/6, C.T.165932/1 & C.T.249718/1



PLAN OF SURVEY ANNEXURE SHEET SHEET 2 OF 4 SHEETS	OWNER: See below FOLIO REFERENCE: See below SCALE 1:500 LENGTH IN METRES	Registered Number SP. 184232
SIGNED FOR IDENTIFICATION PURPOSES C.O'Rea 06.01.2023 Council Delegate Date	THIS ANNEXURE SHEET FORMS PART OF THE ATTACHED INDEX PLAN. 15.12.2022 Registered Land Surveyor Date	~~APPROVED~~ EFFECTIVE FROM 7 MAR 2023 Recorder of Titles

OWNER PAUL GEAPPEN & JENNY-ANN GEAPPEN
A J CARR DEVELOPMENT CORPORATION PTY LTD

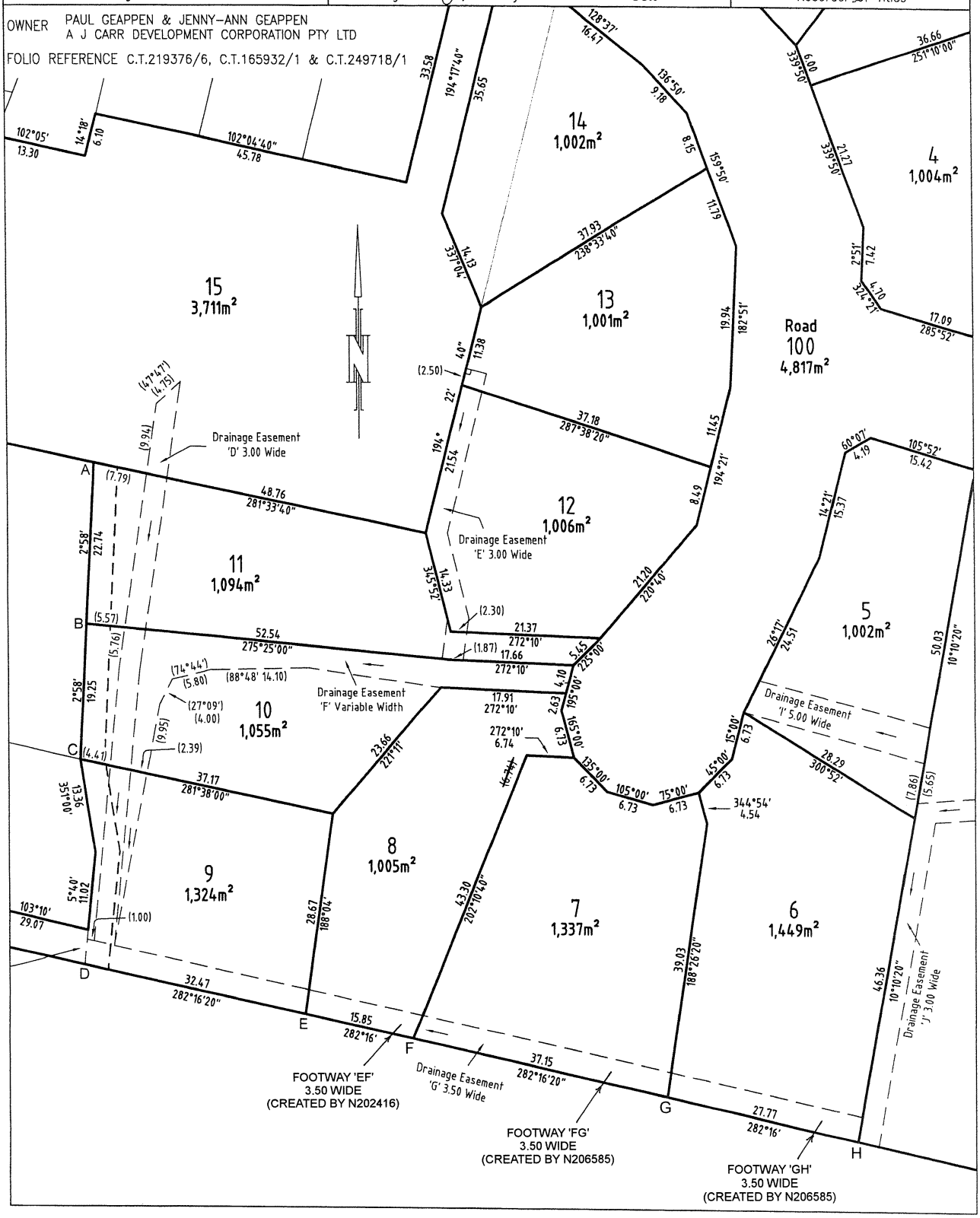
FOLIO REFERENCE C.T.219376/6, C.T.165932/1 & C.T.249718/1



PLAN OF SURVEY ANNEXURE SHEET SHEET 3 OF 4 SHEETS	OWNER: See below FOLIO REFERENCE: See below SCALE 1:500 LENGTH IN METRES	Registered Number SP 184232
SIGNED FOR IDENTIFICATION PURPOSES Council Delegate 06.01.2023 Date	THIS ANNEXURE SHEET FORMS PART OF THE ATTACHED INDEX PLAN. Registered Land Surveyor 15.12.2022 Date	~~APPROVED~~ EFFECTIVE FROM 7 MAR 2023 Recorder of Titles

OWNER PAUL GEAPPEN & JENNY-ANN GEAPPEN
A J CARR DEVELOPMENT CORPORATION PTY LTD

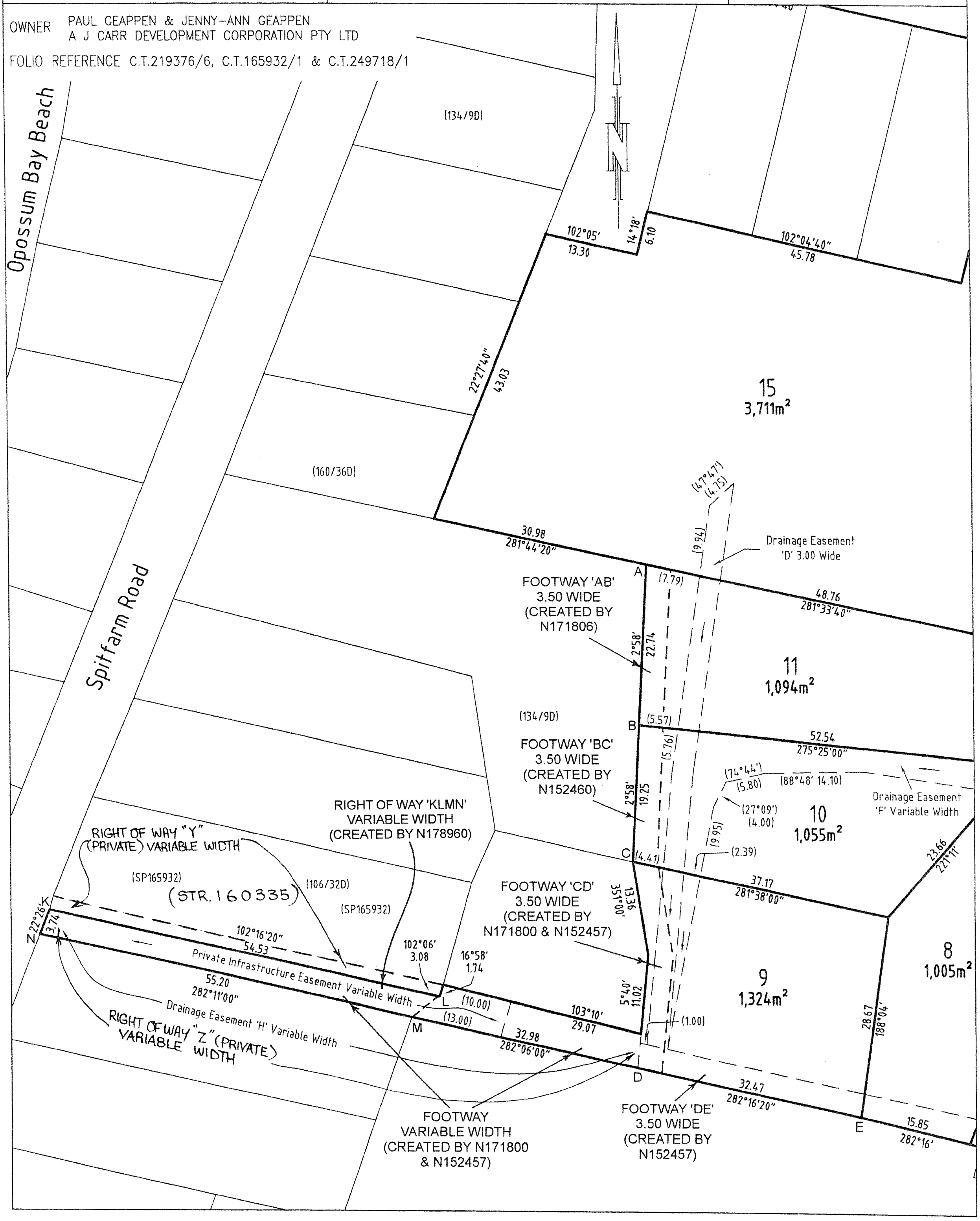
FOLIO REFERENCE C.T.219376/6, C.T.165932/1 & C.T.249718/1



PLAN OF SURVEY ANNEXURE SHEET SHEET 4 OF 4 SHEETS	OWNER: See below FOLIO REFERENCE: See below SCALE 1:500 LENGTH IN METRES	Registered Number SP184232
SIGNED FOR IDENTIFICATION PURPOSES Council Delegate 06.01.2023 Date	THIS ANNEXURE SHEET FORMS PART OF THE ATTACHED INDEX PLAN. Registered Land Surveyor 15.12.2022 Date	~~APPROVED~~ EFFECTIVE FROM -7 MAR 2023 Recorder of Titles

OWNER PAUL GEAPPEN & JENNY-ANN GEAPPEN
A J CARR DEVELOPMENT CORPORATION PTY LTD

FOLIO REFERENCE C.T.219376/6, C.T.165932/1 & C.T.249718/1



SCHEDULE OF EASEMENTS	Registered Number
NOTE: THE SCHEDULE MUST BE SIGNED BY THE OWNERS & MORTGAGEES OF THE LAND AFFECTED. SIGNATURES MUST BE ATTESTED.	SP. 184232

EASEMENTS AND PROFITS

Each lot on the plan is together with:-
(1) such rights of drainage over the drainage easements shown on the plan (if any) as may be necessary to drain the stormwater and other surplus water from such lot; and
(2) any easements or profits a prendre described hereunder.
Each lot on the plan is subject to:-
(1) such rights of drainage over the drainage easements shown on the plan (if any) as passing through such lot as may be necessary to drain the stormwater and other surplus water from any other lot on the plan; and
(2) any easements or profits a prendre described hereunder.
The direction of the flow of water through the drainage easements shown on the plan is indicated by arrows.

EASEMENTS

Rights of Carriageway

Lot 9 on the Plan is subject to a right of carriageway (appurtenant to lot 2 on SP165932 and lot 2 on Diagram 70958) over the land marked RIGHT OF WAY "Z" (PRIVATE) VARIABLE WIDTH passing through that lot on ~~Sealed Plan 165932~~ the Plan.

Lot 9 on the Plan is together with a right of carriageway over the land marked RIGHT OF WAY "Y" (PRIVATE) VARIABLE WIDTH on ~~Sealed Plan 165932~~ the Plan.

Drainage Easements

Lots 9, 10, 11 and 15 on the Plan are subject to a right of drainage in favour of Clarence City Council over the land marked DRAINAGE EASEMENT 'D' 3.00 WIDE shown on the Plan.

Lots 9 and 10 on the Plan are subject to a Drainage Easement (as defined herein) in favour of Clarence City Council over the land marked DRAINAGE EASEMENT 'F' VARIABLE WIDTH shown on the Plan.

Lots 11, 12 and 13 on the Plan are subject to a right of drainage in favour of Clarence City Council over the land marked DRAINAGE EASEMENT 'E' 3.00 WIDE shown on the Plan.

Lots 6, 7, 8 and 9 on the Plan are subject to a right of drainage in favour of Clarence City Council over the land marked DRAINAGE EASEMENT 'G' 3.50 WIDE shown on the Plan.

Lot 9 on the Plan is subject to a right of drainage in favour of Clarence City Council over the land marked DRAINAGE EASEMENT 'H' VARIABLE WIDTH shown on the Plan.

Lot 5 on the Plan is subject to a right of drainage in favour of Clarence City Council over the land marked DRAINAGE EASEMENT 'I' 5.00 WIDE shown on the Plan.

A J Carr Development Corporation Pty Ltd ACN 609 415 554

.....
Curtis Franklin Browne

.....
PAUL GEAPPEN

.....
JENNY-ANN GEAPPEN

(USE ANNEXURE PAGES FOR CONTINUATION)

SUBDIVIDER: A J Carr Development Corporation Pty Ltd FOLIO REF: 219376/6, 165932/1 & 249718/1 SOLICITOR & REFERENCE: Simmons Wolfhagen Curtis Browne - 210908	PLAN SEALED BY: Clarence City Council DATE: 6th January 2023 2019/006007 REF NO. Council Delegate Clare Shea

NOTE: The Council Delegate must sign the Certificate for the purposes of identification.

ANNEXURE TO SCHEDULE OF EASEMENTS PAGE 2 OF 3 PAGES	Registered Number SP 184232
SUBDIVIDER: A J Carr Development Corporation Pty Ltd FOLIO REFERENCE: 219376/6, 165932/1 & 249718/1	

Lot 18 on the Plan is subject to a right of drainage in favour of Clarence City Council over the land marked DRAINAGE EASEMENT 'J' 3.00 WIDE shown on the Plan.

Infrastructure Easement

Lot 9 on the Plan is subject to an Infrastructure Easement (as defined herein) appurtenant to the lands comprised in Folios of the Register Volume 70958 Folio 2 and Volume 160335 Folios 1 and 2 over the land marked PRIVATE INFRASTRUCTURE EASEMENT VARIABLE WIDTH shown on the Plan.

RESTRICTIVE COVENANT

The owner or owners of Lots 9 and 10 hereby covenant with the owner of each and every other Lot on the Plan and the Clarence City Council to the intent that the burden of this covenant may run with and bind the covenantor's Lot and every part thereof and that the benefit thereof may be created in favour of each and every other Lot on the Plan and in gross in favour of the Clarence City Council to observe the following stipulation:

1. Not to make or permit or suffer the making of any alterations to the finished surface levels of the overland flowpath, swale drain or catch drain constructed within the area marked DRAINAGE EASEMENT 'F' VARIABLE WIDTH on the plan without the prior consent in writing of Clarence City Council.

2. Not to make or permit or suffer the placement of any fencing within the drainage easement area with the exception of open style fencing that does not obstruct surface flows to or within the area marked DRAINAGE EASEMENT 'F' VARIABLE WIDTH on the plan.

3. Not to make or permit or suffer the placement of any wall, structure, landscaping or vegetation, with the exception of grass or turf within the area marked DRAINAGE EASEMENT 'F' VARIABLE WIDTH on the plan.

FENCING PROVISION

In respect of the Lots on the Plan, the Vendors A J Carr Development Corporation Pty Ltd ACN 609 415 554, Paul Geappen and Jenny-Ann Geappen shall not be required to fence.

INTERPRETATION

"Drainage Easement" means a right of drainage (including the right of construction of drains) for Clarence City Council with which the right shall be capable of enjoyment for the purpose of carrying away stormwater and other surplus water from any land over or under the land herein indicated as the land over which the right is to subsist, and through all sewers and drains which may hereafter be made or passing under, through, and along the last-mentioned land and the right for Clarence City Council and its employees, agents and contractors from time to time and at all times hereafter if it or they should think fit to enter into and upon the last-mentioned land and to inspect, repair, cleanse, and amend any such sewer or drain without doing unnecessary damage to the said land.

"Infrastructure Easement" means the full right for the owner for the time being of the dominant tenement to install place lay use replace renew and maintain forever electricity wires, cables and other conducting media beneath the ground only, of such size and number as shall from time to time be required and the right for their surveyors and workmen from time to time and at all times hereafter to enter into and upon the said strip of land with such material, machinery and other things as it shall think fit to inspect the condition thereof and to repair, amend and cleanse provided that any damage occasioned thereby shall be made good.

A J Carr Development Corporation Pty Ltd ACN 609 415 554

.....
Curtis Franklin Browne

.....
PAUL GEAPPEN

.....
JENNY-ANN GEAPPEN

NOTE: Every annexed page must be signed by the parties to the dealing or where the party is a corporate body be signed by the persons who have attested the affixing of the seal of that body to the dealing.

ANNEXURE TO SCHEDULE OF EASEMENTS PAGE 3 OF 3 PAGES	Registered Number SP 184232
SUBDIVIDER: A J Carr Development Corporation Pty Ltd FOLIO REFERENCE: 219376/6, 165932/1 & 249718/1	

Signed by **A J Carr Development Corporation Pty Ltd ACN 609 415 554**)
by its attorney **Curtis Franklin Browne** under Power of Attorney No. PA125549)
who hereby certifies that he has received no notice of revocation of the Power)
of Attorney)

.....
Curtis Franklin Browne

Witness Signature: .....

Witness Name: .....

Witness Address: **Susan Donna Barwick**
Legal Secretary
Simmons Wolfhagen
Level 4, 99 Bathurst Street
Hobart TAS 7000

Occupation: .....

Signed by **PAUL GEAPPEN** and **JENNY-ANN GEAPPEN** and in the presence of:

.....
Signature - **Paul Geappen**

.....
Signature of witness

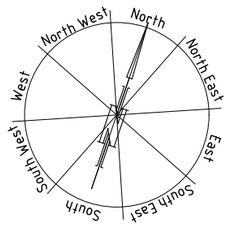
.....
Signature - **Jenny-Ann Geappen**

.....
Name & Occupation of witness

.....
Address of witness

Gillian Mary Telha
Receptionist
Simmons Wolfhagen
Level 4, 99 Bathurst Street
Hobart TAS 7000

NOTE: Every annexed page must be signed by the parties to the dealing or where the party is a corporate body be signed by the persons who have attested the affixing of the seal of that body to the dealing.



CONTENTS

Indicative location of AWTS unit, vented according to NCC Tas Vol3 C2D6 Located to ensure min 1:60 fall from all fixtures. Refer to Wastewater report by GES

Absorption bed, 15m² e.g. 7.5m×2m×0.6m (min 2.5m setback from side boundary), &
100% reserve area.
Refer to wastewater report by GES

16 Marsh St
1005m²

37°30'40"
57.4

102°18'
8.74

190°10'20"
38.06

251°10'00"
36.66

339°50'
6

Min 10,000L Firefighting tank, min 6m from residence, max 3m from driveway.

SW Connection
Lid: 21.68
Invert: 20.34

BH1

BH2

14,700L Water Tank

Proposed Driveway

Proposed Residence

MARSH STREET

min 6000

18004

900

Wastewater system:

AWTS unit located to ensure min 1L60 fall from all fixtures. Vented according to NCC Vol 3 Tas C2D6

Absorption Bed
1 x 7.5m x 2m x 0.6m

Min 3m from upslope buildings
Min 2.25m from downslope buildings
Min 1.5m from upslope or level boundaries
Min 2.5m from downslope boundary
Min 100m from downslope surface water

Refer to GES report

Dr. John Paul Cumming
Building Services Designer-Hydraulic
CCC774A

27/02/2026

GES
GEO-ENVIRONMENTAL SOLUTIONS
29 Kirksway Place Battery Point
T| 62231839 E| office@geosolutions.net.au

Note: The entire site is subject to a BAL 12.5 HMA, refer to subdivision Bushfire Hazard Report by Enviro-dynamics.

DEVELOPMENT DRAWINGS ONLY
NOT FOR CONSTRUCTION

PROPOSED RESIDENCE FOR
SJM PROPERTY DEVELOPMENTS AT
16 MARSH ST OPOSSUM BAY

SITE PLAN

SCALE 1:200
0 2000 4000

AMENDED

DATE
26/02/2026

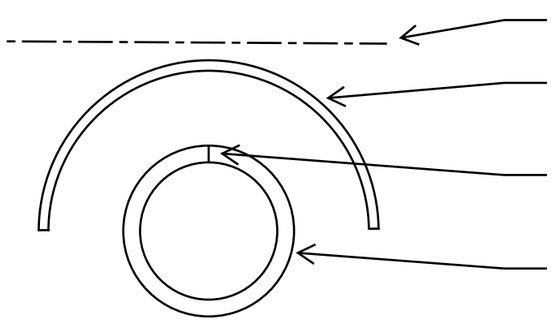
DRAWING NO.
01 OF 07

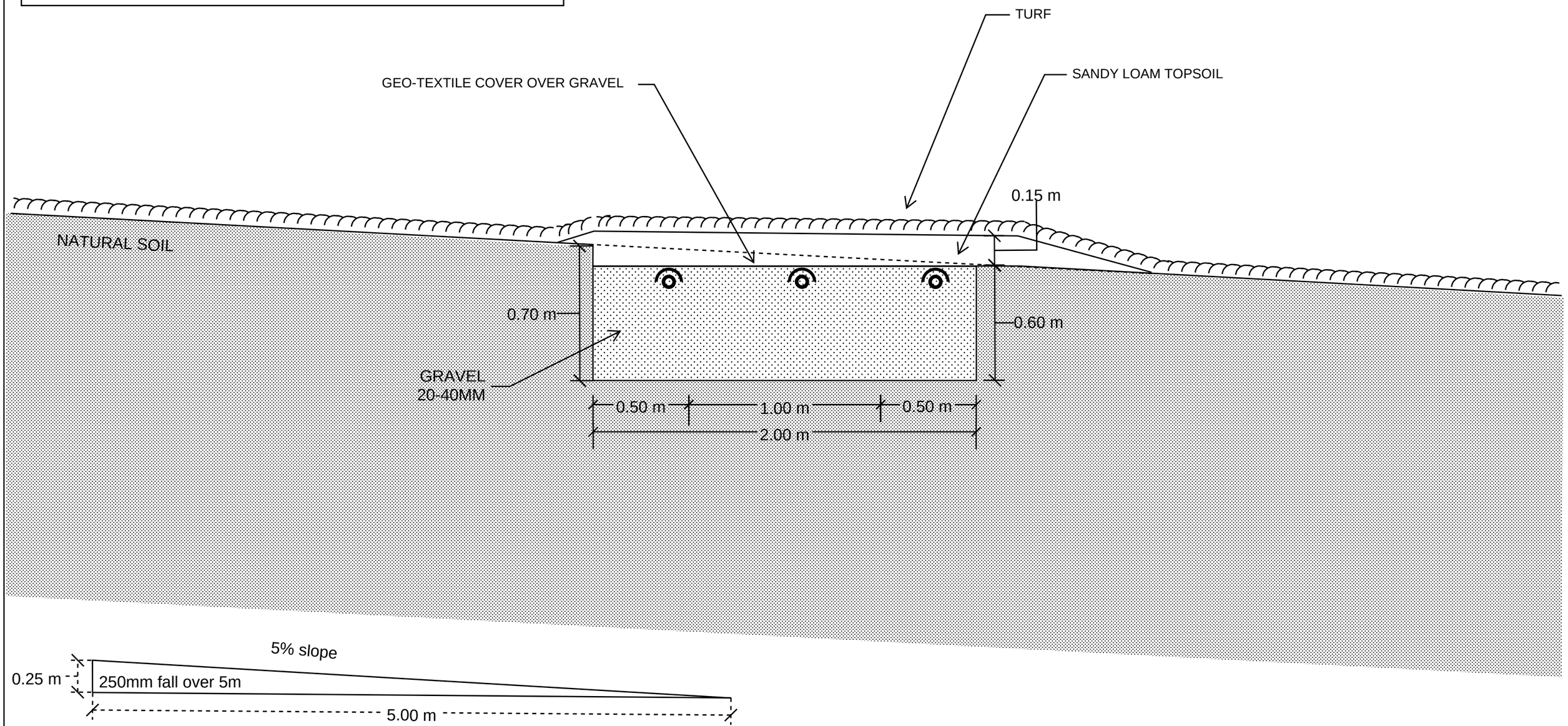
DRAWN BY J.TILLEY
email: jltilley7@bigpond.com
phone ph 0400 671 582

Certified: G. Tilley Accreditation No.CC620H

GEO-ENVIRONMENTAL SOLUTIONS
29 Kirksway Place Battery Point
T| 62231839 E| office@geosolutions.net.au

Distribution pipe detail





Do not scale from these drawings. Dimensions to take precedence over scale.	AWTS Modified absorption bed			On-site Wastewater Cross-Section	Sheet 1 of 2

GES
GEO-ENVIRONMENTAL
SOLUTIONS
29 Kirksway Place Battery Point
T| 62231839 E| office@geosolutions.net.au

Design notes:

1. Absorption bed dimensions of up to 15m long by 0.60m deep by 2.5m wide.

2. Base of bed to be excavated level max 700mm into natural soils and smearing and compaction avoided.

3. Bed to be filled with 7-20mm clean washed gravel and drilled 40mm distribution pipes packed into upper 100mm of bed

4. 40mm distribution pipes drilled with sufficient 5mm holes in the top of the pipe (approx spacing 300mm) to distribute the effluent and half circle 90-100mm UPVC pipe, un-perforated, laid over each 40mm perforated lateral to direct water jet downwards.

5. One 5 mm hole at centre of invert of each pipe to allow for drainage between pump cycles.

6. Geotextile or filter cloth to be placed over the distribution pipes to prevent clogging of the pipes and aggregate - the sides of the bed should also be lined.

7. Final finished surface with sandy loam to be a minimum of 150 mm above aggregate with turf cover or mulched with appropriate vegetation (eg native grasses and small shrubs at 1 plant per 1 m2)

8. The turf or vegetation is an essential component of the system and must be maintained with regular mowing and or trimming as appropriate

9. The distribution pipe grid must be absolutely level to allow even distribution of effluent around the absorption area – it is recommended that the level be verified by running water into the system before backfilling and commissioning the trench

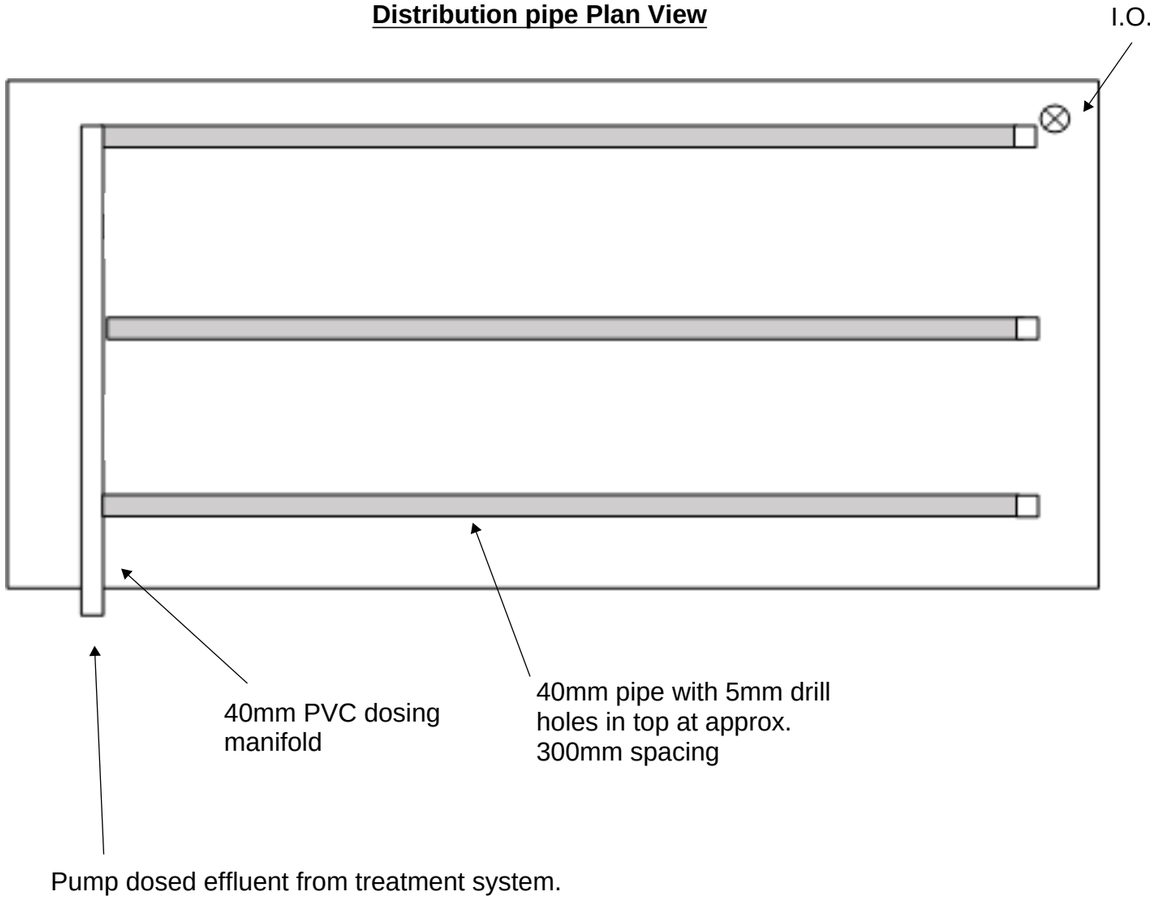
10. All works on site to comply with AS3500 and Tasmanian Plumbing code.

The pump must be capable of delivering the total flow rate required for all laterals whilst providing a 1.5m residual head (ie squirt height) at the highest orifice (with no more than 15% variation in squirt height across the whole bed).

For beds with individual laterals, no more than 15m long, it is acceptable to adopt a flow rate of 4-5L/min/lineal metre. Total dynamic head (including friction loss) will need to be determined on a site-specific basis.

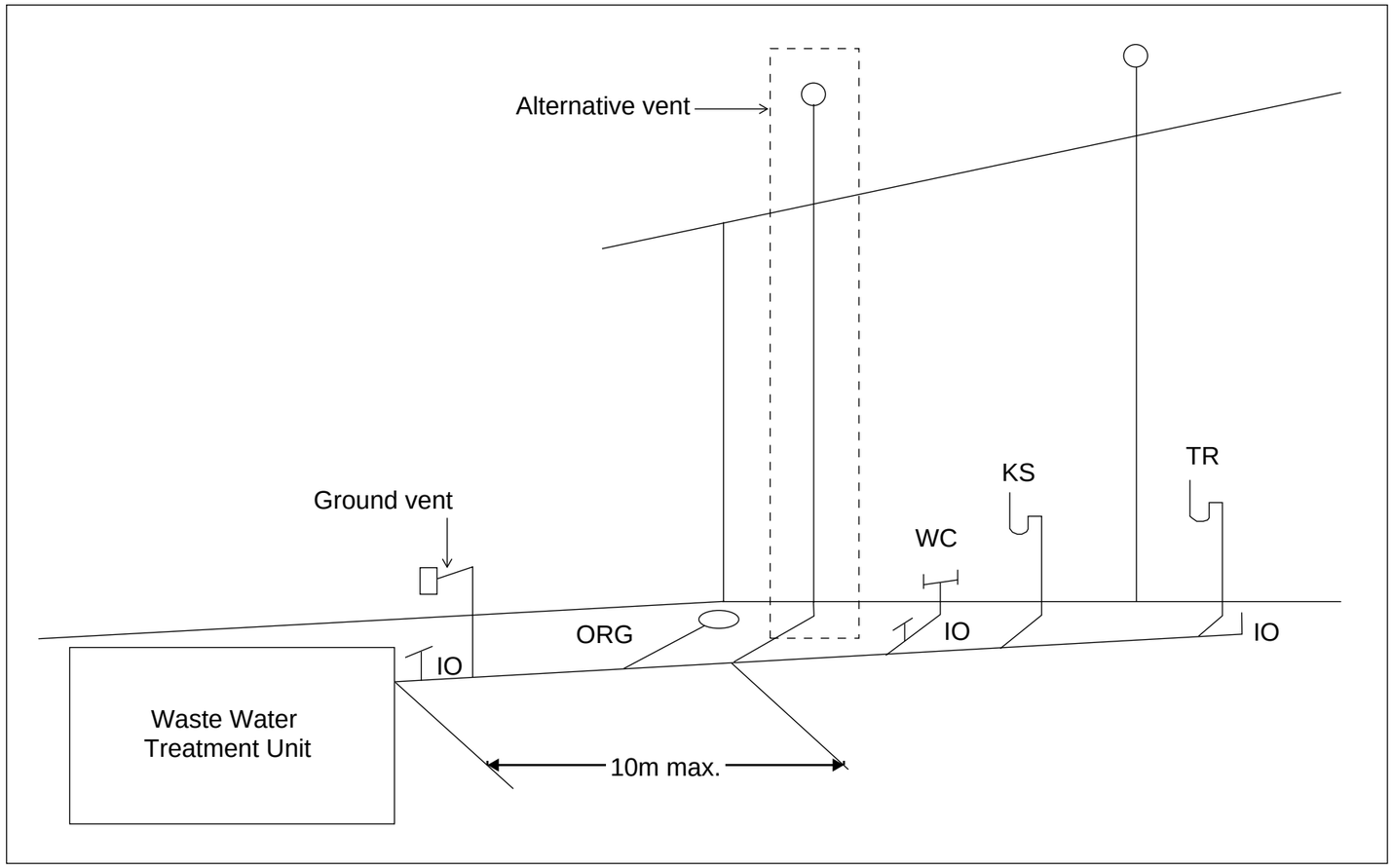
Individual flush points must be installed for each lateral. This may be a screw cap fitting on a 90 degree elbow level with the bed surface or a pressure controlled flush valve inside an irrigation control box.

Distribution pipe Plan View



Do not scale from these drawings. Dimensions to take precedence over scale.				On-site Wastewater Design Notes	Sheet 2 of 2

GES
GEO-ENVIRONMENTAL
SOLUTIONS
29 Kirksway Place, Battery Point
T| 62231839 E| office@geosolutions.net.au



Tas Figure C2D6 Alternative Venting Arrangements

Vents must terminate in accordance with AS/NZS 3500.2

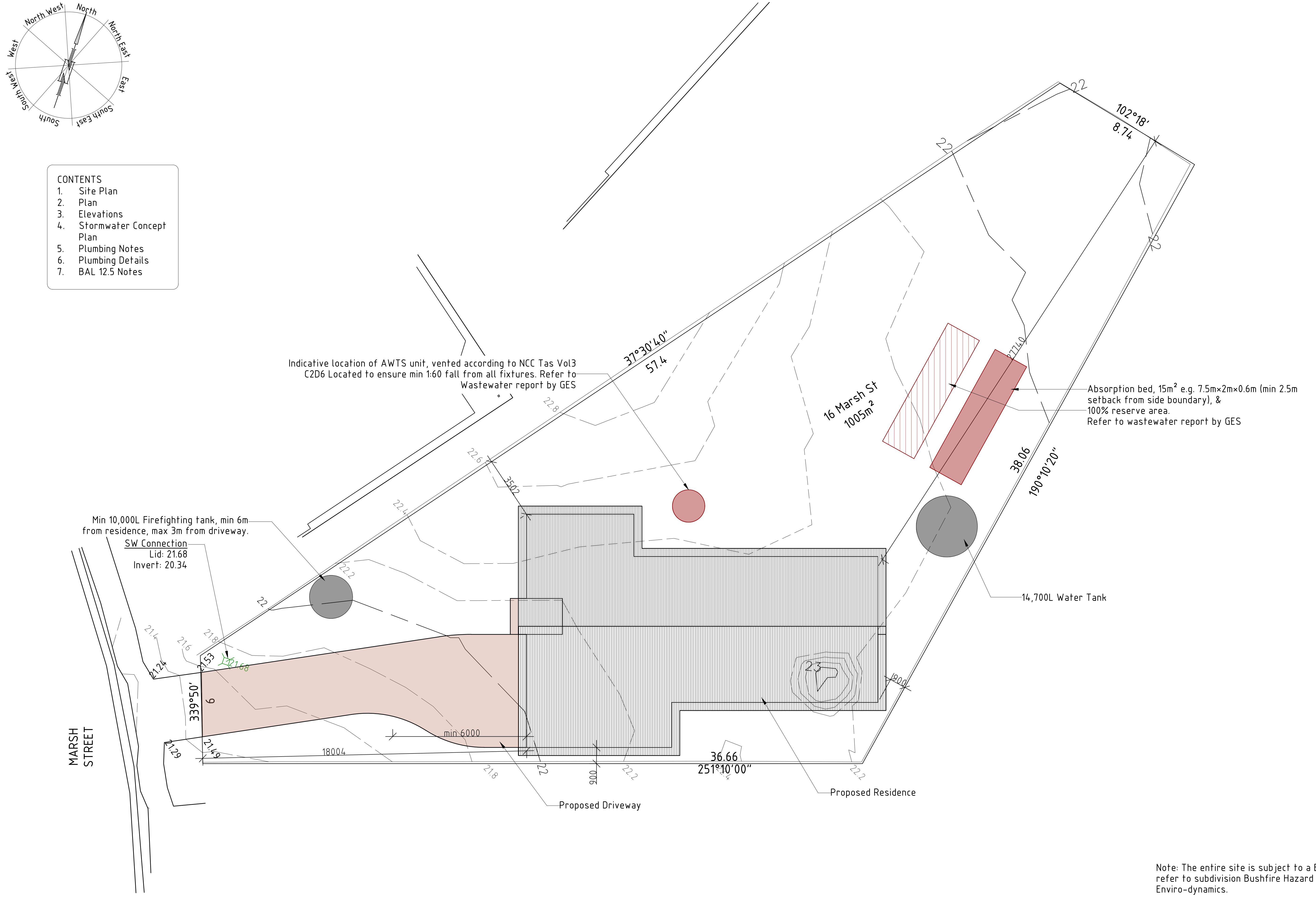
Alternative venting to be used by extending a vent to terminate as if an upstream vent, with the vent connection between the last sanitary fixture or sanitary appliance and the on-site wastewater management system. Use of a ground vent in not recommended

Inspection openings must be located at the inlet to an on-site wastewater management system treatment unit and the point of connection to the land application system and must terminate as close as practicable to the underside of an approved inspection opening cover installed at the finished surface level

Access openings providing access for desludging or maintenance of on-site wastewater management system treatment unites must terminate at or above finished surface level

Do not scale from these drawings. Dimensions to take precedence over scale.				Tas Figure C2D6 Alternative Venting Arrangements		Sheet 1 of 1

CONTENTS
1. Site Plan
2. Plan
3. Elevations
4. Stormwater Concept Plan
5. Plumbing Notes
6. Plumbing Details
7. BAL 12.5 Notes



Note: The entire site is subject to a BAL 12.5 HMA, refer to subdivision Bushfire Hazard Report by Enviro-dynamics.

DEVELOPMENT DRAWINGS ONLY
NOT FOR CONSTRUCTION

PROPOSED RESIDENCE FOR
SJM PROPERTY DEVELOPMENTS AT
16 MARSH ST OPOSSUM BAY

SITE PLAN

SCALE 1:200
0 2000 4000

AMENDED

DATE
26/02/2026

DRAWING NO.
01 OF 07

DRAWN BY J.TILLEY
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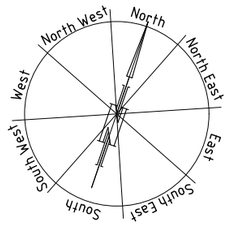
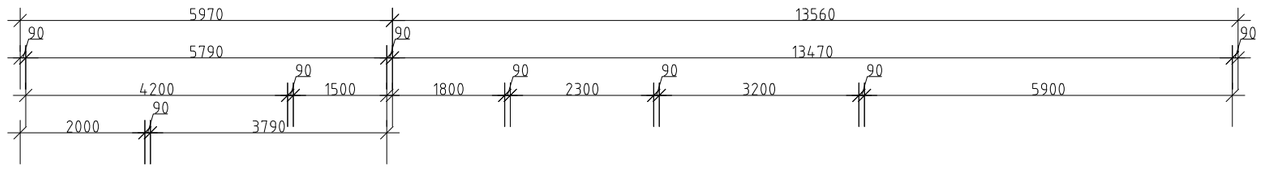


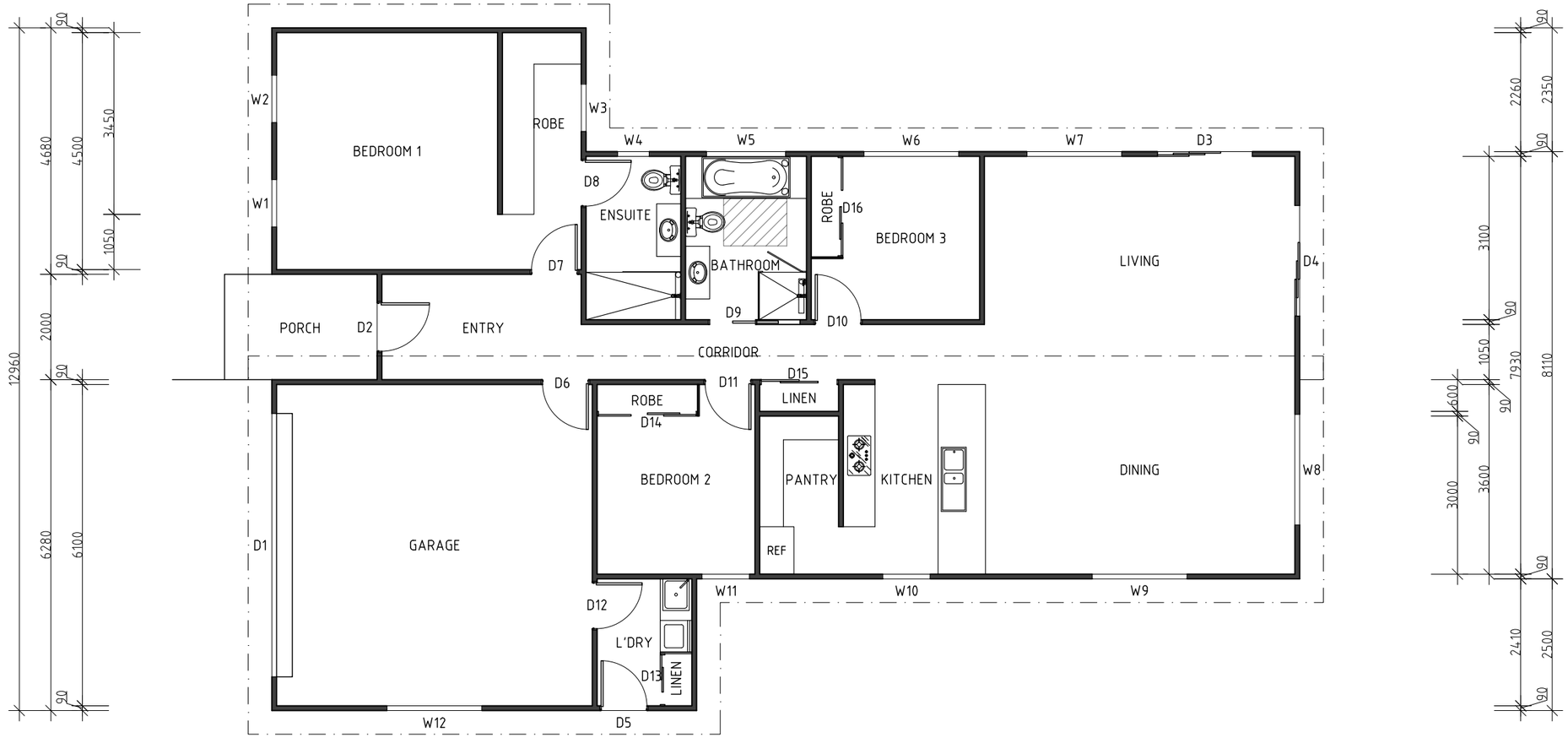


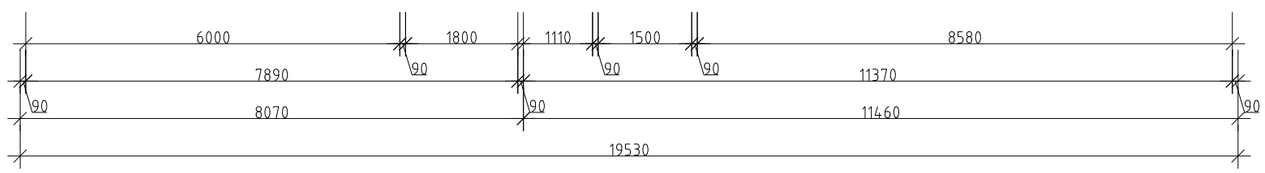
WINDOW SCHEDULE

Window	Size (w)	Size (h)
W.1	900	1800
W.2	900	1800
W.3	900	1500
W.4	600	1200
W.5	1500	1200
W.6	1800	1200
W.7	1800	1500
W.8	2100	1500
W.9	1800	1500
W.10	900	1500
W.11	900	1500
W.12	1800	900

DOOR SCHEDULE

Door	Size (w)	Size (h)
D.1	5000	2100
D.2	920	2040
D.3	3/1800	2100
D.4	3/2100	2100
D.5	870	2040
D.6	870	2040
D.7	870	2040
D.8	870	2040
D.9	870	2040
D.10	870	2040
D.11	870	2040
D.12	870	2040
D.13	2/470	2040
D.14	3/620	2040
D.15	2/720	2040
D.16	3/620	2040





AREA
Proposed: 188.59m²

DEVELOPMENT DRAWINGS ONLY
NOT FOR CONSTRUCTION

PROPOSED RESIDENCE FOR
SJM PROPERTY DEVELOPMENTS AT
16 MARSH ST OPOSSUM BAY

PLAN

SCALE 1:100
0 1000 2000

AMENDED

DATE
26/02/2026

DRAWING NO.
02 OF 07

DRAWN BY J.TILLEY
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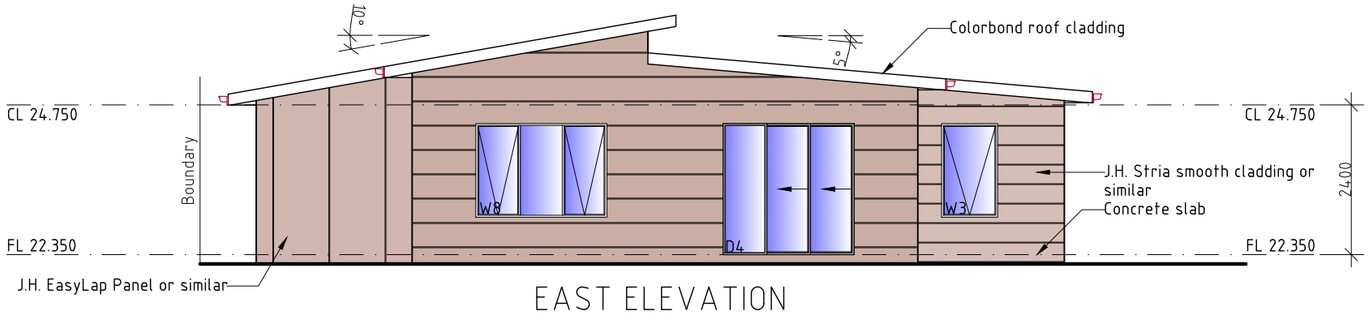
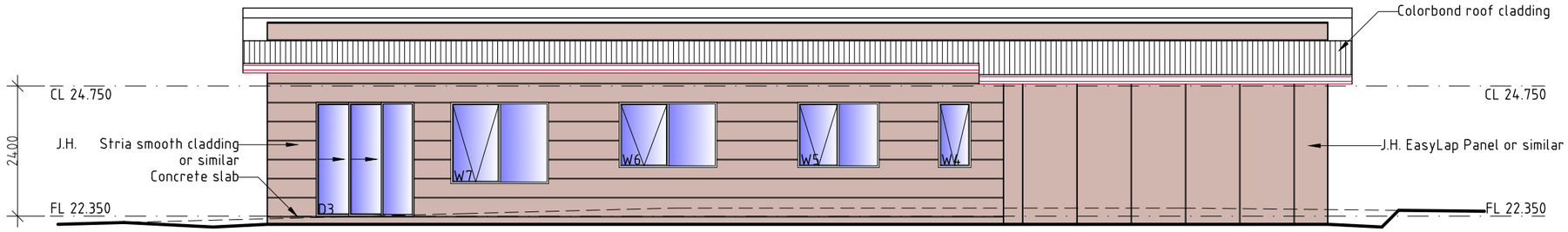
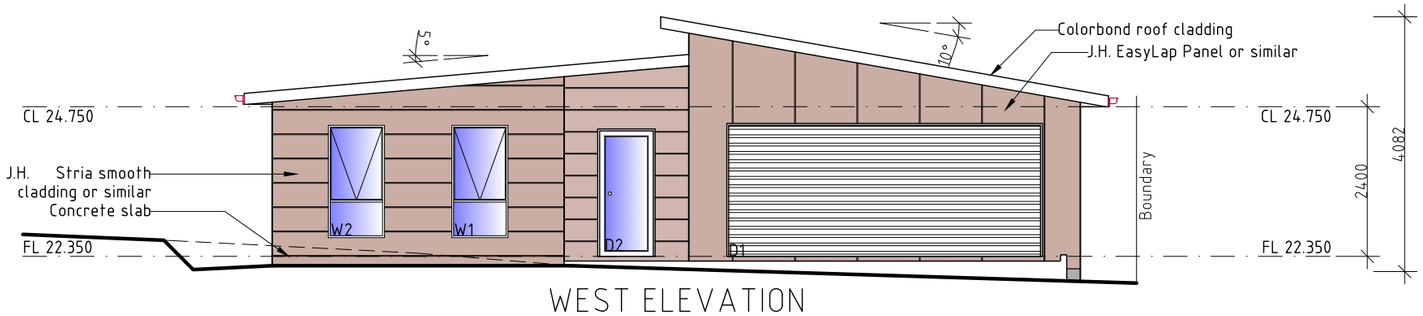


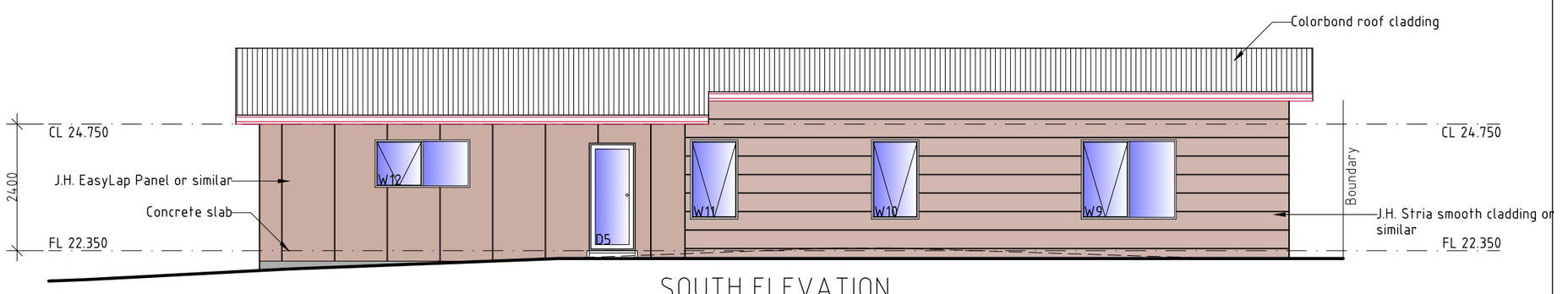
EAST ELEVATION



NORTH ELEVATION



WEST ELEVATION



SOUTH ELEVATION

DEVELOPMENT DRAWINGS ONLY
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PROPOSED RESIDENCE FOR
SJM PROPERTY DEVELOPMENTS AT
16 MARSH ST OPOSSUM BAY

ELEVATIONS

SCALE 1:100
0 1000 2000

AMENDED

DATE
26/02/2026

DRAWING NO.
03 OF 07

DRAWN BY J.TILLEY
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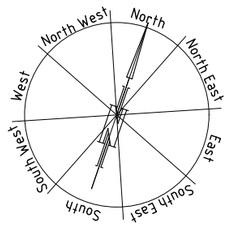

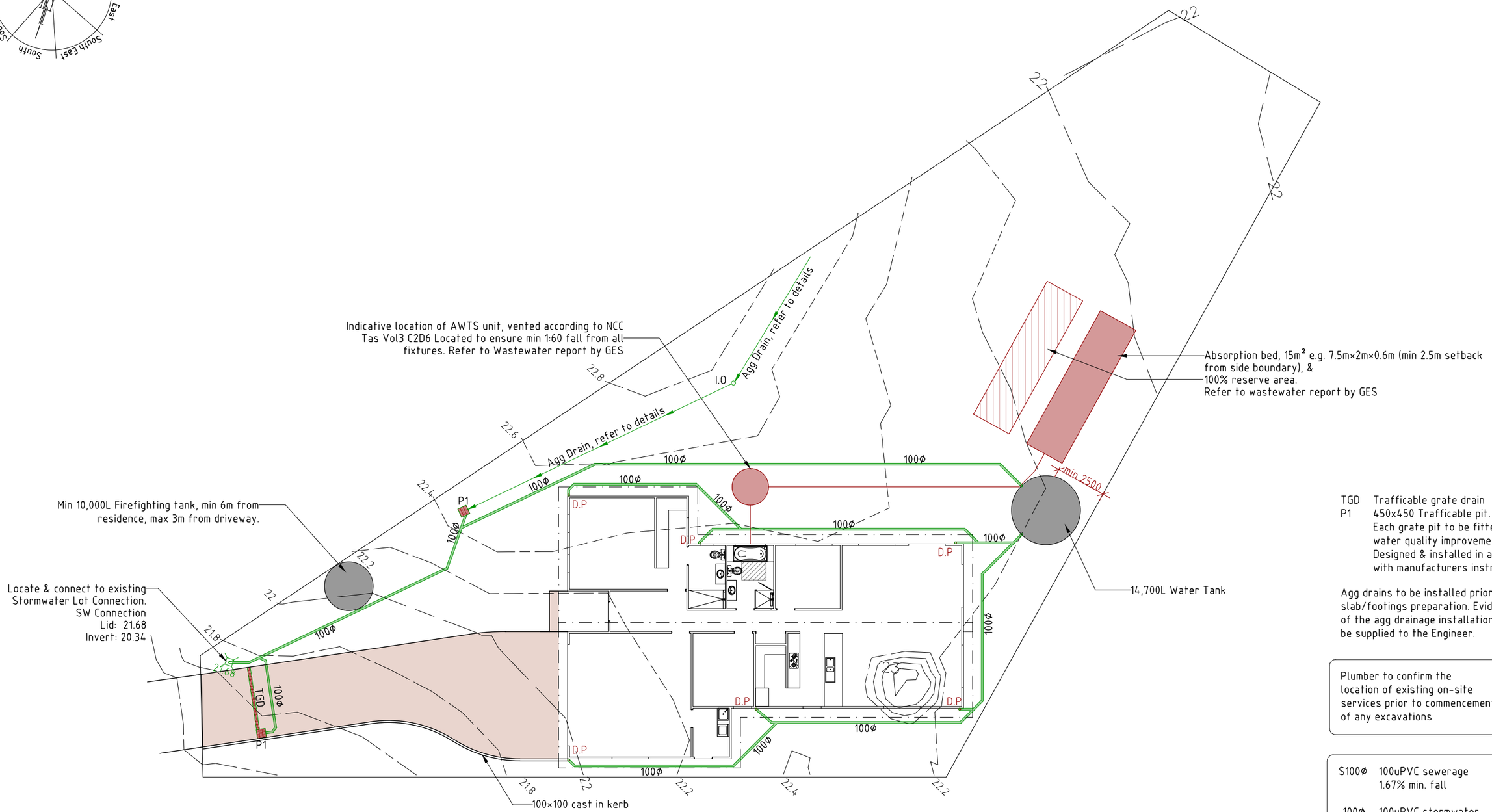

TGD Trafficable grate drain
P1 450x450 Trafficable pit.
Each grate pit to be fitted with water quality improvement device.
Designed & installed in accordance with manufacturers instructions

Agg drains to be installed prior to slab/footings preparation. Evidence of the agg drainage installation to be supplied to the Engineer.

Plumber to confirm the location of existing on-site services prior to commencement of any excavations

S100ø 100uPVC sewerage 1.67% min. fall

100ø 100uPVC stormwater 1:100 min. fall

100x100 cast in kerb to downslope of driveway perimeter
I.O. at each intersection & bend

DEVELOPMENT DRAWINGS ONLY
NOT FOR CONSTRUCTION

PROPOSED RESIDENCE FOR
SJM PROPERTY DEVELOPMENTS AT
16 MARSH ST OPOSSUM BAY

STORMWATER CONCEPT PLAN

SCALE 1:200
0 2000 4000

AMENDED

DATE
26/02/2026

DRAWING NO.
04 OF 07

DRAWN BY J.TILLEY
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WET AREAS TO COMPLY WITH NCC VOL. 2 PART H4D2, ABCB HOUSING PROVISIONS PART 10.2 AND AS 3740

WATERPROOFING OF ENCLOSED & UNENCLOSED SHOWERS:
FLOOR: Waterproof entire floor if no preformed shower base provided
WALLS: Waterproof to not less than 1800mm above the floor substrate
WALL JUNCTIONS AND JOINTS: Waterproof internal and external corners and horizontal joints within a height of 1800mm above the floor level with not less than 40mm width either side of the junction
WALL/FLOOR JUNCTIONS: Waterproof internal and external corners and joints
PENETRATIONS: Waterproof all penetrations

AREAS OUTSIDE THE SHOWER ON CONCRETE SLAB OR FC FLOORING:
FLOORS: Entire floor to be water resistant
WALLS/FLOOR JUNCTIONS: Waterproof all wall/floor junctions and where a flashing is used, the horizontal leg must be not less than 40mm

AREAS OUTSIDE THE SHOWER ON TIMBER FLOOR:
FLOORS: Waterproof entire floor
WALL/FLOOR JUNCTIONS: Waterproof all wall/floor junctions and where a flashing is used, the horizontal leg must be not less than 40mm.

AREAS ADJACENT TO NON-FREESTANDING BATHS AND SPAS (without showers):
FLOOR: Water resistant to entire floor on concrete or FC flooring; or Waterproof to entire floor on timber floor.
WALLS: Water resistant walls to a height of not less than 150mm above the vessels, for the full extent, where the vessel is within 75mm of a wall.
WALL JUNCTIONS AND JOINTS:Water resistant within 150mm above the vessel for the extent of the vessel to a width of 40mm either side of the junction
WALL/FLOOR JUNCTIONS: Waterproof for the extent of the vessel

AREAS ADJACENT TO INSERTED BATHS AND SPAS (without showers):
FLOOR: Water resistant to entire floor on concrete or FC flooring; or Waterproof to entire floor on timber floor.
HORIZONTAL SURFACES: Waterproof shelf adjoining bath or spa and include a waterstop under the vessel lip
WALLS: Waterproof walls to not less than 150mm above the lip of the vessel
WALL JUNCTIONS AND JOINTS: Waterproof junctions within 150mm of vessel to a width of 40mm either side of the junction
WALL/FLOOR JUNCTIONS: Waterproof wall/floor junctions 25mm above finished floor level
PENETRATIONS: Waterproof penetrations where they occur in horizontal surfaces, seal penetrations where they occur in vertical surfaces

OTHER AREAS (LAUNDRIES AND WCs):
FLOOR: Water resistant floor to entire room
WALLS: Water resistant wall to a height of not less than 150mm above the vessel for the extent of the vessel, where the vessel is within 75mm of wall
WALL JUNCTIONS AND JOINTS: Waterproof junctions where a vessel is fixed to a wall
WALL/FLOOR JUNCTIONS: Water resistant wall/floor junctions with horizontal leg not less than 40mm where flashing used
PENETRATIONS: Waterproof penetrations where they occur in surfaces required to be waterproof or water resistant.

WATERPROOFING SYSTEMS:
Waterproofing systems to be in accordance with ABCB Housing Provisions Part 10.2.6.

FALLS TO WET AREA FLOORS:
Where a floor waste is installed the continuous fall of a floor plane to the waste must be no less than 1:80 and no more than 1:50.

STEPDOWN SHOWERS:
Where stepdown showers are used, the shower area must be stepped down a minimum of 25mm below the finished floor level outside the shower. Refer to ABCB Housing Provisions Part 10.2.15 & relevant figures for details.

HOB CONSTRUCTION:
Shower hobs are to be constructed in accordance with ABCB Housing Provisions Part 10.2.16.

ENCLOSED SHOWERS WITH LEVEL THRESHOLD:
Enclosed showers with a level threshold must be provided with a waterstop in accordance with ABCB Housing Provisions Part 10.2.17 & relevant figures.

UNENCLOSED SHOWERS:
Unenclosed showers are to have a waterstop min. 1500mm from the shower rose with the vertical leg finishing flush with the top surface of the floor. Waterproof all all joins and junctions. Waterproof entire bathroom floor where unenclosed showers are installed. Refer to ABCB Housing Provisions Part 10.2.18 & relevant figures for details.

PENETRATIONS:
All penetrations in showers and wet areas must be waterproofed in accordance with ABCB Housing Provisions part 10.2.23.

FLASHINGS/JUNCTIONS:
All flashings and junctions in wet areas to be installed in accordance with ABCB Housing Provisions Part 10.2.24 & relevant figures.

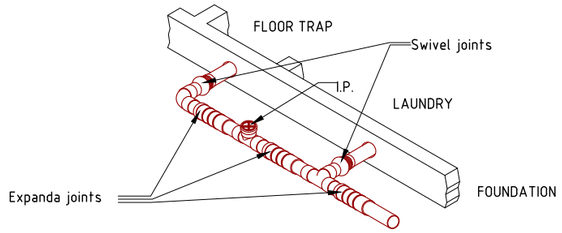
SHOWER SCREENS:
1900H Semi-frameless shower screens to comply with ABCB Housing Provisions Table 8.4.6 & AS 1288:2021. Minimum 6mm toughened safety organic coated glass, labelled to comply with industry standards. Install shower screens in accordance with ABCB Housing Provisions Part 10.2.32.

HYDRAULIC NOTES:
1. All plumbing shall be in accordance with the Tasmanian Plumbing Regulations, AS 3500 and to the local authority approval.
2. The location of the existing services where shown are approximate only and shall be confirmed on site where possible. Determine location of existing power, Telstra, water and drainage services prior to commencing new work.
3. Conceal all pipework in ceiling space, ducts, cavities, wall chases, cupboards etc. unless otherwise approved.
4. Refer to designers drawings and fixture and equipment technical specifications for pipework connections.
5. Make good all disturbed surfaces to match existing.
6. Remove all excess soil and surplus materials from site.
7. All plumbing to be installed by a licensed plumber.

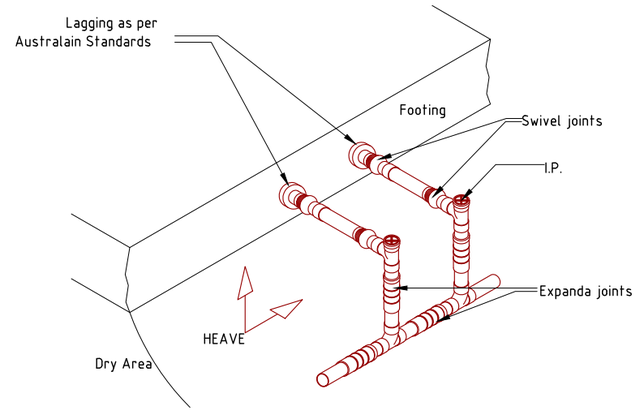
Install inspection openings at major bends for stormwater and all low points of downpipes.
All plumbing & drainage to be in accordance with local Council requirements.
Provide surface drain to back of bulk excavation to drain leveled pad prior to commencing footing excavation.
Stormwater line (100mm uPVC)
Sewer line (100mm uPVC)

SERVICES
The heated water system must be designed & installed with Part B2 of NCC Vol. 3 - Plumbing Code of Australia
Thermal insulation for heated water piping must:
a) be protected against the effects of weather and sunlight; and
b) be able to withstand the temperatures within the piping; and
c) use thermal insulation in accordance with AS/NZS 4859.1

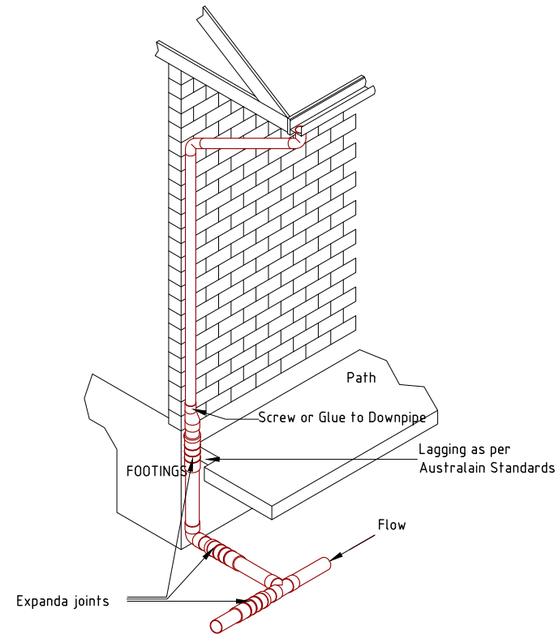
Heated water piping that is not within a conditioned space must be thermally insulated as follows:
1. Internal piping:
   a) All flow and return internal piping that is -
      (i) within an unventilated wall spaces
      (ii) within an internal floor between storeys; or
      (iii) between ceiling and insulation and a ceiling
   Must have a minimum R-value of 0.2 (ie. 9mm of closed cell polymer insulation)
2. Piping located within a ventilated wall space, an enclosed building subfloor or a roof space:
   a) All flow and return piping
   b) Cold water supply piping and Relief valve piping within 500mm of the connection to central water heating system
   Must have a minimum R-value of 0.45 (ie. 19mm of closed cell polymer insulation)
3. Piping located outside the building or in an unenclosed building sub-floor or roof space
   a) All flow and return piping.
   b) Cold water supply piping and Relief valve piping within 500mm of the connection to central water heating system
   Must have a minimum R-value of 0.6 (ie. 25mm of closed cell polymer insulation)
   Piping within an insulated timber framed wall, such as that passing through a wall stud, is considered to comply with the above insulation requirements.



GUIDELINES FOR PVC-U DRAINAGE SYSTEM WITH EXPANSION AND SWIVEL JOINT LOCATIONS FOR REACTIVE SOILS



GUIDELINES FOR PVC-U DRAINAGE SYSTEM WITH EXPANSION AND SWIVEL JOINT LOCATIONS FOR REACTIVE SOILS



GUIDELINES FOR PVC-U DRAINAGE SYSTEM WITH EXPANSION AND SWIVEL JOINT LOCATIONS FOR REACTIVE SOILS

Hot & Cold Water Nominal Diameters	
Branch off takes	Min. DN20
Max. off take length 6m	DN18
Max. off take length 3m	DN15
Max. off take length 1m	DN10

Insulation Schedule		
Heated water pipes Type	Size Range	Insulation
Circulating Line	32-40	25mm Rockwool with foil wrap
Branch Line	20-25	19mm Bradflex
Offtake	18	13mm Bradflex
Cold water pipes exposed Type	Size Range	Insulation
All	>20	13mm Bradflex
Other cold watere pipes Type	Size Range	Insulation
All	All	Not required

NOTE: Water pipes associated directly with plan equipment shall be insulated in accordance with the manufacturers instructions for a typical installation

Surface drainage to conform with NCC Vol. 2 Part H2D2.
NOTE: 50mm fall required over first 1m from building.

IMPORTANT NOTICE FOR ATTENTION OF OWNER:
The owners attention is drawn to the fact that foundations and associated drainage in all sites requires continuing maintenance to assist footing performance. Advice for foundation maintenance is contained in the CSRIO Building Technology File 18 and it is the owners responsibility to maintain the site in accordance with that document.

DEVELOPMENT DRAWINGS ONLY
NOT FOR CONSTRUCTION

PROPOSED RESIDENCE FOR
SJM PROPERTY DEVELOPMENTS AT
16 MARSH ST OPOSSUM BAY

PLUMBING NOTES

DATE
26/02/2026

DRAWN BY J.TILLEY
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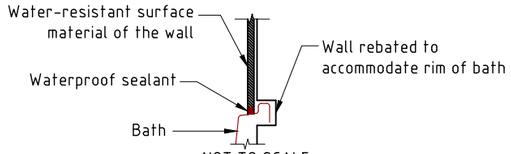
SCALE N/A

AMENDED

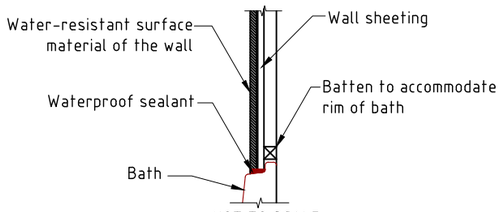
DRAWING NO.
05 OF 07

Certified: G. Tilley Accreditation No.CC6201H



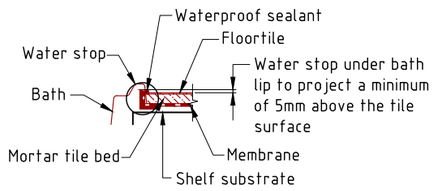
NOT TO SCALE

BATH/WALL JUNCTION - RECESSED



NOT TO SCALE

BATH/WALL JUNCTION - BATTENED

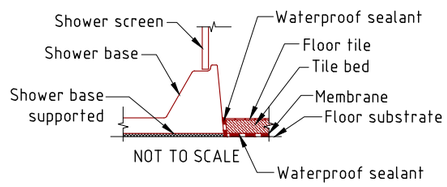


NOT TO SCALE

BATH/SHELF JUNCTION

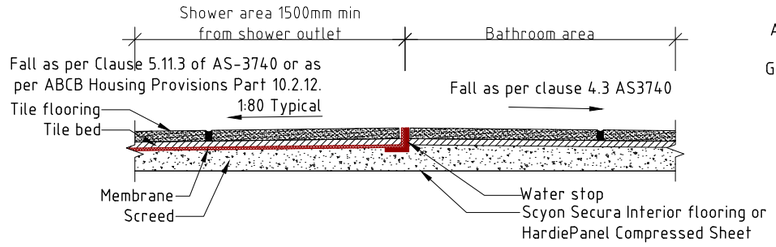
NOT TO SCALE

TYPICAL PREFORMED SHOWER BASE WALL/FLOOR JUNCTION



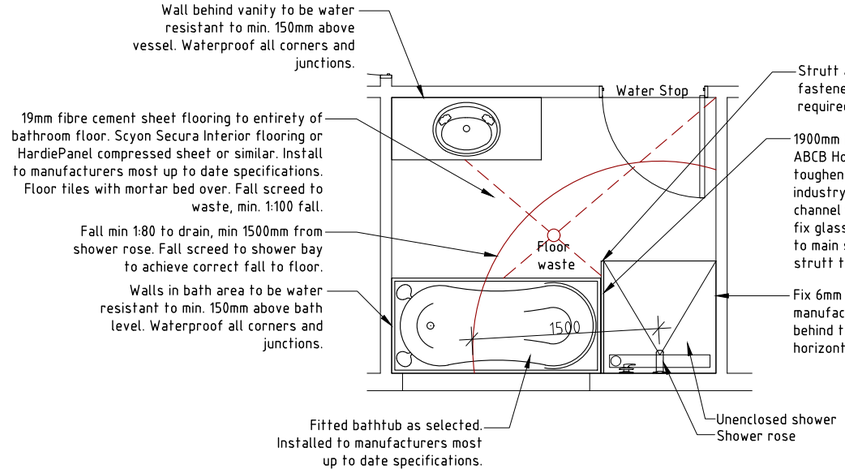
NOT TO SCALE

TYPICAL PREFORMED SHOWER BASE/FLOOR JUNCTION ON TIMBER FLOORS, INCLUDING PARTICLEBOARD, PLYWOOD AND OTHER TIMBER MATERIALS



TYPICAL TERMINATION OF MEMBRANE AT EXTENT OF SHOWER AREA

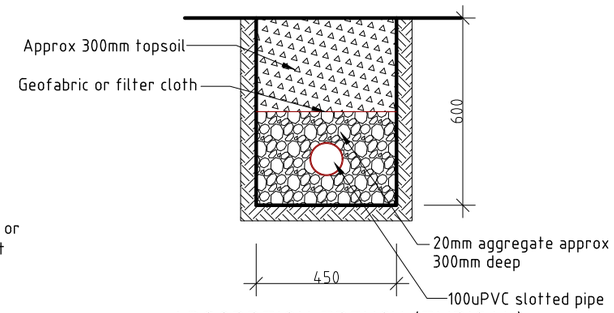
Scale 1:5



WET AREA DETAIL - BATHROOM

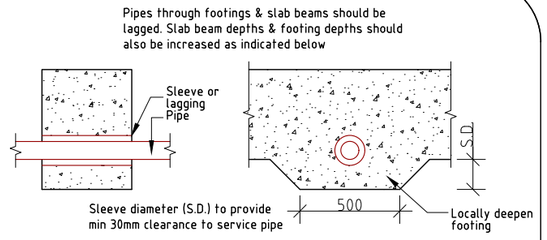
Scale 1:50

Seal all joints, gaps & wall junctions with PVA sealant - cover floor/wall junctions min R6: 2 coats of approved PVA membrane installed to manufacturers instructions and on top of the screed to ensure waterproof membrane is drained to the floor waste, including cloth tape to wall junctions and penetrations. To floor, continue 50mm up vertical surfaces & to shower bay 1800x1500 each way from shower rose or to shower screen. To timber skirting or door architrave to stop <25mm above finished floor level.



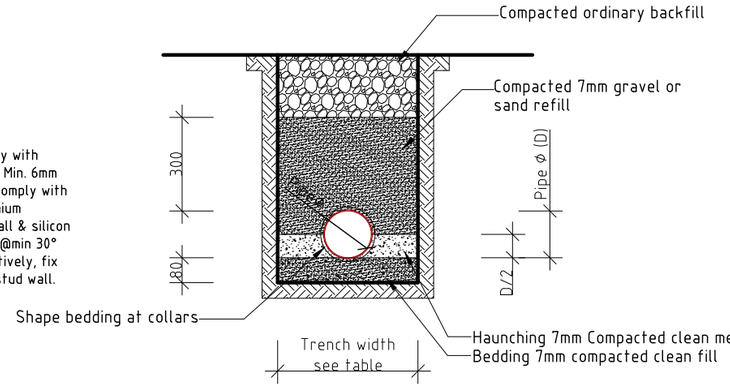
ABSORPTION TRENCH (TYPICAL)

Scale 1:20



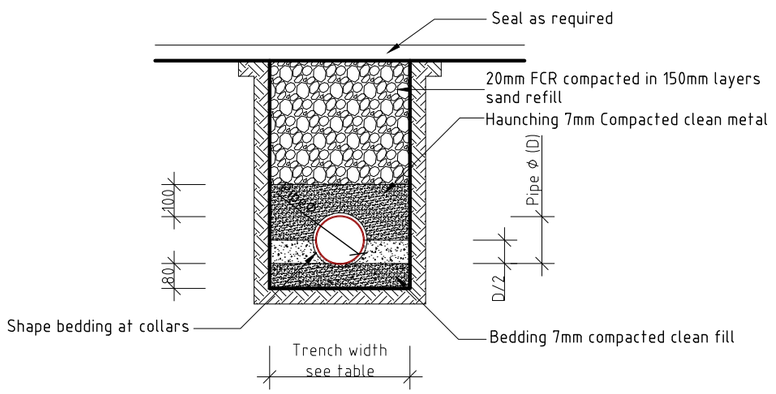
FLEXIBLE CONNECTION FOR SERVICE PIPES PASSING THROUGH FOOTINGS

Scale 1:20



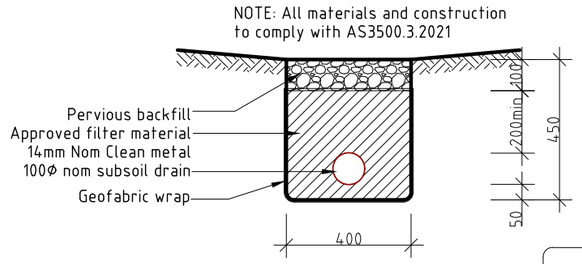
PIPE TRENCH DETAIL TO NON-TRAFFICABLE AREAS (TYPICAL)

Scale 1:20



PIPE TRENCH DETAIL TO TRAFFICABLE AREAS (TYPICAL)

Scale 1:20



AGG DRAIN DETAIL (TYPICAL)

Scale 1:20

TRENCH WIDTHS	
Pipe diameter	Min trench width
Less than 50mm	250
75-100mm	450
150-300mm	600
>300mm	ø plus 300mm

Surface drainage to conform with NCC Vol. 2 Part H2D2.
NOTE: 50mm fall required over first 1m from building.

IMPORTANT NOTICE FOR ATTENTION OF OWNER:
The owners attention is drawn to the fact that foundations and associated drainage in all sites requires continuing maintenance to assist footing performance. Advice for foundation maintenance is contained in the CSRIO Building Technology File 18 and it is the owners responsibility to maintain the site in accordance with that document.

DEVELOPMENT DRAWINGS ONLY
NOT FOR CONSTRUCTION

PROPOSED RESIDENCE FOR
SJM PROPERTY DEVELOPMENTS AT
16 MARSH ST OPOSSUM BAY

PLUMBING DETAILS

DATE
26/02/2026

DRAWN BY J.TILLEY
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SCALE 1:20
0 200 400

AMENDED

DRAWING NO.
06 OF 07

Certified: G. Tilley Accreditation No.CC6201H

All Construction within a BAL-12.5 area shall be carried out in accordance with Sections 3 & 5 of AS3959:2018.

Subfloor supports shall be enclosed or be constructed of non-combustible material in accordance with Section 5 of AS3959:2018.

Unenclosed subfloors shall be constructed of non-combustible materials or bushfire resistant timbers as specified in Appendix F of AS3959:2018.

Walls within 400mm of ground or less than 400mm above decks, carport roofs, awnings and similar elements shall be constructed of:

- masonry veneer with a minimum thickness of 90mm; or
- Precast or in situ concrete walls; or
- fibre-cement sheet cladding with a minimum thickness of 6mm; or
- Bushfire resisting timber as specified in Appendix F of AS3959:2018; or
- Steel sheeting

All joints in walls are to be covered, sealed, overlapped, backed or butt-jointed.

Vents and weepholes shall be screened with corrosion-resistant mesh with maximum aperture opening sizes of 2mm.

All external glazed doors & windows shall be made of metal and shall be screened to openable portions with metal framed screens with maximum aperture opening sizes of 2mm. All glazing elements to be minimum 4mm thick Grade A safety glass. Doors to be tight-fitting to the frame.

External hinged doors to be a minimum 35mm thick, with solid timber for a minimum of 400mm measured vertically above the threshold. Door framing to be metal or bushfire resisting timber as specified in Appendix F of AS3959:2018. All external doors to be tight-fitting to frames.

Garage doors shall be constructed of non-combustible material or bushfire resisting timber as specified in Appendix F of AS3959:2018 for a minimum vertical height of 400mm above the ground when the door is closed. Suitable weather strips and draught seals or brushes to be fitted to door frame if guide tracks not provided.

All roofing materials to be of non-combustible materials. All roof/wall and roof/roof junctions shall be sealed with appropriate screening with maximum mesh aperture size of 2mm in accordance with Clause 3.6 of AS3959:2018. Sheet roof shall have any gaps sealed with corrosion-resistant mesh with maximum aperture size of 2mm.

All eave and roof ventilation to be screened with non-combustible ember resistant mesh with maximum mesh aperture size of 2mm. Eave lighting to be adequately sealed and not compromise the performance of the light.

All Verandah, carport and awnings roofs that are part of the main roof space to comply with roof BAL requirements. If verandah, carport or awning roof separated from the main roof space, shall have a non-combustible roof covering, except if roof covering is translucent or transparent, in accordance with Section 5 of AS3959:2018.

Penetrations in roof to be sealed with non-combustible materials. Openings to roof vent pipes or vented roof lights or similar shall be protected with corrosion-resistant mesh with maximum aperture size of 2mm.

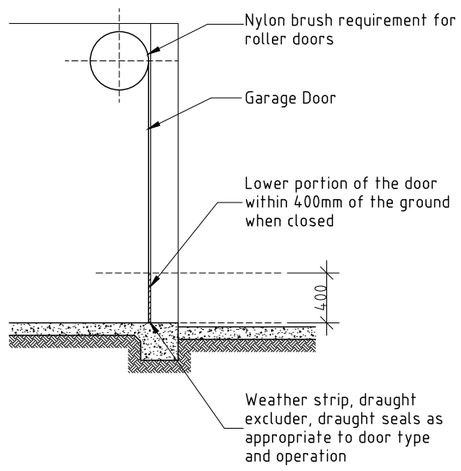
Roof mounted evaporative cooling units shall be fitted with non-combustible cover with corrosion-resistant mesh covers with max. mesh aperture sizes of 2mm.

Gutter and valley leaf guards shall be of non-combustible material where fitted.

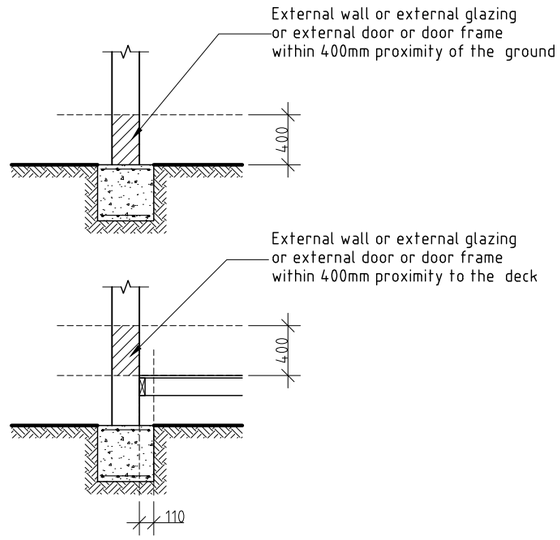
All decking and stair treads within 300mm horizontally of an external glazed element that is less than 400mm vertically from the surface of the deck, is to be of bushfire resistant timber as specified in Appendix F of AS3959:2018, or be constructed of non-combustible material.

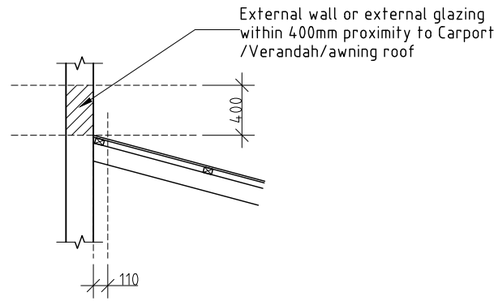
Verandah posts shall be mounted on galvanized stirrups with min 75mm clearance to adjacent finished ground level.

All exposed above ground water and gas supply pipes shall be metal.



VEHICLE ACCESS DOOR (GARAGE DOORS)
SCALE 1:50





EXTERNAL WALLS OR EXTERNAL GLAZING, OR EXTERNAL DOORFRAMES WITHIN THE LIMITS ABOVE GROUND, DECKS, CARPORT ROOFS
SCALE 1:50

TABLE F1 OF AS3959
BUSHFIRE-RESISTANT SPECIES

Standard trade name	Botanical name
Ash, silvertop	Eucalyptus sieberi
Blackbutt	Eucalyptus pilularis
Gum, red river	Eucalyptus camaldulensis
Gum, spotted	Corymbia maculata
Ironbark, red	Eucalyptus sideroxylon
Kwila (Merbau)	Intsia bijuga
Turpentine	Syncarpia glomulifera

PROPOSED RESIDENCE FOR
SJM PROPERTY DEVELOPMENTS AT
16 MARSH ST OPOSSUM BAY

BAL 12.5 NOTES

DATE
26/02/2026

DRAWN BY J.TILLEY
email: qbtilley7@bigpond.com
phone ph 0400 671 582

SCALE 1:50
0 500 1000

AMENDED

DRAWING NO.
07 OF 07

Certified: G. Tilley Accreditation No.CC620H

Flüssig Engineers
Level 4 - 116 Bathurst St
Hobart TAS 7000

Ref: FE_26063_LA_REV00

Attention: SJM Property Developments

16 Marsh Street, Opossum Bay – Letter of Assessment

Rev No.	Description	Prepared by	Date
00	16 Marsh Street, Opossum Bay - Flood Desktop Assessment.	MM	23.01.2026

Introduction

This letter presents a summary assessment of the potential flood risk for the proposed development located at 16 Marsh Street, Opossum Bay, prepared in response to Clarence City Council's request for further information regarding C12.0 of the Tasmanian Planning Scheme. The assessment was completed to address the site's inclusion within the Flood Prone Hazard Area Code identified in both LISTmap Tasmania and Clarence City Council flood mapping layers.

This review is based solely on publicly available flood data, LiDAR terrain, and aerial imagery. No site-specific hydraulic or hydrologic modelling has been undertaken, and this summary is intended only to support Council's review process, not for detailed design or certification purposes.

Purpose of Assessment

The purpose of this desktop review is to:

- Evaluate publicly available flood data affecting the subject site.
- Assess flood risk implications for the proposed development layout.
- Offer planning guidance regarding existing lot in flood-affected areas.

Existing Flood Mapping and Site Characteristics

The property is situated in Marsh Street and slopes towards the south-west corner of the lot. The lot is zoned as Low Density Residential. The catchment for this site originates from Den Hill with an average gradient of 7-9% to the site. The site forms part of a catchment that naturally directs surface runoff in this direction.

The proposed development for the site includes:

- A proposed habitable dwelling
- Proposed Driveway

This assessment has been based on the following information:

- LISTmap Tasmania – flood-prone land overlay and 1% AEP mapping
- Clarence City Council and SES Tasmanian Strategic Flood Map data
- Client-provided development layout
- Client-provided survey information
- Topographic and aerial imagery (via LISTmap)

No site visits, detailed surveys, or hydraulic modelling were undertaken. According to the State Emergency Service (SES), and Clarence City Council flood mapping, the site is within an overland flood-prone area, with a hazard category of H2 during a 1% AEP + CC flood event which is isolated to the natural depression in the northern corner of the lot.

The flood overlay extends across the northern section of the lot with the whole development occurring outside these areas. Flood depths of up to 0.30 m are observed in the northern corner of the lot with a maximum hazard rating of H2. The localised area of deeper flooding shown within the lot is considered likely to reflect limitations associated with the resolution and smoothing of the regional DEM used in the statewide assessment, rather than site-specific overland flow behavior. Apart from this localised area, most of the other depths in the northern area of the lot are under 0.12 m with a hazard rating of H1.

An open drain is proposed along the eastern lot boundary which is likely to assist in managing overland flow paths, providing additional protection to the proposed building and the adjoining property, while maintaining the existing natural drainage pattern.

Figure 1. Proposed Development 16 Marsh Street, Opossum Bay showing 1% AEP Hazard rating (SES)

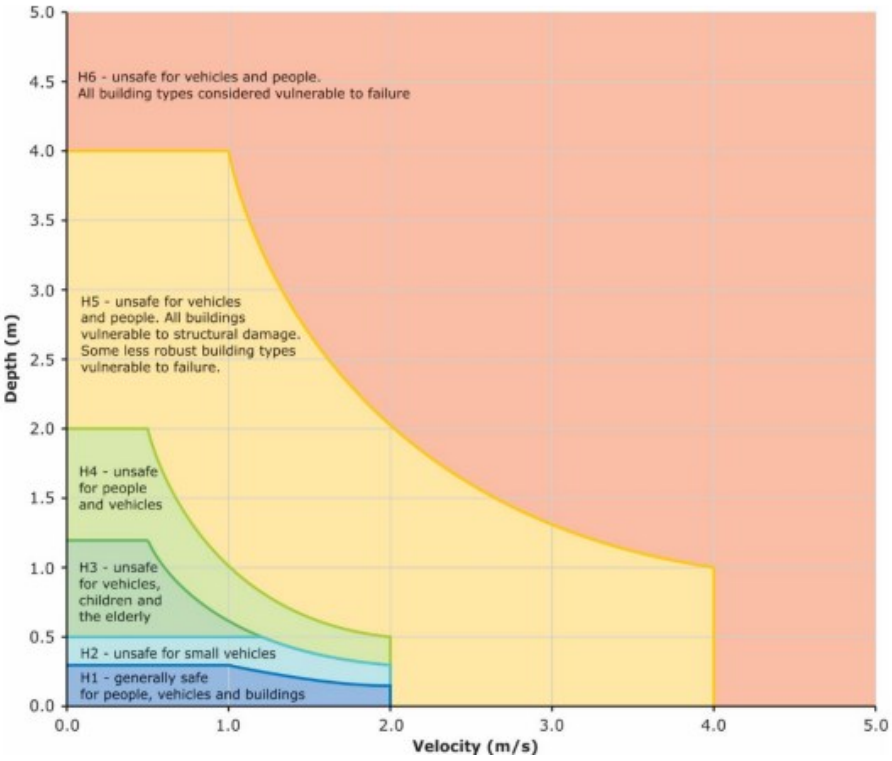


Figure 2. Hazard Categories Australian Disaster and Resilience Handbook

Flood Prone Area Hazard Code C12 Compliance

Based on the desktop flood assessment, shallow overland flow across the site is expected to generally follow existing flow paths from the northeast. An open drain is proposed open drain along the eastern lot boundary to assist in guiding these low-depth flows toward the natural depression along the northern lot boundary and away from habitable buildings. The proposed buildings and associated works do not appear to increase flood risk to adjacent land or public infrastructure.

Conclusion

Based on this desktop assessment and the available public mapping:

- Shallow overland flow is present within the northern portion of the lot, with flood depths of up to approximately 0.30 m located away from the proposed habitable dwelling, and site access remaining free from flooding.
- The localised area of deeper flooding within the lot may reflect limitations associated with the underlying digital elevation model used in the statewide SES flood mapping.
- The proposed dwelling footprint and all building entries are located outside the mapped inundation extents and, as such, the development does not trigger the minimum floor level performance requirements of the Building Regulations.
- As the proposed dwelling footprint is not inundated, the development does not trigger the minimum floor level performance requirements of the Building Regulations.

- Shallow overland flows are expected to generally follow existing flow paths, with a proposed open drain along the eastern lot boundary likely to assist in guiding flows toward the natural depression along the northern lot boundary.
- The proposed buildings and associated works do not appear to increase flood risk to adjoining land or public infrastructure and are considered consistent with the intent of C12.0 of the Flood-Prone Areas Hazard Code.

Disclaimer

This letter constitutes a desktop-level flood risk assessment and is based solely on information publicly available at the time of preparation.

The data sources used include digital flood overlays from LISTmap Tasmania, hazard mapping provided by Clarence City Council and the State Emergency Service (SES) which was established prior to the construction of the subdivision, publicly available topographic data, aerial imagery, and client-supplied development drawings.

No field verification or hydraulic/hydrologic modelling has been conducted as part of this assessment.

While all reasonable care has been taken to interpret the publicly available data, Flüssig Engineers does not accept any responsibility or liability for errors, omissions, or inaccuracies in the external data sources relied upon in this report. Any conclusions drawn are inherently limited by the quality, resolution, and currency of the information available.

Should you require a further site-specific investigations, please feel free to get in touch.

Regards,

Max W. Möller
BEng, FIEAust, EngExec, CPEng, NER, APEC Engineer, IntPE(Aus)
Managing Director / Senior Principal Civil Hydraulic Engineer

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16 Marsh St
Opossum Bay

SunTracker - Shadow Diagrams

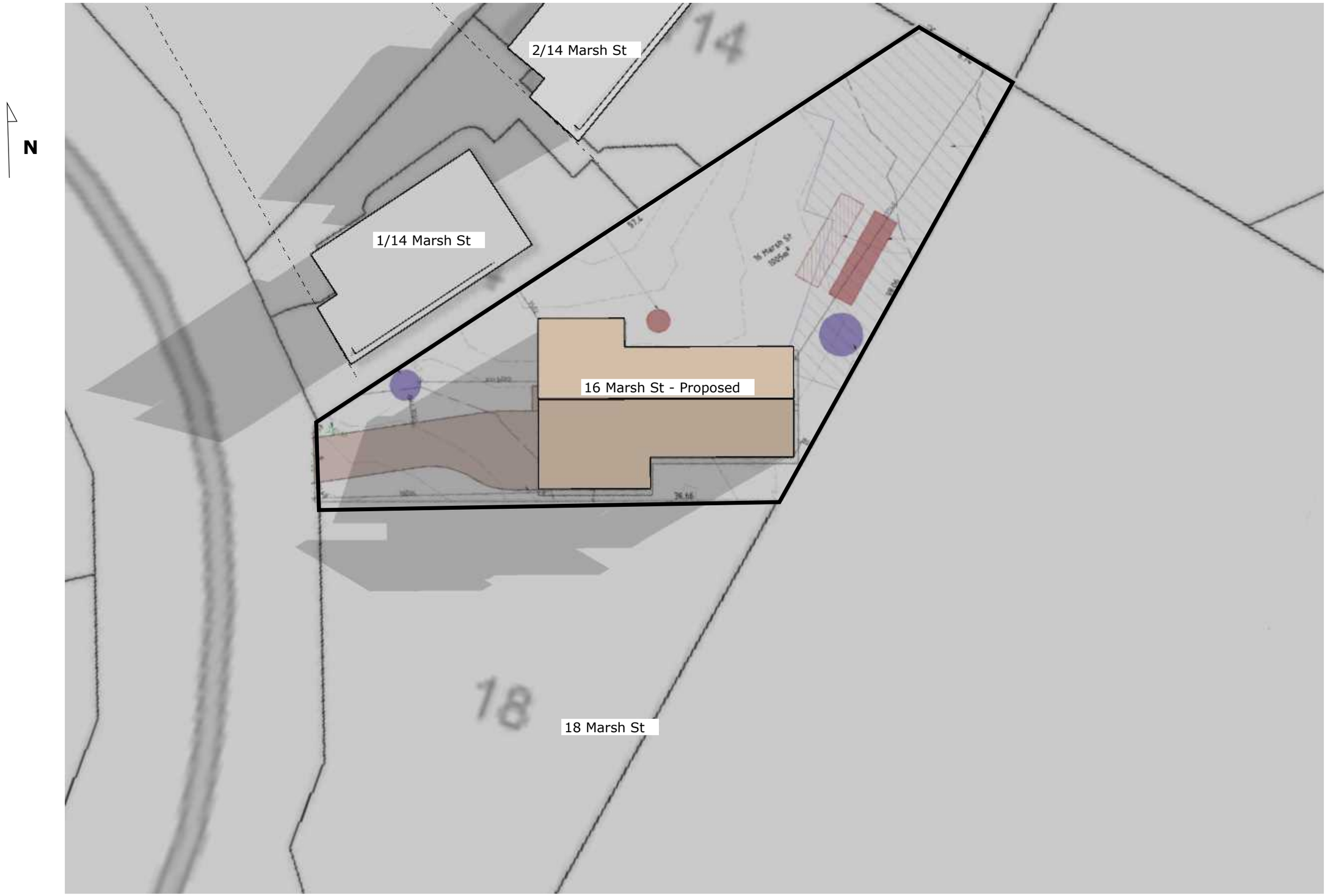
Scale 1:300

Neighbouring Properties
1/14,2/14 and 18 Marsh St.

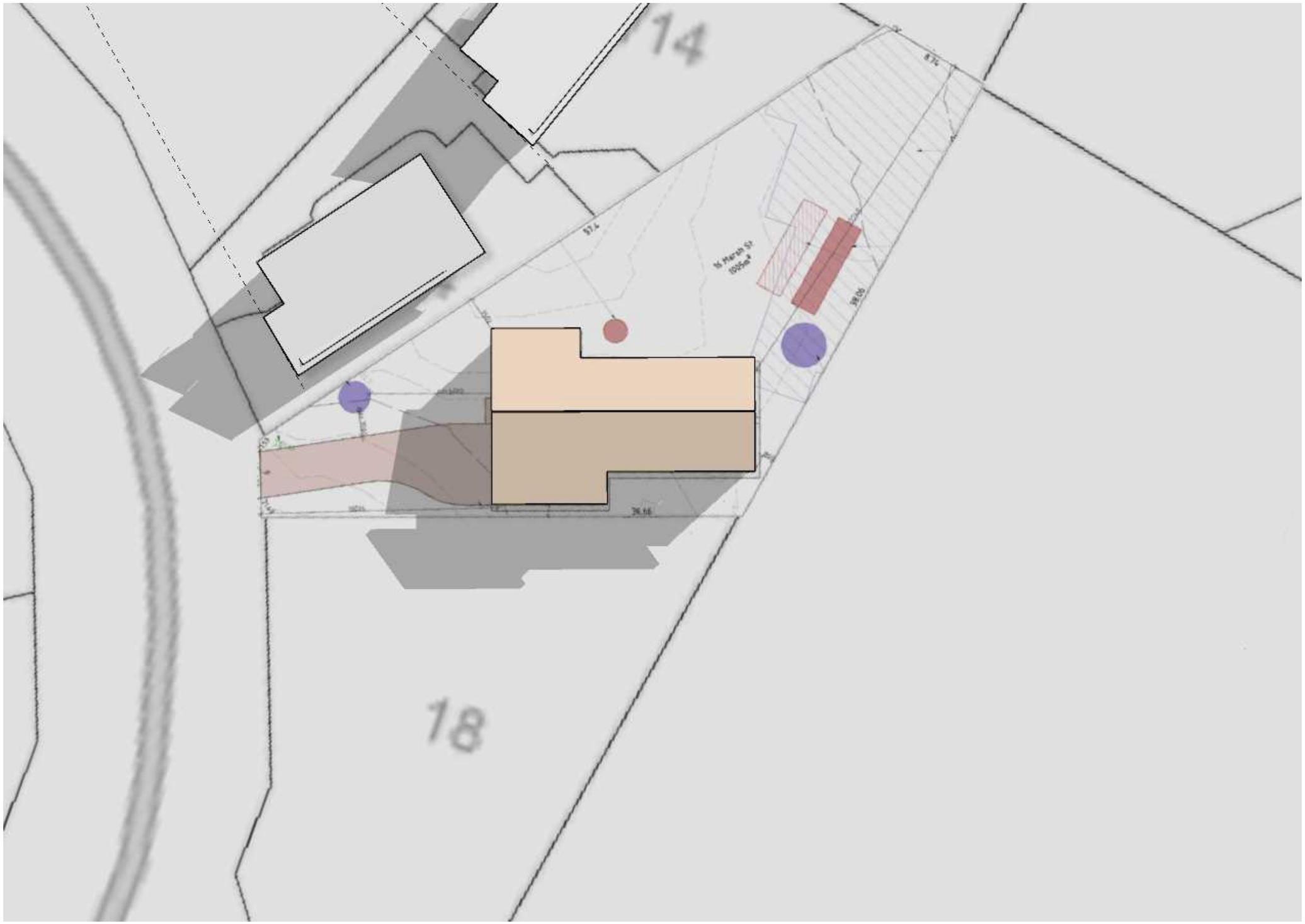
SunTracker - Shadow Diagrams

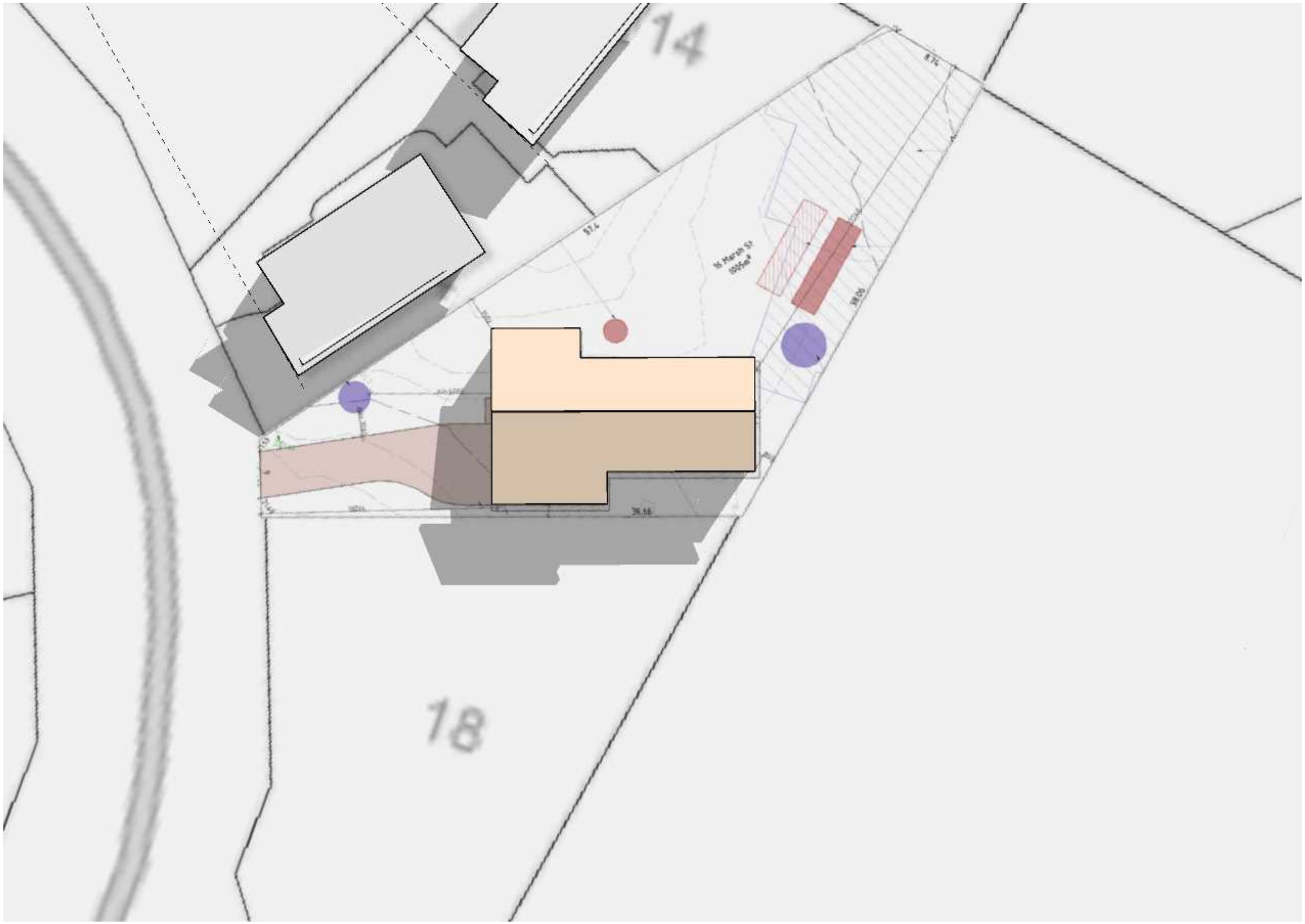
0900 - JUNE 21

1:300

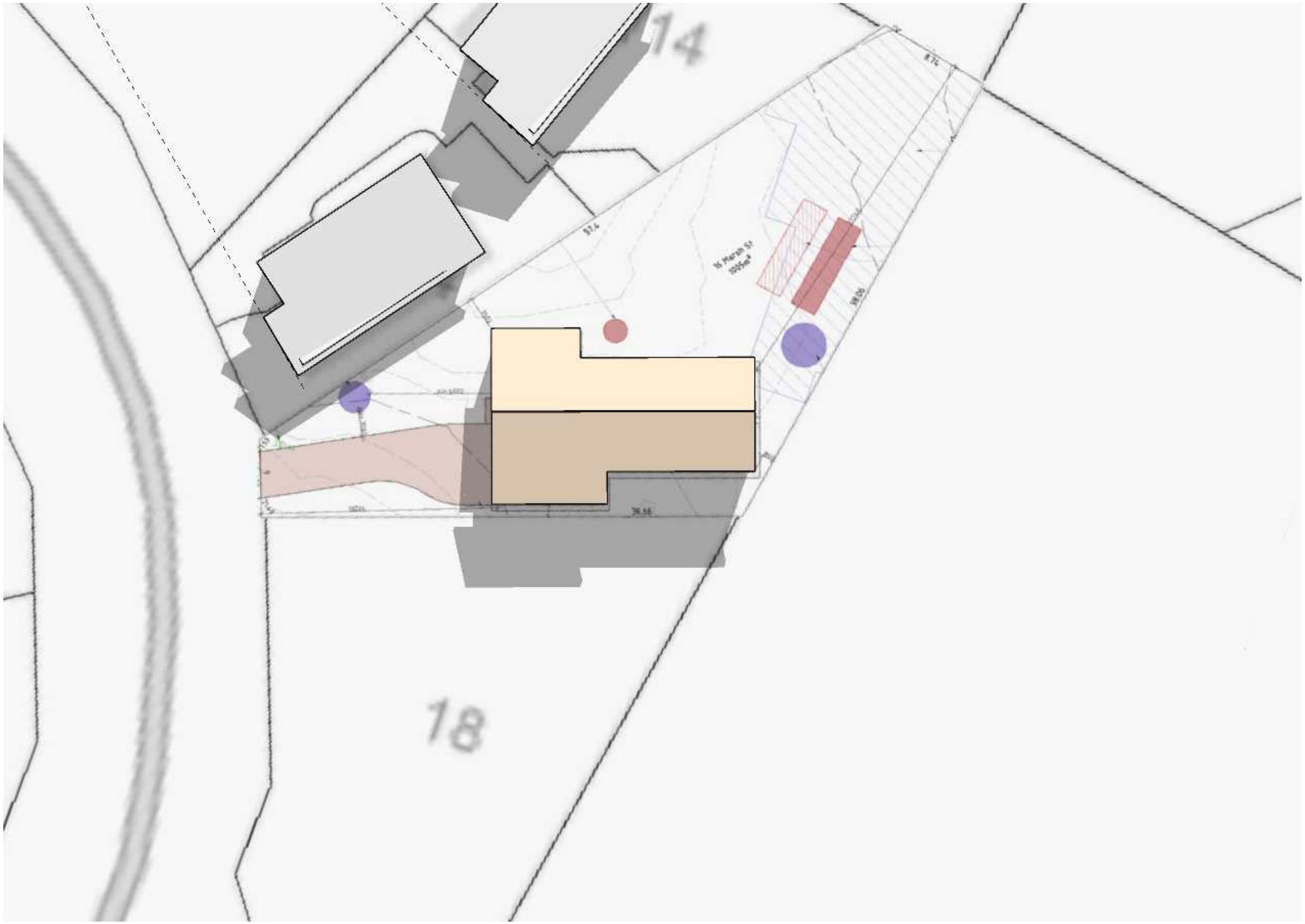


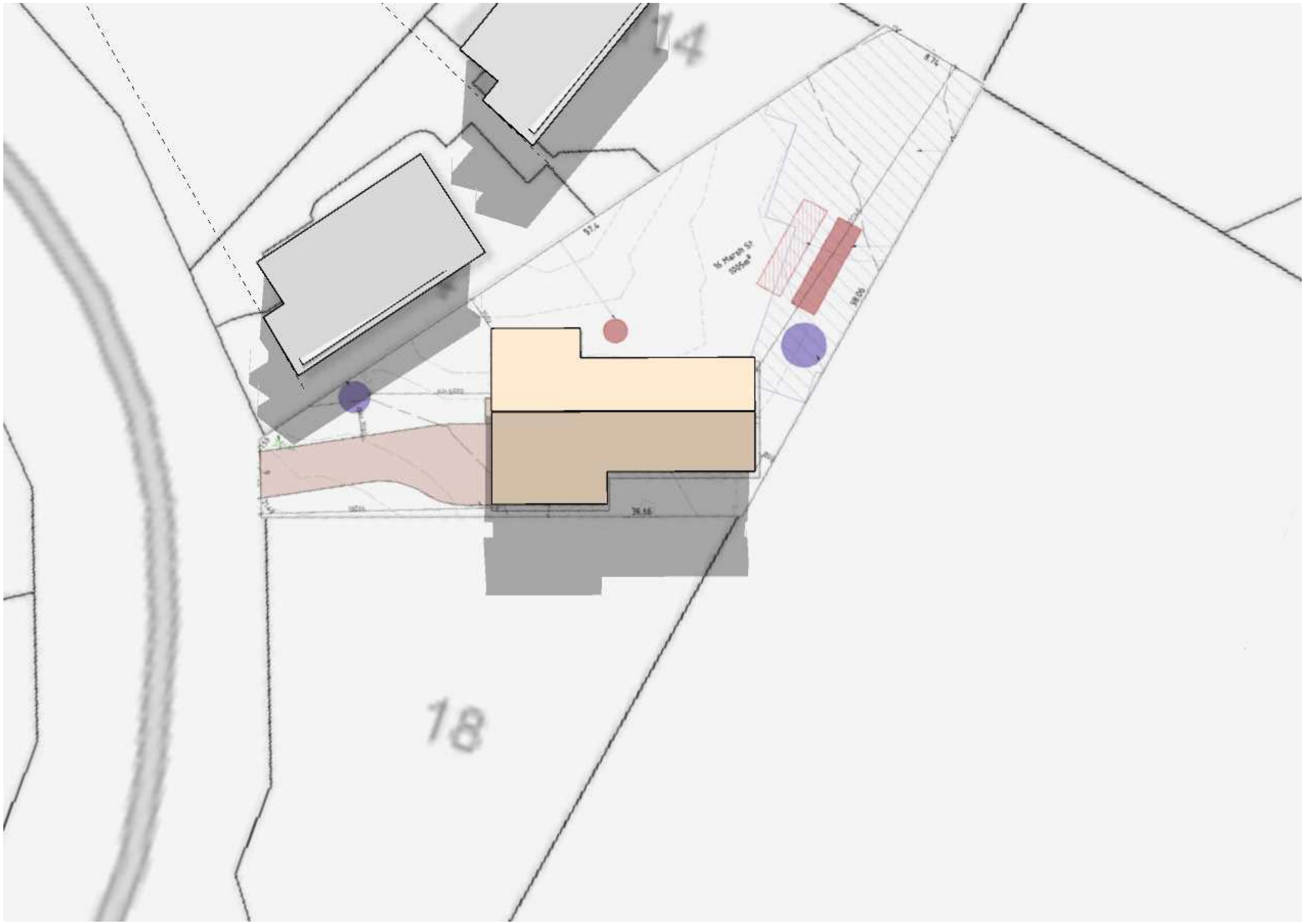
Shadowing by Sergei Nester www.viewbuild.com m: 0458 787 111

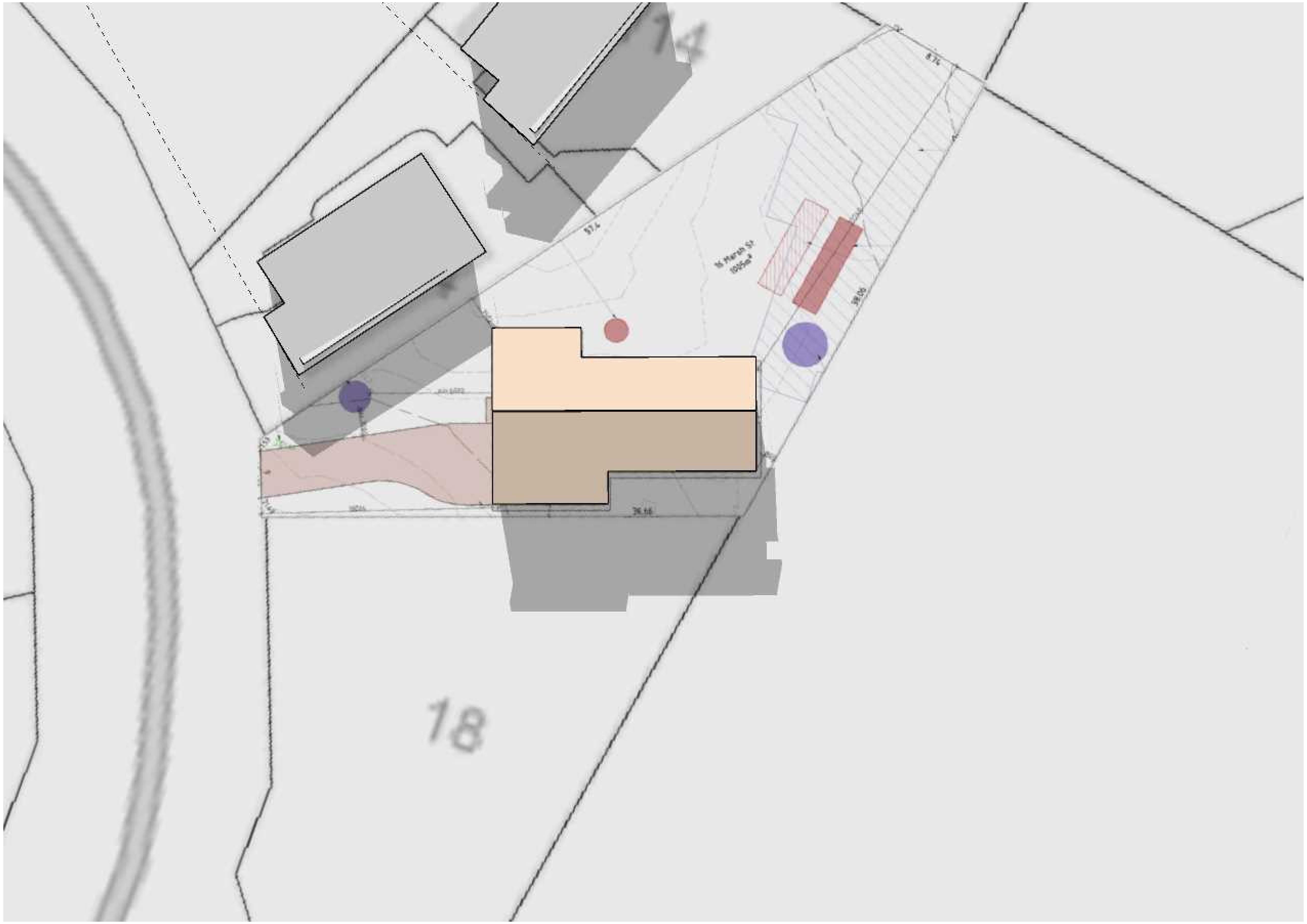


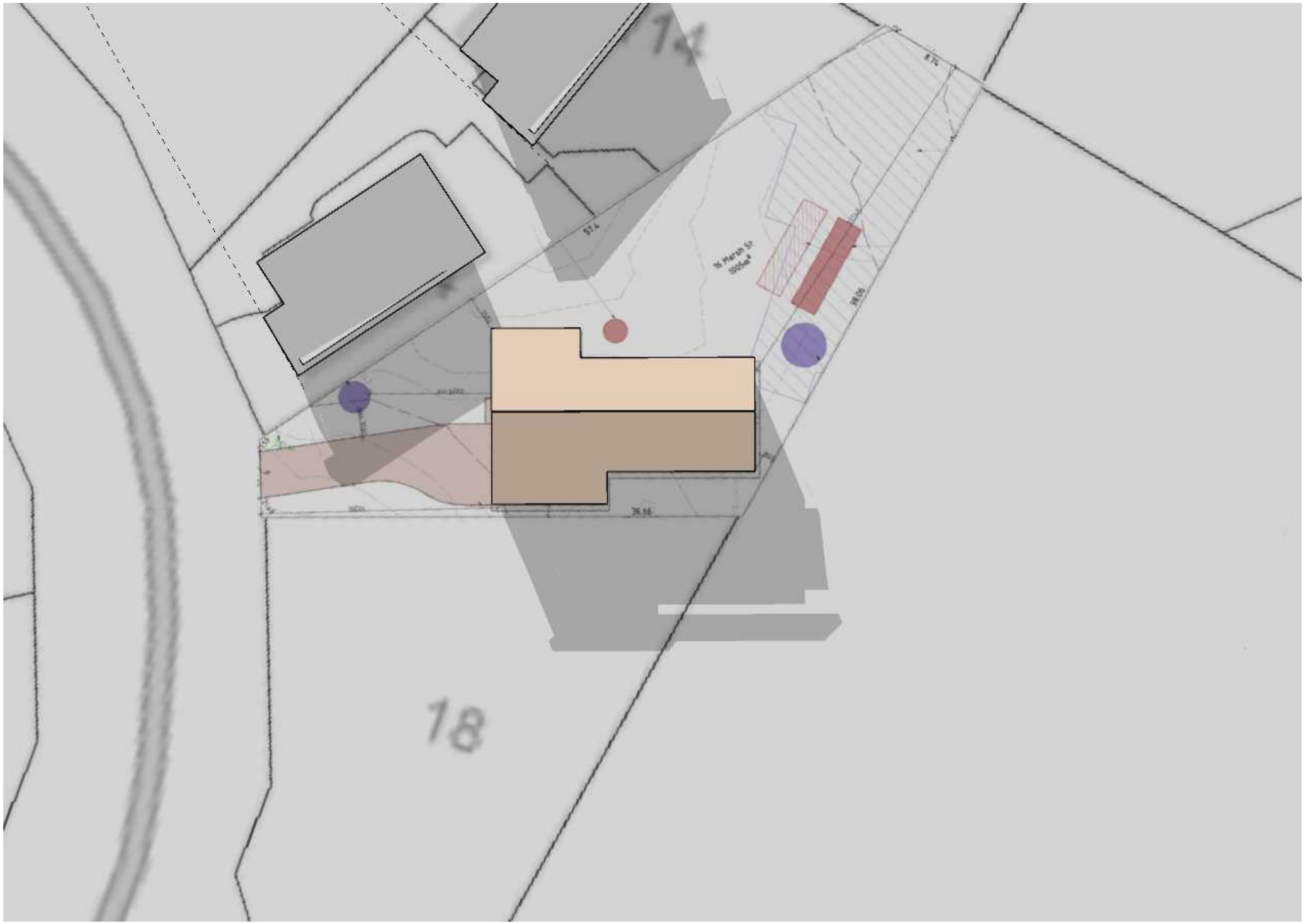


SunTracker - Shadow Diagrams **1200 - JUNE 21**









Bushfire Hazard Report

For proposed 18 Lot subdivision at 9 Marsh Street and 33 Spitfarm Road, Opossum Bay

Client: D. Carr

Prepared by: Sarah Bunce (BFP -159) (Certified by Andy Welling, BFP-135)

Date of Report: March 2020

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enviro-dynamics

environmental solutions for a changing world

Level 1, Philip Smith Centre, 2 Edward Street, Glebe

Contents

Executive Summary

This bushfire hazard report for a new 18 lot subdivision at 9 Marsh Street and 33 Spitfarm Road, Opossum Bay (Title References: 249718/1 and 165932/1) meets the requirement of a subdivision application within a bushfire prone area under the Clarence Interim Planning Scheme 2015, E1.0 Bushfire Prone Areas Code, and Planning Directive 5.1 (PD5.1).

The Code requires a new subdivision to achieve a minimum BAL 19 rating for all future dwellings on the newly formed lots. To illustrate the bushfire hazard management and protection measures needed to achieve the rating, a Bushfire Hazard Management Plan (BHMP) is also required by the PD5.1.

Exclusions apply to the subdivision based on managed land to the west and north. Low threat vegetation and non-vegetated areas exists in these directions consisting of dwellings with managed gardens, roads, and the sea. In addition, proposed Lots 15, 16 and 17 are greater than 50 m from classified grassland vegetation to the east and south and as such can achieve a BAL LOW rating meaning they are exempt from bushfire prone area measures.

Based on an assessment of the subdivision plan, neighbouring land uses, and separation distances to classified vegetation, the assessment has determined new dwellings within the designated building areas on Lots 1 to 14 and 18 will be within 50 m of grassland and will be able to achieve BAL 12.5 provided the following conditions are achieved:

- Building areas are designed for all proposed lots as indicated on the BHMP.
- All lots are managed in a low fuel condition as Hazard Management Areas (HMA) as per the Bushfire Hazard Management Plan (Attachment 1) from commencement of the development.
- A permanent 14 m wide separation distance (no build area) is designated inside the southern boundary of Lots 6, 7, 8 and 9.
- A permanent 14 m wide HMA is established and maintained on the western boundary of Lot 18 and outside the eastern boundaries of Lots 3, 4, 5 and 6. The HMA is managed in low fuel condition to achieve BAL 12.5 separation distances for the lots within 50 m of the grassland to the east as per Bushfire Hazard Management Plan (Attachment 1).
- A formal agreement is established on the Title of proposed Lot 18 to maintain 14 m wide HMA from commencement of construction of the subdivision and in perpetuity.

- Future habitable dwellings (Class 1a building) on Lots 1 to 14 and 18 comply with minimum construction standards for BAL 12.5 as per AS 3959 -2009 (Sections 3 and 5). Note Lots 15, 16 and 17 are more than 50m from Grassland and as such comply with minimum construction standards for BAL LOW as per AS 3959 -2009 (Sections 3).
- Subdivision roads meet all requirements of PD5.1 E1.6.2, Table E1, including Marsh Street.
- Property access to Lot 9 is more than 30 m long and provides access to three or more properties, as such it must comply with E1.6.2 and Table E2 Element B and D of PD5.1.
- Property access to all other lots are less than 30 m for which there are no specified design and construction requirements however access to the fire-fighting water supply must comply with E1.6.3 and Table E5 Element E of PD5.1.
- Provision of fire-fighting water supply meets the requirements of PD5.1 E1.6.3 and Table E5 static water for fire fighting for all future dwellings established on the Lots 1 to 14 and 18. The existing static water supplies require upgrading to meet these requirements.

Subject to implementing the preceding conditions and the Bushfire Hazard Management Area Plan in Attachments 1, the requirements of the Bushfire-Prone Areas Code for subdivision are realised under the acceptable solutions.

Disclaimer

The assessor has taken all reasonable steps to ensure that the information provided in this assessment is accurate and reflects the conditions on and around the site and allotment on the date of this assessment.

Whilst measures outlined in this report are designed to reduce the bushfire risk to the dwelling, due to the unpredictable nature of wildfires and impacts of extreme weather conditions the survival of the structure during a fire event cannot be guaranteed.

Andrew Welling – ENVIRO-DYNAMICS PTY LTD
ACCREDITED BUSHFIRE ASSESSOR (BFP-135)
CERTIFICATE No: ED0150 DATE: 03/03/2020
Signed

1 Introduction

The following Bushfire Hazard Assessment Report forms part of the planning requirements of the Clarence Interim Planning Scheme 2015 and Planning Directive No. 5.1 (PD5.1) Bushfire-Prone Areas Code for subdivision of 18 lots located within a bushfire prone area. The Code requires that a new subdivision achieves a minimum BAL rating of BAL 19 for all future dwellings on newly formed lots within a bushfire prone area. Under the Code, development standards must be certified by the Tasmania Fire Service (TFS) or an accredited person.

This report provides an assessment of the Bushfire Attack Level (BAL) and outlines protective features and controls that must be incorporated into the design and layout of the subdivision to ensure compliance with AS 3959-2009 Construction of Buildings in Bushfire Prone Areas and the Tasmania Fire Service publication: Guidelines for Development in Bushfire Prone Areas 2005.

1.1 Site Details

Landowner:	Mr D. Carr
Location:	9 Marsh Street and 33 Spitfarm Road, Opossum Bay Tasmania 7023
Title reference:	249718/1, 165932/1 PID: 5236792, 3241862
Municipality:	Clarence City Council
Zoning:	Village and Rural Resource
Planning Scheme Overlays:	Bushfire-Prone Area, Biodiversity Protection Area and Waterway and Coastal Protection Area
Type of Building:	New Class 1a building
Date of Assessment:	28th February 2020
Assessment Number:	ED0150

1.2 Subdivision Proposal

The proposed subdivision will see the formation of 18 lots and the upgrade of Marsh Street which will end in a cul-de-sac. 17 lots, including the balance lot, will be accessed from Marsh Street while Lot 9 will be accessed from Spitfarm Road. Six lots are internal lots (Lots 9, 10, 11, 15, 16 and 17)..

The two existing dwellings will be retained and the new subdivision will not be staged. Refer to Appendix 1 for Photos and Appendix 2 for the Site Plans.

1.3 Site Description

The approximately 10.6 ha site is located across 9 Marsh Street and 33 Spitfarm Road, Opossum Bay which is approximately 4.6 km north of South Arm Post Office and 70 m east of Opossum Bay beach (Figure 1). The site is situated on a rolling slope with a western aspect between 10 m and 35 m above sea level (Figure 2). Agricultural land across slope to the south and upslope to the east (Lot 18) has the potential to become unmanaged grassland. Across slope to the north and downslope to the west, the land is managed under existing dwellings and gardens. The underlying geology is undifferentiated Quaternary sediments of windblown and locally derived sand.

The lot is currently not serviced with power nor reticulated water.

Under the *Clarence Interim Planning Scheme 2015*, the land is zoned as Village in the western portion and Rural Resource across proposed Lot 18. The site has Biodiversity Protection Area and Watercourse Protection Area overlays (LISTmap 2020) in the far eastern portion of proposed Lot 18. These areas will not be impacted by the proposed subdivision and were considered in the selection of the proposed dwelling site on Lot 18.

There are weeds present on the site and the adjacent site to the south. Of note, is an infestation of Patterson's Curse, that has been treated but not eradicated. Patterson's curse should be contained within Clarence municipal boundaries to prevent spread to Zone A municipalities.

Figure 1 – Site Location Plan (Image source: LISTmap 2020)

2 Bushfire Attack Level Assessment

The following is a summary of the bushfire risk at the property.

Bushfire Hazard: Slope, grassland vegetation and fuel loads.

Bushfire Attack Mechanisms: Radiant heat, ember attack, wind, direct flame and smoke.

Bushfire Threat Direction: The highest bushfire threat to the proposed residence is from ember attack in the grassland vegetation upslope from the northeast and east.

There is no recorded fire history for the lot or Opossum Bay within the last 10 seasons (TheList 2020). The closest recorded fire was a contained prescribed burn approximately 750 m to the north in 2014.

Fire Danger Index: FDI 50 (this index applies across Tasmania).

Vegetation & Slope:

Grassland vegetation across 21A and 33 Spitfarm Road is the classified as the bushfire-prone vegetation with 100 m. This grassland is located across slope and upslope of the proposed subdivision while areas downslope (>10-15^{o}) to the west and across slope to the north are developed under managed land or sea.

Significant Natural Values:

No threatened flora species are recorded on the site (LISTmap 2020) or noted during the site visit.

The vegetation communities on the site are Agricultural grassland (FAG) and *Eucalyptus viminalis* - *Eucalyptus globulus* coastal forest and woodland, (DVC) which is listed as a threatened vegetation community under Schedule 3A of the *Nature Conservation Act 2002*. This forest community is located on the eastern portion of proposed Lot 18 and as such will not be impacted by the proposed subdivision footprint.

Refer to Table 1 for the summary of the BAL Assessment and Figure 2 for the BAL Assessment Area for the proposed subdivision.

Table 1 – Summary of Bushfire Site Assessment

Direction of slope	North	East	South	West
Proposed Lot 2				
Vegetation Classification [A]	MANAGED LAND	GRASSLAND	GRASSLAND	MANAGED LAND
Distance to classified vegetation	>100 m	9 m	>100 m	>100 m
Effective slope under vegetation	Across slope	Upslope	Across slope	Downslope >10-15°
Current BAL value for each side of the site	BAL LOW	BAL 29	BAL LOW	BAL LOW
Width of HMA to achieve BAL-19	NA	10-<14 m	NA	NA
Width of HMA to achieve BAL-12.5	NA	**14-<50 m**	NA	NA
Proposed Lots 3, 4 and 5				
Vegetation Classification [A]	MANAGED LAND	GRASSLAND	GRASSLAND	MANAGED LAND
Distance to classified vegetation	>100 m	0 m	>47 m	>100 m
Effective slope under vegetation	Across slope	Upslope	Across slope	Downslope >10-15°
Current BAL value for each side of the site	BAL LOW	BAL FZ	BAL 12.5	BAL LOW
Width of HMA to achieve BAL-19	NA	10-<14 m	10-<14 m	NA
Width of HMA to achieve BAL-12.5	NA	**14-<50 m**	**14-<50 m**	NA

Direction of slope	North	East	South	West
Proposed Lot 6				
Vegetation Classification [A]	MANAGED LAND	GRASSLAND	GRASSLAND	MANAGED LAND
Distance to classified vegetation	>100 m	0 m	0 m	>100 m
Effective slope under vegetation	Across slope	Upslope	Across slope	Downslope >10-15°
Current BAL value for each side of the site	BAL LOW	BAL FZ	BAL FZ	BAL LOW
Width of HMA to achieve BAL-19	NA	10-<14 m	10-<14 m	NA
Width of HMA to achieve BAL-12.5	NA	**14-<50 m**	**14-<50 m**	NA
Proposed Lots 7, 8 and 9				
Vegetation Classification [A]	MANAGED LAND	GRASSLAND	GRASSLAND	MANAGED LAND
Distance to classified vegetation	>100 m	>27 m	0 m	>100 m
Effective slope under vegetation	Across slope	Upslope	Across slope	Downslope >10-15°
Current BAL value for each side of the site	BAL LOW	BAL 12.5	BAL FZ	BAL LOW
Width of HMA to achieve BAL-19	NA	10-<14 m	10-<14 m	NA
Width of HMA to achieve BAL-12.5	NA	**14-<50 m**	**14-<50 m**	NA

Direction of slope	North	East	South	West
Proposed Lots 1 and 10-14				
Vegetation Classification [A]	MANAGED LAND	GRASSLAND	GRASSLAND	MANAGED LAND
Distance to classified vegetation	>100 m	>36 m	>29 m	>100 m
Effective slope under vegetation	Across slope	Upslope	Across slope	Downslope >10-15°
Current BAL value for each side of the site	BAL LOW	BAL 12.5	BAL 12.5	BAL LOW
Width of HMA to achieve BAL-12.5	NA	**14-<50 m**	**14-<50 m**	NA
Proposed Lot 18 (Balance Lot)				
Vegetation Classification [A]	GRASSLAND	GRASSLAND (WOODLAND)	GRASSLAND	GRASSLAND
Distance to classified vegetation	0 m	0 m	0 m	0 m
Effective slope under vegetation	Across slope	Upslope	Across slope	Upslope
Current BAL value for each side of the site	BAL FZ	BAL FZ	BAL FZ	BAL FZ
Width of HMA to achieve BAL-19	10-<14 m	10-<14 m	10-<14 m	10-<14 m
Width of HMA to achieve BAL-12.5	**14-<50 m**	**14-<50 m**	**14-<50 m**	**14-<50 m**

Direction of slope	North	East	South	West
Proposed Lots 15, 16 and 17				
Vegetation Classification [A]	MANAGED LAND	GRASSLAND	GRASSLAND	MANAGED LAND
Distance to classified vegetation	>100 m	>50 m	>50 m	>100 m
Effective slope under vegetation	Across slope	Upslope	Across slope	Downslope >10-15°
Current BAL value for each side of the site	BAL LOW	BAL LOW	BAL LOW	BAL LOW
Width of HMA to achieve BAL-12.5	NA	NA	NA	NA

[A] Vegetation within 100 m of the proposed subdivision is identified as Agricultural Land (FAG) (TasVeg 3.0) and is comprised of pasture grasses with the potential to become Grassland if not managed. The areas classified as Managed Land are a combination of waterways, paved road, gardens and buildings. There is a patch of Woodland with grass understorey upslope on the eastern boundary of Lot 18, more than 100 m from the subdivision.

* **Exclusion** – As per definitions in paragraph 2.2.3.2 of AS3959-2009, an 'Exclusion' is provided by Low threat vegetation and non-vegetated areas. At 9 Marsh Street and the western end of 33 Spitfarm Road, exclusions exist within 100 m of the proposed subdivision:

The Bushfire Attack Level is be classified BAL-LOW where the vegetation is one or a combination of any of the following:

- Non-vegetated areas, including **waterways**, **roads**, **footpaths**, **buildings** and **rocky outcrops**.
- Low threat vegetation, including grassland managed in a minimal fuel condition**, maintained lawns**, golf courses, maintained **public reserves and parklands**, vineyards, orchards, cultivated gardens, commercial nurseries, nature strips and **windbreaks.** NOTE: minimal fuel condition means there is insufficient fuel available to significantly increase the severity of the bushfire attack (recognisable as short-cropped for example, to a nominal height of 100 mm).

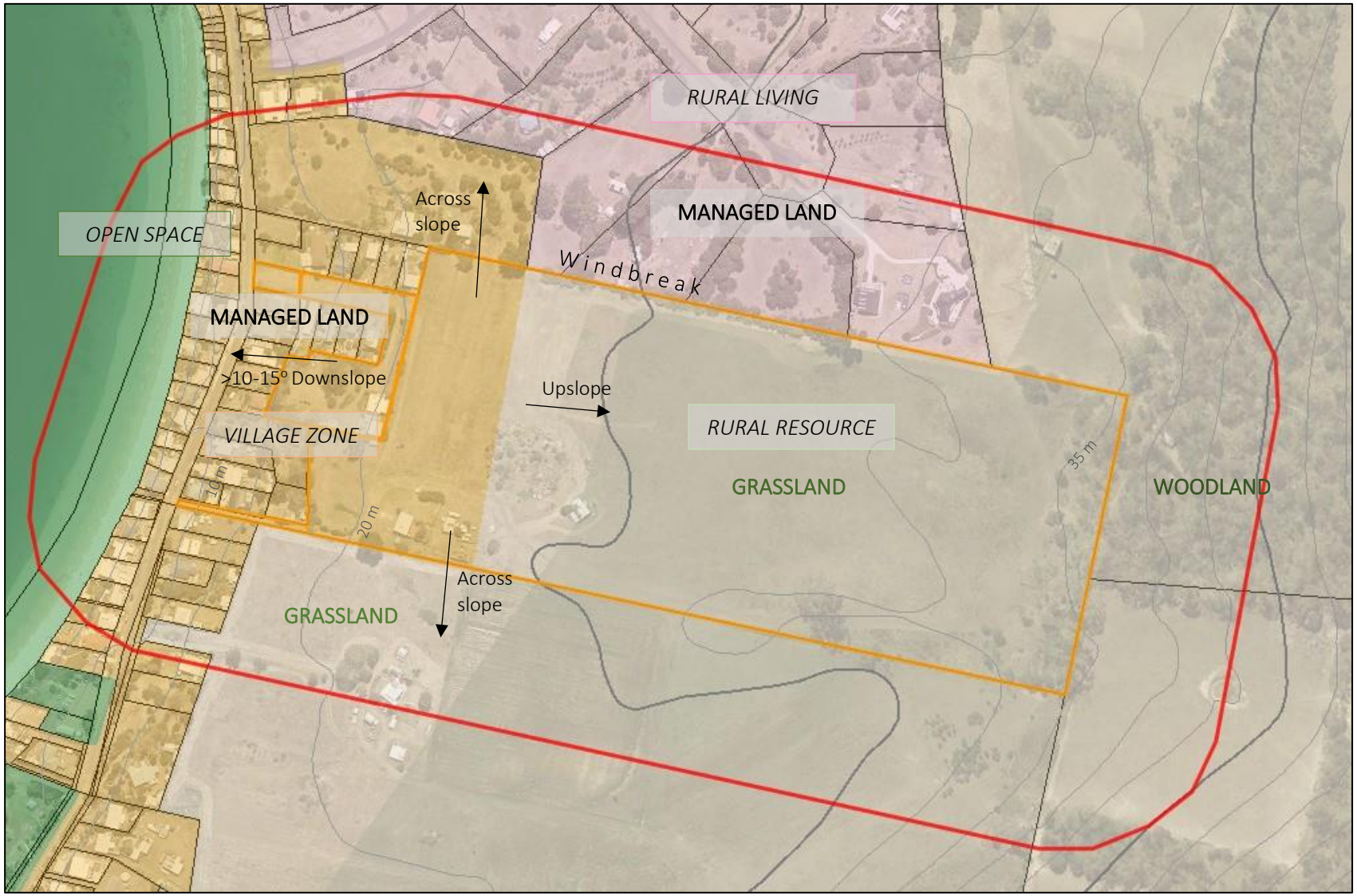


Figure 2 – Aerial photo of site showing managed land, vegetation types and zoning within 100 m radius BAL Assessment area, slopes and general direction of photos, refer to Appendix 1 for photos. (Image source: LISTmap 2020)

3 Bushfire Protection Measures

The site is within a defined Bushfire-Prone Area as defined by the *Clarence Interim Planning Scheme 2015*. The grassland vegetation requires ongoing management as it is recognised as having the potential to become an elevated bushfire risk.

As such, a subdivision development at the site must meet minimum development standards. These development standards are set out under clause E1.6.1 of the code and include: Provision of HMA (E1.6.1), Public access (E1.6.2) and Provision of water supply for fire-fighting purposes (E1.6.3). The subdivision development must comply with the following clauses of E1.0 – Bushfire-Prone Areas Code (shaded clauses in Table 2).

Table 2 – Compliance with E1.0

CLAUSE	ISSUE
E1.2	Application of Code
E1.3	Definition of terms in this Code
E1.4	Use or development exempt from this Code
E1.5	Use Standards
E1.5.1	Vulnerable Uses
E1.5.2	Hazardous Uses
E1.6	Developments Standards
E1.6.1	Subdivision: Provision of hazard management areas (HMA) for habitable buildings
E1.6.2	Subdivision: Public and fire-fighting access
E1.6.3	Subdivision: Provision of water supply for fire-fighting purposes

3.1 Compliance of Existing Dwellings

The existing one storey brick dwelling at 33 Spitfarm Road (Appendix 1 Photo 5) and the one storey dwelling at 9 Marsh Street (Appendix 1 Photo 7) are both surrounded by managed land with separation distances to classified grassland vegetation sufficient to achieve a BAL rating of BAL 12.5. The dwellings were constructed prior to the adoption of PD5.1 and as such may not meet construction requirements of AS3959-2009. The provision and maintenance of all proposed lots as HMA in combination with a 14 m separation distance from Grassland on Lot 18 will reduce bushfire risk to the existing dwellings at 9 Marsh Street and 33 Spitfarm Road.

3.2 Hazard Management Areas

Bushfire HMA provide a cleared space between buildings and the bushfire hazard. Any vegetation in this area needs to be strategically modified and then maintained in a low fuel state to protect buildings from direct flame contact and intense radiant heat thereby allowing them to be defended from lower intensity bushfires. Fine fuel loads must be minimal to reduce the quantity of windborne sparks and embers reaching buildings, to reduce the radiant heat at the building, and to halt or check direct flame attack.

Further information on the maintenance of the equivalent 'defendable space' are provided in the Tasmania Fire Service document: Guidelines for Development in Bushfire Prone Areas of Tasmania (2005). This document identifies different protection zones including a Bushfire Protection Zone and a Fuel Modified Buffer Zone.

The TFS guidelines and the *Requirements for Building in Bushfire-Prone Areas* require the HMA to be contained within the development site or a formal agreement entered with the owner of any adjoining land that needs to be managed as part of the HMA. Four lots associated with the subdivision will rely on management of a 14 m wide separation distance from grassland on proposed Lot 18 to meet HMA requirements.

The requirements, current conditions and what is required to achieve the HMA compliance of the subdivision are described below.

3.2.1 Requirements:

To comply with Acceptable solutions under E1.6.1 – A1. Acceptable solutions A1 the plan of subdivision must:

- show building areas for each lot;
- indicate HMAs which separate building areas from bushfire prone vegetation with separation distances required for BAL 19 as a minimum as per Table 2.4.4 of AS 3959-2009 Construction of Buildings in Bushfire Prone Areas;
- provide protection for lots at any stage of a staged subdivision; and
- formal agreement with Council for ongoing management of vegetation in HMAs located on public land.

3.2.2 Current conditions:

- 33 Spitfarm Road has an existing brick dwelling with managed land immediately around it which will be located on proposed Lot 7 if retained. In addition, there is one incomplete brick structure near the southern boundary and some old sheds one of which has broken asbestos sheeting in the walls. The remainder of the lot is agricultural paddocks with the potential to become unmanaged grassland (Appendix 1 Photo 5 and Photo 6).
- 9 Marsh Street has an existing dwelling which will be located on proposed Lot 15 if retained. The remainder of the lot has managed gardens with scattered trees including trees along the boundary with 7 Marsh Street and its western and southern boundaries (Appendix 1 Photo 7).
- Lot 219376/6 provides dirt road access to ten lots with nine existing dwellings on Marsh Street.

3.2.3 Compliance:

- Where an existing dwelling occurs on a proposed subdivision, the subdivision will not result in an increase in the bushfire risk to the existing dwelling.
- All lots have a designated building area.
- Each lot will be managed as HMAs to provide protection for other lots in the subdivision.
- A 14 m wide HMA is required to be established and maintained on proposed Lot 18 (PID 3241862) for Lots 3, 4, 5 and 6 to comply with BAL 12.5 separation distances from grassland. In principle written consent by the landowner to enter into a formal agreement (e.g. Part V Agreement under section 71 of LUPAA 1993) that will be registered on the Title of Lot 18 is provided in Appendix 4. The agreement provides for the affected land to be managed in accordance with the bushfire hazard management plan in perpetuity.
- The vegetation across all Lots and within the 14 m wide bushfire HMA outside the eastern boundary of Lots 3, 4, 5 and 6 must be strategically maintained with short grass (<100mm). Any retained trees

must have a minimum 6 m horizontal separation between tree canopies. Low branches must be removed to create vertical separation between the ground and the canopy. These measures are to reduce fuel loads and protect future dwellings from direct flame contact and intense radiant heat. In addition, on-going clearing and clean-up of leaf litter, branches and bark is required.

3.2.4 Maintenance of Hazard Management Areas

The HMAs around the building areas i.e. whole lots with the exception of Lot 18, must be maintained in a minimal fuel condition always to ensure bushfire protection mechanisms are effective. An annual inspection and maintenance of the HMAs should be conducted prior to the bushfire season and any flammable material such as leaves, litter, wood piles removed.

3.3 Construction Standards

All future habitable dwellings (Class 1a buildings) on Lots 1 to 14 and 18 will comply with construction standards for **BAL 12.5** as per AS3959-2009 (Sections 3 and 5) as a minimum.

3.4 Public and Fire-fighting Access

3.4.1 Requirements:

Proposed road will be designed and constructed in compliance with E1.6.2 and Table E1 of PD5.1, as follows, unless the development standards in the zone require a higher standard:

- two-wheel drive, all-weather construction;
- load capacity of at least 20 t, including for bridges and culverts;
- minimum carriageway width is 7 m for a through road, or 5.5 m for a dead-end or cul-de-sac road;
- minimum vertical clearance of 4 m;
- minimum horizontal clearance of 2 m from the edge of the carriageway;
- cross falls of less than 3 degrees (1:20 or 5%);
- maximum gradient of 15 degrees (1:3.5 or 28%) for sealed roads, and 10 degrees (1:5.5 or 18%) for unsealed roads;
- curves have a minimum inner radius of 10 m;
- dead-end or cul-de-sac roads are not more than 200 m in length unless the carriageway is 7 m in width;
- dead-end or cul-de-sac roads have a turning circle with a minimum 12 m outer radius; and

- carriageways less than 7 m wide have 'No Parking' zones on one side, indicated by a road sign that complies with AS1743 – 2001 Road Signs – Specifications.

Property access will generally be less than 30 m long and as such must meet the requirement for a hardstand area for fire appliances which must be provided:

- No more than 3 metres from water connection point, measured as a hose-lay (including the minimum water level in dams, swimming pools and the like);
- No closer than 6 metres from the building area to be protected;
- With a minimum width of 3 metres constructed to the same standard as the carriageway; and
- Connected to the property access by a carriageway equivalent to the standard of the property access.

Existing access via a private lane (Howlin Lane) to Lot 9 is greater than 30 m long and is shared with three other properties, as such it must meet the following design and construction requirements as per Table E2 Element B and D.

- all- weather construction;
- load capacity of at least 20 t, including for bridges and culverts;
- minimum carriageway width of 4 m;
- minimum vertical clearance of 4 m;
- minimum horizontal clearance of 0.5 m from the edge of the carriageway;
- cross falls of less than 3 degrees (1:20 or 5%);
- dips less than 7 degrees (1:8 or 12.5%) entry and exit angle;
- curves with a minimum inner radius of 10 m;
- maximum gradient of 15 degrees (1:3.5 or 28%) for sealed roads, and 10 degrees (1:5.5 or 18%) for unsealed roads; and
- terminate with a turning area for fire appliances provided by one of the following:
  - a turning circle with a minimum outer radius of 10m; or
  - a property access encircling the building; or
  - a hammerhead "T" or "Y" turning head 4 m wide and 8 m long
- passing bays of 2 m additional carriageway width and 20 m length must be provided every 100 m.

3.4.2 Current conditions:

- Marsh Street likely does not comply with access road requirements in its existing condition.
- Spitfarm Road is a narrow, paved road with speed bumps which may not comply with access road requirements.
- The existing private lane (Howlin Lane) to 33 Spitfarm Road is greater than 100 m long and provides access to four lots. It will be utilised as access to Lot 9 of the proposed subdivision (Appendix 1, Photo 8 and Photo 9).

3.4.3 Compliance:

- Marsh Street will comply with E.1.6.2 and Table E1 of PD5.1 as described above.
- All access that is less than 30 m long will comply with E1.6.3 and Table E5 of PD5.1 for access to fire fighting static water supply, see Section 3.5.1 below.
- Access to Lot 9 will comply with Table E2, Element B and D as described above because they are greater than 30 m long and provide access to three or more properties.

3.5 Static Fire-fighting Water Supply

An adequate, accessible and reliable water supply for fire-fighting purposes must be supplied to allow for the protection of life and property from the risks associated with bushfire.

3.5.1 Requirements:

The lot is not serviced by reticulated water therefore a static water supply for fire fighting must be provided in compliance with E1.6.3 and Table E5 of PD5.1, as follows:

- Distance between building area to be protected and water supply:
    - Building area must be within 90 metres of the water connection point of a static water supply measured as a hose lay.
    - The distance between the Class 1 building must be measured as a hose lay, between the water connection point and the furthest part of the building area.
- Static water supply requirements:
    - May have a remotely located off-take connected to the static water supply.
    - May be a supply for combined use (fire fighting and other uses) but the specified minimum quantity of fire fighting water must be available at all times.

  - Must be a minimum of 10,000 litres per building area to be protected. This volume of water must not be used for any other purpose including fire fighting sprinkler or spray systems.
  - Must be metal, concrete or lagged by non-combustible materials if above ground; and
  - If a tank can be located so it is shielded in all directions in compliance with Section 3.5 of AS3959-2009, the tank may be constructed of any material provided that the lowest 400 mm of the tank exterior is protected by: metal; non-combustible material; or fibre-cement a minimum of 6 mm thickness.
- Fittings and pipework associated with a water connection point for a static water supply must:
  - : have a minimum nominal internal dia. 50 mm;
  - fitted with a valve with a minimum nominal internal dia. of 50 mm;
  - metal or lagged by non-combustible materials if above ground;
  - where buried, have a minimum depth of 300 mm (compliant with AS/NZS 3500.1-2003 Clause 5.23);
  - provide a DIN or NEN standard forged Storz 65 mm coupling fitted with a suction washer for connection to fire fighting equipment;
  - ensure the coupling is accessible an available for connection at all times;
  - ensure the coupling is fitted with a blank cap and securing chain (minimum 220 mm length);
  - ensure underground tanks have either an opening at the top of not less than 250 mm dia. or coupling compliant with this Table; and
  - where a remote offtake is installed, ensure the offtake is in a position is: visible; accessible to allow connection by fire fighting equipment; at working height of 450 – 600 mm above ground level; and protected from possible damage, including damage by vehicles.
- Signage for static water connections requirements:
  - Water connection point for a static water supply must be identified by a sign permanently fixed to the exterior of the assembly in a visible location. The sign must comply with:
    - Water tank signage requirements within AS 2304-2011; or
    - the following: Mark with the letter “W” contained with a circle with the letter in upper case of not less than 100 mm in height; In fade-resistant material with white reflective lettering and circle on a red background; Be located within one metre of the water connection point in a situation which will not impede access or operation; and be no less than 400 mm above the ground.
- Hardstand area for fire appliances must be provided;

- No more than **3 metres** from water connection point, measured as a hose-lay (including the minimum water level in dams, swimming pools and the like);
- No closer than **6 metres** from the building area to be protected;
- With a minimum width of 3 metres constructed to the same standard as the carriageway; and
- Connected to the property access by a carriageway equivalent to the standard of the property access.

3.5.2 Current conditions:

- Site is not within a reticulated water supply area and there are no fire hydrants nearby.
- There is an existing static water supply on site at both 9 Marsh Street and 33 Spitfarm Road which are likely not adequate for the purpose of fire fighting (Appendix 1 Photo 6 and Photo 7).

3.5.3 Compliance:

- The BHMP requires each dwelling on proposed Lots 1 to 14 and 18 to comply with static fire fighting water supply requirements as per the requirements section above and PD5.1 Table E5.
- It is recommended that fire fighting water supplies for existing dwellings be upgraded to meet requirements of E1.6.3 and Table E5.

4 Conclusions

The assessment of the bushfire risk of a proposed 18 Lot subdivision at 9 Marsh Street and 33 Spitfarm Road indicates that it can achieve the requirements of PD5.1, E1.0 Bushfire-Prone Areas Code provided compliance with the following measures:

- Building areas are designed for all proposed lots as indicated on the BHMP.
- All lots are managed in a low fuel condition as an HMA as per the Bushfire Hazard Management Plan (Attachment 1) from commencement of the development.
- A permanent 14 m wide separation distance (no build area) is designated inside the southern boundary of Lots 6, 7, 8 and 9.
- A permanent 14 m wide HMA is established and maintained on the western boundary of Lot 18 and outside the eastern boundaries of Lots 3, 4, 5 and 6. The HMA is managed in low fuel condition to achieve BAL 12.5 separation distances for the lots within 50 m of the grassland to the east as per Bushfire Hazard Management Plan (Attachment 1).
- A formal agreement is established on the Title of proposed Lot 18 for management of land as an HMA from commencement of construction of the subdivision and in perpetuity. The 14 m wide HMA will be maintained in a low fuel condition to achieve BAL 12.5 for Lots 3, 4, 5 and 6 in perpetuity.
- Future habitable dwellings (Class 1a building) on Lots 1 to 14 and 18 will comply with minimum construction standards for BAL 12.5 as per AS 3959 -2009 (Sections 3 and 5). The existing and future dwellings on Lots 15, 16 and 17 are more than 50m from Grassland and as such comply with minimum construction standards for BAL LOW as per AS 3959 -2009 (Sections 3).
- Subdivision roads meet all requirements of PD5.1 E1.6.2, Table E1, including Marsh Street.
- Property Access to Lot 9 is more than 30 m long and provides access to three or more properties, as such it must comply with E1.6.2 and Table E2 Element B and D of PD5.1.
- Property access to all other lots are less than 30 m for which there are no specified design and construction requirements however access to the fire-fighting water supply must comply with E1.6.3 and Table E5 Element E of PD5.1.
- Provision of fire-fighting water supply meets the requirements of PD5.1 E1.6.3 and Table E5 static water for fire fighting for all future dwellings established on the Lots 1 to 14 and 18. The existing static water supplies require upgrading to meet these requirements.

5 Recommendations

- The recommendation is to adopt the BHMP as per Attachment 1.
- If the existing dwelling on Lot 7 is retained, a review and upgrade to BAL 12.5 construction standards is recommended if not already compliant.
- It is recommended that fire fighting water supplies for existing dwellings be upgraded to meet requirements of E1.6.3 and Table E5.

5.1 Limitations of Plan

The bushfire protection measures outlined in the Bushfire Hazard Management Plan (Attachment 1) are based on a Fire Danger Index of 50 (FDI 50) which relates to a fire danger rating of 'very high'. Defending the property or sheltering within a structure constructed to AS3959-2009 on days when the fire danger rating is greater than 50 (i.e. 'severe' or higher) is not recommended.

Due to the unpredictable nature of bushfire behaviour and the impacts of extreme weather no structure built in a bushfire-prone area can be guaranteed to survive a bushfire. The safest option in the event of a bushfire is to leave the area early and seek shelter in a safe location.

6 Glossary and Abbreviations

AS – Australian Standard

BAL – Bushfire Attack Level – a means of measuring the severity of a building's potential exposure to ember attack, radiant heat and direct flame contact, using increments of radiant heat expressed in kilowatts per metre squared, and the basis for establishing the requirements for construction to improve protection of building elements from attack by bushfire (AS3959-2009).

BFP – Bush Fire Practitioner – An accredited practitioner recognised by Tasmania Fire Service.

BHMP – Bushfire Hazard Management Plan – plan for individual dwelling or subdivision identifying separation distances required between a dwelling(s) and bushfire prone vegetation based on the BAL for the site. The BHMP also indicates requirements for construction, property access and fire fighting water.

Class 1a building – is a single dwelling being a detached house; or one of a group of attached dwellings being a town house, row house or the like (NCC 2016).

FDI – fire danger index – relates to the chance of a fire starting, its rate of spread, its intensity and the difficulty of its suppression, according to various combinations of air temperature, relative humidity, wind speed and both the long- and short-term drought effects (AS3959-2009).

ha – hectares

HMA – Hazard Management Area – the area, between a habitable building or building area and the bushfire-prone vegetation, which provides access to a fire front for fire fighting, which is maintained in a minimal fuel condition and in which there are no other hazards present which will significantly contribute to the spread of a bushfire.

m – meters

NASH – National Association of Steel Framed Housing

7 References

AS3959-2009. *Australian Standard for Construction of buildings in bushfire-prone areas.* SAI Global Limited Sydney, NSW Australia.

Building Act 2016. The State of Tasmania Department of Premier and Cabinet. https://www.legislation.tas.gov.au/view/html/inforce/current/act-2016-025

Building Act 2016. Director's Determination – Requirements for Building in a Bushfire-Prone Area (v2.1) DOC/17/62962. Director of Building Control https://www.cbos.tas.gov.au/__data/assets/pdf_file/0011/405011/Directors-Determination-Requirements-building-bushfire-prone-areas.pdf

Building Regulations 2016. The State of Tasmania Department of Premier and Cabinet. https://www.legislation.tas.gov.au/view/html/inforce/current/sr-2016-110

CIPS 2015. *Clarence Interim Planning Scheme 2015*. https://www.iplan.tas.gov.au/pages/plan/book.aspx?exhibit=claips

LISTmap 2020. Land Information System Tasmania, Tasmania Government. https://maps.thelist.tas.gov.au/listmap/app/list/map

LUPAA 1993. *Land Use Planning and Approvals Act 1993.* The State of Tasmania Department of Premier and Cabinet. https://www.legislation.tas.gov.au/view/html/inforce/current/act-1993-070

NASH 2014. *NASH Standard for Steel Framed Construction in Bush Fire Areas*. National Association of Steel Framed Housing Inc.

NCC 2016. *National Construction Code 2016 Vol Two, Building Code of Australia Class 1 and Class 10 Buildings*. Australian Building Codes Board, Australia.

PD5.1 Planning Directive 5.1 Bushfire-Prone Areas Code. Minister of Planning and Local Government. 2017.

TFS 2005. *Guidelines for Development in Bushfire prone Areas of Tasmania. Living with Fire in Tasmania.* Bushfire Planning Group of Tasmania Fire Service, Tasmania.

APPENDIX 1 – Photos of site, surrounds and classified vegetation

Photo 1 – Looking north-northeast from proposed Lots 2 and 3 boundary towards managed land and wind break across boundary fence – Across slope

Photo 2 – Looking east across proposed Lot 18 towards grassland and woodland on Den Hill – Upslope

Photo 3 – Looking south-southwest from proposed Lot 9 boundary across grassland – Across slope

Photo 4 – Looking west from proposed Lot 17 towards managed land including dwellings, gardens, Spitfarm Road and Opossum Bay beach – Downslope >10-15°

Photo 5 – Existing brick one-storey dwelling on proposed Lot 7 (33 Spitfarm Road)

Photo 6 – Existing water tank on proposed Lot 7 (33 Spitfarm Road)

Photo 7 – Existing dwelling and water tanks on proposed Lot 15 (9 Marsh Street)

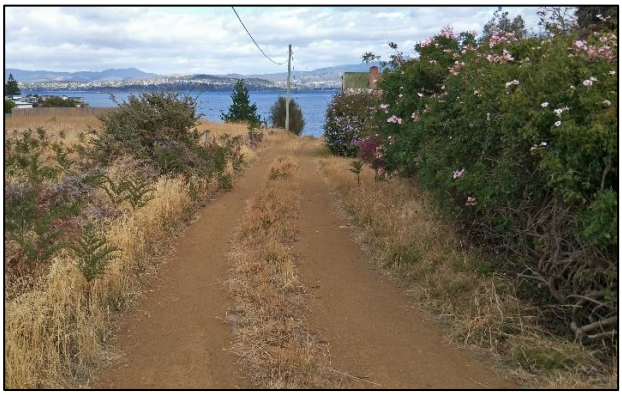


Photo 8 and Photo 9 – The existing driveway (Howlin Lane, Private Residence Only) is greater than 100 m long and provides access to four lots including the proposed Lot 9

Photo 10 – Marsh Street will be upgraded to subdivision road standard

APPENDIX 2 – Subdivision Plans by Rogerson & Birch Surveyors – a reference CARRD02 12159-01 and CARRD02 12159-01

This plan has been prepared only for the purpose of obtaining preliminary subdivsional approval from the local authority and is subject to that approval.

All measurements and areas are subject to the final survey.

BODEGA COURT

SPITFARM ROAD

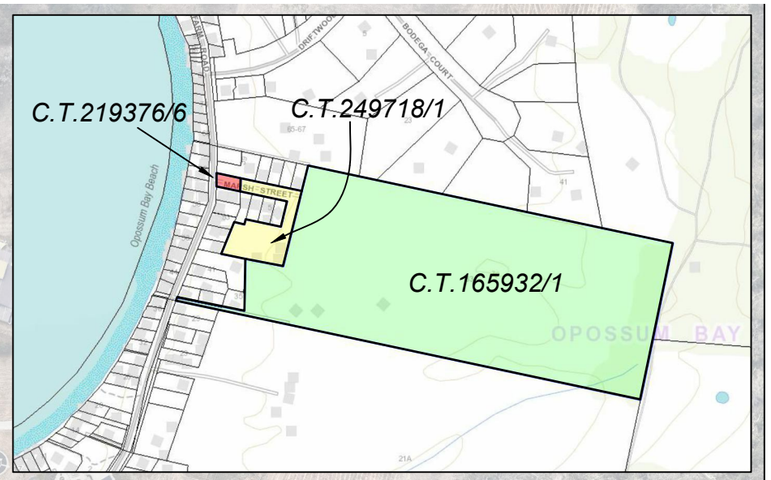
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

18
8.105ha

406.0

398.6

201.2



16.0 Village Zone

26.0 Rural Resource Zone

(119.WCP) Waterway & Coastal Protection Area Overlay

(119.BPA) Biodiversity Protection Area Overlay

Whole site is also subject to (119.FRE) Bushfire Protection Overlay

0m 50m 100m 150m 200m

1:2000

Plan 1 of 2

REV	AMENDMENTS	DRAWN	DATE	APPR.
E				
D				
C				
B	add contours and offsets	AB	9-12-19	AB
A	lodgement version	AB	6-12-19	AB

ROGERSON & BIRCH SURVEYORS
UNIT 1, 2 KENNEDY DRIVE
CAMBRIDGE 7170
PHONE: (03)6248 5898
EMAIL: admin@rbsurveyors.com
WEB: www.rbsurveyors.com

OWNER: A.J Carr Development Corporation Pty Ltd
P & J-A Geappen

TITLE REFERENCE: C.T.249718/1, C.T.165932/1 & C.T.219376/6

LOCATION: 9 Marsh Street & 33 Spitfarm Road OPOSSUM BAY

Proposed Subdivision

Date:	Reference:
9-12-2019	CARRD02 12159-01
Scale: 1:2000 (A3)	Municipality: Clarence

ROGERSON & BIRCH SURVEYORS

UNIT 1, 2 KENNEDY DRIVE
CAMBRIDGE 7170
PHONE: (03)6248 5898
EMAIL: admin@rbsurveyors.com
WEB: www.rbsurveyors.com

This plan has been prepared only for the purpose of obtaining preliminary subdivsional approval from the local authority and is subject to that approval.

All measurements and areas are subject to the final survey.

N

SPITFARM ROAD

Road 100 512m²

Road 101 1301m²

Road 102 3003m²

1 1001m²
2 1001m²
3 1000m²
4 1001m²
5 1000m²
6 1475m²
7 1373m²
8 1005m²
9 1513m²
10 1078m²
11 1090m²
12 1010m²
13 1000m²
14 1001m²
15 1430m²
16 1130m²
17 1183m²
18 8.105ha

14m hazard management area

offset ~2.1m
offset ~4.8m
offset ~3.1m
House
Shed
bungalow
chalet
shed

Note: boundaries on the Eastern & Southern side of Lot 15 are existing boundaries. The offsets from the existing buildings do not comply with the current standards.

Development Standards for Subdivision
16.5.1 Village Zone
A1 - Minimum lot size is 1000m² - all lots comply.

A2 - A 15m x 10m rectangle will fit in all lots (front setback 4.5m, side and rear setback 2.0m). However the whole site is subject to the Bushfire Protection Overlay code (119.FRE)

A3 - Not all blocks satisfy the 15m frontage for A3, however they do satisfy the 6m frontage for P3. Lots 9, 10, 11, 15, 16 & 17 are internal lots and dont comply with the frontage requirements in A3 or P3.

A4 - Does not comply with A4. Lots 9, 10, 11, 15, 16 & 17 are internal lots that would comply with P4.
A5 - Complies. Existing buildings offset to new boundaries.

0m 25m 50m 75m 100m
1:1000

Plan 2 of 2

REV	AMENDMENTS	DRAWN	DATE	APPR.
E				
D	10m x 15m rectangle added to lot 18	AB	26-3-20	AB
C	hazard management areas added	AB	28-2-20	AB
B	add contours and offsets	AB	9-12-19	AB
A	lodgement version	AB	6-12-19	AB

OWNER: A.J Carr Development Corporation Pty Ltd
P & J-A Geappen
TITLE REFERENCE: C.T.249718/1, C.T.165932/1 & C.T.219376/6
LOCATION: 9 Marsh Street & 33 Spitfarm Road OPOSSUM BAY

Proposed Subdivision

Date:	Reference:
26-3-2020	CARRD02 12159-01
Scale: 1:1000 (A3)	Municipality: Clarence

APPENDIX 3 – In principle agreement for Part V on proposed Lot 18

10 March, 2020

Enviro-Dynamics Pty Ltd
2 Edward Street
GLEBE TAS 7000

Attn: Sarah Bunce
Environmental Consultant

Dear Sarah

RE: PROPOSED SUBDIVISION – 33 SPITFARM ROAD, OPOSSUM BAY.

Further to your email dated Tuesday 3rd March, 2020 we advise the following:

I David Carr, principal of A J Carr Development Corporation Pty Ltd, GPO Box 359, Hobart Tasmania 7001 agree in principle to the following:

"I agree in principle for a Part V Agreement Under Section 71 of LUPAA 1993 to be registered on the Title of Lot 18 for the ongoing management of land external to the Titles (Lots 3, 4, 5 and 6)".

Signed this 10TH Day of MARCH 2020

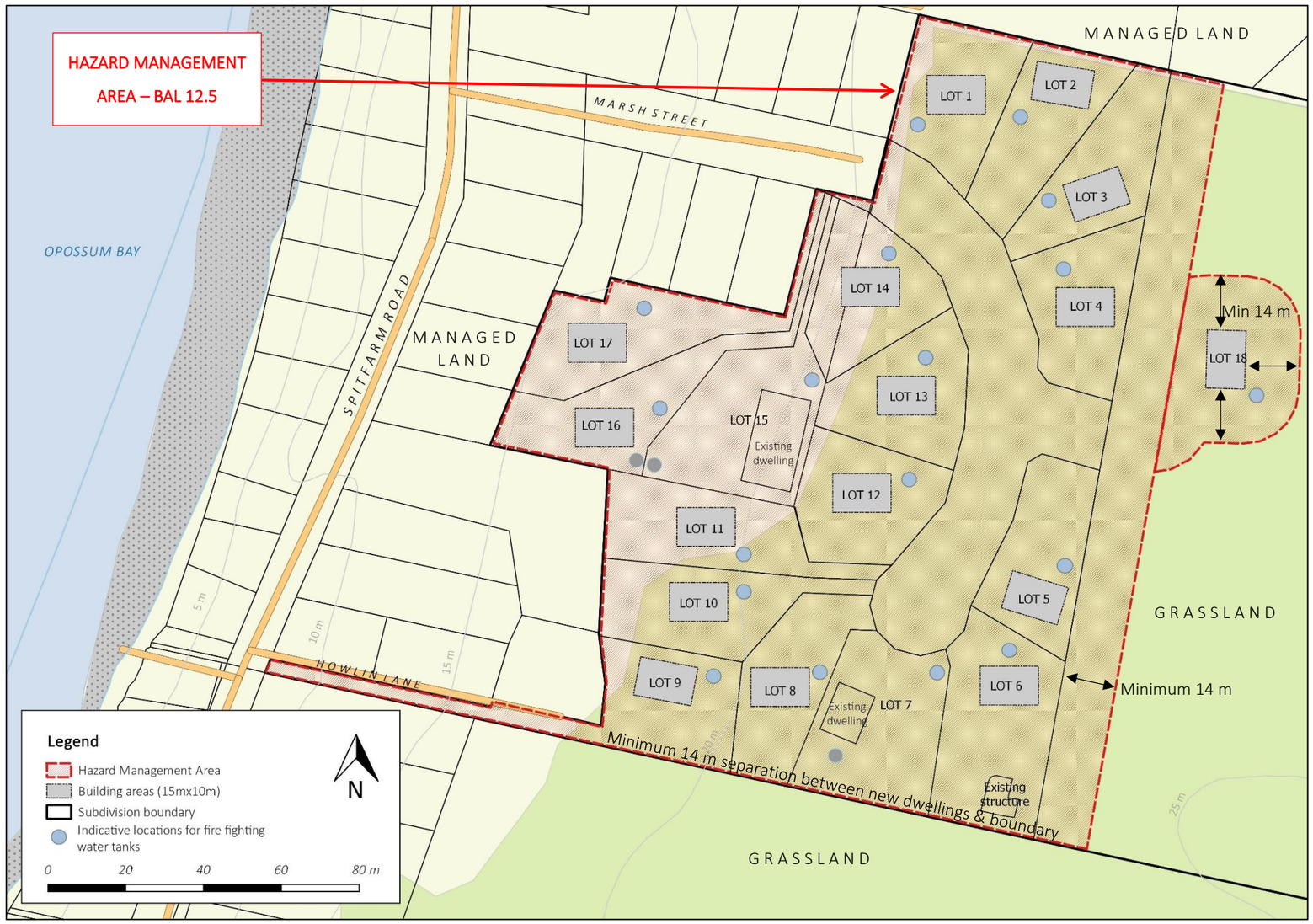
By

DAVID CARR

David Carr

Principal
A J Carr Developments P/L

Attachment 1 – Bushfire Hazard Management Plan – March 2020



NOTES

Hazard Management Zone

- Permanent HMA to be established across 14 m wide area of adjoining Lot 18 and around building area on Lot 18 as indicated in this plan and as set out in Table 1 of Bushfire Attack Level Assessment for BAL 12.5.
- All lots of new subdivision to be managed as an HMA.
- Vegetation in the HMA needs to be strategically modified and then maintained in a low fuel state to protect future buildings from direct flame contact and intense radiant heat. An annual inspection and maintenance of the HMAs should be conducted prior to the bushfire season. All grasses must be kept short (<100 mm) within the HMA. Fine fuel loads at ground level such as leaves, litter and wood piles must be minimal to reduce the quantity of windborne sparks and embers reaching buildings; and to halt or check direct flame attack.
- Individual trees may be retained or planted within the HMA provided they do not overhang dwellings and there is a minimum separation of 6 m between canopies.
- Non-combustible elements including driveways, paths and short cropped lawns are recommended within HMAs.

Construction Standards

- Future dwellings on all lots to be constructed to comply with BAL 12.5 as per AS3959-2009 (Sections 3 and 5) as indicated in Table 1 of the Bushfire Hazard Report.

Access Requirements

- New subdivision road to comply with Section 3.4 of the Bushfire Hazard Report and E1.6.2 and Table E1 of PD5.1.
- Property access to Lot 9 is greater than 30 m long must comply with Section 3.4 of the Bushfire Hazard Report and E1.6.2 and Table E2 Elements B and D of PD5.1.

Water Supply

- Must meet requirements of Section 3.5 of the Bushfire Hazard Report to ensure an adequate, accessible and reliable static water supply for fire-fighting at each dwelling.

This plan is to be printed at A3 and to be read in conjunction with the Bushfire Hazard Report (Enviro-dynamics, March 2020).

For: D. Carr – 9 Marsh Street & 33 Spitfarm Road, Opossum Bay

Title: C.T. 165932/1 and 249718/1 PID: 5236792 and 3241862

March 2020 Assessment #: ED0150

Andy Welling – ENVIRO-DYNAMICS
ACCREDITED BUSHFIRE ASSESSOR (BFP-135)
CERTIFICATE No: ED0150 *DATE: 03/03/2020*
Signed

enviro-dynamics
environmental solutions for a changing world

GEO-ENVIRONMENTAL ASSESSMENT

16 Marsh Street

Opossum Bay

January 2026

Updated February 2026

GEO-ENVIRONMENTAL

SOLUTIONS

Investigation Details

Client:	SJM Property Developments (Aus) Pty Ltd
Site Address:	16 Marsh Street, Opossum Bay
Date of Inspection:	16/01/2026
Proposed Works:	New house
Investigation Method:	Geoprobe 540UD - Direct Push
Inspected by:	C. Cooper

Site Details

Certificate of Title (CT):	184232/3
Title Area:	Approx. 1015 m²
Applicable Planning Overlays:	Bushfire-prone areas, Flood-prone Areas
Slope & Aspect:	1° SW facing slope
Vegetation:	Grass & Weeds

Background Information

Geology Map:	MRT
Geological Unit:	Quaternary Sediments
Climate:	Annual rainfall 550mm
Water Connection:	Tank
Sewer Connection:	Unserviced-On-site required
Testing and Classification:	AS2870:2011, AS1726:2017, AS1547:2012 & AS4055:2021

Investigation

A number of bore holes were completed to identify the distribution and variation of the soil materials at the site, bore hole locations are indicated on the site plan. See soil profile conditions presented below.

Soil Profile Summary

BH 1 Depth (m)	BH 2 Depth (m)	USCS	Description
0.00-0.30	0.00-0.30	SW	**SAND:** grey brown, dry, loose
0.30-1.60	0.30-1.50	SW	**SAND:** pale brown, slightly moist, medium dense
1.60-2.0+	1.50-2.0+	SP	**SAND:** pale yellow, slightly moist, medium dense, trace of clay, no refusal

Site Notes

The soil onsite has formed from Quaternary sediments and consists of deep sandy profiles.

Site Classification

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

The site has been classified as:

Class A

y_s range: **0mm**

Notes: That is a non-reactive site

Wind Loading Classification

According to *"AS4055:2021 - Wind Loads for Housing"* the house site is classified below:

Wind Classification: N3

Region:	A
Terrain Category:	1.0
Shielding Classification:	PS
Topographic Classification:	T1
Wind Classification:	N3
Design Wind Gust Speed – m/s ($V_{h,u}$):	50

Wastewater Classification & Recommendations

According to AS1547-2012 (on-site waste-water management) the natural soil is classified as **SAND (category 1)**. Secondary treatment of wastewater is recommended due to the limited space available for onsite. A package treatment system is proposed (e.g. AWTS such as Econocycle, Envirocycle, OzziKleen etc) with the treated wastewater applied to an absorption bed. A Design Loading Rate (DLR) of 40L/m^2/day has therefore been assigned for secondary treated wastewater.

The proposed three-bedroom dwelling has a calculated maximum wastewater output of 600L/day. This is based on a tank water supply and a maximum occupancy of 6 people (120L/day/person).

Using the DLR of 40L/m^2/day, an absorption area of at least 15m^2 will be required to accommodate the expected flows. This can be accommodated by one 7.5m x 2m x 0.6m absorption bed as per the attached design.

A cut-off diversion drain will not be required upslope of the absorption area due to the limited slope angle and high permeability of the soil onsite. However all stormwater overflow will need to be directed away from the application area if required. A 100% reserve area will need to be set aside for any future wastewater requirements. There is sufficient space available onsite to accommodate the required reserve.

The following setback are consistent to the Directors Guidelines for Onsite Wastewater Management:

Upslope or level buildings:	3m
Downslope buildings:	2.25m
Upslope or level boundaries:	1.5m
Downslope boundaries:	2.5m
Downslope surface water:	100m

Construction Notes & Recommendations

The site has been classified as **Class A** – a non-reactive site, which may experience no to very slight ground movement from moisture changes.

All earthworks on site must comply with AS3798:2007, and I further recommend that consideration be given to drainage and sediment control on site during and after construction. Care should also be taken to ensure there is adequate drainage in the construction area to avoid the potential for weak bearing and foundation settlement associated with excessive soil moisture.

I also recommend that during construction that I and/or the design engineer be notified of any major variation to the foundation conditions as predicted in this report.

Dr John Paul Cumming B.Agr.Sc (hons) PhD CPSS GAICD

Director

Assessment Report

Site assessment for on-site waste water disposal

Assessment for	SJM Property Developments	Assess. Date	28-Jan-26
		Ref. No.	
Assessed site(s)	16 Marsh St Opossum Bay	Site(s) inspected	16-Jan-26
Local authority	Clarence	Assessed by	John Paul Cumming

This report summarises wastewater volumes, climatic inputs for the site, soil characteristics and sustem sizing and design issues. Site Capability and Environmental sensitivity issues are reported separately, where 'Alert' columns flag factors with high (A) or very high (AA) limitations which probably require special consideration for system design(s). Blank spaces on this page indicate data have not been enterec

Wastewater Characteristics

Wastewater volume (L/day) used for this assessment =	600	(using the 'No. of bedrooms in a dwelling' method)
Septic tank wastewater volume (L/day) =	200	
Sullage volume (L/day) =	400	
Total nitrogen (kg/year) generated by wastewater =	1.8	
Total phosphorus (kg/year) generated by wastewater =	1.5	

Climatic assumptions for site (Evapotranspiration calculated using the crop factor method)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean rainfall (mm)	46	46	52	52	50	53	52	52	47	63	55	60
Adopted rainfall (R, mm)	46	46	52	52	50	53	52	52	47	63	55	60
Retained rain (Rr, mm)	41	41	47	47	45	48	47	47	42	57	50	54
Max. daily temp. (deg. C)												
Evapotrans (ET, mm)	130	110	91	63	42	29	32	42	63	84	105	126
Evapotr. less rain (mm)	**89**	**69**	**44**	**16**	**-3**	**-18**	**-15**	**-5**	**21**	**27**	**56**	**72**

Annual evapotranspiration less retained rain (mm) = 352

Soil characterisitics

Texture = Sand Category = 1 Thick. (m) = 2

Adopted permeability (m/day) = 3 Adopted LTAR (L/sq m/day) = 40 Min depth (m) to water = 5

Proposed disposal and treatment methods

Proportion of wastewater to be retained on site:	All wastewater will be disposed of on the site
The preferred method of on-site primary treatment:	In a package treatment plant
The preferred method of on-site secondary treatment:	In-ground
The preferred type of in-ground secondary treatment:	Evapotranspiration bed(s)
The preferred type of above-ground secondary treatment:	None
Site modifications or specific designs:	Not needed

Suggested dimensions for on-site secondary treatment system

Total length (m) =	8
Width (m) =	2
Depth (m) =	0.6
Total disposal area (sq m) required =	15
comprising a Primary Area (sq m) of:	15
and a Secondary (backup) Area (sq m) of:	

Sufficient area is available on site

To enter comments, click on the line below 'Comments'. (This yellow-shaded box and the buttons on this page will not be printed.)

Comments

The calculated DLR for secondary treated wastewater is 40L/sq m/day with a required absorption area of 15sq m. Therefore the system will have the capacity to cope with predicted climatic and loading events.

GES P/L

Land suitability and system sizing for on-site wastewater management

Trench 3.0 (Australian Institute of Environmental Health)

Site Capability Report

Site assessment for on-site waste water disposal

Assessment for	SJM Property Developments	Assess. Date	28-Jan-26
		Ref. No.	
Assessed site(s)	16 Marsh St Opossum Bay	Site(s) inspected	16-Jan-26
Local authority	Clarence	Assessed by	John Paul Cumming

This report summarises data relating to the physical capability of the assessed site(s) to accept wastewater. Environmental sensitivity anc system design issues are reported separately. The 'Alert' column flags factors with high (A) or very high (AA) site limitations w hich probably require special consideration in site acceptability or for system design(s). Blank spaces indicate data have not been entered into TRENCH.

Alert	Factor	Units	Value	Confid level	Limitation Trench	Limitation Amended	Remarks
	Expected design area	sq m	1,000	V. high	Moderate	No change	
	Density of disposal systems	/sq km	10	Mod.	Very low		
	Slope angle	degrees	3	High	Very low		
	Slope form	Straight simple		High	Low		
	Surface drainage	Good		High	Very low		
	Flood potential	Site floods <1:100 yrs		High	Very low		
	Heavy rain events	Infrequent		High	Moderate		
	Aspect (Southern hemi.)	Faces E or W		V. high	Moderate		
	Frequency of strong winds	Common		High	Low		
	Wastewater volume	L/day	600	High	Moderate	No change	
	SAR of septic tank effluent		1.7	High	Low		
	SAR of sullage		2.6	High	Moderate		
	Soil thickness	m	2.0	V. high	Very low		
	Depth to bedrock	m	3.0	V. high	Very low		
	Surface rock outcrop	%	0	V. high	Very low		
	Cobbles in soil	%	0	V. high	Very low		
	Soil pH		5.5	High	Low		
	Soil bulk density	gm/cub. cm	1.4	High	Very low		
	Soil dispersion	Emerson No.	8	V. high	Very low		
	Adopted permeability	m/day	3	Mod.	Very high	Moderate	Other factors lessen impact
	Long Term Accept. Rate	L/day/sq m	40	High	Very high	Moderate	Other factors lessen impact

To enter comments, click on the line below 'Comments' . (This yellow-shaded box and the buttons on this page will not be printed.)

Comments

The site has the capability to accept onsite wastewater disposal.

GES P/L

Land suitability and system sizing for on-site wastewater management

Trench 3.0 (Australian Institute of Environmental Health)

Environmental Sensitivity Report

Site assessment for on-site waste water disposal

Assessment for	SJM Property Developments	Assess. Date	28-Jan-26
		Ref. No.	
Assessed site(s)	16 Marsh St Opossum Bay	Site(s) inspected	16-Jan-26
Local authority	Clarence	Assessed by	John Paul Cumming

This report summarises data relating to the environmental sensitivity of the assessed site(s) in relation to applied wastewater. Physica capability and system design issues are reported separately. The 'Alert' column flags factors with high (A) or very high (AA) limitations which probably require special consideration in site acceptability or for system design(s). Blank spaces indicate data have not been entered into TRENCH.

Alert	Factor	Units	Value	Confid level	Limitation Trench	Limitation Amended	Remarks
A	Cation exchange capacity	mmol/100g	35	High	High		
A	Phos. adsorp. capacity	kg/cub m	0.3	High	High		
	Annual rainfall excess	mm	-352	High	Very low		
	Min. depth to water table	m	5	High	Very low		
	Annual nutrient load	kg	3.3	High	Very low		
	G'water environ. value	Agric non-sensit		V. high	Low		
	Min. separation dist. required	m	2	High	Very low		
	Risk to adjacent bores	Very low		V. high	Very low		
	Surf. water env. value	Agric non-sensit		V. high	Low		
	Dist. to nearest surface water	m	200	V. high	Moderate		
	Dist. to nearest other feature	m	170	V. high	Very low	Moderate	
	Risk of slope instability	Very low		V. high	Very low		
	Distance to landslip	m	170	V. high	Low		

To enter comments, click on the line below 'Comments'. (This yellow-shaded box and the buttons on this page will not be printed.)

Comments:
Secondary treatment of wastewater is proposed

Explanatory Notes

1 Scope of Works

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

1.1 Site Classification AS2870:2011

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

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

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

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

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

1.2 Soil Characterisation

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

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

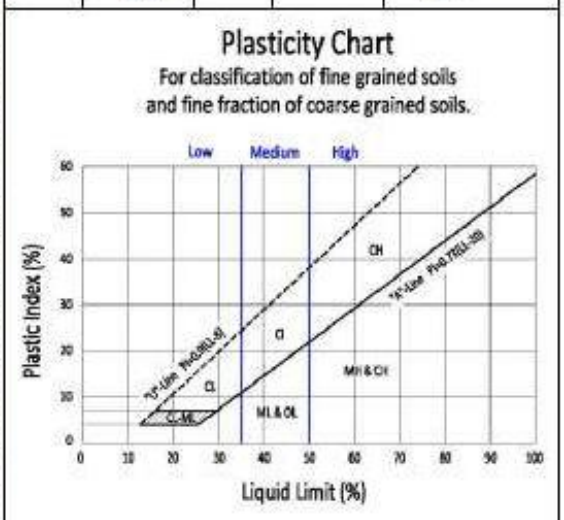
NON COHSIVE – SAND & GRAVEL		
Consistency Description	**Field Test**	**Dynamic Cone Penetrometer blows/100 mm**
Very loose (VL)	Easily penetrated with 13 mm reinforcing rod pushed by hand.	0 - 1
Loose (L)	Easily penetrated with 13 mm reinforcing rod pushed by hand. Can be excavated with a spade; 50 mm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

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

1.3 USCS Material Descriptions

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

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



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

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

1.4 Bearing Capacities and DCP testing.

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

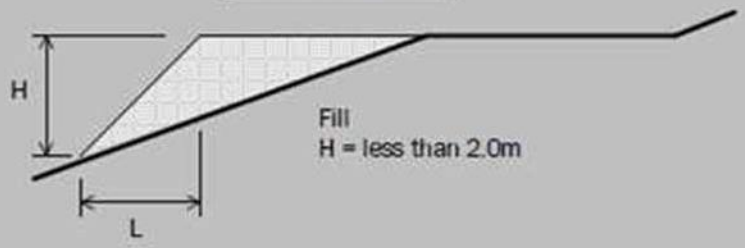
- Dynamic Cone Penetrometer – a 16mm rod with a 20mm diameter cone end is driven with a 9kg hammer dropping 510mm (AS 1289, Test 6.3.2).
- Perth Sand Penetrometer – a 16mm diameter flat-ended rod is driven with a 9kg hammer, dropping 600mm (AS 1289 Test 6.3.3). This test was developed for testing the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

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

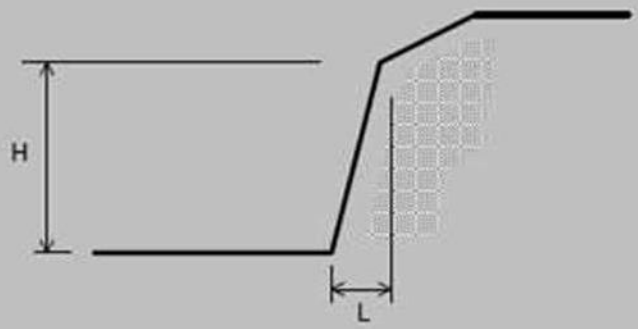
1.5 Batter Angles for Embankments *(Guide Only)*

Note : Retaining walls or other form of soil retaining methods must be adopted where the slope ratio is greater than that indicated in the table below :-

FILL EMBANKMENTS



CUT EMBANKMENTS



MATERIAL TYPE (refer soils report)		EMBANKMENT SLOPES (Height : Length)	
		Compacted Fill	Cutting
Stable Rock (A*)		2 : 3	6 : 1
Sand (A*)		1 : 2	2 : 3
Silt (P*)		1 : 4	1 : 4
Clay	Firm Clay	1 : 2	1 : 1
	Soft Clay	Not Suitable	2 : 3
Soft Soils (P*)		Not Suitable	Not Suitable

Glossary of Terms

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

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

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

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

Footing – Construction which transfers the load from the building to the foundation.

Foundation – Ground which supports the building

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

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

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

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

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

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

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

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

Disclaimer

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

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

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

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

Demonstration of wastewater system compliance to *Building Act 2016 Guidelines for On-site Wastewater Disposal*

Acceptable Solutions	**Performance Criteria**	**Compliance**
A1 Horizontal separation distance from a building to a land application area must comply with one of the following: a) be no less than 6m; or b) be no less than: (i) 3m from an upslope building or level building; (ii) If primary treated effluent to be no less than 4m plus 1m for every degree of average gradient from a downslope building; (iii) If secondary treated effluent and subsurface application, no less than 2m plus 0.25m for every degree of average gradient from a downslope building.	P1 a) The land application area is located so that (i) the risk of wastewater reducing the bearing capacity of a building's foundations is acceptably low.; and (ii) is setback a sufficient distance from a downslope excavation around or under a building to prevent inadequately treated wastewater seeping out of that excavation	Complies with A1 (b) (i) Land application area will be located with a minimum separation distance of 3m from an upslope or level building. Complies with A1 (b) (iii) Land application area will be located with a minimum separation distance of 2.5m of downslope building
A2 Horizontal separation distance from downslope surface water to a land application area must comply with (a) or (b) (a) be no less than 100m; or (b) be no less than the following: (i) if primary treated effluent 15m plus 7m for every degree of average gradient to downslope surface water; or (ii) if secondary treated effluent and subsurface application, 15m plus 2m for every degree of average gradient to down slope surface water.	P2 Horizontal separation distance from downslope surface water to a land application area must comply with all of the following: a) Setbacks must be consistent with AS/NZS 1547 Appendix R; b) A risk assessment in accordance with Appendix A of AS/NZS 1547 has been completed that demonstrates that the risk is acceptable.	Complies with A2 (a) Land application area located > 100m from downslope surface water

A3 Horizontal separation distance from a property boundary to a land application area must comply with either of the following: (a) be no less than 40m from a property boundary; or (b) be no less than: (i) 1.5m from an upslope or level property boundary; and (ii) If primary treated effluent 2m for every degree of average gradient from a downslope property boundary; or (iii) If secondary treated effluent and subsurface application, 1.5m plus 1m for every degree of average gradient from a downslope property boundary.	P3 Horizontal separation distance from a property boundary to a land application area must comply with all of the following: (a) Setback must be consistent with AS/NZS 1547 Appendix R; and (b) A risk assessment in accordance with Appendix A of AS/NZS 1547 has been completed that demonstrates that the risk is acceptable.	Complies with A3 (b) (i) Land application area will be located with a minimum separation distance of 1.5m from an upslope or level property boundary Complies with A3 (b) (iii) Land application area will be located with a minimum separation distance of 2.5m of downslope property boundary
A4 Horizontal separation distance from a downslope bore, well or similar water supply to a land application area must be no less than 50m and not be within the zone of influence of the bore whether up or down gradient.	P4 Horizontal separation distance from a downslope bore, well or similar water supply to a land application area must comply with all of the following: (a) Setback must be consistent with AS/NZS 1547 Appendix R; and (b) A risk assessment completed in accordance with Appendix A of AS/NZS 1547 demonstrates that the risk is acceptable	Complies with A4 No bore or well identified within 50m

A5 Vertical separation distance between groundwater and a land application area must be no less than: (a) 1.5m if primary treated effluent; or (b) 0.6m if secondary treated effluent	P5 Vertical separation distance between groundwater and a land application area must comply with the following: (a) Setback must be consistent with AS/NZS 1547 Appendix R; and (b) A risk assessment completed in accordance with Appendix A of AS/NZS 1547 that demonstrates that the risk is acceptable	Complies with A5 (b)
A6 Vertical separation distance between a limiting layer and a land application area must be no less than: (a) 1.5m if primary treated effluent; or (b) 0.5m if secondary treated effluent	P6 Vertical setback must be consistent with AS/NZS1547 Appendix R.	Complies with A6 (b)
A7 nil	P7 A wastewater treatment unit must be located a sufficient distance from buildings or neighbouring properties so that emissions (odour, noise or aerosols) from the unit do not create an environmental nuisance to the residents of those properties	Complies

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SOLUTIONS

AS1547:2012 – Loading Certificate – AWTS Design

This loading certificate sets out the design criteria and the limitations associated with use of the system.

Site Address: 16 Marsh St, Opossum Bay

System Capacity: 5 persons @ 120L/person/day

Summary of Design Criteria

DLR: 40L/m^2/day.

Absorption area: 15m^2

Reserve area location /use: Assigned – more than 100% available

Water saving features fitted: Standard fixtures

Allowable variation from design flows: 1 event @ 200% daily loading per quarter

Typical loading change consequences: Expected to be minimal due to use of AWTS and large land area

Overloading consequences: Continued overloading may cause hydraulic failure of the absorption area and require upgrading/extension of the area. Risk considered acceptable due to monitoring through quarterly maintenance reports.

Underloading consequences: Lower than expected flows will have minimal consequences on system operation unless the house has long periods of non occupation. Under such circumstances additional maintenance of the system may be required. Long term under loading of the system may also result in vegetation die off in the absorption area and additional watering may be required. Risk considered acceptable due to monitoring through quarterly maintenance reports.

Lack of maintenance / monitoring consequences: Issues of underloading/overloading and condition of the irrigation area require monitoring and maintenance, if not completed system failure may result in unacceptable health and environmental risks. Monitoring and regulation by the permit authority required to ensure compliance.

Other considerations: Owners/occupiers must be made aware of the operational requirements and limitations of the system by the installer/maintenance contractor.

CERTIFICATE OF THE RESPONSIBLE DESIGNER

Section 94
Section 106
Section 129
Section 155

Form **35**

To: SJM Property Developments (Aus) Pty Ltd *Owner name*
1/37 Ascot Drive *Address*
Huntingfield 7055 *Suburb/postcode*

Designer details:

Name: John-Paul Cumming
Category: Bld. Srvcs. Dsgnr. - Hydraulic
Business name: Geo-Environmental Solutions
Phone No: 03 6223 1839
Business address: 29 Kirksway Place
Battery Point 7004
Fax No: N/A
Licence No: CC774A
Email address: office@geosolutions.net.au

Details of the proposed work:

Owner/Applicant SJM Property Developments (Aus) Pty Ltd
Designer's project reference No. J12576
Address: 16 Marsh Street
Lot No: 184232/3
Opossum Bay 7023

Type of work: Building work ☐ Plumbing work X *(X all applicable)*

Description of work:
On-site wastewater management system - design

(new building / alteration / addition / repair / removal / re-erection water / sewerage / stormwater / on-site wastewater management system / backflow prevention / other)

Description of the Design Work (Scope, limitations or exclusions): *(X all applicable certificates)*

Certificate Type:	Certificate	Responsible Practitioner
	☐ Building design	Architect or Building Designer
	☐ Structural design	Engineer or Civil Designer
	☐ Fire Safety design	Fire Engineer
	☐ Civil design	Civil Engineer or Civil Designer
	☒ Hydraulic design	Building Services Designer
	☐ Fire service design	Building Services Designer
	☐ Electrical design	Building Services Designer
	☐ Mechanical design	Building Service Designer
	☐ Plumbing design	Plumber-Certifier; Architect, Building Designer or Engineer
	☐ Other (specify)	

Deemed-to-Satisfy: ☒ Performance Solution: ☐ (*X the appropriate box*)

Other details:

AWTS with absorption bed

Design documents provided:

The following documents are provided with this Certificate –
Document description:

Drawing numbers:	Prepared by: Geo-Environmental Solutions	Date: Feb-26
Schedules:	Prepared by:	Date:
Specifications:	Prepared by: Geo-Environmental Solutions	Date: Feb-26
Computations:	Prepared by:	Date:
Performance solution proposals:	Prepared by:	Date:
Test reports:	Prepared by: Geo-Environmental Solutions	Date: Feb-26

Standards, codes or guidelines relied on in design process:

AS1547:2012 On-site domestic wastewater management.

AS3500 (Parts 0-5)-2013 Plumbing and drainage set.

Any other relevant documentation:

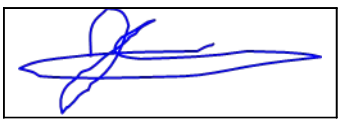
Geo-Environmental Assessment - 16 Marsh Street Opossum Bay - Feb-26

Attribution as designer:

I John-Paul Cumming, am responsible for the design of that part of the work as described in this certificate;

The documentation relating to the design includes sufficient information for the assessment of the work in accordance with the *Building Act 2016* and sufficient detail for the builder or plumber to carry out the work in accordance with the documents and the Act;

This certificate confirms compliance and is evidence of suitability of this design with the requirements of the National Construction Code.

	Name: (print)	*Signed*	*Date*
Designer:	John-Paul Cumming		27/02/2026
Licence No:	CC774A		

Assessment of Certifiable Works: (TasWater)

Note: single residential dwellings and outbuildings on a lot with an existing sewer connection are not considered to increase demand and are not certifiable.

If you cannot check ALL of these boxes, LEAVE THIS SECTION BLANK.

TasWater must then be contacted to determine if the proposed works are Certifiable Works.

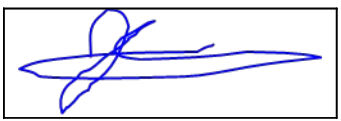
I confirm that the proposed works are not Certifiable Works, in accordance with the Guidelines for TasWater CCW Assessments, by virtue that all of the following are satisfied:

- [x] The works will not increase the demand for water supplied by TasWater
- [x] The works will not increase or decrease the amount of sewage or toxins that is to be removed by, or discharged into, TasWater's sewerage infrastructure
- [x] The works will not require a new connection, or a modification to an existing connection, to be made to TasWater's infrastructure
- [x] The works will not damage or interfere with TasWater's works
- [x] The works will not adversely affect TasWater's operations
- [x] The work are not within 2m of TasWater's infrastructure and are outside any TasWater easement
- [x] I have checked the LISTMap to confirm the location of TasWater infrastructure
- [x] If the property is connected to TasWater's water system, a water meter is in place, or has been applied for to TasWater.

Certification:

I ..... John-Paul Cumming..... being responsible for the proposed work, am satisfied that the works described above are not Certifiable Works, as defined within the *Water and Sewerage Industry Act 2008,* that I have answered the above questions with all due diligence and have read and understood the Guidelines for TasWater CCW Assessments.

Note: the Guidelines for TasWater Certification of Certifiable Works Assessments are available at: www.taswater.com.au

	Name: (print)	*Signed*	*Date*
Designer:	John-Paul Cumming		27/02/2026

CERTIFICATE OF QUALIFIED PERSON – ASSESSABLE ITEM

Section 321

Form **55**

To: SJM Property Developments (Aus) Pty Ltd *Owner /Agent*

1/37 Ascot Drive *Address*

Huntingfield 7055 *Suburb/postcode*

Qualified person details:

Qualified person: John-Paul Cumming

Address: 29 Kirksway Place

Battery Point 7004

Phone No: 03 6223 1839

Fax No:

Licence No: AO999

Email address: jcumming@geosolutions.net.au

Qualifications and Insurance details: Certified Professional Soil Scientist (CPSS stage 2)

(description from Column 3 of the Director's Determination - Certificates by Qualified Persons for Assessable Items

Speciality area of expertise: AS2870-2011 Foundation Classification

(description from Column 4 of the Director's Determination - Certificates by Qualified Persons for Assessable Items)

Details of work:

Address: 16 Marsh Street

Opossum Bay 7023

Lot No:

Certificate of title No: 184232/3

The assessable item related to this certificate: Classification of foundation Conditions according to AS2870-2011

(description of the assessable item being certified)
Assessable item includes –
- *a material;*
- *a design*
- *a form of construction*
- *a document*
- *testing of a component, building system or plumbing system*
- *an inspection, or assessment, performed*

Certificate details:

Certificate type: Foundation Classification

(description from Column 1 of Schedule 1 of the Director's Determination - Certificates by Qualified Persons for Assessable Items n)

This certificate is in relation to the above assessable item, at any stage, as part of - *(tick one)*

building work, plumbing work or plumbing installation or demolition work ☒

or

a building, temporary structure or plumbing installation: ☐

In issuing this certificate the following matters are relevant –

Documents:	The attached soil report for the address detailed above in 'details of work'
Relevant calculations:	Reference the above report.
References:	AS2870:2011 residential slabs and footings AS1726:2017 Geotechnical site investigations CSIRO Building technology file – 18.

Substance of Certificate: *(what it is that is being certified)*

Site Classification consistent with AS2870-2011.

Scope and/or Limitations

The classification applies to the site as inspected and does not account for future alteration to foundation conditions as a result of earth works, drainage condition changes or variations in site maintenance.

I, John-Paul Cumming certify the matters described in this certificate.

Qualified person:

Signed:

Certificate No: J12576

Date: 27/02/2026