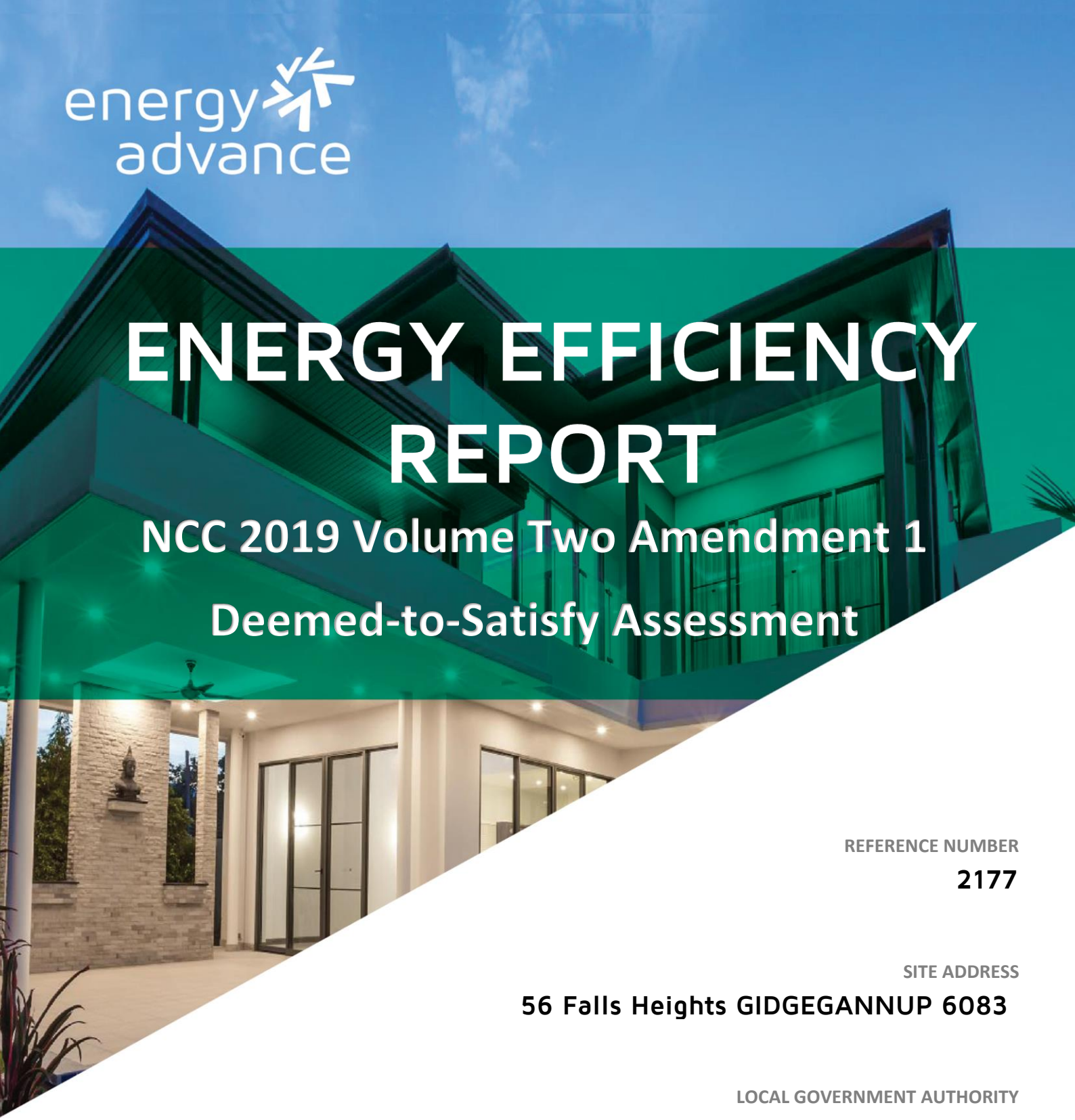


ENERGY EFFICIENCY REPORT

NCC 2019 Volume Two Amendment 1

Deemed-to-Satisfy Assessment

REFERENCE NUMBER

2177

SITE ADDRESS

56 Falls Heights GIDGEGANNUP 6083

LOCAL GOVERNMENT AUTHORITY

City of Swan

CLIENT

Simon Ballard

DWELLING TYPE

Single Storey

COMMISSIONED BY

Quality Design Solutions

ASSESSMENT DATE

17/05/2022

BUILDING SPECIFICATION SUMMARY

			Dwelling Areas (m^2)
BCA (NCC) CLIMATE ZONE:	**5**	INTERNAL AREAS (m^2)	147.21
CLASS 1 MAXIMUM PENETRATION AREA (m^2)	**0.74**	OUTDOOR AREAS (m^2)	0.00
CLASS 1 MAXIMUM PENETRATION ALLOWANCE	**0.5% TOTAL**	GARAGE/CARPORT (m^2)	226.39
		TOTAL:	**373.60**

ARTIFICIAL LIGHTING CALCULATION ALLOWANCES

AREA WITHIN THE CLASS 1 BUILDING		**147.21 m^2**		
	Development Total	736.1 Watts	Area Wattage Allowance	5.0 W/m^2
AREA WITHIN THE CLASS 10 BUILDING		**226.39 m^2**		
	Development Total	679.2 Watts	Area Wattage Allowance	3.0 W/m^2
AREA WITHIN THE OUTDOOR AREAS		**0.00 m^2**		
	Development Total	0.0 Watts	Area Wattage Allowance	4.0 W/m^2

EXTERNAL WALLS

	CONSTRUCTION TYPE	REQUIRED	PROPOSED	ACHIEVED	SOLUTION
EXTERNAL WALLS	Framed	R2.8 Total	Yes	Yes	Minimum R2.5 Insulation: Framed Walls

ADDITIONAL NOTES Framed R0.42 Total Value of the uninsulated wall system + R2.5 insulation = R2.92 Total System

ROOF AND CEILING

CONSTRUCTION TYPE	REQUIRED	PROPOSED	ACHIEVED	SOLUTION
Metal (Un-vented) roof with Flat Ceiling (Upward Flow: 0.39)	R5.1 Total	See Below	No	See Additional Notes

ADDITIONAL NOTES 15" Roof Pitch | Direction of Heat Flow: Upwards | R4.0 batts + Roof Blanket OR R5.0 ceiling insulation

FLOOR

CONSTRUCTION TYPE	REQUIRED	PROPOSED	ACHIEVED	NOTES
Concrete Slab On-Ground	None	None	Yes	Direct to Ground

ADDITIONAL NOTES Floor Coverings modelled as per Drawings

GLASS TYPE	COLOUR	FRAME	U_w VALUE	SHGC	NOTES
Glazing as per values	Clear	Aluminium	7.00	0.75	Awning Windows
Glazing as per values	Clear	Aluminium	7.00	0.75	Stacker Doors
Glazing as per values	Clear	Aluminium	7.00	0.75	Sliding Windows
Glazing as per values	Clear	Aluminium	7.00	0.75	Hinged Doors

COMPLIANCE ACHIEVED
JOB 2177
ASSESSOR Claude-Francois Sookloll
SIGNED DATE: 17/05/2022

Note: Only a +/-5% SHGC tolerance is allowed with this rating. NB: This tolerance ONLY applies to SHGC, the U-value can always be lower but not higher than the values stated in the report. If any of the windows selected are outside the 5% tolerance then this certificate is no longer valid and the dwelling will need to be rerated to confirm compliance.

energy advance

Quality Design Solutions **Reference Number: 2177**

	C_U	C_{SHGC}
CONSTANTS	13.464	0.122

Floor Level		
1	Direct contact	**147m²**
Air Movement	Suspended	
Standard	Area of storey	**147m²**
	Area of glazing	*30.3m²*

Wall insulation option chosen for 3.12.1.4

No wall insulation concession used

	C_U (only)	C_{SHGC} x Area
ALLOWANCES	**13.5**	**17.9**

Number of rows for table below **13**

GLAZING ELEMENTS, ORIENTATION SECTOR, SIZE and PERFORMANCE CHARACTERISTICS							SHADING		CALCULATION DATA			CALCULATED OUTCOMES - OK (if inputs are valid)			
Glazing element		Orientation	Size		Performance		P&H or device		Exposure		Size	Conductance - PASSED		Solar heat gain - PASSED	
rows ID	Description (optional)	Facing sector	Height (m)	Width (m)	Total System U-Value (AFRC)	Total System SHGC (AFRC)	P (m)	H (m)	P/H	Es	Area used (m^2)	U x area / winter access	Element share of % of allowance used	SHGC x Es x area	Element share of % of allowance used
1	Open Plan Living	SW	2.10	3.50	7.00	0.75	2.00	2.10	0.95	0.38	7.35	3.14	24% of 96%	2.1	13% of 93%
2	Open Plan Living	SW	2.10	3.50	7.00	0.75	2.00	2.10	0.95	0.38	7.35	3.14	24% of 96%	2.1	13% of 93%
3	Open Plan Living	SW	0.50	3.50	7.00	0.75				1.04	1.75	0.75	6% of 96%	1.4	8% of 93%
4	Open Plan Living	SW	0.50	3.50	7.00	0.75				1.04	1.75	0.75	6% of 96%	1.4	8% of 93%
5	Open Plan Living	NW	0.50	3.50	7.00	0.75				1.16	1.75	0.75	6% of 96%	1.5	9% of 93%
6	Entry	NW	0.95	0.97	7.00	0.75	*2.00*	2.10	*0.48*	0.57	0.92	0.39	3% of 96%	0.4	2% of 93%
7	Bed 1	NW	1.50	1.90	7.00	0.75				1.16	2.85	1.22	9% of 96%	2.5	15% of 93%
8	Bed 1	NE	0.60	2.10	7.00	0.75				1.09	1.26	0.54	4% of 96%	1.0	6% of 93%
9	Laundry	NE	1.10	0.55	7.00	0.75				1.09	0.61	0.26	2% of 96%	0.5	3% of 93%
10	Laundry	NE	2.10	0.82	7.00	0.75				1.09	1.72	0.74	6% of 96%	1.4	8% of 93%
11	Bathroom	NE	2.10	0.55	7.00	0.75				1.09	1.16	0.49	4% of 96%	0.9	6% of 93%
12	Bed 2	NE	1.30	0.70	7.00	0.75				1.09	0.91	0.39	3% of 96%	0.7	4% of 93%
13	Bed 2	NE	1.30	0.70	7.00	0.75				1.09	0.91	0.39	3% of 96%	0.7	4% of 93%

COMPLIES

COMPLIANCE ACHIEVED
JOB 2177
ASSESSOR Claude-Francois Sookloll
SIGNED DATE: 17/05/2022

NCC 2019 APPENDIX A: BUILDING SERVICES/COMPLIANCE

3.12.1.1 Building Fabric Thermal Insulation

(a)Where required, insulation must comply with AS/NZS 4859.1 and be installed so that it—
(i)abuts or overlaps adjoining insulation other than at supporting members such as columns, studs, noggings, joists, furring channels and the like where the insulation must butt against the member; and
(ii)forms a continuous barrier with ceilings, walls, bulkheads, floors or the like that inherently contribute to the thermal barrier; and
(iii)does not affect the safe or effective operation of a domestic service or fitting.
(b)Where required, reflective insulation must be installed with—
(i)the necessary airspace, to achieve the required R-Value between a reflective side of the reflective insulation and a building lining or cladding; and
(ii)the reflective insulation closely fitted against any penetration, door or window opening; and
(iii)the reflective insulation adequately supported by framing members; and
(iv)each adjoining sheet of roll membrane being—
(A)overlapped greater than or equal to 150 mm; or
(B)taped together.
(c)Where required, bulk insulation must be installed so that—
(i)it maintains its position and thickness, other than where it crosses roof battens, water pipes, electrical cabling or the like; and
(ii)in a ceiling, where there is no bulk insulation or reflective insulation in the external wall beneath, it overlaps the external wall by greater than or equal to 50 mm.

3.12.1.2 Roofs

(a)Subject to (b) and (e), a roof must—
(i)achieve the Total R-Value specified in Tables 3.12.1.1a to 3.12.1.1g as appropriate, for the direction of heat flow; and
(b)In climate zones 1, (ii)where a pitched roof has a flat ceiling, have greater than or equal to 50% of the added insulation laid on the ceiling.
(i)the required insulation is laid on the ceiling; and
(ii)the roof space is ventilated by—
(A)gable vents, ridge vents, eave vents, roof vents or the like that—
(aa)are evenly distributed to allow an unobstructed flow of air; and
(bb)are located to ensure, where practicable, there are no dead airspaces; and
(cc)have an aggregate fixed open area of greater than or equal to 1% of the ceiling area; or
(B)having—
(aa)not less than 2 wind-driven roof ventilators having an aggregate opening area of greater than or equal to 0.14 m2; and
(bb)gable vents, ridge vents, eave vents, roof vents or the like that have an aggregate fixed open area of greater than or equal to 0.2% of the ceiling area.
(c)A roof that—
(i)is required to achieve a minimum Total R-Value; and
(ii)has metal sheet roofing directly fixed to metal purlins, metal rafters or metal battens; and
(iii)does not have a ceiling lining or has a ceiling lining fixed directly to those metal purlins, metal rafters or metal battens must have a thermal break, consisting of a material with an R-Value of greater than or equal to 0.2, installed between the metal sheet roofing and its supporting metal purlins, metal rafters, or metal battens.
(d)A roof, or roof and associated ceiling, is deemed to have the Total R-Value in Figure 3.12.1.1.
(e)Where, for operational or safety reasons associated with exhaust fans, flues or recessed downlights, the area of required ceiling insulation is reduced, the loss of insulation must be compensated for by increasing the R-Value of insulation in the remainder of the ceiling in accordance with Table 3.12.1.1h.
(f)Where the minimum R-Value of ceiling insulation required to satisfy 3.12.1.2(a) is not stated in Table 3.12.1.1h, interpolation may be used to determine the adjusted minimum R-Value.

3.12.1.3 Roof lights

(a)Roof lights (including any associated shaft and diffuser) serving a habitable room or an interconnecting space such as a corridor, hallway, stairway or the like must—
(i)if the roof lights are not required for compliance with Part 3.8.4 or —
(A)comply with Table 3.12.1.2; and
(B)have an aggregate area of not more than 3% of the total floor area of the storey served; or
(ii)if the roof lights are required for compliance with Part 3.8.4 or Part 3.8.5—
(A)have an area not more than 150% of the minimum area required by Part 3.8.5; and
(B)have transparent and translucent elements, including any imperforate ceiling diffuser with—
(aa)a Total System SHGC of not more than 0.29; and
(bb)a Total System U-Value of not more than 2.9.
(b)For the purposes of Table 3.12.1.2, the following applies:
(i)The roof light shaft index is determined by measuring the distance from the centre of the shaft at the roof to the centre of the shaft at the ceiling level and dividing it by the average internal dimension of the shaft opening at the ceiling level (or the diameter for a circular shaft) in the same units of measurement.
(ii)The roof light area index is the total area of roof lights serving the room or space as a percentage of the floor area of the room or space.
(iii)The total area of roof lights is the combined area for all roof lights serving the room or space.
(iv)The area of a roof light is the area of the roof opening that allows light to enter the building.
(v)The thermal performance of an imperforate ceiling diffuser may be included in the Total System U-Value of the roof light.
(c)The total area of roof lights serving the room or space as a percentage of the floor area of the room or space must not be more than 5% unless allowed by (a)(ii).

3.12.1.5 Floors

(a)A suspended floor, other than an intermediate floor in a building with more than one storey—
(i)must achieve the Total R-Value specified in Table 3.12.1.4; and
(ii)with an in-slab or in-screed heating or cooling system, must be insulated—
(A)around the vertical edge of its perimeter with insulation having an R-Value greater than or equal to 1.0; and
(B)underneath the slab with insulation having an R-Value greater than or equal to 2.0 which may include insulation installed to meet the requirements of (i); and
(iii)that is enclosed beneath, must have a barrier installed at or below floor level to prevent convection within the wall cavity, from the airspace under the floor.
(b)A floor is deemed to have the Total R-Value specified in Tables 3.12.1.5a and 3.12.1.5b.

NCC 2019 APPENDIX B: BUILDING SERVICES/COMPLIANCE

(c)A concrete slab-on-ground—
(i)with an in-slab or in-screed heating or cooling system, must have insulation with an R-Value greater than or equal to 1.0, installed around the vertical edge of its perimeter; and
(ii)when in climate zone 8, must be insulated—
(A)around the vertical edge of its perimeter with insulation having an R-Value greater than or equal to 1.0; and
(B)underneath the slab with insulation having an R-Value greater than or equal to 2.0.
(d)Insulation required by (c)(i) and (c)(ii)(A) must—
(i)be water resistant; and
(ii)be continuous from the adjacent finished ground level—
(A)to a depth of greater than or equal to 300 mm; or
(B)for at least the full depth of the vertical edge of the concrete slab-on-ground (see Figure 3.12.1.4).
(e)The requirements of (a)(ii), and (c)(i) do not apply to an in-screed heating or cooling system used solely in a bathroom,

3.12.3 Application

(a)This Part applies to—
(i)a Class 1 building; and
(ii)a Class 10a building with a conditioned space.
(b)The provisions of (a) do not apply to the following:
(i)A building in climate zones 1, 2, 3 and 5 where the only means of air-conditioning is by using an evaporative cooler.
(ii)A permanent building ventilation opening that is necessary for the safe operation of a gas appliance.

3.12.3.1 Chimneys and flues

The chimney or flue of an open solid-fuel burning appliance must be provided with a damper or flap that can be closed to seal the chimney or flue.

3.12.3.2 Roof lights

(a)A roof light must be sealed, or capable of being sealed, when serving—
(i)a conditioned space; or
(ii)a habitable room in climate zones 4, 5, 6, 7 and 8.
(b)A roof light required by (a) to be sealed, or capable of being sealed, must be constructed with—
(i)an imperforate ceiling diffuser or the like installed at the ceiling or internal lining level; or
(ii)a weatherproof seal; or
(iii)a shutter system readily operated either manually, mechanically or electronically by the occupant.

3.12.3.3 External windows and doors

(a)An external door, internal door between a Class 1 building and an unconditioned Class 10a building, openable window and other such opening must be sealed when serving—
(i)a conditioned space; or
(ii)a habitable room in climate zones 4, 5, 6, 7 and 8.
(b)A seal to restrict air infiltration—
(i)for the bottom edge of a door, must be a draft protection device; and
(ii)for the other edges of a door or the edges of an openable window or other such opening, may be a foam or rubber compressible strip, fibrous seal or the like.
(c)A window complying with the maximum air infiltration rates specified in AS 2047 need not comply with (b)(ii).

3.12.4.1 Air movement

(a) Air movement must be provided to habitable rooms in accordance with Table 3.12.4.1.
(b)Air movement required by (a) may be provided through an opening from an adjoining room (including an enclosed verandah) if—
(i)the adjoining room is not a sanitary compartment; and
(ii)the opening between the adjoining room and the habitable room complies with Table 3.12.4.1 as if it were a ventilation opening to the habitable room or a proportion thereof if some ventilation is provided from another source; and
(iii)the ventilation opening to the adjoining room complies with Table 3.12.4.1 for the floor area of the adjoining room and the proportion of the habitable room that is ventilated from the adjoining room.
(c)The requirements of (a) do not apply to buildings in Region D severe tropical cyclone areas (see Figure 3.10.1.4) provided the external walls are shaded with a verandah, balcony, eaves, carport or the like that projects at a minimum angle of 15 degrees in accordance with Figure 3.12.1.2.

3.12.4.2 Ventilation openings

(a)In climate zones 1, 2, 3, 4 and 5, the total ventilation opening area required by Table 3.12.4.1 to a habitable room must—
(i)be connected by a breeze path complying with (b) to another ventilation opening in another room or space; or
(ii)be provided by a minimum of two ventilation openings located within the same habitable room, with each ventilation opening having an area of not less than 25% of the area required by Table 3.12.4.1.
(b)A breeze path required by (a)(i) must—
(i)pass through not more than two openings in the internal walls with each opening having an area of not less than 1.5 m2; and
(ii)have a distance along the breeze path between ventilation openings of not more than 20 m.

3.12.4.3 Ceiling fans and evaporative coolers

Ceiling fans or evaporative coolers required to comply with 3.12.0.1, Tables 3.12.2.1a to 3.12.2.1h, as appropriate or Table 3.12.4.1 must—
(a)be permanently installed; and
(b)have a speed controller; and
(c)for ceiling fans, serve the whole room, with the floor area that a single fan serves not exceeding—
(i)15 m2 if it has a blade rotation diameter of greater than or equal to 900 mm; and
(ii)25 m2 if it has a blade rotation diameter of greater than or equal to 1200 mm.

3.12.5.0 Application

A heated water supply system must be designed and installed in accordance with Part B2 of NCC Volume Three — Plumbing Code of Australia.

NCC 2019 APPENDIX C: BUILDING SERVICES/COMPLIANCE

3.12.5.1 Insulation of services

Thermal insulation for central heating water piping and heating and cooling ductwork must—
(a)be protected against the effects of weather and sunlight; and
(b)be able to withstand the temperatures within the piping or ductwork; and
(c)use thermal insulation material in accordance with AS/NZS 4859.1.

3.12.5.2 Central heating water piping

Central heating water piping that is not within a conditioned space must be thermally insulated to achieve the minimum material R-Value as follows:
(a)Internal piping including—
(i)flow and return piping that is—
(A)within an unventilated wall space; or
(B)within an internal floor between storeys; or
(C)between ceiling insulation and a ceiling; and
(ii)heated water piping encased within a concrete floor slab (except that which is part of a floor heating system),
must, in all climate zones, have a minimum material R-Value of 0.4.
(b)Piping located within a ventilated wall space, an enclosed building subfloor or a roof space, including—
(i)flow and return piping; and
(ii)cold water supply piping within 500 mm of the connection to the central water heating system; and
(iii)relief valve piping within 500 mm of the connection to the central water heating system,
must have a minimum material R-Value of—
(iv)in climate zones 1, 2, 3 and 5 — 0.6; and
(v)in climate zones 4, 6 and 7 — 0.9; and
(vi)in climate zone 8 — 1.3
(c)Piping located outside the building or in an unenclosed building subfloor or roof space, including—
(i)flow and return piping; and
(ii)cold water supply piping within 500 mm of the connection to the central water heating system; and
(iii)relief valve piping within 500 mm of the connection to the central water heating system,
must have a minimum material R-Value of—
(iv)in climate zones 1, 2, 3 and 5 — 0.6; and
(v)in climate zones 4, 6 and 7 — 1.3; and
(vi)in climate zone 8 — 1.3.

3.12.5.3 Heating and cooling ductwork

(a)Heating and cooling ductwork and fittings must—
(i)achieve the material R-Value in 3.12.5.3(d); and
(ii)be sealed against air loss—
(A)by closing all openings in the surface, joints and seams of ductwork with adhesives, mastics, sealants or gaskets in accordance with AS 4254.1 and AS 4254.2 for a Class C seal; or
(B)for flexible ductwork, with a draw band in conjunction with a sealant or adhesive tape.
(b)Duct insulation must—
(i)abut adjoining duct insulation to form a continuous barrier; and
(ii)be installed so that it maintains its position and thickness, other than at flanges and supports; and
(iii)where located outside the building, under a suspended floor, in an attached Class 10a building or in a roof space—
(A)be protected by an outer sleeve of protective sheeting to prevent the insulation becoming damp; and
(B)have the outer protective sleeve sealed with adhesive tape not less than 48 mm wide creating an airtight and waterproof seal.
(c)The requirements of (a) do not apply to heating and cooling ductwork and fittings located within the insulated building envelope including a service riser within the conditioned space, internal floors between storeys and the like.
(d)The material R-Value required by (a)(i) must be determined in accordance with the following:
(i)In a heating-only system or cooling-only system including an evaporative cooling system—
(A)ductwork must have a minimum material R-Value of—
(aa)in climate zones 1 to 7 — 1.0; and
(bb)in climate zone 8 — 1.5; and
(B)fittings must have a minimum material R-Value of 0.4.
(ii)In a combined heating and refrigerated cooling system—
(A)ductwork must have a minimum material R-Value of—
(aa)in climate zones 1, 3, 4, 6 and 7 — 1.5; and
(bb)in climate zones 2 and 5 — 1.0; and
(cc)in climate zone 8 — 1.5; and
(B)fittings must have a minimum material R-Value of 0.4.
(iii)For the purposes of (d)(ii)(A), the minimum material R-Value required for ductwork may be reduced by 0.5 for combined heating and refrigerated cooling systems in climate zones 1, 3, 4, 6 and 7 if the ducts are—
(A)under a suspended floor with an enclosed perimeter; or
(B)in a roof space that has an insulation of greater than or equal to R0.5 directly beneath the roofing.

3.12.5.4 Electric resistance space heating

An electric resistance space heating system that serves more than one room must have—
(a)separate isolating switches for each room; and
(b)a separate temperature controller and time switch for each group of rooms with common heating needs; and
(c)power loads of not more than 110 W/m2 for living areas, and 150 W/m2 for bathrooms.

3.12.5.6 Water heater in a heated water supply system

A water heater in a heated water supply system must be designed and installed in accordance with Part B2 of NCC Volume Three — Plumbing Code of Australia.

NCC 2019 APPENDIX D: BUILDING SERVICES/COMPLIANCE

3.12.5.7 Swimming pool heating and pumping

(a)Heating for a swimming pool must be by—
- (i)a solar heater not boosted by electric resistance heating; or
- (ii)a heater using reclaimed energy; or
- (iii)a gas heater; or
- (iv)a heat pump; or
- (v)a combination of (i) to (iv).

(b)Where some or all of the heating required by (a) is by a gas heater or a heat pump, the swimming pool must have—
- (i)a cover unless located in a conditioned space; and
- (ii)a time switch to control the operation of the heater.

(c)A time switch must be provided to control the operation of a circulation pump for a swimming pool.
(d)For the purposes of 3.12.5.7, a swimming pool does not include a spa pool.

3.12.5.8 Spa pool heating and pumping

(a)Heating for a spa pool that shares a water recirculation system with a swimming pool must be by—
- (i)a solar heater; or
- (ii)a heater using reclaimed energy; or
- (iii)a gas heater; or
- (iv)a heat pump; or
- (v)a combination of (i) to (iv).

(b)Where some or all of the heating required by (a) is by a gas heater or a heat pump, the spa pool must have—
- (i)a cover; and
- (ii)a push button and a time switch to control the operation of the heater.

(c)A time switch must be provided to control the operation of a circulation pump for a spa pool having a capacity of 680 L or more.

COMPLIANCE ACHIEVED
JOB 2177
ASSESSOR Claude-Francois Sookloll
SIGNED DATE: 17/05/2022

energy advance

NOTE:
3D IMAGES ARE INDICITAVE ONLY.

COMPLIANCE ACHIEVED
JOB 2177
ASSESSOR Claude-Francois Sookloll
SIGNED DATE: 17/05/2022

GENERAL NOTES:
- DO NOT SCALE FROM DRAWINGS.
- THESE PLANS ARE THE SOLE PROPERTY OF DESIGNER AND MAY NOT BE REPRODUCED OR MODIFIED IN WHOLE OR IN PART WITHOUT WRITTEN PERMISSION.
- CONTRACTORS TO CHECK ALL DIMENSIONS AND CONDITIONS ON SITE PRIOR TO THE COMMENCEMENT OF ANY WORKS AND ANY DISCREPANCIES TO BE BROUGHT TO THE ATTENTION OF THE SUPERVISOR.

TABLE OF CONTENTS

ISSUED FOR CLIENT REVIEW

Client:
Simon Ballard

Project Address:
56 Falls Heights Gidgegannup

Cover Page

SHEET SIZE:	A2	DATE OF ISSUE:	9.05.22	Project Number:	Drawing Number:
DRAWN:	TAS	CHECKED:	MB	2177	A1
SCALE:	1:127.76, 1:197.91, 1:1				

REVISION	DATE	DESCRIPTION
A	9.05.22	- Issued for Client Review
B	xx.xx.xx	-
C	xx.xx.xx	-
D	xx.xx.xx	-

QDS QUALITY DESIGN SOLUTIONS
PO Box 2655, Malaga WA 6944
Email: mike@qdswa.com.au **Mobile: 0403 165 270**

ALL CONTRACTORS WORKING ON THIS PROJECT TO CHECK ALL DIMENSIONS AND NOTES PRIOR TO INITIATING ANY WORKS. ALL DISCREPANCIES TO BE NOTIFIED TO THE PROJECT MANAGER STRAIGHT AWAY.

LOT RECORDS

LOT SERVICE \ STATUS	LOCATED	AVAILABLE	NO SERVICE	CONFIRM
WATER			✓	✓
SEWERAGE			✓	✓
GAS			✓	✓
TELE.	✓			
DRAINAGE				✓
POWER U/G			✓	
POWER O/H	✓			

AREA:	ESTAB 03/2006
COASTAL DISTANCE	>10km
LOT:	18
AREA:	3.8931 Ha
APPROX. AHD	N/A

SERVICES MARKED CONFIRM REQUIRE BUILDER / CLIENT TO CONFIRM POSITION & / OR AVAILABILITY ON SITE. APPROXIMATE AHD CONNECTION ONLY, HEIGHT RESTRICTIONS REQUIRE ACCURATE GEODETIC CONNECTION.

SEWER CONNECTION POSITION APPROXIMATE ONLY

SEWER INVERT LEVEL	N/A
SEWER BROUGHT UP	N/A
DEPTH TO CONNECTION	N/A

SERVICE LEGEND

POWER
- CONSUMER POLE — CP
- POWER POLE — PP
- LIGHT POLE — LP
- STAY POLE — SP
- S. WIRE ANCHOR — SWA
- UNI PILLAR
- BOARD — PB

GAS
- PRE-LAID CONN. — GPL
- METER — GM

SEWERAGE
- MANHOLE — SMH
- INSPECT. SHAFT — IS
- INSPECT. OPENING — IO
- HOUSE CONNECTION — HC
- HOUSE CONN. INDICATOR — HCI
- INSPECT. SHAFT CONNECTION — ISC

TELE.
- PIT — TEL
- PRE-LAID CONN. — TPL

DRAINAGE
- MANHOLE — DMH
- GULLY PIT
- LOT PIT — LDP
- HOUSE CONN. — DHC
- SIDE ENTRY PIT
- COMBINATION ENTRY PIT

WATER
- STOP VALVE — WSV
- HYDRANT — HY
- FLUSH POINT — FP
- WATER TAP — WTP
- WATER METER — M
- PRE-LAID CONN. — WPL

SURVEY
- DATUM NAIL
- PEG FOUND — PF
- PEG GONE — PG
- STAKE FOUND — STF
- STAKE PLACED — ST

SURVEY AREA
SEE DRAWING 43835-01-100
FOR LOCATION PLAN

GROUND COVER
SANDY / WEED / GRASS / GRAVEL / SMALL TREES

Feature Survey
1:400

COMPLIANCE ACHIEVED
JOB 2177
ASSESSOR Claude-Francois Sookloll
SIGNED DATE: 17/05/2022

TITLE	: FEATURE SURVEY	LOT	: 18 No. 56 FALLS HTS
CLIENT	: N/A	SUBURB	: GIDGEGANNUP — P : 20023
BUILDER	: QUALITY DESIGN SOLUTIONS PTY LTD	AUTHORITY	: CITY OF SWAN — C/T : 2021/584
		UBD REF	: 178 E 5 — GPS : S 31.75956° E 116.24356°

LINKS SURVEYING
P: (08) 9354 8511
W: www.linkssurveying.com.au
E: info@linkssurveying.com.au

5 0 2.5 5 10 15

SHEET	BUILDER'S REF	SURVEYED	SCALE @ A0	DWG No	REV
1 of 1		02/12/21	1:200	43835-01-200	A

NOTE This PLAN is current at the Surveyed Date, NOT FOR CONSTRUCTION purposes without site corroboration. The cadastral boundary POSITION is APPROXIMATE & requires survey confirmation - Check Landgate Plan & Certificate of Title for Encumbrances including Easements, Caveats, Covenants etc. All SERVICES require verification from the relevant AUTHORITY - suggest contacting "Dial Before You Dig" for underground services & a site inspection. © STANDFAST NOMINEES 1996

SUMMER SUN, LIGHT BREEZE, HOT, DRY, WIND, SHELTERING, WIND & RAIN, NORTH

GENERAL NOTES:
- DO NOT SCALE FROM DRAWINGS.
- THESE PLANS ARE THE SOLE PROPERTY OF DESIGNER AND MAY NOT BE REPRODUCED OR MODIFIED IN WHOLE OR IN PART WITHOUT WRITTEN PERMISSION.
- CONTRACTORS TO CHECK ALL DIMENSIONS AND CONDITIONS ON SITE PRIOR TO THE COMMENCEMENT OF ANY WORKS AND ANY DISCREPANCIES TO BE BROUGHT TO THE ATTENTION OF THE SUPERVISOR.

ISSUED FOR CLIENT REVIEW

Client:
Simon Ballard

Project Address:
56 Falls Heights Gidgegannup

Feature Survey

SHEET SIZE:	A2	DATE OF ISSUE:	9.05.22	Project Number:	Drawing Number:
DRAWN:	TAS	CHECKED:	MB	2177	A2
SCALE:	1:400, 1:200				

REVISION	DATE	DESCRIPTION
A	9.05.22	- Issued for Client Review
B	xx.xx.xx	-
C	xx.xx.xx	-
D	xx.xx.xx	-

QDS QUALITY DESIGN SOLUTIONS
PO Box 2655, Malaga WA 6944
Email: mike@qdswa.com.au Mobile: 0403 165 270

ALL CONTRACTORS WORKING ON THIS PROJECT TO CHECK ALL DIMENSIONS AND NOTES PRIOR TO INITIATING ANY WORKS. ALL DISCREPANCIES TO BE NOTIFIED TO THE PROJECT MANAGER STRAIGHT AWAY.

SITE NOTES:

- SITE CLASSIFICATION IS CLASS S, REFER TO GEO REPORT.
- WIND RATING IS N2, REFER TO ENGINEERING DRAWINGS.
- ALL SERVICES INCLUDING WATER, SEWER, GAS, POWER AND COMMUNICATIONS LOCATIONS TO BE CONFIRMED ON SITE. CONNECTION APPLICATIONS BY OWNER.
- ALL DOWNPIPES TO BE CONNECTED TO STORMWATER SOAKWELLS AS PER SHIRE REQUIREMENTS.
- PLUMBER TO DETERMINED QUANTITY AND LOCATIONS OF SOAKWELLS AND DOWNPIPES.
- ALL LEVELS TO BE CONFIRMED ON SITE AND ARE SHOWN ARE INDICATIVE ONLY. NO RESPONSIBILITY TAKEN FOR ANY LEVELS SHOWN.
- PRELAY CONDUIT TO ISLAND BENCH BY ELECTRICIAN.

GENERAL NOTES:

- SPECIFICATIONS, ENGINEERING DRAWINGS AND CONTRACT DOCUMENTS ARE TO TAKE PRECEDENCE OVER THESE PLANS.
- ALL BUILDING WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE REQUIRED AUSTRALIA STANDARDS AND THE NCC.
- TERMITE MANAGEMENT SYSTEM TO COMPLY WITH AS 3660.1 (2014) AND NCC VOL 2 PART 3.7.1.
- REFER TO ENGINEERING DRAWINGS FOR ALL STRUCTURAL SPECIFICATIONS.
- REFER TO BAL REPORT AND SPECIFICATION FOR ALL BUSHFIRE REQUIREMENTS INCLUDING SARKING TO WALLS AND ROOF.
- ALL SETOUT DIMENSIONS TO TIMBER STUD WALLS HAVE NO ALLOWANCE FOR INTERNAL AND EXTERNAL SHEETING.
- CARE SHOULD BE TAKEN TO INCLUDE AN ALLOWANCE IN CALCULATION OF CLEARANCE REQUIRED FOR FIXINGS ETC.
- REFER TO ENERGY REPORT FOR ALL WALL AND ROOF INSULATION AND GLAZING CALCULATIONS.
- EXTERNAL WATERPROOFING AND WET AREAS TO COMPLY WITH AS3740 AND NCC 3.8.1.

Site Plan
1:200

COMPLIANCE ACHIEVED
JOB 2177
ASSESSOR Claude-Francois Scellier
SIGNED DATE: 17/05/2022

GENERAL NOTES:
- DO NOT SCALE FROM DRAWINGS.
- THESE PLANS ARE THE SOLE PROPERTY OF DESIGNER AND MAY NOT BE REPRODUCED OR MODIFIED IN WHOLE OR IN PART WITHOUT WRITTEN PERMISSION.
- CONTRACTORS TO CHECK ALL DIMENSIONS AND CONDITIONS ON SITE PRIOR TO THE COMMENCEMENT OF ANY WORKS AND ANY DISCREPANCIES TO BE BROUGHT TO THE ATTENTION OF THE SUPERVISOR.

ISSUED FOR CLIENT REVIEW

Client:
Simon Ballard

Project Address:
56 Falls Heights Gidgegannup

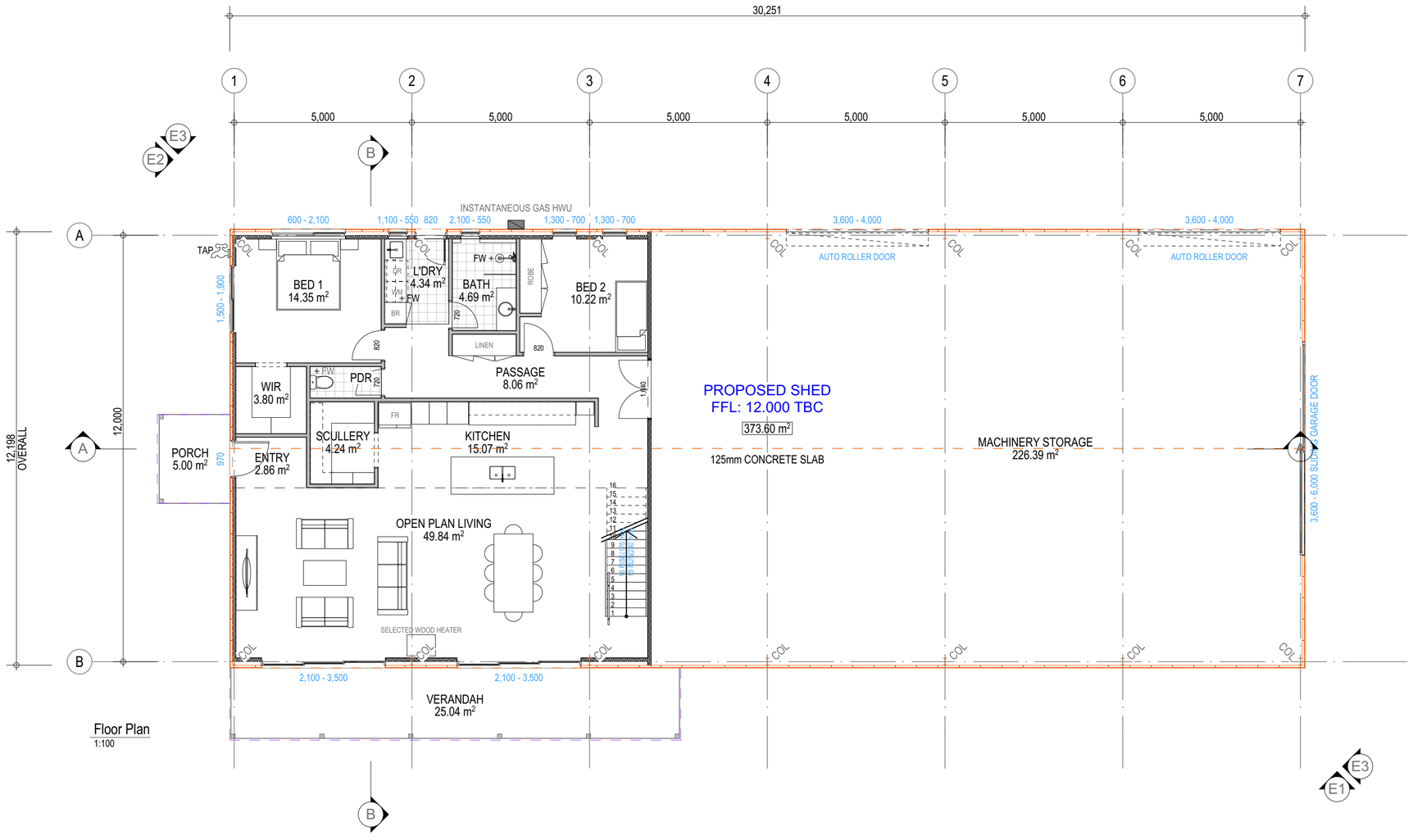
Site Plan

SHEET SIZE:	A2	DATE OF ISSUE:	9.05.22	Project Number:	Drawing Number:
DRAWN:	TAS	CHECKED:	MB	2177	A3
SCALE:	1:200				

REVISION	DATE	DESCRIPTION
A	9.05.22	- Issued for Client Review
B	xx.xx.xx	-
C	xx.xx.xx	-
D	xx.xx.xx	-

QDS QUALITY DESIGN SOLUTIONS
PO Box 2655, Malaga WA 6944
Email: mike@qdswa.com.au Mobile: 0403 165 270

ALL CONTRACTORS WORKING ON THIS PROJECT TO CHECK ALL DIMENSIONS AND NOTES PRIOR TO INITIATING ANY WORKS. ALL DISCREPANCIES TO BE NOTIFIED TO THE PROJECT MANAGER STRAIGHT AWAY.



Floor Plan
1:100

FLOOR PLAN NOTES:

- FLOOR WASTE LOCATIONS TO BE CONFIRMED ON SITE BY PLUMBER.
- DOWNPIPE LOCATIONS TO ROOF PLUMBERS DISCRETION AND MUST COMPLY WITH AS 3500.
- FLOOR COVERINGS TO BE CONFIRMED BY CLIENT.
- INTERCONNECTED SMOKE DETECTORS AS PER AS 3786-1993 AND NCC 3.7.2.
- REFER TO AMENITIES AND KITCHEN LAYOUTS FOR ALL CABINETRY AND FIXTURE POSITIONS.

GENERAL NOTES:

- SPECIFICATIONS, ENGINEERING DRAWINGS AND CONTRACT DOCUMENTS ARE TO TAKE PRECEDENCE OVER THESE PLANS.
- ALL BUILDING WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE REQUIRED AUSTRALIA STANDARDS AND THE NCC.
- TERMITE MANAGEMENT SYSTEM TO COMPLY WITH AS 3660.1 (2014) AND NCC VOL 2 PART 3.7.1.
- REFER TO ENGINEERING DRAWINGS FOR ALL STRUCTURAL SPECIFICATIONS.
- REFER TO BAL REPORT AND SPECIFICATION FOR ALL BUSHFIRE REQUIREMENTS INCLUDING SARKING TO WALLS AND ROOF.
- ALL SETOUT DIMENSIONS TO STUD WALLS HAVE NO ALLOWANCE FOR INTERNAL AND EXTERNAL SHEETING.
- CARE SHOULD BE TAKEN TO INCLUDE AN ALLOWANCE IN CALCULATION OF CLEARANCE REQUIRED FOR FIXINGS ETC.
- SITE CLASSIFICATION IS CLASS S, REFER TO GEO REPORT.
- WIND RATING IS N2, REFER TO ENGINEERING DRAWINGS.
- REFER TO ENERGY REPORT FOR ALL WALL AND ROOF INSULATION AND GLAZING CALCULATIONS.
- EXTERNAL WATERPROOFING AND WET AREAS TO COMPLY WITH AS3740 AND NCC 3.8.1.

COMPLIANCE ACHIEVED
JOB 2177
ASSESSOR Claude-Francois Sookloll
SIGNED DATE: 17/05/2022

GENERAL NOTES:
- DO NOT SCALE FROM DRAWINGS.
- THESE PLANS ARE THE SOLE PROPERTY OF DESIGNER AND MAY NOT BE REPRODUCED OR MODIFIED IN WHOLE OR IN PART WITHOUT WRITTEN PERMISSION.
- CONTRACTORS TO CHECK ALL DIMENSIONS AND CONDITIONS ON SITE PRIOR TO THE COMMENCEMENT OF ANY WORKS AND ANY DISCREPANCIES TO BE BROUGHT TO THE ATTENTION OF THE SUPERVISOR.

ISSUED FOR CLIENT REVIEW

Client:
Simon Ballard

Project Address:
56 Falls Heights Gidgegannup

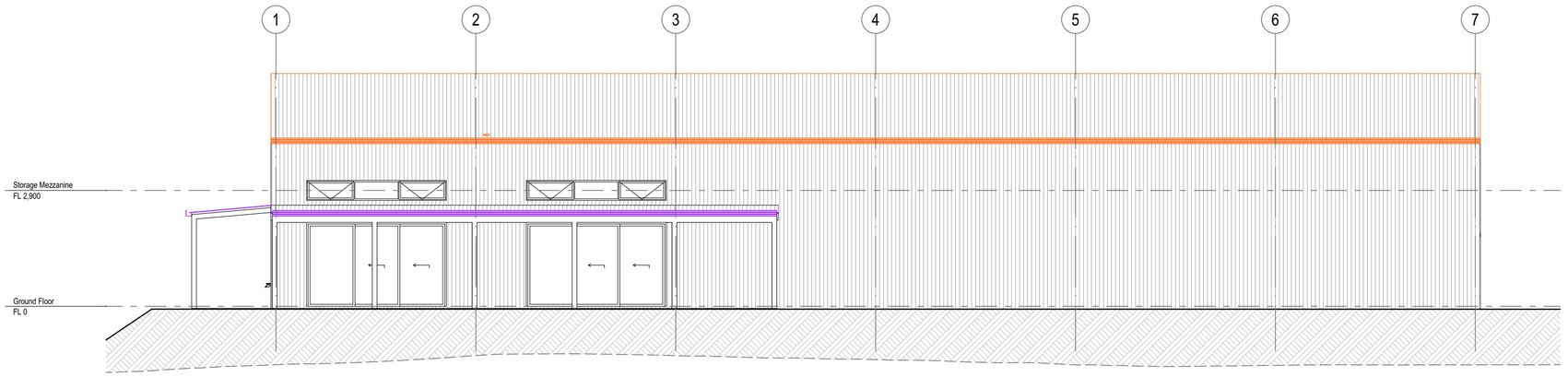
Floor Plan

SHEET SIZE: A2	DATE OF ISSUE: 9.05.22	Project Number:	Drawing Number:
DRAWN: TAS	CHECKED: MB	**2177**	**A4**
SCALE: 1:100			

REVISION	DATE	DESCRIPTION
A	9.05.22	- Issued for Client Review
B	xx.xx.xx	-
C	xx.xx.xx	-
D	xx.xx.xx	-

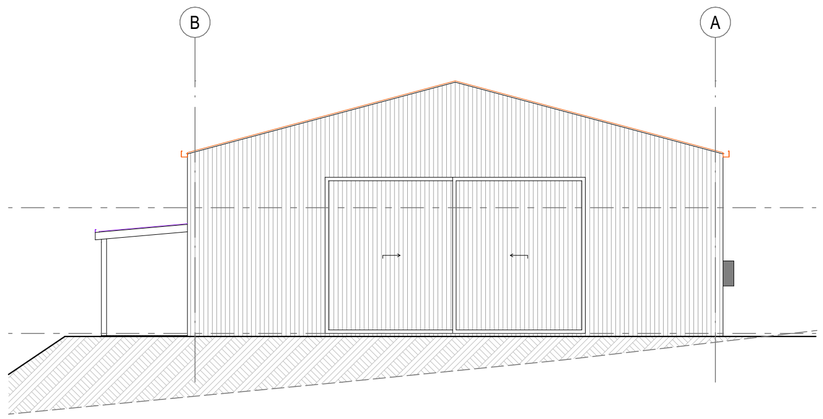
QDS QUALITY DESIGN SOLUTIONS
PO Box 2655, Malaga WA 6944
Email: mike@qdswa.com.au **Mobile: 0403 165 270**

ALL CONTRACTORS WORKING ON THIS PROJECT TO CHECK ALL DIMENSIONS AND NOTES PRIOR TO INITIATING ANY WORKS. ALL DISCREPANCIES TO BE NOTIFIED TO THE PROJECT MANAGER STRAIGHT AWAY.

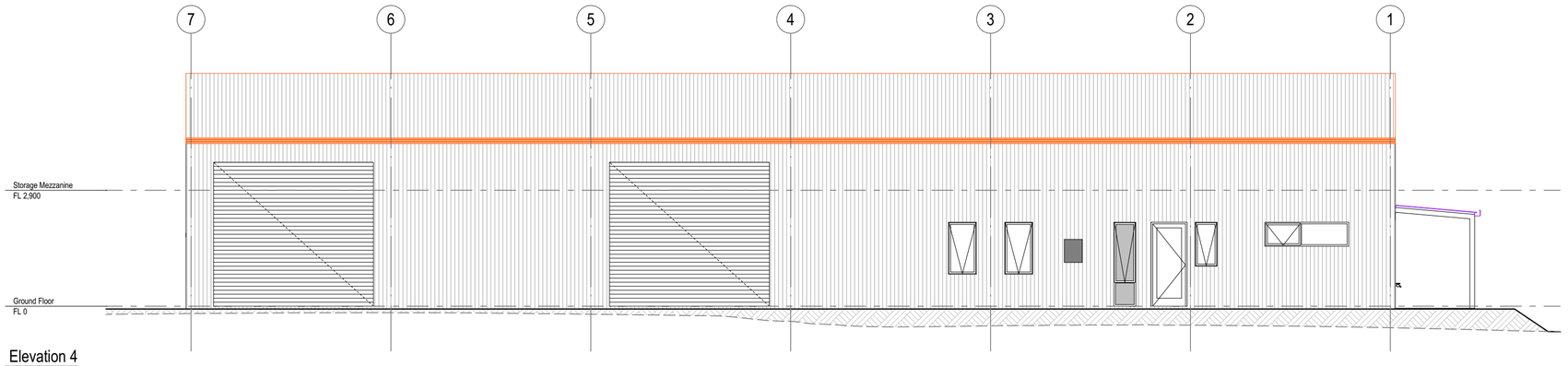


Elevation 1
1:100

Elevation 2
1:100



Elevation 3
1:100



Elevation 4
1:100

GENERAL AND ELEVATION NOTES:

- SPECIFICATIONS, ENGINEERING DRAWINGS AND CONTRACT DOCUMENTS ARE TO TAKE PRECEDENCE OVER THESE PLANS.
- ALL BUILDING WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE REQUIRED AUSTRALIA STANDARDS AND THE NCC.
- TERMITE MANAGEMENT SYSTEM TO COMPLY WITH AS 3660.1 (2014) AND NCC VOL 2 PART 3.7.1.
- REFER TO ENGINEERING DRAWINGS FOR ALL STRUCTURAL SPECIFICATIONS.
- REFER TO BAL REPORT AND SPECIFICATION FOR ALL BUSHFIRE REQUIREMENTS INCLUDING SARKING TO WALLS AND ROOF.
- TIMBER FRAMED CONSTRUCTION WITH EXTERNAL CLADDING TO BE CONFIRMED.
- ALL DOWNPIPES TO BE CONNECTED TO STORMWATER SOAKWELLS AS PER SHIRE REQUIREMENTS.
- PLUMBER TO DETERMINED QUANTITY AND LOCATIONS OF DOWNPIPES.
- REFER TO ENERGY REPORT FOR ALL WALL AND ROOF INSULATION AND GLAZING CALCULATIONS.
- EXTERNAL WATERPROOFING AND WET AREAS TO COMPLY WITH AS3740 AND NCC 3.8.1.

COMPLIANCE ACHIEVED
JOB 2177
ASSESSOR Claude-Francois Sookloll
SIGNED Sookloll DATE: 17/05/2022

GENERAL NOTES:
- DO NOT SCALE FROM DRAWINGS.
- THESE PLANS ARE THE SOLE PROPERTY OF DESIGNER AND MAY NOT BE REPRODUCED OR MODIFIED IN WHOLE OR IN PART WITHOUT WRITTEN PERMISSION.
- CONTRACTORS TO CHECK ALL DIMENSIONS AND CONDITIONS ON SITE PRIOR TO THE COMMENCEMENT OF ANY WORKS AND ANY DISCREPANCIES TO BE BROUGHT TO THE ATTENTION OF THE SUPERVISOR.

ISSUED FOR CLIENT REVIEW

Client:
Simon Ballard

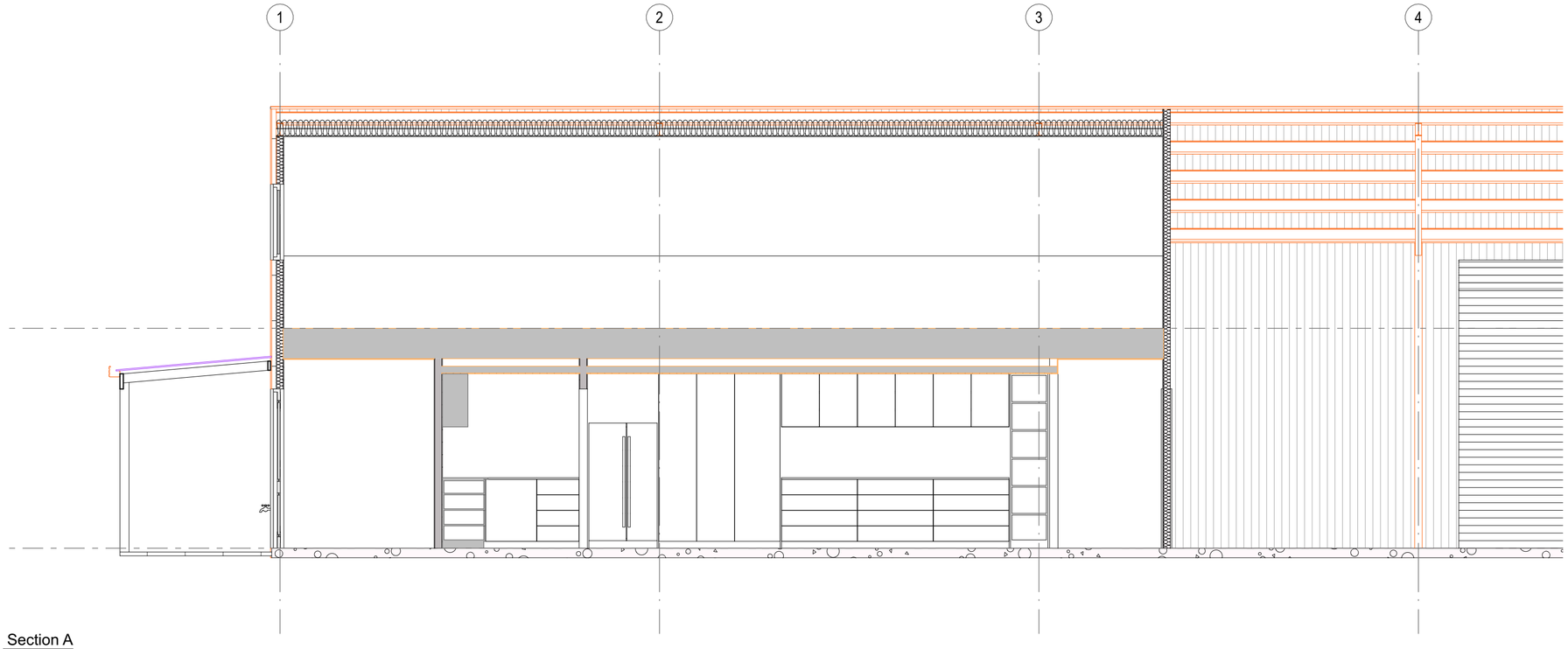
Project Address:
56 Falls Heights Gidgegannup

Elevations

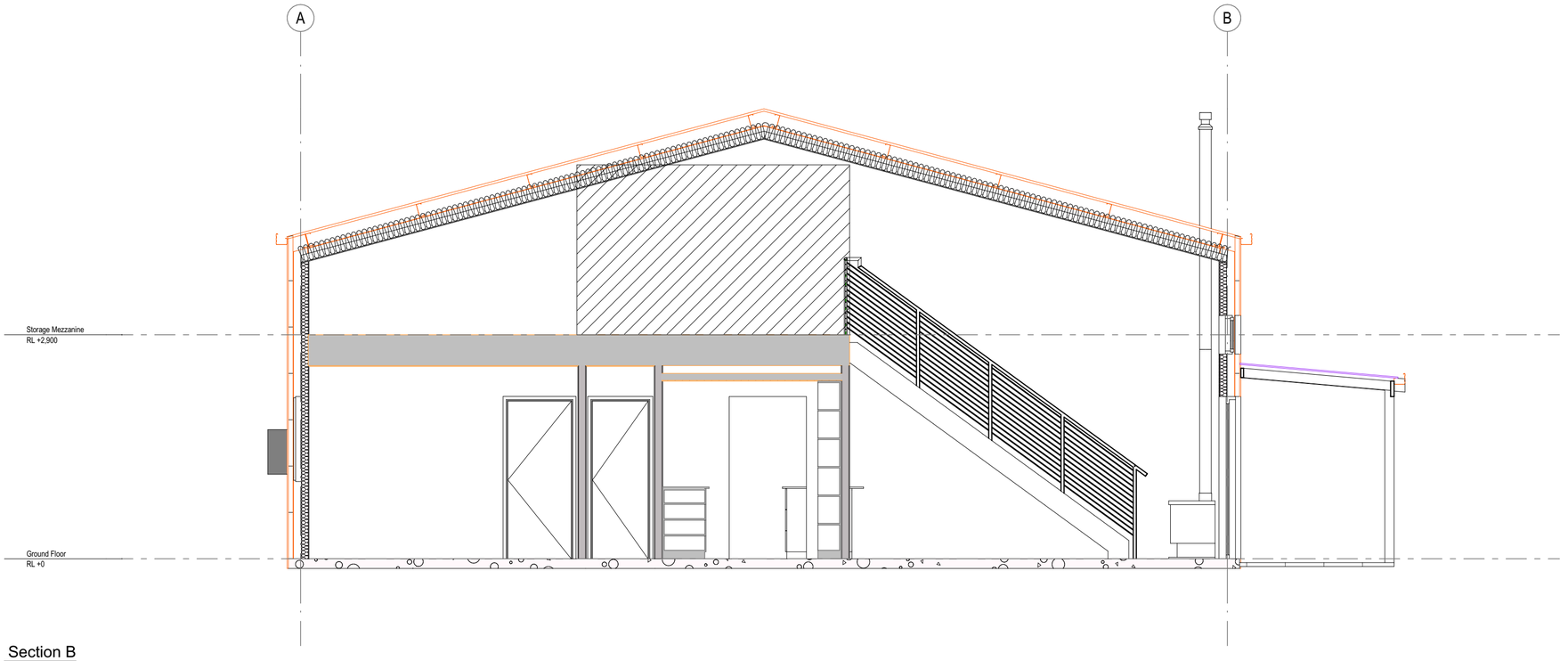
SHEET SIZE:	A2	DATE OF ISSUE:	9.05.22	Project Number:	Drawing Number:
DRAWN:	TAS	CHECKED:	MB	2177	A5
SCALE:	1:100, 1:50				

REVISION	DATE	DESCRIPTION
A	9.05.22	- Issued for Client Review
B	xx.xx.xx	-
C	xx.xx.xx	-
D	xx.xx.xx	-

QDS QUALITY DESIGN SOLUTIONS
PO Box 2655, Malaga WA 6944
Email: mike@qdswa.com.au **Mobile: 0403 165 270**



Section A
1:50



Section B
1:50

COMPLIANCE ACHIEVED
JOB 2177
ASSESSOR Claude-Francois Sookloll
SIGNED DATE: 17/05/2022

GENERAL NOTES:
- DO NOT SCALE FROM DRAWINGS.
- THESE PLANS ARE THE SOLE PROPERTY OF DESIGNER AND MAY NOT BE REPRODUCED OR MODIFIED IN WHOLE OR IN PART WITHOUT WRITTEN PERMISSION.
- CONTRACTORS TO CHECK ALL DIMENSIONS AND CONDITIONS ON SITE PRIOR TO THE COMMENCEMENT OF ANY WORKS AND ANY DISCREPANCIES TO BE BROUGHT TO THE ATTENTION OF THE SUPERVISOR.

ISSUED FOR CLIENT REVIEW

Client:
Simon Ballard

Project Address:
56 Falls Heights Gidgegannup

Sections

SHEET SIZE:	A2	DATE OF ISSUE:	9.05.22	Project Number:	Drawing Number:
DRAWN:	TAS	CHECKED:	MB	**2177**	**A6**
SCALE:	1:50				

REVISION	DATE	DESCRIPTION
A	9.05.22	- Issued for Client Review
B	xx.xx.xx	-
C	xx.xx.xx	-
D	xx.xx.xx	-

QDS QUALITY DESIGN SOLUTIONS
PO Box 2655, Malaga WA 6944
Email: mike@qdswa.com.au **Mobile: 0403 165 270**