

LEGEND

	Rendered brick wall with insulation (insulation to external walls only)
	Single brick wall
	Stud wall with insulation
	Reverse brick veneer wall with insulation

Sunset-Mid Winter
28 degrees
North of West



Deciduous vines over northern pergola provides summer shading to windows while maintaining solar access in winter

Closed cell foil insulation to cavity walls to reduce afternoon summer heat infiltration

Honed concrete floor to northern rooms for internal thermal mass. Storing winter solar gain and summer coolth to regulate internal temperatures

Insulated stud frame walls to reduce summer heat infiltration and retain winter warmth

Argon filled double glazed window with thermally broken frame minimises winter heat loss

Sunset-Mid Summer
28 degrees
South of West

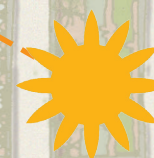


Extensive glazing to northern side to maximise winter solar gain

Brick internal walls for internal thermal mass. Storing winter solar gain and summer coolth to regulate internal temperatures

Low-e coating to all external glass to regulate heat flow

Sunrise-Mid Summer
28 degrees
North of East



Window pelmets and curtains minimises heat loss in winter and heat gain in summer

Insulated reverse brick wall construction to eastern wall to reduce morning heat infiltration in summer

Sliding windows to maximise opening for ventilation

Sunrise-Mid Summer
28 degrees
South of East



Cooling summer breezes remove warm internal air and built up heat in the thermal mass



SUSTAINABILITY PRINCIPLES

PASSIVE SOLAR DESIGN PRINCIPLES | NOVEMBER 2012
(Common Features to Front & Back House)

SCALE: NTS

PROJECT NO D-00-3 REV NO - ISSUE 1012 PAGE 1 OF 3

DESIGNED BY SOLAR DWELLINGS and JOSH BYRNE & ASSOCIATES

DRAWN BY JOSH BYRNE & ASSOCIATES

CHECKED BY JOSH BYRNE & ASSOCIATES

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JOSH'S HOUSE | GRIGG PLACE HILTON 6163

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LEGEND

Rendered brick wall with insulation
(insulation to external walls only)

Single brick wall

Stud wall with insulation

Reverse brick veneer wall with insulation

ST

Solar Tube

Roof Vent

Water efficient fixtures and fittings
minimise water usage

Rainwater harvesting (with mains water
back up) to supply toilet, washing
machine and garden taps in front house,
and all internal uses in back house

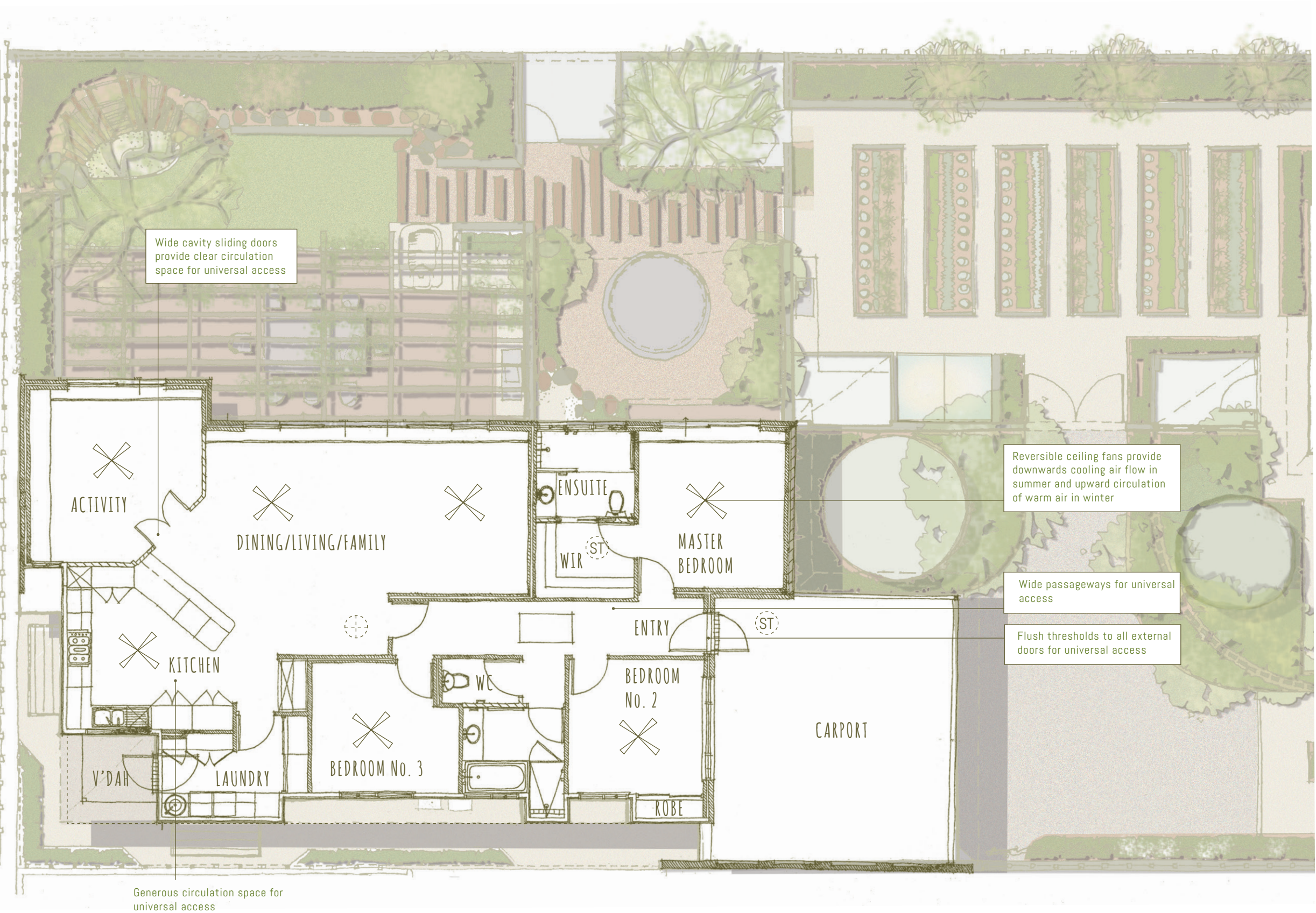
Low VOC paints used, no gas space
heating and dust collecting surfaces
minimised to promote a low allergen
internal environment

Monitoring and real time reporting of
water, electricity and gas usage

Low energy compact fluorescent and LED
lights used through-out to minimise
electrical loads

Solar tubes provide natural light to
internal spaces

Roof vents release hot air from roof
space in summer



Wide cavity sliding doors
provide clear circulation
space for universal access

Reversible ceiling fans provide
downwards cooling air flow in
summer and upward circulation
of warm air in winter

Wide passageways for universal
access

Flush thresholds to all external
doors for universal access

Generous circulation space for
universal access



SUSTAINABILITY FEATURES

INTERNAL SUSTAINABILITY FEATURES | NOVEMBER 2012
(Common Features to Front & Back House)

SCALE: NTS PROJECT NO D-003 REV NO - ISSUE 1012 PAGE 2 OF 3

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Solar tubes provide natural light to internal spaces

Light coloured Colorbond Custom Orb roof with foiled batt insulation under the roof sheeting to minimise summer heat penetration

Insulated external walls to reduce summer heat infiltration and retain winter warmth

Grey water reused to irrigate selected landscape areas

Solar hot water system with in-line gas booster

3kW grid connected photovoltaic system

High northern doors and windows to 28c

Outdoor kitchen takes cooking heat outside in summer

Salvaged timber deck reduces radiant heat build-up in summer

EXTERNAL SUSTAINABILITY FEATURES - NORTHERN ELEVATION

Solar roof cavity vent

Light coloured Colorbond Custom Orb roof with foiled batt insulation under the roof sheeting to minimise summer

Strategically located trees for summer shading

Insulated external walls to reduce summer heat infiltration and retain winter warmth

Wide doors with flush threshold for universal access

Native gardens promote urban biodiversity

Shade sail and deciduous vines over northern pergola to provide summer shading to windows while maintaining solar access in winter

20kL rainwater tank supplies all internal uses plus garden taps, with mainswater backup. (5kL tank to front house supplies toilet, washing machine and garden taps)

Productive gardens for local food production

Gravel pathways allow localised stormwater filtration

EXTERNAL SUSTAINABILITY FEATURES - EASTERN ELEVATION

SUSTAINABILITY PRINCIPLES

EXTERNAL SUSTAINABILITY FEATURES | NOVEMBER 2012
(Common Features to Front & Back House)

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SCALE: 1:100@A3

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