50 DWELLINGS / HECTARE

60 - 70 % OPEN SPACE

COOLING PREVAILING BREEZES

COMMON PROPERTY ROW

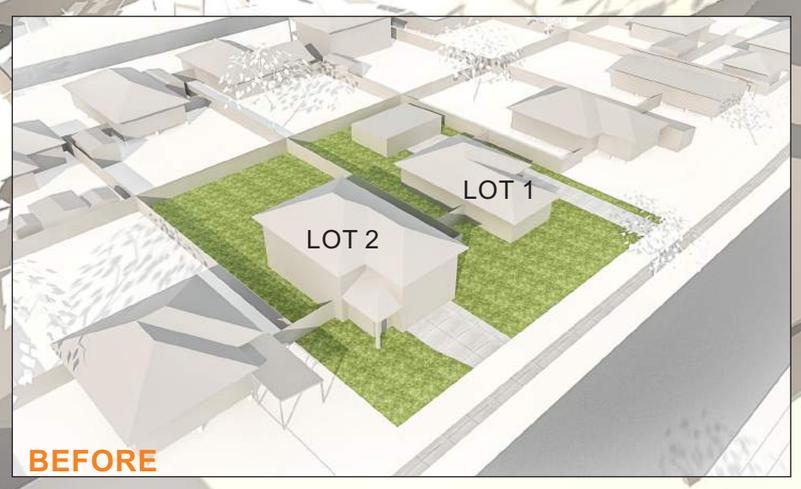
PERMEABLE PAVING TO ROW

5 - 10 Km to Brisbane CBD

N

LEGEND

1 : Existing house to be refurbished to minimum Energy Standards
2 : New Rear Econest on minimum 180 sqm Lot.
3 : Single crossover per Lot
4 : New Econest Homes on 180 sqm Lots with common driveway
5 : Minimum 30 sqm northern outdoor entertainment space
6 : 50% reduction in front setback subject to deep planting zone
7 : Additional street parking and shade trees where feasible
8 : Deep planting zones for mature or existing trees



BEFORE

TYPICAL EXISTING LOT
15 DWELLINGS/HA

AFTER

DENSITY AND DIVERSITY DONE WELL

- CLIMATICALLY RESPONSIVE PLACES
- HEALTHY AND SAFE PUBLIC AND PRIVATE PLACES
- INTER-GENERATIONAL PLACES
- ENTREPENEURIAL PLACES
- TOTAL ENERGY PLACES

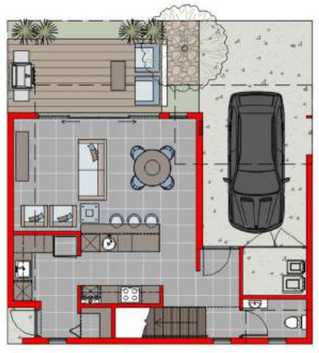
“Small footprint , carbon neutral and energy efficient living ...delivering affordable density and diversity without losing the positive attributes of openness and nature within our garden suburbs”

ECONESTING 01

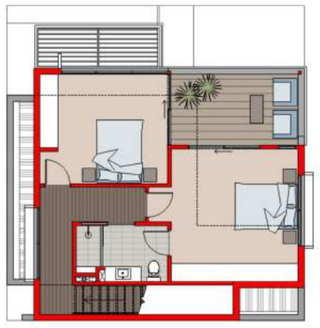
"...delivering density and diversity without losing the positive attributes of openness and nature within our garden suburbs "

TYPICAL STREETSCAPE

0 1 5 10 m

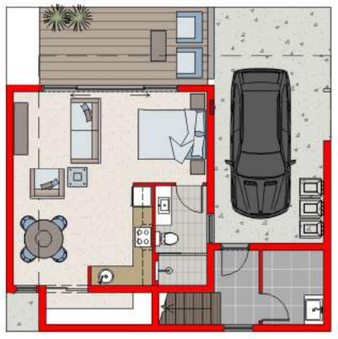


GROUND FLOOR



FIRST FLOOR

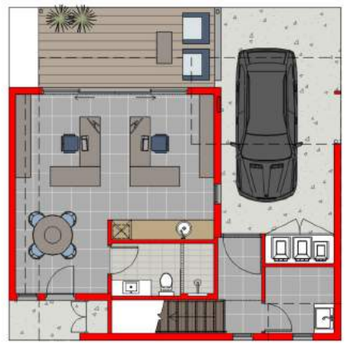
2 BEDROOM ECONEST
INTERNAL LIVING : 110 sqm



GROUND FLOOR

FIRST FLOOR

STUDIO +1 BEDROOM ECONEST
STUDIO : 40 sqm
1 BED UNIT : 70 sqm



GROUND FLOOR

FIRST FLOOR

HOME OFFICE + 1 BEDROOM ECONEST
OFFICE : 36 sqm
1 BED UNIT : 70 sqm

N

DENSITY AND DIVERSITY DONE WELL

- CLIMATICALLY RESPONSIVE PLACES
- HEALTHY AND SAFE PUBLIC AND PRIVATE PLACES
- INTER-GENERATIONAL PLACES
- ENTREPENEURIAL PLACES
- TOTAL ENERGY PLACES

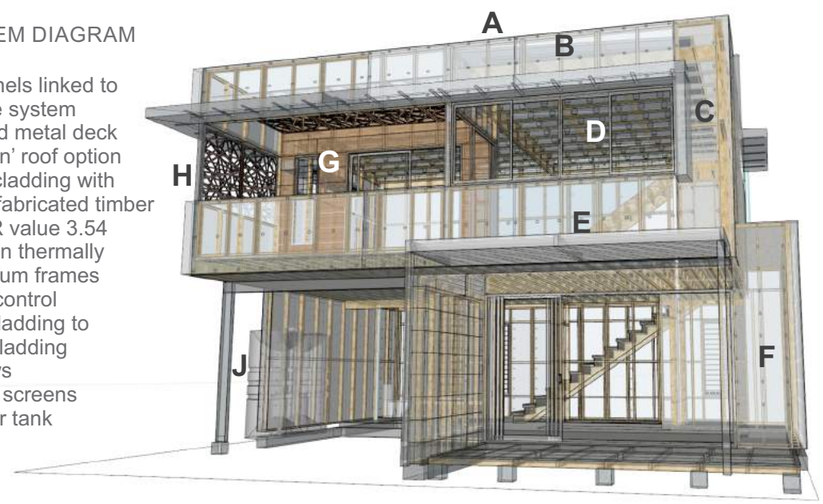
ECONESTING 02

THE RIGHT TO SUN, AIR, PRIVACY, AND DELIGHT

“...quiet and full of light: designed to breathe, be warm, cool and keep dry”

KEY TO SYSTEM DIAGRAM

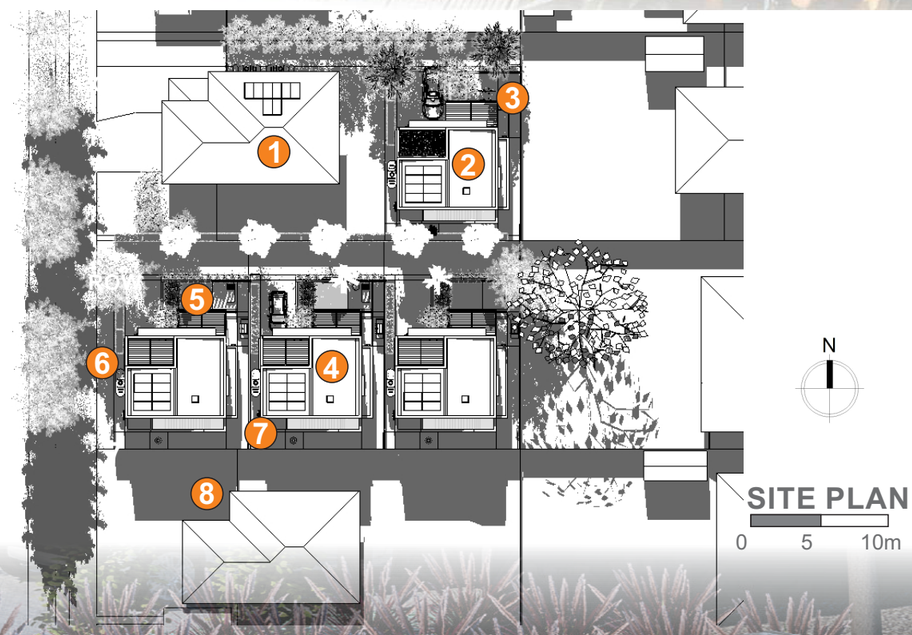
A: 6 KW solar panels linked to battery storage system
B: Highly insulated metal deck roof with ‘Green’ roof option
C: 100 mm EPS cladding with sarking on prefabricated timber frames. Total R value 3.54
D: Low-e glazing in thermally broken aluminium frames
E :External solar control
F: Fibre cement cladding to 100 mm EPS cladding
G: Louvre windows
H: laser cut metal screens
J: 3000 l rainwater tank



the ‘SYSTEM’

KEY TO SITE PLAN

1 : Existing house to be refurbished to minimum Energy Standards
2 : New Rear Econest on minimum 180 sqm Lot.
3 : Minimum 2.5 m Rear setback for 2nd storey
4 : New Econest Homes on 180 sqm Lots with common driveway
5 : Minimum 30 sqm northern outdoor entertainment space
6 : 50% reduction in front setback subject to deep planting zone
7 : Minimum 2.5 m Rear setback for 2nd storey
8 : Maximum overshadowing at winter solstice = 25 %



DENSITY AND DIVERSITY DONE WELL

- CLIMATICALLY RESPONSIVE PLACES
- HEALTHY AND SAFE PUBLIC AND PRIVATE PLACES
- INTER-GENERATIONAL PLACES
- ENTREPENEURIAL PLACES
- TOTAL ENERGY PLACES

ECONESTING 03

DIVERSITY

2 X 1.5 ECONEST WITH PLUNGE POOL

THREE LEVEL ECONESTING

ONE BED ECONEST OVER HOME OFFICE

TOWARDS A CARBON NEUTRAL HOUSING FUTURE

Greenhouse Gas Emissions Avoided

The Esky (EPS) Model, Cannon Hill, Brisbane

Over it's life span, it is expected this building will emit 468 tCO2e less than average or standard buildings providing the same functionality. This is equivalent to:

2,809
trees planted

123
cars taken off the road for a year

62
zero energy Australian homes for a year

14,000,000
balloons of CO2 gas removed from the atmosphere

Sources:

eTool LCA for Cannon Hill, Brisbane. Carbon Neutral Australia, 6 native trees per tCO2e. US EPA "Greenhouse Gas Emissions from a Typical Passenger Vehicle" December 2011, 5.1 tCO2e / Car / Year. eTool Australian Benchmark 7.5 tCO2e per residence in annual energy related emissions. One tonne of CO2 gas fills 556m3 at standard pressure and temperature, a balloon has a volume of 0.015m3 and a pressure of 1.2 atmospheres.

Environmental Sustainability Scale

The Esky (EPS) Model, Cannon Hill, Brisbane

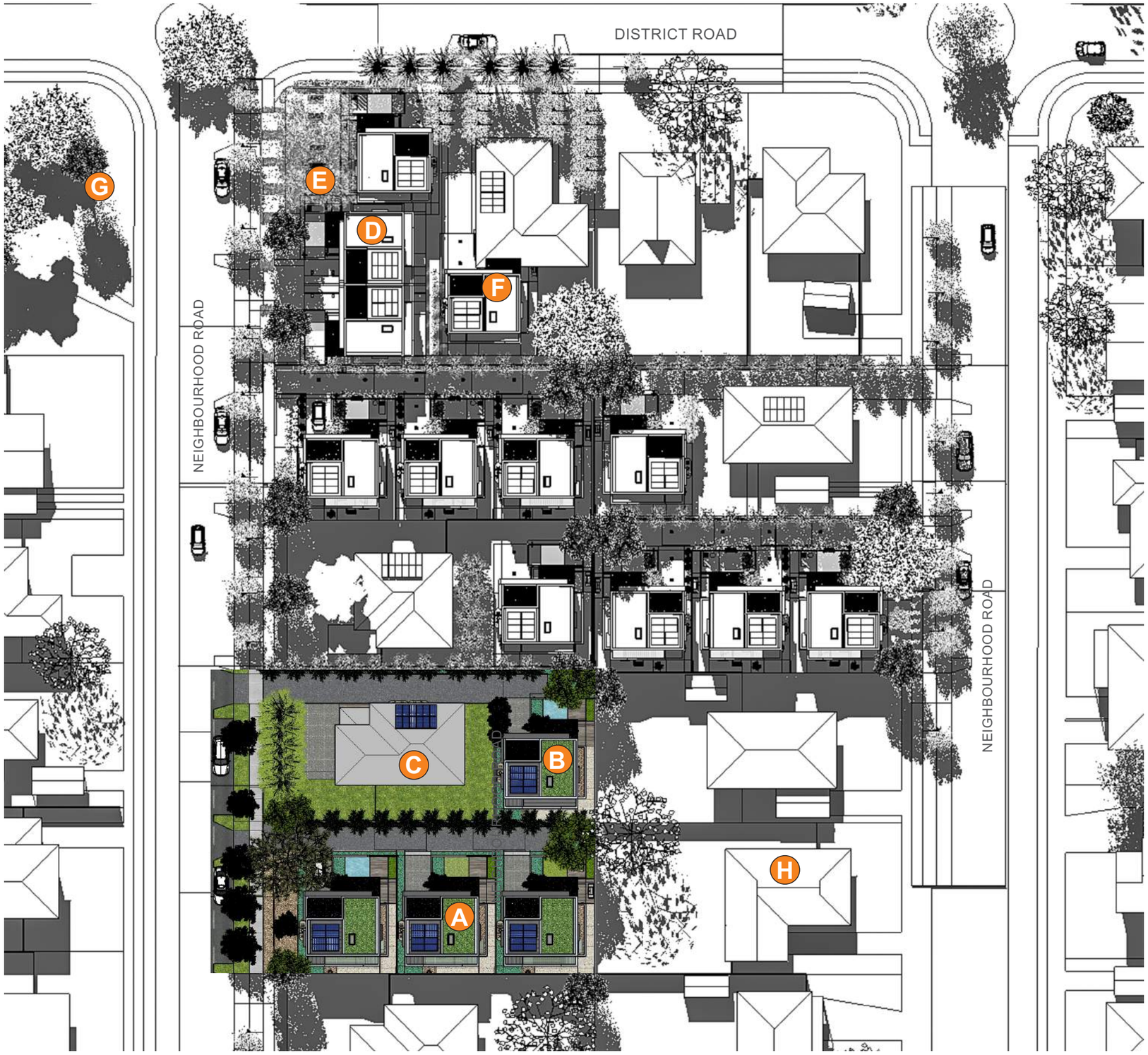
The depictions above represent the predicted impacts of greenhouse gas pollution according to IPCC reports.A best casa scenario of rapid but green growth towards a services economy and clean energy limits temperature rise to 1.8 degrees C. Adverse effects limited to 1m sea level rise, 30% of total species at risk. An 80% reduction in greenhouse gasses by 2050 required to maintain this safe threshold. A business as usual fossil-fuel intensive development scenario leads to temperature rise of over 4 degrees C. This would likely lead to 1.4m sea level rise, possible runaway climate change, a mass extinction event and significant economic and social turmoil. Source: IPCC and eTool LCA ofCannon Hill, Brisbane, Certified 11 July 2017

The above carbon emission figures are for a single ECONESTING home. There would be a greater impact if the two subject sites were developed as per our proposal with 3 x new ECONESTS and an Energy upgrade to the existing dwelling.

TYPICAL STREETSCAPE SCALE

DENSITY AND DIVERSITY DONE WELL

- CLIMATICALLY RESPONSIVE PLACES
- HEALTHY AND SAFE PUBLIC AND PRIVATE PLACES
- INTER-GENERATIONAL PLACES
- ENTREPENEURIAL PLACES
- TOTAL ENERGY PLACES



Greenhouse Gas Emissions Avoided

60 x The Esky (EPS) Model, Brisbane

Over the life span of these dwellings, it is expected these designs will emit 28,080 tCO_2e less than average or standard buildings providing the same functionality. This is equivalent to:

168,540
trees planted

7,380
cars taken off the road for a year

3,720
zero energy Australian homes for a year

840,000,000
balloons of CO_2 gas removed from the atmosphere

Sources:
eTool LCA for Cannon Hill, Brisbane. Carbon Neutral Australia, 6 native trees per tCO2e. US EPA "Greenhouse Gas Emissions from a Typical Passenger Vehicle" December 2011, 5.1 tCO2e / Car / Year. eTool Australian Benchmark 7.5 tCO2e per residence in annual energy related emissions. One tonne of CO2 gas fills 556m3 at standard pressure and temperature, a balloon has a volume of 0.015m3 and a pressure of 1.2 atmospheres.

If the entire suburban block of 20 single detached homes were replaced by the equivalent of 60 ECONESTING homes the above carbon savings are feasible. Partial re-development (as shown on the site plan) would still result in significant reduction in Greenhouse gases over the "business as usual" scenario.

N

PARTIAL BLOCK PLAN
0 10 20 m

LEGEND TO BLOCK PLAN

- **A** : Strata Triplex or 3 Green Title Micro Lots (180 sqm)
- **B** : Ancillary Unit behind Exist house or 180 sqm Micro Lot + 450 sqm Family Lot
- **C** :Existing home to be upgraded to minimum energy standards to qualify for added density
- **D** : Multiple Unit Econests. 3 Storey provision to corner sites or overlooking POS
- **E** : Micro Square - requirement for added density
- **F** : Econest as an Addition to exist home
- **G** : Public Open Space
- **H** : Existing housing stock upgraded over time

DENSITY AND DIVERSITY DONE WELL

- CLIMATICALLY RESPONSIVE PLACES
- HEALTHY AND SAFE PUBLIC AND PRIVATE PLACES
- INTER-GENERATIONAL PLACES
- ENTREPENEURIAL PLACES
- TOTAL ENERGY PLACES

LEGEND

- **A** : Strata Triplex or 3 Green Title Micro Lots (180 sqm)
- **B** : Ancillary Unit behind Exist house or 180 sqm Micro Lot + 450 sqm Family Lot
- **C** :Existing home to be upgraded to minimum energy standards to qualify for added density
- **D** : Multiple Unit Econests. 3 Storey provision to corner sites or overlooking POS
- **E** : Micro Square - requirement for added density
- **F** : Econest as an Addition to exist home
- **G** : Public Open Space
- **H** : Existing housing stock upgraded over time

BIRDS EYE VIEW OF AN ECONESTING NEIGHBOURHOOD

OPEN AND INVITING STREETSCAPES WITH VISUAL CONNECTIONS

DENSITY : An ECONESTING neighbourhood can increase density in a typical block by 3 or more times resulting in an additional 40 or more family/ user groups being housed in the same area as this typical neighbourhood block. At the same time, with small footprint living we can achieve 60- 70 % Open Space and with Planned Developments actually **increase the overall tree canopy**, creating a more pleasant micro-climate and offsetting the carbon footprint of the new buildings.

DIVERSITY : Econesting is highly sustainable and allows a **large diversity** of Types to accommodate Downsizers, Fly the Nesters, Home Office workers, Small Families and Inter-generational living - all promoting an active and inclusive **Community**. ECONESTS can be woven through the fabric of an existing suburb over time minimising large scale disruption and also allowing the option of keeping much of the existing housing stock which can be upgraded to minimum Energy Standards over time.

DONE WELL : With clear and logical Planning Controls the contentious issue of Infill housing could rather be sold as a way of improving the **Environmental outcomes** of a suburb at the same time as being a way Residents can maximise the value in their own backyard while improving their way of living. The small scale of ECONESTING allows Residents the option of developing for themselves which in turn makes it more economically feasible and promotes development with an Environmental and Social Conscience.

DENSITY AND DIVERSITY DONE WELL

- CLIMATICALLY RESPONSIVE PLACES
- HEALTHY AND SAFE PUBLIC AND PRIVATE PLACES
- INTER-GENERATIONAL PLACES
- ENTREPENEURIAL PLACES
- TOTAL ENERGY PLACES