

Name of Witness	Emma Kaleena SCRAGG
Date of Birth	[REDACTED]
Address and contact details	[REDACTED]
Occupation	Architect
Officer taking statement	Det Insp Mark Ainsworth
Date taken	24/8/11

Emma Kaleena SCRAGG states;

1. I am a Registered Architect by occupation employed by Nomamere Pty Ltd trading as Riddel Architecture situated at 620 Wickham Street, Fortitude Valley. I have been with Riddel for approximately 12 years and worked in the Architecture Industry for the past 18 years after completing my studies at the Queensland University of Technology in 1995. I currently hold a Bachelor in Architecture and a Bachelor in Applied Science Built Environment Architecture.
2. My current role at Riddel Architecture includes design and documentation of new and adaptive reuse projects, administering contracts for construction, in-house sustainability research and assisting with Management strategies. The practice specialises in sustainable architecture design and outcomes achieved through conservation and adaptive re-use projects in working with existing buildings as well as new projects such as the Hill End Ecohouse, which endeavours to incorporate sustainable design through all aspects of the project.

Exhibit Number:

QFCI

Date:

21/09/11

JM

SSS

Witness Signature
Page Number

[REDACTED]

Signature of

[REDACTED]

400 George Street Brisbane
GPO Box 1738 Brisbane
Queensland 4001 Australia
Telephone 1300 309 634
Facsimile +61 7 3405 9750
www.floodcommission.qld.gov.au
ABN 65 959 415 158

3. In 2005, Riddel Architecture was appointed architect for the Hill End Ecohouse situated at [REDACTED] West End. As a result of this appointment I became involved in the project in 2005. The Hill End Ecohouse is a new home with sustainability at the core of the design brief, addressing: energy generation and conservation, water collection, reticulation and recycling; recycled content in construction materials; specifically for low-toxicity, durability and low maintenance. The design intent was to incorporate sustainable design into all aspects of the house in both construction and use. The house is designed to address and integrate with its site, context and climate as well as to provide a flexible home for changing household uses. Products, materials and design features utilised in this house have undergone rigorous assessment of their environmental, social and economic sustainability.

4. The client had purchased the land with an existing house on it around 2004. The existing house was dismantled and approximately 80% of this house was recycled for use in the ecohouse. The dismantlement of the existing house was done with an element of care in order for material to be recycled and utilised in the new house. The client brief was to provide the most sustainable home possible with specific inclusions relating to family needs. A project information sheet was completed. The design was based on client requirements, the local environment and local character. It was not based on any other construction.

I now produce a 9 page Project Information Sheet relating to the ecohouse.

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Signature of [REDACTED]

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5. The Ecohouse has also been constructed with a great deal of thought and strategy in considering flooding events, due to its close proximity to the Brisbane River. The lower floor of the house was always designed with the assumption that flooding would occur at some point. Some of the key design considerations taken into consideration for a flooding event include:

- No built in furniture in the downstairs area of the residence. All furniture in these locations were mobile and easily moved in times of flood.
- Most walls are of rendered block work with cement render and lime wash finish which is extremely durable. In the 2011 floods when cleaned down as the waters subsided it was virtually unmarked.
- The small amount of lightweight walls had recycled hardwood framing which is very dimensionally stable. The framing was sheeted with Powerscape which is a highly water resistant plasterboard alternative. The paint finish to these walls was water based acrylic which cleaned down easily after the floods. During the recent floods only minor damage was sustained to a small corner in the enclosed stair where the water managed to get in. The pressure of the water managed to lift the paintwork on the one small corner.

- The internal doors were veneered solid core doors and on one of the doors, the ply started to delaminate. This damage is far less than would have occurred if the doors had been typical hollow core construction with a cardboard core and mdf outer.
 - The stair was solid timber so it would have swelled with moisture but has dried out now.
 - Floors are all of polished concrete so very easy to clean.
6. During the January, 2011 floods the ecohouse was slightly flood affected. Water came inside the lower rear section of the house up to about 600 mm. This section of the house consists of a bedroom, bathroom, hallway, media room, storeroom and outside entertaining area and an in ground pool. The owners cleaned as the waters subsided and apart from a damp base and slightly swollen timber doors the place looks relatively unscathed.
7. Knowing that the future was likely to hold many extreme weather events and sea level rising, we selected materials for the ground floor which could survive inundation. I was pleased to see that they did surprisingly well. The Powerscape wall sheeting was completely intact. The lime wash wall finish survived the grime and hosed down relatively unblemished.

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Signature of office

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8. In designing the house the lower floor height was in compliance with Brisbane City Council requirements. Council also required us to retain the riparian zone which is a 20 metre strip on the river side of the house. This zone protects the river edge. No building or construction was to occur on this zone. This restriction was complied with.

9. Storm water run off was directed into storm water tanks on the property for future use for the residents. All roof run off was captured and retained on the property.

10. In reviewing the effects of the flooding on the ecohouse in future I would consider two further issues in relation to flood mitigation. These issues would be perhaps the raising of heights of power points and utilising lift off hinges for doors.

I now produce a series of photos of the ecohouse as well as a brochure outlining information relating to the ecohouse.

[REDACTED]
E.K.SCRAGG
[REDACTED]

Witness Signature [REDACTED]
Page Number 5 of 6

Signature of office [REDACTED]

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Justices Act 1886

I acknowledge by virtue of section 110A(5)(c)(ii) of the Justices Act 1886 that:

- (1) This written statement by me dated 24.8.11 and contained in the pages numbered 1 to 6 is true to the best of my knowledge and belief; and
- (2) I make this statement knowing that, if it were admitted as evidence, I may be liable to prosecution for stating in it anything that I know is false.

.....
[Redacted Signature] Signature

Signed at BRISBANE this 25th day of AUGUST 2011

Witness Signature
Page Number 6 of

[Redacted]

Signature of officer

[Redacted]

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Project Information Sheet

PROJECT	Hill End Ecohouse
AWARDS	
PROJECT ARCHITECT	Emma Scragg
DESIGN ARCHITECT	David Gole and Emma Scragg
OTHER MEMBERS	Simon Boundy
BUILDER	Rob Peagram Builders
PHOTOGRAPHER	Christopher Frederick Jones

BACKGROUND INFORMATION

The practice of 23 (including 4 Directors) specialises in sustainable architectural design and outcomes. This is achieved through conservation and adaptive reuse projects in working with existing buildings as well as new projects such as the Hill End Ecohouse which endeavours to incorporate sustainable design through all aspects of the project.

PROJECT DESCRIPTION

Hill End Ecohouse is a new home with sustainability at the core of the design brief, addressing: energy generation and conservation; water collection, reticulation and recycling; recycled content in construction materials; specification for low-toxicity, durability and low maintenance.

The design intent for the Hill End Ecohouse was to incorporate sustainable design into all aspects of the house in both construction and use. The house is designed to address and integrate with its site, context and climate as well as provide a flexible home for changing household uses.

The 10 metre wide site facing the street to the north and addressing the river to the south offered a considerable challenge. The 60 metre long site involved a 20 metre riparian building setback leaving just over 400sqm for construction footprint and a 7 metre wide building. The linear form of the building separated into 2 parts by a gallery / circulation spine and courtyard responds to both the natural landform of the site as well as the need to maximise breezes and winter sun penetration. See attached project information.

CLIENT BRIEF

The client brief was to provide the most sustainable home possible with provision for four bedrooms (which could have other uses), a study, living rooms, outdoor

PRODUCT INFORMATION

Identify products by brand name and product type, including suppliers name and information as to why the particular product was chosen

STRUCTURE	PRODUCT TYPE	BRAND NAME	SUPPLIERS
Floor framing	100% recycled laminated hardwood beams		Mainly sourced from local Brisbane company Caylamax Recycling.
Walls	100% recycled hardwood framing	-	Rob Peagram Builder (own stockpile)
	Rendered blockwork – concrete blocks, core-filled with flyash and reactive magnesium concrete. Raked horizontal joints and cement render		Hanson
Bracing	Masonite sheet bracing	Australian Hardboards	Sharps Plywood
Roof	100% recycled laminated hardwood. Beams to external blind over River Terrace	Part of the weightlifting floor of the 1982 Brisbane Commonwealth games.	After the games were over, BCC put a lot of the left-over materials into storage and then around 1988 the decision was made to dispose of them. Rob bought at least a container load at the time and has kept them in storage since, using them over the years
	100% recycled laminated hardwood beams generally to roof		Mainly sourced from local Brisbane company Caylamax Recycling.
	New hardwood roof battens		Finlaysons

		based clear finish	
	Timber decking	86x19mm Ironbark Chain of custody certified	Finlaysons
Wall Linings	Sheet linings	Powerscape	BetaBoard www.betaboard.com.au
	Blockwork, with corefilling using flyash and reactive magnesium concrete. Light cement render	Hanson	Hanson
	Recycled VJ		From original house
	Recycled hoop pine flooring	-	From original house
	Cladding – hardwood weatherboards - 100% recycled	-	Robert Peagram Builders
	Cladding – FC weatherboards	Custom wide weatherboards. Hardies	Finlaysons
Ceiling Linings	Sheet linings	Powerscape	BetaBoard www.betaboard.com.au
	Recycled VJ	-	From original house
	Soffit linings	Zincalume mini orb	Metrol
Paint	Plasterboard, vj linings, skirtings and architraves	Rockcote Ecostyle	Rockcote www.rockcote.com.au
	Clear finish to timber doors and windows internally	Intergrain Ultraclear Interior – satin	Intergrain
	Clear finish to timber doors and windows externally	Intergrain Ultraclear Exterior – satin	Intergrain

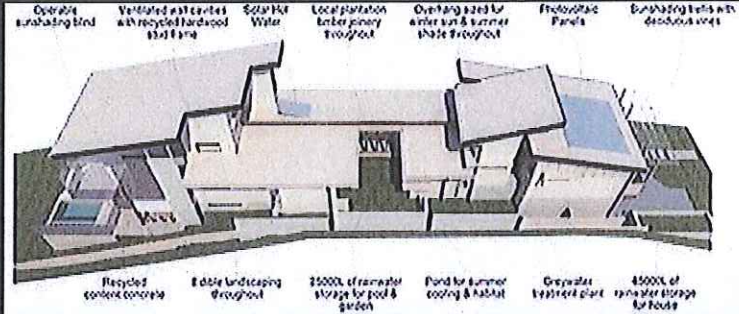
	Hot water divertor	Enviro Save thermal switching valve	Enviro www.enviro.net.au
	Sunshading louvres to Outdoor Living	Horiso 100 external retractable blind system: Wind sensor & Somfy Remote controller	Turner Brothers Furnishing
	Solar hot water	Edwards Titan 315L electric boosted with neon switch in kitchen	Earthsave
	Ecovision monitoring system	Ecovision 3010	Ecovision Solutions Pty Ltd
Sanitary ware	Most tapware, shower roses, mixers	Brodware "City Stik"	Brodware
	Simple mixers	Ram "Park"	Reece
	Accessories	Madinoz & Scala	Reece
	Kitchen water filter	Rain man Biopure Faucets E302	Aquaone
	Sink	Oliveri	Reece Plumbing
Joinery	Plywood cabinetry – stained (Resene Woodsman) and clear-finished (low-voc)	Low-E hoop pine plywood	C&R Cabinets
	Kitchen and bathroom benchtops	Caesarstone 20mm "6600 Nougat" with apron edge	Caesarstone & C&R cabinets
	Desktops	Forbo Furniture Marmoleum on ply substrate	Forbo & C&R cabinets

	CFL downlights, oyster		LAD Group
	T5 concealed lights	Slimmer	LAD Group
	Custom drum pendants with warm CFL lamps	Illuminate Lighting	LAD Group
	Fabric wall lights	"Switch", Illuminate Lighting	LAD Group
	Wicker pendants with warm CFL lamps	Wicker Drums	Yellow Goat
	Rod pendants to Dressing Room and En Suite	Ism Objects – "Robo"	LAD Group
	Mirror Light	Liberty	Image Lighting
Ceiling fans	Reversible ceiling fan	Hunter Pacific Typhoon, timber blades – 1320mm dia.	Ideal Electrical
Artwork	Large format prints		Michael Schlitz
	Geometric prints and painting		Michael Phillips
Fabrics	Cushions		Mokum fabrics

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HILL END ECOHOUSE

NEW 6 STAR ENERGY RATED SUSTAINABLE SMALL LOT HOME



Operable sunshading blind

Ventilated wall cavities with recycled hardwood batt lining

Solar Hot Water

Local plantation timber joinery throughout

Overhang sized for winter sun & summer shade throughout

Photovoltaic Panels

Sunshading louvers with deciduous trees

Recycled concrete concrete

Eco-friendly landscaping throughout

25000L of rainwater storage for pool & garden

Pond for summer cooling & habitat

Greywater treatment plant

45000L of rainwater storage for house

ABOUT THE PROJECT

Welcome to the journey of sustainable construction. The Hill End Ecohouse will be a landmark sustainable home for inner Brisbane using design features, materials and products which have undergone rigorous assessment of their environmental, social and economic sustainability credentials.

The Site

The 10m wide site runs north-south (not ideal for passive solar design) with a total area of 638sqm. 200 sqm of the site is riparian zone to protect the river's edge with no construction allowed in this zone.

Total floor areas are:

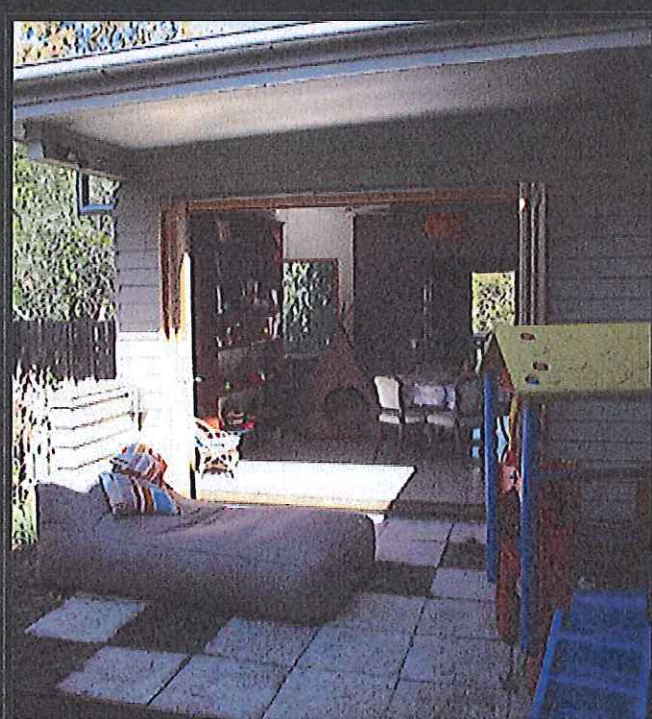
- 261 sqm - internal spaces
- 52 sqm - covered outdoor living
- 73 sqm - plant, storage and car/bike/kayak garage

Water

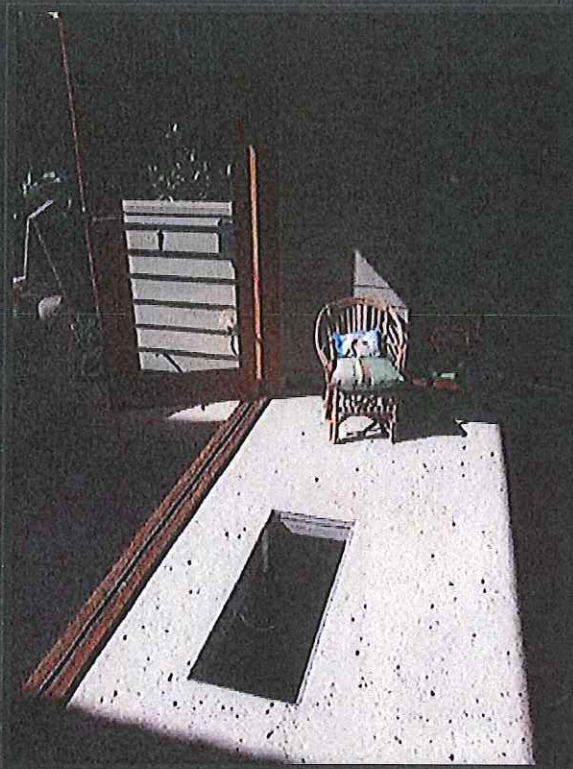
Appliances and tapware fittings minimise water waste. 71,000L of rainwater storage will support parts of the house and garden.

TUESDAY, AUGUST 2, 2011

Mid winter visit



Courtyard and Dining room



Glass slot to lower Media Room filled with sunshine



Dining/Play room

The main supply of water to the house is filtered rain water with mains water backup

Greywater will be treated and recirculated to toilets in the house (optional to washing machine) and to the front garden for irrigation and cleaning bicycles, gardening tools and if there must be one a car.

Energy

Natural daylight is maximised through building and window design to reduce need for artificial lighting. Light-colour finishes will maximise reflection of daylight. External and internal lights use LED and compact fluorescent lamps for optimum efficiency. Appliances are selected for their energy efficiency.

Solar power will be captured to provide hot water and grid-connected electricity to supply the whole house's needs

Material selection

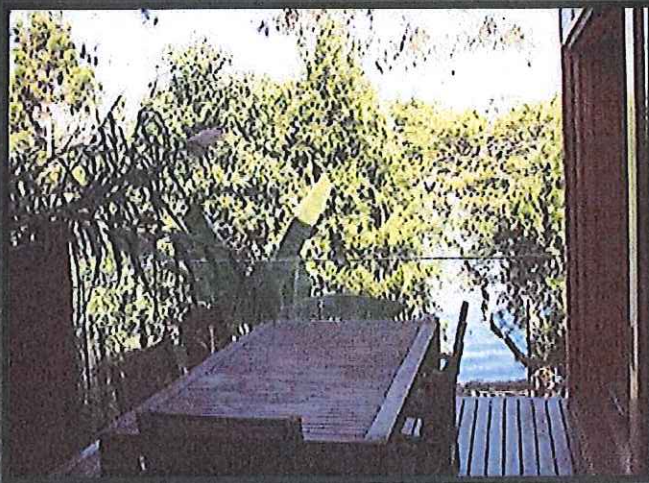
Criteria for material selection are a balance of:

- Recycled content
- Embodied energy
- Local supply
- Durability
- Low/no toxicity

Landscape

Lush plantings will provide shade, cooling of breezes, food and privacy, irrigated by treated greywater and rainwater.

Subtropical Design



It's been some time since the last visit to the ecohouse. The bananas by the pool are now huge, as are the bamboo-type grasses across the fence. The house has taken on a personalised feel now with family bits and pieces and an eclectic mix of furniture. The youngest member seems to have taken over the best places: the sunny courtyard and sun-filled dining room.

Through the process of energy efficient design which responds to the local climate and through selection of materials, infrastructure and garden plantings, the principles of subtropical design have been addressed.

ACHIEVING 6 STARS

In Queensland currently houses are only assessed on their energy-efficiency. In other states, the standard house ratings also take into account energy use for the running of the building, water efficiency waste. We may test the building against these systems along the way, despite them not being used in Queensland. Here is how the building achieves its energy rating:

ROOF INSULATION - R3.0
recycled polyester bulk insulation to roof cavities, and a sarking of sisalation bonded with closed cell foam. Ventilated roof cavity. Light-coloured roof finish

WALL INSULATION - R2.0
recycled polyester bulk insulation with sisalation of reflective "bubble-wrap and ventilated wall cavity

FLOOR INSULATION - R2.0
recycled polyester bulk insulation with mini orb below beneath elevated timber floor

GLAZING - Timber frames
reduce heat transfer (compared to aluminium) and large



The garden is awaiting its new-improved makeover to reduce maintenance for the residents. After that, we hope use of the greywater and rainwater will be highly used. With all of the technology in the house, hiccoughs do occur. It seems that one of the water switching devices has failed as the house has been drawing on town water rather than the full rainwater tanks recently - soon to be fixed.

The subterranean "Media Room" has become a very tranquil bedroom with warming sunshine spilling in through the glass ceiling slot.

expanses of glass to the Living Dining and Best Bedroom use solar control, low-E glass. Where heat gain/loss is an issue to lower ventilation louvres, these were changed insulating timber.

SUNSHADING - Eaves and awnings are generous to provide sun and rain protection. A drop down blind to the River Terrace provides shaded summer morning outdoor living and prevents indoor spaces from overheating. A trellis with deciduous creepers shades the north(street)-facing balcony.

NATURAL VENTILATION
 Cross ventilation is provided wherever possible

- low-level louvres for cooling breezes over beds and sitting areas
- high level louvres to release hot air
- fanlights/louvres over doors for additional airflow
- battened vestibule to front door captures breezes secure
- floor vents under the fridge and to the main living level, draw cool air from below

MECHANICAL VENTILATION - ceiling fans to bedrooms and living areas

THERMAL MASS - concrete floor slabs and internal block walls act as heat sinks

THE TEAM



Post-occupancy analysis of energy use has shown that with a family of 5, energy consumption is higher than originally estimated and exceeds the daily energy generated by the solar panels. However, with the paperwork finally sorted out with the energy supplier, the owners should now be earning money from their solar panels during the daytime.

1 COMMENTS 

TUESDAY, JANUARY 18, 2011

Flood photos

The floodwaters are well documented in the aerial shots on Nearmap .

Here are some other photos from the owners at the height of the flood and soon after....

RIDDEL ARCHITECTURE -
Emma Scragg, David Gole,
Simon Boundy

PEAGRAM BUILDERS - Rob
Peagram, Oliver Bergel, Mll
Hall

BLIGH TANNER Engineers

LANDSCAPE ARCHITECT Arno
King - Deicke Richards
Architects

RELATED LINKS

[AIA Green Living](#)

[Australian Green Development
Forum](#)

[Brisbane City Council's Eco
Development Advisory
Service](#)

[Centre for Subtropical Design
Emma's ecocycle tour Alaska
San Francisco](#)

[Living Greener](#)

[Riddel Architecture](#)

[Spring Hill Envirocottage](#)

ECOHOUSE WEB FEATURES

[Arch Daily \(Chile\)](#)

[BCC Innovation 24.11.09](#)

[Building 4 Change](#)

[Building for Change](#)

[De Architect \(German\)](#)

[Dexigner](#)

[Dezeen \(UK\)](#)

[Evolu \(USA\)](#)

[Green Building Pro](#)

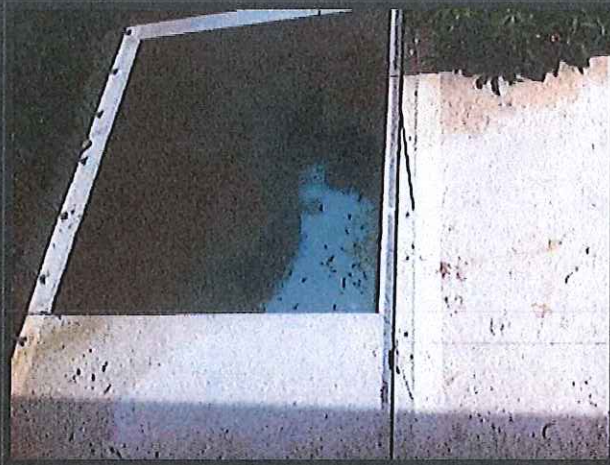
[Inqmnd](#)

[Jetson Green](#)

[Materialicious](#)

[Moco Loco](#)

[Photovoltaic Systems](#)



Brisbane River water slowly clouding up clean pool



View from terrace out past pool to river

Red Glasses

Sanctuary magazine feature

Shelterpop

Tenjin Visual

World Architecture News

World Green

World Interior Design Network
(UK)

PUBLICATIONS ABOUT THE ECOHOUSE

"Environmental Technologies
and Services - Riddell
Architecture" (A4 brochure)
Queensland Government

Better Homes and Gardens
magazine, August 2010,
#186

Domus, China

Future Maison (France), June
July 2010, # 24

Grand Designs magazine (UK)
Green Builder (USA), May 2010

Green magazine (Taiwan), June
2010 #05

Homes Magazine (UK), June
2010

Houses magazine (Australia),
June 2010 #74

Metropolis Magazine (USA),
July August

Metropolis Magazine (USA),
July August

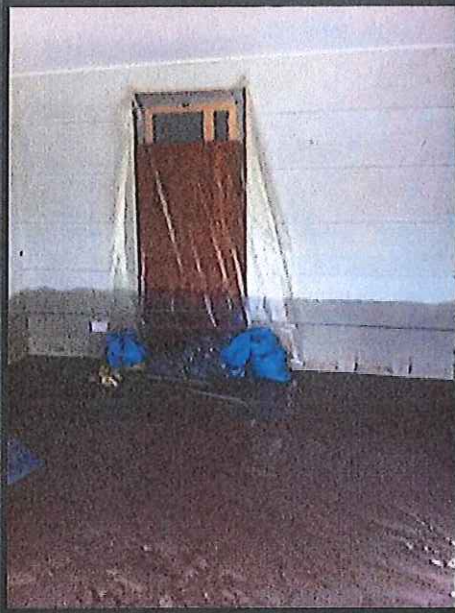
Monument magazine
(Australia), June 2010

Plan magazine (Ireland) June
2010

Rum magazine (Sweden)

Sanctuary Magazine, Australia
May 2010

Style International magazine,



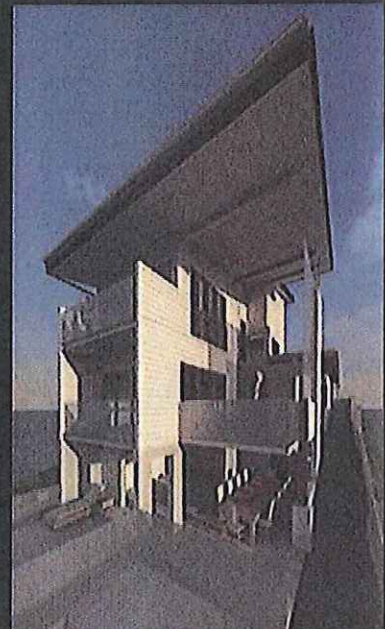
Door to lower hallway, protected with ply, plastic and sandbags



Protection to lower bedroom door and window

BLOG ARCHIVE

- ▼ 2011 (3)
 - ▼ August (1)
 - Mid winter visit
 - ▶ January (2)
- ▶ 2010 (17)
- ▶ 2009 (33)
- ▶ 2008 (27)



PRODUCT SUPPLIERS

AQUAREUSE- greywater treatment

BETABOARD - Powerscape sheet linings

BAUWERK - WA-made natural limewash paints

ECOVISION - household monitoring system

ENVIRO MANUFACTURING CO hot water recirculating unit

FINLAYSONS - hoop pine door and window joinery, timber



Lower bedroom from hallway

Many have asked how the house survived so well in the floods. The lower floor was always designed with the assumption that flooding would occur at some point. Here are some of the design considerations which assisted:

- There was no built-in furniture downstairs (most vulnerable to flood damage).
- Most walls are of rendered blockwork with cement render and limewash finish which is extremely durable and when cleaned down as the waters subsided was virtually unmarked.
- The small amount of lightweight walls (only 2 in this level) had recycled hardwood framing (very dimensionally stable) and was sheeted in Powerscape which is a highly water resistant plasterboard alternative (and very high recycled content). Paint finish to these walls was water-based acrylic which cleaned down easily – only minor damage was where water got under the enclosed stair and its pressure caused one small corner of the paintwork to lift off.
- The internal doors were veneered solid core doors and on one of the doors, the ply started to delaminate, though this damage is far less than would have occurred if the doors had been typical hollow core construction with a cardboard core and mdf outer.
- The stair was solid timber so would have swelled with

supplies

GEBERIT- Poly waste pipes w recycled content and fully recyclable. No lead or chlorine byproducts of PVC

TECECO Pty Ltd

TERMIMESH- non-toxic termite barrier

WHITE INTERNATIONAL - rainwater pumps

VISITORS

Since 2nd February 2009

 Web Site Counter

Free Counter

moisture but has dried out now.

- Floors are all of polished concrete so very easy to clean

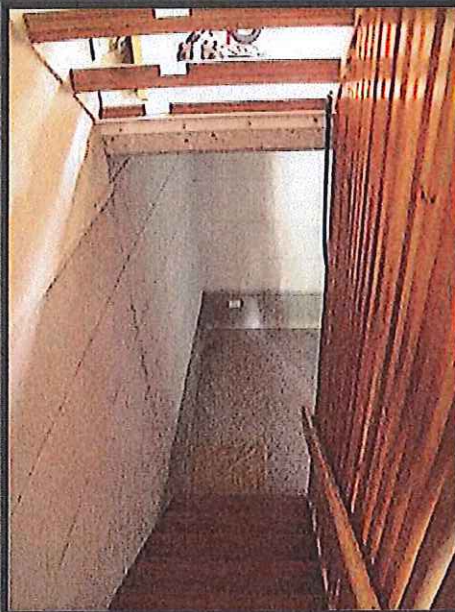
0 COMMENTS 

SATURDAY, JANUARY 15, 2011

Floods and Mud



High water mark on blockwork



Brisbane has just gone through the worst flood since 1974 and the ecohouse being on the river, had front row seats.

aqua+style
 THE CLEAR SOLUTION
BAUWERK
 COLOUR®
BB BetaBoard
 plasterboard • fibre cement • hardware
 EcoVision SOLUTIONSPTYLT
 Enviro MANUFACTURING CO.
 Finlayson's
 DESIRABLE AND DURABLE INDOOR ENVIRONMENTS
 usg power scap
 Desirable and durable indoor environments
 TecEco Pty. Ltd.
 Sustainable Technologies
 www.tececo.com
termimesh
 KEEPS TERMITES OUT
WHITE
 INTERNATIONAL

Fortunately it survived the flood well, despite the waters coming inside half a metre up the walls on the river level. The owners cleaned as the waters subsided and apart from a damp base and slightly swollen timber doors, it looks relatively unscathed.



Necessary safety gear

Knowing that the future was likely to hold many extreme weather events and sea level rising, we selected materials for the ground floor which could survive inundation. I was pleased to see that they did surprisingly well. The Powerscape wall sheeting was completely intact. Only the paint in two places seemed bubbled (water in under stair storage coming from behind the paint) and some taping to a joint. Wall cavities may be a different matter, if water got into wiring but cosmetically, the river level spaces and terrace looked good. The limewash finish looks like it survived the grime and hose down relatively unblemished.



Paint lifted from pressure behind in store room.

The world's best ecopool changed colour slowly during the floods from clear green through cloudy blending to Brisbane River brown. Lots of wildlife appeared as the waters rose: two snakes, many spiders moved indoors and the bush turkey chicks have become familiar with the living room. Unfortunately as the house has no power, the rainwater and treated greywater cannot be accessed, despite the solar panels (a battery bank needs to be added) but the owners have clean townwater and gas for cooking.



For more flood photos, see my [picassa photo site](#)

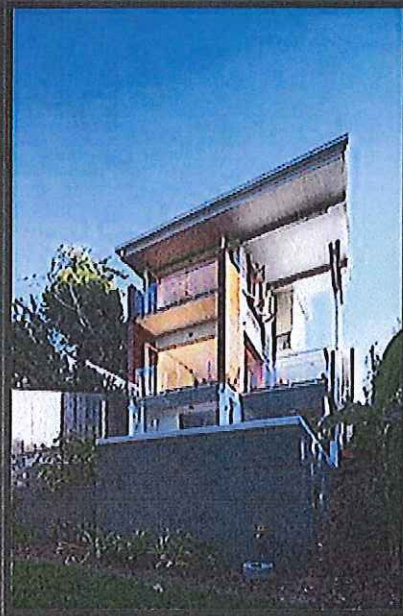


Plants are growing crazily with the huge rain and new desposlts of slt.

0 COMMENTS 

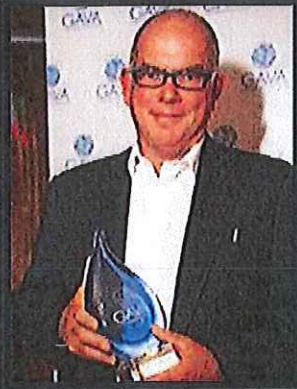
MONDAY, NOVEMBER 8, 2010

Best eco swimming pool in the world



The modest swimming pool at the ecohouse has just won gold in the international swimming pool awards in Las Vegas for pool builder and designer, Stuart Bevan, of Stuart Bevan Pools Pty Ltd. He was awarded the top prize for Residential Pools - Green Applications from GAVA (Global

Arkitecture Visionary Awards).



The plunge pool is minimal in size due to site constraints (riparian zone at river bank and narrow block) and environmental considerations. It uses an efficient pump/filter system. With galvanised reinforcing and a thicker than normal concrete shell using recycled additives of fly ash and reactive magneslum, the pool is built for durability. It is finished internally with a pebble coating of local stone (minimal transport costs) which is long-lasting and easy to clean. At night, the pool is lit with locally-made LED lights.

The 15,000L (approx) pool is filled and topped up with rainwater and a flexible and moveable outlet hose allows flexible distribution of waste water over the garden area.



3 COMMENTS 

THURSDAY, OCTOBER 21, 2010

Home sweet home



The new residents are settling into the house, adjusting to the change from a grand old Queensland to a sleek new home, and finding places for their belongings. Some

technology glitches are being ironed out but the garden has been well watered with all the recent rain, the tanks are full and the owners are enjoying their new space.

The front garden's strawberries which fruited at completion of construction are fruiting again, much to the delight of the local bush turkeys and the owners' son.



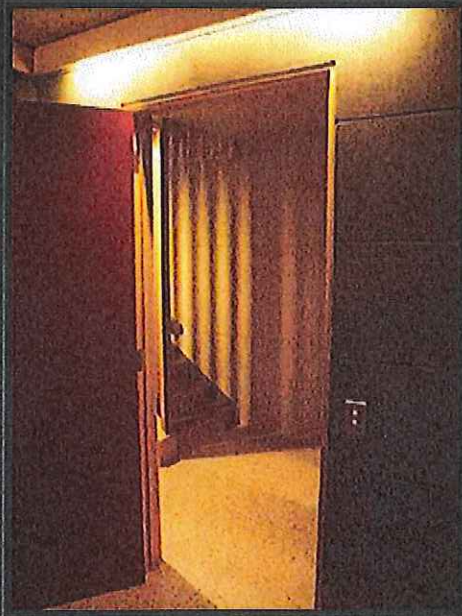
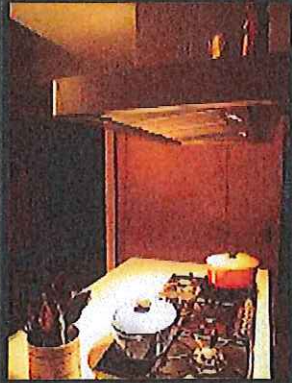
The water tank beneath the courtyard is full and ready to be used on the garden and pool when the weather dries up.



Mint and native violets are filling up between the pavers outside the Laundry and Kitchen.



The pool is enjoyed for a dip after kayaking on the river.



3 COMMENTS 

MONDAY, OCTOBER 18, 2010

BPN Sustainability Awards

Emma Scragg was fortunate to be able to attend the BPN Sustainability Awards and received the award for "Single Dwelling - New" on behalf of Riddel Architecture. This is really an award for all those responsible for achieving such a thoroughly sustainable building - the dedicated building team, Robert Peagram Builders, our unwavering clients, the Riddel Architecture team (most staff helped out at some point over the 5 years) and all the consultants and suppliers that helped complete the picture.

Thank you to everyone involved.

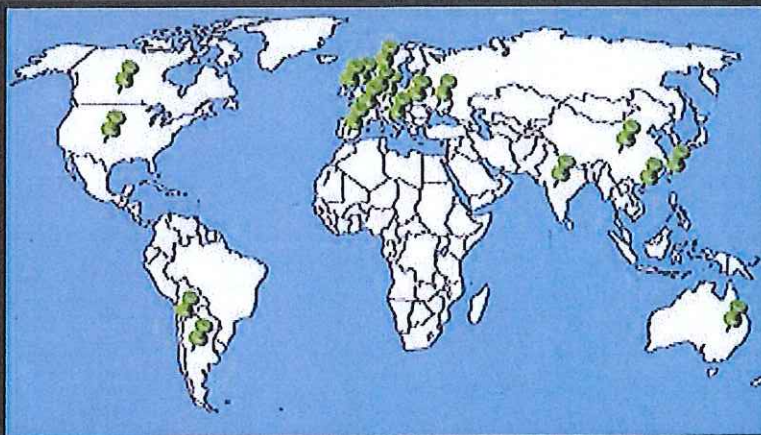


Emma receiving award from sponsor Danlel Strobel from Geberit

0 COMMENTS 

FRIDAY, OCTOBER 8, 2010

Publication update



The Ecohouse has been published yet again – this time in Ukraine and India. The count is up to 43 publications (plus

the TV segment) and 19 countries!! We've pinpointed on the world map all the countries who have featured the house. Hopefully this is a sign of design for greener homes globally.

0 COMMENTS 

THURSDAY, OCTOBER 7, 2010


A state award for the building team!



Last Friday (1st October), Robert Peagram Builders were awarded the Sustainable Living Award at the Master Builders' State Housing and Construction Awards. This was following winning the Brisbane award for the same category. "Can you see my cucumber?" was the question that caused the laughter below - L-R Emma Scragg (Project Architect), Allison Orr (Project Manager), Rob Peagram, Miki Hall (Project Manager)



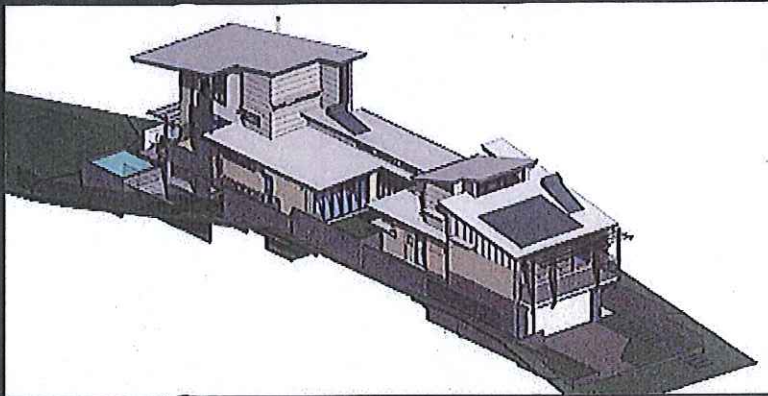
The house is a finalist in the BPN Sustainability Awards and the Banksia Awards, to be announced in Sydney next week.

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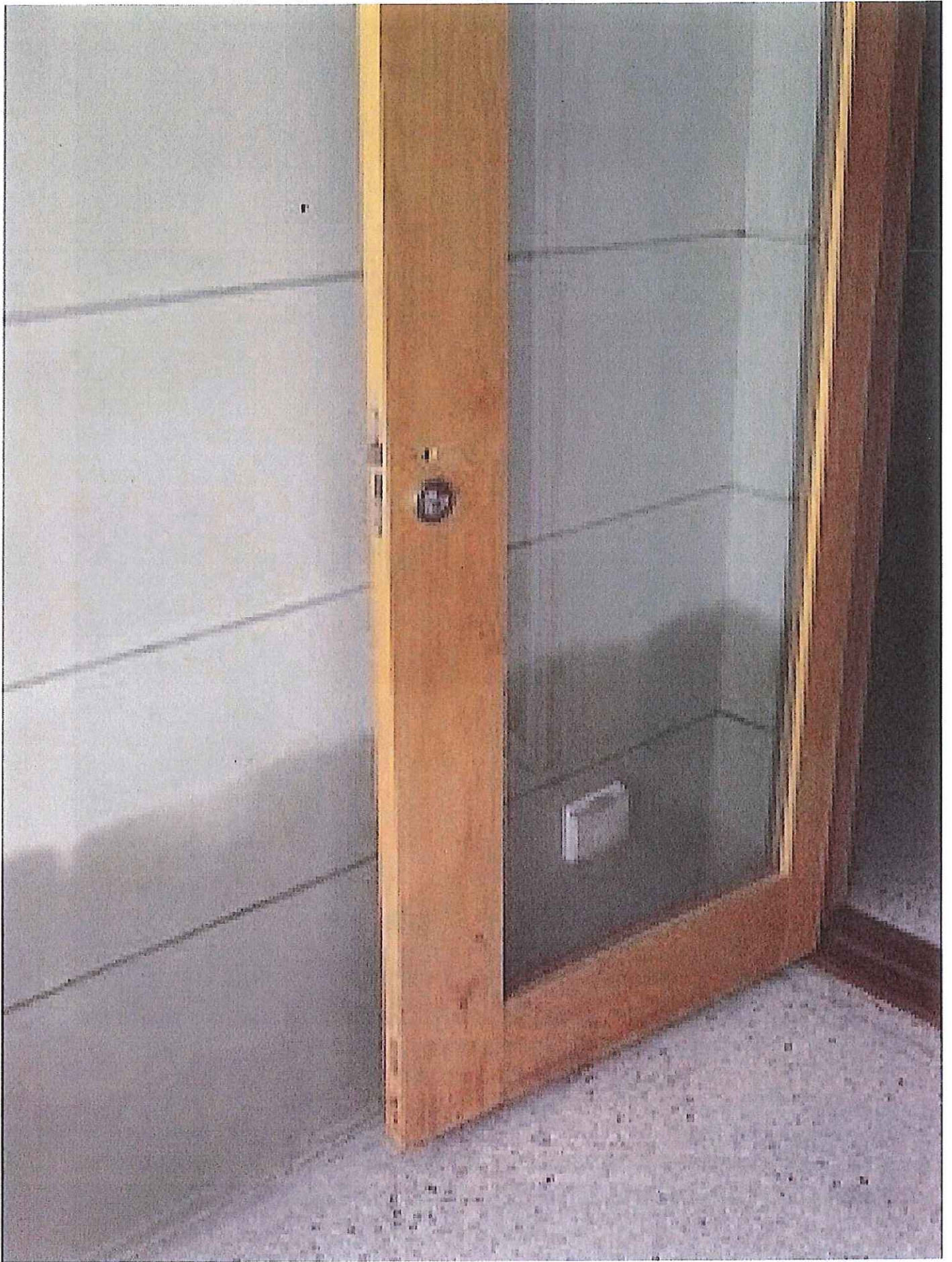
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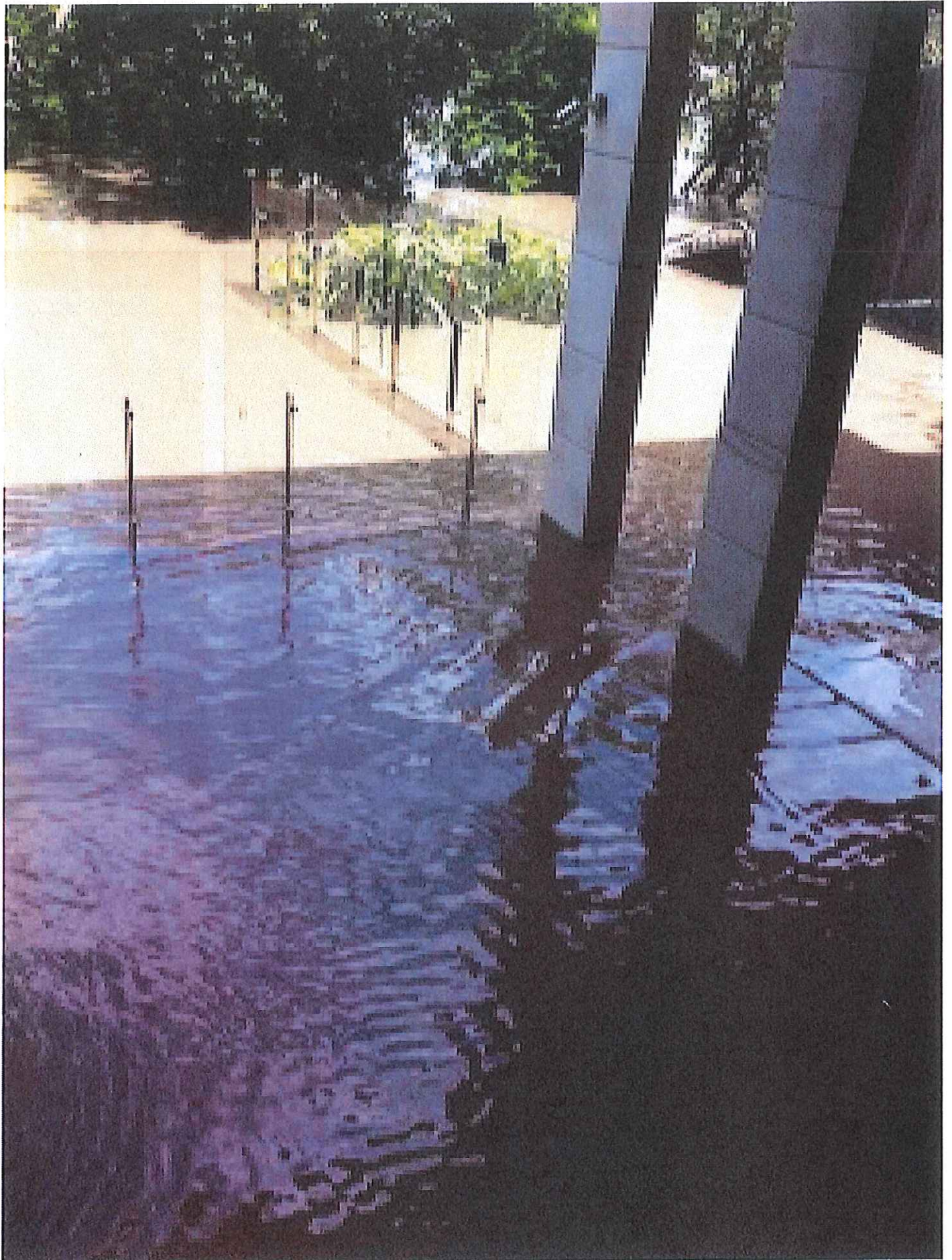
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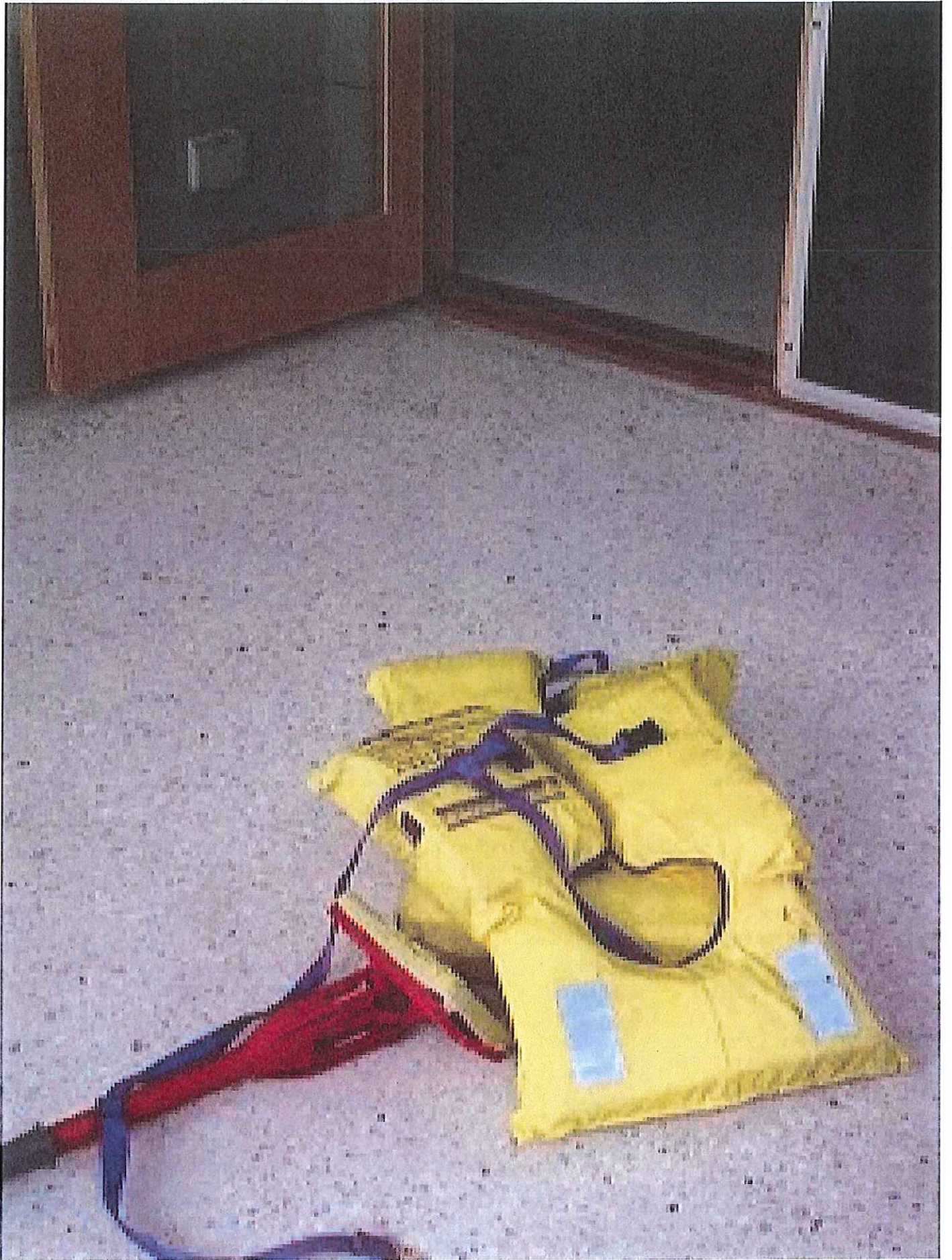
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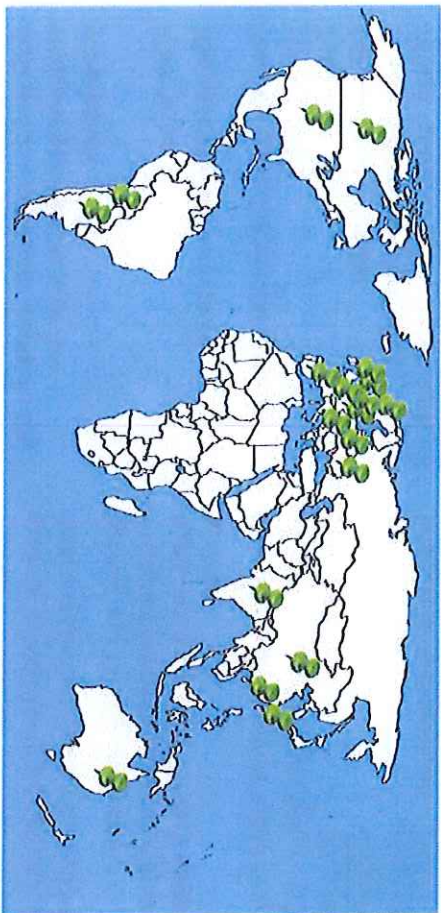








Taking the world by storm
 Since the start of 2010, the Ecohouse has been published in 43 publications and 19 countries! We have pinpointed on the world map all the countries which have featured the house. Hopefully this is a sign of design for greener homes globally.



<http://www.hillendeco.blogspot.com/>

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The Hill End Ecohouse...

incorporates design features, materials and products which have undergone rigorous assessment of their environmental, social and economic sustainability credentials.

The Story

Two very committed clients with a brief for a sustainable house approached Riddel Architecture in 2005. The goal was to produce the greenest home possible in every aspect from dismantling the existing house on the site to the final landscaping touches.

With this in mind, and working with Robert Peagram Builders who are also dedicated to a sustainable approach, this vision has been realised with few compromises.

The Site

10m wide site runs north south

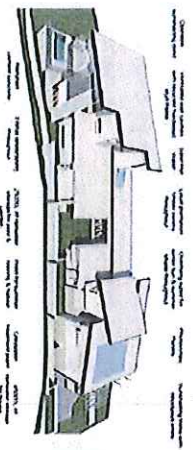
Total site area 6388sqm (200 sqm is a riparian zone)

Total floor areas:

261 sqm - internal spaces

52 sqm - covered outdoor living

73 sqm - plant, storage and car/bike/kayak garage



Water

Appliances, tapware, fittings and hot water recirculating devices minimise water waste.

71,000L of rainwater storage supplies all of the house and garden. House rainwater is pre-filtered before the tanks then within the house system.

Grey water is treated and recirculated to toilets and washing machine and to the garden.

Energy

Natural daylight is maximised through building and window design to reduce need for artificial lighting. Light-coloured finishes maximise reflection of daylight.

Lighting uses T5, LED and compact

fluorescent lamps for optimum efficiency.

Appliances are selected for their energy efficiency.

Solar energy will generate 15KWh/day and produce hot water to supply the whole house's needs.

Material selection

Criteria for material selection are a balance of:

- Recycled content
- Embodied energy
- Local supply – proximity to the site
- Durability
- Low/no toxicity



Recycled content materials

- timber framing – 100% recycled
- reinforcing steel 95+%
- concrete mix (fly ash and reactive magnesium)
- plasterboard – 95% recycled
- floor tiles – 70% post-industrial waste
- masonry bracing – sawmill waste
- courtyard rainwater storage – 100% recycled polypropylene
- recycled polyester bulk insulation (min 80% recycled)

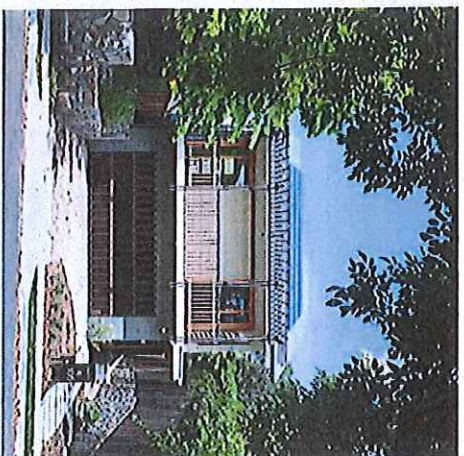
Local supplies

Materials and products were sourced as locally as possible:

- External lighting – Cleveland (35 km)
- Hot water recirculator – Toowoomba (154 km)
- Bluestone for landscaping (40 km)
- Internal feature lights (78 km)
- Paints (121 km)
- Hoop pine joinery and ply – milled 120km away and joinery 18km from site

Landscape

Lush plantings provide shade, cooling of breezes, food and privacy, irrigated by treated grey water and rainwater.



Interesting Facts

- Approx. 80% of the original house was reused in the new home. 95% of the original house was recycled or reused
- Demolition waste – only two 4 cubic metre skips and two car trailers
- Construction waste – two 3 cubic metre skips during construction. One 3 cubic metre skips at completion
- New house has estimated total recycled content of 80%
- The house is self-sufficient in water and power

