

Glass House, Castlecrag  
Sydney, NSW, Australia

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**New International Selection**  
**Full Documentation Fiche 2003**

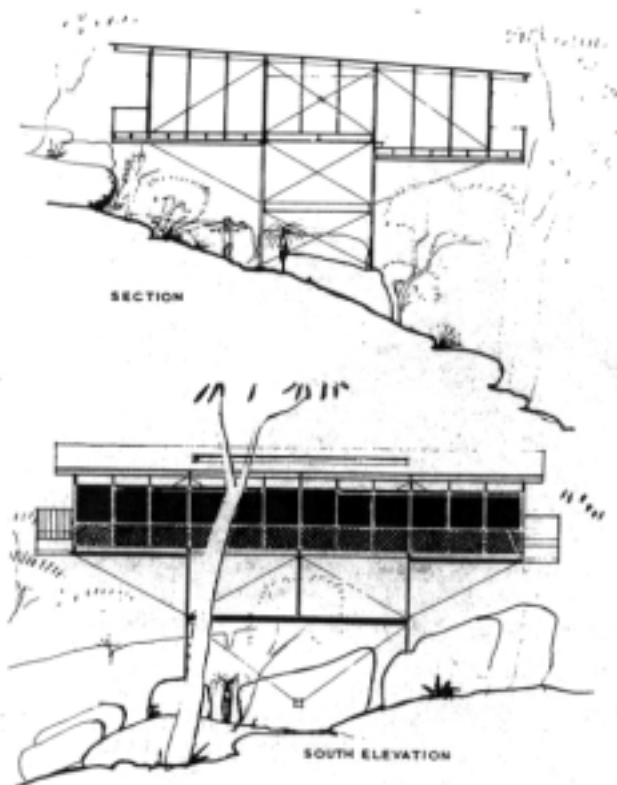
International working party for  
**documentation and conservation**  
of buildings, sites and neighbourhoods of the  
**modern movement**

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**composed by national/regional working party of:**

**AUSTRALIA**

0. Picture of building/ group of buildings/ urban scheme/ landscape/ garden



28 Elevation and Section? Lucas House, Castlecrag, 1957. Architects, W.E. Lucas and Ruth Lucas

depicted item: Elevation & Section of the Lucas House  
source: Original published in Architecture in Australia,  
October - December 1958  
date: drawing prepared in 1957

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depicted item: The Lucas House, Castlecrag, Sydney, NSW 1957. One of the six houses featured in the DOCOMOMO/Historic Houses Trust of NSW Exhibition, Fifties Houses Plus or Minus?.

source: Historic Houses Trust of NSW (Ray Joyce)

date: 2001

## 1. Identity of building/ group of buildings/ group of buildings/ landscape/ garden

### 1.1 Data for identification

current name: Glass House

former/original/variant name: Lucas House

number(s) and name(s) of street(s): 80 The Bulwark, Castlecrag

town: Sydney

province/state: NSW

post code: 2068

block: lot:

country: Australia

national topographical grid reference:

current typology: Residence

former/original/variant typology:

comments on typology:

The Glass House, 80 the Bulwark, Castlecrag, designed by Bill and Ruth Lucas in 1957 is an excellent seminal example of the “*shelter-in-nature*” minimalist compositions constructed in Northern Sydney post World War II, by the architects of the “Sydney School” largely for their own use.

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## 1.2 Status of protection

protected by: state/province/town/record only

Currently on the National Trust of Australia, NSW Register

Proposed for listing on the State Heritage Register

grade: n/a  
date: February 2003  
valid for: whole area/parts of area/building  
remarks: See [www.nsw.heritage.gov.au](http://www.nsw.heritage.gov.au) State Heritage Register & Inventory  
for current listing status.

## 1.3 Visually or functionally related building(s)/site(s)

name(s) of surrounding area/building(s): Castlecrag

visual relations: One of three houses designed by Lucas to the Bulwark, Castlecrag.

functional relations:

other relations: built within the area of Castlecrag subdivided by Walter Burley Griffin and Marion Mahony Griffin in the early 1920s. (Refer to the Castlecrag Fiche).

## 2. History of building(s) etc.

### 2.1 Chronology

*Note if the dates are exactly known (e) or approximately estimated = circa (c) or (±)*

commission or competition date: 1957

design period(s): 1957

start of site work: c. 1957

completion/inauguration: c. 1957

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## 2.2 Summary of development

commission brief:

Bill and Ruth Lucas designed the house for their own use, to respond to the restrictive covenants imposed by Walter Burley Griffin et al in the 1920s. The title still records these restrictive covenants, including the restriction that "*no house, building or erection on the said land shall be constructed in material other than stone, concrete or brickwork*". Glass was also permitted however glass pavilions were not what the Griffins' had anticipated.

design brief: To be a house and architectural studio

building/construction: Timber framed with steel cross bracing. Walls entirely glazed, either fixed or louvres.

completed situation:

The Glasshouse was designed and built in 1957 by Bill and Ruth Lucas as their home. The house was designed to function both as a studio and residence but within 5 years had become too small for the expanding Lucas family.

original situation or character of site:

In c. 1950 Lucas had bought three adjoining blocks of bush clad land on The Bulwark in Castlecrag. There is no fencing to the street and the site retains mature eucalypts, tree ferns and sandstone outcrops that characterised the lower slopes of the Castlecrag peninsula. The gully behind the house has not been landscaped, but was deliberately retained as bushland and stream bed.

## 2.3 Relevant persons/organisations

original owner(s)/patron(s): Bill and Ruth Lucas (architects)

architect(s): Bill and Ruth Lucas

landscape/garden designer(s): as above

other designer(s): n/a

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consulting engineer(s): unknown

building contractor(s): built largely by the Lucas'

#### 2.4 Other persons or events associated with the building(s)/site

name(s): John Russell Llewelyn,

Mary Baker

Sandra Gray.

association: owners

event(s): Lucas' sold to John Llewelyn,

Mary Baker owner from 1998 - c. 2001

Sandra Gray, current owner (from c. 2001)

period:

#### 2.5 Summary of important changes after completion

type of change: alteration/renovation/restoration/extension/other:

There have been a number of modifications to the Glass House including:

- the addition of a deck and door from the Laundry/Bathroom onto the deck which serves as a drying area.
- The removal of the corrugated asbestos roof sheeting [Super Six]. The low pitched roof is now colourbond.
- The door to the central courtyard was a single pane of glass. The current pane of Georgian wire glass is a replacement.
- The flooring was originally 'Stramit', compressed straw panels. This deteriorated and was replaced with Masonite. The seagrass matting has been replaced with sisal in the living areas.

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- The kitchen has been replaced. A concrete slab has been laid in this area, with cork tiles.
- Partitioning of the larger of the childrens bedrooms and the creation of a corridor.
- Creation of an ensuite within the former studio
- The internal room divisions are non structural and originally the layout could be altered. Fixed plasterboard (gyprock) partitions have been installed.

date(s):	roof altered mid 1990s remainder of the modifications undated post c. 1963
circumstances/ reasons for change	changes by subsequent owners
effects of changes:	the overall form and plan of the house remains evident.
persons/organisations involved:	not identified (building owners)

### 3. Description of building(s) etc.

#### 3.1 Site/building character

After their marriage in 1956, the Lucas' designed and built their first home at 80 The Bulwark, Castlecrag. The site is within the subdivision undertaken by Walter Burley Griffin and Marion Mahony Griffin in the early 1920s. Lucas admired Walter Burley Griffin's work at Castlecrag and was involved with attempts in 1961 to reclaim the network of public reserves and Haven amphitheatre established by the Griffins within the Castlecrag subdivision. The Griffins and the Lucas' both sought to integrate the built and natural environment using only natural, locally produced materials, which had minimal impact on the surrounding landscape. Additionally, both partnerships had a skill of designing houses to suit topographically awkward sites. The Lucas' timber-framed house clad completely with glass was intended to meet the Castlecrag design requirements established by Griffin, although not in the way that Walter Burley Griffin had intended.

The Glass House is single storey residence built over a steeply sloping bush site. One corner of the house barely touches the natural sandstone outcrops, the remainder of the building and the decks are suspended over the gully in which the natural vegetation and rock outcrops were retained.

The rectangular plan is divided up into a grid of 12 squares, four by three. The central two squares being a deck and open well to the sandstone rock below, which now contains trees. When the Lucas' built the house there were no trees in the light well. A deck runs across the front (north) and the rear (south) of the house. Entry is from a path beside the carport. There is no formal hall, visitors enter straight into the first living room. This area was used by the Lucas' for meetings with clients. A wall separates this area from the kitchen and a larger portion of living/dining room. The fourth cube along the front is a covered outdoor room, separating the living area from the studio. The studio has a small deck cantilevered over the trees below. This deck is now cut around a tree.

The living room and kitchen are entirely glazed, opening onto the front deck and the internal deck and light well. A passage leads from the living room at the entrance, past the laundry/bathroom to the series of bedrooms that run across the southern side of the building. A balcony runs the length of this elevation.

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Initially the central room on this elevation, like the living/dining room on the northern elevation was not partitioned. The salvaged septic tank that was tiled to form a bath survives. The floor tiled with slate that has cracked due to movement of the structure. The house moves considerably in the wind.

The house is designed on a 4 foot module, with each cube forming the plan layout being 12 feet by 12 feet. The timber framework is braced with steel cross bracing. Four slender steel posts (3 inch square) are the main structural elements, forming the corners of the internal court/lightwell. The steel structure extends to roof level and the floors being hung by steel rods from roof height. The decks/balconies are cantilevered.

The original construction is described in an article in Architecture in Australia, October – December 1958. *“The house is suspended on four 3 inch square columns which extend through to the roof. It is of composite construction with steel kept to the minimum for economic reasons being used for tension rods and spacing and joining members. All the timbers are rough-sawn creosoted hardwood inside and out. Wall timbers are restricted to mullions, and posts at 4’ 0” centres and the roof framing to purlins at 4’ 0” centres on beams at 12 “ centres.*

*The floor consists of 12’ x 4’ Stramit panels, being masonite faced on hardwood joists at 2’ 0” centres. Stramit is also used for the internal walls. To obviate the difficult on local requirements for masonry all external walls are of glass sheeting. The internal walls are not structural and the arrangement of the bedrooms and living areas can be varied to suit changing family needs.*

*The roofing is deep corrugated asbestos cement, having no roof battens. Safety mesh is stretched over the purlins and supports a 2 oz white fibre-glass blanket between clear Visqueen and double sided sisalation. This provides high thermal insulation, sound absorption and light reflection qualities, and has a pleasant quilted appearance.*

*The laundry-bathroom floor is a lightly re-inforced concrete topping over corrugated galvanised iron on joists 2’ 0’ centres, with the same insulation as the ceiling...”*



The introduction to the exhibition: Architecture in the Third Millenium noted the 'pure' concept and realisation of the Glass House has similarities with seminal early modern movement buildings: Philippe Chareau's Maison de Verre in Paris and the Mies Van de Rohe's Barcelona Pavilion, both c. 1929. The Glass House is minimalist in conception and execution and its modular design and use of industrial materials is reminiscent of the Eames House by Charles Eames in Santa Monica (1949). In a similar manner to the Eames House, and Peter Muller's house and office at Whale Beach (north of Sydney) (c. 1955) the house is built from inexpensive off-the shelf materials, often with an industrial character. The 'modern' architects working in the 1950s in Sydney were deliberately trying to avoid any stylistic references however their work has now been categorised as the being a local variant of the modern movement: The "Sydney School".

The house was intended to be low budget, however the lack of finishes, painting and decoration was deliberate. Bill Lucas noted in the Introduction to "*Architecture into Millenium III*" that he selected "*materials that can be utilized to satisfy needs with as little effort as possible, self finished, maintenance free, that improve with wear, that merge with natural surroundings and that provide an appropriate background for living. I prefer the 'construction' to provide the 'finish'*". None of the building elements were originally painted, not even the steelwork. Creosote was employed on the joinery. Lucas avoided chemical products wherever possible. The steelwork was also unpainted, retaining its factory undercoat. The Lucas' also used second hand materials in the construction of the house.

The external glazing was composed of louvres or fixed panes of clear or opaque plate glass, each conforming to the 4 foot module. The original and the additional decking is timber and is in poor condition.

### 3.2 Current use

of whole building/site: Residence

of principal components (*if applicable*):

comments: The building has continued to be occupied as a residence since its construction in 1957.

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### 3.3 Present (physical) condition

of whole building/site: The building is currently in poor condition.

of principal components (if applicable): n/a

of other elements (if applicable): n/a

of surrounding area (if applicable): n/a

comments:

### 3.4 Note(s) on context, indicating potential developments

Proposals for an additional pavilion have not been carried out.

## 4. Evaluation

*Give the scientific reasons for selection for DOCOMOMO documentation*

### ***Intrinsic value***

#### **4.1 technical evaluation:**

The Glass House is of technical significance for its unique engineering solution, designed to have a minimal footprint whilst retaining the sandstone outcrops, eucalypts and ferns below and for the conscious use, by the Lucas' of Australian made building materials.

#### **4.2. social evaluation:**

The Glass House is of historic and social significance as the residence and office from 1957 until 1962 of prominent Sydney Architects and Urban Conservationists, Bill and Ruth Lucas. It is one of a group of three low cost residences designed by the Lucas' in the Bulwark that retain both the natural landform and vegetation and utilize the restricted palette of building materials, re-interpreting the Griffin's garden suburb concept for Castlecrag.

#### **4.3. cultural and aesthetic evaluation:**

Initially published in *Architecture in Australia* in 1958, the Glass House has been visited regularly by architecture students since its construction and included in publications analyzing the development of post war Australian Architecture. In her study of the *Sydney School, An Australian Identity, Houses for Sydney 1953-1963* Jennifer Taylor notes that Lucas was one of a group of modern architects: Sydney Ancher, Peter Muller, Russell Jack. These designers, largely working in isolation during the 1950s developed the local variant of modernism that is now known as the Sydney School. The general themes that Taylor has traced in the early Sydney School designs are "*sympathetic materials, economy, simplicity and an appreciation of the beauty and harmony of nature.*" The Glass House clearly exhibits these aspects of the work of the Sydney School designers and can be seen to be a seminal example of their work.

The design of the Glass House exemplifies the local application of Modern Movement concerns with the connection between internal and external space, the use of flexible internal space, moveable partitions and outdoor living areas. It is a carefully handled example of modular design, using standard, but chemical free, low cost off-the-shelf industrial products and second hand building materials. The design and choice of materials indicating the Lucas' original design concept and the design philosophy that Bill Lucas continued to employ throughout his career.

### **Comparative significance**

#### **4.4 canonical status (local, national, international)**

The Glass House, 80 the Bulwark, Castlecrag, designed by Bill and Ruth Lucas in 1957 is an excellent seminal example of the “*shelter-in-nature*” minimalist compositions constructed in Northern Sydney post World War II, by the architects of the “Sydney School” largely for their own use. The Glass House is of aesthetic significance as a ‘Sydney School’ icon, that has continued to be visited and written about by architects and architectural students since its completion.

Peter Moffit (FRAIA) described the Glasshouse in his obituary of Bill Lucas in the Sydney Morning Herald (1/11/2001) as being “*audaciously simple in its concept, it stands on tiptoes amongst the boulders and the ferns on four slender steel posts...The house appears to barely touch the ground, suspended amongst the trees.*” Neville Gruzman describes the Glass house in his obituary of Bill Lucas as “*extraordinary in a deceptively simple way: if ever a house touched the ground lightly, it was this one.*” He described the Glass House in his exhibition catalogue as being “*the best Australian post-war house*” and more recently, in his Obituary for Bill Lucas as being “*international seminal house of the Twentieth Century*”

#### **4.5 historic and reference values:**

The design of the Glass House has featured in two architectural exhibitions, the Third Millennium Exhibition in 1993 curated by Neville Gruzman and an exhibition by the Historic Houses Trust: “*Fifties Housing, Plus or Minus*”.

## 5. Documentation

### 5.1 archives/written records/correspondence etc. (state location/ address):

Current owners retain correspondence with Bill Lucas. Copies of some of which are held by the National Trust of NSW in their Archives.

### 5.2 principal publications (in chronological order):

Architecture in Australia in October - December 1958

Taylor, Jennifer, *An Australian Identity : Houses for Sydney 1953- 1963*, 2nd Edition, Department of Architecture, University of Sydney, Sydney, 1984

Curtis, William J. *Modern Architecture since 1900*, London, Phaidon, 1996.

Gruzman, Neville. Bright Thinker Pursued his Utopian Vision, in *The Sydney Morning Herald*, 1/11/2001.

Moffitt, Peter. 2002. Bill Lucas Architect, 1924-2001. In *The Crag*, Castlecrag Progress Association

Myers, Peter. Bill Lucas, 1924 – 2001, in *Architecture Australia*, November/December 2002.

Docomomo Journal Issue 27, Article by the Australian Working Party, June 2002.

### 5.3 visual material (state location/ address)

original visual records/drawings/photographs/others:

Drawings published in Architecture in Australia in October - December 1958 (reprinted Taylor, Jennifer, *An Australian Identity : Houses for Sydney 1953- 1963*, 2nd Edition, Department of Architecture, University of Sydney, Sydney, 1984

recent photographs and survey drawings:

Photographs commissioned by the Historic Houses Trust of NSW for the DOCOMOMO/Historic Houses Trust of NSW Exhibition, *Fifties Houses Plus or Minus?*. This exhibition examined the fate of some of the houses featured in the original 1961 exhibition held in Sydney and Melbourne.

Current photographs and the National Trust listing card are held by the National Trust of NSW in their archives

film/video/other sources:

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#### 5.4 list documents included in supplementary dossier

Drawings published in Architecture in Australia (reprinted Taylor, Jennifer, *An Australian Identity : Houses for Sydney 1953- 1963*, 2nd Edition, Department of Architecture, University of Sydney, Sydney, 1984

#### 6. Fiche report

name of reporter: Noni Boyd  
address: GPO Box 1334

Sydney

NSW 2001

telephone: +61 412 737 921 fax: n/a e-mail: noni\_jd@hotmail.com  
date of report: 20 May 2003

#### examination by DOCOMOMO national/regional section

approval by wp co-ordinator/registers correspondent (name):

sign and date:

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#### examination by DOCOMOMO ISC/R

name of ISC member in charge of the evaluation:

comment(s):

sign and date:

ISC/R approval:

date:

wp/ref. no.:

NAI ref. no.:

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