

CITY OF SOUTH PERTH LOCAL HERITAGE INVENTORY

Management
Category

B

PLACE RECORD FORM

Prepared by *Heritage Today*, March 2000
Most recent update by City of South Perth, November 2015

Place No: **A 2** **Solar Energy Advisory Centre (Former)**



(*Heritage Today*, 1999)

LOCATION

Name of Place	<i>Solar Energy Advisory Centre (Former)</i>
Other / former names	Dyson Business Centre
Address	95 Canning Highway
Suburb	South Perth
Local Government Authority	City of South Perth
Scope of listing	This heritage listing applies to the entire site.

LISTINGS BY OTHER BODIES

Name of Body	Reference No.	Grade of Listing	Date
Heritage Council of Western Australia	4796	Data base only – not listed	-

LAND DESCRIPTION

Reserve No.	Lot	Location No.	Plan/Diagram	Vol/Folio
-	50	Swan 38a	74157	Strata titles

PERIOD	Late Twentieth Century
Design Style	Late Twentieth Century 'Functionalist'.
Construction Date	1989
Source/Details	Architectural Assessment by D Kelsall, Heritage Architect, January 1999.

USE(S) OF PLACE

Original	Solar Energy Information Centre, offices, retail
Present	Offices
Other / former	

HISTORICAL NOTES

The site occupied by the *Solar Energy Advisory Centre (Former)* was formerly occupied by a house built in the 1950s. In 1986, this house was converted into a shop and offices, but was demolished in 1988 to make way for the new *Solar Energy Advisory Centre (Former)*. The residential property at No. 39 Dyson Street, immediately behind the development site, was purchased and amalgamated with the corner lot, to provide space for the required car parking.

The *Solar Energy Advisory Centre (Former)* was designed by Garry Baverstock. Garry Frederick Baverstock (born 1949) is a Perth-based architect, property developer, author and scientist, specialising in energy-efficient building design. He was one of the pioneers of sustainable architecture in Australia, championing passive solar design in buildings and the use of solar energy. In 1969, he founded the firm 'Ecotect Architects'. He is Adjunct Professor and Built Environment Program Manager of the Research Institute of Sustainable Energy at Murdoch University, and became president of the International Solar Energy Society in Western Australia after holding the position of Honorary Secretary from 1979-1986. Baverstock's work is primarily involved with solar energy design and promoting green urbanism.¹ He has designed many other 'eco-buildings' in Perth, including the Perth Zoo Infrastructure Buildings in South Perth, and the Piney Lakes Environmental Education Centre in Winthrop.

Baverstock has won numerous awards. On Australia Day, 2006, he was also awarded Member of the Order of Australia for service to architecture, the environment, and the community through education about the importance of passive solar and energy-efficient design for houses and other buildings.²

The concept of the *Solar Energy Advisory Centre (Former)* was to accommodate display and tenancy spaces in the building which, by means of passive solar design, achieve a high level of thermal performance and human comfort. The building was constructed for the same cost as a conventional office building of the same size (\$1.1 million), but uses 69% less energy.³

¹ 'Garry Baverstock', Wikipedia (http://en.wikipedia.org/wiki/Garry_Baverstock).

² Australian Honours List for recipients of the Order of Australia.
(http://www.itsanhonour.gov.au/honours/awards/medals/order_of_australia.cfm)

³ Article: 'Solar Energy Information Centre', by Deo Prasad and Leena Thomas, SOLARCH, published in the *BDP Environment Design Guide*, May 1995. (<http://www.solartec.iinet.net.au/satellite/solar/seic/CAS02.pdf>)

HISTORICAL NOTES (cont'd)

The intention was to reduce the use of electrical energy in an otherwise normal office or display area, by utilising direct solar energy for heating in winter and indirect evaporative cooling, in combination with a heat exchanger, in summer. The proposal was to achieve a major saving in the use of electricity by modulating the electricity demand away from other consumers' period of peak demand and operating the plant to take advantage of prevailing conditions over a 24-hour period. A *Dricon* air conditioning system was adopted to limit the admission of humidity to the interior spaces; and a cooling system was incorporated to introduce cool night air to the building fabric.

In addition, the building incorporates thermal mass and significant insulation in the design, all acting as a heat bank when required. The angled slat cover permits the ingress of winter sun and heat while excluding them in summer. As a further protection against excessive heat, reflective blinds have been installed on the inside of the skylight window.

A computer program, written for seasonal requirements, was fitted to operate the ventilation and air handling system throughout the year. Some extra solar air heaters were retro-fitted after the building was occupied, to supplement the heating of the north-western area of the upper floor. This was achieved through Renewable Energy Advisory Council Western Australia funding.

Results monitored by Baverstock in 1992 indicated that the building successfully realised its goal, keeping total energy demands to about 159 mega joules per square metres per year (\$8/m².year), compared to the 1986 BOMA (Building Owners and Managers Association) targets for conventional energy efficient buildings in Perth of about 569 MJ/m².year (\$28.8/m².year).³

The building received the Australian Design Award in 1990. In 1993, five years after construction, it was awarded the Building category in the (then) Department of Primary Industries and Energy's National Energy Awards.³ It was one of a record number of 68 entries. At the time, it was the only privately operated organisation in Australia to provide an information service to the public about solar energy in buildings.

DESCRIPTION

The *Solar Energy Advisory Centre (Former)* is basically a rectangular building, but the shape has been modified to follow the truncation at the street corner and the angle of the street intersection. The primary orientation of the building is towards Dyson Street, thereby giving a mostly north-eastern aspect to the glazing and major solar collectors. The south-western wall along the side boundary of the site is treated as a full height parapet. The solid sections of the entire building externally are white and all glazing is carefully protected by awnings.

The building has almost two floors of lettable space and extensive plant space beneath the roof. Natural light is admitted throughout the year and is supplemented by high-efficiency fittings.

The construction materials are:

Frame / floor slabs:	Reinforced concrete
Roof:	'Sandwich' construction on steel frame
Windows:	Aluminium-framed, tinted glazing
Infill walls:	Lightweight dry-construction 'Hebel' blocks.

DESCRIPTION (cont'd)

Being of an experimental nature and quite extensive, the functional mechanical elements of the building are exposed to the streetscape. The appearance of these elements has been treated as part of the architectural design of the building, which fits into the accepted model for an office structure.

ASSOCIATIONS**ASSOCIATION TYPE**

Garry Baverstock AM	Solar Architect and developer
John Healey	Mechanical/Electrical Engineer
Structural/Civil Engineers	Sinclair Knight and Partners
Steve Lucks	Retrofit Solar Air Heater

HISTORIC THEME / Sub-theme**CATEGORIES OF SIGNIFICANCE**

Demographic Settlement/ <i>Technology and technological change</i>	Aesthetic
	Scientific
	Rarity

RATING AND ASSESSMENT**High****Low**

Aesthetic value (streetscape, setting)	1	2 ✓	3	4	5
Architectural merit (design features)	1 ✓	2	3	4	5
Rarity value	1 ✓	2	3	4	5
Value as part of a group/precinct	1	2	3 ✓	4	5
Condition	1	2 ✓	3	4	5
Integrity	1 ✓	2	3	4	5

STATEMENT OF SIGNIFICANCE

The *Solar Energy Advisory Centre (Former)*, later named the Dyson Business Centre, has aesthetic, scientific, and rarity cultural heritage significance. Designed entirely according to solar energy-efficiency principles, the building won major architectural awards in 1990 and 1993. When it operated as a Solar Energy Advisory Centre, the building contributed to the education of the consuming public and at the time, was considered to be of scientific significance.

MANAGEMENT RECOMMENDATIONS**Management Category B : Considerable significance**

Conservation essential. Reflects the highest level of local cultural heritage significance. Very important to the heritage of the locality. High degree of integrity and authenticity. Demolition or significant alteration to a place in Management Category B of the Heritage List is not permitted. Any alterations or additions are to be guided by a Conservation Plan, if any, and reinforce the heritage values of the place.

SUPPORTING INFORMATION / BIBLIOGRAPHY

- Architectural Assessment by D Kelsall, Heritage Architect, September 1999.
- 'Solar Progress Renewable Energy for Australasia' V13, No 2, magazine article *Solar Energy Information Centre Building, Perth. Solar Building No 90*, Winter 1992.
- Article in *The Australian*, Thursday 14 October 1993.
- Reviews of Municipal Heritage Inventory by *Heritage Today* in 2000 and 2006.

HISTORY OF HERITAGE LISTING BY CITY OF SOUTH PERTH

	Date Adopted by Council
Initial listing in MHI	December 1994
Update of MHI	February 1996
Update of MHI	December 1996
Update of MHI	December 1997
Review of MHI by <i>Heritage Today</i>	June 2000
Update of MHI	June 2002
Update of MHI	March 2003
Review of MHI by <i>Heritage Today</i>	February 2006
Interim Heritage List – Policy P313 'Local Heritage Listing'	April 2013
Updated in renamed LHI	Novemebr 2015



The Solar Energy Advisory Centre (Former), viewed from Dyson Street.
(*Heritage Today*, 1999)

LOCATION MAP



(Digital Cadastral Data supplied by Landgate, WA. P295)