

Bankstown Library and Knowledge Centre

COUNCIL NAME

Bankstown City Council

WEB ADDRESS

www.bankstown.nsw.gov.au

SIZE

77 square kilometres

POPULATION

196,974

Overview

Bankstown City Council revitalised its 1960's library to create a sustainable building with a distinctive architectural character and landscaped public space to foster a sense of community. Environmental initiatives include a geothermal heat exchanger, thermal labyrinth, high-performance facade, greenwall bio-filter, rainwater collection and recycling. The building performs extremely well relative to other comparable public buildings with the energy use approximately 42% less than the average Sydney based public building.



Background

The project was developed with Council's Environmental Policy in mind and targeting the following objectives:

- Incorporating principles of Ecologically Sustainable Development (ESD) into the design,
- Implementing and monitoring services and facilities provided by Council.

Following site investigations, risk and benefit analysis and extensive community consultation, a "hybrid approach" of adaptive reuse of part of the existing building and addition of a new library was adopted. The design focused on an integrated and flexible space containing a new library over three levels, 300-hundred seat theatre, four new multipurpose rooms, and a new café.

The project also includes public domain improvements for the adjacent Paul Keating Park, a water feature, new native landscaping, off-street parking for 64 cars and an all-weather bus drop-off zone for seniors. The modernised facilities and surrounding public space provides

visitors with a platform to exchange ideas, interact spontaneously and participate in new community programs.

Implementation

Bankstown Library and Knowledge Centre (BLaKC) became a reality due to Council's strong commitment to delivering a building that met the diverse needs of the Bankstown community. The project provided Council an opportunity to demonstrate innovative sustainable design in public buildings. Key sustainability initiatives included are:

- Building adaptive reuse
- Recycling of building materials
- Three level internal green wall
- Thermal labyrinth
- Displacement ventilation
- Geothermal heat exchanger
- Natural ventilation and night purge
- Louvres and skylight
- Low VOC materials and finishes
- Rainwater harvest and reuse
- Solar array
- Bicycle racks
- Energy and water efficient fittings and fixtures
- Building Management System
- Learning resources - the Bankstown generation project kiosk
- Waste recycling

Implementing a reuse strategy ensured the project brief, objectives and budget were all successfully satisfied. High quality materials salvaged from the existing Town Hall include:

- Tallowood floor boards
- Tasmanian oak linings
- Blackbutt structural timbers
- Custom fabricated precast concrete
- Aluminium cladding and stainless steel joinery, and
- Feature fiberglass ceiling system.

Council firmly believes that this complex and extensive stakeholder engagement process was key to success. Project cost was \$22 million.

Outcomes

The facility opened on 5 April 2014 and immediately became a premier asset that will benefit the community for generations. Patronage at the new facility has increased dramatically. A year after opening, the average monthly visitation reached 58,135 visitors, an increase of 92% from the 2013/2014 period. Council has welcomed over 7,200 new members since the opening, with a further 4,455 joining Council's other library services. Word spread quickly and total membership for all libraries grew to 70,079, an increase of 64% for the same period.

Council allocated a significant portion of the project budget to incorporate environmental initiatives beyond the norm, including geothermal heat exchanger, thermal labyrinth, PVC, high-performance facade, greenwall bio-filter, rainwater collection and recycling.

REFERENCES

www.bankstown.nsw.gov.au/index.aspx?nid=502

During the last 12 months the monitoring results of the total and comparative energy intensity have been assessed against local and international benchmarks. The building performs extremely well in terms of energy usage relative to comparable public buildings.

Current usage intensity has been measured at approximately 89 and 69 kWh/m²/annum (249 MJ/m²/annum) respectively for electricity and gas. The total energy use intensity (EUI) of 158 kWh/m²/annum is approximately 42% less than EUI of the average Sydney based public building.

Key Learnings

Building one of the most sustainable public buildings in NSW came with its challenges. The project team overcame this by setting up a project management, ESD and procurement framework to be used by the project stakeholders. The ESD systems were designed to ensure a significant degree of future proofing for the asset itself and can be easily applied on similar or complementary projects.

The core of BLaKC ESD architecture first appeared in the 'Red Centre' building at the University of New South Wales, which was not only a low energy and low emissions design but was one of the first naturally ventilated ESD "public" buildings designed and built in modern times. The project team undertook both site visits and research from other ESD systems such as Surry Hills Community Centre; The Concourse, Chatswood; The Scientia, UNSW; Faculty of Law, USYD; Macquarie University Library; Darling Quarter.

Both the best aspects of these designs, along with lessons learnt were incorporated into BLaKC. This approach to learning from other facilities was critical to the project. As a result, Council is now hosting numerous site visits, including from international guests, to share what has been learnt and transfer this knowledge across the industry.

In its journey of leading the way in public building sustainability and to break barriers, Council has worked tirelessly to engage and educate staff and the community about the uniqueness of the building design. Since its opening, energy efficiency forums and workshops have been developed for the general public and cater for the CALD (culturally and linguistically diverse).

Council also regularly delivers presentations to local business forums to promote sustainability. In addition, a lighting and energy efficiency expo together with energy literacy workshops were held for local businesses in October 2014 in BLaKC. BLaKC is establishing itself as the focal point of the Bankstown civic precinct and a centre of excellence for the exchange of sustainability information and education.

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This project was the 2015 winner of the Climate Change Award at the LGNSW Excellence in the Environment Awards