Case Study:
Jordan Springs Community Hub

Overview
The Jordan Springs Community Hub demonstrates leading sustainable building practices, great accessibility, and provides for community strengthening. Features include timber construction, geothermal heating and cooling, a 20kW PV solar system, energy efficient lighting and water efficiency. Particular attention has been given to the challenge of urban heat, and passive design helps with cooling.

Background
Jordan Springs is a new community, with residents first moving in from late 2011. A partnership between Penrith Council and Lendlease engaged communities in planning processes, creating a community facility which achieves best practice social and environmental sustainability.

Located next to the village centre and future primary school, The Hub provides for community and lifelong learning, and for easy access to local services. Local culture and community values informed design, through consultations with residents and other stakeholders, including Lendlease, Nepean Community & Neighbourhood Services, NSW Health, Department of Education and Communities, Nepean Blue Mountains Medicare Local and Vision Australia.

The vision was for a welcoming, inviting and inclusive multipurpose community facility with shared, flexible spaces. A comfortable, practical and resource-efficient venue were delivered with a range of innovative design features and sustainable building material selections.

Completed under the 2014 Sustainable Buildings Policy, the Hub also helps deliver on Penrith’s 2017-2018 Operational Plan, including:

- Help ensure our important community places meet the needs of the people that use them
- Work with partners to enhance the resilience of the City
- Develop effective responses to the impacts of growth, redevelopment and change in our community
- Facilitate delivery of the Jordan Springs Community Hub

Regarding social sustainability, all areas of the building were designed to be equally accessible to all members of the community, such as the commercial style kitchen.

Assisting environmental sustainability, the building showcases design and materials. The Hub and grounds consider local climate, and make use of natural thermodynamics and passive design, to mitigate heat during warmer months. Constructed is water and energy efficient, building materials were chosen for recycled content, production footprint, and end of life recyclability.

Implementation
Jordan Springs Community Hub construction started in October 2016 and it opened April 2018. The Hub is the first community building in NSW built from cross laminated timber (CLT). CLT is sourced from certified sustainably managed forests, has a low carbon footprint, little production waste and helps to insulate the building.
The Hub has geothermal heating and cooling, which is expected to reduce carbon emissions by 50%, or 37.7 tonnes of CO2 every year. System costs are slated to be met through savings in less than 10 years. In addition, the 20kW photovoltaic solar system will reduce CO2 emissions by 25 tonnes per year.

Natural light, ventilation and circulation are maximised using passive building design principles. These are complemented by effective insulation, high performance glazing, and a light roof colour. These features are expected to reduce energy use by 15% and make the facility resilient to heat.

Landscaping incorporates pervious garden surfaces to capture rainwater, light coloured materials, green spaces and trees. The hub is water efficient, including low flow fittings and a 16,000L water tank. These aim to achieve a 22% reduction in stormwater leaving the site and a 25% reduction in water usage. The building uses energy efficient LED lighting throughout. Most (90%) lights are automatic control, meaning they are 'zoned' so only areas in use are lit.

During the planning process, Council's Access Committee were briefed twice so feedback could be incorporated into plans. The Hub features no steps to create a seamless flow, sliding entry and foyer doors, multiple hearing loops, and an adult changing room. Accessibility features include the reception desk, training benches in the kitchen, ramps, as well as carpark and building designs.

Outcomes

Following construction, a series of popular open house sessions were held over February and March 2018, and the official April 2018 opening drew over 800 people.

During the first year of operation, Jordan Springs Community hub has proven to be a highly valued and utilised community resource. Staffed by community volunteers during the week, recurrent users include playgroups, a Sri Lankan cultural dance group, the Australian Breastfeeding Association, a community dance group, martial arts lessons, church groups, a Chinese community group, Probus, Weight Watchers, and a seniors group who organise language classes, table tennis, and computer classes. In addition, there are numerous private functions that have been held at the Hub, such as birthday parties.

Key Learnings

The planning, construction and running of the Jordan Springs Community Hub were realised with a shared level of commitment from Council and Lendlease. The project delivered best practice outcomes for social and environmental sustainability, and actively engaged communities throughout the process.

One challenge has been finding a community ‘anchor tenant’. Council originally entered into a 'host agreement' with U3A Nepean Blue Mountains, to assist Council in the activation of the facility. Unfortunately, for their own reasons, U3A withdrew from the agreement. However, Council has identified several others interested in the role.

Lendlease say the Hub has been one of their most successful collaborations with a council, and the model is one they are working to roll out elsewhere. Likewise, Council is looking at how to adapt the approach to other new developments, to create more facilities that reflect local communities and respond to the local climate.
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This project was the 2018 winner of the Sustainable Infrastructure Award at the LGNSW Excellence in the Environment Awards