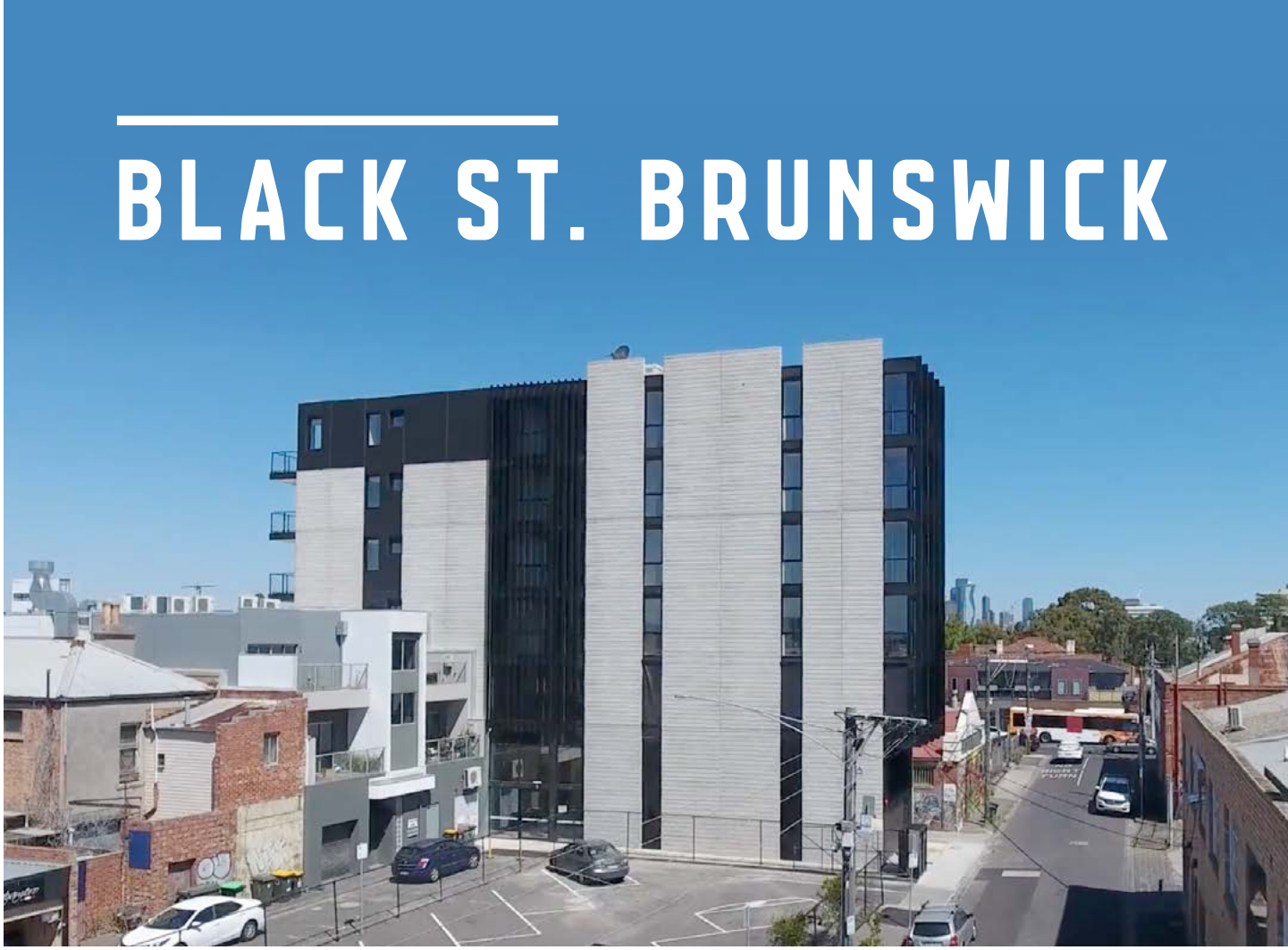
BLACK ST. BRUNSWICK



A NEW DEVELOPMENT HAS SET THE STANDARD FOR ENERGY EFFICIENCY AND HOUSING AFFORDABILITY IN BRUNSWICK.

The development at 47 Sydney Rd and 6 Black St, Brunswick, has been undertaken by College Property. Principals Roger Gribble and Tim Lamb have been heavily involved in achieving a high standard of sustainability in a dramatic building that reflects Brunswick's industrial heritage.

HOUSING AFFORDABILITY

There is a great deal of focus on housing affordability at present from governments, the media and the public. Unfortunately, the sole focus of this discourse is on one element of affordability – the cost to acquire and finance a built dwelling. "I think a greater level of consideration needs to be given to the ongoing cost of heating, cooling and maintaining a dwelling, as an affordability focus, as it is no use living in a cheap house if it costs you $8,000 a year to run," said Tim. "In addition, land value and land intensity (number of dwellings per metre squared of land) needs to be considered."

Many people focus on the cost to buy, as opposed to the cost to live in, a home. Black St apartments have been sustainably designed to enhance comfort and lower running costs.

COLLEGE PROPERTY

OUTSTANDING LAND INTENSITY

The site was originally the rear of an Edwardian era shop front, with a wholesale butcher operating on the 6.5m wide strip facing Black St. The site was in a Moreland council development area allowing a discretionary preferred height of 18m. Roger first saw the potential of the site, with its 40m northern boundary, for a north facing passive solar vertical building. The northern wall of the butchery was made of brick and bluestone, 1 metre wide, located almost entirely outside the boundary of the site on the council car park. Moreland was willing to sell this strip of land to College, given its long term use by the existing structure. As a result, College was able to turn an essentially derelict piece of land into 11 dwellings and 1 shop on 275m^2 of land, an effective footprint of 25m^2 of land per dwelling. This is an outstanding land intensity and one that improves affordability by having a low land cost per apartment.

MATERIALITY & DESIGN

There has been a huge outcry over the dangers of flammable cladding around the world. This contrasts with the virtually fire proof Black St construction. While timber multi-storey dwellings have been built by Lend Lease and others in Australia, as yet their cost is not comparable to traditional construction. In selecting a precast concrete solution for Black St, College aimed to minimise ongoing maintenance costs. "Concrete initially has a substantial greenhouse gas penalty, but on a life cycle basis, given its thermal mass and essentially zero maintenance cost, we felt it was the best long term solution," explained Roger. The Project Architect, Matt Green of OMG Architects, stated that he wanted the materiality to reflect the industrial heritage of Brunswick, with its unadorned, utilitarian nature. Exterior painting is minimised. Lastly, as a fully sprinklered, fire separated concrete building, fire risk is negligible.

Interiors architect, Robbie Peirce, stated he utilised engineered oak boards, engineered stone benchtops, and a dark tile in north facing living areas to ensure the interiors matched the exterior in terms of sustainability. The selling agent, Hocking Stuart's Scotty McElroy, "College did a great job in providing an outstanding sustainability outcome, with strong appeal to the Brunswick demographic, while still having a premium fittings and finishes outcome."

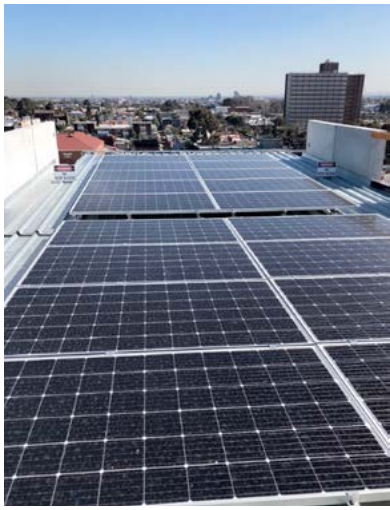
PROXIMITY

The development has a 'Walk Score' of 96 (www.walkscore.com). Again, locating the same dwelling in an inferior location, results in greater greenhouse gas emissions from an increased number of longer car journeys. The requirement for a car in this location is negligible, given Black St's public transport links and the adjacent shopping centre. From the marketing brochure,

> "A morning run around Princes Park, followed by a macchiato on Sydney road. With a Walk Score of 96, Black St is a walkers' paradise. The city is short train or tram ride away via Jewel station or Sydney Rd trams. Walking or riding a bike, the city is just 4kms away. On the weekend, Citylink is only 2 minutes' drive. The Apartments are walking distance to the Melbourne University precinct and zoned for the acclaimed Princes Hill Primary and High Schools. This unsurpassed location offers more time for residents to enjoy the Brunswick lifestyle. Barkly Square, with its supermarkets and fresh food stalls is less than 200 metres from Black St and the Sydney Rd retail precinct is adjacent."

SOLAR PV AND ELECTRIC ONLY

In addition, the Black St development has been built to operate solely on electricity – natural gas is not connected. Mark Sanders, Principal at Third Ecology Architects, a renowned green home architect and sustainability consultant, commented "Natural gas is a fossil fuel, and in the long run, as renewables become a greater part of the grid, an electric only energy supply system will prove a greener and more cost effective approach. In addition, all of the gas connection and supply costs are avoided. For a heating and cooling system, reverse cycle air conditioning is the most energy efficient solution." Tim explained the reverse cycle air-conditioners have an average COP (coefficient of production) of 4, meaning for every 1 kWh of electricity input around 4 kWh of heating or cooling are delivered.



Energy Australia provided a 12 kW solar photovoltaic (PV) system, covering almost the entire roof. This supplies the public light and power, and is designed for maximum summer output (when air conditioners may be required to provide occasional cooling). The PV system is able to receives the best available feed-in tariff, with the best offer in the market currently running at 27c/kWh. This is estimated to reduce owners' corporation fees by in excess of $4,000 p.a. Louise McSweeney, head of commercial solar for Energy Australia, "We were delighted to be selected as the solar supplier for this project, as we understood what Tim was trying to achieve from a sustainability perspective. In this case, while we also looked at an embedded network, the system design means all owners are able to choose the best available retail electricity deal while still sharing equally in the benefits of the PV system."

OTHER SUSTAINABILITY AND ENVIRONMENTAL FEATURES

INSULATION
Superior wall and roof insulation provide the best possible thermal and acoustic comfort. Internal wall sound screen batts minimise noise transmission within and between apartments.

APPLIANCE EFFICIENCY
Reverse cycle air conditioning is the most greenhouse and energy efficient way of heating and cooling an apartment. The air conditioners in Black St are among the most efficient on the market. Induction cooktops have been selected for their superior efficiency, safety and convenience.

MOTORISED SHADING
The west facing glass of Black St is able to be fully or partly shaded or completely open via external high quality motorised louvre blinds. The ability to exclude the sun provides the best of both worlds – using passive solar heating in winter, while excluding the summer heat.

LIGHTING SYSTEMS
All public area lighting systems are sensor based. All light fittings include high quality LED lamps, which draw a substantial amount less power than traditional lighting solutions.

WINTER GARDEN
The eastern apartments have dual private open space – the balcony plus a north facing winter garden, allowing a kitchen garden or semi enclosed area for pets. With openable windows, this area acts as a greenhouse, allowing optimal plant growing conditions, as well as providing a controllable heat source in winter.

DOUBLE GLAZED WINDOWS
Black St has double glazed windows throughout, which will yield a significantly enhanced thermal and acoustic performance.

CROSS FLOW VENTILATION
With openable windows on 3 sides, cross ventilation at Black St is significantly superior to large-scale apartment developments. The ability to purge hot air from a each apartment once a cool breeze arrives provides occupants with much greater control over the indoor air temperature, without using air conditioning.

THERMAL MASS AND ORIENTATION
The tiled floor and thermal mass of the concrete slab at the north facing windows, allows passive heating when the sun is lower in the sky during the winter months. The floor absorbs heat through the day and re-radiates it during the night, reducing heating bills and significantly improving comfort and thermal stability. The summer sun, which is much higher in the sky, is excluded through the use of carefully designed external shades and window recesses.

WATER EFFICIENCY
The entire roof system drains to a 6,000 litre rain water tank system, to provide fresh water for washing machine and toilet usage. Water efficient dual flush toilets, tap fittings and showerheads, all reduce water consumption considerably while hot water systems are located within apartments, immediately adjacent to wet areas, reducing pipe runs, minimising tank and pipe heat losses, and reducing water wastage. College manufactured its own self-watering pots, planted out with fruit and olive trees, as well as herbs, providing a kitchen garden in the entry area.

SUMMARY

Tim and Roger believe that Black St is one of, if not the, greenest multi-residential development in Melbourne. Tim says that the "Multi-faceted sustainable design, careful materials and appliance selection, onsite solar electricity generation, and outstanding orientation, not to mention the walkability and access to public transport, combine to give an outstanding affordability and comfort outcome with today's best available design approaches and technologies."

College Property are looking forward to their next project and hope to be able to deliver a similar level of sustainability.

CONTACT LIST

College Property

Tim Lamb | College (developer) | **0410 432 623**
Roger Gribble | College (developer) | **0439 335 010**

Project

Matt Green | OMG Architect
matt@omgarchitects.com.au | **0479 147 467**

Robbie Peirce | Studio Tom
robbie@studiotom.com.au | **0488 086 662**

Louise McSweeney | Head of Commercial Solar, Energy Australia
Louise.McSweeney@energyaustralia.com.au | **0418 193 829**

Sales

Scott McElroy | Hocking Stuart
smcelroy@hockingstuart.com.au | **0411 889 972**

Quoted

Mark Sanders | Third Ecology Architects
mark@thirdecology.com.au | **0419 298 361**