Emerald Quay's

For this development Billbergia brings experience, research and wealth of knowledge to create a world class sustainable community at Rhodes Peninsula.

Billbergia has close ties to David Baggs, a multi-award wining eco-architect, author & technical director of Ecospecifier International. This relationship goes back may years before the adoption of BASIX. This dynamic partnership allows us to interact at grass root level when developing new sustainable ideas rather than follow others.

SJB Urban is also an award winning, specialist Urban Design practice. They respond to site conditions, strategic directions, urban sustainability & economic imperatives through creative thinking and accomplished design.

Our approach has been one of setting higher standards rather than adopting the minimum Star rating standards.

BASIX allows a number choices when looking at water and energy saving. Our vision has been providing real sustainability and not using a typical bolt on approach through appliances that can be easily removed during the building life cycle.

For this project we are proposing to use:

Solar Cells or PV -

Solar collection modules have been identified as a core ingredient for this project. A large numbers of panels are proposed to raise environmental awareness. Highly visual areas are planned to showcase this renewable energy saving technology. SJB Architects are looking at opportunities where PV panels could be utilised in foyers / facades.

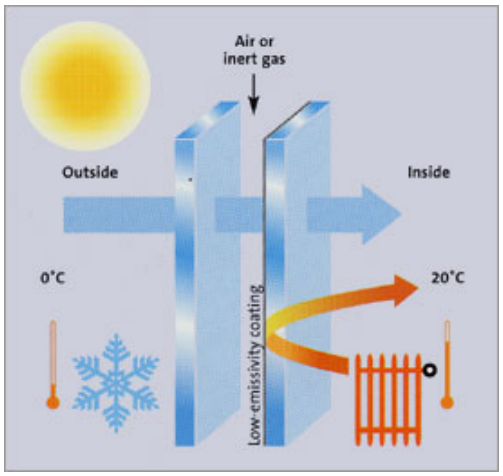
Other areas we feel require detailed attention are:

Solar Hot Water -

Gas boosted Solar Hot Water thermo mixed couplers are sized to offer a balance between using solar heating and natural gas. Solar Vacuum tube technology is utilized where possible as it uses a smaller roof foot print over the conventional flat plate technology, offers higher thermal efficiencies and requires less supporting roof plant.

Proven ESD principles:

Windows -

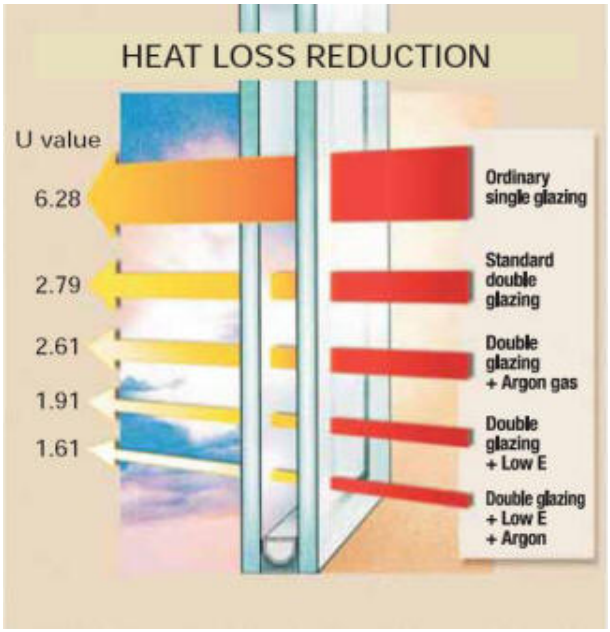


Double Glazing window components (argon filled). IGU units are selected to allow for the maximum spacing between the glass components. This not only improves the efficiency of the IGU unit but as an added benefit reduces the amount of background noise penetrating the residential dwelling. Billbergia have been using double glazing on all our residential projects for 4 years.

Further acoustic enhancements are

available through glass thickness changes.

High performance glazing with careful placement of different colours to allow or reject heat loads but allow maximum light penetration and still minimize light reflection both when viewed internally and externally.



The typical aluminium framing selected has the ability to allow for varying wind loads by utilising the lasted computer modelling. This enables us to individually size components, reducing unnecessary waste of valuable aluminium whilst ensuring the building components maintain a uniform sectional sizing.

Water Reduction -

Water efficient appliances are specified to reduce water usage like Dual Flush 4 star toilets, 3 Star shower roses, 6 Star tapware, etc

Energy Reduction -

Compact fluorescent lights to apartments, gas heating & cooking.
5 Star reverser cycle air-conditioning systems for individual user control.

Integrated Building Management system with movement detectors to common area foyers enhanced with compact fluorescent lights. Energy efficient variable speed fans to basement areas.

Passive Solar Design / Thermal Mass -

Concrete is not only used for structure but to enhance thermal mass within the design.

Building elements can be used for shading externally then on the high heat load walls treated with varying walling insulation to ensure heating & cooling efficiencies balance is maintained. This methodology is also applied to the roof & basement levels as required.

Eco-Building Products -

Extensive collaboration with Ecomixcrete has lead to the preliminary specification of a revolutionary precast panel. The panel consists of 40 – 70% recycled material, being polystyrene & wood chips. The product dries like normal concrete and does not place demand on high energy needed to perform autoclaving as in aerated concrete. The panel repels water, encompasses a high level of fire resistance (2 – 4 hours), sound resistance 46 – 60 dB and offers high thermal insulation up to R3.0. It also offers greater workability & versatility.

The inclusion of the panel would only further enhance the

previous product selections.

In Summary -

Billbergia previous experience has shown early commitment of ESD initiatives at the infancy design stage of the project, particular thermal comfort & BASIX related issues has produced outstanding results that place minimal demand for energy, heating, cooling & water demands. This is evident by our two most recent projects Australian Towers & 1 Burroway Rd. Wentworth Point which have achieved an average of 8 Stars (Using BERS Pro v4.1) for thermal comfort.

Given the right opportunity & circumstance ***Emerald Quay's*** is anticipated to perform well and score a similar Star rating.