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The Carlton Residents Association advocates on behalf of its members to

- Support the retention of the heritage assets of the Carlton community and to discourage new developments that fail to respect these assets
- Maintain the quality of the public realm with a focus upon maintaining access to sunlight and sky views, and a pedestrian friendly scale
- Interpret and apply the performance based provisions of the Melbourne Planning Scheme fairly so that the interests of no one party are unfairly privileged over the interests of another party

The Association's Response to the first CCI Scheme [MPS Am C173] addressed the following matters:

- **The major intensification of the former RWH site.** The proposed Development Plan Overlay included building envelopes of 52m high [Swanston St frontage] to 59m for 3AW Block [an additional 7m] to 40m high on the Cardigan St frontage. The CRA did not believe that this intensity of development would provide an appropriate transition to the lower scale areas to the east [with mandatory height limit of 10.5m] or to the south [with preferred maximum heights from 9 storeys on Swanston St to 4 storeys on Cardigan St.] It was noted that the existing 3AW block already casts significant shadows over Grattan Street during the middle of the day for 6 months of the year. The CRA submitted that the revised building envelopes could not possibly improve the pedestrian amenity of Grattan Street.
- **The introduction of the Capital City Zoning over the site.** The CRA noted that this zoning option effectively excluded the community from any further say over detailed use and development matters. The CRA submitted that this option was quite inconsistent with the value the University has placed on engagement with the community. In background material provided to the Future Melbourne Committee on the 5th August 2014, much value is placed on engagement with the community. Carlton Connect ... "aims to tackle the most pressing social problems associated with the sustainability of our society in a manner which engages fully with the broader community and achieves lasting impact."
- **Imprecise nature of Development Plan Overlay Provisions.** The new Development Plan Overlay includes many laudable objectives, with considerable emphasis being given to the Environmentally Sustainable Design measures [ESD measures]. At the Development Plan level it has been determined to use the Green Star Communities Rating Tool Pilot ... a Green Building Council of Australia initiative. While it is possible that the redevelopment may include cutting edge ESD initiatives, there are no guarantees. In a recent paper in the E-Book *Melbourne: What Next*, Caroline Pidcock outlines some key ideas that could help achieve a better future for Melbourne. Her final idea is based on the imperative of achieving net zero energy. In her words ...
"... all developments need to be net zero energy, which will be achieved by being super energy efficient with all energy that is required supplied on- or near-site renewable energy. If you think this can't be done, look at the many examples of buildings around the world achieving this in tougher and less resource-rich climates than ours."

If Carlton Connect is to be taken seriously on the ESD front, the DPO must set measurable targets which address these key issues.

Comments on Current Proposal

Intensity of Development

While the height of the proposed Swanston/Grattan Street building now approximates the height of the existing 3AW block [about 52m], the Student Housing development on Cardigan Street, that was to “fall within” a 40m envelope, now exceeds the height of the Swanston/Grattan Street building; it is about 53.4m above the ground level at the Cardigan/Grattan Street corner. Clearly, the applicant has chosen to exploit the helicopter flight path airspace clearance at this location to propose a more intense development.

Unfortunately, buildings of this intensity [scale] will have a detrimental impact on the pedestrian amenity of Grattan Street [opposite the development]. Examination of the shadow diagrams presented by the applicant highlight the significance of this impact. The shadows from the proposed development on September 22, between the hours 11am and 2pm, extend for almost the full length of Grattan Street [southern pavement].

Does this impact matter? Given the significance of Grattan Street as a key east-west link, acknowledged in the 2014 Urban Design Framework Study [prepared for the University], this is a disappointing outcome. It must also be emphasised, that this outcome does not satisfy the relevant Planning Scheme Local Policy - 22.02 Sunlight to Public Spaces: “Development should not reduce the amenity of public spaces by casting any additional shadows on public parks and gardens, public squares, major pedestrian routes including streets and lanes (including all streets within the retail core of the Capital City Zone), and privately owned plazas accessible to the public between 11.00 am and 2.00 pm on 22 September.”

Although the retention of solar access to Grattan Street is just one of several important public realm considerations, we do not believe that the desire of the University to make a striking architectural statement at the Swanston/Grattan Street intersection should compromise the amenity of the public realm. Throughout the pages of the *Melbourne-C313-Urban-Context-Report*, it is contended that this intersection forms an important Gateway site and Opportunity. The statement on p33 of this report exemplifies this thinking ...

A GATEWAY OPPORTUNITY

The site is located on the corner of Swanston Street and Grattan Street which forms a key gateway and arrival node for the Parkville NEIC. As a major north-south connection into the city, Swanston Street has an elevated role and is also one of the major north-south tram alignments from the CBD to the north.

According to the latest *Plan_Melbourne_2017-2050_Strategy* [Map 4 p26] this intersection does not form an **arrival node** for the Parkville National Employment & Innovation Cluster; it is surrounded by this cluster. But, even if this interpretation is incorrect, there are many examples in Melbourne where key gateway intersections are not bordered by imposing architectural edifices. In our view, quality architecture should never be equated with buildings of a particular scale.

The Planning Scheme Tools and Assessment Process

The Association accepts that the Incorporated Plan “route” has often been used in Melbourne to “progress” major development proposals. We remain disappointed that members of the local community have had a very limited opportunity to contribute to the development outcomes for such a key site. We understand, from press reports, that the University had shortlisted rival developers as potential partners for this project, back in March 2016, over eighteen months ago.

Fast forward to October 2017. The State Government agrees to a targeted exhibition of key planning documents for a revised development proposal. Along with a multitude of technical reports, an Amendment

[C313] to the Melbourne Planning Scheme is exhibited. While expert review panels may well have been engaged to review these proposals over 2017, from a community perspective, the Planning Scheme Amendment process does not provide a useful opportunity to explore [and query] the key assumptions underpinning this development.

ESD Considerations

While the exhibited documentation does provide more detail, we remain concerned over the vagueness of the Green Star Credits being targeted and/or to be confirmed for the different sustainability initiatives. It appears to the Association that the *Sustainability Report [v3 | 19 July 2017]* must be a very initial assessment given the number of initiatives still “being considered” and the lack of a detailed tabulation of the points being targeted for the different initiatives.

According to the Sustainability Report, the development precinct includes three buildings

- The Swanston/Grattan Street Building [new Melbourne School of Engineering, Fabrication Laboratory, Science Gallery and Office Space]
- Cardigan Street Building [supermarket and post-graduate student accommodation], and
- Northern Building [childcare and office]

This Report also states that the objectives of Clause 22.19 [MPS Local Policy] will be met through the initiatives proposed as part of the CCI commercial building’s targeted 6 Star Green Star Design and As-Built v1.1 rating and the CCI student residence’s targeted 5 star Green Star Design and As-Built v1.1 rating. It is not clear from this Report what star rating is being targeted for the 3rd “Northern” building, the childcare and office. In relation to the Student Accommodation building, it should be noted that the Local Policy [CI 22.19] expects that a 5 star rating should be achieved for this building.

Given that the Carlton Connect Initiative ... “aims to tackle the most pressing social problems associated with the sustainability of our society in a manner which engages fully with the broader community and achieves lasting impact” ... we do not understand why the development does not establish more ambitious targets on the on-site renewable energy and water harvesting fronts. As Caroline Pidcock has observed:

“... all developments need to be net zero energy, which will be achieved by being super energy efficient with all energy that is required supplied on- or near-site renewable energy. If you think this can't be done, look at the many examples of buildings around the world achieving this in tougher and less resource-rich climates than ours.”

While both the Swanston/Grattan and Cardigan Street buildings include an array of solar panels on the roof, the Sustainability Report provides little indication how much of the development’s energy requirements this initiative should meet. The University of Queensland Global Change Institute provides one recent example of a University initiative that appears to have adopted much more ambitious targets. According to ARUP, this building “provides a Carbon Neutral, Zero Energy, Zero Water and Zero Waste working and learning environment. It is one of the first buildings to be registered for The Living Building Challenge, which will consume 30 per cent the energy of the Green Building Council of Australia benchmark education project.”

ARUP continues: “The building features an operable sun-shading and louvered façade to control light and air flow, a cooling green wall which also acts as an air filter, a bush tucker garden and bio-retention basin, onsite greywater system, power exclusively generated by solar energy, and a thermal chimney that draws warm air out of the building. Rainwater storage of 60,000 litres serves the Global Change Institute and Steele building and is used for the hydronic cooling system, kitchen, amenities and showers.”

<https://www.arup.com/projects/global-change-institute>

According to a separate online posting the operable sun-shading system includes “\$1.3 million **fully automated louvres** which increase the green star rating of the building. The project took almost 2 years to complete and is operated by **numerous motors & sensors** which were meticulously placed for minimal visibility. Made up of literally **hundreds of custom designed and perforated panels**, the innovative, fully operable sun shading louvre system moves around as the day progresses, thereby providing maximum sun shading.” <http://www.louvreclad.com/uq-global-chaninning-project/>

In the Association’s view, the installation of an operable sun-shading system [that tracks the sun] would provide a much superior shading system to any fixed shades on the west and east facades. While fixed shades, of a defined configuration, work well on north facing walls, this is not the case for west and east facing elevations. We are also of the view that the adoption of best practice for window shading systems can result in a striking architectural outcome; we do not accept that these objectives need be in competition.



Global Change Institute

See Attachment: Global Change Institute takes out highly competitive Sustainability category at the 2015 National Architecture Awards

As for the energy initiatives, it is unclear from the Sustainability Report to what extent the proposed rainwater and grey water harvesting systems will meet the non-potable water demands of the development. According to the exhibited documentation, only water runoff from the roofs and balconies will be directed to the Rainwater Tank; runoff from the ground level landscaped areas will be directed to the Council’s drainage network. Although a 180kL Rainwater Tank is proposed, for a development with a Gross Floor Area of over 72,000sqm, this is miniscule. It is difficult to see how the maximum points can be achieved through adoption of the Performance Pathway [18A Potable Water] unless the grey water harvesting system contributes in a significant way to the required potable water use reduction.

The Sustainability Report notes that “The proposed development at Carlton Connect is seeking to achieve recognition from the GBCA for innovative design practices and exceeding Green Star benchmarks for particular credits.” Further elaboration and clarification of how the development will achieve the maximum 10 points for the Innovation Category would have been really helpful.

Student Housing Building

Although the Association is primarily concerned with public realm issues, there are many aspects to the Student Housing Building which we assess to be quite problematic.

The CRA accepts that the recently introduced Apartment Design Guidelines cannot be enforced for residential buildings, but, for an applicant aspiring to achieve a quality residential environment for graduate students, we submit that the Apartment Design Guidelines provide an important assessment tool. For example, the Student Housing includes many units on each floor that rely upon “borrowed light” for habitable spaces; the Twin Studios and most of the 2 Bed + 1 Bathroom rely upon borrowed light for their living spaces. And again, very few units would satisfy the cross-ventilation expectations of the Apartment Design Guidelines. We do not believe that this is a desirable outcome.

The Student Housing Policy [CI 22.24] provides another key assessment tool. While the Association accepts that the recommended ratios for the provision of some items [eg bicycle parking] may be relaxed, we submit that most of the guidance included in the Student Housing Policy should be followed. In assessing the area required for both internal and external communal spaces [for example] it should be noted that the maximum number of students may exceed the number of beds [528] by over 140, as the studio units and the 1 Bed + 1 Bathroom Apartments include double beds. While the development includes a generous area [and variety] of internal communal spaces, it is noted that seven of the residential floors have no communal areas; these are concentrated [mostly] on the mezzanine floor and the top level.

With respect to the outdoor communal space, Appendix B of the *Melbourne-C313-Town-Planning-Report* records that 460sqm is provided; the Student Housing Policy recommends that 1320sqm should be available [based upon bed numbers]. The consultants argue that this shortfall can easily be satisfied as students have access to 1,300sqm of the Oculus. However, given that the Oculus, and other publicly accessible spaces at ground level, will also be required to “service” the expected 3,000 plus employees of the complex, the CRA does query the appropriateness of the shortfall being satisfied in this way.

The Basement 1 level includes one windowless space for laundry use, where 10 washing machines [query dryers] are located. It is very difficult to ascertain which unit types will include laundry facilities; one reading of Appendix B of the *Melbourne-C313-Town-Planning-Report* suggests that 266 rooms [about 50% of the total] will have access to shared laundry facilities in their units. If the basement facility is required to service the remaining occupants, we do query whether just 10 washing machines in a windowless basement space constitutes a quality outcome.

Although the emergency egress arrangements will almost certainly be addressed at the building permit stage, we do query whether the provision of just one fire isolated staircase with direct access to an open area at ground level constitutes an adequate response for a quality development. The second fire isolated staircase [in the Cardigan Street wing] terminates at the mezzanine level. Occupants are then required to transfer to another staircase to exit at The Connector at ground level.

Concluding Comments

The Carlton Residents Association welcomes the redevelopment of the former RWH site for the Carlton Connect Initiative [CCI]. There are many aspects of this development which we believe that the community will value. Without being exhaustive, these aspects include:

- The provision of the Science Gallery and the Fabrication Lab at Ground Level
- The “porous” nature of the site which will facilitate public access to the CCI, and
- The ground level activation of the main street frontages and laneways through the introduction of the Science Gallery, retail and food and beverage outlets.

However, we cannot accept many of the key conclusions of the **Explanatory Report** included with the exhibited documents. For example:

- We see nothing in the Melbourne Planning Scheme to suggest that a development built to the helicopter flight path envelope is essential to achieving the important and laudable objectives of the CCI and the Parkville National Employment and Innovation Cluster [NEIC].
- We acknowledge that the development will showcase some innovative ESD initiatives; the inclusion of a cross laminated timber building is noteworthy. But, as highlighted in the body of this submission, we do not believe that other key aspects of the development reflect best practice in ESD outcomes. For example, there is nothing exemplary about the adoption of a five star Green Star target for the Student Housing building; the City of Melbourne expects ALL student housing complexes to satisfy this minimum target. We have also noted that the internal amenity of many of the student rooms falls far short of a quality outcome.
- We are disappointed that the height of the development on the Grattan Street frontage has not been moderated to achieve better solar access to this key pedestrian spine. We do not believe that an exemplary “architectural statement” should ever require a building of a particular scale.

Finally, if there are any matters in this submission that remain unclear, we would be happy to elaborate.

CRA 14 November 2017

Attachment: Global Change Institute takes out highly competitive Sustainability category at the 2015 National Architecture Awards

Nathan Johnson

Hassell’s Global Change Institute (GCI) project at The University of Queensland continues to impress the architecture community with its comprehensive green building initiatives, taking out the coveted David Oppenheim Award for Sustainable Architecture at the 2015 National Architecture Awards.

Also a 2014 Sustainability Awards Winner, the CGI enjoys continued success not only because of its incorporation of a plethora of sustainability measures but also because it is a living experimental model with ongoing monitoring, guided by the Living Building Challenge, and offers quantifiable guidance for those looking to combat climate change in the built environment.

The CGI was placed first against a formidable field, including past Sustainability Awards finalists, The Sustainable Buildings Research Centre (SBRC) at University of Wollongong by COX Richardson (NSW) and the joint Clare Design + Hayball Library at The Dock project.

Bethanga House by tUG workshop in Victoria also received an Architecture Award in the Sustainability category that was revealed at the 2015 National Architecture Awards ceremony in Brisbane on 5 November.

Read the full jury citation for *The University of Queensland Global Change Institute* by HASSELL and see the other awarded projects in the Sustainability Architecture category below:



Photography by Peter Bennetts

Jury Citation: The University of Queensland Global Change Institute (GCI) embodies a holistic, integrated approach to ecological design that deserves special celebration as it achieves architectural excellence while pushing forward the frontiers for sustainability. The project was awarded because of its comprehensive and extensive incorporation of sustainable measures, from passive, low-tech strategies to more innovative active technologies, using the building and the research generated within it to educate and partner with industry while at the same time creating uplifting architecture conducive to an inviting, healthy working environment.

The GCI is a living experimental model with ongoing monitoring, guided by the Living Building Challenge, and it will continue to offer leadership in innovations combating global change. It is a 6-star Green Star certified building, targeting net zero energy and a carbon-neutral footprint in its operation. Its sustainable measures include: renewable solar energy captured and stored in the building, natural ventilation for 88 percent of the year, an innovative translucent ETFE (a fluorine-based plastic) triple-skin atrium roof, a green wall that naturally filters the air, operable layered facades that contribute to thermal comfort, the first use of cement-free structural geopolymer concrete (made from fly-ash), a labyrinth for passive cooling and innovative use of recycled materials. It is an infill development incorporated into an adjacent heritage building, there is 'task air' available at each desk which can be altered individually and, in the building's daily operation, there is collaboration with multiple disciplines and research experts to develop innovations and products relevant to industry.

The jury appreciated the discreet expression of sustainability. This is not an architecture of gadgets but a highly sophisticated building addition that is respectful to its historic neighbour and has made a substantial contribution in its own right as an aesthetic composition. The spaces of the open office floors are dignified by cleverly designed workstations and exposed sculptural precast floor panels with chilled water flushed through them. The building's sky-lit atrium is a triumph, transforming a former service zone into a showpiece for the university. This is a project that successfully combines architectural excellence and ecological sustainability.

<http://www.architectureanddesign.com.au/news/global-change-institute-takes-out-highly-competiti>