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Dear Kristin,

Re: (Overview) Report on the Proposed Redevelopment of the Museum of Contemporary Art (MCA) and its Compliance with the Building Code of Australia, 2008 (BCA)

Reference is made to BCA Logic's engagement since 2002 on various initiatives associated with the MCA, as well as to the author's own involvement with this complex since the late 1980's when he was responsible, under delegated authority on behalf of the Minister for Local Government for assessing and approving of the use of part of what was then the Maritime Services Board building, as the MCA.

The following provides a summary of prior planning consents and construction approvals and associated approval of parts of the building for use as places of public entertainment (PoPE), of the (BCA) fire and life safety audit of the building carried out by BCA Logic between 2002 – 2005 and the resultant recommended Upgrade Strategy, and the development of the Master Plan in 2004/2005. It also provides a summary of the current redevelopment proposal in terms of its compliance with the BCA and the basis for approval of such additions and alterations. Such comments are for your information and to assist in overall design development and for inclusion in the final application for development consent.

Approval History of the Existing Building

Up until the late 1980's, early 1990's the Maritime Services Board Building was used to accommodate a number of State Government Departments. Planning consent was then granted by the State to its overall refurbishment and the use of Levels 1 to 4 as the MCA, and it consequently became known as the (Museum of Contemporary Art) MCA Building in 1991/1992.

The refurbishment involved the conversion of Levels 1 to 4 into an art gallery/museum venue, including the Foundation Hall (also previously known as the Wharfage Hall, American Express Hall and Amex Hall) at the southern end of Level 1 (i.e. Ground Floor), but excluding the retail outlets on Level 2 opening directly off George Street. It also included the use of Level 5 & 6 as office spaces, with half of Level 5 eventually being occupied by the MCA Administration, including its Board facilities, when such was relocated from Level 4. At this time Level 7 was basically an oversized lift lobby area, used, or at least set aside for use as occasional office space or a Board Room, together with access out onto roof deck areas at each end of the building, with the northern end having views over a high parapet of Sydney Harbour, the Harbour Bridge and the Opera House and Circular Quay.

A Theatres and Public Halls (T & PH) Approval was issued under delegated authority on behalf of the Minister for Local Government for the Museum (Level 1, part Level 2 and Levels 3 & 4) in 1991/1992. The responsibility for this building was handed over initially to the Ministry for the Arts in the mid 1990's and eventually to the Sydney Cove Redevelopment Authority (SCRA), who then became the Sydney Harbour Foreshore Authority (SHFA).

During this period, and in line with changes in the legislation covering such buildings, the T & PH Approval became an approval for use of the premises as a Place of Public Entertainment (PoPE), with, it is understood, the approval authority being delegated to the Council of the City of Sydney.

Subsequently Level 6 was incorporated into the MCA and was used primarily as multi-purpose function facilities, together (eventually) with a small scale education facility for use in association with the Museum. As the use of these two function spaces occasional involved entertainment based functions with licensed caterers serving alcohol, which legally constituted entertainment in a 'licensed premises', such were also approved for use as PoPE's. It is also understood that during the lead up to the 2000 Sydney Olympic Games, the open-air terraces on Level 7 were also used as occasional function areas, with a 'temporary' PoPE approval being issued for the handful of such special events.

The original assessment and approval of the MCA issued in the early 1990's, which was based on the technical provisions in Ordinance No.70 and the Theatres & Public Halls Regulation, included the following special considerations:

- ❖ Taking into account that based on the information available and largely visual inspections only, the performance of the existing base building structure with respect to fire ratings could not be accurately assessed, any shortcomings in this respect were deemed to be offset by the sprinkler protection of the whole of the building except for the Foundation Hall.
- ❖ In view of its ceiling height and historically significant ceiling and wall finishes, the Foundation Hall was excluded from being sprinkler protected, but instead was nominally fire isolated from the remainder of the building. Shortcomings in such fire isolation were also considered to have been offset by the sprinkler protection of the remainder of the building, including the adjoining kitchen.
- ❖ Similarly, the separate Class 6 Retail tenancies opening directly off George Street were fire compartmented off from the remainder of Level 2 by construction which based on the construction documentation provided at the time achieved a minimum of 120min. fire rated protection. Again, any shortcomings in this construction, including the reliance on laminated safety glass shopfronts with drenchers either side in and around the main entry lobby on Level 2, was considered to have been offset by the sprinkler protection of the building as above referenced.
- ❖ Shortcomings in the minimum clear width of two of the three existing exit stairways was again considered to be offset by the sprinkler protection of the building (as above referenced), together with the pressurisation of all three stairways and the 'discounting' of the maximum populations accommodated on each level based on the 'worst case' aggregate width of exits.

Upgrade of the Existing Building

In 2002/2003 an audit of the existing building was carried out against the then current version of the BCA and an upgrade strategy was recommended. Such was subsequently reviewed and updated based on subsequent inspections/assessments and later versions of the BCA, and a revised Schedule of Upgrade Works was included in the approved Master Plan. A subsequent Capital Works Programme developed in 2004 and carried out in 2005/2006 had as its principal objective the incorporation of all parts of Level 4 as gallery space, as well as refurbishing other odd areas and services which were considered at the time to warrant such attention.

This programme included some of the matters raised in the Fire Safety Upgrade Schedule, but it was understood by all stakeholders that one of the objectives of this final stage of the Master Plan Development was to address all of the remaining upgrade issues, keeping in mind that some of these items would no longer need to be addressed as the new works would alter the overall fire compartmentation of the building and avoided the need for such upgrade works.

Accordingly, the pre DA design process has included a 'sanity check' of the existing building, and in particular the various critical passive and active fire safety systems in terms of their compliance with the current BCA, together with a review of the original Fire Safety Upgrade Schedule, with a view to producing a more complete and accurate Schedule of Upgrade Works for inclusion in the current Redevelopment Programme.

However, while the current BCA has been used as a benchmark for such audits, there may be instances where compliance with the BCA will be impractical and/or unreasonable in the circumstances. Similarly, while there has always been a commitment by the MCA, as well as an expectation by the property owners Sydney Harbour Foreshore Authority (SHFA) as part of the Master Plan process, to progressively upgrade the existing building in those areas previously identified in the Fire Safety Upgrade Strategy, there has not been nor should there now be any requirement that such changes/upgrades will necessarily need to be fully compliant with the BCA.

Nor are any such proposals legally 'alternative solutions' and even if in justifying such works fire engineering theory is referenced, such are simply solutions whose principle aim is to improve on the current situation with respect to the level of fire and life safety afforded all building occupants. Such an approach is considered to be in keeping with the intent, if not a literal interpretation of Clause 94 of the Environmental Planning & Assessment Regulation, 2000. In fact, such legislation specifically provides for the Consent Authority to apply discretion with respect to the need for any upgrade and the degree to which any such upgrade complies with the DTS Provisions of the BCA.

In addition, keeping in mind that most of the active fire safety systems were designed and constructed under prior Australian Standards, many of which date back some 15 – 30 years, while the new works will be to the current performance standards, there are likely to be instances where the existing and new parts of the system will not be able to be readily integrated, and the upgrade or replacement of the existing system to the newer Standard is impractical and/or unreasonable.

The options available in such instances will be to address such conflict via the fire engineered alternative solution process (including obtaining the concurrence of the Consent Authority and/or the Fire Brigades where such is deemed necessary), and/or the operation of the new works as either a fully stand alone system, or as a separate system that is interlinked to the controls of the existing system.

Finally, it is not beyond all likelihood that there are odd BCA non-compliances that are currently unknown as they are hidden or obscured behind the existing base building fabric, and haven't as been uncovered. If such exist and are uncovered as part of the proposed final stage of works, it is intended that such would be assessed on a case by case basis and suitably upgraded where it is agreed by the relevant Authorities.

BCA Compliance of the Redevelopment Proposal

Obviously, all new works are required to and will comply with the Building Code of Australia (BCA) - nominated at this stage as the 2008 Edition - with any non-compliance with the Deemed-to-Satisfy (DTS) Provisions being addressed by provision of an alternative solution (fire engineered where appropriate) which either satisfies the BCA's Performance Requirements, or equates to the DTS Provision, or is a combination of the two.

At this stage in the design development, the need for the following alternative solutions has been identified with respect to the new works:

- ❖ 'Extensions' to Exit Stairways 1 & 3 in the existing part of the building, which will serve the new Function Facilities on Level 7 will be fire isolated off from Level 6, but will discharge out across the open-air roof terraces in the south-west and north-west corners of Level 6 before connecting with Stairs 1 & 3 (respectively). Such has been assessed as being contrary to a literal interpretation of BCA Clause D1.7(b), in that such egress is not strictly speaking 'independent' of Level 6.
- ❖ The travel distance from the most north-eastern corner of the new Gallery (2.4) in the north-eastern corner of Level 2 to a point of choice in the main Entry Foyer between (in this case) three alternative exits out to a road or open space will be (approximately) 22m instead of 20m.
- ❖ The means of achieving the required fire isolation of the two (2) new lifts will not be in accordance with a literal interpretation of BCA Clauses C2.10 & C3.10 but will satisfy the intent and required performance standards.
- ❖ The relocation of the fire hydrant and sprinkler booster valve enclosure will not be fully compliant with the required performance standard AS 2419.1-2005, but will be to the satisfaction of the NSW Fire Brigades, even though strictly speaking such constitutes part of the fire safety upgrade works.

Furthermore, unless directly affected by the new works and taking into account the various works included in the Fire Safety Upgrade Schedule, and the integration of fire safety systems installed to different standards, all as above referenced, the existing base building and all existing internal fitouts have been assessed as being 'to the degree necessary' compliant with the regulatory controls and the technical provisions that were applicable at the time such parts were designed and constructed, and in terms of the fire and life safety afforded all building occupants, the overall level of health and amenity provided to such occupants, and any requirements specific to the building's use as a PoPE, no additional upgrading is considered to be warranted.

Moreover, unless current fire and life safety theory suggests otherwise and as a consequence works have been included in the revised Schedule of Fire Safety Upgrade Works, all special considerations which formed the basis of previous approvals have been assumed as continuing to provide a basis for approval of the existing portions of the building.

If you require any further information regarding the above, please don't hesitate to contact me.

Yours respectfully,



Ross Payne
Accredited Certifier Level A1 (No. BPB0321)
BCA Logic Pty Ltd