INGHAM
PLANNING

Our ref: 19149
15 August 2019

Annelise Tuor
Panel Chair
Independent Planning Commission
by email - ipcn@ipcn.nsw.gov.au

Dear Ms Tuor

St Aloysius Junior School Concept plan (part of SSD 8669)

I act on behalf of the residents of Crescent Place and Bligh Street Kirribilli that own properties facing the Junior School site. I have been requested to provide an independent planning opinion regarding the proposed Concept Plan for St Aloysius School as it relates to the Junior School Campus.

I have reviewed the applicant's documentation and provide the following comments.

Visual and streetscape impacts

The proposal will have a significant visual impact on Crescent Place and Bligh Street as it will present a large wall very close to the boundary without any opportunity for meaningful vegetative screening. The existing character of Crescent Place which is a very narrow street (only 5.5m wide), is relatively open, with the school currently having no major structures along the street frontage and the residential development opposite being generally single storey in scale (see **Figure 1**).

As can be seen on drawing DAB 122, the wall of the proposed multi-purpose space is setback only 2.17m from the boundary (see **Figure 2**). Further, DAB201 shows that wall of the structure will be in part, up to 3.6m above the footpath level (see **Figure 3**). However, this drawing does not show the fencing that would be required around the outdoor space located on the roof of the structure. This would be likely to add a further 3-4m to the built form (based on the plans which do show a high fence, in part), meaning that a structure of around 6.6-7.6m will present to the street only 2.17m from the boundary.

The land opposite is within the Careening Cove Conservation Area under Council's DCP and a stated part of the character of this area is 'reduced scale to the rear' of properties. Elements that are 'uncharacteristic' of the area include 'garages to the street'. Whilst the proposed structure is not a garage, it presents a blank wall very close to the street and is similar in impact to a large basement garage structure. The school site is within the Kirribilli Neighbourhood where in relation to Desired Future Character, it is noted that: *"Educational establishments are to reflect the scale and massing of development on adjoining properties at its interface with the adjoining property"*. Clearly a structure of up to 6-8m close to the boundary does not reflect the scale and massing of the rear of the properties within the conservation area opposite the site.

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Figure 1 – streetscape of Crescent Place

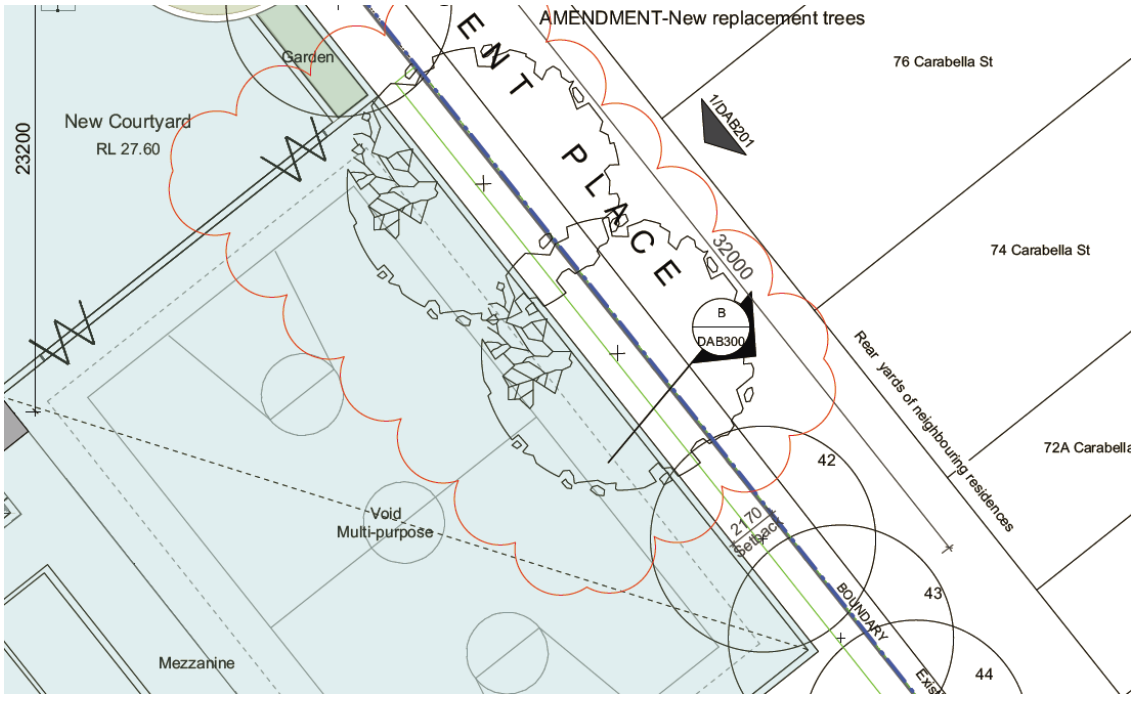

Figure 2 – minimal setback to Crescent Place

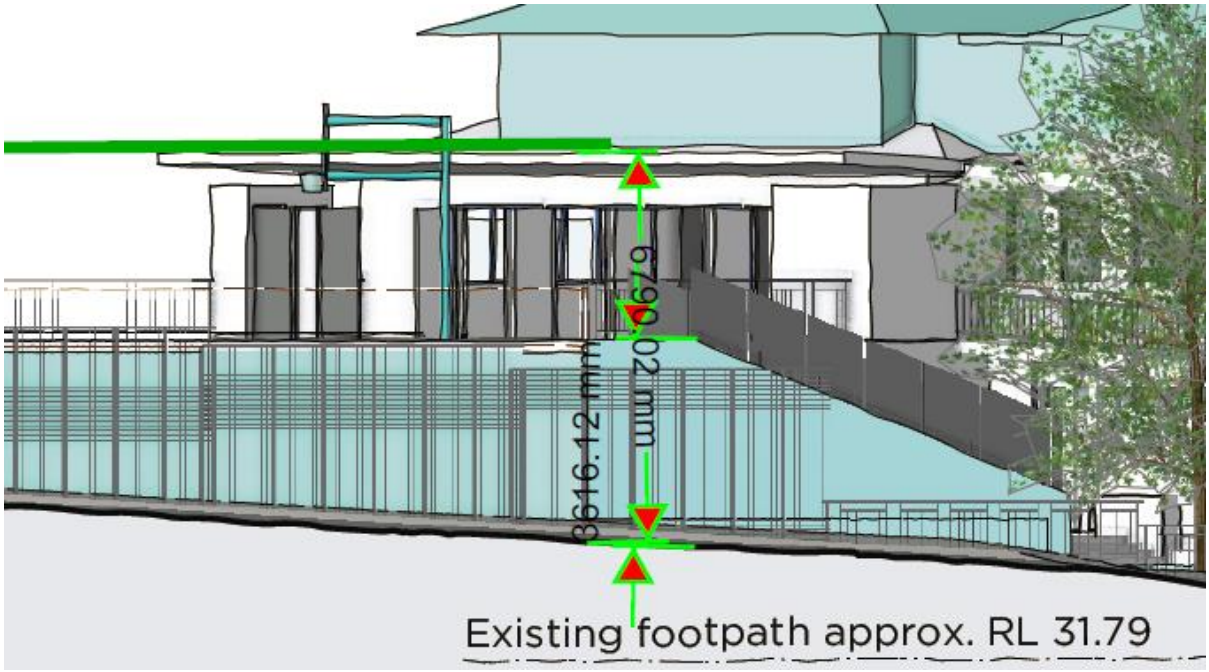

Figure 3 – Crescent Place elevation showing height of wall and fence structure on top

In regard to the other streetscape requirements of the DCP, due to its width, Crescent Place can be considered to be a 'laneway' and Section 1.4.4 of the DCP states the following relevant objective and control:

"O1 To ensure that laneways are functional, attractive, safe and comfortable places for use by residents as part of their public space and pedestrian network."

"P8 Existing trees on land that abut the laneway should be retained."

The proposal fails to comply with this control (trees are discussed further below) and does not achieve the stated objective. The streetscape outcome is totally out of keeping with the existing character of the area and will significantly reduce its visual quality.

It is noted that the DPIE Assessment Report did not include any assessment of the visual impact of the multi-purpose hall on the streetscape. In my view this omission is significant.

Tree removal

The DPIE Assessment report states: *"no tree removal is required for the works at the Junior Campus including the proposed subterranean multi-purpose/sports facility".* This is simply incorrect and conflicts with the plan shown at Figure 22 of the report which indicates areas for mature tree planting (where existing trees need to be removed) and also the plan seen at **Figure 2** above where new tree planting is indicated. Further, not only will these trees be removed but it is highly unlikely that any existing trees within the very minimal 2.17m setback to Crescent Place can be feasibly retained (ie 4 more trees will need to go). There is also a very significant eucalypt to the Bligh Street frontage that has part of the excavation right next to its trunk which is also likely to

mean that this and other trees in close proximity, will not be retained. Further it is nonsense to suggest that a significant replacement species can thrive in a 2.17m area surrounded by sandstone.

The loss of trees and the inability to provide meaningful screen planting will further exacerbate the visual and streetscape impacts of the proposed noted above. The removal of existing trees is also contrary to Council's DCP as noted above.

It is noted that proposed condition of approval B5, in my view is confusing and does not go far enough. Firstly it states that all existing trees along Bligh Street and Crescent Place are to be retained however the approved plans indicate the removal of two trees on Crescent Place. It must be made clear that these trees must also be retained. Secondly mandating a minimum setback is required not only to allow tree retention but to allow for new screen planting. Therefore the current wording of the condition that leaves the decision to the applicant's arborist is not appropriate and needs to be amended.

Excavation/Groundwater

As indicated in submissions previously made by neighbours, the significant excavation required for the proposed multi-purpose/sports facility (which is up to 9m deep) has the potential for significant adverse impacts on the amenity of the adjoining residences. Whilst as noted in the attached letter prepared by JK Geotechnics, conditions of approval can minimise the potential impacts, given the other concerns noted in this submission, it is appropriate that the facility be required to have a much greater setback to the street frontages.

Noise

The applicant's acoustic assessment deals with noise from the Junior School in a very cursory manner. No specific mitigation measures are specified. Both the underground facility and the rooftop open sports court will generate significant noise. The only practical way this can be mitigated (particularly for the rooftop area) is through the provision of solid fences around the boundaries. In this case the high structures to the street discussed above (6-8m high) will be even more imposing and visually detractive if the structures are required to be 100% solid.

There is also reason to believe that the school intends that the proposed Junior School facilities will be used also by the Senior School students. This will significantly add to the use of the facilities and consequently the noise and other impacts will also increase. Each campus has its own cap on student numbers and although the use of the Junior School facilities by the Senior students would be a potential breach of this condition, it needs to be made more explicit in the approval that this is not permitted without further consent being granted.

Conclusion

In light of the above, and given that the proposals for the Junior School are only 'concepts' at this stage, it is appropriate that the permitted 'envelope' for development be amended now to ensure that resolution of very important issues is not left for future stages when there would be an expectation that envelopes indicated on current plans are 'approved' and do not require substantive change. In this regard, in order to mitigate the significant impacts outlined above, it is requested that the following condition be adopted:

The proposed Junior School multi-purpose facility is to be setback a minimum of 5m from the boundaries to Bligh Street and Crescent Place and the existing trees along these street frontages are to be retained and adequately protected during construction.

This, in addition to the conditions suggested by JK Geotechnics, will allow the impacts noted above to be mitigated to a reasonable degree, minimising the potential for construction impacts and providing an area for the retention of existing vegetation and new planting that will be able to screen the large and bulky nature of the proposed structure and fencing. It is noted that there is ample space within the site to be able to accommodate this requirement (see **Figure 4**). An alternative to this would be to reorientate the facility to provide for a minimum setback of 5m but also make use of the existing outdoor court orientation and the existing excavated area that presently exists between the court and the existing building (see **Figures 5 and 6**). The above suggested condition would also facilitate this outcome.

Further in order to mitigate additional impacts, please reinforce the proposed condition A8 that provides for a cap on student numbers by adding: "*In order to ensure the impacts from each campus are adequately mitigated in accordance with this consent, no use of the Junior School campus is permitted by the Senior School students and vice versa".*

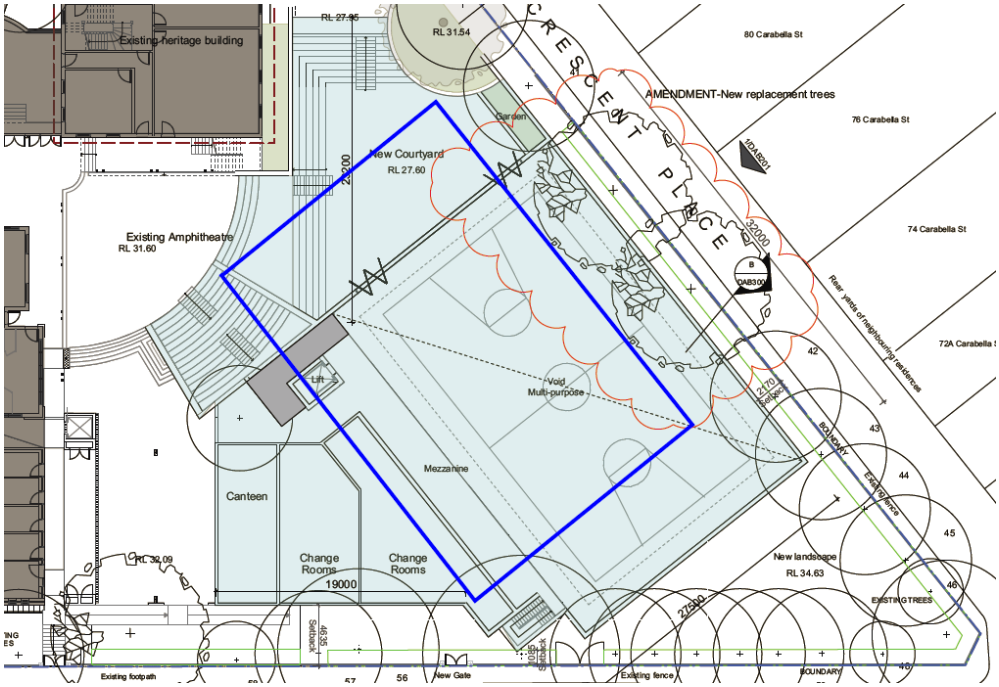

Figure 4 – indicative relocation to provide 5m street setback

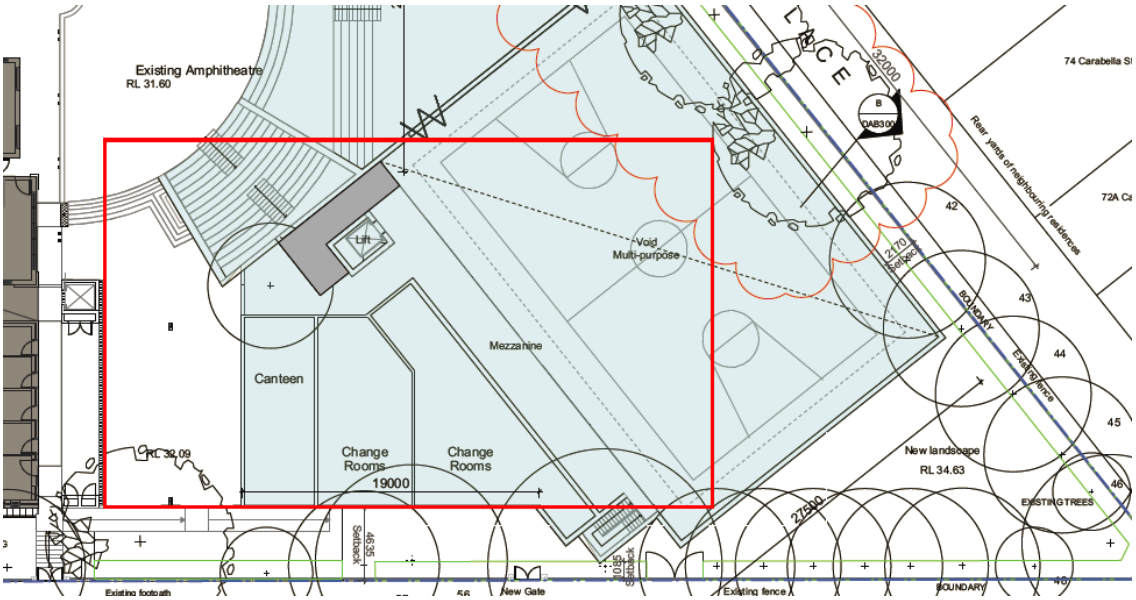

Figure 5 – indicative relocation to utilise existing excavated area

Figure 6 – photo of existing excavated undercroft area

We thank you for the opportunity to provide this further submission on behalf of the concerned residents of Crescent Place and Bligh Street. Please do not hesitate to contact me if you would like to discuss any of the above comments.

Your faithfully

Brett Brown, Director

Date: 15 August 2019
Ref: 32631S Let

Annelise Tuor
Panel Chair
Independent planning Commission

GEOTECHNICAL ISSUES
PROPOSED MULTI-PURPOSE SPACE DEVELOPMENT
ST ALOYSIUS JUNIOR SCHOOL
BURTON STREET, KIRRIBILLI, NSW

1 INTRODUCTION

JK Geotechnics have been engaged by the residents of Crescent Place and Bligh Street in Kirribilli that own properties facing the junior school site, to provide an opinion on geotechnical aspects of the above development. As a basis for our understanding of the proposed development we have been supplied with the following documents:

- A geotechnical interpretive report prepared by Wood & Grieve Engineers (WGE), Reference Project No 33964 dated 7 February 2018
- Extracts of drawings (plans, sections and elevations) prepared by PMDL Architects depicting a multi-purpose building set primarily in an excavation.

The comments that follow in this document are not an in-depth review of geotechnical issues but rather a high level overview of the more important issues that are apparent from a brief acquaintance with the project. We refer also to a letter prepared by Ingham Planning, Reference 19149 dated 15 August 2019 which addresses planning matters arising from the proposed development.

2 THE GENERAL SITUATION

From the documents provided it seems that a basement excavation will be carried out in the south-eastern portion of the junior school site currently occupied by a basketball court and landscaped areas which include some mature trees around the street frontages, grass and paved areas. WGE state the excavation will be up to 9m below current surface levels. The WGE report includes two boreholes drilled specifically for the project near the north-western and south-eastern corners of the proposed excavation. Logging of the upper soil profile is not, in our opinion very accurate as weak material which is probably extremely weathered sandstone has been logged as gravelly sand and gravelly clay from disturbed samples recovered from spiral augers used for the drilling. Below depths of 1.1m to 2.6m there is a transition to competent sandstone bedrock which extends to below the depth of the proposed excavation. Some of the upper sandstone is moderately weathered and medium strong but the majority is slightly weathered and high strength, with a

few tests showing very high strength sandstone (point load strength index over 3.0MPa). Groundwater levels were measured in the boreholes about 1 month after drilling was completed when depths of 3.64m and 5.23m were recorded in BH1 and BH2 respectively. No surface levels are provided so it is not possible to determine if the variation in depth is due to similar differences in surface levels or variation in the groundwater level.

3 KEY RECOMMENDATIONS MADE IN THE GEOTECHNICAL REPORT

The WGE report recommends the following in regard to key geotechnical issues:

1. An anchored soldier pile wall be used to support the upper part of the excavation to about 3m depth.
2. Below about 3m the excavation can be vertical and unsupported subject to inspections by a geotechnical engineer at vertical depth intervals of 1.5m initially but possibly increasing to as much as 2.5m as the excavation proceeds. Should adversely oriented defects be found in the sandstone then additional temporary rock bolts may be required. WGE recommend that the whole of the excavation be covered by sprayed concrete (shotcrete). The report is silent on how long-term support would be provided though there is some reference to the building providing support to lateral loads in the introductory comments that are not repeated in the more detailed description that follows.
3. WGE recommend that the method of excavation could be either by ripping with a D10-D11 size tractor, by rock hammers or by saw cutting. WGE state that ripping with a D10-D11 would be difficult and that the noise and vibration caused by rock hammers is unlikely to be acceptable. Their recommendation is to saw cut the sandstone for beneficial re-use.
4. The groundwater measured in the boreholes may not represent a 'true' groundwater table but rather indicate seepage which occurs through defects in the rock mass and at the soil/rock interface. WGE seem rather confused in their recommendations however, stating on the one hand that the basement walls and floor slab should be designed to cater for groundwater pressures to the levels indicated in the boreholes but going on to say that retaining structures and floor slabs should incorporate permanent drainage provisions.

4 JK GEOTECHNICS COMMENTS

The comments that follow are addressed primarily to the issues that will most affect the residents of nearby properties rather than geotechnical issues in general.

1. The excavation is of substantial depth and volume, in the order of 6,500m^3 and in a mostly residential area. Most council development control plans require excavation to be limited in such circumstances and in keeping with development of residential areas. The scale of this excavation is greatly in excess of that normally associated with residential areas.
2. The excavation will cause significant traffic issues in an area with relatively narrow but busy streets and with limited parking availability. The loading of trucks (and often trailers) will cause substantial disruption to the area. Apart from the traffic issues there will be noise and disturbance caused by the trucks in close proximity to residences and mobilisation and operation of large diesel powered plant at the site. A traffic consultant's report should be prepared to show if and how such disruption can be managed.

3. WGE recommend that the primary method of rock excavation should be by grid sawing sandstone blocks for beneficial re-use. From the residents perspective this method will greatly reduce the noise and vibration which otherwise would be generated by the use of rock hammers. Some rock hammer use would probably be required to split sawn blocks out of the rock mass but would be of much more limited duration and would require only smaller rock hammers to be effective. The negative aspect of this approach is that the excavation would take considerably longer to complete. The Independent Planning Commission could consider whether to make the method of excavation part of any planning consent. It should be noted that use of a large tractor such as a D11 mentioned by WGE would not be practicable in such a small excavation and the mobilisation in and out of the excavation may also be impractical to the extent this is not a realistic option.
4. If rock hammers are to be used, and as noted above some use is probably unavoidable, then strict limits must be set regarding noise and vibration, as well as mandating a detailed monitoring program to demonstrate that limits are not exceeded. Such a program would have to take into account the sensitive, heritage nature of the buildings in the area (so low vibration limits should be nominated) as well as the details of the monitoring required, with full time vibration monitors set up on all the most sensitive receptors throughout the adjoining area.
5. The shoring recommended by WGE to support the upper part of the excavation would require two rows of ground anchors as it is not possible for a soldier pile at or close to the face of an excavation below to have a rock socket. If the excavation is located as shown in the supplied plans then many anchors will penetrate the root zones of the trees along the street frontages. By adjusting the excavation to the location suggested by Ingham Planning this issue would be reduced.
6. With regard to the proximity of the excavation to the existing street trees it is our opinion that Ingham Planning are probably correct and that many of the existing trees would have to be removed, considering also that a piling rig must be set up to install shoring piles behind the face of the excavation. The space remaining along Crescent Place would not seem to be sufficient to establish new trees. Clearly an arborist would be able to offer a more definitive position.
7. WGE offer conflicting advice on the groundwater issue. From our experience however the basement will be designed as a drained structure and there would be no need to design walls and slabs to withstand hydrostatic pressure. The act of draining the basement would have negative impacts on the existing street trees which lie very close and it would be surprising if the trees most affected would survive. Again, this is a matter for an arborist but in the absence of such advice we draw attention to the issue.

5 GENERAL COMMENTS

Should you require any further information regarding the above, please do not hesitate to contact the undersigned.

Yours faithfully
For and on behalf of
JK GEOTECHNICS

Paul Stubbs
Principal Geotechnical Engineer

Encl: