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The Chairman
Office of the Independent Planning Commission NSW
Suite 15.02, Level 15, 135 King Street
Sydney NSW 2001

Attention: Bradley James

RESPONSE TO IPC
SSD 10371 – TRINITY GRAMMAR SCHOOL

Dear Bradley,

This Letter has been prepared by Willowtree Planning Pty Ltd on behalf of Trinity Grammar School, in relation to SSD 10371, being the State Significant Development Application (SSDA) for the Trinity Grammar School Redevelopment.

Specifically, this Letter is provided in response to the Request for Information (RfI) from the Independent Planning Commission (IPC), dated 16 August 2021 (refer **Appendix 1**). Attachment A of the RfI lists the matters on which an Applicant response has been requested.

It is noted that, following the Virtual Site Visit and Applicant meeting with the IPC on 11 August 2021, email correspondence (dated 13 August 2021) was provided by the IPC requesting copies of the material presented during the meeting. Accordingly, the requested material was provided to the IPC on 23 August 2021, and is re-attached in the following appendices for reference.

These relevant matters are responded to in the subsequent sections of this Letter and in the following supporting appendices:

- Appendix 1 IPC RfI
- Appendix 2 Architectural Drawings
- Appendix 3 Architectural Design Statement
- Appendix 4 Jubilee Arrival Architectural Presentation (PMDL)
- Appendix 5 Site Plan- Mechanical Exhaust Location
- Appendix 6 Landscape Drawings
- Appendix 7 Heritage Statement
- Appendix 8 Traffic Presentation (Street Level Strategies)
- Appendix 9 Proposed Roadworks Drawings
- Appendix 10 Ventilation Strategy
- Appendix 11 ESD Statement
- Appendix 12 Fire Engineering Letter
- Appendix 13 Trinity Grammar School Statement on Noise Complaints
- Appendix 14 Virtual Site Visit & Drone Footage

It is noted that, in response to the comments of the IPC and design development, the drawings include some updates compared to the version previously submitted to the Department of Planning, Industry and Environment (DPIE) and listed in draft condition A2. The updates have been clearly annotated in the Architectural Drawings at **Appendix 2**.

If you have any further queries, please do not hesitate to contact the undersigned via email on cwilson@willowtp.com.au.

Yours faithfully,

Chris Wilson
Managing Director
Willowtree Planning Pty Ltd
ACN 146 035 707

RESPONSE TO RFI ATTACHMENT A

1. ***Annotated plans (at a scale no less than 1:200) of all new buildings, including RL heights and dimensions that describe the general arrangement and building separation.***

Detailed, annotated Architectural Plans are provided within the Architectural Drawings at **Appendix 2**.

2. ***Annotated elevations (at a scale no less than 1:200) of all new building facades indicating detail of materials. Elevations should not only describe the proposed screen and framed armature but also (separately) the proposed design of the elevation behind the screen.***

Detailed, annotated Architectural Elevations are provided within the Architectural Drawings at **Appendix 2**.

3. ***Annotated sections through all new buildings (at a scale no less than 1:200) including RLs and dimensions.***

Detailed, annotated Architectural Sections are provided within the Architectural Drawings at **Appendix 2**.

4. ***Detailed annotated wall sections at 1:20 scale that demonstrate typical cladding, window and floor details, including materials and general construction quality.***

Detailed, annotated Wall Sections are provided within the Architectural Drawings at **Appendix 2**.

5. ***Details of the interface between the new and proposed infill buildings with the existing buildings.***

Details of the interface between the new and existing buildings, are shown in the Architectural Drawings and described in the Design Statement at **Appendices 2** and **3**.

6. ***Particular focus is required to enable an understanding of the design approach to the interface between the Quadrangle Building and the new Teaching and Learning Building and also between the New Performing Arts Building, the Assembly Hall and the existing music building.***

Details of the interface between the new and existing buildings, are shown in the Architectural Drawings and described in the Design Statement at **Appendices 2** and **3**.

7. ***Description of the building refurbishments, including details of any impacts the building refurbishment works will have on the retained/existing facades.***

Details of the refurbishment works, are shown in the Architectural Drawings and described in the Design Statement at **Appendices 2** and **3**.

In summary, for the Quadrangle building, the internal layout would be reconfigured whilst retaining much of the existing building fabric with the exception of the staircase to the north-western corner. Upgrade to existing glazing is proposed to achieve current standards. New entry doors in the tower block would be set back from the facade to retain the existing language at the ground plane.

With respect to the Founders building, the existing ground floor would be stripped back to the structure to create an open, undercover space for lockers. At the upper levels, the conversion and upgrade of internal spaces is anticipated to have minimal impact to the existing façade.

For the Music building, the existing undercroft area would be infilled to create change facilities and offices. The infill wall would be in a panellised treatment similar to the other new facades on site.

At the upper two (2) levels, internal rooms would be reconfigured. Three (3) new openings on the western facade are proposed to link to the new Arrow building walkway as part of the overall site egress strategy. Upgrade to existing glazing is proposed to achieve current standards.

8. Latest car park plans (at a scale no less than 1:200), including RL heights.

Plans of the proposed carpark, and details of the Jubilee Drive carpark and access, are provided within the Architectural Drawings at **Appendix 2**, Design Statement at **Appendix 3**, and Architectural Presentation at **Appendix 4**.

Through design development, the following updates have been made since the original SSD submission:

- Finalisation of the mechanical exhaust system. A 2.4m high exhaust plenum has been developed at the south western corner of Oval 3. This plenum will be a masonry block structure to match existing retaining walls along the nature strip backing to Victoria Street.
- Layout update to grounds and storage area.
- Introduction of new egress path at the north western corner of the Oval 3 carpark to significantly improve egress strategy.
- Updated carpark layout across two (2) ovals (noting that the overall strategy and general layouts remain the same).

All changes are annotated in the Architectural Drawings.

9. Confirmation that the proposed Jubilee Drive car park entrance and internal ramp will meet the applicable Australian Standards.

As now noted on the Architectural Drawings at **Appendix 2**, the Jubilee Drive carpark entrance and internal ramp would meet the applicable Australian Standards (AS2890.1).

Further details of the Jubilee Drive carpark and access, are provided in the Architectural Drawings at **Appendix 2**, Design Statement at **Appendix 3**, and Architectural Presentation at **Appendix 4**.

Through design development, the following updates have been made since the original SSD submission:

- Achieving 1:20 walkway for pedestrian access at Jubilee entry.
- Safety measures such as balustrades and low wall between the driveway and walkway are clearly annotated.
- The pergola structure has been developed further in order to provide an improved scale, improved form, and finishes including metal screens to reflect the Main building.

All changes are annotated in the Architectural Drawings.

10. Location and schematic design (including heights) of the exhaust structure servicing the car park.

The location of the mechanical exhaust for the carpark is shown in the Site Plan at **Appendix 5**.

A 2.4m high exhaust plenum has been developed at the south western corner of Oval 3. This plenum will be a masonry block structure to match existing retaining walls along the nature strip backing to Victoria Street.

11. Schematic layout of bicycle parking at the Victoria St and Prospect Rd entries (location and suggested layout).

The location and indicative layout of the bicycle parking, are shown in the Architectural Drawings at **Appendix 2**.

The three (3) locations nominated for bicycle parking are:

- From Prospect Road Ceremonial Access - under existing awning on Centenary Gym court.
  From Prospect Road existing southern Access - under existing Founders colonnade.
- From Victoria Street Jubilee Access - At the end of Jubilee Entry End-of-Trip Facilities are identified on the plan.

12. Explanation of Section I-I on Junior School Play area (landscape drawings).

Further details of the Junior School play area are provided in the Section (Elevation 1-1 Issue C) within the Landscape Drawings at **Appendix 6**.

13. Details of planting bed construction, including soil depths.

Details of the plant beds and soil depths, are provided in the Sections (Drawing Nos.500 & 632 Issue G) within the Landscape Drawings at **Appendix 6**.

14. A comparison prepared by the Applicant's heritage consultant of the design of the existing buildings and the Project's proposed design, as discussed at the Applicant's meeting with the Commission on 11 August 2021.

A Heritage Statement (**Appendix 7**) has been prepared by Urbis in response to Council's request for a Conservation Management Plan (CMP).

It is agreed that a CMP would be appropriate for the listed heritage item on the site, being the Headmaster's House and Chapel. Given the SSD would not impact on these heritage items, it is considered appropriate for the CMP to be prepared as a condition of consent.

No other buildings on the site are heritage listed. Notwithstanding, in response to Council's request of 10 August 2020, a Heritage Assessment was prepared in relation to the pre-1965 buildings on the site. The assessment included gradings of significance as recommended by Heritage NSW.

The Dining Hall and the North Quad Building were assessed as having contributory aesthetic value and were identified as moderately significant. Both buildings have therefore been treated sensitively in the proposed design to ensure that contributory values are retained. It is not considered that a CMP process for these elements is necessary or would have any impact on the already sympathetic proposal.

Following further research on all other pre-1965 buildings on the site, there was no indication that any had any specific heritage value under any criteria. Therefore, there is no value in preparing a CMP for these items which do not require retention from a heritage perspective.

Further, in respect of Item 14 of the IPC's RfI, the Heritage Statement outlines that the buildings to be replaced represent pedestrian mid-late 20th century construction of no particular design quality. Subject to detailed design development there is no reason, from a heritage perspective, that greater design quality, that aligns more appropriately to the School's ambitions and educational philosophy, cannot be achieved with the new proposal. The Heritage Statement confirms that all those built elements that make a defining contribution to the place's identified heritage significance, are being retained.

15. Copies of the Applicant's traffic engineer's design amendments, as presented at the Applicant's meeting with the Commission on 11 August 2021 (in particular the crossings and junctions).

A copy of the Traffic Presentation, as presented in the meeting with the IPC on 11 August 2021, is provided at **Appendix 8** and a copy of the Roadworks Drawings is provided at **Appendix 9**.

16. Confirmation that the existing out of school hours uses, events and proposed community usage in Appendix J to RTS – Amended Schedule of Uses titled "Trinity Grammar School – Summer Hill Campus - Indicative Usage of Facilities as at 24/10/2019" reflects the Applicant's proposed out of school hours uses.

It is confirmed that the Amended Schedule of Uses titled 'Trinity Grammar School – Summer Hill Campus – Indicative Usage of Facilities as at 24/10/2019' remains accurate and up to date.

17. Clarification of the extent of natural and mechanical ventilation including air conditioning where relevant.

Details of natural and mechanical ventilation are provided in the Ventilation Strategy at **Appendix 10**.

In summary, the mechanical services design is focussed upon natural ventilation to maximise occupant comfort and minimise the need to operate active air conditioning systems. Operable natural ventilation openings shall comply with the requirements of the National Construction Code (NCC) 2019. Where achievable, cross ventilation strategies will be utilised to maximise the effect of natural ventilation. This will be complemented by air conditioning systems. Accordingly, the mixed mode ventilation strategy will comprise of two systems or modes of operation; natural ventilation via the provision of operable windows and mechanical ventilation (ducted outside air) operating in combination with air conditioning systems.

A simple control system is proposed consisting of a traffic light system, comprising illuminated indicators, where occupants are provided with information relating to whether indoor carbon dioxide level are elevated and whether external conditions are suitable for natural ventilation or the operation of air conditioning systems (incorporating mechanical ventilation).

In scenarios where natural ventilation provisions are not achievable, mechanical ventilation airflow rates shall be compliant with the requirements of AS1668.2 and NCC, in addition to the use of heat recovery ventilation systems which enable the pre-conditioning of outside air via the recouping of energy from conditioned air to be relieved from the space.

18. ESD Questions with reference to the Applicant's ESD Report Rev 4, dated 04/02/2020 prepared by ACOR Consulting (ESD Report).

Further to the ESD Report submitted in support of the SSD, further details and clarification are provided in the ESD Statement at **Appendix 11**.

18.1. Section 4.4 Shading and Daylight of the ESD Report states: "Preliminary PMDL concept indicates elevation facing Victoria street for west wings are provided with shading element of consisting of perforated mesh. The external shading scheme helps increase natural daylight...."
Question: If the screens are shading elements how do they increase natural daylight?

The aim of including a shading device is to allow for indirect natural daylight to penetrate into the teaching environment for the entire teaching day whilst providing a restriction against direct solar loads that will impact this western exposure late in the teaching day.

This approach was deemed the best project strategy in lieu of either tinted glazing (that permanently limits visible light) or operable shading devices for peak time use (which typically fail over time and impose unwanted thermal loads on classrooms). The strategy chosen balances the competing interests of permitting visible light penetration, and exclusion of unwanted solar gains.

18.2. "....whilst minimising unwanted passive solar heat gain and glare for the building. "
Question: How do the screens minimise unwanted passive heat gain noting that perforated mesh does not have any effective thermal mass?

Solar heat gain loads within a classroom are reduced if this radiation is impeded by a shading device prior to it entering the conditioned space.

18.3. " (the screens) facilitate(s) use of glazing without treatment that reduces natural light transmission".
Question: How is this the case on the western façade when the screens are applied to limited sections of that façade?

The performance of a conditioned building envelope is regulated by NCC and Building Code of Australia (BCA) 2019, which provide minimum performance requirements based on the climatic location of the building. This requires the designer to resolve the components of the envelope – typically walls and glazing – in a manner that best suits their aims and the minimums prescribed by BCA.

In evaluating this proposed extension, and having regard for its connection to existing structures, the whole of building assessment approach resolved that a combination of glazing and shading was indeed a valid approach that would be within NCC requirements.

18.4. "The new development and existing founders building forming the quadrangle with high façade area provide passive design features, allowing for enriched daylighting and greater access to external views for occupants."
Question: What are these passive design features? Are they features or systems?

The proposed development is connected to the Founders Building which was designed in a manner described as 'typical' of educational buildings of its day. It included substantial brickwork walls and relatively small amounts of window glazing. These are viewed as 'passive design features'.

18.5. Section 4.19 Climate Change Projected Impacts of the ESD Report states: "The development is aware of the following projected climate change impacts and mitigation of these predicted changes will be addressed during detailed design."
Question: Referencing the Design Analysis Report Bullet Point 5: Project Objectives, the application is "... seeking detailed built form approval." Could the Applicant please provide details of how the Project will respond to these projected impacts and changes?

Aspects of detailed design that would respond to, and mitigate, projected climate change impacts, are outlined as follows:

Hotter days and extreme heat waves:

- Given the micro-climate, natural ventilation is utilised wherever possible, however mechanically conditioned spaces are required to respond to the extreme weather days. Mechanical plant equipment will be selected to be as energy efficient as possible, and to minimise long term environmental and monetary costs.
- Maximising outdoor covered areas in order to offer essential refuge during harsh summer conditions and wet weather, and form part of a sequential shelter linking school programs.
- Providing natural turf on Oval 3 and using roof finishes with high solar reflectivity indexes (SRIs) to reduce heat island effects.

Extended drought periods:

- Additional rainwater storage for reuse.
- Improved irrigation systems for the oval and landscape areas.
- Selection of native plants that are highly drought tolerant and suitable for the local climate.
- Selection of low flow fittings and equipment.

Extreme rainfall events:

- The site's drainage system has been designed to cater for the 1%AEP event (similar to 1:100 Years ARI) and in accordance with Inner West Council standards. These controls reduce the flows to less than the pre-developed flows from site which ultimately reduces flows to the downstream stormwater network.
- In case of failures of the stormwater component, emergency overland flow paths will be provided to drain the flows safely.

Gustier wind conditions:

- Ensure that building materials (façade, roofing) are resistant to hail and can withstand high wind speeds (based on wind study during detailed design).

Effects on material selection, landscape design and social equity:

- Prioritise locally-sourced materials where possible, and prioritise suppliers with strong social and ethical initiatives, sustainability targets and clear supply chains.
- Celebrate local culture, heritage and identity through elements in landscape design, signage and wayfinding, and art and memorials.
- Accessibility across the Renewal Project development will be achieved, and the project team will continue to work with the School to develop an inclusive environment for all of its users.

18.6. "The development has addressed these items as detailed in the points 3.1 to 3.18 by the use of:

- ***Maximising natural cross ventilation.***
- ***Drought tolerant landscaping by indigenous species.***
- ***Stormwater and rainwater capture for irrigation reuse.***

Shading and thermal massing."
Question: Has the Applicant carried out modelling and analysis of the strategic planning and detailed Architectural proposal? If so, could the Applicant please provide a copy of the analysis to the Commission?

Prior to submission of the SSD, a detailed analysis of the proposed architectural façade treatments was undertaken by the ESD Consultant, in order to establish confidence that the proposed elevations could reliably be engineered to comply with NCC/BCA requirements.

The ABCB 'Façade (beta) 2019' calculator (Version 0.9) was used to assess Deemed to Satisfy (DtS) requirements for the proposed development. IES Virtual Environment software was also used to assess the proposed development and evaluate the various façade options available. Extracts from this process are shown in the ESD Statement at **Appendix 11**.

19. Questions with reference to the Applicant's Fire Engineering Report, dated 3 February 2020, prepared by Arup.
Fire Engineering Strategy for the Arrow Building:
The proposed Arrow Building is rendered as a framed Armature/ scaffold designed to provide horizontal and vertical circulation over many levels. It appears to connect a series of existing and proposed new infill structures along a North South axis. Aluminium panels and perforated screens are intermittently positioned along the facade on each level.

Further to the Fire Engineering Report submitted in support of the SSD, further details and clarification are provided in the Fire Engineering Letter at **Appendix 12**. The Fire Engineering Letter has been coordinated with the project BCA Consultant as some aspects relate to the DtS provisions.

As a clarification, the Arrow Building comprises of an elevated, external walkway connecting numerous internal spaces for circulation purposes, across five (5) storeys.

19.1. Question: What performance-based fire engineering strategies are being contemplated and how will these impact on the proposed design of the Arrow Building?

The Arrow Building will be used for egress from connecting internal spaces. The external stairs will be classified as required-non-fire-isolated stairways in accordance with the BCA Clause D1.9. The stairs will connect five (5) levels, which is proposed to be addressed as a Performance Solution which utilises the benefits of an external circulation space for occupant egress. Extended travel distances to the nearest exit are likely to be present from the internal spaces and are proposed to be addressed as a Performance Solution.

The walkway will not be sprinkler protected, where it is used for circulation only and no combustibles are present. Connecting internal spaces may be sprinkler protected. Fire separation of the non-sprinklered walkway and sprinklered internal space is not proposed and is intended to be addressed as a Performance Solution. Targeted compartmentation may be implemented in specific areas to separate the walkway from internal areas, if deemed necessary to support the buildings fire safety strategy.

The Arrow Building will comprise of fire rated (and non-combustible) floors supported by fire rated structural elements in order to limit fire spread via the external walkways.

It is anticipated that further Performance Solutions may be considered and implemented as the design for the Arrow Building progresses.

19.2. Question: How are the new and existing portions of the campus to be fire separated from each other to avoid new works having an adverse impact on the existing retained structures?

New works will be provided with fire rated structures that meet the requirements of the BCA. Compartmentation will be provided to fire separate areas with different FRL requirements.

The compartmentation strategy aims to provide an appropriate level of fire separation such that the proposed works do not impact on the compliance status of existing buildings which are not subject to new works. Parts of the existing retained structure may be upgraded if exposed to a larger fire risk as a result of the new works.

19.3. Question: How will fire separation strategies impact on the design of the Arrow Building?

The Arrow Building is not proposed to be fire separated from connecting internal spaces. Rather, it will be considered part of the internal fire compartment for the purposes of BCA compliance. Targeted compartmentation may be considered in certain areas.

As described in 19.1, the walkway will not be sprinkler protected and is unlikely to be fully fire separated from internal sprinkler protected spaces. This is proposed to be addressed as a Performance Solution.

The floors (and structure) of the Arrow Building will be fire rated to limit fire spread via the walkways.

19.4. Question: Are any or all of the stairs proposed within the Arrow Building required fire escape/exit stairs?

All of the Arrow Building stairs are currently planned to be used for egress. Internal stairways will also be present and are to be used for egress.

19.5. Noting statement on page 11 of the Architect's Report: "... existing fire stairs are used as access stairs which is not an ideal scenario."
Question: If any or all of the stairs proposed within the Arrow Building are required fire escape/exit stairs, how will the requirements for fire isolation/ BCA compliance impact on the visual/ physical design resolution of the Arrow Building facade and their use?

The stairs will be non-fire-isolated as per clause D1.9 of the BCA. They will connect five (5) storeys, which is proposed to be addressed via a Performance Solution which utilises the measures outlined in 19.1. Fire isolation requirements such as bounding fire isolated construction around the Arrow Building walkway is not proposed.

SUPPLEMENTARY MATTERS

Correction On Noise Complaints

As documented in the Statement at **Appendix 13**, Trinity Grammar School would like to provide a correction to the IPC on the matter of noise complaints. Subsequent to the meeting, Timothy Bowden was informed that noise complaints have been received in the past three (3) years, originating from four (4) residents, with respect to incidents on Seaview Street.

A summary of the noise complaints is provided as follows:

- In July 2021, there were two (2) complaints with reference to noise associated with landscaping works in the Junior School grounds. The School apologised for the inconvenience and sent flowers as a token of goodwill.
- In January 2020, there was a complaint regarding the noise from water polo that arose when the acoustic louvres didn't operate as intended. The School apologised and rectified the issue.
- In October 2019, there was a complaint about the reversing noise from a garbage truck that was operating contrary to the School's Traffic Management Plan in the early morning. The School apologised and raised the issue with the garbage service provider.
- In June 2019, there was a complaint about gas deliveries to the pool at a time outside the parameters of the Traffic Management Plan in the early morning. The School apologised and raised the issue with the gas service provider.

It is considered that all noise issues have been rectified in response to the complaints made.

Developer Contributions (Condition E10)

It is acknowledged that draft Condition E10 requires the payment of a developer contribution in accordance with *Ashfield Council S94A Development Contributions Plan*. The payment is required prior to the issue of an Occupational Certificate (OC) for Stage 1.

Given that OCs are proposed to be staged, it is requested that the wording of Condition E10 is amended to also permit the staged payment of contributions in accordance with the staged OCs. It is proposed that the contribution amount for each stage would be split evenly across the five (5) stages, and paid prior to the issue of individual staged OCs.

Based on the current program, indicative timing for the respective contribution payments would be as per the following summary.

Stage	**Indicative Timing**
Stage 1	Late 2022
Stage 2	Late 2022
Stage 3	Mid 2025
Stage 4	Mid 2026
Stage 5	Mid/Late 2026

CONCLUSION

It is considered that this Letter and its appendices suitably respond to all matters identified by the IPC, thereby warranting approval of the SSDA.

As noted, in response to the comments of the IPC and design development, the drawings include some updates compared to the version previously submitted to DPIE and listed in draft condition A2. The updates have been clearly annotated in the Architectural Drawings at **Appendix 2**. It is requested that Condition A2 is updated accordingly.

If you have any further queries, please do not hesitate to contact the undersigned via email on cwilson@willowtp.com.au.

Yours faithfully,

Chris Wilson
Managing Director
Willowtree Planning Pty Ltd
ACN 146 035 707