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Submissions Report (SSD-23512960)

Glenwood High School

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1. Introduction

1.1 Purpose of this report

This Submissions and Amendment Report has been prepared for State Significant Development Application (SSDA) (SSD-23512960) for upgrades to the existing Glenwood High School (GHS).

The proposed upgrades at GHS include the formalisation of learning spaces in a new three (3) storey building that will replace nineteen (19) existing demountable buildings on site. The proposed development will also provide fifty-one (51) new learning spaces, a new purpose-built performance arts pavilion, refurbished wood/metal and food tech units, provision of an additional support learning space, new administration and staff facilities, upgrades to the existing library building, and ancillary utility infrastructure and landscaping works.

This report provides a response to key issues raised in submissions by Government agencies, authorities, and the general public, and assesses the changes made to the proposed development in response to submissions and design development.

The SSDA was publicly exhibited from 19 November 2021 to 16 December 2021. During this period, a total of eight (8) submissions were received, comprising seven (7) public authority submissions from government bodies and council, one (1) from an organisation. No submissions were received from members of the public. In addition, an Issues Letter was received from the former Department of Planning, Industry and Environment, hereafter referred to as the Department of Planning and Environment (DPE).

Refer to the summary of submissions received at **Section 2** of this report and the Submissions Register at **Appendix A**.

This Submissions and Amendment Report should be read in conjunction with the Environmental Impact Statement (EIS) prepared by Architectus Australia Pty Ltd (including appendices) exhibited from 19 November 2021 to 16 December 2021, and other supporting documentation from **Appendices A to K**.

The response has been prepared in the form of a submissions report as per *Appendix C of State Significant Development Guidelines (2021)*.

1.2 Overview of proposed development

SSD-23512960 was lodged with DPE on 19 November 2021, under Division 4.7 of the Environmental Planning and Assessment Act 1979 (EP&A Act) and proposes upgrades to GHS.

To achieve this, the EIS for the SSDA sought development consent for:

- Construction of a new three (3) storey building at the north-eastern portion of the site facing Glenwood Park Drive which will accommodate approximately fifty-one (51) learning spaces;
- Construction of a new single storey performance pavilion;
- Refurbishment of existing Building Block A (ground floor only) to provide one (1) new support unit within the space of an existing general learning space;
- Refurbishment of Building Block D (ground floor only) to provide an additional office space and storeroom;
- Refurbishment of Building Block E to re-purpose it on the ground floor for computer learning spaces, staff and administration as well as upgrades to the library on the first floor;

- Refurbishment of Building Block J to re-purpose it from visual arts and performing arts to learning spaces and workshops for food tech and woods/metal unit;
- Demolition of existing botany room and construction of a new single storey pavilion comprising of interview rooms and end-of-trip facilities; and
- Ancillary works at the site associated with the proposed upgrades including landscaping.

1.3 Proposed changes to development

It should be noted that the only changes to the scheme relate to landscaped elements. These amendments are described in further detail in **Section 3**. Therefore, the proposed response to submissions does not result in any changes that modifies the description of the development.

1.4 Authorship

This report has been prepared by Boris Santana, Senior Urban Planner and Jasmine Bautista, Student Planner.

Jane Fielding, Senior Associate, Urban Planning RPIA (Registered Planner) has reviewed the report.

2. Analysis of submissions

2.1 Submissions to the proposal

A response to submissions made by government agencies and other bodies to the public exhibition of SSD-23512960 is set out in detail below. A total of two (2) submissions were received, comprising one (1) from Blacktown City Council and one (1) from an Endeavour Energy. Advice was also received from the following government agencies:

- Government Architect New South Wales (GANSW);
- Heritage NSW Aboriginal Cultural Heritage Regulation;
- Sydney Water (SW);
- Environment, Energy and Science Group (EES);
- NSW Environment Protection Authority (EPA); and
- Transport for NSW (TfNSW).

No submissions were received from members of the public. In addition, an Issues Letter was received from DPE.

It should also be noted that State Emergency Services (SES) were consulted prior to the exhibition of SSD-23512960 and their submission was received on 15 December 2022. Their comments have been considered in this submissions report.

Refer to the Submissions Register at **Appendix A**.

2.2 The project

Active play during construction management

DPE has requested further detail regarding the periods in which students would utilise Glenwood Reserve as temporary active play space during construction periods (in consultation with and written agreement Council and with consideration to general public use/access). Confirmation is also needed on whether there is sufficient active play space for use by students during construction.

2.3 Procedural matters

Engineering issues

Blacktown City Council has requested additional SQZ and digital files to enable further assessment of engineering related impacts.

2.4 Economic, environmental, and social impacts of the project

Built form and urban design

- **Fencing around the Cumberland Plain Woodland** – DPE questioned why the existing fence surrounding the Cumberland Plain Woodland area is being retained. It is noted that this area could be used by students.
- **Footpath** – DPE requests detail regarding why the footpath has not been reinstated to form a pedestrian connection between end points of the new 'L' shaped homebase building.
- **State Design Review Panel (SDRP)** – SDRP has requested that their advice for the project dated 14 December 2021, together with their advice letter dated 13 October 2021, are to be addressed.

Traffic and Parking

- **Operational Parking and Sustainable Transport** – Blacktown City Council raised concerns with onsite car parking. It is noted that the car park at GHS will only accommodate 70% of staff despite 92% of staff using private vehicles to commute to/from work. This is a concern to Council as it means that 30% of staff will be forced to park on surrounding streets, not to mention the parking demand of students that drive to school.

Council therefore considers that the proposed parking situation at GHS will need to be further addressed to avoid the onsite parking constraints overflowing into the surrounding streets. Additionally, further justification is requested to adequately address non-compliance with the parking provisions under Blacktown Development Control Plan 2015.

Contrastingly, TfNSW has indicated that it appreciates the consideration given to reduce staff car parking on site and supporting sustainable transport initiatives.

- **School Transport Plan** – The promotion of more sustainable transport options instead of on-street and off-street parking is highly supported by TfNSW. However, TfNSW requests that the School Transport Plan (STP) is updated to better encourage a decrease in private vehicle use, particularly by staff.

TfNSW and DPE both request that the STP provides further policies, programmes and/or other measures to decrease the mode share of private vehicle trips. TfNSW also suggests a parking management strategy that prioritises use by staff on a need's basis, particularly when more sustainable transport options are available.

Although TfNSW appreciates the number of End of Trip (EOT) facilities provided at the school, DPE requests that further consideration be made for the provision of a dedicated sheltered and secure bike storage for staff on the site.

Moreover, it is requested that the person/position responsible for the delivery and ongoing review of the STP be identified.

Noise impacts

- **Construction noise impacts** – DPE raised issue with the predicted acoustic impacts to existing learning spaces, specifically Buildings A to K. Further detail is requested in relation to mitigation measures to minimise acoustic impacts on the continued operation of the school during construction.
- **Operational noise impacts** - The operational noise impacts to sensitive noise receiver 1 will need to be further addressed. This includes further justification as to why further mitigation cannot be used and/or the built form designed to comply with the EPA's Noise Policy for Industry (2017).

Aboriginal heritage

- **Aboriginal Cultural Heritage Assessment Report** – Based on the assessment provided in the Aboriginal Cultural Heritage Assessment Report (ACHAR) at **Appendix L** of the EIS, Heritage NSW supports the recommendation that no further archaeological investigations or mitigation measures are required with respect to Aboriginal cultural heritage in relation to the proposal.

Flooding

- **Overland flooding** – EES has raised issue with flood issues on site. In particular, the EES considers that the Flood Assessment undertaken by enstruct has not addressed overland flow flooding as it is limited to the main drainage channels. It is recommended that overland flooding be addressed utilising the latest information from Council's overland flow flood modelling in consultation with Blacktown City Council.

- **Emergency Services** - NSW SES identified that the location and the surrounding access roads are susceptible to inundation. This was noted as something to be considered in the school's emergency planning.

Biodiversity

- **Biodiversity Development Assessment Report (BDAR)** – EES considers that the BDAR prepared by Kleinfelder that was appended to the EIS at **Appendix S** has not been finalised. In accordance with the Biodiversity Conservation Act 2016, a finalised BDAR must be provided.

Furthermore, EES acknowledged that the BDAR incorrectly identifies that no native vegetation is proposed to be removed, considering that one Cumberland Plain Woodland tree species is proposed for removal.

Regardless, EES confirms that there are suitable avoidance and mitigation measures detailed in the BDAR that reduce biodiversity impacts of the proposed development.

Landscaping

- **Additional tree planting** – DPE has requested that the Applicant investigates the opportunities for additional tree planting on site. Furthermore, justification is required concerning why the proposed development cannot achieve a higher percentage of tree canopy coverage (40%).
- **Tree impacts** – DPE and EES has requested that the proposed impact to the following trees within the exhibited Arboricultural Impact Assessment (AIA) prepared by Eco Logical Australia at **Appendix T** of the EIS, is revisited.
 - Tree 73: is detailed to be subject to high impact from the proposed development. However, the exhibited AIA identified that there is a possibility for design changes which could allow for the retention of this tree. It is therefore recommended that the potential for this tree to be retained and protected is further explored.
 - Tree 72: is detailed to be subject to major encroachment into its tree protection zone; however, the exact extent of encroachment is unclear. Further clarity should be provided regarding the actual measures required to retain and protect this tree.
 - Trees 118 and 120: are subject to major encroachment into their tree protection zones as part of the Early Works DA. EES requests further certainty to be provided for their retention by adjusting the batter so that it does not encroach into the Tree Protection Zone (TPZ) of these trees.

Building services

- Endeavour Energy has advised the Applicant and their Accredited Service Provider to continue to complete their application for connection of load process with Endeavour Energy's Customer Network Solutions Branch.
- Sydney Water indicate that potable water, recycled water, and wastewater servicing should be available to service the proposed development. SW requests that:
 - satisfactory steps/measures will be taken to protect existing stormwater assets,
 - minimise or eliminate potential flooding, degradation of water quality, and avoid adverse impacts on any heritage items.

2.5 Justification and evaluation of the project as a whole

There were no submissions received relating to the justification and evaluation of the project as a whole.

2.6 Issues that are beyond the scope of the project

There were no submissions received relating to issues that are beyond the scope of the project.

3. Actions taken since exhibition

3.1 Description of amendments to proposal

Since the public exhibition of the SSDA, minor amendments have been made to the proposal in response to issues raised through submissions and resulting from design development.

A summary of each change and the rationale for each change is provided in **Table 1** below.

Table 1 Summary of amendments and rationale

Amended aspect	Rationale
Retention of Tree 73	Design changes have been made to the SSD works to reduce the level of TPZ encroachment. In particular, the bleacher seats have been adjusted. These changes help to diminish the need to remove the tree.
Steppingstone path	The landscape design has been revised so that a stepping stone path links end points of the proposed new homebases building.
Revised transport strategy	The transport strategy has been revised to reconsider the car parking provision. There is now less reliance on single-occupant car travel and greater modal shift towards sustainable modes of travel.

The amendments described above are of a nature that does not require any changes to the description of the development.

However, a slight increase to urban tree canopy from 14,655m² (24.1%) to 14,825m² (24.38%) has been made due to retention of Tree 73.

3.2 Updated DA document register

Additional statements and technical studies have been undertaken to support the RTS proposal and provide additional information and responses to the issues raised during submissions.

Table 2 below provides a register of the additional technical studies supporting the RTS in addition to those submitted with the exhibited EIS documentation.

Table 2 Additional technical studies register

Document Title	Consultant	Revision	Date
Landscape Written Response	McIntosh & Phelps	-	17/2/2022
Revised Landscape Plans	McIntosh & Phelps	G	15/2/2022
Revised Transport and Accessibility Impact Assessment Report	TTW	2	10/2/2022
Acoustic Response Letter	AECOM	-	28/01/2022
Amended Biodiversity Development Assessment Report	Kleinfelder Australia Pty Ltd	4.0	09/2/2022
Architectural Design Response to SDRP	PTW Architects	-	-

Document Title	Consultant	Revision	Date
Arborist Response Letter and revised Arboricultural Impact Assessment	EcoLogical	8	10/02/2022
Flood Response	Enstruct	-	16/02/2022

The revised supporting documentation enables DPE to undertake an informed assessment of the proposed development, as described above. The findings of the revised supporting consultant documentation that are relevant to the amended proposal are summarised in **Section 4** of this report.

4. Response to submissions

This section provides additional assessment of the proposed development against the relevant matters for consideration under section 4.15(1) of the EPA & Act. The assessment is supplementary to and should be read in conjunction with the original EIS submitted as part of the SSDA, prepared by Architectus, dated 15 November 2021.

4.1 The project

Staging and construction management

Active play space during construction periods – A response has been prepared by Jacobs to address matters specified in the DPE submissions letter, at **Appendix E**.

The letter indicates status of the agreement between SI NSW and Blacktown Council for use of Glenwood Reserve and details the periods that Glenwood Reserve is proposed to be used by students. Discussions with Council will continue to finalise the agreement.

Notwithstanding this, should the agreement not be reached with Council, the letter notes that there will be sufficient play area to ensure each student is allocated 10m² of play space throughout the construction period.

4.2 Procedural matters

Engineering issues

Request for further information – Additional SQZ and digital files have been prepared to enable further assessment of engineering related impacts. These files have been sent through to Blacktown Council separately for their consideration.

4.3 Economic, environmental, and social impacts of the project

Built form and urban design

- **Fencing around the Cumberland Plain Woodland** – A response has been prepared by McIntosh & Phelps to address the advice for the project as specified in DPE submissions letter, at **Appendix E**.

It should be noted that the fence delineates the boundary of the Cumberland Plain Woodland. Removing this fence could potentially lead to uncontrolled access to the woodland through trampling or mowing. This could be detrimental to vegetation within this area, particularly native grasses, and herbs in the ground layer.

The existing Cumberland Plain Woodland Patch also includes several fauna features that could be impacted from uncontrolled access, including but not limited to the following:

- Hollow-bearing trees that provide important nesting habitat for a variety of local native woodland bird species. This can also potentially pose a safety risk, from limb-drop;
- Important fauna habitat features, including fallen timber; and
- Shallow drainage channel which the school has noted sometimes contains frogs.

Given the above, it is considered that retention of the fence will help maintain existing flora and fauna values within the Cumberland Plain Woodland, whilst ensuring the safety of students. Although it should be noted that the fencing

treatment does not preclude managed access in the future as part of an education program in consultation with an ecologist.

- **Footpath** – A response has been prepared by McIntosh & Phelps to address the advice for the project as specified in DPE issues letter, at **Appendix E**.

The path originally shown linking proposed new homebases was removed due to the business case and budget, noting that overland flow constraints would warrant significant resources to engineer an elevated walkway.

As an alternative, the pathway was substituted with an informal arrangement of stepping stones. Noting that this pathway is only a secondary pedestrian pathway, the proposed informal arrangement of stepping stones is acceptable.

Notwithstanding, McIntosh & Phelps has revised the landscape design so that stepping stone path links end points of the proposed new homebases building. These changes has also been made to the Landscape Plans at **Appendix E**.

- **State Design Review Panel** – A full schedule of SDRP feedback and the architect's response are provided in the Architectural Design Response prepared by PTW at **Appendix K**.

Traffic and parking

- **Operational Parking and Sustainable Transport** – The Traffic and Accessibility Impact Assessment (TAIA) which accompanied the EIS at **Appendix P** identified the modal split of student and staff travel options to GHS and increases in respective modes because of the proposed development. The existing and future likely modal split can be found in Figure 55 of the EIS, which has been reproduced in **Figure 1** below.

Travel Mode	Students				Staff			
	Mode Split	Existing Volumes	Forecast Volumes	Growth	Mode Split	Existing Volumes	Forecast Volumes	Growth
Car (park, as driver)	8%	113	146	33	92%	97	122	25
Car (park, as passenger/carpool)	2%	28	36	8	0%	0	0	0
Car (drop-off)	40%	564	728	164	2%	2	2	0
Walk only	36%	508	655	148	2%	2	2	0
Scooter / skateboard	0%	0	0	0	0%	0	0	0
Bicycle	1%	14	18	4	3%	4	4	1
Motorbike	0%	0	0	0	0%	0	0	0
Bus	12%	169	218	49	1%	1	1	0
Train	1%	14	18	4	1%	1	1	0
Total	100%	1,410	1,820	410	100%	106	133	27

Figure 1 Travel mode forecasts – overall travel demands
Source: *TTW (2021)*

Without any modal shift, 58 additional vehicles (33 students and 25 staff) could be expected to generate parking demand. However, the on-street parking analysis undertaken in Section 2.7.2 of the TAIA concludes that this demand is comfortably accounted for in the availability of on-street parking.

Noting the overall capacity in the assessed on-street parking zones of 148 spaces, there is an average occupancy rate of around 36%, or a maximum rate of 51%, suggesting that on-street parking usage could increase by approximately double within the fixed capacity.

Looking at the reserve on school days, there is an average occupancy rate of around 14% or a maximum rate of 20%, showing substantial spare capacity for community usage. On the busiest school days, another 85 or so vehicles could be accommodated to bring the precinct occupancy to 85%.

The significant availability of on-street parking will be able to accommodate the anticipated demand, based on no improvements to the current modal split for staff and students.

Notwithstanding this, a preliminary STP was prepared and included as part of the TAIA. The STP sought to change this mode split to reduce car-based travel and achieve a shift towards active and public transport modes. The target modal split and impacts to volumes of respective travel modes is captured in Figure 58 of the EIS, which has been reproduced in **Figure 2** below.

Travel Mode	Existing Mode Split	Mode Split Target	Volume Change	Existing Mode Split	Mode Split Target	Volume Change
Walk	36%	40%	+73	2%	5%	+5
Bicycle	<1%	10%	+164	3%	10%	+12
Scooter	0%	<1%	+9	0%	0%	-
Bus/Train	12%	12%	-	<2%	3%	+3
Drop-off & pick-up	42%	32.5%	-164	2%	2%	-
Park & walk (passenger)	<2%	1%	-9	0%	0%	-
Car (driver)	8%	4%	-73	92%	80%	-21
Total	100%	100%	-	100%	100%	-

Figure 2 Travel mode forecasts – mode share targets
Source: *TTW (2021)*

The STP addresses the role of TfNSW in moving towards sustainability by achieving reductions in emissions, a strategic direction espoused by the Future Transport Strategy 2056. The matter is underscored in the response from TfNSW, which recommends a further reduction to private vehicle mode share in the short term, and parking requirements for staff particularly.

Consequently, the STP has been revised based on recommendations of TfNSW. Refer to Section 5.1.2 of the updated TAIA at **Appendix F** and extract in **Figure 3** below. Mechanisms to achieve this modal split have also been expanded on in the STP to reflect the recommendations of TfNSW and is discussed in further detail below.

Travel Mode	Student					Staff				
	Existing Mode Split	Short Term Target	Long Term Target	Short Term Volume Change	Long Term Volume Change	Existing Mode Split	Short Term Target	Long Term Target	Short Term Volume Change	Long Term Volume Change
Walk	36%	40%	44%	+73	+146	2%	5%	8%	+5	+10
Bicycle / Scooter	<1%	<1%	<1%	-18	-18	3%	10%	17%	+12	+24
Bus / Train	12%	12%	12%	-	-	<2%	3%	5%	+3	+6
Drop-off & pick-up	42%	40%	38%	-27	-64	2%	2%	2%	-	-
Park & walk (passenger)	<2%	1%	<1%	-9	-27	0%	0%	0%	-	-
Car (driver)	8%	7%	6%	-18	-36	92%	80%	68%	-21	-42
Total	100%	100%	100%	-	-	100%	100%	100%	-	-

Figure 3 Travel mode split targets and volumes
Source: *TTW (2021)*

The short-term mode share target of 80% travel by car for staff could be accommodated in the car park (with a capacity equivalent to 70% of staff) with only 10% (13 pairs) of staff needing to carpool (i.e., 106 staff in 93 vehicles). Coupled with volume change anticipated for students, the revised short-term mode share target of 80% travel by car for staff represents a realistic improvement which will ease pressure on local streets.

In this case, additional on-site parking is unnecessary and only encourages private car use, which serves to undermine the targeted modal shift that has been adopted as well as the project's sustainability initiatives (i.e. Green Star rating). Accordingly, these outcomes are inconsistent transport strategy for the site and the strategic directions of Transport Strategy 2056.

Moreover, additional parking would mean encroachments into the student play area, reducing play area at the school which is currently proposed at 10.4m² per student. The Educational Facilities Standards and Guidelines (EFSG) requires 10m² per student. These outcomes are counter to Principle 5 of the State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017) as additional parking diminishes the school's ability to provide appropriate outdoor play spaces for students.

Given the above, the proposed development is therefore considered to be acceptable regarding operational parking impacts to surrounds.

- **School Transport Plan** – The STP provided within the TAIA is preliminary in nature. The STP is intended to be updated and finalised prior to school occupation as a condition of consent. Notwithstanding this, the STP in the TAIA at **Appendix F** has been updated, as follows:
 - Additional initiatives have been added to further encourage sustainable travel and reduce private vehicle trips, including promotion of end-of-trip facilities, and subsidised carry bags.
 - Mode share targets updated to reflect the TfNSW recommendations with the purpose of achieving higher rate for active transport use and lower rate of private motor vehicle use.
 - Further detail provided regarding potential car parking management strategies.
 - The section outlining the production of a Travel Access Guide has been amended to include further details regarding trip planning. It is noted that a Travel Access Guide will be provided in the final STP.
 - New section for an Implementation Strategy, which summarises all transport initiatives and details the responsibility and timing for each.

Note, the position associated with the delivery of the STP will be the School Travel Coordinator. The person appointed to this role would be nominated in the finalised STP prior to operation of the facilities. The appointed person may be a project consultant currently under engagement.

Noise impacts

- **Construction noise impacts** – An acoustic letter has been prepared by AECOM in response to the noise issues raised by DPE during the exhibition stage, at **Appendix G**.

This letter notes that the Section 6 of the Noise and Vibration Impact Assessment (NVIA) which accompanied the EIS at **Appendix V** recommends that a construction noise and vibration management plan be implemented which details feasible and reasonable work practices to achieve noise management levels.

The mitigation measures to minimise acoustic impacts on the continued operation on the school include the following:

- Site inductions;
- Behavioural practices to minimise unnecessary noise;
- Selecting quieter plant and keeping well-maintained to minimise noise emissions;
- Construction hours and scheduling to avoid sensitive periods such as exams;
- Siting of plant to maximise distance of noisy plant and sensitive receivers;
- Use of non-tonal reversing alarms;

- Use of silencers on mobile plant;
- Shielding of stationary plant and operational stage noise barriers.

It should be noted that the predicted construction noise levels presented at sensitive school buildings represent a worst-case scenario as it assumes all equipment are operating concurrently and in very close proximity to school buildings. However, equipment would be located at greater distances from the buildings for significant periods of time.

Furthermore, keeping windows closed during construction of nearby works would also reduce internal noise levels by around 20 dB, fans and/or portable air-conditioners may be required for temperature and airflow management. If possible, noisy works required near school buildings will also be completed outside of normal school hours, to avoid any detrimental impacts to school operation.

- **Operational noise impacts** – An acoustic letter has been prepared by AECOM in response to the noise issues raised by DPE during the exhibition stage, at **Appendix G**.

R1 is a two-storey receiver (i.e., two-storey detached dwelling) with an assessment location 4.5 metres above ground located outside the second storey windows. The operational noise impacts to this receiver as detailed in the NVIA at **Appendix G** of the EIS predicts a minor exceedance of the EPA's noise criteria by 2 db(A).

To achieve the noise emission criteria, the proposed 2.5m high noise barrier to the eastern side to the outdoor condenser units located to the east of Building N East would need to increase to more than 3 metres in height. The proposed barrier is shown in **Figure 4** below.



Figure 4 Location of proposed noise barrier to outdoor condenser unit to the east of the new homebases

Source: AECOM (2022)

It should be noted that the shrub planting with a height of 3 metres (Lilly Pilly) is proposed to the east of the outdoor condenser unit along Glenwood Park Drive.

This would not be sufficient to visually screen an acoustic barrier of 3 metres and higher. Refer to **Figure 5** below.

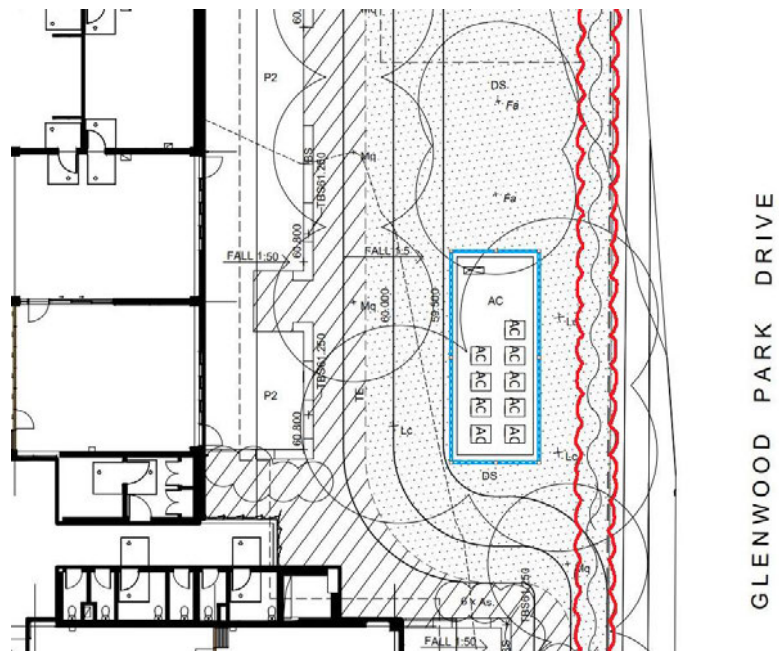


Figure 5 Proposed shrub planting (outlined in red) to the west of the outdoor condenser unit (outlined in blue)

Source: Glenn McIntosh (2022)

Furthermore, it is considered that such a barrier may impact solar access to the proposed new buildings and may require significant reinforcement to provide sufficient wind loading. In this case, given that the impact of 2db(A) is imperceptible to the average listener, strict compliance with the noise emission criteria is considered unreasonable and unnecessary.

This approach is consistent with EPA's Noise Policy for Industry (NPfI) 2017, which does not require strict compliance subject to suitable justification and assessment of the acceptability of residual impacts. Notwithstanding, it is noted that the assessment presented in the NVIA was a worst-case scenario and where possible, quieter building services plant would be selected during the detailed design.

Aboriginal heritage

- **Aboriginal Cultural Heritage Assessment Report** – No further response is required to be provided noting that Heritage NSW supports the recommendations of the ACHAR at **Appendix L** of the EIS.

Flooding

- **Overland flooding** – A response has been prepared by Enstruct to address the advice for the project as specified in EES submissions letter, at **Appendix J**.

This report relies on preliminary information received from Blacktown City Council with regards to overland flow. Council advises that these maps have been produced from flood modelling undertaken by Catchment Simulations. No background on the specific intent of these maps is known.

The preliminary overland flow maps provided include water depth and extent of the 1% AEP, 20% AEP and Probable Maximum Flood (PMF) storm events. The maps indicate that up to the 1% AEP the overland flow is contained within the road reserve. No maps were received to account for the impact of climate change.

It is noted that climate change will lead to deeper flood depths. As the watercourse downstream is not tidal, no storm surge is applicable. Notwithstanding this, should the 1% AEP overland flow height increase, the 0.5m freeboard above the 1% AEP flood extents to ground floor levels provides adequate protection.

During a PMF event, the overland flow encroaches onto the site. The flood response notes that PMF encroaches into the site in a manner not dissimilar to the mapped PMF in the Flood Report that accompanied the EIS at **Appendix Y**. Refer to **Figure 6** and **Figure 7** below for a comparison of the PMF extents.

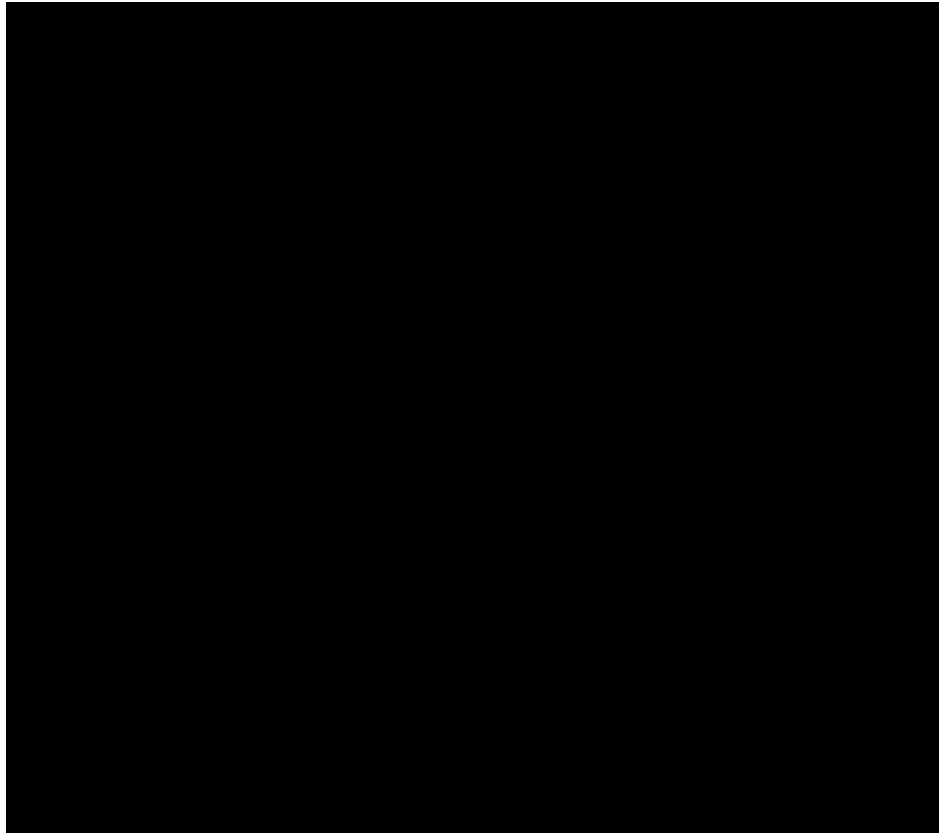


Figure 6 PMF flood extents
Source: *Enstruct (2021)*

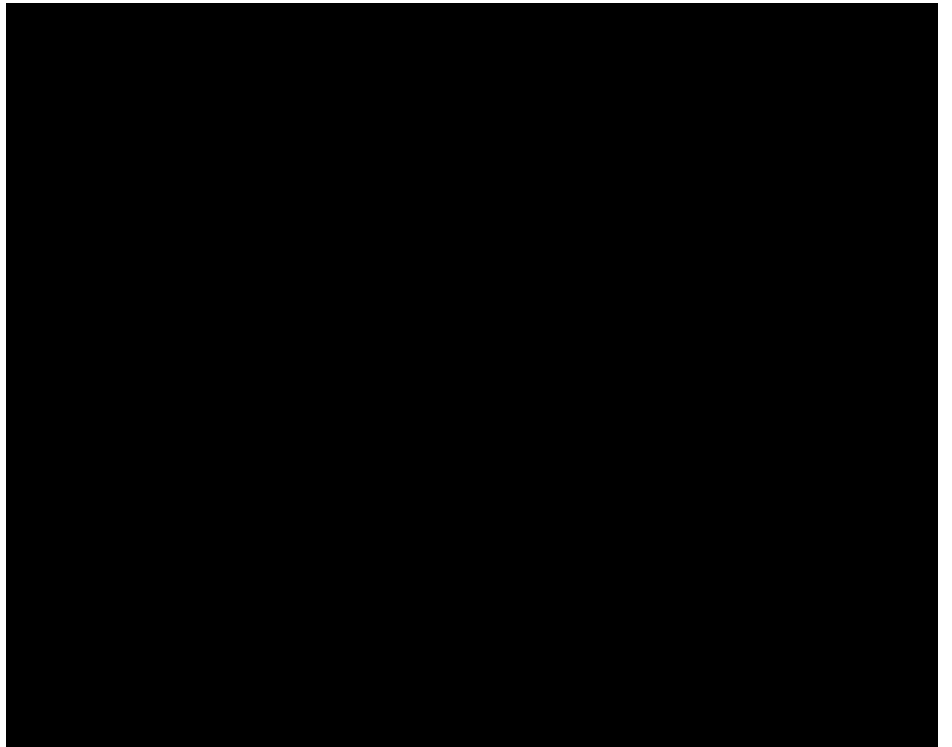


Figure 7 PMF Overland Flow (site outlined in red and approximate location of main building works shown in light blue outlined in red)
Source: *Enstruct (2022)*

Enstruct notes that the results of the overland flow modelling during the PMF validates the advice provided in Section 4.10.1 'Flood Planning Levels and Finished Floor levels'. In addition, the flood report's advice for evacuation during a flood is valid, in that travel away from flood inundated area on Glenwood Park Drive is possible.

In this regard, the proposed development adequately considers and responds to the overland flow constraints that have thus far been identified by Council.

Biodiversity

- **BDAR** – A revised BDAR is provided at **Appendix H**. In response to the EES comments, the Credit Reports at Appendix F of the BDAR have been finalised. Section 5.2 of the BDAR has also been amended to clearly outline impacts to vegetation assigned to PCT 849 and non-native vegetation zones.

Also, as the proposal has been amended to enable the retention of Tree 73, the BDAR has been revised to reflect the retention of this tree. Consequently, the clearing of low condition native vegetation (vegetation zone 2) will reduce from 0.03 ha to 0.02 ha. The cumulative impacts to this area have also reduced to 0.11 ha.

The revised BDAR concludes that the proposed development is unlikely to indirectly impact threatened species, ecological communities, and their habitats during construction and operational phases, provided appropriate mitigation and management measures are enforced.

The BDAR retains the avoidance and mitigation measures to reduce the impacts of the proposal which EES supports. However, it should be noted the SSDA only proposes the following improvements to the Cumberland Plain Woodland area:

- Logs and limbs from trees identified for removal are proposed to be salvaged and carefully placed within this area to improve fauna habitat values.
- An additional 23 new trees will be planted within this area of species of from the Cumberland Plain Woodland community. The BDAR provides interim management measures for new tree plantings, including localised weeding.

Note, as indicated in the EIS, a Biodiversity Management Plan (BMP) for the restoration and ongoing management of the Woodland is recommended to be developed and implemented by the school operator at an appropriate time separate to this SSDA. The BDAR at **Appendix S** also indicates the school as the responsible authority for the BMP.

Landscaping

- **Additional tree planting** – A response has been prepared by McIntosh & Phelps to address the advice for the project as specified in DPE issues letter, at **Appendix E**.

McIntosh & Phelps note that tree planting has been primarily focused in the areas immediately adjoining the proposed new buildings. Even so, the proposed tree planting greatly increases the canopy cover at the school from 17.8% to 24.38% (an increase of 4,132m²). This is a significant increase in tree canopy at the site.

Although opportunities for planting elsewhere on the site has been considered, the remainder of the site has limited opportunity for new tree planting. Hardstand areas comprise majority of the site, including existing buildings, car parking and pick-up/drop off area to the west and south of the school and area in the form of a games courts occupies part of the area to the west of the Cumberland Woodland.

It is noted that that the site comprises turfed areas to the north-western corner in the form of an existing school oval and centrally located lawn space adjacent to existing buildings. However, tree planting in these spaces is not recommended as it

can clutter the space and diminish opportunities for recreational activities that can be accommodated there currently, particularly the existing school oval.

Given the above, it is considered that sufficient efforts have been made to improve tree canopy cover at the site and further tree plantings should not be required with this SSDA.

- **Tree impacts** – McIntosh & Phelps has prepared a landscape statement to address the landscaping issues raised during public exhibition, at **Appendix E**. Furthermore, an amended Arborist Report is attached at **Appendix I** which considers the tree impacts because of changes to the landscape design.

Tree 73: The Arborist Report which accompanied the EIS at **Appendix T** identified that this tree would be subject to high impact (>20% TPZ encroachment) because of the SSD works; hence, the tree could not be retained without design changes.

In response, design changes have been made to the SSD works to reduce the level of encroachment into the TPZ due to SSD works. The TPZ encroachment has been reduced from 20% to 8%. Refer to **Figure 8** below.

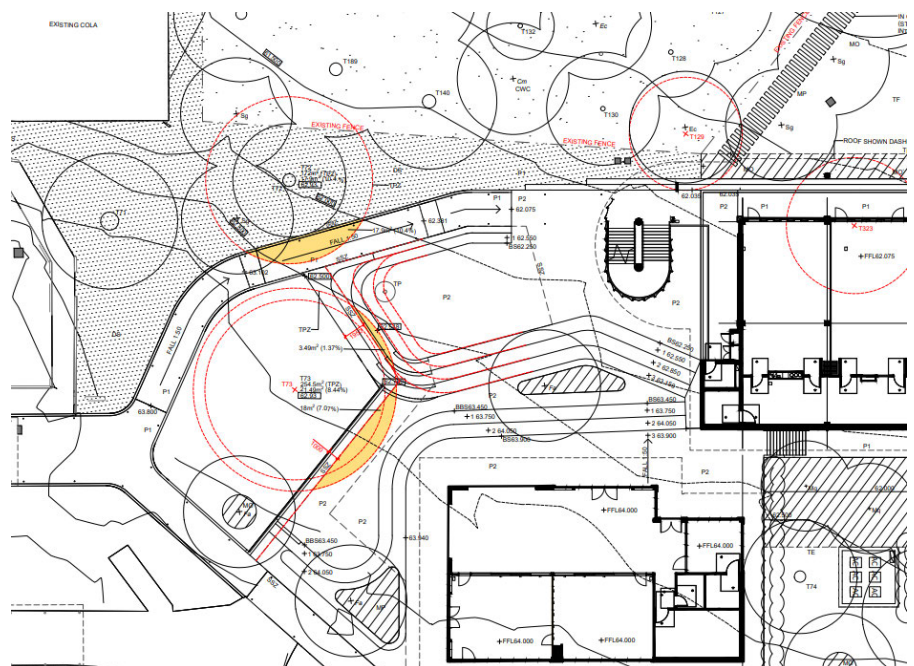


Figure 8 Excerpt from Landscape Report showing modifications to the bleacher seating around Tree 73

Source: McIntosh & Phelps (2022)

Given the above, this tree is now no longer subject to high impact and can be retained, subject to recommendations of the amended Arborist Report.

Tree 72: The encroachment of Tree 72 is now detailed in the amended Arborist Report at **Appendix I**. The level of encroachment into Tree 72's TPZ caused by the SSD works is 10%.

Relevantly, the early works to the proposed development (outlined in Section 1.7 of the EIS) also results in impacts to this tree. The amended AIA recommends construction methodologies to ensure its retention during works being facilitated under the REF and Early Works DA. These methodologies will be implemented through to the completion of works.

In response to the EES, construction methodologies to support viable retention could include:

- Root mapping investigation through hand/air spading is to be completed under the supervision of an AQF Level 5 consulting arborist to determine if roots are present.

- The position of pier footings for pathway arrangement are to be strategically placed around the existing tree roots (if found to be present in the root mapping exercise).
- AQF Level 5 Consulting Arborist is to be present during all works when working with the TPZ of Tree 72.

Trees 118 and 120: The amended Arborist Report at **Appendix I** indicates that these trees are not subject to an impact because of the proposed development which is subject to this SSDA. These trees are subject to medium impact (<20% TPZ encroachment) because of under the early works DA, and mitigating measures are in place under that early works DA to ensure their retention.

Building services

- The Applicant and their Accredited Service Provider will continue to complete their application for connection of load process with Endeavour Energy's Customer Network Solutions Branch.
- The Sydney Water service plan shows no stormwater infrastructure within the vicinity of the development. Also, the proposed stormwater connection is into Council's system along Glenwood Park Drive and not in SW stormwater channel. Therefore, regarding SW comments, the proposed development (including proposed stormwater will not have any impact on SW stormwater infrastructure.

An assessment of flooding matters has revealed that the development has been designed to response to these constraints. Regarding water quality, the SSDA will implement erosion and sediment control measures during construction and on-site water quality devices to achieve water quality targets applicable to the project. There are no heritage items within the vicinity of the proposed development.

4.4 Justification and evaluation of the project as a whole

There were no submissions received in relation to justification and evaluation of the project as a whole.

4.5 Issues that are beyond the scope of the project

There were no submissions received regarding issues that are beyond the scope of the project.

5. Project justification

GHS was established in 2004 following development consent issued by Blacktown City Council on 29 September 2003. It is in the North West Secondary School Community Group (SCG) which lies within the Blacktown City Council LGA, forming part of the Central City District under the *Greater Sydney Region Plan – A Metropolis of Three Cities*. As such, the proposed upgrades to GHS have been developed and considered in the context of the broader SCG.

The SCG is projected to experience capacity shortfall of 3,107 students by 2036, underpinned by the strong population forecasted in the Central City District. Catchment projections for GHS are expected to increase from its current capacity at 1,410 students to 1,537 students in 2036.

As indicated in the EIS, a business case was prepared to consider and assess several options for upgrading GHS. An option was developed that addresses this shortfall in its entirety whilst also providing capacity to deal with broader shortfall of the SCG. Analysis of options eventually led to the adoption of the current design, which accommodates the SI NSW planning grid and has several advantages, including the physical renewal of an underutilised area that embraces the existing Cumberland Woodland Area.

The site is relatively free of constraints, including, bushfire, historical archaeological constraints, and/or Aboriginal cultural heritage. In response to submissions received, a Flood Response was prepared to determine whether the development site is affected by local stormwater overland flows that might affect existing or future development on this land.

This report relies on preliminary information received from Blacktown City Council with regards to overland flow. The preliminary overland flow maps provided include water depth and extent of the 1% AEP, 20% AEP and Probable Maximum Flood (PMF) storm events. The maps indicate that up to the 1% AEP the overland flow is contained within the road reserve. During the PMF, the overland flow extents will encroach into the site.

Notwithstanding this, the flood report considers that the results of the overland flow modelling validate the advice provided in Section 4.10.1 'Flood Planning Levels and Finished Floor levels'. More specifically, the setting FFLs above the mapped flood extents will maximise safety against flooding, enabling shelter in place if evacuation is not possible, despite modelling suggesting evacuation will be possible via Glenwood Park Drive.

Attempts have been made to retain a high retention value tree that was previously identified for removal at the site. The altered design ensure that this tree is incorporated into the overall landscape design of the new homebases building. Further clarity has been provided regarding encroachments into TPZ, mitigation measures to ensure tree retention, as well as further certainty of the retention of medium impacted trees.

Further changes have been made to extend the stepping stone pathway to both ends of the new homebases building. This pathway provides an appropriate treatment for its function as a secondary pathway whilst it responds to the constraints of the site. the existing fence around the Cumberland Plain Woodland area will be retained to ensure that negative impacts of uncontrolled access to the Woodland are mitigated.

The BDAR has been amended to factor in additional tree retention. Also, the BDAR has been finalized and assessment updated to respond to EES comments. The revised BDAR concludes that the proposed development is unlikely significant impacts upon defined biodiversity values, provided appropriate mitigation and management measures are enforced.

Concerns regarding parking and sustainable travel have been addressed in an updated TAIA for the school. An analysis of on-street parking capacity indicates sufficient

capacity to accommodate on-street parking demand from student and staff, without any improvement of existing modal split. However, an STP has been developed to encourage modal shift from car use to sustainable modes of transport.

It should be noted that the STP has been updated in response to TfNSW's submission which recommends a greater shift from private vehicle use to sustainable travel than that originally proposed. This underscores the role of TfNSW in moving towards sustainability by achieving reductions in emissions, a strategic direction espoused by the Future Transport Strategy 2056.

In this regard, it is considered that any additional parking to service current modal behaviour only serves to undermine the targeted modal shift and targeted sustainability initiatives as it encourages reliance on private vehicle use, as well as reducing play space. On balance of factors, additional car spaces do not result in the economic and orderly use of land.

A slight exceedance of noise criteria to a residential receiver has been further considered. The Acoustic Consultant maintains that the minor exceedance at the residential receiver is imperceptible and does not justify the implementation of unreasonable acoustic measures. This approach is consistent with EPA's Noise Policy, for Industry 2017 which does not require strict compliance with the noise criteria.

Regarding construction noise impacts, although the projected noise impacts are based on unlikely worst-case scenario during construction, it is considered that Section 6 of the NVIA which accompanied the EIS at **Appendix V** recommends that a CNVMP be implemented which details feasible and reasonable work practices to achieve noise management levels.

It is considered that any adverse impacts of the proposal can be appropriately mitigated through measures, which have been summarised in **Appendix B**. Note, this remains substantially consistent with the original measures in **Appendix C** of the EIS.

Having regard to the above, the carrying out of the project is justified for the following reasons:

- The current school has inadequate core facilities that do not meet required standards. The development will provide permanent and state of the art teaching facilities for students and staff that meet current standards and best practice requirements.
- It will increase student capacity at the school, allowing students living in the GHS catchment to attend the school and ease pressures on other secondary schools in the local area.
- It will provide improved and coherent landscaping, play space, tree numbers, tree canopy, and shade cover of outdoor spaces for students. The proposed landscaping will provide urban amenity for users of the space and make a positive contribution to the local character.
- The proposed development will support the health and wellbeing of students at GHS by integrating new pedestrian and cycling facilities as part of the proposed transport strategy. These interventions will also serve to reduce demand on modes of travel that rely on private vehicle, improving the surrounding road network.
- It will deliver additional support learning spaces to provide greater disability support.
- The proposed development is compatible with the local character. The proposal would not result in adverse amenity impacts on surrounding residents through overshadowing and visual privacy.
- The new building will be designed to provide a 5-star Green Star Building rating, improving environmental performance of the school.
- It will generate 211 construction and non-construction Full Time Equivalent jobs during construction phase, and 27 additional teaching related positions during

operational phase. Hence, these jobs, together with the value of the project, will stimulate the economy.

- The proposed development adequately responds to the submissions received during the public exhibition period.

Given the above it is considered that the SSD Application has merit and can be supported by the Department of Planning and Environment and the Minister for Planning.