NSW Department of Education

Review of Environmental Factors

Liverpool Boys and Girls High School Upgrade Project

Document version: Final

Date: 25/06/2025

NSW GOVERNMENT

Acknowledgement of Country

The NSW Department of Education acknowledges the Gandangara and Cabrogal Peoples, the traditional custodians of the land on which the Liverpool Boys and Girls High School Upgrade is proposed.

We pay our respects to their Elders past and present and celebrate the diversity of Aboriginal people and their ongoing cultures and connections to the lands and waters of Australia.

The NSW Department of Education is committed to honouring Aboriginal peoples' cultural and spiritual connections to the land, waters and seas and their rich contribution to society.

The NSW Department of Education recognises that by acknowledging our past, we are laying the groundwork for a future that embraces all Australians; a future based on mutual respect and shared responsibility.

Declaration

This Review of Environmental Factors (REF) has been prepared by Ethos Urban on behalf of the NSW Department of Education (department) and assesses the potential environmental impacts which could arise from the redevelopment of the Liverpool Boys and Liverpool Girls High Schools into a new single, co-educational school at Liverpool Boys High School and Liverpool Girls High School at 18 Forbes Street, Liverpool.

This REF has been prepared in accordance with the *Guidelines for Division 5.1 Assessments* and any relevant addendum (the Guidelines), and the relevant provisions of the *Environmental Planning and Assessment Act 1979* (EP&A Act), the *Environmental Planning and Assessment Regulation 2021* (EP&A Regulation) and *State Environmental Planning Policy (Transport and Infrastructure) 2021* (TI SEPP).

This REF provides a true and fair review of the activity in relation to its likely impact on the environment and the information it contains is neither false nor misleading. It addresses to the fullest extent possible all the factors listed in Section 3 of the Guidelines, the EP&A Regulation and the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act).

In preparing the REF I have declared any possible conflict of interests (real, potential or perceived) and I do not consider I have any personal interests that would affect my professional judgement.

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Abbreviations

Abbreviation	Description
ACHAR	Aboriginal Cultural Heritage Assessment Report
AHD	Australian Height Datum
AHIP	Aboriginal Heritage Impact Permit
AHIMS	Aboriginal Heritage Information Management System
ARI	Average Recurrence Interval
BC Act 2016	*Biodiversity Conservation Act 2016*
BC Regulation	*Biodiversity Conservation Regulation 2017*
BCA	Building Code of Australia
CM Act	*Coastal Management Act 2016*
CPTED	Crime Prevention Through Environmental Design Review
CWC	Connecting with Country
The department	NSW Department of Education
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DPE	Department of Planning and Environment
DPHI	Department of Planning, Housing and Infrastructure
Design Guide	*Design Guide for Schools* published by the Government Architect in May 2018
DSI	Detailed Site Investigation

Abbreviation	Description
EIS	Environmental Impact Statement
EOT	End-of-trip
EPA	Environment Protection Authority
EP&A Act	*Environmental Planning and Assessment Act 1979*
EP&A Regulation	*Environmental Planning and Assessment Regulation 2021*
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
EPI	Environmental Planning Instrument
ESD	Ecologically Sustainable Development
FM Act	*Fisheries Management Act 1994*
Industry and Employment SEPP	*State Environmental Planning Policy (Industry and Employment) 2021*
LEP	Local Environmental Plan
Liverpool LEP	*Liverpool Local Environmental Plan 2008*
LGA	Local Government Area
LILO	Left-in/left-out
LOS	Level of Service
MRV	Medium Rigid Vehicle
NGL	Natural Ground Level
NMLs	Noise Management Levels
NPW Act	*National Parks and Wildlife Act 1974*
NPW Regulation	*National Parks and Wildlife Regulation 2009*
NPWS	National Parks and Wildlife Service (part of EES)
NSW RFS	NSW Rural Fire Service
NT Act (Cth)	*Commonwealth Native Title Act 1993*
NVIA	Noise and Vibration Impact Assessment
PA	Public Address
PAD	Potential Archaeological Deposit
PCMP	Preliminary Construction Management Plan
Planning Systems SEPP	*State Environmental Planning Policy (Planning Systems) 2021*
PNTL	Project Noise Trigger Levels
PSI	Preliminary Site Investigation
RAP	Remediation Action Plan
REF	Review of Environmental Factors
RF Act	*Rural Fires Act 1997*
Resilience and Hazards SEPP	*State Environmental Planning Policy (Resilience and Hazards) 2021*

Abbreviation	Description
Roads Act	*Roads Act 1993*
SCPP DoE	*Stakeholder and community participation plan,* published by the NSW Department of Education October 2024
SCPP DPHI	*Stakeholder and community participation for new health services facilities and schools* published by the Department of Planning, Housing and Infrastructure October 2024
SDRP	School Design Review Panel
SEPP	State Environmental Planning Policy
SIS	Species Impact Statement
Sustainable Buildings SEPP	*State Environmental Planning Policy (Sustainable Buildings) 2022*
SWSLHD	South Western Sydney Local Health District
TAIA	Transport and Accessibility Impact Assessment
TI SEPP	*State Environmental Planning Policy (Transport and Infrastructure) 2021*
WM Act	*Water Management Act 2000*

Executive Summary

The Proposal

This Review of Environmental Factors (REF) has been prepared by Ethos Urban on behalf of the NSW Department of Education (the Proponent, the department) to assess potential environmental impacts that could arise from the redevelopment of the Liverpool Boys High School and Liverpool Girls High School, at 18 Forbes Street, Liverpool NSW, 2170 (Lot 1 DP1137425). The proposed activity is to be undertaken predominantly within the northwestern corner of the site, encompassing the portion of land associated with the existing Liverpool Boys High School, alongside a small portion of the Liverpool Girls High School site (the site).

The proposal relates to the construction and operation of a co-educational secondary school (the activity) and will be delivered in four stages, with Stage 1 relating to various civil and servicing works, including stormwater and hydraulic infrastructure, electrical and communication infrastructure and substation, and ancillary tree removal, as detailed in a separate REF pursuant to Part 5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The proposed works in Stage 1 are required to support the construction of a temporary school to accommodate the existing students at Liverpool Boys High School, while construction works for the new co-educational school are being undertaken in Stage 2. The Stage 1 REF has been determined.

A series of associated works, including car parking provision and a retaining wall, together with the construction of the temporary school, will be undertaken as exempt development under Stage 1. The demolition of the existing Liverpool Boys High School will be undertaken via a Complying Development Certificate (CDC).

The remaining stages are subject to this REF. Various works, including the provision of a full-sized sports field, bicycle parking and installation of lighting, will be delivered as exempt development, but are included in this REF for completeness. Stage 2 involves the consolidation of two existing schools, which is anticipated to accommodate 2000 students and 214 staff, increased from the existing 1,720 students.

Stage 3 involves the removal of the temporary school and fencing the existing Liverpool Girls High site. Stage 3 works will occur concurrently with the operation of the new high school buildings.

Stage 4 will involve make good works to the site following the removal of the temporary school, including the construction of a fence between the new co-educational High School site and the existing Liverpool Girls High School site, completion of the playing field, and construction of the car park extension for the new High School and associated landscaping.

This REF relates to Stage 2, Stage 3 and Stage 4 works. Stage 1 has been determined and the proposed activity is detailed within the separate determined REF, pertaining to the infrastructure works, together with the exempt development works including the car parking provision and retaining wall, will be completed prior to commencement of construction of Stage 2 and will be retained for operation, as set out within the detailed mitigation measures at **Appendix 1**. Stage 1 demolition works will be undertaken via a CDC. As such, the Stage 1 works and Stage 2 works will not occur concurrently.

The consolidation of the High Schools broadly comprises the following works:

- Site preparation works, including tree removal and earthworks;

- Construction and operation of a part 5-storey and part 6-storey school building, with a separate 3-storey school hall building connected by horizontal access links;
- Associated parking and building services;
- Associated landscaping and play spaces;
- Augmentation of service infrastructure; and
- Associated off-site infrastructure works to support the school, including pedestrian infrastructure.

The proposal will provide improved social infrastructure that will deliver core facilities including administration, gym, general learning spaces, support learning spaces, and specialist facilities including learning spaces for wood and metal technology, performing arts, visual arts, food and textiles, health and physical education and science. The proposed activity will provide a high-quality learning environment that prioritises the care and well-being of the school community.

Figure 1 3D Perspective from the corner of Lachlan and Forbes Street

Source: NBRS

Planning Pathway

The proposal involves works by the Department of Education (the department) (a public authority) within the boundaries of the existing Liverpool Boys and Girls High School. Accordingly, pursuant to Section 3.37 of the *State Environmental Planning Policy (Transport and Infrastructure) 2021* (TI SEPP), the proposed works are classified as development which may be carried out without consent. Supporting infrastructure works are also proposed as development permitted without consent in accordance with Chapter 2 of the TI SEPP.

Therefore, the proposal is considered an ‘activity’ for the purposes of Part 5 of the EP&A Act and is subject to an environmental assessment. For the purposes of this proposal, the department is the proponent and the determining authority and the required environmental assessment is in the form of a Review of Environmental Factors (REF). The REF has been prepared in the accordance with

the *Guidelines for Division 5.1 Assessments* (Department of Planning and Environment (DPE), June 2022) and the *Guidelines for Division 5.1 assessments - consideration of environmental factors for hospital and school activities Addendum* (DPHI, October 2024).

Consultation

Consultation will be undertaken in accordance with statutory requirements under the TI SEPP and having regard to the *Stakeholder and community participation plan for new health services facilities and schools (Department of Planning Housing and Infrastructure (DPHI), October 2024)* (SCPP DPHI) *and the Stakeholder and Community participation plan For new schools and major school upgrade projects undertaken under Division 5.1 of the EP&A Act 1979 (Department of Education, October 2024)* (SCPP DoE). Comments received will be carefully considered and responded to.

Non-statutory consultation has been undertaken with a range of community and government stakeholders throughout the design process, including Aboriginal stakeholders, Liverpool City Council, South Western Sydney Local Health District (SWSLHD), the DPHI and the school and local community. Stakeholder comments received related to traffic impacts and operations, staggered bell times, flooding and stormwater, designing and Connecting with Country. Comments received have been carefully considered and responded to within the project.

The REF will additionally be subject to statutory engagement through a public exhibition period, the outcomes of which will inform the finalisation of the REF.

Environmental Impacts

The REF provides an assessment of the environmental impacts of the proposal. It considers, to the fullest extent possible, all matters affecting or likely to affect the environment by reason of the proposed activity as is required under the EP&A Act. The key environmental impacts identified in the preparation of the REF are as follows:

- **Construction**
    - **Traffic and waste -** The proposed activity will impact on the surrounding road network during construction, which will be temporary with minor impacts on the existing road network. There are likely to be impacts throughout construction, however these will be temporary in nature and suitably mitigated through the implementation of a detailed Construction Management Plan (and supporting documentation) that will be prepared by the Principal Contractor prior to the commencement of works.
    - **Noise and vibration –** Impact during the construction works will require management and mitigation, primarily within proximity to sensitive nearby receivers. Appropriate management measures where construction activities exceed noise levels will be implemented.
    - **Erosion and sediment / air and dust –** Impact during the construction works will require management and mitigation. Appropriate management measures will be implemented as part of the REF.
    - Construction impacts are mitigated wherever possible, however, these impacts are also temporary.
- **Operation**
    - **Traffic, Access and Parking –** It is expected that traffic behaviours will be similar to the existing conditions, as the student and staff demands are anticipated to be very similar to existing demands in the opening year. With the successful implementation of a School Transport Plan and the introduction of design measures to increase active

travel, the TIA concludes that the traffic impacts of the proposed activity are not considered to be adverse. Vehicular access and the majority of car parking is provided under Stage 1 works as exempt development, however the proposed activity recommends that the Forbes and Lachlan Street intersection be restricted to left-in/left-out (LILO) movements, along with a right-turn ban for the southern approach of Forbes Street at the Lachlan Street / Forbes Street intersection, to be implemented 2 years after occupancy. An extension to the car parking is proposed within Stage 4 under the proposed activity subject to this REF, which is considered to represent an appropriate total provision of car parking to meet the staff and student demands, with consideration to the shift to the use of active and public transportation.

- **Flooding –** The Flood Impact and Risk Management Plan identifies that the site is impacted by riverine flooding, during heavy rainfall or extreme weather events with increased water volumes from the George River. In the Probable Maximum Flood (PMF) event, the site is classified as a low flood hazard level. The site is not impacted by flooding for the 1% Annual Exceedance Probability (AEP) or 0.5% AEP storm events. The PMF flooding lasts approximately 31 hours. The gymnasium is to be used as a flood emergency assembly area, and the Finished Floor Level (FFL) has been designed 200mm above the PMF flood level. Notwithstanding, a Flood Emergency Management Plan has been prepared and implemented during school operation, which prioritises early closure of the school and evacuation as the preferred response strategies. Overall, the Flood Impact and Risk Management Plan concluded that the extent of potential flood impacts is low and will not have significant adverse impacts, and any potential impacts can be appropriately mitigated to ensure minimal impact on the locality, community and the environment.
- **Built Heritage –** Previous heritage assessment for Liverpool Boys and Girls High School sites were of unlisted heritage significance. Demolition of the Liverpool Boys High School will be managed under a CDC approval process. Consequently, heritage impacts associated with the demolition of Liverpool Boys High School is not within the scope of this REF assessment. As the proposed activity will proceed following the demolition under the CDC, no additional heritage impact would occur associated with Stages 2-4 of the activity. The site is adjacent to a local heritage item under the Liverpool Local Environment Plan 2008 (Plan of Liverpool (early town centre street layout Hoddle Grid 1827) (item No. I89)). The proposed activity has been assessed to have little to no impact on the heritage item, given that the activity does not seek to amend the boundaries of the roads. The site itself is not listed as a heritage item under the *Liverpool Local Environmental Plan 2008* (Liverpool LEP), *Heritage Act 1977* or the department's Section 170 register.
- **Archaeology –** Historic test excavations were undertaken on site to investigate three areas that were assessed to demonstrate the potential for archaeological relics. Test excavations confirmed the presence of relics in one location. The relic delineated as a cistern feature and associated artefact deposit was identified approximately 1m below the current ground surface. The proposal includes landscaping works in the form of fencing, a loading dock and turfed open area on top of the cistern, however, any excavation works are not expected to interact with the cistern. As such, it is concluded that the proposed activity will have a low potential to directly or indirectly impact the identified relic. Nonetheless, a mitigation measure has been recommended to ensure that any construction or design works do not extend within 400mm of the cistern.

- **Aboriginal Heritage –** The Aboriginal archaeological survey and test excavation identified three Aboriginal artefact sites within the site. The three sites will suffer a total loss of value as a result of Stage 1 works. An Aboriginal Heritage Impact Permit (AHIP) will be applied for as part of Stage 1, and an Aboriginal Heritage Interpretation Strategy will be prepared and implemented into the final Liverpool Boys and Girls High School design. As such, there are no potential impacts associated with Stage 2 - 4 works expected.
- **Noise and Vibration -** The school will generate some noise resulting from the use of public address (PA) systems and school bell, pick up and drop off, outdoor play spaces and services. However, these impacts are minor due to the existing land occupation by two high schools and will be suitability mitigated through attenuation and management measures.

Other impacts have been considered as detailed in this REF and a detailed set of mitigation measures provided at **Appendix 1**.

Justification and Conclusion

Based on the environmental assessment undertaken as part of this REF, it has been determined that the proposal will not result in any significant or long-term detrimental impacts. The potential impacts identified can be reasonably mitigated and where necessary managed through the adoption of suitable site practices and adherence to accepted industry standards.

The environmental impacts of the proposal are not likely to be significant. Therefore, it is not necessary for an Environmental Impact Statement (EIS) to be prepared and approval to be sought for the proposal from the Minister for Planning and Public Spaces under Part 5.1 of the EP&A Act. The proposed activity will not have any effect on Matters of National Environmental Significance and approval of the Activity under the Commonwealth EPBC Act is not required.

On this basis, it is recommended that the department determine the proposed activity in accordance with Part 5 of the EP&A Act and subject to the adoption and implementation of mitigation measures identified within this report.

1. Introduction

The department proposes the redevelopment of the Liverpool Boys High School and Liverpool Girls High School into a single co-educational school (the activity) at Lot 1 DP1137425 at 18 Forbes Street, Liverpool. The proposed activity is to be undertaken within the northwestern corner of the site, encompassing the portion of land associated with the existing Liverpool Boys High School and a small portion of the Liverpool Girls High School site (the site).

The proposal is consistent with the NSW Government's plan to expand and upgrade public education in Western Sydney. The 2024-2025 budget is aiming to deliver record education funding including $3.6 billion for new and upgraded schools in Western Sydney. The focus is on ensuring that the growing communities are receiving access to world class public education. The proposed activity will improve the social infrastructure available, within a highly urbanised context that is experiencing significant population growth, by providing contemporary secondary school facilities.

3D perspectives of the proposal are shown at **Figure 2** and **Figure 3**.

Figure 2 3D perspective from Corner of Lachlan and Fobes Street

Source: NBRS

Figure 3 3D perspective of the main entry on Forbes Street

Source: NBRS

This Review of Environmental Factors (REF) has been prepared by Ethos Urban on behalf of the department to determine the environmental impacts of the proposed redevelopment of the Liverpool Boys High School and Liverpool Girls High School into a single co-educational school at 18 Forbes Street, Liverpool. For the purposes of these works, the department is the proponent and the determining authority under Division 5.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

The purpose of this REF is to describe the proposal, examine and take into account all matters affecting or likely to affect the environment and to detail mitigation measures to be implemented to manage impacts.

The potential environmental impacts have been assessed in the accordance with the *Guidelines for Division 5.1 Assessments* (Department of Planning and Environment (DPE), June 2022), Guidelines for Division 5.1 assessments - consideration of environmental factors for hospital and school activities Addendum (DPHI, October 2024), EP&A Act, the *Environmental Planning and Assessment Regulation 2021*, and the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The assessment contained within the REF has been prepared having regard to:

- Whether the proposed activity is likely to have a significant impact on the environment and therefore the necessity for an Environmental Impact Statement (EIS) to be prepared and approval to be sought from the Minister for Planning and Public Spaces under Division 5.2 of the EP&A Act; and
- The potential for the proposal to significantly impact *Matters of National Environmental Significance* (MNES) on Commonwealth land and the need to make a referral to the Australian Government Department of Environment and Energy for a decision by the

Commonwealth Minister for the Environment on whether assessment and approval is required under the EPBC Act.

2. Site Analysis and Description

2.1 Site Locality

The site is located at 18 Forbes Street, Liverpool, within the Liverpool City Council Local Government Area (LGA). The Lot in which the site lies within is legally described as Lot 1 DP1137425, that covers a total area of approximately 74,973m^2 and is bound by Lachlan Street to the north, Forbes Street to the south and Burnside Drive further east.

The site is located approximately 25km south-west of the Sydney CBD, approximately 12km south of the Paramatta CBD, and approximately 1.2km to the Liverpool CBD. The site is within 1km of the Liverpool and Warwick Farm Train Stations.

The location of the site is shown in **Figure 4**.

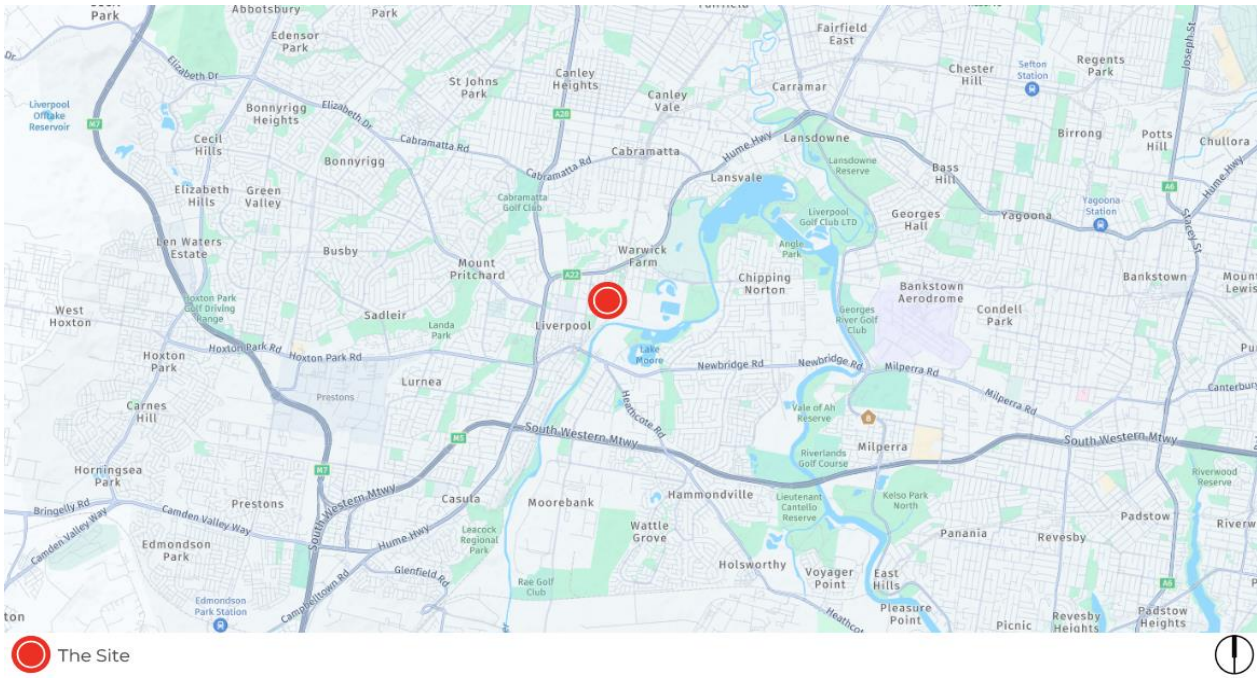

Figure 4 Locality plan

Source: Google Maps, Ethos Urban

2.2 Existing Development

The Lot comprises a broadly rectangular parcel of land, which currently contains the existing Liverpool Boys High School, Liverpool Girls High School, and the Gulyangarri Public School and preschool. The location of these facilities is illustrated in **Figure 3**.

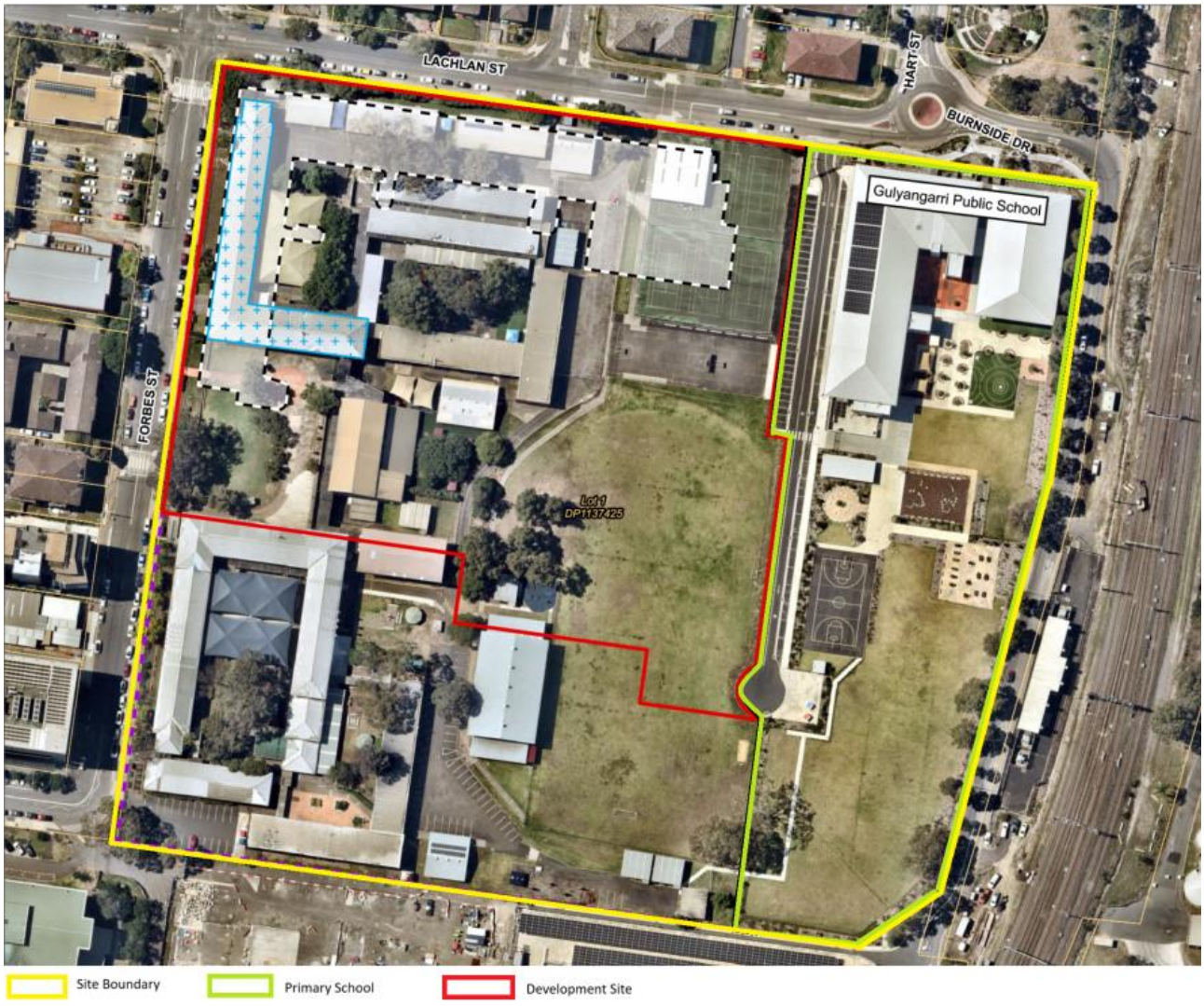

Figure 5 Site aerial

Source: NBRS

The Lot's western portion contains the existing Liverpool Boys High School and Liverpool Girls High School. Liverpool Girls High School in the Lot's southwest comprises three, two-storey buildings. Liverpool Boys High School in the Lot's northwest, comprises approximately four, two-storey buildings, with adjacent at-grade carparking and various sports courts.

The Gulyangarri Public School is located within the eastern portion of the Lot, which was first approved on 19th May 2022 under SSD-10391, for the construction of a new primary school with buildings of up to four storeys. The Gulyangarri Public School was originally approved under one stage, with capacity for 1,280 students including 1,200 primary school students, 40 students in the special support unit, and 40 preschool students. The preschool operates on the ground floor and is a centre-based childcare with capacity of up to 40 children aged between 3-5 years old.

Two separate Modification Applications have also been approved since this time to allow for design refinements and staging of construction and operation into two stages as detailed in **Table 1** below.

Table 1 Applications related to Gulyangarri Public School

DA Reference	Development Description	Determination
SSD-10391	Construction of a new school building of up to four storeys including core school facilities, teaching spaces and support units and associated works including tree removal, signage and landscaping	Approved 19/05/2022
SSD-10391-Mod-1	Changes to conditions regarding the timing to deliver works	Approved 04/11/2022
SSD-10391-Mod-2	Changes to staff parking, waste collection, bike parking and drop-off and pick-up and staging. New internal road and median island to Lachlan Street. Associated changes to landscaping, infrastructure and fencing. Staged construction: • Stage 1: Construction of the amended school design, excluding Block Z, with a student capacity of 580 (500 K-6 students + 40 preschool students + 40 SSU students) and 98 staff; • Stage 2: Construction of Block Z and additional teaching spaces in Block Y, with a student capacity of 1,280 (1,200 K-6 Students + 40 preschool students + 40 SSU students) and 98 staff. • Relocation of the pre-school and its associated play space area, and the special support unit (SSU) and its associated play space area, from Block Z to Block Y, during Stage 1 only, and moved back to Block Z in Stage 2	Approved 10/07/2023

Source: Nearmap, Ethos Urban

The Gulyangarri Public School commenced operations in January 2024 and the preschool commenced operations in October 2024.

This REF relates to the redevelopment of the area associated with Liverpool Boys High School and part of the Liverpool Girls High School, to the site's northwestern corner, as highlighted in **Figure 5**. The area subject to this REF, hereby referred to as 'the site', has an area of approximately 3.3 hectares.

2.3 Site Characteristics

Table 2 Site characteristics

Site Element	Description
Topography	The site is generally flat with a gentle slope from the west boundary at Forbes Street (RL 13.8) to the east boundary at Burnside Drive (RL 8.8). Detailed survey plans have been provided at **Appendix 3**.
Trees and Vegetation	The site contains a mix of vegetation throughout the site, including a landscape buffer consisting of planted native trees located on the Forbes Street and Lachlan Street frontages to the western and northern boundaries of the site respectively. It is noted that a Flora and Fauna Assessment (**Appendix 13**) has been prepared to address the presence of planted native vegetation within the site.

Site Element	Description
Vehicular Access and Pedestrian Connectivity	**Vehicular Access** The site can currently be accessed from Forbes Street and Lachlan Street by vehicles. Forbes Street is characterised by single lane traffic each way within a 12.5m carriageway and Lachlan Street comprises a single lane of traffic in each direction within a 6-metre carriageway. The existing staff car park is located off Forbes Street to the west. An existing access point is provided off Lachlan Street, which provides access to the car park associated with the adjacent Gulyangarri Public School. **Pedestrian Connectivity** The pedestrian network surrounding the site lies within the road reserves along Forbes Street and Lachlan Street. Currently, there are 3 wombat crossings on Campbell and Forbes Street, 2 pedestrian refuge crossings at the intersection of Forbes Street and Lachlan Street, 1 patrolled school crossing along Forbes Street, and 3 pedestrian refuge crossings at the intersection of Lachlan Street and Hart Street, and Lachlan Street and Drummond Street. Street lighting is provided within the surrounding road network to promote safe movements.
Heritage	The site itself is not listed as a heritage item or part of a Heritage Conservation Area under the *Liverpool Local Environment Plan 2008* (Liverpool LEP), *Heritage Act 1977* or the department's Section 170 Register. Whilst the Liverpool Boys and Girls High School Site has been identified to be of unlisted local heritage significance, demolition of the Liverpool Boys High School is subject to a separate CDC approval and is outside the scope of the assessment for this REF. The site is located adjacent to the 'Plan of Town of Liverpool (early town centre street layout – Hoddle Grid 1827)' which is a locally listed heritage item identified in the Liverpool LEP as item No. 89.
Services and Utilities	Two existing stormwater piped discharge points exist on the site which connect to Burnside Drive and the Hospital site to the south. An existing water main is located adjacent to the site on Forbes Street, which is used for the site's fire and domestic water connection. The existing sewer mains are located along Forbes Street including a 300mm and 450mm sewer main.

2.4 Site Constraints and Opportunities

Consideration of the site constraints has been undertaken through a review of the Section 10.7 (2 & 5) Planning Certificates dated 12th February 2025 (certificate no. 4666), mapping under relevant Environmental Planning Instruments (EPIs), and a review of specialist consultant reports and other desktop assessments.

Table 3 outlines the key site constraints.

Table 3 Key site constraints

Consideration	Y/N	Description
Land use zoning	-	The site is zoned SP2 (Health Services Facility & Educational Establishment).
Critical Habitat	No	

Consideration	Y/N	Description
Conservation area	No	
Item of environmental heritage	No	
Affected by coastal hazards	No	
Proclaimed to be in a mine subsidence district	No	
Affected by a road widening or road realignment	No	
Affected by a policy that restricts development of land due to the likelihood of landslip	No	
Affected by tidal inundation, subsidence, acid sulfate or any other risk	No	
Affected by any acquisition of land provision	No	
Biodiversity certified land or subject to any biobanking agreement or property vegetation plan	No	
Significantly contaminated	No	
Subject to flood related development controls	Yes	For the purposes of a school, the site is within the extent of the probably maximum flood (PMF) and subject to flood related controls.
Bush Fire Prone Land	No	
Riparian Corridor	No	

The key site constraints considered through design development included:

- Planning controls and relevant planning legislation applicable to the site.
- The proximity to the existing rail corridor and associated noise levels.
- The site's susceptibility to flooding, requiring the design of the buildings Finished Floor Levels (FFLs) to exceed the Probable Maximum Flood (PMF) level.
- The presence of Aboriginal objects and archaeological relics on site.
- The previous identification of the existing buildings of the existing Liverpool Boys and Girls High School as being of unlisted local heritage significance.
- The relationship between the works and the existing Gulyangarri Public School to the east of the site, as well as the existing Liverpool Girls High School and proposed Temporary Boys High School to the south of the site.

Consideration has also been given to opportunities identified in project development, including:

- Strategic location: The site is located within an established educational site, which is within a highly urbanised context with good access to existing public transport routes. The site is located adjacent to the Liverpool Health and Academic Precinct which will contribute to further growth in the area.
- Site parameters: The design process evolved with consideration to the physical parameters of the site, utilising the street frontages to promote wayfinding and contribute to the streetscape, while promoting a sense of privacy and security for the external play spaces within the site. The

scheme is also located at the furthest distance from the trainline to the east, to limit the impacts of noise and vibration from the train operations.

- Access: The site is well connected within the existing street network with frontages to both Lachlan Street and Forbes Street, which benefit from existing pedestrian infrastructure and access to public transport.
- Landscape: The site offers an opportunity to significantly increase tree canopy and the presence of native vegetation.
- Community integration and shared use: The high school will provide upgraded social infrastructure for the area and includes potential shared uses for the wider community.

2.5 Land Ownership

The site is located within land owned by the Minister for Education and Early Learning. Landowner's consent for the proposed activity has been obtained.

Off-site works are proposed to be undertaken in the road reserve owned by Liverpool City Council (Council). A 'Notice of Intent' letter has been issued by the department to notify Council of the intended works.

The activity will utilise a stormwater connection on land owned by NSW Health (Liverpool Hospital), however, these works are proposed under the Stage 1 REF. No works are proposed on land owned by NSW Health under this REF.

2.6 Surrounding Context

Owing to the site's location within the 'Liverpool Health and Academic Precinct' and Liverpool CBD, the surrounding area is undergoing significant transformation. The Liverpool CBD is experiencing rapid housing growth as a result of high-density housing redevelopment to accommodate population growth. Surrounding development is summarised as follows:

- **North:** The site is bound by Lachlan Street, beyond which is residential housing, predominantly 3 – 4 storeys in height, alongside a public recreational area known as Hart Park.
- **East:** The site is bound to the east by the recently constructed and operational Gulyangarri Public School. To the east of the Lot lies Burnside Drive (a road privately owned by the NSW Local Health District to serve Liverpool Hospital to the south of the Lot), beyond which is the rail corridor, at which a number of train services operate.
- **South:** Within the Lot boundary, to the immediate south of the site at which the proposed activity is undertaken, is the Liverpool Girls High School. Minor works are proposed within the existing boundary of Liverpool Girls High School under this REF, to provide an extension to the existing car park and the creation of a suitably sized playing field, with associated landscaping and fencing works. No works are proposed to the existing buildings of the Girls High School. The Liverpool Hospital Campus and Emergency Department lie to the south of the Lot boundary, beyond which is the TAFE NSW Liverpool Campus.
- **West:** The site is bound by Forbes Street to the immediate west, which accommodates a mix of medium and high-density housing and apartment complexes. The St Raphael's Greek Orthodox Church lies adjacent to the site, at the corner of Lachlan Street and Forbes Street.

3. Proposed Activity

The proposed activity involves the redevelopment of the Liverpool Boys High School and Liverpool Girls High School, at 18 Forbes Street, Liverpool NSW, 2170.

The works are to be undertaken in four stages, with Stage 1 relating to various civil and servicing works, including stormwater and hydraulic infrastructure, electrical and communication infrastructure and substation, and ancillary tree removal, as detailed in a separate REF pursuant to Part 5 of the Environmental Planning and Assessment Act 1979 (EP&A Act).

The proposed activity under the REF in Stage 1 are required to support the construction of a temporary school to accommodate the existing students at Liverpool Boys High School while construction works are being undertaken in Stage 2. A series of associated works, including car parking provision and a retaining wall, together with the construction of the temporary school, will be undertaken as exempt development under Stage 1. The demolition of the existing Liverpool Boys High School will be undertaken via a CDC pathway, as part of Stage 1 works.

This current REF relates to Stage 2, Stage 3 and Stage 4, as set out in Section **3.2.1**. The overall proposal involves:

- Construction and operation of a part 5-storey and part 6-storey school building, with a separate 3-storey multi-purpose hall building connected by horizontal access links, including:
    - General learning spaces, support education learning units, covered outdoor learning areas (COLAs), health & physical education hubs, and administration.
    - Separate school hall and canteen building with general and specialist learning spaces.
    - End of trip facilities.
    - Main communications room.
    - 99kW PV rooftop panels.

Ancillary works including:

- Site preparation including earthworks, cut and fill, introduction of retaining wall and tree removal.
- Associated transport and access infrastructure, including an extension to the car park to provide an additional 24 car spaces and bicycle parking.
- Provision of waste storage and loading area.
- Associated landscaping and play spaces including the delivery of a full-size field and courts.
- Inground building services works, utility services and telecommunication infrastructure including the removal of existing telecommunications services across the site, and new service infrastructure including a bulk store and garden store, main switchboard, water meter, fire hydrant booster, two 1500kVA kiosk transformers and inground telecommunications services.
- Stormwater infrastructure including a raingarden, swale, pit filters, treatment chamber, surcharge pit and connections to existing drainage pits.

- Public domain works which include:
  - Associated off-site road works to support the school, including reconfigured bus zone, new pick up and drop off spaces, upgrade to existing pedestrian refuge, new pedestrian crossings, footpath widening, and loading areas.
  - Connections to existing water and sewer mains at Forbes Street.

In addition, the project will utilise Stage 1 works approved under separate planning pathways including:

- 88 car parking spaces and retaining wall;
- Substation; and
- Stormwater pipe connecting north to the Liverpool City Council's existing stormwater assets in Lachlan Street and south to the existing stormwater assets located within Liverpool Hospital.

As these works will be constructed under other pathways for Stage 1, they do not form part of this activity. Nonetheless, these works will be retained and will be utilised for the school's operations.

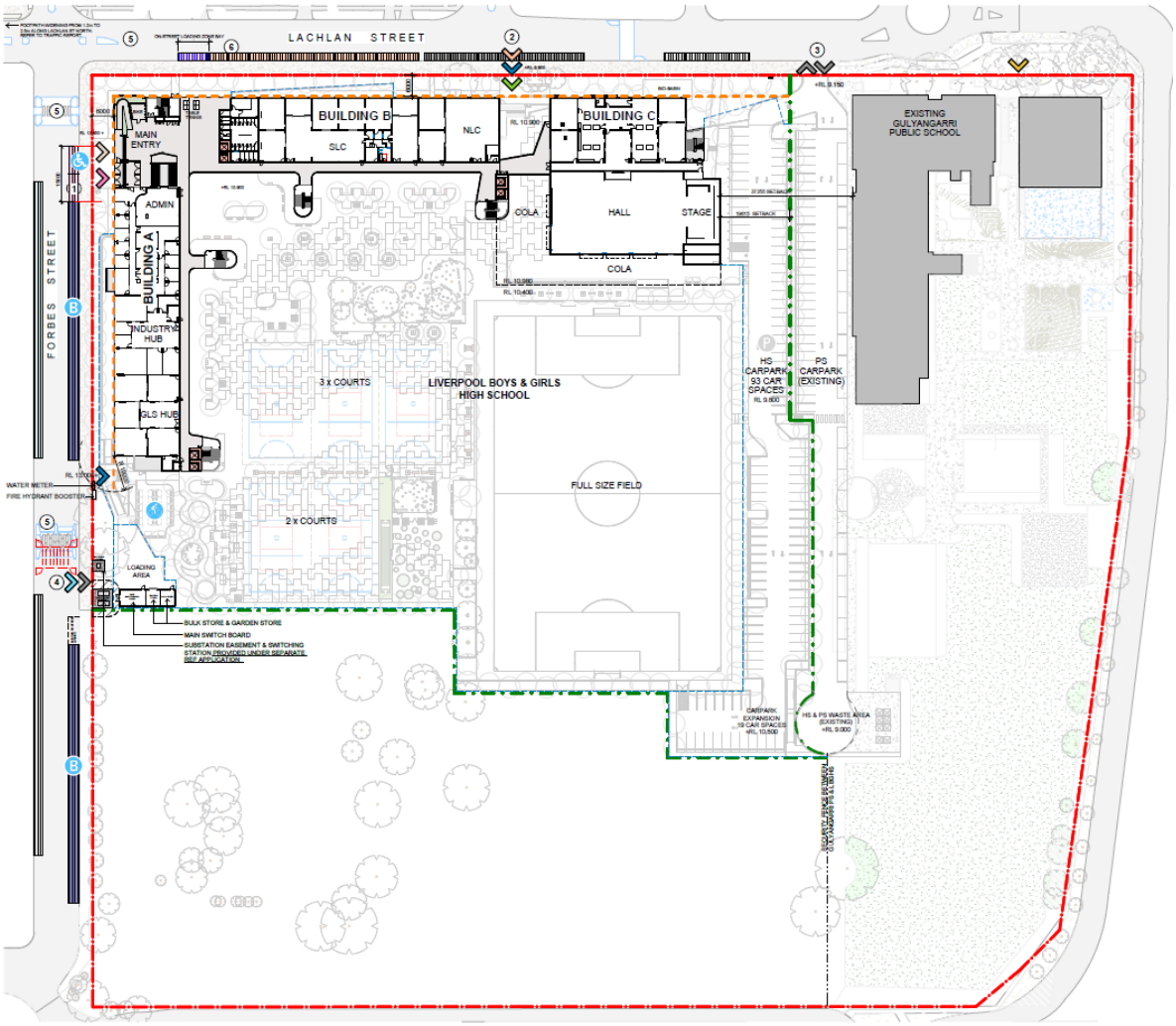

Figure 6 Proposed indicative site layout

Source: NBRS

Table 4 provides a summary of the key aspects of the activity.

Table 4 Summary of the activity

Project Element	Description
Lot Area	74,973m^2
Site Area	Approximately 3.3ha
Project Name	Liverpool Boys and Girls High School Upgrade Project
Project Summary	Redevelopment of the Liverpool Boys High School and Liverpool Girls High School, including the construction and operation of a new co-educational school, with associated on-site infrastructure works, landscaping, parking and access works
Use	Educational Establishment (School)
Student and Staff Numbers	**Opening year:** • Approximately 1,200 students • Approximately 166 staff **Anticipated total:** • Approximately 2,000 students • Approximately 214 staff
Car Parking and Bicycle Spaces	**Car Parking:** • 24 car spaces for staff (88 car parking spaces to be utilised from Stage 1 works) **Bicycle Parking:** • 200 bicycle storage spaces for students • 22 bicycle storage spaces for staff
Height	• Maximum Height: 22.5m • Storeys: 6 storeys
Play Space	Total: 20,516m^2 (10.3m^2 per student) External Play Space: 17,400m^2 Playing Field: 7,600 m^2 COLA: 1,066 m^2 Internal Play Space (includes hall and terraces): 2,050m^2
Canopy Cover	32,933m^2 (30%) (excludes building footprint, COLA and undercover areas)
Tree Removal	Removal of 55 trees within the site in Stage 1 and Stage 2, including: • Removal of 6 trees in Stage 1 (subject to a separate planning pathway) • Removal of 49 trees in Stage 2 (subject to this proposed activity)
Off Site Works	Description: Footpath widening from 1.2m to 2.5m width for 75m — Location: Lachlan St (North) between Forbes St & Goulburn St Description: Upgrade existing 2 pedestrian refuge to a compliant pedestrian refuge — Location: Forbes St / Lachlan St (eastern and western leg)

Project Element	Description	
	New pedestrian refuge at the northern leg of the intersection	Forbes St / Lachlan St (northern leg)
	Relocation of the existing raised crossing at the middle of Forbes Street to accommodate new vehicle access	Forbes St
	Proposed new 68m K&R area with existing 30m K&R area to assist with vehicle movements. Total to 98m K&R are or equivalent to 15 K&R spaces. The first 12m of the K&R area is also proposed to be designated at a loading bay outside school bell times – upgrade to signage only	Lachlan St (South)
	Change signage at existing 78m K&R area to on-street parking	Forbes St (West)
	Provision of 2 accessible K&R spaces (~15.6m length / 2 DDA Spaces)	Forbes St (East)
	A reversal of priority at the Lachlan Street / Forbes Street intersection	Forbes St / Lachlan St
	Reconfiguration of the existing 103-metre bus zone to 73 metres	Forbes St (East)
	Provision of an on-street loading bay for an 8.8m MRV	Lachlan St (South)
	Proposed left-in/left-out (LILO) restriction at the Lachlan and Forbes Street intersection, along with a recommended right-turn ban for the southern approach.	Lachlan St / Forbes St
	Proposed hydraulic connections to existing water mains at Forbes Street	Forbes St (East)
	Proposed sewer connection to existing sewer main at Forbes Street	Forbes St (East)

3.1 Design Development

This REF is accompanied by an Architectural Design Report (**Appendix 5**) that outlines the design approach and built form.

3.1.1 Design Quality Principles

Design Guide and Design Quality Principles

The design approach was guided by 3 design principles, as well as consideration of the site's constraints and opportunities, as set out below. The design principles also aim to align with the Liverpool Health and Education Innovation Sub-Precinct Structure Plan. The Plan sets out a strategic place-based vision to guide future developments on the government owned, health and education land within the Liverpool Innovation Precinct. This considers the integrated potential of the department, South-West Sydney Local Health District and Health Infrastructure and TAFE NSW, as well as opportunities for industry partnership and community engagement.

School design with appropriate architectural and landscape design response

- Creating a safe environment for your adult learners and staff.
- Designing stimulating environments to support variety of teaching and learning modes.
- Create protected courtyards that are enclosed by built form.
- Establish building heights that are sympathetic to providing natural light to the outdoor play areas.

Designing connection to the natural surrounding

- Optimise sunlight intake to positively contributes to higher academic performance. Natural light also supports attention, the stability of the circadian cycle, and overall health, mental health, and comfort, which in turn, leads to better academic performance.
- Maximise natural ventilation to facilitate constant flow and exchange of fresh air in learning environments.
- Create quality outdoor play spaces with adequate access to natural light and a variety of experiences.

Creating a community hub

- Opportunity to share some of the school facilities for community use after school hours. Extended use of school facilities activates the school beyond its operational hours and increases passive supervision.
- Design a forecourt at the main entrance to the school to create a meeting space that is welcoming.
- Provide opportunities to connect with the local Aboriginal Community.

Consideration of Schedule 8 of the TI SEPP (Design Quality Principles for Schools) and the GANSW Design Guide for Schools has been undertaken throughout the design process to inform the built form. The Architectural Design Report (**Appendix 5**) discusses how the design quality principles in school and other relevant guidelines and standards have been considered and adopted in the design evolution of the activity.

Connecting with Country

The proposed activity is underpinned by the Connecting with Country consultation process. Consultation was facilitated by Charles Trindall, Indigenous Lead Facilitation and engaging First Nation Representatives, including a project design team initiation meeting and Walk on Country. The Walk on Country provided an opportunity for collaboration with local Aboriginal knowledge holders, including Aunty Barbara Simms, Aunty Margie, Brad Maybury, and First nations students and Staff.

Through the Connecting with Country process, the design team were able to appropriately integrate cultural heritage into the design and provide alternative options that have influenced and shaped the proposed design that has culminated in the lodgement of this REF, including:

- Welcome to Country boulder location

- Retain mixed native tree species and construct a yarning circle
- Reference to river lines, flora and fauna imagery and art and words and phrases in language provided through consultation with the First Nations community
- Utilise and salvage logs from the removed existing trees to create informal seating and play elements
- Building facades, materials and colours to reflect place
- Dual language signage and first nations graphics related to subject learning and natural colour palette.

For further detail, refer to the Architectural Design Report provided at **Appendix 5**. The Engagement Report (**Appendix 11**) further outlines the engagement undertaken with Registered Aboriginal Parties and Aboriginal Community members as part of the design evolution process.

Sustainability and Climate Change

The proposed activity incorporates sustainability measures including, but not limited to:

- Minimisation of waste through the separation of waste streams.
- Reduction in peak demand for electricity using energy efficient technology.
- 99kW Photovoltaic (PV) system incorporated into the design for the deemed-to-satisfy requirements of NCC Section-J.
- Metering and monitoring of energy consumption through BMS system.
- Minimisation of potable water consumption through water efficient fixtures and rainwater harvesting.
- A Rainwater tank of 200 kL will be installed for enabling rainwater harvesting, to reduce the load on potable water demand.
- Air Conditioning systems will utilise push-buttons with a run on timer for activation and deactivation of the air conditioning in all spaces.
- LED lighting fixtures will be provided with Passive Infrared Occupancy sensors.
- Certified WELS rated water fixtures to reduce wastage of water.

The proposed activity aims to achieve a 5-star Green Star Certification and is capable of Net Zero operation. The REF is accompanied by a Sustainability Report that outlines the ESD initiative that will be included within the activity (**Appendix 19**).

3.1.2 Built Form and Layout

This REF is supplemented by Architectural Drawings, provided at **Appendix 4.**

The proposed activity consists of a part 5-storey and part 6-storey building (referred to as Building A and Building B in the proposed floor plans), connected to a separate school hall and canteen building (referred to as Building C) (refer to **Figure 7**). The built form is positioned along the north western boundaries of the site, in a L-shaped configuration, designed to enhance and secure the external open space away from the perimeters of the site.

All buildings have a 6m setback from both the road frontages, being Forbes Street and Lachlan Street.

There is a 37.3m building separation between the separate school hall and canteen building (Building C) and the Gulyangarri Public School.

Lower Ground

The lower ground level of ‘Building A’ and ‘Building B’ comprises a range of general learning spaces, outdoor covered workshops, staff facilities, and a fitness laboratory. Building C comprises the school hall, with associated female changing rooms, storage and a canteen. General amenities including toilet facilities are provided throughout the lower ground floor. A walkway is provided along the eastern and southern edges of the buildings.

The lower ground is made possible through the provision of retaining walls along the northern, western and southern boundaries of the site.

Each floor level is connected via staircases and elevator facilities.

Ground Floor

At ground floor level, the layout includes further general learning spaces to accommodate a mix of educational programmes, learning commons and staff facilities. Building C is connected via a designated walkway, and comprises a school hall, and further general learning spaces.

Level 1

At Level 1, Building A and Building B include general learning spaces, workshops, learning commons, a counsellor and wellbeing hub and a library with associated study areas. Building C is connected to the remaining school building by a bistro terrace and associated kitchen facilities. With void space over the school hall below.

Level 2 and 3

At Level 2 and 3, Building A and Building B provides further general learning spaces, learning commons, multi-purpose spaces and science laboratories. A staff study is located at the north western corner of the building which provides surveillance opportunities throughout the floor levels.

Building C will comprise a flat concrete roof, with zones for mechanical kitchen services.

Level 4

The building steps up to Level 4 within the north western portion of the building, which will accommodate additional general learning spaces and a large staff study, with associated facilities including a kitchen, interview rooms and toilet facilities.

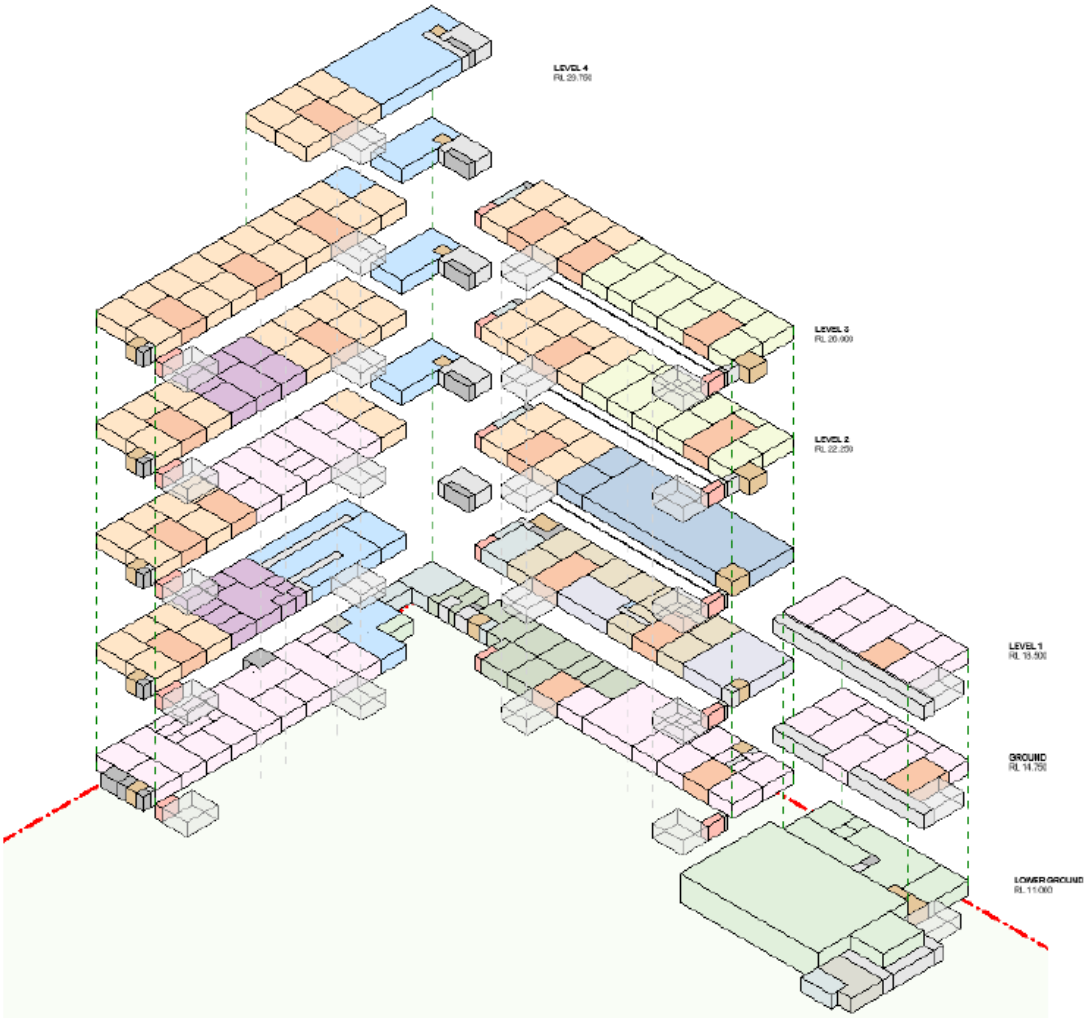

Figure 7 Axonometric diagram

Source: NBRS

3.1.3 Building Height

The proposed school buildings are set up to 6-storeys in height, with a maximum building height of 21.30m above natural ground level (NGL).

Building A and Building B as identified in the floor plans, represent a single, interconnected built form, extending up to 6-storeys, with the highest point being 21.3m above NGL (RL 34.250) at the corner of Forbes and Lachlan Street, stepping down to 5-storeys (21.25m above NGL (RL 31.850)) along Lachlan Street and part of Forbes Street.

Building C is a separate 3-storey building fronting Lachlan Street that is connected to the remaining school building by a horizontal linkway and terrace. Building C is set at 15.95m above NGL (RL 25.430). The proposed street elevations are shown at **Figure 8**.

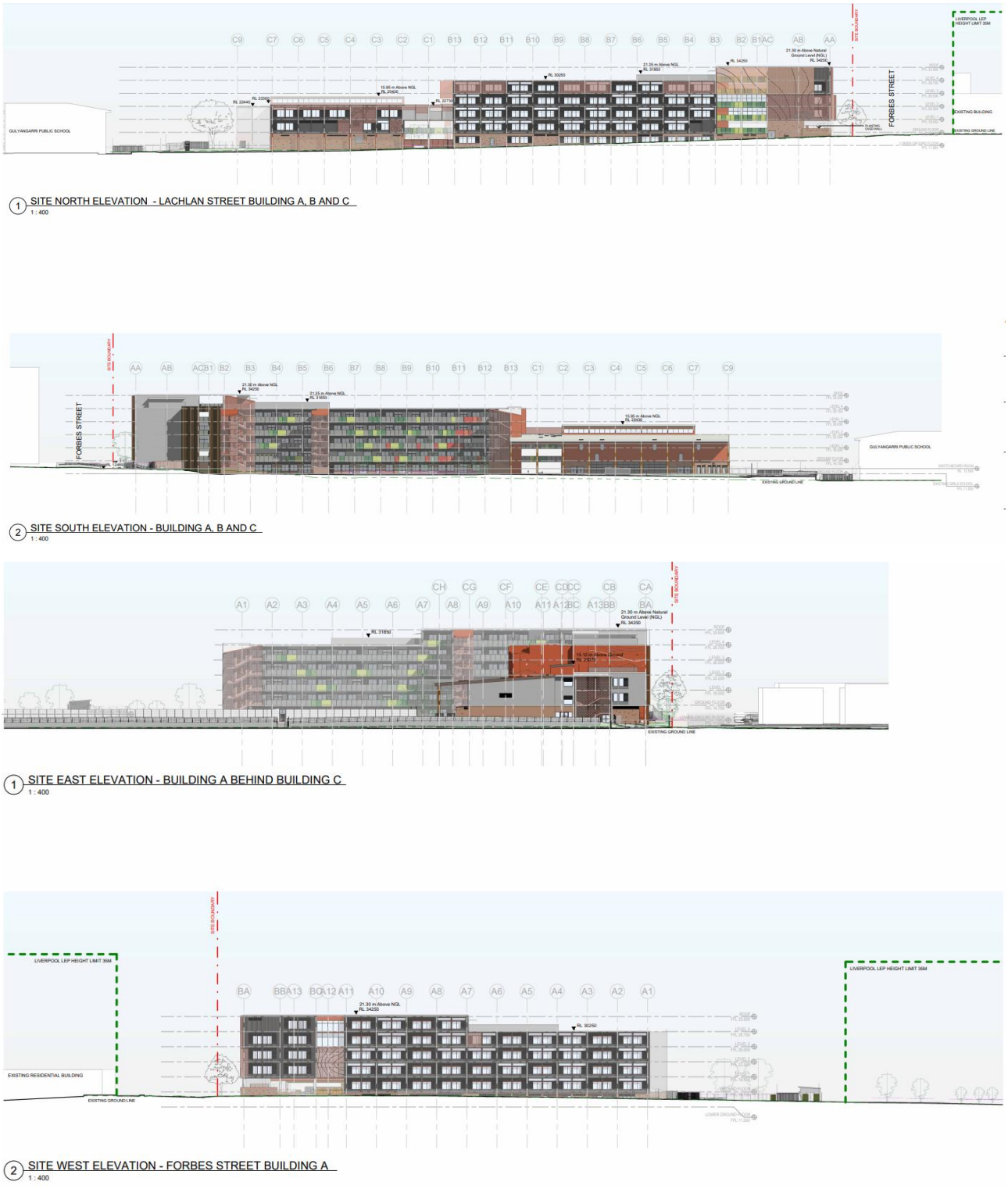

Figure 8 Elevations of the proposed activity

Source: NBRS

3.1.4 Materiality

The external materials palette is provided in the Architectural Design Report at **Appendix 5**. The proposed materiality includes durable and efficient materials such as metal sheet roofing, cladding and brickwork, as seen at **Figure 9**.

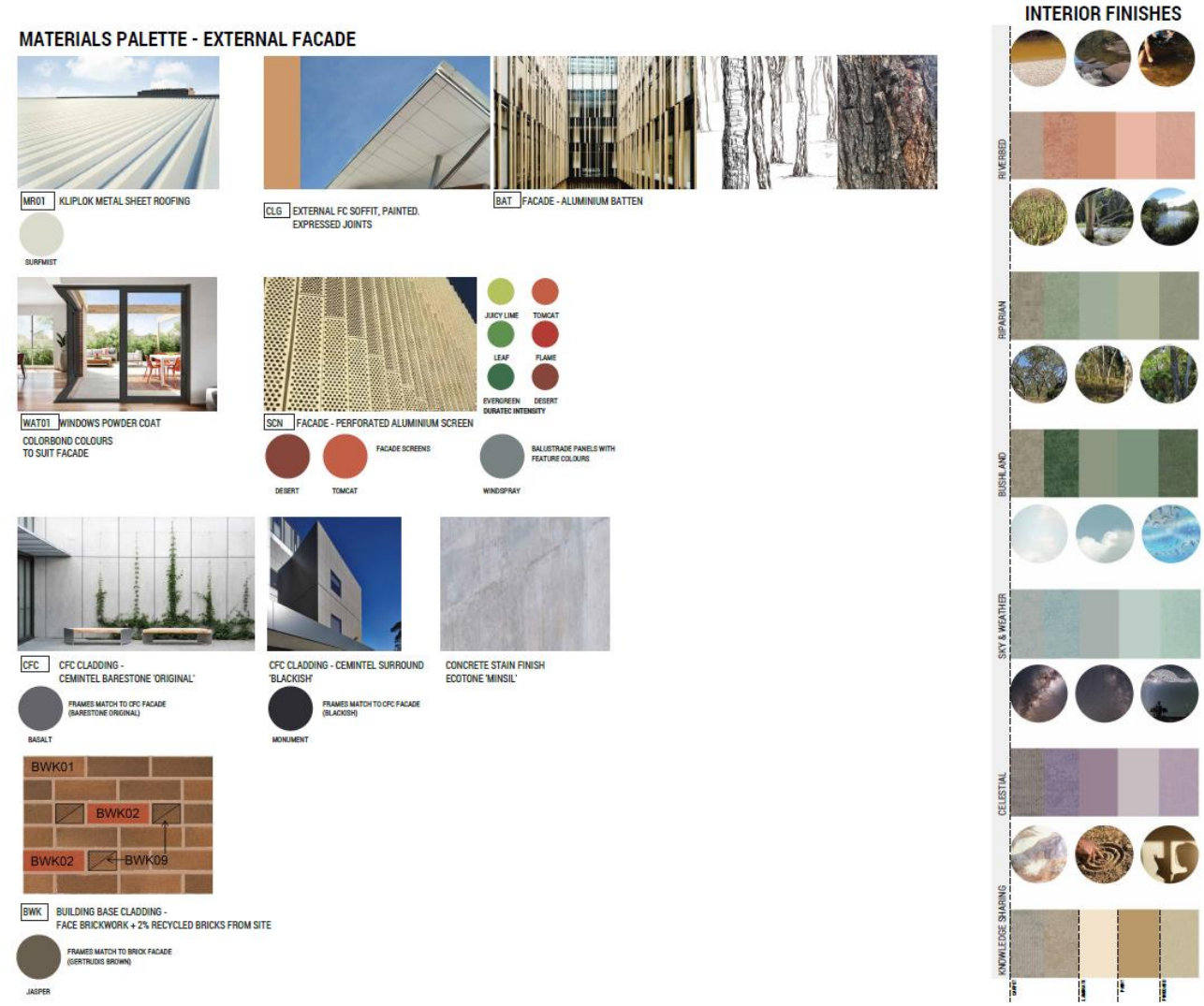

Figure 9 Proposed materiality

Source: NBRS

3.1.5 Signage

The proposed activity will include high-quality business identification signage. The proposed signage (with indicative signage text) is listed in **Table 5** and the signage plan is provided at **Figure 10**.

Table 5 Proposed signage

Indicative Signage Text (Subject to Change)	Type	Dimensions (mm)	Illuminated (Y/N)
LIVERPOOL BOYS & GIRLS HIGH SCHOOL	Composite aluminium, individual 3D lettering (50mm depth) and securely fixed to perforated screen	2100h x 6000w	N
-	Connecting with Country design to be printed on CFC cladding		N
LBGHS	Composite aluminium, individual 3D lettering (50mm depth) and securely fixed to perforated screen	600h x 4700w	N
LBGHS	Composite aluminium, individual 3D lettering (50mm depth) and securely fixed to perforated screen	600h	N
CABROGAL	Composite aluminium, individual 3D lettering (50mm depth) and securely fixed to perforated screen	300h	N
LIVERPOOL BOYS AND GIRLS HIGH SCHOOL	LED entry signage	4272h x 2400w	Y

Figure 10 Site signage plan

Source: NBRS

3.1.6 Landscaping

The proposed landscaping aims to celebrate the site's cultural and natural characteristics with references to the Georges River landscape and Connecting with Country. The built form has been designed along the site boundary to respond to the site's topography, while minimising earthworks to retain existing trees on site.

The proposed landscaping is detailed in the landscaping plans (**Appendix 6**) and shown at **Figure 11**. **Table 6** sets out the numerical provisions for landscaping across the site.

Table 6 Proposed Landscaping

Type of Landscaping	Existing	Proposed
Playspace	-	Total – 20,236m^2
Mature Tree Canopy Cover (excludes building areas)	Existing trees retained – 1,600m^2 55 trees will be retained	30% Proposed trees – 6,010m^2
Mass Planted Areas	-	15.2% Proposed mass planting – 5,020m^2 Proposed turf – 7,600m^2
Trees	114	243 trees

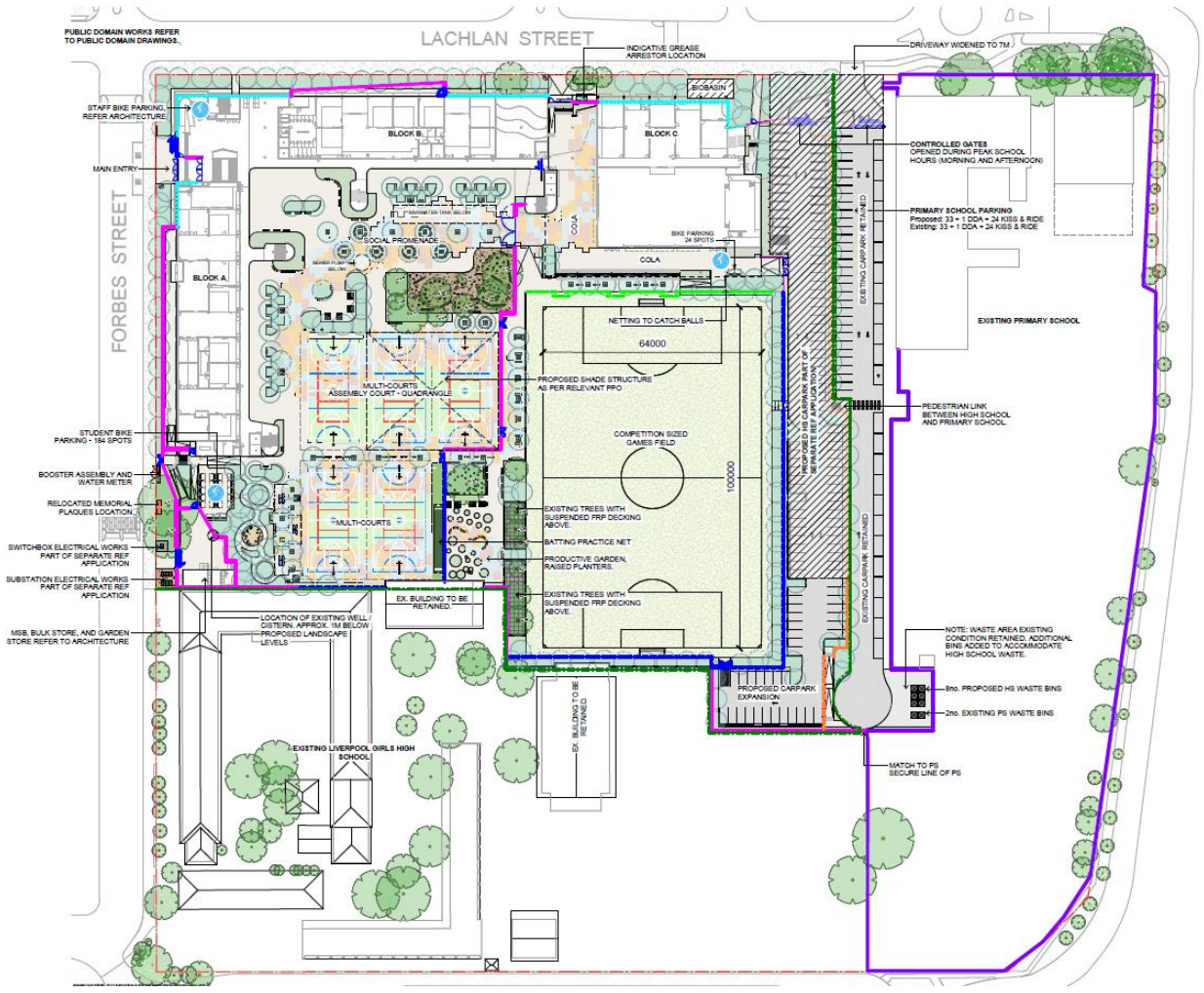

Figure 11 Landscape site plan

Source: NBRS

A site-wide landscaping strategy has been developed and includes:

- A full-size natural turf football field.
- Five multi-sport courts (netball, basketball, volleyball and tennis).
- Cricket practice nets.
- Covered and open outdoor learning and play areas.
- Landscape setbacks to all site boundaries.
- Tree planting throughout the site.

3.1.7 Access and Parking

The proposed access plan is provided at **Figure 12**. Vehicular access and the majority of car parking provision for the school will be delivered as exempt development under Stage 1.

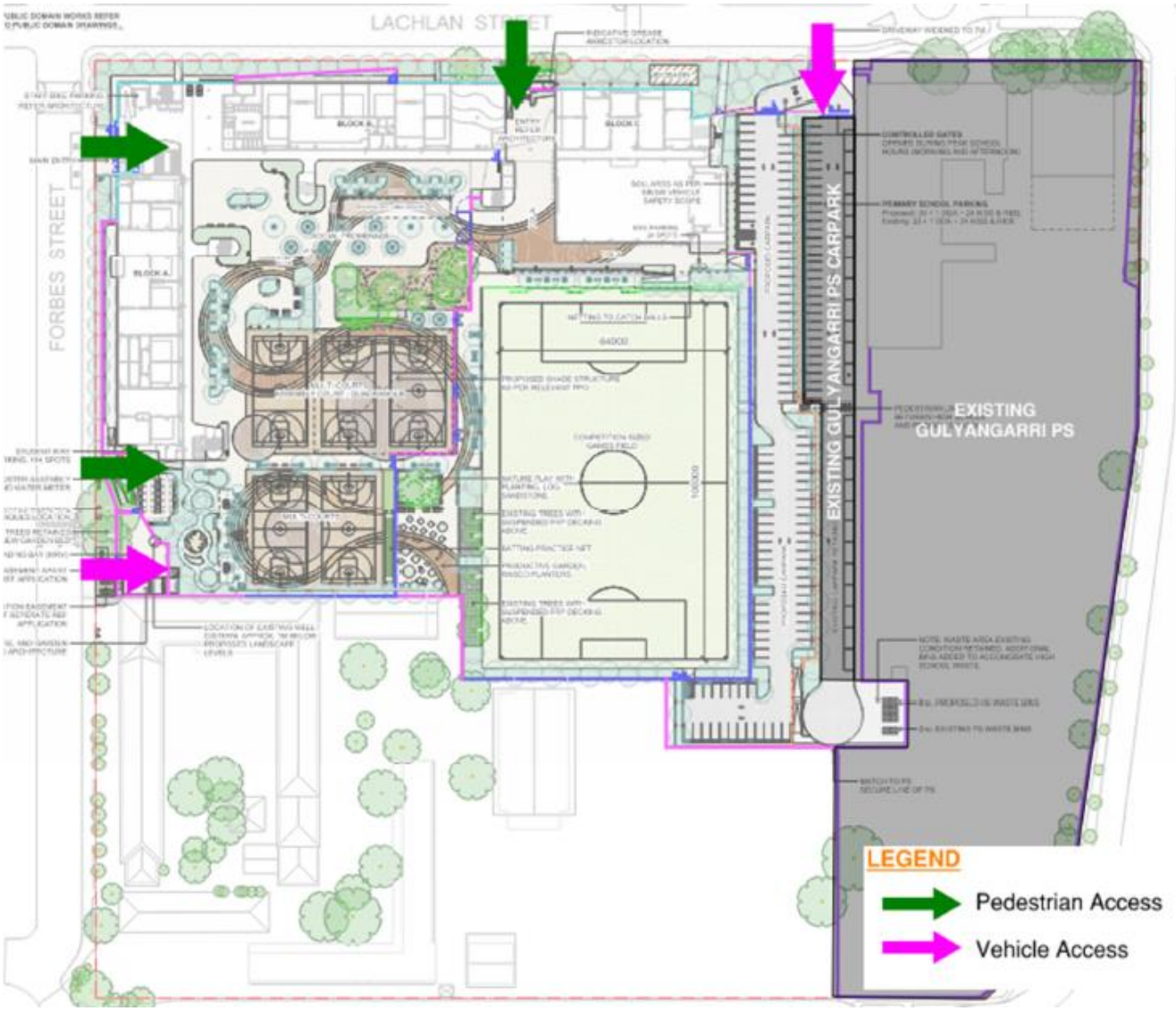

Figure 12 Proposed access plan

Source: TTW

Vehicular Access

Vehicle access into site will remain as existing off Lachlan Street, which currently provides access to the car park serving the Gulyangarri Primary School. The vehicular access point will be established to provide access to the car parking provision delivered under Stage 1 as exempt development.

Vehicles will also be able to access site from the existing access point off Forbes Street, which currently provides access to the staff parking, but will lead to a new loading area.

Car Parking

An at-grade staff car park is provided along the western boundary of the site, adjacent to the Gulyangarri Public School and accessible from the existing vehicular access point off Lachlan Street. 88 car parking spaces are to be delivered under the Stage 1 works as exempt development, with an extension to the car parking provision proposed under this REF, to accommodate an additional 24 spaces. As such, the provision of car parking spaces to be utilised for the school totals 112 spaces, including 2 accessible spaces.

Loading

The proposed activity will include a loading area located off Forbes Street to the west. The loading area within the site can accommodate vehicles up to and including an 8.8m Medium Rigid Vehicle (MRV). An existing on-street loading bay is sited just south of the access point and will remain in-situ. The existing loading bay is 12m in length and can accommodate an 8.8m MRV.

Waste collection will occur from the shared waste collection zone in the existing Gulyangarri waste collection zone in the southern end of the car parking facility, which has been designed to accommodate a 10.5m waste collector vehicle and will be shared with the Gulyangarri Public School. See **Figure 13** for further details with respect to the loading areas across the site.

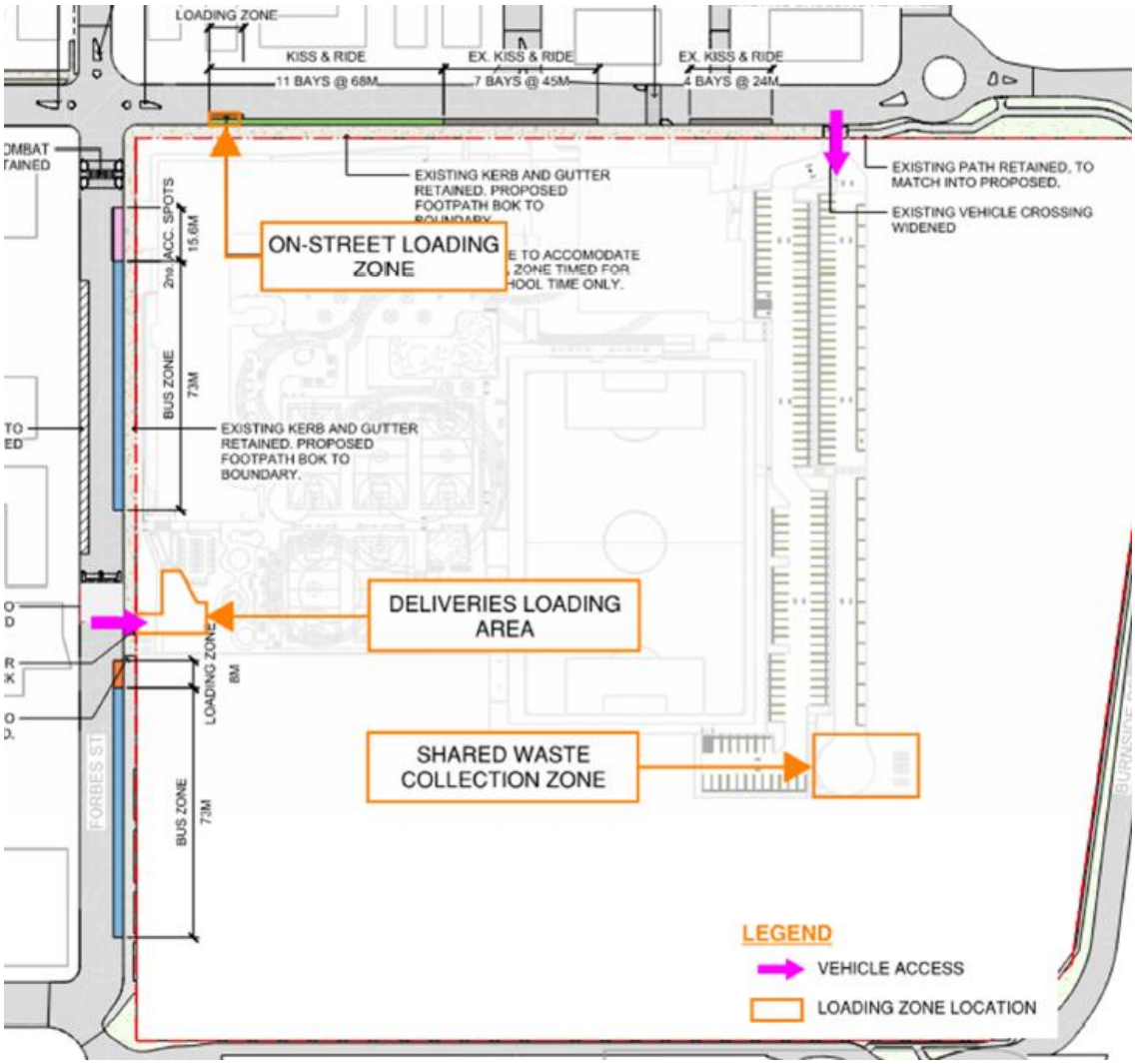

Figure 13 Proposed loading dock for service vehicles and waste collection

Source: TTW

Pick Up & Drop Off

The proposed activity will include the relocation of the existing 78m pick up and drop off area at Forbes Street, to the southern side of Lachlan Street, with a new 68m pick up and drop off zone. The existing 24m pick up and drop off zone along Lachlan Street will also be utilised for the proposed activity.

Buz Zone

The on-street bus zone along Forbes Street will be reconfigured from 103m to 73m long, as detailed in **Table 7**.

Pedestrian Access

The main pedestrian access will be on the corner of Forbes Street and Lachlan Street with two secondary access points from Lachlan Street, and further south off Forbes Street. Upgrades to, and new, off-site pedestrian infrastructure are listed in **Table 7**. The pedestrian entry points are easily accessible from the bus zones along Forbes Street and the pick up and drop off zone along Lachlan Street to ensure safety of students and will not require students to cross any roads.

Bicycle Parking

Bicycle parking is provided in the south west corner of the site with a total of 200 bicycle parking spaces for students and 22 bicycle parking spaces for staff.

End-of-trip (EOT) facilities are proposed for both staff and students. Student EOT facilities will provide shower facilities within the Gym. Staff EOT facilities will be located at lower ground level within the staff study area.

Crossings, Transport Works and Off-Site Works

The following off-site works are proposed, as outlined in **Table 7** and illustrated in **Figure 14** below. These works will be subject to further consultation with Council's Transport Working Group and LTC.

Table 7 Proposed Off-site works

Item (Refer to **Figure 14)**	Description	Location
Footpath Upgrade (F1)	Footpath widening from 1.2m to 2.5m width for 75m	Lachlan St (North) between Forbes St & Goulburn St
Pedestrian Refuge Upgrade (P1, P2)	Upgrade existing 2 pedestrian refuge to a compliant pedestrian refuge	Forbes St / Lachlan St (eastern and western leg)
Pedestrian Refuge (P3)	New pedestrian refuge at the northern leg of the intersection	Forbes St / Lachlan St (northern leg)
Wombat Crossing Relocation (P4)	Relocation of the existing raised crossing at the middle of Forbes Street to accommodate new vehicle access	Forbes St
K&R & Loading Bay Signage (S1)	Proposed new 68m K&R area with existing 30m K&R area to assist with vehicle movements. Total to 98m K&R are or equivalent to 15 K&R spaces. The first 12m of the K&R area is also proposed to be designated at a loading bay outside school bell times – upgrade to signage only	Lachlan St (South)
Parking Signage (S2)	Change signage at existing 78m K&R area to on-street parking	Forbes St (West)
Accessible K&R Signage (S3)	Provision of 2 accessible K&R spaces (~15.6m length / 2 DDA Spaces)	Forbes St (East)
Priority Reversal (S4)	A reversal of priority at the Lachlan Street / Forbes Street intersection	Forbes St / Lachlan St
Bus Zone (S5)	Reconfiguration of the existing 103-metre bus zone to 73 metres	Forbes St (East)
Loading Bay Signage (S6)	Provision of an on-street loading bay for an 8.8m MRV	Lachlan St (South)
Left-in Left-out and Right Turn Restrictions	LILO restrictions at the Lachlan and Forbes Street intersection, along with a recommended right-turn ban for the southern approach.	Lachlan St/Forbes St

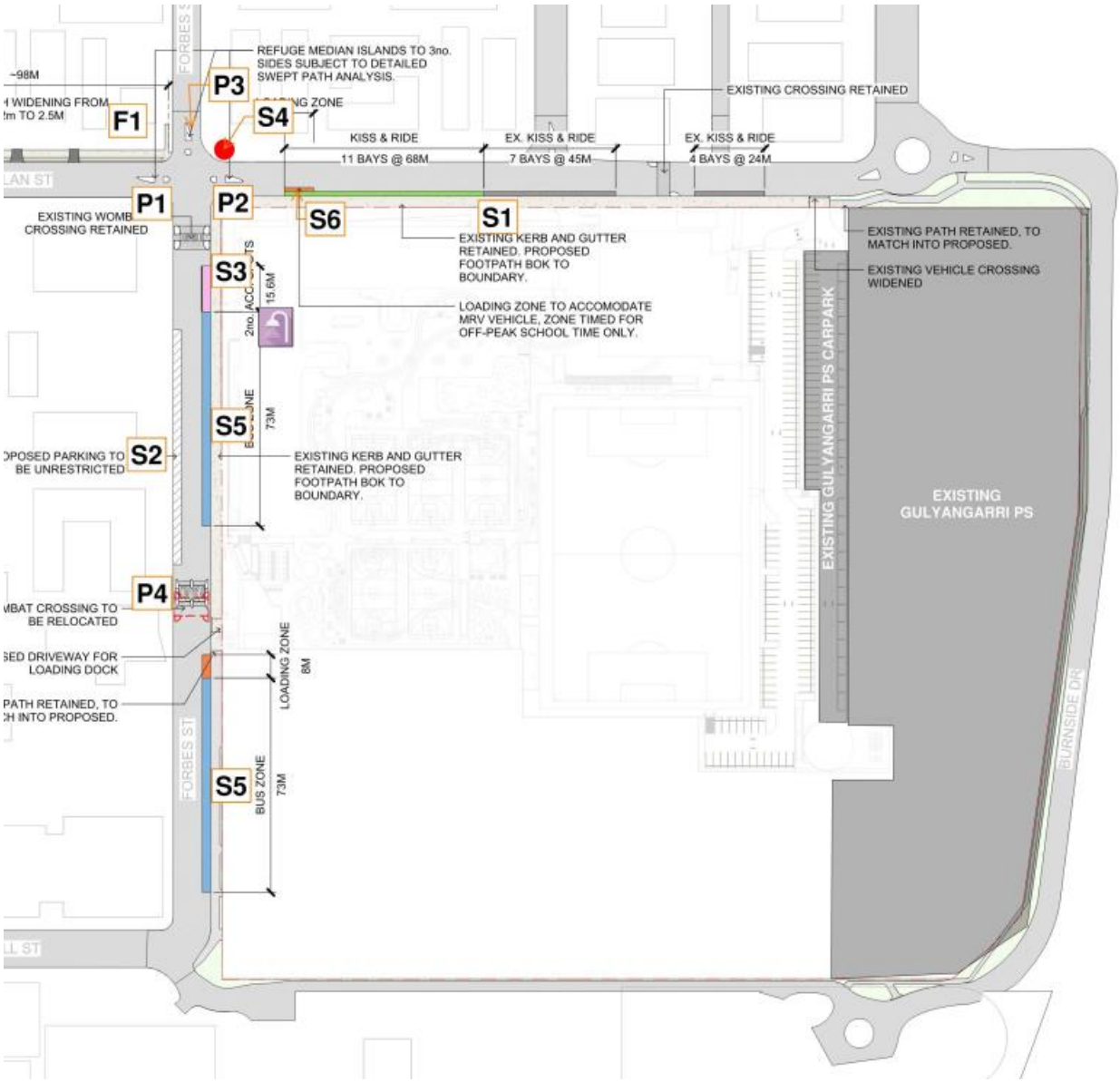

Figure 14 Proposed off-site works

Source: NBRS, TTW

3.2 Construction

Table 8 provides a summary of the project timeframes and construction activities in further detail.

Table 8 Summary of Construction Activities

Construction Activity	Description
Construction Hours	The proposed hours of construction align with the standard interim construction noise guideline construction hours and are as follows: • 7:00am to 6:00pm, Monday to Friday; • 8:00am to 1:00pm, Saturday; and • No work without prior approval on Sundays and Public Holidays. In addition to regular working hours, there will be occasional periods when out of hours work will be necessary. This may include special deliveries, hoarding installation and removal, and services connections. Crane installation and removal may need to be undertaken over a weekend, utilising both Saturday and Sunday to minimise impacts on the surrounding areas.

Construction Entry and Exits	The proposed construction entry and exit is shown at **Figure 15**. Access for construction vehicles can be achieved from both Lachlan and Forbes Street. A designated pedestrian path has been designed to enable public to enter the Temporary School (under a separate REF).

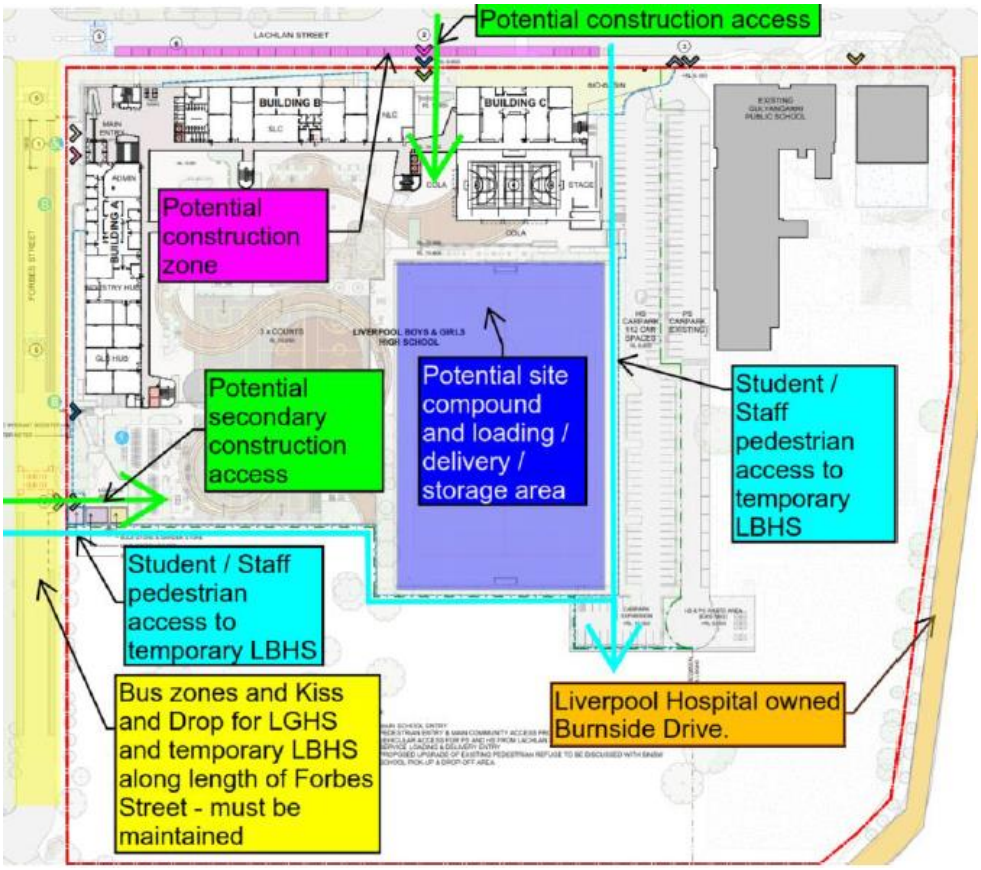

Figure 15 Proposed construction access, entry and exits

Source: NBRS, Colliers

Site Establishment	The Head Contractor will provide and maintain all necessary temporary facilities required for the safe and secure performance of the works, including, but not necessarily be limited to: • First aid facilities; • Hoardings; • Storage compounds; • Work sheds; • Cranes; • Site amenities; • Temporary site sheds; • Bins for rubbish generated by personnel; • Access equipment, including scaffolding, barriers, platforms, ladders, etc; • Construction plant; and • Emergency vehicle access.
Construction Waste Management	Construction waste management has been outlined in the Construction Waste Management Plan (**Appendix 16**). The demolition works for the existing buildings of the Liverpool Boys High School are not within the scope of this REF, however the Waste Management Plan has been prepared for the wider project. There is a proposed bin storage area for construction in the north of the site. General construction waste will be collected and placed in appropriate waste bins provided on site. Any materials removed from the site will be managed and disposed of at an approved landfill.
Construction Jobs	120 Full-Time Equivalent (FTE)

Storage of Dangerous Goods	The storage of dangerous goods will be within a lockable compound with sufficient ventilation, bunding, hard surface and located in accordance with relevant codes of practice and standards. A material data sheet will be provided by the Contractor.

3.2.1 Site Preparation

Summary of Staging

The proposed activity will be delivered in four stages, with Stage 1 works associated with the construction and operation of the temporary school buildings, car parking and retaining wall which are to be delivered as exempt development, which will be served by associated electrical, communication and hydraulic infrastructure works, including a substation, as detailed in a separate Review of Environmental Factors pursuant to Part 5 of the Environmental Planning and Assessment Act 1979 (EP&A Act).

The demolition of the existing Liverpool Boys High School will be undertaken via a CDC. The temporary school is required to decant the existing boys school population during construction of the new school buildings.

Table 9 outlines the staging of the broader project, including the activities proposed in this REF. Stage 2, 3 and 4 works are proposed under this REF. Whilst some Stage 2, 3 and 4 works are exempt development under the TI SEPP, the impacts of these works have been assessed under this REF for completeness, noting that the proposed exempt works are ancillary to the new school buildings.

Table 9 Staging Activities

Stage	Activity	Approval Pathway
Stage 1 (Not Subject to this REF)	Installation of temporary school buildings	Exempt development under Section 3.39 of the TI SEPP
	Stormwater infrastructure works (stormwater pits & pipes (including water quality treatment chamber and temporary swale))	Development without consent under Part 2.3 of the TI SEPP
	Car parking and associated internal vehicle access	Exempt development under Schedule 5 of the TI SEPP
	Electrical and communication inground conduits including a substation	Development without consent under Section 2.44 of the TI SEPP
	Tree removal ancillary to the installation of services	Development without consent under Part 2.3 of the TI SEPP
	Retaining wall	Exempt development under Schedule 5 of the TI SEPP
	Demolition of the existing Liverpool Boys High School	Complying development under Section 3.40 of the TI SEPP
Stage 2	Construction of a six-storey school building and hall	Development without consent under Section 3.37 of the TI SEPP – refer to **Table 13**
	Removal of existing trees	Development without consent under Section 3.37 of the TI SEPP – refer to **Table 13**
	Provision of landscaping	Exempt development under Section 3.39 of the TI SEPP

	Provision of games courts	Development without consent under Section 3.37 of the TI SEPP – refer to **Table 13**
	Provision of a full-sized sports field that uses natural turf	Exempt development under Section 3.39 of the TI SEPP
	Provision of bicycle parking	Exempt development under Section 3.39 of the TI SEPP
	Installation of inground building services works, utility services and telecommunication infrastructure including the removal of existing telecommunications services across the site, and new service infrastructure including a bulk store and garden store, main switchboard, water meter, fire hydrant booster, two 1500kVA kiosk transformers and inground telecommunications services	Development without consent under Part 2.3 of the TI SEPP – refer to **Table 13**
	Installation of stormwater infrastructure including bio-basin	Development without consent under Part 2.3 of the TI SEPP – refer to **Table 13**
	Installation of 99kW PV rooftop panels associated with the building	Development without consent under Section 3.37 of the TI SEPP – refer to **Table 13**
	Provision of associated off-site road works to support the school, including: reconfigured bus zone, new pick up and drop off spaces, upgrade to existing pedestrian refuge, new pedestrian crossings, footpath widening, and on-street loading area	Development without consent under Part 2.3 of the TI SEPP – refer to **Table 13**
	Installation of lighting	Exempt development under Schedule 5 of the TI SEPP
Stage 3	Decommissioning and removal of the temporary school	Development without consent under Section 3.37 of the TI SEPP – refer to **Table 13**
Stage 4	Construction of car park extension	Development without consent under Section 3.37 of the TI SEPP – refer to **Table 13**
	Completion of the playing field and adjacent landscaping	Exempt development under Section 3.39 of the TI SEPP
	Reinstatement of the fencing delineating Gulyangarri Public School and Liverpool Girls High School sites	Exempt development under Schedule 5 of the TI SEPP

The proposed staging plans are illustrated at **Figure 16** below.

Stage 1 works will be concurrent with the operation of the existing Liverpool Boys High School and Liverpool Girls High School. Stage 2 works will be concurrent with the operation of the existing Liverpool Girls High School and the proposed temporary school. Stage 3 and 4 works will be concurrent with the operation of the new school buildings. The Stage 1 works that are subject to the separate REF, relating to the stormwater infrastructure, electrical and communication inground conduits and substation, will be completed prior to the commencement of construction of the permanent school and maintained from Stage 2 onwards.

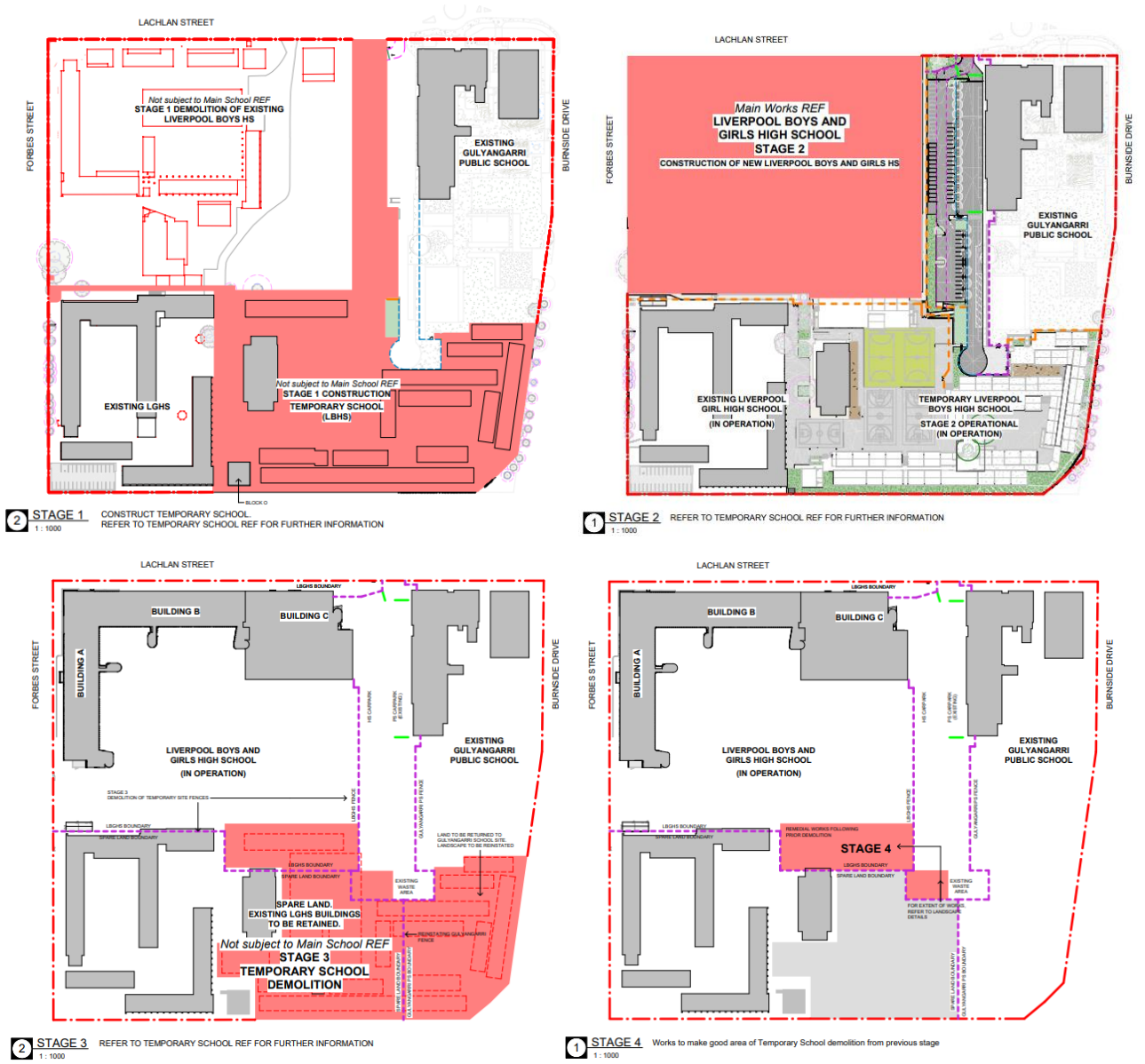

Figure 16 Proposed staging plan

Source: NBRS

Tree Removal

To facilitate the delivery of the Liverpool Boys and Girls High School and associated works, the proposed activity seeks to undertake the following works:

- Removal of 49 trees (as well as the removal of an additional 6 trees in Stage 1, which are subject to a separate planning pathway).
- Removal of all existing on-site parking.
- Removal of tennis court and concrete surfaces.

The proposed tree management plan is provided at **Figure 17** below.

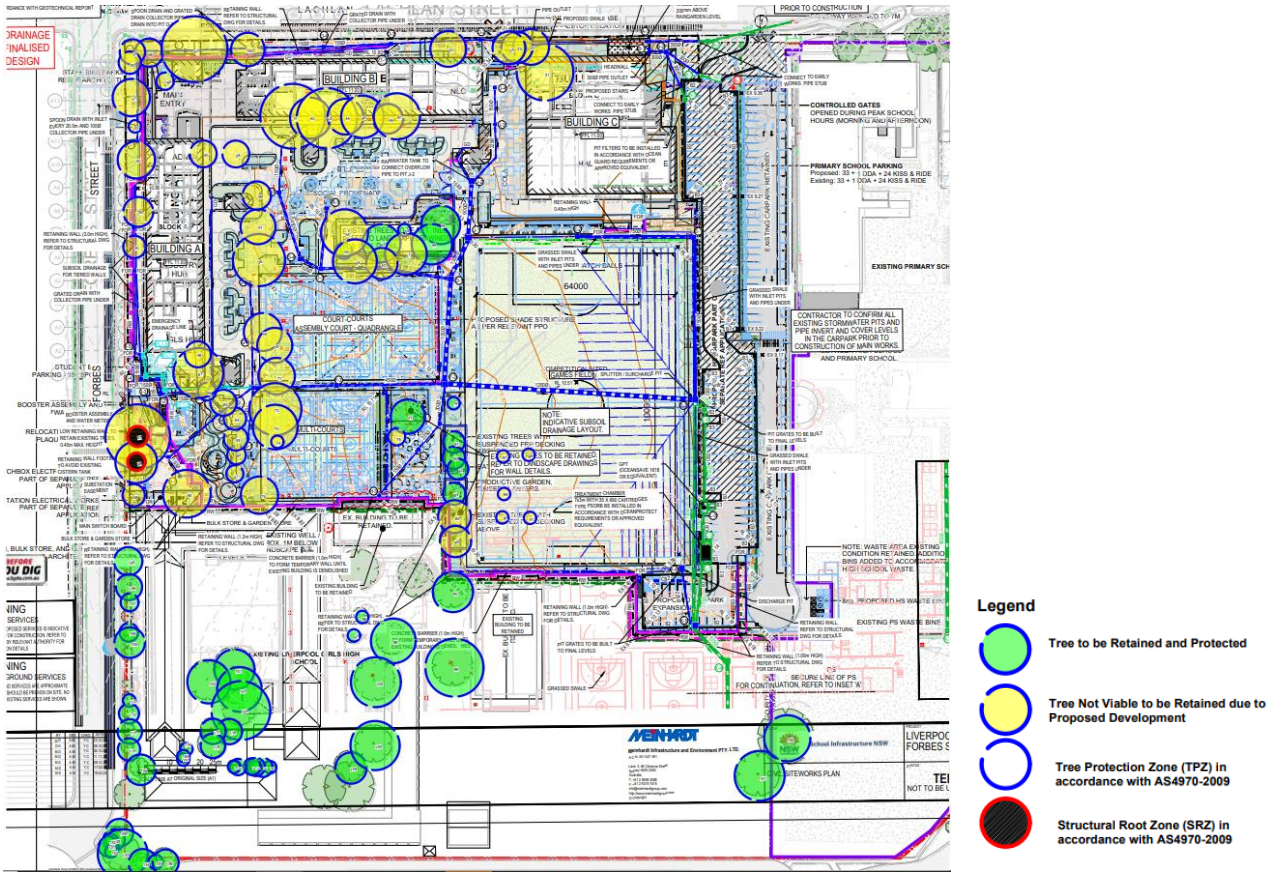

Figure 17 Tree Location Plan

Source: Birds Tree Consultancy

Earthworks

The proposed activity includes earthworks with a balanced cut/fill with the following earthwork quantities:

- Total cut volume: 10,606m^3
- Total fill volume: 13,006m^3
- Net import volume: 2,400m^3

The earthworks plan is provided at **Figure 18**. Material excavated could be a mixture of Virgin Excavated Natural Material, Excavated Natural Material, General Solid Waste or unsuitable material.

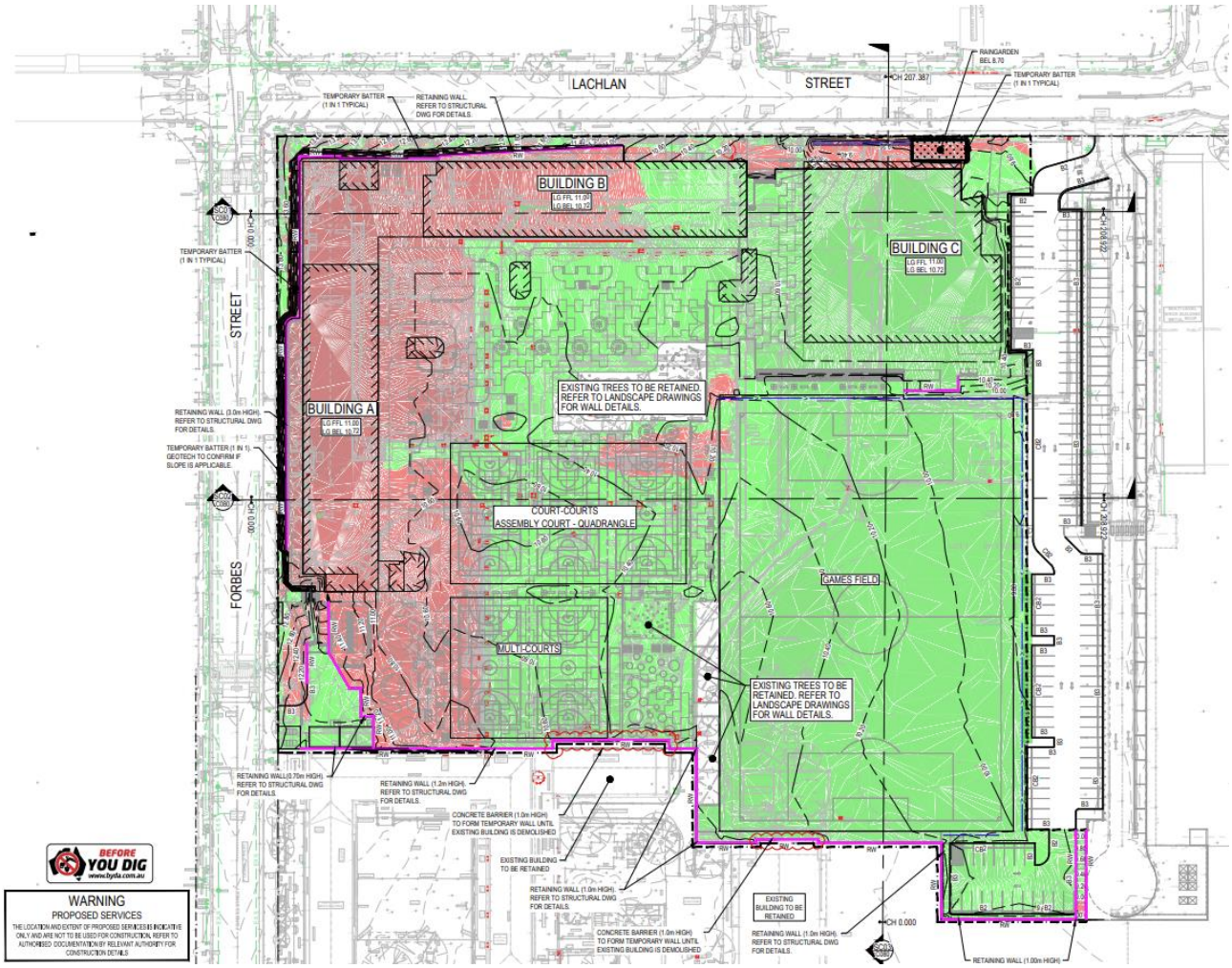

Figure 18 Proposed bulk earthworks

Source: Meinhardt

Remediation

The proposed activity includes site establishment and remediation works, the scope of which includes a 'cap and contain' physical separation strategy within a suitable area of the site. Refer to **Appendix 31** for further information.

Utilities and Services

The proposed utilities and services for the site are provided in **Table 10**.

Table 10 Utilities and Services

Utility or Service	Comment
Stormwater	For the proposed activity, a 450mm diameter Council pipe is proposed in Lachlan Street for a small catchment of the stormwater runoff and majority of the flow will be discharged to the existing Council 1200mm diameter stormwater pipe in Campbell Street. Stormwater run-off from the roof and ground level areas will be captured on site and directed to an existing road pit south of Burnside Drive via a new on-site drainage. The new Liverpool Boys and Girls High School will utilise and connect to the pipes proposed under the Stage 1 works. Connection will be via a Council pit which is located south of the Gulyangarri Public School within Liverpool Hospital site. An on-grade basin is proposed with 2 orifice plates to control outflow.

Electrical	The proposed activity will utilise the 2 1500kVA kiosk transformers delivered under the Stage 1 REF for the anticipated maximum demand with the maximum demand calculated at 2519kVA. The proposed activity will utilise the substation delivered under the Stage 1 REF.
Telecommunications	The proposed activity will establish a new main communications room on the ground floor to service the school. New incoming telecommunications services will be established within the room and distributed to the school.
Water	The existing water mains are expected to be able to support the water demand for the proposed activity. The mains will be connected to the site along Forbes Street.
Sewer	The existing sewer mains are expected to be able to support the sewer demand for the proposed activity.

3.3 Operation

The new Liverpool Boys and Girls High School will provide publicly accessible educational facilities for all capabilities, consolidating two existing schools, which are anticipated to accommodate approximately 2,000 students and 214 staff, a minor increase from the existing 1,720 students across the Liverpool Boys High School and Liverpool Girls High School. The estimated enrolment in the opening year will be approximately 1,200 students and 166 staff.

The school will operate as per the following hours in **Table 11**.

Table 11 Summary of Operation

Activity	Operating Hours
School hours – use of all school facilities	8:00am to 4:00pm, Monday to Friday.

3.3.1 Operational Waste Management

The proposed activity will require the following bin storage:

- General Waste: 13 x 1100L bins collected 3 x weekly
- Recycling: 10 x 1100L bins collected 3 x weekly

Each classroom and across the campus grounds will have bins of approximately 20L for waste and recycling. Cleaners will collect waste and recycling from the campus and transport waste to the bulk bin storage area.

A private waste contractor will collect waste 3 times a week, entering from Lachlan Street, towards the existing shared waste area between the high school and Gulyangarri Public School. The existing shared waste area for Gulyangarri Public School can accommodate both sites.

3.4 Related activities

As discussed in **Section 3.2**, Stage 1 of the works seeks the construction and operation of a temporary school to accommodate the displaced students during the construction of the new co-educational Liverpool Boys and Girls High School. Once the school is operational, the temporary school will be removed. The approval for the Stage 1 works, primarily involving the infrastructure

works associated with the temporary and permanent schools, is sought under a separate Review of Environmental Factors pursuant to Part 5 of the EP&A Act.

The proposed activity will utilise the car park, substation, stormwater infrastructure and services proposed within Stage 1, which are subject to separate planning pathways. The demolition of the existing Liverpool Boys High School will be undertaken as complying development.

4. Proposal Need and Alternatives

4.1 Proposal Need

The Liverpool Boys and Girls High School Upgrade Project seeks to address the growing demand for secondary education in Liverpool. As part of the NSW Government's 2024-2025 Budget allocation to revitalise public education, the NSW Government allocated $3.5 billion for new and upgraded schools in Western Sydney. The strategic investment aims to provide growing communities with access to top-tier public education.

In March 2024, it was announced the NSW Government would deliver a new co-educational high school in Liverpool by bringing together the two existing single-sex high schools into a brand-new school build. The NSW Government has promised to provide every student a co-educational public school option and this project will form part of the Liverpool Health and Academic Precinct being developed by the DPHI in collaboration with NSW Health, TAFE NSW, the Liverpool Innovation Precinct Steering Committee and Liverpool City Council.

4.2 Proposal Objectives

The proposed activity has the following objectives:

- To provide a high-quality learning environment and increase availability of places for students.
- To create welcoming facilities which prioritise the care and well-being of the school community.
- To ensure the school responds to the historical context of the site and the cultural knowledge of the traditional custodians of the land thus providing spaces and design aspects that reflect the cultural context.
- To create agile and responsive places using biophilic design principles, be accessible and welcoming, and respond to the urban fabric of the neighbourhood that will be a source of joy and pride to staff, students, and the local community.
- To consider positioning, massing, bulk, and scale of buildings to respond to the urban and environmental context.
- Design to enable staged construction and operation.

4.3 Analysis of Alternatives

The proposed activity has been developed following a consideration of options and alternatives to address the need identified above. A summary of the options considered is provided in **Table 12**.

Table 12 Assessment of options and alternatives

Option	Discussion	Preferred Option
Option 1: Do Nothing	The 'Do Nothing' scenario would result in the site being underutilised and not providing the appropriate educational facilities to residents in the Liverpool region. Option 3 does not provide a	Option 1 is not preferred as it would represent a missed opportunity to deliver improved and much-needed educational facilities to support the evolving Liverpool precinct.

Option	Discussion	Preferred Option
	desirable outcome as it fails to adequately plan for future population growth for Liverpool.	
Option 2: Alternate Design: Masterplan and Concept Design	Alternate designs were considered, but were not pursued as further detailed design development was undertaken. Various design options were disregarded primarily due to the footprint constraints within the site parameters and budget constraints. Additionally, alternative designs were found to result in insufficient play spaces for the school.	Option 2 is not preferred as further design has been undertaken to achieve Option 3 which is a more desirable outcome, which complies with the Department of Education Educational Facilities and Standards Guidelines.
Option 3: The Proposed Activity	The proposed activity will provide improved essential educational services to a developing and growing locality. The upgrade is required to meet the growing demand of the Liverpool Region.	Option 3 is preferred as the locality is undergoing transformation and requires improved infrastructure to support school aged residents and access to education for current and future generations. The site is used for the existing Liverpool Boys and Girls High School and will continue to provide educational services. The upgrade will establish an active learning environment for equity, wellbeing, learning and knowing. The upgrade has been designed to be sensitive to the surrounding properties and establish building heights that are sympathetic to providing natural light to outdoor play areas. The upgrade will also incorporate ecologically sustainable development (ESD) principles in the school's design and operation.

5. Statutory and Strategic Framework

This Section describes the statutory and strategic frameworks under which the proposed activity has been assessed.

5.1 Permissibility and Planning Approval Pathway

This section of the REF identifies the relationship between the proposed activity and the planning framework.

The TI SEPP aims to facilitate the effective delivery of infrastructure and educational establishments across the state and provides that various developments for the purposes of a government school are permitted without consent. The proposed activity is development permitted without consent as outlined at **Table 13**.

Construction and operation of the new school buildings is permitted without consent under both Section 3.37(1)(f) and Section 3.37(1)(a) which allows for the construction and operation of a library or an administration building, a permanent classroom, a cafeteria or canteen, a car park, a hall with an associated covered outdoor learning area, and a sporting field or any type of court used for sports that uses synthetic turf.

Associated works proposed will utilise exempt development provisions and the development without consent provisions for infrastructure under Chapter 2 of the TI SEPP, to support the broader school upgrade and new buildings. For completeness, this REF considers the impacts associated with the identified exempt development works under Stage 2, 3 and 4, noting that these works are ancillary and required in connection with the new school buildings.

Table 13Description of proposed Activities under the TI SEPP

Division and Section within TI SEPP	Description of Works
Part 2.3, Division 5 – Electricity Transmission or Distribution	
Section 2.44(1)	Section 2.44 of the TI SEPP allows for development for the purpose of an electricity transmission or distribution network to be carried out by or on behalf of an electricity supply authority or public authority (DoE) without development consent. Furthermore, the works may be carried out as they do not include development on land reserved under the National Parks and Wildlife Act 1974 (NPW Act).
Part 2.3, Division 17 – Roads and Traffic	
Section 2.109	Development for the purpose of a road or road infrastructure may be carried out by a public authority without consent on any land. The proposed works involve the carrying out of work on a public road. This includes the use of the road for a work zone during construction, and upgrade to existing pedestrian refuge, new pedestrian crossings, footpath widening, reconfiguration of bus zone, provision of on-street loading zone bay and adjacent pick up and drop off zone.
Part 2.3, Division 18 - Sewerage Systems	
Section 2.126	Section 2.126 permits development for the purpose of a sewage reticulation system to be carried out without consent on any land, if it is done in a ‘prescribed circumstance’. Section 2.126(1) identifies that development is carried out in a ‘prescribed circumstance’ when it is carried out by or on behalf of a public authority. The activity is being undertaken by the DoE and therefore the sewage

Division and Section within TI SEPP	Description of Works
	reticulation system can be carried out without consent on site.
Part 2.3, Division 20 – Stormwater management systems	
Section 2.137	Section 2.137 of the TI SEPP allows for development for the purpose of a stormwater management system (including a water reticulation system) to be carried out by or on behalf of a public authority without consent on any land. The stormwater management system proposed will be carried out by the DoE and as such, the works can be carried out on site without consent.
Part 2.3, Division 21 – Telecommunications and other communication facilities	
Section 2.141	Section 2.141 of the TI SEPP allows for development for the purposes of telecommunications facilities to be carried out by a public authority without consent on any land. As the activity is to be carried out by the DoE (a public authority), the proposed telecommunications infrastructure can be carried out without consent on site.
Part 2.3, Division 24 – Water supply systems	
Section 2.159	Section 2.159 allows for the development of water reticulation systems without consent if it is carried out by or on behalf of a public authority (DoE) on any land by or on behalf of a public authority.
Chapter 3 – Educational establishments and child care facilities	
Section 3.1	The proposed activity is consistent with the aims of the TI SEPP as set out at Section 3.1 in that it will: • Allow for the efficient redevelopment of the Liverpool Boys High School and Liverpool Girls High School on government owned land and provides an educational establishment for the local area. • Be consistent with design considerations for educational establishments while minimising impacts on surrounding areas. • Be consistent with consultation requirements with relevant public authorities during the assessment process and prior to development commencing. • Be developed in accordance with the NSW planning framework.
Part 3.4 – Schools – specific development controls	
Section 3.37	The proposed activity comprises the redevelopment of the Liverpool Boys High School and Liverpool Girls High School, within the boundaries of an existing and approved government school, on behalf of a public authority (DoE). The proposed activity is development without consent under Section 3.37(1)(f), and Section 3.37(1)(a). Section 3.37(1)(f) facilitates the construction and operation of buildings associated with the operation of the school, within a prescribed zone, which is defined within Part 3.4 of the TI SEPP and includes Zone SP2 Infrastructure. Section 3.37(1)(a) allows for the construction and operation of a library or an administration building, a permanent classroom, a cafeteria or canteen, a car park, a hall with an associated covered outdoor learning area, and a sporting field or any type of court used for sports that uses synthetic turf. The proposed activity involves the construction of a number of buildings with a maximum height of 22.5m which is significantly less than the height limit of 35m specified in the Liverpool Local Environmental Plan 2008. The proposed activity would not result in the contravention of any existing condition of the development consent currently operating (other than a complying development certificate) that applies to any part of the school, relating to hours of operation, noise, vehicular movement, traffic generation, loading, waste

Division and Section within TI SEPP	Description of Works
	management or landscaping. Part 3.1 of the TI SEPP notes that if development for a particular purpose may be carried out without development consent includes construction works, certain works or activities are deemed to be 'construction works' if they are carried out for that purpose, including the clearing of vegetation (including any necessary cutting, pruning or removal of trees) and associated rectification and landscaping. Tree removal is therefore facilitated through 3.37(1)(a) as the proposed activity involves the construction and operation of a library or an administration building, a permanent classroom, a cafeteria or canteen, a car park, a hall with an associated covered outdoor learning area, and a sporting field or any type of court used for sports that uses synthetic turf. The Design Quality Principles set out in Schedule 8 of the TI SEPP and the Design Principles set out in the Design Guide for Schools have been considered as set out in the Architectural Design Report at **Appendix 5**.
Schedule 8 – Design quality principles in schools – Chapter 3	The Design Quality Principles set out in Schedule 8 of the TI SEPP have been considered as set out in the Architectural Design Report at **Appendix 5**.

Activities permissible without consent require environmental impact assessment in accordance with Division 5.1 of the EP&A Act and are assessed and determined by a public authority, referred to as the determining authority. The department is the proponent and determining authority for the proposed works.

Additionally, Section 5.7 of the EP&A Act states that an activity that is likely to significantly affect the environment must be subject of an Environmental Impact Statement rather than an REF. The effects of the activity on the environment are considered in **Section 7** and have been assessed as a less than significant impact and can therefore proceed under an REF assessment.

Section 171(1) of the EP&A Regulation notes that when considering the likely impact of an activity on the environment, the determining authority must take into account the environmental factors specified in the guidelines that apply to the activity.

The *Guidelines for Division 5.1 Assessments* (DPE June 2022) and the *Guidelines for Division 5.1 assessments Consideration of environmental factors for health services facilities and schools Addendum* (DPHI, October 2024) provide a list of environmental factors that must be taken into account for an environmental assessment of the activity under Division 5.1 of the EP&A Act. These factors are considered in detail at **Section 7.12**.

Existing Development Consents

A request for all development consents applying to the site was submitted to Liverpool Council under the *Government Information (Public Access) Act 2009* (GIPA Act) and the development consents are listed in **Table 14**.

Table 14 Development consents applying to the site

Development Application #	Description	Date Determined
DA-21/93	DA for erection of a music room within the existing school.	10/03/1993
DA-2963/99	DA for shade cloth structure.	26/03/1999 (Approved)
DA-2379/01	DA for roof only gable sun and rain shelter.	14/05/2001 (Approved)
DA-1099/2007	DA for shade structures.	6/09/2007 (Approved)
DA-639/2008	DA for a gymnasium at Liverpool Girls High School.	4/04/2008 (Approved)
CDC – unknown	Refurbishment of existing construction facility to provide a Trade Training Centre for Construction, including workshop, materials store room, project store room, equipment store room and dust extraction plant room.	7/01/2013 (Approved)
DA-1101/2022	DA for the proposed signage installation at Liverpool Boys High School.	27/07/2023 (Approved)
CD-840/2024	Construction of fit-out to an existing building with children's play areas, office, admin and staff facilities, amenities and storage.	21/06/2024 (Registered)

The proposed activity would not contravene any existing condition of the consents currently operating (other than a complying development certificate) that applies to any part of the school, relating to hours of operation, noise, vehicular movement, traffic generation, loading, waste management or landscaping.

5.2 Environmental Protection and Biodiversity Conservation Act 1999

The provisions of the EPBC Act do not affect the proposal as it is not development that takes place on or affects Commonwealth land or waters. Further, it is not development carried out by a Commonwealth agency or development on Commonwealth land, nor does the proposed development affect any matters of national significance. An assessment against the EPBC Act checklist is provided at **Table 15**.

Table 15 EPBC Act Checklist

Consideration	Yes/No
Will the activity have, or likely to have, a significant impact on a declared World Heritage Property?	No
Will the activity have, or likely to have, a significant impact on a National Heritage place?	No
Will the activity have, or likely to have, a significant impact on a declared Ramsar wetland?	No
Will the activity have, or likely to have, a significant impact on Commonwealth listed threatened species or endangered community?	No
Will the activity have, or likely to have, a significant impact on listed migratory species?	No

Consideration	Yes/No
Will the activity involve any nuclear actions?	No
Will the activity have, or likely to have, a significant impact on Commonwealth marine areas?	No
Will the activity have any significant impact on Commonwealth land?	No
Would the activity affect a water resource, with respect to a coal seam gas development or large coal mining development?	No

5.3 Other Approvals and Legislation

Table 16 identifies any additional approvals that may be required for the proposed activity.

Table 16 Consideration of other approvals and legislation

Legislation	Relevant?	Approval Required?	Applicability
State Legislation			
National Parks and Wildlife Act 1974	Yes	Yes	An Aboriginal Cultural Heritage Assessment Report (ACHAR) has been prepared in support of this REF (**Appendix 9**). The ACHAR was supported by pedestrian survey and test excavations which resulted in the identification of three Aboriginal sites which would be impacted by Stage 1 of the works resulting in total loss of value to all three sites. As the Stage 1 works are to occur prior to the construction of the permanent school, no impacts were identified associated with the current proposed activity under this REF. The ACHAR acknowledges and supports the application of an Aboriginal Heritage Impact Permit (AHIP) for the site and an AHIP approval covering the whole Lot is being obtained as part of the Stage 1 REF. The proposal does not affect a NSW National Park.
Rural Fires Act 1997	No	No	The proposed activity is categorised as a Special Fire Protection Purpose (SFPP) in accordance with Section 100B of the *Rural Fires Act 1997*. As the site is not on or affected by designated Bushfire Prone Land, no Bushfire Safety Authority or approval is required from the RFS as per Clause 100B(2).
Water Management Act 2000	Yes	No	The site is not located within 40 metres of a watercourse. The activity does not involve water use, water support work, drainage work or flood work. DoE is a public authority and so is exempt from a controlled activity approval under the water management act.
Biodiversity Conservation Act 2016	No	No	The site does not contain any critical habitat, threatened species or ecological population or community and will not affect threatened flora or fauna or critical habitat.
Heritage Act 1977	Yes	No	Approvals under the *Heritage Act 1977* are required where impacts to State Heritage Items or archaeological relics have been identified. The site does not contain any State listed heritage items, nor are any state heritage items located in the vicinity of the site. A Historical Test Excavation Report (**Appendix 34**) were

Legislation	Relevant?	Approval Required?	Applicability
			prepared to identify the potential for archaeological relics to be present. Relics were identified at one location within the site, which comprises a cistern and artefact deposit. The relic was identified approximately 1m below the current ground surface and has been assessed as unlikely to be impacted by the activity. An unexpected finds procedure has been developed should additional archaeological material be identified. Where unexpected archaeological relics are identified and are to be impacted, a Section 140 permit would be sought from Heritage NSW.
Contaminated Lands Management Act 1997	Yes	No	The site is not identified on the register of contaminated sites. A detailed site investigation (**Appendix 30**) confirms the site is suitable for the proposed school subject to remediation of identified asbestos and copper contamination, which has been identified within the Remedial Action Plan (RAP) provided at **Appendix 31**.
Protection of the Environment Operations Act 1997	No	No	The proposed activity will not result in significant air, noise, water or waste pollution, and will not require an environment protection licence.
Local Government Act 1993	Yes	No	Various activities (e.g. water, sewer, stormwater connections, amongst other things) generally required the approval of Council under Section 68 of the *Local Government Act 1993*. However, pursuant to Section 69 (crown exemption from approval to do things incidental to erection or demolition of building) of the Act, Section 68 does not require the Crown, or a person prescribed by the regulations to obtain the approval of Council to do anything that is incidental to the erection or demolition of a building.
Mine Subsidence Compensation Act 1961	No	No	The site is not in a mine subsidence district.
Environmental Planning and Assessment Regulation 2021 (Section 171A)	Yes	No	The site is identified within the Georges River Catchment which is a regulated catchment. Section 171A of the EP&A Regulation sets out additional matters to take into account when considering the likely impact of an activity on the environment in a regulated catchment. This assessment is carried out at **Section 7**.
State Legislation – State Environmental Planning Policies			
State Environmental Planning Policy (Planning Systems) 2021	Yes	No	Section 2.6 of the State Environmental Planning Policy (Planning Systems) 2021 (Planning Systems SEPP) states that development is declared to be State Significant Development (SSD) for the purposes of the EP&A Act if: • The development (SSD) is not permissible without development consent under Part 4 of the EP&A Act. • The development is specified in Schedule 1 or 2. Clause 15 of Schedule 1 of the Planning Systems SEPP States that: ○ Development for the purposes of the erection of a building, or alterations or additions to an existing building, at an existing school that has an estimated development cost of more than $50

Legislation	Relevant?	Approval Required?	Applicability
			million. The Liverpool Boys and Girls High School Upgrade Project has an estimated development cost of more than $50 million and is for the purposes of a building on an existing school. However, as documented in **Section 5.1** of this REF, the proposed activity meets the requirements for Section 3.37 of the TI SEPP and therefore can be assessed as development permitted without consent. The proposed activity must be assessed under Part 5 of the EP&A Act and not as SSD under Part 4 of the EP&A Act. The land is not owned by an Aboriginal Land Council. There are no concurrent consent authorities to this activity.
State Environmental Planning Policy (Biodiversity and Conservation) 2021	Yes	No	The determining authority is required to consider the likely impact of the activity on the environment within a regulated catchment. These controls relate to water quality and quantity (Section 6.6), aquatic ecology (Section 6.7), flooding (Section 6.8), and recreation and public access (Section 6.9). In this regard, the proposed activity will include sufficient stormwater infrastructure and mitigation measures to ensure there will be no substantial impact to the catchment. The activity includes water quality controls to manage overland flow to control water quality and quantity. The activity will not include the clearing of riparian vegetation that requires an approval under the *Water Management Act 2000* (WM Act) or the *Fisheries Management Act 1994* (FM Act). All erosion that results from flooding during construction can be mitigated through an erosion and sediment control plan and control measures must be maintained in an effective operational condition. Furthermore, there will be no impacts on recreational land uses as all stormwater will be collected within pipes and all overland flow have been designed in accordance with Council's requirements. Accordingly, the consent authority is able to grant consent to the activity.
State Environmental Planning Policy (Sustainable Buildings) 2022	Yes	No	Chapter 3 of the *State Environmental Planning Policy (Sustainable Buildings) 2022* (Sustainable Buildings SEPP) applies to non-residential development that involves the erection of a new building with an estimated development cost over $5 million. As such, Chapter 3 applies to the proposed activity. However, the Sustainable Buildings SEPP does not apply to development under Part 5 of the EP&A Act. Notwithstanding, the provisions of the SEPP should be considered as part of the environmental impact assessment for the project. A Sustainability Report has been prepared and is provided at **Appendix 19** which includes an assessment of the environmentally sustainable development measures incorporated into the design, as per Chapter 3 of the Sustainable Buildings SEPP.
State Environmental	Yes	No	Chapter 4 of State Environmental Planning Policy (Resilience and Hazards) 2021 (Resilience and Hazards

Legislation	Relevant?	Approval Required?	Applicability
Planning Policy (Resilience and Hazards) 2021			SEPP) regulates the remediation of contaminated land for the purpose of reducing the risk of harm to human health or any other aspect of the environment. Remediation works are classed as Category 2 Remediation Works and therefore do not require consent. A detailed site investigation (**Appendix 30**) confirms the site is suitable for the proposed school subject to remediation of identified asbestos and copper contamination, which has been identified within the Remedial Action Plan (RAP) provided at **Appendix 31**.
State Environmental Planning Policy (Industry and Employment) 2021	Yes	No	Chapter 3 of the *State Environmental Planning Policy (Industry and Employment) 2021* (Industry and Employment SEPP) apply with any new signage installed as part of the proposed activity to comply with Section 3.1(1)(a) of the Industry and Employment SEPP. The proposed signage outlined in **Section 3.1.5** is consistent with the objectives of Section 3.1(1)(a) of the Industry and Employment SEPP as they are compatible with the proposed activity. The proposed signage plan for the activity is provided in the Architectural Plans at **Appendix 4**.

5.4 State Environmental Planning Policy (Industry and Employment) 2021

Chapter 3 of the Industry and Employment SEPP applies to all signage that under an environmental planning instrument can be displayed with or without development consent and is visible from any public place or public reserve.

The proposed signs are building identification and wayfinding signage for the purpose of assessment under the Industry and Employment SEPP, in that the proposed signs contain content which state the name of the new Liverpool Boys and Girls High School. As no advertising signage is proposed, the provisions within Part 3.3 do not apply and as set out in Section 3.6 of Part 2, only the objectives of Chapter 3 and the assessment criteria specified in Schedule 5 require consideration.

The proposal is consistent with the objectives contained within Section 3.1 of the Industry and Employment SEPP, as it will facilitate building identification signage for the new Liverpool Boys and Girls High School and ensures that the signage:

- is consistent with the usage of the site for the new Liverpool Boys and Girls High School;
- suitably and effectively communicates directions for students to access Liverpool Boys and Girls High School through the dedicated entrances; and
- is of a high-quality design and finish through the use of materials, colours and illumination that seamlessly integrates with the building's architecture and its surrounds.

The proposed building identification signage are consistent with the assessment criteria contained within Schedule 5 of the Industry and Employment SEPP, as demonstrated within **Table 12** below.

Table 17Assessment against Schedule 5 of the Industry and Employment SEPP

Assessment Criteria	Comments	Compliant
1. Character of the area		
Is the proposal compatible with the existing or desired future character of the area or locality in which it is proposed to be located?	The proposed signage is compatible with the future character of the Liverpool City Centre. The signage is for the purpose of identifying the Liverpool Boys and Girls High School and is consistent with the size and design of signage used for school developments. The signage is simple in nature and clearly communicates the name of the high school for students, teachers and general members of the public.	Yes
Is the proposal consistent with a particular theme for outdoor advertising in the area or locality?	The proposed activity is for building identification only and does not contain any advertising content.	N/A
2. Special areas		
Does the proposal detract from the amenity or visual quality of any environmentally sensitive areas, heritage areas, natural or other conservation areas, open space areas, waterways, rural landscapes or residential areas?	The proposed building identification signage does not detract from the amenity or visual quality of the area. Rather, it will improve the visual quality of the site through providing contemporary signs which will facilitate the operations of the new Liverpool Boys and Girls High School. The proposed signs have been designed within the limits of the proposed building envelope and will be consistent with the character of the school. In turn, the proposed signage will not detract from the amenity of the area.	Yes
3. Views and vistas		
Does the proposal obscure or compromise important views? Does the proposal dominate the skyline and reduce the quality of vistas?	The proposed signage will be located within the proposed building envelope and will not obscure or compromise any important views or vistas, nor dominate the roofline.	Yes
Does the proposal respect the viewing rights of other advertisers?	The proposed activity is for building identification signage only and does not contain any advertising content.	N/A
4. Streetscape, setting or landscape		

Is the scale, proportion and form of the proposal appropriate for the streetscape, setting or landscape?	The scale, proportion and form of the proposed signage is appropriate for the setting. The proposed signs are consistent in nature, quality and size compared to other signage used in schools. The signage will contribute to a future high-quality streetscape adjacent to the	Yes
Does the proposal contribute to the visual interest of the streetscape, setting or landscape?	The proposed signage will seamlessly integrate with the design of the Liverpool Boys and Girls High School. It will be commensurate with the materiality of the building and add visual interest, contributing positively to the future streetscape Liverpool town centre setting.	Yes
Does the proposal reduce clutter by rationalising and simplifying existing advertising?	Not applicable as there is no existing or proposed advertising signage.	N/A
Does the proposal screen unsightliness?	The proposed signage does not screen unsightliness, but acts as an opportunity to provide building identification signage which is compatible in scale, materiality and finish for the Liverpool Boys and Girls High School.	N/A
Does the proposal protrude above buildings, structures or tree canopies in the area or locality?	The proposed signage will be erected throughout the ground floor plane and in the existing building fabric, and as such, it will not protrude above the building, other structures, nor the future tree canopy in the area.	Yes
Does the proposal require ongoing vegetation management?	The proposed signage does not require ongoing vegetation management.	Yes
5. Site and building		
Is the proposal compatible with the scale, proportion and other characteristics of the site or building, or both, on which the proposed signage is to be located?	The proposed signage has been carefully designed to be compatible with the scale, proportions, and presentation of the new Liverpool Boys and Girls High School. The scale of the proposed signs is therefore considered appropriate for the context of the site and will support the character of the town centre.	Yes
Does the proposal respect important features of the site or building, or both?	The proposed signage is respectful in its design and is appropriately integrated with the features of the building.	Yes
Does the proposal show innovation and imagination in its relationship to the site or building, or both?	The proposed signage has been designed for the purposes of building identification and appropriately relates to the new high school and its location within the broader town centre.	Yes

6. Associated devices and logos with advertisements and advertising structures		
Have any safety devices, platforms, lighting devices or logos been designed as an integral part of the signage or structure on which it is to be displayed?	Safety devices are not applicable. There is no logo proposed for the signage.	Yes
7. Illumination		
Would illumination result in unacceptable glare?	The electronic sign will have specifications which ensure it will not result in any unacceptable glare.	Yes
Would illumination affect safety for pedestrians, vehicles or aircraft?	The proposed illumination will not affect the safety of pedestrians, vehicles or aircraft.	Yes
Would illumination detract from the amenity of any residence or other form of accommodation?	The illumination of the electronic sign could be deactivated overnight, subject to operational details, and is appropriately setback within the site to avoid impacts to the surrounding residential properties. Compliance with relevant standards and requirements will also be achieved in terms of intensity and control of glare.	Yes
Can the intensity of the illumination be adjusted, if necessary?	The level of illumination on the LED signage can be adjusted if deemed necessary. To be addressed in detailed design.	Yes
Is the illumination subject to a curfew?	The illumination of the electronic sign could be deactivated outside of operational hours, subject to operational details.	Yes
8. Safety		
Would the proposal reduce the safety for any public road? Would the proposal reduce the safety for pedestrians or bicyclists?	The proposed signage is not intended to contain images, flashing lights, moveable parts which would impact upon road safety. The location and scale and placement of the proposed signage does not pose any adverse impacts on pedestrian or cyclist safety. The signage proposed at ground level, including the electronic sign, will be adequately setback from the surrounding public roads.	Yes
Would the proposal reduce the safety for pedestrians, particularly children, by obscuring sightlines from public areas?	The proposed signage will not reduce the safety of pedestrians, as it will not obscure sightlines from public areas.	Yes

5.5 Liverpool Local Environmental Plan 2008

The *Liverpool Local Environmental Plan 2008* (Liverpool LEP) has been considered for the proposed activity.

Table 18 Liverpool Local Environmental Plan 2008

LEP Control	
Clause 2.1 - Land Use Zones	SP2 Health Services Facility & Educational Establishment
Clause 4.3 – Height of Buildings	35m
Clause 4.4 – Floor Space Ratio	2.5:1
Clause 5.10 – Heritage Conservation	The site is not listed as a local heritage item, nor is it located within a heritage conservation area. However, it is located in close proximity to a local heritage item, being the 'Plan of Town of Liverpool (early town centre street layout – Hoddle Grid 1827)' which is a locally listed heritage item identified in the Liverpool LEP as item No. 89.

5.6 Liverpool Development Control Plan 2008

The proposed activity is within Liverpool City Centre and is subject to the *Liverpool Development Control Plan 2008* (DCP). The aim of the DCP is to promote high quality urban design outcomes and facilitate orderly, efficient and environmentally sensitive development, guided by a vision to create high urban quality urban design, interconnected neighbourhoods, a compatible mix of land uses, local employment opportunities and enhanced natural environmental features, and a community incorporating live, work and play options.

The vision is underpinned by a number of objectives, including to provide community and social infrastructure, such as schools and sporting fields that provide for a range of facilities and opportunities, and to ensure the timely delivery of critical infrastructure.

As set out in **Section 3.1** of this REF, the proposed activity is for the provision of a high school with associated open space and play space provision, including a sports field, games courts and multi-purpose school hall.

The integrated pedestrian network connects the proposed activity to the upgraded off-site pedestrian works within the surrounding road network. Alongside sufficient bicycle storage provision on site, the activity will encourage active travel to and from the site where possible, in alignment with the objectives of the DCP. Refer to **Section 3.1.7** for further details.

5.7 Strategic Plans

Table 19 considers strategic plans that are relevant to the proposed activity.

Table 19 Consideration of applicable Strategic Plans

Strategic Plan	Assessment
Greater Sydney Region Plan	Planning Priority W9 of the Western City District Plan aims to create a health and education precinct, which includes the site. The
Western City District Plan	

Strategic Plan	Assessment
	Liverpool Boys and Girls High School Upgrade Project will create jobs and improve education opportunities within the Liverpool city centre and the health and education precinct. The proposal will also align with other priorities and visions identified in the Region and District Plan by: • Integrating and targeting the delivery of educational services and infrastructure to support population growth and responding to the needs of varying demographics, in particular the growing demand for education, at Liverpool and the Western Parkland City. • Delivering and renewing key infrastructure that will continue to support the existing educational facilities and provide additional space to help accommodate the estimated 270,000 students in Greater Sydney by 2036. • Ensuring the efficient use of land through a contemporary design and encouraging shared and flexible spaces and facilities for education. • Providing a public high school co-located with the Gulyangarri Public School to help achieve the 30-minute city vision in the Western Parkland City.
Western Sydney City Deal	The Western Sydney City Deal is an agreement between the Federal Government, NSW Government and eight councils of the Western City District, including Liverpool City Council. The Plan seeks to improve connectivity, liveability, jobs, skills, education, the environment and governance in Western Sydney. Skills and education are a priority to ensure residents of the Western Parkland City have access to the best education opportunities with investment in schools by the NSW Government. The proposed activity will assist in achieving working towards the aim of an additional 1,300 classrooms to be provided within the Western Parkland City.
Liverpool Local Strategic Planning Statement (LSPS)	The Liverpool LSPS encourages 'collaboration with the NSW Department of Education to identify opportunities for sharing local school infrastructure with the wider community' (Action 6.3). The Liverpool Boys and Girls High School Upgrade Project will provide improved educational spaces through more efficient land use of the existing site, which responds to Liverpool's growing demand for key infrastructure and services. The proposed activity will also deliver greater employment opportunities within the Liverpool Innovation Precinct.
Future Transport Strategy 2056	The *Future Transport Strategy 2056* sets the 40-year vision, directions and outcomes framework for customer mobility in NSW and will guide transport investment over the longer term. This Strategy aims to place the customer at the centre and with feedback harness the rapid advancement of technology and innovation across the transport system to transform customer experience, improve communities and boost economic performance (TfNSW 2017). The proposed activity is consistent with the *Future Transport Strategy 2056* by delivering upgraded educational services in the Liverpool LGA. The proposed activity does not prevent the objectives of the *Future Transport Strategy 2056* from being achieved.
State Infrastructure Strategy 2022-2024 (Infrastructure NSW)	The proposed activity is consistent with this *State Infrastructure Strategy 2022-2024 (Infrastructure NSW)* as it provides modern,

Strategic Plan	Assessment
	digitally enabled learning environments for all students.
Liverpool Community Strategic Plan 2022-2032	The *Liverpool Community Strategic Plan 2022-2032* prioritises the integrated delivery of quality employment, training and educational opportunities along with health and other educational infrastructure renewals in the Liverpool City Centre and Innovation Precinct. The proposed activity is consistent with the Plan as it will assist in transforming Liverpool into a diverse and innovative educational hub by providing improved learning spaces and a modern educational establishment.
Better Placed: Design Guide for Schools (Government Architect NSW)	The Better Placed Design Guide for Schools sets out the Design Quality Principles in accordance with Schedule 8 of the TI SEPP. The Architectural Design Report (**Appendix 5**) sets out how the proposal has been guided by, and complies with, the 7 design quality principles in schools.

6. Consultation

6.1 Early Stakeholder Engagement

An Engagement Report has been prepared and is provided at **Appendix 11**. **Table 20** provides a summary of early stakeholder (non-statutory) consultation undertaken to inform project evolution and preparation of the REF.

Prior to the amendments to the TI SEPP, the proposed activity met the threshold to be declared SSD under Schedule 1 of the Planning Systems SEPP. As such, project-specific Secretary's Environmental Assessment Requirements (SEARs) were sought and subsequently issued on 28th May 2024, informed by feedback provided by various agencies, including Liverpool City Council, the NSW State Emergency Service, the South Western Sydney Local Health District, and the Department of Climate Change, Energy, the Environment and Water. The feedback received from the various stakeholders has informed the design evolution of the proposed activity and the technical documentation provided alongside this REF.

Table 20 Summary of Early Stakeholder Engagement

Stakeholder	Engagement/Issues	Response
Aboriginal stakeholders	Stakeholders were engaged through Connecting with Country process involving a Walk and Talk on Country and a Connecting with Country Workshop.	Feedback generally supportive and connecting with country is implemented throughout detailed design.
Liverpool City Council	Stakeholders were engaged through stakeholder meetings which included project updates for the overview of the project, planning pathway, design update and key project milestones. Key issues raised relating to school catchment, drop off areas, and operational queries.	The catchment will not change and the pick-up and drop-off area is reliant on the Gulyangarri Public School's relocation of the drop off area.
South Western Sydney Local Health District (SWSLHD)	Stakeholders were engaged with through a stakeholder meeting with a project update including overview of project, planning pathway, design update and key project milestones. Key issues were largely relating to traffic impacts.	Project responses include detailed design and consultant with a traffic consultant.
School and Broader Community	Stakeholders were engaged to advise of project updates through letterbox drops, webpages, mailing lists and information sessions.	Feedback generally supportive and no major issues raised.
Department of Planning, Housing and Industry	Stakeholders were introduced to the project in a scoping meeting to discuss the operation and usage of the proposed activity. Concerns regarding traffic, out-of-hours community use and flooding.	Feedback responded to within project design development, no major issues raised.

6.2 Statutory Consultation

Consultation will be undertaken with in accordance with statutory requirements under the TI SEPP. This includes:

- Sending notices to adjoining neighbours, owners and occupiers inviting comments within 21 days.

- Sending notices to the local council and relevant state and commonwealth government agencies and service providers inviting comments within 21 days.
- Making the REF publicly available on the Planning Portal throughout the consultation period.

Comments received will be carefully considered and responded to.

7. Environmental Impact Assessment

7.1 Built Form

The proposed activity is considered to achieve a high-quality built form and urban design outcome that is consistent with the vision for the site and the site's immediate context. Built form and design parameters have been established in consultation with the State Design Review Panel as well as taking into account the design parameters set out under Schedule 8 of the TI SEPP, which has been responded to in detail within the Architectural Design Report at **Appendix 5**. The built form is therefore considered appropriate.

The built form set out in a broadly L-shaped configuration along the northern and western perimeter of the site, appropriately responds to the physical parameters of the site and provides an efficient use of the site, by effectively securing the external open space centrally within the site, away from the surrounding road frontages.

The primary building is a part 5-storey and part 6-storey form, extending up to 21.3m above NGL, which is significantly below the maximum permissible height of 35m under the Liverpool LEP. The separate school hall and canteen building will be lower in height, at 3-storeys, towards the adjacent 4-storey Gulyangarri Public School.

The perceived bulk and scale of the buildings throughout the site is reduced through the provision of generous landscaped setbacks. Discussion on the impacts of overshadowing and solar access as a result of the proposed built form is discussed at **Section 7.2**.

No further mitigation measures are required in relation to the built form.

7.2 Overshadowing and Solar Access

This REF is accompanied by shadow diagrams (**Appendix 4**) and the supplementary Architectural Design Report (**Appendix 5**) confirms that the proposed activity is unlikely to result in adverse overshadowing with no major overshadowing anticipated. The diagrams illustrate the overshadowing associated with the proposed buildings, at 9am, 12pm and 3pm on June 21 (winter solstice, **Figure 19**) and 21 December (summer solstice).

Figure 19 Existing (top) versus proposed (bottom) overshadowing impacts

Source: NBRS

The shadow diagrams show that the proposal will result in minimal impact to the surrounding areas as the shadowing will be largely contained within the boundaries of the school site.

The proposal will result in shadowing impacts to the internal courtyard within the school site between 9am and 3pm during the winter solstice. However, this is considered minor in the context of the wider open space provision throughout the site. The study undertaken indicates that central play areas will have good direct solar access throughout the day, and during summer and winter.

At 9am during the winter solstice, the shadow of Building A will extend over Forbes Street but will be in full sunlight by 12pm.

Accordingly, it is clear the proposed works will not give rise to any unacceptable overshadowing impacts, ensuring appropriate amenity to surrounding properties and open space can still be achieved.

No further mitigation measures are required in relation to overshadowing and solar access.

7.3 Visual Amenity and Privacy

An analysis of visual amenity and view impacts of the proposed activity has been undertaken at **Appendix 5**. The Architectural Design Report includes photomontages illustrating the view of the campus from the visual catchment. The site is visible from all boundaries, owing to the site's location fronting Lachlan Street to the north, Forbes Street to the west, Liverpool Hospital to the immediate south, and the newly constructed Gulyangarri Public School to the east within the wider lot boundary.

The scale and massing of the built form is similar to that of the Gulyangarri Public School to the immediate east of the activity site, but less than St Raphael's Greek Orthodox Church, located to the site's west, at the corner of Lachlan Street and Forbes Street. The built form therefore

appropriately addresses the surrounding and future context and maintains a cohesive and well-proportioned streetscape, that is set within the parameters established by the relevant environmental planning instrument, as set out in **Section 5.1**.

The generous building setbacks from the road frontage and landscape design will reduce the impact of the scale of the building from surrounding streets. These setbacks also allow for privacy between the proposed school and surrounding land uses.

The materials and façade have been designed to be durable and is consistent and cohesive throughout the LBGHS campus and broader context of the area. The Architectural Design Report (**Appendix 5**) provides further detail on the materiality of the proposed activity.

Further, in the context of the evolving surrounding area as the Liverpool Health and Academic precinct, which has a height limit significantly exceeding the proposed building height, the scale of the works is considered appropriate.

The arrangement of the built form in a broadly L-shaped configuration and sited along the north and west frontages of Lachlan Street and Forbes Street respectively, creates a sense of privacy for students, with the proposed buildings forming a perimeter that shields activity occurring in the school grounds from neighbouring properties.

The design acknowledges visual amenity and privacy by utilising external sunshades for shading and vision reduction between spaces. These sunshades will limit and reduce the line of site to neighbouring properties. Sunshades have been used as the primary structure to improve visual amenity and privacy as implementing privacy screens would result in decreased amenity for students and staff and reduce sunlight during daytime hours.

Owing to the above design approach, no privacy impacts are expected.

The Visual Analysis and Impact Assessment (VAIA) is provided at **Appendix 33**. The VAIA concludes that the proposed activity has an acceptable visual impact and will not result in any unanticipated visual outcomes. The proposed activity will result in a positive built outcome which will have street activation and contribute to a vibrant environment within the precinct. The visual impact from the north west at Lachlan Street and south west from Forbes Street, is shown in **Figure 20** and **Figure 21** respectively.

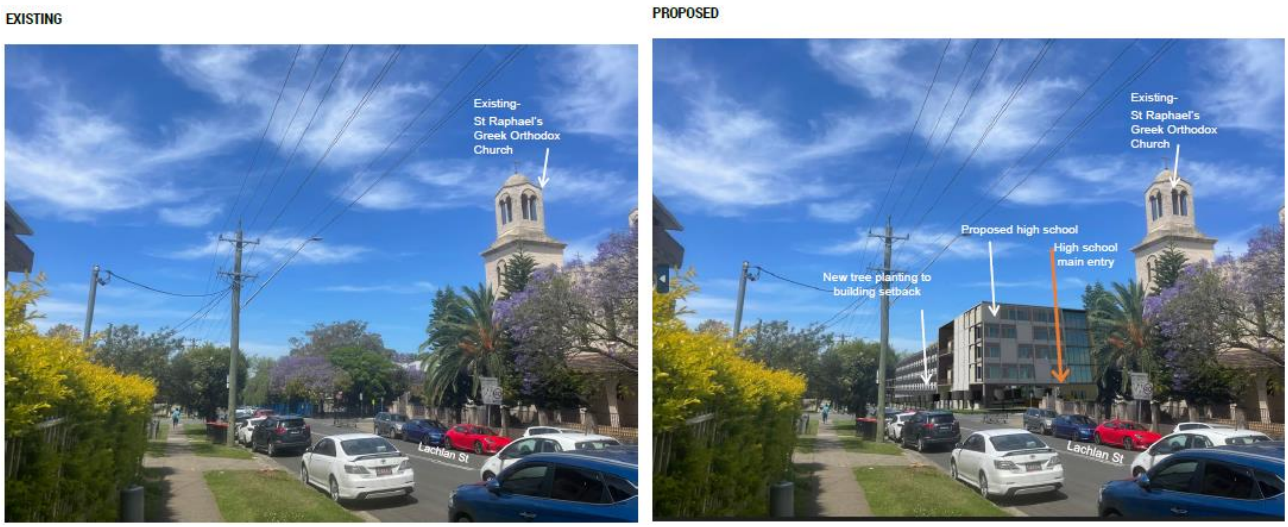

Figure 20 *Existing and Proposed View from Lachlan Street*

Source: NBRS

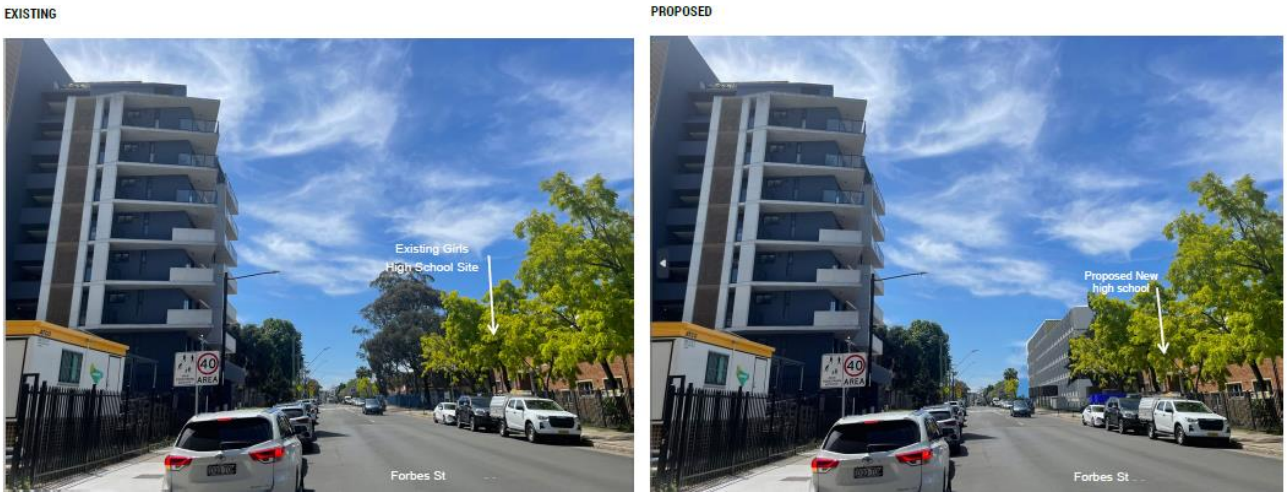

Figure 21 Existing and Proposed View from Forbes Street

Source: NBRS

The Report concludes that the visual impact of the activity is acceptable and no further mitigation measures are required.

7.4 Traffic, Access and Parking

A Transport and Accessibility Impact Assessment (TAIA) is included at **Appendix 7**. The TAIA outlines the existing surrounding road network arrangements and conditions and provides an assessment of the traffic and parking impacts associated with the proposed activity. The TAIA assesses the traffic and parking demand and impact for all stages of work, including the car parking provision delivered as exempt development for completeness.

7.4.1 Operational Traffic, Access and Parking

Existing Conditions

The TAIA evaluated the existing transport environment around the site, focusing on:

- **Road Hierarchy:** The site fronts Lachlan Street to the north (a local road with a single lane of traffic in each direction within a 6 metre carriageway), Forbes Street to the west (a local road with a single lane of traffic in each direction within a 12.5 metre carriageway) and Burnside Drive further east (a private road owned by Liverpool Hospital which provides single lane of traffic in each direction within a 8 metre carriageway).
- **Pedestrian and Cyclist Infrastructure:** The site has good access to a network of pedestrian pathways and on-road and off-road cycle pathways.
- **Public Transport:** The site is highly accessible by a range of bus services within the vicinity. There is a 160-metre bus zone along Forbes Street to the west of the site, serviced by both public and school bus services, and a new 50 metre bus zone to the north of the site as part of the SSD-10391 for the Gulyangarri Public School, along Lachlan Street to the north, that is not yet utilised. The site is located within 500m to Warwick Farm Train Station and approximately 900m from Liverpool Train Station which are serviced by the T2, T3 and T5 railway lines.
- **Parking Facilities:** There are a number of both unrestricted and restricted on-street parking provided within the vicinity of the site.

- **Traffic Conditions:** Key intersections include Lachlan Street & Burnside Drive & Hart Street, Lachlan Street & Gulyangarri Public School Access, Lachlan Street & Drummond Street, Lachlan Street & Forbes Street, and Goulburn Street & Campbell Street. The highest overall traffic volumes occur during the morning peak period between 7:30-8:30am, and afternoon peak period between 3:15-4:15pm, the latter of which experiences reduced traffic volumes.
- **Travel Mode:** A travel mode survey was distributed to staff and students at the existing schools and found the following:

Table 21 Existing Conditions

Existing Travel Mode	Students		Staff	
	AM %	PM %	AM %	PM %
Walk	29%	31%	0%	0%
Bicycle / Skateboard / Scooter	1%	1%	0%	0%
Train/Metro	5%	7%	5%	5%
Bus	34%	35%	1%	1%
Car (Passenger)	28%	23%	1%	1%
Car (Driver)	2%	2%	93%	93%
Other	1%	1%	0%	0%

Source: TTW

Travel Demand

TTW has undertaken a detailed review of operational traffic impacts utilising a conservative approach to assess the largest travel demand for both students and staff of the school.

The proposed trip generation for the proposed activity will result in the following number of vehicles during the AM and PM period, as set out in **Table 22** below.

Table 22 Student and staff AM and PM traffic generation estimates

Time Frame	Existing Number of Trips	Opening Year (2028) Number of Trips	Ultimate Year (2038) Number of Trips	Opening Year Net Difference from Existing	Ultimate Year Net Difference from Existing
Student					
AM Peak (7:30am to 8:30am)	425	420	700	-6	+274

PM Peak (3:15pm to 4:15pm)	350	345	576	-5	+226
Staff					
AM/PM Peak	154	154	199	0	+45

As demonstrated, the trip generation estimates for the proposed upgrade shows improved trip generation for students, with a reduction of 6 trips in the AM peak and 5 trips in the PM peak in the opening year (anticipated 2028) which is attributed to the school being redeveloped into a single, co-educational school. Despite minimal change between AM/PM peak trip generation for the opening year (anticipated 2028), there is an overall increase of 274 trips in the AM peak and increase of 226 trips in the PM peak anticipated by the 'ultimate year' (anticipated 2038). This is in relation to an anticipated increase of approximately 800 students.

Staff traffic generation has no change between the existing and opening year (anticipated 2028) as the number of staff is consistent across both years. However, there is an overall increase of 45 trips anticipated by the 'ultimate year' (anticipated 2038) with targets to achieve a 50% mode share split.

Intersection Performance

Intersection performance and modelling has been undertaken for four intersections surrounding the site. A SIDRA assessment was carried out for all intersections to determine the average delay that vehicles will encounter and provides a measure of level of service for the existing scenario, opening year and the ultimate year. A Level of Service (LOS) of D (43-56 second delay per vehicle) is considered to be the maximum level of delay acceptable for intersection operations.

The modelling confirms the proposed activity can be accommodated by the existing road network for the opening conditions, with spare capacity and no external improvements required, however, the Lachlan Street/Forbes Street intersection is at near capacity of LOS D during the AM Peak. The ultimate year operating conditions can be accommodated by the existing road network for all intersections with spare capacity, except for Lachlan Street/Forbes Street intersection in the AM with LOS F (Greater than 70 second delay per vehicle). With implementation of the mitigation measures set out in **Appendix 1**, specifically the implementation of a right turn ban and LILO to the Lachlan and Forbes Street intersection to be implemented 2 years after occupancy, the ultimate year operating conditions can operate at similar levels as the existing scenario, with minimal impact on the surrounding external road network. The LOS for the Lachlan Street/Forbes Street intersection will improve from LOS F in AM to LOS A (less than 14 second delay per vehicle) in the AM, subject to the mitigation measures being implemented (**Appendix 1**).

The TAIA indicates that any scenario, with the exception of the ultimate year with no mitigation measures implemented, all assessed intersections will operate at a maximum LOS D or better during the AM and PM peaks, suggesting that intersection performance is acceptable.

Pick Up and Drop Off

The relocation of the Pick Up and Drop Off operation from Forbes Street to Lachlan Street will improve the peak duration in the Pick Up and Drop Off between the existing and opening year by 2 minutes in the AM and PM peak. The peak duration between the existing and ultimate year

operation will be increased by 6 minutes in the AM peak and 4 minutes in the PM peak, however, this vehicle turnover time is considered reasonable for the size of the proposed Liverpool Boys and Girls High School Upgrade.

Car Parking

A total of 24 car parking spaces will be provided as part of the proposed activity, with 88 spaces to be used from the exempt development works to be delivered under Stage 1. As such, the total car parking to be provided for the co-educational school totals 112 spaces, including 2 accessible parking spaces.

Table 23 Existing and proposed parking provision

	Staff No.	Staff Car Mode Split	Demand	Car Park Provision	Deficiency
Existing	166	93%	154 Car Spaces	144 Car Spaces	-10
2028	166		154 Car Spaces	112 Car Spaces	-42
2041	214	50%	107 Car Spaces	112 Car Spaces	+5

As shown in **Table 23**, the proposed parking provisions aim to decrease the car mode share splits from 93% to 65% seeks to ensure all staff can park on-site. The department can implement new trends and travel behaviours through the School Transport Plan (STP) (**Appendix 29**) to promote alternative, more sustainable modes of transportation. The target mode splits are considered achievable due to the proximity to public and active transport within the surrounding area.

The proposed upgrade will provide 2 accessible parking spaces, which complies with both the Liverpool DCP and the Building Code of Australia (BCA).

A Preliminary School Transport Plan (**Appendix 29**) has been prepared with the following aims:

- To identify and meet school travel demand safely, efficiently, and sustainably.
- To maximise the use of active and public transport by encouraging students and staff to walk or cycle where possible, to reduce car traffic.
- To decongest road networks around the school.

The implementation of a School Transport Plan and the provision of active and public transport infrastructure such as end-of-trip facilities for staff, will assist in shifting staff and student travel behaviour as the school population grows over time. This shift to a lower car driver mode split is consistent with the projects overall sustainable transport goals and is expected to coincide with gradual growth of the school population over time.

Overall, the transport provisions of this project across all travel modes have been selected and developed in order to provide a sustainable, safe, and efficient site. These provisions include physical infrastructure works on and off-site, along with management measures to be implemented during operation of the school.

With implementation of the proposed transport strategy, the operational transport impacts are considered to appropriately manage operational transport impacts and provide appropriate outcomes for the site. A full set of mitigation measures are provided at **Appendix 1**.

Bicycle Parking

The Liverpool DCP requires 1 bicycle parking space per 10 students and per 10 staff. As such, a total of 200 bicycle parking spaces for students and 22 parking spaces for staff are required.

The proposed upgrade will provide 222 bicycle parking spaces, which will meet the minimum requirements of the Liverpool DCP and is considered acceptable. The proposed mode share targets aim for 8% of students (160 students) and 5% of staff (11 staff members) to cycle to and from the site.

End of Trip facilities are provided in accordance with Green Star Building Guidelines will be provided with adequate facilities to support the expected demand and encourages an increase in cycling mode share in the future.

Pedestrian Safety

To ensure a safer pedestrian environment, there will be upgrades and improvements to pedestrian facilities, including 2 upgraded and 1 new pedestrian refuges, 1 relocated wombat crossing, and 75m of footpath widening along Lachlan Street. No stopping distances of 20m either side of pedestrian refuges are required for pedestrian safety.

Loading and Servicing Facilities

An on-site loading area is provided for the Liverpool Boys and Girls High School Upgrade Project and the loading area will accommodate 2 on-site servicing/waste collection areas. 1 on-street loading bay is also proposed. The waste loading area can accommodate vehicles up to and including 10.5m vehicle. The proposed on-street loading bay is 12m in length and can accommodate vehicles up to an 8.8m MRV and can be utilised by outside of school peak for couriers.

Mitigation Measures

The following mitigation measures will be undertaken, in consultation with the relevant road authority:

- **Prior to Operation -** A reversal of priority at the Lachlan Street / Forbes Street intersection will be implemented in consultation with the relevant transport authority, prior to occupation, and signed off by the DoE Transport Planning Team.
- **Design and Operation –** A left-in / left-out restriction will be implemented at the Lachlan Street / Forbes Street intersection, in consultation with the relevant transport authority, 2 years following occupancy, to be signed off by the DoE Transport Planning Team.
- **Design and Operation -** A right-turn ban for the southern approach will be implemented, in consultation with the relevant transport authority, 2 years following occupancy, to be signed off by the DoE Transport Planning Team.

A School Transport Plan will be prepared to the satisfaction of the DoE Transport Planning Team, under standard mitigation measure ID OPTMM1 (refer to **Appendix 1**). Refer to **Appendix 1** for a detailed list of all mitigation measures. The proposed mitigation measures are consistent with those set out within Stage 2 of the Gulyangarri Public School, and the proposed activity will seek to deliver such mitigation measures much earlier than previously anticipated.

7.4.2 Construction Traffic, Access and Parking

A preliminary Construction Traffic Management Plan (CTMP) has been prepared (**Appendix 28**) to assess the potential construction impacts that could arise from the proposed Liverpool Boys and Girls High School Upgrade.

Construction vehicles will access the site via Lachlan Street and Forbes Street, as shown in **Figure 22**.

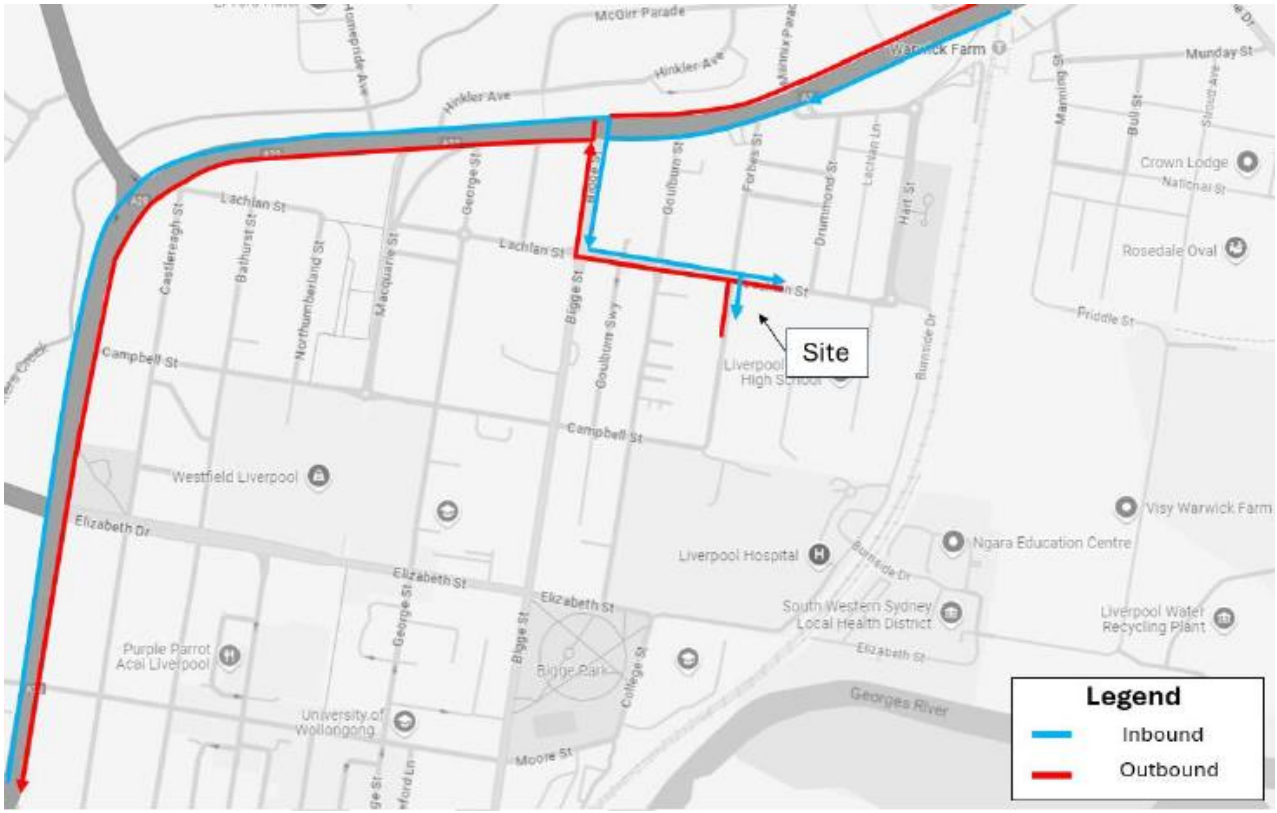

Figure 22 Construction vehicle access movements

Source: TTW

The types of vehicles entering the site during construction works are expected to range from Medium Rigid Vehicles (MRV) to Heavy Rigid Vehicles (HRV). Semi-trailers (up to 20m in length) may also be utilised for construction and delivery of large materials and equipment. Larger special-purpose vehicles may be required for the removal and installation of cranes and other machinery, however, would be subject to further approvals. The estimated construction traffic volume for standard operation is anticipated to be approximately 20 to 40 truck movements per day, resulting in minor impacts on the existing road network.

The preliminary CTMP includes mitigation measures which require construction deliveries to occur during standard construction hours, with deliveries to be staggered throughout the day to mitigate impacts to surrounding premises. Additionally, construction traffic impacts on pedestrians and cyclists have been considered with construction works to be staged to maintain pedestrian flows along Forbes Street and Lachlan Street. Footpath lanes may need to be temporarily closed, requiring pedestrians to be temporarily diverted onto an adjacent footpath. Any road closures (if required) will be coordinated with Transport for NSW and Council.

Construction vehicle movements will be scheduled outside school peak periods to reduce congestion during drop-off and pick-up times.

Limited construction parking will be provided due to limited space on the site and due to the site's proximity and access to frequent public transport. Construction worker and construction workers vehicles will not be permitted to park on local streets surrounding the school site.

Mitigation Measures

A complete set of mitigation measures relating to traffic and transport impacts is located at **Appendix 1**. Mitigation measure CMM2 requires the following documentation to be prepared and implemented, to include the necessary detail, as highlighted below.

- A Construction Worker Transport Strategy
- A Construction Traffic Management Plan which will include:
    - Outline safe construction vehicle routes, temporary access, and designated parking areas to prevent conflicts with local traffic.

7.5 Noise and Vibration

A Noise and Vibration Impact Assessment (NVIA) (**Appendix 8**) has been prepared to assess the noise and vibration impacts during construction and operational stages of the project. A summary of the assessment and proposed mitigation measures are described below.

Identification of Sensitive Noise Receivers

Noise emissions were assessed for the key surrounding sensitive receivers, being the residential properties fronting the project along Forbes Street and Lachlan Street. The identified nearby sensitive receivers are shown at **Figure 23**. Additionally, attended short-term loggers were placed around the proposed activity site and included one along Burnside Drive on the Gulyangarri Public School boundary.

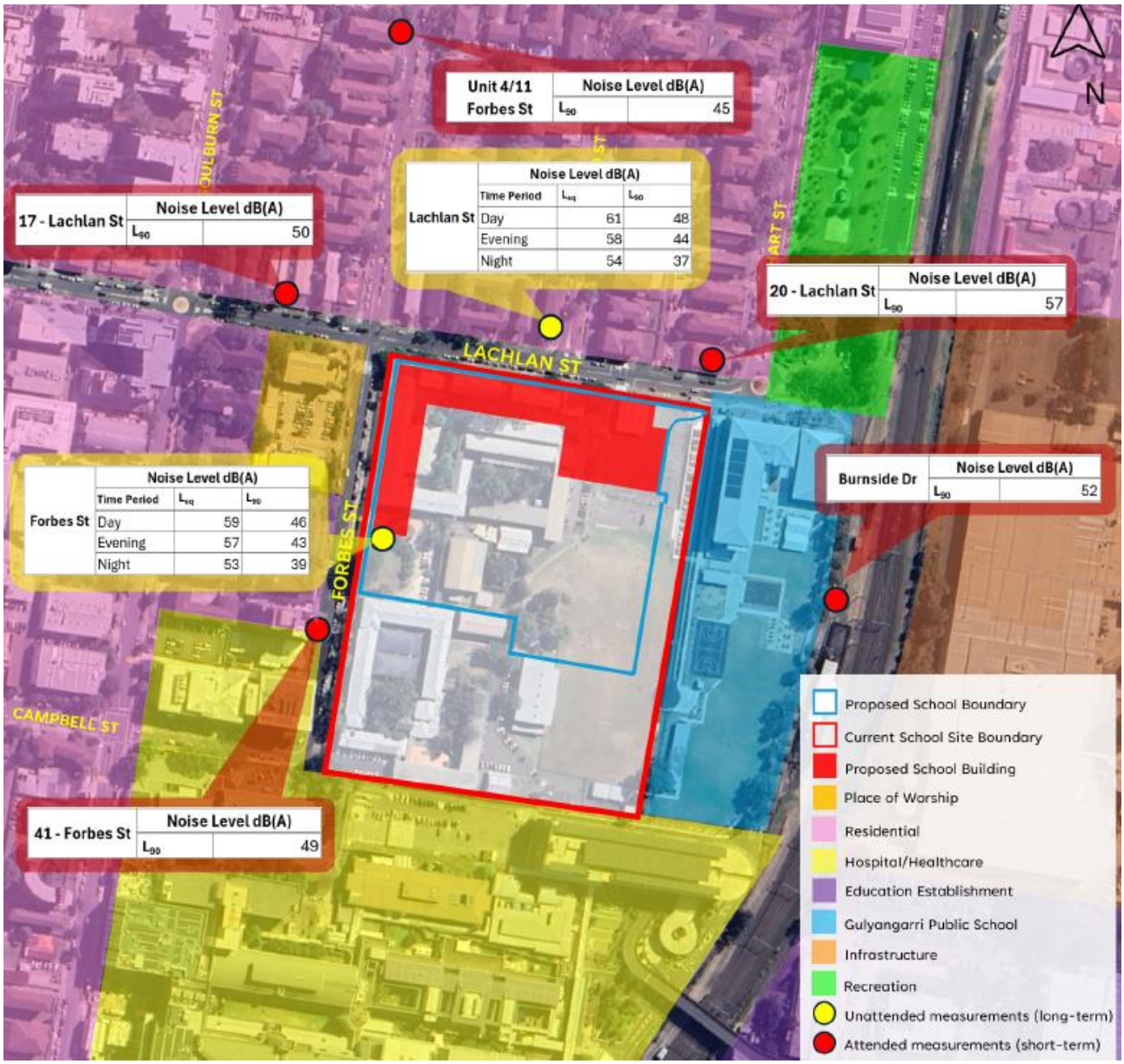

Figure 23 Sensitive noise receivers map

Source: Acoustic Studio

7.5.1 Relevant Noise Criteria

Utilising unattended background noise monitoring undertaken between 22 July 2024 and 7 August 2024, during school term, and attended noise measurements in the same and other locations on 22 July and 30 July, allowed the formulation of the proposal's construction noise criteria (Noise Management Levels) and operational noise criteria (Project Noise Trigger Level).

Table 24 Noise management levels (NMLs)

Location	Period		Rating Background Level (RBL), dB(A)	NML $L_{Aeq(15\ min)}$, dB(A)		Project Noise Trigger Levels
		Monday to Friday	47	RBL + 10	57	51

Residential 1 (Forbes Street)	Recommended Standard Hours	7am to 6pm				
		Saturday 8am to 1pm	43		53	
	Outside Standard Hours	Saturday 1pm to 5pm	43	RBL + 5	47	•
Residential 2 (Lachlan Street)	Recommended Standard Hours	Monday to Friday 7am to 6pm	48	RBL + 10	58	53
		Saturday 8am to 1pm	47		57	
	Outside Standard Hours	Saturday 1pm to 5pm	47	RBL + 5	52	•
Classrooms at schools and other educational institutions				45 dB(A) internal 65 dB(A) external		43
Hospital wards and operating theatres						Internal – 33 External - 48
Places of worship						38
Passive recreation areas				60 dB(A) external		48
Active Public Recreation				-		53

7.5.2 Construction Noise

Construction Hours

The recommended standard hours for construction, as proposed in the Interim Construction Noise Guideline (ICNG), are:

- Monday to Friday 7:00am to 6:00pm.
- Saturday 8:00am to 1:00pm.
- No work on Sundays and Public Holidays.

All construction work will be undertaken during the standard construction hours.

Construction Noise Impacts

The NVIA assesses that in a worst-case scenario, construction noise is predicted to exceed noise affected levels at the facades of the nearby residential receivers on Forbes Street and Lachlan Street during construction activities such as piling and excavation work along the respective boundaries. Where the predicted noise level is predicted to exceed the relevant requirements, all feasible and reasonable work practices should be applied to reduce adverse noise impacts to surrounding receivers. The mitigation measures provided at **Appendix 1** include the preparation of the Construction Noise and Vibration Management Plan (CNVMP). Notification will be provided to the school, residents, and places of worship. Additionally, work will be scheduled outside of sensitive times of the day.

Construction traffic noise is largely generated by light vehicle traffic to and from the site. However, construction traffic noise is considered to be minor. Heavy vehicle traffic will generate traffic along Lachlan Street and can be mitigated through appropriate access routes, together with staging and managing the arrival of trucks to the site.

Construction Vibration Impacts

For the proposed new school, equipment likely to cause some vibrations are the excavator, vibratory roller and bored piling. It is anticipated that there is low to medium risk to human disturbance and building damage as a result of construction vibration. Further assessment may be required and can be determined during the finalisation of the CNVMP.

Overall, significant impacts are not expected for the majority of the construction period.

7.5.3 Operational Noise

The NVIA has determined the potential operational noise impacts from various sources of the proposed activity including the public address (PA) system, building services, loading dock and waste collection, workshops and the use of the hall out of standard operating hours. Overall, it has been determined that the impacts of the operational noise impacts are able to satisfy the established criteria and can be mitigated through the successful implementation of the recommendations provided in **Appendix 1**.

Internal Classrooms, Workshops and Administration Areas

The NVIA determines that the internal classroom noise and workshop noise emission levels will comply with the predicted noise level below the noise target Project Noise Trigger Levels (PNTL). Noise levels will fluctuate throughout the day and the assessment assumes a worst-case scenario, however, compliance is achieved with the noise targets. Additionally, the predicted noise emissions related to the workshop areas can comply the PNTL so long as windows are closed.

The hall during school hours and outside of school hours is compliant with all locations with the doors and windows closed during usage. Compliance is not achieved for the Lachlan Street receivers during evening use with the windows open and therefore, mitigation measures include ensuring that doors and windows remain closed during evening operations.

Cleaning and Maintenance

Cleaning activities and maintenance should be limited to daytime hours. Where cleaning or maintenance activities occur prior to 7am, mitigation measures (**Appendix 1)** must be implemented, including closing windows and doors, avoiding the use of air conditioning, and prohibiting outdoor cleaning activities.

Public Address Systems

The details of the PA systems are not yet finalised and therefore, the NVIA assumes that there is a potential for noise levels of the PA system to affect nearby residential receivers. Mitigation measures (**Appendix 1**) must comply with the requirements of the Industrial Noise Policy, which requires the PA system to be used only between 7am and 6pm of the school day.

External Play Areas and Playground Noise

The external play areas include the sports field, court areas, assembly and open space areas. The predicted noise level to Forbes Street will exceed the play noise screening target by 1 dB(A), however, the NVIA notes that play noise is generally only generated for short periods per day and is limited to daytime hours only. The NVIA concludes that the noise from outdoor play areas is not considered offensive. In addition, the siting of the buildings along the northern and western

boundaries of the site retains operational noise associated with the external play areas within the site.

Building Services

As is typical for this stage of the design development, final plant selections have not been made, and therefore a detailed assessment has not been carried out. Notwithstanding, an assessment will be undertaken once the detailed design of the plant has been completed. Mitigation measures (**Appendix 1**) will include the centralised plant to require acoustic screening and canopies with ducted discharge in areas with in-duct attenuation to be incorporated for equipment ending at the façade.

Traffic Noise

In relation to the on site car park, the operational noise is expected to result in a negligible noise change from the current car park usage as the noise emissions are below the PNTLs and Sleep Disturbance Trigger Levels to the nearest residential receivers.

Finalisation of the deliveries and waste collection has not been made, however, noise emissions from these uses are not considered to be significant.

The increase in traffic generation off-site as a result of trip generation to and from the school will have a negligible impact, of less than 2 dB(A).

Mitigation Measures

- **Construction -** A CNVMP will be prepared under mitigation measure CMM2, when the contractor is on board, that outlines actual works and considers project specific mitigation measures noise.
- **Operation -** An Operational Noise Management Plan will be prepared and implemented prior to operation, as per mitigation measure OPMM6.

Following implementation of the noise control measures, it is concluded that the proposal is acceptable with regard to acoustic matters.

7.6 Hydrology, Flooding and Water Quality

7.6.1 Flooding

A Flood Impact and Risk Management Plan (FRMP) (**Appendix 21**) and a Flood Emergency Management Plan (FEMP) (**Appendix 20**) have been prepared alongside this REF.

The FRMP identifies that the site is impacted by the George River flooding and is impacted by riverine flooding during heavy rainfall or extreme weather events with increase water volumes. Furthermore, the site is determined to be affected by the Probable Maximum Flood (PMF) storm events (**Figure 24**). Flooding from the Georges River for PMF storm events categorises the site as a low flood hazard level, as established in accordance with the Georges River Floodplain, where the risk of flood damage in this category is low for most land uses, and most activities are permitted (**Figure 25**). The site is identified as not being affected by the 1% or 0.5% AEP storm events.

Figure 24 PMF extent map with site identified

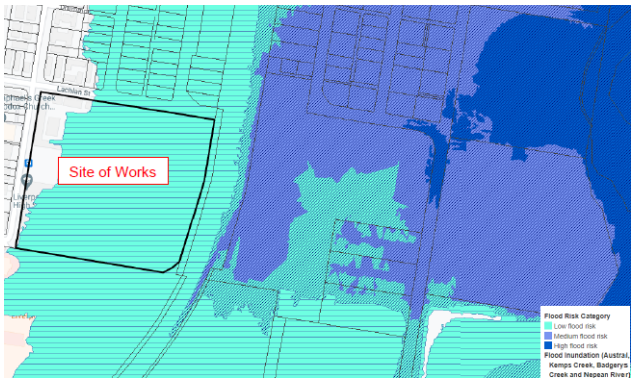

Figure 25 Flood hazard from Georges River

Source: Woolacotts

The FRMP assesses that the proposed activity will result in raised flood levels by less than 1mm during a PMF event at the southeast corner of the site. As this impact is considered a minimal increase, the proposed activity does not impact the existing flooding regime. There are no proposed impacts to Burnside Drive. Liverpool Council has recommended using the PMF flood level for the lowest habitable floor for the proposed activity, therefore, a minimum habitable floor level of 10.80m AHD has been designed to meet the council's requirements. This can prevent water ingress into buildings by matching or exceeding the PMF level.

Figure 26 Existing PMF flood depth and height

Source: Woolacotts

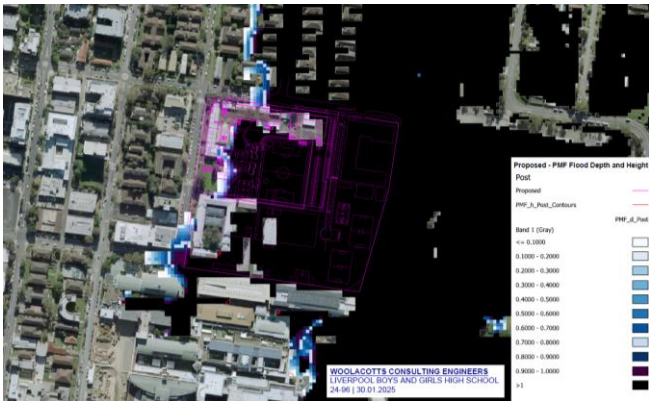

Figure 27 Proposed PMF flood depth and height

Source: Woolacotts

Overall, the extent of potential flood impacts is low and will not have significant adverse impacts and any potential impacts can be appropriately mitigated to ensure minimal impact on the locality, community and the environment (**Appendix 1**).

Climate Change

The 1% AEP rainfall intensity is increased by 10% to account for the potential impacts of climate change and rainfall intensity. As a result of the 10% increased rainfall, there is a peak flow increase across the study catchment of approximately 10%. The inflows to the hydraulic modelling result in a general increase of peak water level by 0.40-0.70m during a PMF storm event at the site. Overall, the impacts of climate change will increase flood risk at the site, however, evacuation routes are still available during this scenario.

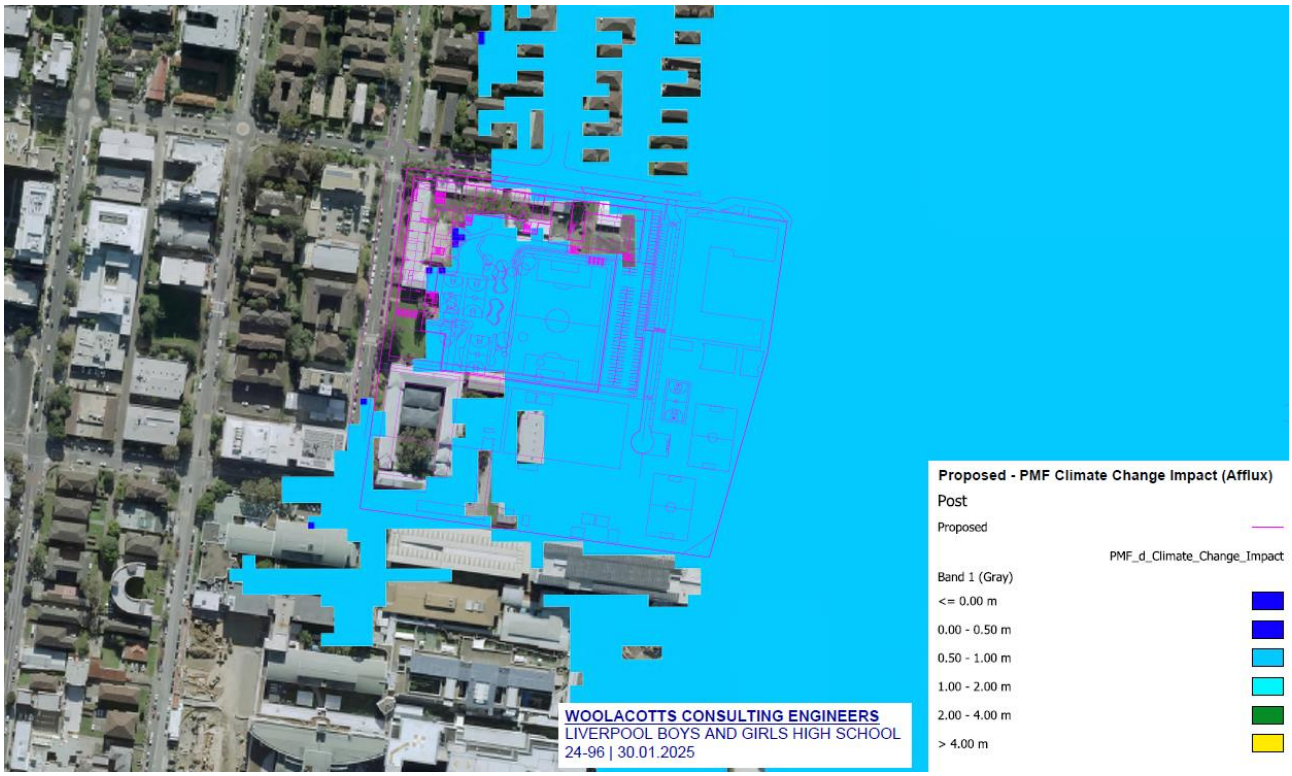

Figure 28 Proposed PMF climate change impact

Source: Afflux

Flood Emergency Response

A Flood Emergency Management Plan has been prepared (**Appendix 20**) and analyses access and egress for pedestrians and vehicles in the event of a flood event. Initial early closure of the Liverpool Boys and Girls High School will occur as soon as a warning for moderate flooding is issued. Additionally, full closure should be complete by the time a flood level of 3.0m is reached at the Liverpool Gauge. Closure and then early evacuation are the recommended strategies during flood events. Generally, it takes floodwaters 11 hours to reach their highest levels after the start of a PMF storm event at the site. The PMF flooding event will last approximately 31 hours. The recommended assembly location for the site and the Gulyangarri Public School is the new gymnasium area, which is covered and located above the PMF level of 10.80m AHD. In the event that the gymnasium reaches maximum occupancy, the remaining school building areas including classrooms and offices are safe to be utilised as additional assembly areas. To ensure the safety of the customers/visitors and staff during a flood emergency, a Flood Preparation and Response Team is required.

During construction, all construction personnel, staff, students and visitors of the Liverpool Boys High School, Liverpool Girls High School and Gulyangarri Public School will begin to evacuate the site via Forbes Street no later than once flooding is observed within Burnside Drive with relocation to be complete within one hour.

Mitigation Measures

- **Construction -** A Construction Flood Management Plan will be prepared in accordance with mitigation measure CMM2.
- **Operation -** A detailed Flood Emergency Response Plan (FERP) is to be incorporated with the Emergency Management Plan, as per mitigation measure OPFMM1.

The detailed design should include the following measures:

- All structural components below the PMF will be designed with flood compatible materials to withstand the impacts associated with flooding and debris.
- Utilities and equipment potentially affected by the PMF flood will be designed and installed with waterproofing or protected to prevent floodwater affecting the system.
- Back-up power supplies independent of the electrical grid will be made available for utilities within the building in the event of power outage. The back-up system needs to be protected up to the PMF flood level.

7.6.2 Stormwater

A Stormwater Management Plan (SMP) has been prepared (**Appendix 32**) to assess the proposed stormwater, drainage, and sediment/erosion control measures to be implemented in the proposal. The stormwater drainage calculations were based off a 1 in 20-year Average Recurrence Interval (ARI) storm event and a 1 in 100 ARI storm event.

The SMP identifies that stormwater runoff currently occurs to the east and southern boundaries of the site. For the proposed activity, a 450mm diameter Council pipe is proposed in Lachlan Street for a small catchment of the stormwater run-off and majority of the flow will be discharged to the existing Council 1200mm diameter stormwater pipe in Campbell Street subject to the Stage 1 works under a separate planning pathway. Stormwater run-off from the roof and ground level areas will be captured on site and directed to an existing road put south of Burnside Drive via a new on-site drainage.

The existing site does not have a stormwater detention system and therefore an on-grade basin is proposed in the sports field area to ensure the site is not inundated with the surrounding run-off or tailwater. The on-grade basin will have 2 orifice plates to control the outflow discharged into the 1200mm council stormwater pipe in Campbell Street. The on-grade basin is in accordance with the ESDG requirements as preferred by the proponent.

The SMP confirms that the proposed stormwater treatment train will achieve the required pollutant load reduction objectives for total suspended solids, total phosphorus, total nitrogen and gross pollutants.

Overland flow is identified on the whole site during minor and major storm events. Stormwater runoff will be collected through a pit and pipe drainage system that is mitigated through the on-grade basin. Any external catchment flows will go through a diversion channel.

Through the formalisation of the stormwater system and implementation of mitigation measures (**Appendix 1**), the peak flow rate of storm-water run-off decreases post-development. The SMP therefore confirms that the extent and nature of potential impacts are low and will not have significant adverse effect on the locality, community and the environment and any potential impacts can be appropriately mitigated or managed (**Appendix 1**).

Erosion and Sediment

The SMP identifies a number of erosion and sediment control measures at **Appendix 32**, including sediment fences, straw bales, and sediment traps. These will be put in place to during construction to minimise the risk of sediment being washed into neighbouring properties and to avoid erosion from occurring on the site and regularly maintained where required.

Standard mitigation measure SWMM1 requires an Erosion and Sediment Plan to be implemented until all works are complete.

Further mitigation measures are set out in **Appendix 1** and summarised below.

Mitigation Measures

The SMP sets out a range of mitigation measures, which will be addressed as part of an operational stormwater management system under mitigation measure SWMM5, including:

- The whole site is assessed to identify the runoff flow directions during minor and major storm events. Stormwater runoff will be collected through a pit and pipe drainage system and will be mitigated by using OSD.
- Construction pollutants will be mitigated by installing erosion and sediment control devices such as hay bales, sediment fences and geotextile pit filters in the site.
- Stormwater runoffs generated by the proposed activity will be collected through the proposed drainage system and will then be treated in a chamber with 35 x 690 PSorb Stormfilters or equivalent.

7.7 Land Contamination and Hazardous Materials

A Data Gap Investigation, or otherwise known as a Detailed Site Investigation (DSI), has been prepared (**Appendix 30**) that assess the potential of contamination at the site and the site's suitability for the erection of a school. The DSI was undertaken in response to gaps in the Preliminary Site Investigation (PSI) provided at **Appendix 36** and the Contamination Peer Review at **Appendix 37**.

The PSI identified from a desktop study that there were areas requiring further investigation including areas of fill material, impacts from historical use of pesticides or herbicides and potential asbestos or lead contamination in soil.

As a result of the findings in the PSI and the Contamination Peer Review, a DSI was undertaken, including testing of 24 test pits, boreholes and surface soil sampling locations. Soil samples were not tested for groundwater, ground gas or soil vapour, however, the risk of potential contamination of this nature is considered low. The DSI identifies that the sources of soil contaminations in the form of asbestos are likely to be associated with demolition of historic sites that previously occupied the site. Asbestos impacted areas are generally limited to the sub-floor area below Block A and fill material used in the north-western portion of the site.

Accordingly, the DSI provides a range of management recommendations to appropriately manage contaminated materials, including the preparation of a Remedial Action Plan (RAP).

The DSI confirms that the site can be made suitable for the proposed activity, subject to remediation of identified asbestos and contamination. The DSI confirms that the extent and nature of potential impacts are low and will not have significant adverse effects on the locality, community and the environment and can be appropriately mitigated (**Appendix 1**).

A RAP has been prepared that addresses the entire school project site (**Appendix 31**) and assesses the potential remedial options to remove any risks from contamination fill materials/soil contamination. The options analysed included:

- **Option 1 -** Onsite treatment of the soil so that the contaminant is either destroyed or the associated hazard is reduced to an acceptable level.

- **Option 2 -** Offsite treatment of excavated soil so that the contaminant is either destroyed or the associated hazard is reduced to an acceptable level, after which the soil is returned to site.
- **Option 3 -** On-site in situ management of the soil by physical separation, and ongoing management.
- **Option 4 -** Removal of contaminated soil/infrastructure to an approved site or facility, followed where necessary by replacement with clean fill.

Based on the analysis, Option 3 (for example cap and contain) has been considered the preferred option for the impact soils. This approach will allow asbestos and copper contamination to be permanently contained through an appropriately designed physical barrier and will be managed through the implementation of a Long-Term Environmental Management Plan (LTEMP).

Any hazardous materials identified within the existing buildings will be dealt with via a separate approval pathway relating to demolition works.

Upon completion of the remediation works, a Validation Report is required to be prepared to verify the works were completed in accordance with the RAP, as per standard mitigation measure LCMM1. Subject to the implementation of an LTEMP and mitigation measures set out in **Appendix 1**, the extent and nature of potential impacts is considered to be low and will not have significant adverse effects on the locality, community and the environment. The key mitigation measures are outlined below.

Mitigation Measures

A series of mitigation measures are set out in LCMM1 – LCMM7 (**Appendix 1**), which include:

- **Construction -** An LTEMP should be prepared where contaminated soil above land use criteria is contained/retained on site.
- **Construction -** A work health and safety management plan shall be prepared by the Remediation Contractor prior to commencement of remediation works.

7.8 Heritage

7.8.1 Aboriginal Heritage

An Aboriginal Cultural Heritage Assessment Report (ACHAR) has been prepared and is included at **Appendix 9**. The ACHAR documents the process of investigation, Aboriginal community consultation and assessment with regards to Aboriginal cultural heritage. The ACHAR has been prepared in accordance with the *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH 2011).

The community consultation process was conducted in accordance with the Consultation Requirements (Department of Climate Change, Energy, the Environment and Water (DCCEEW) 2010a). A total of 15 Registered Aboriginal Parties expressed their interest in being involved in the consultation process for the site. An initial ACHAR methodology was issued to the Registered Aboriginal Parties and 10 responses were received, primarily requesting site officers for fieldwork. 6 RAPs were present for the test excavation. The draft ACHAR was then issued to the Registered Aboriginal Parties for review on the 7 November 2024, however, no responses were received.

Previous archaeological surveys have been conducted at the activity area, undertaken to support the works associated with the SSD for the Gulyangarri Public School. The assessment completed

for Gulyangarri Public School identified surface artefact sites and three areas of Potential Archaeological Deposit (PAD) (Registered as AHIMS 45-5-5507). While this site was updated to destroyed on the AHIMS database at the completion of the Gulyangarri Public School, the current assessment recognised that PAD3 was outside of the footprint of the school and had not been subject to test excavation as part of the Gulyangarri Public School project. The current ACHAR program included archaeological test excavation of PAD3 as well as surface survey of the area of PAD. 24 test pits were excavated during the test excavation and six subsurface artefacts were identified in two site locations recorded on AHIMS as Liverpool BHS GHS_AS01 (45-5-5789) and Liverpool BHS GHS_IA01 (45-5- 5791). A site survey identified a single isolated artefact to the south of the site, recorded as Liverpool BHS GHS IA02 (45-5-5791).

The ACHAR determines that the three artefact sites identified are considered to be of low scientific, historical and aesthetic significance. The social significance of the sites could not be determined during further consultation with the local Aboriginal community, as no comments were received. All Aboriginal sites have been assessed to be subject to complete harm due to the temporary school works (Stage 1) and that an AHIP will be applied for to authorise harm to all Aboriginal sites across the school. As all sites have been assessed to be subject to complete harm as part of Stage 1 works, no additional harm is proposed as part of the current REF works. An AHIP would be required prior to the construction of the temporary school to mitigate the harm to Aboriginal sites within the AHIP boundary. The AHIP will be prepared prior to the Stage 1 works and will include the entire Lot. A full set of mitigation measures are provided at **Appendix 1** and summarised below.

Mitigation Measures:

- **Construction -** Should any unexpected Aboriginal objects, sites or places be discovered during any construction work, all works in the vicinity must cease and the area must be appropriately protected, as per mitigation measure HMM2 (**Appendix 1**).
- **Construction and Operation -** Prior to construction, the Proponent will prepare and implement an Aboriginal Heritage Interpretation Strategy for incorporation into the final School design.

The design development will also ensure that:

- Ongoing Aboriginal community consultation will be undertaken through design and construction.
- The final design will incorporate native plants into the landscaping plan for the site.

7.8.2 Archaeological Heritage

A Historical Test Excavation Report was prepared (**Appendix 34**) to assess the significance of any identified or potential historical archaeological items on site, and to investigate the potential impact of the proposed works on those archaeological items. The investigation was undertaken in accordance with a Historical Archaeological Research Design and Test Excavation Methodology (**Appendix 12**).

The excavations identified a cistern and associated artefact deposit as a relic. In addition to the relic, a localised cache of bullets was identified during test excavation. These remains were assessed to not be relics and were removed from the site as part of the test excavation program. The proposal includes landscaping works in the form of fencing, a loading dock and turfed open area on top of the cistern, however any excavation works are not expected to interact with the

cistern. The assessment concluded that the proposed activity has low potential to directly or indirectly impact the assessed significance of the structure or deposits. Nonetheless, a mitigation measure has been recommended to ensure that any construction or design works do not extend within 400mm of the cistern. A full set of mitigation measures are provided at **Appendix 1** with the key measures summarised below.

Mitigation Measures:

The Historical Test Excavation Report recommended a series of mitigation measures, which have since been completed, including:

- **Design:** The applicant will submit a Section 146 notification to Heritage NSW, to meet part (a) of Section 146 of the *Heritage Act 1977*.
- **Design:** An Exception Record of Use Form will be submitted and signed and submitted to Heritage NSW.

Further mitigation measures are set out below:

- **Construction:** Contractors working on the site will prepare a Stop Work Protocol for the management of ammunition as a precautionary measure.
- **Construction and Design:** The contractor must ensure that no works are undertaken within 400 mm of the cistern.

7.8.3 Environmental Heritage

The site itself is not listed as a heritage item, nor does it contain any heritage items. The site is also not located within a Heritage Conservation Area under the *Liverpool Local Environment Plan 2008* (Liverpool LEP), *Heritage Act 1977* or the department's Section 170 Register. The site is located adjacent to the 'Plan of Town of Liverpool (early town centre street layout – Hoddle Grid 1827)' which is a locally listed heritage item identified in the Liverpool LEP as item No. 89.

The significance of Heritage item No. 89 is predominantly related to the retention of the original grid layout. The proposed activity will not impact upon the road arrangement. The works include off-site road works, however the proposed activity does not seek to amend the road boundaries and it is therefore considered that the proposed activity is not likely to impact upon heritage item No. 89.

Previous heritage assessment across the school site identified that the Liverpool Boys and Liverpool Girls High Schools were items of unlisted local heritage significance. The demolition of the Liverpool Boys High School and heritage impact associated with the demolition will be subject to approval under a CDC pathway as part of Stage 1. As demolition would be approved under the Stage 1 CDC pathway, no additional heritage impact would be associated with construction of the new school building following completion of the demolition.

7.9 Social Impact

The Social Impact Assessment (SIA) (**Appendix 25**) has been prepared to evaluate the proposed activity's impact on the community and social environment compared to the baseline scenario of the site's existing use and social context.

The evaluation includes a risk assessment based on the social impact significance matrix provided within the *Social Impact Assessment Guidelines (2021)*. The matrix determines a social impact's risk based on the following considerations:

- The likelihood of a social impact is based on:
  - The findings of various technical reports; and
  - The social baseline study.
- The magnitude of a social impact is based on the duration, extent, severity and sensitivity of each impact.

Table 25 provides consideration of social impacts.

Table 25 Social Impact

Type of Impact	Describe the impacts on the community and how they might be experienced, either positively or negatively
Impacts on access – will there be an improvement to the quality of provision and a response to emerging and changing needs?	The proposed activity responds to a growing population and will provide an educational facility anticipated to accommodate 2,000 students to meet the community's future demand for all capabilities. The school will improve access to new teaching spaces and specialist facilities for students. Improved access to social infrastructure will occur through the shared use arrangement for recreation with the wider community.
Impacts on privacy, overshadowing, peace and quiet, and visual amenity (views / vistas) - will there be significant change for neighbours and the local area during both construction and operation?	It is acknowledged that construction impacts are likely to be experienced, but will be temporary in nature. This REF and the accompanying technical documents confirm that the proposal is unlikely to result in adverse visual impact and loss of privacy impacts to members of the community. Instead, the proposal will deliver the following positive impacts: • The built form and massing will complement and contribute to the streetscape of the area. The built form has been located along the road frontages to create an enclosed and private courtyard and outdoor spaces for the students. • The new school's positioning on the site, which incorporates extensive landscaped setbacks to the site's boundaries, also seeks to minimise any visual impact. • As shown in the shadow diagrams included in the Architectural Drawing Package (**Appendix 4**), the proposed design will not cause adverse overshadowing impacts to neighbouring developments. Refer to **Section 7.2** for further discussions.
Impacts on sense of place - will there be effects on community cohesion or how people feel connected to the place and its character?	The proposed activity provides a significant upgrade to social infrastructure that will continue to provide improved and accessible public education provision. The proposed activity will improve accessibility of community facilities in the area with potential shared community uses on the site. There will be improved education and knowledge sharing through Connecting with Country which will create a depth of understandings of local Aboriginal culture and awareness for Aboriginal cultural practices.
Impacts on the way people get around – will there be changes associated with traffic or parking in the area?	During construction, there may be impacts on the road network as a result of construction vehicles accessing the site. During operation, there may be an increased demand on the road network across the surrounding locality, however, with the implementation of the mitigation measures, there is expected to be minimal impact on the surrounding external road network.

Type of Impact	Describe the impacts on the community and how they might be experienced, either positively or negatively
Impacts on wellbeing - will there be benefits for students and the community associated with better school facilities, sporting facilities and grounds, and active transport options?	The activity will promote significant benefits on wellbeing including: • The delivery of high-quality flexible learning and teaching environments in purpose-built spaces. • The provision of extensive outdoor play spaces, which have incorporated Designing with Country principles to improve social cohesion. • The provision of new sports facilities that promote more active movements. • Economic opportunities during construction and operation. • Off-site infrastructure works to promote pedestrian connectivity between the site and the surrounding area.

Overall, the Social Impact Assessment concludes that the outcome, subject to appropriate mitigation of construction and operational impacts, will be positive. Temporary impacts during construction can be managed accordingly through implementation of relevant technical report recommendations, communications strategies, legislative requirements, and conditions of consent.

Overall, it is considered that with a range of mitigation measures to manage any risks as well as enhance the positive benefits, the project is anticipated to bring significant public social benefits to the existing staff and students at the schools, as well as the broader community of Liverpool. A summary of the mitigation measures is provided at **Appendix 1**.

Mitigation Measures

The SIA sets out the preparation and implementation of the following documentation, which will be prepared in accordance with mitigation measures CMM2 and OPTMM1:

- **Construction -** Preparation and implementation of a Construction Noise Vibration Management Plan.
- **Operation –** Preparation and implementation of a School Transport Plan.

The SIA also recommended that the following design measures are incorporated into the detailed design:

- Be compliant with Large School Department of Education Educational Facilities and Standards Guidelines (EFSG);
- Incorporate best practice pedagogy for learning spaces;
- Foster a strong connection between the school and its surrounding community by providing community access to sports facilities, the gym, library and the bistro terrace;
- Incorporate curved, organic circles and reuse of existing artwork from the current school campuses that include First Nations artwork; and
- Incorporate cultural symbols and first nationals learning opportunities with Aboriginal knowledge shared in graphics and language for each department.

7.10 Other issues

Issue	Consideration
Land Use	The activity is not in proximity to a restricted land use. The site is zoned SP2 Health Services Facility and Educational establishment whereby educational establishments for the purposes of a school are permissible in the zone. As noted in **Section 5.7**, the wider

Issue	Consideration
	area is evolving through the Liverpool Health and Academic Precinct and the recently constructed Gulyangarri Public School adjacent to the site, establishes a conducive context for the delivery of a new school. As such, the works are entirely consistent with the statutory and strategic framework relevant to the site, and owing to the surrounding development context, the proposal is not considered to disrupt the surrounding land uses. In addition, no major oil or gas pipeline is proximate to the site, nor is the site is not mapped as being within a mine subsidence area. The site is not in proximity to any high voltage powerlines or telecommunications infrastructure that may have electromagnetic field considerations. As such, the site is considered wholly suitable for the proposed operations.
Crime Prevention through Environmental Design	A Crime Prevention Through Environmental Design Review (CPTED) has been undertaken (**Appendix 17**) to assess surveillance, access control, territorial reinforcement and space management. The CPTED Report (**Appendix 17**) outlines various design measures that have been adopted in consideration of the CPTED principles including: • Well-lit external spaces for natural surveillance. • Pathways, stairwells, hallways and car parks are open and not enclosed to minimise blind corners. • Entry plaza spaces on campus corners align with pedestrian entry points and create legible and safe entry points. • Signage at site entrances and exits.
Ecology	A Flora and Fauna Assessment has been prepared (**Appendix 13**) to assess any potential impacts associated with the proposed activity on biodiversity within the site, including threatened species, populations and ecological communities listed under the *Biodiversity Conservation Act 2016* and the EPBC Act. The Flora and Fauna Assessment confirms that the proposed activity will not be carried out in a declared area of outstanding biodiversity value and is not likely to significantly affect threatened species, populations, ecological communities, their habitats, or impact biodiversity values. The investigation identified that the vegetation on site does not include any listed Plant Community Types with no potential for threatened flora on site. As there were no threatened species identified during the site inspection, a Test of Significance was not considered necessary. A precautionary approach has been adopted, assuming that threatened faunal species may be present on site as they are likely to be nocturnal. It is noted that 55 trees will require removal to establish the works across the site, the majority of which are mature Eucalyptus trees. The increase in tree canopy as a result of the proposed activity will offset the removal of these trees. A pre-clearance survey will be required to inspect the trees and vegetation for hollows and nests, with an ecologist present to relocate any fauna discovered. Together with the maintenance of Tree Protection Zones (TPZs), the ecological impact associated with the tree removal can be minimised. A complete set of mitigation measures relating to ecology impacts from construction and operation for the activity is located at **Appendix 1.** A separate Arboricultural Impact Assessment has been prepared and is provided at **Appendix 10**.
Tree Removal	An Arboricultural Assessment has been prepared and is provided at **Appendix 10**. The Arboricultural Assessment confirms that 114 trees were assessed with 34 trees having high retention value, 79 with medium retention value and 1 tree with low retention value. 55 trees are identified to have their TPZ encroached by proposed construction, landscape, stormwater and earthworks within Stage 1 and Stage 2 and therefore the trees are not viable to be retained and will require removal due to the proposed activity. 6 trees are proposed for removal in Stage 1 and are subject to a separate REF, and 49 trees are proposed for removal in Stage 2, which are included within the proposed activity under this REF. Of the 55 trees identified to be removed, 8 trees may be viable to be retained and

Issue	Consideration
	determination of this will be subject to further review by the Project's Arborist and subject to further detailed design development. The Construction Tree Protection Management Plan under mitigation measure CMM2, and will include measures as set out by the Arboricultural Assessment, as detailed in mitigation measure TMM1.
Soils and Geology	A Geotechnical, Salinity and Acid Sulfate Soils Assessment has been prepared (**Appendix 22**) to assess the geotechnical conditions of the site. A total of 16 boreholes were drilled ranging 3-15m and 9 boreholes were drilled in the bedrock. The Geotechnical Assessment found the interpreted subsurface profile was underlain by variable depths of shallow fill and topsoil then residual silty clay over shale and laminate, and alluvia clay over shale in the south and east. The rock had generally increased in strength with depth. All test locations up to 1m in depth were underlain by fill overlying residual clay and alluvial sand and clay soils then weathered shale. Any excavation works will require retaining walls in the design to support the overburden soil and weaker layers of rock. All footings should be extended to uniform shale or laminate, with a mix of pad footings and piers likely required. Bulk excavation is anticipated to be through clay which can readily be excavated using conventional earthmoving equipment. Bored piles founded on shale or laminate should be feasible to support the loads of the proposed school buildings. Groundwater levels during the investigation indicate that groundwater is at a depth of at least 6m below existing surface levels. During construction and long term, it is anticipated that seepage into excavations may occur and can be controlled through mitigation measures outlined in **Appendix 1**. Key mitigation measures for construction works are set out below. **Mitigation Measures** The Construction Environmental Management Plan to be prepared as per mitigation measure CMM2 will address the geotechnical matters set out within **Appendix 22**. A Salinity Investigation and Management Plan has been undertaken within the Geotechnical Assessment (**Appendix 22**). The current salinity investigation identifies that materials within the site are non-saline, with the materials underlying the site being non-aggressive to moderately aggressive to concrete and non-aggressive to steel. Implementation of mitigation measures (**Appendix 1**) will be incorporated into the design and construction to mitigate levels of salinity, aggressivity and sodicity at the site. An Acid Sulfate Soils Management Plan (**Appendix 22**) identified potential acid sulfate soils may be present in the south western corner of the site which is underlain by deep alluvium. The results of the investigation indicate that the proposed activity of the site is considered feasible with the implementation of the mitigation measures, which requires the preparation of an Acid Sulfate Soil Management Plan should acid sulfate soils be encountered.
Waste	**Operational Waste** An Operational Waste Management Plan has been prepared (**Appendix 26**) and provides an assessment of potential waste impacts associated with the operation of the school. It has been prepared with guidance from the DCP, as well as a range of waste management strategies from a local, state and federal level. The report outlines waste generation estimates for the proposed land use, which have been calculated based on generic general waste and recycling generation rates. Based on these calculations, the report recommends bin sizes, quantities and collection frequencies as follows: • General Waste: 13 x 1100L bins collected 3 times per week • Recycling: 10 x 1100L bins collected 3 times per week

Issue	Consideration
	The high school and adjacent Public School will share a bin area and collection facilities. Access will only be provided to grounds keepers, waste collection staff and cleaners. Stage 2 of the Primary School expansion will not increase the operational capacity of the school. As such, the waste areas are considered to be suitable and sufficient for both schools, upon completion. A private waste contractor will service general waste and recycling bins which is assumed to be three times a week for both recycling and general waste. The private waste contractor will collect waste via the staff carpark entrance accessed via Lachlan Street. An Operational Waste Management Plan will be prepared and implemented in accordance with standard mitigation measure OPMM1 (as outlined in **Appendix 1**). **Construction Waste** A Construction Waste Management Plan has been prepared (**Appendix 16**) and provides an assessment of potential waste impacts associated with the proposal. The demolition of the existing buildings on site is not within the scope of this REF and will be dealt with under a separate approval process. Nonetheless, the Plan has been prepared to consider the proposed demolition works as part of the wider redevelopment. Waste generated during the construction stage of the development will be managed by the principal contractor and sub-contractors, with materials being reused and recycled wherever possible. Where neither reuse nor recycling are possible, waste will be disposed of as general waste at a licensed landfill site. The number of skip bins and frequency of waste removal will be determined by the volume of materials deposited into the dedicated skip bins and will be monitored daily. A full set of mitigation measures are outlined at **Appendix 1**.
Air Quality	A Preliminary Construction Management Plan (PCMP) (**Appendix 23**) assesses air quality management and odour control. The PCMP states that any potential odours or fumes relating to construction will be assessed and minimised through mitigation measures where required (**Appendix 1**). A detailed Environmental and Site Management Plan will be prepared by the appointed Contractor for implementation during construction. The main contractor will be ensuring that air quality and dust are mitigated including implementing the following measures: • Stockpiles of excavated materials and building materials are to be kept moist or covered, and stored appropriately. • Monitor wind conditions and cease operation of certain activities when wind speeds become excessive. • Ensure haulage vehicles leaving site have loads covered.
Wind	A Pedestrian Wind Environment Statement (**Appendix 27**) has been prepared owing to the scale of the proposed built form, to provide a preliminary assessment of the surrounding pedestrian wind environment. Owing to the size of the proposed structure in comparison to the proposed built development within the campus, the assessment concludes that the development will have a minor effect on the local wind environment, however these changes are not anticipated to be significant with regard to pedestrian comfort or safety. Wind conditions around the development are generally considered to be acceptable. At ground level, with the setbacks of the proposed building from the site boundary may result in marginally higher prevailing winds than the existing conditions. The row of trees along the Lachlan Street boundary are recommended to be retained to minimise these wind effects. The courtyards within the school are not expected to cause safety concerns. The open walkways along the side of the building are exposed to direct south-easterly prevailing winds and may exceed the safety and comfort limits. As such, the following design measures have been implemented to minimise the impacts and ensure safe and

Issue	Consideration
	comfortable wind conditions: • Retention of the proposed trees throughout the development (north, west and central courtyards), ensuring that the trees are of an evergreen and densely foliating species capable of growing to a height of at least 3-5m, with 3-5m wide canopies. • Retention of the proposed 1.3m high porous screens (max. porosity = 30%) along the exposed edges of the walkways. • Retention of the proposed porous fencing (max. porosity = 30%) along the north facing entrance at the Lower Ground Level. • Stairwells: Retention of the proposed full-height 30% porous screen on the southern/eastern aspects of the stairwells, and 60% porous balustrades, (OR), • Inclusion of full-height 30% porous screening within the first 2.4m height above the FFL, and 60% porous screening within the upper 1.1m of the floor height. Upon implementation of the identified mitigation, it is considered that the wind conditions for the outdoor areas within and surrounding the development will be suitable for their intended uses and that the wind speeds will satisfy pedestrian comfort and safety.
Aviation	An Aviation Impact Assessment Report has been prepared (**Appendix 14**) to assess the impacts of the proposed activity on the aviation operations for surrounding aerodromes and Liverpool Hospital Helicopter Landing Site (HLS). The proposed activity seeks the construction of a 6-storey school building to a maximum height of RL 33.50. The designated elevation of the Liverpool Hospital HLS is 135 ft. The elevation of the school will be 7.82m below that of the HLS. There are no anticipated impacts during construction or operation on aviation activities except for the construction cranes intruding into the present Liverpool Hospital northern HLS approach and departure path, which will require aviation-standard obstacle lighting for HLS protection. As a result, the flight path for Liverpool Hospital is required to be moved, which will be undertaken in accordance with the relevant authorities and stakeholders, prior to construction. The construction cranes must meet the illumination requirements set out in the Aviation Impact Assessment Report. Cranes will be subject to a separate approval under the Airports Act 1996. No specific approvals are required from aviation regulatory bodies. Notwithstanding, liaison with the Liverpool Hospital will be required to facilitate the direction and realignment of the temporary HLS approach. Refer to **Appendix 1** for further mitigation measures.
Building Code of Australia Compliance and Accessibility	The proposed activity has been assessed as being able to readily achieve compliance with the Building Code of Australia 2022 (BCA) and Disability (Access to Premises-Buildings) Standards 2010, subject to addressing the matters during design development and the S6.28 Crown Certificate stage as outlined in the BCA Assessment Report (**Appendix 15**).

7.11 Cumulative Impact

As defined in the Part 5.1 Guidelines, 'Cumulative Impact' is defined as the following:

> *Impacts that are a result of incremental, sustained and combined effects of human action and natural variations over time, both positive and negative, or by the compounding effects of a single project or multiple projects in an area, and by the accumulation of effects from past, current and relevant future projects. Refer to definition for 'relevant future projects' to understand scope of projects to be included.*

The term 'relevant future projects' is defined under the guidelines as comprising:

- *Other State significant development and State significant infrastructure projects.*
- *Projects classified as designated development and require an EIS.*

- *Projects that require assessment under Division 5.1 of the EP&A Act that are likely to significantly affect the environment and require an EIS.*
- *Projects that have been declared to be controlled actions under the EPBC Act.*
- *Any major greenfield and urban renewal developments that are scheduled for the area (e.g. new areas zoned for urban development). These types of projects are generally large in scale and could potentially contribute to or compound material impacts. They are also generally publicly notified and should therefore be known or reasonably foreseeable.*

The site's surrounding context is transforming to adapt to a growing population, with the school providing an essential piece of social infrastructure for the existing and future local community. The Liverpool Boys and Girls High School Upgrade Project will support the expected population growth with the increased residential development in Liverpool Centre and new release development areas in the broader Liverpool LGA.

The surrounding area is also experiencing growth through the Liverpool Health and Academic Precinct, which involves a $830 million redevelopment of Liverpool Hospital and a new education and research hub. A review of online sources identified a number of future developments that have been completed and have been assessed in regard to cumulative impacts by the relevant technical consultant in their respective documentation, including:

Table 26 Surrounding and cumulative impact

DA Number	Name of Development	Description of Works	Date of Determination
DA-585/2019	Civic Place – Liverpool Council and Library on Scott Street (Construction complete in 2023)	A concept DA for a new mixed use precinct known as Liverpool Civic Place. Since the concept DA, further DAs have been submitted including, but not limited to DA-72/2024 and DA-452/2024. Approximately 1.1km from the site.	Approved 31/08/2020
SSD-10388	Liverpool Hospital Multi-Storey Carpark (Construction complete in 2022)	Construction and operation of a seven-level carpark at Liverpool Hospital, including: multi-level and at-grade carparks with 1,097 car parking and 55 motorcycle parking spaces; demolition works; remediation works; road connections; and landscaping. Approximately 200-300m from the site.	Approved 30/11/2020
MP06_0116	Liverpool Hospital Redevelopment (Main works completed in 2012)	Since the approval of the Liverpool Hospital Upgrades and Redevelopment, a number of State Significant Developments have been approved for a variety of works including the Integrated Services Building and refurbishment works. Approximately 200-300m from the site.	Approved 18/12/2008

-	Liverpool City Centre – Sydney's Third CBD	The rezoning supports Council's vision to foster a modern, vibrant, 18-hour economy and enhance Liverpool as a walkable city centre in which residents are close to work, universities and schools, shops, dining, entertainment, public transport and green space along the Georges River.	-

As noted in **Section 2.2**, the Gulyangarri Public School was approved under SSD-10391 and is located within the eastern portion of the site boundary. As discussed in the TAIA (**Appendix 7**), the school currently has an enrolment of 209 students including preschool students, with a Stage 1 capacity of up to 580 students and a full capacity of 1,280 students at Stage 2 (full capacity). The school is likely to generate the following additional traffic for students and staff:

- Stage 1: 142 vehicles (71 inbound, 71 outbound) during the AM and PM peak
- Stage 2: 421 vehicles (216 inbound, 205 outbound) during the AM peak and 416 vehicles (205 inbound, 211 outbound) during the PM peak

The traffic modelling for the proposed Liverpool Boys and Girls High School has considered the above trip generation, and concludes that the activity will have a minimal impact on the surrounding road network, subject to the following mitigation measures being implemented:

- 2028 Opening Year – Prior to Occupation
    - Priority reversal at the Lachlan Street / Forbes Street intersection.
- 2 Years after Occupation
    - LILO restriction at the Lachlan Street / Forbes Street intersection.
    - Right-turn ban for the southern approach of Forbes Street at the Lachlan Street / Forbes Street intersection.

It is also acknowledged that there may be cumulative impacts associated with the provision of Stage 1 of the wider activity, which involves the demolition of the existing Liverpool Boys High School, the provision of a temporary school for the existing students to occupy while the construction of the proposed new high school is being undertaken. Owing to the staging of the works, the temporary school will be completed ahead of the construction works related to the new Liverpool Boys and Girls High School and will be removed once the Liverpool Boys and Girls High School is operational. Owing to the staging requirements, it is not the intention to construct the works under Stage 1 and Stage 2 concurrently. As such, it is not expected that there would be any cumulative impacts from the temporary school.

The proposed works are unlikely to have significant cumulative impacts on any neighbouring properties. Traffic, noise, dust and other impacts associated with construction are likely to be minimal and will be managed in accordance with a detailed Construction Environmental Management Plan. The construction works are temporary in nature and are expected to occur for a period of approximately 12-24 months.

It is considered that the benefits associated with the establishment and operation of the school upgrade will outweigh the short-term construction impacts. As the proposed activity is not expected to be constructed concurrently with any immediately adjacent developments, any cumulative impacts associated with the development are considered to be minor, temporary and acceptable, subject to implementation of the mitigation measures (**Appendix 1**).

7.12 Consideration of Environmental Factors

Section 171(1) of the EP&A Regulation notes that when considering the likely impact of an activity on the environment, the determining authority must take into account the environmental factors specified in the guidelines that apply to the activity.

Section 171A of the EP&A Regulation sets out additional matters to take into account when considering the likely impact of an activity on the environment in a regulated catchment. The proposed activity is located within the Georges River Catchment which is a regulated catchment. This assessment is carried out at **Section 7**.

The assessment provided in the sections above has been prepared to provide a detailed consideration of the factors that must be taken into account for an assessment under Division 5.1 of the EP&A Act. These factors are summarised at **Table 23** below and where mitigation measures have been proposed in response to the factor, these have been identified.

Table 27 Environmental factors considered

Environmental Factor	Division Factors for school developments ***Guidelines for Division 5.1 assessments Consideration of environmental factors for health services facilities and schools***	Response/Assessment	Mitigation Measure Reference
(a) Any environmental impact on a community?	(a1) Impact during construction – such as noise, vibration, traffic, construction vehicle routes, access and parking, pollution/dust, water and stormwater flow, sediment and run-off, waste removal, servicing arrangements, bushfire, flooding, contamination, other construction occurring in the area. (a2) impact post-construction (including from any development, activity, public-address systems and sirens, signage, events, hours of operation, or out of hours use of facilities, helicopter facilities, emergency facilities) which may include: (i) water flow/water quality, downstream impacts (ii) flooding impact, flood evacuation routes, changes to flood risk and patterns (iii) bushfire impact, bushfire evacuation routes, changes to bushfire risk and patterns (iv) impact, during a flood or bushfire event, on existing infrastructure such as roads, etc (v) impact on emergency response to existing Communities (vi) waste and servicing arrangements (vii) traffic and parking impacts, pedestrian and road safety (including pedestrian and cyclist conflict and safety), operation of the surrounding road network, impact on road capacity, including peak hour, intersection performance and any cumulative impact from surrounding approved developments, impacts of potential queuing in drop-off/pick- up zones and bus bays during peak periods, emergency drop-offs, servicing and loading/unloading areas, large vehicles and height clearances, parking arrangements and rates. Consider in the context of availability, frequency, location and convenience of public transport and consequences of parking overflowing into adjoining streets	The proposed activity involves works on an existing school site. The activity will not have significant environmental impacts on the community. There is likely to be an increase in vehicle movement and noise during construction works, however, this will be managed to ensure minimal disruption to the school and the public. The new buildings integrate with the built form of the surrounding context in a scale that is suitable for the community while maximising the space available. The activity includes sufficient on-site parking for staff and provides staff and student bicycle parking. The REF has considered the nominated environmental factors for schools to their fullest extent and has concluded that the proposed activity is unlikely to have any significant impact on the Liverpool community. Overall, the activity is considered to have a high to very high positive social impact with any negative social impacts being temporary and can be appropriately mitigated.	Multiple Refer to **Appendix 1**

Environmental Factor	Division Factors for school developments *Guidelines for Division 5.1 assessments Consideration of environmental factors for health services facilities and schools*	Response/Assessment	Mitigation Measure Reference
	(viii) existing utility infrastructure and service provider assets (a3) impact on flight paths of nearby airport, airfield, or helicopter landing sites (a4) other environmental impacts (social, economic or cultural) on the community not mentioned above (a5) cumulative impacts from the development and other surrounding approved developments		
(b) Any transformation of a locality?	(b1) impact on the existing and future character of the neighbourhood, streetscape and local area (b2) impact on the operation of existing and future surrounding uses, including industrial or agricultural land uses (b3) visual impact from key viewpoints and views to key viewpoints (b4) cumulative impacts from the development, and other approved developments, on the locality	The activity will result in positive changes to the visual appearance of the site, effectively replacing underutilised buildings, with a fit-for-purpose and contemporary, co-educational secondary school. The proposed built form will visually enhance the site, while providing significant tree canopy and additional pedestrian infrastructure surrounding the school to provide a holistic improvement to the social infrastructure opportunities within the local community. The proposed activity has been designed to respect and complement the built form of the newly completed Gulyangarri Public School. During construction, any perceived negative impacts are likely to be minor and will be managed to ensure minimal external impacts. The Architectural Design Report prepared to support this REF sets out the design philosophy and approach further.	Multiple Refer to **Appendix 1**
(c) Any environmental impact on the ecosystems of the locality?	(c1) impact on the existing and future ecosystem (flora, fauna, habitats, biodiversity, ecological integrity, biological diversity, connectivity/fragmentation, air, water including hydrology, soil) (c2) long- and short-term impact of: (i) loss or harm to trees or other vegetation	Environmental impacts associated with the activity are generally minor and of temporary duration. The site will provide landscape setting and urban heat island effect through planting 1,600m^2 of tree canopy, which is equivalent to 30% of site coverage.	Multiple Refer to **Appendix 1**

Environmental Factor	Division Factors for school developments *Guidelines for Division 5.1 assessments Consideration of environmental factors for health services facilities and schools*	Response/Assessment	Mitigation Measure Reference
	(ii) removed canopy cover (iii) landscape setting in respect of the site and streetscape (iv)impacts of the above on urban heat island effect and urban and internal comfort levels on and off-site (c3) impact from introducing new trees and vegetation species (c4) cumulative impacts on the ecosystem	A full assessment of environmental impacts, including water quality and ecology, is contained in **Section 7.6** Any environmental impacts will be minimal and will be subject to appropriate mitigation measures as detailed in **Appendix 1**.	
(d) Any reduction of the aesthetic, recreational, scientific or other environmental quality or value of a locality?	(d1) impacts onto adjoining properties and public spaces (particularly in residential areas) such as lighting impacts and light spill, acoustic, visual privacy, noise and vibration (including from helicopters and ambulances), visual amenity, solar access, view loss and view sharing, vistas, overshadowing, local character, streetscape, weather factors such as wind impacts (i) the above should be considered from any proposed development or activity on the development site, public-address system, ambulance siren, flashing signage, event, hours of operation, or out of hours use of school facility, helicopter facility, emergency facility, research centre where hazardous material is being used or stored and any potential incident, etc. (d2) impacts on connectivity, permeability and accessibility of public spaces and areas surrounding the development, this includes impacts on arterial and other thoroughfares and green corridors and wayfinding (d3) impacts on other aesthetic, recreational, scientific or other environmental quality or value of the locality not mentioned above or in (a) and the cumulative impacts	The school is to be constructed on an existing school site. The school will enhance the locality with new and modern educational facilities with enhanced landscape and open spaces which will improve the visual appearance of the locality. The activity has been designed to ensure impacts onto adjoining properties are either avoided or managed to be acceptable. There will be noise from students at key times during the day, however the impact of this is reasonable with the building itself acting as a barrier to residential properties to the north and west.	Multiple Refer to **Appendix 1**
(e) Any effect on locality, place or building having aesthetic,	(e1) impacts on heritage items (local, state and commonwealth), conservation areas and Aboriginal heritage (including intangible cultural significance), draft and interim items. Both at / or near the site	The proposed activity is supported by an ACHAR, which identifies that a number of AHIMS sites will experience a total loss in value as a result of the works to Stage 1, which will be authorised by an	Multiple Refer to **Appendix 1**

Environmental Factor	Division Factors for school developments *Guidelines for Division 5.1 assessments Consideration of environmental factors for health services facilities and schools*	Response/Assessment	Mitigation Measure Reference
anthropological, archaeological, architectural, cultural, historical, scientific or social significance or other special value for present or future generations?	(e2) impacts on Aboriginal cultural heritage values on the land and connection to Country (e3) direct or indirect impacts on the heritage significance of environmental heritage, impacts to archaeological resources (e4) impacts on aesthetic, anthropological, architectural, cultural, historical, community values and identity, scenic values, scientific or social significant items, or items of other special value for present or future generations	AHIP permit. Notwithstanding, the activity directly associated with this REF, being the proposed Liverpool Boys and Girls High School and associated works, will not result in any further impacts. All impacts can be managed through the implementation of mitigation measures at **Appendix 1**. An unexpected finds protocol will ensure that any impacts not authorised under the AHIP can be appropriately managed should they arise. Test excavation undertaken to investigate the archaeological potential of the site identified one area with relics comprising a cistern and associated artefact deposit. The proposal includes landscaping works in the form of fencing, a loading dock and turfed open area on top of the cistern, however any excavation works are not expected to interact with the cistern or associated deposit. As such, it is concluded that the proposed activity will have a low potential to directly or indirectly impact the assessed significance of the structure or deposits. Nonetheless, a mitigation measure has been recommended to ensure that any construction or design works do not extend within 400mm of the cistern. A full set of mitigation measures is provided at **Appendix 1**. The activity will have little to no impact on non-Aboriginal heritage values, the adjacent local heritage item, being the 'Plan of Town of Liverpool (early town centre street layout – Hoddle Grid 1827)' identified as item No. 89 under the Liverpool LEP. Impact to unlisted heritage values associated with	

Environmental Factor	Division Factors for school developments ***Guidelines for Division 5.1 assessments Consideration of environmental factors for health services facilities and schools***	Response/Assessment	Mitigation Measure Reference
		the demolition of the existing Liverpool Boys High School would be associated with Stage 1 works facilitated by a CDC approval. As the Liverpool Boys High School would be removed as a result of the CDC, no additional heritage impact to this item would occur associated with the activity.	
(f) Any impact on the habitat of protected animals, within the meaning of the *Biodiversity Conservation Act 2016*?	(f1) impacts on listed protected fauna at and in the vicinity of the site, and their habitat.	A Flora and Fauna Assessment has been prepared to support the REF, which concludes that the proposed activity will not be carried out in a declared area of outstanding biodiversity value and is not likely to significantly affect threatened species, populations, ecological communities, their habitats, or impact biodiversity values.	Multiple Refer to **Appendix 1**
(g) Any endangering of any species of animal, plant or other form of life, whether living on land, in water or in the air?	(g1) potential endangering of any species or vegetation (g2) protected and threatened flora, terrestrial, fauna species, populations, ecological communities and their habitats	As above, the site is unlikely to include habitats utilised by any threatened species.	N/A
(h) Any long-term effects on the environment?	(h1) Long-term effects on: (i) flood and bushfire behaviour, flooding and the flood plain, bushfire prone land (ii) natural environment, flora and fauna species and their habitats (iii) agricultural productivity (iv) industrial land supply (v) housing supply (vi) climate change (vii) cumulative impacts (h2) meet industry recognised building sustainability and	Overall, the activity should have a long-term positive effect on the local environment by offering the local community an improved and modern educational facility to serve the local population into the future. Construction activities that may generate excessive noise, vibration, or dust affecting air quality will be managed in accordance with the Contractors approved management plans (PCEMP and Noise & Vibration Management Plan). All plans will be reviewed and approved prior to construction commencement and works shall be monitored regularly during the duration of the construction	Multiple Refer to **Appendix 1**

Environmental Factor	Division Factors for school developments *Guidelines for Division 5.1 assessments Consideration of environmental factors for health services facilities and schools*	Response/Assessment	Mitigation Measure Reference
	environmental performance standards, integrate environmental design, minimise greenhouse gas emissions, minimise energy and water consumption (recycled water) and material resources, renewable energy generation and storage, fossil fuel-free, sustainable travel choices, manage, reuse, recycle and safely dispose of waste (h3) long term ecological, social and economic Effects	works. These matters are discussed in further detail in **Section 7.10**.	
(i) Any degradation of the quality of the environment?	No specific factors – to be assessed by the determining authority if relevant	The proposal will not degrade the environment due to the cleared nature of the site. Significant tree planting will improve the quality of the environment, whilst stormwater infrastructure on the site will improve water quality. Erosion control measures will be implemented on site to minimise soil erosion.	Multiple Refer to **Appendix 1**
(j) Any risk to the safety of the environment?	(j1) whether the development will have adverse environmental impacts (flood or stormwater runoff, storm surge, bushfire, ongoing maintenance of landscaping within the Asset Protection Zone, contamination leak, wind speeds, extreme heat, urban heat, climate change adaptation) on the surrounding area, particularly in sensitive environmental, cultural areas or residential neighbourhoods. (j2) impacts on soil resources and related infrastructure and riparian lands on and near the site, soil erosion, salinity and acid sulfate soils, surface water resources (quality and quantity), hydrology, dependent ecosystems, drainage lines, downstream assets and watercourses, groundwater resources.	A Flood Impact Risk Assessment and Flood Emergency Management Plan has been prepared for the site, which is discussed in **Section 7.6** of this report. It provides details regarding the potential threat to the site and operation of the school in the event of a PMF and how the design of the facility and the proposal has taken into consideration design solutions to mitigate and minimise flood risk. The site is not bushfire prone. Likewise, mitigation measures will be implemented to minimise any potential impact or risk from contamination. A detailed construction management plan will be prepared by the contractor prior to the commencement of construction.	Multiple Refer to **Appendix 1**
(k) Any reduction in the range of beneficial	No specific factors – to be assessed by the determining	There will be no reduction of beneficial uses of the environment. Instead, the proposal will enhance the	N/A

Environmental Factor	Division Factors for school developments *Guidelines for Division 5.1 assessments Consideration of environmental factors for health services facilities and schools*	Response/Assessment	Mitigation Measure Reference
uses of the environment?	authority if relevant	site by providing a much-needed improved educational facility.	
(l) Any pollution of the environment?	(l1) any pollution during construction and post construction e.g. air (including odours and greenhouse gases); water (including runoff patterns, flooding/tidal regimes, water quality health); soil (including contamination, erosion, instability risks); noise and vibration (including consideration of sensitive receptors); light pollution; waste, including hazardous waste (l2) impact of contamination spill, movement or disturbance during and post construction, and into the long term (l3) impact of a potential rainfall or flood event during construction (e.g. storage of fuel for construction vehicles, stock piles of soil, etc) (l4) dangerous goods and hazardous materials associated with the development (i.e. labs)	Minor air, noise, and water quality impacts may be generated during construction. Mitigation measures are proposed to manage pollution to the environment.	Multiple Refer to **Appendix 1**
(m) Any environmental problems associated with the disposal of waste?	(m1) environmental problems of waste during and after construction (left over construction materials, and personnel waste), transport and disposal of waste, ongoing use and eventual decommission of the development (m2) cumulative impacts from waste	No environmental problems are anticipated with the disposal of waste from the proposed works. The REF is accompanied by a Construction and Waste Management Plan, as well as an Operational Waste Management Plan, that outline measures to appropriately classify and either reuse, recycle, process or dispose of waste. Waste will be transported to a facility that is licensed to process or dispose of that waste classification to avoid adverse environmental impacts. Appropriate measures will be undertaken to manage and dispose of waste in accordance with legislative requirements and WH&S documents.	Multiple Refer to **Appendix 1**
(n) Any increased demands on resources (natural	No specific factors – to be assessed by the determining authority if relevant	Materials salvaged will be sorted and identified for recycling. Impacts associated with the consumption of natural resources through the use of machinery	Multiple Refer to

Environmental Factor	Division Factors for school developments *Guidelines for Division 5.1 assessments Consideration of environmental factors for health services facilities and schools*	Response/Assessment	Mitigation Measure Reference
or otherwise) that are, or are likely to become, in short supply?		would be minimal and recycled or disposed of accordingly.	**Appendix 1**
(o) Any cumulative environmental effects with other existing or likely future activities?	(o1) The cumulative effects of noise and impacts to the road network from surrounding existing and approved developments	The proposed works will not contribute to any cumulative environmental effects with existing or likely future activities.	N/A
(p) Any impact on coastal processes and coastal hazards, including those under projected climate change conditions?	(p1) coastal processes and hazards (impacts arising from the proposed activity on coastal processes and hazards and impacts on the proposed activity from coastal processes and hazards), climate scenarios	The site is not in the Coastal Zone as identified in the Coastal Management Act 2016 (CM Act), owing to the site's inland location.	N/A
(q) Applicable local strategic planning statement, regional strategic plan or district strategic plan made under Division 3.1 of the Act?	(q1) relevant issues, objectives, policies and actions identified in local, district and regional plans and compliance of the proposal, and policies that identify community priorities that may be impacted (q2) relevant legislation, environmental planning instruments (including drafts, policies and guidelines). (q3) requirements of any approvals applying to the site, including concept approval or recommendation from any Gateway determination	The proposed activity directly aligns with the strategic planning context as outlined below: • NSW State Priorities through the provision of future facilities that will allow for new and improved educational services. • Liverpool Local Strategic Planning Statement as it proposes an investment in fit-for-purpose school infrastructure that is attractive, sustainable, well designed and efficient. • Transport for NSW's Future Transport Strategy 2056 as it would support the ability for the existing school to deliver an educational facility generating additional new employment opportunities within an existing urban area. • Infrastructure NSW's State Infrastructure	N/A

Environmental Factor	Division Factors for school developments ***Guidelines for Division 5.1 assessments Consideration of environmental factors for health services facilities and schools***	Response/Assessment	Mitigation Measure Reference
		Strategy 2018 – 2038 Building the Momentum as it proposes improved infrastructure to support current and predicted growth in demand for secondary student enrolments within the school catchment.	
(r) Any other relevant environmental factors?	(r1) health or safety risk to children, visitors, patients or staff of the development (r2) developments compatibility with neighbouring land uses, including proximity to: (i) restricted premises, injecting rooms, drug clinics, premises licensed for alcohol or gambling, sex services premises (for schools) (ii) hazardous land uses, waste transfer depots or landfill sites, service stations, air pollutant generating uses, noise or odour generating uses, extractive industries, industrial uses (iii) intensive agriculture, agricultural spraying activities and sources (iv) adjacent to or on land in a pipeline corridor (v) sites which, due to prevailing land use zoning, may in the future accommodate the above uses. (r3) noise/air pollution, vibration and safety impacts from the below on the proposed development: (i) roads with higher traffic volumes, higher operating speeds and more heavy vehicles, freight traffic or used to transport dangerous goods or hazardous materials (ii) rail lines	As identified in this REF, there are no other environmental factors that will result in any unacceptable impact to the environment.	N/A

8. Justification and Conclusion

The proposed activity for the redevelopment of the Liverpool Boys High School and Liverpool Girls High School at 18 Forbes Street, Liverpool is subject to assessment under Division 5.1 of the EP&A Act. The REF has examined and taken into account to the fullest extent possible all matters affecting, or likely to affect, the environment by reason of the proposed activity.

As outlined in this REF, the proposed activity can be justified on the following grounds:

- It responds to an existing need within the community;
- It generally complies with, or is consistent with all relevant legislation, plans and policies;
- It has minimal environmental impacts; and
- Adequate mitigation measures have been proposed to address these impacts.

The activity is not likely to significantly affect threatened species, populations, ecological communities or their habitats, and therefore it is not necessary for a Species Impact Statement to be prepared. The environmental impacts of the proposal are not likely to be significant.

Therefore, it is not necessary for an EIS to be prepared and approval to be sought for the proposal from the Minister for Planning and Public Spaces under Division 5.2 of the EP&A Act. On this basis, it is recommended that the department determine the proposed activity in accordance with Division 5.1 of the EP&A Act subject to the implementation of mitigation measures identified within this report.