Appendix 1 – Mitigation Measures

ID	Measure	Timing
Traffic, transport and access		
TT1	Construct a zebra crossing on Guntawong Road and a wombat crossing on Nirmal Street prior to occupancy.	Pre-operation
TT2	Construct a 3.5m shared path along school frontage on Nirmal Street on the school frontage side only (western) prior to occupancy.	Pre-operation
TT3	Construct a 3.5m shared path along school frontage on Guntawong Road along the school frontage and on the northern side of Guntawong Road from the bus stop to the zebra crossing prior to occupancy.	Pre-operation
TT4	Construct two indented bus bays on Guntawong Road able to each accommodate two buses: – Eastbound bus bay: 40 metres long – Westbound bus bay: 60 metres long In the sections of Guntawong Road comprising four lanes the cross section of Guntawong road should match with the end-state cross section of Guntawong Road where possible and appropriate. The intersection of Guntawong Road and Nirmal Street should be designed as a “Give Way’ intersection with one lane on each approach. The design should provision for the future roundabout at Guntawong Road and Nirmal Street where possible and appropriate.	Pre-operation
TT5	Construct Nirmal Street within the site boundary to a carriageway width of 19m from Guntawong Road along the full extent of the school frontage and dedicate it to Council prior to occupancy. **Note: The eastern half road of Nirmal Street from Marchant Street to the southern frontage of the school is within Lot 43 DP301086 and subject of Bathla Group subdivision DA (DA-23-00128), which is understood to be in the delivery phase with an expected completion by mid-2025. The eastern half road of Nirmal Street from Guntawong Road to McClelland Street is within Lot 1 DP1300811 and subject of Metro DA*.	Pre-operation
TT6	The southern half of Marchant Street needs to be constructed from Nirmal Street to Tallawong Road and dedicated to the Council as a public road prior to occupancy.	Pre-operation

ID	Measure	Timing
	**Note: Marchant Street from Nirmal Street to Tallawong Road is within Lot 43 DP301086 and subject of Bathla Group subdivision DA (DA-23-00128), which is understood to be in the delivery phase with an expected completion by mid-2025.*	
TT7	Construct a carpark with 72 spaces and a separate loading facility according to Australian standard AS2890.1, AS2890.2 and AS2890.6.	Construction
TT8	Prior to the commencement of operation, all required School Zone signage, speed management signage and associated pavement markings must be installed, inspected by TfNSW and handed over to TfNSW.	Pre-operation
TT9	Within the first 12 months of operation appoint a School Travel Coordinator, establish a School Transport Committee, and prepare a Travel Access Guide.	Within 12 months of the of operation
TT10	Update the School Transport Plan annually for the first two years	Operation
TT11	Prior to construction commencing, prepare a Construction Traffic Management Plan (**CTMP**) to the satisfaction of Blacktown Council, including preparation of traffic guidance schemes where required.	Pre-construction
TT12	The contractor must operate a shuttle bus to the station for use by workers for the duration of construction.	Construction
TT13	The two spaces at the south of the school are inaccessible. These spaces to be widened to 3.6m as they are at the end of a blind aisle – AS2890.1 Fig 2.3	Pre-construction
Noise and vibration		
NV1	Rooftop condenser plant areas must incorporate acoustic screening and louvres.	Detailed Design
NV2	In-duct attenuation will be allowed for equipment terminating at the façade.	Detailed Design
NV3	Prepare a Construction Noise and Vibration Management Plan (**CNVMP**) in line with the Interim Construction Noise Guideline (**ICNG**) and other relevant standards.	Pre-construction
NV4	Conduct pre-condition surveys of structures within 50 meters of vibration-intensive activities.	Pre-construction
NV5	Install temporary acoustic barriers around high-noise activities or along the boundaries of sensitive receivers.	Pre-construction / construction
NV6	Limit high-noise activities to standard construction hours (Monday to Friday, 7:00am to 6:00pm;	Construction

ID	Measure	Timing
	Saturday, 8:00am to 1:00pm).	
NV7	Use equipment fitted with noise-reduction features, such as mufflers or enclosures.	Construction
NV8	Ensure all construction machinery and equipment are regularly maintained to minimise noise emissions.	Construction
NV9	Provide advance notice to nearby residents regarding noisy activities and establish hotline to address community concerns.	Construction
NV10	Utilise equipment (where possible) designed to minimise vibration emissions (e.g., bored piling instead of driven piling).	Construction
NV11	Implement real-time vibration monitoring to ensure compliance with thresholds.	Construction
NV12	Prepare an Operational Noise and Vibration Management Plan (**ONVMP**) to manage ongoing noise impacts from the school.	Pre-operation
NV13	Workshops will require windows and doors to be closed for noisy activities.	Operation
NV14	Public Address Systems must be limited to 7am to 6pm and incorporate good practice design and set at the lowest level practical whilst still achieving intelligibility requirements.	Operation
NV15	Doors and windows to the school hall must be kept closed during out of hours use.	Operation
NV16	Where cleaning activities occur between 5:30-7am, ensure windows and doors are closed to limit noise emissions.	Operation
Contamination and hazardous materials		
CH1	Conduct independent audit of RAP to confirm remedial approach conforms to all appropriate regulations, standards and guidelines and is suitable based on the site history and the proposed land use.	Pre-construction
CH2	Develop an unexpected finds protocol for unidentified asbestos or underground storage tanks.	Pre-construction
CH3	Implementation of the RAP prepared by JBS&G to address identified contamination and unexpected finds.	Construction
CH4	A Site Remediation and Validation Report must be prepared in accordance with the relevant sections of the NSW EPA guidelines to validate the remediation process.	Post construction
CH5	Prepare a Long-Term Environmental Management Plan (**LTEMP**).	Pre-operation

ID	Measure	Timing
Flooding		
F1	Prepare a detailed Flood Emergency Response Plan (**FERP**).	Pre-construction
F2	Construct an open tail out channel to the south of the site as part of associated works for the adjacent residential development and Nirmal Street stormwater design. This is to be delivered by Bathla as part of separate DA, outside of the site.	Construction
F3	Install signage and provide information to the school community pertaining to flood risks	Pre-operation
F4	A Flood Emergency Kit must be prepared.	Pre-operation
F5	Staff must be delegated responsibilities as per the FERP.	Operation
F6	The FERP must be reviewed and updated regularly.	Operation
F7	Flood drills are to be held by staff annually.	Operation
Integrated Water management		
SW1	Implementation of the Erosion and Sediment Control Plan - drawing no. STHS-TTW-01-00-DR-C-02101.	Construction
SW2	Construct a temporary wall at the southern boundary of the carpark until the permanent stormwater works are completed as part of the delivery of future Road 4.	Construction
SW3	Construct temporary OSD, in accordance with Council's OSD spreadsheet, until the precinct-wide permanent stormwater provisions have been constructed.	Construction
SW4	The proposed activity must include provision of water quality treatment measures as part of a water-sensitive urban design as documented in the Civil Engineering Design Report and Civil Engineering Plans prepared by TTW attached at **Appendix 7** and **Appendix 8** respectively. Refer to Hydraulic documentation for rainwater tank sizing and reuse strategy.	Construction
Aboriginal cultural heritage		
A1	Continued consultation with the Registered Aboriginal Parties (**RAPs**) is required to inform these groups about the management of Aboriginal cultural heritage sites within the study area throughout the life of the project.	Throughout life of the project
A2	An AHIP is required to be obtained from Heritage NSW, NSW Department of Climate change, Energy, the Environment and Water to impact AHIMS 45-5-5821/Guntawong Road 4 and AHIMS 45-5-5913/201 Guntawong Rd Hammerstone 1. Surface stone	Pre-construction

ID	Measure	Timing
	artefacts associated with AHIMS 45-5-5913/201 Guntawong Rd Hammerstone 1 is to be collected prior to construction.	
A3	AHIMS 45-5-5766/Guntawong Road 2 and the area of moderate archaeological potential are to be conserved and must be clearly fenced. Fencing must remain in place over the lifespan of the construction phase. Should future development works propose to impact upon AHIMS 45-5-5766/Guntawong Road 2 then an AHIP will be required.	Pre-construction
A4	No further archaeological work required in the area of low potential once AHIP obtained from Heritage NSW.	Construction
A5	All Aboriginal objects and Places are protected under the NPW Act. It is an offence to disturb an Aboriginal site without a consent permit issued by Heritage NSW. Should any unanticipated Aboriginal objects be encountered during works associated with this proposal, works must cease in the vicinity and the find should not be moved until assessed by a qualified archaeologist. If the find is determined to be an Aboriginal object the archaeologist will provide further recommendations. These may include notifying Heritage NSW and Aboriginal stakeholders.	Construction
A6	Relics are historical archaeological resources of local or State significance and are protected in NSW under the Heritage Act 1977. Relics cannot be disturbed except with a permit or exception/exemption notification. Should unanticipated relics be discovered during the course of the project, work in the vicinity must cease and an archaeologist contacted to make a preliminary assessment of the find. The Heritage Council will require notification if the find is assessed as a relic.	Construction
A7	If any suspected human remains are discovered during any activity, you must: 1. Immediately cease all work at that location and not further move or disturb the remains. 2. Notify the NSW Police and Heritage NSW Environmental Line on 131 555 as soon as practicable and provide details of the remains and their location. 3. Not recommence work at that location unless authorised in writing by Heritage NSW.	Construction
A8	It is recommended an Aboriginal Cultural Heritage Management Plan (**ACHMP**) be developed to appropriately manage Aboriginal cultural heritage identified within the study area. An ACHMP sets out specific guidelines and protocols for the management of Aboriginal heritage across the life of the project	Throughout life of project

ID	Measure	Timing
	inclusive of construction and operational use. This should be inclusive of unanticipated finds protocols, the requirement for heritage inductions to be undertaken by the site personnel prior to works, and long-term care and control of Aboriginal archaeological materials. The ACHMP must be prepared by a suitably qualified archaeologist in consultation with the RAPs for the project.	
A9	Given the significance of the region to Aboriginal people, there is an opportunity for heritage interpretation as part of the design. Heritage interpretation is an innovative way to integrate culture into design and can not only honour the deep-rooted connection to the land but also ensure that Aboriginal cultural heritage remains present in the daily operations of the proposed high school. As such, it is recommended that a Heritage Interpretation Plan be prepared by a suitably qualified heritage consultant following the NSW Heritage Council's Interpreting Heritage Places and Items Guidelines. Biosis understands that this recommendation has been captured within the Connecting with Country program undertaken by DoE.	Throughout life of project
Ecology		
EC1	A targeted survey for Juniper-leaved Grevillea (Grevillea juniperina subsp. juniperina) to be undertaken by a qualified ecologist.	Pre-construction
EC2	Soft felling techniques with ecologist guidance is required for removing trees with habitat features to minimise disturbance to fauna and potentially salvage habitat element.	Pre-construction
EC3	A Tree Management Plan (**TMP**) must be developed and implemented. This plan should be prepared by a Consulting Arborist with a minimum qualification of AQF Level 5.	Pre-construction
EC4	All trees to be protected shall be clearly identified and all TPZs surveyed.	Pre-construction
EC5	Protective fencing around existing trees and within TPZs must be installed before any site work begins. The fence must be 1800mm high chain wire mesh fixed to galvanised steel posts, enclosing an area to prevent damage as defined in the Tree Protection Plan.	Pre-construction
EC6	Tree protection signage must be attached to TPZs before works begin. Signs should be displayed prominently and repeated at 10m intervals or closer when the fence changes direction.	Pre-construction

ID	Measure	Timing
EC7	Inspect all trees for hollows and nests. If fauna is discovered, an ecologist may be required to remove and relocate any fauna if the tree or vegetation is to be removed.	Pre-construction
EC8	Induction of all contractors and staff outlining the ecological sensitivity of the site, no-go areas, the need to minimise ecological impact, and all other required mitigation measures is to be undertaken.	Pre-construction
EC9	Explore the reuse of habitat tree logs in ecologically sensitive areas or fauna exhibits.	Construction
EC10	Limit construction activities in areas identified as sensitive to fauna foraging, especially near trees observed to host roosting individuals.	Construction
EC11	No materials, mixing, parking, disposal, repairs, refuelling, fires, stockpiling, or backfilling is allowed near TPZs.	Construction
EC12	Use AS 4454 leaf mulch with 90% recycled content for tree protection fencing. Chip trees marked for removal and use mulch 100mm deep. Avoid soil, weeds, sticks, and stones. Comply with AS 4454 (1999) and AS 4419 (1998).	Construction
EC13	All tree works must be performed by qualified tree workers (minimum AQF Level 2) under the supervision of the Consulting Arborist, adhering to the NSW Workcover Code of Practice for the Amenity Tree Industry (1998)	Construction
EC14	The Consulting Arborist will conduct regular site inspections to monitor the health and stability of retained trees, ensuring compliance with the TMP. Any signs of stress or damage will be promptly addressed with appropriate remedial actions.	Construction
EC15	TPZs will be maintained around vegetation to be retained. TPZs will be maintained in accordance with Australian Standard 4970 (2009) Protection of Trees on Development Sites (AS-4970). No activities are to take place within the Structural Root Zones (SRZs) of mature trees.	Construction
EC16	Trenching is not allowed in TPZs or tree protection fencing. Approval needed for trenching, must be done by hand with arborist supervision.	Construction
Tree Removal		
TR1	All trees shown on all plans and listed in the data sheet as being retained must be retained and protected.	Pre-Construction Construction
TR2	An official “Project Arborist” must be commissioned to oversee the tree protection, any activity within the	Construction

ID	Measure	Timing
	TPZ's and complete compliance certification	
TR3	An ecologist must supervise the works on trees with habitat features.	Construction
TR4	Protect all trees for retention with Tree Protection fencing compliant with AS4970:2009	Pre-Construction
TR5	Protect all trees for retention with Tree Protection signage compliant with AS4970:2009	Pre-Construction
TR6	Project Arborist to supervise any earthwork or service installation the TPZ's of trees to be retained.	Construction
TR7	Construction Manager to ensure activities listed in Section 11.7 of the AIA do not occur in the TPZ of trees to be retained.	Construction
TR8	The Project Arborist is to complete monthly site visits and record photographic evidence to ensure compliance with mitigation measures	Construction
TR9	159 New trees to be planted in the site as per the Landscape Plans by Site Image, Issue 3, dated 20/01/2025.	Pre-operation
TR10	Project Arborist to inspect and report on the condition of trees for retention and quality of tree new plantings.	Within 12 months of commencement of operations
Social impacts		
SI1	The use of the Expandable School Model plans for the growth of a school based on projected figures and enrolments.	Throughout life of the project
SI2	Include an Acknowledgement of Country within the design in prominent position.	Detailed Design
SI3	Prepare a Construction and Environmental Management Plan (**CEMP**).	Pre-construction
SI4	Prepare a Construction Noise and Vibration Management Plan (**CNVMP**).	Pre-construction
SI5	Promote the availability of shared-use and the SINSW Share my school program.	Operation
SI6	Promote regular education and knowledge sharing programs in partnership with the Darug people (e.g., working with the Darug Custodian Aboriginal Corporation).	Operation
SI7	Implementation of School Travel Plan (**STP**), to encourage walking, cycling and the use of public transport.	Operation
SI8	Prepare a Bushfire Emergency Management and Evacuation Plan.	Pre-operation
SI9	Prepare a detailed Flood Emergency Response Plan	Pre-operation

ID	Measure	Timing
	(**FERP**).	
Bushfire		
BF1	The identified APZs are to be established and maintained in perpetuity or until surrounding land is developed to specifications detailed in Appendix 2 of the BAR.	Throughout the life of the project
BF2	The department is to ensure that the buildings are designed and constructed to the relevant NCC requirements including BAL-19 in accordance with AS 3959-2018 additional ember provisions detailed in Section 7.5 of PBP 2019.	Pre- operation
BF3	Landscaping is to be designed and managed in accordance with Appendix 4 of PBP 2019.	Throughout the life of the project
BF4	The performance solution outlined in Table 9 of the BAR is to address the PBP requirements.	Pre- operation
BF5	Fire hydrants are to be provided in accordance with AS2419:2021	Pre- operation
BF6	Gas services are to be installed and maintained in accordance with AS/NZS 1596:2014	Pre- operation
BF7	A Bushfire Emergency Management and Evacuation Plan is to be prepared in accordance with the NSW Rural Fire Service document 'A Guide to Developing a Bushfire Emergency Management and Evacuation Plan'.	Pre- operation
Soils and Geology		
SG1	Site preparation and associated earthworks works shall be undertaken in accordance with PSM DRAFT Earthwork Specification PSM4693-013S.	Construction
SG2	Treatment of existing fill shall be undertaken in accordance with the PSM DRAFT Earthwork Specification PSM4693-013S.	Construction
SG3	Demolition works should be undertaken by licenced contractors with appropriate asbestos removal accreditation. If the building is demolished a site clearance certificate must be provided on completion of the works.	Construction
SG4	Material exported off site should be assessed in accordance with EPA guidelines for Excavated Natural Material (**ENM**) and Virgin Excavated Natural Material (**VENM**).	Construction
SG5	Continued monitoring of the groundwater is required in the piezometers to confirm design groundwater levels and inform long term inflows should a drained basement be adopted.	Construction and operation

ID	Measure	Timing
Waste		
W1	Encourage practices that reduce waste generation at the source, such as using fewer materials or opting for less packaging.	Construction and operation
W2	Implement recycling programs to recover valuable materials from waste.	Construction and operation
W3	Conduct campaigns to inform the community about proper waste disposal and the benefits of reducing waste.	Construction and operation
W4	Ensure proper management and disposal of all waste streams.	Construction and operation
W5	Implement data collection and reporting systems for waste management activities.	Construction and operation
W6	Regularly review and update waste management plans to comply with environmental regulations.	Construction and operation
Construction impacts		
CI1	Construction site fencing is to be installed around the construction site. Construction vehicle and pedestrian access points to the construction site are to be clearly designated, signposted and controlled for authorised access only.	Pre-construction
CI2	The use and storage of hazardous materials and dangerous goods, including petroleum, distillate and other chemicals, shall be in accordance with the relevant legislation.	Construction
CI3	All materials must be wholly contained within the construction site. The requirements of the Protection of the Environment Operations Act 1997 are to be complied with when placing and stockpiling construction and waste materials, when disposing of waste products and during any other works likely to pollute drains or watercourses.	Construction
CI4	Building operations such as brick cutting, mixing mortar and the washing of tools, paint brushes, form-work and concrete trucks shall be undertaken in the construction site in a location so as to prevent air, land or water pollution.	Construction
CI5	All equipment and machinery shall be secured to prevent against vandalism outside of construction hours.	Construction
CI6	A spill containment kit will be available at all times. All personnel will be made aware of the location of the kit and trained in its effective deployment.	Construction

ID	Measure	Timing
CI7	A copy of the approved and certified plans, specifications and technical documentation shall be kept on site at all times and shall be available for perusal by any authorised regulatory authority.	Throughout the life of the project
CI8	All contractors must meet all workplace safety legislation and requirements.	Construction
CI9	The work site is to be left tidy and rubbish free each day prior to leaving the site and at the completion of works.	Construction
CI10	All construction lighting shall not cause a nuisance to adjoining neighbours.	Construction
Site Servicing		
SS1	An accredited Water Services Coordinator is required to carry out the liaison and with Sydney Water and lodge any Section 73 applications.	Construction