



planning consultants

APPENDIX E

Mitigation Measures

SSD-41372302

Marsden Park New High School and Melonba New Primary School

20 Kaluta Avenue and 10 Swallowtail Street, Melonba (Lot 30 DP 1237735)

Prepared for: School Infrastructure NSW
September 2022

Mitigation Measures		
Environmental Impact	Mitigation Measure	EIS Section or Appendix
Aboriginal Cultural Heritage	- Both Aboriginal and Torres Strait Island Flags should be flown on site. - In the event that construction activity reveals potential human skeletal material (remains) with the Project area, the Management of Potential Human Remains procedure outlined in Section 8.1 of the Aboriginal Cultural Heritage Assessment Report shall be followed.	Section 6.11.1 Appendix CC Appendix DD
Ecological Sustainability	The proposal will implement the sustainability strategy outlined by Steensen Varming in the Ecologically Sustainable Development (August 2022) to target a 5-star Green Star rating.	Section 6.4 Appendix O
Tree Protection	- Tree protection fencing in the form of hardwood tree guards be installed around all retained trees. - An AQF Project Arborist shall be engaged to certify the tree protection measures in accordance with the hold points provided at 6.3. Schedule of Hold Points (page13) of Arboricultural Impact Assessment prepared by Arboreport (August 2022). - A Level 5 AQF Project Arborist experienced in managing trees on construction sites is to be appointed to prepare and certify a Tree Management Plan. - Additional root, trunk and branch protection is to be installed if and as required to protect retained trees where minor encroachments within the TPZ are anticipated. - Supervision, monitoring, inspections and certification of tree protection as outlined in the Tree Management Plan is to be undertaken.	Section 6.2 Appendix M
Social Impacts	- Provide community with estimated delivery timelines for construction and operation of the schools to assist with family planning and budgeting. - Build the schools as soon as possible, particular community interest in building the high school first. - Consider a temporary school on site with modern demountables while building permanent buildings to give children a local schooling option as soon as possible. - Actively promote the School Travel Plan to achieve mode shift towards active and public transport modes and reduce car travel, and implement a school recognition program to increase active transport journeys to school. - Engage early with Council to employ crossing guards for proposed zebra crossings at each corner of the site. - Provide opportunities for primary school students to interact with high school students in safe environments to assist ease of transition to high school i.e., buddy/mentoring systems etc. - Transition plans for students moving from primary to high school. - Provide extensive information to school communities on eligibility for transferring, how to transfer, and support transitions. - Appoint new principals for the school as soon as possible (ideally 12 months before opening) and engage with existing school communities, e.g., Marsden Park PS gave up their uniform shop prior to Northbourne PS opening for the principal and several staff members to set up a temporary office where parents could come to enrol and meet with the new principal. - Work with existing schools before opening to understand which children will transfer and put these children in the same classes and potentially with any transferring teachers. - Provide school councillors to support students in transitions. - Proactive and ongoing communication and engagement with the school community. - Consider design solutions to have separation between younger and older age groups (OSHC) and consult with OSHC provider regarding best design of facility.	Section 6.12 Appendix EE

Mitigation Measures		
Environmental Impact	Mitigation Measure	EIS Section or Appendix
	• Ensure separation between schools is sustained unless in supervised events to promote a feeling of safety, particularly for young children. • Consider promoting local employment during operation including unemployed members of the school community working in education. • Consider promoting local employment during construction including unemployed members of the school community working in construction. • Ensure all schools areas are accessible for members of the school community with disabilities. • Provide extensive information to school communities on eligibility for transferring, how to transfer, and support transitions. • Actively promote the School Travel Plan to achieve mode shift towards active and public transport modes and reduce car travel, and implement a school recognition program to increase active transport journeys to school. • Annual Ride 2 Work/ Ride 2 School Days and Health Events (e.g., Bike Week, Walk Safely to School Day, and Health and Wellness Fairs). • Implement School Travel Plan to achieve mode shift towards active and public transport modes and reduce car travel. • Maximise communication of driving alternatives to the school community. • Signage and communication with families around parking etiquette to mitigate impact on direct neighbours, i.e., no parking/stopping in people's driveways, on footpaths, etc. • Implement the NSW Department of Education's Community Use of School Facilities policy to promote utilisation of new facilities. • Continue to engage with Council on opportunities for shared/joint use arrangements. • Implement CMP/CTMP. • Maintain ongoing proactive communication with surrounding residents to identify emergent issues before they escalate. • Support teacher upskilling and training initiatives to ensure the transition to flexible learning minimises stress for teachers and enhances benefits for students. • Continue to engage with Registered Aboriginal Parties (RAPs), and identify opportunities to integrate the identified intangible cultural values. • Identify opportunities to build partnerships with local Indigenous groups to run educational programs and initiatives that build understanding of new Indigenous design elements. • Incorporate sport equipment such as goal posts or cricket nets. • Incorporate natural elements in play areas to stimulate imagination. • Provide opportunities for students to join school sports teams, particularly interschool sports competitions (PSSA) to enhance health and wellbeing. • Implement Sun Safety for Students Guidelines including policies such as "no hat no play" to protect children from heat and sun damage. • Proactive and ongoing communication and engagement with the school community to build awareness and preparedness for the construction program. • Implement recommendations from CMP/CTMP. • Proactive and ongoing communication and engagement with the school community to build awareness and preparedness for the construction program. • Establish complaints handling procedure for any issues arising for surrounding neighbours. • Proactive and ongoing communication and engagement with the school community to build awareness and preparedness for the construction program and future site design.	

Mitigation Measures		
Environmental Impact	Mitigation Measure	EIS Section or Appendix
Construction Traffic	- Construction activities are only to be carried out during the following approved hours of work (Monday to Friday 07:00 to 18:00, Saturday 08:00 to 13:00 and no work on Sundays or Public Holidays). Any works outside the proposed construction hours will be subject to specific prior approval from the appropriate authorities. Such work may include delivery of cranes and oversized equipment required to the site. - During days of high estimated vehicle movements, communication between the site and incoming vehicles will be maintained to stagger the arrival of vehicles, in order for them to be accommodated within the worksite and to minimise traffic disruptions. - Loading and unloading activities will occur within the site, at the nominated vehicle zones. - All deliveries are to be made outside of any posted School Zone times. - All deliveries are to be made within the approved work hours. - Truck movements to and from the site will be scheduled outside peak hours where possible to reduce impacts to the local and state road network. - Non-tonal reversing beepers (or an equivalent mechanism) shall be fitted and used on all construction vehicles and mobile plants regularly used on-site (i.e., greater than one day) and for any out of hours work. - Construction vehicles shall be directed to travel on the main road network except where required to reach the construction site in accordance with the Traffic and ACCESSIBILITY Impact Assessment.	Section 6.5 Appendix P
Operational Traffic	Implement the School Transport Plan (STP) prepared by Taylor Thomson Witting including ongoing recording of travel data and review of the STP.	Section 6.5 Appendix P
Construction Waste	- Compare projected waste quantities with actual waste quantities produced. - Conduct waste audits of current projects (where feasible). - Note waste generated and disposal methods. - Look at past waste disposal receipts. - Record this information to help in waste estimations for future waste management plans. - Records of waste volumes recycled, reused or contractor removed are to be maintained. - Dockets/receipts verifying recycling/disposal in accordance with the WMP must be kept and presented to Council or the EPA if and when required. - Daily visual inspections of waste storage areas will be undertaken by site personnel and inspection checklists/logs recorded for reporting to the Site Manager on a weekly basis or as required to identify and rectify any resource and waste management issues. - Waste audits are to be carried out by the Building Contractor to gauge the effectiveness and efficiency of waste segregation procedures and recycling/reuse initiatives. Where audits show that the above procedures are not carried out effectively, additional staff training should be undertaken and signage re-examined. - All environmental incidents are to be dealt with promptly to minimise potential impacts. - An incident register must be maintained on-site at all times and should include the contact details of the 24-hour EPA Pollution line. Likely incidents to occur during the construction and demolition stage of the development may involve fuel or chemical spills, seepage or mishandling of hazardous waste, or unlicensed discharge of pollutants to environment. - In the event that any contaminated or hazardous materials are unexpectedly uncovered during demolition or excavation works, the Site Manager is to stop work immediately in that location and contact the relevant hazardous waste contractor prior to further works being undertaken in the area.	Section 6.10 Appendix AA

Mitigation Measures		
Environmental Impact	Mitigation Measure	EIS Section or Appendix
	- Contaminated material stockpiled on site will be minimised as far as possible and should be stored on HDPE liner, in a bunded location which is protected from inclement weather; - Sediment fences should be installed around the base of stockpiles and the stockpiles should be covered. Where excavated material requires validations, samples should be taken for NATA laboratory testing as per the requirements of the contamination assessment prior to restoration works, backfilling exercises and disposal; - Any trucks carrying contaminated materials should be securely and completely covered immediately after loading the materials (to prevent windblown emissions and spillage) and must be licensed by the NSW Environmental Protection Authority (EPA); - Decontamination of all equipment prior to demobilisation from the site is important so that contaminated materials are not spread off-site. - Wherever practical, excavation material will be reused as part of the development; - Excavation material that is not natural (virgin) material will be transported to an approved landfill site or off-site recycling depot; - A waste classification assessment of the fill material should be undertaken prior to it being acceptable for waste disposal purposes; - Transportation routes for excavation material removed from site will be identified and used. - Construction and demolition materials removed from site will be managed in accordance with the provisions of current legislation and may include segregation by material type classification in accordance with NSW EPA (2014) Waste Classification Guidelines, Part 1: Classifying Waste and disposal at facilities appropriately licensed to receive the particular materials. - Induction training will include the following at a minimum: - Legal obligations; - Emergency response procedures on site; - Waste storage locations and separation of waste; - Litter management in transit and on site; - The implications of poor waste management practices; - Correct use of general-purpose spill kits; - Responsibility and reporting (including identification of personnel responsible for waste management and individual responsibilities). - Material Safety Data Sheets (MSDS) are to accompany all materials delivered to site, where required, to ensure that safe handling and storage procedures are implemented. - Standard signage will be installed in all waste areas, with all skip bins colour coded and labelled appropriately on all sides to allow clear identification of the type of waste to be deposited into each bin (refer to the EPA's website for standard construction waste and recycling signs). - All skip bins leaving the site will be covered with a suitable tarpaulin to reduce spillage of waste while in transit. - All waste collection for construction works will be conducted between approved hours as per Council requirements (typically between 7am and 7pm Monday to Friday, and between 7am and 1pm on Saturdays). - All waste generated on site will be transported to an approved and appropriately licensed resource recovery facility and/or landfill site.	
Operational Waste	- Waste room construction must comply with the minimum standards of the Growth Centres DCP. - Waste room floor to be sealed with a two-pack epoxy. - All corners coved and sealed 100mm up, this is to eliminate build-up of dirt.	Section 6.10 Appendix BB

Mitigation Measures		
Environmental Impact	Mitigation Measure	EIS Section or Appendix
	• Tap height and light switch height of 1.6m. • Storm water access preventatives (grate). • All walls painted with light colour and washable paint. • Equipment electric outlets to be installed 1700mm above finished floor level. • Optional automatic odour and pest control system installed. • If 660L or 1100L bins are utilised, 2 x 820mm (minimum) double-doors must be used. • All personnel doors are hinged, lockable and self-closing. • Conform to the Building Code of Australia, Australian standards and local laws. • Childproofing and public/operator safety shall be assessed and ensured. • Waste and recycling rooms must have their own exhaust ventilation system either: ○ Mechanically - exhausting at a rate of 5L/m² floor area, with a minimum rate of 100L/s minimum; Mechanical exhaust systems shall comply with AS1668.4.2012 and not cause any inconvenience, noise or odour problem or ○ Naturally - permanent, unobstructed, and opening direct to the external air, not less than one-twentieth (1/20) of the floor area.	
Operational Noise and Vibration	• Operation is to be in accordance with the schools' hours of operation.	Section 6.6 Appendix Q
Construction Noise and Vibration	• A Construction Environmental Management Plan shall be prepared by the engaged contractor. • Construction noise shall be managed by implementing the strategies listed below: ○ Plant and equipment ○ Use quieter methods. ○ Use quieter equipment. ○ Operate plant in a quiet and effective manner. ○ Where appropriate, limit the operating noise of equipment. ○ Maintain equipment regularly. ○ Where appropriate, obtain acoustic test certificates for equipment. • On-site noise management ○ Strategically locate equipment and plant. ○ Avoid the use of tonal reversing alarms or provide for alternative systems (such as broadband reversing alarms). ○ Maximise shielding in the form of existing structures or temporary barriers. ○ Schedule the construction of barriers and structures so they can be used as early as possible. ○ Brief Project staff and workers on the noise sensitivity of the neighbours to the site, particularly the residents nearby. The staff and workers need to be mindful of the noise from their discussions and colour of the language, particularly in sensitive periods, for example, during the pre-start times or "toolbox talk" as they gather to commence for work in the morning. • Consultation, notification and complaints handling ○ Provide information to neighbours before and during construction. ○ Maintain good communication between the community and Project staff. ○ Have a documented complaints process and keep register of any complaints. ○ Give complaints a fair hearing and provide for a quick response. ○ Implement all feasible and reasonable measures to address the source of complaint. • Work scheduling:	Section 6.6 Appendix Q

Mitigation Measures		
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	○ Schedule activities to minimise noise impacts. ○ Ensure periods of respite are provided in the case of unavoidable maximum noise levels events. ○ Keep truck drivers informed of designated routes, parking locations and delivery hours • Modifications to construction equipment used: ○ Avoid the use of large excavators – use the smallest size practicable; ○ Avoid the use of vibratory rollers – switch off vibration mode, or use the smallest size practicable if vibration must be employed; ○ Avoid the use of tracked vehicles on site, where practicable, particularly large tracked excavators and cranes – use vehicles with tyres. • Modifications to methods of construction: ○ Saw cutting can be considered for rock removal rather than conventional rock hammering techniques to limit vibration when close to vibration sensitive locations. • Schedule noisy activities to occur outside of the most sensitive times of the day for each nominated receiver. For example, residential receivers are likely to be more sensitive to noise before 9 am than the other receivers. • Consider implementing equipment-specific screening or other noise control measures recommended in Appendix E of AS2436. • Limit the number of trucks on site at the commencement of site activities to the minimum required by the loading facilities on site. • When loading trucks, adopt best practice noise management strategies to avoid materials being dropped from height into dump trucks. • Avoid unnecessary idling of trucks and equipment. • Ensure that any miscellaneous equipment (extraction fans, hand tools, etc) not specifically identified in this assessment incorporates silencing/shielding equipment as required to meet the noise criteria. • Minimise noise from workers as discussed in Section 7.5.1 of the Noise and Vibration Impact Assessment prepared by Acoustic Studio (August 2022). • The Contractor is to prepare a noise monitoring report each month for review by the Project Manager. The reports are to summarise and interpret the results of the noise and vibration monitoring carried out during the past month. • The Contractor is to establish a communication register for recording incoming complaints. The registration of a particular item will remain open until the complaint has been appropriately dealt with. In addition, the following procedures are an example of the procedures that are to be specifically adopted for complaints relating to noise. Upon receipt of a complaint the Contractor is to: • Try to ascertain from the complaint which appliance is causing the problem i.e. inside or outside the site and in what position. • Establish from the monitoring equipment if the allowable noise levels have been complied with. • Establish if the appliance positioning has previously been highlighted as a problem area. If not and the noise levels are above the predicted noise level, then the equipment and its position shall be noted. • Move machinery if the allowable levels have been exceeded or take other acoustic remedial action. • If the activity is occurring outside normal working hours, the activity is to be immediately stopped. • Where stopping the activity would create a safety issue the activity may be permitted to continue only as long as is necessary to make the area safe. The activity is to then cease. • Any activity that is directed to cease due to excessive noise is not to recommence until the Project Manager is satisfied that the noise and vibration target requirements can be met and has given permission to recommence the activity.	

Mitigation Measures		
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	- The Site Supervisor is to ensure that a report of any incident is provided to the Project Manager. - The Project Manager is to provide a report on the incident to the relevant stakeholders. - The Contractor is to provide a 24-hour telephone contact number and this number is to be prominently displayed on the site.	
Flooding	- All staff and visitors on site will be made aware of the flood risk and the flood protocols and procedures (including their responsibilities) via briefing and signage. This will form part of the mandatory site inductions that all staff must undertake prior to gaining access to the site. - A copy of this FERP will be made available to all new staff, contractors, and site visitors. - Evacuation drills will be conducted regularly to ensure students are aware of the procedures for evacuation although noting closure of the schools should prevent this eventuality. - Lessons should be held that address flood risks and highlight dangerous behaviours during a flood event. These lessons could be based on materials available on the NSW SES website which have been tailored for students of various ages. - A Flood Emergency Kit must be available and regularly checked to ensure that supplies within the kit are sufficient and in working condition. The kit should include: Radio with spare batteries; Torch with spare batteries; First aid kit and other medicines; Waterproof bags; A copy of this Flood Emergency Response Plan; and Emergency contact numbers. This Emergency Kit should be stored in a waterproof container and is the responsibility of the School Safety Manager/First Aid Officer during the occupation phase. - The schools will have a Public Address (PA) system including a continuous bell that can alert any personal on site in the event of an emergency. The schools will have an internal Evacuation Procedure, as part of the School's Emergency Management Plan, that addresses the process for evacuation within the schools' grounds. - In the event of this emergency tone, personal will assemble at a designated assembly point. Regular emergency drills will be undertaken to ensure all personal are aware of the emergency procedures. - The schools are to be closed during flood warnings and any personnel located on site are to follow the precinct wide flood evacuation strategy adopted by SES.	Section 6.8 Appendix T Appendix U
Salinity	- Re-use of piling spile will require special consideration. It is noted that CCAA 2018 recommended concrete grade for slabs and footings in very saline soils is N32. - Reference should also be made to AS2159-2009 for minimum concrete strengths and reinforcement cover for concrete piles/foundations. - The piling spoil should not be re-used on site unless the salinity conditions within this material are adequately considered so any re-use of the material does not adversely impact any built structures or plant growth. - Soil conditions were found to be mildly to moderately aggressive to buried concrete and steel based on the pH and resistivity results. This information must be considered in the design of the footings etc and structures that are to contact with the soils. - Comply with the Salinity Management Plan prepared with regards to the amended Salinity Code of Practice. - The contractors and environmental consultant involved in the construction phase of the project must use their professional judgment in establishing which of the above criteria are applicable in the context of the proposed use of imported materials.	Section 6.7 Appendix S Appendix V