Meadowbank Education and Employment Precinct Schools Project Environmental Impact Statement

SSD 18_9343
Prepared by Urbis
For School Infrastructure NSW
14 October 2019

URBIS STAFF RESPONSIBLE FOR THIS REPORT WERE:

Director	Peter Strudwick
Associate Director	Alaine Roff
Consultant	Dayle Bennett
Project Code	SA7421
Report Number	Final

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SIGNED DECLARATION

This Environmental Impact Statement (EIS) has been prepared in accordance with Schedule 2 of the *Environmental Planning and Assessment Regulations 2000.*

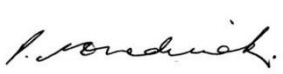
Environmental Assessment Prepared by:	
Names:	Peter Strudwick (Director) *Bachelor of Planning, University of New South Wales* Alaine Roff (Associate Director) *Bachelor of Arts, University of Newcastle, NSW* *Master of Town Planning, University of New South Wales* Dayle Bennett (Senior Consultant) *Bachelor of Design Studies, University of Adelaide* *Master of Urban & Regional Planning, University of Sydney*
Address:	Urbis Pty Ltd Level 8, 123 Pitt Street Sydney NSW, 2000
In respect of:	NSW Department of Education

Applicant and Land Details:	
Applicant:	New South Wales Department of Education C/- Urbis Pty Ltd
Applicant Address:	Urbis Pty Ltd Level 8, 123 Pitt Street Sydney NSW, 2000
Land to be developed:	2 Rhodes Street, Meadowbank Lot 10 DP 1232584
Project:	Development of the new Meadowbank K-12 school, for approximately 2,620 students, including classrooms, open space and associated facilities.

I certify that the contents of this EIS, to the best of my knowledge, has been prepared as follows:

- In accordance with Schedule 2 of the *Environmental Planning and Assessment Regulations 2000*.
- In accordance with the requirements of the *Environmental Planning and Assessment Regulations 2000; and State Environmental Planning Policy (State and Regional Development) 2011*.
- Containing all available information that is relevant to the environmental assessment of the proposed development.

To the best of my knowledge the information contained in this report is neither false nor misleading.

Name	**Peter Strudwick, Director**	**Alaine Roff, Associate Director**	**Dayle Bennett, Consultant**
Signature			
Date	14 October 2019	14 October 2019	14 October 2019

EXECUTIVE SUMMARY

PURPOSE OF THIS REPORT

This Environmental Impact Statement (EIS) has been prepared on behalf of the NSW Department of Education and School Infrastructure NSW (the Applicant). It is in support of State Significant Development Application (SSD 18_9343) for the new Meadowbank Education and Employment Precinct Schools Project (hereafter referred to as MEEPSP). This EIS should be read in conjunction with the Secretary's Environmental Assessment Requirements (SEARs) attached at **Appendix A**, and the supporting technical documents provided at **Appendix B - CC**.

This EIS has been prepared in accordance with and meets the minimum requirements of clauses 6 and 7 of Schedule 2 of the *Environmental Planning and Assessment Regulation 2000* (the Regulation).

THE PROPOSAL

MEEPSP will cater for 1,000 primary students, 1,500 high school students and a 120 place Intensive English Centre (IEC) to accommodate the relocation of Meadowbank Public School and Marsden High School. The co-located schools will also take enrolment pressure off surrounding primary and high schools exceeding student capacity and accommodate future population growth within City of Ryde Local Government Area (LGA). The MEEPSP will contain high quality classrooms, collaborative learning spaces, open spaces and associated school facilities.

The proposal will contribute to a once-in-a-generation 'Education and Employment Precinct' in Meadowbank. The precinct combines primary, secondary and tertiary education facilities to form a future focused learning environment comprised of the proposal and the existing TAFE NSW.

Specifically, this EIS seeks development consent for:

- A multi-level, multi-purpose, integrated school building with a primary school wing and high school wing. The school building is connected by a centralised library that is embedded into the landscape. The school building contains:
  - Collaborative general and specialist learning hubs, with a combination of enclosed and open spaces;
  - Adaptable classroom home bases;
  - Four level central library, with primary school library located on ground floor and high school library on levels 1 to 3.
  - Laboratories and workshops;
  - Staff workplaces;
  - Canteens;
  - Indoor gymnasium;
  - Multipurpose communal hall;
  - Outdoor learning play and recreational areas (both covered and uncovered).
- Associated site landscaping and public domain improvements;
- An on-site car park for 60 parking spaces; and
- Construction of ancillary infrastructure and utilities as required.

THE SITE

The site is located on NSW Department of Education property adjacent to the northern portion of the TAFE NSW Meadowbank campus at 2 Rhodes Street, Meadowbank, and is legally described as Lot 10 DP 1232584. The site an irregular shaped parcel of land with a total area of approximately 3.3 hectares.

The site has been cleared of buildings that were previously part of the TAFE NSW Meadowbank Campus (under separate approval).

Vehicular access is available from Rhodes Street providing access to the publicly accessible parking spaces, allocated for TAFE students, staff and visitors. Pedestrian access is available during operating hours from Rhodes Street and the TAFE campus to the south, via an allocated pathway that runs from Meadowbank Railway Station.

PLANNING FRAMEWORK

Pursuant to Schedule 1, clause 15 of *State Environmental Planning Policy (State and Regional Development) 2011*, development for the purpose of a new school (regardless of the capital investment value) is identified as 'State Significant Development'. Notwithstanding, a Quantity Surveyors Cost Assessment is provided at **Appendix B**.

ASSESSMENT

The proposal has been assessed against all items contained to the SEARs issued for the project on 7 June 2018. In summary:

- **The proposal satisfies the applicable local and state planning policies.**

  The proposal is consistent with all relevant strategic policies and satisfies the objectives of all relevant planning controls.

- **The proposal is suitable for the site.**

  The site is very well serviced by public transport. There are also limited opportunities for staff, students and parents to drive and park in reasonable walking distance. These factors will minimise traffic generation and parking impacts.

- **The proposal is in the public's best interest.**

  The proposal will take substantial pressure off existing public schools in the surrounding locality and ensure more children have access to new state of the art school facilities, learning spaces and equipment. The proposal will create temporary job opportunities in manufacturing, construction and construction management during the project's construction phase of works (approximately 780 jobs), and significant job opportunities in teaching and administration at the project's completion (approximately 220 jobs).

- **The proposal will not have any unacceptable impacts on neighbouring residential properties or the public domain.**

  Subject to the various mitigation measures recommended by the specialist consultants, the proposal will not have any unreasonable or significant traffic, heritage, social and environmental impacts on adjoining or surrounding properties or the public domain.

- **The proposal satisfies the SEARs as demonstrated in this EIS and accompanying specialist reports.**

  The proposal satisfies the SEARs as demonstrated in this EIS.

Considering the above and the content contained in this EIS, it is recommended that the Department of Planning, Industry and Environment approve this SSDA, subject to appropriate conditions.

SECRETARY'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS

A request was made to the Minister for the Secretary's Environmental Assessment Requirements (SEARs), pursuant to Clause 3, Schedule 2 of the *Environmental Planning and Assessment Regulation 2000.* The SEARs are addressed within this report and included in full at **Appendix A.**

Table 1 below provides a summary of the SEARs and identifies the section of the report where the relevant requirement is addressed and/or the appendix reference for the specialist consultant's report associated with that requirement.

Table 1 – Secretary's Environmental Assessment Requirements

Item/ Description	Document Reference
General Requirements	
The Environmental Impact Statement (EIS) must be prepared in accordance with and meet the minimum requirements of clauses 6 and 7 of Schedule 2 of the *Environmental Planning and Assessment Regulation 2000* (the Regulation). Notwithstanding the key issues specified below, the EIS must include an environmental risk assessment to identify the potential environmental impacts associated with the development. Where relevant, the assessment of the key issues below, and any other significant issues identified in the risk assessment, must include: • Adequate baseline data; • Consideration of potential cumulative impacts due to other development in the vicinity (completed, underway or proposed); and • Measures to avoid, minimise and if necessary, offset the predicted impacts, including detailed contingency plans for managing any significant risks to the environment.	The EIS has been prepared in accordance with the Secretary's Requirements and meets the minimum form and content requirements specified in Schedule 2 of the *Environmental Planning and Assessment Regulation 2000*. The EIS includes a comprehensive assessment of the environmental risks and impacts associated with the development.
The EIS must be accompanied by a report from a qualified quantity surveyor providing: • A detailed calculation of the capital investment value (CIV) (as defined in clause 3 of the *Environmental Planning and Assessment Regulation 2000*) of the proposal, including details of all assumptions and components from which the CIV calculation is derived; • An estimate of the jobs that will be created by the future development during the construction and operational phases of the development; and • Certification that the information provided is accurate at the date of preparation.	**Appendix B**
Key Issues – The EIS must address the following specific matters:	
1. Statutory and Strategic Context	**Section 4**

Item/ Description	Document Reference
Address the statutory provisions contained in all relevant environmental planning instruments, including: • *Biodiversity Conservation Act 2016;* • *State Environmental Planning Policy (State and Regional Development) 2011;* • *State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017;* • *State Environmental Planning Policy No. 64 – Advertising and Signage;* • *State Environmental Planning Policy 55 - Remediation of Land;* • *Draft State Environmental Planning Policy (Remediation of Land);* • *Draft State Environmental Planning Policy (Environment);* and • *Ryde Local Environmental Plan 2014.* *Permissibility:* Detail the nature and extent of any prohibitions that apply to the development. *Development Standards:* Identify compliance with the development standards applying to the site and provide justification for any contravention of the development standards.	
2. Policies Address the relevant planning provisions, goals and strategic planning objectives in the following: • *NSW State Priorities;* • *The Greater Sydney Regional Plan, A Metropolis of Three Cities;* • *Future Transport Strategy 2056;* • *State Infrastructure Strategy 2018 – 2038 Building the Momentum;* • *Sydney's Cycling Future 2013;* • *Sydney's Walking Future 2013;* • *Sydney's Bus Future 2013;* • *Crime Prevention Through Environmental Design (CPTED) Principles;* • *Healthy Urban Development Checklist, NSW Health;* • *Better Placed – an integrated design policy for the built environment of NSW:* • *Greater Sydney Commissions North District Plan; and* • *Ryde Development Control Plan 2014.*	**Section 5**
3. Operation	**Section 3.10.3**

Item/ Description	Document Reference
• Provide details of the proposed school operations, including staff and student numbers, school hours of operation, and operational details of any proposed before/after school care services and/or community use of school facilities. • Provide a detailed justification of suitability of the site to accommodate the proposal.	
4. Built Form and Urban Design • Address the height, density, bulk and scale, setbacks of the proposal in relation to the school campus and the surrounding development, topography, streetscape and any public open spaces. • Address design quality, with specific consideration of the overall site layout, streetscape, open spaces, façade, rooftop, massing, setbacks, building articulation, materials, colours and Crime Prevention Through Environmental Design (CPTED) Principles. • Develop a design report that establishes design guidelines and development parameters, and includes diagrams, illustrations and drawings to clarify the design intent of the proposal and which clearly demonstrates how design quality will be achieved in accordance with Schedule 4 Schools – Design Quality Principles of *State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017* and the Design Guide for Schools (GA NSW). • Detail how services, including but not limited to waste management, loading zones, and mechanical plant are integrated into the design of the development. • Provide detailed site and context analysis to justify the proposed site planning and design approach. • Provide a detailed site-wide landscape strategy.	**Section 3, Section 4.9 Appendix Z** and **Appendix D**
5. Environmental Amenity • Assess amenity impacts on the surrounding locality, including solar access, visual privacy, overshadowing and acoustic impacts. • Undertake a view analysis to the site from key vantage points and streetscape locations (photomontages or perspectives should be provided showing the building envelope and likely future development). • Provide a lighting strategy and detail measures to reduce spill into the surrounding sensitive receivers. • Detail amenity impacts including solar access, acoustic impacts, visual privacy, view loss, overshadowing and wind impacts. A high level of environment amenity for any surrounding residential land uses and open space areas must be demonstrated.	**Section 6.1**

Item/ Description	Document Reference
• Detail any proposed use of the school grounds out of school hours (including weekends) and any resultant amenity impacts on the immediate locality and proposed mitigation measures.	
6. Staging Provide details regarding the staging of the proposed development (if any).	N/A
7. Transport and Accessibility Include a transport and accessibility impact assessment, which details, but not limited to, the following: • Accurate details of the current daily and peak hour vehicle, existing and future public transport networks and pedestrian and cycle movement provided on the road network located adjacent to the proposed development; • Details of estimated total daily and peak hour trips generated by the proposal, including vehicle, public transport, pedestrian and bicycle trips based on surveys of the existing and similar schools within the local area; • The adequacy of existing public transport or any future public transport infrastructure within the vicinity of the site, pedestrian and bicycle networks and associated infrastructure to meet the likely future demand of the proposed development; • Measures to integrate the development with the existing/future public transport network; • The impact of trips generated by the development on nearby intersections, with consideration of the cumulative impacts from other approved developments in the vicinity, and the need/associated funding for, and details of, upgrades or road improvement works, if required (traffic modelling is to be undertaken using SIDRA network modelling for current and future years); • The identification of infrastructure required to ameliorate any impacts on traffic efficiency and road safety impacts associated with the proposed development, including details on improvements required to affected intersections, school bus services along bus capable roads (i.e. minimum 3.5 m wide travel lanes); • Details of travel demand management measures to minimise the impact on general traffic and bus operations, including details of a location specific sustainable travel plan (Green Travel Plan and specific Workplace travel plan) and the provision of facilities to increase the non-car mode share for travel to and from the site; • The proposed walking and cycling access arrangements and connections to public transport services; • The proposed access arrangements, including car and bus pick-up/drop-off facilities, and measures to mitigate any associated traffic impacts and	**Section 6.4, Appendix G** and **Appendix H**

Item/ Description	Document Reference
impacts on public transport, pedestrian and bicycle networks, including pedestrian crossings and refuges and speed control devices and zones; • Proposed bicycle parking provision, including end of trip facilities, in secure, convenient, accessible areas close to main entries incorporating lighting and passive surveillance; • Proposed number of on-site car parking spaces for teaching staff and visitors and corresponding compliance with existing parking codes and justification for the level of car parking provided on-site; • An assessment of the cumulative on-street parking impacts of cars and bus pick-up/drop-off, staff parking and any other parking demands associated with the development; • An assessment of road and pedestrian safety adjacent to the proposed development and the details of required road safety measures and personal safety in line with CPTED; • Emergency vehicle access, service vehicle access, delivery and loading arrangements and estimated service vehicle movements (including vehicle type and the likely arrival and departure times); • The preparation of a preliminary Construction Traffic and Pedestrian Management Plan to demonstrate the proposed management of the impact in relation to construction traffic addressing the following: o Assessment of cumulative impacts associated with other construction activities (if any) and ongoing operations on the site; o An assessment of road safety at key intersection and locations subject to heavy vehicle construction traffic movements and high pedestrian activity; o Details of construction program detailing the anticipated construction duration and highlighting significant and milestone stages and events during the construction process; o Details of anticipated peak hour and daily construction vehicle movements to and from the site; o Details of on-site car parking and access arrangements of construction vehicles, construction workers to and from the site, emergency vehicles and service vehicle; and o Details of temporary cycling and pedestrian access during construction. → Relevant Policies and Guidelines: • *Guide to Traffic Generating Developments (Road and Maritime Services)* • *EIS Guidelines – Road and Related Facilities (DoPI)* • *Cycling Aspects of Austroads Guides*	

Item/ Description	Document Reference
• *NSW Planning Guidelines for Walking and Cycling* • *Austroads Guide to Traffic Management Part 12: Traffic Impacts of Development* • *Standards Australia AS2890.3 (Bicycle Parking Facilities)* • *Healthy Urban Development Checklist, NSW Health* • *Development Near Rail Corridors and Busy Roads – Interim Guideline (Department of Planning 2008)*	
8. Ecologically Sustainable Development (ESD) • Detail how ESD principles (as defined in clause 7(4) of Schedule 2 of the Environmental Planning and Assessment Regulation 2000) will be incorporated in the design and ongoing operation phases of the development. • Include a framework for how the future development will be designed to consider and reflect national best practices sustainable building principles to improve environmental performance and reduce ecological impact. This should be based on a materiality assessment and include waste reduction design measures, future proofing, use of sustainable and low-carbon materials, energy and water efficient design (including water sensitive urban design) and technology and use of renewable energy, • Include preliminary consideration of building performance and mitigation of climate change, including consideration of Green Star Performance. • Provide a statement regarding how the design of the future development is responsive to the CSIRO projected impacts of climate change. Specifically: o Hotter days and more frequent heatwave events; o Extended drought periods; o More extreme rainfall events; o Gustier wind conditions; and o How these will inform material selection and social equity aspects (respite/shelter areas).	**Section 6.2** and **Appendix I**
9. Heritage • The EIS must include a Heritage Impact Statement (HIS), prepared by a suitably qualified heritage consultant in accordance with the guidelines in the NSW Heritage Manual. The HIS should identify any State and local Heritage items and heritage conservation areas within and in the vicinity of the site a provide an assessment of heritage impacts. Where impacts are identified, the HIS should outline the proposed mitigation measures. • The EIS must include a Heritage Archaeological Assessment (HAA), prepared by a suitably qualified historical archaeologist. The HAA should identify what relics, if any, are likely to be present within the site or in the vicinity, assess their significance and consider the impacts from the proposal	**Section 6.6** and **Appendix J**

Item/ Description	Document Reference
on this potential resource, where harm is likely to occur, it is recommended that the significance of the relics be considered in determining an appropriate mitigation strategy. If harm cannot be avoided in whole or part, an appropriate Research Design and Excavation Methodology should also be prepared to guide any proposed excavations.	
10. Social Impacts Include an assessment of the social consequences of the school's relative location.	**Section 6.10** and **Appendix K**
11. Aboriginal Heritage • Identify and describe the Aboriginal cultural heritage values that exist across the whole area that would be affected by the development and document these in an Aboriginal Cultural Heritage Assessment Report (ACHAR). This may include the need for surface survey and test excavation. The identification of cultural heritage values must be conducted in accordance with the Code of Practice for Archaeological Investigations of Aboriginal Objects in NSW (OEH 2010), and guided by the Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW (DECCW, 2011). • Consultation with Aboriginal people must be undertaken and documented in accordance with the Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW). The significance of cultural heritage values for Aboriginal people who have a cultural association with the land must be documented in the ACHAR. • Impacts on Aboriginal cultural heritage values are to be assessed and documented in the ACHAR. The ACHAR must demonstrate attempts to avoid impact upon cultural heritage values and identify any. Conservation outcomes. Where impacts are unavoidable, the ACHAR must outline measures proposed to mitigate impacts. Any objects recorded as part of the assessment must be documented and notified to OEH.	**Section 6.5** and **Appendix L**
12. Noise and Vibration • Identify and provide a quantitative assessment of the noise and vibration generating sources during demolition, site preparation, bulk excavation, construction. • Identify and assess operation noise, including consideration of any public-address system, school bell, mechanical services (e.g. air conditioning plant) and any noise generating activities, including out of hours community use of school facilities. • Outline measures to minimise and mitigate the potential noise impacts during construction and from operation on the site and surrounding occupiers of land.	**Section 6.7** and **Appendix N**

Item/ Description	Document Reference
→ Relevant Policies and Guidelines: • *NSW Industrial Noise Policy (EPA)* • *Interim Construction Noise Guideline (DECC)* • *Assessing Vibration: A Technical Guideline 2006* • *Development Near Rail Corridors and Busy Roads – Interim Guideline (Department of Planning 2008)*	
13. Contamination • Assess and quantify any soil and groundwater contamination and demonstrate that the site is suitable for the proposed use in accordance with SEPP 55. • Undertake a hazardous materials survey of all existing structures and infrastructure prior to any demolition or site preparation works. • Include and assessment of the effectiveness and reliability of the measures and any residual impacts after these measures are implemented → Relevant Policies and Guidelines: • *Managing Land Contamination: Planning Guidelines – SEPP 55 Remediation of Land (DUAP)*	**Section 4.6, Appendix O, Appendix P**, **Appendix Q, Appendix AA** and **Appendix BB**
14. Utilities • Prepare an Infrastructure Management Plan in consultation with relevant agencies, detailing information on the existing capacity and any augmentation requirements of the development for the provision of utilities including staging of infrastructure. • Identify any potential impacts of the proposed construction and operation on the existing utility infrastructure and service provider assets, and demonstrate how these will be protected or impacts mitigated. • Prepare an Integrated Water Management Plan detailing any proposed alternative water supplies, proposed end use of potable and non-potable water, and water sensitive urban design.	**Section 3.13** and **Appendix R**
15. Contributions Address Council's "*Section 94/94A Contribution Plan"* and/or details of any Voluntary Planning Agreement, which may be required to be amended because of the proposed development.	**Section 4.11**
16. Drainage • Detail measures to minimise operation water quality impacts on surface waters and groundwater. • Provide stormwater plans detailing the proposed methods of drainage without impacting on the downstream properties.	**Section 3.14** and **Appendix S**

Item/ Description	Document Reference
→ Relevant Policies and Guidelines: • *Guidelines for development adjoining land and water managed by DECCW (OEH, 2013)*	
17. Flooding Identify flood risk on site (detailing the most recent flood studies for the project area) and consideration of any relevant provisions of the NSW Floodplain Development Manual (2005), including the potential effects of climate change, sea level rise and an increase in rainfall intensity. If there is a material flood risk, include design solutions for mitigation.	**Section 6.9** and **Appendix S**
18. Flora and Fauna Assessment Engage a suitably qualified person to assess and document the flora and fauna impacts related to the proposal.	**Section 4.2** and **Appendix T**
19. Sediment, Erosion and Dust Controls Detail measures and procedures to minimise and manage the generation and off-site transmission of sediment, dust and fine particles. → Relevant Policies and Guidelines: • *Managing Urban Stormwater – Soils & Construction Volume 1 2004 (Landcom)* • *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (EPA)* • *Guidelines for development adjoining land and water managed by DECCW (OEH, 2013)*	**Appendix S**
20. Waste Identify, quantify and classify the likely waste streams to be generated during construction and operation and describe the measures to be implemented to manage, reuse, recycle and safely dispose of this waste. Identify appropriate servicing arrangements (including but not limited to, waste management, loading zones, mechanical plant) for the site.	**Section 3.12**, **Appendix V** and **Appendix CC**
21. Construction Hours Identify proposed construction hours and provide details of the instances where it is expected that works will be required to be carried out outside the standard construction hours,	**Section 3.15** and **Appendix Y**
A. Plans and Documents	
The EIS must include all relevant plans, architectural drawings, diagrams and relevant documentation required under Schedule 1 of the *Environmental Planning and Assessment Regulation 2000*. Provide these as part of the EIS rather than as separate documents.	**Appendix C - Y**

Item/ Description	Document Reference
In addition, the EIS must include the following: • Architectural drawings (dimensioned and including RLs); • Site Survey Plan, showing existing levels, location and height of existing and adjacent structures/buildings and boundaries; • Site Analysis Plan; • Sediment and Erosion Control Plan; • Shadow Diagrams; • View Analysis / Photomontages, including from public vantage points; • Details of any proposed advertising signs, including size, location and finishes, • Landscape Plan (identifying any trees to be removed and trees to be retained or transplanted); • Geotechnical and Structural Report; • Accessibility Report; • Arborist Report; • Acid Sulphate Soils Management Plan; • Draft Construction Traffic and Pedestrian Management Plan; and • Schedule of materials and finishes.	
B. Consultation	
During the preparation of the EIS, you must consult with the relevant local, State or Commonwealth Government authorities, service providers, community groups, specialist interest groups including Aboriginal land councils and registered Aboriginal stakeholders, and affected landowners. In particular, you must consult with: • City of Ryde Council; • Government Architect NSW (through the NSW State Design Review Panel process); • Transport for NSW; • Ausgrid; and • Roads and Maritime Services. The EIS must describe the consultation process and the issues raised, and identify where the design of the development has been amended in response to these issues. Where amendments have not been made to address an issue, a short explanation should be provided.	**Section 7** and **Appendix X**

1. INTRODUCTION

1.1. PROJECT OVERVIEW

This EIS has been prepared by Urbis on behalf of the NSW Department of Education and School Infrastructure NSW (the Applicant). It is in support of State Significant Development Application (SSD 18_9343) for the new Meadowbank Education and Employment Precinct Schools Project (hereafter referred to as MEEPSP) at 2 Rhodes Street, Meadowbank (the site).

MEEPSP will cater for 1,000 primary school students, 1,500 secondary school students and a 120 place Intensive English Centre (IEC).

Specifically, this EIS seeks development consent for:

- A multi-level, multi-purpose, integrated school building with a primary school wing and high school wing. The school building is connected by a centralised library that is embedded into the landscape. The school building contains:
  - Collaborative general and specialist learning hubs, with a combination of enclosed and open spaces;
  - Adaptable classroom home bases;
  - Four level central library, with primary school library located on ground floor and high school library on levels 1 to 3.
  - Laboratories and workshops;
  - Staff workplaces;
  - Canteens;
  - Indoor gymnasium;
  - Multipurpose communal hall;
  - Outdoor learning, play and recreational areas (both covered and uncovered).
- Associated site landscaping and public domain improvements;
- An on-site car park for 60 parking spaces; and
- Construction of ancillary infrastructure and utilities as required.

Details are provided in the architectural drawings prepared by Woods Bagot in **Appendix D** and landscape plans prepared by Urbis in **Appendix E.** Demolition is not proposed as part of this SSD application and has been undertaken under separate approval.

1.2. PROJECT CONTEXT AND BACKGROUND

The proposal reflects the significant need for additional public education infrastructure in the area. In 2017, the NSW Government announced a $6 billion investment for the development of new schools and major upgrades to existing schools across the next 4 years. There will be 21% growth in student numbers in NSW by 2031. This is an increase of approximately 200,000 additional enrolments in public schools across the state.

Meadowbank and surrounding areas such as Rhodes and Ryde are experiencing significant population growth, which is placing substantial pressure on existing public schools, causing them to become overcrowded beyond capacity. To accommodate the relocation of Meadowbank Public School and Marsden High School and to meet expected future demand, SINSW is building a new co-located primary and high school development with the modern facilities required for a contemporary teaching and learning environment.

MEEPSP will be a design-integrated facility strongly focused on new and innovative ways of teaching and learning. The learning environment will be future focused with an emphasis on innovative and engaged learning that will be further enhanced by its proximity to and future integration with the adjacent TAFE NSW campus. Where the site constraints permit, students will have direct access to the surrounding outdoor green spaces and practical/specialist learning spaces, including laboratories and maker spaces.

On 7 June 2018, SEARs were issued by the Department for SSD 9343 'New Meadowbank K-12 School'. The SEARs are contained within this EIS and provided at **Appendix A.**

1.3. REPORT STRUCTURE

This EIS provides the following:

- **Section 2**: A description of the site and surrounding context: including identification of the site, existing development on the site, and surrounding development.
- **Section 3**: A detailed description of the proposed development;
- **Section 4**: An assessment of the proposed development against the relevant statutory planning controls;
- **Section 5**: An assessment of the proposed development against the relevant strategic planning policies;
- **Section 6**: An assessment of the key issues and impacts generated by the proposed development;
- **Section 7**: A detailed description of the consultation undertaken with respect to the proposal;
- **Section 8**: An overview of the recommendations and mitigation measures to address key issues and impacts; and,
- **Section 9**: A conclusion.

This EIS should be read in conjunction with the SEARs attached at **Appendix A,** and the supporting technical documents provided at **Appendix A-Z**.

1.4. PROJECT TEAM

Specialist consultants were engaged to assist in the preparation of this SSD, including:

Table 2 – Project Team

Discipline/Input	Consultant	Appendix
SEARs	The Department of Planning, Industry and Environment	Appendix A
Capital Investment Value (CIV) Report	Rider Levett Bucknall	Appendix B
Survey Plan	C.M.S. Surveyors	Appendix C
Architectural Design Statement & Architectural Plans	Woods Bagot	Appendix D
Landscape Design Statement & Landscape Plans	Urbis	Appendix E
Arboricultural Impact Assessment	Earthscope	Appendix F
Transport and Accessibility Impact Assessment / Draft CTMP	GTA Consultants	Appendix G
Green Travel Plan / School Travel Plan	GTA Consultants	Appendix H

Discipline/Input	Consultant	Appendix
Ecological Sustainable Development (ESD) Report	Steenson Varming	Appendix I
Heritage Impact Statement	Urbis	Appendix J
Social Impact Assessment	Urbis	Appendix K
Aboriginal Cultural Heritage Assessment Report	Urbis	Appendix L
Accessibility Report	Morris Goding Accessibility Consulting	Appendix M
Acoustic Report	Acoustic Logic	Appendix N
Preliminary Site Investigation (PSI)	Alliance Geotechnical	Appendix O
Detailed Site Investigation (DSI)	Alliance Geotechnical	Appendix P
Remedial Action Plan (RAP)	Alliance Geotechnical	Appendix Q
Infrastructure Management Plan	WSP and Warren Smith & Partners	Appendix R
Civil Report & Drawings	Enstruct	Appendix S
Biodiversity Development Assessment Report	Ecological Australia	Appendix T
Supplementary Geotechnical Report	Douglas Partners	Appendix U
Operational Waste Management Plan	Foresight Environmental	Appendix V
Wind Assessment Report	Windtech Consultants	Appendix W
Consultation Report	Aurecon	Appendix X
Preliminary Construction Management Plan	BlueVisions	Appendix Y
Crime Prevention Through Environmental Design (CPTED) Report	WSP	Appendix Z
Supplementary Contamination Assessment	Alliance Geotechnical	Appendix AA
Supplementary Asbestos Assessment	Alliance Geotechnical	Appendix BB
Construction and Remediation Waste Management Plan	Foresight Environmental	Appendix CC

2. THE SITE AND SURROUNDING CONTEXT

2.1. SITE DESCRIPTION

The site is located at 2 Rhodes Street, Meadowbank and is legally described as Lot 10 DP 1232584. MEEPSP will occupy NSW Department of Education property adjacent to the northern portion of the Meadowbank TAFE NSW site.

The site is bounded by Rhodes Street to the northeast, the Sydney Water site to the north, the remaining TAFE NSW campus to the east and south, and the T1 Northern railway line to the west (with Meadowbank station located opposite the southern boundary of the TAFE NSW site).

The site is an irregular shaped parcel, with a primary frontage to Rhodes Street and a total area of 3.3 hectares (**Figure 1** and **Figure 2**).

The site is generally undulating and features a central depression at the centre. This results in the site having falls of approximately 14m to both the east and west. Due to the site's topography, it is identified as being flood affected and subject to a 1 in 100-year flood to +8.2RL.

The site includes two major easements, refer to **Figure 3** which depicts the following:

- 2.44m and 5.49m wide drainage easement transverses the site in a north-east to south-west direction. The drain is a covered concrete channel.
- A Sydney Trains access easement located along the embankment at the northern boundary of the site.

The site is also subject to a 60m train vibration clearance buffer that runs along the western boundary of the site. No built form is permitted to encroach this area.

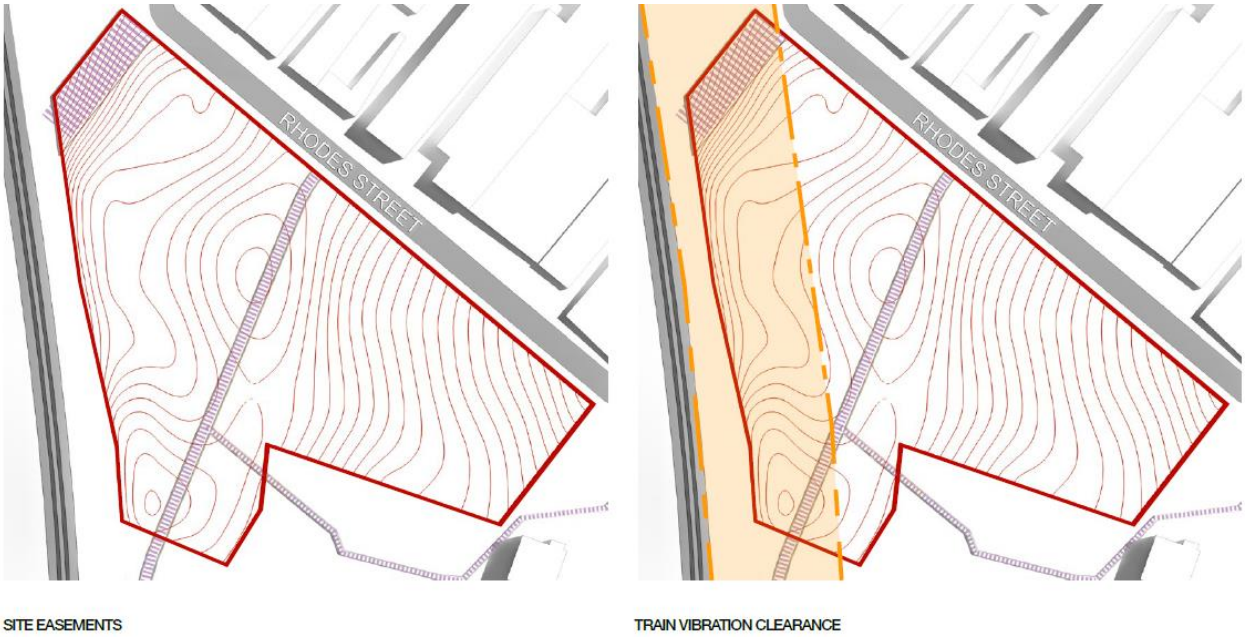
Figure 1 – Location Map

Source: Urbis

Figure 2 – Aerial Location Plan

Source: Urbis

Figure 3 – Diagram Depicting Easements, Contours and Train Vibration Clearance



Source: Woods Bagot

2.2. EXISTING DEVELOPMENT

The site previously accommodated a series of former TAFE NSW buildings, on grade car parking areas, sports courts and open space areas. Photographs of the exterior of the existing buildings are provided at **Figure 4.** The existing development has been demolished during the early works phase under separate approval.

The site is currently serviced by an off-street car parking area located at the centre of the site. The parking area is accessed by a combined ingress/egress driveway connecting with Rhodes Street and another car parking area located within the TAFE NSW Campus.

Pedestrian access is via the existing permeable campus setting. A series of gates along Rhodes Street connect to the pathways running between the existing buildings. A dedicated walkway that runs along the railway corridor via the TAFE NSW into the site and provides a direct pedestrian linkage to Meadowbank Station.

Figure 4 – Existing Development

Picture 1 – View across carpark to the rail corridor

Picture 2 – View from carpark to courts and Rhodes St

Picture 3 – Existing boat sheds

Picture 4 – Existing weatherboard teaching buildings

Picture 5 – Street view from Rhodes St

Picture 6 – Existing vegetation on site

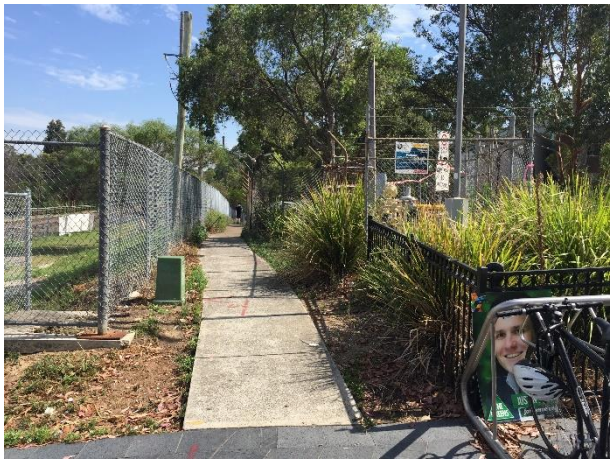
2.3. SITE CONTEXT AND SURROUNDING DEVELOPMENT

The site is in the suburb of Meadowbank, which is approximately 15km north west of Sydney CBD. Photographs of surrounding area are provided at **Figure 5.** The site is surrounded by a diverse mix of land uses but is predominantly in a low density residential and light industrial area.

Table 3 – Surrounding Land Uses

Aspect	Description
North	To the north is land owned by Sydney Water that contains the Ryde Pumping Station – also known as '948 Victoria Road'. A light industrial precinct is located to the north east, on the opposite side of Rhodes Street. Discussions with the strategic planning unit at Ryde Council during the early planning phase of the project indicated that Council is seeking to retain and consolidate the industrial precinct for employment.
East	The site is adjacent to the TAFE NSW Meadowbank Campus, which will remain operational during the development and construction of the new schools. TAFE NSW has consolidated its assets onto the southern portion of the site. Further east, beyond TAFE NSW is low density residential, consisting of detached dwellings.
South	South is the Meadowbank train station and the Shepherds Bay Precinct, previously known as the Meadowbank Employment Area (Shepherds Bay). The whole precinct is currently undergoing significant redevelopment as an urban renewal project with a series of high density residential flat buildings ranging from 5-10 storeys in height.
West	The T1 railway line runs along the western edge of the site. Beyond the railway line is a mix of low density residential and walk up style residential flat buildings.

Figure 5 – Surrounding Development



Picture 7 – Existing dedicated walkway

Picture 8 – Existing TAFE Green

Picture 9 – Sydney Water Site (north)

Picture 10 – Meadowbank Station (south)

Picture 11 – Light industrial on the opposite side of Rhodes St (north east)

Picture 12 – View towards TAFE NSW campus (east)

Source: Urbis

2.4. TOPOGRAPHY

The topography of the site grades naturally to the south-west. Levels range from 6m AHD at the south-western extent to 17m AHD at the south-eastern extent. A wide depressed channel runs through the site from the north-east to south-west. Two depressions exist across the existing car parks, which fall towards the ultimate low point in the south-west corner of the site. The high points are the south-eastern and north-western corners along Rhodes Street. At the western site boundary, the raised railway embankment forms a physical bund.

A Survey Plan prepared by C.M.S. Surveyors has been prepared and is submitted at **Appendix C.**

2.5. FLOODING AND HYDROLOGY

The site is identified as flood prone land and is subject to a 1 in 100-year flood +8.2RL. A Preliminary Flood Risk Assessment Report prepared by ARUP during the early planning phase of the project investigated the Probable Maximum Flood (PMF) level on the site. The PMF Level was determined to be +16.3RL. Refer to **Figure 6** below for diagrams demonstrating the flood impacts to the existing site.

Figure 6 – Flood Impacts to the Site

Source: Woods Bagot

2.6. VEGETATION

The site contains a well-established tree network as shown in **Figure 7**. The Aboricultural Impact Assessment **(Appendix F**) identified that there are 275 trees located within the site. The vegetation is a defining characteristic of the site, with numerous semi-mature and matures that include a variety of exotic (introduced) and non-local native species.

Most of the trees are clustered along the western edge if the site (railway corridor), northern corner and along the Rhodes Street frontage.

Figure 7 – Existing and Significant Tree Network

Source: Woods Bagot

2.7. ACID SULFATE SOILS

A Detailed Site Investigation (DSI) has been prepared and is submitted at **Appendix P**. The report indicates that based on a review of the Prospect Parramatta Acid Sulfate Soils Risk Map, the site was not within an area of suspected Acid Sulfate Soils.

2.8. SERVICES

The site currently contains and is connected to all necessary services including water, gas, electricity, communications and sewage.

2.9. ROAD NETWORK

The site is currently serviced by:

- **Rhodes Street** – the primary access road, identified as a collector road with a primary frontage to the site. It runs in an east-west direction, connects with Hermitage Road and Mellor Street, and permits kerbside parking.
- **Hermitage Road** - a collector road that runs in a north-south direction, that intersects with Victoria Road at a signalised intersection. Kerbside parking is permitted on both sides of the road.
- **Mellor Street** - a local road to the north east of the site that becomes Rhodes Street. It runs in a north-south direction and provides left in/left out access to Victoria Road. Kerbside parking is permitted on both sides of the road.
- **Victoria Road -** a classified State Road controlled by RMS and has a three-lane configuration in both directions. Parking is not permitted along this busy road corridor.
- **Bowden Street** - a collector road to the east, that runs in a north-south direction. It intersects with Victoria Road at a signalised intersection allowing turning movements.
- **Macpherson Street** - a local road that runs in an east-west direction, that allows kerbside parking during weekdays.
- **Constitution Road** - a local road located south of the site.
- **See Street** - runs along the eastern frontage of the TAFE NSW site and runs in a north-south direction. Kerbside parking is restricted.

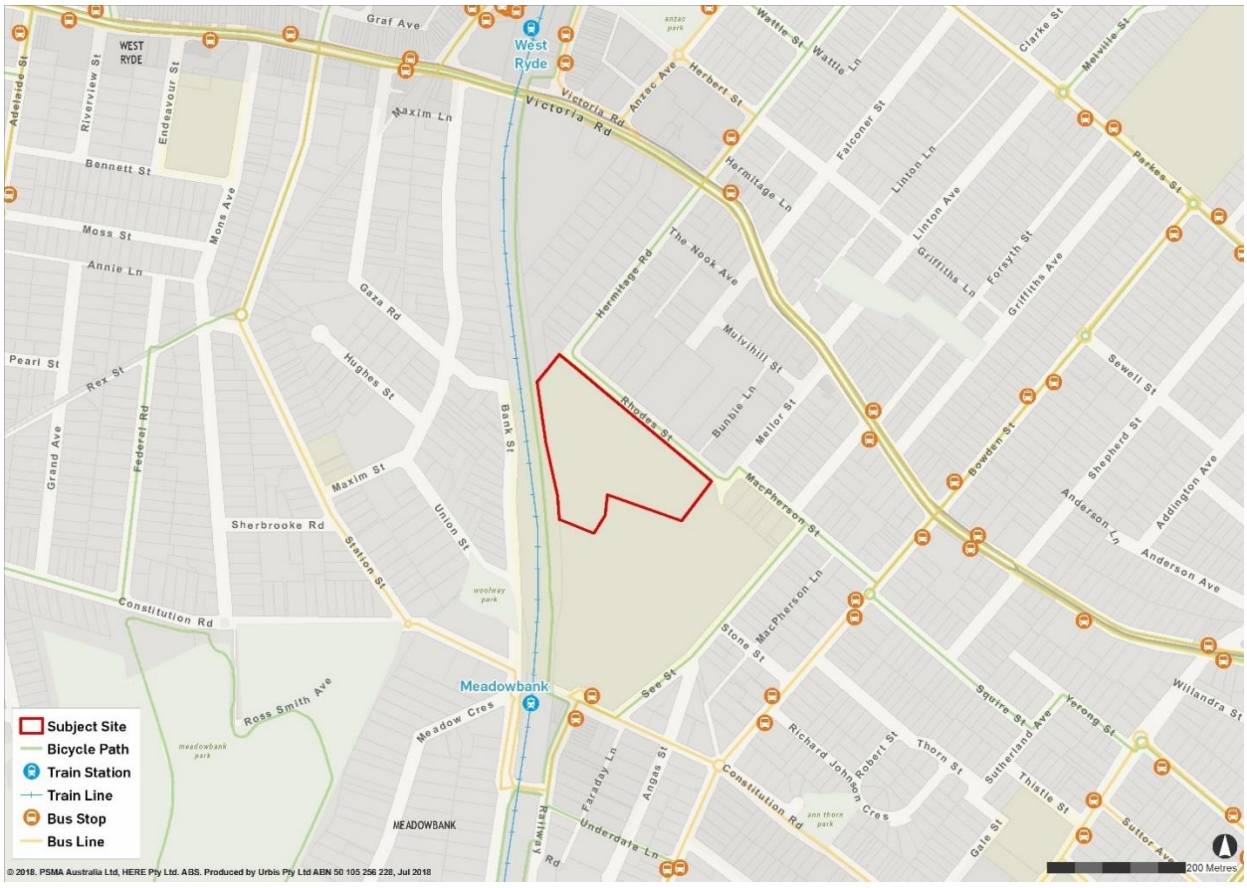
Detailed information about the local road network is provided in the Transport & Accessibility Impact Assessment at **Appendix G.**

2.10. PUBLIC TRANSPORT

The site is well serviced by various forms of public transport. **Figure 8** provides a summary of the transport options surrounding the site.

- **Trains** – The site is well serviced by Meadowbank Station and West Ryde Station. There is currently a path that connects TAFE NSW with Meadowbank Station, which is located approximately 700m to the south. West Ryde Station is approximately 750m north of the site. Both stations provide access to the T1 Northern Line of the Sydney Trains railway network.
- **Ferry** – The Meadowbank ferry wharf is located 700m south of the Meadowbank Station at the southern point of Helene Park. The F3 service runs from Circular Quay to Parramatta along the Parramatta River.
- **Buses** – The nearest bus stop is located to the south, adjacent to the Meadowbank Station. Additional bus stops are located along Victoria Road, which forms a major access route for buses servicing Parramatta, Ryde and the Sydney CBD. These bus stops provide connections to the following services:
  - 507: Macquarie University, Circular Quay and Ryde.
  - 520, 524 and 534: Connections to Parramatta, Ryde, Chatswood via Victoria Road.
  - M52: Connection to Parramatta and Circular Quay.

Figure 8 – Transport Options Map



Source: Urbis

2.11. CYCLEWAYS

There are limited cycleways located within the transport network surrounding the site.

2.12. PEDESTRIAN NETWORK

The site is within a well-established pedestrian network with full width footpaths provided on Rhodes Street, Macpherson Street, See Street and Constitution Road to public transport connection options.

The site has access to an existing pedestrian walkway located next to the railway corridor between Meadowbank Station and the TAFE NSW Site. The path is located within TAFE NSW property, but public access is permitted.

3. THE PROPOSED DEVELOPMENT

3.1. OVERVIEW

The proposal will deliver a new educational model within an expanding education precinct. The proposal will create a learning environment that is future focused, innovative, functional and will cater for up to 1,000 primary students, 1,500 secondary students and 120 IEC students. This EIS seeks development consent for the following works:

- A multi-level, multi-purpose, integrated school building with a primary school wing and high school wing. The school building is connected by a centralised library that is embedded into the landscape. The school building contains:
  - Collaborative general and specialist learning hubs, with a combination of enclosed and open spaces;
  - Adaptable classroom home bases;
  - Four level central library, with primary school library located on ground floor and high school library on levels 1 to 3.
  - Laboratories and workshops;
  - Staff workplaces;
  - Canteens;
  - Indoor gymnasium;
  - Multipurpose communal hall;
  - Outdoor learning play and recreational areas (both covered and uncovered).
- Associated site landscaping and public domain improvements;
- Accommodation for 273 bicycle parking spaces;
- An on-site car park for 60 parking spaces; and
- Construction of ancillary infrastructure and utilities as required.

Further detail of the proposal is provided in the subsections below and within **Appendices B - Z**. The proposal is shown in **Figure 9** and **Figure 10.**

Figure 9 - Photomontage of proposed development from within the site

Source: Woods Bagot

Figure 10 – Proposed Site Plan

Source: Woods Bagot

3.2. DESIGN PRINCIPLES

The Architectural Design Statement prepared by Woods Bagot identifies the following principles that have informed the design:

- **Play –** the concept seeks to invoke a sense of playfulness that creates an environment that is both fun and dynamic for all students. This is achieved through the provision of diverse spaces and creating connections between indoor and outdoor spaces.
- **Collaboration –** the intent for the concept is to foster 'Future Focused Learning', that enables collaboration between students. The MEEPSP has been designed to facilitate teamwork, agile learning and provide opportunities for creating scenarios.
- **Scale –** scale has been a key factor that has shaped the built form, as it can assist with influencing the student experience. The design utilises a 'kit of parts' and specific materials attributed to Primary and Secondary students to support their transition as they learn and grow.
- **Nature –** the scheme draws upon the natural elements of the site and its immediate context. The design of the schools draws upon the site topography, mature tree network and adjacent urban interface. The scheme seeks to integrate the landscape into the learning environment to enhance the student experience through the following biophilic principles.
  - **Direct connections** with the mature landscape – sense of calm and wellbeing.
  - **Access to daylight** internally and within covered outdoor spaces.
  - **Views** to nature within the subject site. Distant views to city and Parramatta river shall be reviewed and explored.
  - **Materiality and texture** both internally and externally. Biomimicry for touch, smell, texture, acoustics, scale, functionality.
  - **Sense of discovery** and exploration will create a vibrant and playful experience for the new schools. This will be achieved through a combination of all design principles where they combine to create new learning precinct.

3.3. MEADOWBANK EDUCATION AND EMPLOYMENT PRECINCT

The new schools are a key component of the Meadowbank Education and Employment Precinct, a collaborative initiative between the NSW Government and the Greater Sydney Commission (GSC). The precinct includes the schools project, TAFE NSW redevelopment and improved transportation links.

Co-location of MEEPSP with TAFE NSW is a unique opportunity to create a once-in-a-generation 'Education and Employment Precinct'. The precinct combines primary, secondary and tertiary education facilities to form a learning environment that is future focused, adaptable and empowering for the next generation of students (**Figure 11**).

The development of the site has been based on planning it as a precinct, rather than just a school. The intent of this is to create an co-located education precinct that is accessible for both students and the wider community. When complete, MEEP is set to become a new community hub that will house students of all ages.

Such is the importance of the Meadowbank Education and Employment Precinct, The Greater Sydney Commission (GSC) released its Stage 1 Findings on the Assurance Review of Planning in the Ryde LGA on 25 February 2019. In it, the GSC acknowledged the significant investment in Ryde announced by the government, including the Meadowbank Education and Employment Precinct. It identified that a key action is for additional Master Planning to occur for the education and employment precinct to complement existing residential development. Refer to **Section 5.13** for more information on the masterplan, which encompasses the Meadowbank Education and Employment Precinct and its surrounds.

While SINSW and TAFE NSW are in discussions about the precinct, the TAFE NSW project is not part of this application and is subject to a separate SSDA.

Figure 11 – Meadowbank Education Precinct

Source: Woods Bagot

3.3.1. Interface with the TAFE NSW CAMPUS

The proposal has been carefully designed to complement the TAFE NSW campus adjacent to the new MEEPSP. The siting and scale of the built form has considered the following:

- Creating a clear edge between the school and the TAFE NSW.
- Maintaining solar access to the TAFE NSW Green located directly south of the proposal, and at the heart of the precinct.

3.4. THE SCHOOL CAMPUS

The proposed school campus consists of the following main elements:

Primary School

- The primary school is located across three levels within the northern wing fronting Rhodes Street.
- The primary school will occupy Levels G through to L2 of the wing and be accessed via a designated entry point from the street frontage.
- The layout of the primary school is a linear arrangement of home bases that are interspersed with covered outdoor learning areas.
- The primary's school's horizontal form is embedded into the landscape and anchored by the central library and extends into the central outdoor play areas to the west of the building.
- Circulation for the primary school will be via breezeways, stairs and two lift cores.
- A suite of outdoor areas (both covered and uncovered) are proposed specifically for the primary school. They include:
    - Undercover play court including:
        - 2 x 8-square handball courts.
        - 2 x 12-square handball courts.
        - 2 x 4-square handball courts.
    - Undercover acrylic half court.
    - Structured play and free play areas.
    - Informal turf oval play space.
    - Informal grassed play space.

High School

- The high school is five levels and is located within 2 levels above the primary school and in the whole of the southern wing.
- The high school has a separate entry point that is via the eastern boundary fronting the precinct gateway.
- The form of the high school is characterised by a matching linear block with an orientation towards the TAFE NSW.
- The layout of the high school campus adopts the same linear arrangement as the primary school, and utilises the neighbourhood model by grouping programs and creating clusters.
- This enables learning areas to adopt both an informal and formal typology, allowing flexibility and movement of walls to either expand or enclose learning spaces.
- To the west of the school building there are a number of ground level outdoor recreational areas. The following areas are attributed to both schools:
    - External astro-turf multiuse court including:
        - 1 x 6 per side soccer field.
        - 3 x tennis courts.
        - 3 x netball courts.
    - 2 x external acrylic full courts.
    - 1 x undercover acrylic full court.

- Informal turf oval play space with track.
- Informal grassed play space.
- Amphitheatre.

Central Library

Central to the proposal is a multi-level library embedded within the landscape and connecting the primary and high school wings. The library contains separate primary and high school libraries across 3 levels. It is comprised of mezzanine levels, voids, whilst also providing direct access to the central landscape.

Community

The communal hall is located within the Primary School wing and has been specifically sited to front Rhodes Street. This is a self-contained hall element that will be able to accommodate school performances and assemblies. Outside of school hours the hall will be able to be accessed by the community, and managed by the Schools. In addition, it is envisioned that potential access will also be provided to the indoor Gymnasium located within the High School wing.

Figure 12 – Photomontage of Campus viewed from School/TAFE NSW boundary

Source: Woods Bagot

3.5. SITE PLANNING

The proposal has carefully considered the site's constraints, which include the undulating site topography, associated flooding issues, existing easements, maintaining significant trees and the train vibration clearance zone. Analysis of these restrictions revealed that the north-eastern corner of the site is the most appropriate developable zone for the new MEEPSP. The siting of the new built form allows:

- The rest of the site to be developed into outdoor recreational and play areas.
- For optimal solar access to the courtyard areas and learning spaces.
- For the preservation of the existing established tree network.

- Interface and relationship with TAFE NSW.

3.6. BUILT FORM AND URBAN DESIGN

The proposal has a height of 32.7m, a gross floor area of 23,219m^2 and a Floor Space Ratio of approximately 0.7:1. Key elements of the built form and scale are:

- Two linear stacked blocks linked by a central library that have been designed to connect with the landscape, street and context.
- The built form seeks to bring the outside in and respond to the topography, existing tree network and the adjacent TAFE NSW Campus.
- The change in topography provides an opportunity to integrate covered outdoor areas and a lower ground basement parking/service level.
- The central terrace area above the library integrates the landscape from the site into the built form.
- The built form and urban design are detailed in the Architectural Design Statement at **Appendix D**.

3.7. EXTERNAL MATERIALS AND FINISHES

The external materials and finishes have been selected to connect with the surrounding natural environment, maximise natural daylight penetration, enable natural ventilation and articulate the scale of the building. The proposal includes use of the following materials:

- Concrete.
- Vertical metal sun shading.
- Clear and back-painted glazing.
- Overhang and hood shading.
- Coloured perforated metal cladding.
- Metal planter boxes.

The façade treatments have been selected to respond to the varying ages of students and promote learning at all levels of the built form. **Figure 13** depicts the imagery and inspiration behind the materiality for the facades.

Figure 13 – Materiality Palette

Source: Woods Bagot

The use of natural colour palette, derived from the surrounding context will seek to blend the built form within its surrounds, with bolder colours incorporated into the design to bring a sense of personal identity to the school.

Refer to the Architectural Design Statement prepared by Woods Bagot for a detailed description of the proposed materiality and façade treatments **(Appendix D).**

3.8. LANDSCAPE DESIGN

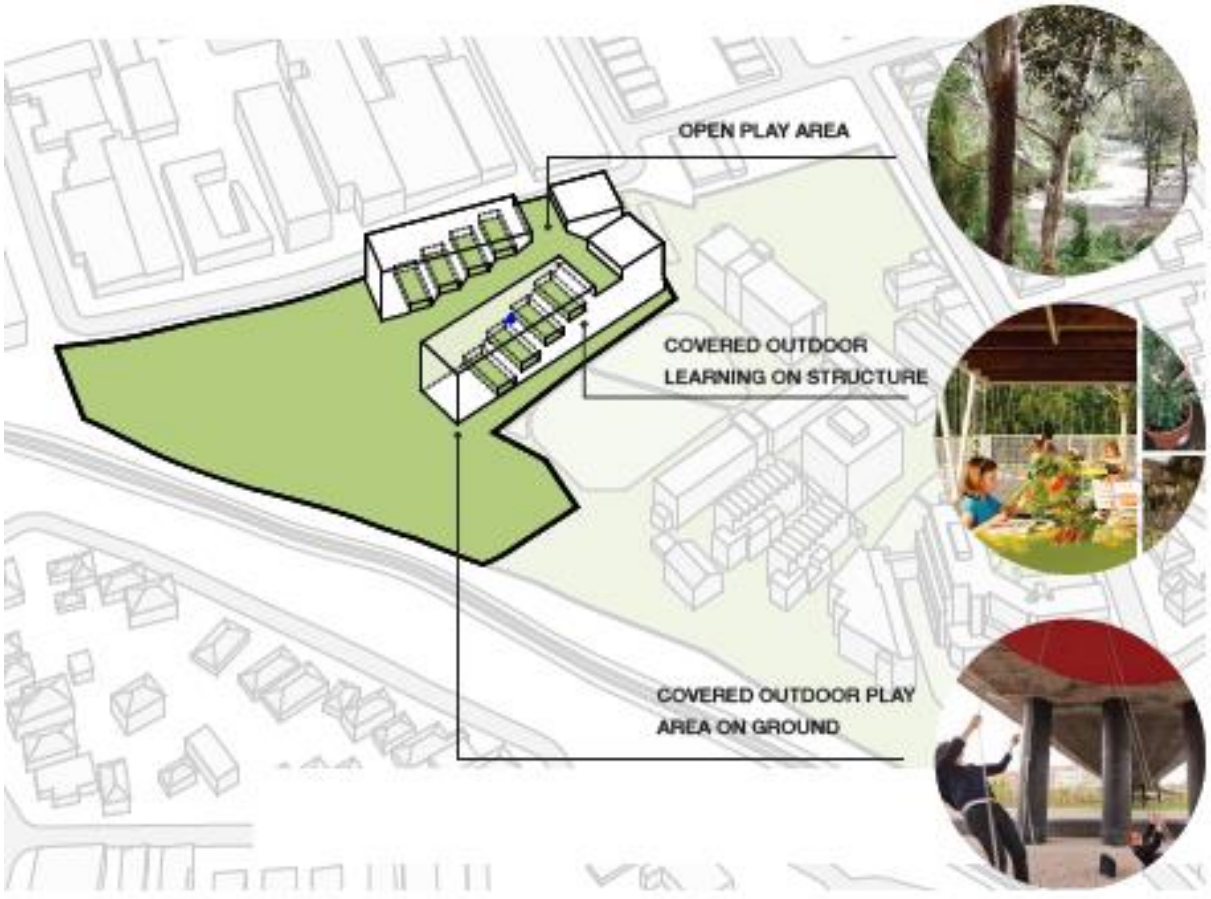
3.8.1. Landscape Concept and Principles

A Landscape Design and Statement have been prepared by Urbis and are submitted at **Appendix E.** The design objectives for the proposed landscape scheme builds upon the idea of designing from the inside out by bringing the outside in. The proposed landscaping:

- Provides a series of connections with the natural elements of the site.
- Responds to the architecture with continuity between the indoors and outdoors.
- Connects with the existing tree network and creates engaging play areas.
- Provides diverse outdoor areas at a variety of scales to facilitate learning and collaboration.
- Maximises outdoor learning opportunities.
- Provides a safe and secure environment.

Figure 14 demonstrates the concept of bringing the outside in, **Figure 15** shows the Ground Level Landscape Master plan and **Figure 16** shows the integration of landscaping and building.

Figure 14 – Landscape Masterplan

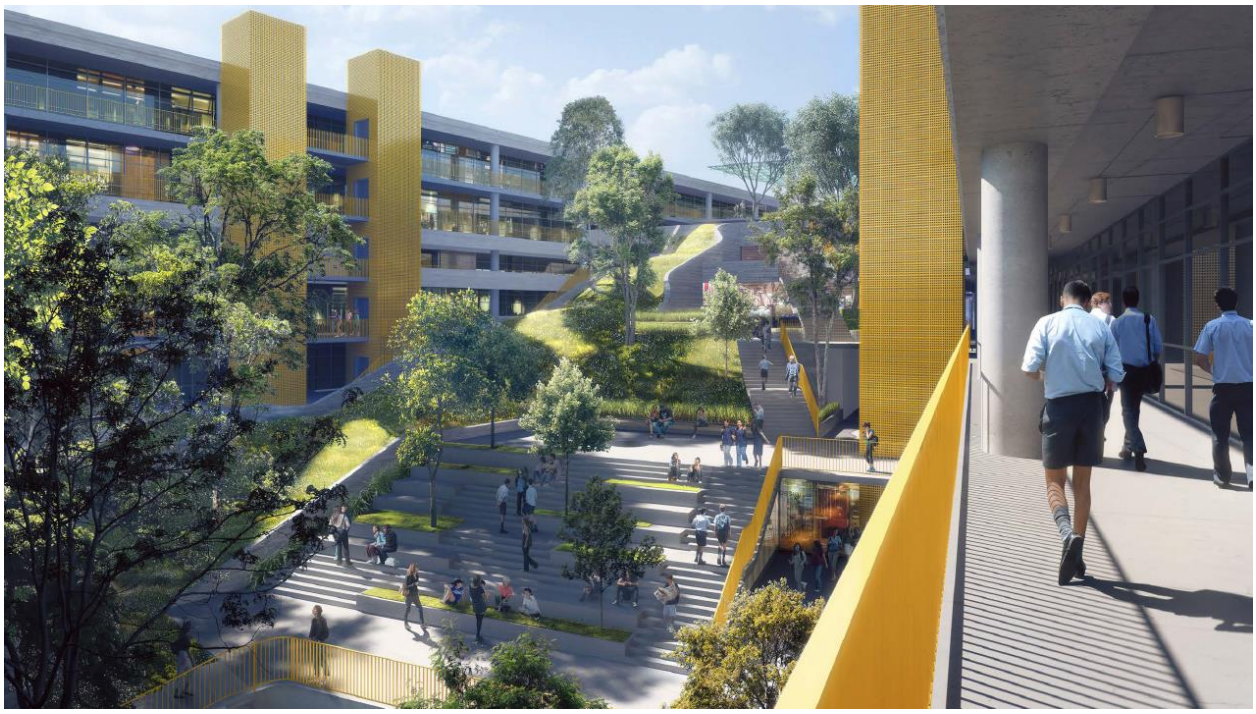


Source: Urbis

Figure 15 – Ground Floor Landscape Master Plan

Source: Urbis

Figure 16 - Photomontage of integration of building and landscaping



Source: Woods Bagot

3.8.2. Landscape Design

The landscape design is characterised by key landscape zones and areas designated for either high school or primary school students as described below. The scheme integrates landscape throughout the site and utilises central terraces that connect the built form to the landscape. Information on the recreational areas are provided in **Section 3.4**.

Primary School

- Free play area.
- Vegetable garden.
- Play equipment.
- Chicken pen.
- Undercover outside gym.
- ANZAC memorial.
- Designated arrival.

The primary school has a separate entry via Rhodes Street that connects to an assembly courtyard which connects to a sheltered open play area. This play area is the main connector for students, and includes a variety of seating, planting and vertical greenery. The design incorporates a series of seats and platforms to ensure flexibility within the space.

Steps, amphitheatre seating and a softfall play area lead the children down to two multi-purpose undercover play areas which overlook the external grassed play areas. All areas of the site have been developed to ensure flexible learning spaces.

High School

- Free play area.
- Undercover outside gym.
- Canteen terrace.
- High School amphitheatre.
- Designated arrival.

The high school entry off Rhodes Street directs students through to the central civic stairs and assembly area. There are views between two buildings revealing the two levels of the library with a glimpse of the green central spine beyond. The western side of the forecourt contains the green spine that divides the primary and high school. Each level of the building has a connected terrace surrounded by greenery. The green spine and classroom connections integrates a series of seating areas and flexible spaces.

The high school primary outdoor play and learning space is to the west of the site, incorporating free play and structured (hard courts) spaces, informal and covered outdoor learning spaces, discovery gardens and opportunities for ecological restoration and agriculture and permaculture.

3.9. PUBLIC ART STRATEGY

Urbis Landscaping and UAP have developed a public art strategy that will integrate art with the architecture and the landscaping. It forms an appendix to the Landscape Design Statement at **Appendix E**. The central focus of this Public Art Strategy is to identify opportunities for the inclusion of innovative, site-specific and contemporary public art, in the form of permanent art opportunities, programmable infrastructure and potential collaborators for temporary art-based activities.

3.10. SITE ACCESS AND PARKING

3.10.1. Pedestrian Access

Access to the site will be provided from separate Primary and Secondary arrival points via Rhodes Street to the east of the site.

The primary school will be accessed via an arrival point that runs along the edge of the community hall and is located near the north-eastern corner of the site via Rhodes Street.

The high school entry off Rhodes Street directs students to a separate entrance adjacent to the Primary School through to the central civic stairs and assembly area.

Students will be able to access the site from Meadowbank Railway Station through TAFE NSW via an existing pedestrian connection that has the potential for improvements delivered by TAFE NSW (under a separate approval process). Refer to **Figure 17** for a diagram detailing the proposed access into the site and **Figure 11** for circulation.

3.10.2. Vehicular Access and Car Parking

The proposal includes:

- Vehicular access via Rhodes Street to a dedicated loading area and onsite car park on the Lower Ground Level. Access in this location will accommodate service and emergency vehicles.
- Car parking for 60 vehicles in the car park at the Loading/Parking level.
- Dedicated staff bicycle parking area and End of Trip facilities are located at Loading/Parking level.
- One secure bicycle store for the Primary School is located at the Playground level.
- Two secure bicycle stores for High School students are located at the LG level.
- Primary School Drop Off and Pick Up zone along the Rhodes Street frontage.
- High School Bus Drop off on Macpherson Street.

Figure 17 – Proposed Access

Primary School | High School | Vehicle/Bicycle & Loading

Source: Urbis

3.10.3. Drop Off Strategy

The proposal includes two separate bus drop off zones:

- Rhodes Street (20m) located along the southern side of Rhodes Street, for Primary School.
- Macpherson Street (60m) located along the southern side of Macpherson Street for High School.

It is proposed for buses to follow a dedicated one-way route that is via Bowden Street off of Victoria Road, and follows Macpherson Street, Rhodes Street and Hermitage Street before exiting back onto Victoria Road.

3.11. SCHOOL OPERATIONS

The proposal is an integrated design concept for two co-located schools. The schools will operate independently, but in a coordinated manner. Operation details of the new schools are:

- Students: 1,000 primary school students, 1,500 secondary school students and 120 place Intensive English Centre.
- Approximately 200 staff.
- The schools are generally proposed to operate between the hours of 9am to 3pm, Monday to Friday. It is likely that there will be staggered start times for each school (For example, Primary – 9am to 3pm and Secondary 8.55am to 3.15pm).
- Out of School Hours (OOSH) care services for the primary school will operate from 7am to 9am and 3pm to 6pm.
- Staggered lunch break for use of recreation and open space areas.
- Scheduled use of specialist facilities.
- Two different timetabling approaches to ensure the schools can accommodate changes in the learning needs and provide flexibility for teaching.
- Encouraging contemporary teaching methods to make best of use of flexible and contemporary learning.

These elements will be refined and tested as the project progresses.

3.11.1. Community Use

The proposal has the potential to allow shared use of facilities with the community during hours outside of operating school hours.

Communal Hall

The Communal Hall located along the Rhodes Street frontage, may be available for hire by local sporting groups, the Australian Electoral Commission and local community groups. It is anticipated that the hall would be booked two nights a week and at least one weekend each month. Hours of operation will be from 7am to 10pm. Activities will cease a 9pm, allowing an hour for pack up and clean up by 10pm.

Gymnasium

The Gymnasium located at Ground Level as part of the High School can be used for afterhours basketball competitions and the like. It is anticipated that these types of competitions could run for 30 weeks per year but not during exam periods and will be used an average of two nights per week. Hours of operation will be from 7am to 10pm. Activities will cease at 9pm, allowing an hour for pack up and clean up by 10pm.

OOSH

OOSH will be leased to an outside provider and accommodate approximately 200 places. Students would be able to use the hall, library and ground floor classrooms during the morning period (6am to 8.30am) and the evening period (3.30pm to 6pm). OOSH would also be able to offer holiday care during the 12 weeks of holiday between the hours of 9am to 3pm, Monday to Friday.

3.12. WASTE

A Waste Management Plan has been prepared by the Foresight Environmental and is included at **Appendix V.** The report includes provisions for ongoing waste management onsite.

3.12.1. Ongoing Operation Waste

Based on the information provided and benchmark data from similar developments, the primary waste streams expected to be generated in the ongoing operation of the development would be:

- Cardboard/paper recycling.
- Co-mingling recycling.

- Food organics recycling.
- General waste.

Additional smaller (ad-hoc) waste streams may include:

- Bulky wastes (scrap timber, metal etc)
- Special/hazardous wastes (solvents, paints, chemicals etc)
- Fluoro tube/globe recycling
- Battery recycling
- Confidential documents
- Vegetation/green waste from maintenance

The operational waste management plan estimates that approximately 26,552Litres per week of total waste will be generated by the proposal. The table below demonstrates that the proposal has more than sufficient capacity to store the volume of waste generated. **Table 4** details the recommended bin types and quantity of bins needed for the proposal:

Table 4 – Waste Storage

Stream	Bin Type	No. of Bins	Weekly Clearance Frequency	Capacity (weekly)	Estimated Volume / Week
Paper/Cardboard	MGB – 1100L	4	3	13,200	9,870
	MGB – 240L	10	3	7,200	
Mixed Recycling	MGB – 1100 L	2	3	6,600	2,560
Food Waste	MGB – 120L	20	3	7,200	3,863
General Waste	MGB – 1100L	5	3	16,600	10,256

The recycling and waste storages areas provide sufficient capacity for the bins proposed, which include:

- General Waste Storage – 8.43m²
- Food and Garden Organise – 5.43m²
- Mixed Recycling Storage – 3.37m²
- Paper/Cardboard Storage – 11m²
- Bins will be stored throughout the schools for use at the point of generation. They will be brought to the waste storage/ collection areas as required for collection.
- Waste from both schools will be consolidated and stored in a dedicated waste storage area (40m^2) in the lower ground carpark/service level.

3.12.2. Remediation and Construction Waste

A Remediation/Construction Waste Management Plan has been prepared by Foresight Environmental and is attached a**t Appendix CC**. The plan determines the storage, use and handing of construction and remediation materials onsite. The plan estimates that there is approximately 5,811 cubic metres of contaminated soil which will require excavation and offsite disposal, and 1,306 cubic metres of construction waste generated by the proposal. Any waste generated at demolition/excavation state will be reused and recycled where possible, with landfill disposal only being used when absolutely required. Any waste taken off site will be disposed of in any of the three EPA approved facilities identified in the plan.

3.13. SITE SERVICES

A consolidated Infrastructure Management Plan has been prepared by WSP and Warren Smith & Partners and is included at **Appendix R.**

3.14. STORMWATER AND DRAINAGE

A Civil Engineering package has been prepared by Enstruct, which includes the following:

- Concept Sediment and Erosion Control Plan and details;
- Site works and Stormwater Management Plan and details; and
- Catchment Plan.

It is expected that the site will not require on-site stormwater detention for the proposed development areas due to the proximity of the open watercourse which the catchment discharges to.

3.15. CONSTRUCTION MANAGEMENT

The proposal will be constructed in one stage, but maybe progressively commissioned and opened. Demolition of the existing buildings has been carried out under a separate approval. The site will be fenced, and appropriate hoardings installed to site boundaries and sediment control measures installed under a separate consent. Exclusion zones around trees identified to remain will be fenced in accordance with an experienced Arborist's advice. Temporary service supplies for power, water, sewage and communications utilities will be made. Truck access in and out of the site will be made safe with the use of full-time traffic controllers and wheel washing and dust mitigation measures will be in place.

The Preliminary Construction Management Plan ensures that the Works contractors have:

- Sufficient control devices (e.g. security gates and site access procedures) are utilised to warn and guide site staff, construction works, visitors and the general public safely around the park and the site while restricting unauthorised access to construction areas or any unsafe areas.
- Provided adequate warning/notification of changes in conditions and of personnel and/or plant engaged in works or adjacent public areas.
- Provided and installed signs and devices prior to work commencing at a work site.

Refer to **Appendix Y** for further details relating to the Preliminary Construction Management Plan (CMP).

4. STATUTORY POLICY CONTEXT

4.1. OVERVIEW

In accordance with the SEARs, the following statutory planning policies have been considered in the assessment of the proposal:

- Biodiversity Conservation Act 2016;
- State Environmental Planning Policy (State & Regional Development) 2011;
- State Environmental Planning Policy (Infrastructure) 2007;
- State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017;
- State Environmental Planning Policy 55 – Remediation of Land;
- Draft State Environmental Planning Policy (Remediation of Land);
- Draft State Environmental Planning Policy (Environment);
- Ryde Local Environmental Plan 2014; and
- Ryde Development Control Plan 2014.

4.2. BIODIVERSITY CONSERVATION ACT 2016

The *Biodiversity Conservation Act 2016* (BC Act) is the legal framework for land management and biodiversity conservation in New South Wales. Division 2 of the Act identifies that any state significant development or infrastructure must be accompanied by a biodiversity development assessment.

This is a requirement for any application seeking development consent under Part 4 of the *Environmental Planning and Assessment Act 1979.* Accordingly, a biodiversity development assessment has been prepared by an accredited person as per the BC Act and has been lodged with the EIS at **Appendix T.**

Under the BC Act the assessment must assess whether the development involves any impacts to any threatened species or ecological communities as per Schedules 1 and 2 of the Act.

4.2.1. Biodiversity

The Biodiversity Development Assessment Report prepared by Ecological Australia (**Appendix T**) has identified that the proposed development impacts two Threatened Ecological Communities (TEC) under the NSW BC Act:

- Blue Gum High Forest in the Sydney Basin Bioregion (BGHF) listed as a Critically Endangered Ecological Community (CEEC); and
- Sydney Turpentine-Ironbark Forest (STIF) listed as an Endangered Ecological Community (EEC).

The BDAR notes that both plant community types (PCTs) can also be listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) as CEECs. However, the assessment of the vegetation did not meet the minimum condition thresholds of the listing criteria under the EPBC Act.

The BDAR indicates that a small amount of vegetation within site will be directly impacted and results in the clearing of 0.56ha of Blue Gum and 0.03ha of Turpentine – Ironbark. The proposal will also directly impact 0.02ha of Turpentine – Ironbark, due to trimming of the outer branches along the eastern edge of this patch. No candidate species, credit species or likely habitat was recorded within the site.

Based on the calculation utilising the Biodiversity Assessment Method Credit Calculator (BAMC), 9 ecosystem credits are required to offset 0.59ha of unavoidable impacts to PCTs on the site. The BDAR concludes that there are a number of ways to offset the required ecosystem credits, but recommends that the applicant make a payment to the Biodiversity Conservation Trust due to the project's small scale and lack of suitable offset land owned by the proponent.

In addition, the BDAR considered the Serious and Irreversible Impacts (SAII) in the assessment, concluding that:

> *"BGHF and STIF are both listed as a SAII in the BioNet Atlas. The SAII threshold for these communities are yet to be published by OEH. As such, detailed consideration of whether impacts on candidate SAIIs are serious and irreversible is provided in the BDAR. Given the small area of low condition BGHF to be impacted and area of STIF to be partially cleared through trimming of outer branches, it is considered unlikely that the development would result in a SAII."*

The proposal has addressed the relevant considerations in the BC Act.

4.3. STATE ENVIRONMENTAL PLANNING POLICY (STATE AND REGIONAL DEVELOPMENT) 2011

State Environmental Planning Policy (State and Regional Development) 2011 (SEPP SRD) identifies development types that are of state significance, or infrastructure types that are of state or critical significance. Under SEPP SRD all new schools are considered state significant development (SSD). Accordingly, an SSD application has been lodged.

4.4. STATE ENVIRONMENTAL PLANNING POLICY (INFRASTRUCTURE) 2007

State Environmental Planning Policy (Infrastructure) 2007 (ISEPP) provides the legislative planning framework for infrastructure and the provision of services across NSW. The relevant provisions of the ISEPP are discussed below:

Development in or Adjacent to Rail Corridors

Division 15, Subdivision 2 relates to development within or adjacent to rail corridors. The site is located next to a rail corridor and will be referred to the Transport for NSW (Sydney Trains). No excavation is proposed near the rail corridor.

4.5. STATE ENVIRONMENTAL PLANNING POLICY (EDUCATIONAL ESTABLISHMENTS AND CHILD CARE FACILITIES) 2017

State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017 (Education SEPP) aims to (amongst other things) streamline the planning system for education and childcare facilities including changes to exempt and complying development. Of relevance to this proposal are Clause 35(5), Clause 42, Clause 57 and Schedule 4.

4.5.1. Clause 57 – Traffic Generating Development

Clause 57 stipulates that development for the purposes of an 'educational establishment' that will accommodate 50 of more students and will involve the development of a new premises on a site that has direct vehicular and pedestrian access to a road will be referred to the RMS. The RMS were consulted during the SEARs stage and in the preparation of this EIS. The Transport and Accessibility Impact Statement prepared by GTA Consultants, submitted at **Appendix G**, addresses the matters raised by the RMS in the SEARs. A referral to the RMS will be made during the assessment of the SSDA.

4.5.2. Schedule 4 - Design Quality Principles

Schedule 4 of the draft Education SEPP outlines the design quality principles that are proposed for consideration of applications for school developments. The proposal responds to these design quality principles as follows:

- Principle 1 – Context, built form and landscape
- Principle 2 – Sustainable, efficient and durable
- Principle 3 – Accessible and inclusive
- Principle 4 – Health and safety

- Principle 5 – Amenity
- Principle 6 – Whole of life, flexible and adaptive
- Principle 7 – Aesthetic

These principles have been addressed in the Architectural Design Statement submitted at **Appendix D.**

4.6. STATE ENVIRONMENTAL PLANNING POLICY NO. 55 – REMEDIATION OF LAND

State Environmental Planning Policy No.55 – Remediation of Land (SEPP 55) provides a state-wide planning approach for the remediation of land and aims to promote in the remediation of contaminated land to reduce the risk of harm to human health or the environment. Clause 7(1) requires the consent authority to consider whether land is contaminated prior to consent of a development application, and if the land is contaminated consider whether the site is suitable for its intended purpose either in a contaminated state or whether it needs to be remediated.

A Detailed Site Investigation (DSI) has been undertaken by Alliance Geotechnical and is attached at **Appendix O**. The DSI identified contaminants of potential concern in the soils tested on the site which require further consideration. These comprise:

- The concentration of lead in the soils;
- The concentration of benzo(a)pyrene (TEQ) in the soils; and
- Asbestos detected in the soil.

Overall, the DSI concluded that the soils tested were considered unlikely to present a risk to human health, with the exception of the identified concentrations of lead and benzo(a)pyrene. The DSI included a recommendation that a supplementary contamination assessment be undertaken by a suitably experienced environmental consultant to further characterise the nature and extent of the identified contaminants and provide a quantitative assessment of the risks.

To further assess the extent and mitigate against each of the identified contaminants and allow the site to be made suitable for the proposal, Alliance Geotechnical recommended that a Remediation Action Plan (RAP) be developed for the proposal.

As recommended a Supplementary Contamination Assessment was undertaken by Alliance Geotechnical and attached at **Appendix AA**. The methodology of the assessment involved a desktop review, site walkover, intrusive site investigation and laboratory analysis. Based on this methodology Alliance Geotechnical concluded that:

- The identified contaminants of potential concern in the soils tested are considered unlikely to cause an unacceptable health risk.
- Fibrous asbestos and asbestos fines, discovered in the soil may present an unacceptable human health exposure risk
- The extent of the identified lead contamination and benzo(a)pyrene contamination was clearly defined.
- The extent of the identified asbestos contamination was not adequately defined.

This resulted in Alliance Geotechnical recommending that a further supplementary contamination assessment be undertaken to better understand and determine the actual extent and nature of the asbestos contamination on site. Based off this recommendation a Supplementary Asbestos Assessment was undertaken and is attached at **Appendix BB**. As a result of this further assessment it was determined that Asbestos Containing Materials (ACM) was detected in specific analysed fragments from across the site and observed within widespread surface soil areas across the site. This meant that Alliance Geotechnical had to redefine the extent of the contaminated areas on site.

The Supplementary Asbestos Assessment recommended that a final site RAP be updated to include the overall identified contamination risks onsite and outline the appropriate remedial measures to adequately remove the contamination pathway and associated human health exposure risks.

A Remedial Action Plan (RAP) has been prepared as part of this SSDA and is attached at **Appendix Q.** The RAP concluded that:

> *Based on the information presented in the historical contamination assessment reports, AG makes the following conclusions:*
>
> *• Implementation of the strategies, methodologies and measures set out in this remedial action plan would facilitate management and/or remediation of potentially unacceptable land contamination risks in current proposed development areas onsite;*
>
> *• Should newly identified unacceptable land contamination risks be identified during supplementary assessment works, an addendum to this RAP may be required. The addendum should be prepared by a suitably experienced environmental consultant;*
>
> *• Prior to any removal of soils from site for offsite disposal during remedial works, a waste classification for those soils should be prepared by a suitably experienced environmental consultant;*
>
> *• Future remedial works should be monitored and validated by a suitably experienced environmental consultant; and*
>
> *• A long-term EMP that documents all areas where residual contamination is still present on the site and all capping and isolation measures will be required.*

The RAP confirms that the site can therefore be remediated and made suitable for the development.

4.7. DRAFT STATE ENVIRONMENTAL PLANNING POLICY (REMEDIATION OF LAND)

The *Draft State Environmental Planning Policy (Remediation of Land)* is the proposed new land remediation SEPP set to replace SEPP 55. Public exhibition of the 'explanation of intended effect' for the Draft Remediation SEPP and draft planning guidelines was recently completed in April 2018.

The Draft Remediation SEPP will retain the objectives of SEPP 55 and reinforce the successful aspects of the framework. In terms of relevant changes applicable to development applications, clause 7 of SEPP 55 is proposed to be incorporated into the Draft Remediation SEPP. In addition, the list of potentially contaminating activities and the purpose of a 'preliminary site investigation' (PSI) and 'detailed site investigation' (DSI) will be integrated into clause 7 of the Draft Remediation SEPP.

As requested in the SEARs a detailed contamination assessment and RAP have been submitted as part of this application, refer to **Appendix P** and **Appendix Q**.

4.8. DRAFT STATE ENVIRONMENTAL PLANNING POLICY (ENVIRONMENT)

The *Draft State Environmental Planning Policy (Environment)* (Draft Environment SEPP) is the new SEPP seeking to consolidate, repeal and replace the following seven existing SEPPs:

- *State Environmental Planning Policy No. 19 – Bushland in Urban Areas*
- *State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011*
- *State Environmental Planning Policy No. 50 – Canal Estate Development*
- *Greater Metropolitan Regional Environmental Plan No. 2 – Georges River Catchment*
- *Sydney Regional Environmental Plan No. 20 – Hawkesbury-Nepean River (No.2-1997)*
- *Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005*
- *Willandra Lakes Regional Environmental Plan No. 1 – World Heritage Property.*

Public exhibition of the Draft Environment SEPP was completed in January 2018. The Draft Environment SEPP will deliver a policy instrument that contains a single set of planning provisions for catchments, waterways, bushland and protected areas.

The site is currently not subject to any of the abovementioned SEPPs, nor is it identified as being attributed to any catchments, waterways, bushland or protected areas.

4.9. RYDE LOCAL ENVIRONMENTAL PLAN 2014

The *Ryde Local Environmental Plan 2014* (RLEP 2014) is the principal environmental planning instrument governing development at the site. An assessment against the relevant controls of RLEP 2014 has been undertaken in the subsections below.

4.9.1. Zoning and Permissibility

The site is zoned SP2 – Infrastructure, 'educational establishments' are permitted with consent in this zone. As per *RLEP 2014*, an educational establishment is defined as:

> *"a building or place used for education (including teaching), being:*
>
> *(a) **a school**, or*
>
> *(b) a tertiary institution, including a university or a TAFE establishment, that provides formal education and is constituted by or under an Act."*

The proposed co-located schools are therefore permitted with consent.

4.9.2. Zone Objectives

The relevant objectives of the SP2 – Infrastructure zone are:

- *To provide for infrastructure and related uses.*
- *To prevent development that is not compatible with or that may detract from the provision of infrastructure.*
- *To ensure the orderly development of land so as to minimise any adverse effect of development on other land uses.*

The proposal is consistent with these objectives as:

- It satisfies the educational needs of students in the area, and provides employment that can maximise public transport patronage and encourage walking and cycling; and
- It provides a much-needed service that supports the ongoing viability of the area.

4.9.3. Other LEP Provisions

Other relevant provisions contained to the *RLEP 2014* are addressed in **Table 5** below.

Table 5 – RLEP 2014 Compliance Table

Consideration	Control	Proposal	Compliance
Clause 4.3 – Building Height	N/A	The site is not subject to a maximum building height control under RLEP 2014.	N/A
Clause 4.4 - Floor Space Ratio (FSR)	N/A	The site is not subject to a maximum FSR Standard for the site under RLEP 2014.	N/A
Clause 5.10 – Heritage Conservation	The site not identified as a heritage item or within a heritage conservation area. The site adjoins a state significant heritage item *155 - Ryde Pumping Station and	A Heritage Impact Statement and Aboriginal Cultural Heritage Assessment (ACHA) Report prepared by Urbis Heritage are attached at **Appendix J** and **Appendix L** respectively. Aboriginal Heritage and European Built Heritage matters are discussed in more	YES

Consideration	Control	Proposal	Compliance
	Site (948 Victoria Road) to the north.	detail at **Section 6.5** and **Section 6.6**, however the proposal is not expected to unreasonably impact on the heritage significance of the site.	
Clause 6.1 – Acid Sulfate Soils	The site is identified as being Class 5. Development must not disturb, expose or drain acid sulfate soils. Development consent is therefore required for works within 500m of adjacent Class 1, 2, 3 or 4 land that is below 5m AHD and by which the water table is likely to be lowered below 1m AHD on adjacent Class 1, 2, 3, or 4 land.	The proposal is located within Class 5 Acid Sulfate Soils and is more than 500m from the Class 2 soils identified on the western side of the railway line.	YES
Clause 6.2 - Earthworks	Earthworks must not have a detrimental impact on environmental functions and processes, neighbouring uses, cultural or heritage items or features of the surrounding land.	This SSD does seek development consent for earthworks. The proposed earthworks will be generally limited to the footprint of the proposed school building. The earthworks are not anticipated to have an adverse environmental impact. A Sediment and Erosion Control Plan has been prepared by Enstruct within the Civil Design Package and is submitted at **Appendix S.**	YES
Clause 6.3 – Flood Planning	The proposal must be designed to minimise flood risk.	The site is located within a flood hazard area. A Civil Report has been prepared by Enstruct and submitted at **Appendix S** which assesses the flooding impacts of the site. The report determines that the site will be partially inundated by overland flows from the 100 year and PMF storm events. Refer to **Section 6.9** for further discussion.	YES
Clause 6.4 – Stormwater Management	The proposal must be designed to minimise the impacts of urban stormwater to the site, adjoining properties and surrounding native bushland and receiving waters.	Stormwater management matters are addressed at **Section 6.9** and within the Civil SSDA Report at **Appendix S. The** proposed stormwater from the development will be discharged into the existing Council infrastructure and will be appropriately mitigated by restricting surface water flows, minimising discharge	YES

Consideration	Control	Proposal	Compliance
		into adjacent subcatchments and maintaining the time of concentration of each subcatchment.	

4.10. RYDE DEVELOPMENT CONTROL PLAN 2014

Ryde Development Control Plan 2014 (RDCP) provides detailed controls for specific developments types and locations. Most controls in the RDCP relate to character, streetscape and public domain works. However, under Clause 11 of *State Environmental Planning Policy (State and Regional Development) 2011*, the application of Development Control Plans is excluded when assessing SSD projects.

Notwithstanding this, the proposal has been assessed against the key relevant controls of the RDCP in the table below.

Table 6 – RDCP Compliance Table

Consideration	Control	Proposal	Compliance
Part 7: Environment			
7.1 Energy Smart, Water Wise	• Ceiling/roof must be fitted with insulation rated 3.0 or equivalent. • Wall insulation must have an R1.5 or equivalent. • Any hot water systems installed must consider the most efficient option to minimise greenhouse gas emissions. • Any products installed as part of the development that are regulated for energy efficiency under the Australian Standards for Products and/or MEPS must achieve a minimum energy rating of 4.5 stars. • Any products installed as part of the development that regulated under WELS Scheme must obtain a minimum WELS rating of 4.5 stars. • When possible, orient the building reduce the need for artificial lighting by maximising daylight in habitable areas. Ways to achieve this include skylights, atriums and adjustable shading.	• Refer to the ESD Report at **Appendix I** and **Section 6.2** for further details.	Y

Consideration	Control	Proposal	Compliance
7.2 Waste Minimisation and Management	• Developments must provide space on-site for the sorting and storage of waste in containers suitable for collection • All commercial premises must have a dedicated waste and recycling storage room or area.	• Refer to the Waste Management Plan at **Appendix V** and **Section 3.12** for further details. • The schools will have a consolidated waste storage room located in the Lower Ground Car Parking area adjacent to the loading dock.	Y
Part 8: Engineering			
8.1 Construction Activities	• Erosion and sediment control plans must be submitted when undertaking development on a property that involves disturbance or placement of soil on the land. • Trees that are to remain on site must be protected during construction.	• Refer to **Appendix S** for the Civil Works Package, that contains the Erosion and Sediment Control Plan. • Trees that are to remain on site are to be protected in accordance with the instructions found in the Arboricultural Impact Assessment Report at **Appendix F**.	Y
8.2 Stormwater & Floodplain Management	• Stormwater Drainage • Water Sensitive Urban Design (WSUD) • Flooding and overland flow	• Refer to the Civil Works Package contained at **Appendix S** and **Section 6.9** for further details.	Y
Part 9: Other Provisions			
9.2 Access for People with Disabilities	• Class of Building – Class 9b includes a primary or secondary school. • In parking areas with more than 10 spaces, 3% of spaces are wide bay. – 10 to 33 spaces - 1 space – 34 to 66 spaces - 2 spaces – 67 to 100 spaces - 3 spaces – 101 to 133 spaces - 4 spaces, etc	• Refer to the Accessibility Report at **Appendix M**. • Refer to **Section 6.5** that provides details about accessible carparking.	Y Y

Consideration	Control	Proposal	Compliance
9.3 Parking Controls	135 spaces required	60 spaces proposed. The proposal seeks to minimise driving to the site and has minimised parking based on proximity to transport and on street availability. A whole of government approach to the Meadowbank Education and Employment Precinct is being taken to ensure strategies and measures are implemented to materially reduce car usage and promote active travel.	No – Refer to **Section 6.5** for further details and justification.

4.11. SECTION 94 CONTRIBUTIONS

The site is covered by Council's 'City of Ryde Section 94 Development Contributions Plan 2007'. The purpose of the Plan is to raise funds from private, commercially driven developments to be put towards the cost of public facilities and infrastructure which are burdened by those developments. Imposing a levy on the Applicant's own public infrastructure would conflict with the public policy of the Plan, particularly as the proposed development will provide a new piece of infrastructure which will relieve pressure on existing public facilities.

Whilst Council's Plan does not expressly exclude Crown Developments or educational establishments from the payment of section 94A contributions, an exemption is considered appropriate in this instance. The Applicant is a government agency which relies on government funding to provide new facilities for both the school community, and the public. The levying of a development contribution would divert a portion of these public funds, which have been specifically provided to fund a new school, to local services without any direct nexus to the impact on those services.

The nature of the development is to support the future development of two new co-located schools, meaning that the development will not generate any demand for new infrastructure.

The future co-located schools will largely provide the type of infrastructure which Council typically seeks to levy for, for use by staff, students and the public. The future development of the site will also facilitate the Plan by enhancing social infrastructure assets and providing an accessible, multi-purpose space for use by the broader community.

4.11.1. Crown applications – Department of Planning Circular D6

The Applicant's position is supported by the provisions of Circular D6, which states:

> *"Crown Activities providing a public service or facility lead to significant benefits for the public, in terms of essential community services and employment opportunities. Therefore, it is important that these essential community services are not delayed by unnecessary disputes over conditions of consent. These activities are not likely to require the provision of public services and amenities in the same way as developments undertaken with a commercial objective."*

It is noted that Council does not automatically grant exemptions to Crown Developments. However, the Department of Planning's Circular D6 sets out the reasons why Crown developers can seek exemptions from section 94 payments.

Circular D6 notes that where the applicant is a Crown authority and the development is for Educational Services, no contributions should be collected for open space, community facilities, parking, and general local and main road upgrades.

The exemption from payment of contributions relating to community facilities, public domain and new open space is considered appropriate, as the future school will provide significant areas of accessible open space, as well as a range of community facilities. These future facilities include:

- Construction of a new multi-purpose school hall/gym, which will be available for community use outside of school hours, on the weekend and during school holidays;
- Gymnasium (Basketball, Netball, Tennis, Volleyball);
- Changeroom and Showers;
- Movement Studio; and
- Provision of a new school library for student use, which will relieve pressure on existing local libraries.

The availability of these amenities and services on the site, which will be maintained by the Applicant, will reduce the demand on public amenities outside the school campus.

Considering the significant public benefits which the future schools will generate with respect to local and regional infrastructure, no development contributions should be levied against the proposed development. Imposing a contribution would not align to the Objects of the Act in particular:

> *(a) to promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources.*

By imposing contributions, this effectively removes the ability of the project to deliver the full project and would have to remove aspects of the development to compensate for the financial burden imposed.

Further for the matter discussed above, the imposition of development contributions in this instance is not considered to provide for the orderly and economic use and development of the land.

4.11.2. Crown applications – EP&A Act

Any Crown Development Application is subject to the provision of Part 4, Division 4 of the EP&A Act. This legislation has been developed over time in recognition of the role Crown Development plays in providing essential community services. Crown Developments such as a school provide facilities that are a significant benefit for the public in terms of essential community services and employment opportunities. These activities are not likely to require public services and amenities in the same way as development undertaken with a commercial objective.

5. STRATEGIC PLANNING CONTEXT

5.1. OVERVIEW

In accordance with SEAR's, the following strategic planning policies have been considered in the assessment of the proposal:

- NSW State Priorities;
- The Greater Sydney Regional Plan, A Metropolis of Three Cities;
- Future Transport Strategy 2056;
- State Infrastructure Strategy 2018;
- Sydney's Cycling Future 2013;
- Sydney's Walking Future 2013;
- Sydney's Bus Future 2013;
- Crime Prevention Through Environmental Design (CPTED) Principles;
- Healthy Urban Development Checklist, NSW Health;
- Better Placed – an integrated design policy for the build environment of NSW;
- Greater Sydney Commission's North District Plan; and
- Meadowbank Education and Employment Precinct Masterplan.

5.2. NSW STATE PRIORITIES

NSW State Priorities is the State Government's plan to guide policy and decision making across the State. The proposed development at the site is consistent with key objectives contained within the plan, including:

- **Creating Jobs:** *Create 150,000 new jobs by 2019*

  The proposal will create temporary job opportunities in manufacturing, construction and construction management during the project's construction phase of works, and significant job opportunities in teaching and administration at the project's completion.

- **Building Infrastructure:** *Infrastructure projects to be delivered on time and on budget across the state*

  The proposal provides a significant development opportunity for the State that will create jobs, stimulate the economy and deliver a vital service for the community. Significant population growth within metropolitan Sydney beyond the NSW state average has placed substantial pressure on surrounding schools within the area. The proposed development will provide a high-quality facility to the community and take enrolment pressure off existing high schools.

- **Improving Road Travel Reliability:** *Ensure 90% of peak travel on key road routes is on time*

  The proposal is located near West Ryde and Meadowbank Railway Stations, and numerous bus routes. Future parents, students and employees of the Schools will likely access the site via active or public transport. This will enable a reduced reliance on cars and a lower demand on surrounding roads for those who need to use them.

- **Improving Education Results:** *Increase the proportion of NSW students in the top two NAPLAN bands by eight per cent*

  The proposed schools will contain specialised facilities, spaces and equipment for use by students and staff. It will implement future focused learning pedagogy to improve educational results.

Overall, it is considered that the proposed development is consistent with the goals and objectives set out within the *NSW State Priorities*.

5.3. THE GREATER SYDNEY REGIONAL PLAN: A METROPOLIS OF THREE CITIES

A Metropolis of Three Cities includes guides the long-term strategic growth of Sydney and will transform it into a metropolis of three cities: Western Parkland City, Central River City and Eastern Harbour City. The plan envisions most of the population living within 30 minutes of jobs, education, health facilities, services and great places.

Forecast population growth will continue to place substantial pressure on existing government schools within the Ryde LGA. Accordingly, one of the key planning objectives, Objective 6 is to provide services and infrastructure that meet the communities' changing needs. The plan identifies schools as essential local infrastructure with the NSW Department of Education estimating an additional 270,000 students will need to be accommodated in Greater Sydney by 2036.

The proposal will contribute to achieving the goals of the Plan as follows:

- *Objective 3 – Infrastructure adapts to meet needs*

  The proposal considers the adaptability of infrastructure and its potential shared use by delivering a brand-new multipurpose co-located school facility that respond to demands of the changing population. This will contribute to the Meadowbank Education Precinct. The proposal also utilises the existing transport and infrastructure networks that currently service the community at Meadowbank and West Ryde.

- *Objective 6 – Services and infrastructure meet communities' changing needs*

  Joint and shared facilities are encouraged to make school assets available to the community outside school hours and give school access to community facilities. The proposal co-locates educational related uses with recreation and community facilities which provides opportunities for people to meet and develop community ties. The proposal considers the future needs of the community by acknowledging the importance of open space, cultural facilities and a quality public realm as the area densifies.

- *Objective 7 – Communities are healthy, resilient and socially connected*

  The plan aims to deliver healthy, safe and inclusive places that support active and socially connected communities. The proposal provides a variety of community-based facilities within a low-density residential environment. The schools are within the vicinity of the Meadowbank local centre and the West Ryde Retail Centre. The mixed-use nature of the area provides opportunities for people to walk and cycle to schools, local shops and community services.

5.4. FUTURE TRANSPORT STRATEGY

NSW Long Term Transport Masterplan (2013) seeks to promote the use of public transport as an effective travel option. The site benefits from being near two train stations.

Future parents, students and employees of the Schools will be able to use the train network in conjunction with the existing bus network and future light rail services to access the site. This will reduce reliance on cars, decrease road congestion and promote sustainable outcomes.

SINSW is working with TAFE NSW, Ryde Council, RMS and TfNSW to plan and deliver footpath and cycleway infrastructure and supporting programs to encourage active transport.

5.5. STATE INFRASTRUCTURE STRATEGY 2018 – 2038 BUILDING THE MOMENTUM

The State Infrastructure Strategy 2018 - 2038 is a 20-year strategy that provides insight into the current state of NSW's infrastructure. It also details the state's needs and priorities over the coming 20 years. The strategy is comprised of three main parts: strategic directions, geographic infrastructure directions and sectors.

The future co-located schools will contribute to meeting the higher than expected demand for public school students by 2036 as it addresses the following strategic objective:

Deliver infrastructure to keep pace with student numbers, and provide modern, digitally-enabled learning environments for all students

It aligns with SINSW's vision for delivering additional state of the art school infrastructure to support the growing population. It will provide new learning areas that will support flexibility, collaboration and technology in learning. It will also enable the opportunity for shared and joint use with the community outside of school hours, by better utilising school assets. Finally, the schools will be co-located with TAFE NSW to form an education precinct for students to transition from primary to secondary through to tertiary education.

5.6. SYDNEY'S CYCLING FUTURE 2013

Sydney's Cycling Future (2013) seeks to make bicycle riding a feasible transport option within Sydney by encouraging the use of Sydney's existing bicycle network.

The Applicant's website acknowledges that the decision to install and maintain bicycle racks is made by an individual school to reflect individual circumstances surrounding safety. Bicycle racks will be provided through the site at key locations and will be made available for future students and employees.

There are limited cyclist networks within the area, but the site can be accessed from a network of smaller, more accessible local streets. It is recommended that the applicant continues to work with City of Ryde Council and Transport for NSW to deliver improved cyclist access.

5.7. SYDNEY'S WALKING FUTURE 2013

Sydney's Walking Future (2013) aims to promote walking as a means of effective transport within Sydney by encouraging investment in safe, permeable walking networks.

Survey data of the existing staff and students entering the proposed schools indicates 60% of primary students walk. This is likely to increase as the location of the schools are close to residential neighbourhoods and well serviced by the existing public transport network.

5.8. SYDNEY'S BUS FUTURE 2013

Sydney's Bus Future 2013 seeks to redesign Sydney's bus network to meet current and future commuter needs. It aims to deliver fast and reliable bus services for customers by improving and creating new routes, simplifying timetables and increasing the convenience of bus interchanges.

5.9. CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN (CPTED) PRINCIPLES

Crime Prevention through Environmental Design (CPTED) is a crime prevention strategy that aims to reduce opportunities for crime by implementing design and place management principles within cities and neighbourhoods. The following principles have been integrated into the design of the schools to deter crime, manage space and create a safe environment for students, staff and visitors.

- Natural surveillance;
- Access Control; and
- Territorial reinforcement.

Refer to the CPTED Assessment at **Appendix Z** and **Section 6.3** for further details.

5.10. HEALTHY URBAN DEVELOPMENT CHECKLIST, NSW HEALTH

Prepared by NSW Health, the Healthy Urban Development Checklist seeks to ensure built environments are created within NSW that are sustainable and promote healthy habits. The proposal satisfies a range of items contained in the checklist, including:

- Encouraging incidental physical activity;
- Promoting opportunities for walking, cycling and other forms of active transport;

- Promoting access to usable and quality public open spaces and recreational facilities;
- Reducing car dependency and encourage active transport;
- Improving location of jobs to housing and services;
- Providing access to a range of facilities to attract and support a diverse population; and
- Respond to existing (as well as projected) community needs and current gaps in facilities and/or services.
- Specifically, the proposal will provide:
- Well-connected leisure, sporting and recreational pursuits on campus to benefit students, staff and the community.
- Healthy learning environments that benefit from access to natural light, ventilation and green open space.
- Break out and recreational spaces for students to play and socialise.
- Improved access to and through the school campus to support healthy transport options linking to surrounding pedestrian and cycle networks.

5.11. BETTER PLACED – AN INTEGRATED DESIGN POLICY FOR THE BUILT ENVIRONMENT OF NSW

Better Placed is an integrated design policy prepared by the Office of the Government Architect NSW (GANSW). It is an all-encompassing policy that outlines the GANSW's vision and expectations for the built environment, to establish good design for architecture, public places and environments.

The Policy has been written to inform and establish a framework for good design that can be utilised by government, architects and designers, built environment consultants, planners and the community. Better Placed supports the delivery of design excellence in NSW including the implementation of state design review panels (SDRP) and design excellence competitions. It also sets the 7 design objectives for NSW:

1. Better fit – contextual, local and of its place.
2. Better performance – sustainable, adaptable and durable.
3. Better for community – inclusive, connected and diverse.
4. Better for people – safe, comfortable and liveable.
5. Better working – functional, efficient and fit for purpose.
6. Better value – creating and adding value.
7. Better look and feel – engaging, inviting and attractive.

In response to Better Placed, the project's design team has actively engaged with the SDRP throughout the design process by having ongoing meetings with the panel to discuss the design development of the schools. In addition, a Design Verification Statement addressing the 7 Design Objectives has been prepared and attached at **Appendix D.**

5.12. GREATER SYDNEY COMMISSION'S NORTH DISTRICT PLAN

The new co-located schools project addresses Planning Priority N3 of the North District Plan:

Providing services and social infrastructure to meet people's changing needs

The proposal provides a key piece of new social infrastructure for the local community. The North District Plan estimates that the highest growth in the 0-24 year age bracket will be within Ryde. Delivery of the schools will help address this population projection and seek to create a vibrant neighbourhood that efficiently utilises the land. The District Plan identifies schools as 'social connectors', that are characterised by:

- Having access to trains or high-frequency bus routes.
- Cultural and economic diversity.

- High provision of social infrastructure.
- Providing access to education and learning.

The new schools adopt all these characteristics as it will provide a new design-integrated educational facility close to the existing railway stations, within a new Educational Precinct.

5.13. MEADOWBANK EDUCATION AND EMPLOYMENT PRECINCT MASTERPLAN

The GSC has recently conducted an Assurance Review on planning in the Ryde LGA, based off the request from the Premier and in accordance with the GSC's functions under the *Greater Sydney Commission Act 2015.*

An Assurance Review involves the consideration of issues such as housing and industrial lands, in addition to the provision of education, transport roads and open space. The purpose of the review is to provide advice and make recommendations to the Premier on matters relating to planning and development in the Greater Sydney Region.

As part of this process it has prepared and released a Stage 1 Report dated 25 February 2019 and a Stage 2 Report dated 31 May 2019. Collectively, the reports provided a set of recommended actions for the Ryde LGA, including a specific action relating to the Meadowbank Education Precinct:

The NSW Government to identify potential locations that would benefit from a co-ordinated, master planned approach to enhance employment and service outcomes that complement existing residential development in the Ryde LGA.

The NSW Government should deliver a Master Plan for the Meadowbank Education Precinct and surrounds, incorporating the Sydney Water Pumping Station and the West Ryde Industrial Area, within 12-months of the Government accepting this recommendation.

Since the release of the Stage 2 report the GSC has commenced preparation of the Masterplan for the precinct, referred to as the 'Meadowbank Education and Employment Precinct Masterplan' (GSC MEEP Masterplan). To date, preliminary work has been undertaken in consultation with both local and state authorities and key stakeholders. This has resulted in the confirmation of the study area, preparation of a vision statement, guiding principles and key moves. The masterplan is anticipated to focus on mode shift within the wider precinct, providing actions that will enable greater pedestrian access, cycle usage and access to public transport.

The masterplan will be further developed in consultation with the relevant stakeholders and local community and placed on public exhibition by the GSC shortly, building upon the work already undertaken by SINSW and TAFE NSW.

The GSC MEEP Masterplan is a separate non-statutory document that includes both the MEEPSP and TAFE NSW Projects. It is anticipated that the preparation of the Masterplan will address precinct wide issues and will not be contingent on the progression of the MEEPSP or TAFE NSW projects.

5.14. RYDE DRAFT LOCAL STRATEGIC PLANNING STATEMENT 2019

The City of Ryde Council recently exhibited its draft Local Strategic Planning Statement (LSPS) which sets out Council's 20 year vision, planning priorities and actions for the LGA. The draft LSPS identifies the Meadowbank Education Precinct under the following headings:

Table 7 – Ryde Draft LSPS

Planning Priority	Action
INFRASTRUCTURE	
IN3. Collaborate with relevant stakeholders to achieve appropriate	3. Provide relevant local data and context to the NSW Department of Education and TAFE NSW to assist with planning and

Planning Priority	Action
outcomes form existing renewal projects.	coordinating the provision of adequate and timely infrastructure in the Meadowbank Education Precinct
Vision for Desired Future Character	
Shepherds Bay, Meadowbank	Meadowbank will continue to evolve as a Transit Oriented Development (TOD) with higher density housing within a five-minute walk of the train station and ferry wharf, in a desirable riverfront location. Much of the centre has been recently developed, remaining sites will need to ensure that an appropriate mix of uses support the precinct. Infrastructure improvements will increase safety, manage traffic flow and improve access to open space and services. In particular, the Meadowbank Education and Employment Precinct will deliver new co-located schools and revitalised TAFE NSW facilities with supporting open space also accessible and connected to the residential precinct. Meadowbank will complement strategic employment centres at Macquarie Park, Rhodes, Olympic Park and Parramatta.

6. KEY ASSESSMENT ISSUES

The following issues as per the SEARs have been assessed, with impacts noted and mitigation measures proposed where necessary in this report:

- Environmental Amenity;
- Ecologically Sustainable Development;
- CPTED;
- Traffic and Accessibility;
- Aboriginal Heritage;
- European Built Heritage;
- Noise and Vibration;
- Stormwater and Flooding;
- Social and Economic Impacts;
- Site Suitability; and
- Public Interest.

6.1. ENVIRONMENTAL AMENITY

6.1.1. Visual Impact

The proposal has been assessed in term of the its visual impact from Rhodes Street (north and east), the TAFE NSW campus (south and south east) and from the railway line (west). The Architectural Design Statement prepared by Woods Bagot includes a visual analysis that compares the existing and proposed development:

- View 1 is from the corner of Rhodes and Macpherson Street looking west towards the development. The primary setback from the street frontage and the existing trees assist in providing a buffer between the street and the built form. The Primary School wing has been designed to address the pedestrian plaza. The built form is visible but is not dominant in the context of the surrounding landscape.
- View 2 is from along Rhodes Street looking south east towards the development. The existing street trees obscure the majority of the development. The building has been sited to sit on this high point in the topography in response to the flood prone area at the centre of the site. The visible walls at the end of the wings will be utilised as part of the Public Art Strategy facing the street frontage, to provide visual interest and a focal point from the streetscape.
- View 3 is from the corner of Rhodes Street and Hermitage Road looking south towards the development. The view shows that the building sits within its context, embedded in the landscape and screened behind the existing trees.
- View 4 is from the TAFE NSW Green, looking north towards the High School wing. The existing trees soften the interface between TAFE NSW and the proposed schools. The built form is visible but appears as a low-lying horizontal form that has been articulated to break up the mass of the new building, the new school building corresponds with the existing TAFE NSW building to the southeast.

The visual impact from the varying points surrounding the site is positive as it provides interest in the skyline and a built form that marks the location at the corner of the site. From the north, north west, west and south west, the built form is obscured by the existing trees network on the site and street frontages.

6.1.2. Privacy

There will be no privacy impacts from the proposal because:

- The new school buildings do not share an interface with any residential properties. The proposal interfaces with light industrial to the north and TAFE NSW to the south.
- The new building has been appropriately setback from Rhodes Street and has been designed to correspond with the existing topography.
- As detailed in the Landscape Design Statement by Urbis a fencing strategy is proposed to foster permeability throughout the site but also provide barriers to separate the schools and TAFE NSW.
- The schools will generally operate during standard school hours, when most nearby residents will be at work. This will assist in maintaining privacy in the morning, evenings and night time, when the majority of residents will be home.

Accordingly, the proposal is appropriate in terms of visual privacy.

6.1.3. Solar Access and Overshadowing

Shadow diagrams have been prepared for 9am, 12 noon and 3pm at the winter solstice. The diagrams demonstrate that the proposal will not have unreasonable shadow impacts on the adjacent TAFE NSW campus to the south and east.

- At 9am the proposal will cast shadow over the majority of the TAFE NSW Green. The proposal does not impact any existing TAFE NSW buildings. While the majority of the TAFE NSW Green will be impacted by overshadowing for most of the morning, it is not heavily trafficked or currently used for specific recreational activities.
- At 12 noon the proposal will cast shadow across approximately 50% of the TAFE NSW Green. The southern half of the oval will have access to sun. The proposal does not impact any existing TAFE NSW buildings.
- At 3pm the proposal will cast shadow across approximately 30% of the TAFE NSW Green. Most of the oval will have access to sun. TAFE NSW Building P will be impacted on its northern elevation and part of the western elevation. However, Building P will not be impacted in the morning and midday hours.

The proposal maintains sunlight to over 50% of the TAFE NSW Green for a minimum of 3 hours during winter. It does not impact any residential properties and will maintain sun to TAFE NSW buildings most of the day. The proposed building has been designed and sited to share a direct interface with the oval and provide visual connections for high school students to the TAFE NSW. The visual connection is important as some students will use TAFE NSW facilities during school (subject to future agreement) and will continue their tertiary education within the precinct.

6.1.4. Wind Impacts

A Wind Comfort and Safety Report has been prepared by Windtech and is submitted at **Appendix W.** The assessment provides a detailed investigation of the impact of the MEEPSP on the surrounding pedestrian level wind environments and outdoor areas. The proposal is higher than surrounding structures and will affect local wind conditions. In summary:

- A wind study was undertaken at Windtech's boundary layer wind tunnel facility utilising a 1:300 detailed scale model of the development. The model included the surrounding context via a proximity model that covered a radius of 375m from the schools.
- The results of the study indicate that the majority of pedestrian areas around the development will be suitable for their intended uses. However, there are certain areas that will experience strong winds and exceed the required levels of comfort and safety for pedestrians.
- Based on the results Windtech have recommend the implementation of in-principle treatments to mitigate the expected wind conditions:
  - Retain vegetation; and
  - Include additional vegetation, screens and awnings.

These recommendations have been considered and implemented into the final design of the new schools.

6.2. ECOLOGICALLY SUSTAINABLE DEVELOPMENT (ESD)

An ESD report has been prepared by Steensen Varming and is provided at **Appendix I** of the EIS. In summary:

6.2.1. Green Star

The proposal is targeting an equivalent 4 Star Green Star rating to be certified under an alternate scheme to be approved by the Department of Planning, Industry and Environment

6.2.2. ESD Principles

The proposal addresses the ESD principles as defined in clause 7(4) of Schedule 2 of the *Environmental Planning and Assessment Regulation 2000:*

> *(a) the **precautionary principle**, namely, that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation. In the application of the precautionary principle, public and private decisions should be guided by:*
>
> *(i) careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment, and*
>
> *(ii) an assessment of the risk-weighted consequences of various options,*
>
> *(b) **inter-generational equity**, namely, that the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations,*
>
> *(c) **conservation of biological diversity and ecological integrity**, namely, that conservation of biological diversity and ecological integrity should be a fundamental consideration,*
>
> *(d) **improved valuation, pricing and incentive mechanisms**, namely, that environmental factors should be included in the valuation of assets and services, such as:*
>
> *(i) polluter pays, that is, those who generate pollution and waste should bear the cost of containment, avoidance or abatement,*
>
> *(ii) the users of goods and services should pay prices based on the full life cycle of costs of providing goods and services, including the use of natural resources and assets and the ultimate disposal of any waste,*
>
> *(iii) environmental goals, having been established, should be pursued in the most cost-effective way, by establishing incentive structures, including market mechanisms, that enable those best placed to maximise benefits or minimise costs to develop their own solutions and responses to environmental problems.*

Through the inclusion of the above principles and the sustainability initiatives below, the project satisfies the cluse 7(4) of Schedule 2.

6.2.3. Sustainability Approach

The proposal will also incorporate several other sustainability initiatives, including:

- **The promotion of natural daylight**: There is a direct correlation between access to daylight and student performance, attention, productivity and general wellbeing.
- **Excellent indoor air quality**: Increased levels of outside air through the promotion of mixed mode or natural ventilation strategies, and increased outdoor air allowances; mould prevention through the avoidance of thermal bridges, condensation and effective strategies in ventilation, odour and pollution control; low pollutant emitting materials selections such as low VOC paints, adhesives, sealants, composite woods.

- **Excellent thermal, visual and acoustic comfort**: Achieving acceptable temperatures, quality of light for visual tasks such as reading and presenting and an environment for effective communication by eliminating noise from ventilation systems.
- **Resource conservation (energy, water and waste)**: In delivering on the functional demands of an educational building, minimise resource use through the optimisation of high levels of daylight, thermal comfort, visual comfort, and indoor air quality. These are to be supported with minimal consumption of energy and water resources, or the generation of waste and pollution in demolition, construction and operation of the building.
- **The creation of an integrated community resource**: The schools can play a role within the local community through the use of shared facilities (library's, auditoriums, sport facilities and open spaces), facilitating events, community gatherings, and integration of community gardens.
- **The development of the building and surrounds as a teaching tool**: Students develop greater knowledge retention, understanding and awareness, when they have the opportunity to interact directly with their environment through the mediums of touch, sight and feel, compared to the traditional textbook learning.

As described in the Landscape Design Statement at **Appendix E** the Water Sensitive Urban Design (WSUD) measures have been included in the landscape design, including:

- Stormwater runoff will be directed to the lawn areas and garden beds where possible.
- All soft landscape areas on structure will include subsurface drainage.
- Irrigation of low-level terrace gardens will be via water runoff from surfaces of all roof areas.

The proposal incorporates the principles of ESD and is a positive contribution to a sustainable urban environment.

6.3. CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN (CPTED)

The following assessment has been prepared in accordance with the Safer by Design evaluation process used by the NSW Police to identify and quantify crime risks. Consultation has also been undertaken directly with the NSW Police to identify these and mitigate against these risks. The evaluation measures statistical probability of crime, consequence, 'hotspots' analysis and situational opportunity.

The CPTED Assessment prepared by WSP and submitted at **Appendix Z** considers the design of the schools and makes a range of recommendations that are informed by best-practice CPTED principles for schools. A summary of these recommendations is provided below. The proposal will provide a high level of security and design elements will deter criminal behaviour. The proposal is therefore consistent with CPTED principles.

Table 8 – CPTED Principles

	Principle	Definition	Proposal
1	Natural Surveillance	Natural surveillance is a by-product of well-planned, well-designed and well-used space. It involves maximising opportunities for passers-by and users to observe what happens in an area (the 'safety in numbers' concept). Higher risk locations can also benefit from organised surveillance, which involves the introduction of formal measures such as on-site security guards or CCTV.	Natural surveillance within the site is generally well supported by large open plan areas, large paved areas, numerous sports fields, and use of either grass and low ground cover vegetation, and the presence of tall mature trees with high canopies. The main areas for further consideration and co-ordination as the design develops, is around the vegetation and landscaping design, and ensuring they don't negatively

	Principle	Definition	Proposal
			impact on natural and electronic surveillance, and lighting.
2	Access Control	Control of who enters an area so that unauthorised people are excluded, for instance, via physical barriers such as fences, grills etc.	Natural access control throughout the site is very well defined, through extensive and clearly defined footpaths and walkways. Entry and exit points to the site have also been clearly defined and limited to only a few locations.
3	Territorial reinforcement/ownership	People are more likely to protect territory they feel they own and have a certain respect for the territory of others. This can be expressed through installation of fences, paving, signs, good maintenance and landscaping. Territoriality relates to the way in which a community has ownership over a space.	Creating and providing well-designed green space attracts people to spend more time in that area helps foster greater social networks and relationships. Fostering stronger social and community networks in the area helps create results in a lower likelihood of crime from within the community (territorial reinforcement).

6.4. TRAFFIC AND ACCESSIBILITY

A Transport and Accessibility Impact Assessment (TAIA) Report and School Travel Plan has been prepared by GTA and is submitted at **Appendix G** and **Appendix H.** The TAIA report identifies that the overall traffic impacts of the proposal are considered acceptable. Key findings of the review potential traffic, parking and transport impacts are summarised below.

6.4.1. Car Parking

The existing schools provide a combined total of 60 spaces for staff (including 1 accessible parking space). The DCP requires the proposal to provide 135 spaces. The proposal provides a maximum of 60 car parking spaces (at opening capacity in 2022 and full capacity in 2031), which aligns with the Department of Education's policy of minimising car parking and not providing parking for senior students.

The proposed parking is assessed as appropriate for the development as it considers the anticipated travel patterns of staff and students, in addition to the proximity of the MEEPSP to Meadowbank Station. It is estimated that approximately 40% of staff will travel to the site by car with the remaining 60% utilising public transport or active travel modes to complete their trip The implementation, monitoring and evaluation of the proposed School Travel Plan (**Appendix H**) is fundamental to ensure that the on-site parking accommodates the staff parking demand from Day 1 and beyond.

There are circumstances within SINSW's control that contribute to the appropriateness of the parking strategy and there are whole of Government initiatives being explored to ensure the parking remains appropriate with incremental enrolments. The whole of government initiatives will be ongoing, through post approval and post operation of the development.

Some of the Day 1 initiatives within the School Travel Plan and within SINSW's control include:

- Implementation and ongoing review of a School Travel Plan which targets a reduction in private vehicle use with initiatives such as:
  - Regular and ongoing communication with staff regarding transport policies and programs
  - The Liftango carpool app to incentivise participants by allocating dedicated carpool bays to participants.

- Procedure or policy for automatic enrolment for new starters, staff seeking (free) parking access would need to 'opt out' of the carpool registration on Day 1 or when they start.
- Discounted GoGet hourly rate for staff choosing sustainable transport to work.
- End of trip facilities for staff who walk, run, ride a bicycle or motorcycle (unisex changeroom/ shower cubicles and lockers).
- Bicycle parking u-rails secured for staff.
- Motorcycle parking spaces.
- Parking management system or parking operator to manage parking allocation for carpool/ visitor parking and restrict general parking access to non-carpools with swipe card access (parking restrictions) and/or parking pricing.

Whole of Government initiatives:

- Incomplete footpath networks along Victoria Road and Hermitage Road to be completed.
- Shared bicycle paths to be constructed along key pedestrian routes.
- Additional crossings to be provided near the proposed development site to facilitate safe pedestrian crossing of these key locations.
- Under the NSW Government's Future Transport Strategy, More Trains, More Services program is targeting capacity increases and upgrades to improve peak hour crowding on rail services. The NSW Government will explore further investments in north-south transport links near Greater Parramatta, including a potential mass transit/ train link from Macquarie Park to Hurstville via Rhodes. Improvements to the capacity and reliability of the T1 Northern Line will be critical for encouraging and facilitating public transport use for the proposed development.

6.4.2. Bicycle Parking

Based off the bicycle parking rates within the *Planning Guidelines for Walking and Cycling*, GTA have calculated that the MEEPSP should provide a total of 273 bicycle parking spaces on site (11 for staff and 262 for students). The proposal includes secure undercover bicycle parking for primary students at playground level, high school students on the lower ground level and staff within the school car park to accommodate the required spaces.

6.4.3. Road Network and Traffic Impact

SIDRA Intersection and SIDRA Network modelling was used to assess the current operation of the surrounding road network. These results indicate that under existing traffic volumes, the intersections of Victoria Road/ Bowden Street, Victoria Road/ Hermitage Road and Church Street/ Morrison Road are operating at or close to capacity during the AM and PM peak hours. The remaining intersections assessed (Macpherson Street/Mellor Street, Macpherson Street/See Street, Macpherson Street/Bowden Street and Constitution Road/Belmore Street) operate at acceptable levels of service of C or above during the AM and PM peak hours, with satisfactory delays and queue lengths.

Modelling results for 2022 were undertaken for the Future Base Case and with the additional schools and TAFE NSW traffic. The results for 2022 are summarised below:

Future Base Traffic Conditions:

- All intersections are performing at acceptable level of service D or better for both AM and PM peak.
- The intersection of Victoria Road and Hermitage Road is operating at capacity for both AM and PM peak conditions and any further increase in traffic may lead to long delays and queues.

With the Additional Schools and TAFE NSW Traffic:

- All intersections would operate at acceptable level of service D or better except for Victoria Road and Hermitage Road during the AM peak hour
- The Victoria Road and Hermitage Road intersection with the additional school traffic, the right turn (southbound) into Victoria Road is observed to experience a high delay and queues

- The intersection of Victoria Road and Bowden Street is operating at capacity during AM peak traffic conditions.

The abovementioned results indicate that the network in 2022 has some spare capacity to accommodate the background growth and the additional traffic generated by the proposed new schools.

The results of the 2032 Future Base scenario indicate that all intersections are observed to perform at an acceptable level of service D or better, except for the following:

- Victoria Road and Hermitage Road.
- Victoria Road and Bowden Street.
- Constitution Road and Bowden Street.

In 2032, the additional schools and TAFE NSW traffic will result in increases to delays and queuing, especially at Victoria Road and Hermitage Road, Victoria Road and Bowden Street and Constitution Road and Bowden Street. The key school access intersections on Victoria Road at Hermitage Road and Bowden Street will experience higher delays and queue lengths compared to future base scenario results.

Based on the above results, the schools will have some impacts on intersections along Victoria Road. Victoria Road currently has very limited spare capacity to accommodate any significant growth, notwithstanding planned and approved growth in the area, including the Shepherd's Bay Development.

GTA tested a mitigation measure to improve the performance of the Victoria Road and Hermitage Road intersection and Victoria Road and Bowden Street intersection. This involved proposing an additional phase at both intersections, which resulted in a reduction in the degree of saturation from 1.2 to 1.0 for the 2022 AM peak traffic conditions. Furthermore, this proves that there is a benefit in implementing additional leading right turn phases for the side streets to cater for the additional traffic generated by the schools and TAFE NSW.

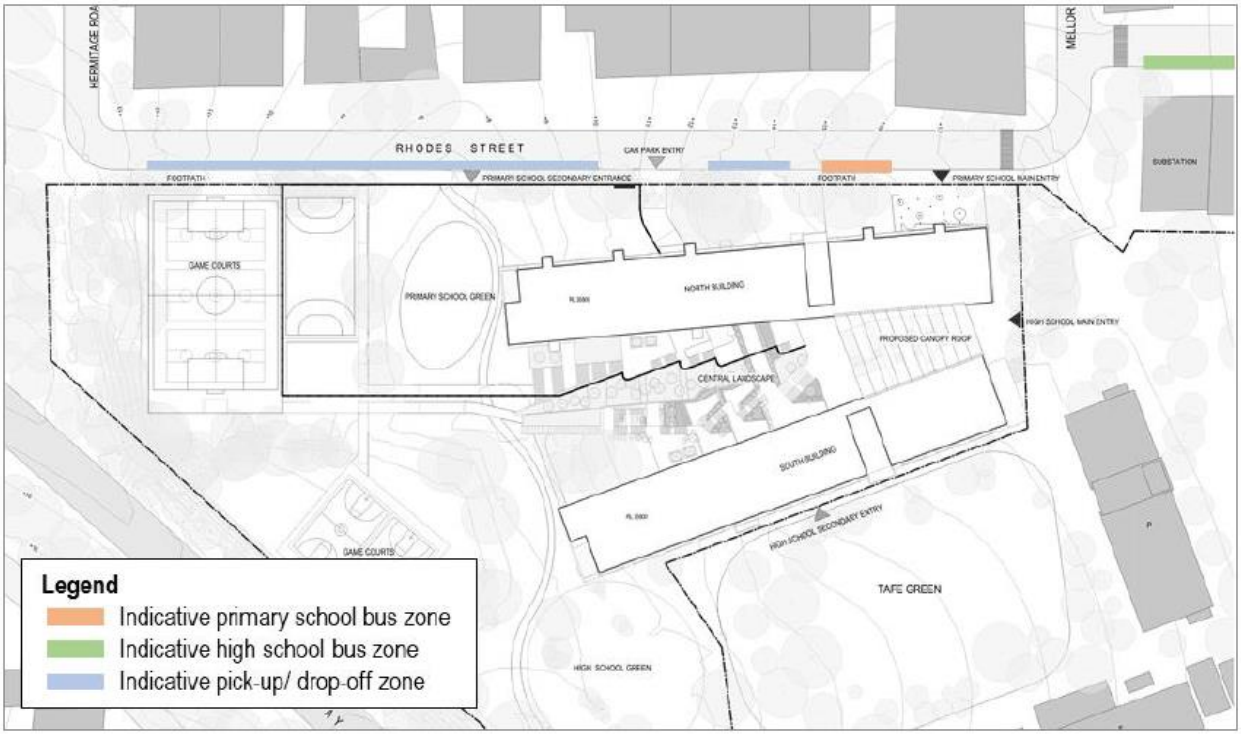
However, Victoria Road and the surrounding network will require upgrades and implementation of broader mitigation measures to accommodate the overall background growth. These measures should be developed in conjunction with RMS as Victoria Road is a state road.

SINSW will continue to work with RMS on modelling and mitigation options to improve the performance of key intersections.

6.4.4. Drop-off/Pick-up

As shown in **Figure 18**, the proposal seeks to provide a bus stop capable of two buses for the primary school adjacent to the main primary school access point on Rhodes Street and a bus stop capable of four buses for the high school on Macpherson street'. The remainder of the Rhodes Street frontage (except for the proposed school crossing and driveway access) will be available for pickup/drop off. Primary school and high school staff will chaperone students being picked up and dropped off by buses to the separated bus waiting areas.

Figure 18 – Proposed Kerbside Facilities



Source: GTA

The remote location of the bus stops is likely to result in surveillance and weather protection issues, as well as being more demanding in terms of teacher resources. However, this approach meets the bus demand for the schools while also maximising kerbside along the frontage of the site for pick up and drop off activity. The proposed arrangements prioritise school bus activity over private car travel to encourage bus travel and simplify the management of students travelling by bus. The kerbside uses will be strictly managed by the schools to limit impacts on the surrounding area.

As a result of the proposed pickup/drop off zones, the following on-street parking spaces will be displaced:

- 33 unrestricted spaces on the southern side Rhodes Street.
- 11 unrestricted spaces on the southern side of Macpherson Street.

However, the following impacts are noted in relation to the on-street parking:

- The affected on-street parking does not affect any residential frontages, only the parking adjacent to the TAFE NSW and electricity substation.
- The affected parking is predominantly utilised by the adjacent industrial uses and is effectively an overspill from this precinct. Employees currently using the on-street parking will need to park within their tenancies or consider alternative travel modes.
- The remaining nearby unrestricted parking will be unaffected by the proposed school activities as the adjoining industrial users are staff who arrive early in the morning (before staff and student arrival).
- The affected parking would still be available for general short -term parking use outside of school pick-up and setdown periods and therefore remaining available for TAFE NSW student and/or local visitor use.
- It is likely that a limited amount of high school pickup/drop off activity may occur in broader locations such as other proximate local streets, Meadowbank Station or in the existing 15-minute parking zone (SEE Street near the TAFE NSW car park).

6.4.5. Bus Zones

The proposal includes a 20-metre bus zone on the southern side of Rhodes Street as well as a 60-metre bus zone along the southern side of Macpherson Street. Together, these bus zones would be able to accommodate up to six buses at any one time.

6.4.6. Public Transport Capacity

The numerous forms of public transport within the immediate vicinity of the site is such that there is significant capacity within the surrounding public transport infrastructure to accommodate this additional demand.

6.4.7. Pedestrian Network Capacity

MEEPSP is likely to generate volumes of 1,350 pedestrians per hour (including students, parents, carers and staff). This includes walking trips associated with train and bus trips. To accommodate these estimated pedestrian volumes, it is proposed to widen the footpaths along the southern side of Rhodes Street and Macpherson Street. Pedestrian crossing facilities are proposed on Rhodes Street and Macpherson Street for safe pedestrian movement.

The existing footpath on the eastern (residential) side of Mellor Street provides a direct connection between the schools and Victoria Road, without the need to directly interface with the existing employment area (and associated driveways/vehicle hazards).

The existing pedestrian connection through the TAFE NSW Campus provides a direct connection between the Schools and Meadowbank Station. This connection will be improved with minor upgrade works by TAFE NSW under a separate approval process.

6.4.8. Construction Traffic Management Plan

Without the formal commission of the preferred construction company it is not possible to provide a detailed analysis of construction traffic impacts to inform a Construction Traffic Management Plan (CTMP) at this stage. The Transport and Accessibility Impact Assessment Report provides consideration of what the CTMP will include:

- Construction vehicle transport routes;
- Construction site access locations and management measures;
- Construction personnel parking controls;
- Stage by stage construction traffic generation; and
- Impacts of construction on adjoining traffic and pedestrian movements.
- We anticipate that the development consent will include a condition of consent for a CTMP to prepared prior to issuing of a construction certificate.

As per the summary of mitigation and management measures within the TAIA the following is proposed:

- *Upgrade footpaths along south side of Rhodes St and Macpherson St. Provide new shared path on the western side of Hermitage Road if possible.*
- *Install bicycle parking and end-of-trip facilities within the schools.*
- *Finalise, implement and monitor a Travel Plan, addressing both staff and student travel.*
- *Widen Rhodes St and Macpherson St to accommodate buses and stops. Modify the Bowden St right turn bay at Macpherson St to accommodate buses.*
- *Adjust traffic signal phasing and timing at Victoria Rd intersections with Hermitage Rd and Bowden St.*
- *Introduce kerbside parking restrictions during school pick-up and set-down periods.*
- *Develop and implement a kerbside management plan for school pick-up and set-down periods.*
- *Prepare, implement and maintain a detailed Construction Traffic Management Plan.*

6.5. ABORIGINAL HERITAGE

An Aboriginal Cultural Heritage Assessment Report (ACHAR) has been prepared by Urbis Heritage and is attached at **Appendix L**. The assessment highlights the following:

- AHIMS searches shows zero sites registered within the site boundary, and four sites within a 1000m buffer. These include an art site, grinding groove, artefact scatter and midden with deposit. All archaeological sites are south of the subject site, with three near the Paramatta River.
- A predictive model prepared for the site suggests low to no potential for intact, in-situ archaeological material. The presence of enduring materials, such as stone artefacts, has some potential to survive in any undisturbed sub-surface deposits.
- No impacts are anticipated to potential archaeological material in the demolition or construction phases. However, all contractors working on site should be made aware of the potential presence of cultural material through inductions prior to undertaking any works on site.
- Excavation activities have been assessed as having low potential to directly impact on Aboriginal archaeological remains. The results of the geotechnical investigations show that alluvium and residual soils are present in some areas within the site below the current surface and fill levels. The integrity of these subsurface layers is not known. On account of the disturbance to the subject site particularly over the last 50 years, the potential for in-situ intact archaeological deposits is considered low; however archaeological deposits have been found in disturbed contexts throughout the Sydney area, therefore the possibility of impacts cannot be wholly precluded.
- Aboriginal consultation commenced in July 2018, and 15 groups registered as stakeholders for the project. No comment on cultural values associated with the subject site has been received so far. Several RAPs have requested attendance at ground breaking works to manage chance finds of any archaeological material. It is recommended that should monitoring occur, it should be undertaken in areas subject to least historical disturbance, and with highest potential to yield sub-surface deposits.

The ACHAR is complete and satisfies the SEARs. Ongoing consultation with RAPs will be required as the project progresses, to ensure RAPs are kept up-to date about the project, ensure timely notification of excavation proposals, and also to ensure the consultation process does not lapse.

6.6. EUROPEAN BUILT HERITAGE

A Heritage Impact Statement (HIS) and Historical Archaeological Assessment Report has been prepared by Urbis Heritage and provided at **Appendix J**.

The site is not identified as an item of heritage significance on either the Ryde LEP 2014 or the State Heritage Register. However, it is located within the vicinity of the following heritage items:

- Item #155 – Ryde Pumping Station and site, 948 Victoria Road (state);
- Item #116 – Attached dwellings, corner 1A Angas and 34 See Streets;
- Item #37 – Meadowbank Shops, 58–64 Constitution Road;
- Item #57- House group comprising 61, 63, 65, 67, 69, 71, 73, 75 and 77 Forsyth Street; and
- The “Maxim Street, West Ryde (C2) Heritage Conservation (HCA).

The HIS confirms that the proposal will have no impact to the setting, views or vistas of the surrounding heritage items. The proposed development has been sited to the eastern portion of the site, well away from the adjacent state listed “Ryde Pumping Station” and are buffered by the proposed landscaping and sports fields. The other surrounding heritage items are located considerably far from the proposal and are embedded within their respective built form contexts.

The HIS undertook and desktop review of the historical background and report prepared by Alliance Geotechnical and assessed that the potential for intact in-situ archaeological deposits was low. This is due to the amount of clearing and construction that heavily disturbed the site since the 1930s.

The HIS confirms that the proposed development is appropriate for the site and does not impact the surrounding heritage items, and it is unlikely that any archaeological artefacts will be uncovered.

6.7. NOISE AND VIBRATION

An Acoustic Assessment Report prepared by Acoustic Logic is submitted at **Appendix N**. The report identifies nearby sensitive receivers and noise sources with the potential to adversely impact nearby development. The report addresses both operational and construction noise sources including:

- Noise from internal areas
- Noise from mechanical plant, PA system and school bells.
- Traffic generation
- Waste removal
- External activities
- Operational vibration
- Construction activities

The surrounding area includes residential receivers to the west of the site along Bank Street opposite the rail corridor, as well as residential receivers along Macpherson Street and See Street. Other nearby receivers include the TAFE NSW Meadowbank campus and light industrial properties located along the northern side of Rhodes Street to the north of the site. Both unattended noise logging and attended noise measurements were conducted to quantify the existing environmental at the site as shown in **Figure 19.** The report addresses the recommended approach for managing the construction and operational noise to be generated by MEEPSP.

Figure 19 – Noise Monitoring Locations

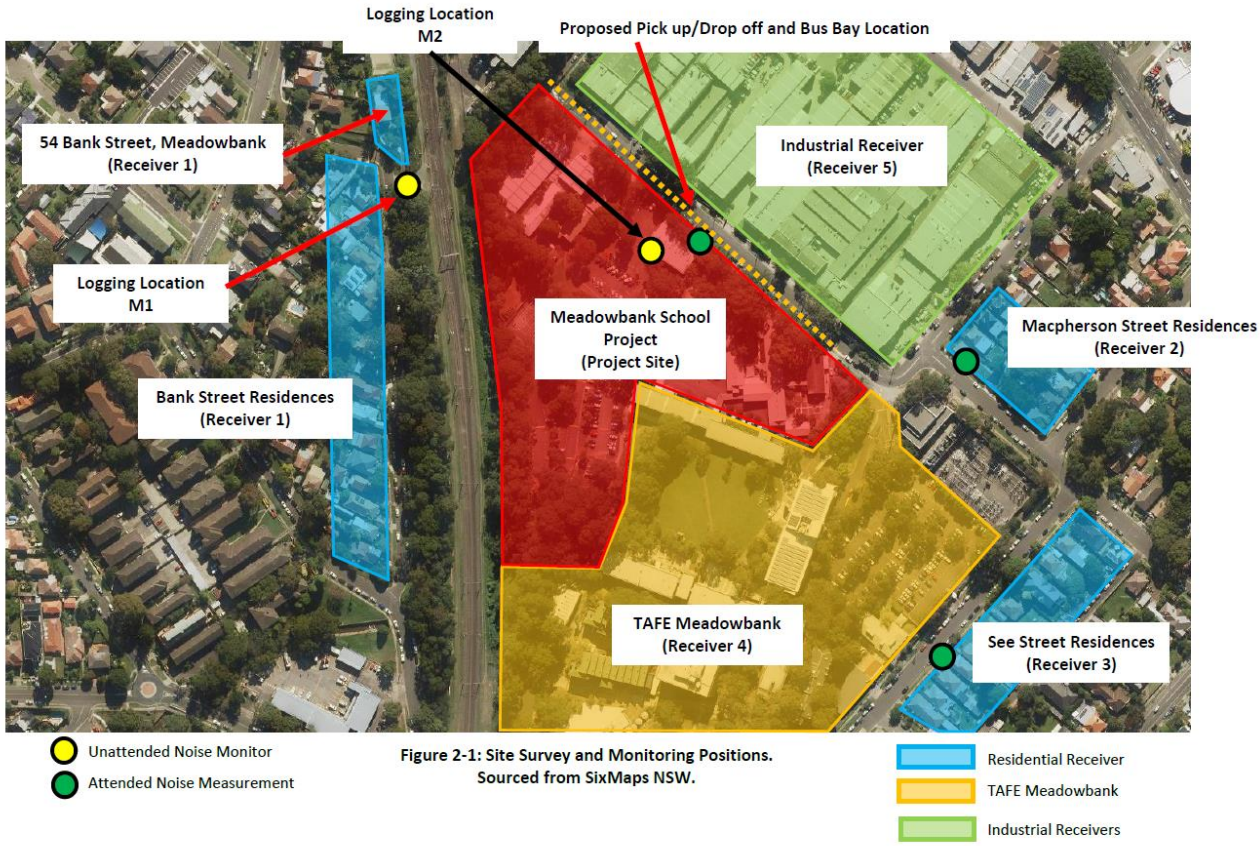


Figure 2-1: Site Survey and Monitoring Positions. Sourced from SixMaps NSW.

6.7.1. Construction Noise and Vibration

A preliminary assessment of the likely construction noise impacts has been undertaken by Acoustic Logic. There is potential for noise and vibration impacts during construction, due to the proximity of surrounding residences and the TAFE. Typically, the most significant sources of noise or vibration generated during a

construction project will be demolition, ground works and building structure works. There will be time/situations when construction is likely to exceed the noise goal, particularly when works occur in the areas closest to the sensitive receivers. Generally, prevention should be applied as universal work practice at any time of day, especially for the occasional construction works to be undertaken at critical times outside normal daytime/weekday periods.

Without mitigation measures, noise at the sensitive receivers around the site may exceed the noise affected level, and in some cases the highly noise affected level. Accordingly, careful management will be required to minimise acoustic and vibration impacts on the TAFE NSW and residences. These measures should be determined in detail when a contractor has been engaged. Notwithstanding, project-specific mitigation measures have been recommended in Section 8 of this EIS. Based on a preliminary review, Acoustic Logic note:

- Exceedance of the “background+10dB(A)” noise goal will be unavoidable at times given the proximity to the nearby residences.
- Acoustic treatments such as noise screens around work areas will provide no material benefit, as nearby development is multistorey and will overlook the screening.
- As the TAFE NSW Meadowbank campus will be operating during the period of construction activities, it is recommended that scheduling of respite periods should be negotiated with Meadowbank TAFE NSW. Negotiation should take into consideration student holiday breaks and typical class hours.

Construction Mitigation Recommendations

In light of the above, construction management should be managed by implementing the following strategies:

- Preparation of a noise management plan;
- Notification of noisy works (excavation and concrete pours) should be provided to the nearby residents;
- Dumping/loading of waste to be done as far away as practicable from sensitive receivers;
- Locate concrete pumps as far away as practicable from sensitive receivers; and
- Use of electric cranes instead of diesel cranes.

A Preliminary Construction Management Plan prepared is at **Appendix Y**. The planning of construction activities has considered and will adopt these strategies to manage the impact from construction noise and vibration.

6.7.2. Operational Noise

An assessment of noise impact from the schools to surrounding receivers was undertaken. An analysis of noise from outdoor play areas, indoor classrooms, the school bell/PA system, traffic movements and from mechanical equipment indicates that compliance with noise emission goals for the site is both possible and practical. Table 9 below shows the background noise level. The intrusiveness criteria is that noise generation is to be no more than 5dB(A) above existing background noise levels. Noise sources will include internal area/classrooms and mechanical services.

Table 9 – Background Noise Levels

Location	Period/Time	Measured Rating Background Noise Level dB(A)L90(Period)	Intrusiveness noise objective dB(A) Leq(15minus) (Background + 5dB)
Bank Street Residences (Receiver 1)	Day (7am - 6pm)	42	47
	Evening (6pm -10pm)	40	45
	Night (10pm - 7am)	38	43

Location	Period/Time	Measured Rating Background Noise Level dB(A)L90(Period)	Intrusiveness noise objective dB(A) Leq(15minus) (Background + 5dB)
Macpherson Street Residences (Receiver 2)	Day (7am - 6pm)	52	57
	Evening (6pm -10pm)	52	57
	Night (10pm - 7am)	42	47
See Street Residences (Receiver 3)	Day (7am - 6pm)	50	55
	Evening (6pm -10pm)	50	55
	Night (10pm - 7am)	41	46

Key findings of the assessment include:

- Noise emissions are typically compliant with a “background+10dB(A)” noise emission goal that is commonly adopted in the assessment of outdoor recreation spaces.
- An exceedance of 4dB(A) is predicted at the 54 Bank Street resident, given its proximity to the high school playground, and given the rail corridor embankment does not provide any noise screening (unlike the other Banks Street residences).

However, in the opinion of Acoustic Logic, the exceedances are not unreasonable for the following reasons:

- Noise from school playgrounds is not addressed in the Ryde Council DCP, nor is it a noise source intended to be governed by documents such as the EPA Noise Policy for Industry (NPfI) 2017.
- In addition, located between the playgrounds and the Bank Street residences is an existing rail corridor has trains (both passenger and freight) which operate from 5:30am to 12:30am every day.

With respect to 54 Banks Street, Acoustic Logic note the following:

- Given 54 Banks Street is elevated relative to the playground, use of perimeter fencing/screens would be of no benefit, as the screen would be overlooked (unless it is over 10-15m high, which is not practical) and given the respective height elevational changes between the site and receiver, screening is not plausible.
- Given that 54 Banks Street is located immediately adjacent to a rail line, this site is already subject to an existing noise source that is in fact louder than the school noise will be. It would be expected that this property has acoustically upgraded windows to address the rail noise.
- As noted above, a playground located near a residential boundary is a common scenario in school development (example: Meadowbank Public School, Rydalmere Public School, Ermington West Public School and Marsden High School). At the subject site, the playground is located at least 75m away, which is significantly further than what typically occurs for most schools.

In terms of noise from the internal classrooms:

- As the building is in the north-eastern corner of the site the nearest residential receiver are the properties bounding Macpherson Street (Approximately 65m).
- During all uses of the classroom (teacher speaking, or during group work, audio visual learning and children speaking normally), noise emissions would comply with a background + 5dB(A) goal.

In terms of traffic noise generated from the school drop off zone:

- It is assumed that there are approximately 650 passenger vehicle movements per peak hour generated by the site.
- That there is a 50/50 split between Macpherson Street and Mellor Street for traffic approaching the school.
- Noise is predicted to occur at the building façade of the residences on Macpherson and Mellor Streets. The predicted noise level is 59dB(A) which exceeds the 55dB(A) criteria based on the EPA Road Noise Policy.
- However, when the projected 59dB(A) from new traffic is added to the existing 61dB(A), the combined traffic will result in a total noise level of 63dB(A). This results in a slight increase and is considered satisfactory where the existing traffic noise levels already exceed 55dB(A).

In terms of noise from the mechanical plant:

- At this stage, final plant selections have not been made; therefore, a detailed assessment has not been carried out. Any new items of plant will be reviewed to ensure that noise emissions meet the applicable environmental noise criteria.
- During the detailed design stage, the acoustic consultant shall provide detailed design advice to the architect and the mechanical engineer to ensure that noise emissions from mechanical plant are effectively controlled to meet the relevant criteria at the nearest receiver boundaries.

In terms of PA and speakers, the system should minimise noise spill to adjacent properties:

- Speakers installed on the façade should not exceed the following maximum noise level when measured at 5m from the speaker (SPL @ 5m)
- Speaker location and direction can be used to reduce noise spill to neighbouring properties while still maintaining suitable noise levels within the school grounds (typically 70-75dB(A)).
- Similarly, highly directional speakers (angled downwards) will also reduce noise spill. Speakers with a drop of at least 5dB(A) for mid-frequencies noise for each 10 degrees in the horizontal plane outside of the coverage area should be considered.
- Broadly speaking, more speakers, closer to the noise receiver (i.e. playground) is a more effective way to provide coverage of the external areas while reducing noise spill to neighbouring properties.
- Similarly, highly directional speakers (angled downwards) will also reduce noise spill. Speakers with a drop of at least 5dB(A) for mid-frequencies noise for each 10 degrees in the horizontal plane outside of the coverage area should be considered.

In terms of the cumulative impact of road traffic and playground noise:

- Periods of peak traffic generation will not occur at times of peak playground use.
- Further, the primary playground noise impact in on 54 Banks Street while the traffic noise impact is on MacPherson/Mellor Street.

In terms of vibration impacts:

- Primary vibration generating activities are bulk excavation (if in rock) and demolition. As there are no sensitive receivers adjacent to the demolition and bulk excavation areas the impacts of these works should be minimal.

Provided that the individual noise sources are appropriately managed, there will be no further impact as a result of cumulative noise. Based on the assessment, the proposal is acoustically acceptable and will not negatively impact on the acoustic amenity of surrounding receivers provided that the recommendations of the acoustic report contained in **Section 8** of this EIS are adopted and included in the conditions of consent.

It is anticipated that the noise and vibration mitigation measures will be incorporated into the conditions of consent.

Operational Mitigation Recommendations

Acoustic Logic recommends the following mitigation measures to reduce noise spill to the adjoining properties:

- The PA system should be located and directed towards playgrounds (closer to noise receivers);
- Speakers to be located higher but angled downwards to reduce noise spill;
- Install a noise limiter system;
- Community use of the MEEPSP (internal areas) during evening time. Use of external areas is not recommended;
- Install a 1.5m high solid balustrade for roof top play areas;
- Buses waiting on local roads during pickup times should switch off engines; and
- Detailed acoustic review of all external plant items should be undertaken following equipment selection and duct layout design.

External Design Recommendations

The following recommendations have been made by Acoustic Logic to reduce external noise impacts:

- Windows to the western façade (towards rail corridor) of the building should be constructed using 6.38mm laminated glass (Rw 31).
- Windows to the northern façade (towards Rhodes Street), eastern facade (towards See Street) and southern façade (towards TAFE NSW oval) should be constructed using 6mm float (Rw 29).
- Windows which face into the internal courtyard of the building should be constructed from 5mm float (Rw 28).
- If windows are left open for natural ventilation purposes in learning spaces which face the northern, southern and western façade exceedances above the noise criteria are expected. Therefore, we would recommend acoustically treated passive ventilation system could also be considered:
  - Use of Aeropac or Silence air acoustic ventilators would provide sufficient acoustic performance, however it would be necessary to consult with a mechanical engineer to determine the number of ventilators necessary to meet airflow requirements.
  - Use of an internally insulated acoustic transfer duct between building façade and a ceiling grill/bulkhead. In the event that a system such as this is implemented:
    - Compliance with internal Leq(1hour) criteria is expected.
    - During a passenger train passby, there would be periods of approx. 10 Seconds when the internal noise level in the classroom will be 45-50dB(A)Lmax. This would occur on average 3-4 time per hour.
    - During a freight time, there would be periods of 45seconds. This typically occurs 4 times during a typical school day, and as such would be likely to occur at most once during a class.
    - During these short duration periods during a train passby, there will be a short-term loss in clarity of vocal communication (or a need for slightly raised voice).
  - Alternatively, if a ceiling is proposed in the classrooms, air could be drawn into the classroom via louvres located above ceiling level (opening into the ceiling space), and then ducted (using insulated bulkheads) to ceiling grilles.

It is anticipated that the noise and vibration mitigation measures will be incorporated into the conditions of consent.

6.8. GEOTECHNICAL

A Supplementary Geotechnical Investigation Report was prepared by Douglas Partners and is provided at **Appendix U.** The report undertakes a further investigation to the Geotechnical Design Report (February 2018) prepared by ARUP which has been attached to the Report.

To enable the development to progress, the Geotechnical Assessment provides preliminary comments and recommendations for site preparation, noise and vibration, excavation, groundwater, footings and slabs.

6.8.1. Geotechnical - Recommendations

The Geotechnical Investigation recommends the following additional measures to be undertaken:

- The site needs to be prepared by removing all vegetation-affected material and topsoil. The site will need to be finished and graded to permit drainage flow.
- Any new fill should be placed in layers of 250mm loose thickness. If fill is placed at or below subgrade level it should be compacted.
- Continuous vibration monitoring of neighbouring buildings and the railway embankment should be undertaken during excavation of sandstone bedrock.
- Appropriate excavation techniques must consider noise and vibration limits and adopt dust suppression measures.
- A dilapidation survey on existing buildings and nearby infrastructure is recommended to be undertaken prior to the commencement of any site excavations.
- If batter slopes are greater than 2.5m depth, it should be inspected by an experienced geotechnical engineer.
- The basement slab should be designed to be 'floating', separated from all walls, columns and footings. The concrete floor slab should be provided with effective shear connection of joints by using dowels or keys.
- An assessment of shrink-swell potential should be conducted for each footing location based on the depth and characteristics of the subgrade material.

6.9. STORMWATER MANAGEMENT AND FLOODING

Enstruct Group Pty Ltd have prepared a Civil Works package submitted at **Appendix S.** The report determines that the site is impacted by significant overland flows from both the 100 year and PMF storm events. The review of the flood conditions on the site as part of the assessment concluded that the proposal is not anticipated to increase the flood impacts to the surrounding properties.

Accordingly, to mitigate against potential flooding impacts, various measures are recommended by Enstruct, including:

- *The minor site drainage system for the new development will be designed in accordance with requirement of CRC DCP 2014 – Stormwater and Floodplain Management Technical Manual.*
- *A system of pits and pipes will be provided to collect roof water and runoff generated in the ground areas. Hard surface areas will discharge into GPT to stormwater drainage system.*
- *The goal of the flood mitigation design is to maintain:*
    - *overland flow within road reserves and prevent entry to school access driveways to basement; and*
    - *continuous school operation during major storm events.*
- *The flood planning levels for the site based on the flood modelling results and the requirements of the City of Ryde Council DCP are as follows:*
    - *Sensitive use facility floor level (PMF level): 16.16 mAHD*

– *Enclosed parking area (100-year ARI + 150mm): 8.33 mAHD*

The proposed development will comply with the above mitigation measures and is deemed acceptable. To further manage potential flooding and stormwater runoff, the design has also incorporated a range of other stormwater and flooding mitigations measures. These are also detailed within the Civil Works Package and comprise:

- Preparation of a Soil and Water Management Plan (SWMP) in accordance with the 'Blue Book' prior to commencing any excavation works;
- Provision of a new building hydraulics system that will collect runoff and convey into local stormwater drain pits. Groundwater runoff will be collected by a system of puts and pipes. Stormwater flows will pass through a silt arrestor pit or Gross Pollutant Trap (GPT) prior to any stormwater discharge;
- Provision of a combination of WSUD treatments such as vegetated buffers, swales and filtrations devices to improve water quality before discharging into Charity Creek drains;
- Stormwater and flooding will be appropriately managed in accordance with the Civil Report and Drawings.

6.10. SOCIAL AND ECONOMIC IMPACTS

A Social Impact Assessment Report has been prepared by Urbis and is attached at **Appendix K**. The proposal will have an overall beneficial impact on the local community in terms of social and economic outcomes. The social impacts are summarised in the table below.

The proposal will create job opportunities in teaching, administration and maintenance and temporary jobs during the construction phase, which is a long term high positive benefit for the area.

Table 10 – Social Impact Summary

Potential Impact	Mitigation/ Enhancement	Overall Impact
Educational opportunities and environment	The proposal will provide a greater enrolment capacity than presently available at Meadowbank Public School and Marsden High School. The proposal will also provide a significantly improved educational environment than presently available at the existing schools, including permanent, future-focused education spaces and high-quality outdoor learning and recreation spaces.	Very high positive impact
Community access to shared use recreation facilities	The proposal will provide recreational and cultural facilities on site for student use and is unlikely to place any additional demand on Council facilities. With the exception of special events (e.g. an Athletics Carnival) it is not anticipated that the MEEPSP would require regular use of any Council facilities. The proposal will also provide access to recreation and cultural facilities to the public after school hours, which will increase the capacity and availability of recreational and community facilities in the Ryde LGA.	High positive impact
Increased traffic congestion and competition for parking	The proposal is likely to result in the surrounding intersections exceeding capacity and operating at lower levels of service than the current condition at the future forecast date of 2031/32.	Moderate negative impact

Potential Impact	Mitigation/ Enhancement	Overall Impact
	The proposal also contains a shortfall of car parking spaces, which may not be accommodated by on-street parking, which is currently nearing capacity during the school pick-up and set-down periods. The identified increase in traffic congestion and reduced parking availability will impact strongly on all users of Rhodes Street and the surrounding road network. **Mitigation**: It is recommended that the comprehensive set of measures detailed in the School Travel Plan be implemented from Day 1 in order to address the impact.	
Pedestrian safety concerns	The proposal is likely to generate a significant increase in pedestrian movements, including primary and high school students, staff and parents travelling to the site. Based on this increase, the current pedestrian environment (footpaths and shared paths) has been assessed as requiring upgrades (footpath widening) to facilitate safe pedestrians and cyclist movements. The consequences of a road safety incident involving a pedestrian can be severe, including injury and death.	Minor negative impact
Reduced Amenity during construction	Construction methodology details are unknown at the time of this report. However, it is expected that noise emissions during construction will exceed the background noise goal for the site due to the proximity of nearby residences. This impact will be most pronounced on nearby residences and users of the TAFE NSW campus who are likely to experience a reduced learning environment during this construction period. The impact will be limited to the period of the construction phase. **Mitigation**: Implementation of a Construction Noise and Vibration Management Plan prior to commencement of works and Notification/communication with TAFE NSW and nearby residents prior to commencement of works.	Minor negative impact

6.11. SITE SUITABILITY

The site is considered highly suitable for the proposed development for the following reasons:

- The land is zoned SP2 Educational Establishment pursuant to RLEP 2014. The proposal is permissible with consent and consistent with the land use objectives of SP2 Educational Establishment zoning.

- The proposal is consistent with the objectives of all relevant planning controls and achieves a high level of planning policy compliance.
- The proposal provides a new educational establishment by redeveloping and expanding on the existing TAFE NSW campus and will further utilise what in comparison is an underutilisation of the site.
- There are no significant environmental constraints limiting development on the site that are unable to be avoided remedied or mitigated.
- The proposal provides onsite parking appropriate for its location and context. A School Travel Plan will be implemented at the start of operation and broader whole of Government initiatives will be implemented over time to ensure the parking demand is ultimately reduced.
- The proposal will generate significant amount of traffic. However, it is well serviced by public transport and a comprehensive School's Travel Plan, containing a series of measures that will mitigate and manage traffic generated by the proposal.

6.12. PUBLIC INTEREST

The proposal is in the public interest because:

- It has been prepared having regard to Education SEPP 2017 and RLEP 2014 and the works are permissible with consent.
- It has been prepared having regard to Council's planning policies and is consistent with the aims and objectives of the controls for the site.
- It is suitable for the site as evidenced by the site analysis and various site investigations, including geotechnical, site contamination, flora and fauna and flooding.
- It does not have any significant or unreasonable impacts on adjoining or surrounding properties or the public domain in terms of traffic, social and environmental impacts.
- Subject to the various mitigation measures recommended by the specialist consultants, it does not have any unacceptable impacts on adjoining or surrounding properties or the public domain in terms of traffic, heritage, social and environmental impacts.
- The site is well serviced by public transport and some walking and cycling routes. The proposal encourages non-private vehicles options to access the site. It provides bicycle parking spaces to encourage cycling to and from the site.
- The proposal has been developed in consultation with SDRP and exhibits design excellence. It is high in quality in terms of built form and architectural treatment. It responds positively to the existing character and future scale of the area.
- The proposed built form includes outdoor terraces to integrate with the surrounding landscape. The connectivity between the MEEPSP and the existing tree network is one of its outstanding features.
- It will result in a high-quality educational environment for staff and students through:
  - Providing indoor and outdoor recreation and open space for students;
  - Enabling an excellent academic programme;
  - Supporting a fulfilling and diverse extra-curricular experience;
  - Create an inclusive, supportive and secure pastoral environment; and
  - Developing efficient, effective, expressive and environmentally sustainable facilities.
- It will contribute positively to energy efficiency and environmental sustainability. The design has adopted and incorporated many ESD features to reduce energy consumption during the life of the proposed development.

As the proposal is in the public interest, NSW Department of Planning, Industry and Environment should approve the development.

7. CONSULTATION

Consultation has commenced on the project and will continue as the assessment of the application progresses and throughout the entire development of the project. The purpose of the consultation process to date has been to inform and seek feedback from key stakeholders. The Applicant and Aurecon have worked to ensure relevant issues have been considered during the development of the proposal.

Early consultation has been designed to gauge the level of community support and acceptance of the proposal. The objectives of the preliminary consultation were as follows:

- Identify key community stakeholders with an interest in the project.
- Provide relevant information and the proposal to residents and community stakeholders to create awareness about the proposal and forthcoming SSD application.
- Provide a means by which stakeholders could provide comment on the development of the proposal.
- Provide the project team with the opportunity to incorporate stakeholder feedback into the planning and development process.

The preliminary consultation undertaken in respect of the proposed development to date is documented in the Consultation Report prepared by Aurecon and attached at **Appendix X**. The key stakeholders identified in the SEARs and the report are:

- Department of Planning, Industry and Environment (DPIE);
- City of Ryde Council;
- Government Architect NSW (GANSW);
- Transport for NSW (TfNSW);
- Ausgrid; and
- Roads and Maritime Services (RMS);

In addition, the following stakeholders were also engaged with:

- Office of Environment and Heritage (OEH);
- State Emergency Services (SES);
- Sydney Water;
- Environmental Protection Authority (EPA);
- Teachers, school executive staff and support staff (educators and administrative staff);
- School executives for Meadowbank Public School and Marsden High School;
- Students;
- Parents and carers;
- Local community; and
- Indigenous community.

Stakeholder consultation commenced in 2018 and involved:

- Community engagement activities from July 2018 to May 2019 (refer Consultation Report);
- Information booths for the community;
- Newspaper advertisements and Broadcast emails informing of the proposal and the information booth sessions;

- School Newsletter;
- Project Webpage with project progress updates;
- Community Survey;
- Workshops; and
- Meetings with individuals including formal consultation with agency stakeholders particularly regarding traffic, accessibility and impacts of the development.

The following sections are a summary of the consultation to date. Further detail is provided in the Consultation Report.

7.1. DEPARTMENT OF PLANNING, INDUSTRY AND ENVIRONMENT

Correspondence and liaison have occurred with the Department of Planning, Industry and Environment throughout the preparation of this EIS and SSD documentation.

7.2. CITY OF RYDE

On-going briefings and consultation with the City of Ryde Council of Executive Team (11 July 2018 and 17 April 2019), covering the following topics:

- Joint Use of the MEEPSP facilities by the community and schools.
- School catchment areas and boundaries.
- Review of active open space capacities.
- Consultation of proposed changes to traffic and parking controls on Rhodes Street and the surrounding road network.
- Design development.

A separate transport meeting was held on 12 April 2019 to discuss Council's traffic, transport, pedestrian, cycle plans. Ongoing consultation with Council is required to address the road network and planned/approved development in the area.

7.3. GANSW STATE DESIGN REVIEW PANEL

Design excellence for the proposal was discussed across four design presentations to the SDRP held on:

- 2 May 2018;
- 13 June 2018;
- 8 August 2018; and
- 13 February 2019.

Following each presentation, the SDRP provided formalised feedback via a letter. The key issues raised and addressed in the proposal are:

- Community use of facilities;
- Unsightly perimeter fencing;
- Public and children access to and through the site and to the public transport hubs;
- Solar amenity and better building orientation;
- Overall size, bulk and massing of the development; and
- Landscaping for equitable and sustainable use.

7.4. TRANSPORT FOR NSW AND ROADS AND MARITIME SERVICES

Consultation has occurred with both Transport for NSW and the Roads and Maritime Services. A meeting was held on 20 March 2019 with SINSW, TFNSW, RMS, DPE and Council to present SINSW's draft Precinct Travel Plan.

On 24 May 2019 the project team presented the Traffic and Transport Impact Assessment and the School Travel Plan to RMS and TfNSW.

The outcome of consultation with the TfNSW and the RMS has resulted in the inclusion of:

- The SIDRA Network analysis to include the Victoria Road intersections between Hermitage Road and Bowden Street;
- Impact of buses along Victoria Road and Bowden Street;
- Pedestrian route between Meadowbank Station and Rhodes Street via the TAFE NSW site;
- Provision of a combined school travel plan / green travel plan;
- Modelling of potential road upgrades impacted by the schools; and
- Demand for car parking resulting from MEEPSP.

7.5. STATE EMERGENCY SERVICES

Consultation has occurred with the State Emergency Services (SES). These discussions have covered the following topics:

- Site flooding and placing the schooling within but above the PMF level.
- Possible use of the school building as a place of public refuge.

The outcome of consultation with the NSW Police has resulted in the following advice:

- In the event of a flood occurring, the school building would be categorised as a "Refuge in Place", and a plan will be developed by SES as to how to respond.
- Prior to a 1:100-year flood event occurring, public notification would be provided to parents to not send children to school, hence minimising the risk of people being trapped in the building.
- The planned evacuation route leading to land in the north east corner of the site that is above the Probable Maximum Flood (PMF) level is acceptable in principle subject to their review of the SSDA documents.
- In principle agreement that non-habitable lower access sections of the building can be built below the PMF and above the 1 in 100-year event (for activities such as gymnasiums, plantrooms, foyers, stairs, car parking, loading facilities, end of trip facilities).

7.6. ABORIGINAL STAKEHOLDERS

Consultation has occurred with Aboriginal stakeholders. These discussions have covered the following topics:

- Interest in site history.
- Aboriginal Cultural Heritage Assessment Report.
- Community use of new facilities.

Ongoing consultation with Aboriginal stakeholders is to occur to keep all relevant stakeholders informed of the proposal and timeframes.

7.7. LOCAL AND SCHOOL COMMUNITY

Consultation has occurred with both the local and school communities. Parents and carers were also asked to contribute to the consultation process with particular regard to the administrative and operational characteristics of the proposed MEEPSP. Various strategies were employed to maximise community involvement in the project. Consultation occurred via community engagement sessions, information booths, advertisements in local newspapers etc. These discussions have covered the following topics:

- Traffic and congestion around the site;
- Parking;
- Environment;
- Catering for population growth;
- Student safety;
- School design;
- Public transport and access points;
- Future use of the existing school sites; and
- Consultation, how the public can stay informed and provide feedback.

Ongoing consultation with the local community is to occur to provide opportunities for the community to provide input and feedback throughout the planning and development of the project. A detailed Construction Traffic Management Plan is to also be prepared.

8. RECOMMENDATIONS AND MITIGATION MEASURES

A range of mitigation measures are proposed to reduce any potential environmental and social impact of the proposal. **Table 11** below provides a summary of the environmental management measures proposed.

Table 11 – Mitigation Measures

Item	Potential Impact	Mitigation Measure
Overshadowing	Overshadowing of adjoining residential properties.	The proposal will minimise overshadowing impacts to adjoining the TAFE NSW and residential properties. The proposal maintains sunlight to over 40% of the TAFE NSW Green for a minimum of 3 hours during winter.
Privacy	Adverse visual and acoustic privacy impacts on surrounding residential properties and recreational areas.	• The new school building does not share an interface with any residential properties. The proposal interfaces with light industrial to the north and the TAFE NSW Campus to the south. • The new building has been appropriately setback from Rhodes Street and has been designed to correspond with the existing topography. • As detailed in the Landscape Design Statement by Urbis a fencing strategy is proposed to foster permeability throughout the site but also provide barriers to separate the schools and TAFE NSW. • The co-located schools will generally operate during standard school hours, when most nearby residents will be at work. This will assist in maintaining privacy in the morning, evenings and night-time, when the majority of residents will be home.
Biodiversity	Vegetation clearing, loss of fauna habitat, threatened species.	Implementation of recommendations outlined in the Biodiversity Impact Assessment included the following: • Relocation of fauna in a sensitive manner. • All trees within the site to be retained shall be protected prior to and during construction from all activities that may result in detrimental impact by erecting a suitable protective fence beneath the canopy to the full extent of the Tree Protection Zone, excluding the footprint of the proposed works and areas within adjoining properties, as indicated on the Tree Protection Plan. • Vegetation to be retained outside of the Development Site boundary (northern portion of

Item	Potential Impact	Mitigation Measure
		Lot) and retained vegetation within the Development Site will not be disturbed/impacted. • Erosion and sedimentation will be controlled. • Noise impacts associated with the development will be managed in accordance with guidelines. • Prevent spread of weeds or pathogens. • All staff working on the development will undertake an environmental induction as part of their site familiarisation. • Areas within the Development Site will be landscaped using appropriate species.
Transport and Accessibility	Traffic impacts, demand for on-site staff car parking.	Implementation of measures outlined within the Traffic Impact Assessment including: • Implementation and ongoing review of a School Travel Plan which targets a reduction in private vehicle use. • Upgrade footpaths along south side of Rhodes St and Macpherson St. Provide new shared path on the western side of Hermitage Road if possible. • Provide sufficient bicycle parking and end-of-trip facilities within the site. • Develop and implement a kerbside management plan for school pick-up and set-down periods. • Introduce kerbside parking restrictions during school pick-up and set-down periods. • Prepare, implement and maintain a detailed Construction Traffic Management Plan. • Widen Rhodes Street and Macpherson Street to accommodate buses and stops. • Modify the Bowden Street right turn bay at Macpherson St to accommodate buses.
Construction Vehicles	Adverse construction vehicle impacts on surrounding residents.	The Transport and Accessibility Impact Assessment Report provides consideration of what the CTMP will include: • Construction vehicle transport routes. • Construction site access locations and management measures. • Construction personnel parking controls. • Stage by stage construction traffic generation. Impacts of construction on adjoining traffic and pedestrian movements.

Item	Potential Impact	Mitigation Measure
Wind	Wind conditions at ground level student's walkway areas.	Windtech have provided the following recommendations to mitigate the expected wind conditions within some portions of the site: • Retain tree planting and landscaping, and include densely foliating shrubs. • Include a 3m high 50% permeable screen along the southern boundary (Ground Level), eastern boundary (Level 1 terrace), south-eastern corner of the high school outdoor space (Level 3). • Include a 2m high permeable balustrade around the edges of the terraces located on Level 3. • Include a localised full height 50% permeable screen (Level 3). • Include a 2m high impermeable balustrade along the northern edge of the terrace (Level 6).
Crime and Safety	Crime risk to safety of students, staff and visitors	The proposed development incorporates CPTED principles to deter crime. CPTED recommendations include: • Review highlighted areas of potential security concern as highlighted within the report. • A security risk assessment should be conducted in order to identify, assess, and determine the actual security risks that this site is exposed to, and their risk ratings. • Identified areas of concern should be redesigned where possible and reasonably practical, to design out the identified security issues. • Review of the lighting reference design, to obtain confirmation that as-built lighting levels (provided by feature lighting / spill over or installed lighting) are sufficient to support either natural surveillance or technical surveillance (CCTV). • Glazing, or a high number of windows be used along the wall adjoining the COLA, in order to enhance natural surveillance of the COLA, and help reduce the negative impact on sightlines caused by the amenities block. • Ensure trees and vegetation are well maintained so they don't negatively impact on natural and electronic surveillance, and on lighting levels. • It is recommended that the new Schools look to allow public and community access to the

Item	Potential Impact	Mitigation Measure
		school's assets and infrastructure outside of school hours.
Acoustic and Vibration	Noise generation during construction and operation of the Schools.	**Construction Noise & Vibration** • Scheduling of respite periods be negotiated with Meadowbank TAFE NSW. Negotiation should take into consideration student holiday breaks and typical class hours. • A noise management plan should be adopted to ensure reasonable amenity during construction. It should consider: – Notification of the noisy works (excavation, concrete pours) should be provided to the nearby residents. The notification should outline the expected duration of the activity and provide contact details in the event of complaint. – Dumping/loading of waste material should occur as far as practicable from the residential properties. – Locate concrete pumps as far as practicable away from residential property boundaries. – Use of electric cranes instead of diesel cranes. **Operation** • The PA system should be located and directed towards playgrounds (closer to noise receivers); • Speakers to be located higher but angled downwards to reduce noise spill; • Install a noise limiter system; • Community use of the MEEPSP (internal areas) during evening time. Use of external areas is not recommended; • Install a 1.5m high solid balustrade for roof top play areas; • Buses waiting on local roads during pickup times should switch off engines; and • Detailed acoustic review of all external plant items should be undertaken following equipment selection and duct layout design. • Windows to the western façade (towards rail corridor) of the building should be constructed using 6.38mm laminated glass (Rw 31).

Item	Potential Impact	Mitigation Measure
		• Windows to the northern façade (towards Rhodes Street), eastern facade (towards See Street) and southern façade (towards TAFE NSW oval) should be constructed using 6mm float (Rw 29). • Windows which face into the internal courtyard of the building should be constructed from 5mm float (Rw 28). • If windows are left open for natural ventilation purposes in learning spaces which face the northern, southern and western façade exceedances above the noise criteria are expected. Therefore, we would recommend acoustically treated passive ventilation system. • After hours use of the hall by the community will require the windows and doors of the hall to be closed during use.
Contamination	Disturbance of asbestos materials and other contaminants.	Implementation of Remedial Action Plan (RAP) as required.
Tree Protection	Construction impacts on retained trees.	Implementation of recommendations outlined within the Arboricultural Impact Assessment to ensure significant trees retained are protected during construction.
Aboriginal Heritage	Loss of Aboriginal objects	• To manage any unexpected archaeological or potential cultural finds during this phase, such as during building demolition or isolating of services, a cultural heritage induction should be included in site induction materials, and a chance find procedure (CFP) established. • It is recommended that induction materials be prepared for inclusion in any site induction packs/presentations. • Consultation with the registered Aboriginal parties must continue throughout the project, to ensure continued information about project progress and also to ensure the consultation process does not lapse. • It is recommended that any plans for proposed excavation as part of remediation be reviewed and assessed for the potential to impact on archaeological remains. • It is recommended that finalised excavation plans be provided for archaeological review as soon as possible following approval, and prior to any ground-breaking works.

Item	Potential Impact	Mitigation Measure
		• Any artefacts identified during the monitoring program must have their location recorded by GPS, a site card prepared, and all artefacts are to be reburied temporarily in a location on site where no works will occur, to ensure the artefacts are kept within the site boundary and in accordance with recommendations by RAP. • It is recommended that a CFP be included in any Construction Management Plans or other site management plans in the event of chance finds
European Heritage	Impact on the heritage significance of the existing buildings	If unexpected sub-surface historical remains are encountered during any future site works, it would be necessary to: • Stop work in the vicinity of the find. • The NSW OEH should be notified, in conjunction with a suitably qualified historical archaeologist who will need to inspect and provide preliminary assessment of the find and provide advice on its appropriate management. • This may include archival recording and removal, further investigation, future interpretation or potential retention in-situ.
Stormwater Management	Impacts from Stormwater	Implementation of proposed stormwater concept plan and erosion and sediment control plan.
Social Impact	Long-term effective management of social impacts	• Formalise a shared use arrangement for community use of the community hall and gymnasiums. • Consider shared use of broader recreation facilities to help improved capacity in the Ryde LGA open space network. • Draft and implement a formal Plan of Management for the operation of both schools which should include measures to address shared-use operations, interaction of students and road and pedestrian safety. • Provision of secure bicycle parking and end of trip facilities to encourage active transport. • Implementation of footpath widening, and additional pedestrian crossings outlined in the Traffic Impact Assessment. • Implementation of an RMS trained School Crossing Supervisor for management of crossings recommended in the Traffic Impact Assessment.

Item	Potential Impact	Mitigation Measure
		• Consultation with local businesses on Rhodes Street regarding the interaction between the proposal and access driveways on Rhodes Street and management of pick up and drop off periods. • Notification/communication nearby residents and businesses prior to commencement of construction works.
Geotechnical	Vibration impacts on existing heritage buildings.	Implementation of recommendations outlined in the Geotechnical Report including the following: • The site needs to be prepared by removing all vegetation-affected material and topsoil. The site will need to be finished and graded to permit drainage flow. • Any new fill should be placed in layers of 250mm loose thickness. If fill is placed at or below subgrade level it should be compacted. • Continuous vibration monitoring of neighbouring buildings and the railway embankment should be undertaken during excavation of sandstone bedrock. • Appropriate excavation techniques must consider noise and vibration limits and adopt dust suppression measures. • A dilapidation survey on existing buildings and nearby infrastructure is recommended to be undertaken prior to the commencement of any site excavations. • If batter slopes are greater than 2.5m depth, it should be inspected by an experienced geotechnical engineer. • The basement slab should be designed to be 'floating', separated from all walls, columns and footings. The concrete floor slab should be provided with effective shear connection of joints by using dowels or keys. • An assessment of shrink-swell potential should be conducted for each footing location based on the depth and characteristics of the subgrade material.

9. SUMMARY AND CONCLUSIONS

This EIS has been prepared in support of SSD 9343 for the new MEEPSP development at 2 Rhodes Street, Meadowbank.

The two new schools will accommodate approximately 2,620 students in a new Education and Employment Precinct in Meadowbank. The co-located primary and high schools will contain high quality classrooms, collaborative learning spaces, open play spaces, and associated facilities.

The proposal has been assessed against all items contained to the SEARs and we conclude that:

- The proposal satisfies the applicable local and state planning policies;
- The proposal will contribute to the broader vision of the Meadowbank Education and Employment Precinct;
- The design positively responds to the site conditions and future urban morphology;
- The proposal is highly suitable for the site;
- The proposal is in the public's best interest; and
- The proposal appropriately satisfies each item within the SEARs.

Considering the above and the content contained to this EIS, it is recommended that the Department approve this SSD 9343, subject to appropriate conditions.

DISCLAIMER

This report is dated 18 April 2019 and incorporates information and events up to that date only and excludes any information arising, or event occurring, after that date which may affect the validity of Urbis Pty Ltd's (Urbis) opinion in this report. Urbis prepared this report on the instructions, and for the benefit only, of NSW Department of Education (Instructing Party) for the purpose of A State Significant Development Application (Purpose) and not for any other purpose or use. To the extent permitted by applicable law, Urbis expressly disclaims all liability, whether direct or indirect, to the Instructing Party which relies or purports to rely on this report for any purpose other than the Purpose, and to any other person which relies or purports to rely on this report for any purpose whatsoever (including the Purpose).

In preparing this report, Urbis was required to make judgements which may be affected by unforeseen future events, the likelihood and effects of which are not capable of precise assessment.

All surveys, forecasts, projections and recommendations contained in or associated with this report are made in good faith and on the basis of information supplied to Urbis at the date of this report, and upon which Urbis relied. Achievement of the projections and budgets set out in this report will depend, among other things, on the actions of others over which Urbis has no control.

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This report has been prepared with due care and diligence by Urbis and the statements and opinions given by Urbis in this report are given in good faith and in the reasonable belief that they are correct and not misleading, subject to the limitations above.

APPENDIX A SECRETARY'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS (SEARS)

APPENDIX B CAPITAL INVESTMENT VALUE (CIV) REPORT

APPENDIX C SURVEY PLAN

APPENDIX D ARCHITECTURAL DESIGN STATEMENT AND ARCHITECTURAL PLANS

APPENDIX E LANDSCAPE DESIGN STATEMENT AND LANDSCAPE PLANS

APPENDIX F ARBORICULTURAL IMPACT ASSESSMENT

APPENDIX G TRANSPORT & ACCESSIBILITY IMPACT STATEMENT / PRELIMINARY CONSTRUCTION TRAFFIC MANAGEMENT PLAN

APPENDIX H SCHOOL TRAVEL PLAN

APPENDIX I ECOLOGICAL SUSTAINABLE DEVELOPMENT (ESD) REPORT

APPENDIX J HERITAGE IMPACT STATEMENT

APPENDIX K SOCIAL IMPACT ASSESSMENT

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APPENDIX M ACCESSIBILITY REPORT

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APPENDIX O PRELIMINARY SITE INVESTIGATION (PSI)

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APPENDIX Q REMEDIAL ACTION PLAN (RAP)

APPENDIX R INFRASTRUCTURE MANAGEMENT PLAN

APPENDIX S CIVIL REPORT & DRAWINGS

APPENDIX T BIODIVERSITY DEVELOPMENT ASSESSMENT REPORT

APPENDIX U SUPPLEMENTARY GEOTECHNICAL REPORT

APPENDIX V WASTE MANAGEMENT PLAN

APPENDIX W WIND ASSESSMENT REPORT

APPENDIX X CONSULTATION REPORT

APPENDIX Y PRELIMINARY CONSTRUCTION MANAGEMENT PLAN

APPENDIX Z CPTED REPORT

APPENDIX AA SUPPLEMENTARY CONTAMINATION ASSESSMENT

APPENDIX BB SUPPLEMENTARY ASBESTOS ASSESSMENT

APPENDIX CC CONSTRUCTION AND REMEDIATION WASTE MANAGEMENT PLAN

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