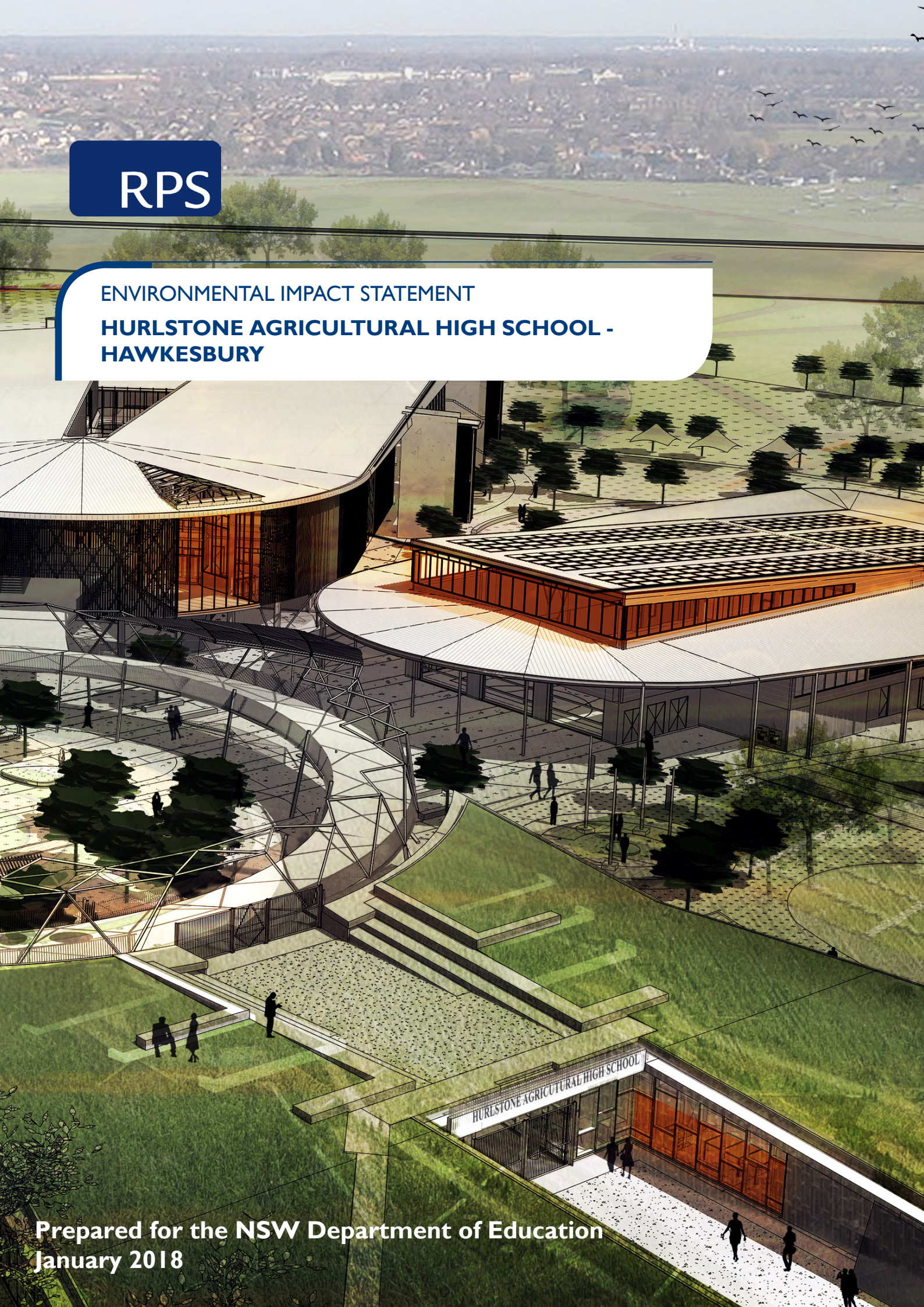
RPS

ENVIRONMENTAL IMPACT STATEMENT

HURLSTONE AGRICULTURAL HIGH SCHOOL - HAWKESBURY



Prepared for the NSW Department of Education
January 2018

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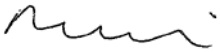
Approval for issue

Name	Signature	Date
Claire Muir		11/01/2018

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Signed Declaration

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

Environmental Assessment Prepared by

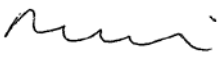
Name:	Claire Muir
Address:	RPS Australia East Pty Ltd Level 13, 255 Pitt Street (GPO Box 4401, Sydney NSW 2001) Sydney, NSW, 2000 Australia
In respect of:	New South Wales Department of Education

Applicant Details

Applicant:	New South Wales Department of Education
Applicant Address:	35 Bridge Street Sydney NSW 2000
Land to be developed:	Lot 2/ DP 1051798 2 College Street, Richmond
Project:	Hurlstone Agricultural High School (Hawkesbury)

I certify that the contents of the Environmental Impact Statement 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*;
- The statement contains all available information that is relevant to the environmental assessment of the proposed development; and
- To the best of my knowledge the information contained in this report is neither false nor misleading.

Name:	Claire Muir
Signature:	
Date:	11/01/2018

Executive Summary

Purpose of this Report

This Environmental Impact Assessment (EIS) has been prepared by RPS on behalf of the NSW Department Education (DoE) in support of State Significant Development Application (SSD) SSD 17_8614, for the proposed development of Hurlstone Agricultural High School (Hawkesbury) at 2 College Street, Richmond, the site.

This EIS should be read in conjunction with the Secretary's Environmental Assessment Requirements (SEARs) and the supporting technical documents accompanying this application.

The Proposal

The Department of Education proposes to construct a new agricultural high school for up to 1,500 students on the site. The proposed new high school will comprise boarding facilities and will have accessible and integrated university links to progress agricultural and "STEMAg" (science, technology, engineering, mathematics and agriculture) learning innovation.

Specifically, this EIS seeks development consent for the following works at the site:

- Use of the site for an agricultural high school.
- Construction of two (2) x three (3) storey, multi-purpose school buildings containing:
  - Library;
  - Canteen;
  - Student amenities;
  - Offices for teaching staff;
  - Collaborative learning spaces and classrooms (general learning spaces (GLS)); and
  - Kitchen, wood and metal workshops, science laboratories and related storage.
- Construction of a single storey, ramped building containing:
  - Staff and administrative amenities and offices; and
  - Exterior landscaping for a ramped land mass.
- Construction of one (1) single storey sports hall containing gymnasium, performing arts and PE workshops, toilets, change rooms, ancillary storage rooms; and classrooms;
- Central assembly area with raised walkway connecting all buildings;
- Construction of one (1) single storey agricultural learning classroom, one (1) workshop shed building, above ground water tanks and chicken coop; and
- Associated site landscaping and public domain improvements.

The school will be fully selective, will include boarding facilities, and will have access to 12.2 hectares (ha) of agricultural land suitable for learning about modern day farming practices.

Separate planning approval would be sought for the boarding accommodation, structures required for the agricultural enterprise field and early works (site infrastructure and site establishment).

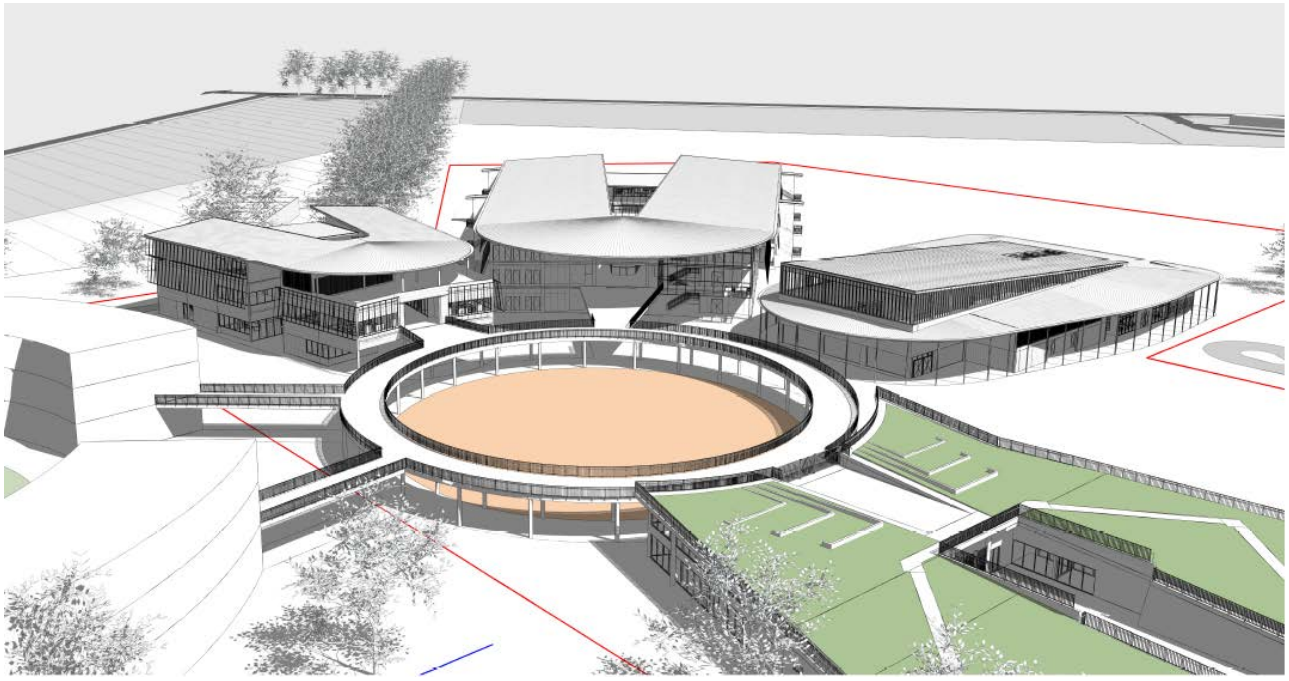


Figure 1.1 Proposed Development

Source: CGAMW 2017

The Site

The site is located within the Western Sydney University Campus (Lot 2 DP 1051798) and known as 2 College Street, Richmond. The site is located approximately 63 kilometres north-west of the Sydney's Central Business District (CBD) and approximately 2 kilometres south of Richmond Town Centre. The site is located within the Hawkesbury Local Government Area (LGA).

The site comprises a portion of Lot 2 and is approximately 12.2ha in area. The main Western Sydney University (WSU) campus is located to the north-east of the site. To the north of the site are a number of the University student residential townhouses. The Chesalon Nursing Home adjoins the site's north-western boundary. Adjoining the site's north-eastern boundary is the WSU's Microbiology Department. Rural land uses adjoin the majority of the remaining site boundaries.

University of Western Sydney Partnership

A key driver for the location of the proposed Hurlstone Agricultural High School (Hawkesbury) is creating a partnership between the STEMAg High School with the University of Western Sydney. This will increase the number of students able to access specialised education and training in collaboration with the University of Western Sydney.

This will allow students to identify a future educational pathway from high school to university encouraging future STEMAg careers.

The partnership will enable the sharing of assets between the two entities and to facilitate this a working group has been established. The students will have access to university lecturers and facilities including

specialised laboratories and sports fields. The facilities at the school are being investigated for local community use, for example the hall is now known as a 'Public Hall'.

Planning Approval Pathway

Pursuant to Schedule 1 Clause 15 of the *State Environmental Planning Policy (State and Regional Development) 2011*, certain developments involving educational establishment are classified as State significant development as defined;

15 Educational establishments

(1) Development for the purpose of a new school (regardless of the capital investment value).

(2) Development that has a capital investment value of more than $20 million for the purpose of alterations or additions to an existing school.

(3) Development for the purpose of a tertiary institution (within the meaning of State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017), including associated research facilities, that has a capital investment value of more than $30 million.

The proposal is a new school; therefore, this application is categorised as State significant development and is submitted to the Department of Planning and Environment for assessment and determination.

Assessment

The proposal has been assessed against all items contained in the Secretary's Environmental Assessment Requirements (SEARS) finally reissued on 29 September 2017. A brief summation of the relevant items within the request is outlined below. Further detail of the proposal's compliance is outlined within this EIS.

The proposal satisfies all relevant local and State planning policies;

All relevant strategic planning policy and statutory planning controls have been outlined for the proposal's assessment, which has demonstrated a high level of compliance.

The design positively responds to the existing urban character and future urban design;

Plans prepared by CGAMW illustrate the proposal's consideration of the rich agricultural history of the Hawkesbury region and the existing urban design of the area while providing a link to the specialised purpose. The proposal demonstrates high levels of compliance to the relevant planning controls governing design within the locality, allowing for the proposal to respond positively to existing character as well as desired future urban design.

The proposal is suitable for the site;

The site is ideal for the proposal given the location in the grounds of the WSU campus, enabling accessible and integrated university links, and as such demonstrates high suitability of the site for the proposed development.

The proposal is in the public's best interest;

This EIS demonstrates the proposal is in the public's best interest. The proposed development will allow the Hurlstone Agricultural High School (Hawkesbury) to provide additional, state of the art education for future agricultural professionals. The proposal will increase the number of students able to access specialised education and training as well as partnering with WSU to offer an educational pathway to future agricultural careers. The public will benefit from having additional future professionals in the workforce with an advanced education in agriculture providing innovation to one of Australia's most crucial industries.

The proposal appropriately satisfies each item within the Secretary's Environmental Assessment Requirements.

This EIS demonstrates that the proposal adequately satisfies all item within the Secretary's Environmental Assessment Requirements (SEARs).

Secretary's Environmental Assessment Requirements

Section 78A (8A) of the *Environmental Planning and Assessment Act 1979* and Schedule 2 of the *Environmental Planning and Assessment Regulation 2000.*

The table below outlines the general SEARs requirements and provides a brief description of how the proposed development will meet each requirement. In addition, the table describes where the SEARs requirement is more comprehensively discussed in the relevant section of the EIS.

Sears Requirements

SEARS Requirement	Brief Discussion
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 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 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.	This EIS has been prepared in accordance with, and meets the minimum requirements of clauses 6 and 7 of Schedule 2 the *Environmental Planning and Assessment Regulation 2000* (the Regulation). Key issues have been assessed with respect to the General requirements as outlined in the SEARs.

SEARS Requirement	Brief Discussion
Key Issues	
The EIS must address the following specific matters: **1. Statutory and Strategic Context** – including: Address the statutory provisions contained in all relevant environmental planning instruments, including: ▪ *State Environmental Planning Policy (State & Regional Development) 2011;* ▪ *State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017;* ▪ *State Environmental Planning Policy (Infrastructure) 2007;* ▪ *State Environmental Planning Policy No.55 – Remediation of Land*; ▪ *State Environmental Planning Policy No. 64 – Advertising and Signage*; and ▪ *Hawkesbury Local Environmental Plan 2012*. *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.	This EIS discusses all relevant statutory documents applicable to the site and proposal. Statutory requirements are discussed in Part 4 of this document.
2. Policies Address the relevant planning provisions, goals and strategic planning objectives in the following: ▪ NSW State Priorities; ▪ A Plan for Growing Sydney; ▪ NSW Long Term Transport Master Plan 2012; ▪ 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; and ▪ Greater Sydney Commission's Draft West District Plan.	Part 5 of this document outlines the strategic objectives applicable to the proposal. Refer to Part 5 of this document for further discussion of the proposal against strategic planning objectives.
3. Built Form and Urban Design ▪ Address the height, density, bulk and scale, setbacks of the proposal in relation to 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 Principles. ▪ Detail how services, including but not limited to waste management, loading zones, and mechanical plant are integrated into the design of the development.	CGAMW has prepared the architectural drawings for the proposal. Discussion on the design of the proposal can be found in Part 6.1.
4. Environmental Amenity ▪ Detail amenity impacts including solar access, acoustic impacts, visual privacy, view	The environmental amenity of the proposal is discussed in Part 5.

SEARS Requirement	Brief Discussion
loss, overshadowing and wind impacts. A high level of environmental amenity for any surrounding residential land uses must be demonstrated. ▪ 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	Drawings issued from CGAMW assist in the visual representation of compliance with Environmental Amenity.

5. 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, public transport, pedestrian and cycle movement and existing traffic and transport facilities provided on the road network located adjacent to the proposed development;
▪ an assessment of the operation of existing and future transport networks including the bus network and their ability to accommodate the forecast number of trips to and from the 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 public transport, pedestrian and bicycle networks and infrastructure to meet the likely future demand of the proposed development;
▪ the impact of the proposed development on existing and future public transport infrastructure within the vicinity of the site in consultation with Roads and Maritime Services and Transport for NSW and identify measures to integrate the development with the transport network;
▪ details of any upgrading or road improvement works required to accommodate the proposed development;
▪ details of travel demand management measures to minimise the impact on general traffic and bus operations and to encourage sustainable travel choices and details programs for implementation;
▪ 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 upgrading or road improvement works, if required. Traffic modelling, using, but not limited to, SIDRA network modelling for current and future years, is to be undertaken of the following signalised intersections:
  ▪ Londonderry Road at Vines Drive and Southee Road;
  ▪ Lennox Street/Paget Street;
  ▪ Blacktown Road/Bourke Street;
▪ the proposed active transport access arrangements and connections to public transport services;
▪ details of any proposed school bus routes along bus capable roads (i.e. travel lanes of 3.5m minimum) and infrastructure (bus stops, bus layovers etc.);
▪ the proposed access arrangements, including car and bus pickup/ drop-off facilities, and measures to mitigate any associated traffic impacts and impacts on public transport, pedestrian and bicycle networks, including pedestrian crossings and refuges and speed control devices and zones;
	A Transport and Accessibility Impact Assessment has been prepared by TTW consultants (Appendix M) and is discussed in Part 6.3.

6. Ecologically Sustainable Development (ESD)	An Ecologically Sustainable Development Report has

SEARS Requirement	Brief Discussion
▪ 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. ▪ Demonstrate that the development has been assessed against a suitably accredited rating scheme to meet industry best practice. ▪ Include a description of the measures that would be implemented to minimise consumption of resources, water (including water sensitive urban design) and energy.	been prepared by UMOW Lai Consulting Engineers (Appendix V). ESD measures within the proposal have been discussed in Part 6.4 of this EIS.
7. Social Impacts Include an assessment of the social consequences of the schools' relative location.	Part 6.5 of this EIS addresses social impacts.
8. Biodiversity Biodiversity impacts related to the proposed development are to be assessed and documented in accordance with the Framework for Biodiversity Assessment, unless where otherwise agreed by the OEH, by a person accredited in accordance with s142B(1)(c) of the Threatened Species Conservation Act 1995.	A Biodiversity Assessment Report has been prepared by Narla Environmental consultants (Appendix J). Compliance has been discussed within Part 6.6 of this EIS.
9. Heritage Include a Heritage Impact Statement that addresses the significance of, and provides an assessment of the impact on the heritage significance of any heritage items on the site and in the vicinity, and/or conservation areas and/or potentially archaeologically significant areas, in accordance with the guidelines in the NSW Heritage Manual.	A Statement of Heritage Impact has been prepared by CGAMW (Appendix G) discussing the potential impact to noted heritage items on site. Heritage is discussed in Part 6.7 of this EIS.
10. Aboriginal Heritage Address Aboriginal Cultural Heritage in accordance with the Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW (DECCW, 2011) and Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW).	An Aboriginal Archaeological Cultural Heritage Assessment has been prepared (Appendix H) and is discussed in Part 6.8 of this EIS.
11. Noise and Vibration Identify and provide a quantitative assessment of the main noise and vibration generating sources during construction and operation, including consideration of any public address system, school bell and use of any school hall for concerts etc. (both during and outside school hours), and outline measures to minimise and mitigate the potential noise impacts on surrounding occupiers of land. *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)	A Noise and Vibration Assessment has been prepared by Resonate Acoustics (Appendix T) and is discussed in Part 6.9 of this EIS.
12. 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)	A Civil Engineering Report and Stormwater Management Plan has been prepared by TTW (Appendix K), detailed in Part 6.10 of this EIS.
13. Contamination	A Preliminary Site Investigation was conducted

SEARS Requirement	Brief Discussion
Assess and quantify any soil and groundwater contamination and demonstrate that the site is suitable for the proposed use in accordance with SEPP 55. *Relevant Policies and Guidelines:* ▪ Managing Land Contamination: Planning Guidelines - SEPP 55 Remediation of Land (DUAP)	by Douglas Partners (Appendix X) and is discussed in Part 6.11 of this EIS.
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. ▪ Prepare an Integrated Water Management Plan detailing any proposed alternative water supplies, proposed end uses of potable and nonpotable water, and water sensitive urban design.	An Infrastructure Management Plan has been prepared (Appendix U) and is discussed in Part 6.12 of this EIS.
15. Contributions Address Council's Section 94A Contribution Plan and/or details of any Voluntary Planning Agreement, which may be required to be amended because of the proposed development.	This is addressed in Part 6.13 of this EIS.
16. Drainage Detail drainage associated with the proposal, including stormwater and drainage infrastructure. *Relevant Policies and Guidelines:* ▪ Guidelines for development adjoining land and water managed by DECCW (OEH, 2013)	A Civil Engineering Report and Stormwater Management Plan has been prepared by TTW (Appendix K), and is discussed in Part 6.14 of this EIS.
17. Flooding Assess any 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.	A Civil Engineering Report and Stormwater Management Plan has been prepared by TTW (Appendix K), and is discussed in Part 6.14 of this EIS.
18. 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.	A Waste Management Plan has been provided by CGAMW (Appendix N) and is discussed in Part 6.15 of this EIS.
19. 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.	Construction hours are discussed in Part 6.16 of this EIS.
20. Bushfire Address bushfire hazard and if required, prepare a report that addresses the requirements for Special Fire Protection Purpose Development as detailed in Planning for Bush Fire Protection 2006 guidelines.	A Bushfire Report has been prepared by Bushfire Planning Australia (Appendix O) and this is discussed in Part 6.17 of this EIS.
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. In addition, the EIS must include the following: ▪ Architectural drawings (dimensioned and including RLs);	Attached to this document is a copy of each consultant report as required by the SEARs.

SEARS Requirement	Brief Discussion
▪ Site Survey Plan, showing existing levels, location and height of existing and adjacent structures / buildings and boundaries; ▪ Site Analysis Plan; ▪ Stormwater Concept Plan; ▪ Sediment and Erosion Control Plan; ▪ Shadow Diagrams; ▪ View Analysis / Photomontages; ▪ Landscape Plan (identifying any trees to be removed and trees to be retained or transplanted); ▪ Preliminary Construction Management Plan, inclusive of a Preliminary Construction Traffic Management Plan detailing vehicle routes, number of trucks, hours of operation, access arrangements and traffic control measures; ▪ Geotechnical and Structural Report; ▪ Accessibility Report; ▪ Arborist Report; ▪ Salinity Investigation Report (if required); ▪ Acid Sulphate Soils Management Plan (if required); and ▪ Schedule of materials and finishes.	
Consultation	
During the preparation of the EIS, you must consult with the relevant local, State or Commonwealth Government authorities, service providers, community groups and affected landowners. In particular, you must consult with: ▪ Hawkesbury City Council; ▪ Transport for NSW; and ▪ Roads and Maritime Services. Consultation with TfNSW and RMS should commence as soon as practicable to agree the scope of investigation. 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.	Consultation with Hawkesbury City Council, Transport for NSW and RMS has been undertaken and is discussed in Part 7 of this EIS.
Further consultation after 2 years	
If you do not lodge a development application and EIS for the development within two years of the issue date of these SEARs, you must consult further with the Secretary in relation to the preparation of the EIS.	Noted.
References	
The assessment of the key issues listed above must take into account relevant guidelines, policies, and plans as identified.	All relevant guidelines, policies and plans identified in the SEARs have been discussed within this EIS.

1 Introduction

1.1 Overview

This Environmental Impact Assessment (EIS) has been prepared by RPS on behalf of the NSW Department of Education (Applicant) in support of State Significant Development Application SSD 17_8614 for the development of a portion of 2 College Street, Richmond (located on the Western Sydney University Campus).

Specifically, this EIS seeks development consent for the following works on the site:

- Use of the site for an agricultural high school.
- Construction of two (2) x three (3) storey, multi-purpose school buildings containing:
  - Library;
  - Canteen;
  - Student amenities;
  - Offices for teaching staff;
  - Collaborative learning spaces and classrooms (general learning spaces (GLS)); and
  - Kitchen, wood and metal workshops, science laboratories and related storage.
- Construction of a single storey, ramped building containing:
  - Staff and administrative amenities and offices; and
  - Exterior landscaping for a ramped land mass.
- Construction of one (1) single storey sports hall containing gymnasium, performing arts and PE workshops, toilets, change rooms, ancillary storage rooms; and classrooms;
- Central assembly area with raised walkway connecting all buildings;
- Construction of one (1) single storey agricultural learning classroom, one (1) workshop shed building, above ground water tanks and chicken coop; and
- Associated site landscaping and public domain improvements.

The school will be fully selective, will include boarding facilities (under a separate application), and will have access to 12.2ha of agricultural land suitable for learning about modern day farming practices.

Separate planning approval will be sought for the boarding accommodation, early works including the site services along with ancillary structures required for the agricultural enterprise field.

1.2 Project Context and Background

The Department of Education seeks to update the functions of the existing Hurlstone Agricultural High School (Glenfield), by constructing a new state of the art development in Richmond NSW.

The proposed new Hurlstone Agricultural High School (Hawkesbury) will be an academically selective STEMAg (science, technology, engineering, mathematics and agriculture) high school for 1,500 students. When operational, the student population will include approximately 300 boarders from across NSW.

Located on Western Sydney University (WSU) owned land, the site has been selected to benefit from a partnership with the Western Sydney University Science and Health Departments providing a high quality agricultural and STEMAg focussed research experience.

The new school is to provide the benchmark in STEMAg and integrated models of high school-university framed education as well as agricultural innovation.

1.3 Report Structure

This EIS provides the following:

- A description of the site and surrounding context;
- A detailed description of the proposed development;
- An assessment of the proposed development against the relevant strategic and statutory planning policies and controls;
- An assessment of the key issues and impacts potentially generated by the proposed development; and
- A detailed description of the consultation undertaken with respect to the proposal.

1.4 Project Team

Discipline / Deliverable	Consultant
Secretary's Environmental Assessment Requirements	DPE
Capital Investment Value Report	Wilde and Woollard
Architectural Drawings	Conrad Gargett AMW (CGAMW)
Landscape	Conrad Gargett AMW (CGAMW)
Design Statement	Conrad Gargett AMW (CGAMW)
Project Management & Consultation	Mace Group Pty Ltd
Town Planning	RPS Group
Heritage	Conrad Gargett AMW (CGAMW)
Aboriginal Heritage	Archaeological Management & Consulting Group, & Streat Archaeological Services Pty Ltd
Site Survey	Rygate Surveyors
Biodiversity Assessment Report	Narla Environmental Pty Ltd
Civil Engineering Report and Stormwater Management Plan	Taylor Thomson Whitting (NSW) Pty Ltd
Structural Design Statement	Taylor Thomson Whitting (NSW) Pty Ltd
Transport and Accessibility Impact Assessment	Taylor Thomson Whitting (NSW) Pty Ltd
Waste Management Plan	Conrad Gargett AMW (CGAMW)
Bushfire Threat Assessment	Bushfire Planning Australia
Preliminary Arborist Report for Development	Jack Williams Urban Arbor Pty Ltd

Discipline / Deliverable	Consultant
BCA Assessment Report	Blackett, Maguire and Goldsmith Pty Ltd
Access Review	Morris Goding Accessibility Consultant
SEARs Noise and Vibration Assessment	Resonate Acoustics
Services Infrastructure Connections Report	Umow Lai Pty Ltd
ESD Report	Umow Lai Pty Ltd
Fire Engineering Statement	Umow Lai Pty Ltd
Pedestrian Wind Environment Statement	Windtech Consultants Pty Ltd
Preliminary Site Investigation (Contamination)	Douglas Partners Pty Ltd
Construction Traffic Management Plan	TTM
CPTED Report	Conrad Gargett AMW (CGAMW)
Community Use of School Sites	Department of Education

2 The Site and Surrounding Context

2.1 The Site

The site is located within the Western Sydney University Campus (Lot 2 DP 1051798) and known as 2 College Street, Richmond. The site is located approximately 63 kilometres north-west of the Sydney's Central Business District (CBD) and approximately 2 kilometres south of Richmond Town Centre. The site is located within the Hawkesbury Local Government Area (LGA).

The site comprises a portion of Lot 2 and is approximately 12.2ha in area. The main Western Sydney University (WSU) campus is located to the north-east of the site. To the north of the site are a number of the University student residential townhouses, known as the WSU Hawkesbury Village. The Chesalon Nursing Home adjoins the site's north-western boundary. Adjoining the site's north-eastern boundary is the WSU's Microbiology Department. Rural land uses adjoin the majority of the remaining site boundaries. The site has a frontage onto an internal university road, Vines Drive.

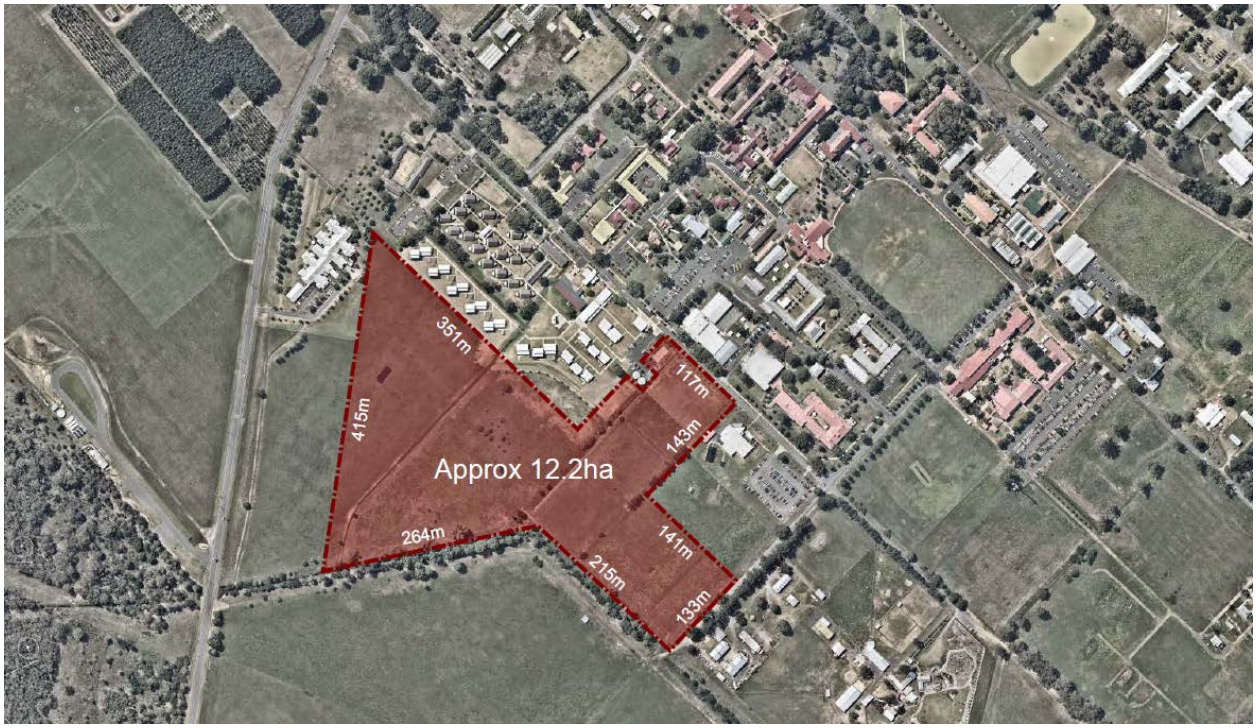


Figure 2.1 Aerial Image

Source: CGAMW, 2017

2.2 Existing Development Context

There is no existing development located on site. The area is largely cleared unmanaged grassland with a small number of trees along the southern boundary (drainage channel) and sporadically throughout. The site was formally used for grazing purposes. There are a number of drainage channels which run in a north-south direction.

The neighbouring university campus buildings to the north-east and north-west of the site are low scale in height (one to two stories high) and well dispersed on their open sites. The buildings are generally of masonry and with tiled roofs, constructed in the 1980's and 1990's. More recently constructed student residential townhouses and facilities of contemporary design are in the adjacent property to the north. Existing buildings on the property to the east, on the opposite side of Maintenance Lane, are farm type buildings and rural in character.

Figure 2.2 Site Context

Source: CGAMW, 2017

2.3 Flora and Fauna

Flora

A Biodiversity Assessment Report has been prepared by Narla Environments (Appendix J) and has identified the site as having three dominant vegetated areas; grasslands, paddock screens and riparian corridors.

The grasslands account for most of the vegetation on site and show a history of disturbance. The site demonstrates evidence of filling, managing for pastoral improvement and heavy grazing by ruminants including sheep and horses and associated fertilising and ploughing. The grassland has no identified native flora.

A monoculture of planted *Casuarina glauca* was identified within the east of the site; these trees have been planted in a row as a screen between paddocks. No native mid-storey or groundcover species were identified in proximity to these trees.

A drainage channel along the site's south-eastern boundary has been identified as containing the only native vegetation on site. The vegetation comprises of dispersed remnant canopy trees consistent with the endangered PCT (Planning Community Type) Forest Red Gum-Rough-barked Apple Grassy Woodland on Alluvial Flats of the Cumberland Plain, Sydney Basin (PCT 835). The term 'remnant' is given where the trees are not original, rather are consistent with what would have existed, in this instance 'woodland'. Refer to 1947 historical photo from the Preliminary Site Investigation (Contamination) by Douglas Partners Pty Ltd, which shows the trees growing in their locations (Appendix X).

Fauna

There was no fauna present on site as recorded by Narla Environments.

2.4 Acid Sulfate Soils

The site has been identified on the Hawkesbury Acid Sulfate Soils map as containing Class 5 Acid Sulfate Soils. Class 5 Acid Sulfate Soils are described under Clause 6.1 of the Hawksbury Local Environmental Plan 2012 as follows:

> *Works within 500 metres of adjacent Class 1, 2, 3 or 4 land that is below 5 metres Australian Height Datum and by which the water table is likely to be lowered below 1 metre Australian Height Datum on adjacent Class 1, 2, 3 or 4 land.*

There are no works proposed within 500m of adjacent class 1, 2, 3, or 4 land that is below 5m AHD, that would likely lower the water table to below 1m AHD on that land.

2.5 Utility servicing

The site is currently not serviced. All major authority services are located in Londonderry Road, including power, communications, potable water, fire water, natural gas and sewer drainage. Umow Lai has prepared an Infrastructure Management Plan, dated December 2017 (refer Appendix U).

Please note however that the connections to the utility services are not included in the subject SSD application for which this EIS has been prepared. The utilities are seeking approval through a separate Review of Environmental Factors under Part 5 of the EP&A Act.

2.6 Topography

The site is extremely flat with only a 1:1000 fall at ground level from Vines Drive to the southern border. Drainage swales have been implemented across the site to allow stormwater flow from north-east to south, however no natural undulation is present on site. A site survey prepared by Rygate Surveyors Pty Ltd, dated April 2016, can be found at Appendix I.

2.7 Heritage

Two heritage items have been identified on Lot 2 DP1051798 within Schedule 5 of the Hawkesbury LEP 2012 and associated map. These items consist of the University Administration Building, Blacksmith Shop and Stable Square, and the original Grandstand at the University's playing fields, as follows:

Heritage items

- Item I9 – Administrative block, blacksmith shop and stable square

- Item I10 – Grandstand

These items are located on Lot 2 DP 1051798 however they are not located on the site of the proposed school. The site is located approximately 250m south of the nearest heritage item and is not within a conservation area.

2.8 Aboriginal Heritage

Archaeological Management and Consulting Group (AMAC) in conjunction with Streat Archaeological Services (SAS) were commissioned to prepare an Aboriginal Cultural Heritage Assessment for the proposal (Appendix H).

2.9 Site Context and Surrounding Development

The site is a portion of the established WSU Campus and is located on former grazing lands. The site is 2km from the Richmond train station and 40m from the nearest residential development.

The main WSU Village is located to the north-east of the site and the Microbiology Science Lab is located to the south-east. The school will take advantage of its proximity to the university, working closely with the various laboratories and using its sportsfields.

Chesalon nursing home is located on the north-west boundary of the site fronting Londonderry Road. The southern boundary of the site abuts cleared grass lands.

The site is serviced by train, bus, road and bicycle access.

2.10 Road Network

There are three access points into the Campus from the public road network;

- Vines Drive at Londonderry Drive
- College Drive at Bourke Street
- Campus Drive at Blacktown Road

The site is located close to the NSW State road network. Blacktown Road is approximately 1.8 kilometres away and Londonderry Road is approximately 650 metres from the site. Blacktown Road provides access to the M7 Motorway (via Richmond Road) at Dean Park. The site is easily accessed from Richmond via Londonderry Drive.

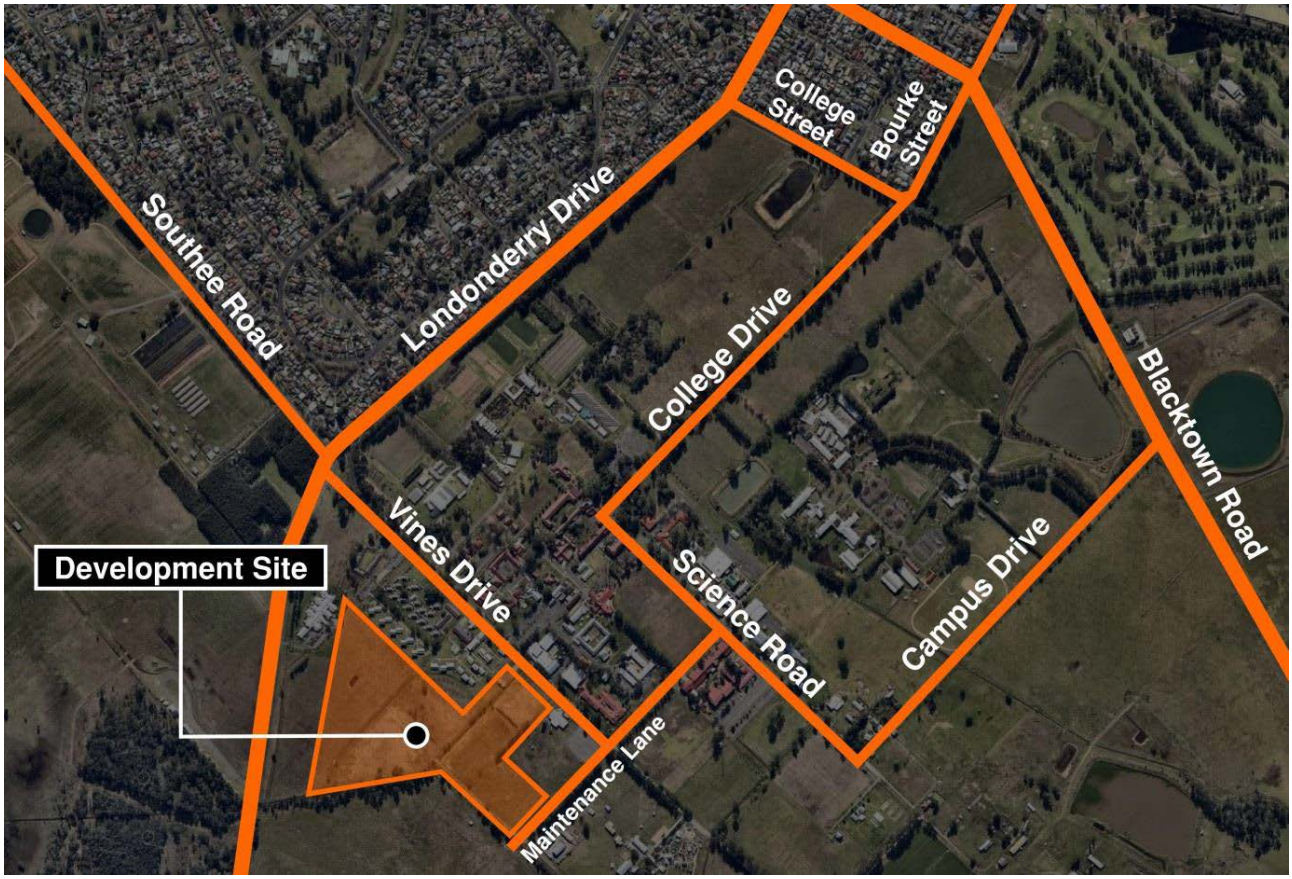


Figure 2.3 Road Network

Source: TTW, Transport and Accessibility Impact Assessment 2017

2.11 Public Transport

The site is in close proximity to public bus stops for two (2) routes. Both routes connect with Richmond Train Station as follows:

- 675 - Windsor to Richmond via RAAF Base & Bligh Park (Loop Service), 1.4km from the site; and
- 677 - Richmond to Penrith via Londonderry, 600m from the site.

All bus services in the area are operated by Busways which provide an infrequent daily service. Refer to Table 2.1 below). The availability of local bus services is shown in Table 2.1 below.

Table 2.1 Public Transport

Route	Destination	Daily Services (8am – 5pm)
675	Windsor to Richmond via RAAF Base & Bligh Park	8 Services
	Richmond to Windsor via RAAF Base & Bligh Park	8 Services
677	Penrith to Richmond via Londonderry	5 Services
	Richmond to Penrith via Londonderry	5 Services

No existing school bus routes operate within the University campus. Busways operates school services to several local schools in the area, including Richmond High School, Richmond North Public School and Richmond Public School. In addition to servicing residential areas, these services typically provide a connection between the school and local amenities such as Richmond Train Station.

Discussions have begun between Hurlstone School and WSU personal regarding the prospect of providing school bus facilities to the site for the purposes of the high school. These discussions are ongoing.

WSU shuttle buses operate to and from campus via Richmond Market Place and East Richmond railway station. Services have an average frequency of 25 minutes between 7:00am and 10:30pm on weekdays, with no services currently available on the weekends. Refer Figure 2.3 for the route.

The nearest train stations to the site are East Richmond (2.0km) and Richmond (2.5km). Walking distances to both stations are approximately 24 minutes and 30 minutes respectively. Route 677 also connects Richmond Station to Londonderry Road and can be used as a transfer to the site.

Richmond and East Richmond Train Stations are the last stations on the T1 North Shore, Northern and Western Line, providing connections to Parramatta and Sydney's CBD through the trains network.

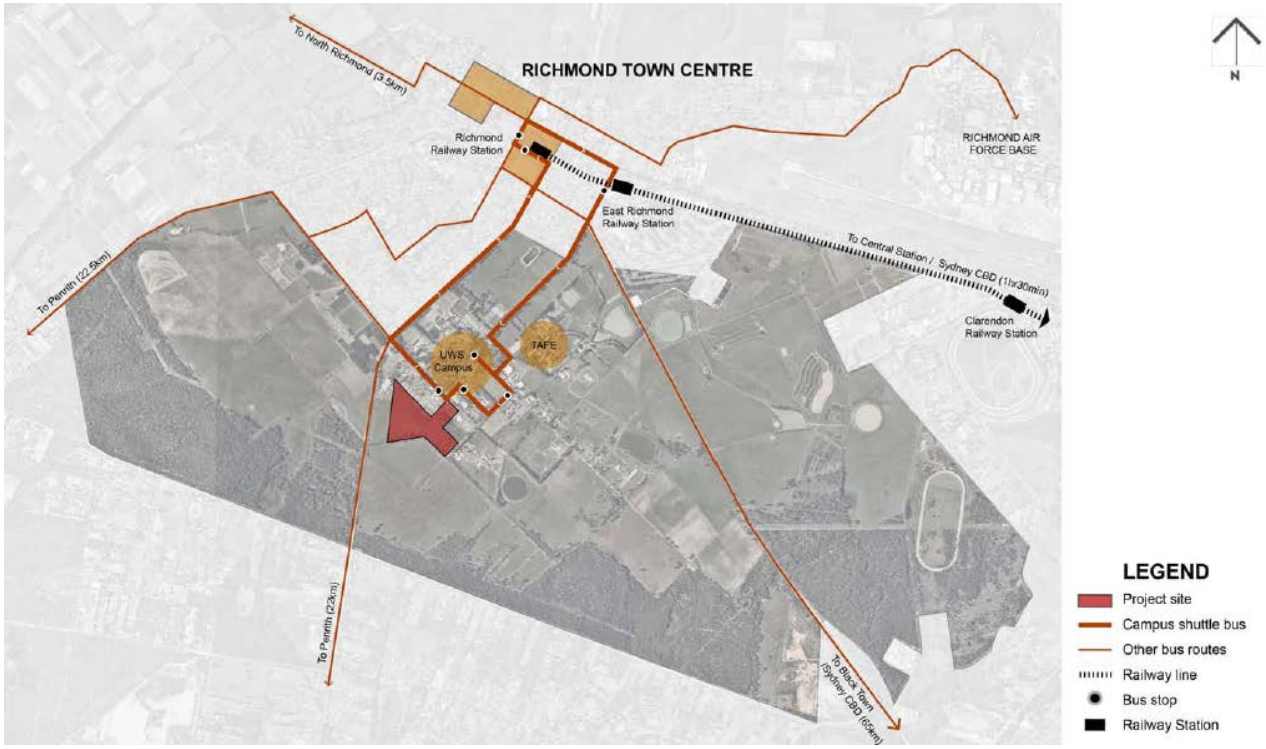


Figure 2.4 Public Transportation

Source: CGAMW, 2017

2.12 Cycleways

WSU has a cycle route currently in place. The cycle route as demonstrated in Figure 2.4 below shows the links between the site, WSU, and Londonderry Road. Cyclists can access the site from Richmond Town Centre via the University or Londonderry Road as well as following the cycle path south on Londonderry road.

There are no formalised cycling facilities within the vicinity of the site, although the 40 km/hr campus-wide speed limit provides safer operating speeds for cyclists.

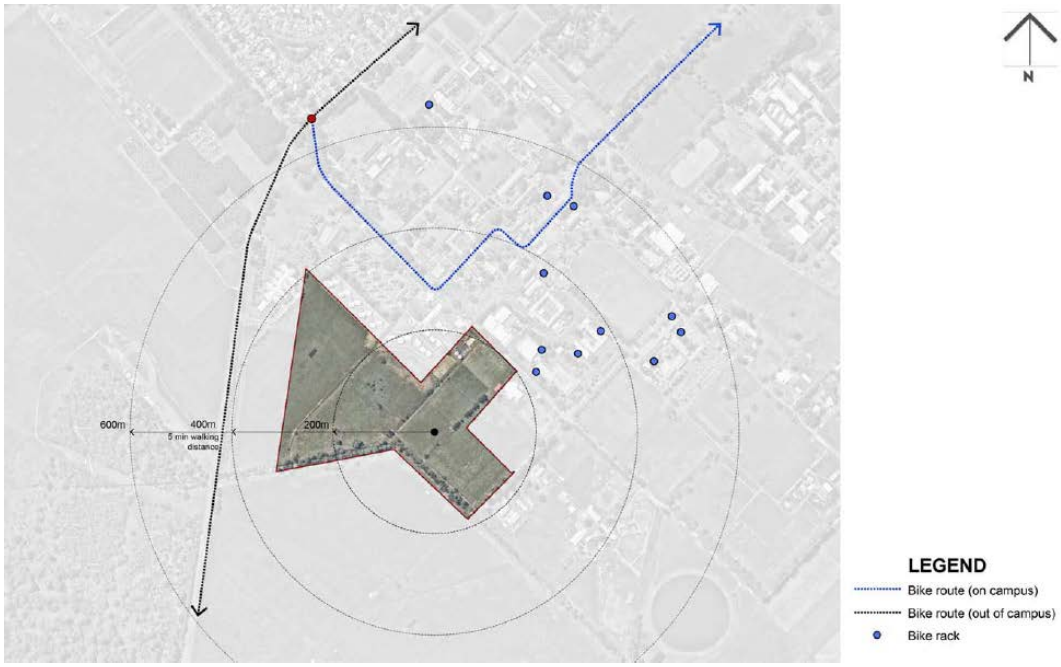


Figure 2.5 Major Bike Routes

Source: CGAMW, 2017

3 Proposed Development

3.1 Overview

This EIS seeks development consent for the following works at the site:

- Use of the site for an agricultural high school.
- Construction of two (2) x three (3) storey, multi-purpose school buildings containing:
  - Library;
  - Canteen;
  - Student amenities;
  - Offices for teaching staff;
  - Collaborative learning spaces and classrooms (general learning spaces (GLS)); and
  - Kitchen, wood and metal workshops, science laboratories and related storage.
- Construction of a single storey, ramped building containing:
  - Staff and administrative amenities and offices; and
  - Exterior landscaping for a ramped land mass.
- Construction of one (1) single storey sports hall containing gymnasium, performing arts and PE workshops, toilets, change rooms, ancillary storage rooms; and classrooms;
- Central assembly area with raised walkway connecting all buildings;
- Construction of one (1) single storey agricultural learning classroom, one (1) workshop shed building, above ground water tanks and chicken coop; and
- Associated site landscaping and public domain improvements.

Further detail of the proposal is provided in the subsections below and in the plans and documentation attached to this EIS. A site plan of the proposal is provided at Figure 3.1 below.

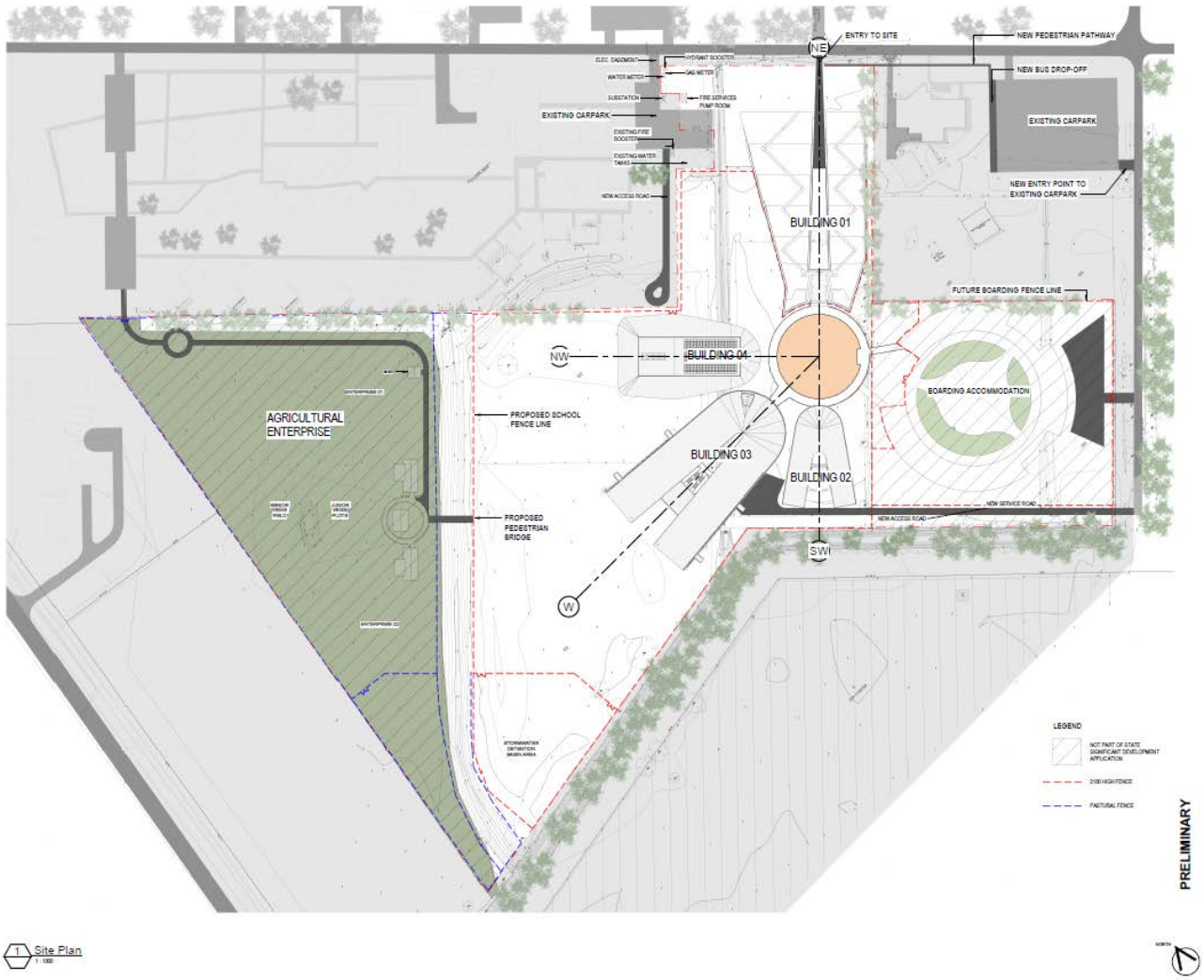


Figure 3.1 Site Plan

Source: CGAMW, 2017

3.2 University of Western Sydney Partnership

A key driver for the location of the proposed Hurlstone Agricultural High School (Hawkesbury) is to create a partnership between the STEMAg High School with the University of Western Sydney. It is envisaged to increase the number of students able to access specialised education and training in collaboration with the University of Western Sydney. It will also allow the students to identify a future educational pathway from the High School to the University, thus encouraging future STEMAg careers.

The partnership will allow the sharing of assets between the two entities, and a working group has been established to foster this relationship. The students will have access to university lecturers and facilities including specialised laboratories and sports fields. The facilities at the school are being investigated for local community use, for example the hall is now called ‘Public Hall’.

3.3 Demolition, Earthworks and Site Clearing

Site clearing, earthworks and associated early works will be subject to a separate application with Hawkesbury City Council.

3.4 Building Design Philosophy

Architects Conrad Gargett AMW (CGAMW) have been engaged by the Department of Education to provide the design for the new Hurlstone Agricultural High School (Hawkesbury). The design philosophy has been provided by CGAMW and is outlined below.

> *The Hawkesbury region has been the foundation of NSW's food provisions since the late 1700's & colonial times, when early settlers established crops and produce on the rich alluvial lands of the Hawkesbury River. Although in decline over recent years, it remains Sydney's original and enduring food bowl. The local orchardists, farmers & artisan producers still provide for market, about 20% of the city's total food supply.*
>
> *Within this rich & historic agricultural setting, the architectural response is inspired by Nature and aims to embed agriculture in the design and fabric of the architecture.*
>
> *As a metaphor for architectural expression, the forms and configuration of the variously connected functional school spaces allude to the structure and anatomy of the flowering plant. The plant symbolising the fundamental basis of agriculture and food production.*
>
> *A strong visual statement at the main entrance, through a synthesis of landscape and architecture, identifies and promotes the importance of agriculture at the high school. When staff, students & visitors walk along the avenue entrance to the school, the intention is to express a modern, state of the art school facility, where agriculture is at the core of everything. This symbolises the leadership of the school, embedding agriculture in the school curriculum. It is an agricultural school and not just a school with agriculture studied in it.*
>
> *The design seeks to look forward to the future and aims to inspire the next generation of agricultural leaders.*
>
> *The Architectural response supports the civic design concept, the building planning framework and expression of interconnecting agricultural outdoor learning spaces.*

3.5 Built Form and Use

The proposed school development comprises four (4) school buildings, assembly structure, sports area, outdoor learning, agricultural narrative space, food forest / bush tucker, and pastoral lands.

School buildings

The proposal will include four (4) multi-purpose school buildings surrounding the central assembly court. Each building will provide state of the art facilities for students and teachers, with a mix of classrooms, storage, administration and agricultural facilities (e.g. greenhouse) spread throughout.

Building 1 – GFA 1,260m²

A single storey building with green roof provides accommodation in two zones either side of the Avenue entrance. The administration and staff areas on the ground floor level include the school main entry desk, offices, meeting rooms, staff study and lounge areas, toilets and storerooms.

Building 2 – GFA 2,660m².

A 3-storey building with curved metal deck roof and central open atrium area for voids, lift & stairs is proposed. The library, student amenities and canteen are located on the ground floor level; the Senior Learning Centre GLS, student forum spaces and staff office areas are accessed from the ring bridge on Level 1; general learning spaces (GLS), learning hub and outdoor roof terrace are on Level 2.

Building 3 – GFA 7,300m²

A 3-storey academic building with curved metal deck roof and central open area for stairs, flanked by veranda circulation paths. This accommodates the TAS (Wood and Metal, Food & Textiles, Visual Arts) facilities on the ground floor level; senior science laboratories, main chemical prep room and GLS areas accessed from the ring bridge on Level 1 through greenhouse spaces; junior science laboratories and GLS areas on Level 2.

Building 4 – GFA 2,460m²

A single storey building with a large pitched roof over the main MPS Hall and lower curved metal deck roof to the perimeter, provides accommodation for the Hall/Gymnasium, mobile stage, performance and fitness workshop spaces and associated GLS, amenities, change rooms and stores.

Assembly Court

The assembly court consists of one circular landscaped area surrounded by an elevated walkway linking all buildings on site. The area is the focal point of the school, as it will be the most utilised link for students and staff from each daily class and activity.

Building 6 – Agricultural Classes

Construction of one (1) single storey agricultural learning classroom, one (1) workshop shed building, above ground water tanks and chicken coop. These are co-located with the vegetable plots.

Sports Court

One multipurpose hardstand court is proposed to be constructed at the rear of Building 4 (the Gym). The sports field will be utilised by all students for both organised sports fixtures as well as physical education.

The Department of Education is proposing to share the University's oval and soccer fields for sporting activities. This is currently being organised between the University and the Department of Education.

Outdoor learning

Multiple outdoor learning spaces have been provided throughout the site. These areas range from the agricultural narrative present on the roof of building one, the dedicated outdoor learning space adjacent to building three, greenhouse, great lawn, and food forest / bush tucker areas.

The

3.6 External Materials and Finishes

The materials used in the proposed development will be hard wearing and robust as well as complementing the desired landscaping of the site. The materials include:

- Aluminium framing;

- Louvres fixed metal;
- Panel Cassette Cladding;
- Wall feature: gabion wall or rammed earth;
- Fibre cement;
- Metal wall cladding;
- Metal roof sheeting;
- Roof gutter;
- Wall lining veneered panel;
- Roof sheeting translucent;
- Counterweight bi-fold lift doors;
- Spiral downpipe; and
- Counterweight vertical lift doors.

3.7 Site Access

Site access will be provided for vehicle access and parking, pedestrian and cycle access, loading, waste and emergency services.

3.7.1 Vehicular Access and Parking

The proposed development will be accessed via Vines Drive and Maintenance Lane. The closest campus car parking area is the existing P47 which is adjacent to the site.

Vehicular access is primarily directed to the existing campus car park (P47) adjacent to the site. This hardstand parking area will be modified and expanding under a separate planning approval, through a review of environmental factors.

The works to P47 include increasing the car parking capacity from 142 to a total of 220 spaces and providing drop-off / pick-up zones for both car and buses.

The existing capacity at the university campus is 1,516 spaces. As demonstrated in the Transport Accessibility Impact Assessment prepared by TTW (Appendix M), the overall parking for the site will continue to be sufficient following this reduction of spaces.

Two (2) vehicular access service roads have been provided to the site. The first is accessed via Vines Drive through an existing car park to the north of proposed building 04. The car park currently serves the WSU Village. The second extends along Maintenance Lane before entering the site behind proposed building 02 to hardstand between buildings 02 and 03. At this stage, the service road to the north of building 04 will be part of the early works review of environmental factors.

3.7.2 Active Access

Pedestrian

Pedestrian and cycling access is currently provided within the WSU Campus. The proposed development will utilise existing facilities such as footpaths and existing road network.

Pedestrian access to the site is proposed via a footpath which connects to Vines Drive. A pedestrian link is also proposed between the school and the P47 car park, with a proposed bus stop and drop-off / pick-up area.

Bicycle

Bicycle parking will be provided onsite in accordance with EFSG requirements. At this stage parking for approximately 75 bicycles will be provided.

Bicycle storage is required to be provided in the form of bicycle rails. The facilities shall be designed and installed in accordance with AS2890.3 as a Class 2 or Class 3 facility as appropriate. No additional on-road cyclist facilities are proposed external to the site.

3.7.3 Loading and Waste

Two new (2) service roads will be constructed to service the proposed new school.

One service road is proposed to be accessed from Maintenance Lane, approximately 250 metres from Vines Drive. The other service road provides access to a loading area to be located between Building 02 and Building 03. Both new roads will be designed to accommodate a Heavy Rigid Vehicle (HRV), and are designed to ensure a vehicle can enter and exit in a forward direction.

The Hawkesbury Development Control Plan 2002requires that service vehicle access should be provided with convenient access and that it should operate independently of other areas and allow the vehicle to enter and exit the site in a forward manner. The location for servicing is considered appropriate subject to further detailed design considerations.

3.7.4 Emergency

Emergency vehicle access to the site would be via the proposed service vehicle driveways and/or the Vines Drive street frontage where required. Driveways and access paths within the adjacent agricultural land can also provide access to various areas of the site depending on the destination and access requirements.

3.8 Landscaping

A landscape plan has been prepared by CGAM, dated September 2017 (Appendix D) and proposes fifteen (15) key landscaping zones on the site. These zones are listed below:

- Agricultural Narrative;
- Dry Creek Bed;
- Wetland;
- Food Forest / Bush Tucker;
- Seating Steps;
- Primary Entry;
- Great Lawn;
- Greenhouse;
- Outdoor Learning with Seating;
- Gravel Lanes;

- Detention Basin with Native Trees;
- Lawn;
- Swales and WSUD;
- Water Tank Above Ground; and
- Ball Games.

Figure 3.2 Landscape Masterplan

Source: CGAMW, 2017

Perspective View
AGRICULTURAL NARRATIVE

Figure 3.3 Landscape View Main Entry

Source: CGAMW, 2017

3.9 Waste

CGAMW has prepared a Waste Management Plan, dated September 2017 (Appendix N). The plan outlines the proposed waste generation from demolition, construction and ongoing operation of the site.

As the site is cleared, demolition waste is only expected to be green waste. Construction waste will consist of general building waste and building materials while operational waste is expected to be predominantly glass, plastic, paper and cardboard, metal and aluminium cans and food waste.

3.9.1 Construction Waste

The nominated contractor will need to comply with the relevant Australian Standards, all relevant conditions of consent, the Waste Management Plan to ensure all waste is carefully removed, packaged and transported from the site to an appropriate waste facility. Where appropriate, waste will be reused or recycled.

3.9.2 Operational Waste

Based on the information provided the primary waste expected to be generated in the ongoing operation of the development would be:

- Cardboard/paper recycling;
- Comingled recycling;
- Food organics recycling. In this regard, a compost facility will be proposed in associated with the agricultural facilities;

- General waste; and
- Additional smaller waste streams may include toner cartridge recycling, fluoro tube/globe recycling and battery recycling.

A waste storage area of approximately 12m^2 is recommended. The proposed waste storage area provides sufficient capacity for the bins proposed, which include:

- 1 x 3m^3 combined recycling (3,000L);
- 2 x 4.5m^3 general waste (9,000L).

Bins will be stored throughout the school for use at the point of generation. They will be brought to the waste storage/collection area as required for collection. Collection will be managed by the school using a nominated contractor.

The waste management plan has found the site's best operational waste collection will be a tri-weekly general waste collection, and a bi-weekly recycling collection.

3.10 Utilities

Umow Lai has prepared the Infrastructure Management Plan, (Appendix U) for the proposed development. The Plan outlines the proposed connections to services including potable water, fire water, natural gas, sewerage, drainage and power supply. Possible alternative options are also discussed to find surety in the most effective connection option.

The site will be largely serviced from mains running along Londonderry Road, apart from fire water which is already present within the WSU site. The provision of utilities is not part of this SSD application. The utilities will seek approval by way of a Review of Environmental Factors (REF) pursuant to Part 5 of the EP&A Act.

3.11 Staging and Construction Management

Separate planning approvals are being sought for the early works, student boarding facilities and any structures required for the agricultural enterprise field the school requires.

A preliminary Construction Management Plan (CMP) (Appendix F) and Construction Traffic Management Plan (CTMP) (Appendix Y) have been developed demonstrating the potential operation of the construction site.

3.12 Noise and Vibration

The proposed noise and vibration for the site has been modelled by Resonate Acoustics and the assessment is provided in the Noise and Vibration Assessment (Appendix T).

A preliminary construction noise and vibration assessment has been conducted against noise and vibration criteria determined from:

- Unattended noise monitoring data;
- The Interim Construction Noise Guideline; and
- Assessing Vibration – a technical guideline (the Vibration Guideline).

Based on the preliminary assessment, it is anticipated that some noise and vibration impacts may occur during construction at the adjoining noise and vibration sensitive receivers, in particular the WSU Hawkesbury Village and Chelsalon Nursing Home.

The construction noise and vibration impacts can be mitigated through:

- the development and implementation of a Construction Noise and Vibration Management Plan;
- carrying out works during standard daytime working hours wherever possible;
- appropriate stakeholder consultation and complaint handling procedures for noise and vibration; and
- the implementation of all feasible and reasonable work practices to minimise noise and vibration from the site in accordance with the ICNG and Vibration Guideline.

Construction mitigation measures are discussed in Part 6.9 below.

Operational noise issues for the school include mechanical plant noise along with students at play and sporting fields. Noise emissions from the development will predominantly be a result of student activities within the grounds with some impact from rooftop mechanical plant noise emission. Detailed information on the rooftop plant selection is not available at this stage but noise mitigation techniques will be investigated and determined during detailed design, and will include consideration of:

- Use of landscaping features as natural sound barriers/bunds;
- Selection of lower noise plant and equipment;
- Screening of external plant using solid barriers or acoustic louvres; and
- Appropriate orientation and use of structures to shield potential noise sources.

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:

- *Environmental Planning and Assessment Regulations 2000 (Schedule 2)*
- *State Environmental Planning Policy (State & Regional Development) 2011;*
- *State Environmental Planning Policy (Infrastructure) 2007;*
- *State Environmental Planning Policy No.55 – Remediation of Land;*
- *State Environmental Planning Policy No. 64 – Advertising and Signage;*
- *State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017; and*
- *Hawkesbury Local Environmental Plan 2012.*

4.2 Environmental Planning and Assessment Regulations 2000 (schedule 2)

The *Environmental Planning and Assessment Regulations 2000* (schedule 2) sets out the requirement for an environmental impact statement (EIS) prepared under section 78A(8) of the *Environmental Planning and Assessment Act 1979*. This EIS has been prepared in accordance with these requirements.

4.3 State Environmental Planning Policy (State and Regional Development) 2011

State Environmental Planning Policy (State and Regional Development) 2011 identifies development types that are of State significance, or infrastructure types that are of State or critical significance. Pursuant to the SEPP:

> Development for the purpose of educational establishments (including associated research facilities) that has a capital investment value of more than $30 million" is considered a State Significant Development (SSD)

The proposal is defined as an 'Educational Establishment' and has a project value in excess of $30 million. Clause 11 of the SEPP outlines that DCP's (whether made before or after the commencement of this Policy) do not apply to SSD.

Therefore, noting the proposal is SSD, an Environmental Impact Statement (EIS) is required to accompany the development application and the development application will be assessed by the Department of Planning and Environment (DOE) rather than the City of Hawkesbury.

4.4 State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017

State Environment Planning Policy (Educational Establishment and Child Care Facilities) 2017 (Education SEPP) provides state wide planning controls for Educational Establishments. The Education SEPP came into force on 1 September 2017 and replaces the education provisions in the State Environmental Planning Policy (Infrastructure) 2007.

'Educational Establishment' is defined in the Education SEPP and standard instrument as:

> ***educational establishment*** *means 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.*

Clause 35 of the Education SEPP permits schools to be carried out with consent in a prescribed zone.

Before determining a development application pursuant to clause 35(6), the consent authority must have regard for the design quality principles set out in Schedule 4, in addition to whether the development enables the use of school facilities (including recreational facilities) to be shared with the community.

In this regard CGAMW has prepared the following statement:

Table 4.1 *State Environmental Planning Policy (Education Establishments and Child Care Facilities)2017* – Design Quality Principles

Design Quality Principle	Design Response
Principle 1—context, built form and landscape	The new high school is engaged in the urban planning and building context of the WSU Campus.
Schools should be designed to respond to and enhance the positive qualities of their setting, landscape and heritage, including Aboriginal cultural heritage. The design and spatial organisation of buildings and the	The site addresses Vines Drive, one of the main roads through the WSU campus & the school's entrance is established by a main avenue which leads to the school centre. This provides a strong visual and physical pathway connection with the WSU, aligned with the Stable Square building and serves to link & extend the university's pedestrian networks into the school grounds. The design expressed in its entrance and address to the WSU, is to be

Design Quality Principle	Design Response
spaces between them should be informed by site conditions such as topography, orientation and climate. Landscape should be integrated into the design of school developments to enhance on-site amenity, contribute to the streetscape and mitigate negative impacts on neighbouring sites. School buildings and their grounds on land that is identified in or under a local environmental plan as a scenic protection area should be designed to recognise and protect the special visual qualities and natural environment of the area, and located and designed to minimise the development's visual impact on those qualities and that natural environment.	modern, state of the art, distinctive and inspirational. A sloping landform gently rises from the front boundary & provides a landscaped "narrative" space in the school entrance space. The agricultural theme is to be presented in a selection of crops, native flower beds or orchards in a structured landscape environment. The fields are intended to be tilled & maintained by the students, to provide a unique & distinctive identity for the agricultural high school. At the slope's highest level, it becomes a green roof & terraced outdoor learning space. The landscaped "narrative" space transitions into the central Assembly Court, a "civic" place as a focus and at the "heart" of the new school. The 4 main building areas are planned in the centre of the site, like a small township around a village square, with the main "public" function buildings fronting the "civic" space of the school. The buildings and outdoor spaces are organised in a radial arrangement around the central civic place & Assembly Court, linked and interconnected within the overall site planning framework & view corridors to the agricultural fields beyond.
Principle 2—sustainable, efficient and durable Good design combines positive environmental, social and economic outcomes. Schools and school buildings should be designed to minimise the consumption of energy, water and natural resources and reduce waste and encourage recycling. Schools should be designed to be durable, resilient and adaptable, enabling them to evolve over time to meet future requirements.	The design includes a number of key aspects to achieve sustainable outcomes. The design incorporates ecologically sustainable design principles including: ▪ Passive environmental design, by the provision of solar shading/climatic control screens to minimise heat gain and spatial planning to facilitate natural cross-ventilation. ▪ A structural column grid layout to enable flexible & multiple modes of use of spaces in the building design. ▪ Material selections that will be considerate of their environmental impact and reduce their impacts on waste production, through recyclability and long term durability. ▪ Incorporation of energy efficient technologies and roof mounted solar panels. ▪ Incorporation of rainwater storage tanks for use in irrigation ▪ Appropriate material selection which carefully considers the Australian climate & context in a contemporary building. ▪ Landscape design and plant selection is considerate of location. An Ecologically Sustainable Design Report has been prepared by Umow Lai Pty Ltd (Appendix V)
Principle 3—accessible and inclusive School buildings and their grounds should provide good wayfinding and be welcoming, accessible and inclusive to people with differing needs and capabilities. Note. Wayfinding refers to information systems that guide people through a physical environment and enhance their understanding and experience of the space. Schools should actively seek	The proposal has been designed to be universally accessible and inclusive. The building and landscape design provides clear and easily traversable access for all students, staff, users and visitors, including people with differing needs and abilities. This is achieved through compliance with the requirements of AS1428.1, AS1428.2 (where applicable), accessible pathway grades and surfaces, clearances at door entries and centrally located lifts in the multi-storey buildings to allow easy access, assist wayfinding and circulation to the upper level facilities. Engagement between the project managers, design consultants will continue to as the scheme progresses to ensure appropriate outcomes are achieved in building design and exterior planning and landscaping.

Design Quality Principle	Design Response
opportunities for their facilities to be shared with the community and cater for activities outside of school hours.	
Principle 4—health and safety Good school development optimises health, safety and security within its boundaries and the surrounding public domain, and balances this with the need to create a welcoming and accessible environment.	The design aims to provide a healthy and safe environment for all school students, staff, users and visitors. The design utilises multiple strategies including: ▪ Building design provides healthy, safe & secure learning environments ▪ Sporting courts, ball areas which are easily accessible to encourage physical fitness and use of outdoor areas. ▪ The school is entered via a main avenue, which will provide a welcoming address & an entrance clearly marked and signed. ▪ Building design allows for casual surveillance of the outdoor areas & pathways. ▪ Entrances to toilet facilities will be clearly visible. ▪ A line of fencing separates the school grounds form the surrounding areas, securing the school from after-hours and public uses. Crime Prevention through Environmental Design (CPTED) has been a key driver in the architectural design and is further discussed in Part 6.3 of this EIS and appendix E.
Principle 5—amenity Schools should provide pleasant and engaging spaces that are accessible for a wide range of educational, informal and community activities, while also considering the amenity of adjacent development and the local neighbourhood. Schools located near busy roads or near rail corridors should incorporate appropriate noise mitigation measures to ensure a high level of amenity for occupants. Schools should include appropriate, efficient, stage and age appropriate indoor and outdoor learning and play spaces, access to sunlight, natural ventilation, outlook, visual and acoustic privacy, storage and service areas.	The design of the buildings and landscape have focused on providing future-focused learning spaces, with a focus on agricultural enterprises to provide a high level of amenity for the students, their teachers and the local neighbourhood through: Passive environmental design ensures that the internal amenity is maximised; Technology strategies that are flexible and can be easily adapted over time; Building design ensures that undue overshadowing of neighbouring properties has been minimised; Privacy to the adjoining residential users has been maximised through the location of the proposed building development towards the rear of the site; Building design and material selection ensures good interior acoustic amenity and reduces the impact of noise to the adjoining neighbours.
Principle 6—whole of life, flexible and adaptive School design should consider future needs and take a whole-of-life-cycle approach underpinned by site wide strategic and spatial planning. Good design for schools should deliver high environmental performance, ease of adaptation and maximise multi-use facilities.	Engagement with the DoE & WSU stakeholders was undertaken early in the design process to gain an understanding of the existing site context and to consider the future of the proposed school in partnership with the WSU campus; ▪ Sstudent's at the new school will have access to the university's world leading science, STEM & environmental research facilities, as well as the extensive tracts of agricultural land, suitable for both intensive & progressive farming practices. ▪ Learning spaces designed using the findings of DoE's Future Learning Unit to deliver adaptable & flexible multi-use facilities. ▪ The new school's facilities will include interactive learning spaces, state of

Design Quality Principle	Design Response
	the art boarding accommodation, sporting and science laboratories, all with full WIFI connectivity.
Principle 7—aesthetics School buildings and their landscape setting should be aesthetically pleasing by achieving a built form that has good proportions and a balanced composition of elements. Schools should respond to positive elements from the site and surrounding neighbourhood and have a positive impact on the quality and character of a neighbourhood. The built form should respond to the existing or desired future context, particularly, positive elements from the site and surrounding neighbourhood, and have a positive impact on the quality and sense of identity of the neighbourhood.	The design has been developed based on extensive consultation with the Department, the Project Reference Group and in response to the local environment and context. The scale of the proposed new school buildings in relation to the neighbouring buildings, is significant. Most the campus buildings are 1 to 2 storeys high & spread out across the WSU site. Within this building context, the visual impact of the school development presented to Vines Drive is mitigated by the sloping landform, which serves to conceal the view & diminish the scale of the main buildings beyond. The buildings which front & are closest to the neighbouring WSU facilities, i.e. the University residential housing & Microbiology facility are single storey high buildings. The 3-storey high library & academic buildings are well setback towards the “rear” of the school site, to reduce the visual impact of their larger scale. The orientation of the school buildings align with the WSU campus buildings, apart from academic building whose ‘wings’ have a northern aspect to capture the best natural light and address the alignment of the woodland along the boundary edge. The building forms are wedge shaped, generated from the radial planning geometry. Their curvilinear roofs serve to reduce the overall height of the buildings & visual impact of their scale. While the buildings may be presented as large ‘farm sheds”, the dignity of their simple, strong & honest agricultural building forms are celebrated in the architectural design. The forms & shapes of the buildings are purposeful & responsive to the different functions they accommodate. The façades seek to create protective enclosures, in the expression of their sheltering function & the Nature inspired theme, like the protective husk or shell to the kernel of the seed inside. The facades utilise traditional galvanise coloured sheet metal claddings & louvres, but are to be designed in a sophisticated & purposeful way with contemporary detailing & modulated wall panelling. The fenestration is overlayed by lightweight external screens of folded & perforated metal panels, to provide protection from the wind & rain, and as a sun control shading device to the façade.

Shared Facilities

As outlined in section 3.2, key driver for the location of the proposed Hurlstone Agricultural High School (Hawkesbury) is to create a partnership between the STEMAg High School with the University of Western Sydney.

It is envisaged to increase the number of students able to access specialised education and training in collaboration with the University of Western Sydney. It will also allow the students to identify a future educational pathway from the High School to the University, thus encouraging future STEMAg careers.

The partnership will allow the sharing of assets between the two entities, and a working group has been established to foster this relationship. The students will have access to university lecturers and facilities including specialised laboratories and sports fields. The facilities at the school are being investigated for local community use, for example the hall is now called ‘Public Hall’.

The partnership will allow the sharing of assets between the two entities. A working group has been established to foster this arrangement and discussions are still progressing. The students will have access to university lecturers and facilities including specialised laboratories and sports fields. At this stage, the university has expressed an interest in the hall and a few other facilities.

The partnership with the university also offers a number of professional development opportunities for the teachers for school and lecturers from the university alike.

With regard to community use of school facilities, the Department of Education has a policy on the community use of School Facilities (PD/2009/0400/V03) (Appendix Z). Schools are encouraged to make their facilities available for use by the community. However, this must be for appropriate purposes and must not interfere with the school's provision of quality learning programs.

The objectives of the policy are as follows:

- Schools are valuable community assets which should be available for community use, when not required for school purposes;
- Schools support families and communities by making facilities available for children's services;
- School facilities must only be used for activities that do not interfere with the school's teaching and learning programs;
- School facilities must only be used for activities which are consistent with the values of Public Education and the school's purpose and goals;
- Community use applications are determined on whether facilities are fit for the proposed use, the proposed use is appropriate and the proposed community user is suitable;
- Priority is given to applications from community groups and organisations as listed in the implementation procedures;
- Any necessary consultation between the school principal, other departmental officers, the community use applicant and other key stakeholders should be conducted prior to any agreement being signed;
- A written agreement for the community use of school facilities is made to formalise the rights and obligations of both parties;
- Community use involving the upgrading of facilities, children's services, commercial ventures or uses for durations over 12 months should be referred to the local Assets Management Unit;
- Community use agreements are subject to suspension or termination in circumstances of emergent school and department requirements; and
- Schools will charge appropriate fees for the use of their facilities.
- Community Languages Schools approved by the department;
- Have free access to school facilities for community language classes during school terms;
- Are not charged costs for utilities for community language classes during school terms.
- The Department of Education provides funding to schools to assist in meeting additional costs in utilities arising from the free use of school facilities by approved Community Languages Schools.

As outlined above, School Principals supported by the Department of Education can and often do make their facilities available for community use. Community uses which are commonly accommodated in existing schools' facilities are:

- Community Language Schools;
- Dance schools/groups;

- Sporting groups;
- Martial Arts groups; and
- Local Community Musical Theatre and Arts groups.

Ultimately the decision to make the school facilities available to community uses will be up to the Principal supported by the school community and the Department of Education. However, the policy framework to support and encourage community uses into schools is there to allow this integration to occur.

RMS referral

Clause 57 of the Education SEPP relates to traffic generating development and certain proposals trigger referrals to the Roads and Maritime Services (RMS), as follows:

> *57(1) This clause applies to development for the purpose of an educational establishment:*
>
> *(a) that will result in the educational establishment being able to accommodate 50 or more additional students, and*
>
> *(b) that involves:*
>
> *(i) an enlargement or extension of existing premises, or*
>
> *(ii) new premises,*
>
> *on a site that has direct vehicular or pedestrian access to any road.*

Accordingly, a referral to the RMS will be required noting the proposal is for a new school for 1,500 students.

4.5 State Environmental Planning Policy No. 55 – Remediation of Land

State Environmental Policy No. 55 – Remediation of Land provides a state-wide planning approach to the remediation of contaminated land. Contaminated land is defined in the SEPP and the EP&A Act. as:

> *Contaminated land means land in, on or under which any substance is present at a concentration above the concentration at which the substance is normally present in, on or under (respectively) land in the same locality, being a presence that presents a risk of harm to human health or any other aspect of the environment.*

Pursuant to the provisions of Clause 7 of SEPP 55, consent must not be granted to a development application unless it has considered whether the land is contaminated. If the land is found to be contaminated, Council must be satisfied that the land is suitable in its contaminated state or can be remediated to be made suitable for the purpose for which the development is proposed to be carried out.

Regarding the former use of the site for rural purposes a preliminary Site Investigation Report has been prepared by Douglas Partners (Appendix U).

The report concludes that although the general result of the testing was adequate, the frequency of sampling carried out was lower than recommended by NSW EPA for full site characterisation purposes. Therefore, the report recommends that a Detailed Site Investigation be undertaken to fully characterise the contamination status of the site. Such an Investigation is currently underway.

4.6 State Environmental Planning Policy No. 64 – Advertising and Signage

State Environmental Planning Policy No. 64 – Advertising and Signage (SEPP 64) applies to all signage that can be displayed with or without development consent and is visible from any public place or public reserve.

The objectives of the policy include;

(i) is compatible with the desired amenity and visual character of an area, and

(ii) provides effective communication in suitable locations, and

(iii) is of high quality design and finish.

The proposed signage is required to comply with the aims of Clause 3(1) of SEPP 64 and the assessment criteria in Schedule 1 of the SEPP. The proposal as demonstrated in the architectural plans will comply with the objectives of the SEPP.

The proposal includes a building identification sign located at the end of the entry avenue and a way finding sign at the start of the entry avenue for the purpose of identifying the proposed school. The main sign will be affixed to the head of the entry avenue tunnel, (840mm x 8070mm). The sign will consist of the school name for identification of the proposed development. The proposed signage is required to comply with the aims of Clause 3(1) of SEPP 64 and the assessment criteria in Schedule 1 of the SEPP. The proposal as demonstrated in the architectural plans will comply with the objectives of the SEPP.

An assessment of the proposed signage and the assessment criteria in Schedule 1 is provided in Table 4.2.

Table 4.2 SEPP 64 Compliance Table

Clause	Comment	Complies
Clause 3 Aims, objectives etc.		
1. Character of the area		
Is the proposal compatible with the existing or desired future character of the area or locality in which it is proposed to be located? Is the proposal consistent with a particular theme for outdoor advertising in the area or locality?	The proposed signage is consistent with the education precinct in which it is located. The proposal is consistent with the requirement to clearly identify the school for the students, staff and visitors.	✓
2. Special areas		
Does the proposal detract from the amenity or visual quality of any environmentally sensitive areas, heritage areas, natural or other conservation areas, open space areas, waterways, rural landscapes or residential areas?	The proposal would not detract from the amenity or visual quality of any environmentally sensitive areas.	✓
3. Views and vistas		
Does the proposal obscure or compromise important views? Does the proposal dominate the skyline and reduce the quality of vistas? Does the proposal respect the viewing rights of other advertisers?	The proposal does not obscure or compromise important views, dominate the public domain or reduce the quality of vistas.	✓

Clause	Comment	Complies
4. Streetscape, setting or landscape		
Is the scale, proportion and form of the proposal appropriate for the streetscape, setting or landscape? Does the proposal contribute to the visual interest of the streetscape, setting or landscape? Does the proposal reduce clutter by rationalising and simplifying existing advertising? Does the proposal screen unsightliness? Does the proposal protrude above buildings, structures or tree canopies in the area or locality? Does the proposal require ongoing vegetation management?	The scale, proportion and form of the proposal is appropriate to its setting and landscape. The proposed signage is consistent with the education precinct of the university campus. The signage provides some visual interest to the immediate public domain. It is consistent with the scale and architectural approach of the proposed school buildings.	✓
5. Site and building		
Is the proposal compatible with the scale, proportion and other characteristics of the site or building, or both, on which the proposed signage is to be located? Does the proposal respect important features of the site or building, or both? Does the proposal show innovation and imagination in its relationship to the site or building, or both?	The proposal is compatible with the scale, proportion and other characteristics of the building. It is fitting with surrounding development. The signage respects the building, site and local context, the new signage is innovative and imaginative which respects the proposal.	✓
6. Associated devices and logos with advertisements and advertising structures		
Have any safety devices, platforms, lighting devices or logos been designed as an integral part of the signage or structure on which it is to be displayed?	The signage is integrated into the design of the proposal. The proposed development is not an advertisement or an advertising structure.	✓
7. Illumination		
Would illumination result in unacceptable glare? Would illumination affect safety for pedestrians, vehicles or aircraft? Would illumination detract from the amenity of any residence or other form of accommodation? Can the intensity of the illumination be adjusted, if necessary? Is the illumination subject to a curfew?	No illumination is proposed.	✓
8. Safety		
Would the proposal reduce the safety for any public road? Would the proposal reduce the safety for pedestrians or bicyclists? Would the proposal reduce the safety for pedestrians, particularly children, by obscuring sightlines from public areas?	The proposal would not reduce the safety for any public road, pedestrians or cyclists. The signage would not reduce safety for pedestrians as no sightlines would be obscured from public areas.	✓

4.7 Hawkesbury Local Environment Plan 2012

Hawkesbury Local Environmental Plan 2012 (HLEP 2012) contains the local planning controls for the Hawkesbury LGA. The proposed development has been assessed against the relevant controls for the site, as outlined below in Table 4.3.

Table 4.3 Hawkesbury LEP 2012 Compliance Table

Clause	Comment	Complies
2.1 Land Use Zones		
Land use zone	Special Purpose Zone – SP1 Special Activities: Education Agriculture	✓
Special Purpose Zone – SP1 Special Activities: Education Agriculture	The objectives of the SP1 Special Activities zone are: To provide for special land uses that are not provided for in other zones. To provide for sites with special natural characteristics that are not provided for in other zones. To facilitate development that is in keeping with the special characteristics of the site or its existing or intended special use, and that minimises any adverse impacts on surrounding land. The proposal for a school, an academically selective STEMAg high school for 1,500 students (including 300 boarders from across NSW), fulfils these objectives.	✓
Permissibility	The purpose shown on the HLEP 2012 zoning map is 'Education, Agriculture, Research Station'. The proposed School is therefore permissible under the HLEP.	✓
4.3 Height of Buildings		
The height of a building on any land is not to exceed the maximum height shown for the land on the Height of Buildings Map	The site is shown as having no height restrictions on the Hawkesbury Height of Buildings Map.	✓
4.4 Floor space ratio		
Not adopted under the HLEP 2012.	Not applicable.	✓
5.10 Heritage Conservation		
The objectives of this clause are as follows: (a) to conserve the environmental heritage of Hawkesbury, (b) to conserve the heritage significance of heritage items and heritage conservation areas, including associated fabric, settings and views, (c) to conserve archaeological sites, (d) to conserve Aboriginal objects and Aboriginal places of heritage significance.	A Statement of Heritage Impact has been prepared by CGAMW, dated September 2017 (Appendix G) which outlines and assesses the impact of the proposal on the heritage items located within the University of Western Sydney campus, specifically Heritage item I9 under the HLEP 2012 which consists of the *Administrative block, blacksmith shop and stable square.* This report notes; *"The new development will provide a group of 5 buildings on the south-western side the Vines Drive. Four buildings (B1, B2, B3 and B4) are arranged in a circular formation around a central circular ring (B5) which would provide a covered circulation to other four buildings (Figure 62).* *No works are proposed to any of locally listed two heritage*	✓

Clause	Comment	Complies
	items and rest of the significant heritage buildings at the Campus (Figure 6). *The proposed new development would not impact on the views to the all heritage buildings from the surrounding open areas and streets."* The proposal is satisfactory pursuant to clause 5.10 of the HLEP 2012.	
6.1 Acid Sulfate Soils		
Classification	Class 5	✓
Development consent is required for the carrying out of works for - Class 5 - Works within 500 metres of adjacent Class 1, 2, 3 or 4 land that is below 5 metres Australian Height Datum and by which the watertable is likely to be lowered below 1 metre Australian Height Datum on adjacent Class 1, 2, 3 or 4 land.	The site has been identified in the HLEP as containing Class 5 Acid Sulfate Soils. Pursuant to Part 6.1 (2) of the help, development consent is required for works within Class 5 Acid Sulfate Soils for the following criteria; *Works within 500 metres of adjacent Class 1, 2, 3 or 4 land that is below 5 metres Australian Height Datum and by which the watertable is likely to be lowered below 1 metre Australian Height Datum on adjacent Class 1, 2, 3 or 4 land* The site is located more than 500m from the nearest Class 1, 2, 3, or 4 land as shown in the Hawkesbury Acid Sulfate Soils map ASS_008DA.	✓
6.4 Terrestrial Biodiversity		
(4) Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that: **(a)** the development is designed, sited and will be managed to avoid any significant adverse environmental impact, or **(b)** if that impact cannot be reasonably avoided by adopting feasible alternatives—the development is designed, sited and will be managed to minimise that impact, or **(c)** if that impact cannot be minimised—the development will be managed to mitigate that impact.	The Biodiversity Assessment Report prepared by Narla Environmental Pty Ltd (Appendix J) has found the development is designed and sited to minimise adverse impacts on native vegetation. The proposed development is not required to offset any native vegetation.	✓

4.8 Hawkesbury Development Control Plan 2002

Hawkesbury Development Control Plan 2002 (HDCP 2002) consists of the local development controls for the Hawkesbury LGA. The proposed development has been assessed against the relevant controls for the site in Table 4.4 below. Although the SEARs has not requested that the SSD be assessed against the HDCP 2002, the controls have been provided to demonstrate general compliance.

Table 4.4 Hawkesbury DCP 2002 Compliance Table

Clause	Comment	Complies

Clause	Comment	Complies
Part C: General Guidelines		
Landscaping		
1.2 A landscape concept plan is required for most developments in the Hawkesbury. The landscape plan is to be prepared by a suitably qualified person, and must incorporate the requirements detailed below. *1.2.1 Existing Environment* *1.2.2 Proposed Landscaping*	A landscape plan has been prepared by qualified landscape architects from CGAMW, dated September 2017 (Appendix D)	✓
Car Parking and Access		
2.5 Rules *2.5.5 Other Land Uses* Schools and educational establishments 1 space for each staff, plus space for delivery vehicles and buses, plus 1 space per 5 seats or 1 space per 7m2 of floor area in assembly hall, whichever is greater, plus 1 space per 3 Year 12 students.	On application of the Hawkesbury DCP rates, the following parking would be required: ▪ 110 staff members - 110 spaces ▪ 692m^2 assembly hall - 99 spaces ▪ 200 Year 12 students - 67 spaces Total: 276 spaces In comparison, the mode share demand for parking based on current mode share split at the existing Hurlstone Agricultural High School at Glenfield would be: ▪ 110 staff at 95% vehicle usage - 105 spaces ▪ 1200 students at10% parking usage - 120 spaces Total: 225 spaces The NSW DoE's Educational Facilities Standards and Guidelines (EFSG) also provide desired parking provision for schools. The EFSG specifies that for a secondary school with 7 streams parking provision is to b 112. This is the equivalent of 16 spaces per stream, and it is noted that the per-stream parking rate reduces as the number of stream increase. For the proposed 9 streams, the following parking rate would be required; ▪ 130 spaces The closest parking area P47 is proposed to be modified to cater for bus movements and additional carparking. These modifications include adding additional hardstand area on the western edge of the car park to allow for a bus stop and drop off facility. Once these works are completed P47 will accommodate 220 car parking spaces. These works are not part of this SSD application. The existing capacity at the university campus is 1,516 spaces, has been surveyed to ensure that there is sufficient capacity to cater for any overflow requirements.	

Clause	Comment	Complies
2.7 Access and Mobility The provision of parking for persons with a disability is to be provided in accordance with Australian Standard 2890.1 – 1993 and the Building Code of Australia. Such spaces shall be located to allow convenient and safe access within sites.	An access review prepared by Morris Goding Accessibility Consultant Pty Ltd in conjunction with the BCA Assessment Report prepared by Blackett Maguire and Goldsmith (Appendix S) outline the proposal's compliance with AS2890.1 – 1993.	✓
Signs		
(b) In the following instances Council may permit signs: real estate signs that comply with Section 3.5 of this chapter; a sign directing the travelling public to tourist areas or displaying private advertisements for tourist accommodation or other tourist facilities; and a sign indicating the purpose for which the land is used. These signs shall be restricted to: one sign per property, a height of 2.5 metres above ground level, and a maximum area measuring 0.75m^2. Double sided or "V" signs may be permitted where considered appropriate, with each face being restricted to 0.75m^2	The proposed building identification sign is consistent with relevant controls and objectives of the Hawkesbury DCP.	✓
Bushfire Prone Land		
Development within bushfire prone land is to comply with the relevant provisions of the following: Building Code of Australia; Australian Standard AS 3959 - Construction of Buildings in Bushfire Prone Areas; Planning for Bushfire Protection produced by the Rural Fire Service and Planning NSW; The Hawkesbury Bushfire Risk Management Plan, July 2000. Development must comply with the amendments to the Environmental Planning and Assessment Act and Rural Fire Act (as amended).	The application has been accompanied by a bushfire report (Appendix O), which concludes the existing bushfire risk is low for the school site and can be further reduced through site management.	
Management of Construction and Demolition Waste		
A Waste Management Plan for construction and demolition waste will need to be prepared	A Waste Management Plan has been prepared by CGAMW, dated September 2017 (Appendix N).	✓

5 Strategic Planning Context

5.1 Overview

In accordance with SEARs application *SSD 17_8614* the following strategic policies are required to be addressed in assessment of the proposed development

- *NSW State Priorities;*
- *A Plan for Growing Sydney;*
- *NSW Long Term Transport Master Plan 2012;*
- *Hawkesbury Community Strategic Plan 2036;*
- *Sydney's Cycling Future 2013;*
- *Sydney's Walking Future 2013;*
- *Sydney's Bus Future 2013;*
- *Healthy Urban Development Checklist, NSW Health;*
- *Draft Greater Sydney Region Plan* (Greater Sydney Commission);
- *Draft Western City District Plan* (Greater Sydney Commission)*; and*
- *Crime Prevention Through Environmental Design (CPTED) Principles*

5.2 NSW State Priorities

NSW State Priorities is the State Government's plan to guide policy and decision making across NSW. The proposed development complies with the following objectives of those priorities.

Creating jobs

150,000 new jobs by 2019

- The proposed development will create temporary construction and manufacturing job opportunities during the construction phase, and create permanent teaching, maintenance and administration jobs upon the project's completion.

Building infrastructure

Key metropolitan, regional and local infrastructure projects to be delivered on time and on budget

- The proposal will deliver a high quality publicly funded education for students within the Hawkesbury area. The new development will provide state of the art agriculturally focussed educational facilities to a select group of outstanding pupils across the state. The development will create jobs, deliver a vital piece of community infrastructure and provide education facilities beyond the capacity of the previous site.

Improving education results

Increase the proportion of NSW students in the top two NAPLAN bands by eight per cent by 2019

- The project will deliver specialised facilities, equipment and spaces to optimise the learning environment of students and provide them with the best opportunities to improve their literacy and numeracy skills.

It is considered that the proposed development is consistent with the goals and objectives set out within the NSW State Priorities.

5.3 A Plan for growing Sydney

A Plan for Growing Sydney, released in December 2014, is the NSW Government's plan for the future of the Sydney Metropolitan Area over the next 20 years. The Plan provides key directions and actions to guide Sydney's productivity, environmental management, and liveability – including the delivery of housing, employment, infrastructure and open space.

The key challenges facing Sydney including a population increase of 1.6 million by 2035, and an additional 689,000 new jobs and 664,000 new homes by 2031.

The provision of key infrastructure, such as schools, to support growth and urban renewal and match population growth is a key action of the Plan. The proposal has been identified by government for major investment. With the projected increase in the relevant population, the provision of a new specialised high school in the Hawkesbury City Council area is important in meeting the infrastructure needs of the future.

5.4 NSW Long Term Transport Master Plan 2012

NSW Long Term Transport Masterplan 2012 seeks to provide an overarching framework for the delivery of an integrated transport system. The promotion of walking, cycling and active transport is important to reduce congestion and increase road safety.

The proposal will be connected with new school bus routes and pedestrian and cycling footpath network to encourage alternate travel methods to and from school and decrease vehicle use.

5.5 Hawkesbury Community Strategic Plan 2036

The Hawkesbury Community Strategic Plan outlines the directions and strategies for the area over a 20 period. The plan acknowledges that the area has a changing demographic and aims to support a connected, healthy and inclusive Hawkesbury.

As the community demographic changes, the Hawkesbury Council aims to ensure provision of innovative opportunities for education, leisure and education through library, resources and facilities. The Hurlstone Agricultural High School (Hawkesbury) will offer quality education, resources and facilities related to agriculture and education provision.

5.6 Sydney's Cycling Future 2013

The proposed school will include bicycle racks for students and employees. This is in addition to the existing bicycle infrastructure located in WSU. The proposal will be integrated with the existing cycle and pedestrian footpath network.

The site is also serviced by on and off-campus cycling routes allowing for increased bicycle transport by employees and students (Figure 2.4). This will reduce the reliance on cars and promote healthy lifestyles of students, families and staff.

5.7 Sydney's Walking Future 2013

The NSW Government's goal is to get more people walking through ways that make it a more convenient, better connected and safer.

The school is serviced by existing and planned future public transport. The location of the school will encourage future students, parents and employees to access the site by walking with connections to the wider WSU campus and public transport links. This will increasingly promote healthy walking practices within the locality and decrease vehicular use.

5.8 Sydney's Bus Future 2013

Sydney's Bus Future is the NSW Government's long-term plan to redesign Sydney's bus network to meet customer needs now and into the future.

The proposal provides for bus facilities that will enable students to travel in a safe and efficient manner. The school buses will work together with walking and cycling programs to decrease vehicular use, by reaching students that are located at distances that make walking and cycling unlikely.

The special school bus services will be integrated with the existing bus and rail network (Figure 5.2) to allow for connections to the wider area. Consultation with the local bus provider (Busways) has begun, to date providing positive feedback which will be built upon and will lead into the provision of additional school bus facilities in the future.

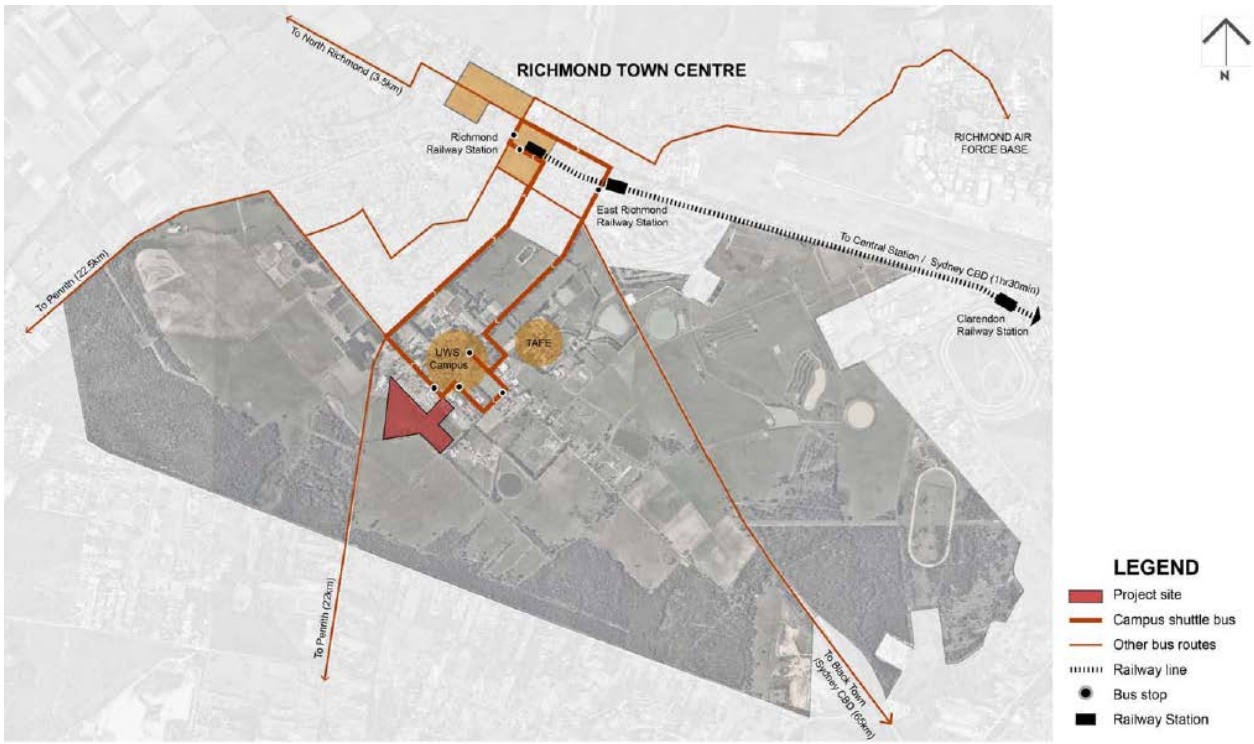


Figure 5.1 Public Transportation Routes

Source: CGAMW 2017

5.9 Healthy Urban Development Checklist, NSW Health

The Healthy Urban Development Checklis*t* aims to help facilitate relationships between NSW Health, urban planners and developers to promote a healthy built environment. The proposal satisfies a range of items in the checklist, including:

- Enabling access for students and staff to fresh, nutritious and affordable food;
- Preservation of an area of agricultural lands and education related to agricultural uses;
- Encouragement of incidental physical activity;
- Creating opportunities for walking, cycling and other forms of active transport;
- Providing access to usable and quality outdoor spaces and recreational facilities;
- Provision of housing that supports human and environmental health;
- Availability of public transport services;
- Reducing car dependency and encouraging active transport;
- Locating jobs close to housing and commuting options;
- Creation of a development that safe through encouraging crime prevention and promoting a sense of security;
- Promoting access to green space and natural areas;
- Providing access to a range of facilities to attract and support a diverse population;
- Responding to community needs and current gaps in facilities;
- Providing an integrated approach to social infrastructure planning;
- Creating an environment that encourages social interaction and connection among people; and
- Creating equitable access to resources by students and families.

In considering this checklist, it is acknowledged the proposed development promotes a healthy urban environment.

5.10 Draft Greater Sydney Region Plan 2017

The draft Greater Sydney Region Plan, released in 2017 by the Greater Sydney Commission (GSC), is a strategy with a 40-year vision and 20-year plan for the future of the Greater Sydney Region. The plan provides key directions and actions to guide Sydney's productivity, environmental management and liveability through the delivery of housing, employment, infrastructure and open space. This is in light of the key challenges that are facing Sydney including a population increase of 1.7 million people and an additional 817,000 jobs by 2036, with 36,250 new homes every year to 2036.

The provision of Hurlstone Agricultural High School (Hawkesbury) meets *Objective 6: services and infrastructure meet communities' changing needs* and *Objective 21: internationally competitive health, education, research and innovation precincts*, providing education to an additional 1,500 students with accessible and integrated university links to progress agricultural and STEMAg learning innovation.

5.11 Draft Western City District Plan

The draft Western City District Plan 2017 is applicable to the site. This plan replaces the previous draft South West and West District Plans released in November 2016.The Plan proposes a 20-year vision for the Western City District which includes the Hawkesbury LGA.

The draft Western City District Plan has identified a growing number of school aged children in the next 20 years. With children in the Hawkesbury LGA aged 5-19 projected to grow by approximately 25% from 2016 to 2036. The proposal achieves the objectives of providing adequate educational facilities for the growing population.

The Richmond Centre has been identified as an agriculture, education and aeronautical precinct. Provision of Hurlstone Agricultural High School (Hawkesbury) will contribute to the creation of an agricultural education precinct.

5.12 Draft Greater Sydney Services and Infrastructure Plan

The draft Greater Sydney Services and Infrastructure Plan is a vision for how transport can support growth and the economy of Greater Sydney and NSW over the next 40 years. The vision for Greater Sydney is for a 30-minute city where the majority of residents can access education, jobs and services within 30 minutes by public transport regardless of where they live.

Availability of safe, efficient, reliable and easy-to-understand public transport is crucial to supporting the productivity, liveability and sustainability of Greater Sydney. The site is serviced by several public transport options, and will be integrated with the broader walking, cycling, bus and rail network to encourage alternate travel methods to and from school and decrease vehicle use. The provision of minimal parking will encourage alternate travel methods of more sustainable means. The proposed school is easily accessed by public transport and will contribute to the creation of a 30-minute city for students and staff.

5.13 Crime Prevention through Environmental Design (CPTED) Principles

CPTED consists of four universal design principles which are aimed at assessing crime risk and reducing preventable risk before a development is approved. The proposed development has been designed having regard to the CPTED principles, further explained in part 6.18 and appendix E of this EIS.

6 Key Assessment Issues

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

- Build Form and Urban Design;
- Environmental Amenity;
- Transport and Accessibility;
- Ecologically Sustainable Development (ESD);
- Social Impacts;
- Biodiversity;
- Heritage;
- Aboriginal Heritage;
- Noise and Vibration;
- Sediment, Erosion and Dust Control;
- Contamination;
- Utilities;
- Contributions;
- Drainage;
- Flooding;
- Waste;
- Construction hours; and
- Bushfire.

6.1 Built Form and Urban Design

The proposed development is a state of the art and iconic design which responds to the future agricultural use of the school, the history of the area and links to the university.

The high-quality design of the proposed development would create a landmark building for the NSW Department of Education, Western Sydney University and the immediate Hawkesbury community and broader region. The proposed school will have STEMAg technology integrated in its built form, in a future-focussed learning environment which will provide high class facilities for students and teachers alike. The site planning, architectural concept, articulated design and façade treatments distinguish the proposal as a place for science, technology, engineering and agriculture. The integrated landscape setting ensures that the buildings are integrated into the site and surrounds.

CGAMW have provided a Design Verification Statement (Appendix E) which addresses the design process undertaken, key design considerations and the design principles outlined in the Education SEPP in addition to input into the following, urban design concept, site planning, architectural concept, building form.

Urban Design Concept

The site has been designed to complement the existing context of the WSU. The proposed development will have a frontage to Vines Drive, enabling the school to be readily accessible. The development will also establish new built form between the existing WSU Microbiology Laboratory and WSU village site.

The design of the site indicates the special agricultural purpose of the site through providing a unique façade and creating a "landscape narrative" as the entrance and focal point to the school. The agricultural theme of the site will also be demonstrated through the planting of flowers, orchids or crops to mimic agricultural landscapes, with open grass mirroring fields. The façade will rise into a green roof covering the proposed outdoor learning area.

Positive aspects of WSU are to be enhanced through design including extending the existing pedestrian network into the school site, building upon established green access ways.

Site Planning

The site location for the proposed development is a portion of currently underutilised pasture land within the Western Sydney University Hawkesbury Campus (WSU). The portion of land is situated on Vines Drive, between the WSU Microbiology Laboratory and the WSU Village student accommodation.

The site itself is 12.2ha of relatively flat, low lying grass land, somewhat prone to stormwater inundation. However, the site has tributary drainage channels which run towards a main drainage channel located along the southern boundary of the site. The new school development will utilise approximately 6ha of the available site. The remaining 6ha will be used for the teaching of farming and practical learning, as well as future student accommodation (high school boarding house).

The entrance to the site is along the proposed access way named "The Avenue". This access way provides pedestrian access to the site through the landscape narrative. The Avenue, leading from Vines Drive to the Assembly Court, provides the spine around which the proposal will be centred.

Architectural Concept

The architectural concept for the proposal aims to complement the rich agricultural history of the Hawkesbury region. The design aims to not only link the development to the history of the Hawkesbury area, but also provide a link between the built form and its specialised purpose. The design has been modelled on the concept of an open flower, consciously referring back to the agricultural heritage of Hawkesbury whilst remaining current with the site's future purpose.

> *"The architectural response is inspired by Nature and aims to embed agriculture in the design and fabric of the architecture."* CGAMW 2017

The design of the school includes a circular administrative centre with four surrounding buildings facing inwards. This will provide a communal assembly court for the school to easily identify and rally within, whilst reinforcing the design concept. The central assembly court will represent the centre of the open flower while the inward facing buildings symbolise the petals.

Building Form

As noted above, the built form of the site comprises four buildings housing the operations of the school, as well as one internally focused 'civic heart' assembly court linking all four buildings. Each building is linked via the circular elevated walkway framing the internal civic heart of the built form.

Building one contributes to the external visual impact of the site through the unique use of a sloped, grassed roof. The new façade will highlight the importance of agricultural landscapes and learning on visitors, staff and students, using differing flora to portray an agricultural narrative fronting Vines Drive.

The buildings have been sited and designed to complement the needs of the students and staff within the context of the WSU campus. Most of the built form has a northerly aspect due to construction constraints, capturing natural light and addressing surrounding woodland.

All buildings have angled perimeter walls to further encourage the capture of natural light within them. Outdoor learning space is provided between the buildings, maximising the site's potential. The built form will also take full advantage of natural ventilation through large openable glass doors and the outdoor learning spaces. Walls to internal corridors will be designed as external walls to resist wind loads as well as student and climatic wear and tear. All buildings have been sited to ensure pedestrian articulation that is adequate for 1,500 students plus staff.

6.2 Environmental Amenity

Solar Access and Overshadowing

The proposed development has been appropriately designed to minimise overshadowing and provide buildings and sports fields with adequate solar access throughout the year.

Privacy

There are no residential uses proposed as part of this application. Future residential boarding accommodation has been noted, however, this component will seek a separate approval. Notwithstanding, the site planning ensured that the boarding accommodation was located away from the student accommodation known as the WSU Hawkesbury Village.

The site is significantly setback from the adjacent WSU Hawkesbury Village, which ensures satisfactory maintenance of privacy.

The adjacent Chelsalon Nursing Home to the north-west has satisfactory building separation from the main school site to the neighbouring uses to the west.

View Loss

There are no known views across the site that required considered during the design phase of the proposed development. of the proposed development were not considered.

The view from the neighbouring residential areas will be mitigated through the siting and design of the proposed development and extensive new landscaping proposed for the site.

The design of the buildings has incorporated sloped roofs to connect with the landscape and enhance the aesthetic appearance of the site. Landscaping is proposed throughout the site and in the form of a green roof for Building 01 to soften and integrate the built form into the surrounding environment.

Wind Impacts

A Pedestrian Wind Environment Statement prepared by Windtech, dated September 2017 (Appendix W) considers the current wind conditions, expected effects on development and possible mitigation measures.

The Statement has identified the following mitigation methods to assist in the management of potential wind issues, as follows:

- Impermeable screens between buildings and for open space areas on the ground floor;
- Impermeable balustrades; and

- Windbreaks of densely foliated evergreen trees at a minimum of 1.5m in height.

It is considered that the combination of these mitigation measures will minimise wind impacts associated with the proposed development of the site.

6.3 Transport and Accessibility

The Transport and Accessibility Impact Statement prepared by TTW (Appendix M) includes recommendations measures to ensure that traffic and transport impacts will be sufficiently managed.

The Statement considers the local traffic counts, modelling and parking studies undertaken for the site. The road networks surrounding the site currently operates at a sufficient level of service. Parking areas across the campus have reasonable capacity available. Modelling including SIDRA intersection modelling shows that additional car trips because of the proposed school can be accommodated in the existing road network.

Parking

The existing WSU P47 car park accessed via Vines Drive provides parking for staff and students but will need to be modified to accommodate bus stop facilities and drop-offs and pick-ups zones for the proposed school.

The P47 carpark will be expanded from its existing 142 parking spaces to 220 spaces with 5 bus spaces and 10-12 drop off / pick-up spaces. These works do not form part of this SSD application.

the demand for parking based on current mode share splits at the existing Hurlstone Agricultural High School at Glenfield would be:

- 110 staff at 95% vehicle usage - 105 spaces
- 1,200 students at10% parking usage - 120 spaces
- Total: 225 spaces

The NSW DoE's Educational Facilities Standards and Guidelines (EFSG) provides desired parking provision for schools. The EFSG specifies that for a secondary school with 7 streams parking provision is 112 spaces. This is the equivalent of 16 spaces per stream, and it is noted that the per-stream parking rate reduces as the number of stream increase. For the proposed 9 streams, 130 car parking spaces will be required.

The existing capacity at the university campus is 1,516 car spaces. This has been surveyed to ensure that there is sufficient capacity to cater for any overflow requirements and has been deemed satisfactory.

Road Network

Maintenance Lane and Vines Drive will be widened to 3.5m to accommodate buses using these roads. These widening works do not form part of this SSD application.

Road safety measures to be implemented include:

- Implementation of a 40km/h zone adjacent to the school in Vines Drive and Maintenance Lane;
- Replacing the existing pedestrian crossing at Vines Drive with a zebra crossing; and
- Physical separation between car parking areas and bus stops in P47 car park.

As a result of the recommendations and actions included in the Transport and Accessibility Impact Statement, it is considered that the parking, transport and accessibility needs of the proposal are satisfied. The works to upgrade Vines Drive, parking area 47 and other associated infrastructure upgrades ensures all potential impacts are mitigated.

6.4 Ecologically Sustainable Development (ESD)

The Ecologically Sustainable Development (ESD) principles outlined in clause 7(4) of the *Environmental Planning and Assessment Regulation 2000* are:

- The precautionary principle;
- Intergenerational equity;
- Conservation of biological diversity and ecological integrity; and
- Improved valuation, pricing and incentive mechanisms.

An ESD Report was prepared by Umow Lai for the proposed development. The proposal incorporates the principles of ESD in accordance with Schedule 2 Clause 7(4) of the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation), and the key findings are as follows:

1. The precautionary principle seeks to ensure 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. The design of the proposed development takes into consideration greenhouse gases and their impacts on climate change by:
    - ensuring abundant natural daylight is achieved;
    - adopting a natural ventilation system;
    - ensuring energy efficient lighting, equipment and building services are used; and
    - providing roof overhangs and shading.
2. Intergenerational equity requires the present generation to ensure that the health, diversity and productivity of the environment are maintained or enhanced for future generations. This has been achieved by enhancing indoor environmental quality in the design of the buildings along with harnessing natural light to reduce the greenhouse gas emissions from the site.
3. The conservation of biological diversity and ecological integrity are achieved by ensuring these factors are fundamentally considerations in the proposed development. The proposed landscaping includes reinstating site vegetation to mitigate the loss of existing vegetation as part of the proposed works.
4. The principle of improved valuation, pricing and incentive mechanisms has been incorporated into the development through the narrow floor plate which allows excellent distribution of daylight and natural ventilation, which in turn reduces ongoing costs of the school.

It is envisaged the proposed development will have a Green Star rating of 4 based on the ESD measures proposed. Based on the measures to be incorporated into the proposed development, it is considered that it will satisfy the ESD principles described above.

6.5 Social Impacts

The provision of a public education facility with an agricultural focus along with boarding facilities will have both positive and negative social impacts, as follows:

- Enhanced access to education;
- Local business benefits and impacts;
- Employment impacts;

- Visual impacts;
- Noise impacts;
- Traffic and transport impacts;
- Safety and security impacts;
- Access and use of community facilities and open space; and
- Construction impacts.

The table below assesses these impacts.

Table 6.1 Social Impacts

Social Impact	Assessment
Access to education	The proposed development would increase access to education not only within the Richmond area but also across the State, and it will increase the number of students able to access agricultural studies with the proposed new facility. Currently, there are no selective high schools located in this western region of Sydney. The closest facilities are Penrith High School which is fully selective and Blacktown Boys High and Blacktown Girls High which are partially selective. Although the boarding facilities are not part of this application, it is noted that this school will be one of just a few public co-ed boarding schools in NSW. This is of particular importance given the agricultural focus of this school.
Local business benefits and impacts	During construction, the project is expected to generate employment and business opportunities including: ▪ Construction jobs with a large proportion of these employees and subcontractors to be local resident's due to the location of the school. ▪ An increase in business opportunities for local supplier's due to demand for construction-related goods and services. ▪ Flow-on benefits to other local businesses due to the increase of project related employment in the area.
Employment impacts	Once operational it is anticipated that teaching and non-teaching staff will mostly be brought in from the local region. There is currently no comparable school in the region. The existing Hurlstone Agricultural High School at Glenfield will remain a selective high school, without the boarding accommodation and agricultural elements. It is anticipated that approximately 110 staff will be employed at the new school when it is fully operational. There will also be a temporary influx of construction workers during the construction phase, with associated flow-on benefits to the local economy.
Visual and noise impacts	The architectural design of the new school has considered the surrounding open space, adjoining university and the school's specialised purpose as an agricultural school. The design will incorporate green roofs which will allow for the buildings to fit into with the surrounding environment and not detract from the aesthetic value of the University's campus landscape. The construction is expected to take approximately 18 months. Construction activities will be undertaken during standard hours (7am to 6pm Monday-Friday and 8am to 1pm on Saturdays with no works on Sundays or public holidays). During the construction stage, there may be noise impacts on the adjacent university and nearby residential uses. All works will be completed in

Social Impact	Assessment
	accordance with EPA requirements and noise impacts will be reduced where possible.
Traffic and transport	TTW have modelled the proposed development against the road network and proposed generation of traffic from the site and has concluded that additional trips can be accommodated within the local road network. No additional parking is to be supplied as the site will utilise existing parking facilities within the University Campus. Traffic management will be required during the construction stage to ensure local pedestrian and vehicle traffic safety is appropriately managed.
Safety and security	Consideration of the safety of students has led to the boarding houses being located away from the university. CGAMW has prepared a CPTED statement outlining the crime prevention and safety considerations within the design of the proposal. These designs include lighting, surveillance, fenced boundaries and clear pathways for student and staff travel. CPTED is discussed in further detail in section 6.18 and appendix E.
Access and use of community facilities and open space	The resultant school will be a public facility which is located within the existing University of Western Sydney Richmond campus. The proposed school's location was based on ideals of sharing and access to leading technology, notably the agricultural technology within the University. As outlined in section 4.3 and Appendix Z, the Department of Education supports the introduction of community uses into schools and has policies and procedures to assist Principals to allow this to occur. A working group has been established between the Department of Education and the WSU to maximise shared facilities.
Construction	There will be social impacts resulting from construction of the building potentially including noise, dust, odour, visual, and pedestrian and vehicle access construction impacts. A construction management plan will be finalised prior to any works starting on site to ensure construction impacts are minimised.

6.6 Biodiversity

A Biodiversity Assessment Report prepared by Narla Environmental, dated December 2017 (Appendix J).

The report has found that the proposed development will not impact upon any areas of native vegetation or threatened species habitat. There will be no impacts upon any mapped Plant Community Type. The report has determined that zero ecosystem credits are required are there are no impacts upon native vegetation.

The proposed development will impact upon approximately 3.3ha of 'cleared/exotic' vegetation.

Measures have been recommended to reduce impacts where possible.

Mitigation measures

- Fencing off all native vegetation, particularly mapped River-flat Eucalypt Forest EEC.
- Maintaining and enhancing bushland revegetation and weed management post construction phase.
- Managing vegetation on the site under a Biodiversity Management Plan that provides management actions and performance criteria.
- Assigning an Ecologist to undertake a pre-clearing survey of the vegetation prior to track construction. If any significant ecological values such as nests are found, these are to be recorded and mapped.

- Assigning an Ecologist to be present on site during all vegetation clearance. The Ecologist will be able to guide works crews away from sensitive ecological features, and will be on hand to capture and relocate displaced fauna.
- Preventing the inadvertent introduction of exotic flora propagules by following the DEP (2015) 'Arrive Clean, Leave Clean' Guidelines.
- Ensuring appropriate erosion and sedimentation controls are maintained throughout the construction phase and the period immediately following as outlined in the 'Blue Book' (Landcom 2004).

6.7 Heritage

A Statement of Heritage Impact prepared by CGAMW September 2017 (Appendix G) addresses potential impacts upon European heritage as a result of the proposed development.

Four buildings on the existing site are grouped as two local heritage items in Schedule 5 - Environment Heritage - of the *Hawkesbury Local Environmental Plan* 2012 (**Figure 6.1**) as follows:

- Item I9; Administrative Block, Blacksmith Shop and Stable Square Building.

- Item I10; Grandstand.

No works are proposed to these heritage items (refer **Figure 6.2**)

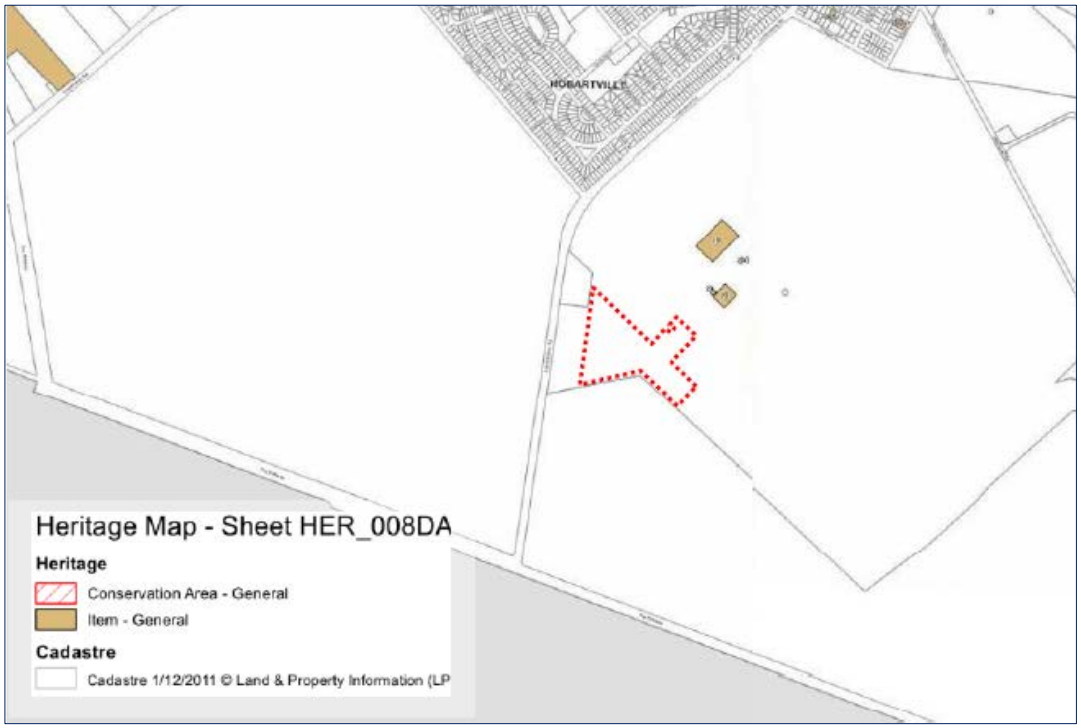


Figure 6.1 Heritage map for the immediate area showing the heritage items and the site (outlined in red) (**Source:** Hawkesbury LEP 2012 / CGAMW 2017)

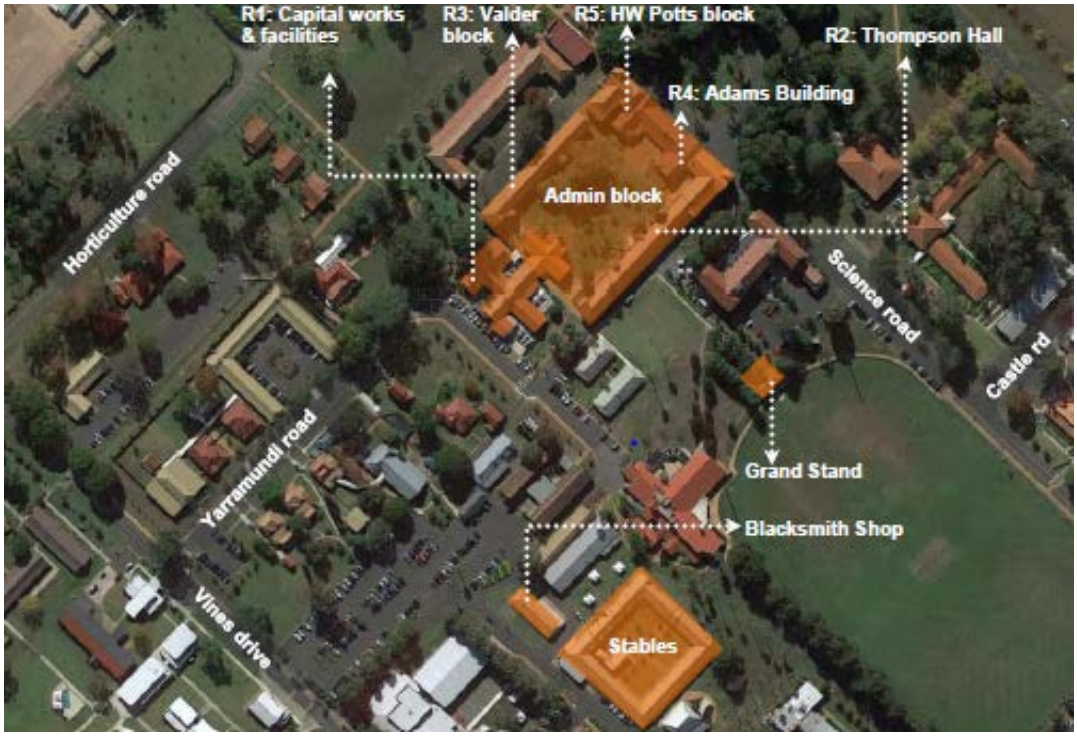


Figure 6.2 Aerial image showing the listed heritage buildings (highlighted and labelled) on the overall parcel of land

(Source: Google Maps/CGAMW 2017)

While the assessment has identified heritage, items located on Lot 2 DP 1051798, the site is some distance away from the heritage items. The heritage assessment has determined that the proposed development will have no impact upon the heritage items.

6.8 Aboriginal Heritage

An Aboriginal Cultural Heritage Assessment was prepared by AMAC Archaeological and Streat Archaeological Services (refer Appendix H). Consultation for this Assessment was undertaken in accordance with the Office of Environment and Heritage requirements and *National Parks and Wildlife Act 1974*: Part 6; National Parks and Wildlife Act Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010).

The Assessment found the site to be of 'nil-low' archaeological significance as the test excavation resulted in no Aboriginal objects and/or deposits of cultural significance being located in addition to the absence of most of the "A horizon" (artefact bearing layer).

The Assessment recommends the following mitigation measures, which were formulated after consultation with Registered Aboriginal Parties (RAP), the proponent and the Office of Environment and Heritage (OEH).

Mitigation Measures

- Consultation with the registered Aboriginal stakeholders should continue;
- An Aboriginal Cultural Heritage Management Plan should be devised as a final document for the study area in order to manage any Aboriginal archaeological and cultural constraints that may arise;

- Archaeological test excavation in accordance with Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW, Part 6 *National Parks and Wildlife Act 1974*, (DECCW 2010) revealed no Aboriginal archaeological objects or deposits: the development as shown (Figures 8.1 – 8.6) should be allowed to 'proceed with caution';
- Proceeding this and before any ground disturbance takes place all development staff, contractors and workers should be;
  - briefed prior to works commencing on site,
  - attend an Aboriginal Cultural Heritage Awareness Induction, as to the status of the area and their responsibilities in ensuring preservation of the said area; and
  - informed of their responsibilities regarding any Indigenous archaeological deposits and/or objects that may be located during the following development;
- If any Aboriginal archaeological deposits and/or objects are located during the development, then the following should take place:
  - All work is to cease in the immediate vicinity of the deposits and/or objects;
  - The area is to be demarcated;
  - OEH, a qualified archaeologist and the participating RAPs are to be notified.
- All remaining Aboriginal objects EXCEPT human remains to be covered in this AHIP. However, should any human remains be located during the following development:
  - All excavation in the immediate vicinity of any objects of deposits shall cease immediately;
  - The NSW police and OEH's Enviroline be informed as soon as possible;
  - Once it has been established that the human remains are Aboriginal ancestral remains, OEH and the relevant Registered Aboriginal Parties will identify the appropriate course of action.
- Copies of the final version of the Aboriginal Cultural Heritage Assessment are to be forwarded to the organisations listed in the Assessment.

6.9 Noise and Vibration

A Noise and Vibration Assessment was prepared by Resonate Acoustics (Appendix T). The Assessment considers the noise and vibration impacts during the construction and operational phases of the development. The preliminary assessment was conducted against noise and vibration criteria determined from:

- Unattended noise monitoring data
- *The Interim Construction Noise Guideline (ICNG)*
- *Assessing Vibration – a technical guideline (Vibration Guideline)*

The Assessment recommends a number of mitigation measures to be implemented during the construction and operational phases to ensure noise and vibration impacts on neighbouring land uses are kept to acceptable levels. If these measures are put in place, it is considered that noise and vibration impacts will be satisfactorily mitigated.

Mitigation Measures

During Construction

- Development and implementation of a Construction Noise and Vibration Management Plan.
- Carrying out works during standard daytime working hours wherever possible
- Appropriate stakeholder consultation and complaint handling procedures for noise and vibration
- Implementation of work practices to minimise noise and vibration in accordance with the ICNG and Vibration Guideline.

During Operation

- Landscaping features to act as natural sound barriers.
- Selection of lower noise emitting plant room equipment.
- Screening of external plant room.
- Construction of a rooftop plant room to further reduce noise and vibration emissions.

6.10 Sediment, Erosion and Dust Controls

The Civil Engineering Report and Stormwater Management Plan ("Civil Report") prepared by TTW, dated September 2017 (Appendix K) outlines temporary and permanent solutions to sediment, erosion and dust control throughout the construction stage and beyond.

A Soil Erosion and Sediment Control Plan has been provided with the Civil Report which indicates a range of permanent erosion and sediment mitigation measures to be implemented.

The Civil Report also outlines the dust management measures to be put in place during construction. In addition, prior to construction the Contractor will prepare a Construction Environmental Management Plan (CEMP), which will include a section on Air Quality and/or Dust Management. Dust management guidelines are included in section 6.0 of the Civil Report.

The proposed sediment and erosion control and dust management measures within the Civil Report are considered to adequately address these potential impacts during construction of the proposed development.

6.11 Contamination

A Preliminary Site Investigation Report conducted by Douglas Partners (Appendix X) found the risk of significant contamination being present, which would prevent the redevelopment of the site without significant remediation, to be low.

The investigation has not found the site to contain acid sulfate soils. Some areas of the site have shown signs of previous fill, however, the general site profile is considered 'natural'.

The Report concluded that although the general result of the testing was adequate, the frequency of sampling carried out was lower than recommended by NSW EPA for full site characterisation purposes. Therefore, the Report recommended that a Detailed Site Investigation be undertaken to fully characterise the contamination status of the site. Such an Investigation is currently underway and does not form part of this EIS.

Mitigation Measures

Undertake a Detailed Site Investigation and follow any recommendation made.

6.12 Utilities

Potable Water

The 200mm diameter Sydney Water main is located on the eastern side of Londonderry Rd and reticulates past the intersection of Vines Drive. The WSU campus does not currently connect to this main.

The WSU campus is provided with domestic and firefighting water supply from the 200mm and 150mm water mains that run parallel in College Drive which is supplied from the authority water main in the Bourke Street and College Street intersections.

The site demand is within the available capacity of the Londonderry Road Sydney Water main. The proposed potable water supply to the HAHS site is via a new connection to the Sydney Water main on Londonderry Rd.

Fire Water

The WSU Campus has on-site fire water storage tanks with a fire services booster pump supplying a network of ring main and sub ring main reticulation throughout the Campus. Nine fire brigade booster assemblies extend from the site ring main and are located around the Campus.

The flow and pressure available in the WSU main is sufficient for the calculated fire water demand for the HAHS development which is to be supplied via connection to the ring main in Vines Drive.

A hydrant booster assembly will be provided at the HAHS (Hawkesbury) School within the boundary fronting Vines Drive and visible from the main building entry.

Sewer Drainage

The closest Sydney Water sewer is located on Londonderry Road adjacent to Smith Avenue, approximately 300m north of the intersection of Londonderry Rd and Vines Drive. The sewer tie extending to the WSU campus is 150mm diameter and is approximately 1.8m below surface level. The proposed sewer infrastructure for the HAHS site requires a pumping station and sewer rising main from the HAHS site to the Sydney Water sewer tie. From the new on-site sewer pump station, a pump out line will extend to the sewer tie on Londonderry Road, via the boundary of the Student Village and the HAHS site.

Natural Gas

The nearest Jemena natural gas main is located on the eastern side of Londonderry Road and reticulates past the intersection of Vines Drive. The main is 75mm diameter 210 kPa.

The proposed natural gas supply to HAHS is via a new connection to the Jemena main on Londonderry Rd. From the new connection, the gas main will be extended to the new school at 100 kPa via the boundary of the Student Village and the HAHS site.

Power Supply

Endeavour's high voltage (HV) supply is located on Londonderry Road adjacent to Vines Drive. A high voltage network reticulates through the WSU campus to a number of private substations, which provide low voltage to the various buildings on site. WSU have stated that the campus' power supply is at capacity and there is insufficient power available for supply to the HAHS site.

The proposed power supply for the HAHS site is to reticulate from the HV supply located on Londonderry Road and extend via the boundary of the Student Village and the HAHS site to a new 1000 kVa pad mount substation within the HAHS site.

6.13 Contributions

Pursuant to section 2.7 of the Hawkesbury Section 94A Plan 2015, development of Educational Establishments are exempt from Section 94A contributions.

6.14 Drainage and Flooding

A Civil Engineering Report and Stormwater Management Plan ("Civil Report") was prepared by TTW, dated September 2017 (Appendix K). An overview of stormwater matters are provided as follows:

- The proposed stormwater system for the development has been designed to capture stormwater from impermeable surfaces including open courtyards. The proposed system includes: pit and pipe drainage network to collect runoff;
- stormwater flows up to the 5% annual exceedance probability event are conveyed by a minor drainage system; and
- stormwater flows above the 5% annual exceedance probability event are conveyed by a major drainage system.

Two On-site Detention basins have been proposed for the site totalling 2,100cu.m of storage. As the basins are above ground the Council requires additional measures to be taken, as outlined in section 8.3 of the Civil Report (Appendix K).

There are a number of individual elements of stormwater quality treatment proposed for the school including:

- Two 80kL rainwater reuse tanks plumbed for landscape irrigation. These will remove pollutant loads at source;
- A few swales to direct water to the stormwater management system and to treat water that is conveyed via sheet flow;
- Two bioretention ponds of a minimum surface area of 250m^2;
- A wetland to treat stormwater from the northern portion of the site;
- Buffer nodes consisting of vegetated areas that act as filters; and
- Landscaped areas to the north of the site are to be treated by an infiltration system built within the roof.

The Report states that the proposed stormwater elements have been designed in accordance with the Hawkesbury Development Control Plan Appendix E Civil Works Specification.

Based on the stormwater management system proposed, including the stormwater quality measures to be put in place, the proposed system will provide an appropriate water management strategy to ensure that development occurs in an ecologically sustainable way.

Flooding

The flood risk assessment is included in the Civil Engineering Report and Stormwater Management Plan ("Civil Report") prepared by TTW, dated September 2017 (Appendix K).

6.15 Waste

CGAMW has prepared a Waste Management Plan, dated September 2017 (Appendix N) outlining the proposed waste generation from demolition, construction and ongoing operation of the site.

During the demolition stage, an estimated 50m^3 of green waste (primarily removed trees) will be reused or recycled off-site.

During the construction stage, excavation material will be reused as fill where possible, while all other materials will be reused or recycled off-site. Reusing formwork and ensuring the correct amounts of materials are ordered will contribute to waste minimisation during this stage.

During operation, general waste collection will occur on a tri-weekly basis and recycling waste collection on a biweekly basis. This will allow the school to reduce their bin storage space. During collection, no roads or access points will be blocked or restricted.

6.16 Construction Hours

The Noise and Vibration Assessment prepared by Resonate Acoustics (Appendix T) acknowledges that the Project Managers would like to undertake construction work outside of the standard hours.

Standard construction hours are:

- Monday to Friday 7 am to 6 pm;
- Saturday 8 am to 1 pm; and
- No work on Sundays or public holidays.

The requested construction hours are:

- Monday to Sunday 7am to 6pm;
- For the fit-out stage additional construction hours are sought;
  - Monday to Sunday 7am to 11pm.

Mitigation measures

The Noise and Vibration Assessment prepared by Resonate Acoustics (Appendix T) identifies that to minimise the impact of noise and vibration during construction, feasible and reasonable management measures and work practices should be implemented as follows;

- Construction noise and vibration management plan (CNVMP);
  - This plan should identify the relevant construction noise and vibration criterion, the sensitive land uses, work practices which could be implemented and stakeholder consultation and complaints handling procedures.
- Stakeholder consultation;
  - Nearby stakeholders should be consulted prior to the works and kept regularly informed of potential noise and vibration impacts from the works. Specifically, this would involve:
    - Consultation with Western Sydney University to determine the location of noise and vibration sensitive uses surrounding the site and to discuss noise and vibration mitigation options with them, such as appropriate programming of noisy works.

- Consultation with the residential land uses at the Chesalon Nursing Home and WSU Village to inform them of the works.

- A noise and vibration complaints handling procedure and register should be developed and implemented during construction.

- Work programming
  - Construction stage programming should be implemented such that works, and particularly noisy works, occur during standard working hours wherever feasible, namely:
    - Monday to Friday 7 am to 6 pm
    - Saturday 8 am to 1 pm
    - No work on Sundays or public holidays.
  - If high noise works are to occur outside of these times, then the CNVMP should define an approval process for undertaking out of hours works that identifies feasible and reasonable mitigation measures to be implemented. Such measures might include, but not be limited to:
    - taking delivery of loud plant and equipment during the Standard Hours periods
    - undertaking high-impact noise generating construction works prior to 12 am
    - implementing localised noise barriers or hoarding around work areas for the duration of the out of hours work
    - stakeholder consultation, as above, to determine local sensitivity to out of hours works and implementation of feasible and reasonable measures based on community feedback.
- Truck movements and site access
  - The construction traffic management plan will need to consider the noise implications of the site access, delivery points and deliveries.
- Site & Equipment Management
  - Site and equipment management will need to consider the noise generated and the adjacent sensitive noise receivers.

6.17 Bushfire

A Bushfire Threat Assessment Report, prepared by Bushfire Planning Australia, dated December 2017, is provided at Appendix O. The Report has found that while the entire site is not designated bushfire prone land, a portion of the proposed development is within the 30m vegetation buffer.

While the proposed development is considered to provide appropriate separation between the nearest hazard to the south-west and the proposed buildings, the report provides several mitigation measures to further minimise the impact of a bushfire on the property. It is considered that provided the proposed mitigation measures are implemented, the existing bushfire risk will be further minimised.

Mitigation Measures

- The entire development site and surrounding land out to at least 100m from all proposed buildings shall be managed as an inner protection area (IPA) as outlined within section 4.1.3 of PBP 2006 and the RFS publication Standards for asset protection zones;
- Public road access; including all new internal roads, are to be constructed in accordance with section 4.1.3 (2) of PBP;
- All new buildings are to be linked to the mains pressure water supply network and that suitable fire hydrants are clearly marked and provided for the purposes of bushfire protection. Fire hydrant spacing, sizing and pressure shall comply with AS2419.1 2005 and section 4.1.3 of PBP 2006; and
- Consideration should be given to landscaping and fuel loads on site to decrease potential fire hazards on site.

6.18 Crime Prevention Through Environmental Design

The proposal has been designed with consideration of Crime Prevention Through Environmental Design (CPTED) principles. CPTED principles seek to influence the community's behaviour by:

- Increasing the perception of risk to those engaging in criminal or anti-social behaviours by increasing the possibility of detection, challenge and capture.
- Increasing the effort required to engage in crime or anti-social behaviours.
- Reducing the potential rewards and limiting or concealing opportunities for crime.

CPTED guidelines were developed by NSW Police and the Department of Planning and Environment. A CPTED assessment prepared by CGAMW (Appendix E) addresses these guidelines and assesses the proposed development in terms of:

- Surveillance
- Legibility
- Territoriality
- Ownership of the outcomes
- Management
- Vulnerability

It is considered that CPTED principles have been integrated into the design of the proposed development to provide a safe school environment for students, staff and visitors.

6.19 Site Suitability

The site is deemed suitable for the following reasons;

- The site is zoned SP1 Education, Agriculture, Research Station under the HLEP 2012. The proposed development is permissible with consent as it is consistent with the land use objectives of the SP1 zoning.
- The proposal is consistent with all relevant planning controls and achieves a high level of compliance with planning policies as previously demonstrated within this EIS.

- There are no significant environmental constraints on the site, which would prevent the proposal from proceeding.

6.20 Public Interest

The proposed development is in the public interest for the following reasons:

- Will provide employment, education, social and economic benefits to the site and broader community;
- It complies with Council's strategic planning policies and direction for the locality;
- The site is suitable for the proposal as demonstrated by the various technical reports undertaken to support its future development;
- There would be no likely unacceptable impacts on adjoining or surrounding properties or the public domain in terms of traffic, amenity, or social and economic impacts;
- The design is of a high quality in terms of built form and architectural treatment and responds positively to the character and scale of the area. The proposal will make a positive contribution to the built form of the WSU and enhance the streetscape;
- It will provide a high quality educational environment for staff and students through:
  - Benefits of proximity to university facilities;
  - High quality environment, outdoor facilities and landscaping; and
  - Developing efficient, effective environmentally sustainable facilities.
- Positively contribute to energy efficiency and environmental sustainability through incorporating and adopting the ESD measures prescribed, and by reducing the impact of the buildings on energy consumption throughout its lifetime.

7 Consultation

Since inception consultation has occurred on the project and will continue as the assessment and development of the proposal progresses.

MACE Project Managers, co-ordinate and lead a program of stakeholder management and engagement activities throughout the design and construction phases of the projects, which is detailed in appendix AA.

A summary is shown in table 7.1 below.

Table 7.1 Summary of Consultation Plan

Engagement objective	Suggested activities	Proposed audience	Key project deliverable supported
Project Definition/Scoping	Preparation Document review Start-up meeting	Client and Project Team	Services Delivery Plan (SDP)
Provide clarity about purpose and approach	Development of a communications and engagement strategy	Client and Project Reference Group (PRG)	Communications and Engagement Strategy
Effective integration with project team	Attend PRG meetings	Client and PRG	Meeting attendance/minutes
Enable proper planning for effective engagement	Project Management and co-ordination with corporate communications at DoE	Client Communications & Media Team	Meeting attendance, update strategy
Project information update and feedback	Community consultation workshop including concept design display	Stakeholders and affected community	Reports on feedback & interaction
Understand consent authority expectations and non-negotiable requirements of community engagement	Face to face meeting	Consent Authority	Summary report on engagement requirements for SSD / SEARs Application
Identify expectations of key stakeholders	Letter to all identified stakeholders. One on one meetings with key stakeholders Outputs from workshop and focus groups identified above	Key Stakeholders as agreed with PRG	Summary report on key stakeholders and expectations
Contribute to project definition	Prepare chapter for the project definition and concept design report based on outcomes from above tasks	Client and Project Reference Group (PRG)	Project definition and concept design consultation report
Provide information to support comments on the project	Review project risk plan Notify stakeholder groups & invite participation	All	Schematic design and statutory approval consultation report

Engagement objective	Suggested activities	Proposed audience	Key project deliverable supported
Proactively manage issues as they arise			
Consultation outcomes report to support planning approval process	Reporting in appropriate format	All	Consultation outcomes report
Gather and analyse feedback received during SSD / SEARs Application exhibition	Facilitate public exhibition of the SSD / SEARs Application Analyse submissions	All	Report on SSD / SEARs feedback and key issues
Show how consultation has influenced the final outcome	Reporting. Show how consultation has influenced the design, and identify reasons why ideas not carried forward have not been	Interested community and stakeholders	Detailed design consultation report

7.2 Project Reference Group

The project reference group (PRG) is a project governance body that consists of representatives of key project stakeholders. During the project, the PRG members meet to discuss the key issues and review and endorse the submission at key stages. The PRG members for the Hurlstone Agricultural High School (Hawkesbury) include:

- Public School NSW Director;
- Parent & Community representative;
- Representatives of the Department of Education's Asset Management Unit;
- Project Manager – Mace group;
- Head Design Consultant – CGAMW; and
- Western Sydney University Representative.

7.3 Local Community

As part of the communications strategy for the project the Department of Education requires the project managers to engage with the local community throughout the planning, design and construction phases to obtain feedback. This consultation includes letter box drops, newspaper advertisements and community information booths. In addition, a project specific website will be developed that will be accessible to the public and will provide up to date information on the project status.

Newspaper advertisements

Newspaper advertisements will be placed in the local paper to notify the community of the proposed development and upcoming information booths.

Information Booths

Information booths will be held at the new school site at regular interval throughout the planning phase of the project. These sessions will provide the community with an opportunity to obtain up to date information and provide their feedback on the proposed development which may be incorporated into the design.

7.4 Hawkesbury City Council

Following an early pre-application meeting in 2016, a follow-up meeting was held on the 10 July 2017 with Hawkesbury City Council. At this meeting staff in attendance were briefed on the proposal.

On the 30 November 2017, the immediate Project Team (CGAMW, Mace & RPS) met with Council staff to discuss early works.

A briefing presentation with a question and answer session was made to the Hawkesbury City Council Councillors on the 5 December 2017 by the immediate project team (CGAMW Mace & RPS), and followed by a Q&A session.

7.5 Office of Environment and Heritage

Benjamin Streat from Streat Archaeological Services consulted the Department of Environment and Heritage (OEH) in preparing the Aboriginal Cultural Heritage Assessment and making the recommendations within that Assessment.

Consultation for the Aboriginal Cultural Heritage Assessment was undertaken in accordance with the Office of Environment and Heritage and *National Parks and Wildlife Act 1974*: Part 6; *National Parks and Wildlife Act* year and Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010). The Assessment recommends mitigation measures discussed in section 6.8 of this EIS, formulated after consultation with the registered Aboriginal parties (RAP), the proponent and the OEH.

7.6 Transport for NSW & Roads and Maritime Service

The Transport and Assessment Impact Assessment prepared followed consultation between TTW and relevant stakeholders, including Roads and Maritime Services (RMS) and Transport for New South Wales (TfNSW).

RMS and TfNSW input was sought in relation to the extent of the traffic data and traffic modelling. Discussions were held with RMS and TfNSW confirming the approach to be used and an email confirming the approach was forwarded to both departments (email dated 18th August 2017). A reply was received from TfNSW supporting the approach and requesting that the report details all assumptions and description of school operations.

8 Recommendations and Mitigation Measures

A range of mitigation measures are proposed to reduce any potential environmental and social impact from the proposed development. Table 5 below provides a summary of the environmental management measures proposed in the design of the proposal.

Table 8.1 Mitigation Measures

Item	Potential Impact	Mitigation Measures
Overshadowing	Overshadowing of adjoining buildings	The Western Sydney University Village and microbiology and Chesalon Nursing Home are adequately setback as to avoid undue overshadowing.
Privacy	Visual and acoustic privacy to the surrounding development.	The Western Sydney University Village and microbiology and Chesalon Nursing Home are adequately setback as to avoid any possible privacy issues.
Wind	Wind penetrating the built form and circling the assembly area.	Implementation of wind effective landscaping between buildings and in problematic areas. Effective use of wind resistant screens and impermeable balustrades. A Pedestrian Wind Environment Statement has been prepared by Windtech, dated September 2017 and has provided with this document outlining potential wind impacts and options for mitigation.
Crime and Safety	Any new development is susceptible to crime. The proposal has a risk of safety to students, staff and visitors.	A CPTED statement has been prepared outlining the design initiatives to mitigate the risk to safety (Appendix E), measures include; Lighting design Passive Surveillance Appropriate landscaping to allow for passive surveillance Clear, signed pathways Fenced boundaries Screening to avoid blind spots Staff management of all areas Limited access to staff and students only (visitors requiring permission)
Noise and Vibration	Noise and vibration created during the construction phase of the development	***During Construction*** Development and implementation of a Construction Noise and Vibration Management Plan. Carrying out of works only during standard daytime working hours. Implementation of appropriate stakeholder consultation and complaint handling procedures. Implementation of work practices to minimise noise

Item	Potential Impact	Mitigation Measures
		and vibration in accordance with the ICNG and Vibration Guideline. ***During Operation*** Landscaping features to act as natural sound barriers. Selection of lower noise emitting plant room equipment. Screening of external plant room. Construction of a rooftop plant room to further reduce noise and vibration emissions.
Acoustic	Operational noise from the school and facilities.	The operational noise emission criteria set in accordance with the NSW INP is not expected to be exceeded by the proposed development.
Water Management	Impacts from stormwater	Implement stormwater management system including; Rainwater tanks Swales Bio retention ponds Wetlands Buffer zones Infiltration system Recycled irrigation
Flooding	Impacts from flood water	The proposed development will be constructed with a minimum floor height of 2.6AHD in accordance with Hawkesbury City Council requirements.
Waste	Waste generated	A waste management plan will be implemented. Demolition and construction waste will be removed by the engaged contractor. Operational waste will be removed triweekly with recycling removed biweekly.
Bushfire	Risk of bushfire	The entire development site and surrounding land out to at least 100m from all proposed buildings shall be managed as an inner protection area (IPA) as outlined within section 4.1.3 of PBP 2006 and the RFS publication Standards for asset protection zones; Public road access; including all new internal roads, are to be constructed in accordance with section 4.1.3 (2) of PBP; All new buildings are to be linked to the mains pressure water supply network and that suitable fire hydrants are clearly marked and provided for the purposes of bushfire protection. Fire hydrant spacing, sizing and pressure shall comply with AS2419.1 2005 and section 4.1.3 of PBP 2006; and Consideration should be given to landscaping and fuel loads on site to decrease potential fire hazards on site.

Item	Potential Impact	Mitigation Measures
Contamination	Potential site contamination	Undertake a Detailed Site Investigation and follow any recommendation.
Biodiversity	Adverse impacts upon biodiversity	Fencing off all native vegetation, particularly mapped River-flat Eucalypt Forest EEC. Maintaining and enhancing bushland revegetation and weed management post construction phase. Managing vegetation on the site under a Biodiversity Management Plan that provides management actions and performance criteria. Assigning an Ecologist to undertake a pre-clearing survey of the vegetation prior to track construction. If any significant ecological values such as nests are found, these are to be recorded and mapped. Assigning an Ecologist to be present on site during all vegetation clearance. The Ecologist will be able to guide works crews away from sensitive ecological features, and will be on hand to capture and relocate displaced fauna. Preventing the inadvertent introduction of exotic flora propagules by following the DEP (2015) 'Arrive Clean, Leave Clean' Guidelines. Ensuring appropriate erosion and sedimentation controls are maintained throughout the construction phase and the period immediately following as outlined in the 'Blue Book' (Landcom 2004).

9 Conclusion

This State Significant Development Application (SSD 17-8614) seeks approval for:

- Use of the site for an agricultural high school.
- Construction of two (2) x three (3) storey, multi-purpose school buildings containing:
  - Library;
  - Canteen;
  - Student amenities;
  - Offices for teaching staff;
  - Collaborative learning spaces and classrooms (general learning spaces (GLS)); and
  - Kitchen, wood and metal workshops, science laboratories and related storage.
- Construction of a single storey, ramped building containing:
  - Staff and administrative amenities and offices; and
  - Exterior landscaping for a ramped land mass.
- Construction of one (1) single storey sports hall containing gymnasium, performing arts and PE workshops, toilets, change rooms, ancillary storage rooms; and classrooms;
- Central assembly area with raised walkway connecting all buildings;
- Construction of one (1) single storey agricultural learning classroom, one (1) workshop shed building, above ground water tanks and chicken coop; and
- Associated site landscaping and public domain improvements.

This EIS has been prepared in accordance with the Secretary's Environmental Assessment Requirements provided at Appendix A, the requirements of Schedule 2 of the EP&A Regulations 2000, the Architectural Drawings provided at Appendix C and the additional plans and technical reports provides at Appendices D to BB.

The proposed development is consistent with the applicable legislation, planning instruments, controls and guidelines and the EFSG.

It is recommended that this State Significant Development Application (SSD 17-8614) be approved subject to the proposed mitigation measures on the basis:

- The proposal represents an opportunity to bring this state of art, technology enriched student focussed high school to the Hawkesbury area. The school its design and architecture will set a benchmark for STEMAg education facilities and cater for the educational need of a wide community for many years to come.
- Of the project's importance to provision of additional educational facilities in the Hawkesbury City Council locality; and
- That the proposed school development will have minimal environmental and social impact on the locality.

Appendix A
Secretary's Environmental Assessment Requirements

Appendix B

Capital Investment Value Report

Appendix C
Architectural Drawings

Appendix D

Landscape Design

Appendix E

Design Verification Statement & CPTED Report

Appendix F

Preliminary Construction Management Plan

Appendix G

Statement of Heritage Impact

Appendix H

Aboriginal Cultural Heritage Assessment

Appendix I

Site Survey

Appendix J

Biodiversity Assessment Report

Appendix K

Civil Engineering Report and Stormwater Management Plan

Appendix L

Structural Design Statement

Appendix M

Transport and Accessibility Impact Assessment

Appendix N

Waste Management Plan

Appendix O

Bushfire Threat Assessment

Appendix P

Arboricultural Impact Assessment Report

Appendix Q

BCA Assessment Report

Appendix R

Fire Engineering Statement

Appendix S

Access Review

Appendix T

Noise and Vibration Assessment

Appendix U

Infrastructure Management Plan

Appendix V
ESD Report

Appendix W

Pedestrian Wind Environment Statement

Appendix X

Preliminary Site Investigation (Contamination)

Appendix Y

Construction Transport Management Plan

Appendix Z

Community Use of School Facilities

Appendix AA

Communication and Consultation Plan

Appendix BB

Geotechnical Investigation