NSW Department of Education

Review of Environmental Factors

Redevelopment of Willyama High School

Document version: 3

Date: 24/07/2025

NSW GOVERNMENT

Acknowledgement of Country

The NSW Department of Education acknowledges the Wilyakali people whose major language groups are Paakantji, Mayyankapa and Nyiimpaa, as the traditional custodians of the land on which the Willyama High School is located.

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

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

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

Declaration

This Review of Environmental Factors (REF) has been prepared by EPM Projects on behalf of the NSW Department of Education (department) and assesses the potential environmental impacts which could arise from the redevelopment works at Willyama Public School, 300 Murton Street, Broken Hill.

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

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

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

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Date	24/07/2025	24/07/2025

Document Control

Document version: 3

Date: 24/07/2025

Version history

Version	Date	Description	Prepared by	Approved by
1	04/07/2025	REF for Exhibition	Aino Näreneva	Penny Smith
2	21/07/2025	REF for Exhibition	Aino Näreneva	Penny Smith
3	24/07/2025	REF for Exhibition	Aino Näreneva	Penny Smith

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Abbreviations

Abbreviation	Description
AHD	Australian Height Datum
AHIP	Aboriginal Heritage Impact Permit
AHIMS	Aboriginal Heritage Information Management System
BC Act 2016	*Biodiversity Conservation Act 2016*
BC Regulation	Biodiversity Conservation Regulation 2017
BAM	Biodiversity Assessment Method
BCA	Building Code of Australia
BDAR	Biodiversity Development Assessment Report
CA	Certifying Authority
CEMP	Construction Environmental Management Plan
Council	Broken Hill City Council
CWC	Connecting with Country
The department	NSW Department of Education
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DPC	Department of Premier and Cabinet
DPHI	Department of Planning, Housing and Infrastructure
Design Guide	*Design Guide for Schools* published by the Government Architect in May 2018
EPA	Environment Protection Authority
EP&A Act	*Environmental Planning and Assessment Act 1979*
EP&A Regulation	*Environmental Planning and Assessment Regulation 2021*
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
EPI	Environmental Planning Instrument
ESD	Ecologically Sustainable Development
FM Act	*Fisheries Management Act 1994*

Abbreviation	Description
GBCA	Green Building Council of Australia
Ha	Hectares
ICNG	NSW Interim Construction Noise Guidelines
LEP	Local Environmental Plan
LGA	Local Government Area
MNES	Matters of National Environmental Significance
NCC	National Construction Code
NorBE	Neutral or Beneficial Effect on Water Quality Assessment Guideline (2022)
NPW Act	*National Parks and Wildlife Act 1974*
NPW Regulation	National Parks and Wildlife Regulation 2009
NSW RFS	NSW Rural Fire Service
Pattern Book	*Pattern Book for Schools* - Pre-Release Sept 2024 published by the Department
PCEMP	Preliminary Construction Environmental Management Plan
POEO Act	*Protection of the Environment Operations Act 1997*
Proponent	NSW Department of Education
PSIC	Preliminary Site Investigation Contamination
REF	Review of Environmental Factors
RF Act	*Rural Fires Act 1997*
Resilience and Hazards SEPP	State Environmental Planning Policy (Resilience and Hazards) 2021
Roads Act	*Roads Act 1993*
SCPP DoE	*Stakeholder and community participation plan,* published by the NSW Department of Education October 2024
SCPP DPHI	*Stakeholder and community participation for new health services facilities and schools* published by the Department of Planning, Housing and Infrastructure October 2024
SDRP	School Design Review Panel
SEPP	State Environmental Planning Policy
SIS	Species Impact Statement
TI SEPP	State Environmental Planning Policy (Transport and Infrastructure) 2021
WM Act	*Water Management Act 2000*

Executive Summary

The Proposal

The proposal relates to the redevelopment of Willyama High School located at 300 Murton Road, Broken Hill (Lot 5858 DP 757298), following a severe mould outbreak in early 2024 throughout the school buildings. The existing school buildings are being demolished (under a separate REF), and the redevelopment works include construction of two (2) new three-storey buildings along the McGowen Lane frontage, a multipurpose hall with frontage to Murton Street, landscaping and civil works, covered outdoor learning areas and playspace, on-site car parking, and public domain upgrades to formalise a kiss and drop on McGowen Lane.

Figure 1: Indicative Perspective - corner Murton St & McGowen Lane (Source: Woods Bagot)

The proposed activity is located in the north-eastern portion of Broken Hill surrounded by low-density residential dwellings to the north, south and west, and desert to the east and north-east of the site. The City of Broken Hill is listed on the National Heritage Register (Place ID: 105861), as addressed later in this report, however it is not included on the NSW Department of Education's Section 170 Heritage Register. The proposed activity will not result in a significant impact to the heritage significance of the City of Broken Hill, and therefore Federal Ministerial approval for the activity is not required.

The site has an area of just over 8.1 hectares and is zoned R1 General Residential; schools are permissible with consent in the R1 zone. The site is affected by flooding and is partially mapped as bushfire prone land.

Planning Pathway

The proposal involves works by the NSW Department of Education (department) (a public authority) within the boundaries of the existing Willyama High School. Accordingly, pursuant to Section 3.37 of *State Environmental Planning Policy (Transport and Infrastructure) 2021* (TI SEPP), the proposed works are classified as development which may be carried out without consent.

Therefore, the proposal is considered an 'activity' for the purposes of Part 5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and is subject to environmental assessment under Part 5. For the purposes of this proposal, the department is the proponent and the determining authority, and the required environmental assessment is in the form of a Review of Environmental Factors (REF). The REF has been prepared in the accordance with the *Guidelines for Division 5.1 Assessments* (DPE, June 2022) and the *Guidelines for Division 5.1 assessments - consideration of environmental factors for hospital and school activities Addendum* (DPHI, October 2024).

Consultation

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

In addition, non-statutory consultation has been undertaken with Broken Hill City Council and a range of community and government stakeholders throughout the design process.

Environmental Impacts

The key environmental impacts of the REF are as follows:

- **Flood** - The site is subject to flooding from the 10% annual exceedance probability (AEP) event, with low level flooding up to the 0.2% AEP and more significant flooding at the probable maximum flood (PMF) extent. A Flood Emergency Response Plan has been prepared and proposes early closure of the school where early warnings are available, or shelter in place. All proposed buildings are at or above the PMF level.
- **Bushfire** - The site is also partially mapped as bushfire prone land; however, all of the new buildings are located outside of the bushfire prone land mapping. Notwithstanding, the activity has been designed in accordance with the bushfire risk of the wider site.

Other impacts have been considered as detailed in this REF.

Justification and Conclusion

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

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

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

1. Introduction

The NSW Department of Education (department) proposes to replace existing school facilities (the activity) at Willyama High School located at 300 Murton Street, Broken Hill (the site).

Willyama High School experienced a severe mould contamination event, which impacted all levels of the main school building. After extensive consideration and advice from hygienists, health experts and building professionals, the department resolved to decontaminate the site and demolish the affected school buildings. Accordingly, redevelopment of the school facilities is required to replace the educational infrastructure that is approved for demolition.

This Review of Environmental Factors (REF) has been prepared by EPM Projects on behalf of the department to determine the environmental impacts of the proposed redevelopment of Willyama High School. For the purposes of these works, the department is the proponent and the determining authority under Division 5.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

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

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

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

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

The REF addresses the requirements of Section 5.5 of the EP&A Act, which requires that the department examines, and takes into account to the fullest extent possible, all matters affecting, or likely to affect, the environment by reasons of the proposed activity.

Pursuant to Section 171(4) of the EP&A Regulation, a copy of the REF must be published on the proponent's website or on the NSW Planning Portal, if the activity:

- Has an estimated development cost (EDC) of more than $5 million, or
- Requires an approval or permit for the activity under FM Act, Heritage Act 1977 (Heritage Act), National Parks and Wildlife Act 1974 (NP&W Act) or Protection of the Environment Operations Act 1997 (POEO Act), or
- If the determining authority considered it in the public interest to publish the REF.

The proposed activity has an EDC of more than $5 million and therefore a copy of the REF will be published. The Exhibition is for a duration of 21 days on the school project page on the department's website with link to the project documentation on the portal.

Written notice will be issued to adjoining neighbours, owners and occupiers (up to 80m from the site boundary) inviting feedback on the proposed activity within 21 days. Written notification will also be provided to local council, relevant state and commonwealth agencies and service providers for 21 days.

In the preparation of the REF the community engagement has included:

- Project webpage updates
- Project update to the wider community
- Community information sessions

Following consideration of the key environmental aspects and the information presented in this REF, it is concluded that by adopting the mitigation measures identified in **Appendix 1**, the proposal will not result in significant environmental impacts, and therefore an Environmental Impact Statement is not required. In addition, the proposed activity will not be carried out in a declared area of outstanding value; is not likely to significantly affect threatened species, populations or ecological communities, or their habitats; or impact biodiversity values. Accordingly, neither a Species Impact Statement (SIS) nor a Biodiversity Development Assessment Report (BDAR) is required.

2. The Site

2.1 The Site

The site has frontage to Murton Street (200 metres along south-west), McGown Lane (400m metres along the south), Radium Street (165 metres along the north-west) and the desert to the north-east and east. The site comprises a single allotment, legally described as Lot 5858 in deposited plan (DP) 757298 with an approximate site area of 8.1ha. The site is in the northeastern corner of the City of Broken Hill, approximately 1.8km from the city centre and 2.4km from the Broken Hill railway station.

Figure 2: Locality Plan (Source: NSW Spatial Viewer)

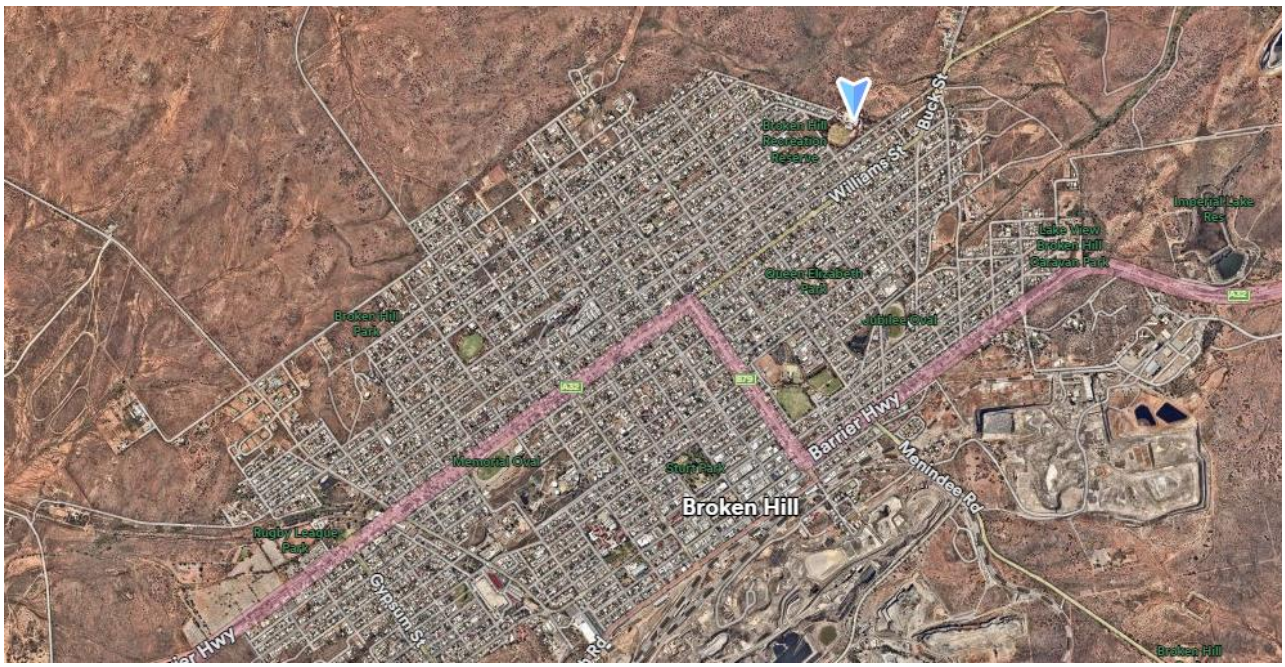


Figure 3: Aerial of Site Location in Broken Hill (Source: Nearmap)

The north-eastern portion of the site contains remnant native vegetation and is generally undeveloped. The existing school development is located in the south-western half of the site, with the school buildings (approved for demolition) clustered in the centre of the site surrounded by exotic and non-locally native planted trees and garden beds. A large sports field is located to the south of the buildings and carparking to the north. Existing assets are indicated in the following figures and include covered pathways, COLAs, an agricultural plot, utilities and water tanks.

Figure 4: Site Aerial (Source: Nearmap)

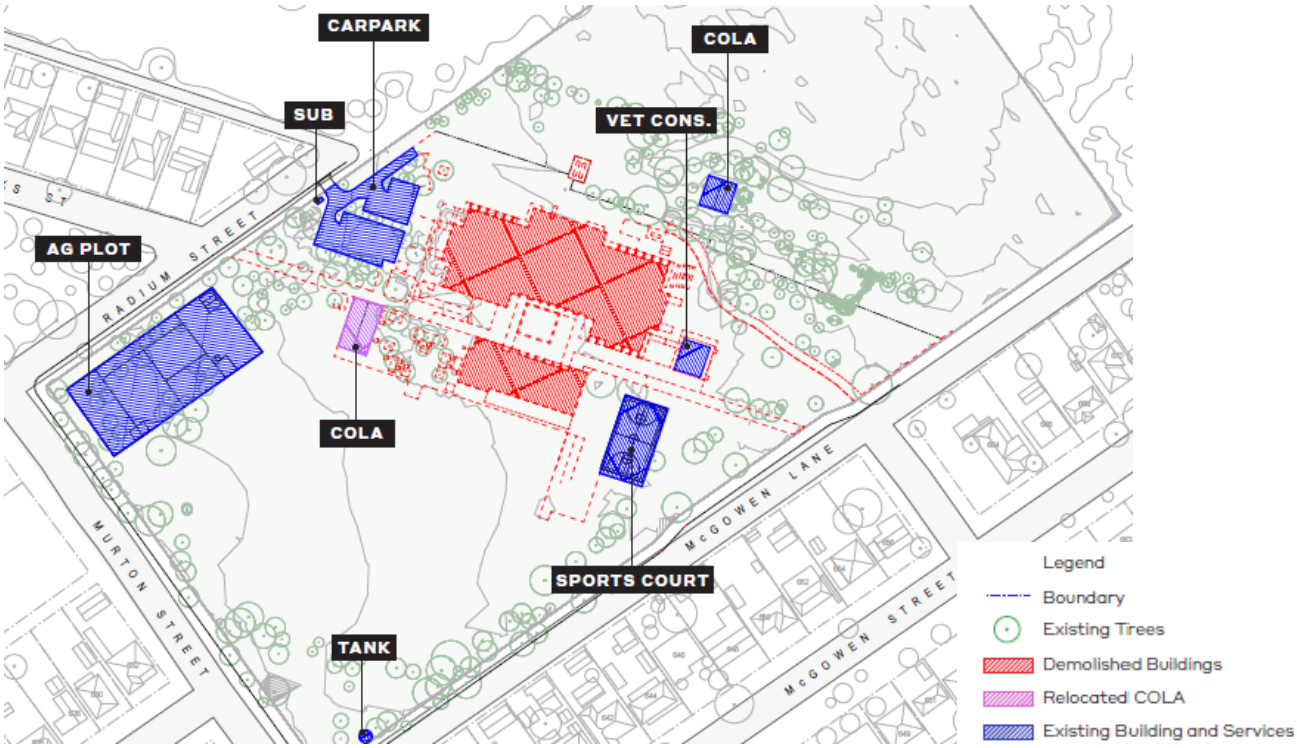


Figure 5: Extract of existing site assets (Source: Woods Bagot)

2.2 Surrounding Development

Low density residential development surrounds the south-eastern, south-western and north-western boundaries of the site with desert to the north-east. However, dwellings along McGowen Lane have frontage to McGowen Street and the school is opposite their rear boundaries; while dwellings along Murton Street have frontage to the streets running perpendicular to Murton Street, and the school is opposite their side boundaries.

A residential subdivision has been approved under DA2022-21 on the opposite site of Murton Street in the north-western corner of the school (**Figure 7**). However, as indicated in **Figure 6**, the future dwellings will have frontage to an internal road, and Murton Street will be their rear boundary.

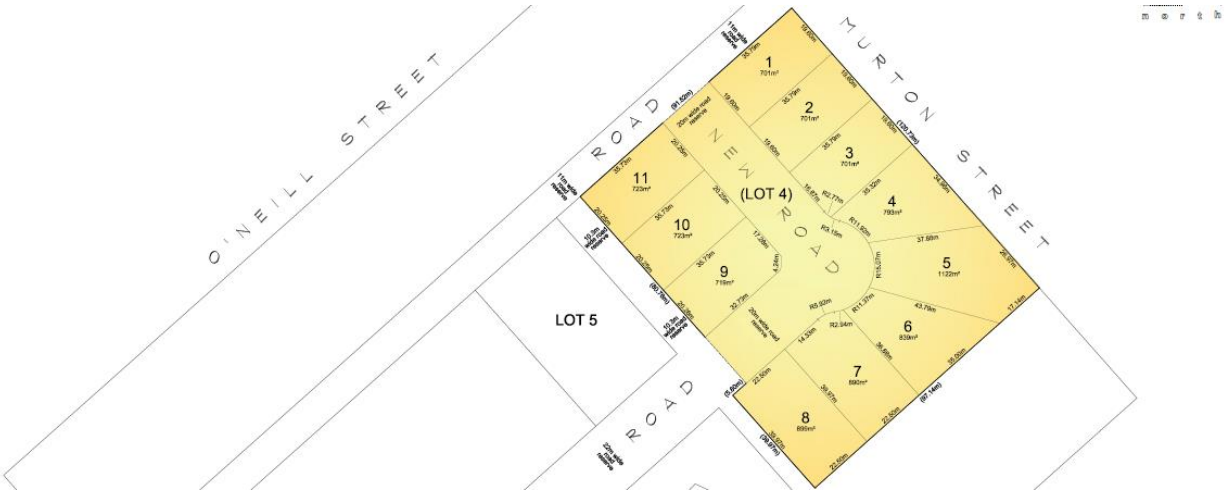


Figure 6: Plan of Subdivision for 331 Murton Street, Broken Hill (Source: MH2 in DA2022-21)

Figure 7: Surrounding Development (Source: Near Map)

Large drainage lines run along Radium Street and McGowen Lane directing stormwater along the road corridor and into pervious area beyond and then onto the desert. Large culvert systems direct water under Murton Street and Brooks Lane east towards the ephemeral streams at the end of Radium Street and McGowen Lane.

Site Photo Sheet


1. Sports field


2. Existing trees on site


3. Existing VET building being retained


4. Existing school buildings being demolished


5. Bus bay & footpath McGowen Lane


6. End of McGowen Lane


7. Residential rear fences on McGowen Lane


8. Corner of Murton St & McGowen Lane


9. Drainage culvert (west of site)


10. Radium Street


11. Radium Street footpath & vehicle entry


12. Murton Street

2.3 Existing Development Consents

A request for all development consents applying to the site was submitted to Broken Hill City Council under the *Government Information (Public Access) Act 2009* (GIPA Act) and the development consent(s) listed in Table 1 were identified.

Table 1: Development consents applying to the site

Development Application #	Description	Date Determined
DA2022/151	Development Application Approval for the construction of a sign. The application was approved 20 December 2022. The approved development application does not contain any conditions relevant to the assessment against s3.37(4) of the TI SEPP.	21 December 2022
DA 2018/173	Storage shed and attached awning. Construction and occupation certificate.	2018
DA 2003/220	Shade shelter. Construction certificate.	2003

2.4 Site Constraints and Opportunities

Consideration of site constraints has been undertaken through a review of the Section 10.7 (2) & 5) Planning Certificate dated 27 July 2024 (Certificate No 19398), mapping under relevant Environmental Planning Instruments (EPIs), and a review of specialist consultant reports and other desktop assessments.

2.4.1 Existing Flood Conditions

The site is subject to flooding from overland flow within the Living Desert Catchment. Floodwaters travel towards the site from the west and flow across the site before discharging into an unnamed ephemeral creek along McGowen Lane. The site is affected from the 10% Annual Exceedance Probability (AEP) through to the Probable Maximum Flood Extent. Flood velocities are below 0.5m/second up to the 1 in 500 AEP event and the hazard level is generally H1, with some areas of H2. However, there is a substantial increase in velocity to 1-2m/second at the PMF level, resulting in hazard levels of up to H5. The following figures **Figure 8** and **Figure 9** demonstrate existing flood depths.

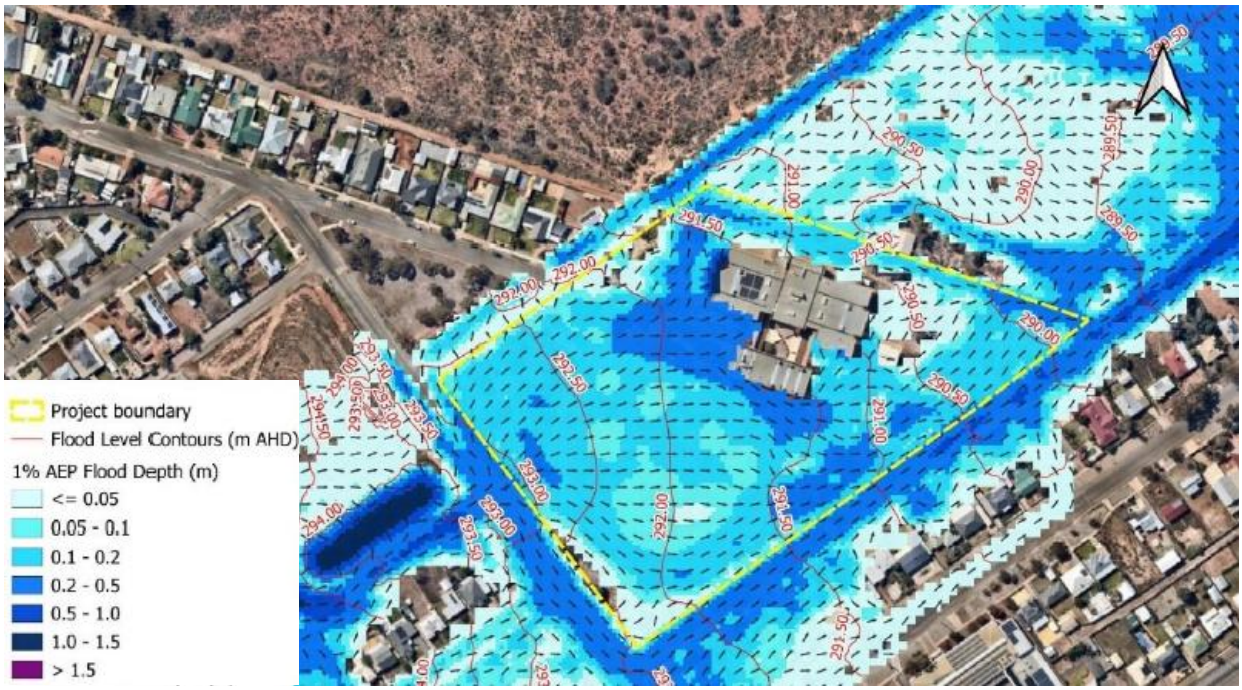


Figure 8: Existing Scenario – 1%AEP flood depths (Source: TTW)

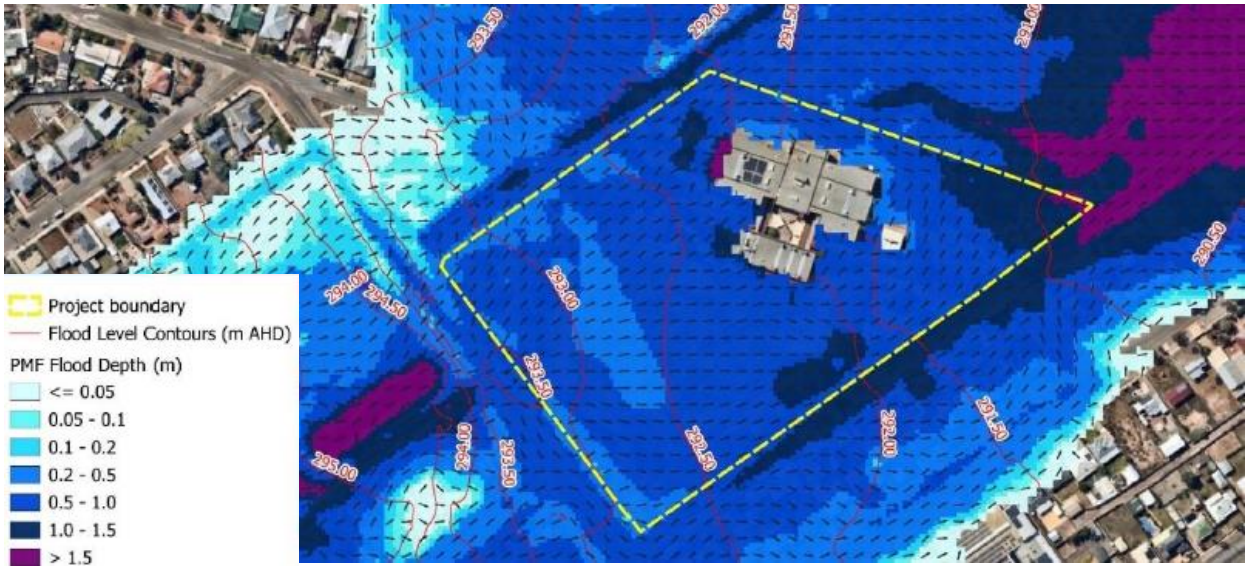


Figure 9: Existing Scenario – PMF flood depths (Source: TTW)

2.4.2 Bushfire

The site is mapped as bushfire prone land. The site is depicted on Broken Hill City Council's Bushfire Prone Land (BFPL) as Vegetation Category 3 land within the north-eastern portion of the site. The site falls within the Broken Hill City Council LGA for which Fire Danger Index (FDI) of 80 is applicable for bushfire assessment (NSW RFS, 2019). The following figure depicts bushfire attack levels across the site.

Figure 10: Bushfire Attack Level (Source: Woods Bagot & GHD)

2.4.3 Aboriginal Cultural Heritage

One area of Potential Archaeological Deposit (PAD) was identified in the north-eastern portion of the site (as indicated in red in **Figure 11**), which is located on the portion of the site that is not utilised by the school and generally contains remnant vegetation.

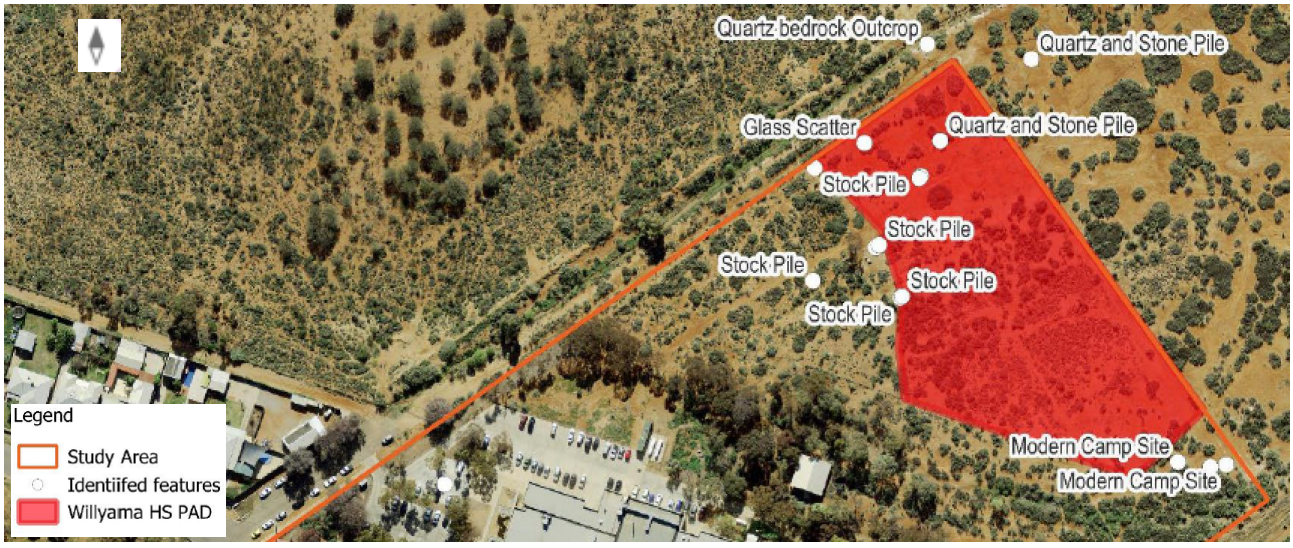


Figure 11: Potential archaeological deposit (PAD) site (Source: GML Heritage)

2.4.4 Other Issues

In addition to the matters discussed above, consideration has also been given to opportunities identified in project development, including:

- Salinity, sodicity & aggressivity – Borehole testing throughout the development area has identified that the site contains highly saline soil, and sodic to highly sodic soil conditions. Soil aggressivity has been identified as non-aggressive for subsurface concrete and moderately aggressive for subsurface steel elements.
- Subsurface soil conditions – topsoil is sandy silt within the sports field and clayey sand elsewhere on the site. Fill is red-brown Sandy Clay of medium plasticity with fine grained sand and fine to medium grained metasediment gravel. Colluvium is very stiff red-brown sandy clay of medium plasticity with fine grained sand and fine to medium grained gravel
- Groundwater – groundwater was observed at 3.1m depth in one borehole during testing but is considered to be localised seepage. The regional groundwater table is likely to be below the bedrock surface with seepage only expected to occur near the rock surface and through any breaks within the bedrock.
- Existing Stormwater Infrastructure – there is limited inground stormwater within the existing site, with the exception of around the existing carparks and the school building. Stormwater currently discharges to two (2) swales located to the north of the existing school building (approved for demolition) and runs toward the eastern boundary, and then into a 12m wide channel that runs along McGowen Lane to the north-east.
- Prevailing views on the site are out to the north-east into the desert and the hill in the distance.
- Site contamination – The Section 10.7 certificate identified a general risk in Broken Hill of surface metals in the soils as a result of mining activities. However, a Detailed Site Investigation (DSI) was undertaken by Douglas Partners that confirmed the southern part of the site is suitable for the proposed activity from a contamination perspective and as such no remediation works are required. Site contamination is addressed in detail further in this REF. It is noted that the site is also an existing school.
- Vegetation and biodiversity – there are 100 trees from 14 different species within and around the development area on the site (which excludes the desert portion). The most predominant tree species on site are Coral Gum (34 trees), Strickland's Gum (18 trees), Salt River Gum (17 trees) and Dundas Blackbutt (14 trees). Retention of existing native mature trees and other vegetation is important to retain existing biodiversity values and habitat as well as shade. It is noted that the works associated with the demolition of the existing school buildings did not include removal of trees proximate to the structures. City of Broken Hill Council provided advice that consent was not required for tree removal associated with the demolition of existing school buildings. Accordingly, some of the trees identified in **Figure 12** may have already been removed. We have included tree removal associated with the proposed redevelopment of the school within this REF to ensure the full extent of environmental impacts associated with the activity have been considered.

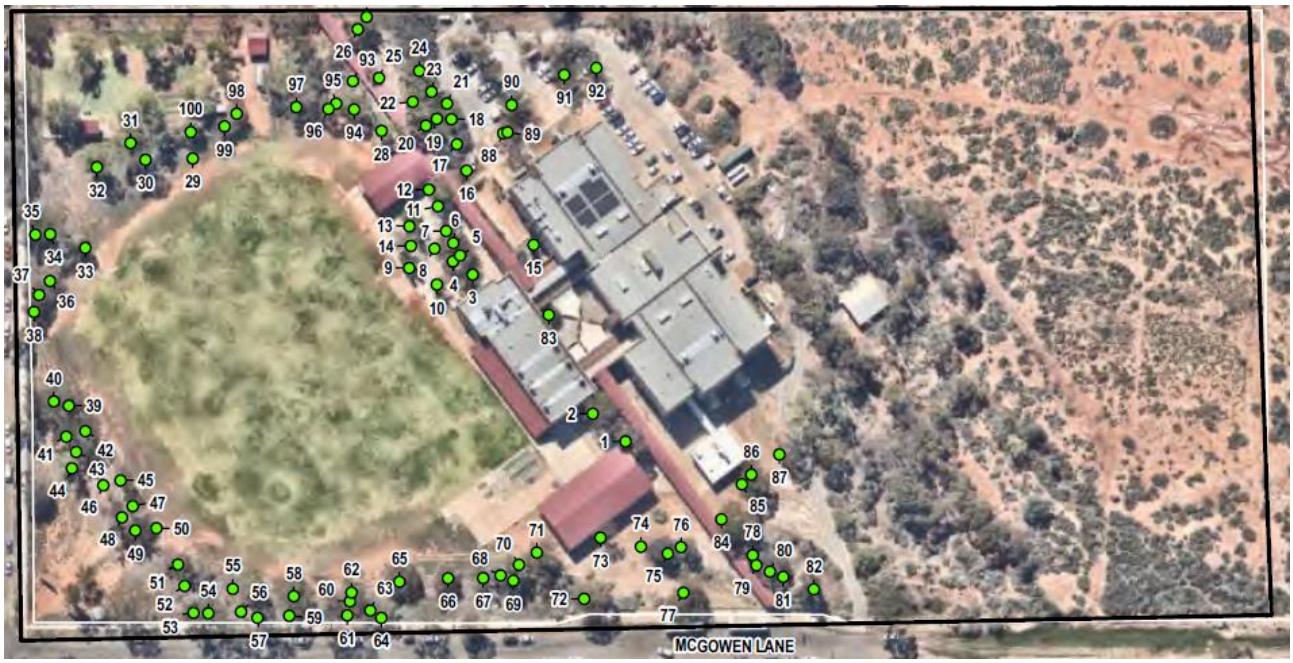


Figure 12: Trees within the activity area (Source: GHD)

- Infrastructure – existing services include:
  - A substation located adjacent to the carpark on the Radium Street frontage
  - Telecommunications are connected via P30 Telstra conduit from Brooks Street
  - A water main is located at the southwest side of the site within the southern side of Murton Street
  - The site has access to sewer infrastructure
  - There is an existing LPG tank in the south-western portion of the site.
- Road & Pedestrian Network – the site has frontage to three roads, each of which comprises a footpath along the length of the school frontage. McGowen Lane contains a bus bay and adequate space to accommodate a kiss and drop zone. Formalised existing primary vehicle access to the site is from Radium Street. However, informal vehicle entries are located on McGowen Lane, to the north-east of the bus bay, and on Murton Street, adjacent to the sports field.

3. Proposed Activity

The proposed activity includes the redevelopment of Willyama High School, following demolition of the majority of existing school buildings. The activity has been designed to accommodate approximately 730 students and will be delivered in a single stage. Noting that demolition of the existing school buildings has already been approved, the proposed redevelopment activity includes:

- Site preparation including site establishment and earthworks,
- Tree removal and tree planting,
- Construction of new buildings, including:
    - Building A - three storey building comprising support learning unit classrooms with learning commons, an Aboriginal Community Hub, Administration and Staff facilities, general learning spaces (GLS), learning commons, multi-purpose spaces, specialist teaching spaces, toilet facilities and circulation areas.
    - Building B - Library; specialist learning spaces for Technical and Applied Studies (TAS), Vocational Education and Training (VET) Kitchen, Science, Arts and Performing Arts, and Physical Education (PE), toilet facilities, and circulation areas.
    - Building C - Multi-Purpose Hall including construction classrooms, canteen, changerooms, storage and toilet facilities.
- New Covered Outdoor Learning Areas (COLA's) and covered walkways
- Outdoor play areas, including oval, cricket nets, games court and external communal space,
- A minimum of 57 at-grade car parking spaces including retention of 32 existing parking spaces accessed from Radium Street and construction of a new car parking area for 26 vehicles and formalisation of the McGowen Lane vehicle access,
- 60 bicycle parking spaces,
- Ancillary substation adjacent to the Murton Street frontage
- Waste storage and loading area accessed from Murton Street,
- New kiss'n'drop facility along McGowen Lane, with capacity for six vehicles and a queueing space of 50m,
- Signage for the existing bus bay on McGowen Lane,
- Relocation of existing electronic signage, and
- Associated site landscaping and open space improvements, three (3) flag poles and perimeter fencing.

Table 2 provides a summary of key aspects of the activity.

Table 2: Summary of the activity

Project Element	Description
Site Area	8.1ha
Project Name	Redevelopment of Willyama High School
Project Summary	The redevelopment works include construction of two (2) new three-storey buildings along the McGowen Lane frontage, a single storey multipurpose hall with frontage to Murton Street, ancillary substation, landscaping and civil works, covered outdoor learning area and play

Project Element	Description
	space, on-site car parking, external ancillary items, public domain upgrades to formalise a kiss and drop and upgrade to vehicle entry on McGowen Lane and pedestrian crossing/ infrastructure
Use	Educational establishment – Secondary School
Student and Staff Numbers	730 Students 75 Staff
Car Parking and Bicycle Spaces	Minimum of 57 on-site car parking spaces (including retention of 32 existing spaces) 60 bicycle parking spaces
Height	Three (3) storeys
Canopy Cover	The replanting schedule will result in a net benefit of canopy coverage from existing conditions by a minimum of an additional 10sqm.
Off Site Works	Kiss and drop, signage and formalisation of vehicle entry on McGowen Lane

The key features of the proposed activity are shown in **Figure 13** and **Figure 14**.

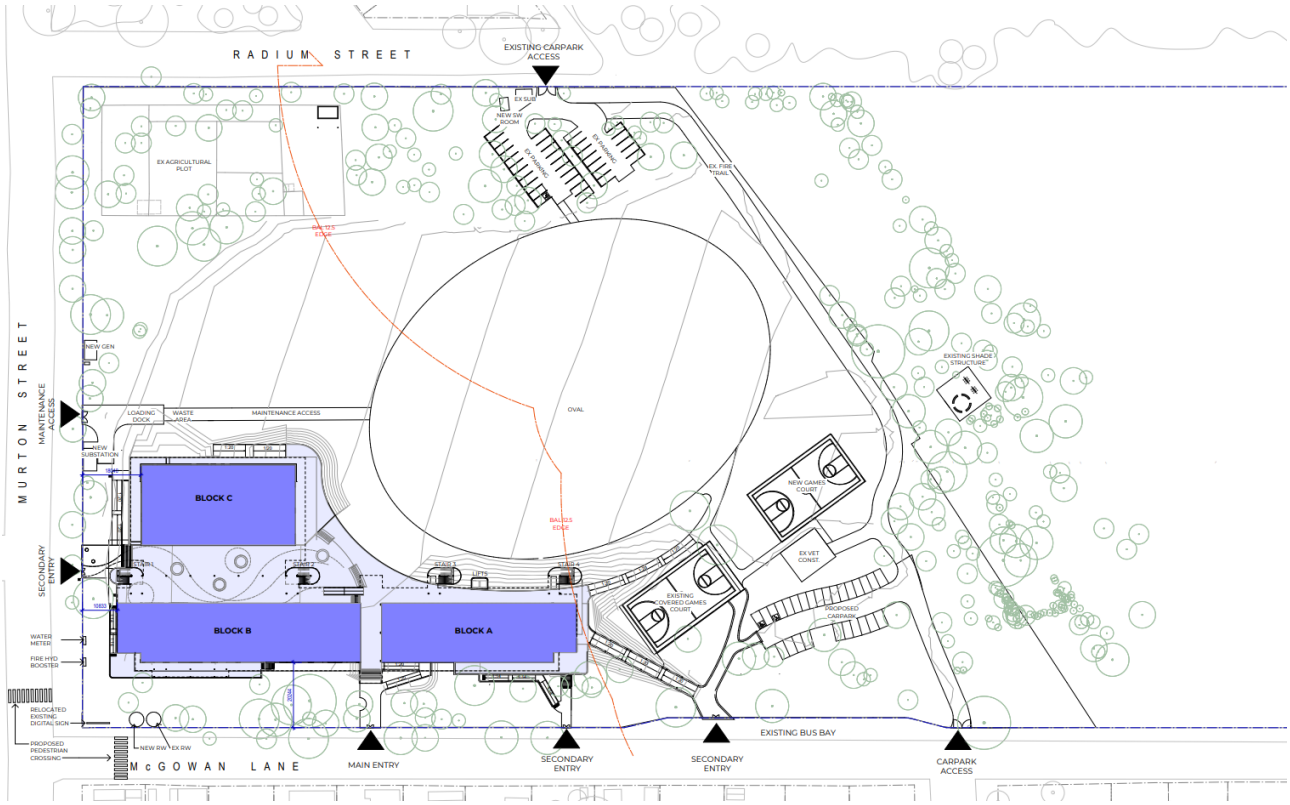


Figure 13: Proposed indicative site layout (Source: Woods Bagot)

Figure 14: An artist's impression of the proposed school built form (Source: Woods Bagot)

3.1 Tree Removal/Retention

The proposed activity includes removal of 41 trees as shown in **Figure 15** below. An Arboricultural Impact Assessment prepared by GHD, details the assessment on trees potentially impacted by the proposed activity. In total 101 trees were assessed from the site, with 60 recommended for retention and the remaining 41 recommended for removal due to their location either within or adjacent to the activity footprint, making retention unviable. None of the trees proposed for removal have high retention values, 28 have medium retention values, nine (9) have low retention values and four (4) are dead.

Tree protection measures will be implemented to ensure trees being retained are not harmed during construction.

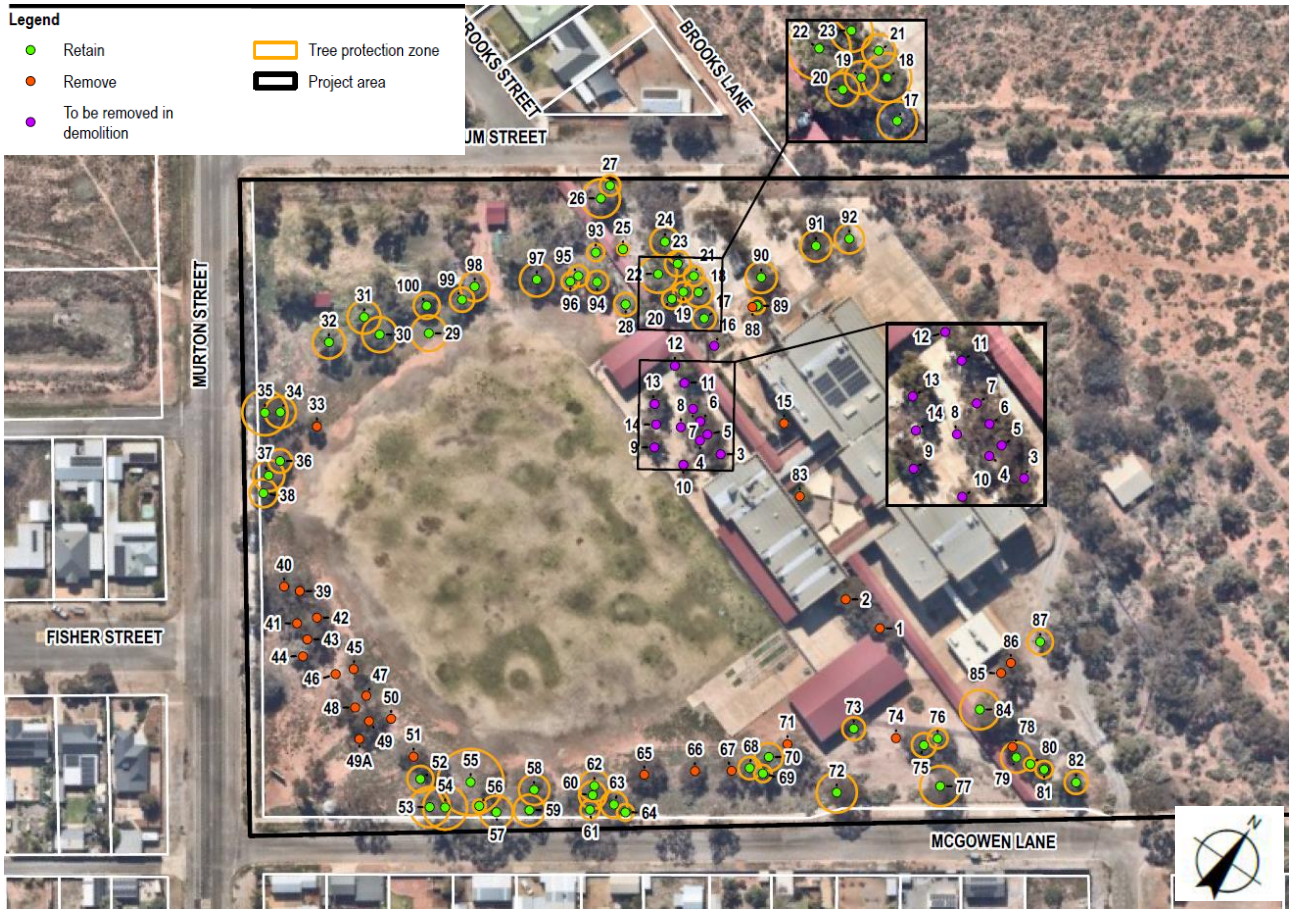


Figure 15: Tree retention and removal plan (Source: GHD)

3.2 Earthworks

Earthworks will consist of reshaping the site to direct some flood flows from the proposed buildings in the southwest corner of the site towards the playing field in the middle of the site. In addition, fill will be placed beneath the slab of the three buildings to provide flat building pads, while raising the buildings above existing ground level in accordance with the flood affectation of the site. However, due to the reactivity of the soil on site, a 1m capping layer of non-reactive fill is required beneath the building slabs.

A preliminary cut and fill analysis has been conducted by Taylor Thomson Whitting (NSW) Pty Ltd (TTW) on 28 May 2025 to provide a high-level estimate of anticipated earthworks. The analysis determined that there was approximately 9,060m^3 of cut and 6,130m^3 of fill resulting in a net cut and fill balance of 2,930m^3 of cut. This does not take into account site strip (0.2m across the site) which would constitute approximately 6,200m^3 of topsoil based on a bulk earthworks area of 31,020m^2. It also does not account for the import of non-reactive fill material to be used as a capping layer beneath the ground floor structural slab on grade which constitutes approximately 4,230m^3 of fill. One meter of capping layer of non-reactive fill material is required beneath the building slab on grade. The cap and fill will be closely managed to ensure it does not result in any contamination on site.

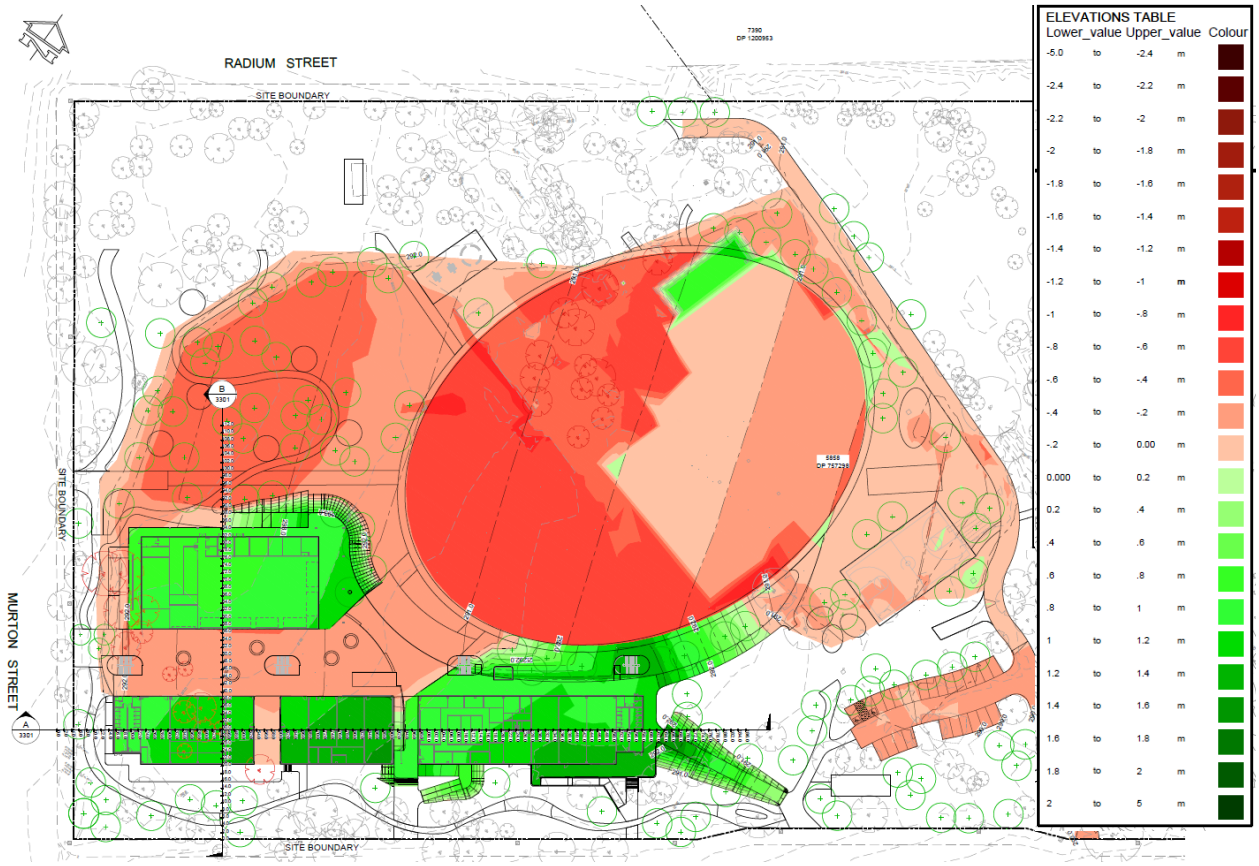


Figure 16: Cut and Fill Plan (Source: TTW)

3.3 Stormwater

A Stormwater Management Plan has been prepared by TTW in accordance with the flood affectation and existing conditions of the site.

Stormwater runoff will be generally directed via a series of swales to existing inground drainage or major swales at the eastern end of the site. Swales will be located on the low-side of pavements to direct runoff. The proposed buildings will be connected to rainwater tanks (with a capacity of 60m^3) to capture runoff, overflow to discharge to ground (as with the existing roof downpipes on site). Run off will continue across the site to the south-east corner where it will discharge into the street water table and channel within McGowen Lane. Rainwater tanks will be used for irrigation purposes.

Existing rainwater tank(s) capture runoff from an existing COLA, and subject to a review of their condition of the tank(s), they are proposed to be retained. Consideration was given to provision of on-site detention, however, due to the flood affectation of the site and the development resulting in a reduction of impervious area, it was concluded that OSD would provide little benefit and may increase impacts on flooding.

As part of the flood management strategy, the area between Building C and Building B (and partially the northern corner of Block A) will be elevated as a suspended slab to allow flood flows to run beneath at ground level (identified in pink in **Figure 17**). The channel will be graded to a 0.5% fall to convey water to the sports field. Access hatches will be provided in the suspended slab to allow maintenance of the channel.

Erosion and sediment control measures will be implemented during construction

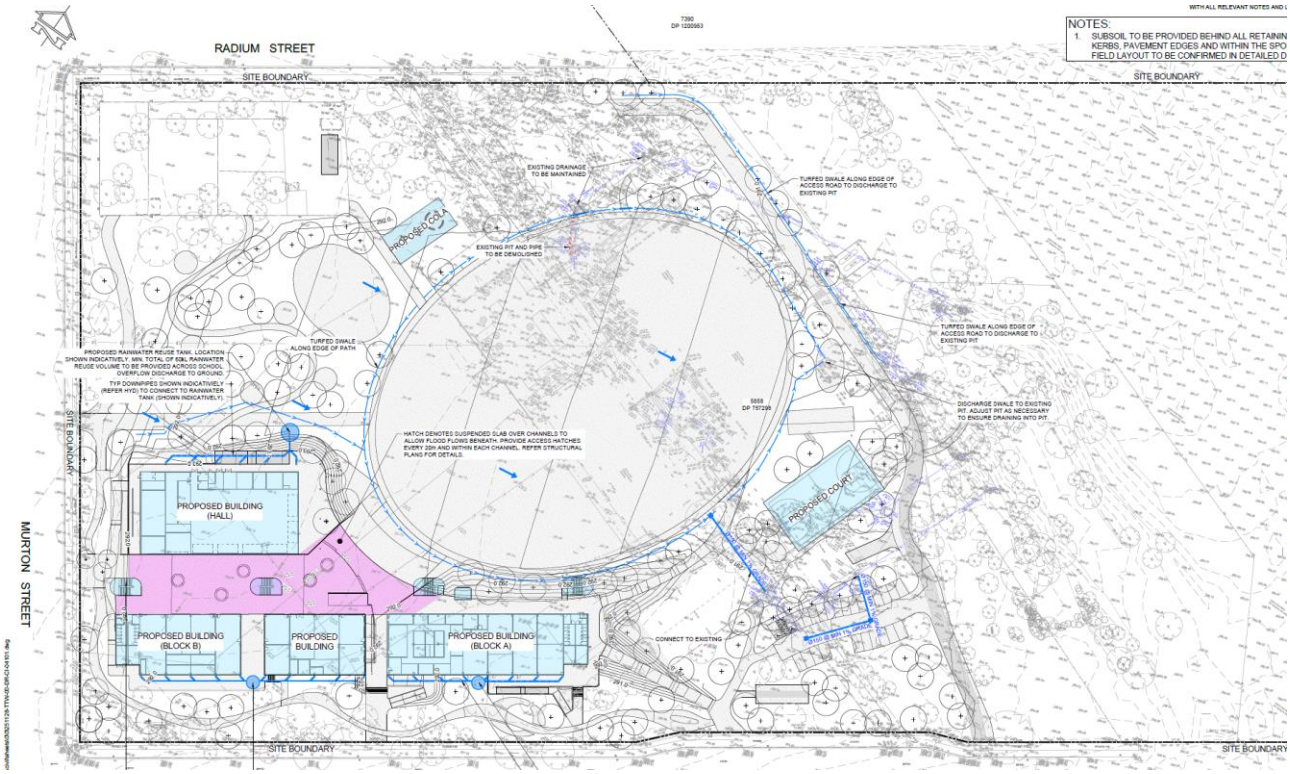


Figure 17: Stormwater Management Plan (Source: TTW)

3.4 Built Form and Design

3.4.1 Built Form

The building footprints are designed and configured to address the McGowen Lane and Murton Street frontages, with three (3) buildings. Buildings A and B are rectangular, three-storey buildings; and Building C is a single storey multi-purpose hall, with both Buildings B and C being setback 10 metres from the Murton Street frontage. The habitable floor levels have been set by the flood affectation of the site, with Building A at RL292700 and Buildings B and C 600mm higher. Buildings A and B have stairs and circulation paths along the north-western (internal) façade of the building as well as lift access.

Building A has a floorplate of 60 metres in length, with the main pedestrian entry plaza located between Buildings A and B. Building B is in two 30-metre-long sections, which is joined by a 7.5 metre COLA and upper circulation areas. This feature, along with the main entry between Buildings A and B serves to break up the bulk and scale of the built form along this frontage. Stairs and lifts are provided for vertical circulation at the western end of Building B and at key points within the buildings. Building C is rectangular in shape and located to the north of Building B.

All buildings have a skillion roof form, with Buildings A and B falling to the McGowen Street frontage and Building C falling towards the sports field. Extended roof forms between Building B and C provide shade cover to the area between the two buildings. Generous setbacks are provided to McGowen Lane (20 metres) and Murton Street (10 metres) to preserve mature trees along the boundary and sit the building into the existing environment.

The maximum height of the proposed activity is approximately 14.7m above existing ground level.

Direct access and clear sight lines are provided from the pedestrian entries on McGowen Lane and Murton Street to the school buildings and outdoor play area. The outdoor play area is the central focus of the site, which allows for good passive and active surveillance during break times.

The activity is designed to be accessible and inclusive to all staff and students, and community members. Accessible paths of travel are provided to and between all internal and external learning spaces and between entries and the accessible carpark. The split-level approach, while responding to flood risks, has been carefully designed to ensure equitable access throughout the campus. Lift access reaches all three levels of the new buildings, connecting staff and students to all facilities including specialist learning spaces.

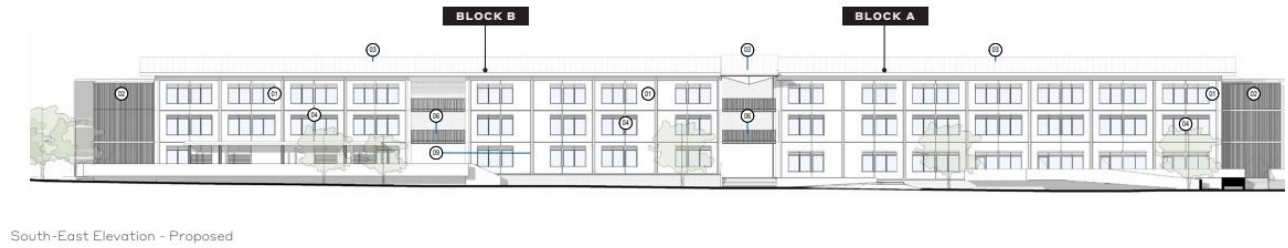


Figure 18: Proposed southeast elevation of Block A and B (Source: Woods Bagot)

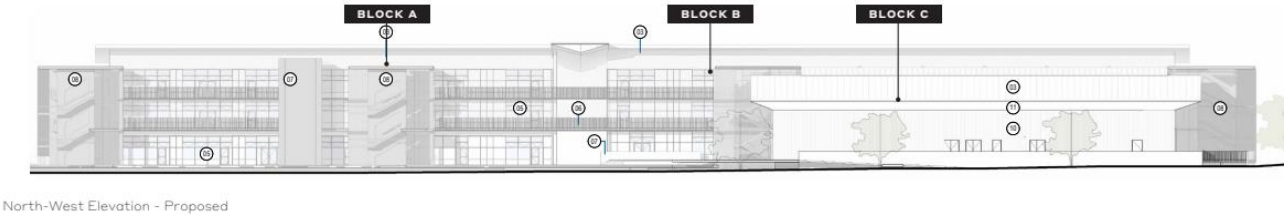


Figure 19: Proposed northwest elevation of Block A, B and C (Source: Woods Bagot)

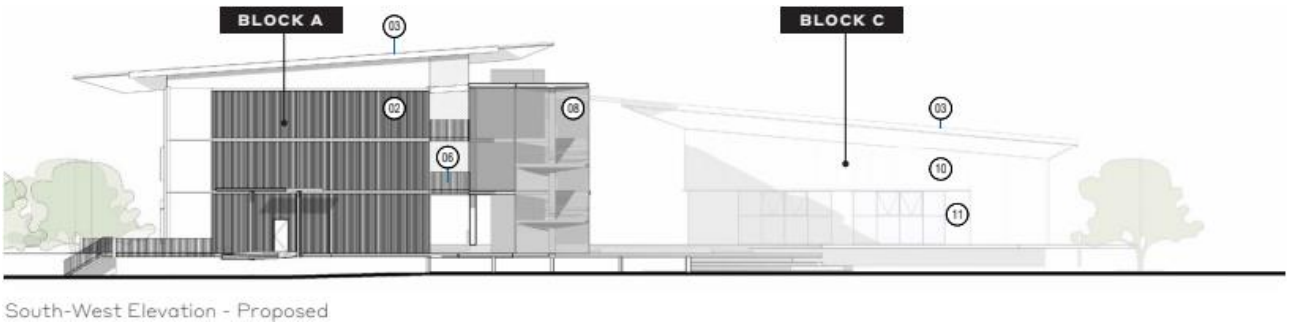


Figure 20: Proposed southwest elevation of Block A and C (Source: Woods Bagot)

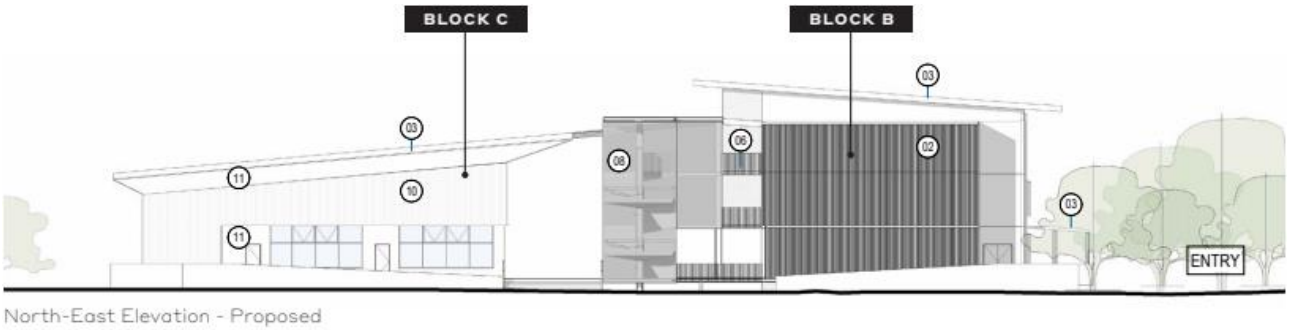


Figure 21: Proposed northeast elevation of Block B and C (Source: Woods Bagot)

3.4.2 Signage

There is an existing electronic sign (approved under DA2022/151) located on the MacGowen Lane frontage by the existing rainwater tank. This sign is proposed to be relocated southwest along the McGowen Lane frontage, as the main entrance to the school will be located at the corner of McGowen Lane and Murton Street suitably setback from the street. The existing location of the approved digital sign is indicated in **Figure** 23**.** The sign is proposed to be relocated approximately 8m from its current location in accordance with **Figure 23**. No change to the sizing, illumination or hours of operation is proposed. The proposed activity seeks to relocate the existing electronic sign.

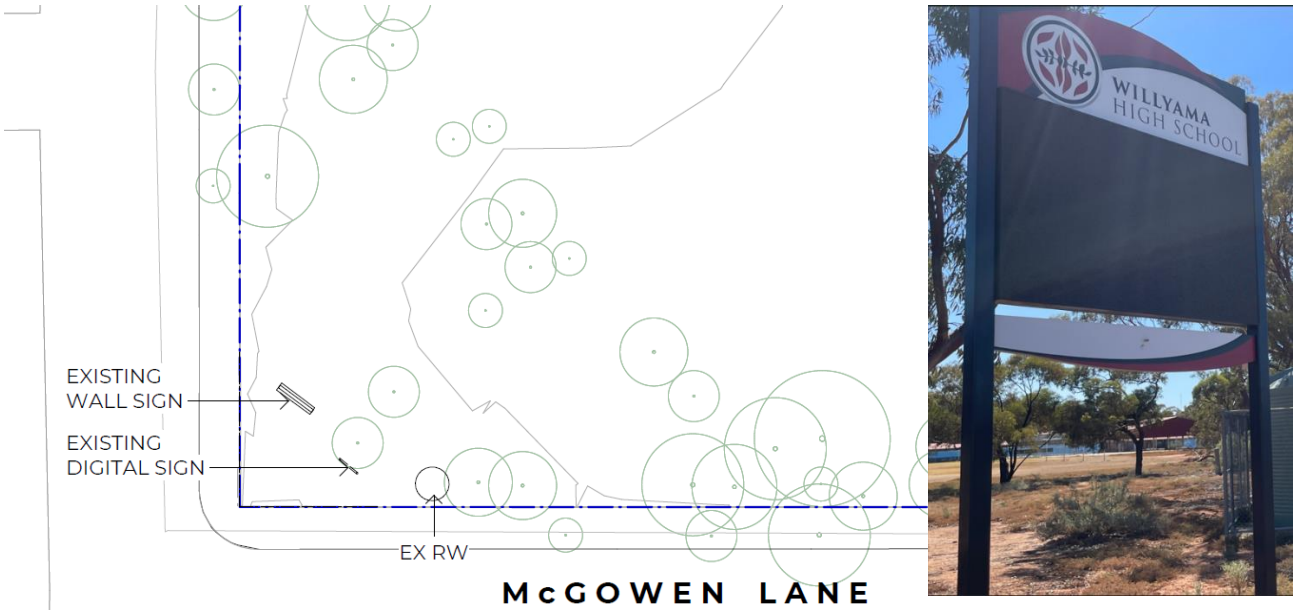


Figure 22: Extract indicating current location of digital sign (Source: Woods Bagot)

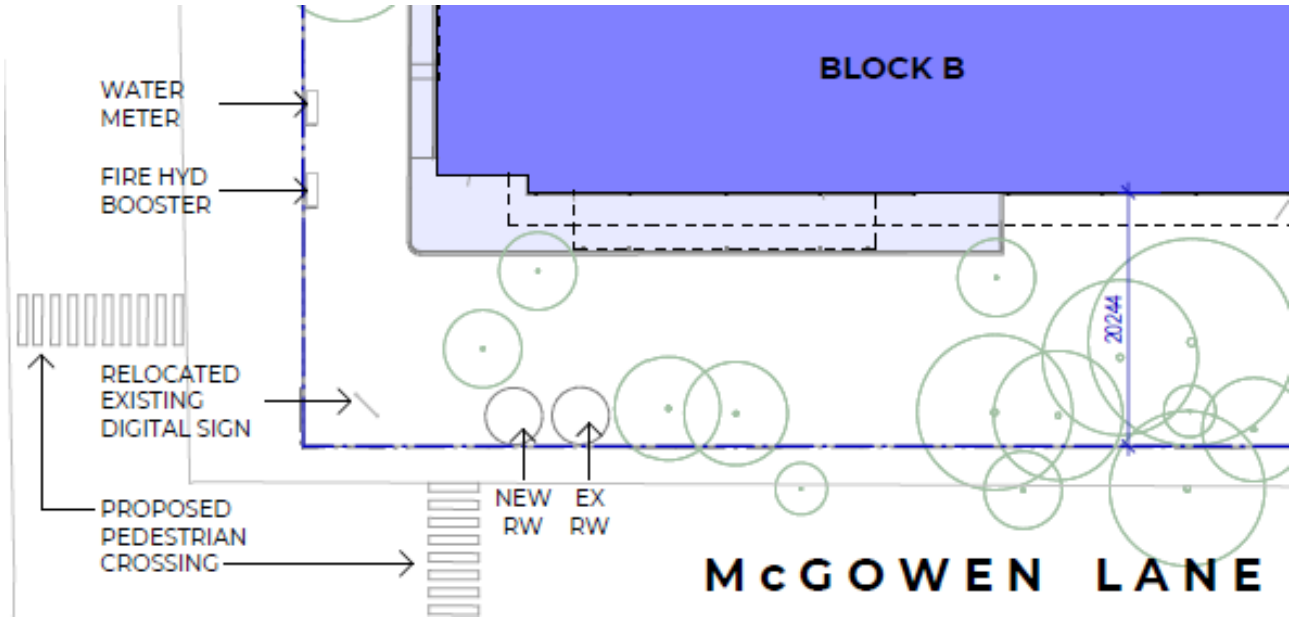


Figure 23: Extract indicating new location for existing digital sign (Source: Woods Bagot)

3.4.3 Façade Treatments

The proposal utilises materials that are robust, hardy, tactile and responsive to the local environment. Proposed colours have been selected to reflect the existing native trees and wildflowers on site and desert and the rich mining heritage of Broken Hill. Indicative materials and colours are illustrated in **Figure** 24 below.

The proposed buildings are three (3) storey buildings in compliance with Section 3.37(2) of the TI SEPP height of building restriction. The site does not have a maximum height under the Broken Hill Local Environmental Plan.

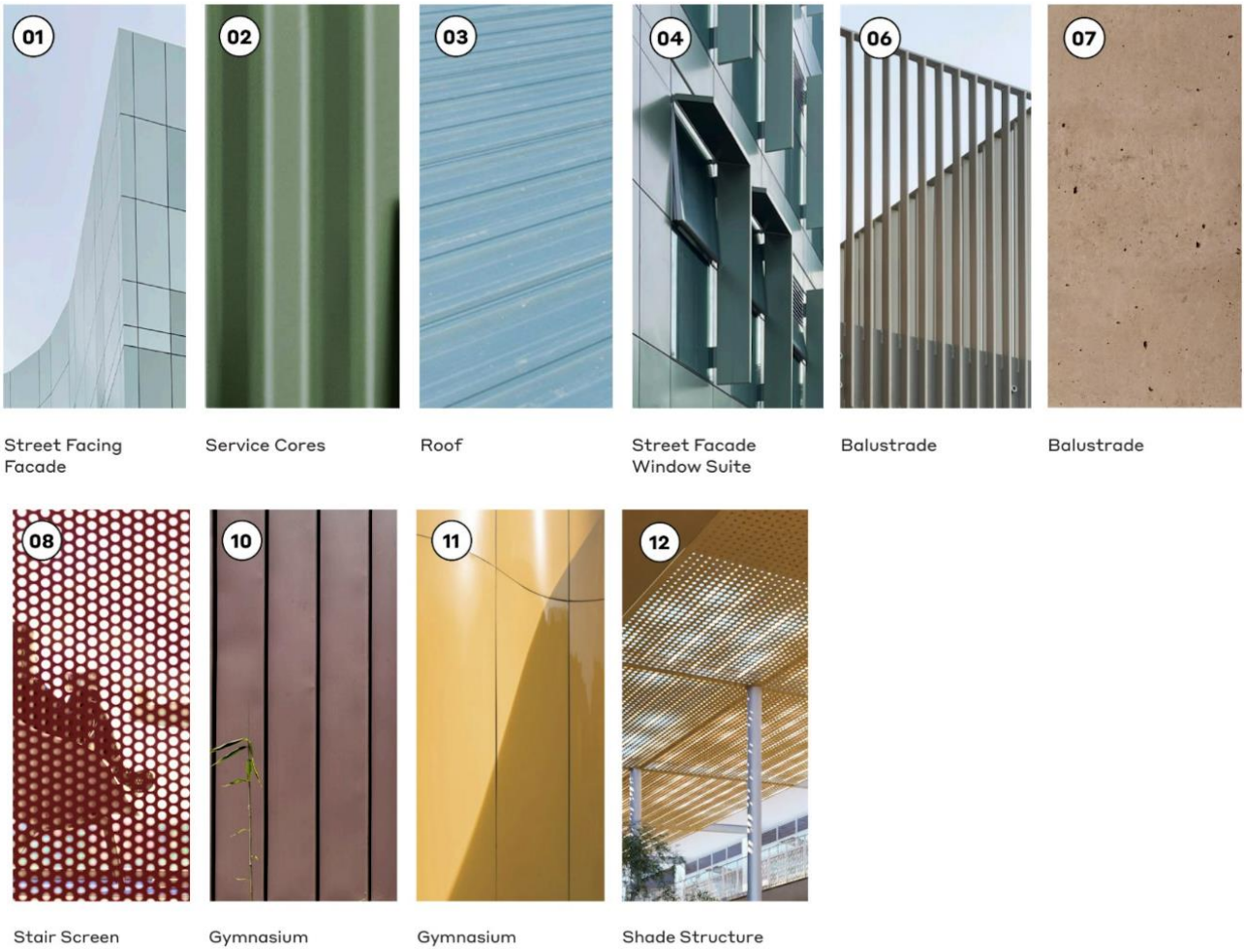


Figure 24: Indicative materiality (Source: Woods Bagot)

3.4.4 Design

An Architectural Design Statement has been prepared by Woods Bagot Architects which details the design methodology for the redevelopment of Willyama High School. The layout for the school is based on the Department of Education's Pattern Book for Schools. Materiality and finishes have been selected to provide visual interest as well as meeting sustainability targets and climatic considerations as well as consideration of how students and staff will interact with the built form. Elongated roof forms and window treatments are proposed to the façade to provide additional shading.

The layout of the building is capable of compliance with the Building Code of Australia and accessibility standards.

Design Guide and Design Quality Principles

The proposed built form responds to the design quality principles outlined in Schedule 8 of the TI SEPP and the Design Guide for Schools (see **Section 7.9**).

The design has also been presented to the State Design Review Panel (SDRP) and comments raised by the panel have been considered and responded through the proposed design (see **Section 6.1**).

3.4.5 Connecting with Country

The design respects the priorities established through the Connecting with Country engagement process with Wilyakali Elders and Traditional Owners. The themes Community, Country, Sky and Water have guided the cultural values and practical design directions for the school. Insights provided about cultural and environmental elements that have been explored and honoured in the design during walks on Country have guided the design approach to express the light, colour and spirit of Country. Cultural visibility is embedded throughout the site, with dedicated display spaces for student and community artwork, particularly at the protected main entry. The orientation of the new buildings will open up views to the desert, while their location will ensure that the identified Aboriginal archaeological deposits remain protected and undisturbed.

3.5 Sustainability and Climate Change

The proposed built form incorporates sustainability measures to provide a comprehensive approach to environmental responsibility, addressing key principles as defined in Section 193 of the Environmental Planning and Assessment Regulation 2021 and aligning with regulatory standards. A Sustainability Report prepared by Northrop dated 27 May 2025 confirms that the project will achieve a 4 Star Green Star Design, and the following have been considered as part of the proposed design to ensure a sustainable outcome.

3.5.1 Sustainability

The project is targeting 4 Star Green Star rating and the following sustainability outcomes:

- Compliance with the Educational Facilities Standards and Guidelines (EFSG) by the Department of Education (DoE).
- Exceeding the requirements of Section J of the National Construction Code (NCC) by 10% as per the Government Resource Efficiency Policy.
- Incorporation of Ecologically Sustainable Development principles considered to be best practice within the Australian building industry.

Sustainable Buildings SEPP Outcomes:

- minimise the consumption of energy and potable water
- reduce greenhouse gas emissions from energy use
- monitor, measure and report on the embodied emissions of building materials
- deliver buildings that are comfortable in summer and winter

The ESD measures proposed for Willyama High School is discussed in Table 3 below.

Table 3: ESD Initiatives

Initiative	Description

Energy Efficiency	• Natural Ventilation of Circulation Spaces
	• Improved building fabric and glazing performance.
	• Mixed Mode HVAC
	• HVAC System Control
	• Adaptive Thermal Comfort Control
	• Energy Metering and Monitoring
	• Improved outdoor air provision
	• Highly efficient LED lighting system
	• Onsite Renewable Energy
	  • The project will include a rooftop solar array providing energy production onsite to both reduce energy costs and provide educational outcomes for students and staff.
	• Passive Design Measures
	  • Incorporation of shading on the facades of the buildings.
	  • Use of well-designed glazed areas to exploit overshadowing of the circulation balcony areas for peak occupancy periods.
	  • Strong use of shaded thermal mass to regulate temperatures. This is achieved through the selection of a concrete materiality for the external circulation elements.
	  • Integration of landscaping into the building designs to minimise heat islanding and promote passive cooling through transpiration.
	  • Use of high performance thermal and acoustic insulation for the project facades.

Indoor Environment Quality	• Daylight Access • Interior noise level control • Access to views • Material selection
Water Efficiency	• Water efficient fixtures and fittings • Use of low maintenance landscaping • Water Sensitive Urban Design
Improved Ecology	Through planting native vegetation and promoting improved interaction with the natural environment, the project will look to improve the site's ecology and minimise its ongoing environmental impact. The project will also implement the following: • Minimisation of light spill from the facility which impacts on migratory animals and insects. • Reduced dissolved pollutants in stormwater discharged from the site
Sustainable Transport	The project will also include the provision of bicycle parking spaces and end of trip facilities for the staff. In addition, car-pooling for staff and students should be encouraged to further reduce the use of private vehicles.
Waste Management	• Operational Waste • The provision of separated waste and recycling streams will allow for more effective recycling of the projects' operation waste. • Construction Waste Minimisation

Initiative	Description
	• The project will also aim to limit the amount of construction waste sent to landfill with the aim of at least 90% of all waste produced to be sent to recycling facilities or reused onsite.
Massing and Site Layout	• Building orientation considering the site solar access • Shading

3.5.2 Climate Change

The ESD report prepared by Northorp outlines the primary climate effects, and the risks associated due to secondary climate effects applicable to the development as follows:

- Changing surface temperature
- Changing precipitation
- Changing wind speed and
- Changing humidity

The climate change projection data relevant to the climate and site conditions of the project identified within the CSIRO projected impacts of climate change were utilised to establish the scenarios for the development and how they have been addressed within the design of the project.

Table 4: Primary climate effects

Climate Effect Considered	Description
Changing Surface Temperature	• An increase in the average surface temperature could lead to reduced thermal comfort for the building occupants over time – reflective and vegetated surfaces will be included throughout the site to minimise urban heat island effects; the building should has been designed to capture multidirectional breezes and promote movement of air across the site; mixed mode ventilation and conditioning strategy allows the building to ramp up space conditioning to accommodate the thermal comfort needs of occupants when required. • An increase in extreme heat could lead to an increase in energy and water demand and associated utility and maintenance costs – the incorporation of native low water use vegetation and not water-based heat rejection systems will minimise water demand for key systems; the use of a flexible mixed mode system supported by onsite solar power generation will work to balance increased energy costs for space conditioning. • An increase in extreme heat could place additional stress on building services including air conditioning equipment – an increased average outside design temperature will be used to size the air conditioning systems to ensure that they are sufficiently sized for the potential increases in temperature; adaptability of these systems will also be considered with the potential to add additional cooling capacity if required in the future.
Changing Precipitation	• An increase in rainfall intensity could increase local flood events limiting access to the building for vehicles, building occupants and pedestrians – the onsite stormwater management systems will be designed for the forecast increases in rainfall intensity; the landscape design incorporates vegetation to assist in the management of stormwater runoff and the project will improve the permeability of the site. It is noted that the buildings have been

Climate Effect Considered	Description
	designed to minimise flood impacts but carparking is provided in the higher risk areas of the site. • Increased severe thunderstorms and intensity could result in blockages in roof drainage systems from build-up of hail and debris, causing stormwater to overflow and damage the building asset, goods and equipment owned by the school – the projects hydraulic design will consider this risk and increase the capacity of roof drainage to accommodate. • Power outages during major storm events could lead to a potential disturbance to building systems including security, lighting etc, posing a safety issue to occupants on site – the flexible mixed mode ventilation systems and project focus on good daylight penetration will enable the building to continue operation across most of the year in the occasion of power outages; emergency lighting and safety systems will have redundancy to minimise safety risks posed to building occupants.
Changing Wind Speed	• An increase to wind speed intensity could lead to damaged building assets including windows and roof elements – this will be considered within the structural and landscaping design of the site. • Increased wind speed intensity could result in damaged vegetation, creating a disturbance to the local ecosystems and increased maintenance costs for the property – this risk will be considered within the landscaping design with the use of endemic native species well suited to the site and these future risks. • An increase in wind speed intensity could potentially damage power lines, resulting in a power outage for the building - the flexible mixed mode ventilation systems and project focus on good daylight penetration will enable the building to continue operation across most of the year in the occasion of power outages.
Changing Humidity	• Decrease in humidity could lead to changes in the micro-climate, impacting the local ecology of the site – the use of endemic native vegetation will act as a buffer to this impact as will the provision of the rainwater supplied irrigation systems. • The project design will consider the inclusion of specific measures of the ESD report to respond to the CSIRO and Insurance Council's projected impacts of climate change. These measures include simple alteration such as building orientation and site layout to promote airflow through the building and site, colour selection and the use of vegetation, through to more complex solution such as the proposed HVAC controls and mixed mode ventilation strategy. Overall, these measures alongside the adaptability of the building and its systems shows a strong consideration within the design of potential future climate change adaptation needs.

3.6 Landscaping

A landscape plan for the proposed Willyama High School has been prepared by Urbis. The landscape design responds thoughtfully to the site's orientation, topography, and natural systems. The Willyama High School landscape will be welcoming and accessible for all, fostering a sense of belonging and reflecting the cultural diversity of the community.

The landscape design ensures safe connections with the surrounding streetscape and circulation through the campus. Comfortable and engaging spaces will support a variety of educational and community activities, with access to sunlight, natural ventilation, and vegetation. The landscape will be adaptable to future needs and evolving teaching methods.

The following Landscape Design Principles have been informed by the 'Design quality principles for schools' in Schedule 8 of the TI SEPP including:

- Responsive to context
- Sustainable, efficient and resilient
- Accessible and inclusive
- Healthy and safe
- Functional and comfortable
- Flexible and adaptable
- Visual appeal

Accessible and inclusive campus and streetscape environment is achieved through the following design elements:

- Series of Welcome Landscapes and markers on arrival
- Enhanced views and visual connections to the landscape and sports oval at the heart of the campus
- Optimised and improved physical connections internally and externally through the site that work harmoniously with the natural topography
- Improved connectivity and distribution of external spaces
- Circulation paths to communicate storytelling and link to meeting spaces and healing gardens
- Materiality and surface finishes to provide visual interest and guide intuitive wayfinding
- Centering Connection with Country throughout the campus learning, social and recreation and circulation spaces
- Provide opportunities to connect to nature through sight lines and diverse outdoor spaces
- Celebrate and emphasise existing vegetation and green boundary on site
- Improved sustainability and ecology response to cool and enhance the campus
- Increased Natural Green Canopy
- Landscape design to be infused with the site's local geology, topography and materiality.

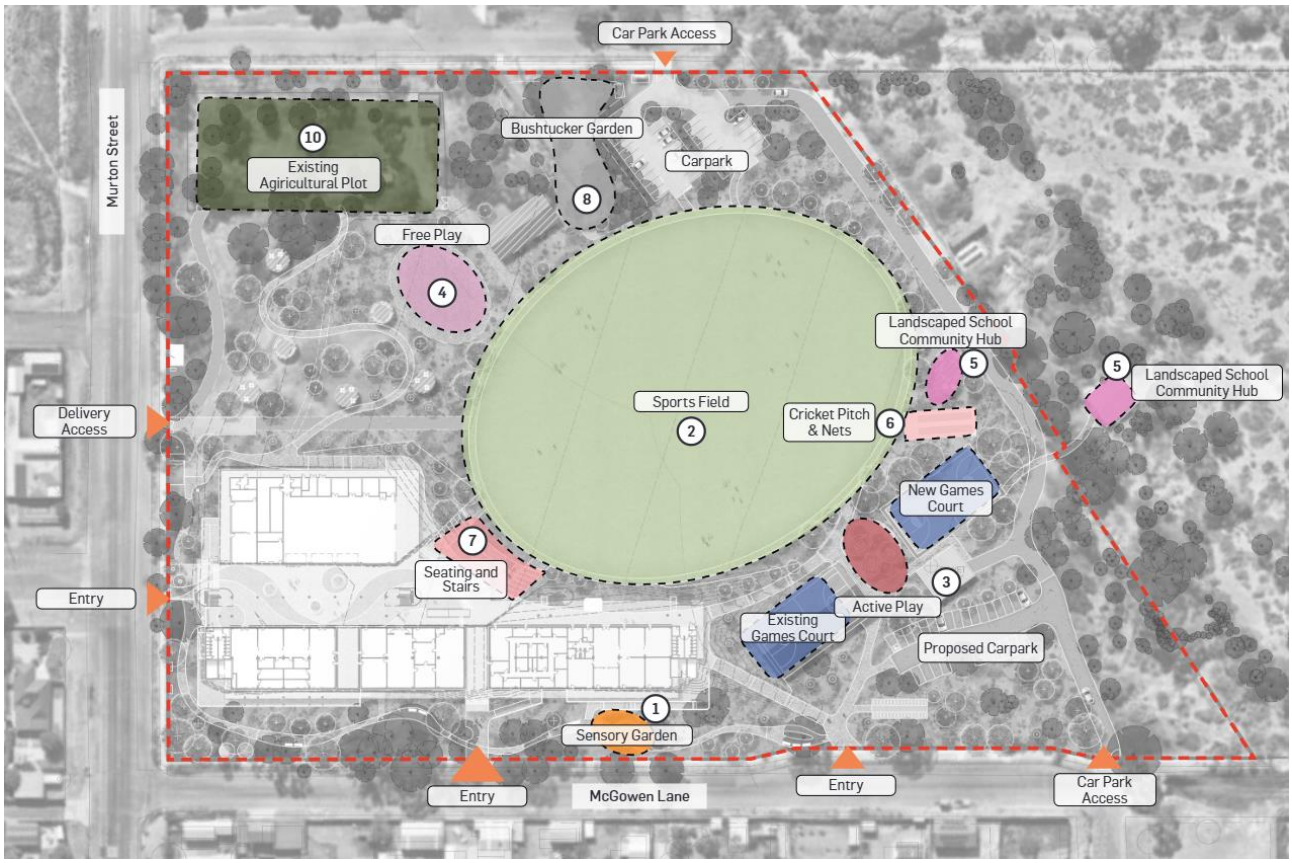


Figure 25: Indicative landscape concept plan (Source: Urbis)

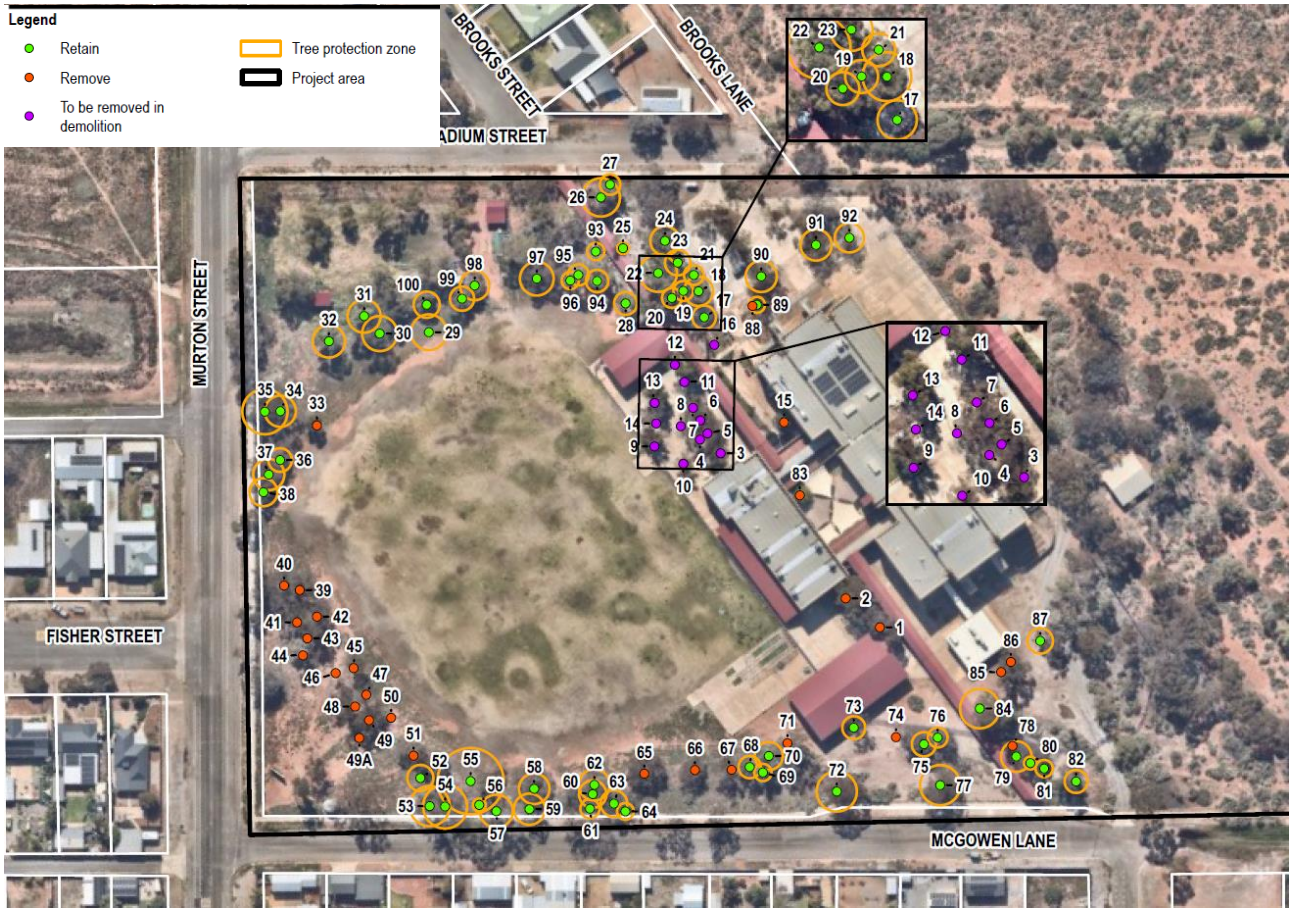


Figure 26: Proposed trees to be removed (Source: GHD)

The planting schedule will draw from the following native species and will be undertaken in accordance with the landscape principles in *Planning for Bushfire Protection 2019*.

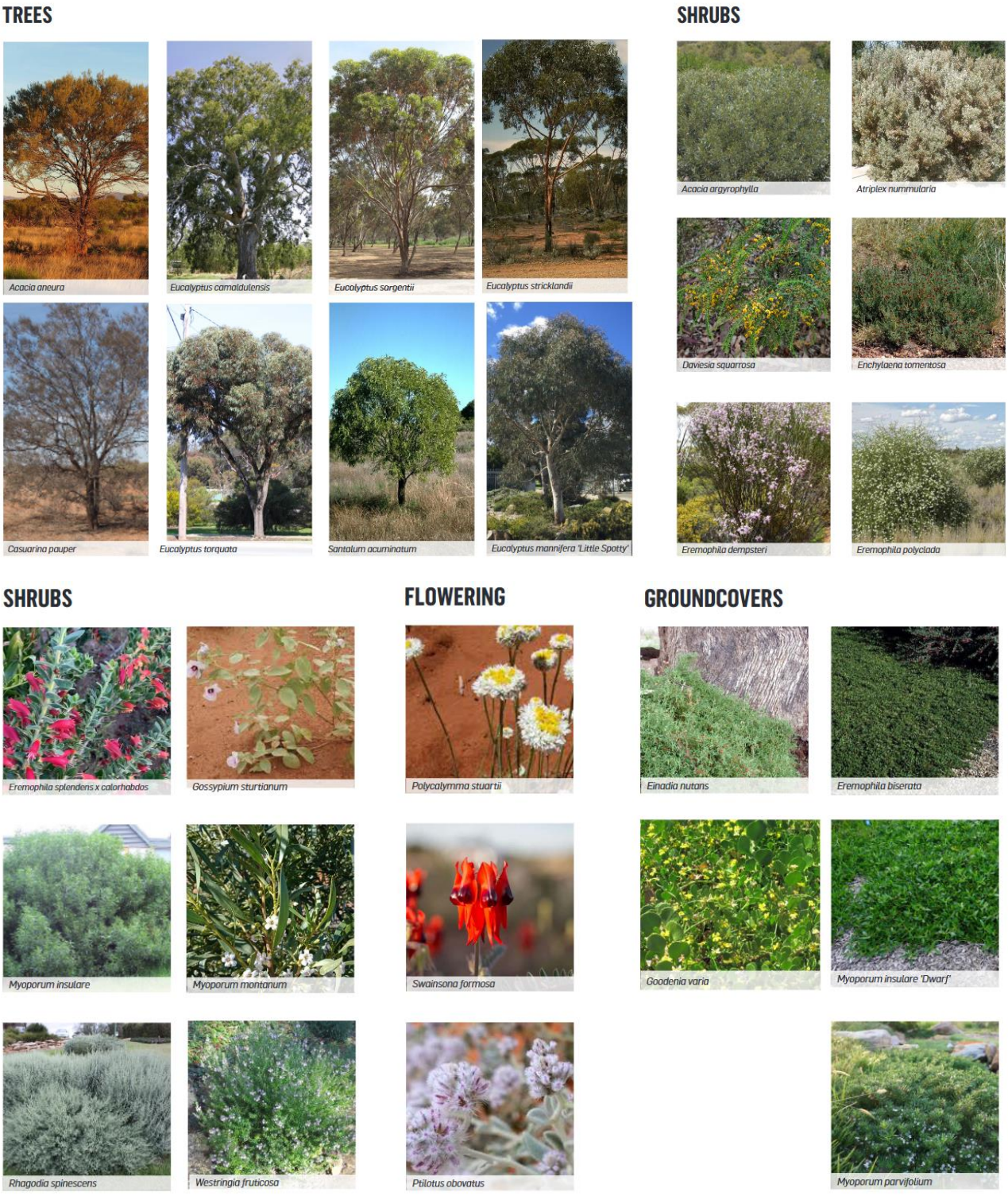


Figure 27: Indicative plant species (Source: Urbis)

3.7 Access and Parking

3.7.1 Access

The main entry to the site is located on McGowen Lane between Building A and B, with the secondary entries to the support learning unit and adjacent to the bus bay located further to the north-east along McGowen Lane. A secondary pedestrian entry is also located on Murton Street between Building B and C.

There is vehicular access to the site from all three street frontages, the northern access on Radium Street leads to the existing carpark that is being retained. The existing entry on Murton Street will lead to the waste storage and loading area, as well as facilitate access for deliveries, emergency and maintenance vehicles. The southern vehicle entry on McGowen Lane will be upgraded in accordance with Australian Standards and will lead to a new carpark and drop off area for special needs students. Pedestrian and vehicular access to the site is illustrated in **Figure 28** below.

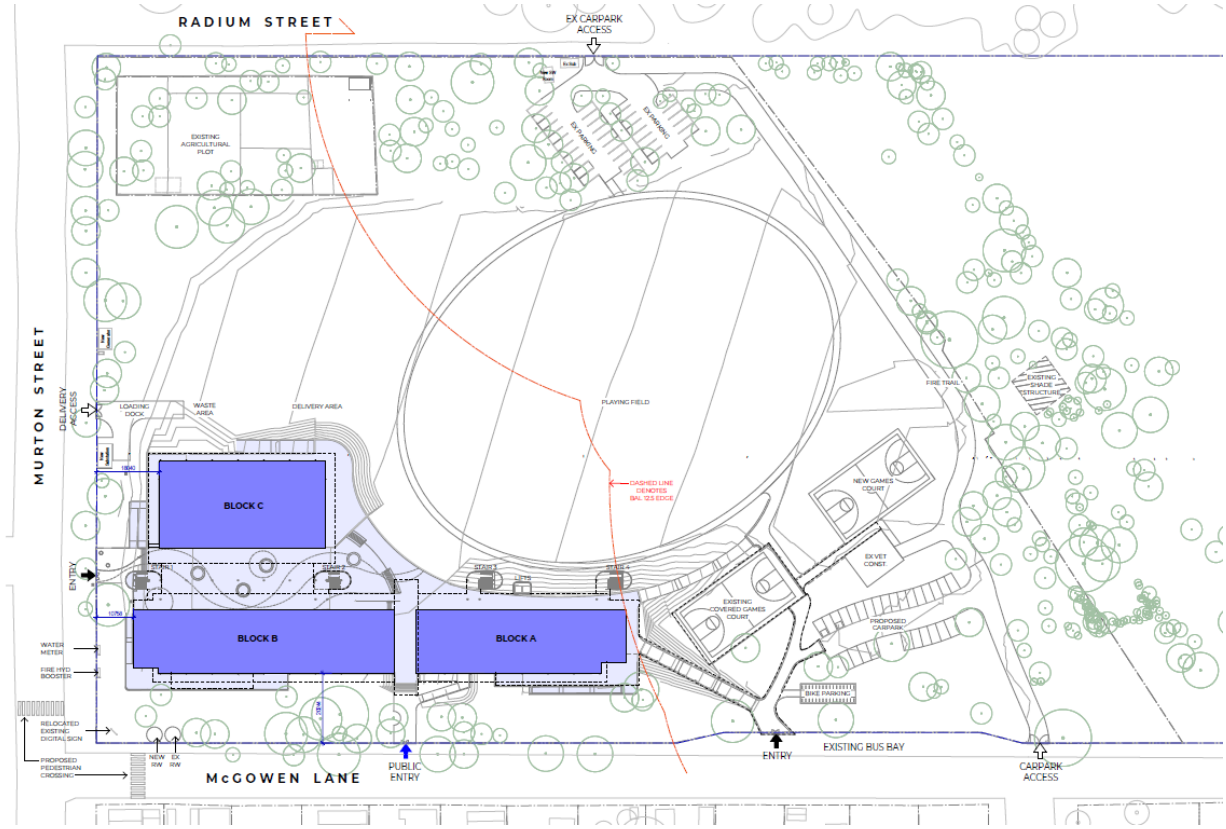


Figure 28: Proposed access, traffic and parking arrangements (Source: Woods Bagot)

3.7.2 Parking

An existing carpark adjacent to Radium Street is being retained that provides 32 car parking spaces. In addition, construction of a new carpark with 22 spaces will be constructed adjacent to the McGowen Lane entry point. Accordingly, the activity will provide a minimum of 57 on-site car parking spaces. A loading bay and waste storage area is provided adjacent to the Murton Street vehicle entry.

The proposed activity also includes provision of 60 bicycle parking spaces adjacent to the McGowen Lane entry.

3.7.3 Public Domain Works

The activity includes upgrades to McGowen Lane to create a kiss and drop zone, signage for a bus bay and formalising the existing driveway crossover to the new carparking area. Upgrades to pedestrian infrastructure to improve connectivity and safety with a new east-west crossing on Murton Street near Fisher Street, and north-south crossing on McGowen Lane within the kiss and drop area. An additional pedestrian refuge will be installed on Murton Street near Radium Street.

3.7.4 Construction

Construction hours will be as follows:

- 7:00am to 6:00pm, Monday to Friday
- 8:00am to 1:00pm, Saturday
- No work without prior approval on Sundays and Public Holidays

3.8 Utilities and Services

An Infrastructure Management Plan (IMP) report has been prepared by Northorp for the Willyama High School rebuild. The IMP outlines the existing infrastructure, detailing information on the existing capacity and any augmentation to the services required for the proposed activity. The report also details records of consultation with relevant agencies.

3.8.1 Proposed Infrastructure & Augmentation

Table 5: Proposed Infrastructure & Augmentation

Proposed Service	Description
Power	The anticipated electrical load from the redevelopment of the school will require a new supply arrangement. Accordingly, a new ancillary Kiosk substation will be installed to support the electrical capacity. The new substation is proposed to be located within the development with no impact on the property frontage, on Murton Street. Design details subject to consultation with Essential Energy. An easement will be required over the substation.
Telecommunications	A new dedicated telecommunications connection will be made to the facility for the proposed location for the new buildings, from the existing NBN services at the corner of Fisher St & Murton St.
Water	The new buildings will be connected to the 100mm AC watermain in Murton Street at the current point of connection.
Sewer	Sewerage will connect to the existing 450mm authority sewer main which offsets through the site.
LPG Gas	Portable LPG gas bottles will be provided and connected to designated spaces.

3.9 Waste Management

A Construction Waste Management Plan (CWMP) and an Operational Waste Management Plan (OWMP) have been prepared by EcCell Environmental Management.

3.9.1 Construction Waste Management

Construction waste will be stored in the north-western corner of the site and will be removed by a licensed waste contractor using $2m^3$ to $20m^3$ bins on the site.

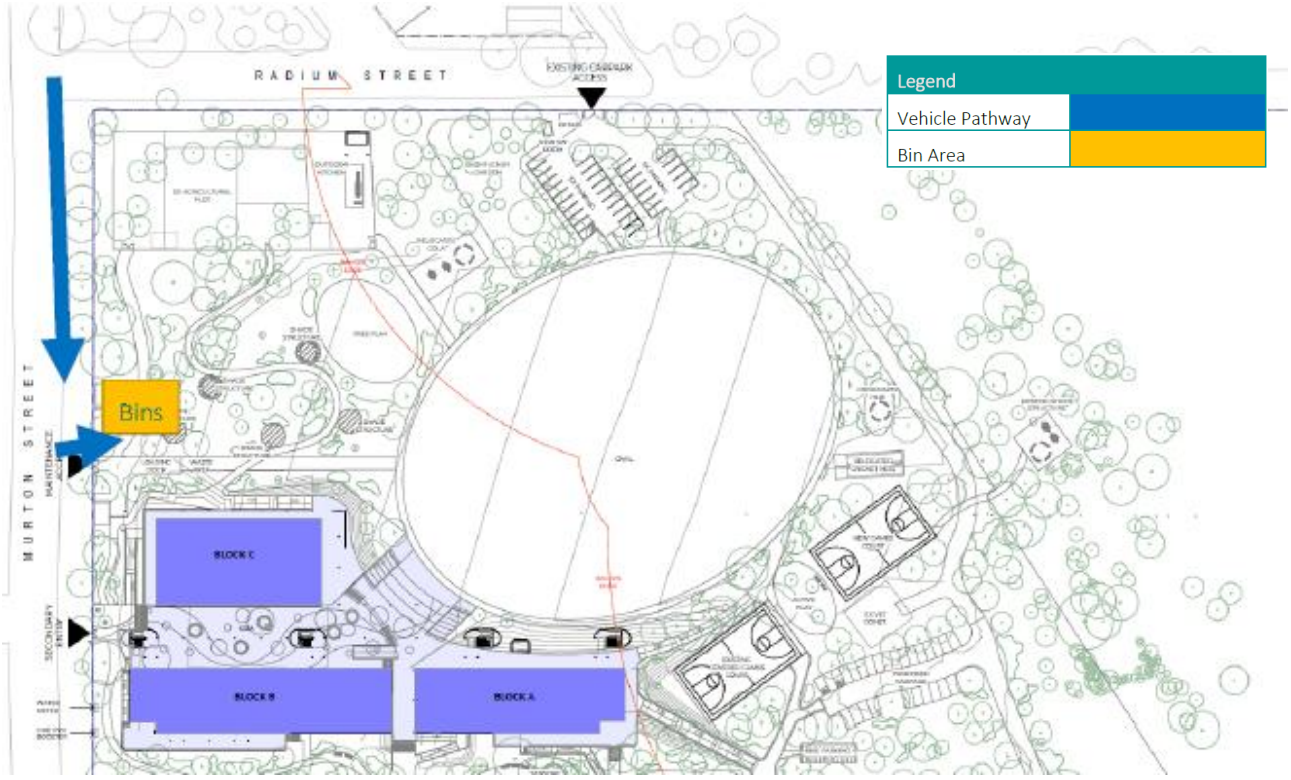


Figure 29: Construction Waste Storage location (Source: EcCell Environmental)

3.9.2 Operational Waste Management

The on-site waste storage area is located adjacent to the Murton Street vehicle access. Waste will be collected directly from the on-site waste storage area by a waste contractor.

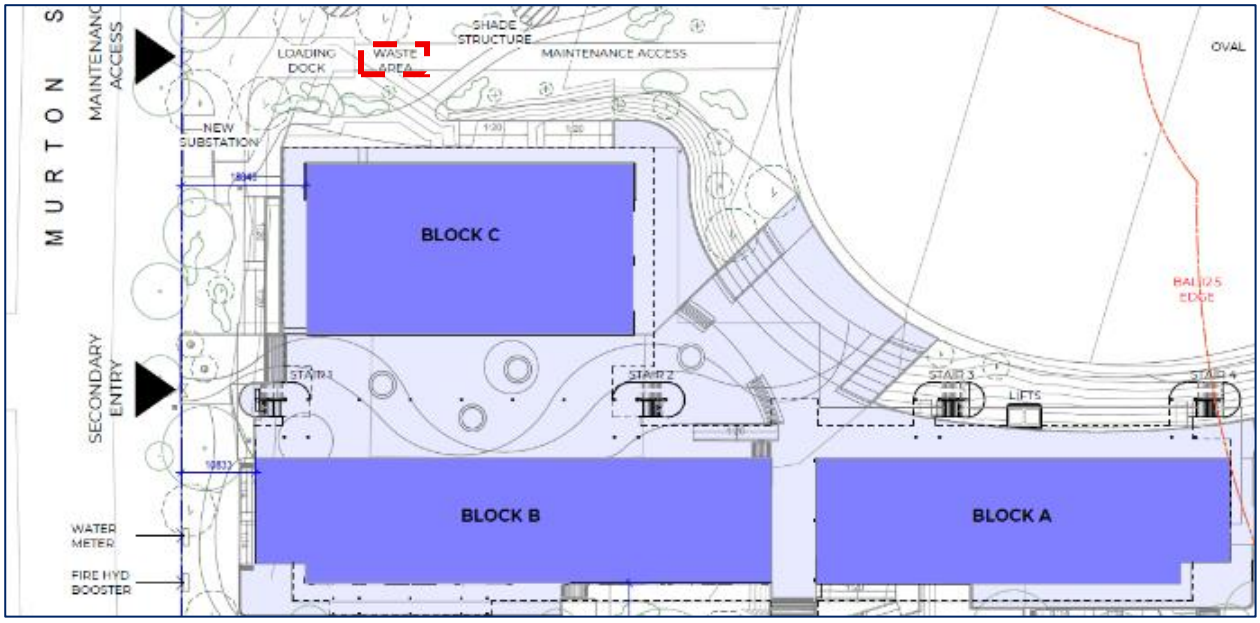


Figure 30: Operational Waste Storage location (Source: EcCell Environmental)

3.9.3 Operation

The proposed activity is being designed to accommodate approximately 730 students and 75 staff. There are no changes to the operational hours of the existing school. The existing operational hours for the school are as follows:

- 9am – 5pm Monday - Friday

3.10 Related activities

A REF for site establishment, removal of hazardous building materials and demolition of the existing school buildings has been approved by the Department of Education. Accordingly, these works will take place prior to, or during, construction of the new buildings.

4. Proposal Need and Alternatives

4.1 Proposal Need

Willyama High School experienced a severe mould contamination event in early 2024, which impacted all levels of the main school building. After extensive consideration and advice from hygienists, health experts and building professionals, the department resolved to decontaminate the site and demolish the affected school buildings. Accordingly, the proposal to construct the new school facilities is required to replace the educational infrastructure that is approved for demolition.

The proposed activity will provide integral social infrastructure in the City of Broken Hill. The proposed activity is the direct result of the NSW Government commitment to deliver public education in NSW.

Students have been relocated to Broken Hill High School in demountable classrooms while the recovery works take place. The rebuild of Willyama High School will resolve the current displacement of students out of the catchment area.

4.2 Alternatives

The proposed activity has been developed following a consideration of options and alternatives to address the need identified above. Alternative sites were not considered for the rebuild of Willyama High School as the site has been an established high school site since 1974. A summary of the options considered is provided in **Table 6**.

Table 6: Assessment of Options and Alternatives

Option	Discussion	Preferred Option
Option 1: The Proposed Activity	Ultimately, the proposed activity, as described in this report, is informed by the shortcomings and opportunities identified in the specialist reports described in this document. The final concept design significantly improves the school's street presence, access, retains additional trees and reduces the extent of earthworks and the footprint of the proposed built form.	Option 1 is the **preferred option** as it will ensure that the ambitions of the NSW government are achieved, a high level of amenity is achieved, and that connections to necessary infrastructure are readily achieved.
Option 2: Alternative Design	Locating buildings along the length of the Murton Street frontage (see **Figure 31** below).	Option 2 is not preferred as following flood advice, inputs from Connecting with Country and consideration about connectivity with facilities being retained from the existing school, and the condition of much of the existing carpark, it was determined that locating the buildings along McGowen Lane was preferable.
Option 3: Do Nothing	If the project was not to proceed, the following consequences are likely to occur: • A significant shortfall of high school infrastructure within the locality required to support the population in	Option 3 is not preferred as it would result in a shortfall of high school educational establishments and not achieve the intended outcomes of the NSW plan to rebuilding essential services and does not address the identified need for intervention at the

Option	Discussion	Preferred Option
	the Broken Hill area. • A “Do nothing” approach would result in the failure of the department to provide education services within the nominated catchment, which is not an option.	site.

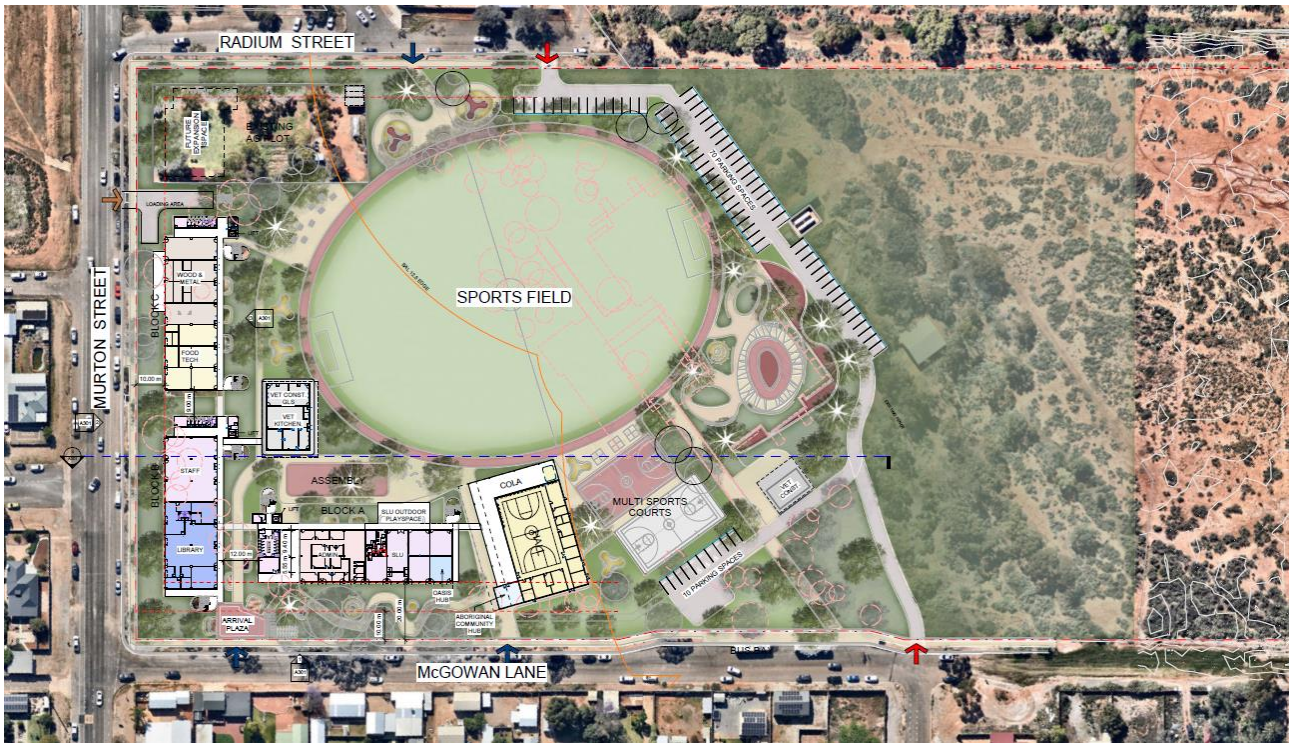


Figure 31: Previous Masterplan Design (Source: Department of Education)

5. Statutory and Strategic Framework

The proposed activity as described in **Section 3** is required to be assessed "to the fullest extent possible" against the applicable statutory planning framework pursuant to Part 5 of the EP&A Act, and must take into account the environmental factors set out in Section 171 of the EP&A Regulation and Table 1 of *Division 5.1 Guidelines and Table A1 of the Guidelines Addendum October 2024*.

5.1 Permissibility and Planning Approval Pathway

Section 4.1 of the EP&A Act states that if an EPI provides that development may be carried out without the need for development consent, a person may carry out the activity, in accordance with the EPI, on land to which the provision applies. In this regard, environmental assessment of the activity is required under Part 5 of the EP&A Act.

TI SEPP aims to facilitate the effective delivery of infrastructure and educational establishments across the state and provides that various developments for the purposes of a government school are permitted without consent. The proposed activity is development permitted without consent as outlined at **Table 7**.

Table 7: Description of Proposed Activities under the TI SEPP

Division and Section within TI SEPP	Description of Works
Chapter 2 Infrastructure, Part 2.3 Development controls	
Division 4 Electricity generating works or solar energy systems Section 2.38(4) – Solar Energy Systems	**Solar Energy Systems** Section 2.38 of the TI SEPP permits development for the purpose of solar energy systems to be carried out by or on behalf of a public authority without consent on any land if it is ancillary to an educational establishment. The proposed activity for an education establishment includes a photovoltaic (PV) solar power grid-connect rooftop system, which will be delivered by the department and therefore the works carried out are development permitted without consent.
Division 5 Electricity transmission or distribution **Section 2.44 Development permitted without consent - general**	**Substation** Section 2.44(2)(d) of the TI SEPP permits the development for the purpose of the establishment of a new substation. Ancillary to the proposed activity is a new Kiosk substation to support the electrical capacity. The new substation is proposed to be located proximate to the Murton Street maintenance access.
Division 18 Sewerage systems Section 2.126(6) – Development for the purpose of sewerage reticulation systems	**Sewerage Systems** Section 2.126 of the TI SEPP permits development for the purpose of reticulation systems to be carried out by or on behalf of a public authority without consent on any land. The proposed activity includes connection from the site to the existing sewer system. This work will be delivered by the department and is consistent with Section 2.126.
Division 20 Stormwater Management Systems **Section 2.137 – Development for the purpose of stormwater management systems.**	**Stormwater Management Systems** Section 2.137 of the TI SEPP allows development for the purpose of a stormwater management system carried out by or on behalf of a public authority without consent. The proposed activity includes drainage works and pipes to ensure the sites stormwater runoff is suitably directed. The works will be delivered by the department and are consistent with Section 2.137.

Division and Section within TI SEPP	Description of Works
Division 24 Water supply systems Section 2.159(1) – Development for the purpose of water reticulation systems	**Water Services** Section 2.159 of the TI SEPP allows development for the purpose of water reticulation systems to be carried out by or on behalf of a public authority without consent on any land. The proposed works includes connection to the existing watermain on Murton Street at the same point of connection as the existing high school prior to its demolition, which will be delivered by the department and is consistent with Section 2.159.
Chapter 3 Educational Establishments and Child Care Facilities Part 3.4 Schools – Specific Development Controls	
Section 3.3 Interpretation	Section 3.3(3)(f) clearing of vegetation The proposed activity may be carried out without development consent, and includes construction works. Accordingly, the clearing of vegetation is taken to be construction works pursuant to section 3.3(3)(f) of the TI SEPP and can be included as part of this REF.
Section 3.37 Existing or approved government schools—development permitted without consent	The proposed activity comprises construction, operation or maintenance on behalf of a public authority within the boundaries of an existing or approved government school. Pursuant to section 3.37(5), the proposed activity includes construction works in connection to a purpose referred to in section 3.37(1)(a) of the TI SEPP. The proposed clearing of vegetation is taken to be construction works pursuant to section 3.3(3)(f) of the TI SEPP. The proposed activity involves the construction of building(s) up to three-storeys, with a maximum height of 14.7m which is less than the maximum height limit permitted under the Clause. The site is not subject to a height of buildings standard under Broken Hill LEP. Based on a review of historical development consents on the site (set out in **Section 2.3**), the proposed activity will not result in the contravention of any existing condition of the development consent currently operating (other than a complying development certificate) that applies to any part of the school in relation to hours of operation, noise, vehicular movement, traffic generation, loading, waste management or landscaping. The Design Quality Principles set out in Schedule 8 of the TI SEPP and the Design Principles set out in the Design Guide for Schools have been considered as set out in **Sections 3.4** and **7.9** of this REF.
Schedule 8 – Design quality principles in schools – Chapter 3	The Design Quality Principles set out in Schedule 8 of the TI SEPP and the Design Principles set out in the Design Guide for Schools have been considered within the Architectural Design Report and discussed at **Section 7.9** of this REF.

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

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

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

The *Guidelines for Division 5.1 Assessments* (DPE June 2022) and the *Guidelines for Division 5.1 assessments Consideration of environmental factors for health services facilities and schools Addendum* (DPHI, October 2024) provide a list of environmental factors that must be taken into account for an environmental assessment of the activity under Division 5.1 of the EP&A Act. These factors are considered in detail at **Section 7**.

5.2 Environmental Protection and Biodiversity Conservation Act 1999

The activity is not development that takes place on or affects Commonwealth land or waters. Further, nor is it development carried out by a Commonwealth agency or development on Commonwealth land. The City of Broken Hill is a national heritage item, this is discussed below, notwithstanding, the activity does not affect any other matters of national significance.

5.2.1 National Heritage Register

The City of Broken Hill was listed on the National Heritage Register on 20 January 2015 (Place ID 105861 & Place File No 1/404/370/0044). Following is an extract from the Summary Statement of Significance on the National Heritage Register.

> *The City of Broken Hill has outstanding significance to the nation for its role in creating enormous wealth, for its long, enduring and continuing mining operations, and the community's deep and shared connection with Broken Hill as the isolated city in the desert, its outback landscape, the planned design and landscaping of the town, the regeneration areas and particularly the physical reminders of its mining origins such as the Line of Lode, the barren mullock heaps, tailings, skimps and slagheap escarpment and relict structures. It exhibits historic qualities in its ongoing mining operations since 1883, the current and relict mining infrastructure and its landscape setting. It is significant for its industrial past and the adoption of vanguard industrial relations and management policies, together with its role as a pioneer in setting occupational health and safety standards.*
>
> *It demonstrates the principal characteristics of a mining town in a remote location with extensive transport infrastructure and administrative connections to three state capitals and as a rare example of a place subject to Australia's complex Federal system where differing administrative, social and economic influences are expressed in both tangible and intangible forms. It has social significance for its residents as a place of community pride, endurance, and as a remote mining community resilient to major social and economic change. Broken Hill has strong social significance for all Australians as a place where great wealth was created, as well as strong group associations with the Barrier Industrial Council. It exhibits outstanding aesthetic characteristics as a city in an arid desert setting, as the subject of interest for Australian artists, poets, film makers, TV producers and photographers.*

Based on the values for which the City of Broken Hill was listed on the National Heritage Register, the proposed activity will not have a significant impact on those values, as it will restore educational infrastructure, which is of social importance to the community, within the boundaries of an existing school.

An assessment against the EPBC Act checklist is provided at **Table 8**.

Table 8: EPBC Act Checklist

Consideration	Yes/No
Will the activity have, or likely to have, a significant impact on a declared World Heritage Property?	No
Will the activity have, or likely to have, a significant impact on a National Heritage place?	No
Will the activity have, or likely to have, a significant impact on a declared Ramsar wetland?	No
Will the activity have, or likely to have, a significant impact on Commonwealth listed threatened species or endangered community?	No
Will the activity have, or likely to have, a significant impact on listed migratory species?	No
Will the activity involve any nuclear actions?	No
Will the activity have, or likely to have, a significant impact on Commonwealth marine areas?	No
Will the activity have any significant impact on Commonwealth land?	No
Would the activity affect a water resource, with respect to a coal seam gas development or large coal mining development?	No

5.3 Other Approvals and Legislation

Table 9 identifies any additional approvals that may be required for the proposed activity.

Table 9: Consideration of other approvals and legislation

Legislation	Relevant?	Approval Required?	Applicability
State Legislation			
National Parks and Wildlife Act 1974	Yes	No	An Aboriginal Heritage Due Diligence Report was prepared by EMM Consulting in accordance with the Due Diligence *Code of Practice for the Protection of Aboriginal Objects in NSW* (DECCW, 2010). The assessment identified an area of potential archaeological deposit (PAD) in the north-eastern corner of the site (**Figure 11**). This area of the site, and the sensitive area surrounding the PAD are fenced off from the proposed development area and will not be disturbed by the activity. The assessment ha confirmed that the area affected by the proposed activity has low to negligible potential to impact Aboriginal objects or cultural sites, accordingly an Aboriginal Heritage Impact Permit (AHIP) is not required.
Rural Fires Act 1997	Yes	No	The site is partially mapped as Bushfire Prone Land – Category 3, specifically across the north-eastern portion and adjacent desert. A Bushfire Hazard and Risk Assessment has been prepared by GHD, and the design of the activity has considered bushfire risk, with all new buildings to be located outside the bushfire prone land mapping, in areas identified as having low bushfire attack level (BAL). In addition, an Asset Protection Zone (APZ) has been provided that exceeds the minimum requirements, ensuring appropriate separation from vegetation. The landscape planting will be done in accordance with *Planning for Bushfire Protection.*
Biodiversity Conservation Act 2016	Yes	No	A Biodiversity Constraints Report has been prepared by GHD to assess the ecological characteristics of the site. Based on the State Vegetation Type Map (SVTM),

Legislation	Relevant?	Approval Required?	Applicability
			(DPE,2023d), vegetation on the site includes both native and non-native species. The native vegetation is classified as Plant Community Type (PCT)123 – Mulga /Ded Finish on stony hills, typically found within the Channel Country and Broken Hill Complex bioregions. The site is not mapped as containing any vegetation with biodiversity values under the Biodiversity Offset Schemes (BOS) Mapping Tool, and it is also not identified as an Area of Outstanding Biodiversity Value (AOBV). Accordingly, a Biodiversity Development Assessment Report (BDAR) is not required.
Contaminated Lands Management Act 1997	Yes	No	The site is identified as elevated concentrations of heavy metals, linked to the historical mining activities in Broken Hill as noted in the Section 10.7 Certificate Planning Certificate (No:19398). A Detailed Site Investigation (DSI) undertaken by Douglas and Partners found no visual or olfactory indicators of contamination within the soil or groundwater water during the field investigations. The results of the DSI suggest that the site is not significantly contaminated and is suitable for the proposed activity.
Roads Act 1993	No	No	The proposal involves temporary construction access over local roads within the road reserve, including line marking, installation of bus stop and formalisation of vehicle crossover along McGowen Lane. The REF does not require approval under the Roads Act 1993.
Local Government Act 1993	Yes	No	The activity includes sewerage and stormwater works by a public authority. In accordance with Section 69 of the Local Government Act 1993, the Crown is not required to obtain approval for anything that is incidental to the erection or demolition of a building. However, consultation with Council and their owner's consent is required prior to the commencement of works that would otherwise require a Section 68 approval.
Environmental Planning & Assessment Regulation 2021	Yes	No	An assessment against Section 171A of the Regulation is provided at **Section 7.13** of this REF.
Electricity Supply Act 1995	Yes	No	The Network Operator, in carrying out its function is required to notify Council in accordance with Section 45 prior to works on the substation commencing.
State Legislation – State Environmental Planning Policies			
State Environmental Planning Policy (Sustainable Buildings) 2022	Yes	No	<u>Chapter 3</u> While Chapter 3 of the SEPP does not apply to development carried out without consent under Part 5 of the EP&A Act, the proposed activity has nonetheless been designed with reference to the principles of ecologically sustainable development (ESD) and will achieve a 4-Star Greenstar rating. These initiatives reflect a strong commitment to sustainability and are consistent with the intent of the SEPP to promote an environmentally responsible development.
State Environmental	Yes	No	<u>Chapter 4 Remediation</u> A Detailed Site Investigation (DSI) was undertaken by

<table>
<tr><th>Legislation</th><th>Relevant?</th><th>Approval Required?</th><th>Applicability</th></tr>
<tr><td>Planning Policy (Resilience and Hazards) 2021</td><td></td><td></td><td>Douglas Partners to identify any potential contamination, assess the need for remediation, and determine the sites suitability for redevelopment under Section 4.6 of The RH SEPP. The investigation found that the south-western portion of the site is suitable for the proposed activity from a contamination perspective.</td></tr>
<tr><td>State Environmental Planning Policy (Industry and Employment) 2021</td><td>Yes</td><td>No</td><td>An existing electronic school sign mounted on two poles is being relocated from the north-western corner of the site to the south-western portion of the site in accordance with the new main pedestrian entry point. The sign was approved under a DA by Broken Hill City Council. Relocation of the sign has been considered with regard to the Schedule 5 requirements of the I&E SEPP, and is summarised below:
<table>
<tr><th>Assessment Criteria</th><th>Comment</th><th>Compliant</th></tr>
<tr><td>1. Character of the area</td><td>The sign is compatible with the character and use of the site for a school and will be lower in height than the built form.</td><td>Yes</td></tr>
<tr><td>2. Special areas</td><td>The relocated sign will not detract from the amenity or visual quality of the area and will continue to provide important information to the school community.</td><td>Yes</td></tr>
<tr><td>3. Views and vistas</td><td>The sign will not obscure or compromise important views and will not dominate the skyline.</td><td>Yes</td></tr>
<tr><td>4. Streetscape, setting or landscape</td><td>The dimensions and design of the sign will not change. The sign is for school information purposes only.</td><td>Yes</td></tr>
<tr><td>5. Site and building</td><td>Residents on the McGowen Lane frontage do not face the school, they face McGowen Street. The sign is compatible with the scale of the school buildings and surrounding residential development, and is located at the main</td><td>Yes</td></tr>
</table></td></tr>
</table>

Legislation	Relevant?	Approval Required?	Applicability		
				entry, adjacent to the kiss and drop to maximise opportunities for the school community and residents to access key information.	
			6. Associated devices and logos with advertisements and advertising structures	The sign includes the school's name and logo in addition to the electronic display.	Yes
			7. Illumination	The sign is an electronic display and complies with relevant Australian Standards. The sign will be subject to a curfew to ensure neighbour amenity is not impacted during nighttime hours.	Yes
			8. Safety	The sign will not reduce safety for any public road users and in the new location, the sign will not obscure sightlines.	Yes

5.4 Strategic Plans

Table 10 considers strategic plans that are relevant to the proposed activity.

Table 10: Consideration of applicable Strategic Plans

Strategic Plan	Assessment
Far West Regional Plan 2036	The Far West Regional Plan 2036 sets out the strategic land-use planning direction for the region over the next 20 years, with the aim of creating a diverse economy, supported by the right infrastructure, strong communities and a resilient natural environment. The activity supports the following priorities for Broken Hill: • Supporting Broken Hill as a service centre for the western area of the Far West • Respect, protect and conserve European and Aboriginal cultural heritage assets • Sustainably manage water resources • Build community resilience to population and demographic change • Resolve skilled worker shortages by addressing training options, employability skills and the delivery of education options.

Strategic Plan	Assessment
	• Build resilience to climate change and natural hazards
Broken Hill Local Strategic Planning Statement 2020-2040	The Broken Hill Local Strategic Planning Statement (LSPS) 2020–2040 sets out the city's land use priorities and planning objectives, complementing the broader goals of the Community Strategic Plan. A key focus of the LSPS is Education, including: • Advocate for upgrades to primary and secondary education services to limit the burden on Broken Hill students to travel long distances and/or attend Boarding Schools to obtain their education • Investigate opportunities to further establish Broken Hill as a higher education hub for Far West NSW. The redevelopment works at Willyama High School will deliver modern, flexible learning spaces, with specialist VET facilities to support vocational training as well as the focus on academic subjects.
Broken Hill Community Strategic Plan (CSP)	Broken Hill Council's Community Strategic Plan (LSPS) *Your Broken Hill 2040* provides a 20-year vision. It outlines a collective vision for the city's future, reflecting the aspirations and priorities of its residents. The proposed activity is consistent with the following planning priorities outlined in the CPS: • Community: Valuing lifestyle and wellbeing, fostering a pace that encourages safe, active, cultural and social opportunities. • Economy: Supporting economic development and resilience. • Environment: Promoting sustainability and the responsible use of natural resources. • Leadership: Ensuring effective governance and community engagement.
Active Transport Plan	Broken Hill City Council has implemented an Active Transport Plan to enhance pedestrian and cyclist infrastructure throughout the city, including around Willyama High School. This plan supports safer and more efficient access to key community facilities, particularly schools. As part of the school redevelopment, the planning has taken into account several important factors: • Educational needs and project student enrolments • School intake zones to ensure fair and manageable access • Improve access routes for students, including walking and cycling paths • Public and active transport connections to support safe and sustainable travel. • Shared-use opportunities to maximise community benefit from school facilities

6. Consultation

6.1 Early Stakeholder Engagement

Table 11 provides a summary of early stakeholder (non-statutory) consultation undertaken to inform project development and preparation of the REF.

Table 11: Summary of Early Stakeholder Engagement

Stakeholder	Engagement
Broken Hill City Council (BHCC)	The department attended meeting with Council in April 2025 to present the revised masterplan concept. Project planner had an informal discussion with council planner in early May 2025 to confirm project was proceeding under a Part 5 approval pathway, and to discuss status of application preparation. Advised that the proposed design responds to the bushfire and flood affectation of the site. The council planner was comfortable and had no further comments or questions at that time.

Transport Working Group (TWG)	Stakeholders were engaged through the Transport Working Group (TWG) process involving two meetings held on 19 February 2025 and 26 March 2025.
	Meeting on 19 February 2025
	• Existing conditions discussed
	• Uptake of bus usage discussed considering most people in the area drive. Uptake to be increased via educational programs/campaigns from the school to encourage more sustainable travel.
	• School Student Transport Scheme (SSTS) have been considered and increased bus update would be targeted at students located outside of SSTS zone
	• changes to traffic movements and alternate transport provisions were also discussed
	  • Kiss and Drop
	  • Bus routes and potential rescheduling
	Meeting on 26 March 2025
	• School Travel Plan & Mode Share Targets
	• Consideration to move McGowen Lane pedestrian crossing further east
	• Additional pedestrian crossing on Murton St, closer to the Radium St intersection
	• Kiss and drop zone separation from the bus bay
	• Bus zone and no stopping signage
	• Explore with TfNSW to relocate the bus zone on Murton St

State Design Review Panel – Meeting #1 2024	**Connecting with Country** • continue to develop strategy, • strengthen cultural narratives by embedding knowledge to protect health and wellbeing of Country into design **Site Strategy & Landscape** • Concern is raised with limited shading through the site, • Prioritise increasing canopy coverage to 30%, • Minimize tree loss by positioning buildings in areas with existing clearing,

Stakeholder	Engagement
	• Review the amount of internal fencing and location of proposed fence line to soften edges, • Provide a variety of break out spaces, incorporate WSUD methods to reduce future flash flood impacts. Improve arrival experience **Architecture** • Ensure high quality shading to protect the western facades, • Maximise shading and roof overhangs and insulation to mitigate extreme heat **Sustainability & Climate Change** • Demonstrate how sustainability targets will be achieved, • Demonstrate how covered outdoor areas will manage heat gain, • Illustrate how project will achieve Net Zero **Other items** • Research and demonstrate clear analysis of site flooding, • Demonstrate a fit for purpose emergency response strategy, • Consider dust management measures during dust storms, • Provide clarify on long-term phasing strategy with regard to estimated reduction in student population
Aboriginal stakeholders	The Connecting with Country engagement for Willyama High School was delivered through a community-led and culturally grounded process that upheld inclusivity, transparency, and respect for cultural authority. This approach was guided by First Nations engagement principles and tailored to meet the needs and protocols of the Wilyakali community. **24 March 2025 – CWC Meeting with AECG** Key points of discussion: • Connecting with Country Consultation Plan • Masterplan Presentation • Cultural Acknowledgement & Integrity • Safe and Inclusive Spaces • Student and Community Engagement • Design Concerns • Communication and Trust • Community Perception & Racism **25 March 2025 – Walk on Country** As part of the Connecting with Country process, a Walk and Talk on Country was held on the site of Willyama High School, led by Wilyakali Elders and Traditional Owners. This culturally significant engagement was designed to embed Wilyakali voices and values into the vision for the redevelopment of Willyama High School. Elders shared their wisdom through storytelling, place-based interpretation, and observations of Country, offering practical and spiritual guidance on how the land should inform the built environment. **25 March 2025 – CWC Survey – Youth and Community**

Stakeholder	Engagement
	Total responses: 24 (Students and school staff) Format: Discussion with students and a survey Key points of discussion: The feedback collected demonstrates strong support for enhancing cultural safety through physical spaces, visible representations of culture, and ongoing activities that foster cultural pride and identity. Students and staff deeply value having spaces to connect with culture and want these values embedded into the school's everyday environment.

Consultation activity	Date	Method of meeting and location
CWC Meeting with AECG	March 24, 2025	In-person – Willyama High School
Walk on Country	March 25, 2025	In-person at Willyama HS site
CWC Survey – Youth and Community	March 25 2025	In-person – Willyama High School
Draft CwC Report Preparation	April 4, 2025	Internal documentation
Community Design Feedback Workshops (x2)	May 6, 2025	In-person – on site
Identity & Cultural Representation Workshop (Optional)	May 7, 2025	In-person – on site
Final CwC Report Delivery	May 23, 2025	Documentation shared with stakeholders
Final Walk-through & Cultural Assurance	TBA	In-person – on site

Figure 32: Extract of engagement timeline (Source: Joy Horton Consulting)

State Design Review Panel

The project was reviewed by the State Design Review Panel (SDRP) in 2024 and is scheduled for a second review meeting in June 2025. The key themes raised by the SDRP and the corresponding responses in the project design for the redevelopment of Willyama High School are as follows:

Table 12: School Design Review Panel feedback and responses

	SDRP Feedback	Comments
Connecting with Country		
1	Continue to develop the Connecting with Country strategy for the project and integrate the outcomes of the engagement process into the scheme.	Further Connecting to Country Engagement has been conducted throughout the REF Design. Refer CwC Section within this report, the CwC Report provided by Joy Horton, & Landscape Report provided by Urbis.
2	Strengthen cultural narratives by embedding cultural knowledge to protect the health and wellbeing of Country into design of the campus, including key areas, such as the	This has been included within the Design, as above, refer CwC section of this report, CwC Report and Landscape Report.

	SDRP Feedback	Comments
	arrival plaza and communal spaces.	
3	Refer to the Connecting with Country Framework and case studies on the GANSW website for more information and guidance.	Completed as above.
Site Strategy & Landscape		
An integrated response to landscape is crucial to achieving a good design outcome and site strategy. Concern is raised with the limited shade provision throughout the site, given the extremely high average temperatures during the hot season in Broken Hill. While the canopy restrictions within the bushfire zone are acknowledged, the minimal tree canopy cover for the site will limit opportunities to mitigate heat gain.		
4	Prioritise opportunities to increase the site canopy cover to 30% (within the allowable parameters of the bushfire constraints).	The planting schedule has been designed in accordance with the bush fire affectation of the site, and will ensure a net benefit in tree canopy coverage, with a minimum of 10m^2 additional canopy coverage across the site when compared with pre-activity conditions.
5	Minimise tree loss by positioning buildings in areas with existing clearings. Existing trees can provide shade on day one of term one.	Buildings have been setback 20m from McGowen Lane and 10m from Murton Street to maximise retention of existing trees on site.
6	Increase the provision of shaded and covered (weather protected) outdoor spaces, including walkways.	Design includes extended roof forms to create central COLA between Buildings B and C to increase the extent of shade in consideration of local climate. Canopy has been included connecting the bus stop, new carparking, existing covered games court. Additional COLA spaces are also provided between Buildings A and B on Ground, L1 and L2, and an additional COLA spaces in the middle of Block B.
7	Ensure shaded and covered areas are well distributed and of varying sizes to accommodate flexible and diverse unencumbered play areas and outdoor teaching spaces.	
8	Pursue options to increase the standard COLA size and provision to reflect the needs of the local climate.	
9	Provide shadow studies that correspond with timing and use of external play areas to consider strategic opportunities for shade	Shadow studies provided see **Section 7.11**
10	Reconsider the scale of the Oval, which might enable increased tree retention and landscape screening to the northern car parking	Oval position relocated to maximise tree retention.
11	Review the amount of internal fencing and location of the proposed fence line.	Security fencing is provided to perimeter of site and through the centre of the site dividing the southern portion for use by the school and the northern portion as undeveloped desert landscape. In addition, internal fencing and gages surrounding delivery loading zone and waste pad.
	a) Utilise building edges as functional site boundaries and secure line where appropriate	Secure line is provided by fencing in order to maximise retention of mature trees along property boundaries.
	b) Soften edges and the visual impacts of the fences with vegetation to create a more inviting and less institutional appearance.	Fence line sits within both existing and new tree zones to soften the edges.
12	The proposed site strategy is quite porous without a clear organising logic and hierarchy of access, circulation and play space. Reconsider the arrival experience, including connections with transport, desire lines and	New Masterplan allows for clarity of entrances and axis of circulation through the site. Main Entry is from McGowen Lane with adjacency to Bus Stop. All buildings connected by central COLA canopy and clear site line views through the building to

	SDRP Feedback	Comments
	waiting areas and general campus circulation for each age group and campus user.	Country and the playing Field beyond.
	a) Provide an analysis of the arrival and circulation sequence of students. Consider the entry to site, thresholds, lunch and break out area experiences. Encourage arrival by active networks.	Active travel is supported through existing footpath network, bike lanes and 60 bicycle parking spaces on site. Main entries are located on McGowen Lane adjacent to the bus stop and bicycle parking area.
	b) Widen and shade key circulation paths and access routes.	The central COLA space between buildings B and C will mitigate harsh sunlight. The permeable canopy will provide views and connection to the sky, which will allow dappled daylight and water for planters and landscape below.
	c) Reduce the distance between the drop-off and plaza.	New Masterplan has Main Entry at centre of Block A, B and C giving good proximity and access to all aspects of the school from the Main Entry drop off. Drop off for special needs students is in new carpark adjacent to Building A.
	d) Strengthen the relationship between the outdoor play areas, classrooms, pedestrian pathways and arrival plaza by reconfiguring adjacent spaces for better pedestrian flow and visibility	All parts of building now have views out to the Playing Field and direct adjacency to the central COLA space allowing for seamless relationship to the outdoor covered and uncovered play areas.
	e) Provide a variety of break out spaces for each age group addressing active and passive play and surveillance needs.	A variety of breakout spaces provided within the landscape inclusive of the oval, free play areas, Sensory Garden, COLA space and covered landscape shade structures to allow for shaded community spaces within the landscape.
13	Consider opportunities to make the arrival experience feel more generous. Consider relocating the amenities block to provide more active uses that might better enrich the arrival experience.	New masterplan has arrival experience between Block A and B, with direct relationship to the Admin building with Public and Student Reception. Main Entry draws you into the centre of the school to allow generous entry into wider school with easy orientation of whole school experience.
14	Expand drawings to include broader site connections. Consider how the school will be experienced from and connect in with different arrival points	Site Location Plan which extends to surrounding neighbourhood. 
15	As the site strategy is developed, pursue opportunities to reconcile the street aligned built form with the geometry of the oval shaped field to encourage the inclusion of shaded interstitial spaces.	New masterplan allows site lines through from both Murton St and McGowen Lane to the Playing fields in between the school buildings and through the canopy COLA experience.
16	Incorporate water sensitive urban design methods to assist in mitigating against future flash flooding and heavy rain events.	New Masterplan has been designed with full consideration of the flooding events. New building is located on the site to allow existing flood water

	SDRP Feedback	Comments
		course to be managed through the site and to minimise any flooding impacts to neighbouring properties. The building ground levels have been raised to avoid 1% AEP and the meet the PMF requirements. This has resulted in a split level between the NE Block A and the SW Blocks B & C to mitigate this risk. The central COLA is a deck over a Culvert Section which allows water to flow through between the buildings in a major flooding event.
Architecture		
17	As the architectural strategy is developed, ensure that there is high quality shading to protect the western facades.	New orientation of the updated masterplan protects the western facades with the covered central COLA protecting the N-W facades of Block B. Block A has an extended roof awning which protrudes approx 5m from the grid to provide additional protection at the top level.
18	Given the extreme heat during the hot season, pursue opportunities to maximise roof and shaded overhangs, and insulation, including for outdoor circulation and play areas.	Awning to L2 walkway on the Block A protrudes approx 5m from grid, walkways are 2.7m to provide shading at lower levels. Central COLA is shaded and Block C Hall has screened shading which protects the façade from additional heat loads and provides covered shaded perimeter walkways.
19	It is recommended that developed architectural drawings be provided at the next session.	Architectural drawings have been prepared for presentation at SDRP.
Sustainability & Climate Change		
20	Demonstrate how sustainability targets will be achieved and how initiatives are integrated into the site planning and design of landscape and buildings, including opportunities for well-integrated Country narratives.	Project will achieve 4-Star Green Star rating and includes water and energy efficient fixtures and fittings as well as solar panels. Connecting with Country narrative has been woven into the design from the location of buildings to places for artworks, arrival experiences, connection with the desert and retention of existing trees.
21	Demonstrate how covered outdoor areas will manage heat gain.	Large, covered area of COLA between buildings maximises the coverage to facades reducing heat gain to facades. Additional overhang to SE side of Blocks A & B also assist with protection from heat gain through façade. Existing COLA to games court will provide weather protection to the school community.
22	Illustrate how the project will contribute to NSW's Net Zero emissions goal by 2050. Refer to NSW DPIE Net Zero Plan Stage 1: 2020-2030 for further information.	Project will achieve 4-star Green Star rating. Project is predominately designed to utilise electricity..
Other Items Raised after SDRP Session		
23	Research and demonstrate clear analysis and understanding of the site's flood behaviour.	Detailed flood study has been undertaken (**Appendix 3**), swales and a central culvert will direct floodwater away from buildings, and minimum habitable floor levels are at the Probably Maximum Flood (PMF) level.
24	Verify the need to conduct a detailed flood risk and hydrology assessment of the site. Should	A Flood Emergency Response Plan has been provided (**Appendix 4**)

	SDRP Feedback	Comments
	this be required please provide a flood management report and strategy for the site.	
25	Demonstrate that the site is fit for purpose in an emergency response and recovery situation.	A FERP has been prepared (**Appendix 4**) and a Bushfire Emergency Management Plan will be prepared prior to occupation.
26	Demonstrate that best practice safety measures have been incorporated to mitigate flood and bushfire safety issues.	Buildings have been sited out of BAL12.5 zone and above the PMF. Building footprint has been heavily analysed to ensure it is reducing any wider flood impact to neighbouring properties and mitigating any risk of flooding within.
27	Consider dust management measures on site, and if how buildings and student wellbeing will be safeguarded in the event of major dust storms.	Preliminary Construction Management Plan has been prepared, and a detailed CMP will be prepared by the Contractor prior to commencement of construction. Landscaping is provided to minimise dust on site during operational periods and rainwater tanks support irrigation.
28	Provide clarity on the long-term phasing strategy with regards to the estimated reduction of student population.	The site is designed to accommodate 730 students. There are currently approximately 580 students enrolled, and the student population is forecast to increase over the next 10 years and beyond, without the need for additional facilities. Due to the location of the site and population responsiveness to economic factors, it is important to enable flexibility for the school population.

6.2 Statutory Consultation

Consultation will be undertaken with in accordance with statutory requirements under the TI SEPP and having regard to the SCPP DoE. This includes:

- sending notices to adjoining neighbours, owners and occupiers inviting comments within 21 days
- sending notices to the local council and relevant state and commonwealth government agencies and service providers inviting comments within 21 days
- making the REF publicly available on the Planning Portal throughout the consultation period.

Comments received will be carefully considered and responded to.

7. Environmental Impact Assessment

7.1 Traffic, Access and Parking

A Transport and Access Impact Assessment (TAIA) prepared by Bitzios Consulting is provided as **Appendix 2**. The TAIA has been prepared to address the potential internal and external transport and access impacts that could arise from the redevelopment activity at Willyama High School. The TAIA outlines the proposed mitigation measures for the activity to minimise adverse impacts, where required.

In the preparation of the TAIA, an evaluation of transport conditions and impacts was undertaken using the following approach:

- A review of the existing transport conditions including drop-off / pick-up arrangements, pedestrian and cycling facilities, public transport facilities and connectivity surrounding the subject site
- A review of the existing transport planning documents
- A transport assessment of the development's student enrolment catchment and travel modes
- A review of historical crash data
- Assessment of the existing and proposed access arrangements for vehicles and servicing
- Assessment of the development's car and bicycle parking provision
- Assessment of the on-site parking layout, access, servicing and refuse collection requirements.

7.1.1 Existing Environment

The school currently has a student population of approximately 581 students and 75 full-time and part-time staff. Existing attributes of the site are noted as follows:

- The site has frontage to Radium Street, Murton Street and McGowen Lane
- Staff car parking is provided at the rear of the existing school buildings (approved for demolition) via a primary access point from Radium Street and a secondary, informal access point from McGowen Lane
- No visitor or DDA compliant car parking spaces are provided within the school site
- Visitors, including students, are encouraged to park on-street on one of the three streets fronting the school (Radium Street, Murton Street and McGowen Lane)
- Bus zones are located on McGowen Lane

Figure 33: Existing site conditions (Source: Bitzios Consulting)

Road Network

Details of the surrounding road network are provided in **Table 13** below.

Table 13: Surrounding Road Network

Road Name	Jurisdiction	Hierarchy	Lanes	Divided	Posted Speed
McGowen Lane	Council	Local Street	2	No	50km/h (40km/h school times)
Murton Street	Council	Local Street	2 + bike lanes	No	50km/h (40km/h school times)
Radium Street	Council	Local Street	2	No	50km/h (40km/h school times)
William Street (Silver City Highway)	State	Highway	2	No	50km/h

Active Transport Network

The school has footpaths along all frontages, but these do not currently connect into the wider footpath network around the city. Existing footpaths throughout Broken Hill are focused along core routes such as the Silver City Highway to the south or have been built over time as the city has developed (**Figure 34**). On-road bicycle lanes run along Murton Street.

Figure 34: Key active transport routes and provision (Source: Bitzios Consulting)

Future active transport works are identified in the Broken Hill Active Transport Plan and will provide greater connectivity along key active transport routes within the city and the school catchment (**Figure 35**), which will further support walking and cycling by staff and students.

Figure 35: Future active transport routes (Source: Broken Hill Active Transport Plan)

School Bus and Public Transport

Existing school bus routes service the site, dropping off and picking up from the bus bay on McGowen Lane. Currently, 71% of students live within 400m of a public bus stop, and 77% of students live within 400m of the school bus route, routes are detailed in **Figure 36.**

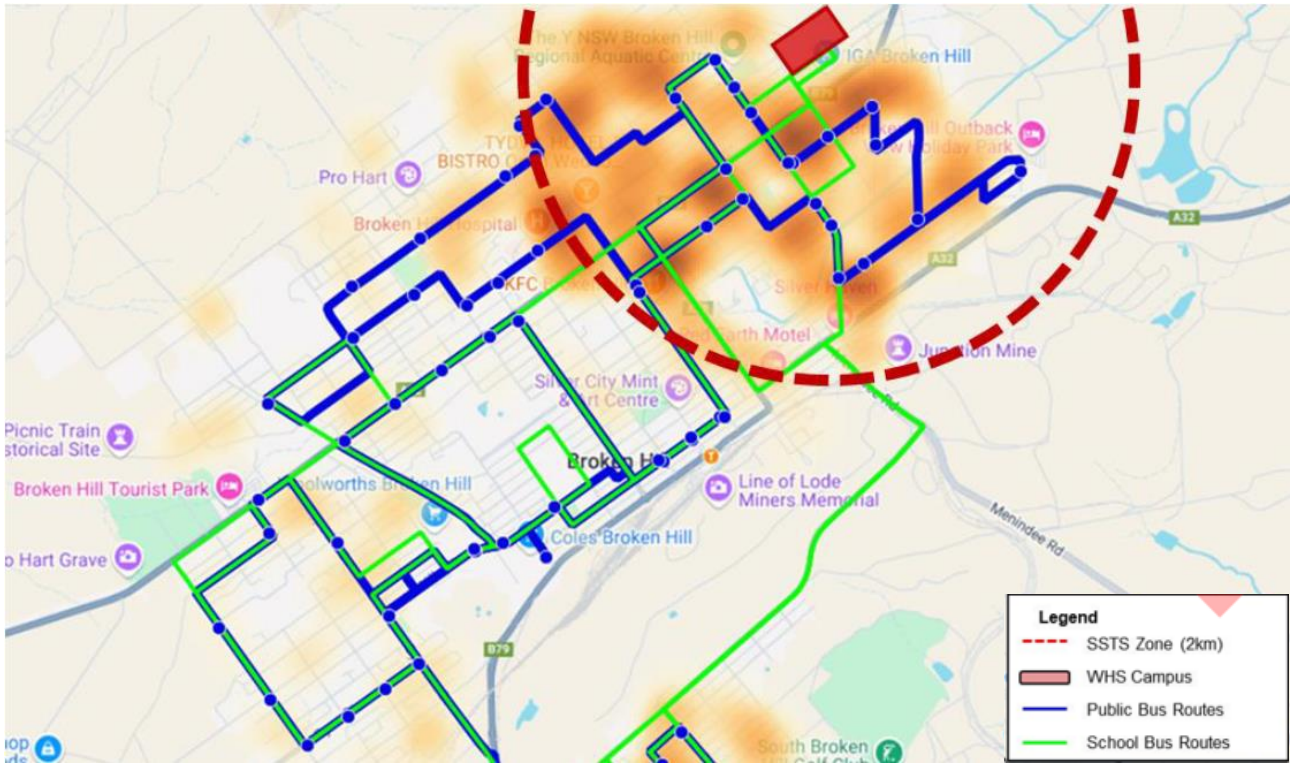


Figure 36: Bus routes servicing the site (Source: Bitzios Consulting)

7.1.2 Operational Traffic, Access and Parking

A range of upgrades are provided for the transport network and parking as part of the activity, these are set out in **Table 14** and **Figure 37**.

Table 14: Proposed transport facilities and upgrades

Item	Discussion
Relocation of the main pedestrian access from Radium Street to McGowen Lane	The new location for the main pedestrian access point reflects the design which locates buildings along the McGowen Street frontage and is adjacent to kiss and drop and bus bays. McGowen Street has footpath access along it to safely facilitate pedestrian movements to the entry.
New kiss'n'drop facility along McGowen Lane with capacity for six vehicles and queuing space for a 50-metre queuing space.	The kiss and drop area to enable two-way traffic movements along McGowen Lane and will be adequately separated from the bus pick-up/drop off area to improve safety and access for buses.
Formalisation of the existing vehicular access via Murton Street for loading, waste and servicing	Provides a physically separated location for service vehicles including waste, as well as delivery access entry to the site, which ensures there is no conflict with the main pedestrian and vehicle access points for students and staff.
New pedestrian crossing facilities on Murton Street and McGowen Lane	The proposed pedestrian crossings on Murton Street and McGowen Lane will improve connectivity to the site, increase student safety in the kiss and drop area, and promote active transport. The Murton Street crossing will improve east-west connections to the site, while the McGowen Lane crossing will improve pedestrian safety in the kiss and drop area. The detailed design of pedestrian crossings will be finalised in consultation with the Transport Working Group and relevant stakeholders.
Secure bicycle parking facility	Provides a secure location to park bicycles and other mobility devices with the aim of increasing student and staff uptake of active transport modes.
On-site car parking for a minimum of 57 vehicles, including retention existing parking adjacent to the Radium St entry and construction of a new car park adjacent to Building A, including accessible parking spaces.	A number of existing parking spaces are being removed as part of the previously approved demolition works associated with the existing school buildings. Proposed parking facilities will provide adequate on-site staff car parking and the new carpark includes accessible spaces and a kiss and drop area for special needs students that is co-located with the new school buildings.

Willyama High School is being designed with capacity for 730 students. The existing school accommodated 1,000 students; therefore, no remodelling of traffic impacts is required. Current enrolments are less than 600 students, and enrolments are not forecast to increase substantially within the next decade. Accordingly, no net increase in traffic generation is anticipated as a result of the redevelopment of Willyama High School.

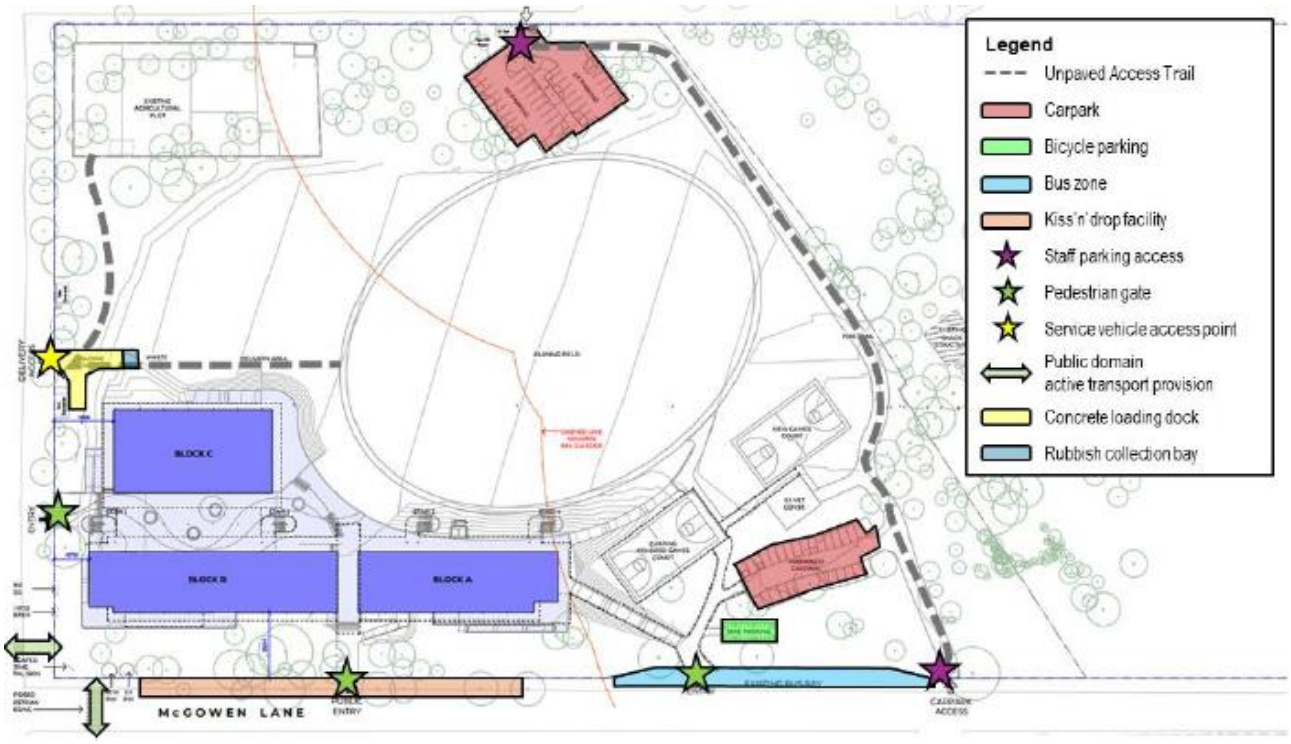


Figure 37: Vehicle and Pedestrian facilities (Source: Bitzios Consulting)

7.1.3 Transport Mode Share

Student and staff travel mode share surveys were undertaken in December 2024 to determine travel behaviours. Notwithstanding that students were located at an alternative school campus when the survey was undertaken, they were asked to respond about their travel arrangements when they were located at the Willyama High School campus. In addition, at the time of the survey, the Year 12 cohort had already completed their education and therefore did not contribute. 29% of students who had attended Willyama High School prior to the campus closure completed. **Figure 38** illustrates the student mode share breakdown.

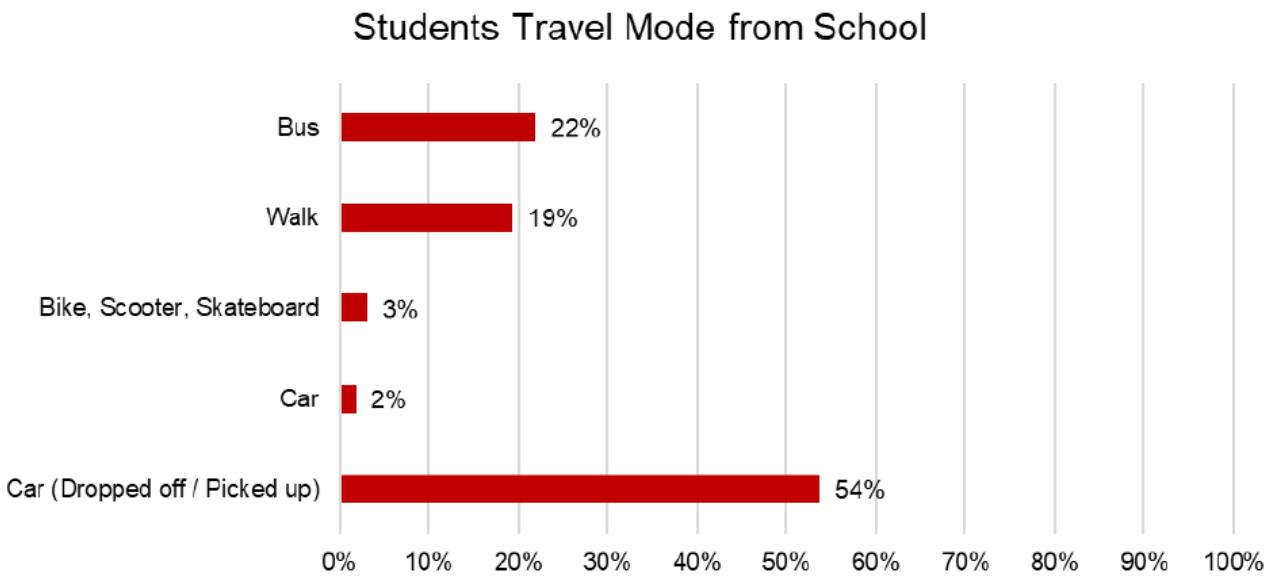


Figure 38: Student travel mode share breakdown (Source: Bitzios Consulting)

Active transport rates are generally reflective of the percentage of students who live within the 15-minute walkable catchment. Student car travel is likely to be under-represented due to Year 12 not participating in the survey.

A staff travel mode survey was also undertaken, with 84% of staff participating in the survey, results are presented in **Figure 39**.

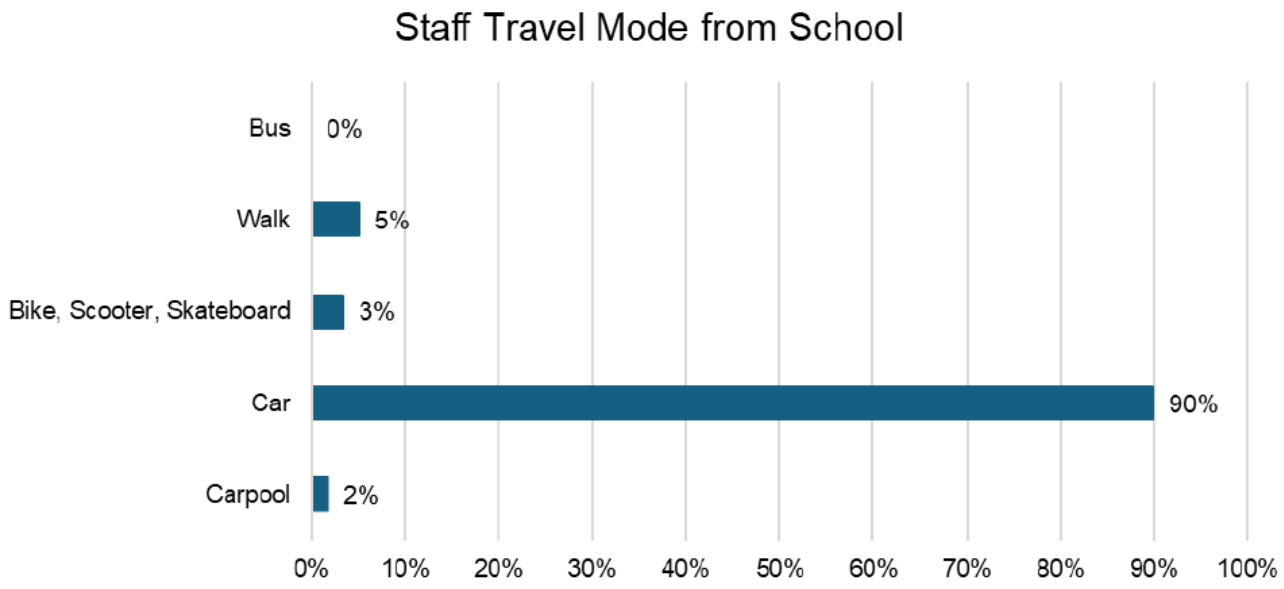


Figure 39: Staff travel mode share breakdown (Source: Bitzios Consulting)

The results indicate that 8% of staff utilise active transport methods, while 92% travel by private vehicle or carpool.

7.1.4 Car Parking

On-site car parking facilities provided have been designed in accordance with the relevant requirements of Broken Hill DCP and Australian Standards AS2890 and are considered to be generally compliant. The activity will result in a shortfall of up to 17 on-site staff parking spaces based on the requirements under Broken Hill DCP (**Table 15**).

Table 15: Development parking requirements and compliance

Land Use	Parking Rate	Quantity	Spaces Required	Spaces Provided
High School	1 space per 1 staff member	75 staff	75 spaces	57 spaces (on-street)

However, based on the results of the staff mode share survey in **Figure 39**, parking is required for 69 staff vehicles each day. The activity will provide on-site parking for 57 staff vehicles, meaning there will only be a shortfall of 12 on-site spaces. The surrounding street network has been assessed as having adequate parking availability (**Table 16**) to accommodate the overflow staff vehicles, leaving up to 45 spaces available for student, visitor and resident parking. In addition, a School Travel Plan has been prepared to encourage increased uptake of active and public transport by students and staff (discussed further in **Section 7.1.7**).

Table 16: On-street parking availability

Street	Available kerbside	
	m	Cars
Murton Street	126	21
Radium Street	96	16
McGowen Lane (outside peak hours)	120	20
Total on-street parking availability		**57** (37 all day + 20 outside peak times)

Accordingly, the minor shortfall in on-site parking will not result in unacceptable impacts to the surrounding road network.

7.1.5 Bicycle Parking

The activity will provide 60 bicycle parking spaces. While Council's DCP stipulates bicycle parking at a rate of "*1 bicycle space per 5 students over Year 4*", this is not reflective of the student and staff mode share surveys, which indicate that only 3% of staff and 3% of students utilise this form of transport. Accordingly, the proposed provision is more than adequate for the forecast demand.

7.1.6 Kiss and Drop Facility

A kiss and drop facility is proposed along McGowen Lane and will provide capacity for six (6) vehicles, with queueing space for another eight (8) vehicles at any one time. The kiss and drop facility has the capacity to service up to 360 vehicles over a 30-minute period, which will comfortably accommodate forecast student levels based on the current travel mode share survey, which identified 54% of students being dropped to school via private vehicle.

The operations of the kiss and drop facility will include clear policies and procedures outlined in the School Travel Plan. This Plan will mention:

- *This kiss and drop is a 'No Parking' zone, meaning you may stop for a maximum of 2 minutes.*
- *Do not arrive before the school afternoon bell time and park in the kiss and drop*
- *If you wish to park, there are alternate locations nearby with unrestricted parking where you can park and walk to the school gate*
- *Drive as far towards the front of the kiss and drop as possible so people can pull in behind you*

The kiss and drop collection bays and queuing will be available for car parking outside of the morning and afternoon peaks.

7.1.7 School Travel Plan

A School Travel Plan (STP) has been prepared by Bitzios to improve adoption of active and public transport and reduce reliance on private vehicles from current levels. The percentage of existing students living within defined walk and cycle catchments to the campus are detailed in **Table 17**.

Table 17: Student population within walking and bicycle catchments

Catchment	Distance	Population	Proportion
400m	5min walk	37 students	6%
800m	10min walk	88 students	14%
1200m	15min walk / 5min bicycle	172 students	28%
2400m	10min bicycle	325 students	53%
3600m	15min bicycle	351 students	58%
Public bus stops	400m	434 students	71%
School bus routes	400m	469 students	77%

The School Travel Plan, in addition to the proposed improvements to pedestrian infrastructure, sets out strategies to support a shift in travel mode share (**Table 18**) to reduce car-dependence and promote sustainable forms of transportation.

Table 18: WHS mode share targets

Travel Mode	Existing Mode Share	STP Mode Share Targets	
		Moderate	Reach
Students			
Bus	18%	20%	25%
Walk	14%	20%	22%
Bike, Scooter, Skateboard	3%	10%	15%
Car	8%	8%	8%
Car (dropped off/ picked up)	57%	42%	30%
Staff			
Bus	0%	0%	0%
Walk	5%	12%	16%
Bike, Scooter, Skateboard	3%	8%	9%
Car	90%	75%	65%
Carpool	2%	5%	10%

A five (5) year period is recommended as a realistic and appropriate timeframe to achieve the future **moderate** mode share targets outlined. The **reach** mode share targets prescribed are aspirational in nature and should reflect a continual desire to transition toward sustainable transportation outcomes.

7.1.8 Construction Traffic

Heavy vehicle movements and access to the site during construction is anticipated to be provided from Radium Street.

Onsite car parking will be provided for construction workers.

The proposed activity will be delivered in one (1) stage, and the construction will generally consist of site establishment and building new facilities. The key elements of this activity are as follows:

- Site Establishment
- All works required for the completion of the new learning buildings

- Landscaping and external works around the new buildings
- Upgrades to site infrastructure and services to support the new buildings.

In terms of construction transport considerations, the following details are anticipated:

- A peak of 20 employees during Demolition, and Grubbing and Earthworks
- A peak of 50 employees during Construction
- A maximum of 10 heavy vehicle movements per day (that is, five (5) trucks in/ out)
- Demolition works to occur over a two (2) month period
- Construction works to occur over a 12-month period.

A preliminary Construction Traffic Management Plan (CTMP) has been prepared for the proposed activity, and it outlines and assesses the impacts of the proposed construction activities provided in **Table 19** below.

Table 19: Anticipated construction activity impact

Construction Activity Impact	Discussion
Surrounding Road Network	Detailed analysis of construction traffic impacts on the wider transport network is not warranted, due to the expectation that the surrounding road networks have sufficient capacity to accommodate the low level of construction traffic with no more than minor impacts to the operation and efficiency of the road network.
Parking	Up to 57 on-street carparking spaces are available for construction workers in the immediate vicinity of the site, and therefore construction parking will not result in unacceptable amenity impacts.
Pedestrian and Cyclists	The proposed activity is anticipated to have a minimal impact on pedestrians and cyclists during construction due to the extent of works being within the site boundary. Any impacts to pedestrian pathways or cycle routes will be managed under the CTMP.
Bus Zones and Services	The school campus will remain non-operational during construction and therefore school bus movements will not conflict with construction vehicles.
Property Access	It is not expected that construction works will have any adverse impacts to resident access of nearby properties. Should there be any temporary impacts, it will be agreed with the relevant property owner or occupier.
Emergency Services	The proposed construction activities are not expected to impact emergency services. Emergency services will always have access to the site and surrounding roads.

Construction routes will predominately follow major highways to the site (**Figure 40**) and will not result in unacceptable traffic impacts on local roads.

Figure 40: Construction access routes (Source: Bitzios Consulting)

7.1.9 Mitigation Measures – Traffic & Parking

The following mitigation measures are to be implemented to ensure pedestrian and vehicle safety during the school's operation.

Mitigation Measures	Timing
Implementation of the Construction Traffic Management Plan including the preparation of a Traffic Control Plan (TCP). (CMM2)	Construction.
Implementation of public domain upgrades including pedestrian crossings, installation of the kiss and drop signage and line marking. Final design of public domain upgrades must be in consultation with relevant authorities. (UIMM6)	Prior to the commencement of Operations
Preparation of an Operational Transport Management Plan (OTMP) to ensure the safe, efficient, and coordinated management of all school transport operations, particularly during peak drop-off and pick-up periods. The OTMP will outline clear procedures and responsibilities for the operation of the Kiss and Drop facilities, bus zones, on-site parking, and pedestrian access points. (OPTMM1)	Prior to the commencement of Operations

7.2 Noise and Vibration

A Noise and Vibration Impact Assessment (NVIA) has been prepared by Northorp to assess the potential noise and vibration impacts associated with the proposed activity during the construction and operational phases. The report has assessed the activity against the Broken Hill DCP, NSW Noise Policy for Industry 2017, NSW Road Noise Policy 2011 and other relevant policies and guidelines for assessing noise and vibration. The following acoustic and vibration considerations were included in the assessment:

- Noise intrusion into the activity from traffic movement and surrounding uses
- Noise emissions from mechanical plant and equipment servicing the school
- Non-industrial noise emissions arising from the operation of the school

- Construction noise and vibration emissions

7.2.1 Background Noise

Sensitive receivers were identified at 2 Brooks Street (R01); 333 and future residential development site on Murton Road (R02 & R03); 601 & 632 Fisher Street (R04 & R05); and 634-664 McGowen Street (R06-R010) (**Figure 41**). Operator-attended noise monitoring was carried out in two (2) locations (M01 & M02) on 9 and 17 April, and long-term unattended noise monitoring was conducted from 8-17 April 2025 at one (1) location (M01) to establish the existing noise environment, noting that the existing school is not currently operational.

Figure 41: Noise Monitoring and Sensitive Receivers (Source: Northrop Consulting)

Noise monitoring has identified the following project amenity and trigger levels

Receiver ID	Land use	Time period[1]	Project intrusiveness noise level – $L_{eq,15min}$ dBA	Project amenity noise level – $L_{eq,15min}$ dBA	Project trigger levels – $L_{eq,15min}$ dBA
R01 – R10	Residential	Day	40	48	40
		Evening	35	43	35
		Night	35	38	35

1. Time periods defined as: Day 7am to 6pm Monday to Saturday and 8am to 6pm Sunday; Evening 6pm to 10pm Monday to Sunday; Night 10pm to 7am Monday to Saturday and 10pm to 8am Sunday

Figure 42: Project Amenity and Trigger Noise Levels (Source: Northrop Consulting)

7.2.2 Operational Noise Emission Assessment

As the assessment relates to an existing school, noise emissions associated with movements in the proposed new car park, mechanical plant associated with the new buildings in the south-western portion of the site, and noise associated with the school hall, playground and sports field were assessed against the project trigger noise levels.

Noise from usage of the new car park has been modelled and will comply with project noise trigger levels. While mechanical plant has not been selected, noise engineering measures can be utilised to ensure environmental noise criteria is met and will plant will not result in unacceptable noise impacts for sensitive receivers.

Management of non-mechanical operational noise can be managed using the following measures:

- Staff to notify students if they are causing excessive noise
- Staff to monitor or restrict use of portable speakers
- Close windows and doors if required to minimise noise emanating from the school hall
- Notify neighbours if a large event is scheduled to take place
- Educate staff and students on minimising noise impacts

7.2.3 Construction Noise and Vibration Assessment

Based on construction being undertaken in accordance with the hours defined in the NSW Interim Construction Noise Guidelines (below) the activity construction noise management levels for sensitive receivers are set out in **Figure 43**.

Receiver	Minimum RBL	Standard hours NML, $L_{eq,15min}$ dBA	Highly noise affected level, HNA, $L_{eq,15min}$ dBA
Residential	35	45	75

Figure 43: Construction Noise Management Levels (Source: Northrop Consulting)

Predicted construction noise levels at the nearest sensitive receivers has been modelled in accordance with ISO 9613 and presented in **Figure 44**.

ID	Receiver Type	Day NML	HNA	Predicted Noise Levels, $L_{eq,15min}$ dBA					
				SC01		SC02	SC03		SC04
				Typical	Worst Case	Typical	Typical	Worst Case	Typical
R01	Residential	45	75	67	72	67	62	66	56
R02	Residential	45	75	56	61	56	56	60	50
R03	Residential	45	75	62	67	63	60	64	54
R04	Residential	45	75	66	71	66	70	74	64
R05	Residential	45	75	63	68	63	68	72	62
R06	Residential	45	75	66	71	66	71	75	65
R07	Residential	45	75	67	72	67	71	75	65
R08	Residential	45	75	66	71	66	69	73	63
R09	Residential	45	75	65	70	65	62	66	56
R10	Residential	45	75	63	68	62	60	64	54

Figure 44: Predicted Construction Noise Levels (Source: Northrop Consulting)

Construction Noise Management Levels are predicted to be exceeded and therefore construction noise mitigation measures are required to ensure acoustic amenity for nearby sensitive receivers. Strategies to reduce standard construction noise can include the mitigation measures indicated in **Figure 45** below.

Noise mitigation measure	Typical noise reduction
Distance attenuation	6 dB per doubling of distance
Screening and barriers	Typically, 5 to 10 dBA maximum 15 dBA
Enclosure	Typically, 15 to 25 dBA maximum 50 dBA
Silencing	Typically, 5 to 10 dBA maximum 20 dBA

Figure 45: Possible construction noise mitigation measures (Source: Northrop Consulting)

The effects of ground vibration on nearby sensitive receivers have also been considered in the NVIA, and is broadly defined by the following two categories:

- Effects on building structures – vibration that can result into cosmetic building damage
- Disturbance to building occupants – vibration in which the occupants or users of the building are inconvenienced or possibly disturbed.

The recommended minimum vibration distances are 12m for cosmetic damage and 40 metres for human comfort. Given that the nearest sensitive receivers are on the opposite side of the road corridor from the school, these distances will generally be exceeded. Accordingly, it is unlikely that the activity will give rise to unacceptable vibration impacts for nearby sensitive receivers.

7.2.4 Mitigation Measures – Noise & Vibration

Mitigation Measures	Timing
Preparation of a detailed Construction Noise and Vibration Management Plan by the Contractor to ensure that amenity criteria is achieved. (CMM2)	Construction
Noise modelling of mechanical plant to ensure that project amenity and trigger noise levels will be achieved. (OPMM4)	Prior to the commencement of Operation
Incorporate operational noise management strategies into the school's Plan of Management/ Operational Management Plan. (OPMM6)	Prior to commencement of operations

7.3 Hydrology, Flooding and Water Quality

7.3.1 Flooding

The site is subject to flash flooding in storm events, accordingly a Flood Impact and Risk Assessment Report (FIRAR) has been prepared by TTW (**Appendix 3**). The FIRAR was prepared in accordance with the Flood Risk Management Manual, PS 24-001 Update on addressing flood risk in planning decisions, relevant guidelines and Broken Hill Council's Urban Stormwater Master Plan and Development Control Plan. The report also reviewed previous studies undertaken for Broken Hill and reviewed historical evidence of flooding locally including newspaper articles and social media reports. Hydraulic and hydrologic modelling was undertaken using industry-standard RORB and TUFLOW Model Development, was used to assess the flooding impact and risks for the proposed activity.

The post-development scenario shows no significant increase in flood levels for the 10%, 1%, 0.2%, 0.05% Annual Exceedance Probability (AEP) events, with afflux remaining below 10 mm. For the Probable Maximum Flooding (PMF) event, which refers to the largest flood that could conceivably occur at a specific location, a maximum afflux of approximately 70 mm is observed; however, this occurs at properties already subject to high flood levels (greater than 0.5 m) and does not materially worsen existing flood conditions.

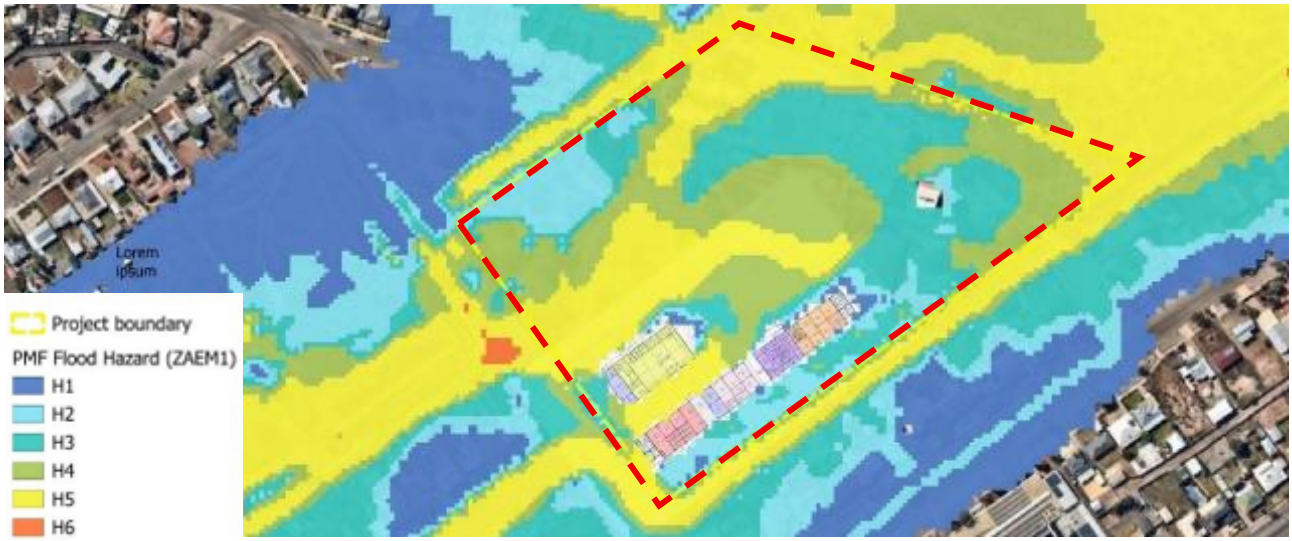


Figure 46: Excerpt of PMF flood hazard post-development scenario (Source: TTW)

Importantly, the proposed activity incorporates best-practice flood mitigation measures, including:

- Finished floor levels set above the PMF;
- Structural design considerations for PMF conditions;
- Flood-compatible construction materials below the flood planning level (FPL); and
- A site-specific Flood Emergency Response Plan (FERP) that accounts for the short duration and rapid onset of PMF flooding.

Bulk earthworks include raising the building platforms and lowering the level of the sports field to mitigate flood impacts on the school buildings and surrounding residential properties during a PMF event forming a key component of the flood mitigation strategy. A channel, running beneath a deck between Buildings B and C will direct flows to the sports field.

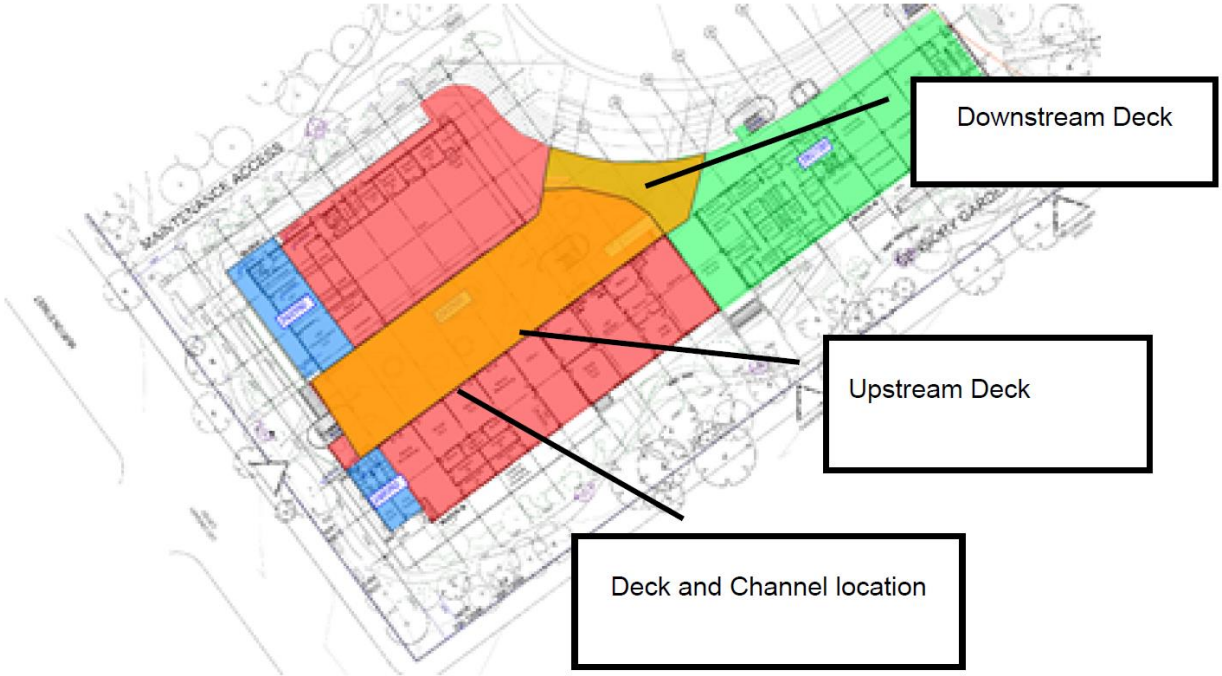


Figure 47: Channel and Deck to divert water to the sports field (Source: TTW)

The Flood Impact and Risk Assessment Report (FIRAR) demonstrates that flood impacts associated with the development are minimal across all design events, including under future climate change scenarios, and the activity can proceed without introducing unacceptable flood risks to the site or surrounding properties.

Mitigation measures are provided in **Section 7.3.4** to enhance the safety and durability of the activity while ensuring compliance with best practices for flood risk management. Adopting these strategies will help reduce potential flood impacts on both new structures and surrounding areas.

7.3.2 Flood Emergency Response Plan

A Flood Emergency Response Plan (FERP) has been developed by TTW. Given that inundation of the surrounding road network is expected to occur within 24 minutes of the onset of a PMF event at the site, preparation for shelter in place is the recommended flood emergency response. This approach is consistent with the Shelter in Place Guidelines issued by DPHI in January 2025,

as the flooding occurs within 6-hours of commencement and the duration of sheltering in place is less than 12 hours from the commencement of rainfall.

Indoor space available within the school will be more than sufficient to accommodate all students and staff in line with the minimum 2m^2 of indoor floor area per person set out in the Shelter in Place Guidelines, with a conservative estimate of 2,609m^2 available, which is enough to accommodate 1,300 people.

Should sufficient advanced warning of a PMF rainfall event be given, then early closure of the school is the preferred strategy, with shelter in place being utilised when the warning time is not provided.

7.3.3 Stormwater

A Civil Engineering Design Report has been prepared by TTW in accordance with Broken Hill DCP, the Blue Book, the EFSG, the NSW Floodplain Development Manual, Australian Runoff and Rainfall 2019 and the geotechnical, contamination and flood reports, and architectural and landscape plans prepared for the proposed activity.

Current arrangements on the site see stormwater discharge to two (2) swales to the north of the existing buildings and runs towards the eastern boundary. At the boundary, these swales widen and discharge to a channel approximately 12m wide that runs along McGowen Lane continuing to the northeast.

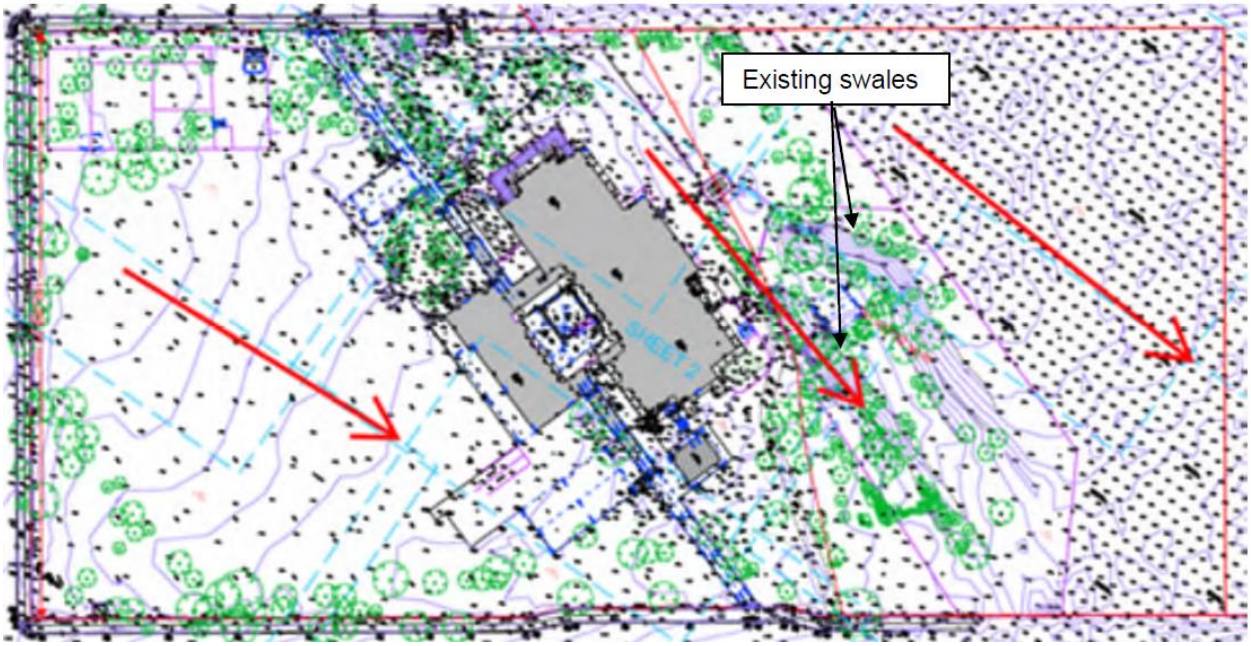


Figure 48: Site survey indicating falls & existing stormwater infrastructure (Source: TTW)

There is an existing COLA structure with rainwater tanks connected and an additional storage tank at the southern corner of the site. Surface runoff moves towards the northeast following the gentle grade of the site.

The activity will result in a slight reduction of pervious area from the pre-activity (15,129m^2) conditions to the post activity (14,386m^2) conditions. Given this, the flood affectation of the site, and the fact that the site is located downstream towards the end of the precinct catchment, it was

determined that on-site detention would provide little benefit and may exacerbate existing flood issues.

The activity will utilise water sensitive urban design using rainwater tanks, with a capacity of 60m^3, to collect runoff from the new roof and COLA catchments. Existing tanks may be able to be re-utilised for this purpose depending on their volume and condition. Rainwater tanks will be connected to each building to collect runoff for irrigation, with overflow discharged as surface runoff.

Stormwater runoff will be conveyed primarily by a series of surface swales that will direct flows to existing inground drainage or major swales at the eastern end of the site and into the street water table and stream in McGowen Lane. The area between Buildings A and B will be elevated as a suspended slab to allow flood and stormwater flows to run beneath at ground level, these flows will be directed to the sports field.

7.3.4 Mitigation Measures – Flooding & Stormwater

Mitigation Measures	Timing
All structures that interact with floodwaters in a Probable Maximum Flood event must be constructed from flood compatible building components that can withstand the flow velocities, flow depths and associated debris loads of a Probable Maximum Flood event. (PACMM6)	Construction
Verification from a suitably qualified structural engineer must be provided to the DoE Project Lead and the DoE Post Approvals and Compliance Team demonstrating that the buildings have been designed with flood compatible materials and components that withstand the hydrodynamic forces from moving flow and the hydrostatic forces applied by still-water in flood events up to and including the PMF. (PACMM7)	Prior to Construction of Buildings
Implementation of the Erosion and Sediment Control measures in accordance with *Managing Urban Stormwater* (DPHI) to ensure protection of downstream drainage lines, assets, ecosystems or existing hydrological systems from silt, waste and sediment from the site. (CMM2, SWMM1)	Construction
Installation and connection of rainwater tanks with 60m^3 capacity to collect run off from roof catchments and the COLA (SWMM8)	During construction
Once the site is operational, the channel should be inspected and cleared of debris at least once per year and after significant flood events to ensure full conveyance capacity and minimise flood risk. (OPFMM2)	Ongoing operation
Implementation of the Flood Emergency Response Plan (OPFMM1)	Prior to the commencement of Operations

7.4 Contamination and Soil Conditions

7.4.1 Contamination

A Preliminary Site Investigation Contamination (PSIC) Report was prepared by Douglas Partners comprising a review of environmental and site history information, and a site walkover to identify potential sources of contamination at and near the site. The results of the PSIC indicated a relatively low risk of contamination on the site. However, historical use of the site as a racetrack, and hazardous materials in existing buildings are potential sources of contamination through

uncontrolled fill. Accordingly, intrusive soil investigations and a detailed site investigation was recommended.

The Detailed Site Investigation Contamination (DSIC) Report was prepared by Douglas Partners comprising a review of previous reports, drilling and sampling from 16 boreholes using a solid flight auger (**Figure 49**), and laboratory analysis of selected soil samples, to assess the suitability of the site for the proposed activity and establish if there was a requirement for management of contamination.

The DSIC was undertaken via the below steps:

- Review previous relevant reports prepared for the site,
- An intrusive soil sampling investigation, including:
  - Drilling, supervision and logging of 11 boreholes (for combined environmental and geotechnical purposes) using a solid flight auger to a maximum depth of 3 m below ground level (bgl), or 0.5 m into natural soil or prior refusal (whichever was lesser).
  - Drilling, supervision and logging of an additional five boreholes (for environmental purposes) using a solid flight auger to a maximum depth of 3 m bgl, or 0.5 m into natural soil or prior refusal (whichever was lesser).
- Collection of soil samples from the 16 boreholes at regular depth intervals, changes in strata, or upon signs of contamination (e.g. staining, odours), and
- Analysis of selected soil samples at a NATA accredited laboratory for a combination of the potential contaminants of potential concern (CoPC).

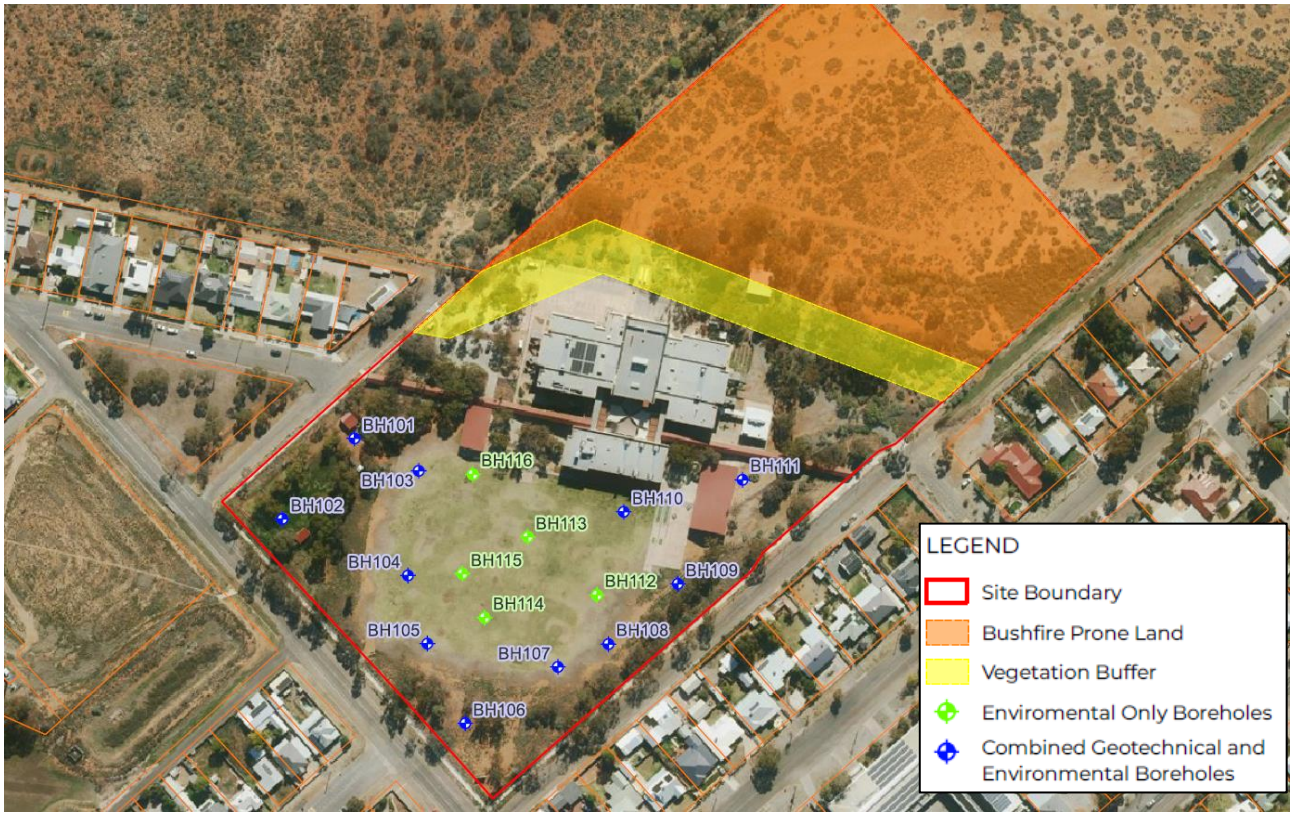


Figure 49: Extract of the borehole location plan (Source: Douglas Partners)

The results of the DSI confirmed that no exceedances of the site assessment criteria were recorded and the fill in the development area was preliminarily classified as general solid waste (non-putrescible). Natural soil samples were classified as VENM and groundwater assessment is

not considered necessary. Accordingly, no remediation works are required, and the site is considered suitable for the proposed activity with regard to contamination.

7.4.2 Soil Conditions

Geotechnical investigations have been carried out by Douglas Partners and reveal that the site is underlain by Cainozoic Rock Unit comprising soil, sand, gravel and clay. Borehole testing was done as per **Figure 49**.

Soil plasticity was classified as medium. Testing did not meet the typical criteria for acid sulfate soils, and the pH of all soil samples was neutral to basic pH7.4-9.5. No groundwater was encountered. As indicated in **Figure 50** samples from all boreholes are non-aggressive to concrete and non-aggressive to moderately-aggressive to steel. Soil also ranges from non-sodic to highly sodic. Accordingly, a Salinity and Sodicity Management Plan has been prepared for the activity. These soil conditions have been considered by the civil and structural engineers during design of the activity.

Parameter		Unit	Samples	Minimum	Maximum
pH		pH units	39	7.4	9.5
Chlorides		mg/kg	28	20	5600
Sulphates		mg/kg	28	<10	3000
Aggressivity	To Concrete	(AS 2159, 2009)	28	Non-aggressive	Non-aggressive
	To Steel	(AS 2159, 2009)	28	Non-aggressive	Moderately aggressive
Exchangeable Sodium (Na)		meq/100g	21	<0.1	5.1
CEC (cation exchange capacity)		meq/100g	21	12	42
Sodicity [Na/CEC]		ESP%	21	<1	21
Sodicity Class		[after DLWC]	21	Non-Sodic	Highly Sodic
$EC_{1:5}$		dS/m	37	0.1	10

Figure 50: Summary of Salinity Test Results (Source: Douglas Partners)

7.4.3 Earthworks

As part of the flood mitigation strategy, earthworks are proposed to reshape and grade the site to direct some flood flows from the proposed buildings in the southwest corner of the site towards the playing field as well as raising the minimum habitable floor level of the buildings to or above the PMF level. In accordance with the aggressive soil profile of the site, a 1m capping layer of non-reactive fill is required beneath the building slabs.

7.4.4 Mitigation Measures – Contamination and Soil Conditions

Mitigation Measures	Timing
Implement an unexpected finds protocol during excavation and construction. (CMM2)	Construction
Implementation of a 1m capping layer of non-reactive fill is required beneath the building slabs. (SWMM7)	During construction
Implementation of relevant salinity and sodicity management measures (SWMM6)	Construction

7.5 Aboriginal Heritage

An Indigenous Heritage Assessment and Impact Report has been prepared by GML Heritage in accordance with the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW*, and involved a desktop study and site inspection to consider the Aboriginal cultural landscape and the environmental and archaeological contexts. The site is located in the eastern portion of Wilyakali Country, which extends from Broken Hill to Olary. The area around Broken Hill is a central part of the cultural landscape of the region and several myths converge on the area.

An AHIMs database search identified the nearest Aboriginal site 500m northwest of the site. The desktop assessment found that varying levels of disturbances have occurred across the study area and that isolated finds or small scatters of artefacts were the most likely site type to be present. Quartz reefs used for quarrying were also identified to potentially occur within the study area.

No Aboriginal objects were observed during the site inspection. However, the presence of ground surfaces in the northern section of the study area indicates the possibility that some of the quartz pieces may be Aboriginal objects. This area has been registered as a potential archaeological deposit (PAD) on AHIMs and an area of Aboriginal sensitivity that would need further Aboriginal cultural heritage assessment if the ground surface was to be disturbed.

Figure 51 identifies the Aboriginal cultural sensitivity within the site. The proposed activity is wholly located within the green, low to nil sensitivity zone. There is no ground disturbance works proposed in the sensitive or PAD areas. Accordingly, the activity will not result in significant impacts to Aboriginal cultural heritage and no further Aboriginal cultural heritage assessment is required. The works may proceed with caution.

Figure 51: Aboriginal archaeological sensitivity (Source: GML)

7.5.1 Mitigation Measures – Aboriginal Cultural Heritage

Mitigation Measures	Timing
• If any unexpected Aboriginal objects, sites or places (or potential Aboriginal objects, site or places) are discovered during any construction work, all works in the vicinity must cease and the area must be appropriately protected. The DoE Heritage Team is to be notified, and an archaeologist engaged to undertake a site inspection to assess the find in consultation with the Registered Aboriginal Parties (RAPs). Following the on-site assessment, the archaeologist and RAPs (if they attended the site) are to advise on whether further management, mitigation or approvals are required in consultation with the DoE Heritage Team. Should Aboriginal objects be identified, these are to be registered in the Aboriginal Heritage Information Management System (AHIMS). An Aboriginal Heritage Impact Permit (AHIP) would also need to be obtained to impact the site. (HMM2 & HMM3)	Construction
• No works are to be undertaken within the area identified as Potential Archaeological Deposit (PAD) or Sensitive in the Preliminary Indigenous Heritage Assessment prepared by GML Heritage (Version 3, 28 May 2025). (HMM4)	Construction

7.6 Environmental Heritage

The City of Broken Hill is a matter of National Significance under the EPBC Act, as it was added to the National Heritage List on 20 January 2015. The Australian Heritage Database Listing states that Broken Hill's significance to the nation relates to:

> *"Creating enormous wealth, for its long, enduring and continuing mining operations, and the community's deep and shared connection with Broken Hill as the isolated city in the desert, its outback landscape, the planned design and landscaping of the town, the regeneration areas and particularly the physical reminders of its mining origins such as the Line of Lode, the barren mullock heaps, tailings, skimps and slagheap escarpment and relict structures. It exhibits historic qualities in its ongoing mining operations since 1883, the current and relict mining infrastructure and its landscape setting. It is significant for its industrial past and the adoption of vanguard industrial relations and management policies, together with its role as a pioneer in setting occupational health and safety standards."*

The department's heritage team provided the following advice in relation to the redevelopment activity at Willyama High School and its impact on this listing:

> *Willyama High School was constructed in the 1970s and does not demonstrate any of these significance values in a recognisable way…As no 'significant impacts' to the national heritage values of the 'City of Broken Hill' are likely to occur from the Willyama HS redevelopment project, no referral to the Minister under the EPBC Act is required.*

The site does not contain, nor is it proximate to any items of state or local heritage significance. Therefore, the activity will not result in a significant impact to the non-Aboriginal heritage significance of the City of Broken Hill or the site.

7.7 Ecology and Landscape

7.7.1 Ecology and Biodiversity

A Biodiversity Constraints Report has been prepared by GHD to consider any ecological impacts of the activity. The report methodology included:

- A desktop review to identify threatened species or communities listed under the *Biodiversity Conservation Act 2016* (BC Act), and Matters of National Environmental Significance (MNES) under the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act),
- A field survey undertaken on 24 July 2024,
- Assessment of the likelihood of occurrence, and
- A constraints and opportunities assessment.

Figure 52: Site Vegetation (Source: GHD)

Remnant vegetation in the north-eastern portion of the site (outside the area of proposed activity) is currently mapped as *PCT123 Mulga – Dead Finish on stony hills mainly of the Channel Country Bioregion and Broken Hill Complex Bioregion*. However, as indicated in **Figure 52**, the field survey confirmed that the vegetation in this area more closely aligns with *PCT 163 Dillon Bush (Nitre Bush) shrubland of the semi-arid and arid zones* as it had no native canopy, midstorey or ground layer species characteristic of PCT123.

While a range of mature trees exist on site, only four were identified as being locally-native species, and two were observed to have hollows, one of which was being used by a Mallee Ringneck (Barnardius zonarius race barnardi). The midstorey consists of planted Old Man Saltbush (Atriplex nummularia). The vegetation is generally in poor condition, from ongoing maintenance actions required for safety, and likely also from past disturbances such as infrastructure development, soil compaction and land clearing. The site contains limited fauna habitat and is likely predominantly used by common mobile and generalist species (both native and exotic).

No threatened ecological communities (TECs) were identified within the study area or site, and no threatened flora species were recorded. One threatened fauna species, Redthroat (Pyrrholaemus brunneus), listed as vulnerable under the BC Act, was recorded on the site (**Figure 53**).

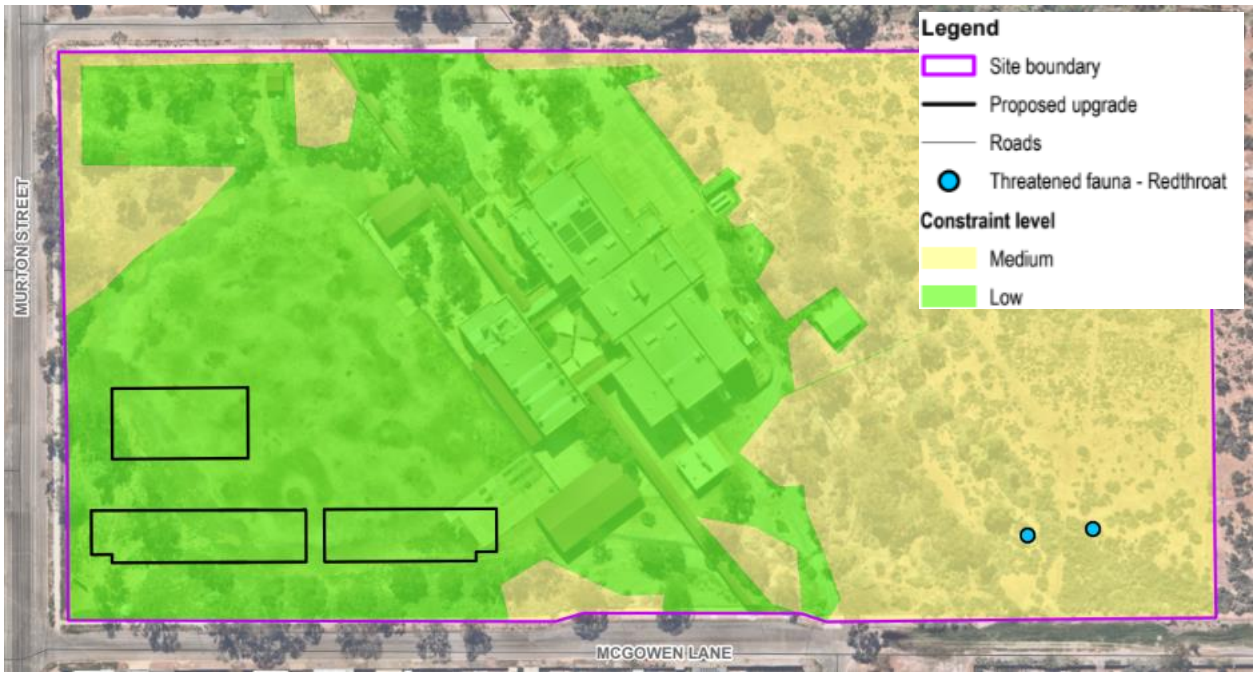


Figure 53: Biodiversity Constraints (Source: GHD)

The area of the proposed activity is predominately identified as having low biodiversity values due to the lack of intact native vegetation, presence of exotic species, and existing development that has occurred. Accordingly, the activity has been assessed as having negligible impacts on ecosystems and does not require offsets.

7.7.2 Landscape

Landscape plans for the activity have been prepared by Urbis in accordance with the Design Guide for Schools, Greener Places Design Guide, Connecting with Country Design Guide and the Willyama High School Connecting with Country Engagement Report.

The design strategy for landscaping has followed the themes of country, community, sky and water that came out of engagement with local indigenous knowledge holders as well as inputs from the ecological investigations. Planting selection is sensitive to local ecosystems and climatic conditions, with the majority of species being chosen from within local ecological communities in greatest proximity from the Dillon Bush Shrubland of the semi-arid and arid zones. The landscape plan includes planting of Red River Gums, which were highlighted in the ecological assessment as being locally native trees.

The landscape plan will provide a range of active and passive recreation and learning spaces, with a focus on creating shaded spaces under trees and shade structures. An indicative landscape plan is provided below to indicate the range of structured and unstructured play and gathering spaces proposed.

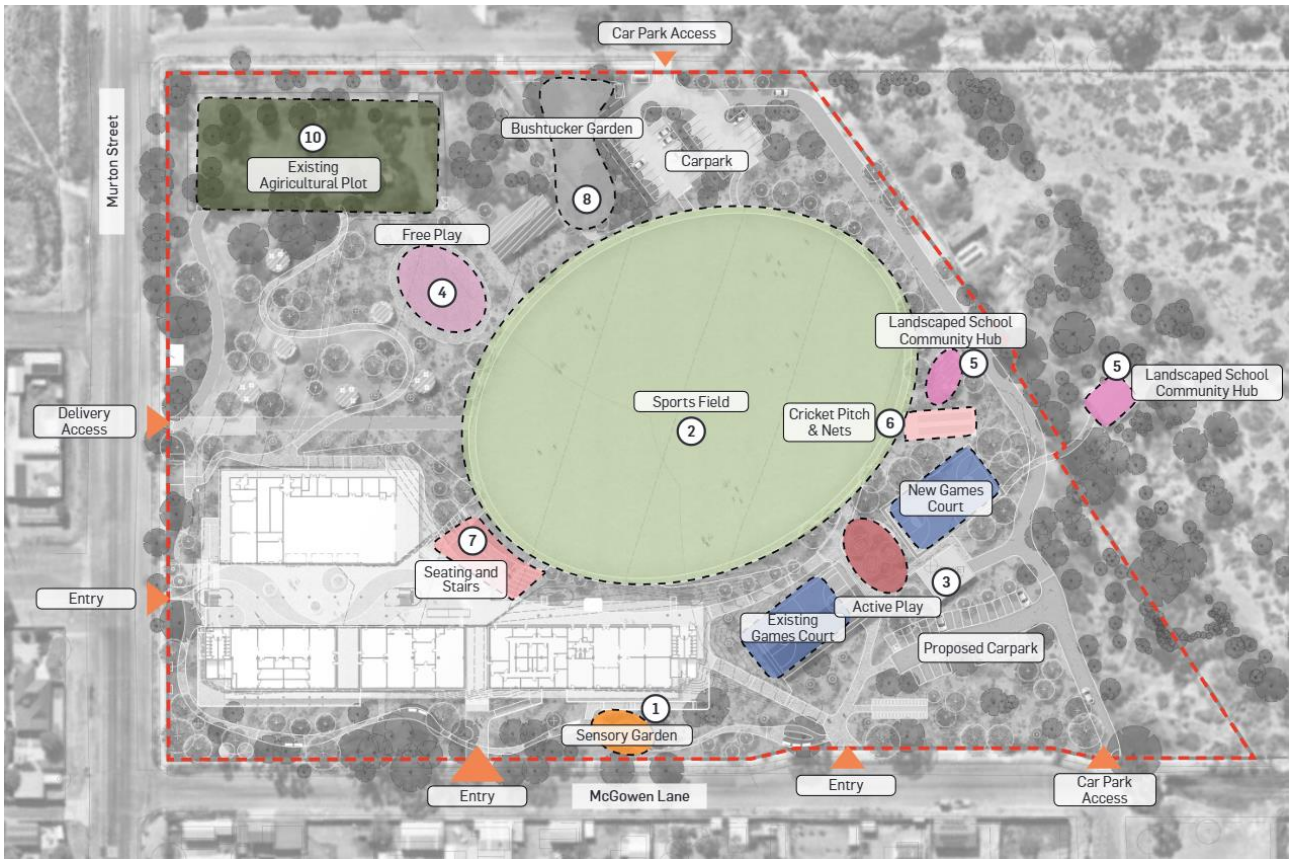


Figure 54: Indicative Landscape Programs and Destinations (Source: Urbis)

The landscape design and planting palette will set the building into its environment by providing screening from the public domain, views from the windows and shaded spaces throughout the campus.

7.7.3 Mitigation Measures – Ecology and Landscape

Mitigation Measures	Timing
Any existing trees that are to be retained near areas to be developed should have appropriate tree protection fencing around them. (CMM2 & TMM1)	Construction

7.8 Bushfire

The site is partially mapped as bushfire prone land Vegetation Category 3 on Broken Hill City Council's Bushfire Prone Land map, and schools are a special fire protection purpose (SFPP) pursuant to Section 100B of the Rural Fires Act 1990. RFS response dated 20 December 2024 to a pre-DA submission determined a bushfire safety authority (BFSA) (SFPP) under section 100b of the Rural Fires Act 1997 was required due to part of the site being mapped as BFPL.

The site is within the Far Western region for which Fire Danger Index (FDI) of 80 is applicable for bushfire assessment (NSW RFS, 2019). Bushfire hazard occurs within 150 m of the site and the vegetation classification in the northern portion of the site and beyond is arid shrubland.

Figure 55 indicates the bushfire attack level (BAL) extents of the site based on the bushfire mapping. The proposed school buildings are located in BAL-LOW. In addition, there is a lower risk

of bushfires impacting the proposed activity for an extended period of time due to the type of vegetation hazard (arid shrubland). The site is surrounded by road network on three sides, with vehicle and pedestrian exits to all three surrounding roads for evacuation of the site if needed.

Figure 55: Extract of bushfire attack level mapping & proposed activity (Source: GHD)

Asset protection zones have been established around the school buildings as indicated in **Figure 56**, these exceed the minimum requirements.

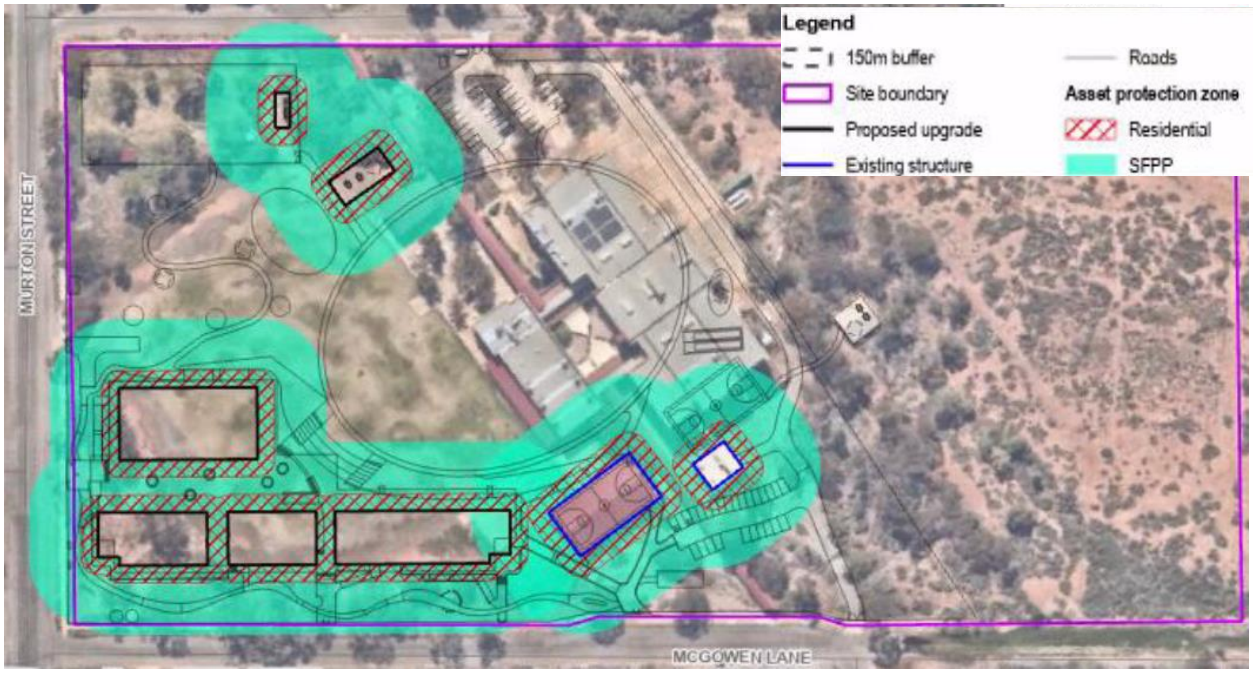


Figure 56: Extract of asset protection zones map (Source: GHD)

7.8.1 Mitigation Measures - Bushfire

Mitigation Measures	Timing
Bush Fire Safety Authority A Bush Fire Safety Authority must be obtained by the Rural Fire Service. (BFMM1)	Prior to relevant works.
Emergency management Emergency management plans to be created/updated prior to occupation of the activity. (OPMM7)	Construction, Prior to the commencement of Operations.

7.9 Built Form & Design Principles

The proposal utilises materials that are robust, hardy, tactile and responsive to the local environment. Colours have been selected to reflect the existing native trees on site and desert and the rich mining heritage of Broken Hill. Indicative materials and colours are illustrated in **Figure 57** below.

The proposed buildings are three (3) storey buildings in compliance with section 3.37(2) of TI SEPP. The site does not have a maximum height under the Broken Hill Local Environmental Plan.

Figure 57: Indicative materiality (Source: Woods Bagot)

Design Guide and Design Quality Principles

The built form of the proposed school responds effectively to the design quality principles outlined in Schedule 8 of the TI SEPP and the Design Guide for Schools. Woods Bagot Architects prepared and Architectural Design Report, which responds to these principles as follows:

Table 20: Response to Design Quality Principles in Schedule 8 of TI SEPP

Design quality principle	Response
1 Context, built form and Landscape	The proposed buildings for Willyama High School, inspired by the natural flow of water through the Living Desert Catchment, create a dynamic learning environment where students can navigate freely like water weaving through the landscape. Each learning space is thoughtfully designed to respond to the existing contours, strategically placed to foster collaboration and creativity while minimising impact on the natural landform. As students traverse the site, they are funnelled through a central axis that provides clear sightlines across the campus, leading to the open sports field which serves as both gathering place and water catchment zone. This intentional flow not only enhances movement between various buildings but also seamlessly integrates the structures with the natural surroundings, encouraging exploration and connection to Country. The new buildings feature a strong landscaped base constructed from materials that incorporate the red base colours of Country, carefully chosen to harmonise with the surrounding Broken Hill landscape and echo the natural beauty of the

Design quality principle	Response
	nearby Living Desert. These durable materials ensure resilience against the harsh outback elements while providing an authentic connection to place.. Outdoor corridors link the learning spaces, sheltered beneath canopies that incorporate apertures connecting to Sky Country, allowing students to experience the vastness above while traversing the area comfortably, even in extreme weather. This design not only fosters a sense of community but also enhances the overall experience of being immersed in Country while pursuing education.
2 Sustainable, Efficient and Durable	There is growing appreciation of the significant role that good design can play in education, with increasing evidence that student learning outcomes are closely related to the quality of the environment in which they learn. Factors such as air quality, ventilation, natural lighting, thermal comfort and acoustic performance have been shown to have a profound impact on teacher well-being and student attentiveness, attendance and overall performance. The Willyama High School redevelopment addresses the key concepts in achieving indoor environmental quality in the challenging Broken Hill climate. This includes the promotion of natural daylight into all learning spaces, excellent indoor air quality through strategic orientation to capture prevailing breezes, low pollutant emitting materials, and excellent thermal, visual and acoustic comfort suited to the local conditions. The building's split-level ground floor design, responding directly to the PMF flood levels ranging from 291.0 m AHD to 293.5 m AHD, not only mitigates flood risk but also contributes to the building's sustainability credentials by minimising earthworks and maintaining existing site contours. This approach demonstrates a light touch on Country while ensuring long-term resilience. The proposal embodies materials that are robust, hardy, tactile and responsive to the local environment. Materials are celebrated in their natural state, adding colour, vibrancy and overall connection to the project. The education of local craftsmanship and how things are made/assembled is expressed in the use and placement of materials both natural and manufactured, respecting the rich mining heritage of Broken Hill.
3 Accessible and Inclusive	Schools play an important role in the local social infrastructure, and it is vital that there should be an inclusive and clear approach to access and engagement with the community. The proposed design for Willyama High School creates an arrival landmark that provides clear visibility throughout the entire site with strategic sightlines across all axis. The proposal is designed to be accessible and inclusive to all students and community members. Accessible routes are proposed to all learning spaces within the new buildings. The split-level approach, while responding to flood risks, has been carefully designed to ensure equitable access throughout the campus. Lift access reaches all three levels of the new buildings, connecting students to all facilities including specialist learning spaces. The design respects the priorities established through the Connecting with Country engagement process led by Wilyakali Elders and Traditional Owners. Cultural visibility is embedded throughout the site, with dedicated display spaces for student and community artwork, particularly at the protected main entry and on split-level walls embedded in the landscape.
4 Health and Safety	This proposal seeks to provide a healthy and safe learning environment for all students, promoting physical activity and walkable environments, social cohesion and student safety and security at all times of the day. The design approach to flood mitigation, with Finished Floor Levels above the 1% AEP + 500mm freeboard (ultimately set at PMF levels), ensures the safety of students and staff during extreme weather events. The building's split level ground floor design responds directly to these flood requirements while maintaining a light touch on the existing landscape. The proposal offers students a variety of gathering spaces, including the central sports field. The Covered Outdoor Learning Area (COLA) provides protection from

Design quality principle	Response
	the harsh Broken Hill sun while maintaining connection to Sky Country through ceiling apertures. Through centralised and open circulation paths that follow the natural contours of the site, the proposal supports passive surveillance and anti-bullying measures while enabling clear sightlines across the campus for staff supervision.
5 Amenity	The proposal seeks to provide a variety of learning and teaching spaces offering different levels of openness and connection to Country. The design approach has been to explore and discover different ways of connecting between indoor and outdoor space, between the built form and the natural site environment, with an intention to engage with the existing landscape and the vastness of the surrounding desert. The buildings have been positioned to maintain existing site levels where possible, demonstrating respect for Country through minimal intervention. The split-level approach not only responds to flood risks but also creates interesting spatial relationships that enhance the learning experience. Consideration has been given to not only the amenity of the school site but its integration with the surrounding landscape. The central sports field provides a substantial outdoor amenity space that can be used for both everyday school activities and community events, reinforcing its role as the site's gathering place. Outdoor planters benefit from natural light, while the design ensures physical proximity to nature, enabling students to directly experience the elements and expansiveness of Country in their daily learning environment.
6 Whole of Life, Flexible and Adaptive	It is essential for school facilities to enable learning and teaching outcomes required for a modern world and the world of the future. It is vital that they are designed and constructed to reflect the pedagogy of today but able to adapt to the way we learn and teach in future. The proposal for Willyama High School acknowledges that over time student numbers will shift, teaching methods will evolve, and that buildings must be adaptable to future needs. The design is based on a standard grid, which allows for future flexibility with spaces easily changed and adapted to serve new and different needs within the school environment. The design's response to natural water flows, allowing water to move through the site in its natural course, demonstrates a sustainable approach that will remain relevant throughout the building's lifecycle. The split-level design not only addresses current flood risks but provides inherent flexibility in how different spaces can be utilised as the school's needs evolve. The building planning follows the principles of Patternbook, which centralises the services and amenities in the cores at the ends of each teaching block of grids. This then allows for services to be consolidated to these areas, keeping the teaching spaces free and flexible.
7 Aesthetics	The colour palette of the proposal is derived from the surrounding Broken Hill landscape. Inspired by the red earth and natural hues of the Living Desert, the metallic tons of gold, bronze and silver reflecting Broken Hill’s unique geology, and pops of subtle colour as per the wildflowers of the native plants within the desert. The project seeks to connect with its surroundings through materiality and form. The architecture incorporates the colours of Country throughout while creating spaces for students and local artists to contribute cultural works. The proposal identifies several key areas to integrate cultural expression into the design and locate opportunities for art. Solid walls in the architecture can be used by students and artists, particularly at the main entry (undercover & protected) and on split-level walls embedded in the landscape. These destination artworks create a sense of ownership of space for students and staff alike as they reflect the culture

Design quality principle	Response
	of the school and the local community. The building form responds to the site's topography and flood levels, with the split-level approach not only addressing practical concerns but creating a visually dynamic composition that respects the existing landscape. This approach reinforces the design principle of site sensitivity, demonstrating how the architecture can touch the ground lightly while creating meaningful spaces for learning and community.

This comprehensive response ensures the built form meets the design principles and creates a high-quality, functional and sustainable educational facility.

7.10 Social Impact

Social impacts have been considered to ensure the project minimises any potential negative impacts and enhances positive impacts. Social impacts are considered before and after implementation of the mitigation measures outlined throughout this REF, which are to be incorporated in the planning, construction and operation of the project.

Table 21 provides a summary of the potential social impacts.

Table 21: Social Impact

Type of Impact	Describe the impacts on the community and how they might be experienced, either positively or negatively	Discussion
Impacts on access – will there be an improvement to the quality of provision and a response to emerging and changing needs?	By providing new school facilities on existing school site will enable the school community to access an essential infrastructure for the community.	The proposed design is assessed to have high positive impact for the community as the siting of the new proposed buildings provides better access and proximity to the pedestrian entry and the main drop-off/pick-up zone for the established school site. The school facilities will include accessible paths of travel to learning spaces on all levels.
Impacts on privacy, overshadowing, peace and quiet, and visual amenity (views / vistas) - will there be significant change for neighbours and the local area during both construction and operation?	The built form of the proposed activity is carefully designed and sited to be sympathetic to the surrounding residential development and landscape. The proposed activity is situated in the south-east portion of the site. The mass of the school is setback 20m from the south-east boundary line. The proposed design has no overshadowing impact on neighbouring properties.	The proposed activity is not considered to impact negatively on the neighbouring development.
Impacts on sense of place - will there be effects on community cohesion or how people feel connected to the place and its character?	The 'Willyama High School Connecting with Country Engagement Report', prepared for Schools Infrastructure NSW by Joy Horton Consulting, captures the	The architectural approach incorporates the colours of Country throughout while creating spaces for students and local artists to contribute

Type of Impact	Describe the impacts on the community and how they might be experienced, either positively or negatively	Discussion
	priorities and wisdom shared across Walks on Country, community consultations, and student surveys. The impacts to the community are anticipated to be low due to the site having been used for educational purposes for decades. The redeveloped Willyama High School.	cultural works. The landscape design further embeds the concepts of Community, Country, Sky, and Water, strengthening these connections across the site. The landscape design of the site has included Connecting with Country elements within the active outdoor play areas to create a sense of place and acknowledgement. The proposed activity has been designed in accordance with Crime Prevention Through Environmental Design (CPTED) Principles and provides territorial reinforcement and access control through secure fence lines and signage clearly delineating where people should and should not be; passive surveillance with good sightlines to the public domain and interior of the site from all levels of the building; activity support through a well designed open space that provides for a range of active and passive play and learning.
Impacts on the way people get around – will there be changes associated with traffic or parking in the area?	The proposed siting of the buildings of the rebuilt Willyama High School will have improved connectivity and improved pedestrian and vehicular access. Relocation of the main pedestrian access to McGowen Lane will better accommodate the entry and exit of most students as the kiss'n'drop facility and bus zone are both located on McGowen Lane. The new proposed kiss'n'drop facility along McGowen Lane provides a formalised and managed pick-up and drop-off area that is identified by line marking and signage and separated from the bus pick-up/drop off area to assist with bus operations. Existing vehicular servicing access via Murton Street will provide a physically separated location for servicing which benefits student safety at the school campus.	The kiss and drop facility, bus bays and infrastructure to improve pedestrian and cycle connectivity to the site, as well as bicycle parking will support students and staff to adopt active and public transport.

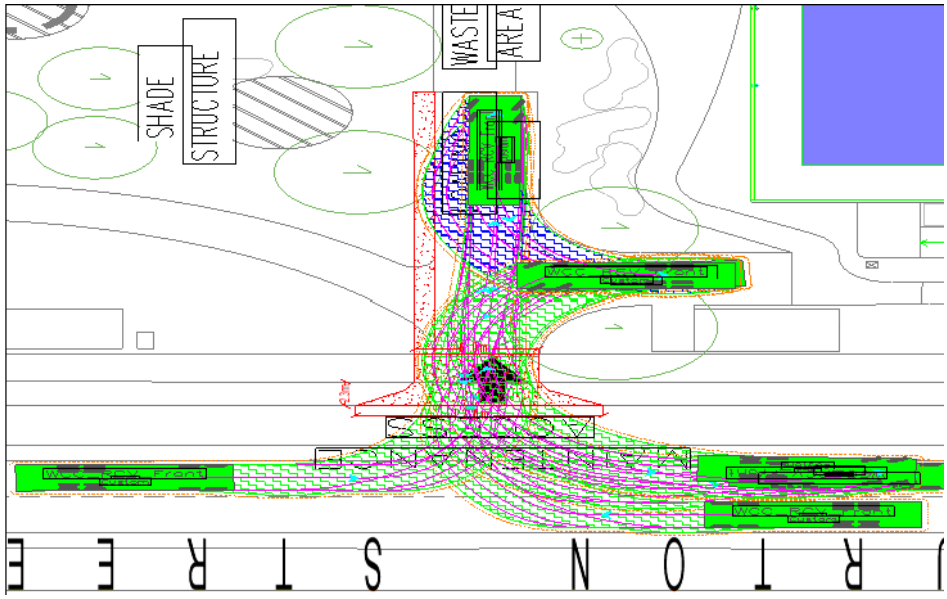
Type of Impact	Describe the impacts on the community and how they might be experienced, either positively or negatively	Discussion
Impacts on wellbeing - will there be benefits for students and the community associated with better school facilities, sporting facilities and grounds, and active transport options?	The proposed activity delivers a new school buildings and facilities replacing existing infrastructure that suffered a black mould outbreak. The design of the proposed activity maximises the open space and sports field provision by delivering three-storey buildings thus decreasing the overall building footprint on the site. The landscape plan has been carefully designed and informed by the 'Willyama High School Connecting with County Engagement Report' (April 2025) by Joy Horton Consulting.	The redevelopment of WHS will provide a modern, flexible learning environment to support current and future students in the community. The design provides good access to open space and sports facilities, along with increased planting of locally native species. The implementation of the School Travel Plan and delivery of road and pedestrian infrastructure will improve the current road and pedestrian network.

7.11 Other issues

Table 22: Other issues

Issue	Consideration
Visual Amenity and Privacy	The proposal utilises materials that are robust, hardy, tactile and responsive to the local environment. Colours have been selected to reflect the existing native trees on site and desert and the rich mining heritage of Broken Hill. The design addresses the visual amenity of the surrounding development through generous 20m setbacks on McGowen Lane to the neighbouring residential development. Setbacks ranging between 10m and 18m are proposed along Murton Street. The design also retains a large number of existing mature trees and proposes to plant trees and other landscaping to filter views to and from the site and mitigate the bulk and scale of the built form. As the site is an existing school site, the proposed activity is considered to have a low to moderate visual impact on the surrounding development.  **Figure 58: Indicative perspective cnr Murton St & McGowen Lane**

Issue	Consideration
	(Source: Woods Bagot)  **Figure 59: Indicative birdseye perspective looking southwest** **(Source: Woods Bagot)**
Overshadowing	Shadow diagrams have been prepared by Woods Bagot Architects, which indicate that the school will result in overshadowing predominately of the road corridors at the beginning and end of the day in mid-winter, with no overshadowing impacts for neighbouring residents.  **Figure 60: Shadow diagrams (Source: Woods Bagot)**
Waste Management	**Construction Waste** A Construction Waste Management Plan has been prepared by EcCell Environmental. The waste bin collection point adjacent to Murton Street will be accessible for waste collection vehicles. There are no obstructions to turning or reversing, pulling up vehicles and lifting bins. Access for waste collection vehicles will not be compromised by construction-related activities vehicles or other consequences of construction staging. All waste not being reused on-site will be removed during, or at the completion of, the construction stage. In order to manage noise levels, collection of waste from the construction site will only occur during hours approved for construction work. All vehicles entering or leaving the site must have their loads covered and prior to leaving the site, to be cleaned of dirt, sand and other materials, to avoid tracking these materials onto public roads. At the completion of the works, the work site will be left clear of waste and debris. **Operational Waste Management** An Operational Waste Management Plan has been prepared by EcCell Environmental. It is noted that presently waste is not collected in streams in

Issue	Consideration
	Broken Hill, all waste is collected together and disposed of in landfill. However, future provision for recycling has been made for the activity and factored into the waste storage area. Two waste storage scenarios have been estimated based on 240L bins and 3m^3 bins. The waste storage area - approximately 19.18 m² to 19.44 m² - is considered sufficient to support future separation of waste streams, regardless of whether large or smaller bins are used. <u>240L Bin Configuration and estimates – 19.18m^2</u> • 5 x 240L bins for general waste • 5 x 240L bins for paper cardboard waste • 11 x 240L bins for comingled waste • 5 x 240L bins for organic waste <u>3m^3 Bin Configuration and estimates– 19.44m^2</u> • 1 x 2220L for general waste • 1 x 1100L bins for paper cardboard waste • 1 x 2520L bins for comingled waste • 1 x 1100L bins for organic waste Waste collection contractors will drive as close as possible to the Waste Storage Area, load the bins as required for servicing and replace them when emptied. **Figure 61** demonstrates waste vehicle movements entering and existing the site in a forward direction from Murton Street.  **Figure 61: Waste vehicle swept paths (Source: EcCell Environmental)** Accordingly, waste will be managed sustainably and will not give rise to unacceptable environmental impacts.
Ecologically Sustainable Development	A Sustainability Report has been prepared by Northrop. The proposed activity includes sustainability measures that achieve a 4-star Green Star rating. The design has considered the four principles of ecologically sustainable development: • <u>The precautionary principle</u> – the design has included a focus on environmental management and consideration of building maintenance to

<table>
<tr><th>Issue</th><th>Consideration</th></tr>
<tr><td></td><td>
achieve resilience of the building with regard to future use and climatic conditions. This focus will support the design to create spaces that can accommodate for future changes and avoid the risk of serious or irreversible damage to the environment.
• Inter-generational equity to ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations – the project includes zero ozone depleting refrigerants, best practice PVC and low impact paints, sealants and adhesives. Increased planting across the site will integrate the building in its environment and demonstrate a strong commitment to the preservation of environmental health, diversity and productivity of the local area.
• Conservation of biological diversity and ecological integrity – landscaping design includes the planting of endemic species, and water sensitive urban design measures to improve, conserve and support the local biological diversity and integrity.
• Improved valuation, pricing and incentive mechanisms – the project has been designed with input from the Quantity Surveyor to ensure that the project is within budget and effectively considers environmental factors in the valuation of assets and services.
Specific design measures include the following considerations:
• Compliance with the Educational Facilities Standards and Guidelines (EFSG)
• Delivery of a 4-star Green Star Buildings rating within 2 years of project completion
• Compliance with Section J of the National Construction Code
• Mixed mode ventilation strategy to minimise energy usage
• Water efficient fixtures and fittings to minimise demand for potable water
• Installation of metering to monitor, measure and report on energy related emissions
• Calculation of and tracking to enable a reduction of embodied carbon emissions associated with the project, and
• Incorporation of good passive design to ensure that the building is comfortable in summer and winter.

This activity features a design that largely eliminates the need for on-site fossil fuels, operating almost entirely on electricity. The only anticipated gas usage is for essential educational purposes within the school's science laboratories and kitchen, representing a minimal but necessary requirement for Teaching purposes.
However, the department will seek opportunities to implement a viable alternative technology for these remaining applications, with the aim of achieving NSW's Net Zero emissions goal by 2050.

<table>
<tr><th>Mitigation Measure</th><th>Timing</th></tr>
<tr><td>Green Star Building certification must be obtained demonstrating that the activity achieves a 4-star rating. Evidence of the certification must be provided to the department's Sustainability Team. (SCMM1)</td><td>Within 12 months of commencement of Operations.</td></tr>
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7.12 Cumulative Impact

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

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

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

The following types of development are 'relevant future projects':

- *other State significant development and State significant infrastructure projects*
- *projects classified as designated development and require an EIS*
- *projects that require assessment under Division 5.1 of the EP&A Act that are likely to significantly affect the environment and require an EIS*
- *projects that have been declared to be controlled actions under the EPBC Act*
- *any major greenfield and urban renewal developments that are scheduled for the area (e.g. new areas zoned for urban development).*

These types of projects are generally large in scale and could potentially contribute to or compound material impacts. They are also generally publicly notified and should therefore be known or reasonably foreseeable.

A review of the Major Projects Website and Regional Planning Panel Register did not identify any 'relevant future projects'. City of Broken Hill DA Tracker did identify a residential subdivision that has been approved under DA2022-21 on the opposite site of Murton Street in the north-western corner of the school (**Figure 7**). However, as indicated in **Figure 6**, the future dwellings will have frontage to an internal road, and Murton Street will be their rear boundary.

The primary cumulative impact associated with the works related to the potential impacts associated with the construction works. The construction phase is temporary and likely to occur for 12-24 months. The construction works will be mitigated through the measures described in **Appendix 1**.

The ongoing operation of Willyama High School will deliver an important social infrastructure to the community to cater for the local population. Accordingly, the impacts have been anticipated and are considered acceptable.

7.13 Consideration of Environmental Factors

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

The assessment provided in the sections above has been prepared to provide a detailed consideration of the factors that must be taken into account for an assessment under Division 5.1 of the EP&A Act. These factors are summarised at **Table 23** and the mitigation measures are listed in **Appendix 1**.

Table 23: Environmental Factors considered

Environmental Factor	Consideration	Mitigation Measure Reference
Any environmental impact on a community?	The proposed activity will not have a significant environmental impact on the community. However, traffic, noise and vibration, parking, air quality and visual impact may arise from the proposed activity. These impacts have been considered as part of this REF report, and where necessary mitigation measures have been included to minimise potential impact where they are unable to be avoided. Long-term, the proposed activity will have a beneficial impact for the community by redeveloping the existing high school with a modern and fit-for purpose school facility that meets sustainability measures and has been designed to be resilient to impacts from flood, bushfire and climate change.	CMM1 to CMM15 CMM17 to CMM19 OPMM1 to OPMM6 OPTMM1 OPFMM1 OPFMM2 OPMM7 SCMM1 PACMM6 PACMM7
Any transformation of a locality?	The proposed activity for the redevelopment of Willyama High School will provide essential social infrastructure for the local community. The proposed activity will have a positive impact on the locality. Once operational, the educational establishment will restore much-needed infrastructure for the community and restore equitable access to local students to their local high school.	CEMM2 OPMM2 OPMM5
Any environmental impact on the ecosystems of the locality?	The proposed activity will not result in significant impacts on the ecosystem of the locality. The proposal is unlikely to affect any threatened species, populations or ecological communities. Mitigation measures have been identified to minimise any indirect or potential impacts arising from sediment, dust, groundwater and saline and sodic soils. The proposed tree removal required for the proposed activity includes limited loss of native vegetation. The proposed tree removal includes the loss of two River Red Gums. Replacement planting will result in a net benefit of canopy coverage across the site.	CEMM2 OPMM2 OPMM5 SWMM1 SWMM2 SWMM5 TMM1
Any reduction of the aesthetic, recreational, scientific or other environmental quality or value of a locality?	The proposal will not result in a reduction of the aesthetic, recreational, or scientific values of the locality. The activity is to be constructed on an existing school site. The rebuilt school will enhance the locality with a new and modern educational facility that has been designed with landscaping and open spaces that will contribute to the aesthetics of	CEMM1 CEMM2 VAMM1

Environmental Factor	Consideration	Mitigation Measure Reference
	the locality.	
Any effect on locality, place or building having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance or other special value for present or future generations?	Broken Hill City is an MNES under the EPBC Act, however, the activity will not impact the heritage significance of Broken Hill. The site is not located within a local or State heritage item nor is it located within a heritage conservation area, nor is the site listed in the Section 170 Heritage Register. During Aboriginal cultural heritage investigations, a PAD was identified in the northeastern corner of the site. The proposed activity is located wholly within the area identified as having low to nil Aboriginal cultural significance. Nevertheless, an Unexpected Finds Protocol will be prepared if any Aboriginal objects or relics were discovered during the construction phase. The proposed activity incorporates cultural narratives and principles from the CWC process into the school environment to reflect its importance and education purposes.	HMM1 HMM2 HMM3 HMM4
Any impact on the habitat of protected animals, within the meaning of the *Biodiversity Conservation Act 2016*?	The ecological assessment has confirmed that the activity will have nil to minimal impacts on the habitat of protected animals. However, landscape planting will utilise endemic, indigenous species to the area, which will enhance habitat opportunities for local fauna.	CEMM1 CEMM2 TMM1 TMM2
Any endangering of any species of animal, plant or other form of life, whether living on land, in water or in the air?	The ecological assessment has confirmed that the proposal will have a negligible impact on flora and fauna in the area. The Landscape Planting Schedule will improve on locally native species in the area and restore some of the site that has been previously cleared. The proposed tree removal required for the proposed activity includes limited loss of native vegetation. The proposed tree removal includes the loss of two River Red Gums.	CEMM1 CEMM2 TMM1 TMM2
Any long-term effects on the environment?	The overall activity will have a long-term positive effect on the local environment by providing a social infrastructure that has been designed to serve the community's current and future students.	TMM1 TMM2 VAMM1 UIMM6 OPMM1-6 OPTMM1 OPFMM1-3

Environmental Factor	Consideration	Mitigation Measure Reference
		OPMM7 SCMM1 PACMM6 PACMM7
Any degradation of the quality of the environment?	The proposal will not degrade the environment. Erosion and sediment control measures will be in place during construction as well as suitable waste management measures. Landscape planting will be provided across the site to improve the quality of the environment, utilising native endemic species.	SWMM1-SWMM8 TMM1
Any risk to the safety of the environment?	The proposal has been designed in accordance with the environmental constraints of the site with particular focus on mitigating flood and bushfire risks. A FERP has been prepared to ensure the safety of students and staff in the event of mainstream flooding. A Sodicity and Salinity Management Plan has been prepared to ensure the soil conditions will not adversely affect the activity.	CMM16 BFMM1 OPFMM1 PACMM6 PACMM7 SWMM6
Any reduction in the range of beneficial uses of the environment?	The proposed activity is situated on the existing school site and therefore will not reduce the range of beneficial uses of the environment. The proposal for an educational establishment is permissible within the R1 zone and will provide modern, flexible educational facilities that have been designed with ESD principles and site specific climate conditions in mind to support the educational needs of current and future generations.	CMM1 to CMM16
Any pollution of the environment?	Mitigation measures will be implemented during the construction phase to manage any pollution such as air, noise, vibration and water quality.	CMM1 to CMM16 SWMM1 SWMM2 SWMM4 SWMM5
Any environmental problems associated with the disposal of waste?	EcCell Environmental Management has considered the waste generated from the construction and operational phases of the activity. Broken Hill does not currently stream waste, and all waste is disposed of in landfill. Notwithstanding, the activity has been designed to support	LCMM1 LCMM2

Environmental Factor	Consideration	Mitigation Measure Reference
	future waste streaming when/if this comes online.	
Any increased demands on resources (natural or otherwise) that are, or are likely to become, in short supply?	During the construction phase, any materials will be sorted and identified for reuse on site. It is noted that Broken Hill does not stream waste, and all waste is disposed of in landfill. However, where possible, options for recycling will be sought. Rainwater tanks will be retained to reduce the impact on potable water, particularly for landscaping. Energy and water efficient fixtures and fittings are proposed throughout the activity, along with solar panels to reduce reliance on fossil fuels. It is unlikely that the proposal will result in any increased demands on resources.	CMM2 CMM6
Any cumulative environmental effects with other existing or likely future activities?	The cumulative impacts are likely to be short-term during construction. The long-term operation of the high school will be a positive environmental effect. Refer to cumulative impact discussion in **Section 7.12** of this REF.	CMM1 to CMM16
Any impact on coastal processes and coastal hazards, including those under projected climate change conditions?	Not applicable.	N/A
Applicable local strategic planning statement, regional strategic plan or district strategic plan made under Division 3.1 of the Act?	The proposed activity is generally consistent with the provisions of the Far West Regional Plan 2036, Broken Hill Local Strategic Planning Statement 2020-2040, Broken Hill Community Strategic Plan (CSP), and Broken Hill Active Transport Plan. Refer to discussion in **Section 5.4** of this REF.	OPMM1 OPMM2 OPMM3 OPMM4 OPMM5
Any other relevant environmental factors?	There are no other environmental factors that would result in an unacceptable impact to the environment.	N/A

8. Justification and Conclusion

The proposed redevelopment of Willyama High School at 300 Murton Street, Broken Hill 2880 is subject to assessment under Division 5.1 of the EP&A Act. The REF has examined and taken into account to the fullest extent possible all matters affecting, or likely to affect, the environment by reason of the proposed activity.

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

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

The activity is not likely to significantly affect threatened species, populations, ecological communities or their habitats, and therefore it is not necessary for a Species Impact Statement and/or a BDAR to be prepared.

The environmental impacts of the proposal are not likely to be significant. Therefore, it is not necessary for an EIS to be prepared and approval to be sought for the proposal from the Minister for Planning and Public Spaces under Division 5.2 of the EP&A Act.

On this basis, it is recommended that the department determine the proposed activity in accordance with Division 5.1 of the EP&A Act subject to the implementation of mitigation measures identified within this report.