

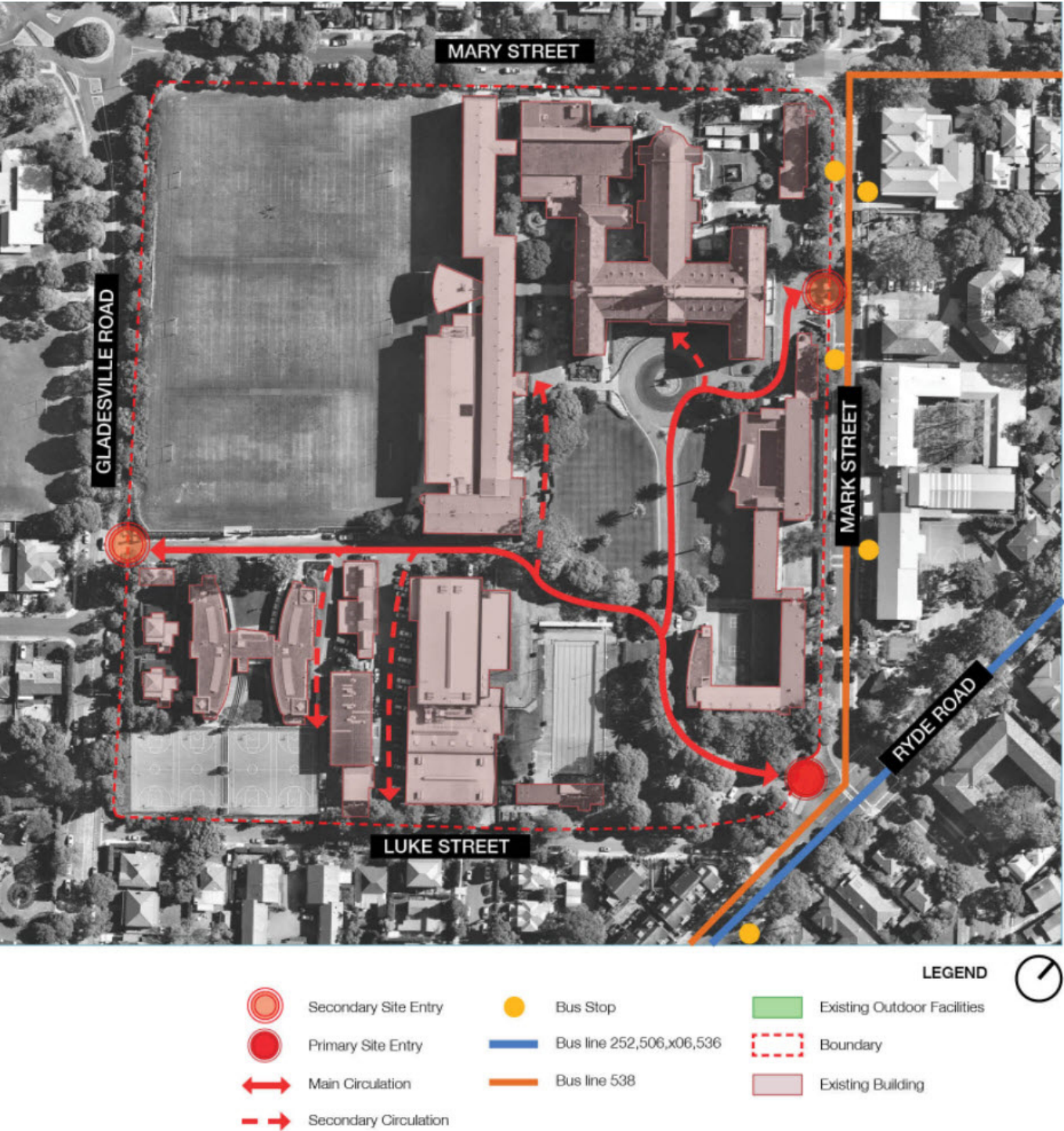


Figure 23 – Pedestrian and public transport access (Source: TKD Architects)

### 3.10 Operation

#### (SEAR 3)

#### 3.10.1 Staff and student population

The proposal does not involve any change to the following existing student and staff population of SJC:

- Students: 1,100 students (including 550 boarders)
- Staff: 213.

#### 3.10.2 Hours of operation

The PESPP and new Healy Gym will generally be used from 6am to 9.15pm (with staff occupation till 10pm), seven days a week. The facilities will be primarily used by SJC students and staff (with existing community uses only to continue, as detailed below).

#### 3.10.3 Proposed uses

SJC has prepared an Indicative Usage Profile (**Appendix D**) which compares current and forecast uses on the site. The profile shows that events in the proposed PESPP will include existing events catering to SJC students/staff only and community uses already occurring on the SJC Campus (the only material change being relocation from an existing building or place, to a new building).

The Indicative Usage Profile also shows that the ventilation louvres in the eastern façade and roof will be closed during dances, banquets or other events using amplified music or a sound/announcement system (which are likely to occur 4-8 times a year) to protect the acoustic amenity of nearby residents.

Energy efficient mechanical air conditioning will be used when the louvres are closed.

#### 3.10.4 Community uses

As shown by the Indicative Usage Profile (**Appendix D**), the following existing community uses will continue on the SJC site, moving from the Brother Emilian Hall to the New Sports Centre:

- CLDS Youth Conference (every second year in the January school holidays)
- Marist Brother Jubilee (once a year)
- St Patrick's Dundas Graduation Dinner (once a year)
- Marist School Australia Dinner (once a year)
- Mamas Charity Concert (once a year)
- Marist Sisters Woolwich Foundress Day (once a year)
- Gladesville Public School Concert (once a year)
- Missionaries of The Sacred Heart (every five years)
- Marist Youth Festival (once a year)
- Miscellaneous events by other community organisations including Giant Steps, Marist Sony Holiday Camp<sup>3</sup>, Wheelchair Basketball and Inner West Bulls Basketball Club.

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<sup>3</sup> At the start of the 2014 Christmas break, SJC welcomed 37 children with disabilities to the Marist Sony Holiday Camp (approximately 37 guest). The annual camp held at different locations offers children with disabilities a four-day holiday and provides their parents and carers with much-needed respite. Student volunteers from SJC, Marist Sisters College Woolwich, Brigidine College St Ives and Loreto Normanhurst undertook special training to become the primary carers for the guests throughout the camp. Assisting the students and helping run the camp were 12 staff members from SJC and two from Brigidine and Marist Sisters. The 2018 camp is to be held at Marist College Ashgrove.

The potential to accommodate new community uses during the school term is constrained as around 50% of SJC students board on the site and the boarders use the school facilities extensively outside of standard school hours.

### 3.11 Design

The design quality of proposal is explained in the following documents:

- Architectural Design Report by TKD Architects (**Appendix E**) which states the following in relation to built form:

*The proposed PESPP is simply arranged with the three indoor basketball courts located over a basement car park.*

*The basement of the building is located at RL 32.50, which is just below the level of the lowest existing outdoor basketball court in the south west corner of the site. The site slopes up towards the north resulting in excavation of the building at the northern end of approx. 5.5m.*

*The overall height of the building at the parapet level is approximately 14m at the southern end (Gladesville Road) and 8.5m at the northern end, due to the slope of the site.*

*Due to the constraints of the existing Year 10 Boarding House building and the required dimensions of the PESPP, the building is setback from Luke Street by approximately 1m.*

*The building bulk is modulated through the facade treatment and articulation. The scale and height of the building is visually reduced through the use different materials and vertical blades (rather than large blank walls). Materials and blades are arranged horizontally, to reduce the vertical scale of the building. The upper band of the facade is dark in colour which is visually recessive and further reduces the height impact.*

*A rooftop mechanical plant area has been sunken into the roof (between the roof trusses) to minimise the height of the plant area above the parapet level and reduce bulk and scale.*

*The PESPP is located at the corner of Gladesville Road and Luke Street. The existing sandstone boundary wall curves at the corner. The new building form responds to this by similarly curving at the corner.*

- Schedule of external materials and finishes (Section 5.4.5 and **Appendix E**)
- Renderings of the proposal by TKD Architects (AR.DA. 9001-9003, **Appendix E** copied in part **Figures 24** and **25**)
- Built form and visual impact assessment at Section 5.4 and in the Visual Impact Report by RobertsDay (**Appendix O**).

## EXISTING



## PROPOSED



**Figure 24** – Existing and proposed image: West elevation looking towards the PESPP Entry Foyer (Source: TKD Architects, AR.DA. 9001)

**EXISTING**



**PROPOSED**



**Figure 25** – Existing and proposed image: Corner of Luke Street and Gladesville Road looking towards the PESPP  
(Source: TKD Architects, AR.DA. 9003 with proposed image provided by RobertsDay)

### 3.12 Landscape design

Taylor Brammer has prepared a Preliminary Landscape Strategy and Design Statement (see **Appendix Q**) which show the following three areas of work (as illustrated on **Figure 26**):

1. Landscaping around the PESPP
2. Landscaping around the new Healy Gym (corner of Mary Street and Mark Street)
3. Screen planting around the new kiosk substation.



#### AREAS OF WORK

- 1 Landscape around new building, including pedestrian access to centre and Luke Street
- 2 Healy Gymnasium with associated landscape
- 3 New substation with screen planting

**Figure 26 – Landscape areas of work (Source: Taylor Brammer)**

More details on the three areas of landscaping follows (with tree removal addressed at Section 3.13).

#### **Landscaping around the PESPP**

As illustrated by **Figure 27**, this area of landscaping includes:

- Replacement of the informal and mixed planting to Luke Street with a defined landscape that will provide an appropriate and improved amenity to the street including new Lemon-scented myrtle street trees (mature height 8-10m) with low planting under
- Avenue planting of *Lagerstromia indica* 'Natchez', shrub planting, planters and ground covers to the internal pedestrian walk to the sports building
- Retention of the sandstone boundary wall and new fencing comprising:
  - New palisade fencing to separate students from the new vehicle driveway
  - New fence between the SJC residence on Gladesville Road and the sports building
- New *Lagerstroemia indica* 'Natchez' trees to the:
  - Year 10 dormitory courtyard
  - Luke Street end of the vehicle/pedestrian drive
- Retention of Gladesville Road street trees.

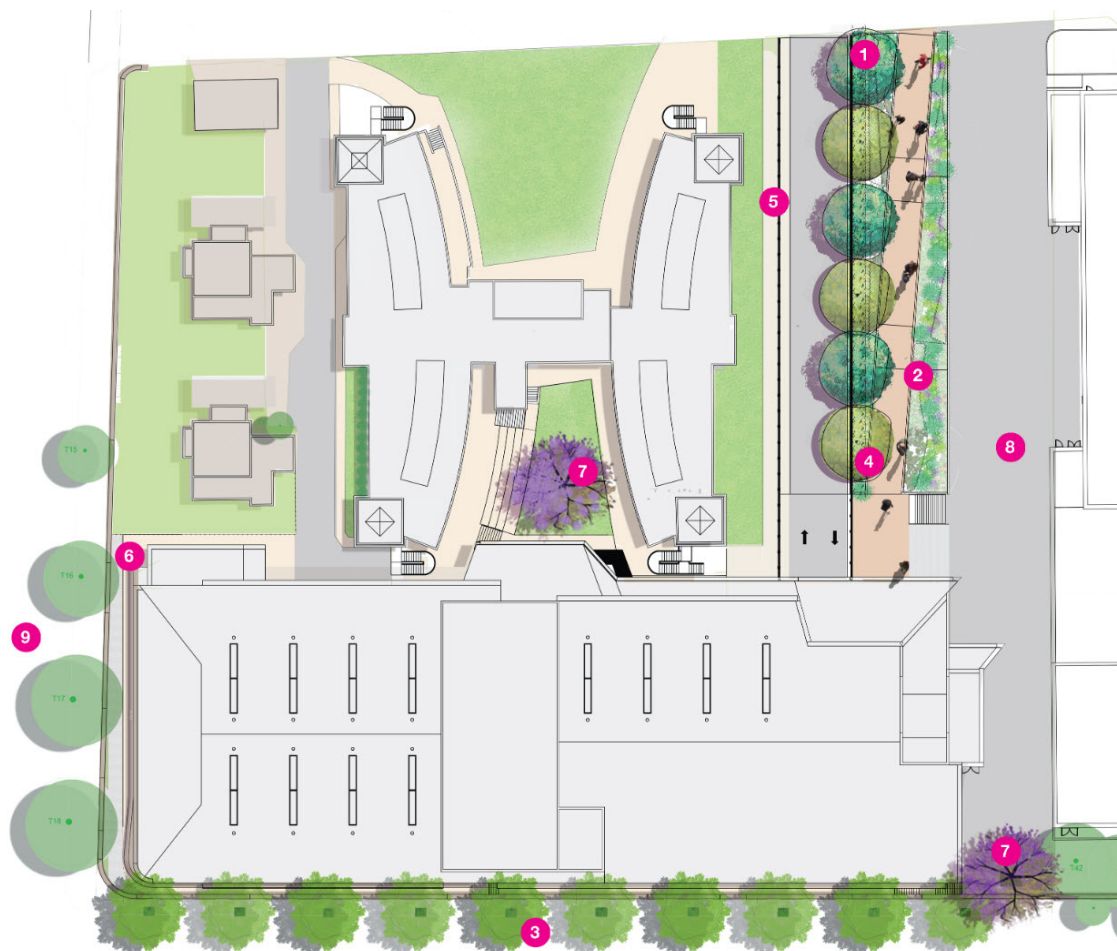
#### **Landscaping around the new Healy Gym**

As illustrated by **Figure 28**, this area of landscaping includes lawn areas around the new Healy Gym. The existing statue will be relocated.

#### **Landscaping around the new kiosk substation**

As illustrated by **Figure 29**, this area of landscaping includes:

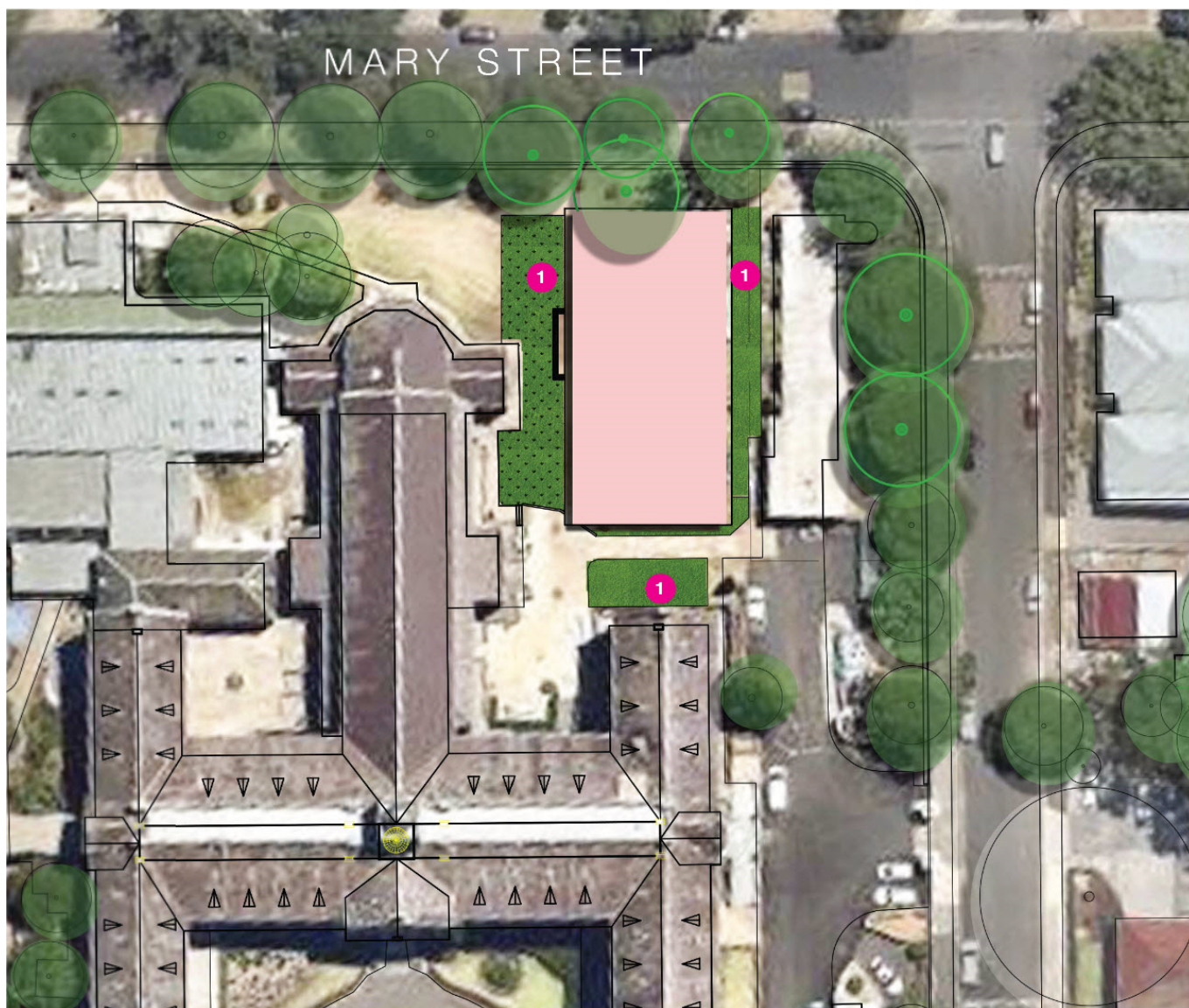
- Existing steps demolished with the existing materials to be salvaged and reused
- Gallipoli Lone Pine and Memorial Stone relocated
- 500mm high seating sandstone wall
- Relocate rubbish bins
- Existing paving to be relayed.



#### DESIGN NOTES:

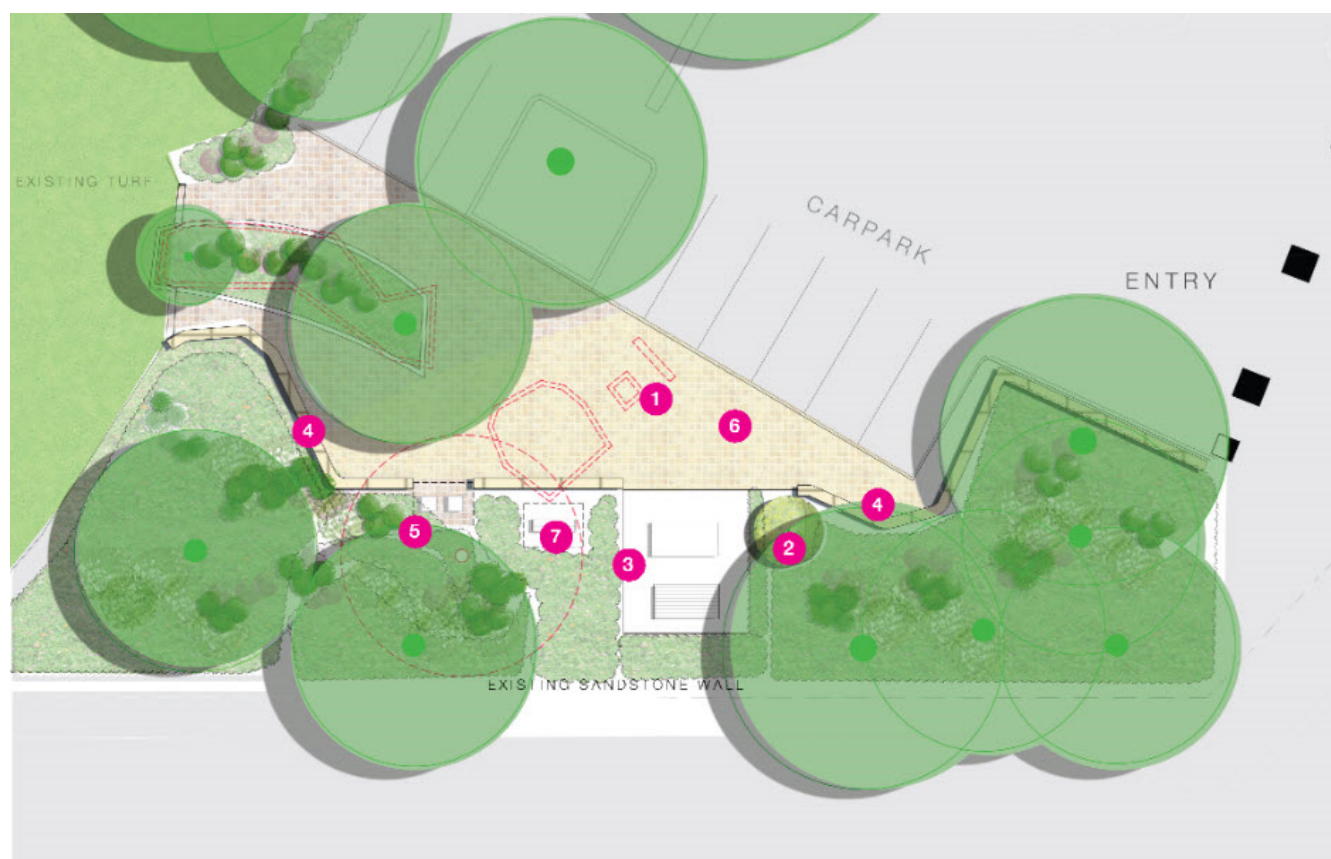
- 1 New line of *Lagerstroemia indica* 'Natchez'
- 2 Textural shrubs and groundcovers planting along pedestrian walk
- 3 New street trees Lemon-scented Myrtle with low planting under mature height 8-10m. Heritage sandstone wall retained
- 4 Brick wall planters along pedestrian walk
- 5 Palisade fence
- 6 New fence to residence and make good garden
- 7 New *Lagerstroemia indica* 'Natchez' in turf
- 8 Asphalt and paving for vehicles and pedestrians
- 9 Retain street trees along Gladesville Road

Figure 27 – Landscape work around the new PESPP (Source: Taylor Brammer)



1 Turf to periphery of gym

**Figure 28** – Landscape work around the new Healy Gym (Source: Taylor Brammer)



- 1 Existing steps demolished
- 2 Gallipoli Lone Pine and Memorial Stone relocated
- 3 New substation
- 4 500mm high seating sandstone wall
- 5 Relocate rubbish bins
- 6 Existing paving to be relayed
- 7 New main switch board



**Figure 29 – Landscape work around the new kiosk substation (Source: Taylor Brammer)**

The Preliminary Landscape Strategy (**Appendix Q**) also sets out the following landscape design statement:

**3.1 Respond to its natural environment including scenic value, local landscape setting and orientation.**

*The landscape design strengthens the existing cultural landscape of the St Joseph's college grounds by introducing new avenue planting that reinforces the pedestrian environment, assists in the comprehension and legibility of the site by building on the existing landscape patterns and integrating those patterns into the overall framework of the proposal.*

*It achieves this by the careful selection and placement of tree species including Lemon Scented Myrtle, Ivory Curl Tree, Crepe myrtle and Lagerstroemia indica 'Natchez' trees that acknowledge the existing landscape patterns of the College's grounds and the general environment around the school. By so doing these planting, the existing landscape setting and scenic values are enhanced and strengthened.*

**3.2 Include tree planting and other planting that enhances opportunities for play and learning.**

*Shade, texture, protection from the sun and an integration with the existing and proposed built form are critical to create sustainable environments that enhance play and learning opportunities. The landscape design provides opportunities through the creation of sheltered and canopied areas that acknowledge the seasonal needs of shade in summer and warm, sheltered areas in winter. Further, the provision of low sitting walls adjacent to the main walkway to the new Sports Building provides opportunities to sit and congregate for informal socialization.*

**3.4 Ensure landscaping improves the amenity within school grounds and for uses adjacent to the school.**

*The major avenue of planting to the new building replaces a substantial built form and as such increases the landscape open space of the school. Careful design of the pedestrian pathways links the new building to the existing framework and structure of the school grounds, complementing the extensive existing landscape of the school. The amenity of Luke Street, immediately adjacent to the major new building is retained and enhanced by the retention of the sandstone boundary wall and the replacement of the disparate street planting with tree planting that forms an appropriate scale and character to the street, whilst acknowledging the scale and height of the proposed built form. New tree planting using the east coast Australian native plantings of Lemon Scented Myrtle provide a mature form and shape that complements the restricted scale and width of Luke Street while mitigating the scale of the proposal.*

**3.5 Integrate landscape, planting and Water Sensitive Urban Design (WSUD) principles to enhance amenity and building performance.**

*As part of the management strategy of the school, water catchment and reuse are used to supplement existing precipitation patterns thus ensuring the landscape proposed will thrive and provide the appropriate amenity to the proposal. All garden beds are irrigated with sub surface emitters thus ensuring minimal evaporation and deep watering. Appropriate commercially available mulches, soil mixes and ground preparation assist with this strategy through matching the needs of the proposed landscape.*

**3.6 Prioritise pedestrians and avoid conflicts between vehicles and people.**

*The school is a pedestrian priority campus and as such a clear hierarchy has been established across the campus to minimize potential conflicts. A separate and generous pedestrian walkway links the entry to the building with the campus pedestrian network with the*

legibility of this network assisted with the proposed planting. A separate driveway that runs parallel to the pedestrian walkway ensures clear separation of vehicles and pedestrians around the front entry of the building and its surrounds.

### **3.7 Incorporate Crime Prevention Through Environmental Design (CPTED) principles.**

In relation to CPTED design guidelines, clear sightlines integrated into the landscape design through the careful design of trees, shrubs and groundcovers. On going maintenance strategies will ensure the shaping of trees for clear stems under canopies, the trimming of shrubs and integration with lighting design so to minimize dark areas and shadows in low light conditions such as evenings and at night.

### **3.8 Seek opportunities to enhance public facing areas with landscaping and ensure landscape and building design are integrated**

New plantings along Luke Street are proposed to mitigate the visual impact of the proposed building form through the creation of a new street tree strategy that will provide an appropriate form and scale to the streetscape of Luke Street. This strategy acknowledges the sandstone heritage wall, the institutional use of the school and the residential character of the eastern side of the street. In relation to the new electrical substation, the substation will be carefully screened with appropriate shrubs and located so as to minimize removal of existing mature vegetation.

## **4.0 CONCLUSION**

The implementation of the overall landscape strategy ensures that an integrated and considered landscape design will enhance the existing and proposed environment. Where there is an existing situation which is the result of a sometimes ad hoc approach, the proposal provides landscape rhythms that recognize and develop the established designed landscape patterns of the school and its surrounds. Through this strategy, there is an overall increase in the landscape area and amenity with a diverse range of horticultural expression that strengthens the rich planting palette of the school and its surrounds.

### **3.13 Tree removal**

An Arboricultural Impact Assessment has been prepared by Bluegum - Tree Care and Consultancy (**Appendix R**) which notes that existing trees are generally proposed to be removed in the following circumstances:

- Trees located within construction footprints
- Trees with construction proposed within the structural root zone where root loss cannot be avoided through sensitive design
- Trees with a tree protection zone loss of more than 25%, may be recommended for removal providing tree sensitive design cannot be implemented to avoid significant root and canopy loss
- Trees with low Retention Values may be recommended for removal irrespective of proposed development.

**Table 4** lists the proposed trees to be removed and states the reason for removal. In summary it shows that the proposal necessitates the removal of 31 trees/group of trees on the site comprising:

- 6 high retention value trees
- 17 moderate retention value trees
- 8 low retention value trees.

The Arboricultural Impact Assessment specifies tree protection measures for other trees on and near the site that are able to be retained (including the street trees to be retained on Gladesville Road (Trees 16, 17 and 18). A condition of consent should be imposed requiring implementation of the tree protection measures set out in the Arboricultural Assessment Report.

**Table 4 – Trees to be removed (Source: Bluegum - Tree Care and Consultancy)**

| Tree Number                                     | Retention Value | Reason for Proposed Removal                                                                                                                                                                              |
|-------------------------------------------------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1                                               | Medium          | Located within the proposed pedestrian entry ramp.                                                                                                                                                       |
| 2                                               | High            | Construction and earthworks are proposed within the Structural Root Zone. Major root loss is expected.                                                                                                   |
| 3, 4, 6                                         | Medium          | Within the proposed new driveway.                                                                                                                                                                        |
| 5 (row of 6)                                    | Low             | Within the proposed area of bulk excavation (basement level).                                                                                                                                            |
| 24                                              | Medium          |                                                                                                                                                                                                          |
| 36                                              | High            |                                                                                                                                                                                                          |
| 22, 23, 25, 27, 35, 37                          | Low             | The new building scaffold is likely to straddle the boundary wall with supports and hoarding required on the verge. Tree removal will be required to accommodate the scaffolding, supports and hoarding. |
| 19, 20, 21, 26, 28, 29, 29a, 30, 31, 32, 38, 39 | Medium          | Some of these trees (Trees 33-35) have the potential to cause damage to the heritage sandstone wall due to their potential size and interaction with wall footings.                                      |
| 33, 34                                          | High            | These trees are proposed to be replaced as outlined in the Landscape Plan.                                                                                                                               |
| 40                                              | High            | Basement level excavation and battering is proposed within the Structural Root Zone. Major root loss and tree destabilisation is likely.                                                                 |
| 41                                              | Low             | The boundary wall is to be dismantled and re-constructed to allow service installation in this location.                                                                                                 |
| 59                                              | High            | Within the proposed Healy Gym footprint.                                                                                                                                                                 |

### 3.14 Signage

The proposal includes the following *business identification sign*<sup>4</sup>, as illustrated on the proposed elevation and Site 3D View 3 (see **Appendix E**, AR.DA. 3001 and AR.DA. 9003):

- Corner Luke Street and Gladesville Road: SJC emblem (Proposed West Elevation)
- New pedestrian entry to sports building: SJC emblem and building name signage (Proposed West Elevation)

No lighting of the signage is proposed.

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<sup>4</sup> Pursuant to State Environmental Planning Policy No 64—Advertising and Signage, clause 4:

*business identification sign* means a sign:

(a) that indicates:

(i) the name of the person, and

(ii) the business carried on by the person,

at the premises or place at which the sign is displayed, and

(b) that may include the address of the premises or place and a logo or other symbol that identifies the business, but that does not include any advertising relating to a person who does not carry on business at the premises or place.

## 4.0 Consultation

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### *(SEARs Consultation)*

Prior to lodging the SSD application, SJC and its consultant team consulted the following stakeholders:

- Local residents and property owners particularly in surrounding streets (Luke Street, Rocher Street, Mary Street and Gladesville Road) including:
  - Door knocking
  - A community pop-up Gladesville Road, in front of John Ward Prestige Realty (23 June 2018)
  - Community information sessions on 27 and 30 June 2018
- SJC community (students, parents and teacher) including an information session on 28 June 2018
- Hunters Hill Council (Councillors and planning staff)
- Hunters Hill Conservation Advisory Panel
- Government Architect New South Wales (**GANSW**) (a response to the GANSW comments is set out in the Architectural Design Report, **Appendix E**).

A Consultation Report has been prepared by Elton Consulting noting the consultation activities, the area of interest to each stakeholder, the feedback received and the project response (**Appendix N**). The main themes that were raised during consultation are set out in **Table 5** with a note explaining how the proponent has responded.

**Table 5 – Key consultation themes and proponent responses (Source: Elton Consulting)**

| Theme                                                                                                                                                                       | Proponent's Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Heritage</b><br>Concern about the preservation of local heritage and potential impacts on heritage character                                                             | <ul style="list-style-type: none"> <li>• The SJC campus is an important heritage item within the Hunters Hill Heritage Conservation Area. Its buildings and enclosing walls make a significant contribution to the character and scale of streets within its immediate vicinity.</li> <li>• The site for the PESPP minimises impacts on the Hunters Hill Heritage Conservation Area. There are no individual heritage items in the immediate environs on the southern side of Gladesville Road or the eastern side of Luke Street, which comprise residences of recent construction. While these built elements generally do not contribute to the identity and history of the area, the tree-lined character of the streets will be maintained/enhanced.</li> <li>• The proximity of the PESPP to the boundary wall is able to be managed structurally and there will be no impact on its stability. Visually, the PESPP will read as a separate element and an increased setback would not appreciably change this relationship.</li> </ul> |
| <b>Bulk and Scale</b><br>The scale of the building, including height and proximity to wall, was a key concern                                                               | <ul style="list-style-type: none"> <li>• The scale of the PESPP is determined by the functional requirements of the courts and its siting has been determined by the constraints of the campus.</li> <li>• The PESPP bulk is modulated through facade treatment and articulation. The scale and height of the PESPP is visually reduced through the use of different materials and vertical blades which relieve the external walls. Materials and blades are arranged horizontally, to reduce the vertical scale of the PESPP. The upper part of the facade is proposed to be clad in sandstone. The light colour of the material is visually recessive to reduce visual impact of the PESPP.</li> <li>• The PESPP is significantly built into the ground. The basement floor is located below the existing ground levels, with an excavation depth of 5.5m at its northern end.</li> </ul>                                                                                                                                                  |
| <b>Green Spaces and Trees</b><br>These are an important feature to the local community                                                                                      | A number of trees will require removal to accommodate the new PESPP. Their loss will be mitigated through new significant landscaping both within the school campus and along Luke Street.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Setbacks and Overshadowing</b><br>Neighbours expressed concern about overshadowing on their properties                                                                   | <ul style="list-style-type: none"> <li>• The scale of the PESPP is determined by the functional requirements of the courts and its siting has been determined by the constraints of the campus.</li> <li>• The SJC campus is characterised by educational buildings located in proximity to the sandstone wall. The scale of the proposed PESPP and its siting behind the stone wall is comparable to existing school buildings around the campus.</li> <li>• Visually, the PESPP will read as a separate element and an increased setback would not appreciably change this relationship.</li> <li>• Shadow diagrams have been prepared and show that overshadowing in Luke Street would be limited to the afternoon in mid-winter. The affected residents that attended the information session were given a set of shadow diagrams.</li> </ul>                                                                                                                                                                                             |
| <b>Support for the proposed PESPP</b><br>There was widespread acceptance that the College, students, parents, spectators and all who would use the facilities would benefit | Noted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

| Theme                                                                                                  | Proponent's Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Design</b><br>Comments were made about the façade and increasing the multi-purpose use of the PESPP | <ul style="list-style-type: none"> <li>• Articulation of the Luke Street and Gladesville Road elevations was increased following the consultation period.</li> <li>• The character of Luke street has been maintained, whereby the eastern side is residential and the western side maintains the character of the College's institutional buildings. The school buildings and boundary wall of the college campus are significant elements which contribute to the present character and scale of Luke Street. While the residential building stock in Luke Street are not historic, its tree-lined character will be maintained and enhanced through the planting of new trees.</li> <li>• Visual impacts of the PESPP are to be mitigated through the treatment of its exterior, including: <ul style="list-style-type: none"> <li>– the use of face brick and sandstone materials complementary to historic and recent buildings on the campus and commensurate with the status and prominence of the building</li> <li>– modulation and articulation of facade with vertical blades and horizontal divisions, and vertically-proportioned fenestration</li> <li>– cladding the upper part of the facade in a neutral colour which is visually recessive.</li> </ul> </li> <li>• The roof of the PESPP has been designed to limit its impact when viewed from the public domain. The roof falls to the outside to ensure that the height at the perimeter is at its lowest height</li> <li>• Visual impacts of the new Healy Gym are mitigated through: <ul style="list-style-type: none"> <li>– its single-storey scale, which allows the Main Building and Chapel to remain the visually dominant elements from streetscape vantage points</li> <li>– wide eaves have been introduced to give the appearance of a 'pavilion'</li> <li>– modulation of the roof form, which minimises the visual bulk of the building from streetscape vantage points</li> <li>– the use of neutral coloured external materials, which are deferential to the sandstone exterior of the Main Building and Chapel.</li> </ul> </li> </ul> |

## 5.0 Environmental Assessment

This section of the EIS considers the environmental effects of the proposal, with reference to the Key Issues listed in the SEARs (**Appendix B**).

The Environmental Risk Assessment and Mitigation Measures at Sections 6.0 and 7.0 complement the findings of this section.

### 5.1 Statutory and strategic context – Overview (SEAR 1)

An overview assessment of compliance with relevant strategic and statutory plans follows in **Table 6** with more details following in Sections 5.2 and 5.3.

**Table 6 – Summary of consistency with strategic and statutory plans and policies**

| Strategy/ Plan                                                   | Compliance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1. Statutory and Strategic context</b>                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <i>Biodiversity Conservation Act 2016</i>                        | Section 7.9 of the NSW <i>Biodiversity Conservation Act 2016</i> ( <b>BC Act</b> ) requires all DAs for SSD to be accompanied by a Biodiversity Development Assessment Report ( <b>BDAR</b> ) unless both the Planning Agency Head and the Environment Agency Head determine that the development is not likely to have any significant impact on biodiversity values. The OEH reviewed the application of the test of significance under section 7.3 of the BC Act that was prepared by Cumberland Ecology and determine that there is no need for the SSD application to submit a BDAR as part of the application ( <b>Appendix AA</b> ). |
| SEPP (State & Regional Development) 2011                         | The proposal (with a CIV of \$38 million) is SSD for the purposes of the <i>Environmental Planning and Assessment Act, 1979</i> ( <b>EP&amp;A Act</b> ) as it comprises alterations to an educational establishment with a CIV of more than \$20 million. Pursuant to cl. 11(a), DCPs do not apply to SSD.                                                                                                                                                                                                                                                                                                                                  |
| SEPP (Educational establishments and child care facilities) 2017 | Consistent with the SEPP Education and Child Care: <ul style="list-style-type: none"> <li>The proposal is consistent with the Schedule 4 Design Quality Principles as detailed in the Architectural Design Report (<b>Appendix E</b>) and existing community uses will continue on the site (cl. 35) (Section 3.10.4 and <b>Appendix D</b>)</li> <li>As the proposal enlarges the existing facilities on the site, the SSD application must be referred to the Roads and Maritime Service (<b>RMS</b>) for comment pursuant to cl. 57.</li> </ul>                                                                                           |
| SEPP 55 (Remediation of land)                                    | The SJC site has been used as a school since its development in 1881 and is therefore considered to be of low contamination risk. In any event, the Targeted Environmental and Geotechnical Site Assessment by WSP advises that the site is suitable for the proposal and conclude that no further soil testing is required ( <b>Appendix K</b> ).                                                                                                                                                                                                                                                                                          |
| SEPP 64 (Advertising and signage)                                | The proposed business identification signs are consistent with the Schedule 1 Assessment Criteria, as detailed later at Section 5.2.5.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| SREP (Sydney Harbour Catchment) 2005                             | The site is in the “Sydney Harbour Catchment” but is not within the “Foreshores and Waterways Boundary”. The clause 12 planning principles are to be considered and where possible achieved in the preparation of EPIs, DCPs, environmental studies and master plans. The planning principles are not matters for consideration in the assessment of and granting consent to DAs and are not relevant to the proposal.                                                                                                                                                                                                                      |
| HHLEP 2012                                                       | The project is permissible on the SJC site (which is in the Zone SP2). There are no height or FSR standards. The site is a local heritage item.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>2. Policies</b>                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| NSW State Priorities                                             | Consistent with relevant State Priorities: <ul style="list-style-type: none"> <li>The proposal will create 75-100 construction jobs</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

| Strategy/ Plan                                                                                                  | Compliance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                 | <ul style="list-style-type: none"> <li>The proposal will improve educational facilities at SJC</li> <li>The proposal includes a Preliminary Waste Management Plan and ESD Strategy that include measures to promote recycling and reduce waste</li> <li>The proposal improves recreational facilities on the site (comprising facilities accommodating active sporting activities and PDHPE education), encouraging students to exercise and reducing overweight and obesity rates.</li> </ul>                                                                                                                                                                                                                                                                                               |
| SEPP 64 – Advertising and signage                                                                               | The proposed SJC signage is consistent with the Schedule 1 Assessment Criteria (see Section 5.2.5).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <i>A Metropolis of Three Cities - The Greater Sydney Region Plan</i> (which replaced A Plan for Growing Sydney) | <i>A Metropolis of Three Cities</i> , published by the Greater Sydney Commission in March 2018, outlines the strategic vision for Sydney, dividing the region into Eastern Harbour City, Central River City and the Western Parkland City. SJC is located in the Eastern Harbour City, which is focussed on leveraging its strong financial, professional, health and education sectors. Ten directions are stated for delivering and monitoring the plan, supported by 40 objectives. The proposal is consistent with a number of these directions, as outlined later.                                                                                                                                                                                                                      |
| Future Transport 2056 Strategy                                                                                  | <ul style="list-style-type: none"> <li>The proposal is consistent with these Strategies as there will be no increase in private car usage or demand for public transport as there is no change to the student or staff population, number of boarders, students participating in night study or the uses accommodated on the site.</li> <li>As 50% of the student population are boarders, walking is an important form of transport for SJC students, consistent with this policy. Furthermore, pedestrians are given priority on the SJC campus.</li> <li>Bicycle parking racks are to be provided across the SJC site with bicycle parking for 12 bicycles (on six racks) proposed between BR Emilian Hall and the proposed PESPP (see proposed Ground Floor Plan AR.DA. 2102)</li> </ul> |
| Sydney's Cycling Future 2013                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Sydney's Cycling Future 2013                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Sydney's Bus Future 2013                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| NSW Planning Guidelines for Walking and Cycling                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Crime Prevention Through Environmental Design (CPTED)                                                           | CPTED Principles has been addressed in the design, as detailed at Section 5.4.4.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Healthy Urban Development Checklist, NSW Health                                                                 | The proposal improves recreational facilities on the site (comprising facilities accommodating active sporting activities and PDHPE education), encouraging students and staff to exercise and reducing overweight and obesity rates.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Better Placed – an integrated design policy for the built environment of NSW                                    | TKD Architects have achieved good design that is useable, user-friendly, enjoyable and attractive, which will continue to provide value and benefits to people, the place and the natural environment over extended periods. In doing this, the proposal brings benefits socially, environmentally and economically. The GANSW was consulted and their comments have been addressed (see TKD Architects, Architectural Design Report, <b>Appendix E</b> ).                                                                                                                                                                                                                                                                                                                                   |
| North District Plan                                                                                             | <p>In March 2018, the Greater Sydney Commission published the North District Plan. The District Plan establishes the 20-year vision for the North District and sets key priority actions. The District Plan sets a number of 'Planning Priorities' that are linked to the Greater Sydney Region Plan. The proposal is consistent with a number of these priorities, as follows:</p> <ul style="list-style-type: none"> <li>Infrastructure and collaboration: The proposal improves education facilities on the SJC site, with no change in the student or staff population, number of boarders, students participating in night study or the uses accommodated on the site, minimising impacts on local infrastructure such as</li> </ul>                                                    |

| Strategy/ Plan                                              | Compliance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                             | <p>roads and public transport.</p> <ul style="list-style-type: none"> <li>• <b>Liveability:</b> The proposal has been sited and designed to retain the heritage significance of the SJC site and its context and to minimise impacts on the residential amenity of nearby residents. Existing community uses on the SJC will be retained. Consistent with the Plan's Liveability Actions, SJC has adopted a Reconciliation Action Plan which reflects its commitment to support, increase mutual respect and work closely with Aboriginal and Torres Strait Islander peoples and communities (<b>Appendix V</b>).</li> <li>• <b>Productivity:</b> The proposal improves and provides investment in the SJC education precinct.</li> <li>• <b>Sustainability:</b> The proposal targets an informal Green Star rating of 4-Stars which is considered 'Best Practice equivalency outcome, which will be achieved through the use of solar power, water recycling and other sustainability measures.</li> </ul> |
| HHDCP 2013                                                  | Pursuant to cl. 11(a) of SEPP (State & Regional Development) 2011, DCPs do not apply to SSD applications. Notwithstanding, the relevant provisions of HHDCP 2013 are addressed at Section 5.3.5 and in the relevant specialist consultant reports.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| HH Section 94A Developer's Contribution Plan 2014 (CP 2014) | CP 2014 authorises the consent authority to grant consent to development subject to a condition requiring the applicant to pay to a s. 94A levy (now s. 7.12). CP 2014, at Section 7, lists exemptions that will be considered by Council including " <i>development by not-for-profit charity (as defined by ATO), application will be assessed on an individual basis</i> ". As SJC is a registered not-for-profit charity (see <b>Appendix Z</b> ), Council has granted past exemptions to SJC. Consistent with this past procedure, SJC seeks an exemption for the proposal.                                                                                                                                                                                                                                                                                                                                                                                                                            |

## 5.2 Statutory context

### (SEAR 1)

**Table 6** above provided an overview of the statutory plans listed in the SEARs with more details provided below on the most relevant planning provisions.

### 5.2.1 Biodiversity Conservation Act 2016

#### (SEAR 8)

Section 7.9 of the BC Act requires all DAs for SSD to be accompanied by a BDAR unless both the Planning Agency Head and the Environment Agency Head determine that the development is not likely to have any significant impact on biodiversity values.

Biodiversity values are defined under the BC Act and the *Biodiversity Conservation Regulation 2017 (BC Regulation)* and include:

- Vegetation integrity—being the degree to which the composition, structure and function of vegetation at a particular site and the surrounding landscape has been altered from a near natural state
- Habitat suitability—being the degree to which the habitat needs of threatened species are present at a particular site
- Threatened species abundance—being the occurrence and abundance of threatened species or threatened ecological communities, or their habitat, at a particular site
- Vegetation abundance—being the occurrence and abundance of vegetation at a particular site
- Habitat connectivity—being the degree to which a particular site connects different areas of habitat of threatened species to facilitate the movement of those species across their range
- Threatened species movement—being the degree to which a particular site contributes to the movement of threatened species to maintain their lifecycle
- Flight path integrity—being the degree to which the flight paths of protected animals over a particular site are free from interference
- Water sustainability—being the degree to which water quality, water bodies and hydrological processes sustain threatened species and threatened ecological communities at a particular site.

For a waiver to be applied, it needs to be demonstrated that these biodiversity values will not be significantly impacted. Cumberland Ecology has prepared advice on the biodiversity of the SJC site and the potential impacts of the proposal (**Appendix AA**). The advice assesses the need for a formal biodiversity assessment.

Cumberland Ecology found that the SJC site is predominantly an artificial landscape with planted garden beds and isolated trees throughout the campus. They conclude that there is little scope for the proposal to have significant impacts upon the defined biodiversity values. At most, the proposal could impact mixed native and exotic planted vegetation comprising potential, marginal habitat within the broad habitat ranges of highly mobile threatened species such as the Grey-headed Flying Fox, microchiropteran bats and the Powerful Owl.

Cumberland Ecology therefore conclude that there is limited justification for considering impacts to threatened species under the BC Act and that the preparation of a BDAR is not necessary due to the low likelihood of impacts to biodiversity. Cumberland Ecology therefore recommended that a waiver for the preparation of a BDAR be sought.

The OEH reviewed the Cumberland Ecology the test of significance under section 7.3 of the BC Act and determined that there is no need for the SSD application to submit a BDAR (**Appendix AA**).

### 5.2.2 Environmental Planning and Assessment Act, 1979

The EP&A Act establishes the assessment framework for SSD. Under s. 4.5 of the EP&A Act, the Independent Planning Commission or the Minister for Planning is the consent authority for SSD. Section 4.12 (8) requires that a SSD application is accompanied by an EIS.

### 5.2.3 SEPP (State and Regional Development) 2011

#### Exclusion of Development Control Plans (cl. 11)

Clause 11 of SEPP SRD states:

##### **11 Exclusion of application of development control plans**

*Development control plans (whether made before or after the commencement of this Policy) do not apply to:*

- (a) State significant development, or*
- (b) development for which a relevant council is the consent authority under section 89D (2) of the Act.*

Given this clause, HHDGP 2013 does not apply to the PESPP.

#### State significant development (cl. 8 and Schedule 1)

SEPP SRD, cl. 15 of Schedule 1 specifies the following as SSD:

##### **15 Educational establishments**

- (1) Development for the purpose of a new school (regardless of the capital investment value).*
- (2) Development that has a capital investment value of more than **\$20 million** for the purpose of alterations or additions to an existing school.*
- (3) Development for the purpose of a tertiary institution (within the meaning of State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017), including associated research facilities, that has a capital investment value of more than \$30 million.*

The proposal is a SSD as it comprises alterations and additions to an existing school with an estimated CIV of \$38 million, as shown in the CIV Report, by Altus Group (**Appendix A**).

### 5.2.4 SEPP Education and Child Care

SEPP Education and Child Care was published on 1 September 2017. Relevant provisions are discussed below.

#### Development applications (cl. 35(6))

Clause 35(6) of the SEPP Education and Child Care is relevant to DAs and states:

- (6) Before determining a development application for development of a kind referred to in subclause (1), (3) or (5), the consent authority must take into consideration:*
  - (a) the design quality of the development when evaluated in accordance with the design quality principles set out in Schedule 4, and*
  - (b) whether the development enables the use of school facilities (including recreational facilities) to be shared with the community.*

The Architectural Design Report by TKD Architects (**Appendix E**) explains how the proposal is consistent with the Design Guide for School and the following Schedule 4 Schools - Design Quality Principles:

- Principle 1 Context, Built Form and Landscape

- Principle 2 Sustainable, Efficient and Durable Principle 3 Accessible and Inclusive
- Principle 4 Health and Safety
- Principle 5 Amenity
- Principle 6 Whole of Life, Flexible and Adaptive
- Principle 7 Aesthetic.

The Architectural Design Report by TKD Architects also responds to the pre-lodgement comments from the GANSW.

**State significant development for the purpose of schools—application of development standards in environmental planning instruments (cl. 42)**

Clause 42 of the SEPP Education and Child Care provides that SSD may contravene development standards under another environmental planning instrument. As HHLEP 2012 does not specify height or FSR standards for the site, this SEPP clause has limited relevance.

**Traffic-generating development (cl. 57)**

As the proposal enlarges the existing facilities on the site, the SSD application must be referred to the RMS for comment pursuant to cl. 57 of the Education and Child Care SEPP which states:

**57 Traffic-generating development**

- (1) *This clause applies to development for the purpose of an educational establishment:*
  - (a) *that will result in the educational establishment being able to accommodate 50 or more additional students, and*
  - (b) *that involves:*
    - (i) *an enlargement or extension of existing premises, or*
    - (ii) *new premises,*

*on a site that has direct vehicular or pedestrian access to any road.*
- (2) *Before determining a development application for development to which this clause applies, the consent authority must:*
  - (a) *give written notice of the application to Roads and Maritime Services (RMS) within 7 days after the application is made, and*
  - (b) *take into consideration the matters referred to in subclause (3).*

....

**5.2.5 SEPP 55 - Remediation of Land**

In accordance with cl. 7 of SEPP 55, the consent authority must consider if the land is contaminated, if it is contaminated is it suitable for the proposed use and if it is not suitable, can it be remediated to a standard such that it will be made suitable for the proposed use. Site contamination is addressed at Section 5.15 and **Appendix K**.

**5.2.6 SEPP 64 – Advertising and Signage**

The aim of this policy is to ensure that signage is compatible with the desired amenity and visual character of an area, provides effective communication and is of a high quality design and finish. In accordance with cl. 13 Matters for Consideration, the consent authority cannot grant consent to a signage application unless it is satisfied the relevant provisions of the SEPP have been considered.

Two business identification signs are proposed on the PESPP (at the internal pedestrian entry and on the corner of Luke Street and Gladesville Road) and their compliance with the Schedule 1 Assessment Criteria of SEPP 64 is set out in **Table 7**.

**Table 7 – Compliance with SEPP 64, Schedule 1 Assessment Criteria**

| Assessment Criteria                  | Compliance                                                                                                                                                                                                                      |
|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Character of the area             | ✓ The proposed signs are compatible with the existing and desired future character of the area. The proposed signs are simple, well designed and provide information to the community on the SJC use carried out from the site. |
| 2. Special areas                     | ✓ The proposed signs will protect the visual quality of the site, nearby residential uses and the heritage context.                                                                                                             |
| 3. Views and vistas                  | ✓ The proposed signs do not obscure or compromise any significant views.                                                                                                                                                        |
| 4. Streetscape, setting or landscape | ✓ The scale, proportion and form of the signs is appropriate for the streetscape, providing visual interest and community information. The proposed signs will not affect any trees.                                            |
| 5. Site and building                 | ✓ The proposed signs are subservient to the scale and proportions of the proposed PESPP.                                                                                                                                        |
| 6. Associated devices and logos      | ✓ No safety devices, platforms or lighting devices have been included as part of the proposed signs.                                                                                                                            |
| 7. Illumination                      | ✓ The signage is not illuminated.                                                                                                                                                                                               |
| 8. Safety                            | ✓ The proposed sign facing Luke Street and Gladesville Road will not affect road and pedestrian safety.                                                                                                                         |

#### 5.2.7 SREP (Sydney Harbour Catchment) 2005

The SJC site is in the “Sydney Harbour Catchment” but is not within the “Foreshores and Waterways Boundary” (see SREP maps at **Appendix U**).

Clause 3(1) of SREP (Sydney Harbour Catchment) 2005 provides that the policy applies to land within the “Sydney Harbour Catchment” as shown edged heavy black on the Sydney Harbour Catchment Map. The Sydney Harbour Catchment includes the entire Hunter’s Hill local government area.

Part 2 of the policy sets planning principles for land within the Sydney Harbour Catchment. As noted at clause 12, the planning principles are to be considered and where possible achieved in the preparation of EPIs, DCPs, environmental studies and master plans. The principles are therefore directed to strategic planning by local councils (and other agencies). The planning principles are not matters for consideration in the assessment of and granting consent to development applications. Clause 12 states:

##### **12 Objective**

- (1) *The objective of this Part is to provide a set of clear planning principles for land within the Sydney Harbour Catchment.*
- (2) *These principles are to be considered and, where possible, achieved:*
  - (a) *in the preparation of environmental planning instruments and development control plans under Part 3 of the Act, and*
  - (b) *in the preparation of environmental studies and master plans for the purposes of the Act.*

As the SJC site is not within the Foreshores and Waterways Boundary, Part 3 of the Policy does not apply.

#### 5.2.8 HHLEP 2012

**Table 8** sets out the provisions in HHLEP 2012 relevant to the SJC site and shows that the proposal is consistent with the relevant clauses. It should be read in conjunction with the HHLEP 2012 maps at **Appendix Y** and the Statement of Heritage Impact at **Appendix I**.

**Table 8 – Summary of HHLEP 2012**

| HHLEP 2012                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Compliance                                                                                                                                                                                                          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>2.3 Zoning</b></p> <p><b>Zone SP2 Infrastructure (Educational Establishment)</b></p> <p><b>1 Objectives of zone</b></p> <ul style="list-style-type: none"> <li>– To provide for infrastructure and related uses.</li> <li>– To prevent development that is not compatible with or that may detract from the provision of infrastructure.</li> </ul> <p><b>2 Permitted without consent</b></p> <p>Nil</p> <p><b>3 Permitted with consent</b></p> <p>Food and drink premises; Roads; <b>The purpose shown on the Land Zoning Map</b>, including any development that is ordinarily incidental or ancillary to development for that purpose</p> <p><b>4 Prohibited</b></p> <p>Any development not specified in item 2 or 3</p> <p>See LZN_002, <b>Appendix U</b></p>                                                                              | <p>✓</p> <p>Alterations and additions to an educational establishment are permitted with consent.</p>                                                                                                               |
| <p><b>5.10 Heritage</b></p> <p>Consent is required for development affecting a heritage item.</p> <p>Pursuant to HHLEP 2012, the following heritage listings are relevant to the SJC site:</p> <ul style="list-style-type: none"> <li>• <b>Heritage item:</b> Schedule 5 lists St Joseph's College, including stone walls and gates, Mary Street, corner Mark and Luke Streets, Lots 1 and 2, DP 527024, Local (I242)</li> <li>• <b>Conservation area:</b> Hunters Hill Conservation Area No 1—The Peninsula (C1)</li> <li>• <b>Heritage items in the vicinity:</b> There are no heritage items in the vicinity of the PESPP.</li> </ul> <p>Specific reference is made in the heritage listing to stone walls and gates, but the entire site is listed and mapped as a heritage item.</p> <p>See HER_002 (and adjoining maps), <b>Appendix U</b></p> | <p>✓</p> <p>The Statement of Heritage Impact addresses the heritage provisions in HHLEP 2012. Archaeology and Aboriginal Heritage Assessments have also been prepared (see Section 5.13 and <b>Appendix I</b>).</p> |
| <p><b>5.9 Preservation of trees or vegetation</b></p> <p>A person must not ringbark, cut down, top, lop, remove, injure or wilfully destroy any tree or other vegetation to which any such DCP applies without consent from Council.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <p>✓</p> <p>Consent is sought for the removal (and replacement) of existing trees.</p>                                                                                                                              |
| <p><b>6.1 Acid Sulfate soils</b></p> <p>Class 5</p> <p>See ASS_002, <b>Appendix U</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <p><b>Able to comply</b></p>                                                                                                                                                                                        |
| <p><b>6.2 Earthworks</b></p> <p>Consent is required for earthworks and associated groundwater dewatering.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <p>✓</p> <p>Consent is sought for earthworks.</p>                                                                                                                                                                   |

### 5.3 Policies

#### (SEAR 2)

**Table 6** above provided an overview of the policies listed in the SEARs with more details provided below on the most relevant policies and plans.

#### 5.3.1 NSW State Priorities

The NSW government has set 30 State Priorities aimed at growing the economy, delivering infrastructure, and improving health, education and other services across NSW. Of these, Premier Berejiklian has nominated 12 personal priorities. **Table 9** demonstrates how the proposal implements the relevant Premier and State Priorities.

**Table 9 – State priorities**

| Priority                                                                                                                                                                                      | Consistency                                                                                                                                                                                                       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Premier's Priorities</b>                                                                                                                                                                   |                                                                                                                                                                                                                   |
| • <b>Creating jobs</b> - 150,000 new jobs by 2019                                                                                                                                             | ✓ The proposal will create 75-100 construction jobs.                                                                                                                                                              |
| • <b>Delivering Infrastructure</b> - Over the next 15 years, NSW will require infrastructure to support 40% more train trips, 30% more car trips and 31% more households                      | ✓ The proposal improves educational infrastructure.                                                                                                                                                               |
| • <b>Improving education results</b> - Increasing the proportion of NSW students in the top two NAPLAN bands by 8 per cent                                                                    | ✓ The proposal will improve educational facilities and outcomes at SJC.                                                                                                                                           |
| • <b>Keeping our environment clean</b> - Committing to a 40 per cent reduction in the current volume of litter by the year 2020.                                                              | ✓ The proposal includes an Operational Waste Management Plan and ESD Strategy ( <b>Appendices G and M</b> ) that include measures to promote recycling and reduce waste.                                          |
| • <b>Tackling childhood obesity</b> - A 5% reduction in overweight and obesity rates of children over 10 years. This will result in at least 62,000 fewer children being overweight or obese. | ✓ The proposal improves recreational facilities on the site (comprising facilities accommodating active sporting activities and PDHPE), encouraging students and staff to exercise and reducing rates of obesity. |
| <b>State Priorities</b>                                                                                                                                                                       |                                                                                                                                                                                                                   |
| • <b>Accelerating major project assessment</b> - Halve the time taken to assess planning applications for State Significant Developments                                                      | Noted                                                                                                                                                                                                             |

### 5.3.2 GREATER SYDNEY REGION PLAN - A Metropolis of Three Cities

In March 2018, the Greater Sydney Commission released *GREATER SYDNEY REGION PLAN A Metropolis of Three Cities* which is a vision to create three, integrated and connected cities that will rebalance Greater Sydney; placing housing, jobs, infrastructure and services within easier reach of more residents, no matter where they live.

The *GREATER SYDNEY REGION PLAN* sets ten directions for the three cities being Western Parkland City, Central River City (which includes Greater Parramatta) and the Eastern Harbour City (noting that the SJC site is in the Eastern Harbour City). The following directions and objectives are relevant to this proposal:

#### **A city supported by infrastructure**

- The proposal will improve education infrastructure on the SJC site and the site is able to be serviced by key utilities.

#### **A collaborative city**

- In designing the proposal, SJC consulted Hunters Hill Council, the GANSW and the local community.

#### **A city for people**

- Existing community access to facilities on SJC will be maintained.

#### **Housing the city**

- N/A.

#### **A city of great places**

- The proposal has been designed to protect the heritage significance of the SJC site and its context.

#### **A well connected city**

- N/A.

#### **Jobs and skills for the city**

- The proposal does not increase jobs on the site but will create 75-100 construction jobs.

#### **A city in its landscape**

- Existing trees on the site are retained where possible and trees to be removed will be replaced and new landscaping is proposed to contribute to the landscape character of the area.

#### **An efficient city/A resilient city**

- The PESPP targets an informal Green Star rating of 4-Stars which is considered 'Best Practice' equivalency outcome.

### 5.3.3 Future Transport 2056, Strategy Sydney's Cycling Future 2013, Sydney's Cycling Future 2013, Sydney's Bus Future 2013, NSW Planning Guidelines for Walking and Cycling

The proposal is consistent with these Strategies as follows:

- As the proposal does not increase the number of students or staff on the site or change the schedule of uses; the traffic and transport impacts of the proposal are negligible, as detailed in the Transport and Accessibility Assessment by Traffix (**Appendix F**)
- 50% of the SJC student population are boarders therefore:
  - Traffic generation is low when compared with non-boarding schools
  - Walking is an important form of transport for SJC students
- Approximately 750 students stay on-site until 8pm to fulfil their sporting and academic commitments, reducing peak traffic generation and transport demands
- Pedestrians are given priority on the SJC campus.
- Bicycle parking racks are to be provided across the SJC site with bicycle parking for 12 bicycles (on six racks) proposed between BR Emilian Hall and the proposed PESPP (see proposed Ground Floor Plan AR.DA. 2102)

### 5.3.4 North District Plan

The North District covers the City of Ryde, Hornsby, Hunters Hill, Ku-ring-gai, Lane Cove Mosman, North Sydney, Northern Beaches and Willoughby. It is a 20-year plan to manage growth in the context of economic, social and environmental matters to achieve the 40-year vision of Greater Sydney. It is a guide for implementing the *GREATER SYDNEY REGION PLAN, A Metropolis of Three Cities*, at a district level and is a bridge between regional and local planning.

In relation to schools, the North District Plan notes that

*Schools help to create and support inclusive and vibrant neighbourhoods. Planning for new schools, and the use of existing schools, must respond to growth and changing demand in innovative ways such as more efficient use of land, contemporary design, greater sharing of spaces and facilities, and flexible learning spaces. Safe walking and cycling links to schools encourage young people to be more active, and better connect schools with local communities. They can reduce local congestion around schools, improving safety for children and families.*

Relevant to this aim:

- The proposal responds to the changing needs of SJC, noting that the campus lacks all-weather practical teaching and sporting facilities and that the existing outdoor basketball courts are in poor condition and have no acoustic screening
- The PESPP has been sited to appropriately balance the site constraints and need for new and expanded facilities
- A contemporary design is proposed, that respects the setting of the SJC site and adjoining streets
- The proposal retains existing community use of SJC facilities (see Section 3.10.4)
- The proposal incorporates flexible learning spaces
- The SJC campus and proposal prioritise pedestrian movement, protecting the safety for children.

The North District Plan acknowledges the District's Aboriginal people stating (at p. 32) that:

*The District's Aboriginal people, their histories and connections to Country and community make a valuable and continuing contribution to the District's heritage, culture and identity.*

*Supporting Aboriginal self-determination, economic participation and contemporary cultural expression through initiatives such as the development of culturally appropriate social infrastructure, will strengthen the District's identity and cultural richness.*

*The District contains landholdings acquired under the Aboriginal Land Rights Act 1983 where Local Aboriginal Land Councils can work towards planning outcomes that will help support self-determination and economic participation.*

*As this District Plan is implemented, engagement with Aboriginal communities will be founded on self-determination and mutual respect to foster opportunities for economic participation, culturally appropriate social infrastructure and contemporary cultural expression.*

North District Liveability Action 14 also states the following which is the responsibility of Councils, other planning authorities, State agencies and State-owned corporations:

14. *Strengthen the economic self-determination of Aboriginal communities by engagement and consultation with Local Aboriginal Lands Councils to better understand and support their economic aspirations as they relate to land use planning.*

Consistent with the North District Plan, SJC has adopted a Reconciliation Action Plan which reflects its commitment to support, increase mutual respect and work closely with Aboriginal and Torres Strait Islander peoples and communities (**Appendix V**). Amongst other things, the Reconciliation Action Plan explains the SJC's Indigenous Education Program which provides scholarships to Indigenous boys. SJC presently has 40 Aboriginal and Torres Strait Islander scholars on a full bursary.

#### 5.3.5 HHDCP 2013

As noted in Section 5.2.2 above, cl. 11(a) of SEPP (State and Regional Development) provides that DCPs do not apply to SSD. Notwithstanding, an assessment of compliance with the relevant provisions in HHDCP 2013 follows in **Table 10**.

**Table 10 – Compliance with HHDCP 2013**

| DCP clause                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Compliance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Part Two - Character &amp; Heritage Of The Hunters Hill Municipality</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 2.2.3 Existing Character                                                    | (a) Natural or scenic qualities<br>(b) Streetscapes<br>(c) Residential landscapes<br>(d) Buildings and architecture                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | ✓<br>The proposal appropriately responds to the existing character of the SJC site and its context, as detailed at Section 5.4.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 2.2.4 Desired Character                                                     | (a) Aims of the instrument: clause 1.2.<br>(b) Zone objectives: clause 2.3.<br>(c) Objectives for principal development standards in relation to height and floor space ratio: respectively clauses 4.3 and 4.4.<br>(d) Conservation and management of trees and vegetation: clause 5.9.<br>(e) Development of heritage items and heritage conservation areas: clause 5.10.<br>(f) Development on river front areas: clause 6.7.<br>(g) Minimum street frontage for medium density residential development: clause 6.8.<br>(h) Landscaped area for dwelling houses and secondary dwellings: clause 6.9.                                                                                                                                                                                                                                                | ✓<br>The proposal responds to the relevant requirements as follows:<br><ul style="list-style-type: none"> <li>• It is consistent with the objectives of Zone SP2 (see <b>Table 8</b>)</li> <li>• There are no height or FSR standards</li> <li>• Trees to be removed will be replaced</li> <li>• No buildings with heritage significance are to be demolished, the SJC significant stone wall will be protected and no buildings in the vicinity of the site are heritage items (see Section 5.13).</li> </ul> The heritage provisions in HHDCP 2013 are also addressed in the Statement of Heritage Impact by TKD Architects ( <b>Appendix I</b> ). |
| 2.3 Trees & Vegetation                                                      | DAs which involve building works, and that propose to remove or affect prescribed vegetation, must provide nominated documentation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | ✓<br>The EIS includes an Arboricultural Report and a Preliminary Landscape Strategy that nominates replacement trees ( <b>Appendices Q &amp; R</b> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>2.4 Heritage Conservation</b>                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 2.4.3 General Requirements In Relation To Heritage                          | Applications for the redevelopment of a heritage item, or a property within a heritage conservation area, or a property that has no heritage status but that is located near a heritage item or a heritage conservation area, should address the following requirements:<br>(a) Values or significance of a heritage item and its setting, and heritage conservation area<br>(i) Principles of the ICOMOS (Australia) Burra Charter<br>(ii) Proper research of the heritage item<br>(iii) In relation to a heritage conservation area, proper research of the heritage conservation area<br>(b) Documents should demonstrate that the proposed development would neither destroy nor detract from qualities which make the heritage item and its setting significant, or detract from qualities which make the heritage conservation area significant. | ✓<br>The Statement of Heritage Impact ( <b>Appendix I</b> ) addresses each of these requirements.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Part Three - Residential Developments</b>                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | N/A<br>Applies to residential development only.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

| DCP clause                           |                                                                                                                                                                            | Compliance                                                                                                                                                                                                                                                                                                                                  |
|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Part Five - General Controls</b>  |                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                             |
| 5.2 Access & Mobility                | Class 9<br>DD Act and Access Standards: Access Code for Buildings applies to all Class 9 buildings<br>Hunters Hill LGA: Compliance with Access Code for Building           | ✓<br>The EIS includes an Accessibility Design Assessment that addresses these requirements ( <b>Appendix T</b> ).                                                                                                                                                                                                                           |
| 5.3 Car Parking & Vehicle Access     | Major developments and land uses that are not specified by this table: Comply with Guide to Traffic Generating Development (NSW Department of Roads and Maritime Services) | ✓<br>There is no change in the student or staff population, number of boarders, students participating in night study or the uses accommodated on the site. There are 89 existing spaces plus 55 additional spaces (+62%) giving a total on-site parking of 144 spaces, as detailed in the Traffic Assessment Report ( <b>Appendix F</b> ). |
| 5.4 Sediment & Erosion Control       | 5.4.4 Erosion Control<br>5.4.5 Building Operations<br>5.4.6 Drainage Control<br>5.4.7 Sediment Control<br>5.4.8 Control & Management Plans                                 | ✓<br>The EIS includes a Stormwater Management Plan which addresses each of these requirements ( <b>Appendix J</b> ).                                                                                                                                                                                                                        |
| 5.5 Signage & Advertising Structures | 5.5.6 Controls For Heritage Items & Heritage Conservation Area                                                                                                             | ✓<br>Very minimal signage is proposed, including a school emblem at the corner of Luke Street and Gladesville Road (see <b>Figure 31</b> ). This signage will add to the character of the conservation area by identifying the SJC site.                                                                                                    |
| 5.6 Stormwater Management            | 5.6.4 Water balance.<br>5.6.5 Stormwater pollution<br>5.6.6 Flood mitigation                                                                                               | ✓<br>The EIS includes a Stormwater Management Plan which addresses each of these requirements ( <b>Appendix J</b> ).                                                                                                                                                                                                                        |
| 5.7 Waste Management                 | A Waste Management Plan must be submitted                                                                                                                                  | ✓<br>The EIS includes Waste Management Plans (construction and operational) ( <b>Appendix M</b> ).                                                                                                                                                                                                                                          |

### 5.3.6 CP 2014

#### (SEAR 14)

CP 2014 authorises the consent authority to grant consent to development subject to a condition requiring the applicant to pay to a s. 94A levy (now s. 7.12). The Contributions Plan, at Section 7, lists exemptions that will be considered by Council including “*development by not-for profit charity (as defined by ATO), application will be assessed on an individual basis*”. As SJC is a registered not-for-profit organisation (see **Appendix Z**), Council has granted past exemptions to SJC. Consistent with this past procedure, SJC seeks an exemption for the proposal.

## 5.4 Built form and urban design

### (SEAR 4)

The Architecture Design Report by TKD Architects (**Appendix E**) addresses the built form and urban design considerations listed in SEAR 4.

An analysis of the proposed visual impact, building height, setbacks and crime prevention and materials/finishes follows.

#### 5.4.1 Visual impact

A Visual Impact Assessment Report has been prepared by RobertsDay (**Appendix O**). It considers the compatibility and harmony of the proposal built forms within the existing surroundings.

RobertsDay conclude that the visual impacts of the proposal will be LOW to MODERATE as set out in the below summary of findings and **Table 11**:

*Our findings revealed that the proposal incorporates a number of key measures designed to mitigate the potential visual impacts:*

- *A compatible built form with the surroundings in terms of height, materials and colours*
  - *Use of facade treatment, articulation and colour selection to reduce the height impact*
  - *Retaining or reinstating trees and other landscaping surrounding the site for screening*
  - *Setback from the streets*
  - *Reducing the height impact by locating the proposal in the lower point of the site*
- of the multiple viewpoints assessed, all result in impacts considered to be in the LOW to MODERATE and NEGLIGIBLE ranges as a result of the proposal.*

**Table 11 – Summary of visual impact to key viewpoints (Source: RobertsDay)**

| Viewpoints                                                  | Visual Sensitivity | Magnitude of Visual Change | Impact Level  |
|-------------------------------------------------------------|--------------------|----------------------------|---------------|
| Viewpoint 1<br>Intersection of Rocher Ave & Gladesville Rd  | Low                | Low                        | Low           |
| Viewpoint 2<br>Intersection of Gladesville Rd & Luke Street | Low                | Moderate                   | Moderate- Low |
| Viewpoint 3<br>Intersection of Luke Street & Short Street   | Low                | Negligible                 | Negligible    |
| Viewpoint 4<br>Intersection of Mary Street & Mark Street    | Low                | Low                        | Low           |

Table 4-1 : Summary of Visual Impact to Key Viewpoints

More details follow on the visual impact.

### PESPP

The PESPP be visible along Luke Street and Gladesville Road. Existing and proposed street trees in Gladesville Road and Luke Street (see **Figures 30 to 32**) will filter views to the PESPP. Facade treatment, articulation and colour selection is proposed to improve the streetscape presentation. RobertsDay conclude that the PESPP will have limited to Negligible, Low or Moderate impact on the existing landscape.

#### EXISTING



#### PROPOSED



Google Earth Coordinate:  
33°49'59.0"S 151°08'22.3"E



**Figure 30 – View 1:** Existing photograph and photomontage of the PESPP from the corner of Rocher Street and Gladesville Road: **LOW IMPACT** (Source: RobertsDay)

**EXISTING**



**PROPOSED**



Google Earth Coordinate:  
33°49'59.6"S 151°08'26.7"E



**Figure 31 – View 2:** Existing photograph and photomontage of the PESPP from Gladesville Road, near Luke Street:  
**MODERATE-LOW IMPACT** (Source: RobertsDay)

**EXISTING**



**PROPOSED**



Google Earth Coordinate:  
33°49'54.3"S 151°08'26.9"E



**Figure 32 – View 3: Existing photograph and photomontage of the PESPP from Luke Street, near Short Street:  
NEGLECTIBLE IMPACT (Source: RobertsDay)**

### Healy Gym

The new Healy Gym, proposed near the corner of Mary and Mark Streets, is one storey, has a height of 4.5m and is setback 5.8m from the Mary Street site boundary. As illustrated by **Figures 33** and **34**, the top of the new Healy Gym will be visible above the SJC perimeter stone wall. Existing street trees in Mary Street will be retained, filtering street views to the new Healy Gym.

RobertsDay conclude that the new Healy Gym will have limited to LOW impact on the existing landscape.



VIEW LOOKING NORTH WEST TOWARDS ENTRY



VIEW LOOKING SOUTH WEST TOWARDS ENTRY



VIEW LOOKING SOUTH EAST FROM MARY ST  
(IMAGE PROVIDED BY ROBERTS DAY)



VIEW LOOKING NORTH EAST FROM MARY ST

**Figure 33 – Visuals of the new Healy Gym (Source: TKD Architects, AR.DA. 2202)**

**EXISTING**



**PROPOSED**



Google Earth Coordinate:  
33°49'48.3"S 151°08'16.2"E



**Figure 34 – View 4:** Existing photograph and photomontage of the new Healy Gym from Mary Street: **LOW IMPACT**  
(Source: RobertsDay)

#### 5.4.2 Height

**Figure 35** and **Table 12** compare existing building/parapet heights on the SJC site and the height of the PESPP and new Healy Gym (see also Section 3.6 above). They show that:

- The proposed PESPP building heights of 8.6m to 14.1m is consistent with the predominate height of 12m to 15m on the site, with the Main Building rising to a height of 21m
- The new Healy Gym height of 4.5m (one storey) is lower than most existing buildings on the site.

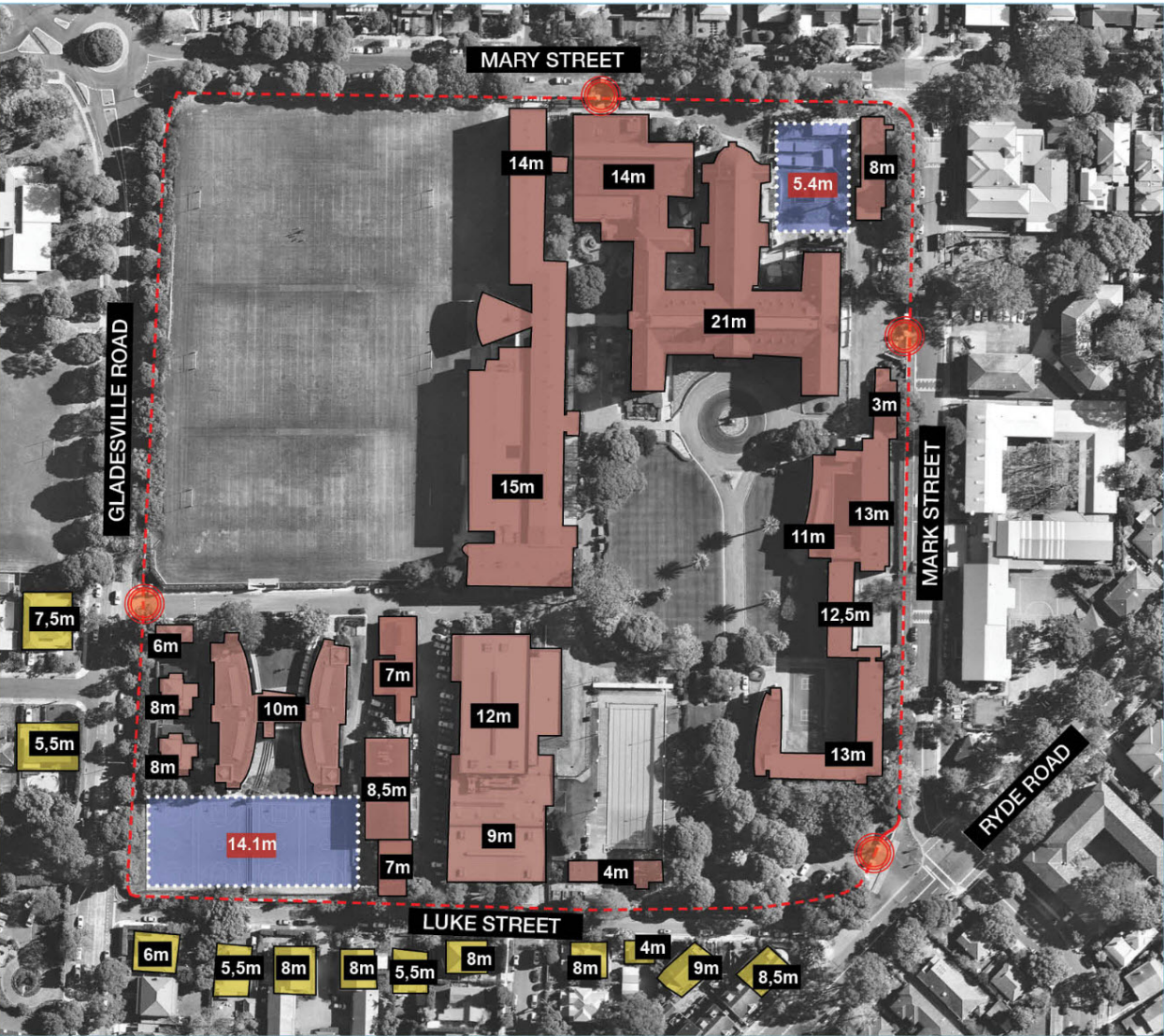
The overall height of the PESPP has been determined by the minimum 7m clearance height required over the basketball courts and minimum heights required for the car park.

An excavation depth of approximately 5.5m is proposed at the northern end of the site to minimise the overall building height. Increased excavation is not optimal as it would complicate pedestrian and vehicular connections between the PESPP and other parts of the SJC campus, increase the construction time and impacts and increase the cost of development.

**Table 12 – Comparison of existing and proposed heights**

| Building                                 | Height       |
|------------------------------------------|--------------|
| <b>Existing buildings</b>                |              |
| • Teachers residences (Gladesville Road) | 6m - 8m      |
| • Visual Arts Centre*                    | 7m           |
| • Healy Gym/Maintenance*                 | 8.5m         |
| • Workshop/storage*                      | 7m           |
| • Sports Hall                            | 9m           |
| • BR Emilian Hall                        | 12m          |
| • Central classrooms                     | 14m - 15m    |
| • Library/Admin building                 | 14m          |
| • Main Building                          | Up to 21m    |
| • Brothers Residence (Mark Street)       | 8m           |
| • Year 10 Dormitory                      | 10m          |
| • Year 11 residence wing                 | Up to 13m    |
| • Year 12 residence wing                 | Up to 13m    |
| <b>Proposed buildings</b>                |              |
| • PESPP                                  | 8.6m – 14.1m |
| • Healy Gym                              | 4.5m         |

\* Demolition proposed



LEGEND

- Entry Gates
- Boundary
- Existing Building
- Existing Neighbours
- Proposed Projects
- Height of Existing
- Height of Proposed

Figure 35 – Existing and proposed heights (Source: TKD Architects)

### 5.4.3 Setbacks

The following front setbacks are proposed:

- PESPP:
  - Luke Street 1.3m
  - Gladesville Road 3.2m - 4.1m
- Healy Gym:
  - Mary Street 5.5m.

The following factors have constrained the ability to provide greater setbacks to the PESPP:

- The limited siting opportunities (see **Figure 11** at Section 2.2)
- The constraint of the existing Year 10 Boarding House which is to the immediate west of the PESPP site
- The competition requirements for basketball which determine the minimum internal dimensional requirements for the building, including requirements for the court sizes, overruns around the courts and seated bench and scorer's area

In any event, the proposed front setbacks are considered reasonable for the following reasons:

- There is no setback control for educational facilities in HHDCP 2013
- The proposal accommodates three basketball courts, but removes four existing courts
- A distance of nearly 11m will separate the PESPP from adjoining residential property boundaries in Luke Street
- The following distances will separate the PESPP from adjoining residential properties in Gladesville Road:
  - 2 Rocher Avenue: >25m
  - The Heritage 23m
- Numerous existing SJC buildings are located close to the sandstone wall and rise 3-4 storeys above the wall (see photographs at s. 5.2 of the Architectural Design Report, **Appendix E**)
- Replacement of the informal and mixed planting to Luke Street with a defined landscape will provide a vegetated streetscape
- The bulk and scale of the PESPP is visually reduced through the use different materials and vertical blades (rather than large blank walls). Materials, blades, windows and the SJC emblem reduce the vertical scale of the building. The upper band of the facade is neutral in colour which is visually recessive and further reduces the height impact
- A rooftop mechanical plant area has been sunken into the roof (between the roof trusses) to minimise the height of the plant area above the parapet level and reduce bulk and scale
- The existing sandstone boundary wall curves at the corner of Luke Street and Gladesville Road and the building form responds to this by similarly curving at the corner
- The land use character of Luke Street will be maintained, whereby the eastern side is residential, and the western side is occupied by SJC institutional buildings. A difference in scale and setback in this context is inevitable.

#### 5.4.4 Crime prevention through environmental design

Existing buildings on the SJC campus are set within welcoming landscaped grounds and lawns. The campus is easily navigated and wayfinding is relatively straight forward.

A sandstone wall is located around the entire perimeter of the campus, which is approximately 2m high and provides a physical security barrier. There are three main entry points into the College with open metalwork gates. These are generally left open during the day and the grounds are accessible to visitors. These existing entries are to be retained.

The PESPP adopts Crime Prevention Through Environmental Design (**CPTED**) principles to create a safe and secure environment that encourages activity, vitality and viability, enabling a greater level of security. The design incorporates the four main principles of natural surveillance, access control, territorial reinforcement and space management:

- The PESPP is located within secure private grounds and protected by a sandstone wall (approximately 2m high) and gates to its entire perimeter
- There will be natural surveillance of the building from within the SJC Campus by students and staff who will be using the facility at all times when the building is open
- The College Campus is occupied at all times, incorporating a number of boarding houses. The existing Year 10 Dormitory is located adjacent to the building to the west and will provide natural surveillance of the facility
- The SJC Maintenance Department will be located within the Basement, providing surveillance of the car parking area
- Within the PESPP, all spaces will be supervised by SJC staff at all times when being used. The staff office is located at the first-floor level and located so that it can look over all sports court areas
- An external corridor space is created at ground level to the east and south of the proposed building, between the sandstone perimeter wall and building, which is difficult to view. This space will be gated off to prevent access into this area
- External lighting will be provided to illuminate external spaces and avoid dark shadows
- Clear sightlines of the building have been maximised and landscaping has been designed to not obstruct surveillance
- Ongoing maintenance strategies will ensure the shaping of trees for clear stems under canopies, the trimming of shrubs and integration with lighting design so to minimise dark areas and shadows in low light conditions
- The building will be well maintained and in regular use.

#### 5.4.5 Materials and finishes

*(SEARs Plans and Documents)*

As detailed in the Architectural Design Report and Architectural Plans which includes an External Materials and Finishes Board (**Appendix E**), the proposal has been designed with low maintenance and durable external materials that will complement the character of the SJC campus.

**Figure 36** and the Materials and Finishes Board (**Appendix E**) show the following external materials for the PESPP:

- **Face brickwork** to the lower levels of the building providing a robust and grounding material. Existing buildings on the campus feature a dominance of golden coloured face brickwork and this has been utilised for the lower levels

- **Light weight cladding** consisting of integrally coloured fibre cement and timber grained laminated panels has been selected for the upper levels providing a lighter and more expressive language appropriate to a contemporary sporting facility
- **Sandstone cladding** to a significant portion of the building's public face
- **Vertical blades and entry awning soffits** are proposed to be finished in a timber grained laminated panel, giving a warm contrast to the wall cladding elements.

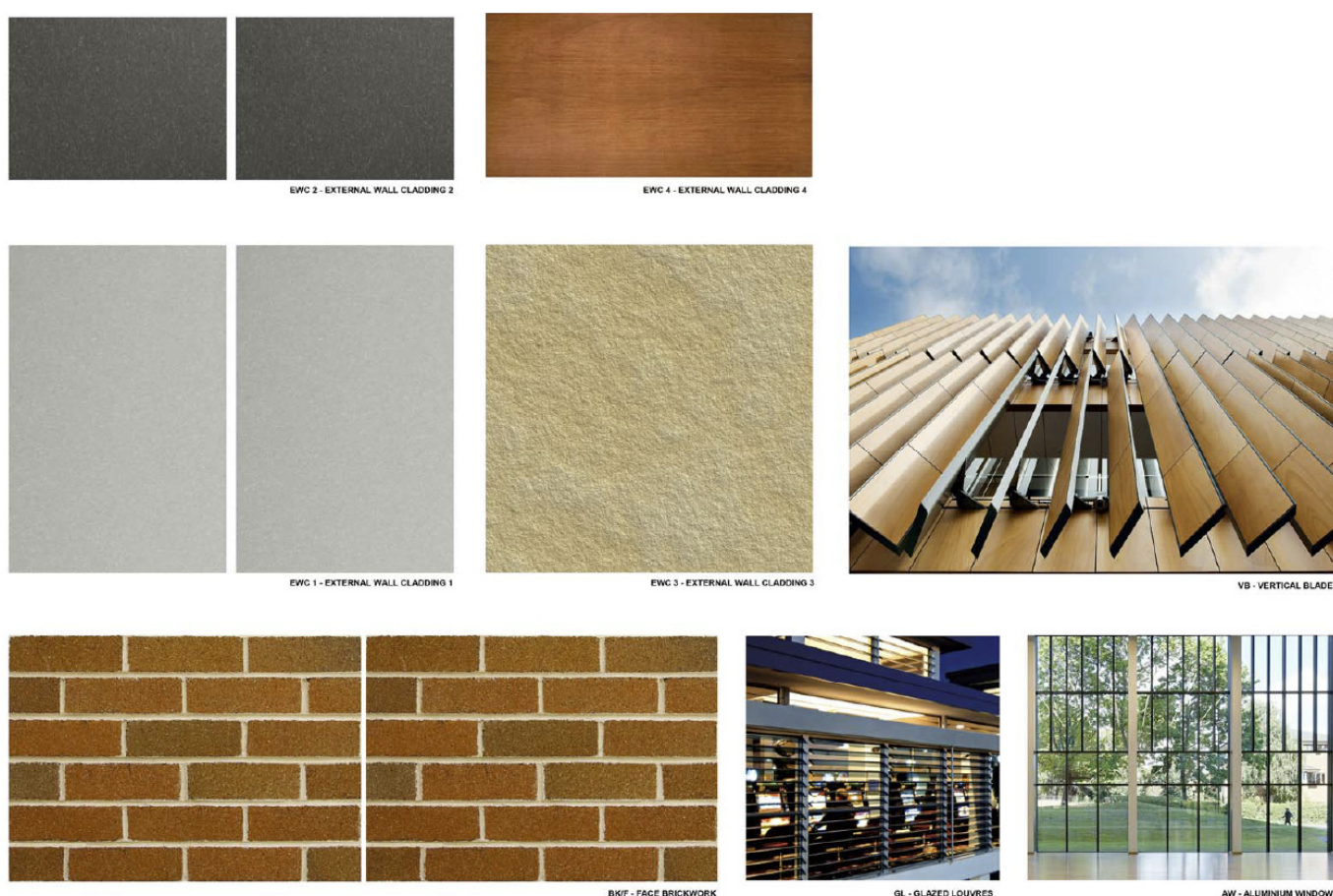


Figure 36 – Materials and finishes (Source: TKD Architects, AR.DA. 5001)

## 5.5 Overshadowing

### (SEAR 5)

The new Healy Gym will not cast any new shadows outside of the SJC site.

An assessment of the PESPP's overshadowing impact follows using the consolidated and revised solar access planning principle established by the Land and Environment Court in *The Benevolent Society v Waverley Council* [2010] NSWLEC 1082.

#### **Properties affected**

The proposed PESPP will cast shadows onto properties to the south and east, specifically:

- 30 Gladesville Road (dwelling house)
- 1 Luke Street (dwelling house)
- 3-7 Luke Street (The Pines)
- 2 Rocher Avenue (dwelling house)
- 35 Gladesville Road (The Heritage).

TKD has prepared existing and proposed shadows diagrams that compare the impact of existing development on the site and the proposed PESPP (AR.DA. 4001–4005 and AR.DA. 4011–4014, **Appendix E**).

Shadow diagrams have been prepared in plan for spring/summer/autumn and midwinter at 9.00am, 12 noon and 3.00pm (with midwinter diagrams shown at hourly intervals). Midwinter shadows in elevation have also been prepared.

The shadow diagrams show shadows cast by existing structures including fences and walls, but do not show shadows cast by existing vegetation.

A summary of the shadow impact of the PESPP follows by property.

### 30 Gladesville Road (see Figure 37)

This property is located on the corner of Luke Street and Gladesville Road. It has a garage and driveway facing Luke Street and a tall fence and hedge along both street frontages. The shadow impact of the PESPP on this dwelling is described below:

- Spring/summer/autumn: The PESPP will cast new shadows onto the side garden of this property at 3pm. There is no impact on any windows. The front and rear garden are mostly unaffected.
- Midwinter: In midwinter, between 2pm and 3pm only, the PESPP will cast new shadows onto this property (in plan and elevation). It is expected that some of the affected area is already in shade (from existing boundary vegetation and walls/fences). A useable area of the rear yard will retain more than 3 hours of mid-winter sunlight (11am to around 1.30pm).



Figure 37 – 30 Gladesville Road

### 1 Luke Street (see Figure 38)

This property is a single storey dwelling with a side driveway leading to a garage in the rear yard. The front garden has a lawn and low metal fence. The shadow impact of the PESPP on this dwelling is described below:

- Spring/summer/autumn: The PESPP will cast new shadows onto the front setback area of this property at 3pm only. There is no impact on any windows or the primary private open space (in the rear yard). The front garden and windows facing Luke Street will retain at least three hours of sunlight.
- Midwinter: In midwinter, between 2pm and 3pm, the PESPP will cast new shadows onto this property. The dwelling house elevation facing Luke Street will be overshadowed at 3pm and the front setback area will be overshadowed after 2pm. There is no impact on the primary private open space (in the rear yard) and the front garden and windows facing Luke Street will retain more than 3 hours of sunlight (10am to around 1.30pm).



Figure 38 – 1 Luke Street

### 3-7 Luke Street – The Pines (see Figure 39)

This property has a central driveway, bounded by two storey attached dwellings. Two dwellings face east onto Luke Street and the front setback area forms their private open space. The two private open space areas facing Luke Street are enclosed with tall boundary walls and planting. The shadow impact of the PESPP on these two dwellings is described below:

- Spring/summer/autumn: The PESPP will cast new shadows onto the front garden of the eastern dwellings in The Pines at 3pm. There is no impact on any windows. The front garden and windows facing Luke Street will retain at least three hours of sunlight.
- Midwinter: In midwinter, between around 1.30pm and 3pm, the PESPP will cast shadows onto the eastern dwellings in The Pines. The elevations facing Luke Street will be overshadowed at 3pm only and the front garden will be overshadowed after around 1.30pm. It is expected that most of the affected area is already in shade (from existing boundary vegetation and walls/fences). The front garden and windows facing Luke Street will retain at least 3 hours of mid-winter sunlight (10.30am to around 1.30pm).



Figure 39 – 3-7 Luke Street (The Pines)

## 2 Rocher Avenue (see Figure 40)

This property, on the north-eastern corner of Rocher Avenue and Gladesville Road, is a two storey dwelling with a rear garden pool that site below the level of Gladesville Road. A tall hedge runs along the side boundary to Gladesville Road. The shadow impact of the PESPP on this dwelling is described below:

- Spring/summer/autumn: The PESPP will not cast any shadows onto this property at these times of year.
- Midwinter: In midwinter, between 9am and around 10.30am, the PESPP will cast new shadows onto the northern elevation and rear yard (facing Gladesville Road) of 2 Rocher Avenue. This same area has solar access for around 4.5 hours between 10.30am and 3pm in winter.



Figure 40 – 2 Rocher Avenue

### 35 Gladesville Road (The Heritage) (see Figure 41)

The Heritage is a residential flat building with a front stone wall, tall vegetation, a parking area and driveway facing Gladesville Road. The shadow impact of the PESPP on The Heritage is described below:

- Spring/summer/autumn: The PESPP will not cast any shadows onto this property at these times of year.
- Midwinter: In midwinter, between 1pm and 3pm, the PESPP will cast a very small shadow onto a portion of The Heritage along its frontage to Gladesville Road. The affected area is densely planted behind the existing stone wall or occupied by parking and driveway. Given this, the affected area is mostly overshadowed already and the impact is very minor.



Figure 41 – 35 Gladesville Road, The Heritage

### Solar access planning principle and HHDCP 2013 controls

The Court's consolidated and revised solar access planning principle states:

*Where guidelines dealing with the hours of sunlight on a window or open space leave open the question what proportion of the window or open space should be in sunlight, and whether the sunlight should be measured at floor, table or a standing person's eye level, assessment of the adequacy of solar access should be undertaken with the following principles in mind, where relevant:*

Hunters Hill DCP 2013 cl. 3.5.2 - Solar access states the following control (noting the DCP is not relevant to a SSD application and that the control applies to residential development and is not applicable to an educational establishment):

- (b) *Proposed developments should maintain reasonable sunlight for adjacent properties on the winter solstice:*
  - (i) *Ensure that the principal living room of any existing adjoining dwelling will receive a minimum of 3 hours of sunshine between 9:00 am and 3:00 pm on the winter solstice.*
  - (ii) *If the principal living room of an existing adjoining dwelling currently receives less than this standard, development should not reduce current solar access.*
  - (iii) *Ensure that development will not overshadow more than one third of an existing private open space which currently has sunshine between 9:00 am and 3:00 pm on the winter solstice.*
  - (iv) *Where adjoining development relies on solar access for heating or cooling systems, existing solar access should be preserved.*
  - (v) *Demonstrate impacts of the proposed development upon adjoining buildings and any open space areas with shadow diagrams prepared for 9:00 am, 12:00 noon and 3:00 pm on the winter solstice.*

The proposal is consistent with the intent of the HHDCP 2013 solar access control, even though it does not apply, as the affected properties will retain at least 3 hours of midwinter sunshine to living rooms and primary private open spaces.

Notwithstanding this compliance, an assessment of each point in the Court's solar access planning principle follows (the Court's principle is shown in *italics*).

- *The ease with which sunlight access can be protected is inversely proportional to the density of development. At low densities, there is a reasonable expectation that a dwelling and some of its open space will retain its existing sunlight. (However, even at low densities there are sites and buildings that are highly vulnerable to being overshadowed.) At higher densities sunlight is harder to protect and the claim to retain it is not as strong.*

The affected residential properties are medium or low density (comprising a mix of dwelling houses, attached dwellings and a residential flat building). In any event, the expectation to retain full sunlight to the affected properties is reduced as the portion of the SJC site to accommodate the PESPP is not occupied by any buildings. Furthermore, the overshadowing impact of the PESPP is comparable to the existing shadow impact of Br Emilion Hall.

- *The amount of sunlight lost should be taken into account, as well as the amount of sunlight retained.*

The amount of sunlight lost is illustrated on the shadow diagrams prepared by TKD Architects (**Appendix E**). The western elevations of the 1 and 3-7 Luke Street and will not be affected by the PESPP and 2 Rocher Street will continue to receive very good solar access.

- *Overshadowing arising out of poor design is not acceptable, even if it satisfies numerical guidelines. The poor quality of a proposal's design may be demonstrated by a more sensitive design that achieves the same amenity without substantial additional cost, while reducing the impact on neighbours.*

The shadow impact of the proposed PESPP does not arise out of poor design given that:

- The site is to the north and elevated above Gladesville Road and as such some overshadowing to the south is inevitable
  - The height of the PESPP (at 8.6m to 14.1m) is comparable to the height other existing buildings on the SJC site (as explained at Section 5.4.2).
- *For a window, door or glass wall to be assessed as being in sunlight, regard should be had not only to the proportion of the glazed area in sunlight but also to the size of the glazed area itself. Strict mathematical formulae are not always an appropriate measure of solar amenity. For larger glazed areas, adequate solar amenity in the built space behind may be achieved by the sun falling on comparatively modest portions of the glazed area.*

Noted.

- *For private open space to be assessed as receiving adequate sunlight, regard should be had of the size of the open space and the amount of it receiving sunlight. Self-evidently, the smaller the open space, the greater the proportion of it requiring sunlight for it to have adequate solar amenity. A useable strip adjoining the living area in sunlight usually provides better solar amenity, depending on the size of the space. The amount of sunlight on private open space should ordinarily be measured at ground level but regard should be had to the size of the space as, in a smaller private open space, sunlight falling on seated residents may be adequate.*

The affected properties will retain at least three hours of midwinter sunshine to a useable area of private open space.

- *Overshadowing by fences, roof overhangs and changes in level should be taken into consideration. Overshadowing by vegetation should be ignored, except that vegetation may be taken into account in a qualitative way, in particular dense hedges that appear like a solid fence.*

Consistent with the Court's principle, the existing and proposed shadow studies by TKD Architects take into account shadows cast by fences/walls, roof overhangs and changes in level and ignore shadows cast by existing vegetation. If existing vegetation was taken into account, the loss of sunlight would be much less.

- *In areas undergoing change, the impact on what is likely to be built on adjoining sites should be considered as well as the existing development.*

This part of the principle is not relevant as the residential areas adjoining the SJC are unlikely to change.

#### **Solar access conclusion**

The ability to retain full sunlight to the affected properties is limited as the portion of the site to be occupied by the PESPP is not occupied by any buildings. In any event, the overshadowing impact of the proposal is reasonable and predictable and satisfies the Court's consolidated and revised solar access planning principle.

## 5.6 Acoustic impacts

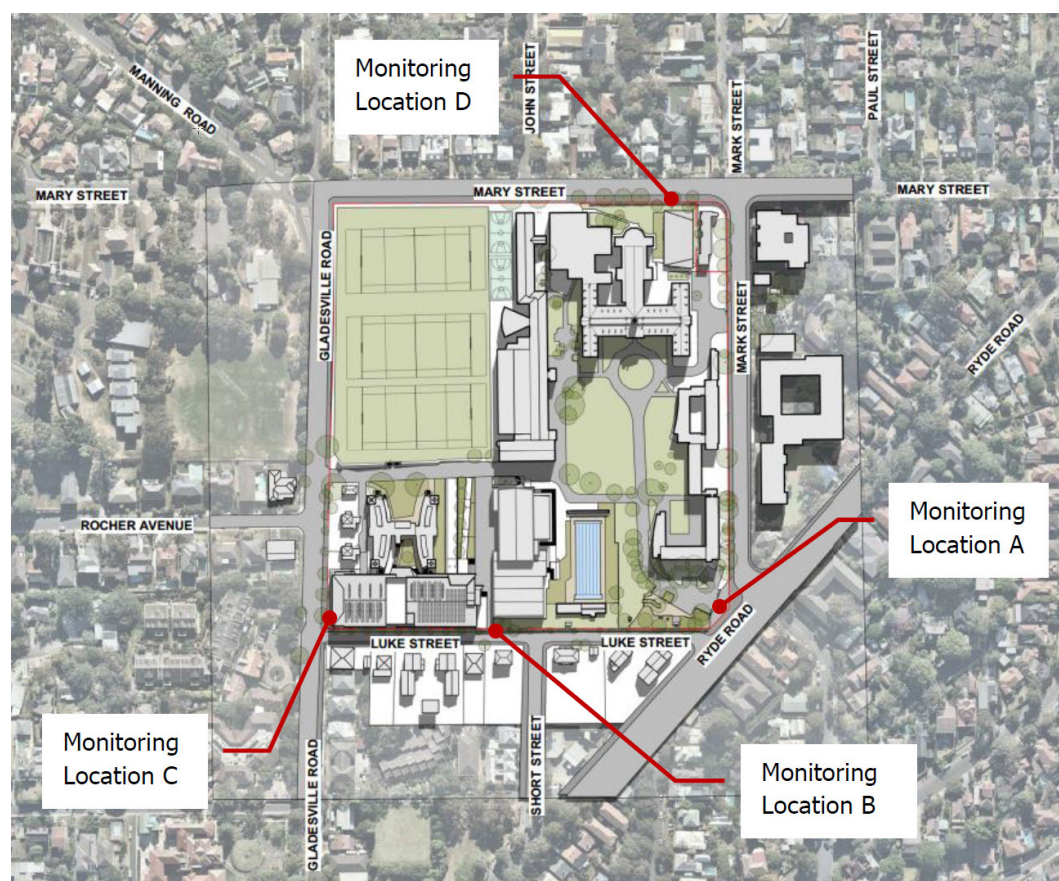
(SEARs 5 and 9)

A Construction & Operational Noise Report has been prepared by Wilkinson Murray Pty Limited (**Appendix H**). The report considers construction and operational noise impacts noting that the following residential receivers may be affected by the proposal (and noise monitoring equipment was placed in each location):

- A. Mark Street – Mix of single and multi-storey residential buildings
- B. Luke Street – Multi Storey residential buildings
- C. Gladesville Road - Multi Storey residential buildings
- D. Mary Street – Single residential buildings.

The position of the monitoring locations is shown on **Figure 42**.

A summary of the findings and recommendations of the Noise Report follow.



**Figure 42** – Noise monitoring locations (Source: Wilkinson Murray)

### 5.6.1 Construction noise and vibration

#### Noise

The Noise Report concludes that construction noise may be above construction noise management levels at nearby residences in:

- Luke Street during the demolition, excavation and construction stages of the PESPP
- Mary Street during the construction stage of the new Healy Gym.

Wilkinson Murry notes that the predicted impacts are consistent with similar construction sites where residences overlook development sites as noted below:

#### 3.8.1 Sports Hall

*Exceedances of noise management levels of up to 10 dBA at residences to the east (Luke Street) of the site may be expected during demolition / excavation period when major equipment is located on site. This magnitude of exceedance is consistent with similar sites where residences overlook development sites.*

*During the structure and fit out stages the magnitude of exceedance will reduce due to the nature of construction activities.*

*Based on these findings the adoption of reasonable and feasible noise management and mitigation will be required. These measures should be fully explored in detail when a contractor, with defined construction techniques, has been engaged on the project. However, "in-principle" mitigation measures are detailed in the following sections.*

#### 3.8.2 Healy Gym

*Compliance with Noise Management Levels can be expected during normal weekday construction hours with the exception of residences on Mary Street. Exceedance of up to 14 dBA are predicted at these residences, therefore a site barrier in the order of 2.4 metres between the Gym site and Mary Street residences is recommended to be installed between the site and residences prior to commencement of works on this site.*

Based on these findings, the adoption of reasonable and feasible noise management and mitigation will be required. These measures should be determined in detail when a contractor is appointed, as recommended by Wilkinson Murray.

#### Vibration

The Noise Report notes that the highest vibration levels will occur when construction equipment is located on the eastern side of the site near residences on Luke Street. Wilkinson Murray notes that:

*A review of the site plant and surrounding receivers indicates that the minimum distance between the vibration generating activities and surrounding buildings will be in the order of 20m. Therefore, the use of large rock breakers should be permissible however these should be reviewed on site when near the eastern boundary of the site. If alternative methods such as ripping are used that no action is required.*

*It is recommended that trial testing of vibration levels be conducted where identified equipment having the potential to exceed the human comfort criteria is proposed.*

*Structural damage vibration criteria in residential buildings are much higher than human comfort criteria and predicted vibration levels are within these criteria under most circumstances. The exception, should heavy rock breakers be used, is for areas near residences on Luke Street. Therefore, the uses of alternative excavation measures, such as rock saws on excavators are recommended. If hammers are required, test vibration monitoring is recommended to ensure that vibration levels at residences are not excessive.*

### ***Construction noise and vibration mitigation measures***

The Noise Report notes that without mitigation, noise levels from construction activities are predicted to exceed the relevant noise management levels at some surrounding receivers. Therefore, the following project-specific noise control measures are recommended to ensure that noise is reduced where feasible.

- Installation of a 2.4m plywood hoarding around the construction site
- In the case of the Healy Gym the barrier should be installed between the site and residences to the West on Mary Street
- of quietest feasible construction equipment
- Use of rock saws and ripping, where feasible, in preference to rock breakers
- Localised treatment, such as barriers, shrouds, and the like around fixed plant, such as pumps, generators, and concrete pumps
- Trial testing of vibration levels is conducted where equipment is identified as having the potential to exceed the human comfort criteria.

Noise Report also states that the following measures should be included in a Noise & Vibration Management Plan in an attempt to work towards achieving the noise management levels established at surrounding receivers:

- Plant Noise Audit – Noise emission levels of all critical items of mobile plant and equipment should be checked for compliance with noise limits appropriate to those items prior to the equipment going into regular service. To this end, testing should be established with the contractor.
- Operator Instruction – Operators should be trained in order to raise their awareness of potential noise problems and to increase their use of techniques to minimise noise emission.
- Equipment Selection – All fixed plant at the work sites should be appropriately selected, and where necessary, fitted with silencers, acoustical enclosures, and other noise attenuation measures in order to ensure that the total noise emission from each work site complies with EPA guidelines.
- Site Noise Planning – Where practical, the layout and positioning of noise-producing plant and activities on each work site should be optimised to minimise noise emission levels.

In addition to the above, Wilkinson Murray recommends an effective relations programme with the community and the preparation of a Construction Noise & Vibration Management Plan.

### ***Management of construction noise and vibration for SJC***

The Noise Report concludes that construction noise and vibration for the SJC site are likely to be similar to the levels predicted for the Luke Street and Mary Street receivers for the PESPP and new Healy Gym respectively. Measures that will be adopted to manage adverse impacts for the school are detailed in the Preliminary Construction Management Plan (**Appendix S, Section 4** “College Operations During Construction”). Measures that would be adopted to minimise noise and vibration impacts for the school (to be managed by SJC and the successful contractor) could include:

- Closing of classroom windows
- Relocating classes during busy construction periods within the SJC site
- Scheduling works during school holidays.

Potential construction impacts (including noise) for SJC staff, students and boarders is further addressed at Section 5.20 of the EIS.

### 5.6.2 Operational noise & vibration

The Noise Report considers the potential operational noise impacts generated by activities within the new buildings (including use of the facility outside of standard school hours) and mechanical plant located predominantly in the basement or in the roof plantroom of the PESPP.

#### PESPP

The Noise Report includes the following recommendations to ensure that noise levels are below accepted noise criteria during major events or late-night music events:

- The roof and eastern/Luke Street facade louvres are to be closed during major events or late night music events including dances, banquets or other events using amplified music or a sound/announcement system (which are likely to occur 4-8 times a year, as noted in the Indicative usage profile, **Appendix D**)
- Louvres on the eastern facade are to be upgrade to high performance acoustic glass or double glazing.

As noted in the ESD Report (**Appendix G**), energy efficient mechanical air conditioning will be used when the wall and roof louvres are to be closed.

The Noise Report states:

#### 4.3 Sporting Activities & Hall Events

*In terms of operational noise, the highest noise-generating area will be the level basketball courts. Maximum reverberant sound pressure levels of around 95dBA can be expected to be reached during large scale competitions (including whistles, PA, and hooter). An LAeq over 15 minutes of around 83dBA (reverberant sound pressure level) is typical during college basketball games.*

*It is noted that the design of the sports hall consist of high level glass louvres and roof ventilator along with a metal roof and composite wall panels. A preliminary assessment has been conducted based on these constructions and typically proposed events being normal daytime sports, major sports events with PA system which may occur in the evening and potential amplified music that may be associated with school dances that are proposed to operate up to midnight.*

Table 4-5 presents likely noise levels at Luke Street residences, being the most potentially affected residences. The assumptions adopted are that walls and ceilings have an acoustic rating in the order of Rw45 and the louvres are at least 10.38 mm laminated glass.

**Table 4-5 Predicted Operational Noise – Sports Hall – LAeq(15 minutes) dBA – Luke Street**

| Activity            | Internal Noise Level | Ventilation Louvres and Roof Vents |        | Noise Criteria |
|---------------------|----------------------|------------------------------------|--------|----------------|
|                     |                      | Open                               | Closed |                |
| Normal Sports       | 75                   | 52                                 | 24     | 52 Day         |
| Major Sports Events | 95                   | 73                                 | 43     | 48 Evening     |
| School Dance        | 98                   | 75                                 | 51     | 44 Early Night |

\* Derived from a 10pm to Midnight RBL of 39 dBA at Luke Street

A review of the results reveals that noise from normal school operations during day hours (which occur for the majority of the time) will meet site specific noise criteria. In the case of events

*involving amplified music or a sound/announcement system the louvres may need to be closed at all times and will result in noise levels at residences that are lower than currently experienced for this activity. When music events, such as school dances are proposed up until midnight the louvres will need to be closed. In addition it is likely that the louvres on the eastern facade will need to be upgraded to high performance acoustic glass or double glazing, noting that these events are likely [sic] to occur infrequently between 4 - 8 times a year. (plus any community use that includes the use of amplified music or a sound/announcement system).*

The above measures will be refined at the detailed design stage to ensure that compliance at surrounding receivers is achieved. In addition the control of louvres and vents will need to be included in the Hall plan of management

### **Healy Gym**

The Noise Report concludes that noise from weights training and PE classes in the new Healy Gym will be acoustically insignificant and contained by the building fabric.

### **Mechanical plant**

The Noise Report notes that the major mechanical noise sources associated with the proposal will be carpark exhaust fans and plant that will be located on the roof of the new buildings. These will consist of roof mounted condensers or cooling towers.

Noise from most major plant will be contained by the building structure. Therefore, it is the roof condensers and air handling units that may require noise mitigation to achieve the established site-specific noise criteria at surrounding receivers.

Detailed specifications of mechanical services equipment that would otherwise allow an acoustic assessment of noise emissions from the site are not available at this stage of the project as selection and design is conducted after the granting of consent.

In line with approvals for other developments, detailed assessment of operational noise emission should form a conditional requirement of the development, to be satisfied prior to the issue of the construction certificate.

To mitigate noise from mechanical plant, it is likely the some or all of the following noise control measures may need to be adopted at the design stage to meet noise objectives:

- Silencers on carpark and other fans
- Acoustic louvres
- Noise barriers
- Variable speed controls on condenser fans.

### **5.6.3 Noise conclusion**

The Noise Report concludes that management of noise from construction activities will exceed noise management levels at many surrounding receivers adjacent to the PESPP construction site. As such, management of noise from construction activities will be required to be included in the Site Construction Environmental Management Plan (and is addressed now in the Noise Report at **Appendix H** and the Preliminary Construction Management plan at **Appendix S**).

Vibration associated with on-site construction activities also has the potential to impact on residences to the east of the site should large equipment, such as rock breakers be used. Trial monitoring and selection of less vibration intensive equipment is recommended.

Proposed plant and equipment will comply with established noise criteria during operation of the PESPP with the inclusion of acoustic treatments. A further review of all plant with respect to site specific noise criteria will be carried out at detailed design stage.

Noise emissions from the PESPP will achieve the site-specific assessment criteria under normal operation. During major events, banquets/school dance events or other events using amplified music or a sound system expected to occur 4-8 times a year; the high performance acoustic glass or double glazing louvres and roof vents will be closed (as noted in the Indicative Usage Profile). Further improved glazing will be required on the eastern façade of the PESPP to ensure that acoustic amenity of nearby residences is protected.

Energy efficient mechanical air conditioning will be used when the louvres are closed (see Section 5.12 and the ESD Report by Umow Lai (**Appendix G**)).

A condition should be imposed requiring compliance with the recommendations in the Construction and Operational Noise Report by Wilkinson Murray in particular the following:

- The roof and eastern/Luke Street facade louvres are to be closed during major events or late night music events including dances, banquets or other events using amplified music or a sound/announcement system (which are likely to occur 4-8 times a year, as noted in the Indicative usage profile, **Appendix D**)
- Louvres on the eastern facade are to be upgrade to high performance acoustic glass or double glazing.

With these recommendations, the proposal will result in noise levels at the Luke Street residences that are lower than currently experienced during dances, banquets or other events using amplified music or a sound/announcement system.

### 5.7 Views

(SEAR 5)

No water, iconic or significant views will be affected by the proposal (as viewed from private properties or the public domain). Preservation of the distant/district views to the SJC Main Building were a planning consideration for the design of the PESPP. The visual impact of the proposal were addressed at Section 5.4.1.

### 5.8 Privacy

(SEAR 5)

Any potential loss of privacy for the adjoining residents to the south (The Heritage and 2 Rocher Avenue) and east (30 Gladesville Road, 1 Luke Street, 3-7 Luke Street and 9 Luke Street) will be minimised as:

- The PESPP is internally orientated
- The PESPP will be used as an *educational establishment* and will not accommodate residents or SJC boarders, limiting potential privacy impacts
- Gladesville Road and Luke Street separate the PESPP from nearby dwellings to the south and east
- All elevated trafficable areas are located internal to the SJC site and there are no balconies in the PESPP
- The PESPP has limited windows facing south and east where it has an interface with dwellings in Gladesville Road and Luke Street.

### 5.9 Wind

(SEAR 5)

Wind reports are typically required for high rise buildings. In any event, wind conditions after completion of the proposal are expected to be consistent with existing conditions.

### 5.10 External lighting

#### (SEAR 5)

External lighting will be used for safety reasons, with continuous illumination along paths and feature lighting to signify building entrances. Lighting will be located and designed so that it does not cause light spill to neighbouring residents, properties or roads and will be selected during design development to conform to Australian Standards including AS 4282:1997.

### 5.11 Transport and accessibility (construction and operation)

#### (SEAR 6)

In assessing the transport, traffic, access and parking impacts of the proposal, it is relevant to note that the proposal does not include the following:

- An increase in the existing student or staff population
- New external use of the proposed facilities (noting that existing external uses would continue in the proposed facilities).

#### 5.11.1 Car parking

There is no car parking control for schools in the HHDCP 2013 or the RMS Guide to traffic generating development a parking rate for a school development.

Notwithstanding, the proposed net increase of 55 parking spaces being 89 spaces in the basement of the PESPP less 30 spaces to be removed by the PESPP construction works.

This equates to a 62% increase in off-street car parking (89 spaces existing compared with 144 at completion of the proposal).

This increase in parking, with no increase in the site's population or intensity of use, will better accommodate the current demand for parking and provide convenient parking for staff, parents, and visitors using the PESPP. It will also free up on-street parking for residents surrounding SJC, providing a net community benefit, noting that Traffix found that 142 staff (47.8%) presently park on the SJC site while 129 staff (43.6%) presently park on the surrounding streets.

The Building Code of Australia (BCA) requires Class 9b buildings to provide one (1) accessible space for every 100 car spaces or part thereof. Consistent with this requirement, the PESPP basement parking includes two accessible parking spaces in compliance with the BCA (noting that only one accessible space is required).

The internal basement car park complies with the requirements of AS 2890.1 (2004), AS2890.2 (2002), and AS 2890.6 (2009) (subject to design refinements to be completed as part of the design development).

#### 5.11.2 Access

No changes are proposed to existing staff/student population and as such the proposal does not change the existing access arrangements which are considered to be sufficient for the existing and proposed development.

#### 5.11.3 Servicing arrangements

This proposal will not increase to the servicing demands of SJC, which are considered to be sufficient for the existing and proposed development. Both the Mark Street and Gladesville Road entries are used for service vehicles and deliveries, with service vehicle parking provided in close proximity to the existing Maintenance Building.

#### 5.11.4 Emergency Vehicle Access

This proposal does not alter the existing emergency vehicle access arrangements which are considered to be sufficient for the existing and proposed development.

Ambulance and Police typically enter via Mark Street for the Infirmary (Main Building level 1) and general business with staff through the business offices and kitchen. Gladesville Road is also used for Fire Brigade and Ambulance access to the ABC Field and existing Basketball courts. The Gladesville Road entry would continue to be available for emergency access to the PESPP.

#### 5.11.5 Bicycle Parking and End of Trip Facilities

There is no formal requirement for bicycle parking under HHDCP 2013 and there is no increase in student or staff numbers proposed, hence there is no formal requirement for bicycle parking triggered by the proposal. Nevertheless, the proposal presents an opportunity to provide improved bicycle facilities for SJC in line with State Government objectives.

A bicycle parking rate of 5-10% of the current student/staff numbers is recommended by the NSW Planning Guidelines for walking and cycling. This rate, when applied to the SJC population of 536 day students and 213 staff equates to a minimum of 38 bicycle spaces.

In response, the proposal has identified a total of 38 spaces to be installed across the SJC site in the form of secure bicycle racks, meeting the State Government guidelines for a new school. Included in this total is 12 spaces proposed between the PESPP and BR Emilian Hall.

End of trip facilities are available on the SJC site for both staff and students, further encouraging bicycle travel.

#### 5.11.6 Operational traffic

Traffic count surveys and SIDRA analysis by Traffix (**Appendix F**) found that the key intersections surrounding the SJC site being Mary Street/Mark Street, Ryde Road/Mark Street, Ryde Road/Gladesville Road and Mary Street/Gladesville Road operate satisfactorily, with acceptable delays and spare capacity under existing conditions.

Traffix concludes that as there is no increase in student enrolment or staffing requirements, the proposal will not see any changes in traffic generation. Traffix notes that SJC accommodates a large number of boarders and students that attend night study, which reduces demand on the surrounding road network during the PM peak hour.

Implementation of the recommended Green Travel Plan and Travel Access Guide (see Section 5.11.8 below) will actually reduce reliance on private vehicles and reduce traffic generated by the site.

#### 5.11.7 Existing travel mode surveys

Staff travel mode surveys by Traffix show that 89% of staff rely on private vehicles (as a driver) to travel to/from SJC, 8.6% walk and 1.8% use public transport. No teachers cycle to work.

Student travel mode surveys by Traffix show that:

- 8.5% of students drive to school as the driver in the morning and 6.2% of students drive home in the afternoon
- 28.3% of students get dropped off in the morning (42.5% of these students arrive in the same vehicle in groups) and 30.7% of students get picked up in the afternoon (46.4% of these students departing in the same vehicle in groups)
- 14.8% and 9.6% students use public transport in the morning and afternoon respectively
- 6.2% of students walk and 5.7% students walk home in the afternoon
- 9% and 7.9% students use the SJC bus services in the morning and afternoon respectively

- The remaining 33.2% in the morning and 39.8% in the afternoon are recorded to be boarders or use other means of transport.

Student travel to/from school by bicycle is insignificant.

#### 5.11.8 Green travel plan

As show by the Traffix travel mode surveys (see Section 5.11.6 above) few staff and students walk or cycle to the site and the take up of public transport usage could be improved to reduce reliance on private cars.

Traffix has made the following recommendations for the Green Travel Plan and associated Travel Access Guide to meet the needs of staff, students and parents of the school while achieving a mode shift towards public transport:

- The deployment of supervisors to monitor parent duration within the pick-up and drop off areas.
- Staggering start times for AM peak periods in line with the existing pick-up PM peak scheme. Drop off schemes are usually more difficult to manage but can be implemented as guidelines to reduce congestion during AM peak periods. Simple schemes include having older students arrive earlier during the AM peak. For families with students in different years, the drop off time for all students should be the drop off time for the eldest student.
- Provision of informative documentation (posters) along the school's boundary informing parents of the road rules for No Parking restrictions, these being
  - 2 minute duration
  - the driver must be within 3 metres of the vehicle
- Parent Re-Education through audits of school operations for pick up and drop off facilities result in the need to implement managed solutions. It is recommended that in addition to the 'Traffic Management Policy' that has already been advised above, the effective enforcement of the time periods be considered. This would require additional volunteers to monitor the facilities during peak periods.
- Implementation of a 'walking bus'. The walking bus is a concept where a group of children walk to school with one or more adults. The walking school bus allows to alleviate safety concerns of parents. These programs can change mind-sets and encourage active travel in life for both adults and children.
- Car sharing schemes can be encouraged for both students and staff. Parents should be encouraged to car-pool multiple students to alleviate congestion during pick-up and drop-off periods. Initiatives should be implemented for staff whereby off-street parking spaces are only available for vehicles transporting two (2) or more staff to work.
- Green Travel Plan can be discussed with teachers to change travel mode behaviour and Travel Access Guides can be provided to students and parents to aid with route choices. Early issue of these documents to new staff or students enable alternate modes of travel to be considered before habits are established.

Traffix recommend the preparation of a Travel Access Guide for distribution to students, staff parents and visitor setting out information on the following:

- Local bus / train facilities and network maps
- Local cycle route maps
- Information regarding a walking school bus
- Information regarding staggered pick up and drop off times; and

- Cycle initiatives and events (noting that no students were recorded as cycling to school). The Green Travel Plan and Travel Access Guide would be finalised prior to the release of an Occupation Certificate for the PESPP.

#### 5.11.9 Road safety measures in the adjacent road network

Traffix state that as there is no increase in the staff or student population of SJC, there is no requirement for a change to the adjacent road network on approach to site.

Existing traffic calming measures near the site include traffic calming measures on approach to site within Mark Street and the signposting of 'local traffic area' on the local roads of Luke Street and Short Street. School zones are provided on all roads adjacent to a SJC access, including Ryde Road, Mark Street, Mary Street.

Traffic suggest that there is an opportunity for an improvement in the designation of the on-road cycle route in the vicinity of site., noting that Mark Street between Ryde Road and Mary Street does not contain on road cycle line marking.

Council could improve awareness for the potential for cyclists using this route to drivers undertaking pick up and drop off manoeuvres within Mark Street by the addition of on street cycle markings. Traffix note that this is a matter for Council as it does not relate directly to the proposal.

#### 5.11.10 Construction traffic

The Traffic Impact Assessment by Traffix (**Appendix F**) incorporates a Preliminary Construction Traffic Management Plan (**CTMP**), noting that a detailed CTMP will be prepared prior to commencement of construction with significant input from the appointed builder. The Preliminary CTMP is set out below:

- **Truck routes**

The construction truck routes would utilise the arterial road network where possible. Traffix has completed a preliminary assessment of truck routes to the site (see Traffix Appendix E) which shows that a 19m articulated vehicle is able to enter and exit the site in a forward direction. To facilitate these movements, two (2) on-street parking spaces on the southern side of Gladesville Road, west of its intersection of Ryde Road would be required to be temporarily removed.

Truck routes would be provided to all drivers prior to attending the site and all trucks serving the site would use the proposed route only. The proposed truck routes are recommended so that all vehicles could access the site in a forward direction and likewise the vehicle could also exit the site in a forward direction. The route is therefore recommended to ensure that there are no reverse manoeuvres on the public roadway.

In addition, it is recommended no truck deliveries occur during school pick up and drop off periods. With regard to the internal delivery locations that are nominated for the site, a swept path analysis assessment should be undertaken demonstrating forward entry and forward exit manoeuvres with all reverse manoeuvres to occur on site.

- **Truck size and volumes**

The maximum size of vehicles and frequency of construction delivery vehicles will be documented in the detailed CTMP report however Traffix anticipate that a maximum vehicle size of 12.5m HRV is generally feasible with occasional 19m AV vehicles accessing the site with appropriate traffic control.

- **Contractor parking**

Contractors will be encouraged to either use public transport or ride share to/ from the site nothing that the current layout of the school would allow for some off-street parking until future buildings are erected. This parking would of course be restricted for construction employees who car pool to reduce the impact and this can be further detailed subject to the detailed CTMP which will be undertaken at construction certificate stage.

- **Traffic plans (if necessary)**

Traffic Control Plans will be designed in accordance with the RMS Traffic Control at Worksites Manual and AS 1742.3. The Traffic Control Plans would primarily relate pedestrian control to ensure appropriate safety measures are implemented.

- **Swept path analysis**

Swept Path Analysis should be undertaken for each construction stage demonstrating forward entry and exit during all construction stages. All entry and exit movements will be monitored by certified traffic controllers.

Accordingly, it is anticipated that a standard condition of consent would be imposed requiring a site specific CTMP be provided for this development application. The CTMP will be designed in accordance with the above principles and the draft CTMP would be issued to Council at a later stage for consideration and review.

Student and staff safety during construction is addressed at Section 5.20 and the Preliminary Construction Management Plan at **Appendix S**.

## **5.12 Ecologically sustainable development (ESD)**

*(SEAR 7)*

The ESD Report by Umow Lai (**Appendix G**) describes the measures that are proposed to minimise the consumption of resources, energy and water. This ESD Report has been undertaken with reference to the following:

- Clause 7(4) Schedule 2 of the Environmental Planning and Assessment Regulation 2000 (EP&A Regulation)
- Green Building Council of Australia, Green Star Design & As-Built v1.2 Rating Tool
- NCC 2016 Building Code of Australia – Volume 1.

Umow Lai notes that the proposal will achieve an informal Green Star rating of 4-Stars which is considered Best Practice equivalency outcome (but it will not be formally certified by the Green Building Council of Australia, the administrators for Green Star).

More details on the proposed ESD measures follows.

### **5.12.1 Passive design**

The proposed PESPP incorporates the following passive design principles:

- Natural ventilation of the sports halls through low level glazed louvres and high-level roof vents. The louvres will be closed during major events or late night music events including dances, banquets or other events using amplified music or a sound/announcement system (4-8 times a year, in accordance with the recommendations of the Noise Report (see Section 5.6))
- High levels of daylight through skylights and windows
- High levels of thermal insulation
- Vertical sunshade blades
- External materials that are robust, durable and low maintenance

- All paints, sealants, adhesives, floor coverings and composite timbers used internally will be low VOC
- Acoustic separation between different spaces.

#### 5.12.2 Energy efficiency

The proposed PESPP incorporates the following energy efficient initiatives:

- Energy modelling demonstrating a reduction in energy consumption of the proposed building compared to a reference building
- Mixed mode ventilation: The sports halls will utilise natural ventilation in sports mode for most of the time with energy efficient mechanical air conditioning used for larger functions including the banquets/school dance and major sporting events when the wall and roof louvres are to be closed. The mechanical system incorporates heat recovery
- Incorporation of PV panels on the roof to supplement energy consumption
- Energy efficient lighting and smart control systems
- Energy efficient hot water system
- Metering and monitoring of all services so that they can be managed efficiently.

#### 5.12.3 Water efficiency

The proposed PESPP incorporates the following water efficiency initiatives:

- Water efficient fittings and fixtures
- Rainwater harvesting: A 220,000L tank (including a 30kL rainwater tank) has been provided below the basement level for the dual purpose of stormwater detention and rainwater harvesting which feeds this into the SJC irrigation system
- Water Sensitive Urban Design through rainwater harvesting and reuse. All garden beds are irrigated with sub surface emitters thus ensuring minimal evaporation and deep watering. Appropriate mulches, soil mixes and ground preparation assist with this strategy through matching the needs of the proposed landscape.

A condition of consent should be imposed requiring compliance with the ESD Report by Umow Lai.

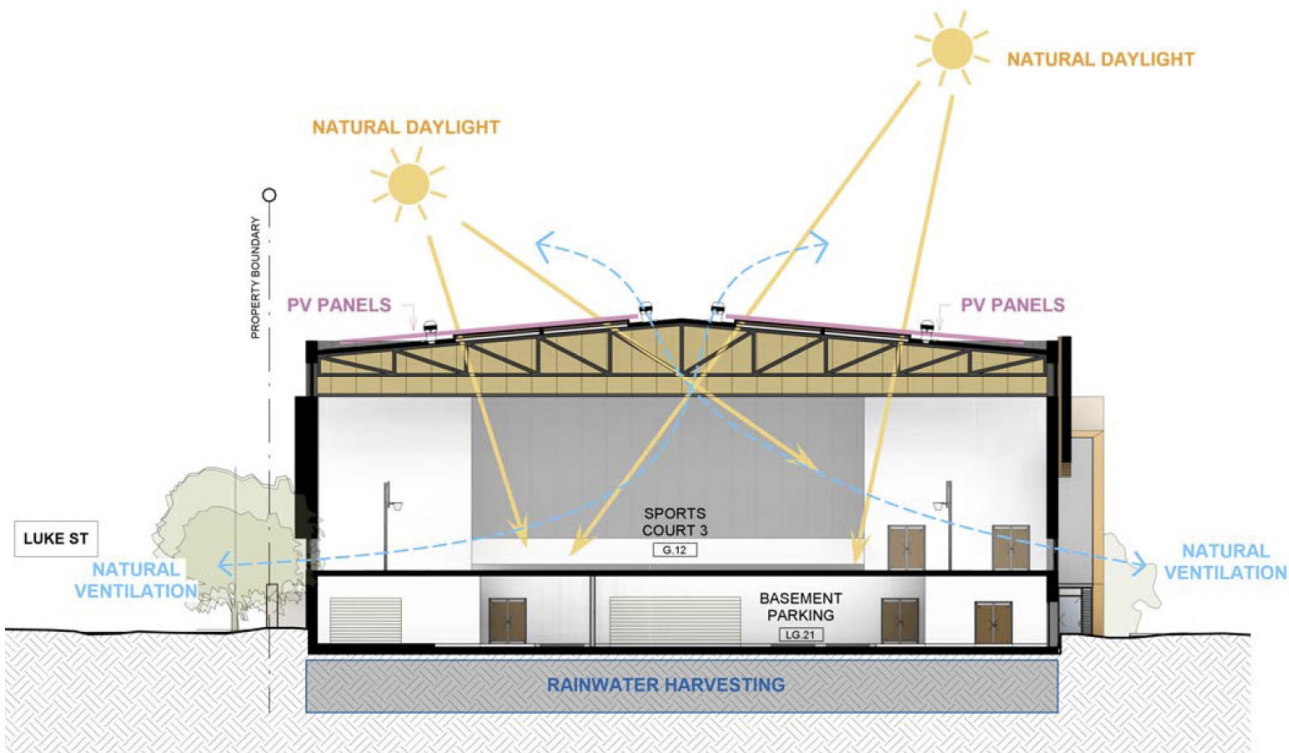


Figure 43 – Building cross section identifying ESD initiatives (Source: TKD Architects)

## 5.13 Heritage

(SEAR 10)

### 5.13.1 Heritage

Although the entire SJC campus is a heritage item pursuant to HHLEP 2012, the site of the PESPP and the buildings to be demolished have no heritage significance and the closest structure with heritage significance is the stone wall that surrounds the SJC site. There are no adjoining heritage items in the vicinity of the PESPP, as shown by the HHLEP 2012 maps extract at **Figure 44**.

The new Healy Gym is close to the Main Building, which is the most heritage significant building on the site.

The proposed substation is located in an unobtrusive part of the site.



**Figure 44** – HHLP 012 Heritage Map extract

The Statement of Heritage Impact by TKD Architects (**Appendix I**) provides a detailed site history and assesses the heritage and archaeological significance of the site and potential heritage impacts of the proposal. It states the following conclusion which supports the proposal on heritage grounds:

## **6 CONCLUSIONS**

*The proposed development at St Joseph's College, comprising the PESPP, Healy Gym and substation can be supported on heritage grounds for the following reasons:*

- *The proposed PESPP will have no impact on the heritage significance of important items on the College site. Its contemporary design is consistent with development that has taken place across the site since the 1950s;*
- *The PESPP will have some impact on views to the College site and its immediate environs from the south east and south. However, these will be minimised by the modulation of the building through the colour and texture of building materials, modulation of massing through shadow and pattern and vertical elements such as windows, blades and sandstone coursing. Existing and new trees will provide screening;*
- *The PESPP will have no impact on important views to the main building;*
- *The proposed substation will have no impact on the heritage significance of the place;*
- *The proposed Healy Gym will have a minor impact on the setting of the Main Building and views to and from the north-western section of the site. However, this is mitigated by the simple form and low scale of the building;*
- *The site has limited archaeological potential, thus minimising any archaeological impacts of the development;*
- *There will be no impacts on the heritage items in the vicinity of the College site;*
- *The setting of the site, particularly in Luke Street, will be enhanced by the proposed works.*

### **5.13.2 Archaeology**

A Baseline Historical Archaeological Assessment has been prepared by Biosis (**Appendix I**). It provides the following impact assessment statement which notes that the development sites have low to moderate potential to contain archaeological resources:

#### **6.4 Impact assessment statement**

*The proposed works as part of the project will be undertaken in the south-eastern, north-eastern and southwestern corners of the study area. The impacts of works in the south-eastern area will involve excavation for the construction of the foundations, basement and lower ground levels of a sports court complex, and installation of a driveway and landscaped gardens. In the north-eastern area two substations will be installed, also involving excavation. Works in the north-western corner will comprise of the establishment of a temporary building with limited areas of excavation for building footings.*

*It has been assessed that the northern portion of the south-eastern corner of the study area has moderate potential to contain archaeological resources, which have the potential to hold a moderate level of local heritage significance. The proposed sports courts complex works will have a direct impact on the potential archaeological resource due to the extent of excavation. The impact to this area is acceptable, provided that archaeological monitoring is undertaken during excavation to ensure that any archaeological resources are recorded and assessed. The southern portion of the south-eastern corner of the study area has low potential to contain archaeological resources, which, if encountered, would be considered of*

*little local heritage significance. The impact to this area is acceptable, provided that a Chance Finds Procedure is implemented to record any archaeological materials which are excavated during works.*

*It has been assessed that north-eastern corner of the study area has low potential to contain archaeological resources, which, if encountered, would not be considered to hold local heritage significance. The impact to this is acceptable, provided that a Chance Finds Procedure is implemented to record any archaeological materials which are excavated during works.*

*It has been assessed that north-western corner of the study area has low potential to contain archaeological resources, which, if encountered, would not be considered to hold local heritage significance. The impact to this is acceptable, provided that a Chance Finds Procedure is implemented to record any archaeological materials which are excavated during works.*

Given these findings, Biosis make recommendations in relation to the following:

- Recommendation 1: Archaeological monitoring program
- Recommendation 2: Research Design
- Recommendation 3: Construction Heritage Management Sub-Plan.

A condition of consent should be imposed requiring compliance with the Baseline Historical Archaeological Assessment by Biosis.

#### 5.13.3 Aboriginal heritage

Biosis Pty Ltd has completed an Aboriginal Cultural Heritage Due Diligence Assessment (**Appendix I**). The report has been prepared in accordance with the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (DECCW 2010a). Biosis also completed an extended background review and an archaeological survey in accordance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010b) to adequately map areas of high, moderate and low archaeological sensitivity.

Background research included a search of the Aboriginal Heritage Information Management System (**AHIMS**) database and a review of regional and local archaeological survey reports to assess the potential for Aboriginal heritage values or items to be present within the study area.

The AHIMS search identified 88 Aboriginal archaeological sites within a 2 kilometre radius of the SJC site noting that none were located on the site.

A field survey of the SJC site was completed on 21 February 2018, targeting areas that would be impacted by the proposal. No Aboriginal heritage items were identified during the field survey.

Biosis noted that the surveyed areas were highly disturbed as a result of landscaping and the development of past and present sports and school facilities. The overall archaeological sensitivity of the PESPP and new Healy Gym sites was assessed as low.

Notwithstanding this conclusion, Biosis make the following three recommendations:

- **Recommendation 1:** No further archaeological assessment is required  
No further archaeological work is required in the areas proposed for development as they have been assessed as having low archaeological potential.

- **Recommendation 2:** Discovery of Unanticipated Aboriginal Objects

All Aboriginal objects and Places are protected under the *National Parks and Wildlife Act 1974* (NPW Act). It is an offence to knowingly disturb an Aboriginal site without a consent permit issued by the Office of Environment and Heritage (**OEHL**). Should any Aboriginal objects be encountered during works associated with this proposal, works must cease in the

vicinity and the find should not be moved until assessed by a qualified archaeologist. If the find is determined to be an Aboriginal object the archaeologist will provide further recommendations. These may include notifying the OEH and Aboriginal stakeholders.

- **Recommendation 3:** Discovery of Aboriginal Ancestral Remains

Aboriginal ancestral remains may be found in a variety of landscapes in NSW, including middens and sandy or soft sedimentary soils. If any suspected human remains are discovered during any activity the following must be implemented:

1. Immediately cease all work at that location and not further move or disturb the remains
2. Notify the NSW Police and OEH's Environmental Line on 131 555 as soon as practicable and provide details of the remains and their location
3. Not recommence work at that location unless authorised in writing by OEH.

#### 5.14 Drainage, sediment, erosion and dust controls

(SEARs 11 and 15)

A Stormwater Management Strategy has been developed by Northrop to manage stormwater quantity and quality runoff (see Civil DA drawing set and Stormwater Management Report, **Appendix J**).

The strategy has been developed to Council's guidelines and requirements as specified in Part 5.6 'Stormwater Management' of the Hunters Hill Consolidated DCP 2013. To achieve Council's requirements, the stormwater management strategy incorporates:

- A 30kL rainwater reuse system is proposed with collected water to be used for irrigation
- On-site detention (**OSD**)
- Stormwater360 Enviropod pit inserts
- Five Stormwater 360 Stormfilter cartridges.

The site (pre-development) is mostly impervious, with only around 90 m<sup>2</sup> of pervious area. The proposed PESPP includes an addition of 438m<sup>2</sup> of landscape area (catchment 3 and catchment 5 as shown in the Stormwater Management Strategy on page 10). This results in a net gain of 348m<sup>2</sup> pervious/landscaped area. This increase in pervious area alone will reduce the post-development peak flow compared to the pre-development case.

More details follow.

##### 5.14.1 Sediment and erosion control (construction)

The Erosion and Sediment Control Plan by Northrop (**Appendix J**) sets erosion and sediment control objectives for the proposal to ensure that:

- Adequate erosion and sediment control measures are implemented prior to the commencement of construction and are maintained during construction
- Construction site runoff is appropriately treated in accordance with the requirements of Council.

As part of the works, the erosion and sedimentation control will be constructed in accordance with Council requirements and the NSW Department of Housing Manual, "Managing Urban Stormwater Soil & Construction" 2004 prior to any earthworks commencing on site. The Concept Sediment and erosion control measures are documented in Northrop's Development Application drawing 166502-DAC03.01 and 166502-DAC03.02 (**Appendix J**).

### **Sediment Basin**

A sediment basin has been designed to capture site runoff during construction and has been located towards the southwest corner of the site, in the lowest point. The construction of the basins will be done in stages to enable maximum runoff capture assisted by the diversion of swales to capture and direct runoff to the basins.

Calculations to determine concept design basin sizes have been based on available geotechnical information regarding soil types and through the use of the Soils and Construction Volume 1 Manual.

To ensure the sediment basins are working effectively they are to be maintained throughout the construction works. Maintenance includes water to be removed by pumping to reach the minimum storage volume at the lower level of the settling zone. The settling zone will be identified by pegs to clearly show the level at which design storage capacity is available.

The pumped water from the sediment basins will be reused to irrigate areas of hydromulch and for dust control during construction.

Overflow weirs are to be provided to control overland flows for rainfall events in excess of the design criteria which is to cater for a storm event up to and including the 10 year ARI storm event.

Northrop has calculated that the catchment area of the site is 0.48ha (being the PESPP site area) and that the required and provided sediment basin volume of 110m<sup>3</sup>.

### **Construction Sequence**

Prior to any earthworks commencing, construction erosion and sediment control measures will be implemented in accordance to the erosion and sediment control drawings. Construction measures include:

- A security fence surrounding the site office area and the proposed sediment basins as required
- Sediment fencing downstream and surrounding disturbed areas, including any topsoil stockpiles
- Installation for silt arrestors to collect site runoff and retain suspended particles;
- Dust control measures which includes covering stockpiles, maintain site fences and watering exposed areas
- Placement of drop inlet sediment traps around stormwater inlets pits
- Installation of stabilised site access
- Construction of temporary sediment basins as noted above.

#### **5.14.2 Stormwater quality management**

The Integrated Water Managing Plan by Northrop (**Appendix J**) notes that the stormwater treatment train has two stages of treatment; pit inlet filter baskets (Enviropods) that will provide pre-treatment by capturing gross pollutants, the coarser suspended solids and petroleum hydrocarbons/free oils. The secondary treatments are provided by proprietary filter cartridges in the downstream catchment and will remove nutrients such as nitrogen and phosphorous and petroleum hydrocarbons/free oils.

#### **5.14.3 Stormwater Quantity Management**

This site is located in Zone 1 of Hunters Hill Municipality catchment management zones. As such, the OSD has been designed in accordance with parameters provided in HHDCP 2013 (for flood mitigation and erosion control).

## 5.15 Contamination

(SEAR 12)

### 5.15.1 Soils and groundwater

The SJC site has been used as a school since its development in 1881 and is therefore considered to be of low contamination risk. In any event, a Targeted Environmental and Geotechnical Site Assessment has been completed by WSP (**Appendix K**).

WSP conducted searches of publicly available NSW Government databases, undertook a site inspection and drilled 10 environmental bores to a depth of 3.2m below ground level (**mBGL**) to collect soil samples for laboratory analysis.

One soil sample per borehole was analysed for the primary contaminants of concern heavy metals and pesticides. Selected samples were also analysed for pH and cation exchange capacity (**CEC**) in order to calculate site-specific environmental investigation levels (**EILs**). One sample, in which black ashy material was noted, was scheduled for additional total recoverable hydrocarbon (**TRH**) and polycyclic aromatic hydrocarbon (**PAH**) analysis.

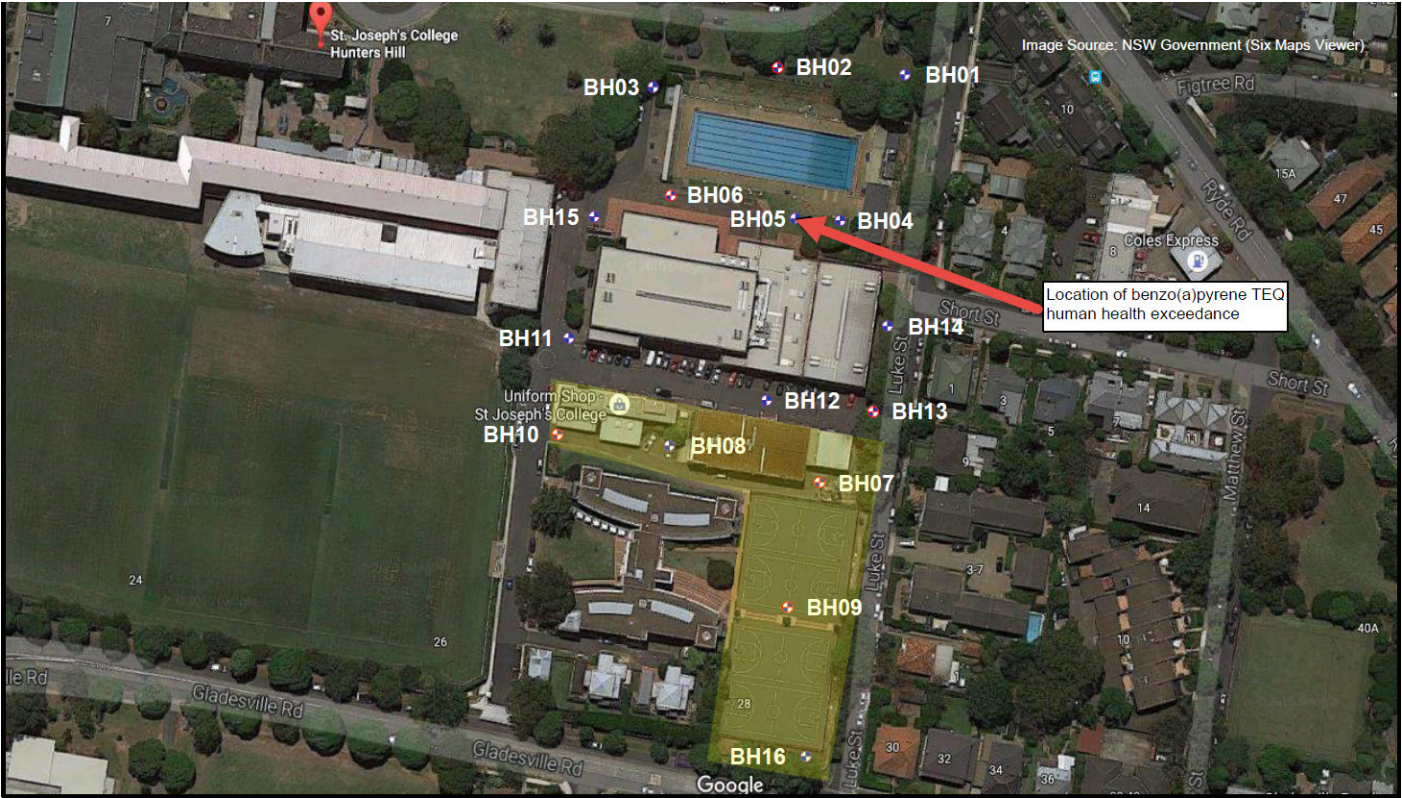
Laboratory analysis results of all soil samples collected during the investigation were less than the adopted assessment criteria with the exception of concentrations of benzo(a)pyrene and TRH (C6-C34) in sample BH05 which exceeded the adopted EILs and a concentration of benzo(a)pyrene toxicity equivalency quotient (**TEQ**) which exceeded the adopted assessment criteria for protection of human health for high density residential use. Several individual PAH compounds were also detected in this sample and are likely derived from a black coal ash source according to the online PAH Source Analyst calculator.

The location of BH05 is illustrated on **Figure 45** which shows that the PESPP site does not involve development in area of BH05 where the ashy material was encountered. WSP concludes that because BH05 is located outside of the proposal's footprint, no remedial works are required for the proposed development.

### 5.15.2 Hazardous materials survey

A Hazardous Materials Survey has been completed by Healthy Buildings International Pty Ltd (**Appendix Y**). The Survey found that Asbestos Containing Materials, Lead containing products, Polychlorinated biphenyls and Synthetic Mineral Fibres may be present in the buildings to be demolished. The recommendations in the Hazardous Materials Survey and all relevant Acts, Regulations and Codes will be followed when handling and disposing of these hazardous materials.

A condition of consent should be imposed requiring compliance with the Hazardous Materials Survey by Healthy Buildings International Pty Ltd.



- Geotechnical Borehole (16)
- Environmental + Geotechnical Borehole(16)

PESPP area

Figure 45 – Bore locations and PESPP location (Source: WSP)

## 5.16 Utilities

(SEARs 4 and 13)

### 5.16.1 Alternative water supplies

As detailed in the Stormwater Management Report and Integrated Water Management Plan by Northrop (**Appendix J**), the proposal includes a 30kL rainwater tank to capture and reuse stormwater runoff generated across the roof of the PESPP (with approximately half of the PESPP roof area connected to it (1,744m<sup>2</sup>)).

The collected water will be pumped to existing rainwater tanks that are used to irrigate 1.5ha of existing playing fields, and to supplement the current non-potable supply. Northrop calculate that the proposed 30kL rainwater tank will meet around 30% of the total sports field demand, supplying a total of 1190kL of water per year. This is addition to the rainwater already supplied by the existing tank for irrigation.

### 5.16.2 Power and telecommunications

An Infrastructure Management Plan (**Appendix L**) has been developed by Northrop detailing the existing electrical and telecommunications services infrastructure available to service PESPP and any augmentation/amplifications required to service the proposal.

There are two existing padmount kiosk type substations on the SJC site. Northrop (working with Ausgrid) has found that one new 1,000 kVA (rated) kiosk substation is required to support the PESPP. As shown on the architectural plans, the new substation is proposed to be located along Luke Street, near the Ryde Road entry to SJC.

The site's power requirements will be supplemented by a photovoltaic (**PV**) power system, incorporated in the project ESD requirements

Northrop advises that no new telecommunications service or augmentation is likely to be required as part of the PESPP.

## 5.17 Flooding

(SEAR 16)

As confirmed by the Planning Certificate for the SJC site (attached to Stormwater Management Report by Northrop, **Appendix J**), the site is not flood affected. In any event, Northrop has addressed the flood mitigation controls in HHDCP 2013 in its Stormwater Management Plan and has designed the stormwater system to ensure that the proposal does not contribute to an increased risk of flooding during moderate rainfall events.

## 5.18 Waste

(SEAR 17)

### 5.18.1 Operational waste

Foresight Environmental has prepared an Operational Waste Management Plan (**Appendix M**) which considers the waste and recycling generated by normal use of the proposed facilities and full capacity larger events. The proposed waste management facilities, including the waste/recycling enclosure in the basement of the PESPP, have been designed to accommodate both circumstances.

All waste/recycling collection will occur onsite, within the basement of the PESPP, accessed from the existing driveway to Gladesville Road. There will be no external storage or handling of waste or recycling materials.

The project will target reductions in waste generation, incorporating separate bins for waste and recycling for separation of waste streams.

#### 5.18.2 Construction and demolition waste

Foresight Environmental has also prepared an Construction & Demolition Management Plan (**Appendix M**). The aim of the plan is to maximise reuse and recycling of demolition/construction materials, reduce the volume of materials going to landfill, to maximise waste avoidance, ensure efficient recycling and to ensure efficient storage/collection of waste.

#### 5.19 Construction

*(SEAR 18 and SEARs Plans and Documents)*

##### 5.19.1 Construction hours

The following standard construction hours are proposed:

- Monday to Friday 7.00am to 6.00pm
- Saturdays 8.00am to 1.00pm
- Sundays and Public Holidays No work.

##### 5.19.2 Construction management

The construction phase is currently expected to be in the order of 18 months.

A Preliminary Construction Management Plan has been prepared by TBH (**Appendix S**) which addresses the following:

- Construction:
  - Major work phases
  - Work method statement
  - Hours of operation/programme
  - Materials handling strategy
  - Cranage
  - Construction workforce
  - Truck movements (all PESPP construction trucks are to enter and exit the site from Gladesville Road with no access from Luke Street). More details on construction traffic are set out in the Traffic Impact Assessment by Traffix (see Section 5.11.2 and **Appendix F**).
- Environmental management:
  - Public safety and protection
  - Protection of sandstone wall and trees
  - Dust control measures
  - Stormwater management measures
  - Noise and vibration control measures
  - Waste management
- College operations During Construction
  - General
  - Student / Staff Safety Management
  - Alternative Arrangements During Construction

A condition of consent should be imposed requiring compliance with the Preliminary Construction Management Plan, with more detailed provided once a contractor has been engaged.

More details follow.

### 5.19.3 Public safety and protection

A site-specific safety management plan and Safe Work Method Statement will be developed by the Contractor in consultation with all the relevant stakeholders. All works will be undertaken in accordance with the requirements of WorkCover NSW as well as the relevant standards and codes of practice to ensure the safety of personnel on and around the site.

### 5.19.4 Protection of sandstone wall and trees

Hoardings or temporary fencing will be used to protect the heritage significant sandstone wall and trees to be retained on and near the site. The hoarding will protect the sandstone wall from construction materials, debris and falling objects. Tree protection zones will be established around trees identified as being retained.

Options are being investigated to protect the sandstone wall where the new building is close to the boundary. Current option includes scaffolding over top of class B Hoardings.

### 5.19.5 Dust control measures

A detailed Air Quality Management Plan will be provided by the Contractor once appointed. This will be submitted to the Hunter's Hill Council prior to the commencement of works.

All demolition works will be undertaken by appropriately licenced and experienced Contractors, utilising the relevant codes of practice with regards to the generation of dust.

Regular daily monitoring will be undertaken throughout the construction phase and, mitigation measures will be undertaken on as-needs basis.

### 5.19.6 Noise and vibration control measures

See Section 5.6.2.

### 5.19.7 Stormwater management measures

See Section 5.14.2.

### 5.19.8 Waste

See Section 5.18.2.

### 5.19.9 College operations during construction

#### General

Construction will be managed to maintain the operation of SJC in its primary use as an educational establishment (with 550 boarding students) and to minimise disruption to neighbours, local residents and businesses. The ability to achieve this is improved as the PESPP and new Healy Gym sites are adjacent to the external perimeter of the campus which allows separation for the daily functional needs to the College.

#### Alternative arrangements during construction

Construction of the project will be staged to ensure that the existing Healy Gym is retained and fully operational until completion of the new Healy gym facility.

To maintain normal basketball operations during the construction period, SJC is building two new basketball courts adjacent to Mary Street and the existing playing fields (Hunters Hill Council Consent for DA 2017/1068, approved 8 December 2017).

SJC will retain the use of the existing indoor basketball court during and after construction and can extend operational hours if required. SJC is also seeking cooperative arrangements with local schools to access further basketball courts.

### Construction impacts for SJC students

The impact of construction activities on SJC teaching and learning spaces is expected to be minimal as the College is able to relocate classes and lessons to alternative locations within the campus, away from the construction sites to mitigate the impact of construction noise.

To avoid any risks to the safety of students and staff, the PESPP and the Healy Gym sites will be separated from school operations by appropriate hoardings/fencing, with security guards at site entrances and locked gates outside of the standard construction hours.

Another potential risk area is the impact of construction on the school's existing evacuation plans. The major concern in this respect, is the potential blocking of designated egress / evacuation paths by construction site hoardings or fencing. This will be managed by checking the planned location of hoardings against the existing school evacuation plans, and if necessary, adjusting the hoardings or evacuation plans to ensure that safe egress is maintained.

Similarly, the effect of construction on disabled access paths must be reviewed and if necessary, alternative temporary disabled access arrangements will be made.

### Construction impacts for SJC boarders

SJC boarders will not be adversely affected by construction noise as the boarding houses are not occupied during the standard hours of construction referred at Section 5.20.1 (being 7.00am to 6.00pm Monday to Friday and 8.00am to 1.00pm on Saturday). A day typical day for the boarders runs to the following timetable, confirming that students are active or not in the boarding house during the standard construction hours:

- Typical school Day (Mon-Fri)

#### AM

7.00 Wake, shower, dress

7.00 *Construction works commence*

7.45 Breakfast in Dining Rooms

8.30 Classes Commence

#### PM

3.30 Classes Conclude

3.30 Boarding Dorms to Change

3.45 After School Activities - Extra and Co-Curricular, Sport, Training, Recreation

5.00 Boarding Dorms - Shower, Change, Days Boys can Check Off (25% of Day Boys)

5.45 Dinner in Dining Rooms

6.00 *Construction works end*

6.30 Study Session (Library)

8.00 Day Boys can Check Off (75% of Day Boys)

8.15 Study Session 2 (Library)

9.30 Return to Dorms

10.00 Lights Out

- Saturday

#### AM

7.00 Wake, shower, dress

7.15 Mass (Optional)

7.45 - 8.30 Breakfast in Dining Rooms  
8.00 *Construction works commence*  
8.30 - 1.00 Compulsory Sport

**PM**

12.00 - 1.30 Lunch Provided in Dining Rooms  
1.00 *Construction works end*

The above typical timetable for the SJC borders shows that during the draft construction hours, borders will not be resting or sleeping and will be occupied in dining rooms or the library, participating in sport or other activities. Given this, there is likely to be no/minimal impact on Borders' amenity during construction.

### 5.20 Equitable access

#### *(SEARs Plans and Documents)*

The PESPP will provide access for people with a disability and provide a continuous accessible path of travel, clear way finding guidance and the equitable provision of accessible facilities.

The new building work will be designed in accordance with the Building Code of Australia (BCA), the relevant Australian Standards (AS 1428, AS 2890.6, AS 1735.12) and the Disability Discrimination Act's obligation of equitable and dignified access. This project will be designed to AS 1428.1 – 2009. Hearing augmentation will be required in spaces provided with an inbuilt amplification system.

Wheelchair seating spaces will be required within the Spectator Seating.

Access provisions that will be provided in the PESPP include the following:

- Walkways and ramps provided in accordance with AS 1428.1
- Stairs provided in accordance with AS 1428.1, including contrasting slip resistant nosings, tactile ground surface indicators and handrails both sides of stairs
- Minimum clearances provided through doors of 850mm
- Minimum circulation widths and clearances at doors provided in accordance with AS 1428.1
- New doors must have a luminance contrast of 30% provided around doorways in accordance with AS 1428.1
- All new door hardware is to be lever action
- Visual indicators provided on full height glass windows and doors
- Switches and controls located between 900mm and 1100mm and no closer than 500mm from internal corners
- Accessible toilets and ambulant facilities provided in accordance with AS 1428.1
- Signage in accordance with AS 1428.1
- A clear height of 2.5m is required to be maintained from the entry to the accessible car parking spaces.

### 5.21 Geotechnical and structural reports

#### *(SEARs Plans and Documents)*

A Structural Report has been prepared by Northrop (**Appendix X**) which confirms that the proposed structure will be designed in accordance with the relevant Australian Standards and be structurally adequate to support the required loads imposed for the building.

The Targeted Environmental and Geotechnical Site Assessment by WSP (**Appendix K**) appends the geotechnical investigation by AW Geotechnical Pty Ltd.

A condition of consent should be imposed requiring compliance with the Targeted Environmental and Geotechnical Site Assessment by WSP.

## 6.0 Environmental Risk Assessment

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As required by the SEARs, the measures required to mitigate the impacts associated with the proposal are detailed in the Environmental Risk Assessment (**ERA**) prepared by Robinson Urban Planning (**Appendix C**). The ERA has been prepared generally in accordance with AS/NZS ISO 31000:2009 Risk Management – Principles and Guidelines and ISO/IEC 31010:2009 Risk Management – Risk Assessment Techniques and identifies the potential environmental impacts associated with the proposal.

The ERA addresses environmental risks associated with proposal and identifies mitigation measures.

The key risk items identified in the ERA that have a residual risk rating of “high” are associated with the construction phase (and not operation). Mitigation measures to reduce this risk include preparation of a construction management plan (including detailed construction traffic and construction noise/vibration management plans).

## 7.0 Mitigation Measures

The collective measures required to mitigate the impacts associated with the proposal are detailed in **Table 13** below. These measures have been derived from the previous assessment in Section 5.0 and the appended consultant reports.

**Table 13 – Mitigation measures**

| Mitigation measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Architectural and landscape design</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <ul style="list-style-type: none"> <li>Implement the TKD Architects Architectural Plans and Architectural Design Report (<b>Appendix E</b>) including external material selections</li> <li>Implement the Preliminary Landscape Concept Plan, by Taylor Brammer (<b>Appendix Q</b>)</li> <li>Implement the tree protection measures set out in the Arboricultural Impact Assessment, by Bluegum (<b>Appendix R</b>)</li> <li>Adopt CPTED measures in accordance with Section 5.4.4 of the EIS.</li> </ul>                                                                                                                                                                          |
| <b>Residential amenity</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Privacy</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <ul style="list-style-type: none"> <li>Buildings are internally orientated and openings to the adjoining streets are limited.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Noise and vibration</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <ul style="list-style-type: none"> <li>Implement the recommendations set out in the Construction &amp; Operational Noise Report, by Wilkinson Murray (<b>Appendix H</b>), including the provision of high performance acoustic glass or double glazed louvres to the eastern elevation and closure of the eastern elevation and roof louvres when the PESPP is used for dances, banquets or other events using amplified music or a sound/announcement system (which are likely to occur 4-8 times a year).</li> <li>Energy efficient mechanical air conditioning will be used when the louvres are closed as stated in the ESD Report by Umow Lai (<b>Appendix G</b>).</li> </ul> |
| <b>Traffic, parking and accessibility</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <ul style="list-style-type: none"> <li>There will be no change to the existing student or staff population, number of boarders or intensity of use</li> <li>A total of 144 car parking spaces are to be provided on the SJC site (89 existing + a net increase of 55 spaces) to meet staff demands during standard hours and to be available for visitor use during weekend sporting fixtures.</li> </ul>                                                                                                                                                                                                                                                                          |
| <b>ESD</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <ul style="list-style-type: none"> <li>Achieve an informal Green Star rating of 4-Stars (which will not be formally certified by the Green Building Council of Australia, the administrators for Green Star), as set out in the ESD Report by Umow Lai (<b>Appendix G</b>).</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Archaeology and Heritage (including aboriginal archaeology)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <ul style="list-style-type: none"> <li>Implement the recommendations of the Baseline Historical Archaeological Assessment and Aboriginal Cultural Heritage Due Diligence Assessment, both by Biosis (<b>Appendix I</b>).</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Contamination and hazardous materials</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <ul style="list-style-type: none"> <li>Implement the hazardous materials recommendations in the Visual Arts and John Healy Fitness Centre Buildings - Hazardous Material Inspection Report, by Healthy Buildings International Pty Ltd (<b>Appendix Y</b>).</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Stormwater drainage, OSD and sediment and erosion control</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <ul style="list-style-type: none"> <li>Implement the Stormwater Report and Plans, by Northrop (<b>Appendix J</b>).</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

## Mitigation measures

### Waste

- Implement the recommendations of the Construction and Operational Waste Management Plans, by Foresight Environmental (**Appendix M**).

### Use and hours of operation

- There will be no change to the number of students, staff, boarders or the intensity of use
- Activities on the site will generally comply with the Indicative Usage Profile by SJC including closing the louvres on the eastern elevation and in the roof when the PESPP is used for dances, banquets or other events using amplified music or a sound/announcement system (which are likely to occur 4-8 times a year) (**Appendix D**).

### BCA and accessibility

- Implement the recommendations of the BCA Compliance Report, by Design Confidence (**Appendix W**)
- Implement the recommendations of Accessibility Report, by Design Confidence (**Appendix T**).

### Geotechnical and structural considerations

- Implement the recommendations of the Geotechnical Investigation, by WSP (**Appendix K**)
- Implement the recommendations of the Structural Report, by Northrop (**Appendix X**).

### Construction management

To minimise the adverse impacts of construction for adjoining residents and SJC students, boarders and staff, work will be carried out in accordance with the:

- Traffic Impact Assessment, by Traffix (**Appendix F**)
- Construction and Operational Noise Report, by Wilkinson Murray (**Appendix H**)
- Preliminary Construction Management Plan, by TBH (**Appendix S**).

## 8.0 Conclusion

---

SJC seeks consent for demolition of existing buildings on part of the SJC site and the construction and use of the proposed PESPP, Healy Gym and kiosk substation. The proposal has considerable merit, as summarised below:

- The SJC site is predominantly an artificial landscape with planted garden beds and isolated trees. There is little scope for the proposal to have significant impacts upon biodiversity values and the OEH has granted a waiver for the preparation of a BDAR
- The proposed design was the result of a competitive design process and proposes a high standard of architectural and landscape design, appropriate given the site's heritage significance and setting
- The proposal has a built form that appropriately responds to the site conditions and context
- The proposal includes measures to minimise adverse impacts on residential amenity for nearby residents (overshadowing, views, privacy, noise, visual impact, light spill, stormwater etc)
- The heritage impacts of the proposal are acceptable noting that:
  - The SJC stone wall will be retained and protected
  - Structures/buildings to be demolished have no heritage significance
  - The proposal has a respectful relationship with the heritage significant buildings on the SJC site and the nearby conservation area
  - The heritage impacts of the proposal are acceptable
  - Parts of the site may have some potential for historical archaeological remains and recommendations are made in relation to testing, monitoring and recording
  - The overall aboriginal archaeological sensitivity of the PESPP and new Healy Gym sites is low and recommendations are made for the unlikely event that Aboriginal objects or remains are found during construction
- Existing community uses will continue on the site, but no new community events will be accommodated by the proposal
- Traffic impacts from the proposal will be insignificant given that there is no change to the student or staff population, number of boarders, students participating in night study or the uses accommodated on the site. To promote the use of active and public transport, the proposal includes the preparation of a Green Travel Plan and Travel Access Guide
- A total of 144 car parking spaces are to be provided on the SJC site comprising 89 existing spaces + a net increase of 55 spaces (+62%) to meet staff demands during standard hours and to be available for visitor use during weekend sporting fixtures. This will reduce demand for on-street parking in nearby residential streets during the week and on Saturday mornings
- Measures are proposed to promote ESD and achieve an informal Green Star rating of 4-Stars which is considered Best Practice equivalency outcome
- Construction management measures will be adopted to minimise the potential adverse impacts of construction (in particular noise, vibration, traffic and parking)
- New external use of the proposed facilities is not proposed (noting that existing external uses accommodated on the site would continue in the proposed facilities).

As set out in this EIS, the proposal has considerable merit and will have minimal and reasonable environmental effects that can be effectively managed. It is therefore requested that the Minister or his delegate approve the proposal.

## Appendix A

Capital Investment Value Report, by Altus Group (29 November 2017)



## **Appendix B**

Secretary's Environmental Assessment Requirements (SSD 8970) (3 January 2018)



## Appendix C

Environmental Risk Assessment, by Robinson Urban Planning (23 August 2018)



## Appendix D

Indicative Usage Profile (Revision 1), by St Joseph's College



## **Appendix E**

Architectural Design Report, by TKD Architects (31 July 2018 Rev A) and  
Architectural Plans, by TKD Architects



## **Appendix F**

Traffic Impact Assessment, by Traffix (September 2018)



## **Appendix G**

ESD Report, by Umow Lai (12 July 2018)



## Appendix H

Construction & Operational Noise Report, by Wilkinson Murray (Version C August 2018)



## Appendix I

Statement of Heritage Impact, by TKD Architects (12 July 2018)  
Baseline Historical Archaeological Assessment, by Biosis (9 July 2018)  
Aboriginal Cultural Heritage  
Due Diligence Assessment, by Biosis (23 August 2018)



## **Appendix J**

Stormwater Management Report (8 August 2018), Erosion and Sediment Control Plan (8 August 2018), Integrated Water Management Plan (1 August 2018) and Stormwater Concept Plans, by Northrop



## Appendix K

Targeted Environmental Contamination and Geotechnical Investigation, by WSP  
(letter 9 August 2018 and report July 2018)



## Appendix L

Infrastructure Management Plan, by Northrop (28 June 2018)



## **Appendix M**

Construction Waste Management Plan, by Foresight Environmental (29 June 2018)  
Operational Waste Management Plan, by Foresight Environmental (5 July 2018)



## **Appendix N**

Consultation Report, by Elton Consulting (16 July 2018)



## Appendix O

Visual Impact Assessment Report, by Roberts Day (July 2018)



## Appendix P

Site Survey Plan, by LTS Lockley (date of survey 15 August 2014)



## Appendix Q

Landscape Design Statement & Preliminary Landscape Strategy, by Taylor Brammer  
(23 July 2018)



## Appendix R

Arboricultural Impact Assessment, by Bluegum (July 2018)



## Appendix S

Preliminary Construction Management Plan, by TBH (6 August 2018)



## Appendix T

Access Design Assessment Report, by Design Confidence (13 July 2018)



## Appendix U

SREP (Sydney Harbour Catchment) and Hunters Hill Local Environmental Plan 2012  
maps



## Appendix V

### St Joseph's Reconciliation Action Plan



## **Appendix W**

BCA Design Assessment Report, by Design Confidence (13 July 2018)



## Appendix X

Structural Report, by Northrop (8 February 2018)



## Appendix Y

Visual Arts and John Healy Fitness Centre Buildings - Hazardous Material Inspection  
Report, by Healthy Buildings International Pty Ltd (March 2018)



## Appendix Z

Australian Charities and Not For Profit Commission Register Summary – Marist  
Brothers St Joseph's College (11 November 2016)



## Appendix AA

BDAR waiver (OEH, 20 September 2018) and Biodiversity Framework Assessment,  
by Cumberland Ecology (30 August 2018)

