MUSUEMS DISCOVERY CENTRE EXPANSION

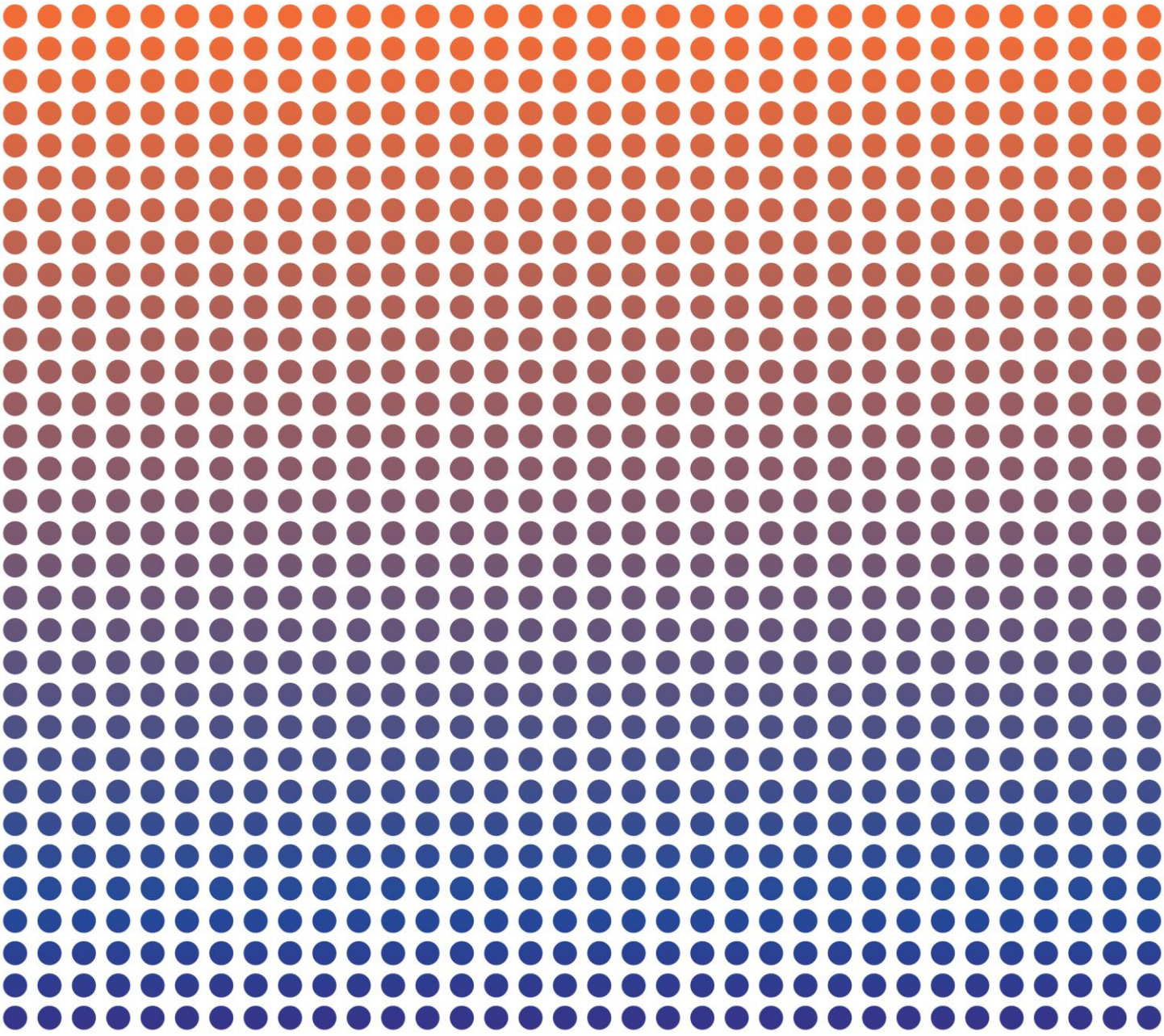
# ENVIRONMENTAL IMPACT STATEMENT

NSW GOVERNMENT

# Environmental Impact Statement

Proposed Expansion of Museum of Applied Arts and Sciences – Museums Discovery Centre, 2 Green Road, Castle Hill (Lot 102 DP 1130271) and 172 Showground Road, Castle Hill (Lot 1 DP1066281)

September 2020



Milestone

Prepared by
**Milestone (AUST) Pty Limited**

Contacts
**Lisa Bella Esposito**



| Version | Status | Date | Prepared By | Reviewed By |
|---|---|---|---|---|
| A | Draft | 14 August 2020 | Patrick Lebon, Director | Lisa Bella Esposito, Director |
| B | Final | 11 September 2020 | Sophie Kusznirczuk, Senior Planner | Lisa Bella Esposito, Director |
| C | Revised Final | 14 September 2020 | Sophie Kusznirczuk, Senior Planner | Lisa Bella Esposito, Director |
| D | Revised Final | 18 September 2020 | Sophie Kusznirczuk, Senior Planner | Lisa Bella Esposito, Director |

**TABLE OF CONTENTS**

## APPENDICES

Appendix M: Infrastructure Services Report prepared by Northrop.
Appendix N: Biodiversity Development Assessment Report prepared by WSP
Appendix O: Tree Replacement Strategy prepared by WSP
Appendix P: Operational Waste Management Plan prepared by GTK Consulting
Appendix Q: ESD Statement prepared by Northrop
Appendix R: Geotechnical Investigation Report prepared by Alliance Geotechnical
Appendix S: Structural Engineering Statement prepared by Northrop
Appendix T: Accessibility Design Review Report prepared by ABE Consulting
Appendix U: Building Code of Australia Compliance Statement prepared by Consult Code Solutions
Appendix V: Arboricultural Impact Statement prepared by MacKay Tree Management
Appendix W: Consultation Outcomes Report prepared by Ethos Urban
Appendix X: Plan of Subdivision prepared by YSCO Geomatics
Appendix Y: Social Impact Assessment prepared by Ethos Urban
Appendix Z: Stormwater Management Report prepared by Northrop
Appendix AA: Crime Prevention Through Environmental Design Report prepared by Ethos Urban dated
Appendix BB: SEPP 64 (Advertising and Signage) Assessment by Milestone

**LIST OF FIGURES**

**LIST OF TABLES**

# 1 STATEMENT OF VALIDITY

Environmental Impact Statement prepared by:

| | |
|---|---|
| **Name** | Lisa Bella Esposito |
| **Qualifications** | Milestone (AUST) Pty Limited<br>PO Box 3149<br>Redfern NSW 2016 |
| **Address** | Milestone (AUST) Pty Limited<br>PO Box 3149<br>Redfern NSW 2016 |
| **Project Category** | State Significant Development Application |

Development Application Details:

| | |
|---|---|
| **Applicant** | Create Infrastructure |
| **Applicant Address** | Create NSW, Department of Premier and Cabinet<br>Level 10, 52 Martin Place, Sydney NSW 2000 |
| **Subject Site to be developed** | 2 Green Road, Castle Hill<br>(Lot 102 DP 1130271) |
| **Description of proposed development** | Expansion of the Museum of Applied Arts and Sciences Museums Discovery Centre. Refer to the detailed description of the proposal in Section 5 of this Environmental Impact Statement |

I certify that I have prepared the content of this Environmental Impact Statement and to the best of my knowledge:

- it is in accordance with Schedule 2 of the Environmental Planning and Assessment Regulation 2000;
- all available information that is relevant to the environmental assessment of the development to which the statement relates; and the information contained in the statement is neither false nor misleading.

Lisa Bella Esposito
Director
Milestone (AUST) Pty Limited

# 2 EXECUTIVE SUMMARY

## 2.1 Purpose of this Report

This submission to the Department of Planning, Industry and Environment (DPIE) comprises an Environmental Impact Statement (EIS) for a Development Application under Part 4 of the EP&A Act. It relates to the proposed construction and use of a new building to facilitate the expansion of the Museums Discovery Centre (MDC) site at 2 Green Road, Castle Hill.

The expansion of the MDC is identified as a type of "*Information and Education Facility*" with a Capital Investment Value (CIV) in excess of $30 million, classifying this proposal as State Significant Development in accordance with Schedule 1 Clause 13 of *State Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP).

A request for the issue of Secretary's Environmental Assessment Requirements (SEARs) was sought on 5 June 2020. On 4 July 2020, the SEARs were issued by DPIE. This submission has been prepared in accordance with the DPIE guidelines for SSD applications lodged under Part 4 of the EP&A Act, and addresses the issues raised in the SEARs.

## 2.2 Overview of this Project

This application seeks approval for the development and expansion of the MDC facility by the construction of a new building, "Building J" (proposed 8,135m$^2$ GFA), to provide permanent additional storage, production and operational facilities suitable to the needs and specifications of the Museum of Applied Arts and Sciences (MAAS, "the applicant").

The primary objective of the SSD Application is to provide expanded facilities to accommodate the Powerhouse collections including spaces for storage, conservation, research and display and spaces to facilitate increased public access to the collection through education, public programs, workshops, talks, exhibitions and events. The expansion of the existing MDC facility within the site at 2 Green Road Castle Hill will integrate with the existing MDC site located at 172 Showground Road, Castle Hill and its operations on a permanent basis.

## 2.3 The Site

The subject site comprises two separate but contiguous allotments on the north side of Showground Road between Windsor Road and Green Road, Castle Hill. The lots are known as 2 Green Road, Castle Hill and 172 Showground Road, Castle Hill and they are occupied by TAFE NSW and MDC, respectively.

The proposed Building J site is located within the TAFE site at 2 Green Road, Castle Hill which comprises a single lot legally described as Lot 102 DP 1130271. The site is generally square in shape with a splay corner to the intersection of Green Road and Showground Road. It has primary frontage to Green Road of approximately 183m and secondary frontage to Showground Road of approximately 186m and a total area of approximately 3.8ha.

The MDC site, which is formally described as Lot 1 DP1066281, is irregular in shape with frontage to the intersection of Windsor Road and Showground Road of approximately 307m, an eastern boundary shared with the TAFE site of approximately 195m, a northern boundary of approximately 207m and a total area of approximately 3.1ha.

The subject site is developed with large institutional buildings and car parking within a landscaped setting. A dam is situated in the north eastern side of the TAFE site and there a several stands of plantation trees which form a high canopy. Vehicle access to the subject site is available via each abutting road.

## 2.4 Planning Context

Section 7 of this EIS considers all applicable legislation in detail.

The proposal is consistent with the requirements of all relevant SEPPs and consistent with the strategic planning policy framework. Planning Proposal (Planning Proposal No. 5/2020/PLP) has been submitted and publicly exhibited in July 2020 to propose an amendment to The Hills Shire Local Environmental Plan 2012 (LEP 2012) to change the zoning of the site from R2 Low Density Residential Zone to SP2 Infrastructure Zone (Information and Education Facilities) consistent with the zoning of the current MDC site.

On 30 April 2020, the amendments outlined within the Planning Proposal No. 5/2020/PLP were recommended to proceed under Section 3.34(2) of the EP&A Act through the issuing of the Gateway Determination by DPIE. The current application meets the objectives of the proposed subject zone of SP2 Infrastructure Zone. At a council meeting on 25 August 2020, the Hills Shire Council supported the recommendation that the planning proposal proceed to finalisation.

### 2.5 Environmental Impacts and Mitigation Measures

This EIS provides an assessment of the environmental impacts of the project in accordance with the SEARs and sets out the undertakings made by the applicant to manage and minimise potential impacts arising from the development.

### 2.6 Conclusion and Justification

This EIS addresses the requirements of the SEARs, and the proposal provides for the development and expansion of the existing MDC facility. This expansion of the MDC will contribute to the renewal of the Museum of Applied Arts and Sciences. It is an essential component of the NSW Government strategic arts policy as part of the establishment of Powerhouse Parramatta.

As outlined in the assessment within this EIS, the potential impacts of the development are considered acceptable and can be appropriately managed during construction and operational phases. Given the planning merits of the proposal, and the overriding economic and social benefits, the proposed development warrants approval by the Minister for Planning and Public Spaces.

## 3 INTRODUCTION

This Environmental Impact Statement (EIS) is submitted to DPIE pursuant to Part 4 of the EP&A Act in support of an application for State Significant Development (SSD).

Development for cultural, recreation and tourist facilities with a capital investment value of more than $30 million is specified in Schedule 1 of *State Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP) as SSD for the purposes of the EP& A Act and includes:

*"13 Cultural, recreation and tourist facilities*

*(1) Development that has a capital investment value of more than $30 million for any of the following purposes:*
- *(a) film production, the television industry or digital or recorded media,*
- *(b) convention centres and exhibition centres,*
- *(c) entertainment facilities,*
- *(d) information and education facilities, including museums and art galleries,*
- *(e) recreation facilities (major),*
- *(f) zoos, including animal enclosures, administration and maintenance buildings, and associated facilities."*

The development is a type of information and education facility that exceeds the $30 million Capital Investment Value threshold under Schedule 1 of the State and Regional Development SEPP and is classified as State Significant Development.

The report has been prepared by Milestone on behalf of MAAS, and is based on the Architectural Plans provided by Lahznimmo Architects (see **Appendix A**) and other supporting technical information appended to the report (refer to the Table of Contents).

This EIS has been prepared in accordance with the relevant provisions of Part 4 of the EP&A Act, Schedule 2 of the Environmental Planning and Assessment Regulation 2000 (EP&A Regulation), and the SEARs for the preparation of the EIS, which are included at **Appendix C**.

This EIS should be read in conjunction with the supporting information and plans that accompany this report.

### 3.1 Overview of Proposed Development

This application seeks approval for the proposed construction and use of a new building at 2 Green Road, Castle Hill to facilitate the expansion of the MDC site at 172 Showground Road, Castle Hill. In summary, development consent is sought for the following:

- Site preparation works, including the termination/relocation and installation of site services and infrastructure, tree removal (337 trees in total), earthworks, and the erection of site protection hoardings and fencing.
- Demolition of the existing car parking areas and vehicle accessway along the east and north east side of the proposed Building J site. An existing car park on the eastern side of the TAFE site will be expanded and modified by way of new linemarking to accommodate 24 car parking spaces to offset 22 spaces removed from the proposed Building J site.
- Construction and use of proposed Building J.
- Construction of new vehicle accessways to maintain connectivity to the MDC and TAFE sites.
- Subdivision of the proposed Building J site from the TAFE site including creation of right-of-carriageway easement to facilitate access over the new realigned accessway by MAAS vehicles and consolidation to form a single lot with the existing MDC site.
- Site subdivision and consolidation.
- Installation of required services infrastructure including electricity, sewer, stormwater and telecommunications.
- Installation of a roof mounted photovoltaic system.

The SSD Application includes a Tree Replacement Strategy (refer **Appendix O**) that will involve planting of new trees at a ratio of two (2) new trees to be planted for every tree removed from the site. The Tree Replacement Strategy will be delivered over several years following the construction and commencement of the operations of proposed Building J.

Refer to **Figure 1** for details of the proposed site layout plan.


**Figure 1: Proposed Site Layout Plan**
**Source: Lahznimmo Architects**

### 3.2 Background to the Development

The MDC is owned and operated by the Museum of Applied Arts and Sciences (MAAS) and features exhibitions and displays in collaboration with Australian Museum and Sydney Living Museums, who also maintain collection storage and conservation facilities on the site. The MDC is located at 172 Showground Road, Castle Hill. There are six buildings primarily providing collection storage as well as areas for displays and education and public programs, accessible to visitors (Building E). During 2017-2018 a total of 17,481 persons visited the MDC site.

The MDC Expansion is part of the renewal of the Museum of Applied Arts and Sciences, known as the Powerhouse Program, that includes:

- **Powerhouse Parramatta**: The Powerhouse Precinct will set a new benchmark in cultural placemaking for Greater Sydney that will be a symbol of a new approach to creative activity. It is the keystone of MAAS' cultural masterplan to increase access to its collection and community engagement across Greater Sydney.
- **Powerhouse Ultimo**: The NSW Government recently announced that the Museum's Ultimo site will be retained, and the Museum will operate over four sites across the Greater Sydney area.
- **Powerhouse Collection Relocation and Digitisation Project**: The relocation of the Powerhouse collection and digitisation of around 338,000 objects, enhancing the collection's accessibility for local, national and international audiences.

The MDC expansion is an integral component of the Powerhouse Program and will provide the opportunity to increase visitation to the site, establishing a significant cultural institution within The Hills Shire. In addition to the storage component of the proposal, the expansion will increase access to the Powerhouse collection through a range of spaces for visible storage, research and viewing of the collection, as well as flexible spaces for education and public programs, workshops, talks, exhibitions and events.

### *3.2.1 Planning Proposal to Amend Zoning and Building Height*

On 18 October 2019 a Planning Proposal (Council Reference No. 5/2020/PLP, DPIE Reference No. PP_2020_THILL_001_00) was submitted to The Hills Shire Council to rezone part of 2 Green Road, Castle Hill and amend the maximum height of buildings to facilitate the expansion of the MDC. The Planning Proposal seeks the following amendments to LEP 2019:

- Amend the zoning from R2 Low Density Residential zone to SP2 "Information and Education Facilities" Zone.
- Increase the maximum building height development standard from 10m to 15m.

The amendment to LEP 2019 is sought because the proposed development is prohibited in the R2 Low Density Residential Zone and the current 10m maximum building height that applies to the site is insufficient to accommodate the scale of development required. The existing MDC site at 172 Showground Road, Castle Hill does not have any building height control under LEP 2019.

On 30 April 2020, the Delegate of the Minister for Planning and Public Spaces issued the Gateway Determination for the Planning Proposal to proceed subject to conditions. The Planning Proposal was publicly exhibited by Council from 19 June 2020 to 17 July 2020, with submissions received from:

- Department of Education.
- Environment, Energy and Science Group.
- Transport for NSW.
- Endeavour Energy.
- Council.

At a council meeting on 25 August 2020, the Hills Shire Council supported the recommendation that the planning proposal proceed to finalisation.

In accordance with the conditions of the Gateway Determination, Council is authorised as the local plan-making authority.

The amending Local Environmental Plan is to be finalised by 30 November 2020.

## 3.3 Objectives of the Development

The objectives of the MDC Expansion are:

- To enable the development of an expanded MDC facility (proposed Building J with 8,135m$^2$ GFA) to provide permanent additional storage, production and operational facilities suitable to the needs and specifications of MAAS that is similar in both scale and operation to existing facilities on the MDC site.
- The new facilities are to accommodate the collection storage (in particular for Very Large Objects e.g. trains, planes, etc), workshops, offices, conservation and treatment facilities that is fully integrated with the MDC site and its operational requirements.
- Ensure the specialist facilities are delivered to a world-class standard and to protect valuable State heritage and cultural assets/collections in a secure, controlled and environmentally sustainable location.
- Enhance the role of the MDC site as an integral part of the MAAS network of sites and provide storage for all of the MAAS collection objects, which are not otherwise being displayed in museum exhibitions or on loan to other institutions.
- Support the growth and development of the arts and cultural employment and skills sector in Western Sydney.
- Maintain the existing TAFE site functions and continue to work collaboratively with TAFE with respect to education opportunities associated with the proposal once operational.

## 3.4 Analysis of Alternatives

### *3.4.1 Strategic Need for the Proposal*

This proposal is consistent with the applicable strategic planning policies detailed in this report in **Section 7.1** and is a critical component of the NSW Government's plan to establish a new Powerhouse Museum at Parramatta. The successful delivery of this SSD project supports a priority cultural infrastructure project and is a NSW Government 2019 election commitment (Powerhouse Precinct at Parramatta). This application will deliver a significant cultural institution for Castle Hill and The Hills Shire. The Final Business Case Summary for "Powerhouse Museum in Western Sydney" provides the following matters of relevance:

*"The Greater Sydney Region Plan Metropolis of three Cities identifies the relocated Museum as one of the key projects that will drive the transformation of Greater Parramatta. The Greater Sydney Commission's Central City District Plan states that "a new museum on the banks of Parramatta River will be the anchor for arts and culture for the District. It has potential to deliver world-class opportunities for education and research, alongside exhibition space, and space for social and digital interaction and exchange.*

*Also included within the Project's scope is the expansion of the current Museums Discovery Centre at Castle Hill to provide a purpose-built facility for the care and storage of MAAS's collections. This investment will reduce the need for collection treatment and storage in Parramatta, and thereby maximise gallery and visitor space."*

The MDC expansion is an integral component of the Powerhouse Program and will provide an important and significant cultural institution within The Hills Shire and the Central "River City" District. In addition to the storage component of the proposal, the expansion will increase public access to the Powerhouse collection and opportunities for increased visitation to the site through a range of spaces for visible storage, research and viewing of the collection, as well as flexible spaces for education and public programs, workshops, talks, exhibitions and events.

### *3.4.2 Alternative Options*

Three options have been considered in response to the strategic need and objectives of the MDC Expansion Project. The options summarised have been developed to accommodate the operational requirements of MAAS and the applicable Final Business Case Summary prepared by Infrastructure NSW for the "Powerhouse Museum in Western Sydney". These options are described briefly below (refer to the Architectural Design Report at **Appendix B** for an analysis of the design options B and C considered):

- **Option A (within existing MDC site)**: This option involved the redevelopment of the existing G Store building to accommodate a new J Store building within the existing MDC site. Several compromises were apparent with this option in relation to the architectural and urban design outcomes. Furthermore, this option would create a significantly larger building than the existing G Store building and yet would not result in the requisite floor area of the MDC Expansion Project.

- **Option B (expansion beyond existing MDC site)**: Construction of proposed Building J in the southern part of the site TAFE site along the Showground Road boundary in an east-west orientation. The building would have a footprint of approximately 110m by 35m. Removal of a majority of car parking spaces from the existing TAFE site car parking would be required with limited scope to provide the car parking spaces at-grade elsewhere within the TAFE site. Vehicle access to the MDC site from Showground Road would be retained. Refer to **Figure 2** below.

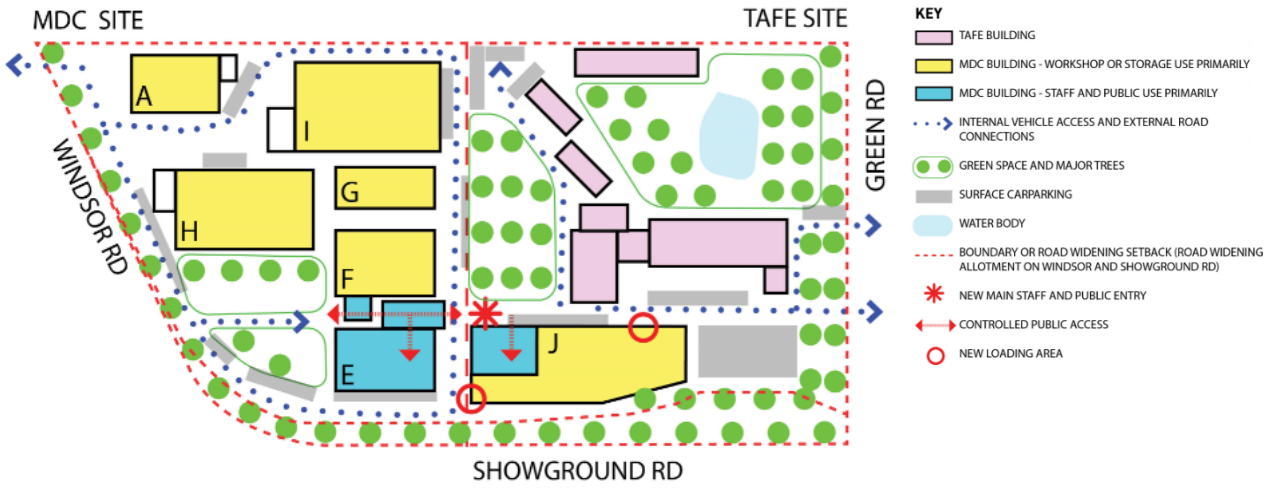



**Figure 2: Alternative Option – Option B – Indicative site layout**
**Source: Lahznimmo Architects**

- **Option C (preferred option)**: Construction of the proposed Building J in the western part of the TAFE site, running north to south along the eastern boundary of the MDC site. Option C includes removal of the existing plantation eucalyptus trees within the site and relocation of 22 car parking spaces to the eastern side of the TAFE site near the Green Road access point. The primary vehicle access to the MDC site from Showground Road will be retained. Refer to **Figure 3** below.

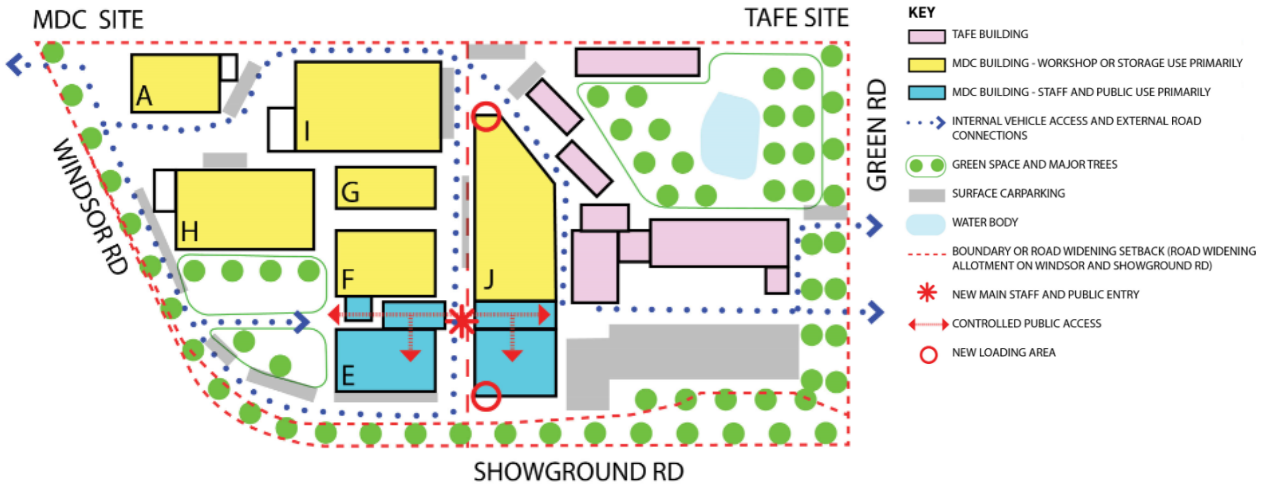



**Figure 3: Alternative Option – Option C – Indicative site layout**
**Source: Lahznimmo Architects**

The Architectural Design Report prepared by Lahznimmo Architects (held at **Appendix B**) provides details of Options B and C.

### *3.4.3 'Do Nothing' Scenario*

Under the 'Do Nothing' scenario, Building J would not be built. The current MDC site facilities would not be able to accommodate the increased demand for storage requirements, conservation and research facilities and would jeopardise the NSW Government's plans to establish a new Powerhouse at Parramatta. The 'Do Nothing' scenario would negatively impact the ability of the existing facilities and buildings at the MDC site to facilitate public access to these collections through education, public programs, workshops, talks, exhibitions and events.

The 'Do Nothing' scenario would also fail to realise the strategic need for the proposal and would be inconsistent with the NSW Government strategic policies and the objectives of the final Business Case Summary for the "Powerhouse Museum in Western Sydney" to provide a *"purpose-built facility for the care*

*and storage of MAAS's collections. This investment will reduce the need for collection treatment and storage in Parramatta, and thereby maximise gallery and visitor space".*

### *3.4.4 Preferred Design Option (the project)*

Option C is the preferred development option to deliver the MDC Expansion Project. The proposal has been selected as it meets the operational requirements of MAAS, it aligns with the NSW Government strategic policy and achieves the following key design and planning outcomes:

- Logical functional arrangement and layout providing staff and public areas to the south and storage areas to the north of the building.
- Overall building height minimised and compliant with the proposed 15m building height.
- A compact MDC site that provides a distinct physical separation between the MDC and TAFE sites and allows for better master planning opportunities for the MDC and TAFE sites in the future.
- VLO storage provided on the lower ground level for ease of access.
- Reduced building facade facing Showground Road.
- No net loss of car parking from the TAFE site with 24 car parking spaces to be created within an expanded car parking area within the TAFE site.
- Compliance with the minimum 10m setback from the dedicated road widening reserve along Showground Road.

The proposal will also include the delivery of a Tree Replacement Strategy which will replace the 337 plantation eucalyptus trees removed from the site at a ratio of 2:1 within The Hills Shire Local Government Area resulting in a net positive impact to landscape canopy cover for the region.

The design for Building J has been the subject of a collaborative design process involving Lahznimmo Architects working closely with staff at MAAS and Create Infrastructure to develop the final scheme as described in **Section 5** of this EIS. The design for the project was presented to the Government Architect NSW State Design Review Panel (SDRP) in July 2020. The SDRP endorsed the proposal and the feedback received from the SDRP has been incorporated into the final design.

## 3.5 Secretary's Environmental Assessment Requirements

In accordance with Section 4.39 of the EP&A Act, the Secretary of the Department of Planning, Industry and Environment issued the requirements for the preparation of the EIS on 4 July 2020 A copy of the Secretary's Environmental Assessment Requirements (SEARs) is included at **Appendix C**.

**Table 1** provides a detailed summary of the individual matters listed in the SEARs and identifies where each of these requirements has been addressed in this report and the accompanying technical studies.

**Table 1: Secretary's Environmental Assessment Requirements – SSD-10472**

| **Requirement** | **Location in Environmental Assessment** | |
|---|---|---|
| **Key Issues** | **Report/EIS** | **Technical Study** |
| **1. Statutory and Strategic Context** | | |
| • Address all relevant Environmental Planning Instruments, plans, policies and guidelines, including (but not limited to those) outlined at Appendix A | Section 7.1 | |
| • Detail the nature and extent of any prohibitions that apply to the development | Section 3.2 | |
| • Identify compliance with the development standards applying to the site and provide a detailed justification for any non-compliances | Section 7 | |
| • Address the Planning Proposal PP_202_THILL_001_00 and conditions of the gateway determination dated 30 April 2020. | Section 2 | |
| **2. Design Excellence**<br>The EIS shall: | | |
| • Detail the design review process that has informed the development, including review by State Design Review Panel (SDRP) prior to lodgment and during assessment of the | Section 3.4.4 | |

| | | |
|---|---|---|
| proposal | | |
| • Respond to the advice from the SDRP prior to lodgment | Section 3.4.4 | |
| • Detail of an ongoing process to ensure design integrity. | Section 3.4.2 | Appendix B |
| **3. Built form and urban design**<br>The EIS shall: | | |
| • Address and respond to the height, bulk and scale of the proposed development within the context, streetscape and visual and physical character of the locality | Section 5.5.1 | Appendix B |
| • Consider the visual and view impact from surrounding areas including from Showground Road, Sunderland Avenue and residential properties and Green Road/ TAFE site and design considerations to mitigate any impacts | Section 5.5.1 | Appendix B |
| • Provide details of building materials, finishes and colours | Section 5.5.1 | Appendix A<br>Appendix B |
| • Address Crime Prevention Through Environmental Design Principles (CPTED) | Section 7.3 | Appendix AA |
| • Detail the location, size and content of any proposed signage zones and provide an assessment of the proposed signage zones against the requirements of SEPP 64 - Advertising and Signage. | Section 5.12 | Appendix B |
| **4. Landscaping**<br>The EIS shall: | | |
| • Provide an integrated landscape design for the proposed development, including trees and vegetation to be removed | Section 5.4 | Appendix F and Appendix G |
| • Include a Tree Replacement Strategy and detail any arrangements with Council for tree replanting proposed off site, including identifying possible suitable planting locations | Section 7.9.1 | Appendix O |
| • Detail use of native vegetation communities and plant species | Section 4.2 | Appendix F and Appendix G |
| • Detail how landscaping will reduce visual, privacy and amenity impacts on surrounding residential development | Section 5.6 | Appendix F |
| • Consider proximity to electrical infrastructure and water pipes in landscaping selection. | Section 5.6 | Appendix F |
| **5. Integration with existing MDC and TAFE site**<br>The EIS shall: | | |
| • Address any impact on the existing TAFE site operations (during construction and operation) and potential future TAFE expansion | Section 7.10 | Appendix H |
| • Detail how the proposal will integrate with the existing Museums Discovery Centre (MDC) site | Section 7.14 | |
| • Outline how the proposal relates to the Powerhouse Program. | Section 2 | |
| **6. Operation of Building J**<br>The EIS shall provide detail of the proposed operation and management of Building J including: | | |
| • Hours of operation and staff numbers | Section 5.2 | Appendix I |
| • Proposed uses, including detail of education and public programs | Section 5, Section 5.5 | |
| • Public access to the Powerhouse collection | Section 5 | |
| • Forecast visitor numbers | Section 5.2 | Appendix I |
| • Consideration of operational impacts and mitigation measures required to protect the amenity of surrounding development. | Section 7.8 | Appendix E |
| **7. Amenity**<br>The EIS shall: | | |
| • Assess potential overshadowing, noise, reflectivity, visual privacy, including any amenity impacts of the proposal on surrounding development and the public domain | Section 5.1 | Appendix B |
| • Include a noise and vibration assessment in accordance with the relevant EPA guidelines. This assessment must detail construction and operational noise impacts on nearby sensitive | Section 7.8 | Appendix E |

| | | |
|---|---|---|
| receivers and outline the proposed management and mitigation measures that would be implemented. | | |
| **8. Transport, traffic, parking and access (construction and operation)**<br>The EIS must be accompanied by a Traffic and Accessibility Impact Assessment (TAIA) which details, but is not limited to, the following: | | |
| • Estimated total daily and peak hour trips generated by the proposal, including vehicle, public transport, pedestrian and bicycles, based on surveys of existing and similar sites | Section 7.4 | Appendix I |
| • Accurate details of the current daily and peak hour vehicle, existing and future public transport, pedestrian and cycle movements on the adjacent road network | Section 7.4 | Appendix I |
| • Adequacy of existing or future public transport infrastructure and pedestrian and bicycle networks in the vicinity of the site, and infrastructure to meet likely future demand of the proposal | Section 7.4 | Appendix I |
| • Proposed hours of operation, staff numbers and forecast visitor numbers by mode over a weekday and weekend (including bus and coach forecasts) | Section 7.4 | Appendix I |
| • The impact of trips generated by the development on nearby intersections, including cumulative impacts from approved developments in the vicinity. Provide SIDRA traffic modelling and analysis (current and future years) for the following intersections:<br>– Showground Road at Windsor Road<br>– Showground Road at Victoria Avenue/ Green Street. | Section 7.4 | Appendix I |
| • Identify and detail any upgrades to infrastructure required to improve impacts on traffic efficiency and road safety impacts associated with the proposal | Section 7.4 | Appendix I |
| • Details of travel demand management measures to minimise the impact on general traffic and bus operations, in consultation with Council and TfNSW, including details of a Green Travel Plan (GTP) and specific Workplace travel plan. | Section 7.4 | Appendix I |
| • Proposed access arrangements (car and bus pick-up/drop-off facilities) and measures to mitigate associated traffic impacts and impacts on public transport, pedestrian and bicycle networks | Section 7.4 | Appendix I |
| • Site accessibility, including requirements for staff/ visitors, measures to address them and any priority arrangements | Section 7.4 | Appendix I |
| • Wayfinding measures to identify direction and distance from nearby public transport | Section 7.4 | Appendix I |
| • An assessment of the cumulative demand and provision of on-site parking for staff, visitors, buses and any other parking, in accordance with relevant parking codes and Australian Standards | Section 7.4 | Appendix I |
| • Address any loss of informal car parking on the site and requirements of DA 1674/2007/HA | Section 7.4 | Appendix I |
| • Arrangements to accommodate overflow parking from weekend events in the TAFE site | Section 7.4 | Appendix I |
| • Proposed bicycle parking provision, including end of trip facilities | Section 7.4 | Appendix I |
| • An assessment of road and pedestrian safety adjacent to the site, required road safety measures and personal safety | Section 7.4 | Appendix I |
| • Emergency and service vehicle access, delivery and loading arrangements and estimated movements | Section 7.4 | Appendix I |
| • A preliminary Construction Pedestrian and Traffic Management Plan (CPTMP). | Section 7.4 | Appendix I |

| | | |
|---|---|---|
| **9. Social Impact Assessment**<br>The EIS shall include a social impact assessment, which: | | |
| • Identifies, analyses, and proposes responses to any likely social impacts, whether positive or negative, that people may experience as a result of the project on their surroundings, health and wellbeing, community, culture, or their access to and use of infrastructure, services, and facilities; | Section 7.6 | Appendix Y |
| • Investigates whether any group in the community may disproportionately benefit or experience negative impacts, and proposes commensurate responses consistent with socially equitable outcomes; | Section 7.6 | Appendix Y |
| • Considers social impacts for all stages of the project lifecycle, i.e. site preparation and clearing, construction, and operation. | Section 7.6 | Appendix Y |
| **10. Aboriginal cultural heritage**<br>The EIS shall: | | |
| • Include an Aboriginal Cultural Heritage Assessment Report (ACHAR) which:<br>– Identifies and describes the Aboriginal cultural heritage values that exist across the whole area that would be affected by the development<br>– Assesses impacts on Aboriginal cultural heritage values and demonstrate attempts to avoid impacts, identify any conservation outcomes and measures to mitigate impacts. | Section 7.7 | Appendix J |
| • Ensure consultation has taken place with Aboriginal people and is documented in accordance with the Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW). | Section 7.7 | Appendix J |
| **11. Construction** | | |
| The EIS shall address potential impacts of the construction on surrounding buildings and the public domain, including noise and vibration, air quality and odour impacts, dust emissions, water quality, stormwater runoff, groundwater seepage, soil pollution and construction waste, and details of measures to mitigate any impact. | Section 7.10 | Appendix E,<br>Appendix H |
| **12. Servicing and Waste**<br>The EIS shall: | | |
| • Identify, quantify and classify the likely waste streams to be generated during construction and operation of the development and describe the measures to be implemented to minimise, manage, reuse, recycle and safely dispose of this waste with reference to relevant guidelines | Section 7.13 | Appendix H<br>Appendix P |
| • Identify appropriate servicing arrangements (including but not limited to, waste management, loading zones and mechanical plant) for the site. | Section 7.13 | Appendix J<br>Appendix T |
| **13. Flooding, drainage and stormwater**<br>The EIS shall: | | |
| • Include an assessment and proposed management of the flooding, stormwater, drainage and groundwater issues associated with the site, environs and the proposed development, including an integrated water management strategy that incorporates wastewater, rainwater and stormwater runoff | Section 7.11 | Appendix Z |
| • Prepare a stormwater management report demonstrating how stormwater would be appropriately managed in accordance with Council's requirements, including future stormwater runoff to be attenuated to existing flow in line with Council's on-site detention requirements | Section 7.11 | Appendix Z |
| • Assess water quality and hydrology impacts of the development, including any downstream impacts for both surface and groundwater and any impacts on natural processes | Section 7.11 | Appendix Z |

| | | |
|---|---|---|
| and functions. | | |
| **14. Ecologically Sustainable Development (ESD)**<br>The EIS shall: | | |
| • Identify how the development will incorporate ESD principles (as defined in Clause 7(4) of Schedule 2 of the Regulation) in the design, construction and ongoing operation phases of the development, and include innovative and best practice proposals for environmental building performance | Section 7.12 | Appendix Q |
| • Include a framework for how the future development will be designed to consider and reflect best practice sustainable building principles to improve environmental performance and reduce ecological impact. This should be based on a materiality assessment and include waste reduction design measures, future proofing, use of sustainable and low-carbon materials, energy and water efficient design (including water sensitive urban design) and technology and use of renewable energy | Section 7.12 | Appendix Q |
| • Use the climate change projections developed for the Sydney Metropolitan area to inform the building design and asset life of the project and address impacts including:<br>– Increased frequency of extreme heat days<br>– Extended heatwave events<br>– More extreme (intense) rainfall events. | Section 7.12 | Appendix Q |
| **15. Utilities**<br>The EIS shall: | | |
| • Address the existing capacity and future requirements of the development for the provision of utilities, including electrical network requirements and water related infrastructure (drinking water, wastewater and recycled water services), in consultation with relevant agencies | Section 5.11 | Appendix M |
| • Identify the existing infrastructure on-site and any possible impacts of the proposal on this infrastructure | Section 5.11 | Appendix M |
| • Address Sydney Water requirements for stormwater assets and trade wastewater | Section 5.11 | Appendix M |
| • Outline any sustainability initiatives to minimise/ reduce the demand for drinking water, water sensitive urban design and water conservation measures proposed. | Section 5.11 | Appendix M, Appendix Z |
| **16. Biodiversity**<br>The EIS shall: | | |
| • Include a Biodiversity Development Assessment Report (BDAR), except where a waiver for preparation of a BDAR has been granted. | Section 7.9 | Appendix N |
| • The BDAR must:<br>– Provide an assessment of biodiversity impacts related to the proposed development in accordance with Section 7.9 of the Biodiversity Conservation Act 2017, the Biodiversity Assessment Method<br>– Include information in the form detailed in the Biodiversity Conservation Act 2016 (s6.12), Biodiversity Conservation Regulation 2017 (s6.8) and Biodiversity Assessment Method, including an assessment of the impacts of the proposal (including an assessment of impacts prescribed by the regulations). | Section 7.9 | Appendix N |
| **17. Subdivision** | | |
| The EIS shall detail any proposed subdivision of the site, creation of easements and likely timing. | Section 5.8<br>Section 5.11.1<br>Section 5.16 | Appendix X |

| **Plans and Documents** | |
|---|---|
| The EIS must include all relevant plans, architectural drawings, diagrams and relevant documentation required under Schedule 1 of the Regulation. Provide these as part of the EIS rather than as separate documents.<br><br>In addition, the EIS must include the following:<br>• high quality files of maps and figures of the subject site and proposal | |
| • architectural drawings (to a useable scale at A3) showing key dimensions, RLs, scale bar and north point, plans, sections and elevations of the proposal, illustrated materials schedule, photomontages and shadow diagrams.<br>• site title diagrams and survey plan, showing existing levels, location and heights of existing and adjacent structures/ building | Appendix A |
| • locality/context plan, including significant local | Appendix A |
| • features and site analysis plan | Appendix A |
| • schedule of proposed land uses, including a floor by floor breakdown of gross floor area (GFA), total GFA and FSR | Appendix A |
| • architectural design statement | Appendix B |
| • landscape design statement and landscape plans | Appendix f, Appendix G |
| • tree replacement strategy | Appendix O |
| • arborist report | Appendix V |
| • visual and view impact assessment, including photomontages from residential areas and TAFE site | Appendix B |
| • signage details | Appendix B |
| • acoustic noise and vibration assessment | Appendix E |
| • Aboriginal cultural heritage assessment | Appendix J |
| • traffic and transport impact assessment | Appendix I |
| • ESD statement (incorporating a sustainability framework) | Appendix Q |
| • construction and environmental management plan | Appendix H |
| • construction pedestrian and traffic management plan | Appendix I |
| • waste management plan | Appendix H, Appendix P |
| • stormwater and flooding report | Appendix Z |
| • biodiversity assessment report (or waiver) | Appendix N |
| • geotechnical statement | Appendix R |
| • structural engineering statement | Appendix S |
| • access / DDA impact statement | Appendix T |
| • BCA Report | Appendix U |
| • consultation report. | Appendix W |
| **Consultation** | |
| During the preparation of the EIS, you must consult with the relevant local, State or Commonwealth Government authorities, service providers, community groups and affected landowners.<br><br>In particular you must consult with:<br><br>• The Hills Shire Council<br>• Government Architect NSW<br>• Transport for NSW<br>• Environment, Energy and Science<br>• TAFE NSW/ Department of Education. | Appendix W |
| The EIS must describe the consultation process and the issues raised and identify where the design of the development has been amended in response to these issues. Where amendments have not been made to address an issue, a short explanation should be provided. | Appendix W |

## 4 SITE ANALYSIS

### 4.1 Site Location and Context

The subject site comprises two separate but contiguous allotments on the north side of Showground Road between Windsor Road and Green Road, Castle Hill as shown at **Figure 4** below. The lots are known as:

- 2 Green Road, Castle Hill which is legally described as Lot 102 DP 1130271 and occupied by TAFE NSW (the "TAFE site"); and
- 172 Showground Road, Castle Hill which is legally described as Lot 1 DP1066281 and occupied by MDC (the "MDC site").

Building J is proposed to be located on the western side of the TAFE site, where it adjoins the MDC site. The TAFE site is rectangular in shape except for a splay corner to the intersection of Green Road and Showground Road. It has a primary frontage of approximately 183m to Green Road, a secondary frontage of approximately 186m to Showground Road and a total area of approximately 3.8ha. It is developed with large institutional buildings and areas of car parking set within a landscaped setting with a high tree canopy. The Building J site is marked on **Figure 4** in a dashed yellow line.

The MDC site is irregular in shape with frontage to the intersection of Windsor Road and Showground Road of approximately 307m, an eastern boundary shared with the TAFE site of approximately 195m, a northern boundary of approximately 207m and a total area of approximately 3.1ha. The MDC site is developed with large institutional buildings and car parking and loading areas with a landscaped setback to the intersection of Windsor and Showground Roads.

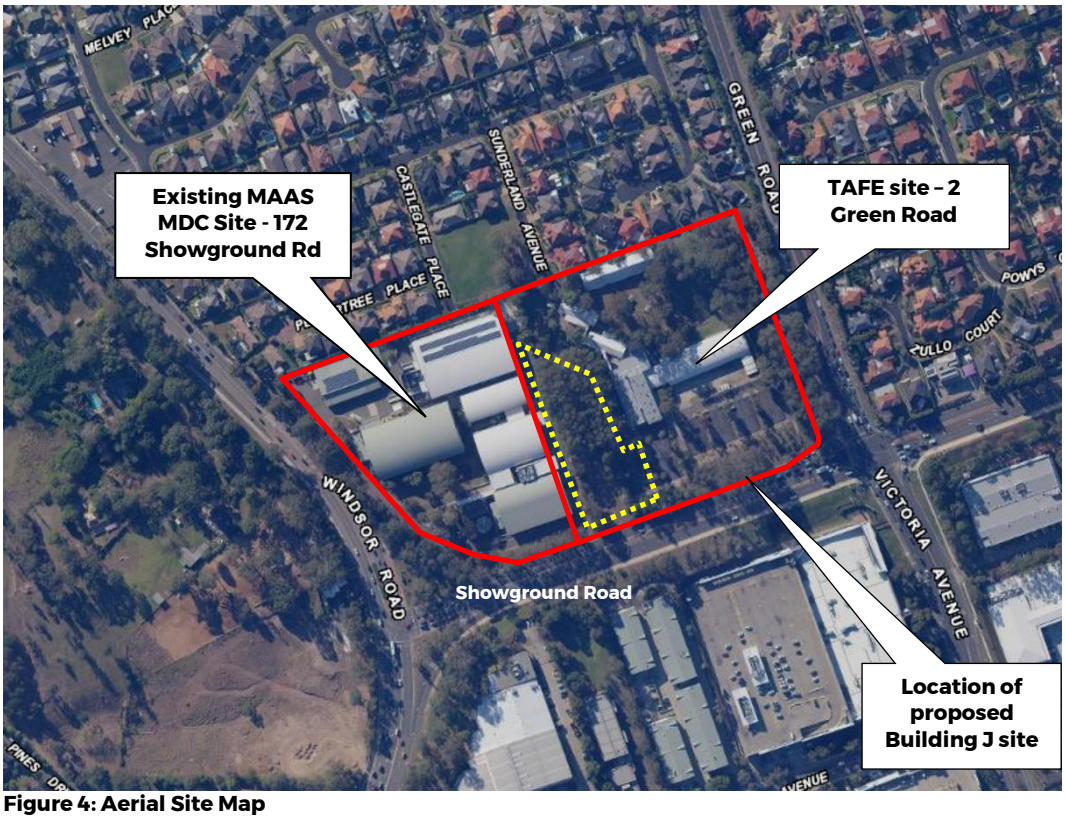



**Figure 4: Aerial Site Map**
**Source: SIX Maps 2020**

## 4.2 Site Description

The Building J site has a total area of 6,552m$^2$, measures approximately 160m in length, 49.5m wide in the "middle section" and 76m wide at the southern end. It has a boundary to the MDC site to the west and a southern boundary to the road widening reserve to Showground Road. The Building J site is generally level. The location of the proposed development (Building J) includes a plantation of densely planted trees, refer to **Photos 1 and 2**, as well as internal driveway and car parking on the southern end (refer to **Photos 3 and 4**).

**Photo 1: View south east looking towards the proposed development site (Building J location) from Building F on the MDC site**

**Photo 2: View north east looking towards the site, from Building F on the MDC site**

**Photo 3: View north along eastern edge of the site, showing interface with existing TAFE building**

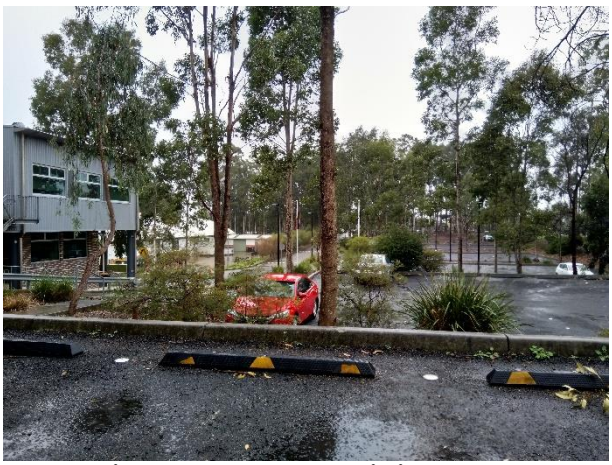


**Photo 4: View east towards the existing TAFE car park from southern end of the development site**

**Photo 5: View west towards proposed location of Building J, from TAFE internal driveway**

**Photo 6: View east looking toward the site (trees in background), Building F in the foreground**

### *4.2.1 Existing Development*

The location of proposed Building J is located on the western end of the existing TAFE site, near the eastern boundary of the MDC site. The overall site is a TAFE campus that caters for approximately 400 enrolled students, and provides courses on business and financial services, hospitality, general education, community services, health, nursing, carpentry, building and retail, existing on-site are TAFE buildings, car parking and vegetated open space areas.

A dam is situated in the north eastern side of the site. The main public vehicle access to the MDC site is via Windsor Road. There are also vehicle access points to the MDC on Showground Road and Green Road. The MDC and TAFE have a longstanding arrangement, that permits vehicle access to the MDC site from Green Road and allowing vehicles to traverse across the TAFE site to access the MDC site.

### *4.2.2 Site History*

In the 1940s, the Museum of Applied Arts and Sciences (the Museum) sought to acquire land in NSW to establish an experimental plantation for researching essential oils. A number of options were explored before the final decision was made to acquire property at Castle Hill, a site which encompasses what is now the MDC and TAFE sites.

Based on research undertaken by the Museum in 1990, it is understood that under the Public Works Act 1912, the State Government acquired the land, comprising the current day TAFE and MDC sites, 'for a public school' in 1947. The Museum began research into the use of essential oils at the Castle Hill property in 1948 by planting a range of trees and shrubs. Buildings on the property included:

- A still-house containing five stills for the distillation of oil from the plantation leaves and a laboratory
- A residence for the on-site manager
- A range of sheds and a glasshouse.

Research into essential oils continued until 1979 when a report issued by the NSW Science and Technological Council recommended that the research undertaken by the Museum be transferred to the Department of Agriculture, as part of a wider rationalisation of all research being undertaken by NSW Government departments.

The Land Title to the entirety of the property (incorporating what is now the MDC and TAFE sites) was initially held by the NSW Department of Education. The Land Title for a portion of the site (on which the MDC site now sits) was transferred to the Museum on 27 April 1994, and the remainder of the site was retained by the Department of Education.

### *4.2.3 Topography*

The site is a modified landform that has been graded by past human activities including horticultural and plantation works within the northern end of the site and to provide an unsealed car park in the southern end of the site as part of the TAFE operations. The site slopes from the southern boundary to the northern boundary by 4.78m (RL 115.5 to RL 110.72) and a crossfall from the western boundary to the eastern boundary by 2.11m (RL 113.35 to RL 111.24).

There are no significant landform or topographical features that exist on the site that would affect the design Building J.

Refer to the Site Survey Plan prepared by YSCO Geomatics at **Appendix D** for details.

### *4.2.4 Vegetation*

The location of the proposed development includes a plantation of densely planted trees (**Photos 1 and 2**), including a collection of native trees and vegetation lining Greens Road, which are a mixture of structurally modified woodland vegetation and planted rows of *Corymbia Maculata* (Spotted Gum) trees. From 1948, a range of trees and shrubs were planted at the Castle Hill property as part of MAAS research into essential oils.

As a result of the proposed development, 337 trees from the TAFE site will be removed to accommodate proposed Building J. Of these 337 trees, 330 are plantation trees that were planted as part of MAAS research. There is no remnant Cumberland Plain woodland vegetation on proposed Building J site. New landscaping, including a mix of ground covers, shrubs and trees is proposed and will be subject to a detailed Landscape Plan to be submitted with the DA.

Refer to the Arboricultural Impact Assessment prepared by MacKay Tree Management for details (**Appendix V**).

### *4.2.5 Built Heritage*

The site is not listed as a heritage item under the Heritage Act 1977 or any environmental planning instrument including the Schedule 5 of The Hills Local Environmental Plan 2019.

The site is located approximately 115m to the north east of the nearest heritage item listed in Schedule 5 of LEP 2012, known as *"Windsor Road from Baulkham Hills to Box Hill"* (local heritage item No. I28). No works are proposed in proximity of the heritage item nor will the proposal impact upon views to and from the heritage item or the setting of the heritage item. There are no other heritage items located within the vicinity of the site.

### *4.2.6 Aboriginal Heritage*

Prior to European occupation of the area, Aboriginal people had inhabited the Cumberland Plain since at least the Pre-Bondaian phase (c.30,000BP), possibly even earlier. The Castle Hill area had a range of natural environments and resources accessible and supported a diverse ecosystem of plants and animals, creating an attractive and productive location for Aboriginal occupation and life. The traditional lifestyle of the Dharug Aboriginal people who lived in Castle Hill was significantly impacted by the European colonial settlement. The Aboriginal population in the area decreased as the community came into conflict with the settlers and were displaced, being forced to move into territories of other Aboriginal clans to access resources.

Numerous Aboriginal archaeological excavations have taken place within the Cumberland Plain and Hills Shire region. The most commonly found Aboriginal site within the Cumberland Plain is the stone artefact scatter or 'open camp site'. Although there are no registered sites within the study area, Aboriginal site types most likely to be located there would be artefact and Potential Archaeological Deposit (PAD) sites.

### *4.2.7 Access and Parking*

The main public vehicle access to the MDC site is via Windsor Road. There are also vehicle access points to the MDC site on Showground Road and Green Road. The MDC and TAFE have a longstanding arrangement

that permits vehicle access to the MDC site from Green Road and allowing vehicles to traverse across the TAFE site to access the MDC site. This arrangement will be formalised through the establishment of a Right of Way Easement to be registered prior to the commencement of operation of proposed Building J.

The site is also accessible by bus, the nearest bus stop is located on the Showground Road frontage of the site which provides bus routes to the Hills Showground Metro Station (a short bus ride of less than 5 minutes) and nearby Castle Towers Shopping Centre.

The existing MDC site currently accommodates a total of 54 on-site car parking spaces. The Transport Assessment prepared by JMT Consulting at **Appendix I** has assessed the car parking and traffic-related impacts of the proposed development. The overall car parking demand for the MDC inclusive of proposed Building J will be 37 car parking spaces, well within the 54 car parking spaces existing on-site.

During operation it is expected that the operation of proposed Building J will generate (at most) 5 to 10 daily service vehicle movements. These service vehicle movements will be spread over the day and will not impact the operation of the road network.

Space for five bicycles to park for staff and visitors at any one time is provided (equivalent to 10% of the total staff population) at ground level on the western side of the building in an undercover location. End of trip facilities including showers and change rooms are already provided in the MDC site and will be made available to staff.

Section 7.4 of this EIS provides further assessment of the car parking and traffic implications of the proposed operation of Building J.

In addition to the above, the site is accessible through the existing footpath network and cycleways that will facilitate walking and cycling as sustainable transport options for staff and visitors to the site.

#### *4.2.8 Soil and Geotechnical Conditions*

Soil Condition

A Stage 1 – Preliminary Site Investigation Report has been prepared by Alliance Geotechnical (**Appendix K**) to achieve the following objectives:

- *"Assess the potential for contamination to be present on the site as a result of past and current land use activities;*
- *Provide advice on whether the site would be suitable (in the context of land contamination) for the proposed land use setting; and*
- *Provide recommendations for further investigation, management and/or remediation (if warranted)."*

The Stage 1 – Preliminary Site Investigation Report concludes that:

- *"Areas of environmental concern (AEC) have been identified for the site; and*
- *Further assessment of the identified AEC, and subsequent management / remediation of identified unacceptable land contamination risks (if warranted), would be required to confirm land use suitability (in the context of land contamination) for the proposed redevelopment works."*

Alliance Geotechnical has prepared a Stage 2 – Detailed Site Investigation Report (**Appendix L**) to address the conclusions in the Stage 1 Report. The Stage 2 report concludes the following:

*"Ecological Screening Levels (ESLs)*

*The concentrations of relevant contaminants of concern detected in the soil samples analysed were less than the applicable adopted ecological screening levels (ESL) with the exception of PFOS (A PFAS compound) within soil samples P4 and P6.*

*Although these samples exceeded the interim indirect exposure guidelines, it is noted that soil from sampling locations where PFAS compounds were identified will be excavated as part of the basement construction thereby removing what limited risk to the limited ecological receptors surrounding the site. Furthermore, due to the nature of the construction, any soil leftover will be covered by concrete including the basement and the ground floor thus removing terrestrial ecological exposure pathways. It is thus the opinion of AG that the detected concentration of PFAS does not pose a significant risk to surrounding ecological receptors.*

The Stage 2 Report concludes the detected concentrations of all identified contaminants of potential concerns are unlikely to present an unacceptable "direct contact/inhalation/vapour intrusion" human health exposure risk". The site is deemed to be suitable for the proposed land use setting.

Geotechnical Conditions

A Geotechnical Investigation Report prepared by Alliance Geotechnical is held at **Appendix R**. The purpose of the Geotechnical Investigation Report to assist with the civil and structural engineering design development of the project by providing recommendations for the following:

- Geotechnical subsurface conditions and groundwater.
- Geotechnical design parameters including allowable bearing capacity and lateral earth pressure for retaining structures.
- Excavation and shoring system.
- Vibrations.

The following scope of work was carried out for the geotechnical investigation:

- Review of the geological maps and the provided architectural drawings.
- A site walkover inspection.
- Six (6) boreholes to a maximum depth of 6.9m below the existing surface level (ESL).
- Point Load tests on the recovered rock core samples.
- Soil aggressivity tests.

The investigation comprised the initial scanning of underground utilities and setting out test locations, followed by the drilling of six boreholes (BH101 to BH106) to a maximum depth of 6.9m. Refer to **Figure 5.**

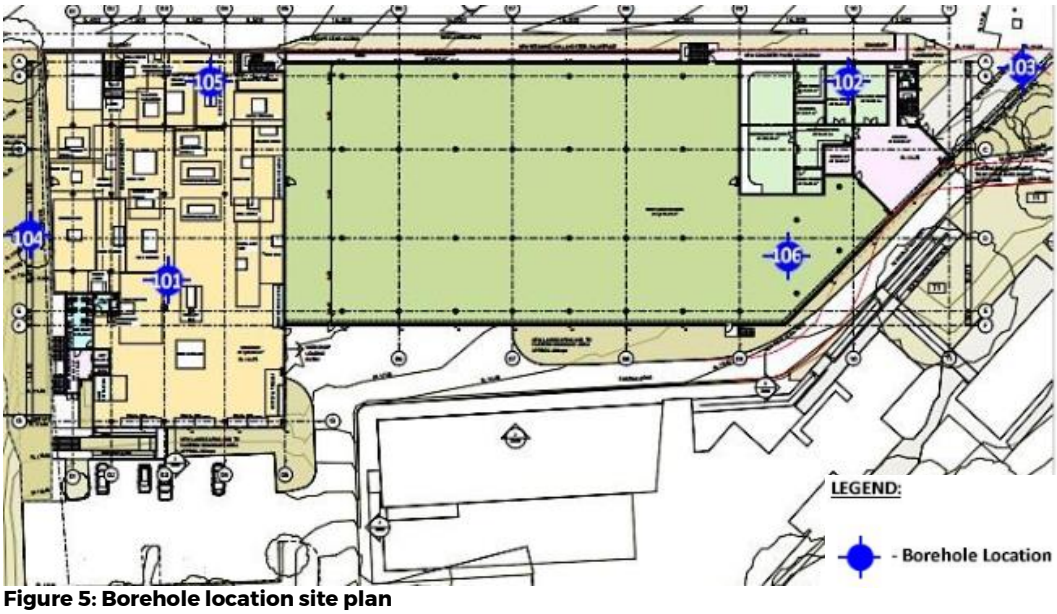



**Figure 5: Borehole location site plan**
**Source: Alliance Geotechnical**

The geotechnical investigation confirmed that the subject site is underlain by Ashfield Shale which comprises laminate and dark-grey siltstone. The stratigraphy of the site comprises silty/sandy clay fill with an average thickness of 0.5m overlying stiff to very stiff silty clay residual soils. A layer of hard residual gravelly clay overlying shale bedrock was encountered at a 1.3m depth in the northern side, dipping to 1.9m depth at the southern side of the site.

The bedrock consisted of "extremely" to "highly weathered", "very low" to "low strength" shale with medium strength shale encountered in the two cored boreholes below depths of 5.4m in Borehole BH101 and 6.6m in Borehole BH102. Groundwater seepage was not encountered during auguring.

### 4.3 Site Context and Surrounding Development

Development surrounding the site to the east, and north consists of established residential neighbourhoods generally comprising two storey detached dwellings. Opposite the site to the south east and south west are a mix of warehouses, industrial units, and large format bulky goods retail premises. Views into the TAFE and MDC site from the surrounding roads is obscured by the dense existing trees and vegetation along the perimeter of the sites. Refer to **Figure 6.**

An unnamed public park and children's playground abuts the northern boundary of the overall site and is bound by Sunderland Avenue to the east and Castlegate Place to the west. The dwellings along Sunderland Avenue and the southern side of Pentonville Parade are the nearest residential properties to the proposed Building J site. The nearest dwelling at 10 Sunderland Avenue is located approximately 50m from the northern edge of the Building J site.

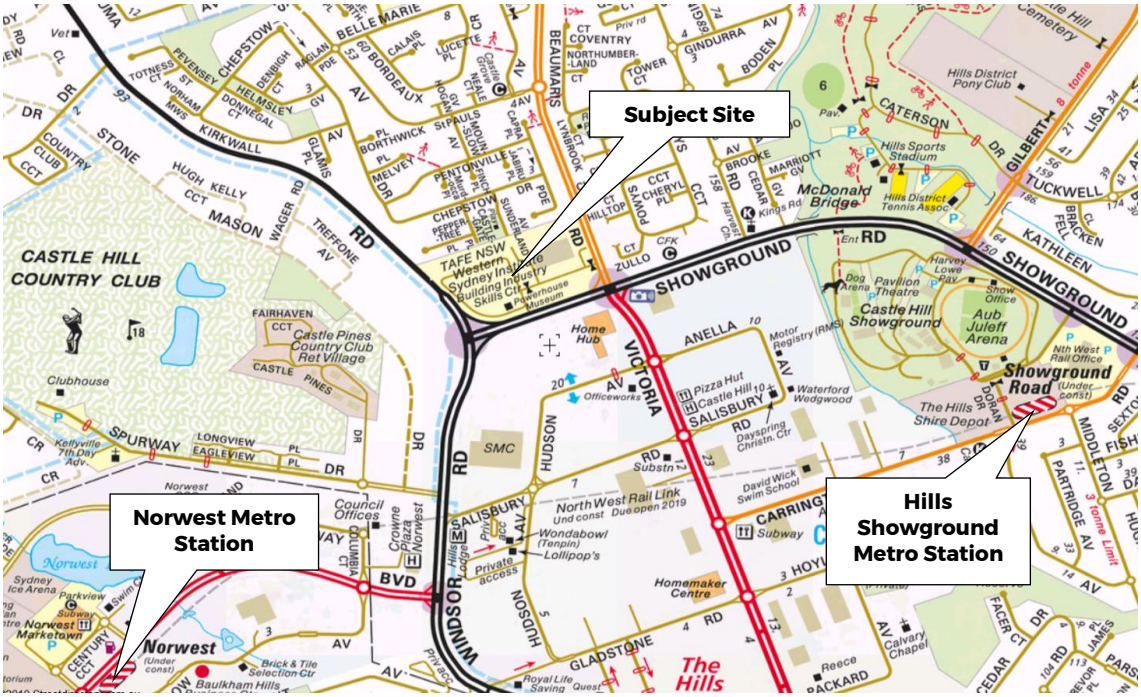



**Figure 6: Site Context Map**
**Source: Sydway Street Directory Online, 2019**

# 5 DESCRIPTION OF THE DEVELOPMENT

This chapter of this EIS provides a detailed description of the proposed development. Architectural drawings prepared by Lahznimmo Architects are included at **Appendix A**. This State Significant Development Application (SSDA) seeks approval for the proposed construction and use of a new building to facilitate the expansion of the MDC site.

Specifically, Development Consent is sought for the following:

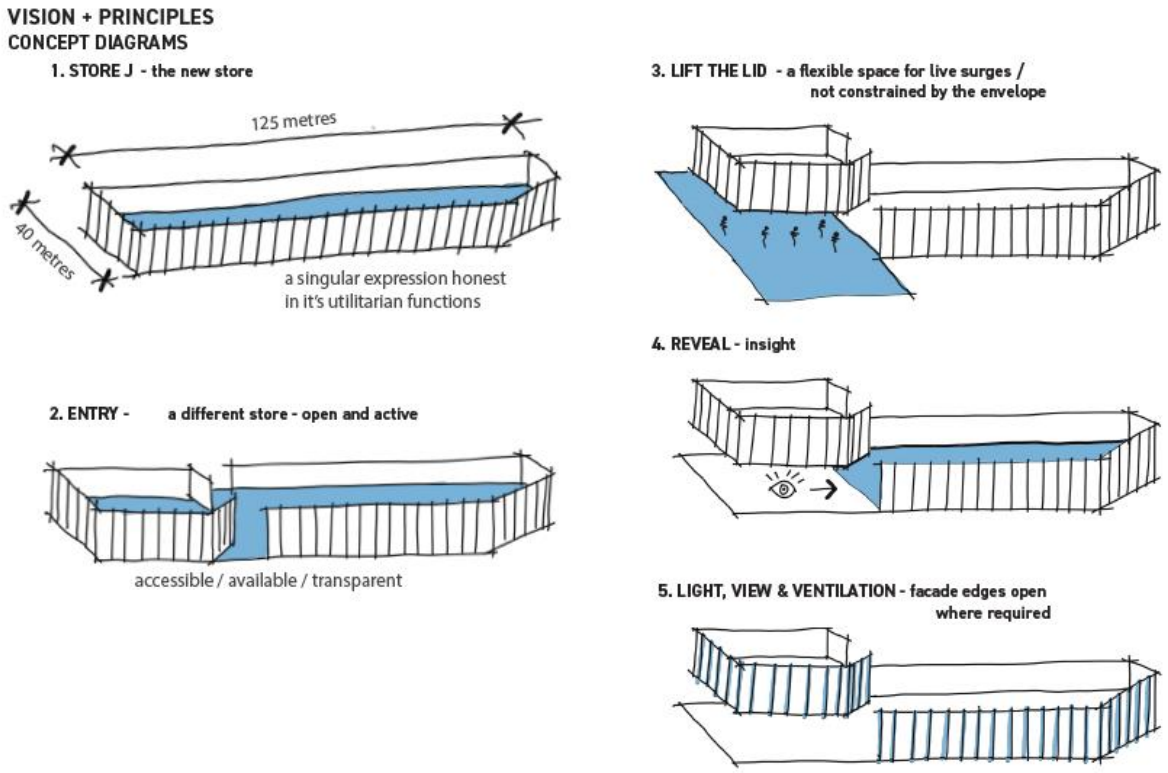
- Site preparation works, including the termination/relocation and installation of site services and infrastructure, tree removal (337 trees in total), earthworks, and the erection of site protection hoardings and fencing.
- Demolition of existing car park and vehicle accessway along the eastern and north eastern parts of the site. A new at-grade car park is proposed to be constructed on the eastern side of the TAFE to offset the loss of 22 car parking spaces removed from the Building J site.
- Construction and use of proposed Building J operating as a 24-hour, 7 day a week facility. The proposed Building J will cater for the following uses:
  - Storage for the Powerhouse collection and archives (both collected archives and institutional archives).
  - Flexible spaces for education and public programs, workshops, talks, exhibitions and events.
  - Suites of conservation laboratories and collection workspaces.
  - Photography, digitisation and collection documentation facilities.
  - Workspace for staff, researchers, industry partners and other collaborators. This will include amenities, meeting and storage rooms, collection research and study areas as well as other ancillary facilities.
  - Components of the image and research library.
  - Object and exhibition preparation, packing, quarantine and holding areas.
- Construction of new vehicle accessway along the eastern side of Building J to maintain connectivity to the MDC and TAFE sites.
- Subdivision of the proposed Building J site from the TAFE site (new lot site area 6,552m$^2$) including creation of right-of-carriageway easement to facilitate access over the new realigned accessway by TAFE vehicles.
- Installation of site services infrastructure including potable water, stormwater, electricity, telecommunications connections.
- Installation and operation of a roof mounted 100kW photovoltaic system on the southern end of the building.
- Installation of a 1,000kVA electricity kiosk substation located within the southern end of the site and creation of associated easement for access and maintenance.
- Installation of building identification signage within five (5) signage zones located on the west, south and east building elevations toward Showground Road.
- New landscaping provided on the site including ground covers, shrubs and trees.
- Implementation of the Tree Replacement Strategy on-site and off-site on public land within The Hills Shire Council. The Strategy will be delivered over several years following construction, in consultation and coordination with Council and other key stakeholders to select appropriate sites for tree planting. A 12-month maintenance period for all replacement tree plantings is proposed.

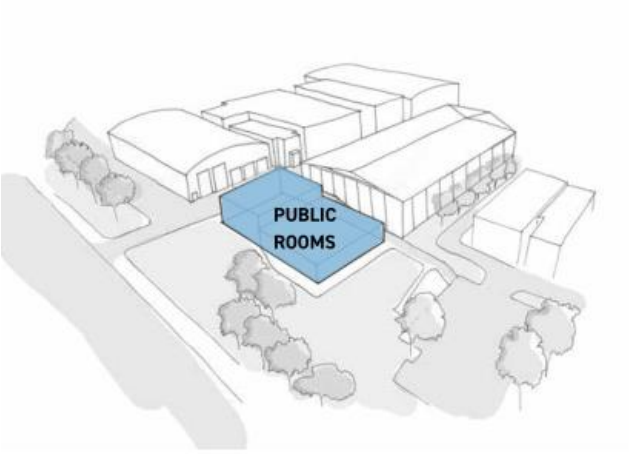
## 5.1 Development and Urban Design Principles

A set of development and urban design principles have been outlined within the architectural Design Report prepared by Lahznimmo Architects to guide development at the site. The planning and design principles adopted for the proposed development of the site are as follows:

- **Store J**: A visible store with a singular expression that is honest in its utilitarian functions
- **Entry**: Open and active entry that is accessible, available and transparent
- **Lift the Lid**: A flexible space for live surges, not constrained by the envelope
- **Reveal**: Opening up space to encourage insight
- **Light, View and Ventilation**: Façade edges open where required to accommodate this
- **The 'Vault'**: Exploiting the strength of the long, linear building form to articulate entry and secure the collection

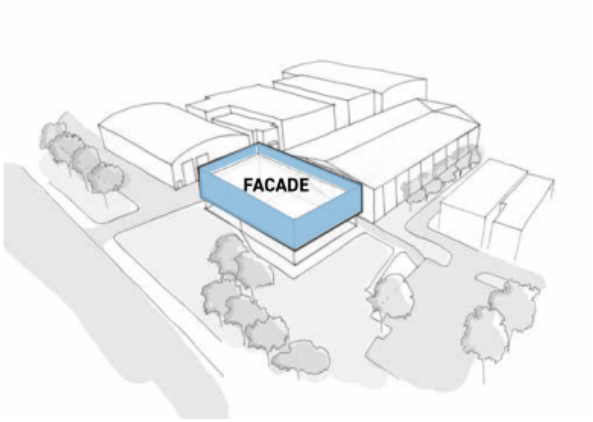
- **Volume**: Create flexible, multi-functional spaces that connect through Building E
- **Street Presence**: Tilting / peeling / folding of the facade to create a dramatic and engaging street presence.



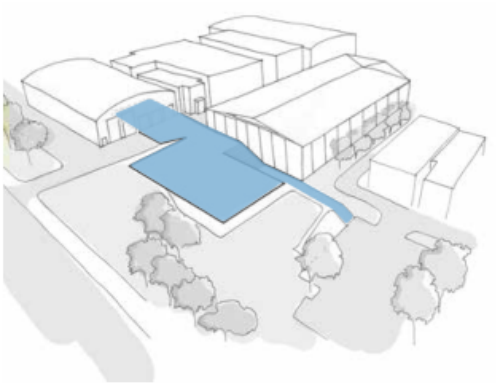

## VOLUME

The Showground Rd end of the building contains the public/visitor spaces, including a connected single and triple-height flexible space that can be used to display very large objects, or for education purposes.
The space connects directly to the East-West link through the building.




## STREET FACADE

The Showground Road facade is purposefully kept unadorned, with the exception of a break in the Aluminium cladding that tilts open in segments, to reveal the triple-height flexible space and any large objects that may be on display.



## GROUND PLANE

The ground plane should feel like a continuous public accessible plane, and have strong indoor/outdoor connections. The ground plane also provides an opportunity to incorporate graphic art.

To strengthen the East/West link through the building, key spaces should have their entries directly accessed from the link.

**Figure 7: Architectural design vision and principles**
**Source: Lahznimmo Architects**

### 5.2 Development Statistics

A summary of the development statistics of the proposed development is provided in **Table 2**.

**Table 2: Numerical Overview of Proposed Development**

| Component | Proposal |
|---|---|
| Site Area | 6,552m$^2$ |
| Gross Floor Area (GFA) | Total GFA: 8,135m$^2$ comprising:<br>• Lower ground floor level: 4,062m$^2$<br>• Ground floor level: 1,033m$^2$<br>• Level 1: 3,076.m$^2$<br>• Level 2: Nil (mechanical plant and voids only)<br>• |
| Floor Space Ratio (FSR) | No FSR applies to the TAFE or MDC sites under LEP 2019 |
| Maximum height | 14.35m (RL 125.1 AHD) |
| Car spaces | Existing 54 car parking spaces on the MDC site will be utilised by the proposal. No additional on-site car parking is proposed. 22 car parking spaces within the footprint of the proposal will be relocated to the eastern end of TAFE site near Green Road |
| Loading docks | One (located at the northern end) |

| | |
|---|---|
| Hours of operation | Public visiting hours will be 10am to 4pm, Monday to Sunday |
| Delivery hours | Typically, deliveries will occur between 8am to 5pm, Monday to Sundays. However, the loading dock will operate 24 hours, 7 days a week to cater for special deliveries that cannot be undertaken during standard business hours |
| Number of staff (maximum) | 50 |
| Forecast visitor numbers | The TIA (refer Appendix I) estimates approximately 80 visitors per day on weekends |

### 5.3 Site Remediation, Demolition and Earthworks

The Stage 1 - Preliminary and Stage 2 - Detailed Site Investigations prepared for the site by Alliance Geotechnical (refer to **Appendix K** and **Appendix L**) conclude that the site is suitable for the proposed development and preparation of a Remediation Action Plan is not required. On this basis, the proposal does require any remediation work as defined in SEPP 55.

This SSDA seeks development consent for demolition of the existing roads, kerbs and car park located on the site (refer to **Figure 8** below). There are no buildings or structures located on the site that require demolition.

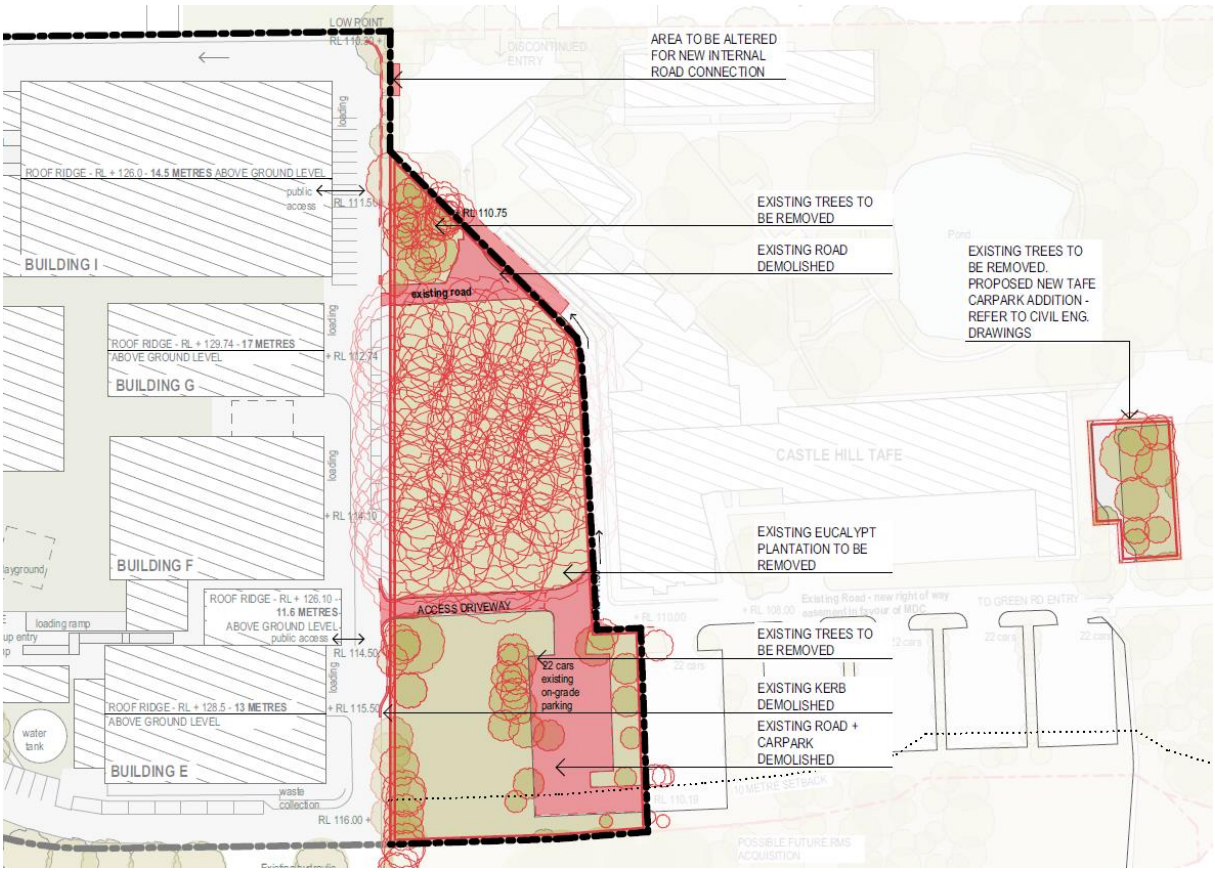



**Figure 8: Site demolition plan**
**Source: Lahznimmo Architects**

Earthworks will be undertaken on the site following the completion of demolition works and tree removal. Details of the earthworks will be further developed during the detailed construction documentation stage of the project with guidance and advice provided by the geotechnical consultant. Some cut and fill will be required to provide a level site surface to facilitate the construction of proposed Building J. On the basis there

is no basement level proposed, significant excavation on the site is not required. Refer to the preliminary CEMP held at **Appendix H**.

### 5.4 Tree Removal

The proposal will require the removal of 337 trees from the TAFE site to accommodate the proposed Building J. Of the total trees proposed to be removed, 330 are eucalyptus plantation trees that were planted on the site since the 1940s for researching essential oils (refer to **Section 4.2**).

There is no remnant Cumberland Plain woodland vegetation in the location of proposed Building J. New landscaping including a mix of ground covers, shrubs and trees is proposed around the periphery of the proposed Building J and will be subject to a detailed Landscape Plan (refer **Appendix G**). An Arboricultural Impact Assessment has prepared by MacKay Tree Management dated June 2020 for further information (**Appendix V).**

### 5.5 Proposed Building J

It is proposed that Building J will provide expanded facilities to accommodate the Powerhouse collection including spaces for storage, conservation, research and display and spaces to facilitate increased public access to the collection through education, public programs, workshops, talks, exhibitions and events.

The building will include two entrances, one located at Lower Ground Level on the eastern elevation accessed via the TAFE site and one on the western elevation at Ground Floor Level accessed via the existing MDC site. The southern end of the building will feature the staff areas including desks/workstations, meeting rooms, lunchroom, staff toilets and outdoor staff breakout terrace all at Lower Ground Level. The general museum collection storage and handling areas and conservation operations will be located to the north of the staff office area.

It is proposed that the new building will primarily be used for the following activities.

- Storage for the current collection and archives (both collected archives and institutional archives).
- Primary collection, conservation and care laboratories and workshop.
- Photography, digitisation and collection documentation facilities.
- Office space for staff, including staff amenities, meeting and storage rooms, collection research and study areas as well as other ancillary facilities.
- Storage for VLOs which are not on display at other museum sites.
- Components of the image and research library.
- Object and exhibition preparation, packing, quarantine and holding areas.
- Visible collection storage.
- Education and public programs.

Public access to Building J will include education and public programs, collection displays and pre-arranged small group tours (as part of existing MDC tours).

<u>Land Use and Floor Space by Level</u>

A description of the uses on each level of the building is provided below.

#### *5.5.1 Lower Ground Level*

The proposed Lower Ground Level contains the following:

| | |
|---|---|
| **Northern end of building** | • A two-storey high space for storage of Very Large Objects (VLO) occupies approx. 2,600m$^2$ with a 7.35m floor to floor height.<br>• Loading Dock.<br>• Photography studio and associated spaces.<br>• Isolation room (for object inspection prior to entering the collection store). |

| | |
|---|---|
| **Southern end of building** | • Open Plan Office worksstations and administration space and associated lunchroom, meeting rooms, and<br>• Shared public/staff toilets. Staff showers.<br>• Switch, communications and mechanical plant rooms.<br>• Outdoor terrace staff breakout area. |

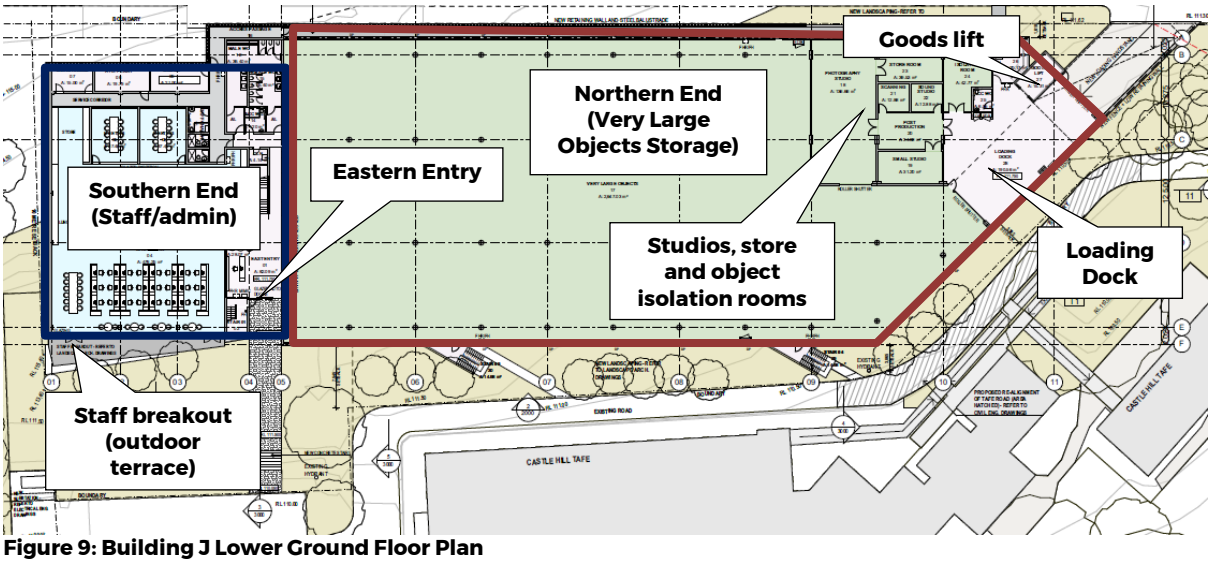



**Figure 9: Building J Lower Ground Floor Plan**
**Source: Lahznimmo Architects**

*5.5.2 Ground Floor Level*

The proposed Ground Floor Level contains the following:

| | |
|---|---|
| **Northern end of building** | • Receiving room and goods lift providing access to Ground Floor Level and Level 1.<br>• Void above the Very Large Objects (VLO) Store void located at Ground Floor Level. |
| **Southern end of Building** | • Main entry accessed from the west of Building J from the existing MDC site.<br>• Three storey high multi-purpose use "flexible area" to facilitate workshops, exhibitions and events.<br>• Single-storey multi-purpose use "flexible area" with furniture storage. |

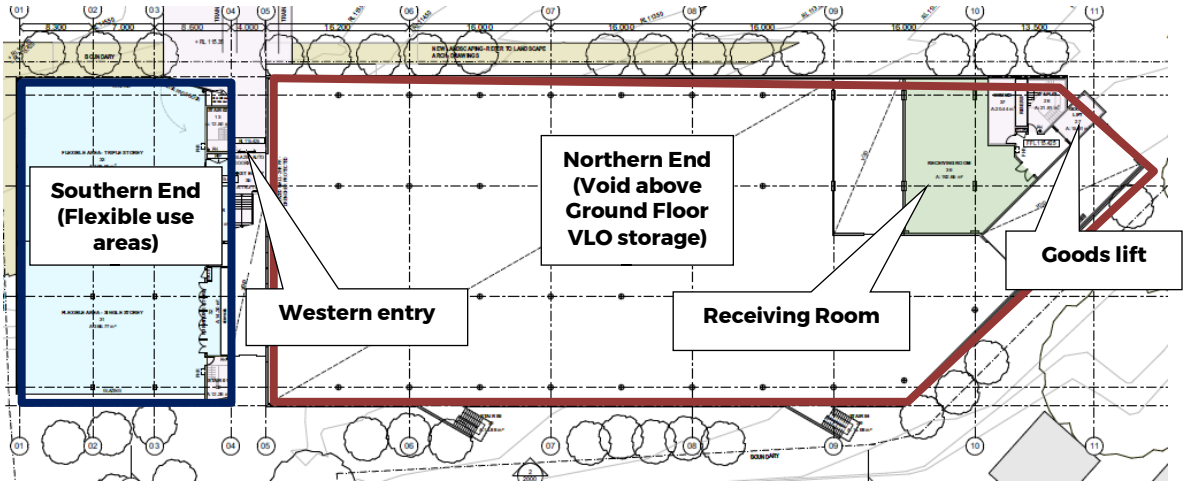



**Figure 10: Building J Ground Floor Plan**
**Source: Lahznimmo Architects**

*5.5.3 Level 1*

| | |
|---|---|
| **Northern end of the building** | • Small objects store.<br>• Collections workroom and packing spaces.<br>• Conservation laboratory for research and treatment of objects including wet lab and hazard lab.<br>• High security and First Nations collections rooms.<br>• Goods lift providing access to Lower Ground Floor Level loading dock and Ground Floor Level below.<br>• Mechanical services plant room (roofed and unroofed). |
| **Southern end of the building** | Void above the three storey Three storey high multi-purpose use "flexible area" store for the storage of archival material and chemicals. |

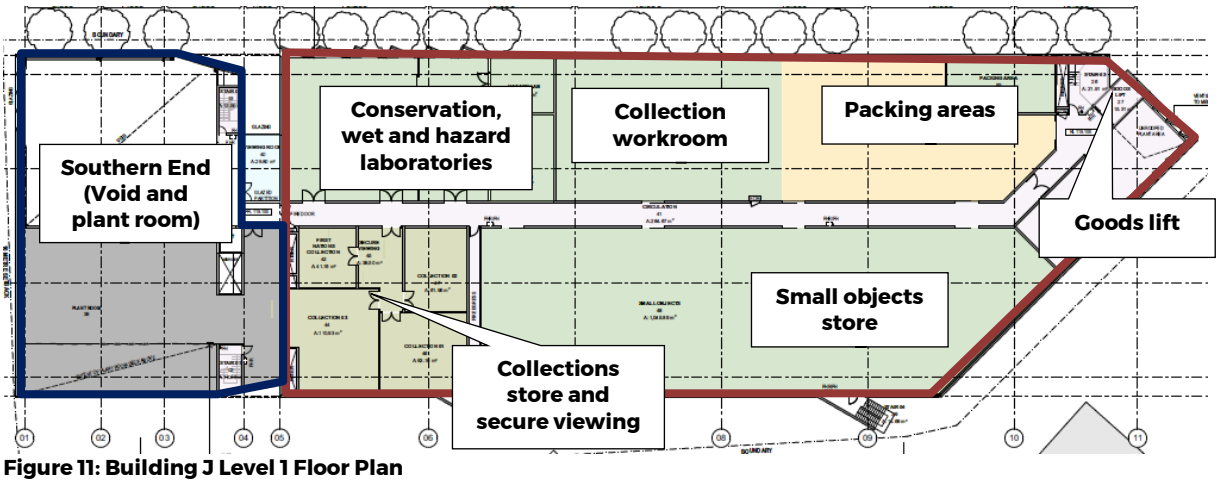



**Figure 11: Building J Level 1 Floor Plan**
**Source: Lahznimmo Architects**

*5.5.4 Built Form*

Building Height

Planning Proposal 5/2020/PLP associated with this State Significant Development (SSD) Application proposes to increase the LEP 2019 building height control for the site from 10m to 15m over part of the TAFE site which is the proposed location of Building J.

The maximum building height of proposed Building J is 15m (RL 111.75 to RL 126.75) which complies with the maximum 15m building height control for the site under LEP 2019.

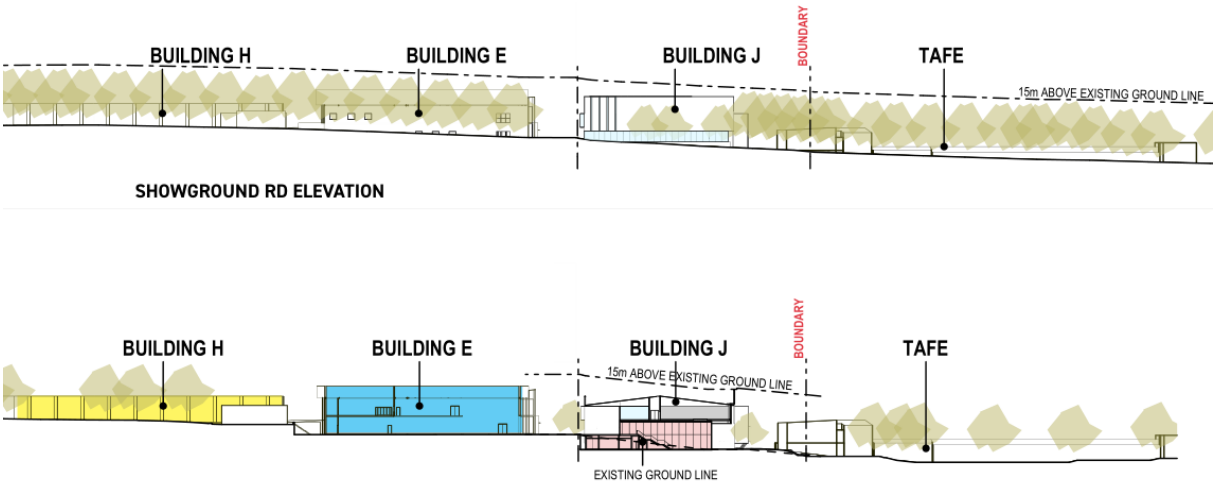



**Figure 12: Proposed streetscape elevation and building section, view from Showground Road (southern elevation)**
**Source: Lahznimmo Architects**

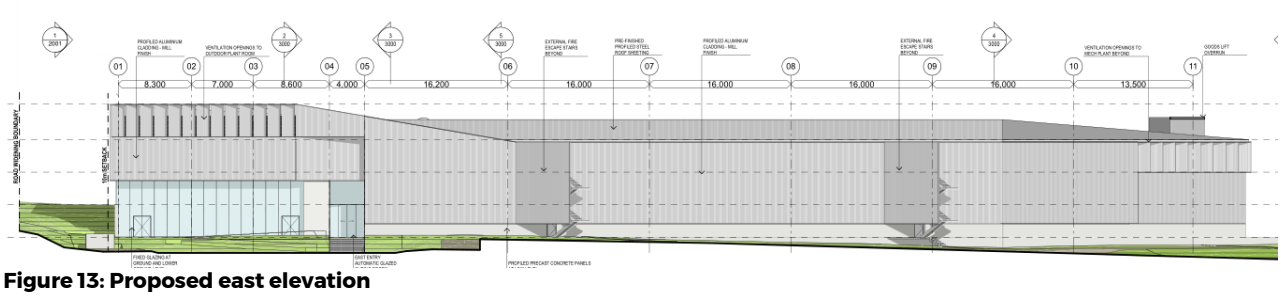


**Figure 13: Proposed east elevation**
**Source: Lahznimmo Architects**

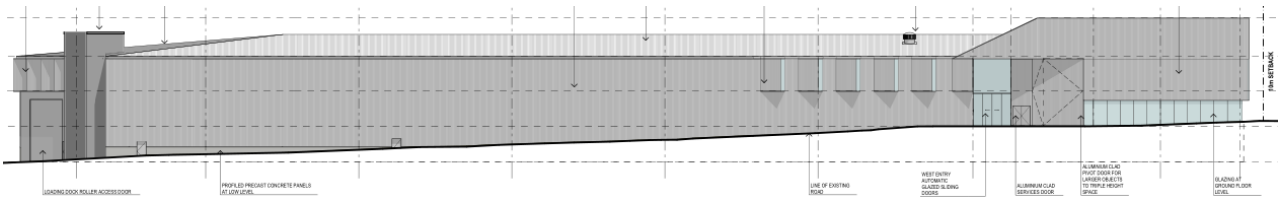


**Figure 14: Proposed west elevation**
**Source: Lahznimmo Architects**

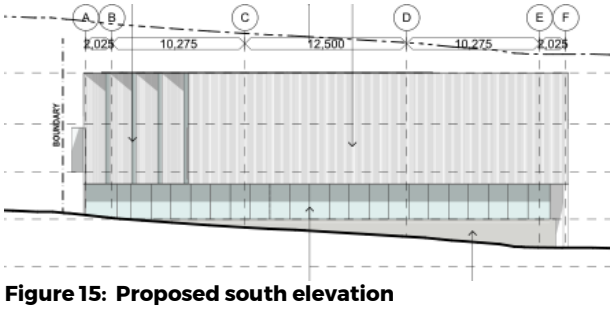



**Figure 15: Proposed south elevation**
**Source: Lahznimmo Architects**

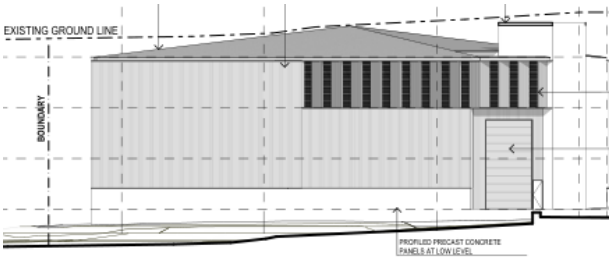



**Figure 16: Proposed north elevation**
**Source: Lahznimmo Architects**

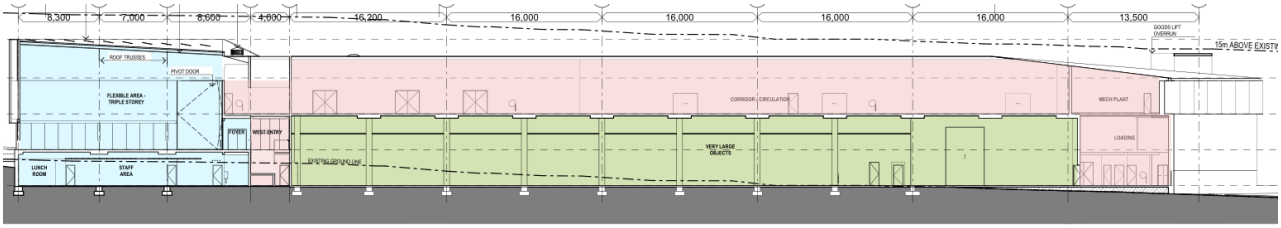



**Figure 17: Proposed section**
**Source: Lahznimmo Architects**

Building Setbacks

The proposed development is setback 10m from the future road widening reservation along the Showground Road site boundary, between 3.065m to 7.545m along the eastern boundary to the TAFE site and 1.61m along the western boundary with the existing MDC site. The building will be setback approximately 50m from the existing northern boundary of the TAFE site that abuts the R2 Low Density Residential Zone to the north.

External Materials and Finishes

The external finishes and materials for Building J feature a mill-finished profiled aluminium cladding with a concrete base under-layer at the base of the building. The aluminium cladding will cover most of the building and the concrete will serve the façade as a base material meeting the ground plane. Specifically, the Ground Floor façade will contain a corrugated precast concrete with colour oxide coating to the Building J base (refer to **Figure 18** below).

The goods lift to the north of Building J is the only exception to the proposed facade finish as it will comprise an off-form concrete finish. The Architectural Design Report prepared by Lahznimmo Architects (**Appendix B**) provides further information for the materials schedule.

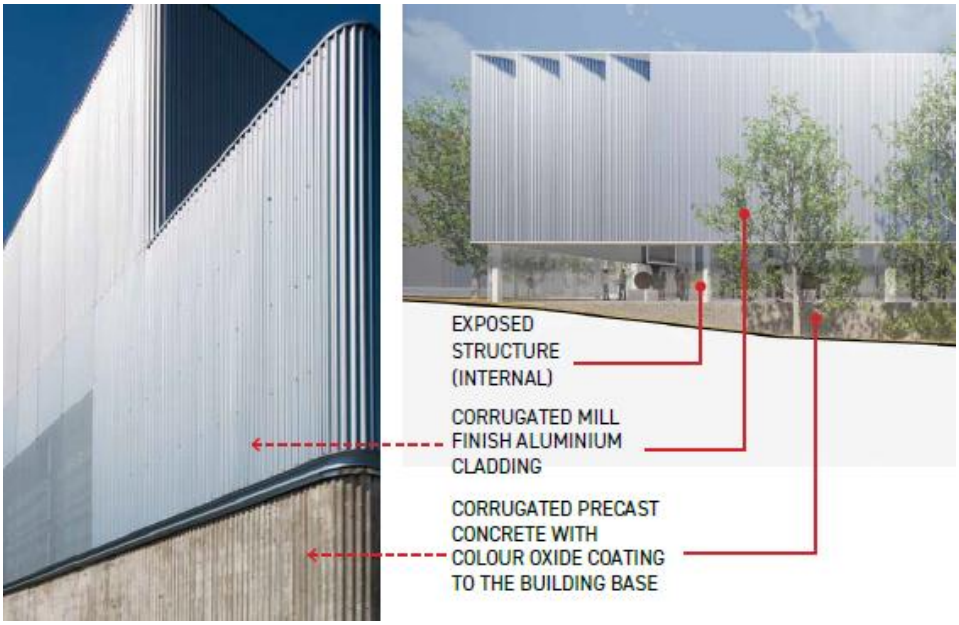



**Figure 18: Description of external materials and finishes (west, north, south and east building elevations)**
**Source: Lahznimmo Architects**

## 5.6 Landscaping and Public Domain

A Landscape Report has been prepared by ASPECT Studios and is provided at **Appendix F**. The core elements of the proposed landscape design include the following:

- The link through Building J is designed to facilitate pedestrian circulation and flow between proposed Building J and the existing MDC site. This pedestrian route will be emphasised with the use of embedded colour which complements the surrounding landscape.
- The landscape plan will complement the generous arrival space to the western entrance to connect with the existing MDC site building with Building J and to ensures the public arrival from Showground Road is legible and welcoming.
- The new landscape design will blend into and enhance through new planting, the existing mature trees that surround the site. A diverse planting palette of understorey and ground cover species will improve the bare ground of the southern end of the existing site, creating new habitat areas.
- A variety of endemic tree species will be planted to the edges of the new building to provide a visual barrier to the existing residential areas to the north.
- The western facade of Building J will be complemented with the use of tree planting and a combination of native grasses and sculptural bush rocks that help set the building into the landscape and connect to its southern and eastern edges.

To accommodate the development of the new building, 337 trees are proposed to be removed and new trees will be planted both on and off site at a replacement ratio of 2:1 (a minimum of 674 new trees to be planted). It is also noteworthy that the removal of the plantation provides an opportunity to replace the sparse ground cover, which is dominated by leaf litter, with a range of smaller understorey planting and groundcovers.

As part of the Tree Replacement Strategy, replacement planting across the MDC site will be undertaken including native tree and understorey planting to screen the relocated substation. There will also be new landscaping along the frontage of Building J to integrate the architecture into the streetscape of Showground Road. Additional planting along the MDC site boundary (Windsor Road and Showground Road) will be considered however opportunities for new tree plantings may be limited due to existing landscaping. Locations for off-site tree replanting are being considered.


**Figure 19: Proposed site landscape plan**
**Source: ASPECT Studios**


**Figure 20: Cross section (east-west) view showing the southern end of Building J with pedestrian ramp and new landscape planting**
**Source: ASPECT Studios**

## 5.7 Pedestrian Access

Pedestrian points of access are shown on the architectural plans prepared by Lahznimmo Architects (**Appendix A**).

The building will feature two main entrances to the building located at the southern end of the site, one entrance on the eastern elevation at Lower Ground Level and the other entrance on the western elevation at Ground Floor Level. Both entrances provide a 4m wide pedestrian pathway and are fully accessible either at-grade or via the use of 1:20 gradient ramps and a lift. The eastern and western entrances form an east west pedestrian through-link connection through Building J which is an important public domain feature, providing a new connection between the TAFE and the new MDC entry square.

A service and emergency egress access passageway is provided along the western side of the site and links to the north eastern corner of the MDC site adjacent to Building I. Fire stairs are located at the northern and eastern sides of Building J.

## 5.8 Vehicular Access and Parking

The existing vehicle access points at Windsor Road and Showground Road will continue to be used to provide access for staff, visitors and service vehicles to proposed Building J. Access to the site from Green Road via the TAFE site will also be retained and a Right of Carriageway easement will be created to formalise this longstanding access arrangement. On this basis, no changes are proposed to existing vehicle access.

The primary access point for proposed Building J will be via the existing vehicle access at Showground Road to the south of the building.

No additional car parking is proposed. The existing 54 car parking spaces located on the MDC site will be retained and will be used by staff and visitors. The existing 22 car parking spaces within the Building J site, currently used by TAFE staff and students, will be relocated to the eastern side of the TAFE site with a new car park construction with associated new landscaping.

### *5.8.1 Service Vehicles*

Building J will contain an on-site loading dock located in the northern end of the building to facilitate the loading/unloading of collection items and other deliveries required for the operation of the building (refer to **Figure 21**).

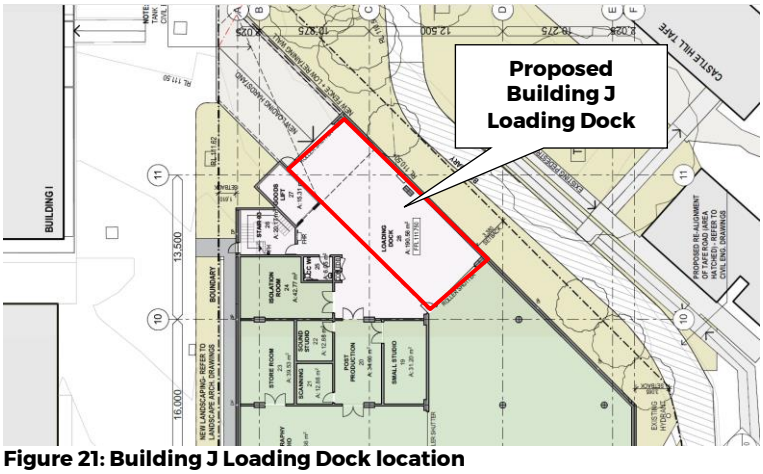



**Figure 21: Building J Loading Dock location**
**Source: Lahznimmo Architects**

All vehicles will enter and exit the site in a forward direction. Service vehicles will enter the site from Showground Road and travel north along the existing internal road located to the west of proposed Building J before reversing into the loading dock. Vehicles will exit the site via Windsor Road by travelling in an anti-clockwise direction along the existing internal driveways within the MDC site. The loading dock and internal driveways are capable of servicing articulated trucks up to 12.5m in length.

It is expected the site will generate a maximum of 5-10 daily service vehicle movements. The movement of services to the site is dependent on the exhibition program at the Powerhouse Parramatta. When there are no changes to the exhibition spaces at Powerhouse Parramatta it is unlikely there will be service vehicle activity at the MDC site.

### 5.9 Active Transport

The site is accessible through the existing footpath network and cycleways that will facilitate walking and cycling as sustainable transport options for staff and visitors to the site.

Bicycle parking for staff and visitors will be provided on western side of building in an undercover location, adjacent to the existing security area. During weekdays, access to the MDC site will be via electronic swipe card entry for staff with no public access permitted. Security fencing around the perimeter of the MDC site provides a high level of security for parked bicycles.

Five bicycle parking spaces are proposed, which is equivalent to 10% of the total staff population. Existing end of trip facilities including showers and change areas are provided on the MDC site for use by staff who choose to ride their bikes.

### 5.10 Environmentally Sustainable Development

An Environmentally Sustainable Development (ESD) Statement prepared by Northrop is submitted with this SSDA. The ESD Statement addresses how the proposal will achieve consistency with the relevant ESD Principles:

*"Northrop as the Sustainability consultant of the above project confirm that the following initiatives have been implemented into the building design to demonstrate the museum's commitment to social, economic, and environmental sustainability within the sites design, construction, and operation.*

- *A high-performance building envelope that exceeds the requirements of the National Construction Code.*
- *A centralise HVAC system to provide humidity and temperature control to the facility in a highly energy efficient manner.*
- *Well controlled LED lighting system to allow minimisation of energy use in space lighting and the exploitation of daylight where available.*
- *Material selections that help minimise environmental impact*
- *A rainwater capture and reuse system.*
- *Water and energy efficient appliances*

- *Provisioning for the removal of most fossil fuels from the site into the future.*
- *Well located glazing to balance heat gains into the space and daylighting opportunities.*
- *Pale roof surfaces to minimise heat gain and accommodate the expected increased surface temperatures as a result of climate change, and*
- *The benchmarking of the site to exceed Australian Best Practice Sustainability as defined by the Green Building Council of Australia.*

*The above measures have been selected to align the sites design to industry best practice and to exceed the minimum requirements of the Hills Shire planning documents, the Government Resource Efficiency Policy, and the National Construction Code."*

## 5.11 Infrastructure and Services

Infrastructure Services Report prepared by Northrop dated 26 June 2020 (**Appendix M**). A description of the key utility services infrastructure required for the proposed development is provided below.

### *5.11.1 Electricity Supply and Generation*

A 1,000 kVA Kiosk substation is proposed to be installed on the southern end of the site to cater for the maximum expected demand for the proposal. Electrical supply to the new building is proposed to be a direct underground service from the proposed new substation. A 5.5m x 2.75m easement is required for the substation.

The contractor undertaking the substation installation work will be required to provide a suitable cable pathway to enable the installation of the consumer mains cabling. Design details will be provided prior to a Building Certificate for Crown Building Work being issued for the project.

On-site electricity generation by way of a grid connected 100 kW photovoltaic (PV) panel system is proposed to be installed on the rooftop of the new Building J. The electrical infrastructure for the PV panel system will be located in a dedicated distribution board closest to the PV panels. The PV system is proposed to be grid-connected, back feeding excess produced energy into the energy authority's infrastructure to offset the development's electricity bills.

Full detailed documentation for the proposed photovoltaic panel system will be provided prior to a Building Certificate for Crown Building Work being issued for the project and will include detailed drawings and specifications for all electrical works required to ensure the correct installation of PV system (such as in distribution boards, main switchboard, and the like).

### *5.11.2 Communications*

It is proposed that the common-carrier network servicing the development is supplemented by a private communications service (e.g. Ethernet over Fibre) to allow for high-speed internet access to a wide area network. A main communications room shall be located on Level 1 of proposed Building J. NBN Outdoor Grade NTDs or Dual-SIM 3G/4G wireless connections (subject to NBN availability to the site) will be provided in the main communications room for essential services including:

- Lifts.
- Fire Indicator Panel.
- Security/Access Control System.
- Gas Metering.

The main communications room will also house communications racks and cabinets for the structured network cabling system, security and access control head-end equipment, and MATV/IPTV equipment.

### *5.11.3 Water*

The development has access to the following Sydney Water potable water mains:

- DN 250 Ductile Iron Cement Lined (DICL) water main located on the northern side of Showground Road and a DN 150 DICL water main located on the southern side of Showground Road.

Based on preliminary investigations of the water infrastructure available to the site, the existing potable water supply to the site is sufficient for the operational needs of the proposed Building J. The development has access to private water mains including a fire hydrant service main and fire sprinkler main accessed from within the existing MDC site at 172 Showground Road, Castle Hill.

The point of connection of the proposed development to the existing water mains will be confirmed during the detailed construction design development stage of the project.

A 25,000L rainwater tank has been provided within the design which is expected to offset 77% of the non-potable end uses. The non-potable within the rainwater tank will be used to supply garden irrigation systems and toilet flushing to reduce the potable-water demand on-site and lessen the impact on the Council's stormwater networks.

Water efficient fixtures and fittings and rainwater reuse will minimise ongoing water use. Refer to the ESD Statement at **Appendix Q** for detail.

#### *5.11.4 Sewer*

The proposal will include a connection to the existing Sydney Water DN 150 concrete encased PVC sewer mains located at the northern boundary of the MDC site and TAFE site. The development also has access to a DN 100 PVC private sewer main located along the eastern boundary of the existing MDC site. the sewerage infrastructure accessible to the site will be suitable for the proposed development.

The final proposed point of connection is subject to confirmation prior to works commencing.

#### *5.11.5 Stormwater*

Surface stormwater runoff from Building J site will be conveyed via a belowground pit and pipe system to the proposed OSD tank located under the new loading dock and driveway prior to discharging into the existing Council stormwater system. A separate stormwater system will convey all roof water to the proposed rainwater tank for re-use with any overflow directed towards the proposed OSD tank.

No groundwater issues are anticipated to be experienced on the site as noted in Geotechnical Report held at **Appendix R** which concludes groundwater was not encountered during bore hole investigations up to a depth of 6.7m.

A subsoil drainage line is proposed to be installed within the retaining wall running along the eastern side of the building to allow any potential surface run-off infiltration to freely drain and prevent hydrostatic pressure build-up.

Proposed OSD

The proposed OSD has been designed in accordance with the requirements of the UPRCT's OSD handbook and results in the following proposed OSD capacity and orifice sizes:

- OSD required tank size – 196m$^3$.
- Orifice 1 (85mm diameter) Centre-Line – IL 109.20.
- Orifice 1 (190mm diameter) Centre-Line – IL 109.90.
- Internal Weir Wall – RL 110.40.

The OSD tank is to be located underneath the proposed loading dock driveway in combination with the rainwater re-use tank as shown in **Figure 22** below.
Drawings held at **Attachment Z.**


**Figure 22: Proposed OSD & Rainwater Tank Location**
**Source: Northrop Stormwater Management Report**

Refer to the Stormwater Management Report prepared by Northrop at **Appendix Z** for further detail.

Stormwater Quality Management

The stormwater quality management aims to reduce the pollutant load of stormwater runoff using a series of treatment devices prior to discharge into receiving waters. Stormwater quantity and quality management measures have been modelling using MUSIC software. Reference has been given to The Hills DCP and Greenstar Design principles. The Stormwater Quality targets for the proposed development are summarised in **Table 3**.

**Table 3: Stormwater Quality Targets**

| **Pollutant Type** | **% Reduction Post-Development Average Annual Load Reduction** |
|---|---|
| Gross Pollutants | 90 |
| Total Suspended Solids (TSS) | 80 |
| Total Phosphorous (TP) | 60 |
| Total Nitrogen (TN) | 45 |

The proposed water quality treatment system for the site will meet the stormwater quality targets noted in the above able and includes a rainwater re-use tank, proprietary stormfilters and proprietary pit baskets. The proposed rainwater re-use tank will have re-use for both irrigation and internal non-potable uses to reduce the requirement for Sydney Water mains water usage. For details on the proposed rainwater tank and water treatment system refer to the Infrastructure Services Report prepared by Northrop.

Pit baskets have been provided as a pre-treatment to target the pollutant reduction of gross pollutants including litter, grit, sediments and associated oils from the adjacent car park areas on the MDC and TAFE

sites prior to the stormwater flowing into OSD tank where the stormfilters are located to provide tertiary treatment of the water prior to its discharge into the Council stormwater system.

Flooding

The Council has confirmed that there is no publicly available flood mapping in the vicinity of the site. Relevantly, the site is in the upper part of the local catchment and is unlikely to be affected by flooding due to the surrounding topography.

*5.11.6 Gas*

The development site has access to a Jemena DN 110 Polyethylene (PE) natural gas main located within the northern end of Showground Road and a private DN 80 natural gas main located at the south eastern boundary of the existing MDC site. The existing natural gas infrastructure will be sufficient for the operational requirements of the proposed development.

## 5.12 Signage

Five signage zones are proposed as indicated in the Signage Zone drawings prepared by Lahznimmo Architects included for assessment within the SEPP 64 Assessment at **Appendix BB**. The design, size, content/design, illumination and materiality of the signs has yet to be finalised and details will be provided prior to the issuing of Certification of Crown Building Work for this component of the project.

The signage zones have been designed to provide adequate identification of the building and to respect the scale and form of the host building.

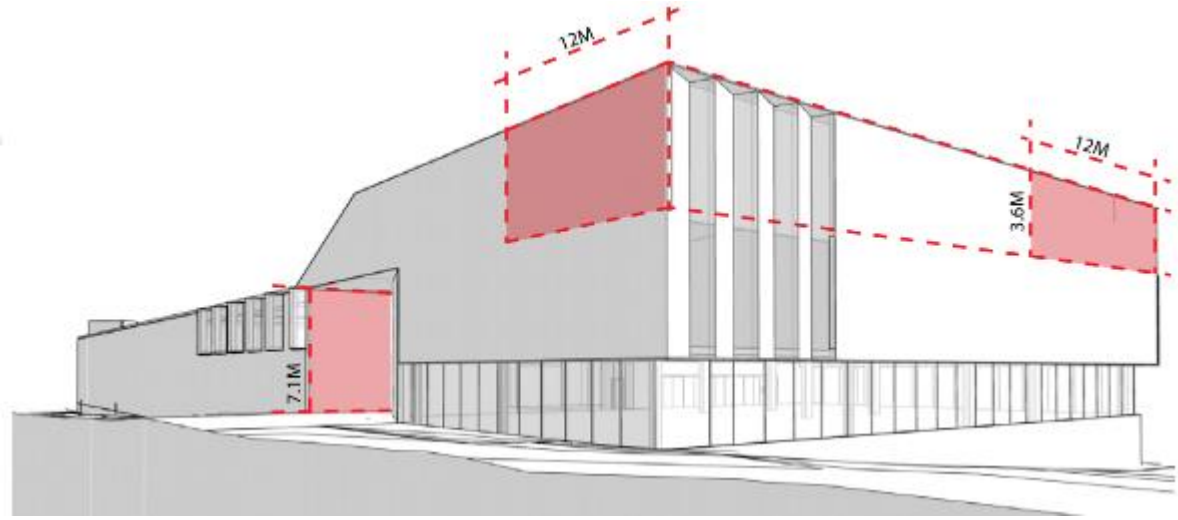



**Figure 23: Signage zone locations on west and south elevation including at main western entry, view from Showground Road looking north east**
**Source: Lahznimmo Architects**

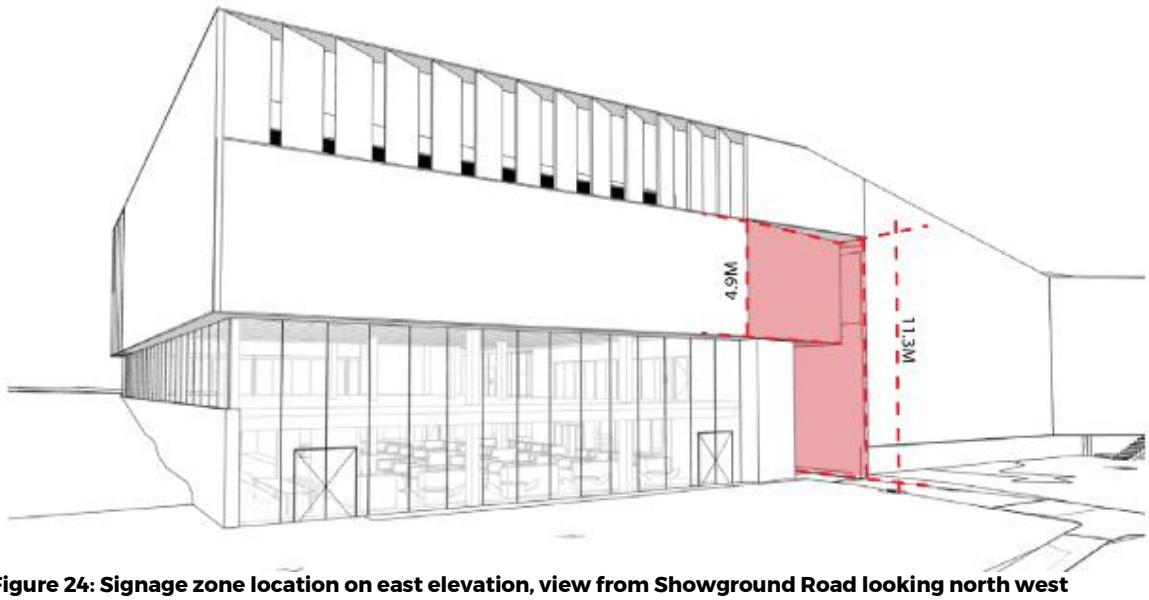



**Figure 24: Signage zone location on east elevation, view from Showground Road looking north west**
**Source: Lahznimmo Architects**

**Table 4: Summary of Proposed Building Identification Signage**

| Sign | Description |
|---|---|
| Signage Zone No. 1 – Western Building Entry, Ground Level and Level 1 | Building Identification Signage Zone at west entrance to Building J, integrated into the internal south elevation, facing the pedestrian accessway. |
| Signage Zone No. 2 – West Elevation | Building Identification Signage Zone integrated into west elevation of Building J at top, southern corner. |
| Signage Zone No. 2 – South Elevation, Level 2 | Building Identification Signage Zone integrated into the south elevation of Building J at top eastern corner facing Showground Road. |
| Signage Zone No. 4 – Eastern Building Entry, Ground and Level 1 | Building Identification Signage Zone at east entrance to Building J, integrated into the internal south elevation, facing the pedestrian accessway. |
| Signage Zone No. 5 - East Elevation | Building Identification Signage Zone integrated into the east elevation of Building J facing the TAFE site. |

It is expected that all Building Identification Signage will display the text "Museums Discovery Centre".

### 5.13 External Building Lighting

Outdoor lighting will be provided to illuminate key pedestrian and vehicle accessways, subtly accentuate the architectural features of the building and provide enhanced security in accordance with CPTED Principles.

In accordance with CPTED report prepared by Ethos Urban (refer to **Appendix AA**), a lighting strategy will be prepared as part of the development. Details of the lighting design will be provided prior to a Building Certificate for Crown Building Work being issued for the project

### 5.14 Construction

It is envisaged that construction will be undertaken through two key phases. An "Early Works Package" involving tree removal and the construction of a 24-space car park to be located on the eastern portion of the TAFE site and a "Main Works Package" for all other works. The two works packages will likely overlap on-site and effectively result in one continuous flow of construction works over a period of approximately 18 months

(commencing in 2021 and completion in 2022). This scope breakdown and program duration is subject to tendering outcomes, contractor confirmation and inclement weather impacts.

Key programming and staging considerations of the contractors include minimisation of any impacts to the day to day operations of the existing MDC and TAFE sites, in particular, pedestrian and traffic movement and safety, noise and dust impacts and any impacts to TAFE and MDC operations.

Construction vehicle access will be via Showground Road and Windsor Road and a site compound will be established along the eastern side of the existing MDC site. Details of the construction methodology is contained within the Construction Environment Management Plan prepared for this SSDA by Public Works Advisory (at **Appendix H**). All construction methodology and construction waste management will be subject of detailed analysis and revision upon the granting of a successful construction tender for this project.

The proposed construction hours will be:

- Monday to Friday: 7.00am – 5.00pm.
- Saturday and Sundays: 7.00am – 3.00pm.

All construction works, including materials handling and deliveries to the site will be undertaken in accordance with the CEMP and all relevant conditions within the Development Consent Notice.

#### *5.14.1 Construction Pedestrian Traffic Management*

JMT Consulting have prepared a preliminary Transport Assessment Report which includes a Preliminary Construction Pedestrian Traffic Management Plan which provides an outline of the proposed access and operation of construction traffic associated with the construction of the proposed development with respect to safety and capacity (refer to **Appendix I**).

#### *5.14.2 Construction Jobs*

The proposed development will result in the creation of approximately 150 jobs during the construction phase of the project.

### 5.15 Operation

#### *5.15.1 Hours of Operation*

Building J will typically operate between the hours of 8am to 6pm, Monday to Friday. It is envisaged that general admission to the building will occur between 10am and 4pm, Monday to Sunday.

The loading dock located in the northern end of Building J will operate 24 hours, seven days a week. The 24-hour operating window is required to accommodate deliveries of museum collection items that may arrive from overseas or interstate that require immediate delivery and storage within the building. Deliveries to the loading dock are expected to intermittent and occasional and with a maximum of 5-10 per day. It is expected Building J will not receive deliveries most days.

#### *5.15.2 Staff*

A maximum of 50 staff will be present at the expanded MDC site at any one time.

### 5.16 Lot Consolidation

As has been identified, Building J site is proposed to be developed on land forming part of the TAFE site which consists of a single lot legally known as Lot 102 DP 1130271. The proposal will involve the subdivision of the Building J site from the TAFE site and consolidation of the proposed new lot with the existing MDC site lot (legally known as Lot 1 DP 1066281. The lot consolidation will be finalised and registered prior to an Occupation Certificate being issued for the proposed development.

# 6 CONSULTATION

In accordance with the SEARs issued for this SSDA, consultation has been undertaken with relevant public authorities, the community and Council. A Consultation Outcomes Report prepared by Ethos Urban is provided at **Appendix W** and details the consultation undertaken, the feedback received, and responses provided by the proponent.

A summary of the consultation undertaken with Council, the community and relevant government agencies is provided below.

## 6.1 Community Consultation

The Consultation Outcomes Report by Ethos Urban identifies how traditional techniques have been adapted during the COVID-19 crisis to ensure that project outcomes are supported whilst complying with government direction on physical distancing and health protection.

Community consultation has included:

- A letterbox drop to 3,250 surrounding residents and landowners on 14 August 2020.
- A project email address and telephone number for resident and stakeholder feedback which will be open for the duration of the project.
- An advertisement was placed with New Limited (owner of the Hills Shire Times) on 14 August, providing high level information about the project and advertising the community information webinars. 27,711 impressions were recorded during the advertising period.
- Two Community Information Webinars on Wednesday, 14th August 2020.
- A project website inviting interested residents and community members to attend a Community Information Webinar about the SSDA. The website also provided information about the project including planning status and process, vision, the site and contact details to provide feedback.
- A post was published on the Museums Discovery Centre Facebook account on 17th August 2020, encouraging people to register for the Community Information Webinar. This reached a total of 7,617 between 17th August and 27th August 2020.
- Direct emails to Powerhouse database between 13 August 2020 and 26 August 2020.

Feedback received from the community is summarised as Section 7.1 of the Consultation Outcomes Report and responses are also provided.

## 6.2 Agency and Authority Consultation

Letters were sent to several key stakeholders providing them with information about the project, an update on the planning process and offering a briefing session and seeking feedback prior to the application being submitted. The Consultation Outcomes Report prepared by Ethos Urban identifies that stakeholder briefings have been held or requested for each of the following Agency and Authority groups:

- The Hills Shire Council;
- TAFE NSW;
- Hills Super Centre;
- Government Architect NSW;
- Transport for NSW;
- Museums Discovery Centre Volunteers;
- Museums Discovery Centre staff;
- Sydney Hills Business Chamber;
- Chamber Alliance of Western Sydney/Greater Blacktown Business Chamber;
- Western Sydney Business Connection;
- Parramatta Chamber of Commerce;
- Western Sydney Women;
- Sydney Hills Business Chamber;
- Australian Museum;
- Deerubbin Local Aboriginal Land Council; and
- NSW Aboriginal Land Council.

Feedback received from consultation with Agencies and Authorities is summarised at Section 7.2 of the Consultation Outcomes Report.

## 7 ENVIRONMENTAL ASSESSMENT

In accordance with Division 4.7 of the EP&A Act and Schedule 2 of the EP&A Regulation the following section provides an appraisal of the proposed development having regard to the statutory planning instruments that apply to this site and addresses the matters for consideration set out in the SEARs (see **Section 3.5**).

The discussion of Mitigation Measures within **Section 8** complements the assessment of this section.

### 7.1 Relevant EPIs, Policies and Guidelines

The relevant strategies, environmental planning instruments, policies and guidelines as set out in the SEARs are addressed in **Table 5**.

**Table 5: Summary of consistency with relevant Strategic Plans, EPIs, Policies and Guidelines**

| Instrument/Strategy | Comments |
|---|---|
| **Strategic Plans, Policies and Guidelines** | |
| *NSW State Priorities (referred as Premier's Priorities)* | In June 2019, NSW Premier Gladys Berejiklian unveiled 14 Premier's Priorities which represent the NSW Government's commitment to making a significant difference to enhance the quality of life of the people of NSW. The 14 commitments are:<br><br>• Bumping up education results for children.<br>• Increasing the number of Aboriginal young people reaching their learning potential.<br>• Protecting our most vulnerable children.<br>• Increasing permanency for children in out-of-home care.<br>• Reducing domestic violence reoffending.<br>• Reducing recidivism in the prison population.<br>• Reducing homelessness.<br>• Improving service levels in hospitals.<br>• Improving outpatient and community care.<br>• Towards zero suicides.<br>• Greener public spaces.<br>• Greening our city.<br>• Government made easy.<br>• World class public service.<br><br>The proposal will support the NSW State/Premier's Priorities by providing increased access to education opportunities and information regarding science, culture and arts and will directly contribute to an increased tree canopy and greening of public spaces within The Hills Shire Council through implementation of the Tree Replacement Strategy (2:1 tree replacement). |
| *A Metropolis of Three Cities - the Greater Sydney Region Plan (2018)* | The Greater Sydney Commission leads metropolitan planning for the greater Sydney region. The key strategic plans prepared by the Greater Sydney Commission are "a Metropolis of Three Cities – the Greater Sydney Region Plan" (Greater Sydney Regional Plan) and five District Plans, all released in March 2018.<br><br>The Greater Sydney Regional Plan is the 40-year vision underpinning each of the 20-year District Plans. The Plan envisages Sydney's economic and population growth being located in three cities within the Greater Sydney region:<br><br>• Western Parkland City;<br>• Central River City and<br>• Eastern Harbour City<br><br>The site is identified as a Strategic Centre in the Central River City within the Greater Sydney Region Plan. The Greater Sydney Region Plan outlines the vision for Sydney which includes provision for increasing productivity, urban renewal, reducing kilometres travelled per person and investment in infrastructure (such as the Sydney Metro North West Rail Link) |

| | |
|---|---|
| | The proposal will contribute to Government investment in Castle Hill, by facilitating the expansion of the MDC, which will contribute to the continued long term use of the site for scientific, education and museum related uses, and support jobs growth during the construction and operational phases of the proposed development. |
| *Central City District Plan (2018)* | The Central City District Plan (2018) presents a vision for the local government areas of Blacktown, Cumberland, Parramatta and The Hills (refer to **Figure 11**).<br><br>The Central City District Plan is a 20-year plan to manage growth in the context of economic, social and environmental matters to achieve the 40-year vision for Greater Sydney. In this regard, the proposal will contribute to the growth of cultural assets in an area with limited existing cultural infrastructure. Planning priorities in the Central City District Plan that are relevant to the proposal include the following:<br><br>• **Planning Priority N3:** Providing services and social infrastructure to meet people's changing needs – The proposal will provide cultural infrastructure which contributes to social health by meeting the needs of the community for culture and the arts. The population growth expected in the Central City will create changing needs which requires a greater variety of cultural infrastructure.<br><br>• **Planning Priority N4:** Fostering healthy, creative, culturally rich and socially connected communities – The proposed expanded facility fosters a culturally rich community and provides opportunities for social interaction and connection within the community. Access to the proposed new Building J for the public will be provided on weekends in accordance with the current public visitor access provisions for the MDC site.<br><br>• **Planning Priority C16:** Increasing urban tree canopy cover and delivering Green Grid connections – Trees will be replaced at a ratio of two new trees planted for every tree removed from the site. Where replacement planting cannot be accommodated on the MDC and TAFE sites, locations within The Hills Shire LGA will be selected in consultation with The Hills Shire Council and may include parks, open space, bushland areas and along walking and cycling paths. Refer to the Tree Replacement Strategy prepared by WSP (**Appendix O**). |
| *Better Placed – an integrated design policy for the built environment of NSW* | Better Placed is NSW Government policy (prepared by Government Architect NSW) document that seeks to enhance all aspects of urban environments to create better places, spaces and buildings, and thereby better cities, towns and suburbs. To achieve this outcome, the Better Placed policy establishes a baseline and framework of what is expected to achieve good design, across all projects in NSW.<br><br>A recognition of this framework was used by the Project Architect in the design of the project. Refer to the Architectural. Refer to the Architectural Design Report prepared by Lahznimmo Architects (**Appendix B**). |
| *Future Transport Strategy 2056 and supporting plans* | The Future Transport Strategy 2056 (2017) is an update of the NSW Long Term Transport Master Plan, and sets out six state-wide outcomes to guide investment, policy and reform and the provision of services.<br><br>Although the Future Transport Strategy 2056 is mainly integrating technological advancements with services and providing regional connections, the proposal is consistent with the desire promote active and sustainable travel options by encouraging public transport use and delivering safe pedestrian crossings, separate cycle paths and before and after trip facilities such as secure bicycle storage.<br><br>The proposal is consistent with the aims and objectives of the Future Transport Strategy 2056. |
| *Guide to Traffic Generating Development (Transport for NSW, formerly RMS)* | The Guide to Traffic Generating Developments was first released in 1991 by the former Roads and Traffic Authority (now Transport for NSW). It provides guidance on several matters related to the traffic impacts of land use developments, most notably on matters relating to traffic generation and parking.<br><br>The Transport Assessment prepared by JMT Consulting (**Appendix I**) addresses the traffic generation and car parking demands of the proposal. |

| | |
|---|---|
| *Development near rail corridors and busy roads (Transport for NSW, formerly RMS)* | An aim of the Guideline is to assist in reducing the health impacts of rail and road noise and adverse air quality on sensitive adjacent development. The Guideline also assists in the planning, design and assessment of development in, or adjacent to, rail corridors and busy roads.<br><br>Windsor Road is a "busy road" as defined in Clause 102 of the Infrastructure SEPP as it has an Average Annual Daily Traffic (AADT) volume of more than 40,000 vehicles based on the traffic volume data provided on the TfNSW website[1].<br><br>This EIS is accompanied by a Transport Assessment prepared by JMT Consulting (**Appendix I**) which addresses the demand for parking and traffic generated by the proposal as discussed in Section 7.4. Comments received by TfNSW during the public exhibition period for the Planning Proposal for the site (DPIE Reference No. PP_2020_THILL_001_00) have been addressed within the Transport Assessment. |
| *EIS Guideline – Road and Related Facilities (DPIE, formerly Dept. Urban Affairs and Planning)* | The EIS Guideline identifies some important factors to be considered when preparing an EIS including the key issues for proposals involving roads and related facilities:<br><br>• The strategic planning context.<br>• Traffic issues.<br>• Community issues, including noise and visual impacts.<br>• Air and water quality issues.<br><br>The matters identified in the EIS Guideline have been addressed in this EIS and supporting Transport Assessment prepared by JMT Consulting (**Appendix I**). |
| *Cycling Aspects of Austroads Guides (2014)* | The Cycling Aspects of Austroads Guides contains key information that relates to the planning, design and traffic management of cycling facilities and is sourced from Austroads Guides, primarily the Guide to Road Design, the Guide to Traffic Management and the Guide to Road Safety. The provisions relating to bicycle parking (Section 11.2.1 of the Guides) have been referenced in the design prepared by Lahznimmo Architects. |
| *NSW Planning Guidelines for Walking and Cycling* | The NSW Planning Guidelines for Walking and Cycling, released in 2004, aims to assist town planners and related professionals in planning for walking and cycling.<br><br>The proposal supports the objectives of the Guidelines by encouraging walking and cycling through the delivery of bicycle parking spaces, utilising existing end of trip facilities for staff, providing no additional car parking to encourage sustainable transport options and providing a Green Travel Plan to support increased use of non-private motor vehicle such as public transport, walking and cycling.<br><br>The site is accessible via a cycling/walking path from the Hills Showground Metro Station. |
| *Standards Australia AS2890.3 (Bicycle Parking Facilities).* | The five (5) bicycle parking spaces included in the proposed development will comply with the relevant Australian Standards. Details of compliance can be provided during the detailed construction design development stage of the project. |
| *Interim Construction Noise Guidelines (DECCW, 2009)* | The NSW Interim Construction Noise Guideline (ICNG) manages noise from construction works. The Acoustic Report prepared by Northrop (refer **Appendix E**) sets out that noise and vibration impacts during construction is best mitigated through the implementation of a site noise and vibration management plan by the prospective builder. |
| *"Hills Future 2036" Local Strategic Planning Statement (2020)* | The draft "Hills Future 2036 LSPS" was exhibited from 1 July to 9 August 2019 and was formally made on 6 March 2020. The MDC and TAFE sites are identified as being within the "Norwest Strategic Centre" Structure Plan. The Hills Future 2036 LSPS does not nominate any specific aims or objectives in relation to the MDC or TAFE sites.<br><br>The proposed development facilitates an extension to the existing MDC site which is an important museum facility that contributes to the cultural character of The Hills Shire LGA. The proposal will provide expanded facilities to support the ongoing operation of the MDC and will also assist to support the cultural needs of the current and future The Hills Shire LGA population. Further, the proposal will assist with supporting the following Planning Priorities as set out in the Hills Future 2036 LSPS: |

[1] https://www.rms.nsw.gov.au/about/corporate-publications/statistics/traffic-volumes/index.html

| | |
|---|---|
| | • *"Planning Priority 1: Plan for sufficient jobs, targeted to suit the skills of the workforce.*<br>• *Planning Priority 10: Provide social infrastructure and retail services to meet residents' needs*<br>• *Planning Priority 23: Collaborate with other councils and the NSW Government to improve places."* |
| *Create in NSW: The NSW Arts & Cultural Policy Framework* | *Cultural Policy Framework* policy document released in 2015 seeks to support the development of arts and culture to 2025. A key element of the policy includes repurposing and refurbishing existing art and cultural facilities, such as the MDC site, relocating existing facilities and identifying opportunities for new facilities.<br><br>Following the release of the Cultural Policy Framework, the NSW Government released the the *Cultural Infrastructure Plan 2025+* in 2019. The Plan has been developed by Create NSW, the NSW Government's arts, screen and culture development, policy and infrastructure planning and delivery body.<br><br>The Cultural Infrastructure Plan 2025+ sets out the NSW Government's strategic priorities and associated goals for the planning and delivery of cultural infrastructure across NSW.<br><br>The completion of the MDC Expansion Project is essential to the successful delivery of the Parramatta Cultural Precinct Project, which has been identified as a major project Government commitment under the Cultural Infrastructure Plan 2025+. There is a strong alignment between the MDC Expansion Project and the Cultural Infrastructure Plan 2025+ priorities and goals. |
| *Social impact assessment guideline for State significant mining, petroleum production, and extractive industry developments.* | The proposed development is not a mining, petroleum production or extractive industry project. This Social Impact Assessment Guideline is therefore not applicable. Notwithstanding a detailed Social Impact Assessment report has been prepared by Ethos Urban (**Appendix Y**). |
| *Code of Practice for Archaeological Investigations of Aboriginal Objects in NSW (OEH 2010)* | The ACHAR prepared by Curio Projects follows the requirements for reporting as established in DECCW 2010 Code of Practice for Archaeological Investigation of Aboriginal Objects in New South (Code of Practice). |
| *Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW (DECCW, 2011)* | The ACHAR has regard to the OEH 2011a Guide to Investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW (Guide to Investigating). |
| **Statutory documents** | |
| *Environmental Planning and Assessment Act 1979* | The proposal is consistent with the objects of the EP&A Act based on the following:<br><br>• It is development for public purposes and will facilitate the delivery of an important cultural infrastructure for Sydney and NSW.<br>• It promotes the social welfare of the community by providing a better environment through additional vegetation canopy cover in Western Sydney.<br>• It allows for the orderly and economic development of land.<br>• It is of a high quality of design and architectural integrity as supported by the Government Architect NSW State Design Review Panel.<br><br>The proposed development is consistent with Division 4.7 "State Significant Development" of the EP&A Act for the following reasons:<br><br>• The development is wholly permissible with development consent on the site.<br>• The development promotes investment in cultural, art and science infrastructure for the betterment of the community.<br>• The development has been evaluated and assessed against the relevant provisions under Section 4.15(1). |
| *Environmental Planning and Assessment Regulation 2000* | This EIS has been prepared in accordance with the content requirements criteria in Clauses 6 and 7 of Schedule 2 of the EP&A Regulation. As required by Clause 7(1)(d)(v) of Schedule 2, the following list confirms that no other approvals will be required under any other Act or law before the development may lawfully be carried out: |

| | |
|---|---|
| | Legislation that does not apply to State Significant Development and therefore is not applicable to this SSDA (as per Section 4.41 of the EP&A Act):<br><br>• Fisheries Management Act 1994.<br>• Heritage Act 1977 (insofar as Section 139 and Div. 8 Part 6 only).<br>• National Parks and Wildlife Act 1974.<br>• Rural Fires Act 1997.<br>• Water Management Act 2000.<br><br>Legislation that must be applied consistently to State Significant Development however no approval is sought for this SSDA (as per Section 4.42 of the EP&A Act):<br><br>• Fisheries Management Act 1994.<br>• Mine Subsidence Compensation Act 1961.<br>• Mining Act 1992.<br>• Petroleum (Onshore) Act 1991.<br>• Protection of the Environment Operations Act 1997.<br>• Roads Act 1993.<br>• Pipelines Act 1967. |
| *Biodiversity Conservation Act 2016* | An assessment of biodiversity impacts pursuant to the Biodiversity Conservation Act 2016 is provided at Section 7.9. A Biodiversity Development Assessment Report prepared by WSP is provided at **Appendix N**. |
| *State Environmental Planning Policy (State and Regional Development) 2011* | Development for cultural, recreation and tourist facilities with a capital investment value of more than $30 million is specified in Schedule 1 of *State Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP) as SSD for the purposes of the EP& A Act and includes (emphasis added):<br><br>*"13 Cultural, recreation and tourist facilities*<br><br>*(1) Development that has a capital investment value of more than $30 million for any of the following purposes:*<br>*(a) film production, the television industry or digital or recorded media,*<br>*(b) convention centres and exhibition centres,*<br>*(c) entertainment facilities,*<br>***(d) information and education facilities, including museums and art galleries,***<br>*(e) recreation facilities (major),*<br>*(f) zoos, including animal enclosures, administration and maintenance buildings, and associated facilities."*<br><br>The development exceeds the $30 million Capital Investment Value threshold under Schedule 1 of the State and Regional Development SEPP and as such is classified as State Significant Development. |
| *State Environmental Planning Policy (Infrastructure) 2007* | The proposed development will not generate more than 200 vehicle movements per hour and is therefore not defined as traffic generating development that requires consultation with Transport for NSW (formerly RMS) under Clause 104 of the SEPP. Notwithstanding, consultation with TfNSW has occurred during the preparation of this EIS.<br><br>The site is bound by three Classified Roads including Windsor Road to the west, Showground Road to the south and Green Road to the east. On this basis Clause 101 – Development with frontage to classified road in the Infrastructure SEEP is applicable to the proposed development:<br><br>Windsor Road has an AADT in excess of 20,00 vehicles however despite this traffic volume Clause 102 – Impact of road noise or vibration on non-road development does not apply to the proposed development on the basis the proposed information and education facility is not a land use listed in Clause 102(1)(a) to (d).<br><br>Refer to the Transport Assessment prepared by JMT Consulting held at **Appendix I**. |
| *State Environmental Planning Policy 55 – Remediation of Land and Draft Remediation of Land SEPP* | The site is not listed as being significantly contaminated under the Contaminated Land Management Act 1997. The Stage 1 - Preliminary and Stage 2 - Detailed Site Investigations prepared for the site by Alliance Geotechnical (refer to **Appendix K** and **Appendix L**) conclude that the site is suitable for the proposed development and preparation of a |

| | | |
|---|---|---|
| | Remediation Action Plan is not required. This assessment satisfies the requirements in Clause 7 of SEPP 55 the provisions of the Draft Remediation of Land SEPP. | |
| *State Environmental Planning Policy 64 – Advertising and Signage* | Signage zones are included on the proposed new Building J on the west, south and east building elevations for provision of building identification purposes. These five (5) zones will be subject to separate future detailed design during the detailed construction design development process as the final graphical signage design is yet to be finalised. An assessment against the provisions of SEPP 64 is provided at **Appendix BB**. | |
| *State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017* | The proposal includes tree removal for the development to occur on the site. The relevant provisions of Vegetation in Non-Rural Areas SEPP have been taken into consideration within the Arboricultural Impact Assessment report prepared by MacKay Tree Management (**Appendix V**). Development consent for the proposed tree removal is sought as part of this SSDA in accordance with the requirements of the SEPP. | |
| *Draft State Environmental Planning Policy (Environment)* | The Draft Environment SEPP was publicly exhibited in October 2017 and aims to repeal and replace several SEPPs and SREPs that currently apply in NSW to streamline the planning legislative framework and modernise and update the applicable SEPP provisions. The SEPPs to be consolidated within the new Environment SEPP and then repealed include:<br><br>• State Environmental Planning Policy No. 19 – Bushland in Urban Areas.<br>• State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011.<br>• State Environmental Planning Policy No. 50 – Canal Estate Development.<br>• Greater Metropolitan Regional Environmental Plan No. 2 – Georges River Catchment.<br>• Sydney Regional Environmental Plan No. 20 – Hawkesbury-Nepean River (No.2-1997).<br>• Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005.<br>• Willandra Lakes Regional Environmental Plan No. 1 – World Heritage Property.<br><br>The site sits outside of the Sydney Harbour Catchment as defined by the Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005. The provisions of the Draft SEPP do not apply to the proposed development. | |
| **Local Planning Instruments and Controls** | | |
| *The Hills Local Environmental Plan 2019* | Clause 1.2 – Aims of the Plan | The proposal is consistent with the relevant aims of LEP 2019 as it is a development that is:<br><br>• An orderly and sustainable use of the land with economic, environmental and social benefits.<br>• Contributing to a liveable, vibrant and safe community.<br>• A new cultural infrastructure facility that will meet the needs of the population.<br>• An in-fill development that promotes the principles urban consolidation through a sensitive building design that respects the site and surrounding site context.<br>• A positive contribution to the local and NSW economy by providing new employment opportunities during construction and operational phases of the new proposed Building J. |
| | Clause 2.3 – Zone objectives and Land Use Table | The TAFE site where Building J is proposed to be located is zoned SP2 Information and Education Facility Zone under LEP 2019. The proposed development is a type of Information and education facility that is permissible with development consent on the site and directly supports the objectives of the SP2 Zone which are:<br><br>• *"To provide for infrastructure and related uses.*<br>• *To prevent development that is not compatible with or that may detract from the provision of infrastructure."* |
| | Clause 2.6 – Subdivision – Consent Requirements | Development consent is sought as part of this SSDA for subdivision of the site. |

| | | |
|---|---|---|
| | Clause 2.7 – Demolition requires development consent | The proposal will require demolition of existing approved informal car parking, sealed roads and associated kerbs within the TAFE site. Refer to the Site Demolition Plan prepared by Lahznimmo Architects (held at **Appendix A**). Development consent for the demolition works is sought as part of this SSDA. |
| | Clause 4.1 – Minimum subdivision lot size. | The proposed development includes subdivision of the TAFE site to create a new lot with a total site area of 6,552m$^2$ which exceeds the minimum subdivision lot size for this site of 450m$^2$ under LEP 2019. The proposed new lot will be consolidated with the existing MDC site (currently Lot 1 DP 1066281) to form a new larger MDC site lot. |
| | Clause 4.3 – Height of Buildings | A maximum building height control of 15m will apply to the site following endorsement of the Planning Proposal. The proposed development complies with this proposed height control. Refer to the Architectural Plans prepared by Lahznimmo Architects at **Appendix A** and Section 7.2. |
| | Clause 5.10 – Heritage conservation | The site is not a listed item of heritage significance under Schedule 5 of LEP 2019. The site is located approximately 85m to the east of Windsor Road which is a heritage item of local heritage significance under Schedule 5 of LEP 2019 (Item No. I28, described as *"Windsor Road from Baulkham Hills to Box Hill"*). The proposed development responds appropriately to the item of local heritage significance. |
| | Clauses 6.1 – 6.4 within Part 6 Urban release areas | The site is located within land marked as "Urban Release Area" on the Urban Release Area Map. The proposed development involves the creation of a new lot via subdivision of the existing TAFE site. In accordance with Clause 6.2(3) of LEP 2019 development consent can be granted to the proposed subdivision of the site on the basis it is not subject to the provisions of Clause 6.2(2) as the purpose of the new lot is to facilitate development for a public purpose, in this instance, an information and education facility.<br><br>There is adequate public utility infrastructure to service the proposed development. |
| | Clause 7.2 – Earthworks | The proposed development requires earthworks to level and grade the site in preparation of civil and construction works. The proposed earthworks will be consistent with the provisions of Clause 7.2(3) as follows:<br><br>• There are no flooding implications for the site.<br>• The earthworks are directly required for the construction of the proposed new Building J.<br>• The earthworks will be managed to minimise dust and sediment and erosion runoff in accordance with the CEMP (at **Appendix H**).<br>• All earthworks will adhere to the requirements of the ACHAR and relevant unexpected finds protocol for disturbing relics. |
| | Clause 7.7 – Design Excellence | The objective of this clause is to deliver the highest standard of architectural and urban design and applies to development involving the erection of a new building.<br><br>The development has undergone an iterative design process that included exploration of alternative design schemes in close consultation with MAAS MDC Staff and Create Infrastructure. The development has also undertaken a design review process with the Government Architect NSW SDRP with feedback from this process resulting in some design refinements prior to submission of this EIS. Refer to the Architectural Design Statement prepared by Lahznimmo Architects (**Appendix B**). |

| | | |
|---|---|---|
| *The Hills Development Control Plan 2012* | In accordance with Clause 11 of *State Environmental Planning Policy (State and Regional Development) 2011*, Development Control Plans have no effect when assessing SSD projects. Notwithstanding, the proposal has been assessed against the key relevant controls of DCP 2012 as provided below. | |
| | Part A – Introduction | Section 5 of Part A sets out Council's ESD objectives and requires DAs to provide a summary of the action proposed to be undertaken as part of the proposed development to achieve the ESD objectives. The ESD Statement prepared by Northrop provides a comprehensive response in accordance with the requirements of Schedule 2 of the EP&A Regulation (refer to **Appendix Q**). |
| | Part B Section 6 – Business | Part B Section 6 applies to all Business zoned land and where commercial land uses are permissible under LEP 2019. There are no sections in DCP 2012 that apply specifically to SP2 Infrastructure Zoned land or Information and education facilities. Despite not being applicable to the proposed development, some of the key design development standards and objectives have been applied to the proposed development given the site context of the B5 Business Development zoning directly opposite the site to the south, including:<br><br>• Section 2.5, Setbacks - Development located along a public road may utilise a zero setback. In this instance, the existing MDC site were used as a reference to establish a 10m front setback. The front setback to Showground Road is measured from the proposed road widening alignment of the road.<br>• Section 2.7, Building Design and Materials - The design has considered the privacy of adjoining residential development.<br>• Section 2.9, Hours of Operation -An Acoustic Report has been submitted to address noise from the proposed hours of operation and other operational issues arising from the proposed use.<br>• Section 2.10, Energy Efficiency – The building demonstrates good passive solar design principles and addresses all relevant ESD principles specified in Schedule 2 of the EP&A Regulation.<br>• Section 2.12, Erosion and Sediment Control – An Erosion and Sediment Control Plan has been submitted with this EIS as part of the Stormwater Management Report prepared by Northrop (refer **Appendix Z**).<br>• Section 2.13 – Fencing, Landscaping and Tree Preservation – The setback to Showground Road will be vegetation with new landscaping, trees to be retained on the site will be protected during construction activities and all landscaped area will include native species.<br>• Section 2.17, Bicycle Parking – The proposal includes provision of new bicycle parking in a safe, secure and convenient location.<br>• Section 2.18, Loading Facilities – The proposed loading dock has been designed to adequately cater for the loading and servicing requirements of the building. The loading dock is located and design to minimise noise and visual impacts on the nearest residential area to the north.<br>• Section 2.19, Access and Movement – The development complies with the requirements of the Disability (Access to Premises – Buildings) Standards.<br>• Section 2.21, Stormwater Management – The stormwater system for the proposal adopts the Water Sensitive Urban Design principles. The stormwater management system includes an OSD facility and will not result in adverse effects for downstream landowners. |
| | Part C Section 1 – Parking | • Section 2.1, General Parking Requirements – Adequate existing car parking exists on the MDC site to cater for the |

| | | |
|---|---|---|
| | | demand created by the new proposed Building J. The provision of additional car parking is not required to facilitate the proposed development. No car parking is proposed for the development.<br>• Section 2.3, Bicycle Parking – The proposal provides bicycle parking at a rate of 10% of total staff present on-site (5 bicycle parking spaces proposed) which exceeds the rates for other uses in Table 3 of Part C Section 1.<br>• Section 2.9, Loading and Delivery Requirements – All loading and delivery areas are provided on-site and designed in accordance with AS 2890.2-1989, Off Street Parking – Part 2: Commercial vehicles facilities. Service vehicles up to 19m in length are to be able to efficiently manoeuvre to and from loading and delivery areas in accordance with AUSTROADS Design Vehicular and Turning Templates. |
| | Part C Section 2 – Signage | Details of signage will be provided during the detailed construction design development stage following further design development of the wording/graphics, height, size, colour, illumination method and materials to be used for each proposed sign. |
| | Part C Section 3 – Landscaping | • Section 3.2, Protection of Trees and Understorey – A greater number of replacement trees are proposed to be planted (2:1 replacement planting ratio) to provide an improved ecological outcome and increased tree canopy for The Hills Shire Council.<br>• Section 3.5, Drainage and On-Site Detention – The OSD tank is in the northern end of the site and not within the front setback. The OSD location has no impact on the provision of landscaping.<br>• Section 3.4, Water Conservation and Irrigation – The proposal will feature a rainwater tank for use in landscape irrigation. |
| | Part C Section 4 – Heritage | • Section 3.5, Development in the Vicinity of a Heritage Site – The proposed development is approximately 115m from a heritage item identified as "Windsor Road from Baulkham Hills to Box Hill" (Item No. I28). The proposal does not detract from the identified significance of the place, its setting, nor will the proposal obstruct important views to and from the site. |

### *7.1.1 Roads Act 1993*

In accordance with Section 4.42 of the EP&A Act, the provisions within Section 138 of the Roads Act 1993 remain applicable to SSDA. The proposed development does not involve any works to Windsor Road, Showground Road or Green Road. Therefore, no approval under Section 138(1)(a) of the Roads Act 1993 is required nor sought as part of this SSDA.

This SSDA will be referred to Transport for NSW (TfNSW) and The Hills Shire Council for review and any comments received will be reviewed and addressed as part of a Response to Submissions to made by the proponent to DPIE following the formal public exhibition period for the SSDA.

## 7.2 Built Form and Urban Design

An Architectural Design Report has been prepared by Lahznimmo Architects and is included at **Appendix B**. A summary of the assessment and proposed mitigation measures, as required, are provided below.

### *7.2.1 Site Layout*

As has been identified Building J is proposed to be located on the western end of the TAFE site and has been designed as a logical extension to the existing MDC site. The building maintains the existing north-south internal access road and has been designed to maintain the existing access road on the TAFE site with some

minor realignment along the eastern side of the proposed new building. Service vehicle access to the proposed Building J loading dock in the northern end of the site is via the existing internal road network on the MDC site.

Building J provides a strong and distinctive street presence to Showground Road that will provide a distinctive and engaging street external presentation. A Through Building link will be provided for pedestrian connectivity between the TAFE and MDC sites and serves as the principal western and eastern building entrances.

The proposed development will provide opportunities for soft landscaping incorporating low shrubs, grasses interspersed by taller trees. Minimal use of hard paving is incorporated to clearly defined pathway the Through Building link.

### *7.2.2 Height, Density, Setbacks, Bulk and Scale*

The building has been carefully designed to conform with the bulk and scale of existing buildings on the site and will sit comfortably as an infill development of complementary scale and size for the MDC and TAFE sites. There is no FSR applicable to the site under any environmental planning instrument.

The visual impact of the development from the nearest residential area to the north of the site on Sunderland Avenue will limited by virtue of:

- The separation distance between the proposed Building J site and the residential interface which is in the order of 50 metres.
- Existing screening vegetation between the residential interface and proposed Building J.
- The existing character of the MDC and TAFE sites which includes robust, multi-storey institutional buildings.

In terms of footprint, the proposed building has a total lower ground GFA of 4,026m$^2$, which is larger than the than existing MDC buildings, however the overall bulk of Building J is minimised through the use of a pitched roof form, articulated elevational treatments particularly in the southern end of the building and a narrow north-south orientation that minimises the visual presence of the building to Showground Road and the northern residential area. The proposed siting of Building J and the massing and scale of the proposal provides an acceptable response to the adjacent residential zone by tapering the building with a northern wall along the loading dock that is angled away from the nearest residential dwelling at 10 Sunderland Avenue to the north.

The proposed setbacks of the building have been designed to address the need to provide necessary physical separation between the existing buildings on the MDC and TAFE sites for movement, solar access and BCA considerations as well as maintain a vehicle access driveway along the eastern side of the site for TAFE vehicles to access the car park in the north western corner of the TAFE site. The northern building setback to the site's northern boundary is dictated by the location of the proposed loading dock and its alignment with the existing service vehicle driveway that runs on the northern end of the MDC site. The setbacks also have been designed following a detailed analysis of the vehicle movement requirements of the MDC site.

The visual impact of the proposed building will be further addressed at Section 7.3.3 where reference is made to the Visual Impact Assessment by Lahznimmo Architects forming part of the Architectural Design Report at **Appendix B**).

## 7.3 Environmental Amenity

### *7.3.1 Solar Access and Overshadowing*

Shadow diagrams for 21 June (Winter Solstice) prepared by Lahznimmo Architects are provided at **Appendix B** (also provided at **Figures 25 to 27** below). The analysis of the overshadowing diagrams identifies the Building J would result in additional overshadowing within the site and adjoining land as follows:

- On the existing driveway, car parking and eastern elevations of the buildings on the eastern side of the MDC site at 9am.

- On the proposed landscaped area on the southern end of the Building J Site and the road widening reserve running along Showground Road and a small slither portion of the MDC site driveway between 9am and 12pm.
- At 3pm, the proposal will result in overshadowing of the southern part of the site, part of the road widening reserve, the existing and proposed realigned vehicle access driveway on the western side of the TAFE site immediately to the east of the Building J site and a portion of the northern side of the Showground Road carriageway including the existing pedestrian footpath.


**Figure 25: Shadow diagram of proposed development at 9am on the Winter Solstice (21 June)**
**Source: Lahznimmo Architects**

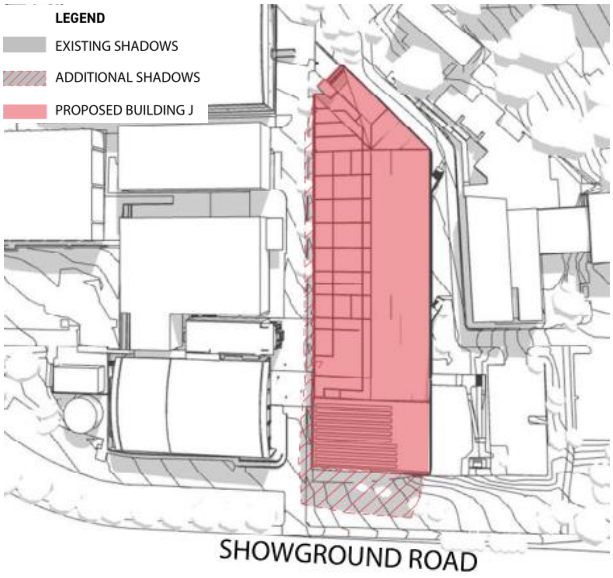



**Figure 26: Shadow diagram of proposed development at 12pm on the Winter Solstice (21 June)**
**Source: Lahznimmo Architects**

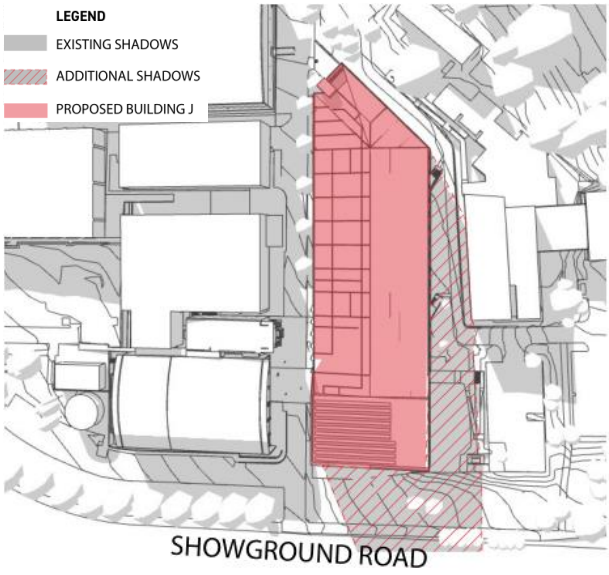



**Figure 27: Shadow diagram of proposed development at 3pm on the Winter Solstice (21 June)**
**Source: Lahznimmo Architects**

In assessing the shadow impact it is important to highlight that the proposed development will not impact upon any residential property, including those located to the north of proposed Building J. Furthermore, due to the orientation and composition of the building, the shadow moves from the west side of the building in

the morning to the east side of the building in the afternoon such that any shadow impact is not sustained for extended periods of time.

It is otherwise noteworthy that:

- Sunlight will continue to be received to the pedestrian space between the MDC buildings (between buildings E, F, G and proposed Building J) in the middle of day.
- The footpath external to the subject site along Showground Road is only affected at 3pm.
- Where there is shadow impact to the TAFE site, the impact is limited to the afternoon when the shadow falls across the carriageway easement to be created as part of the proposal. Any shading of TAFE building windows is limited to 3pm and the outcome is not unreasonable taking into consideration the educational use of the building.
- Whilst the landscaped area, including staff breakout area, to the east side of proposed Building J will be cast in shadow in the afternoon, it receives full sunlight in the morning and will provide suitable amenity for occupants of the building further noting that other areas of the broader MDC will continue to receive sunlight throughout the day.
- Shadow impacts to the south of the building, which includes landscaping areas internal to the site and within the Road Reserve have limited environmental impact and are justified taking into consideration strategic objectives for the subject site.

### *7.3.2 Visual Privacy*

Building J sits amongst large footprint education and institutional buildings with no direct boundary interface with any residential or sensitive uses. The building does not have a direct site boundary interface with the R2 Low Density Residential zone located approximately 50m to the north of the site (refer to **Figure 28** below). The TAFE site includes existing established vegetation and buildings located between the proposed development and the residential area and public park to the north which provide some visual buffer and screening when viewing the site from Sunderland Avenue and the public park to the north.

Proposed Building J does not include any windows, balconies or outdoor terraces located at the northern end of the proposed building that face into any residential area. During operation the areas of most activity are concentrated at the southern end of the building, near the Showground Road frontage approximately 154m from the nearest residence at 10 Sunderland Avenue, and include the main entry with associated pedestrian entrance stairs and ramp, outdoor staff breakout terrace, large glazed windows at ground facing east and glazing at first floor level facing west, south and east.

The use of the loading dock by vehicles and staff will not result in any adverse visual and acoustic privacy impacts by virtue of the design and operation of the loading dock. Trucks will drive into the loading dock with all loading and unloading activities internalised within the dock after the roller shutter door is closed. Further, the existing vegetation along the northern boundary of the TAFE site, new proposed landscaping that will provide additional landscaping along the northern edge of the loading dock area and the 50m physical separation between the loading dock and boundary with the nearest residential dwelling at 10 Sunderland Avenue contribute to the visual privacy being maintained.

Despite the floor level of the loading dock (RL 111.75) being elevated above Sunderland Avenue (RL 108.64) by 3.11m, given the distance of separation and proposed operations described above, the use of the loading dock is unlikely to create any visual privacy impacts.

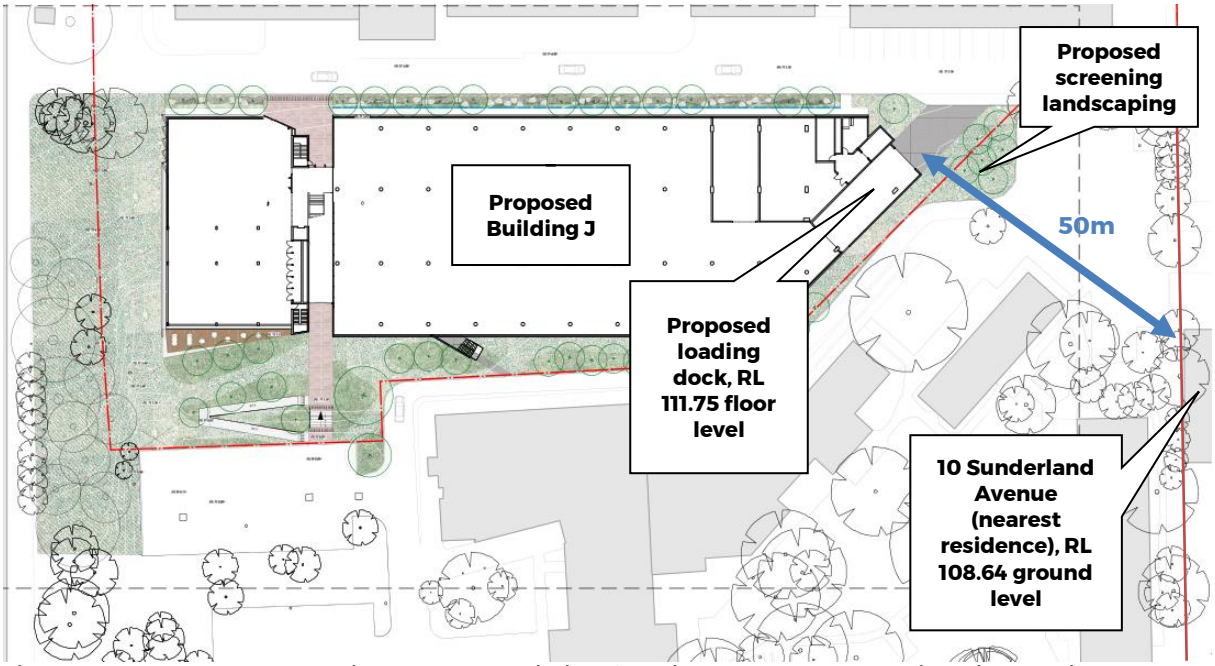



**Figure 28: Proposed landscape site plan and proximity of loading dock to nearest residential dwelling**
**Source: ASPECT**

Mitigation Measures

The proposed development does create any visual privacy impacts. The implementation of mitigation measures is therefore not considered to be required.

### *7.3.3 View Loss and Visual Impact*

A View Loss and Visual Impact Assessment is included within the Architectural Design Statement prepared by Lahznimmo Architects at **Appendix B**. A summary of the assessment and recommendations of the View Loss and Visual Impact Assessment is provided below.

- The potential visual catchment of the proposed development from the public domain and private property is small. Proposed Building J is fully compliant with the 15m building height for the site and the building responds to the fall of the land from south to north. The northern edge of the proposed building is lower in height (11.025m, RL 122.75) than the southern end (11.325m, RL 126.75) which contributes to a reduced visual impact when viewing the site from the north.
- The external exposure of the Building J to the public domain is limited to partial and heavily obscured views (from vegetation and buildings on the TAFE and MDC sites) from Showground Road to the south and Sunderland Avenue to the north.
- The proposed building will be most visible from within the TAFE site to the east by virtue of the proximity.
- The proposed development will have a positive visual impact in relation to the character or composition of views obtained from the public domain along Showground Road to the south, Green Road to the east, Sunderland Road to the north or the public park abutting the north boundary of the MDC site bound by Sunderland Avenue and Peppertree Place. The proposed building from these public vantage points will fit comfortably within the surrounding education/institution site context and site topography.
- Views of the proposal from residential dwellings to the north along Sunderland Avenue will be obscured by retained vegetation along the northern boundary of the TAFE site. The visual qualitative characteristics of the R2 Low Density Zoned residential area to the north of the site along Sunderland Avenue will be maintained. The proposed development is not visible from Peppertree Place by virtue of the proposal being entirely screened by the existing Building I, and established vegetation along the northern boundary of the MDC site (refer to **Figure 31** below).
- The proposal will result in the loss of views of the upper part of the existing tree canopy that is located within the footprint of Building J. The loss of the existing tree canopy views will be most prominent from the north of the site along Sunderland Avenue. The retention of existing established trees along the northern boundary and a low scale building height minimise the visual impact. The overall visual impact is deemed to be low to moderate from this vantage point.

- There are no significant views within the site or significant view corridors that transect the site. The proposed development does not create any view loss impacts for public and private domain views.

The proposed development is compatible with the immediate and wider visual context which includes education and institutional buildings of similar height, bulk and scale. Due to the height, bulk and scale of the proposed new building there will be no adverse impacts on views within, from, or to the local area.

Mitigation Measures

The proposal is considered to have an acceptable visual impact within the site and the surrounding locality. The implementation of mitigation measures is therefore not required.


**Figure 29: Existing (left), proposed (right), view from the east of the site looking towards the proposed building, from the internal TAFE access road. Most of the eastern elevation of the proposed building is visible from this vantage point**
**Source: Lahznimmo Architects**

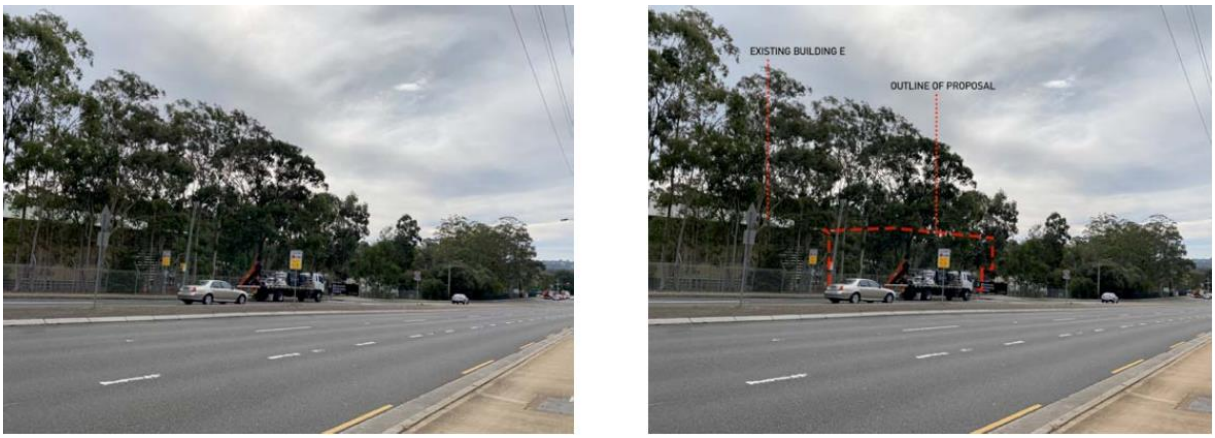



**Figure 30: Existing (left), proposed (right), view towards the proposed building from Showground Road, looking north east. The southern elevation of the proposed building is partially visible from this vantage point**
**Source: Lahznimmo Architects**


**Figure 31: Existing (left), proposed (right), view of the proposed building from Sunderland Avenue, looking south. The northern elevation of the proposed building is partially visible from this vantage point**
**Source: Lahznimmo Architects.**


**Figure 32: Existing (left), proposed (right), view of the proposed building from Peppertree Place, looking south east. The proposed building is not visible from this vantage point**
**Source: Lahznimmo Architects.**


**Figure 33: Existing (left), proposed (right), view towards the location of the proposed building from Green Road, looking south west through the TAFE site. The proposed building is not visible from this vantage point**
**Source: Lahznimmo Architects**

### *7.3.4 Wind*

Building J is not expected to result in any significant impacts in regard to the wind environment within the or surrounding the MDC and TAFE sites by virtue of the scale and height of the building being consistent with other existing adjacent buildings.

New landscaping and tree planting as well as the existing established tree canopy within and adjoining the site will assist with mitigating the impacts of strong winds.

### *7.3.5 Crime Prevention Through Environmental Design (CPTED)*

The development implements the principles of Crime Prevention Through Environmental Design (CPTED) as outlined within the CPTED Assessment prepared by Ethos Urban that has been prepared in accordance with the Department of Planning's guideline titled Crime Prevention and the Assessment of Development Applications (2001). A summary of the CPTED Assessment is provide in **Table 6** below. The CPTED report is held at **Appendix AA**).

Table 6: CPTED Principles – Assessment Summary

| **CPTED Principle** | **Recommendations** |
|---|---|
| Access Control | All non-public areas of the proposed Building J (including external back of house areas such as the loading dock) be appropriately secured to stop access by the general public.<br><br>All windows and skylights should be lockable to prevent after hours break and enter.<br><br>All entrances/exits be security access doors that open outwards and are only accessible by security card/key.<br><br>Ensure that landscaping does not give rise to concealment opportunities and does not restrict sightlines.<br><br>Garbage bay areas must be secured to restrict unauthorised access.<br><br>The long access/egress way located along the western elevation should be provided with a security door at its entrance/exit point to restrict access. |
| Surveillance | Ensure opportunities for natural and incidental surveillance are maintained through effective lighting, access control and environmental maintenance.<br><br>Ensure opportunities for concealment are minimised by reducing alcoves and recesses throughout building exteriors.<br><br>The pedestrian walkway/path providing pedestrian connection from Showground Road to the front entrance should be obvious, open and provide clear site lines. Consideration should be given to it being widened and splay/rounded corners being provided for its right-angle corners.<br><br>All new landscaping and existing vegetation should improve sightlines and minimise concealment opportunities throughout the site. As a general guide, shrub species should be less than approximately 0.5m in height and trees should achieve a minimum canopy height (underside) of approximately 2m when mature. Regular maintenance should occur to ensure vegetation does not encroach upon sightlines or lead to concealment opportunities. |
| Territorial Reinforcement | Maintain that building entrances remain free of clutter to ensure entry points are highly visible.<br><br>Display CCTV security notice signs to convey that the site is under constant surveillance. |

| | |
|---|---|
| | Clearly delineate public/private land along the main entrance and around the perimeter as necessary with dense landscaping and/or open style fencing.<br><br>Provide signage within the pedestrian pathways to direct pedestrian movements. |
| Space Management | There are no recommendations for activity and space management. |

## 7.4 Transport and Accessibility

A Traffic and Transport Impact Assessment has been prepared by JMT Consulting and is included in **Appendix I**. A summary of the key findings of the assessment are provided in the following sections.

### *7.4.1 Travel Mode*

Journey to Work data from the 2016 Australian Census was reviewed by JMT Consulting to understand the current travel behaviours of employees working in the vicinity of the MDC site. The data is summarised in **Table 7** below.

**Table 7: Existing Mode Share for Travel**

| Mode of Travel | Mode Share |
|---|---|
| Car Driver | 79% |
| Car Passenger | 8% |
| Train | 1% |
| Bus | 8% |
| Walk Only | 4% |
| Total | 100% |

The Journey to Work data indicates a high proportion of people that drive to work daily, with public transport accounting for less than 10% of all trips. It is however noteworthy that the opening of the Sydney Metro Northwest line in May 2019, which was after the most recent Census, has significantly improved public transport accessibility to the area.

### *7.4.2 Public Transport*

Access to the MDC site at Castle Hill via public transport is limited to nearby bus stops or the Hills Showground Metro Station which is located approximately 1.6km away from the site as shown **Figure 35**. The walk between the metro station and the MDC site is between 20 to 25 minutes and 1.6km in length along a dedicated shared pedestrian and bicycle path.

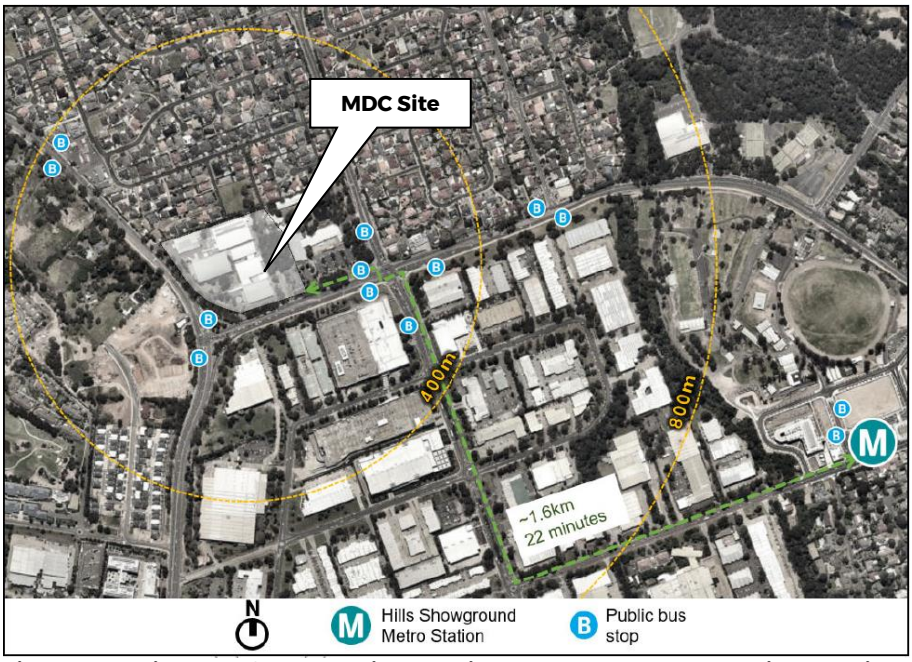



**Figure 34: Aerial Map of the MDC site and Hills Showground Metro Station showing walking path**
**Source: JMT Consulting**

A bus station is located immediately adjacent to the entry point of Hills Showground Metro Station with connecting bus services to Greens Road bus stop which is approximately 300m to the north west of the MDC site. Connecting bus services from theses bus stops, via Greens Road (adjacent to the MDC site) include:

- 601 bus route – runs every 15 minutes during peak periods.
- 626 bus route – runs every 30 minutes during peak periods.
- 633 bus route – runs every 20-30 minutes during peak periods.
- 651 bus route – runs 20-30 minutes during peak periods.

An additional option for people travelling between the MDC site and Hills Showground Metro Station is the Norwest On Demand bus service operated by CDC Hills Bus Metro Connect. The On Demand service picks up the person travelling from an agreed pick up point to Norwest Metro Station, Bella Vista Metro Station or Hills Showground Metro Station which provides a convenient public transport link with the Sydney Metro Rail Line as well as travelling to and from the MDC site.

The Norwest On Demand service is available on weekdays (inclusive of public holidays that land on a weekday). The morning service commences at 6.00am and ends at 10.00am and the afternoon service runs from 4.00pm to 9.00pm which is an ideal service for employees travelling from the MDC site to a nearby metro station, or alternatively employees living within the catchment of the on demand service to directly access the MDC site.

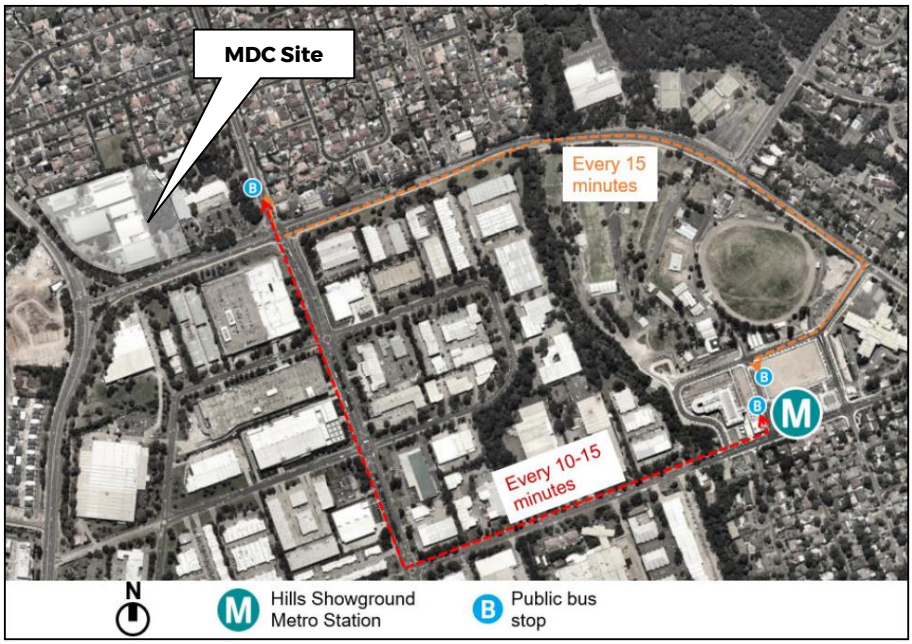



**Figure 35: Connecting bus services between Hills Showground metro Station and MDC site.**
**Source: JMT Consulting**

### *7.4.3 Cycling and Bicycle Parking*

A shared walking/cycling path on provided on the southern side of Showground Road which continues along Showground Road through to the Hills Showground Metro Station. Other cycling facilities in the area include a shared pathway on the northern side of Carrington Road which also provides connectivity with Hills Showground Metro Station.

Bicycle parking for staff and visitors (five bicycle parking spaces provided) are proposed on western side of the Building J in an undercover location, adjacent to the existing security area.

### *7.4.4 Vehicle Access and Parking*

No changes are proposed with respect to vehicle access to the MDC site, which is to remain via Showground Road (left in / left out) or Windsor Road. It is also noteworthy that the MDC and TAFE have a longstanding agreement permitting vehicle access to the MDC site from Green Road via TAFE NSW. As part of the proposed MDC expansion, TAFE NSW consents to a carriageway easement being created to the benefit of MDC which will formalise the agreement. The alignment of the proposed carriageway easement is shown within the draft Plan of Subdivision prepared by YSCO Geomatics and held at **Appendix X.**

In relation to car parking, the TIA identifies that there is sufficient parking on the MDC site to accommodate the demand expected to be generated by the proposed expansion. More specifically, there are currently 54 line-marked parking spaces distributed around the existing MDC site. The development of proposed building J and associated landscaping will not result in the loss of any of these existing MDC spaces. The existing parking supply exceeds the expected staff parking demand of 37 car spaces. Staff and visitors to proposed Building J will access the MDC car parking spaces via the east west pedestrian link. An outline of the existing and proposed parking supply and demand is provided at **Table 8** below

There are no specific car parking rates relevant to the MDC land use under NSW Transport Guidelines. Therefore, the expected staff car parking demand has been calculated based on 2016 Journey to Work Census data which indicates current travel behaviours of employees working in the vicinity of the MDC site. The Census data indicates that approximately 75% of staff travel to work by car resulting in a parking demand of 37 spaces.

The TIA identifies that the remaining car parking (13 spaces) will satisfy the car parking demand expected to be generated by visitors to the site taking into consideration that most visitor cars arriving at the MDC site

contain family groups of between 3 and 4 passengers. Based on the forecast of 80 daily visitors to the MDC site on weekends, this equates to a demand of approximately 25 visitor spaces spread across the course of the day.

**Table 8: Existing and proposed car parking provision**

| Scenario | MDC Parking Supply | MDC Staff Numbers | MDC Staff Parking Demand |
|---|---|---|---|
| Existing | 54 | 15 | 12 |
| Proposed | | 50 | 37 |

There are 22 existing linemarked TAFE NSW car spaces in the location of proposed Building J. To offset the loss of these 22 car parking spaces, the existing car parking area at the eastern end of the TAFE site will be expanded to include an additional 24 car spaces.

There are also up to 38 informal TAFE car spaces in the location of proposed Building J. Following discussions with TAFE NSW, it is confirmed that these spaces will be relocated elsewhere throughout the TAFE site so that the requirements relevant to car parking provision under DA No. 1674/2007/HA continue to be met.

Having regard to the above analysis, there will be no loss of TAFE NSW car parking spaces as a result to the proposed development.

### *7.4.5 Traffic Generation*

The proposed development is anticipated to result in traffic generation of 40 trips over a three-hour morning peak period, with approximately 50% taking place during the morning peak hour (8am-9am).

**Table 9: Total trips generated by the proposed Building J**

| Transport Mode | Mode Split | Additional trip generation | | |
|---|---|---|---|---|
| | | AM Peak period | AM Peak hour | Daily |
| Car driver | 74% | 30 | 15 | 99 |
| Car passenger | 7% | 3 | 1 | 9 |
| Bus | 9% | 4 | 2 | 12 |
| Train/Metro | 6% | 2 | 1 | 8 |
| Walk | 4% | 2 | 1 | 5 |
| Total | 100% | 40 | 20 | 133 |

This volume of traffic is considered insignificant in the context of existing traffic flows along Windsor Road and Showground Road, which account for over 2,000 vehicles per hour. Therefore, the proposal will not result in any impacts on the adjacent road network nor necessitate the requirement for any road network enhancements.

Traffic modelling was undertaken by JMT Consulting using the TfNSW approved SIDRA modelling software package (refer to **Table 10** below).

**Table 10: SIDRA Traffic Modelling**

| Peak Hour | Intersection | Existing Performance | | | Post Development Performance | | |
|---|---|---|---|---|---|---|---|
| | | AVD | DOS | LOS | AVD | DOS | LOS |
| **AM Peak hour** | Showground Road/ Windsor Road | 24 | 0.81 | C | 25 | 0.81 | C |
| | Showground Road/ Victoria Avenue/ Green Road | 60 | 0.91 | E | 60 | 0.93 | E |
| **PM Peak hour** | Showground Road/ Windsor Road | 28 | 0.68 | C | 28 | 0.68 | C |
| | Showground Road/ Victoria Avenue/ Green Road | 62 | 0.95 | E | 63 | 0.96 | E |

The SIDRA analysis shows that the proposed development will result in a minor increase in delay at each of the intersections during the AM and PM peaks. All intersections will retain their existing Level of Service without the need for any mitigation measures.

### *7.4.6 Loading and Servicing*

The proposed Building J will contain an on-site loading dock to service the building for the loading/unloading of collection items. The loading dock is located at the northern end of Building J.


**Figure 36: Detailed Swept path Analysis**
**Source: JMT Consulting**

Delivery vehicles will enter the site from Showground Road and travel north within the site before reversing back into the loading dock. Vehicles exit the site via Windsor Road by travelling in an anti-clockwise direction along the existing internal driveways within the MDC site.

It is expected the site will generate 5-10 daily service vehicle movements. The frequency of deliveries will depend on exhibition programming at Powerhouse Parramatta. When there are no changes to the exhibition spaces at Powerhouse Parramatta, there will be significantly lower levels of service vehicle activity at the MDC site.
In response to feedback received from TfNSW as part of the consultation process, the TIA confirms that the number of service vehicle movements into the site from Showground Road is low, and will not impact the operation of the adjacent road network.

### *7.4.7 Construction Traffic Management*

The Contractor (once appointed) will prepare a detailed Construction Pedestrian and Traffic Management Plan prior to the commencement of works on the site. This plan will contain additional information to that presented in this document such as:

- Site compound locations.
- Driver facility areas.
- Crane locations.
- Vehicle turning paths.
- Traffic control plans including location of traffic controllers, site fencing/hoarding and other management measures.

### *7.4.8 Green Travel Plan*

The objectives of the Green Travel Plan are to:

- Reduce dependence on private cars.
- Improve pedestrian and cycling facilities.
- Promote public transport and car sharing.
- Reduce congestion in the local area.

Details of a Green Travel Plan (GTP) and Workplace Travel Plan has been included in the Transport Report prepared by JMT Consulting held at **Appendix I**. Based on the review of existing and future transport conditions near the MDC site, the following potential measures are recommended to promote travel by sustainable transport modes and reduce a reliance on private

| Green Travel Plan Measure | Recommended Measure |
|---|---|
| Car pooling | • Holding a staff event and providing information around the option of carpooling, including the opportunity for staff members to 'pair up' based on their home location and travel preferences (as part of the annual travel morning tea information session as described in Section 5.4).<br>• Providing incentives for those that carpool, e.g. priority parking within the site or coffee / lunch vouchers. |
| Cycling | • Powerhouse could consider purchasing 2-3 bikes for staff to use during the day, including potential e-bikes which require less effort than traditional bicycles. Staff members can then be provided the option of using the bikes to travel to/from the Hills Showground metro station, leaving it parked overnight in the secure parking area.<br>• On-site facilities for cyclists such as bicycle parking (in a secure and undercover area) supported by lockers, showers and change-rooms should be provided as part of the future development of the MDC.<br>• Other measures for consideration to be implemented by Powerhouse to encourage cycling include the following:<br>– Supply a workplace toolkit comprising of puncture repair equipment, a bike pump, a spare lock and lights.<br>– Provide local cycle maps to staff (included within the 'Transport Access Guide' as described in Section 5.4 of this document).<br>– Participate in annual events such as 'Ride to Workday' and 'Sydney Rides Festival'.<br>– Make staff aware of public transport cycling carriage policies and cycle storage facilities at rail / metro stations.<br>– Encourage staff interested in cycling to connect with other more confident and experienced riders to provide further encouragement or advice.<br>– Provide cycle safety training courses (provided by others) for staff to improve cycling confidence. |
| General Marketing and Promotion | • Marketing the benefits and promoting the sustainable alternatives available are therefore crucial in encouraging staff to adopt the proposed measures. It is important staff are made aware of the travel options available to them. Mechanisms for providing this information to staff include:<br>– In addition to raising general awareness, any successes achieved will be fully publicised to staff in order to motivate them to use sustainable modes of transport.<br>– Incorporating travel information as part of the staff induction process so new staff members are aware of the travel choices available to them.<br>– Holding an annual morning tea / lunchtime presentation to describe the travel options available to staff and facilities offered to enable travel by sustainable transport modes.<br>– Development of a 'Transport Access Guide' (TAG) which is a physical flyer provided to all staff members on their commencement date. |
| Workplace challenges | • Workplace travel challenges can create a culture where sustainable transport options are normalised and celebrated. These would be promoted internally to staff and help encourage use of sustainable travel modes – particularly taking advantage of the walk or cycle between Hills Showground and the MDC. |
| Public transport | • To promote the availability of public transport to/from the site, it is recommended that:<br>– Consideration be given to the provision of static wayfinding signage within the site to support pedestrian and cyclist movements to/from public transport stops.<br>– Providing public transport information to visitors on the MDC website informing them of the available access options. |

| | |
|---|---|
| Reducing the need to travel | • To ensure that sustainable transport options are promoted to staff when making journeys for work purposes, and to reduce the need to travel, the following measures should be implemented:<br>– Providing for 'default flexibility' for all staff – not just permitting but encouraging more flexible working hours or locations.<br>– Active promotion of the video-conferencing facilities as an alternative to face to face meetings.<br>– Powerhouse employees could be encouraged, where practical, to arrive at work and leave work during the shoulders of the peak e.g. start work at 10am and finish at 6.30 pm or start at 7am and finish at 3.30pm. |

### 7.5 Built Heritage

The subject site is not heritage listed on any local or State heritage register, nor is it located immediately adjacent to any individual heritage items or heritage conservation areas. The eucalypt plantations located on the TAFE site are not heritage listed.

The nearest heritage item to the subject site is "Windsor Road from Baulkham Hills to Box Hill", listed in Schedule 5 of LEP 2012 (No. I28), and is located approximately 115m south-west of the MDC. Hence, due to the distance between the subject site and the closest heritage item, no proposed works in the expansion of the MDC will impact upon the visual or physical settings of the heritage item.

### 7.6 Social Impacts

A Social Impact Assessment (SIA) prepared by Ethos Urban is provided at **Appendix Y**. In the overall analysis, the SIA anticipates that the project will bring significant public benefits to the local and broader communities provided that a range of mitigation measures are implemented to manage any risks as well as enhance the positive benefits.

The SIA identifies the following potential social impacts resulting from the MDC expansion project:

- Adverse amenity impacts including by way of noise and dust during construction, and impacts to traffic and parking during both construction and operational phases
- Positive health and wellbeing benefits
- Positive community impacts including its composition, cohesion and character
- Cultural impacts (both adverse and positive) including connections to place.
- Impacts to accessing infrastructure, services and facilities.

The recommended mitigation measures are:

- Prepare a Construction Management Plan, including mitigation measures to reduce the impacts associated with noise, vibration and visual amenity during the construction phase.
- Develop a comprehensive Operational Plan of Management to effectively address:
  - Management of events, programs and activities on the site to minimise amenity impacts on surrounding neighbours
  - Safety, health and wellbeing of users of the site and communities in the locality
  - Public and active transport access to the site.
- Develop and implement user experience surveys and monitoring plans to identify the direct and indirect impacts of the Museums Discovery Centre during its operation. The findings of this research may be reported through Annual Reports.
- Implement the recommendations of the Aboriginal Cultural Heritage Assessment Report.
- Undertake ongoing engagement with key stakeholders, including the neighbouring TAFE NSW campus, to identify opportunities for partnerships for education, programming and events.
- Enhance positive impacts of the delivery of the expanded Museums Discovery Centre through consideration of:
  - Inclusion and visibility of marginalised and culturally and socially diverse communities in programming and events

  - Development of programs and access to facilities targeted to local residents: in particular, the opportunity for school students as well as TAFE students to access programs, facilities, research and viewing of collections
  - Opportunities for partnerships between the Museums Discovery Centre and surrounding businesses, e.g. Hills Super Centre, to enhance sense of connection, in line with stakeholder feedback
  - Opportunities to improve public transport access to the site, in line with stakeholder feedback, to increase opportunities for visitors without access to a car to visit the MDC
  - Opportunities to embed community values into the design of the public domain associated with the MDC, including through landscaping, to enhance community connection to the site
  - Measures to ensure high levels of safety, security and accessibility through the site to ensure a welcoming and safe environment for all
  - Opportunities for surrounding local community and cultural groups to use the expanded MDC for tailored education, training and meeting purposes.
- Documentation of the construction phase, and alterations to the site as a result of the redevelopment of the site

### 7.7 Aboriginal Heritage

A preliminary Aboriginal Cultural Heritage Assessment Report (ACHAR) has been prepared by Curio Projects and it is held at **Appendix J**. The ACHAR documents the process of investigation, consultation and assessment with regards to Aboriginal cultural heritage and Aboriginal archaeology, specific to the proposed development.

The ACHAR has been prepared in accordance with the requirements for reporting as established in DECCW 2010 Code of Practice for Archaeological Investigation of Aboriginal Objects in New South (Code of Practice); and OEH 2011a Guide to Investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW (Guide to Investigating).

The ACHAR includes:
- an outline of the relevant statutory context
- background research
- an assessment of evidence and information about material traces of Aboriginal land use in the study area and surrounds
- an assessment of potential Aboriginal sites, places, landscapes and/or other values
- an outline of the Aboriginal community consultation being undertaken
- an impact assessment and management recommendations to assist with future responsibilities for Aboriginal cultural heritage within the study area.

The ACHAR identifies that the proposed development has low potential to encounter or impact any Aboriginal archaeological deposit, site, or objects. Therefore, the report recommends that no further archaeological assessment or physical investigation is required. It is also recommended that, should any unexpected Aboriginal Finds be encountered during development works, the 'Unexpected Finds Policy' should be followed. Furthermore, outcomes from the Aboriginal community consultation process will be addressed, as necessary, by the final ACHAR.

### 7.8 Noise and Vibration

An Acoustic Report has been prepared by Northrop and is provided at **Appendix E**. The report assesses the potential noise and vibration impacts during the construction and operational stages of the project. A summary of the assessment and proposed mitigation measures are described below.

Attended and unattended noise measurements were conducted on-site. A noise monitor was installed on the northern end of the site for a period of eight days from 4 to 12 June 2020 to measure ambient noise levels. The noise monitor was installed on the closest residential boundary, as shown in **Figure 37** below. Attended noise measurements were also taken along Showground Road to measure the ambient and traffic noise levels. Measurements were taken at the same setback as the proposed southern elevation of proposed Building J from the kerb.


**Figure 37: Aerial view of the site, including the noise measurement locations**
**Source: Northrop Acoustic Report for SSDA, 2020**

### *7.8.1 Operational Noise Impacts*

The operational noise from Building J has been considered in the Noise Impact Assessment including the potential impacts of noise emissions from the northern end and the east façade to surrounding dwellings located to the north and the TAFE teaching spaces to the east of the proposed building.

The operations associated with the new building with the new building operations such as storage, conservation, research and display such as education, workshops, talks and exhibition are proposed to be located indoors. Considering that most activities are low noise generating and internalised, and the proposed masonry external walls have a high performance value that will exceed Rw 45, it is not expected that there will be any noise impacts generated by the use of the internal spaces within Building J. The proposed development does not include any outdoor seating areas nor any operation involving the outdoor areas of the site, therefore no noise impacts from the external areas of the site are expected.

### *7.8.2 Mechanical Services Noise Impact*

The accumulated noise from the mechanical plant should not exceed 49 dBA during the day and 48 dBA in the evening (background + 5 dBA, as per Council criteria) at the residential boundary to the north (10 Sunderland Avenue) and 65 dBA at the commercial buildings.

New mechanical plant is located at the south and north ends of the proposed Building J at Level 1. The mechanical plant in the southern end of Building J will be unroofed and open to the sky, whilst the mechanical plant at the northern end of Building J will be mostly roofed with a small portion unroofed.

The mechanical plant at the north end of Building J is located approximately 50m to the nearest residential dwelling at 10 Sunderland Avenue. Although the mechanical plant is mostly enclosed there is potential for noise impacts from the side or rooftop air inlets and exhausts.

A mechanical noise assessment will be completed once the mechanical equipment is finalised, prior to a Building Certificate for Crown Building Work being issued. The following general recommendations for noise control of outdoor mechanical plant will guide the selection of the mechanical ventilation equipment of the proposed development:

- Location of mechanical equipment or exhaust fans to be away from noise sensitive receivers.
- No direct line of site between the plant and the noise receivers.

- Installation of low noise condenser units or installation of barriers, acoustic enclosures and louvres around noise sources where the above measures are not adequate.
- Installation of all mechanical equipment on vibration mounts as recommended by the manufacturers.

### *7.8.3 Construction Noise Impacts*

The Acoustic Report prepared by Northrop identifies that the nature of construction activity has not been finalised and will be subject to final input by the construction contractor. However, as the proposed facility will include excavation works, it is expected that the typical plant and activity will entail the following stages and typical plant items as follows:

- Site establishment and excavation works – bump in, truck deliveries, site excavation works, spoil removal, screw piling.
- Structural works – main structural works, crane hoists, concrete pumps, concrete saws, grinding hammering.
- Fit out works – mainly enclosed finishing works.

It is anticipated that for residential receivers, noise emissions from some activities during excavation and structural works stages may exceed the Noise Affected Level criteria but will generally comply the Highly Noise affected Level criteria. In response, the Acoustic Report recommends construction noise mitigation and management measures (refer Section 7.5.2 of the Acoustic Report at **Appendix E**). These include:

- The use of screens and acoustic rated hoardings with a minimum transmission loss of >Rw 25 around the site.
- Construction scheduling with specific reference to recommended hours of construction work (including demolition and excavation).
- Community engagement including the appointment of a community liaison officer by the Building Contractor.
- Operational practices to minimise noise impact.

The consent authority may grant periods of respite during construction work if required by restricting the hours that the very noise activities can occur. It is important to note that periods of respite are normally only granted where there is a need for extended construction periods (i.e. 24/7 construction). Construction associated with the proposed MDC expansion will generally operate within the normal construction operating hours. Taking this into consideration and the priority status of the project, respite periods are considered to be unnecessary in this instance.

### *7.8.4 Vehicle Noise Emissions*

<u>Noise impact from generated traffic upon the surrounding road network:</u>

The Transport Assessment prepared by JMT Consulting considers traffic generation and car parking demand from the proposed Building J and states that there will be up to a total of 50 staff members at any one time, an increase from the current 10-15 employees on-site. The noise increase generated by traffic movement to and from the site has been assessed against the RNP criteria. A summary of results is presented in **Table 11**.

**Table 11: Traffic noise generated by Building J operation – Analysis**

| Location | Period | Existing traffic, Vehicle/Hr | Generated traffic, Vehicle/Hr | Resulting noise increase, dBA | Permitted noise increase, dBA | Complies (Y/N) |
|---|---|---|---|---|---|---|
| Winsor Road/ Showground Road | AM Peak | 2,000 | 15 | 0.03 | 2 | Y |

The above summary results indicate that generated traffic will be a small proportion of the traffic volume on the surrounding roads, the resulting noise increase will be marginal and will be within RNP noise limit increase.

Noise emissions from the loading dock

All vehicles will enter and exit the site in a forward direction. Trucks will enter the site from Showground Road and travel north within the site before reversing back into the loading dock. Trucks will exit the site via Windsor Road by travelling in an anti-clockwise direction along the existing internal driveway through the northern end of the MDC site. The proposed truck circulation routes for the development are shown in **Figure 38**.

The delivery vehicles servicing the loading dock will generally be rigid trucks up to 12.5m in length. Occasionally (2-3 times a year) bulky or heavy museum items will be delivered by articulated 19m vehicles. The residential dwellings to the northwest and north of the site located at 2 Peppertree Place and 10 Sunderland Avenue are the closest sensitive receivers and will be exposed to noise as follows:

- Truck noise emissions whilst the truck reverses into the loading dock.
- Truck noise emissions whilst the truck sits idling in front of the loading dock.
- Truck noise during the truck exiting the site driving between Building I on the MDC site and the north MDC site boundary.

As the loading dock is an enclosed space, truck and other internal noise sources such as lift truck noise will be attenuated by the building envelope. For the purpose of the noise assessment it is assumed that the trucks will manoeuvre or idle outside the loading dock for up to 1 minute, the noise emissions to the nearest residential receivers is calculated on this basis. The attenuation effect of distance and directivity have been considered in the calculation. A summary of the results is provided in **Table 12**.

**Table 12: Truck/loading dock noise generated by Building J operation – Analysis**

| Period | 1 Truck SWL, dBA | Truck SPL at 10m, dBA | Truck SPL at nearest residences, LAeq, 1 minute, dBA | Truck SPL at nearest residences, LAeq, 15-minute, dBA | Criteria LAeq, 15-minute, dBA | Complies (Y/N) |
|---|---|---|---|---|---|---|
| Day | 97 | 69 | 59 | 47 | 49 | Yes |
| Evening | 97 | 69 | 59 | 47 | 43 | No |
| Night | 97 | 69 | 59 | 47 | 38 | No |

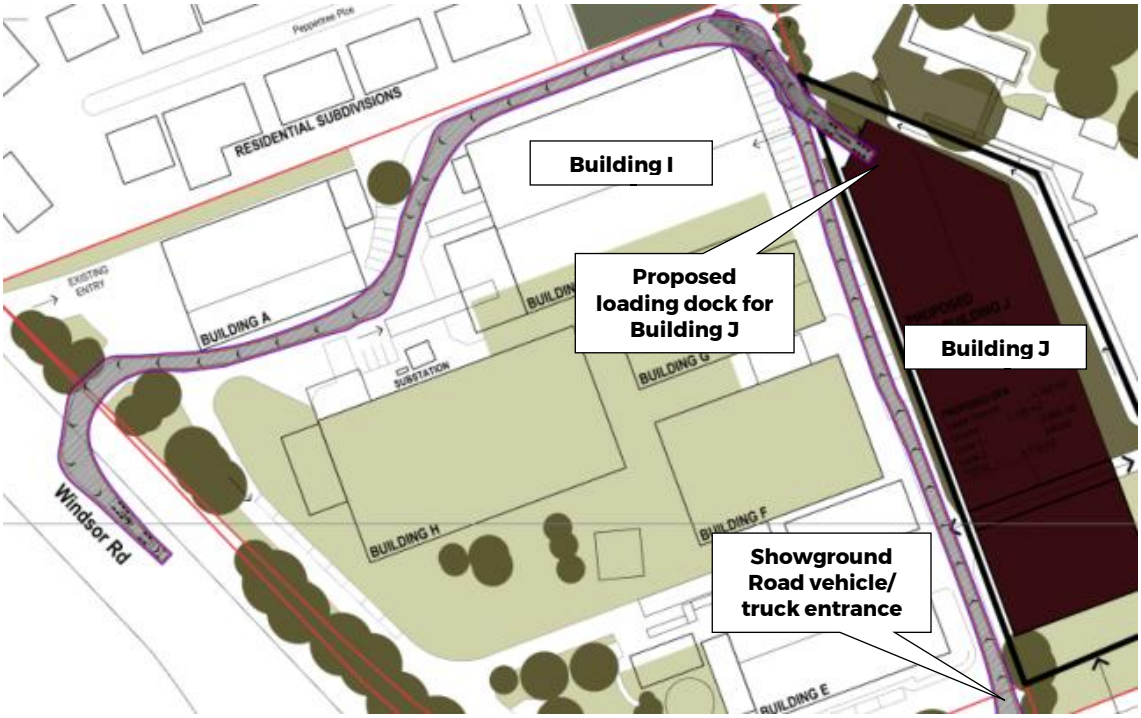



**Figure 38: Truck circulation route on-site**
**Source: JMT Consulting, Transport Assessment Report**

The results in **Table 12** indicate that noise emissions from trucks outside the loading dock will comply with the relevant daytime criterion but exceeds the evening and night limits.

After trucks leave the loading dock, the truck travel along a 27m driveway between Building I and the residential boundary with the resulting equivalent Sound Pressure Level at the residences fronting Peppertree Place being 51 dBA. This is a marginal exceedance that is not at a noticeable level and occurs infrequently (2-3 times a year) and is tolerable from the residential neighbours.

For the larger trucks where the Sound Power Level is 107 dBA, the noise levels at the boundary will be 10 dBA higher. For noise events which are single events and last up to 2.5 hours the NSW EPA Noise Policy for Industry (Table C1 of NPfI) allows an additional 20 dBA correction added to the noise criteria. Based on larger truck visits being limited to 2-3 times a year, they are considered as single events, applying this correction the noise levels will be within the permitted limit.

Mitigation Measures

The following mitigation measures are proposed to manage the operation noise generated by trucks utilising the loading dock:

- Trucks should drive directly to the loading dock and drive straight inside. If the trucks need to stop in front of the dock, the engine should be switched off as soon as the trucks are in position. In this regard, the truck drivers should be trained and signage to be posted outside the loading dock.
- All deliveries/pick-ups to be made during daytime wherever possible. No deliveries to be made in the evening unless the delivery vehicle is of a small size or is a ute. Where truck delivery at nighttime is unavoidable, the residences at the north boundary should be contacted beforehand to be informed.

### *7.8.5 Noise Intrusion into the Building*

The main noise ingress into Building J will be from traffic on Showground Road. The external walls will be constructed of blockwork masonry with outer metal cladding. The acoustic performance of such structure will be in excess of Rw 45 and was considered in the calculations.

Drawings indicate that on the south façade, the only glazed parts leading to working spaces is on the ground floor. The glazed spaces are lunchroom and staff area for which the recommended internal noise level is 45-50 dBA. Based on the expected traffic noise level outside, the recommended glazing for this façade is glass with a Rw 25 value. Notwithstanding, for commercial buildings of this nature it is recommended installation of 6.38mm laminated glass as a minimum to provide acceptable internal acoustic amenity for occupants within the proposed building.

The west, east and north elevations of the proposed development are not exposed to any traffic or other significant noise sources. The installation of standard glazing and other associated materials for windows and doors to these elevations will therefore be sufficient.

#### *7.8.6 Vibration Impacts*

Construction vibration levels depend on several factors. These include the activity, the equipment being used, the ground geology and the distance between the building and the source. In Australia there is no current specific standard for construction vibration. The methodology used by Northrop is equivalent to the guidelines issued in current international standards and described in 'AS 2670:2001 Vibration and shock - Guide to the evaluation of human exposure to whole body vibration'.

Typical vibration levels from construction plant equipment most likely to cause significant vibration include:

- Bulldozers / excavators
- Jack hammers
- Truck Traffic

Notably, the nearest affected receivers are located more than 10 metres from the site and therefore any vibration from the construction plant is not expected to cause discomfort in terms of perceptible vibration during daytime construction hours.

It is also identified that heavy trucks passing over normal (smooth) road surfaces generate relatively low vibration which is usually imperceptible in nearby buildings.

### 7.9 Biodiversity and Tree Removal

#### *7.9.1 Tree Removal and Tree Replacement*

The proposal includes removal of 337 trees from the location of the Building J site and 40 trees from the proposed relocated car park on the eastern end of the TAFE site. An Arboricultural Impact Statement prepared by MacKay Tree Management is included at **Appendix V.** The Arboricultural Impact Statement assesses the proposed removal of trees and provides recommendations for the retention of trees located near the location of the proposed works.

New landscaping will be provided along the southern, western and eastern sides of proposed Building J and will include a mix of ground covers, shrubs and trees featuring some species that are endemic to the area.

The SSDA includes the delivery of Tree Replacement Strategy that proposes to plant two trees for every tree removed from the site within locations in The Hills Shire LGA. The Tree Replacement Strategy prepared by WSP is held at **Appendix O** and will result in a minimum of 674 trees being planted. The Tree Replacement Strategy submitted with this EIS includes the following details

- An assessment of the ecological values of the existing trees in terms of canopy cover and biodiversity value;
- Identification of sites for replacement planting within the MDC and TAFE sites (if land available) or suitable other sites within the LGA;
- Recommendations regarding any other planting (other than trees) that could be planted on the TAFE or Museums Discovery Centre site to improve biodiversity values;
- A list of proposed species for replacement planting and recommendations on pot sizes;
- A proposed establishment and maintenance regime; and

- Assessment of the ecological values of the mature replacement trees inclusive of canopy cover and biodiversity value.

Identification of Sites for Replacement Planting

The Tree Replacement Strategy (refer **Appendix O**) addresses potential sites for replacement planting within the MDC and TAFE sites (if land is available) and suitable other sites within the local government area.

The potential for planting further trees at the MDC site is low because sufficient space does not exist, noting that there are several existing perimeter and internal garden beds densely planted with medium and large trees. However, there is some opportunity for planting of shrub and groundcover species underneath existing plantings. There is also potential to establish a variable shrub and ground layer composed of native species.

The TAFE site also contains a considerable number of large and medium sized trees and the potential for planting any further trees at this site is low. As with the MDC site, there is opportunity for planting of shrub and groundcover species underneath existing plantings.

Potential sites for replacement planting within the broader Local Government Area, which will form part of ongoing consultation with the Council, include but are not limited to:

- William Harvey Reserve
- Caddies Creek Park
- Bellamy Farm Reserve
- Castle Hill Heritage Park
- Fred Caterson Reserve
- Mackillop Drive Reserve

The Tree Replacement Strategy anticipates that replanting will have to take be undertaken across multiple sites. The objective is to complement Council's revegetation efforts and to create a buffer zone of trees at the edge of the bushland remnant to buffer it from edge effects, to increase the canopy cover of the landscape, provide linkages between bushland remnants, and to provide supplementary foraging habitat for fauna species.

### *7.9.2 Biodiversity*

A Biodiversity Development Assessment Report has been prepared by WSP to assess the biodiversity values and species habitat present on the site (refer to **Appendix N**). A summary of the assessment and recommended mitigation measures are outlined below.

The naturally occurring vegetation has already been cleared from the development site. The development site now contains trees that formed part of a plantation by the Museum as an exercise in researching essential oils. This research continued until 1979 when the exercise was taken over by the Department of Agriculture. The plantation is dominated by *Corymbia citriodora* which is not a species native to NSW. The plantation also contains some *Corymbia maculata* plants. However, the plantings are outside of their natural occurrence since *Corymbia maculata* is unlikely to have naturally occurred in this part of the Cumberland Plain.

**Photo 1: Trees and shrubs located in the location of proposed Building J south of the access driveway and the MAAS access road (Source: WSP, 2020)**

**Photo 2: Plantation trees located in the location of proposed Building J north of the existing access driveway (Source: WSP, 2020)**

In addition to the eucalypt plantations there are several other tree species that are either remnant or have been planted. The groundcover is sparse and dominated by leaf litter due to the dense eucalypt canopy but there are some native species. The project would result in the direct removal of some native vegetation. The estimated clearing is approximately 0.5 hectares consisting of a heavily modified and poor condition Grey Box.

**Table 13** provides a summary of the Plant Community Types (PCTs) found within and adjacent to the development site.

**Table 13: Plant Community Types and vegetation zones identified in the development site**

| Vegetation zone | Nearest plant community type id no. | Nearest plant community type name | Broad condition class | Vegetation zone area in development site (ha) |
|---|---|---|---|---|
| 1 | 849 | Grey Box - Forest Red Gum grassy woodland on flats of the Cumberland Plain, Sydney Basin Bioregion | Poor – Plantings | 0.50<br>(5,019 m2) |

**Table 14** provides a summary of the key biodiversity impact considerations for the proposed development.

**Table 14: Key Biodiversity Impact considerations – Summary Assessment**

| | |
|---|---|
| Vegetation Zones and Vegetation Integrity Score | There was one vegetation zone identified within the development site. The broad condition is plantings with some native species regrowth. The identified vegetation zone is in poor condition as reflected by the vegetation integrity score of 1.9 out of 100. T<br><br>This low score is due to the low composition score caused by low native species richness, a lack of vegetation structure due to the canopy of the vegetation being dominated by exotic species (*Corymbia citriodora*) and very sparse mid storey and ground layer, and absence of function attributes such as large trees (over the 50 cm large tree threshold), hollow-bearing trees and coarse woody debris.<br><br>The vegetation zone is technically representative of a critically endangered ecological community but has a vegetation integrity score of less than 15. As such, according to Section 10.3.1.2 of the BAM an offset for this vegetation is not required. |
| Threatened Ecological Communities | The vegetation does not however conform to the condition criteria specified for the EPBC Act listed Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest Threatened Ecological Community. |
| Threatened Plant Species | No threatened plant species were found in the development site during the surveys. |

| | |
|---|---|
| Threatened Animal Species | Targeted surveys for threatened animals were not undertaken during the surveys undertaken for this BDAR. Based on the results of the PMST search, 28 EPBC Act listed threatened animal species have the potential to occur within the search area. The predicted impacts to habitat for these EPBC Act listed species would be of low magnitude, so impacts to these species will be negligible and not significant. |
| Outstanding biodiversity value | No declared areas of outstanding biodiversity value listed in accordance with section 3.1 of the BC Act would be affected by the project. |

Mitigation Measures

The development site is located within a highly urbanised environment that has been cleared in the past. The vegetation within the development site is the result of planting trees for essential oil research, with some naturally occurring regrowth. The vegetation integrity of the vegetation within the development site is poor.

Habitat quality for threatened species is correspondingly low and the development site lacks important habitat features. Importantly, the development site does not contain a large area of intact native vegetation with high biodiversity value. Siting the project at this location has avoided impacting intact and higher quality vegetation remnants and threatened species habitats in the locality.

The biodiversity impacts expected to result from the project are minimal at approximately 0.5 ha of vegetation and habitat removal (refer to Section 8 of the BDAR at **Appendix O**). Once steps have been made to avoid and minimise impacts mitigation measures would be implemented to reduce the potential ecological impacts of the proposal to the greatest extent practicable. The mitigation measures to be implemented during the construction would be outlined in a Flora and Fauna Management Plan and may include:

- Procedures for the clear marking out of areas of vegetation to be cleared and the identification of no-go zones to protect vegetation outside and adjacent to the construction footprint.
- Establishment of tree protection zones around trees to be retained in accordance with the guidance provided in Australian Standard AS4970-2009 Protection of Trees on Development Sites.
- Procedures for undertaking a pre-clearing search for threatened snail species Cumberland Plain Land Snail and the Dural Land Snail, and other threatened species. Procedures for relocating threatened snails if found during the pre-clearing inspection.
- Procedures for dealing with unexpected threatened species finds during construction
- Weed management measures in accordance with the Biosecurity Act 2015.
- Pathogen management measures to prevent introduction and spread of diseases.
- Environmental inspection and monitoring requirements.
- Implementation of a proposed Tree Replacement Strategy in partnership with The Hills Shire Council.

### 7.10 Construction Management

A Construction Environment Management Plan (CEMP) prepared by Public Works Advisory is provided at **Appendix H**. The CEMP outlines the key principles and considerations for the management of the construction program and will be for the basis of the detailed CEMP to be prepared by the appointed contractor. The CEMP includes consideration of construction methodology, scheduling of works and setting out a framework for mitigating potential construction impacts on the surrounding area and key stakeholders. The CEMP also provides a response to the requirements of the SEARs (Item No. 11 'Construction").

The assessments contained in the following Sections of this EIS are applicable to, and should be read in conjunction with, this section including:

- Section 7.4 – Traffic and transport impacts
- Section 7.8 - Noise and vibration
- Section 7.11 - Stormwater management

### *7.10.1 Environmental Management*

An Environmental Manager will be appointed by the contractor to ensure that the CEMP is developed, implemented and maintained in line with the contractor's procedures. The responsibilities of the Environmental Manager will include:

- Providing a point of contact for all environmental related matters relevant to the development.
- Reviewing and assessing the environmental performance of all subcontractors.
- Undertaking environmental audits of the project and site as works progress and at key stages of the project.
- Assisting in the identification of any training needs or certification of workers on-site.

The contractor will be responsible for setting up regular construction and project reference group meetings, liaise with MAAS, Create Infrastructure staff and key stakeholders. Complaints received in regard to construction activities (including tree removal and earthworks) are to be documented and addressed via a complaints management procedure to be outlined in the detailed CEMP prepared by the contractor for the project prior to works commencing on-site.

Waste and Hazardous Materials Management

A Hazardous Material Plan will be prepared by the contractor to address the findings of a Detailed Site Investigation Report prepared by environmental consultants Alliance Geotechnical. The proposal does not involve the demolition of any buildings therefore the Detailed Site Investigation Report and the Contractors' Hazardous Materials Plan is specific to ground conditions. The Contractor's Hazardous Materials Management Plan will identify the arrangements for the removal and disposal of potentially hazardous materials from the site. Suitably licensed contractors will be used for any hazardous materials removal and approved facilities will be used for disposal.

The Stage 2 – Detailed Site Investigation prepared by Alliance Geotechnical (**Appendix L**) concludes there is no evidence of asbestos within the soil samples taken from the site. Notwithstanding, an Asbestos Management Plan addressing the relevant statutory legislation will be prepared and implemented should any asbestos material be detected during excavation and construction activities.

An Operational Waste Management Plan (OWMP) has been prepared by GTK Consulting (refer **Appendix P**). The OWMP identifies, quantifies and classifies the likely waste streams to be generated during operation of proposed Building J and describes the measures to be implemented to minimise, manage, reuse, recycle and safely dispose of this waste with reference to relevant guidelines.

The OWMP identifies that operational waste from Building J will be managed in accordance with the waste management strategies currently in place for the existing Museums Discovery Centre site. Of relevance is that, despite its size, Building J will not generate significant amounts of waste. The main sources of waste will be from the office areas with some waste being generated by conservation activities.

It is expected that the volume, servicing and storage of waste for Building J can be suitably managed in accordance with existing arrangements for the broader site.

Demolition and Tree Removal Phase

Mitigation of dust will be managed and controlled by the contractor who will install appropriate wheel washing measures (cattle grates, wheel washers, hose down bays) to ensure that road surfaces are always kept clean. This will be supplemented by manually sweeping when needed. Activities with potential to create dust omissions are to be controlled and suitable equipment is utilised to mitigate the release of dust.

Erosion and Sediment Control

The contractor will be responsible for managing the erosion and sediment control measures The demolition/earthworks subcontractor will be responsible to ensure that sediment control measures such drain socks, geofabric and/or sandbags or the like are installed at critical locations around the site to divert, dam and remove, filter or catch water containing sediment from entering storm water or sewerage systems.

Construction Traffic Management

A Preliminary Construction Pedestrian Traffic Management Plan prepared by JMT Consulting assesses the proposed access for construction traffic associated with the proposed development with consideration of road safety and capacity.

In accordance with the Preliminary Construction Pedestrian Traffic Management Plan, construction traffic will generally be managed at the site as follows:

- Designated construction vehicle access through existing entrance on Showground Road with an alternate secondary access from Windsor Road if required.
- Designated transport routes shall be communicated to all construction personnel.
- Strict scheduling of vehicle movements is to occur to minimise vehicles waiting off-site.
- Site workers are to use local public transport and car sharing wherever possible.

Any required street closures and a truck movement forecast is to be developed in consultation with the contractor and traffic engineer and contained within the detailed Construction Pedestrian Traffic Management Plan. It is anticipated that the construction site will generate approximately 40-50 vehicles movements a day at the peak of construction activities and the associated impacts will be limited.

### 7.11 Stormwater, Drainage, Sediment and Erosion Control

A Stormwater Management Report has been prepared by Northrop and is provided at **Appendix Z**. The report includes an assessment and description of the proposed stormwater, draining, flooding and sediment/erosion control measures to be implemented in the proposed development.

#### *7.11.1 Stormwater and Drainage*

The site currently contains an existing in ground stormwater system including an On-Site Detention (OSD) tank that drains via existing easements through the neighbouring TAFE site in the North Eastern corner of the site.

The existing overland flow routes generally follow the existing in ground system and drain out towards the North-Western corner of the site.

Stormwater runoff associate with the new building will be conveyed via a below ground pit and pipe system to the proposed OSD tank located under the new loading dock and driveway prior to discharging into the existing stormwater system. A separate system will convey all roof water to the proposed Rainwater Tank for re-use with any overflow directed towards the proposed OSD tank.

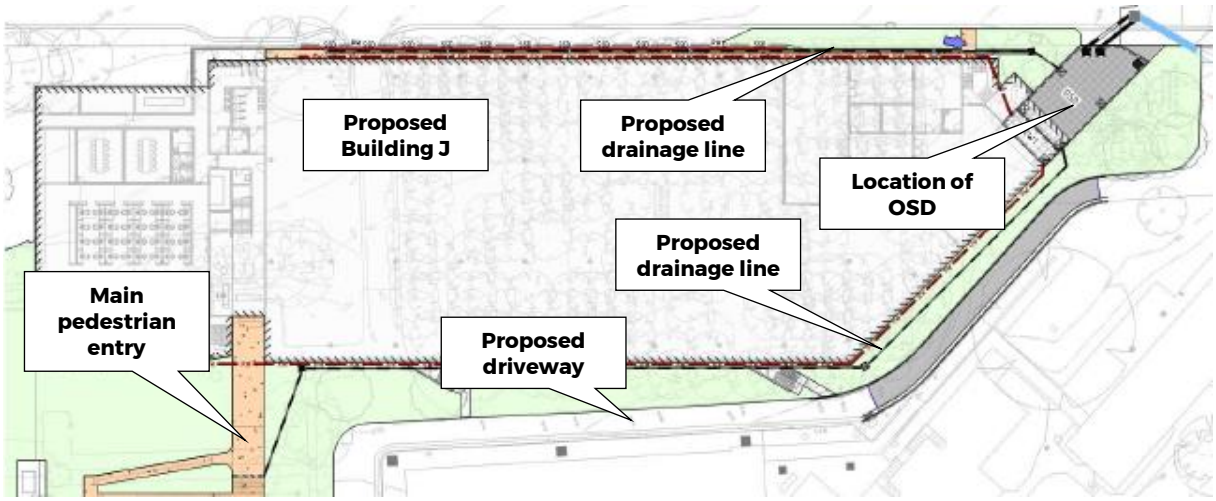



**Figure 39: Proposed OSD & Rainwater Tank Location**
**Source: Northrop Consulting Engineers**

### *7.11.2 Sediment and Erosion Control*

A Concept Sediment and Erosion Control Plan has been prepared by Northrop as part of the Stormwater Management Plan at **Appendix Z**.

Mitigation Measures

The proposed mitigation measures during construction are outlined at **Table 15**.

**Table 15: Proposed Mitigation Measures – Stormwater Management**

| Proposed Measure | Timing |
|---|---|
| Prepare a soil and erosion control plan that includes treatment for water quality during construction. | Concept design completed prior to State Significant Development Application submission by civil engineer. Final design completed prior to commencement of construction by Contractor. |
| Water Quality Control System including an On-Site Detention (OSD) System. | This will be completed as part of the design process as outlined within the Northrop Stormwater Management Report. |
| Water Quality Control System including proprietary treatment devices and a rainwater re-use tank. | |

## 7.12 Ecologically Sustainable Development

The environmental performance of the development has been assessed against the Ecological Sustainable Development principles contained in Clause 7(4) of Schedule 2 of the EP&A Regulation and this Lahznimmo accompanied by an ESD Statement prepared by Northrop (refer to **Appendix Q**).

The EP&A Regulation lists four principles of ecologically sustainable development to be considered in assessing a project which are summarised in **Table 16.**

**Table 16: ESD Principles from EP&A Regulation Schedule 2**

| ESD Principle | EP&A Regulation Schedule 2, Clause 7(4) |
|---|---|
| The precautionary principle. | *"(a) the precautionary principle, namely, that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation. In the application of the precautionary principle, public and private decisions should be guided by—*<br><br>*(i) careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment, and*<br><br>*(ii) an assessment of the risk-weighted consequences of various options,"* |
| Intergenerational equity. | *"(b) **inter-generational equity**, namely, that the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations,"* |
| Conservation of biological diversity and ecological integrity. | *"(c) **conservation of biological diversity and ecological integrity**, namely, that conservation of biological diversity and ecological integrity should be a fundamental consideration,"* |
| Improved valuation and pricing of environmental resources. | *"(d) improved valuation, pricing and incentive mechanisms, namely, that environmental factors should be included in the valuation of assets and services, such as—*<br><br>*(i) polluter pays, that is, those who generate pollution and waste should bear the cost of containment, avoidance or abatement,*<br><br>*(ii) the users of goods and services should pay prices based on the full life cycle of costs of providing goods and services, including the use of natural resources and assets and the ultimate disposal of any waste,*<br><br>*(iii) environmental goals, having been established, should be pursued in the most cost effective way, by establishing incentive structures, including market mechanisms, that enable those best placed to maximise benefits or minimise costs to develop their own solutions and responses to environmental problems."* |

| | |
|---|---|

In context of the EP&A Regulation, the proposed development includes the following key initiatives to reduce the impact of the development on the environment.

- A high-performance building envelope that exceeds the requirements of the National Construction Code.
- A centralise HVAC system to provide humidity and temperature control to the facility in a highly energy efficient manner.
- Well controlled LED lighting system to allow minimisation of energy use in space lighting and the exploitation of daylight where available.
- Material selections that help minimise environmental impact.
- A rainwater capture and reuse system to help minimise drinking water use for irrigation and manage more extreme rainfall
- Onsite solar power generation.
- Water and energy efficient appliances.
- Provisioning for the removal of most fossil fuels from the site into the future.
- Well located glazing to balance heat gains into the space and daylighting opportunities.
- Pale roof surfaces to minimise heat gain and accommodate the expected increased surface temperatures as a result of climate change.
- The benchmarking of the site to exceed Australian Best Practice Sustainability as defined by the Green Building Council of Australia.

Proposed Building J will implement the following specific sustainability measures which accord with the ESD principles, including but not limited to:

- Passive solar design.
- Good façade thermal performance.
- Façade shading to minimise heat load.
- Thermal mass.
- Controlled transmission of daylight into the building.
- Good solar amenity.
- Thermal separation to minimise leakage of hot and cool air.
- Building sealing.
- Integrated Heating, ventilation, and air conditioning control.
- Heat recovery ventilation.
- Energy efficient artificial lighting.
- Lighting controls including daylight and motion sensors.
- Energy efficient appliances.
- Use of renewable energy sources.
- Water efficient fixtures and fittings.
- Water reuse via rainwater tank storage on-site.
- Water Sensitive Urban Design.
- Targets for diversion of construction waste from land fill.
- Providing events spaces for community use.
- Promoting and encouraging public and active transport by staff and visitors.

### *7.12.1 Principles of ESD*

An analysis of the ESD principles is provided below.

Precautionary Principle

The precautionary principle is utilised when uncertainty exists about potential environmental impacts. It provides that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation. The precautionary principle requires careful evaluation of potential environmental impacts in order to avoid, wherever practicable, serious or irreversible damage to the environment.

This EIS has not identified any significant adverse or serious threat of irreversible damage to the environment. The potential environmental impacts of the development have been addressed in detail within this EIS and all supporting consultant reports. The comprehensive analysis undertaken in this EIS concludes that all likely environmental impacts of the proposed development are acceptable, reasonable and can be mitigated to avoid any significant or adverse impacts on the surrounding locality and environment.

Inter-generational Equity

Inter-generational equity is concerned with ensuring that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations. The proposal has been designed to benefit both the existing and future generations in the follow ways:

- The MDC expansion is an integral component of the Powerhouse Program and will provide the opportunity to increase visitation to the site, forming an important and significant long-term cultural institution within The Hills Shire.
- In addition to the storage component of the proposal, the expansion will increase access to the Powerhouse collection through a range of spaces for visible storage, research and viewing of the collection, as well as flexible spaces for education and public programs, workshops, talks, exhibitions and events, particularly for school age children and younger generations.
- Implements mitigation and management measures to protect the site's environmental values and achieve high standard sustainability targets.
- Facilitates the creation employment including provision of jobs in science, education, research and creative industries.
- Proposes to retain the existing car parking on-site with no additional spaces proposed to encourage a reduction in private vehicle dependency, support sustainable and active transport options such as rail, buses, walking and cycling along existing connections.

The project also demonstrates a strong commitment to the preservation of environmental health, diversity and productivity for future generations by incorporating, where practicable, the use of zero ozone depleting materials, sustainably sourced timber, low impact steel and concrete, alongside a focus on native and endemic vegetation where practicable and water sensitive urban design.

The proposal has long term social, educational, and environmental benefits for the community and has incorporates mitigation measures to minimise environmental impacts. Matters with potential long-term implications such as those associated with energy and water consumption and waste generation minimised through the implementation of management measures described in this EIS and associated technical reports.

Conservation of biological diversity and ecological integrity

The principle of biological diversity upholds that the conservation of biological diversity and ecological integrity should be a fundamental consideration.

- The landscape plan prepared by ASPECT shows new planting around the periphery of proposed Building J including a mix of ground covers/grasses and understory planting, large shrubs and tall perennials and tree canopy cover that will include species endemic to the area.
- The new on-site landscaping will provide new low/ground cover, mid stratum and upper stratum habitat for local fauna consisting of endemic plant and tree species not provided for on the site currently in this location.
- The Tree Replacement Strategy prepared by WSP (held at **Appendix O**) will result in a net increase in tree canopy, a minimum doubling of trees (2:1 replanting ratio proposed) and an increased variety of tree species within The Hills Shire Council LGA.
- The BDAR held at **Appendix N** concludes that the removal of plantation eucalyptus trees (classified as a type of Threatened Ecological Community) from the site will have no significant biological diversity implications given the small size of the impact (0.5 ha), the vegetation to be impacted is already missing most of the functionally important species and the overall poor quality of the TEC.

Improved valuation, pricing and incentive mechanisms

The principles of improved valuation and pricing of environmental resources requires consideration of all environmental resources which may be affected by a proposal, including air, water, land and living organisms. The selected contractor for the construction of the development will be required to develop and implement mitigation measures for avoiding, reusing, recycling and managing waste during construction and ensure building materials and resources are used responsibly in the first instance and where practicable, obtained from renewable sources. The building has been designed to minimise energy and resource use through passive solar design, installation of a rooftop PV system to generate electricity and utilising building materials that have good thermal performance to minimise the need for air-conditioning system use.

Additional measures will also be implemented to ensure no environmental resources in the locality are adversely impacted during the construction or operational phases. Refer to the Mitigation Measures in Section 8.0.

### 7.13 Other Assessment Issues

An assessment of the other impacts of the development has been undertaken by the relevant specialist consultants and are appended to this EIS. A brief description of each other assessment issue is provided in **Table 17** below.

**Table 17: Other Assessment Issues**

| Issue | Consultant | Summary | Reference |
|---|---|---|---|
| Accessibility | ABE Consulting | The Accessibility Design Review Report provides a review of the relevant project design documentation and confirms that at this SSDA lodgement phase, the proposed development can achieve compliance with provisions relevant to accessibility subject to the adoption of recommendations and performance solutions. | **Appendix T** |
| BCA Compliance | Consultant Code Solutions | The proposed development will be capable of achieving compliance with the Building Code of Australia.<br><br>Where compliance is not achieved with the Deemed to Satisfy (DtS) provisions, performance based alternative solutions will be developed by the relevant qualified building professional/consultant.<br><br>Detailed compliance documentation will be prepared prior to works commencing on-site. | **Appendix U** |
| Contamination | Alliance Geotechnical | The Stage 1 - Preliminary and Stage 2 - Detailed Site Investigations prepared for the site by Alliance Geotechnical conclude that the site is suitable for the proposed development and preparation of a Remediation Action Plan is not required. | **Appendix K (Stage 1 – Preliminary Site Investigation)**<br><br>**Appendix L (Stage 2 – Detailed Site Investigation)** |
| Geotechnical | Alliance Geotechnical | The Geotechnical Investigation Report prepared by Alliance Geotechnical provides recommendations and advice that has guided the structural and civil design of the development. Comments and recommendations within the Report include:<br><br>• Groundwater Seepage Control.<br>• Excavation Conditions.<br>• Vibration Monitoring.<br>• Excavation Stability.<br>• Lateral Earth Pressure Coefficient.<br>• Foundations.<br>• Construction Inspections. | **Appendix R** |

| | | | |
|---|---|---|---|
| Hazardous Materials | Public Works Advisory | A Hazardous Material Plan will be prepared by the contractor to address the findings of the Stage 2 – Detailed Site Investigation Report prepared by environmental consultants Alliance Geotechnical.<br><br>The Contractor's Hazardous Materials Management Plan will identify the arrangements for the removal and disposal of potentially hazardous materials from the site.<br><br>Suitably licensed contractors will be used for any hazardous materials removal, and approved facilities will be used for disposal. | **Appendix R** |
| Bush fire | - | The site is not located within or near any bush fire prone land | - |
| Structural | Northrop | The Structural Engineering Statement prepared by Northrop confirms that structural drawings were prepared:<br>• under the supervision of a professional structural engineer certified under NER;<br>• with consideration to the recommendations of the geotechnical report prepared by Alliance Geotechnical<br>• in accordance with relevant Australian Standards<br>• in accordance with the relevant structural requirements of the Building Code of Australia. | **Appendix S** |
| Operational Waste | GTK Consulting | Operational waste from Building J will be managed in accordance with the waste management strategies currently in place for the Museums Discovery Centre site. Despite its size, Building J will not generate significant amounts of waste. The main sources of waste will be from the office areas with some waste being generated by conservation areas.<br><br>The volume, servicing and storage of waste for Building J can be suitably managed on site and in accordance with existing arrangements for the site. | **Appendix P** |
| Subdivision | YSCO Geomatics | The draft plan of subdivision (titled Plan of Acquisition) shows the boundaries of the new lot to be created and the location of easements. | **Appendix X** |

### 7.14 Site Suitability

Having regard to the characteristics of the site, the site context and surrounding locality, the proposed development is suitable for the site on consideration of the following factors:

- Is permissible in the SP2 "Information and Education Facilities" Zone under LEP 2019 and is consistent with the zone objectives.
- Is well served by existing transport infrastructure including the Sydney Metro Train line, buses and active transport links including cycling and walking paths.
- The site is of a size and shape that is sufficient to comfortably accommodate the proposed development.
- The site has access to existing utility infrastructure services which have adequate existing capacity, and can be readily augmented to provide capacity, to service the requirements of the development.
- The site enjoys a high level of both local and regional road accessibility given its location at the intersection of three main roads, Windsor Road, Showground Road and Green Road, and is accessible via the Sydney motorway network to facilitate movement of service vehicles and staff and visitor vehicle trips with no adverse traffic and car parking impacts on and off site.
- Is consistent with, and contributes to, the NSW Government's long term strategic vision for the MAAS MDC site to remain an important element of the cultural and artistic network that is accessible to local and international visitors.

- It is a significant new cultural institution located within the Central River City that activates and utilises an underutilised portion of land that is an extension that integrates with the function and operation of the of the MAAS MDC site.
- Has been designed to be developed in a manner that minimises impacts on the surrounding locality.
- Enables the continued efficient operation of the adjoining TAFE education facility with no loss of car parking available on the site.
- Is designed to have a high standard of environmental performance and respects the natural, historical, and environmental qualities of the site.
- Will result in minimal environmental impacts that can be appropriately managed and mitigated during construction and operation phases of the development.

### 7.15 Public Interest

The proposed development provides benefits to Western Sydney and NSW by providing an expansion of the MDC site through the construction of a new building with additional floor area and capacity to cater for the operational needs of the Museum of Applied Arts and Sciences. The proposed development is an important part of the delivery of the NSW Government Cultural Infrastructure Plan 2025 to establish the Powerhouse Precinct at Parramatta and represents a major Government investment in the cultural infrastructure in The Hills Shire Council and the Central "River City" District of Sydney. The proposal will provide long term education, scientific and cultural benefits as well as increased visitation and tourism outcomes and is in the public interest as it:

- An economic and orderly development of the site that will result in approximately 150 full time equivalent jobs over the construction program and approximately 50 ongoing full-time, part-time and casual jobs during operation of Building J.
- Provides new cultural infrastructure facility with significant long term social, education, economic benefits to NSW and, in particular, Western Sydney.
- A development that will not result in any significant environmental impacts that cannot be managed through adherence to the Mitigation Measures outlined in Section 8, standard conditions of development consent.
- Provides future employment opportunities for skilled jobs within the arts, cultural and science related fields located within Western Sydney, facilitates potential opportunities for synergies with the adjacent existing education facility (TAFE Castle Hill Campus) and located near a large residential catchment.
- A development of a scale and size appropriate for the site with minimal off-site environmental impacts
- Promotes the use of public transport by not providing additional car parking, providing bicycle parking, the development of a Green Travel Plan as part of the future operation of the site and leveraging the high level of site accessibility by existing public transport infrastructure, the local and State Road network and existing walking and cycling links to the site.
- Provides a new building with excellent environmental performance relating to thermal and solar design, low energy and water use, and supporting the use of sustainable transport options.
- Positive environmental impacts will be delivered by the implementation of the Tree Replacement Strategy that will provide a net increase in the number of trees (two trees planted for every one tree removed from the site) and increased tree canopy within The Hills Shire Council.

## 8 RECOMMENDATIONS AND MITIGATION MEASURES

A summary of all proposed measures that can be implemented to mitigate the impacts associated with the proposed development is detailed in **Table 18** below. The measures have been sourced from the assessment in **Section 7** of this EIS and as detailed in the appended expert consultant reports.

**Table 18: Summary of potential environmental impacts and proposed mitigation measures**

| Item and Project Phase C = Construction O = Operation | Potential Environmental Impact | Mitigation Measures Proposed |
|---|---|---|
| Traffic and Parking (C & O) | • Increased traffic during construction on surrounding roads. | • The CEMP prepared by the NSW Public Works Advisory provides a Traffic Management Plan that identifies information required to manage heavy vehicles and forecast truck movements.<br>• The Transport Report prepared by JMT Consulting provides an assessment of the traffic and car parking impacts and concludes the |

| | | |
|---|---|---|
| | • Increased traffic during operation. | operation of the site will not detrimentally impact the performance of the road network or car parking availability in the surrounding area.<br>• The Transport Report provides details of the Green Travel Plan that will be implemented for the operation of the site to promote travel to the site by sustainable transport modes and to facilitate a reduction in private vehicle use. |
| Visual and View Impacts (C & O) | • Visual impact of site hoarding and construction fencing.<br>• Visual impact on residential properties and public park to the north.<br>• Visual impact on Showground Road streetscape. | • The View Impact Assessment referenced in the Architectural Design Report prepared by Lahznimmo Architects confirms that the proposed building will be have a low impact and low visibility from the residential and public park/reserve interface to the north of the site.<br>• The proposal will be most visible from within the TAFE site to the east however the impacts are low or medium in nature and are reasonable within the education and institutional site context and the applicable planning framework for the site. No mitigation measures are deemed necessary in regards visual and view impacts.<br>• Site hoarding will be installed around the perimeter of the site for the duration of the construction phase to screen views to the site from the public domain.<br>• New landscaping will be provided around proposed Building J to provides some visual screening and positive visual impact. |
| Noise and Vibration (C & O) | • Construction noise and vibration.<br>• Noise during operation. | • A Noise and Vibration Impact Assessment has been prepared by Northrop which considers the potential noise and vibration impacts on nearby receivers from construction and operation of the proposed development (refer to **Appendix H**). The Assessment includes mitigation measures to reduce noise impacts during construction and operation. |
| Biodiversity (C & O) | • Loss of trees and plants.<br>• Impacts on fauna. | • A BDAR prepared by WSP is submitted with this EIS and provides an assessment of the impact of the development on the flora and fauna on the site. Given the small size of the impact at 0.5 ha and the poor condition of the Threatened Ecological Community vegetation to be removed from the site (vegetation integrity score of 1.9), the proposed tree removal does not trigger any of the thresholds for offsets under the applicable legislation.<br>• Section 9 of the BDAR provides mitigation measures to be implemented for the project. |
| Site Contamination (C) | • On-site and off-site management/ treatment of contaminants in soil. | • A Phase 2 – Detailed Site Investigation Report prepared by Alliance Geotechnical has been prepared and concludes the detected concentrations of identified contaminants of potential concern in the soils assessed are considered unlikely to present an unacceptable ecological contamination risk.<br>• Based on the assessments undertaken as part of the Phase 2 Detailed Site Investigation, Alliance Geotechnical deems the site is suitable for the proposed land use. No further investigation and no Remedial Action Plan should be required for the proposed development to proceed (refer to **Appendix L**). |
| Services Infrastructure and Utilities (C & O) | • Capacity to service proposed new development. | • An Infrastructure Services Report has been prepared by Northrop and confirms that the site is capable of being serviced via either existing services infrastructure or additional utility services installed during the proposed development.<br>• The final details of utility servicing and compliance with service provider requirements will be determined via the relevant utility service approval procedures |
| Community Communication and Engagement (C & O) | • Notification of SSDA.<br>• Construction impacts.<br>• Operational impacts. | • Section 3.0 of this EIS and the Consultation Outcomes Report describe the consultation activities undertaken to date to inform the community regarding the proposal and planning process.<br>• This EIS will be publicly exhibited by DPIE and the proponent is able to undertake further engagement during this period.<br>• Subject to planning approval and the preparation of the detailed CEMP by the works contractor, regular communication will be provided to stakeholders including TAFE NSW, local residents and businesses throughout the earthworks and construction stages to advise of the progress of works, likely impacts, mitigation measures to be implemented and contact information. |
| Heritage Impacts (C & O) | • Impact on heritage item near the site | • An Aboriginal Cultural Heritage Assessment Report is being prepared by Curio Projects which assesses the social and cultural values of the site, as well as the potential for archaeological items. |

| | | |
|---|---|---|
| | (Windsor Road local item)<br>• Impact on any Aboriginal Cultural Heritage/ Social significance during construction | • Implementation of an unexpected finds protocol during the earthworks and construction stages of the project.<br>• Involvement of the project archaeologist during earthworks and construction will be implemented, as required.<br>• Opportunities to provide a heritage interpretation strategy that informs and educates visitors and staff of the Aboriginal social and cultural significance of the site. |
| Air quality (C & O) | • Dust impacts during construction.<br>• Sediment impacts on catchment during construction. | • The CEMP will provide measures to minimise and manage the potential adverse impacts of any dust generating activities during site clearing, earthworks and construction.<br>• Implementation of the sediment and erosion control plan development for the proposed development.<br>• Management of dust, sediment and erosion control and the cleaning of vehicle tyres before leaving the site will be undertaken in accordance with the detailed CEMP prepared by the contractor prior to commencement of works (refer to **Appendix H**). |
| Overshadowing (O) | • Overshadowing of adjoining property and public domain (Showground Road and footpath). | • The proposal will result in additional overshadowing onto Showground Road, the northern footpath of Showground Road and a small portion of the TAFE site.<br>• The overshadowing impacts are minor and have minimal overall environmental impact. No residential dwellings, parks/playgrounds or other sensitive areas are impacted by overshadowing from the proposed development. |
| Stormwater management (C & O) | • Impacts on water quality flows into catchment.<br>• Pressure on capacity of existing stormwater infrastructure. | • The proposed stormwater system includes a new underground stormwater pipe and drainage pits system to capture and convey water to the proposed OSD and rainwater tank.<br>• The proposed stormwater system has been designed with reference to Council's stormwater policy.<br>• MUSIC modelling has been undertaken by Northrop to confirm that the proposed development will achieve the water quality targets for the project. |
| Safety and security (C & O) | • Potential for crime and staff/visitor safety impacts within the site. | • A Crime Prevention through Environmental Design (CPTED) Assessment is submitted with this EIS and considers the potential for crime to occur within the site and provides mitigation measures how the crime/safety risk will be minimised through the detailed design, construction and operation phases that will be implemented. |
| Amenity impacts incl. visual and acoustic privacy (C & O) | • Breaches of privacy, nuisances and disturbances during operation and construction phases | • A comprehensive CEMP will be prepared by the contractor prior to works commencing on the site.<br>• The comprehensive CEMP will include mitigation measures recommended in the CEMP (**Appendix H**), the Preliminary Construction Pedestrian Traffic Management Plan (Section 6 in the Transport Assessment Report at **Appendix I** and the Sediment and Erosion Control Plan (**Appendix Z**).<br>• Construction and operational impacts will be mitigated through the implementation of recommended measures in the Social Impact Assessment prepared by Ethos Urban (refer to **Appendix Y**).<br>• MAAS staff will monitor the operation of the site and respond to any complaints and stakeholder feedback received, as necessary. |
| Waste management (C & O) | • Waste materials not being stored adequately.<br>• Inadequate sorting and disposal of waste and recyclable material. | • A detailed Waste Management Plan will be prepared by the contractor prior to works commencing on-site and will include the recommendations included in Section 3.6 of the CEMP (refer to **Appendix H**).<br>• MAAS will store, manage and dispose of waste and recyclable material generated by the operation of the site in accordance with the organisation's standard waste management procedures as identified by the OWMP prepared by GTK Consulting and held at **Appendix P**. |
| Biodiversity (C) | • Loss of ecological significant flora and fauna. | • The proposed development will be undertaken in accordance with the mitigation measures detailed in Section 9 of the BDAR prepared by WSP (refer to **Appendix R**). |
| Tree protection | • Damage to existing trees to | • The tree protection measures provided in the Arboricultural Impact Assessment Report prepared by MacKay Tree Management will be |

| | | |
|---|---|---|
| | be retained on the site or on adjacent property. | implemented during construction of the proposed development (at **Appendix V**). |

## 9 CONCLUSION AND JUSTIFICATION

This EIS has been prepared to comprehensively assess the environmental, social and economic impacts of the proposed expansion of the Museums Discovery Centre through the construction and use of proposed Building J at 2 Green Road, Castle Hill. This EIS has addressed all the matters included in the SEARs issued on 4 July 2020 (held at **Appendix A**) and Schedule 2 of the EP&A Regulation to consider the relevant applicable Environmental Planning Instruments, building design, the likely environmental and social impacts resulting from the proposed development. Appropriate mitigation measures have been identified in this EIS to ensure the impacts of the development through the construction and operational phases of the project are appropriately mitigated to preserve overall amenity to the locality.

The proposed development achieves consistency with the strategic planning policy and objectives for the delivery of an important piece of cultural, art and science infrastructure to support the new Powerhouse Parramatta. The proposed development be an important new cultural infrastructure facility for The Hills Shire Council, the Central "River City" District and NSW by providing a significant expansion of the MDC site with a new building including additional floor area for exhibition, research, storage, offices as well as flexible spaces for education and public programs, workshops, talks, exhibitions and events to support increased engagement with the Museum and its collection.

This SSDA describes the measures relating to the construction, design and operation of proposed Building J to ensure that the development, once completed, will achieve the strategic policy and specific project objectives and benefit Sydney and NSW.

Having regard to environmental, economic and social factors relevant to the project, including the principles of Ecologically Sustainable Development, the project is worthy of approval for the following reasons:

- The assessment of the proposal contained in this EIS demonstrates that the development will have minimal environmental impacts on the surrounding area and that likely impacts during construction and operation of proposed Building J will be appropriately managed via the implementation of mitigation measures within the supporting consultant technical reports.
- The proposed development is suitable for the site as it situated on a large undeveloped portion of land that is of a size and shape that accommodates the large footprint building and specific operational requirements and is well connected and accessible by existing public transport services and the surrounding Sydney Metropolitan road network.
- The proposal is an integral component of the NSW Government's plan to establish a new Powerhouse Museum at Parramatta. The successful delivery of this SSDA project supports a priority cultural infrastructure project and is a NSW Government 2019 election commitment (Powerhouse Parramatta).
- The proposal is permissible with development consent in the SP2 Infrastructure Zone and is consistent with statutory planning framework that applies to the site.
- There will be an increased tree canopy in The Hills Shire Council area as a result of the development. The removal of 337 plantation eucalypt trees from the site will be mitigated through the implementation of the Tree Replacement Strategy which will result in two trees planted for every tree removed.
- Visual and view impacts are minimised by the building being setback from the residential area to the north by approximately 50m, the proposed building complying with the maximum 15m building height control, having an overall scale and built form envelope that is commensurate with existing buildings on the adjacent MDC and TAFE sites and using external materials that have low reflectivity and are compatible with the surrounding large buildings.
- The proposal includes a full description of adequate and appropriate mitigation measures based on detailed technical assessment carried out in accordance with the SEARs to minimise any adverse environmental impacts of the development.
- The proposal will provide social and economic benefits including approximately 150 jobs during construction and approximately 50 jobs operation, provide increased public visitation and tourism in the

area, support long term positive social and economic opportunities relating to education of the public and provide new skilled employment opportunities in the arts, culture and science and related fields.

- The project has been informed by the outcomes of consultation with the Government Architect NSW State Design Review Panel, The Hills Shire Council and the local community prior to lodgement of the SSDA and sets out a framework for ongoing consultation with the community and key stakeholders during the construction and operational phases.
- The proposal is consistent with the Ecological Sustainable Development principles stipulated in Schedule 2 Clause 7(4) of the EP&A Regulation.

On consideration of the planning merits and design and the significant benefits associated with the proposed development as outlined in this EIS, approval of the application is recommended.

**MILESTONE (AUST) PTY LIMITED**