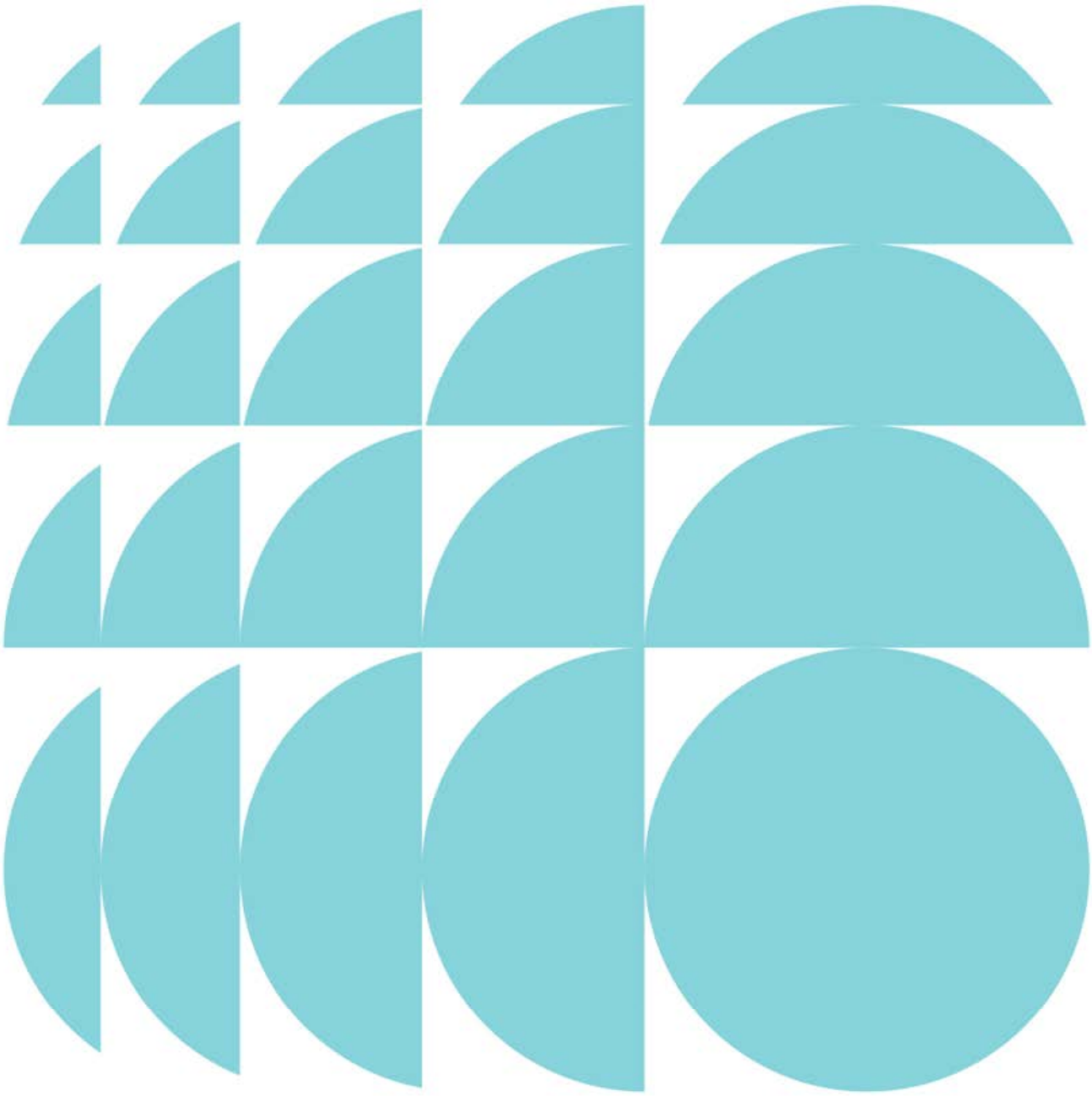
ETHOS URBAN

**Environmental Impact Statement**
Stage 2 Construction and Operation

Sydney Football Stadium
40-44 Driver Avenue, Moore Park

Submitted to Department of Planning and Environment
On behalf of Infrastructure NSW

12 June 2019 | 218948



ETHOS URBAN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## Statement of validity

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| **Development Application Details** | |
| **Applicant name** | Infrastructure NSW |
| **Applicant address** | Level 15, 167 Macquarie Street, Sydney NSW 2000 |
| **Land to be developed** | Sydney Football Stadium, 40-44 Driver Avenue, Moore Park<br>Part Lot 1528 in Deposited Plan 752011, Part Lot 1530 in Deposited Plan 752011 and Lot 1 in Deposited Plan 205794 |
| **Proposed development** | Stage 2, which comprises the construction and operation of the new Sydney Football Stadium. |
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| **In respect of** | State Significant Development - Development Application |
| **Certification** | |
| | I certify that I have prepared the content of this EIS and to the best of my knowledge:<br>• it is in accordance with Schedule 2 of the Environmental Planning and Assessment Regulation 2000;<br>• all available information that is relevant to the environmental assessment of the development to which the statement relates; and<br>• the information contained in the statement is neither false nor misleading. |
| **Signature** |   |
| **Name** | Anna Nowland Michael Oliver |
| **Date** | 12 June 2019 |

## List of Abbreviations and Key Terms

| Abbreviation/ Term | Description |
|---|---|
| ARDC | Australian Rugby Development Centre |
| Council | City of Sydney Council, unless otherwise specified |
| CPMP Trust | Centennial Park and Moore Park Trust |
| Department | NSW Department of Planning and Environment (to be known as Department of Planning, Industry and Environment from 1 July 2019), unless otherwise specified |
| EIS | Environmental Impact Statement |
| EP&A Act | *Environmental Planning and Assessment Act 1979* |
| EP&A Regulation | *Environmental Planning and Assessment Regulation 2000* |
| EQ | Entertainment Quarter |
| Former SFS | Former rectangular stadium located at the site, previously known as Allianz Stadium |
| FIFA | Fédération Internationale de Football Association |
| INSW | Infrastructure NSW |
| LEP | Local Environmental Plan |
| Minister | The Minister for Planning, unless otherwise specified |
| MP1 | MP1 Car Park, located within the boundary of the subject site |
| NRL | National Rugby League |
| SCG | Sydney Cricket Ground |
| SCSG Trust | Sydney Cricket and Sports Ground Trust |
| Secretary | Secretary of the NSW Department of Planning and Environment |
| SEPP | State Environmental Planning Policy |
| SFS | Sydney Football Stadium |
| SSD DA | State Significant Development Application |
| Stage 1 DA | State Significant Development Consent SSD 9249 for a Concept Proposal and Early Works |
| Stage 2 DA | This State Significant Development Application (SSD 9835) |
| RMS | NSW Road and Maritime Services |
| TfNSW | Transport for New South Wales |
| The Trust | The Sydney Cricket and Sports Ground Trust, unless otherwise specified |
| UTS | University of Technology Sydney |

# Executive summary

### Purpose of this report

This submission to the Department of Planning and Environment comprises an Environmental Impact Statement for a Development Application under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). It relates to Stage 2 of the redevelopment of the Sydney Football Stadium, which comprises the construction and operation of the new stadium.

Development for the purposes of a 'recreation facility (major)' with a Capital Investment Value (CIV) of more than $30 million, and development at the Sydney Sports Stadium Site with a CIV of more than $10 million, is identified as development that is State Significant Development in Schedules 1 and 2 of the *State Environmental Planning Policy (State and Regional Development) 2011*. As the proposed development has a capital investment value of greater than $10 million, it is SSD.

A request for the Secretary's Environmental Assessment Requirements was made and the SEARs were issued on 10 April 2019. This submission has been prepared in accordance with the Department's guidelines for SSD applications lodged under Part 4 of the EP&A Act and addresses the matters identified in the SEARs.

### The site

The site is located at 40-44 Driver Avenue Moore Park within the Sydney Cricket and Sports Ground Precinct. The site comprises the former Sydney Football Stadium and ancillary buildings including the Sheridan Centre, Roosters Building, Waratahs Building, Cricket NSW Administration Building and Indoor Wickets, and the Moore Park 1 (MP1) Carpark. It is bound by Moore Park Road to the north, Fox Studios to the east, the existing Sydney Cricket Ground stadium to the south, and Driver Avenue to the west.

The site is legally described as Part Lot 1528 and Part Lot 1530 in Deposited Plan 752011, and Lot 1 in Deposited Plan 205794. The site is Crown Land, with the Sydney Cricket Ground and the Sydney Sports Ground Trust designated as the sole trustee under the *Sydney Cricket and Sports Ground Act 1978*. The site is wholly contained within designated land controlled by the Sydney Cricket and Sports Ground Trust under Schedule 2A of the *Sydney Cricket and Sports Ground Act 1978*.

The site is largely surrounded by Centennial and Moore Parks, the Fox Studios and Entertainment Quarter precincts and the residential suburb of Paddington. Located approximately 3km from the Sydney CBD, the site is connected to Sydney's transport network through existing bus routes and will benefit from a dedicated stop on the soon to be completed Sydney CBD and South East Light Rail.

### Background and Strategic Need

The Sydney Football Stadium (SFS) is a significant component of the sports facilities that comprise the Sydney Cricket Ground. Completed in 1988, the SFS has hosted numerous sporting events in its 30 years of operation for a number of sporting codes including football (soccer), rugby league and rugby union as well as occasional music concerts.

The NSW Stadia Strategy 2012 provides a vision for the future of stadia within NSW, prioritising investment to achieve the optimal mix of venues to meet community needs and to ensure a vibrant sports and event environment in NSW. A key action of the strategy included the development of master plans for Tier 1 stadia and their precincts covering transport, integrated ticketing, spectator experience, facilities for players, media, corporate and restaurant and entertainment provision. SFS is one of three Tier 1 stadia within NSW, the others being Stadium Australia (Olympic Park) and the Sydney Cricket Ground. The redevelopment will include demolition of the existing facility and replacement with a modern, globally competitive stadium that achieves the requirements for a Tier 1 stadium to meet future requirements to:

- Create a flexible venue suitable for sports and major events alike;
- Create a precinct well connected to the city;
- Include technology for the future;
- Create a venue for professional sport;
- Create a publicly accessible entertainment and recreational facility; and

- Create a sustainable future.

A two-stage planning approvals process is being undertaken, with this application relating to the second stage. The first stage of the planning proposal was undertaken in 2018, culminating in the Minister for Planning granting development consent on 6 December 2018 for the Concept Proposal and demolition of the Sydney Football Stadium, including:

*Concept development application for the redevelopment of Sydney Football Stadium including:*

- *A Concept Proposal comprising:*
  - *a maximum building envelope for the stadium including basement and a roof over all permanent seating;*
  - *maximum stadium capacity of 45,000 seats (55,000 patrons in concert mode);*
  - *member areas, premium box/terrace, function lounge and corporate suite operations;*
  - *flood lighting, stadium video screens and ancillary fittings;*
  - *team, media and administration facilities, food and beverage areas;*
  - *new playing pitch and provision for ancillary uses;*
  - *public domain works and landscaping; and*
  - *identification of the existing Moore Park Carpark 1 (MP1) as the demolition and construction compound.*
- *Concurrent Stage 1 works comprising:*
  - *demolition of the existing stadium including the existing Sheridan, Roosters, Waratahs, Cricket NSW Administration Building and Indoor Wickets to ground level (existing slab level);*
  - *removal of 26 trees; and*
  - *use of the existing MP1 as the demolition compound.*

**Overview of the project**

This SSD DA represents the second stage in planning for the redevelopment of the Sydney Football Stadium. It seeks consent for the detailed design, construction and operation of the new Sydney Football Stadium as ‘Stage 2’ of the redevelopment, which includes:

- detailed design, and use construction of a new stadium comprising:
  - up to 45,500 seats (additional 10,000 person capacity in the playing field in concert mode) in four - tiers including general admission areas, members seating and corporate / premium seating;
  - 100% drip-line roof coverage for all seats;
  - pedestrian circulation zones;
  - a mezzanine level with staff and operational areas;
  - a basement level (at the level of the playing pitch within the stadium) accommodating pedestrian and vehicular circulation zones, 50 car parking spaces, facilities for teams and officials, media and broadcasting areas, storage and internal loading areas;
  - a rectangular playing pitch, sports and stadium administration areas;
  - food and drink kiosks, corporate and media facilities; and
  - soft landscaped areas on the roof of the stadium.
- construction and establishment of the public domain within the site, comprising:
  - hard and soft landscaping works;
  - publicly accessible event and operational areas;
  - public art; and
  - provision of pedestrian and cycling facilities.
- extension and augmentation of utilities and infrastructure as required;
- signage zones, wayfinding signage and lighting design within the site;
- reinstatement of the existing Moore Park Carpark 1 (MP1) car park upon completion of construction works with 540 at-grade car parking spaces, and vehicular connection to the new stadium basement level; and

- operation and use of the new stadium and the surrounding areas within the site for a range of sporting and entertainment events.

The DA is accompanied by plans detailing the design of the stadium and public domain areas by COX Architecture, in partnership with Aspect Studios, who were selected as the project architect following a Competitive Design Alternatives Process – refer to **Appendices B** and **C**.

**Key improvements**

The former SFS stadium was the oldest top-tier rectangular stadium in Australia. It had been designed and constructed to meet the requirements of sports during the 1980s, and did not keep pace with the modern sports and landscape in terms of the standard of facilities and use experience required. A number of key issues were identified with the former SFS that have been rectified as part of the proposed redevelopment. These comprise:

- **Diversity:** The former stadium did not comply with the Building Code of Australia (BCA) and the Disability Discrimination Act (DDA) and was deficient in wheelchair-accessible seats and female toilets, and did not meet standards for access for people with a disability. The proposed stadium has been designed to rectify these deficiencies and ensure sporting events are accessible to different social groups. The proposed stadium increases the quantum of wheelchair-accessible seats and female toilets to meet contemporary construction standards, provides unisex toilets, prayer rooms and parenting rooms, and delivers DDA compliant bathrooms, access points, circulation paths throughout the external concourse, and accessible seating across all levels and ticket types. A driver of the proposal has been to deliver a stadium that is accessible to a diverse range of people with different ages, backgrounds, gender, and mobility.
- **Safety and security:** The security context in which public assembly venues operate has changed significantly from that of 30 years ago when the original stadium was constructed. The design, construction and operation of the stadium and public domain ensures it can operate safely and securely, minimising and mitigating against potential threats. The stadium meets contemporary security standards for patrons, whilst also allowing for the removal of the previous perimeter fence to allow public access up to the stadium building line and through the site during non-event and most event periods. It achieves modern fire safety requirements and contemporary building standards for patron egress, including in the event of an emergency.
- **Operational efficiencies:** The physical design of the stadium has been developed with consideration of the operational requirements of a modern Tier 1 stadium. This includes providing a wide, 360$^{o}$ internal and external concourse to provide efficient circulation within the site and stadium, allowing substantial food and beverage offerings to be provided from the concourse. Back-of-house functions are now separated from patron areas and contained within the basement in new storage and maintenance areas, rectifying the previously routine cross-over between operations and patrons. This ensures the new stadium can operate efficiently and effectively, in line with contemporary standards and patron expectations, and remove conflicts between staff, goods, waste and patrons.
- **The venue experience**: One of the key shortcomings of the venue experience was also identified as being the viewing quality and the lack of weather protection. Sightlines at the stadium were varied and some view lines were obstructed. For example, high balls could not be seen due to the overhang of the tier above from some seats, and the roof of the stadium provided coverage to only 55% to the ‘drip line’ - the lowest level of weather protection of any top-tier stadium in Australia. The lower bowl was entirely uncovered, and the upper levels were exposed to weather through openings at the back of the tiers. The proposed stadium provides 100% coverage to all seats (to the drip line) and clear sightlines to the pitch, video screens and other spectator seating zones to enhance the event day experience and atmosphere. This ensures the stadium provides an improved and high-quality viewing experience, contributing to the attraction and longevity of this sporting and entertainment destination in Sydney.
- **The hirer experience**: The hiring experience was also limited, in that there were only 2 change rooms, for example, and these change rooms were small and poorly equipped. The coaches’ boxes were also inadequate and had an obstructed view of the field of play. Hirers of the proposed stadium now have access to at least 4 change rooms and sufficient space and facilities for coaches and media, enabling the stadium to host and broadcast double-headers or development events (e.g. W-League and A-League double-headers, reserve and junior grade games).

- **Use and access outside of events**: The revitalisation of the site provides the opportunity to enhance site access and activity outside of events. The former stadium was secured by boundary fencing and the entry/exit points were only open during events, or to authorised personnel. The redeveloped site is publicly accessible throughout the day and year-round, creating a new pedestrian link between Paddington and Moore Park, as well as providing public bicycle parking, seating areas, and three key gathering places, or activity nodes, that are connected by a linking concourse. This directly benefits connectivity within the precinct and provides a platform for enhanced recreational, sporting and cultural activities.

**Planning context**

This EIS has been prepared in accordance with the requirements of the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation), and **Section 5.4** of the EIS considers all applicable legislation in detail.

Pursuant to Clause 8A of SEPP SRD, the Minister for Planning is the consent authority for a SSD DA made by or on behalf of a public authority. This application is made by Infrastructure NSW, who are a public authority.

This SSD DA is also a staged application in the meaning of Section 4.22 of the EP&A Act. It has been made pursuant to Section 4.24 of the EP&A Act, which states that whilst a Concept Proposal remains in-force, any further detailed application in respect to the site cannot be inconsistent with the Concept Proposal. This detailed Stage 2 SSD DA has been made with reference to the Concept Proposal (SSD 18_9249), which was granted development consent on 6 December 2018[1], and with reference to the three modifications to the Concept Proposal (MOD 1, 2 and 3 to 18_9249). These modifications excluded the outdoor tennis courts from the site boundary and seek to permit the removal and disposal of the existing ground slabs, pavements, footings and piles of the former SFS, and to amend parameters relating to the type of vegetation to be included in new landscape plantings. The proposal is consistent with the key parameters of the Concept Proposal with regard to land use, seating capacity, compliance with the maximum building envelope, preparation of all required supporting technical documentation and the carrying out of public consultation.

The *Sydney Local Environmental Plan 2012* (Sydney LEP 2012) applies to the site, with the proposed development being permissible with consent and consistent with the SP1 Special Activities – Recreation Facility (Major) zoning. The LEP does not impose any building height or floor space ratio controls.

The Concept Proposal (SSD 9249) was prepared in satisfaction of Clause 7.20 of the Sydney LEP 2012, which requires the preparation of a site-specific development control plan for development with a site area of more than 5,000m$^2$ or with a building height of more than 25 metres. A Competitive Design Alternatives Process has been completed in accordance with a Design Excellence Strategy endorsed by the NSW Government Architect that accompanied the approved Concept Proposal, and this DA demonstrates that the proposed development achieves design excellence in accordance with Clause 6.21 of the Sydney LEP.

**Environmental impacts and mitigation measures**

This EIS provides an assessment of the environmental impacts of the proposed development in accordance with the SEARs and sets out the undertakings made by Infrastructure NSW to manage and minimise potential impacts arising from the development. The key environmental matters identified include:

- urban design, built form, and the achievement of design excellence;
- public domain and landscaping;
- visual and view impacts;
- impacts on heritage items and archaeology;
- noise impacts and noise management;
- access and egress to the site during events;
- construction works;
- the management of anti-social behaviour, and the design of the site to manage crime and safety; and
- sustainability.

[1] A Concept DA is commonly referred to as a 'Stage 1 Development Application' or a 'Concept Proposal'. These terms are used interchangeably throughout this EIS and the consultant reports, but should be interpreted to mean 'staged DA' (for the purposes of section 4.24 of the EP&A Act) in each instance.

The proposed development ultimately represents the next stage in realising the vision for the site established under the approved Stage 1 DA, and has been assessed against the planning and assessment framework established at Stage 1.

In achieving the project objectives and providing a stadium that is consistent with the vision and framework for the site, the proposal will provide for a number of significant social and economic benefits for the local and wider community including:

- enhanced attendance experience for patrons of the stadium through the provision of a higher quality stadium with improved facilities;
- delivery of a premier sporting venue in the Sydney CBD capable of attracting marquee national and international events with associated tourism and employment benefits;
- more equitable access for patrons and visitors;
- increased safety and security to meet modern standards and requirements for large venues; and
- the generation of additional employment throughout construction and operation.

The EIS provides a detailed assessment of the environmental, social and economic impacts of the proposed development drawing upon information provided by a team of experienced technical experts across a range of disciplines. The EIS concludes that the proposed development will not result in any significant social, economic or environmental impacts which cannot be appropriately managed through the identified mitigation measures and conditions of consent.

**Conclusion and justification**

The EIS addresses the SEARs and provides a full assessment of the relevant environmental planning considerations in relation to the Stage 2 application for the detailed design, construction and operation of the Sydney Football Stadium. The proposed development represents the next phase in the delivery of a Tier 1 stadium with a world-class customer experience, state-of-the-art technology and improved facilities, amenities and accessibility.

The environmental assessment at **Sections 5** to **8** confirms that the proposed development fulfils the requirements and commitments for the stadium established within the Concept Proposal and that the potential impacts of the development are acceptable and are able to be managed through compliance with the identified mitigation measures. Given the planning merits of the proposal, the proposed development warrants approval by the Minister for Planning.

**Figure 1 The stadium looking towards the Sydney CBD**

*Source: COX Architecture*

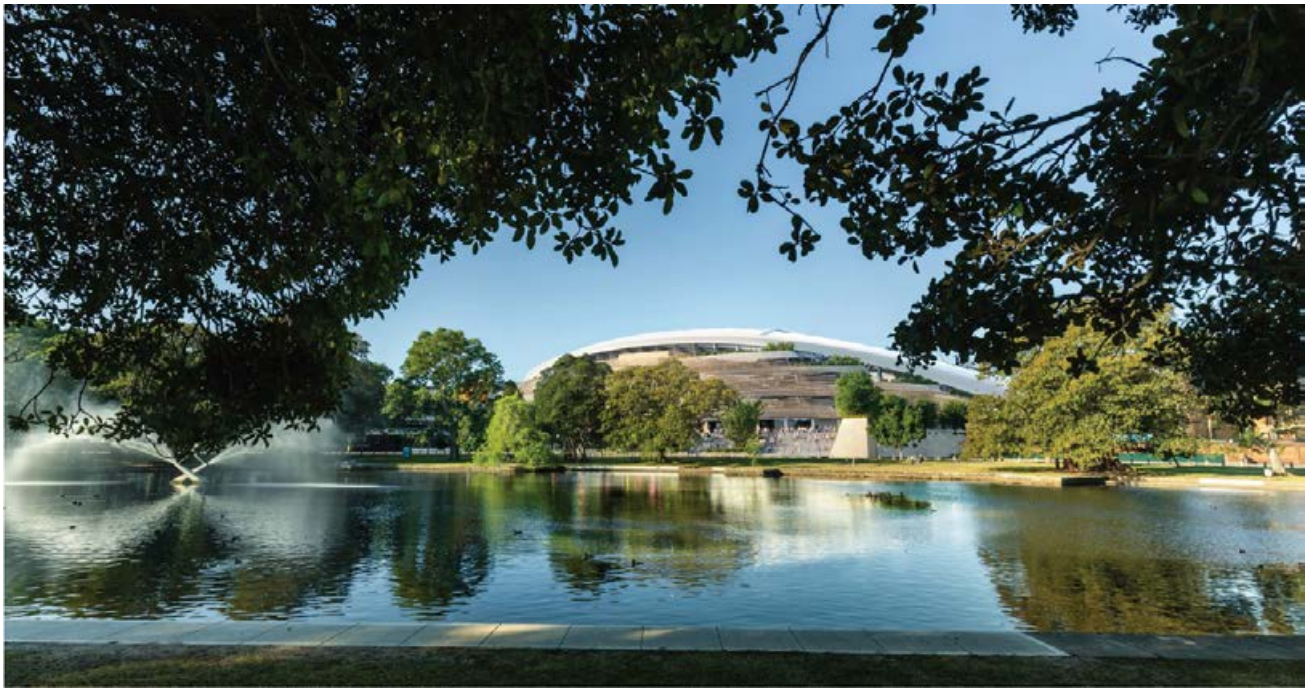


**Figure 2 The stadium as viewed from Moore Park across Kippax Lake**

*Source: COX Architecture*

# 1.0 Introduction

This Environmental Impact Statement (EIS) is submitted to the Department of Planning and Environment pursuant to Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) in support of a State Significant Development (SSD) Development Application (DA) for Stage 2 of the Sydney Football Stadium (SFS) redevelopment.

Development for the purpose of a 'recreation facility (major)' with a capital investment value (CIV) of more than $30 million, and development at the Sydney Sports Stadiums Site with a CIV of more than $10 million, are identified in Schedules 1 and 2 respectively of *State Environmental Planning Policy (State and Regional Development) 2011* (SEPP SRD) and is therefore declared to be SSD for the purposes of the EP&A Act. The CIV of the proposed development is greater than $10 million.

This SSD DA is also a staged application in the meaning of Section 4.22 of the EP&A Act. It has been made pursuant to Section 4.24 of the EP&A Act, which states that whilst a Concept Proposal remains in-force, any further detailed application in respect to the site cannot be inconsistent with the Concept Proposal. This detailed Stage 2 SSD DA has been made with reference to the Concept Proposal (discussed in **Section 1.4**) which was granted development consent on 6 December 2018.

This EIS has been prepared in accordance with the requirements of Part 4 of the EP&A Act, Schedule 2 of the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation), and the Secretary's Environmental Assessment Requirements (SEARs) for the preparation of the EIS, which are included at **Appendix A.** This EIS should be read in conjunction with the supporting information and plans appended to and accompanying this report.

The report has been prepared by Ethos Urban on behalf of Infrastructure NSW, and is based on the Architectural Plans prepared by COX Architecture (see **Appendix B**), the Public Domain Plans prepared by Aspect Studios (**Appendix C**), and other supporting technical information appended to the report (see Table of Contents).

## 1.1 Overview of proposed development

This SSD DA seeks approval for the Stage 2 detailed design, construction and operation of a new stadium at 40-44 Driver Avenue, Moore Park. Pursuant to Clause 4.22 of the EP&A Act, this application is pursuant to the approved Concept Proposal (also referred to as Stage 1) that established the planning and development framework through which to assess this subsequent Stage 2 application (refer to the discussion in **Section 1.2** and the planning process at **Figure 3** below).

Specifically, this SSD DA seeks consent for the following:

- construction of a new stadium with up to 45,000 seats (plus an additional 10,000 person capacity in concert-mode), including playing pitch, grandstands, sports and stadium administration areas, food and drink kiosks, corporate facilities and all other aspects of a modern stadium;
- operation and use of the stadium and surrounding site for a range of sporting and entertainment events;
- vehicular and pedestrian access and circulation arrangements, including excavation to deliver a basement level for storage, internal loading, and servicing at the playing pitch level;
- reinstatement of the MP1 carpark following the completion of construction, including enhanced vehicle rejection facilities and direct vehicular connection to the new stadium basement level;
- public domain improvements within the site boundary, including hard and soft landscaping, to deliver a range of publicly accessible, event and operational areas;
- provision of new pedestrian and cycling facilities within the site;
- stadium signage zones and wayfinding signage; and
- extension and augmentation of physical infrastructure and utilities for the development within the site.

A detailed description of the proposed development that is the subject of this application is provided at **Section 4.0** of this report.

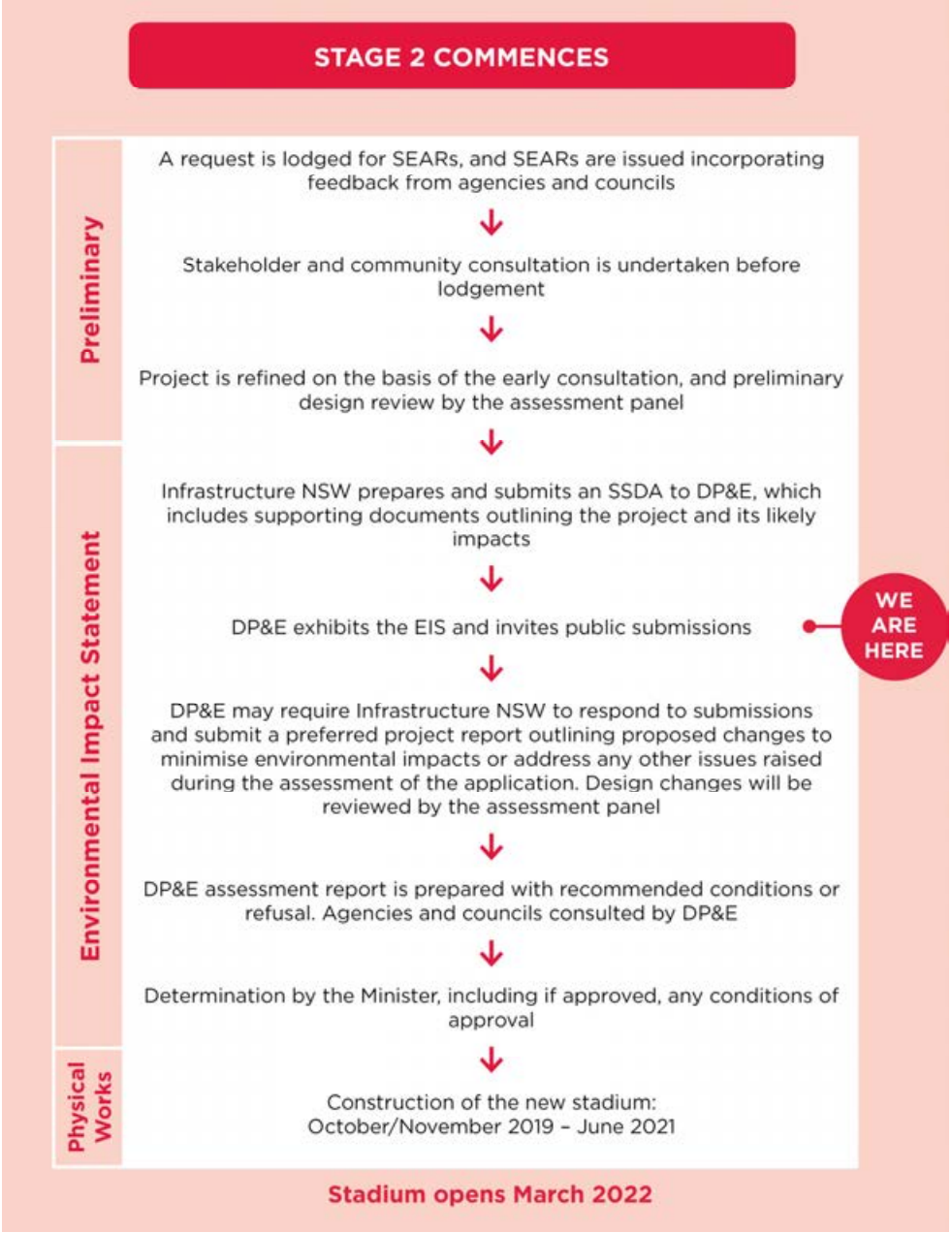



**Figure 3 Planning process for Stage 2**

*Source: Ethos Urban*

## 1.2 Strategic need

The SFS is a significant component of the sports facilities that comprise the Sydney Cricket and Sports Ground. Completed in 1988, the SFS has hosted numerous sporting events in its 30 years of operation for a number of sporting codes including football (soccer), rugby league and rugby union as well as occasional music concerts and other entertainment events.

In 2012, the NSW Government released the NSW Stadia Strategy. The strategy covered seven Government-owned or leased stadia, namely:

- Stadium Australia;
- Sydney Showground;
- Sydney Cricket Ground (SCG);
- Sydney Football Stadium;

- Western Sydney Stadium;
- Hunter Stadium; and
- Wollongong Stadium.

The NSW Stadia Strategy 2012 provides a vision for the future of stadia within NSW, prioritising investment to achieve the optimal mix of venues to meet community needs and to ensure a vibrant sports and event environment in NSW. A key action of the strategy included development of master plans for designated Tier 1 stadia and their precincts covering transport, integrated ticketing, spectator experience, facilities for players, media, corporate and restaurant and entertainment provision to ensure that each stadium meets the facility requirements to fulfil this role. SFS is one of three stadia within NSW designated to operate as a Tier 1 stadia, with the others being Stadium Australia (Olympic Park) and the Sydney Cricket Ground (SCG).

In order to qualify for Tier 1 status, a stadium is required to include:

- seating capacity greater than 40,000;
- regularly host international sporting events;
- offer extensive corporate facilities, including corporate suites, open-air corporate boxes and other function/dining facilities; and
- be the home ground for sporting teams playing in national competitions.

Following release of the NSW Stadia Strategy, the Sydney Cricket and Sports Ground Trust (Trust) undertook master planning culminating in the 2015 Preliminary Sydney Cricket Ground Master Plan. This master plan defines the context for future redevelopment of the SCG, SFS and related sports infrastructure to ensure that the precinct continues to meet the needs and expectations of visitors and tenants into the future.

On 24 November 2017, the NSW Premier announced the SFS redevelopment comprising demolition of the existing facility and replacement with a modern, globally competitive stadium that achieves the requirements for a Tier 1 stadium to meet future requirements. The delivery of this new stadium was founded in the following principles established by the NSW Government, Infrastructure NSW and the Sydney Cricket and Sports Ground Trust to:

- Bring sport back to the city;
- Create a flexible venue suitable for sports and major events alike;
- Create a precinct well connected to the city;
- Include technology for the future;
- Create a venue for professional sport;
- Create a publicly accessible entertainment and recreational facility; and
- Create a sustainable future.

Stage 1 also considered the strategic need for the redevelopment of the SFS. It was noted that owing to the age of the SFS, there were a number of deficiencies in the provision of facilities that are required to function as a Tier 1 stadium. The stadium had aged poorly and failed to meet modern patron and hirer expectations in terms of patron experience, crowd management, safety/security, accessibility, facilities for core tenants, operational efficiency, premium hospitality and food/beverage offerings and media requirements.

It was considered that the redevelopment of the SFS was necessary to rectify various significant issues and would bring a number of significant benefits to the NSW community, including through direct and indirect economic activity and employment, as well as in less tangible cultural and social aspects. A redeveloped SFS adjacent to Sydney's CBD enhances the experience for all visitors and helps to grow attendances and generate additional tourism to Sydney through the ability to host major events.

## 1.3 Objectives of the development

The objectives of the project comprise the following:

- support the NSW Stadia Strategy (2012) by providing a Tier 1 rectangular stadium at Moore Park with up to 45,000 seats (plus 10,000 additional patrons in concert mode);
- support the realisation of a Tier 1 rectangular stadium at Moore Park by:
  - creating a flexible venue suitable for sports, e-sports and major events alike;
  - including technology for the future;
  - delivering a venue for the growth of men's and women's elite sport, as well as the ability to adapt to new sports and the rise of e-sports;
  - creating a publicly accessible entertainment and recreational facility;
  - building a stadium integrated with its surrounds including Centennial and Moore Parks and the surrounding residential and business areas; and
  - creating a sustainable future.
- reaffirm the Sydney Cricket and Sports Ground Precinct as the Eastern City's premiere major sporting destinations by delivering a Tier 1 rectangular-pitch stadium that is capable of hosting national and international-scale events commensurate with Sydney's status as a global city;
- ensure that the future of the Sydney Football Stadium is informed and guided by appropriate urban design principles and that the detailed design is subject to a competitive design process to facilitate the delivery of a high urban quality;
- enhance pedestrian connectivity and provide for improved integration of the stadium into its surrounding context;
- demonstrate excellence in environmental sustainability; and
- maximise the direct and indirect economic, social and cultural benefits to NSW from the project.

These project objectives will be realised through the redevelopment of the site under two stages of applications.

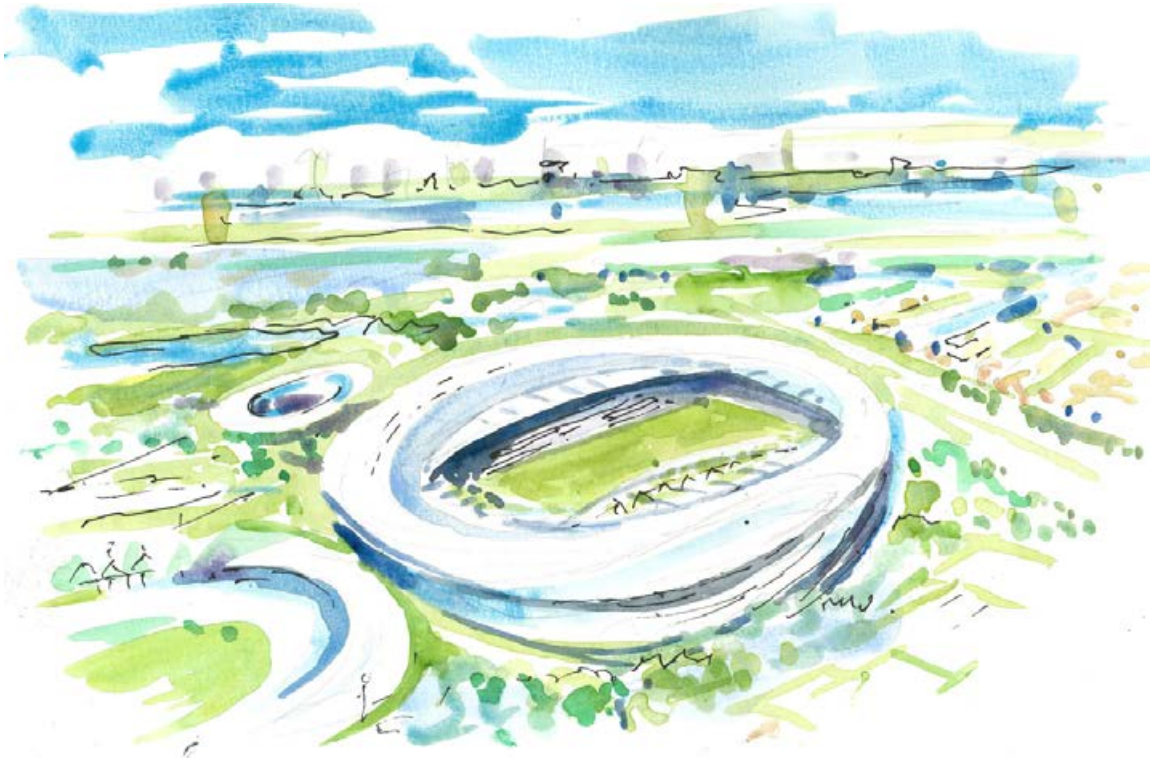


**Figure 4 Illustration of the stadium**

*Source: COX Architecture*

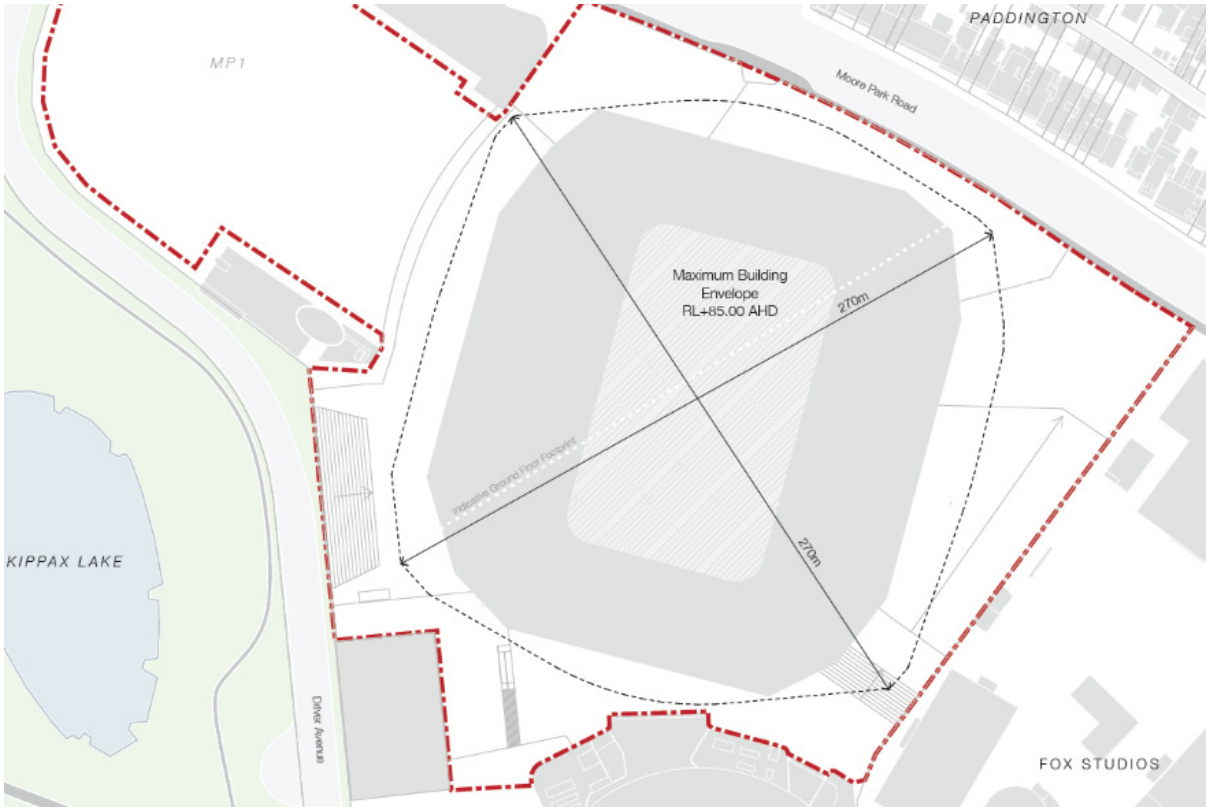
## 1.4 Planning approval history

### 1.4.1 Stage 1 of the redevelopment (SSD DA 18_9249)

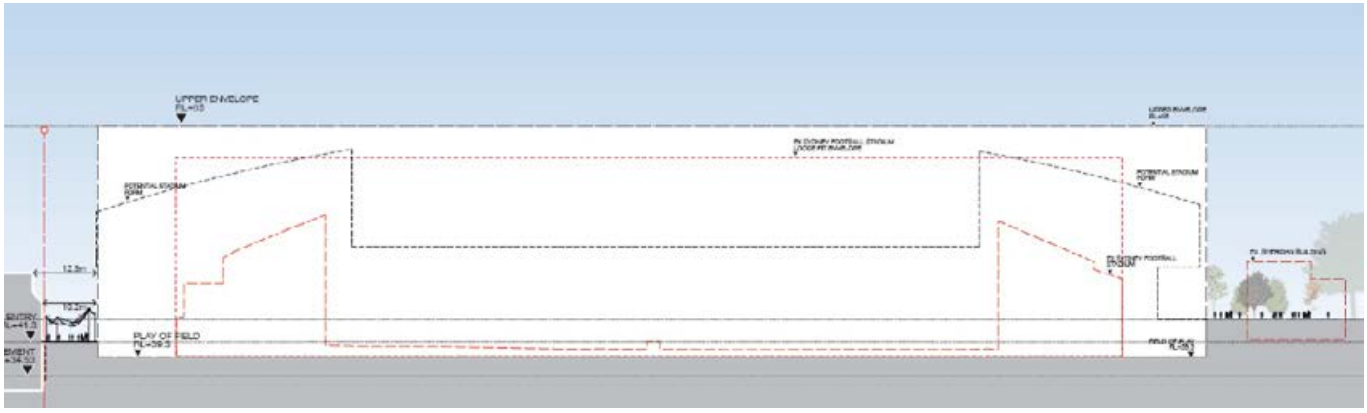
On 6 December 2018, development consent was granted to a Concept Proposal and Detailed Early Works (Stage 1 DA) for the redevelopment of the stadium and detailed site preparation works (SSD 18_9249). This SSD DA permitted the completion of demolition works on the site and established the planning and development framework through which to assess this subsequent Stage 2 application. The Stage 1 DA represents the first phase in the delivery of a new stadium in accordance with the vision of the NSW Stadia Strategy and the 2015 Preliminary Sydney Cricket Ground Master Plan.

Specifically, Stage 1 of the process established the following:

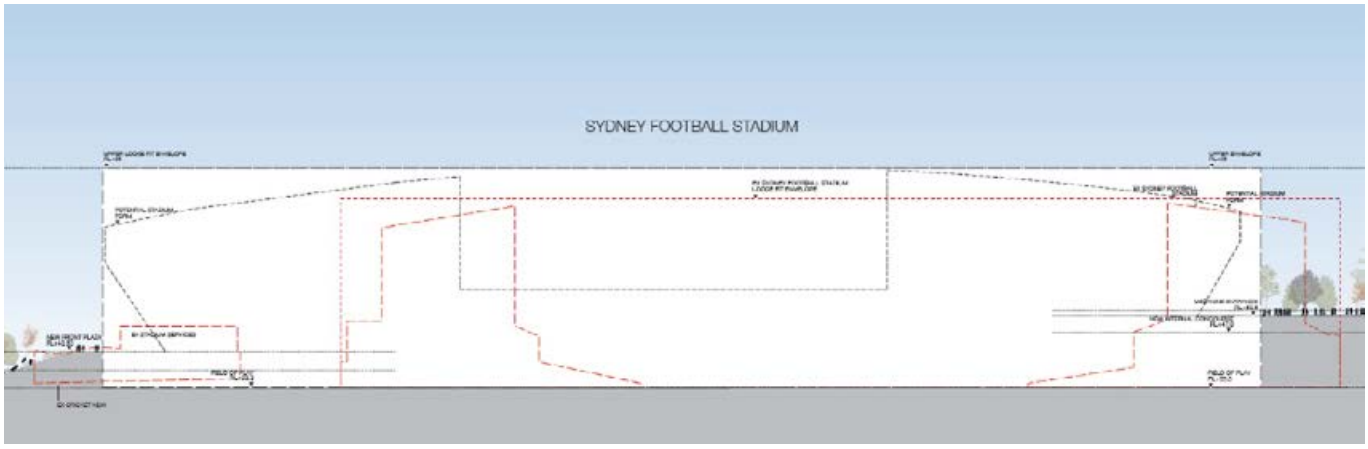
1. A Concept Proposal for:
    - A maximum building envelope for the stadium with capacity for 45,000 seats (55,000 patrons in concert mode) and 1,500 staff (refer to **Figure 5** below).
    - Urban Design Guidelines and a Design Excellence Strategy to guide the detailed design of the stadium at Stage 2.
    - General functional parameters for the design and operation of the new stadium, including:
        - Range of general admission seating, members areas, premium box/terrace, function/lounge and corporate suite options;
        - Administration offices;
        - New roof with 100% drip-line coverage of all permanent seating;
        - Flood lighting, stadium video screens and other ancillary fittings;
        - Food and beverage offerings;
        - Facilities for team, media, administration and amenity such as changing rooms, media rooms and stadium; and
        - Provision for ancillary uses within the stadium and surrounds.
    - Principles and strategies for transport and access arrangements.
    - Indicative staging of the development.
2. The first stage of detailed, physical works for:
    - The demolition of the existing SFS and ancillary structures, including the existing Sheridan, Roosters, Waratahs and Cricket NSW buildings down to existing slab level.
    - Site and construction management, including use of the existing MP1 car park for construction staging, management and waste processing, and provisions for temporary pedestrian and vehicular access management.
    - The protection and retention of Tree 125 (Moreton Bay Fig adjacent to Moore Park Road) and Tree 231-238 cluster (Hills Weeping Fig and others near Paddington Lane) and all existing street trees located outside of the site boundary, with the removal of all other vegetation within the proposed future building footprint.
    - Works to make the site suitable for the construction of the new stadium (subject to this separate Stage 2 application).




*Site Plan*



*East/West Section*




*North/South Section*

**Figure 5 Approved maximum building envelope**

*Source: SJB*

### 1.4.2 Modification to Site Boundary (SSD 9249 – MOD 1)

A modification application was approved on 5 June 2019 to facilitate a minor change to the boundary of the approved Concept Proposal. The modification excluded a small area from the site boundary, comprising two tennis courts located in the south-western corner of the site adjacent to the SCG's practice wickets. Exercising this land from the site boundary enables this portion of the site to be utilised by the Sydney Cricket and Sports Ground Trust to support the operations of the SCG independently from the proposed SFS redevelopment.

The site boundary referred to and illustrated in the appended technical reports and plans is consistent with the amended site boundary considered in MOD 1 to SSD 9249.

### 1.4.3 Modification to Demolition Works (SSD 9249 – MOD 2)

A second concurrent modification application has been lodged with the Department to facilitate the timely and logical staging of detailed, physical works on the site. This application seeks to permit the removal and disposal of the existing ground slabs, pavements, footings and piles from the SFS. This will involve demolition of the slabs using the current excavators fitted with hammers and pulverisers, and excavating the ground surrounding the piles and cut off the pile to a depth of 1.5m below proposed Stage 2 stadium basement level. Any of the piles that will clash with the new Stadium piles will be removed.

It is also proposed to divert existing stormwater infrastructure traversing the site from Moore Park Road to Driver Avenue around the area of the former stadium, where pile removal is proposed. The diversion is internal to the site only; no change is proposed to the discharge points for stormwater at the site boundaries.

At the time of writing this report, the modification has not been determined.

### 1.4.4 Modification to Vegetation Parameters for Public Domain Landscaping (SSD 9249 – MOD 3)

A third modification application has been lodged with the Department to amend a requirement under the Concept Proposal for 95% of all new or replaced vegetation to be Australian native species from the relevant plant community. During detailed design, it has become apparent that whilst a very high level of native plant species will be provided the attainment of the nominated proportion would not be possible due to the microclimactic site conditions, requirement to provide non-endemic species suitable for foraging by Grey Headed Flying Foxes, the absence of suitable species for highly trafficked pedestrian areas and the need to provide some additional diversity and visual interest through feature plantings within the public domain. Further discussion of the detailed design for landscaping and public domain is provided at **Sections 4.6** and **6.1.5** of this EIS.

At the time of writing this report, the modification has not been determined.

## 1.5 Analysis of alternatives

The proposed development is consistent with the Stage 1 DA, which assessed the available options for the redevelopment of the site including the 'do nothing scenario' and variables to achieving the best possible outcome, built form alternatives, and the timely and economic redevelopment of land. There were four (4) primary options that were considered by Infrastructure NSW in responding to the identified strategic need for and objectives for the provision of a Tier 1 rectangular stadium at Moore Park. These options generally aligned with the Business Case Summary published by Infrastructure NSW in March 2018, and informed the discussion around alternative approaches to the development of the SFS, and the ultimate resolution to proceed with the now approved Stage 1 DA, to which this Stage 2 DA is pursuant.

In addition to these development options that were considered prior to and as part of the Stage 1 DA, this Stage 2 DA has also been shaped by a competitive design process that informs the discussion around alternative approaches to the design of the SFS and surrounding public domain. The competitive design alternatives process compared three (3) schemes on the detailed design of the stadium and public domain, which were critically analysed by a Panel, and the ultimate design option for the site was selected.

Together, these Stage 1 and Stage 2 processes have confirmed the strategic need for the proposal, and have resulted in the ultimate and best possible outcome for the site.

### 1.5.1 Development options that informed the approved Concept Proposal (Stage 1 DA)

The following is a summary of the development options that informed the decision to proceed with the now approved Stage 1 DA.

**Option 1 – Do Nothing**

The 'Do Nothing' scenario involved the existing SFS remaining in situ. For the reasons set out in the Stage 1 DA, the stadium did not meet the criteria for a Tier 1 stadium, and was delivering a comparatively poorer experience for players and spectators as other stadia are being modernised and redeveloped within the local, national and international contexts. Without improvement, the 'Do Nothing' scenario would have seen the existing stadium fall further behind competing facilities interstate and overseas, with Sydney and NSW missing out on major events due to the poor quality of the existing facility. This would include both local competition events as well as missed opportunities associated with the potential hosting of major regional and international events. This would result in the loss of potential economic, social and cultural opportunities.

Due to the existing shortcomings of the stadium in terms of accessibility, amenities and safety, the 'Do Nothing' scenario was not considered to be an acceptable approach for a major public facility. Over the short to medium-term, it was deemed likely that the SFS would not be able to continue operating for safety reasons.

**Option 2 – 'Base Case' – Minimal investment**

The 'Base Case' option considered undertaking minimal capital works to refurbish the SFS to addresses immediate safety, security and compliance issues in order to keep the venue operational. The Base Case would have improved safety and security, but did not achieve full compliance, notably in the areas of disability access and the provision of an adequate number of toilets, due to the lack of physical space in the existing stadium structure. It also would not have improved the spectator experience, or the operational efficiency of the stadium, as the seating bowl and roof line are unchanged and no basement spaces are included.

Under the 'Base Case', the SFS would have been able to continue operations over the medium-term but would still not meet the criteria for a Tier 1 stadium due to safety, amenity and facility issues that are inherent to the current stadium design and functionality. Whilst the stadium would likely maintain the majority of its existing event profile, the shortcomings in the user and visitor experience would likely have seen a decline in attendance and the loss of major national, regional and international events to other stadia beyond NSW. This would have resulted in the loss of potential economic, social and cultural opportunities for Sydney and NSW.

**Option 3 – Refurbishment Option**

Option 3 comprised a full refurbishment of the SFS beyond the 'Base Case' to attain Tier 1 status for the current venue. Refurbishing the stadium encompassed the works included in the Base Case together with a new roof covering 95 per cent of the seats and a basement with a 360-degree ring road. This option would have addressed the immediate safety, security and compliance issues and improved the amenity of the stadium. The provision of roof coverage to most seats would have improved the fan experience, and a basement and ring road would have significantly improved back-of-house operations.

Despite the moderate improvements in spectator experience and operability which the refurbishment would bring, many of the limitations and constraints of the venue's structure would have remained. Viewing positions within the stadium would have been unchanged, much of the corporate product would have remained in poor locations, and concourses, amenities and concessions would have continued to fall short of relevant benchmarks. In addition, much of the current building would have been retained in the refurbishment option and the remaining useful life of the stadium after refurbishment would be shorter than that of a fully redeveloped stadium built to modern standards.

The proposed works required under Option 3 would have been substantial, involving significant cost, and would have required the stadium to be closed for an extended period of time with similar construction impacts to those outlined in Option 4 for the ultimate development of a new stadium. The Business Case Summary prepared by Infrastructure NSW in March 2018 demonstrated that the total project costs for a full stadium refurbishment ($599.27m) would be less than 5% lower than the cost of constructing a new purpose-built stadium ($626.68m – Option 4).

**Option 4 – New Stadium**

The construction of a new Tier 1 stadium in the location of the current SFS was found to meet the current and anticipated future expectations of a modern sporting venue, delivering a standard of user and visitor experience commensurate with the premier role of Moore Park as the Eastern City's major sporting precinct. As a modern stadium that is purpose-built to meet current and anticipated future requirements, the new stadium option was considered to meet all current construction and operational facility, building, accessibility and safety standards. The delivery of a new stadium provided the flexibility to address existing shortcomings that could not be addressed under a refurbishment option.

A key benefit of Option 4 was the ability of a new stadium to meet the current and anticipated future requirements of a modern stadium, such that both the physical and functional lifespan of the new facility is maximised. By delivering a purpose-built stadium with the benefit of current knowledge of design and construction techniques and a closer perspective to future sports and spectator requirements, Option 4 provided the ability to deliver a stadium that would last longer physically and remain relevant and useable. The design lifespan of the new stadium under Option 4 is 50 years, which significantly exceeds that of the renovation and refurbishment options.

Ultimately, the NSW Government determined that the development of a new stadium capable of meeting the current and future requirements of a modern stadium represented the best outcome from a social, economic and environmental perspective, and is the project which formed the basis for the now approved Stage 1 DA, and this subsequent Stage 2 DA.

### 1.5.2 Design options that have informed this Stage 2 DA

**Option 5 – Do Nothing**

The 'Do Nothing' scenario in this instance involves not proceeding with Stage 2 of the SFS redevelopment. The demolition of the stadium and associated site preparation works are underway on the site, and as such failing to undertake Stage 2 at this time would result in the site remaining vacant and generally untrafficable. This scenario would fail to achieve the project objectives in terms of usability, built form alternatives, and the timely and economic redevelopment of land. It would fail to address the identified strategic need for a new Tier 1 stadium, and would in-turn result in the loss of a stadium that provides for elite sport and entertainment in Sydney, benefits job creation, and more widely contributes to tourism and the Global presence of Sydney. This option would be inconsistent with the NSW Government's strategic planning policies and represents a significant underutilisation of land and an unrealised opportunity to achieve the vision for this site. For these reasons, the 'Do Nothing' scenario is this instance is not the preferred option.

**Option 6 – Selected Design Scheme (the Preferred Option)**

This Stage 2 DA has been informed by a Competitive Design Alternatives Process (discussed further in **Section 5.6**), which has critically analysed design alternatives for the stadium and surrounding public domain and selected the ultimate and best possible solution for the site. This process saw three (3) consortia of design firms present a scheme for the site, as follows:

- Cox Architecture and Aspect Studios
- Fitzpatrick Partners and McGregor Coxall
- Sydney Architecture Studio, Snohetta and Inhabit

The options were critically analysed by a Panel for how well each option achieved the requirements for design excellence in the *Sydney Local Environmental Plan 2012*, the principles of *Better Placed* (an integrated design policy for the built environment in NSW), and the site-specific Sydney Football Stadium Urban Design Guidelines adopted as part of the approved Stage 1 DA.

The process confirmed that the vision for the design of the stadium and public domain presented by COX Architecture and Aspect Studios was the best possible design alternative for the site. It considered that the site layout proposed in this scheme was consistent with the urban design requirements of the approved Stage 1 DA, and the commentary from the panel in the Competitive Design Alternatives Report notes the following:

- *"A high level of architectural design with materials appropriate to the building typology and location.*

- *A proposal that would enhance the amenity of the public domain through the façade design and landscape concept.*
- *A sympathetic built form in terms of street frontage height and moderating the bulk and massing of what is essentially a large building.*
- *Minimisation of potential environmental impacts in relation to overshadowing, solar access and retention and minimisation of view impacts.*
- *A public domain that was active, welcoming and inclusive of all users both on event and non-event days.*
- *It was considered to enhance the amenity of the area in both event and non-event mode, providing a design that suited both stadium patrons and local communities.*
- *The Panel also considered that the winning entry best met the design objectives of Better Placed and the Sydney Football Stadium Urban Design Guidelines."*

For these reasons, the redevelopment of the site in-line with the scheme prepared by COX Architecture and Aspect Studios was found to be the best possible, and preferred option. Consent is being sought for this option under this Stage 2 SSD DA.

### 1.5.3 Conclusion

Based on the analysis of alternative development options at Stage 1, which was informed by the Business Case Summary published by Infrastructure NSW in March 2018, and the competitive analysis of design alternatives at Stage 2, which was in accordance with the approved SFS Design Excellence Strategy, it is determined that the redevelopment of the SFS in-line with the scheme prepared by COX Architecture and Aspect Studios is the most effective and appropriate means of achieving the project objectives.

## 1.6 Secretary's requirements

In accordance with section 4.39 of the EP&A Act, the Secretary of the Department issued the requirements for the preparation of the EIS on 10 April 2019. A copy of SEARs is included at **Appendix A**.

**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 Requirements**

| Requirement | Reference |
|---|---|
| **General** | |
| The Environmental Impact Statement (EIS) must address the *Environmental Planning and Assessment Act 1979* and meet the minimum form and content requirements in clauses 6 and 7 of Schedule 2 the Environmental Planning and Assessment Regulation 2000.<br><br>Notwithstanding the key issues specified below, the EIS must include an environmental risk assessment to identify the potential environmental impacts associated with the development.<br><br>Where relevant, the assessment of key issues below, and any other significant issues identified in the risk assessment, must include:<br>• adequate baseline data;<br>• consideration of the potential cumulative impacts due to other developments in the vicinity (completed, underway or proposed); and<br>• measures to avoid, minimise and if necessary, offset predicted impacts, including detailed contingency plans for managing any significant risks to the environment.<br><br>The EIS must also be accompanied by a report from a qualified quantity surveyor providing:<br>• a detailed calculation of the capital investment value (CIV) (as defined in clause 3 of the Regulation) of the proposal, including details of all assumptions and components from which the CIV calculation is derived. The report shall be prepared on company letterhead and indicate applicable GST component of the CIV;<br>• an estimate of jobs that will be created during the construction and operational phases of the proposed development; and<br>• certification that the information provided is accurate at the date of preparation. | Environmental Impact Statement |

| Requirement | Reference | |
|---|---|---|
| **Key Issues** | **Report / EIS** | **Technical Study** |
| The EIS must address the following specific matters: | | |
| **1. Statutory and Strategic Context**<br>Address the statutory provisions contained in all relevant environmental planning instruments, including:<br>• State Environmental Planning Policy (State & Regional Development) 2011; | Section 5.4 | CIV submitted under separate cover |
| • State Environmental Planning Policy (Infrastructure) 2007; | Section 5.4 | Appendix H |
| • State Environmental Planning Policy No.55 – Remediation of Land;<br>• Draft State Environmental Planning Policy – Remediation of Land; | Section 6.12 | Appendix J |
| • Draft State Environmental Planning Policy (Environment) 2017; | Section 5.4 | - |
| • State Environmental Planning Policy No. 64 – Advertising and Signage; | Section 5.4 | Appendix K |
| • Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005; | Section 5.4 | - |
| • Sydney Local Environmental Plan 2012 (Sydney LEP). | Section 5.4 & 5.6 | Appendix E & F |
| *Permissibility*<br>Detail the nature and extent of any prohibitions that apply to the development. | Section 5.4 | - |
| *Development Standards*<br>Identify compliance with the development standards applying to the site and provide justification for any contravention of the development standards. | Section 5.4 | Appendix B |
| *Sydney Football Stadium Concept Proposal*<br>In accordance with the *Environmental Planning and Assessment Act 1979*, demonstrate that the proposal is not inconsistent with the development consent granted for the Sydney Football Stadium Concept Proposal (SSD 9249). | Section 5.5 | Appendix L |
| **2. Policies**<br>Address the relevant planning provisions, goals and strategic planning objectives in the following: | | |
| • *NSW State Priorities* | Section 5.3.1 | - |
| • *The Greater Sydney Regional Plan – A Metropolis of Three Cities;* | Section 5.3.3 | - |
| • *NSW Future Transport Strategy 2056;* | Section 5.3.7 | - |
| • *NSW Energy Efficiency Action Plan 2013;*<br>• *NSW Resource Efficiency Policy (GREP);* | Section 5.3.7 | Appendix M |
| • *Draft Greener Places Policy;* | Section 5.3.7 | Appendix C |
| • *Eastern City District Plan;* | Section 5.3.4 | - |
| • *Better Placed: An integrated design policy for built environment of NSW;* | Section 5.3.7 | Appendix B, C, E & F |
| • *Crime Prevention Through Environmental Design (CPTED) Principles;* | Section 6.8.2 | Appendix N |
| • *Sustainable Sydney 2030;* | Section 5.3.5 | Appendix M |
| • *City of Sydney Cycling Strategy and Action Plan 2018-2030;*<br>• *City of Sydney Walking Strategy and Action Plan 2015-2030;*<br>• *City of Sydney's Liveable Green Network;*<br>• *Sydney's Bus Future 2013;* | Section 5.3.7 | - |
| • *City of Sydney Tourism Action Plan 2015;* | Section 5.3.7 | Appendix O |
| • *City of Sydney Competitive Design Policy 2013; and* | Section 5.3.7 & 5.6 | Appendix E & F |
| • *City of Sydney Interim Floodplain Management Policy.* | Section 6.10 | Appendix P |
| **3. Operation**<br>• Provide details of the proposed events and activities at the Sydney Football Stadium and surrounding precinct, including the estimated number, type (i.e. full capacity, half capacity and double headers) and duration (including set up and set down) of events and activities per year, including maximum spectator numbers. | Section 4.9 | Appendix Q |
| • Provide details of strategies to mitigate risks at points of crowd swell (i.e. pedestrian crossing / refuge points, circulation around the stadium, and approach and departure points). | Section 6.3.1 & 6.8.3 | Appendix H, Q & R |
| • Provide details of stadium emergency and evacuation procedures, including a draft Emergency Response and Evacuation Principles, which addresses issues of public and crowd safety and behaviour management. | Section 4.10.2, 4.9, & 6.8.3 | Appendix Q & R |
| • Identify the likely types and volumes of waste to be generated during operation and describe the measures to be implemented to collect and dispose of this waste. Identify | Section 6.13 | Appendix S |

| Requirement | Reference | |
|---|---|---|
| appropriate servicing arrangements (including but not limited to, waste management, loading zones, mechanical plant) for the site. | | |
| **4. Design Excellence**<br>• Demonstrate Design Excellence in accordance with the requirements of:<br>− Sydney LEP 2012; and | Section 5.4 & 5.6 | Appendix E & F |
| − the conditions of consent for SSD 9249 relating to Design Excellence in Schedule 2 | Section 5.5 & 5.6 | Appendix L |
| • Provide a Competitive Design Alternatives Report signed by the members of the assessment panel responsible for selecting the winning design through the Competitive Design Process.<br>• Include the following details within the Competitive Design Alternatives Report as described by the SFS Design Excellence Strategy submitted with SSD 9249:<br>− that details of each of the design alternatives considered;<br>− an assessment of the design merits of each alternative;<br>− the rationale for the choice of preferred design and clearly demonstrate how this preferred design best exhibits design excellence in accordance with the provisions of Clause 6.21(4) of the Sydney Local Environmental Plan 2012 and the approved SFS Design Excellence Strategy<br>− how this preferred design and the overall site layout is consistent with the Sydney Football Stadium Urban Design Guidelines submitted with SSD 9249;<br>− a copy of the brief issued to the architectural firms; and<br>− how the winning scheme is capable of achieving design excellence in accordance with Clause 6.21(4) the design excellence provisions of the Sydney LEP 2012 and the City of Sydney Competitive Design Policy 2013.<br>• Provide details of the Design Integrity Assessment Panel as required by condition B8 of Schedule 2 of the development consent for SSD 9249. | Section 5.6 | Appendix E & F |
| • In accordance with Schedule 2, Condition C2 and C3 of SSD 9249, provide a Design Integrity Assessment Report. | | Appendix F |
| **5. Built Form and Urban Design** | | |
| • Address the height, bulk and scale, and setbacks of the proposal in relation to the approved building envelope. | Section 5.5 & 6.1.1 | Appendix B |
| • Assess the height, bulk, scale and setbacks of the proposed stadium in relation to the locality and the surrounding development topography and streetscape, having regard to the heritage significance of the surrounding locality. | Section 6.1.1, 6.1.2 & 6.6 | Appendix B & T |
| • Assess how the proposed built form is consistent with and located within the maximum building envelope approved under SSD 9249. | Section 5.5 & 6.1.1 | Appendix B & L |
| • Assess how the proposal achieves consistency with the *Sydney Football Stadium Urban Design Guidelines* (SSD 9249). | Section 5.5, 5.6, 6.1 | Appendix B |
| • Address design quality, with specific consideration of the overall site layout, streetscape, public spaces design and layout, proposed level changes and connections across the site, entrances, plazas, concourse and relationship to Driver Avenue, parklands and Moore Park Road, open spaces, façade, rooftop, massing, setbacks, building articulation, materials, colours, landscaping and Crime Prevention Through Environmental Design Principles. | Section 4.5, 4.6 & 6.8.2 | Appendix B, C & N |
| • Detail how services, including but not limited to waste management, loading zones and mechanical plants, are integrated into the design of the development. | Section 4.5 & 4.10.2 | Appendix B, H, S & U |
| • Provide a framework identifying how the associated commercial activities within the stadium structure are to be separated from the identified public spaces in the *Sydney Football Stadium Urban Design Guidelines* (SSD 9249). | Section 4.5 | Appendix B & C |
| • Assess how the proposal will achieve equity of access throughout the development with identified routes for people with a disability. | Section 4.10.2 & 6.15 | Appendix B, C, H, & V |
| • Provide a landscape and public domain plan that details the proposed open spaces, structures, features, lighting, bike parking, signage, hard and soft landscaped areas and public realm including details of any tree removal, retention or relocation / new tree plantings, the benefits of the proposed landscape elements and how this extends to the use and activation of the stadium precinct. | Section 4.6- 4.8, 4.10.1 4.12.2, 6.1.5-6.1.7, 6.2.4, 6.3.1 | Appendix B, H, I, Y, & JJ |
| | Section 4.7, 6.2.8 & 6.15 | Appendix B, C, H, I & V |

| Requirement | Reference | |
|---|---|---|
| • Provide details of the urban design strategy for the vehicular and pedestrian access to the site including wayfinding and equitable design outcome for all users. This should include strategies for event and non-event days. | | |
| • Assess how the proposal achieves effective circulation for day to day activity, match day and event mode to demonstrate crowd control and movement. | Section 4.10.2 & 6.3.1 | Appendix C, H & Q |
| • Assess how effective pedestrian circulation for day to day activities will be achieved on the event days when public access within the site would be allowed in addition to the patrons. This should include details of wayfinding, crowd control and movement. | Section 4.10.2 & 6.3.1 | Appendix C, H & Q |
| • Outline the potential types and extent of planned activities for the open space activation during event and non-event day operations including details of circulation, crowd control and movement. | Section 4.9 | Appendix C, H & Q |
| • Provide details of the method for the incorporation of sustainability into design. | Section 4.11, 6.7 | Appendix M |
| • Provide a detailed landscape and public domain plan showing existing (pre-Stage 1 works) and proposed services and reinstatement works to Moore Park Carpark 1 (MP1) including replacement tree planting. | Section 4.6, 4.10.1 | Appendix C |
| • Assess how the proposal will integrate with Sydney City, including the adjacent Sydney Cricket Ground, through broader connectivity and public domain improvement works. | Section 4.6, 4.10.2 & 5.3.6 | Appendix C, G & H |
| • Assess the environmental and operational impacts upon adjacent recreational zones and associated land uses, particularly, Driver Avenue and the land immediately east of the roadway. | Section 6.2.8 | Appendix B, C & H |
| • Provide details to address how the proposal will minimise and / or mitigate adverse environmental and operational impacts on adjacent recreational zones and associated land uses (if any). | | |
| • Outline how the development will complement the broader recreational setting of Moore Park. | | |
| **6. Visual Impact** | Section 6.2.1 | Appendix W |
| • Provide a detailed visual / view impact analysis that considers the impact of the proposed stadium (compared to the demolished building(s) on the site and the approved envelope) when viewed from the public domain and key vantage points surrounding the site. This is to include a written description of the view pre-demolition of stadium on the site, the likely impact and justification of the proposal and any required mitigation measures. The view locations and methodology for the analysis must be prepared in consultation with the Department. | | |
| • Provide details of all visual amenity impacts on the surrounding occupiers of land. | | |
| • Provide details of the management and / or mitigation measures in case of the identified adverse visual amenity impacts (if any) on the surrounding occupiers of land. | | |
| **7. Disables Access** | Section 6.15 | Appendix V |
| • Provide an Access Report to demonstrate that the building(s) and all public domain areas have been designed and is / are capable of being constructed to provide access and facilities for people with a disability in accordance with the Building Code of Australia and the Disability Discrimination Act. | | |
| • Demonstrate equitable design outcome for all users. | Section 4.5, 4.10.2, & 6.15 | Appendix B, C, H & V |
| **8. Environmental Amenity** | | |
| • Assess amenity impacts on the surrounding locality, including solar access, visual privacy, overshadowing and acoustic impacts. | Section 6.2 & 6.4 | Appendix B & X |
| • Include a lighting strategy and measures to reduce spill into the surrounding sensitive receivers. | Section 4.8 & 6.2.4 | Appendix Y |
| • Provide a wind assessment of the detailed design including a wind tunnel study. | Section 6.2.3 | Appendix Z |
| • Assess the environmental amenity impacts including solar access, acoustic impacts, visual privacy, overshadowing and wind impacts and include the proposed management and / or mitigation measures in case of any identified adverse impacts. | Section 6.2 & 6.4 | Appendix B, X & Z |
| • Provide details of shading outside the stadium, within the site, to enable respite in heatwave and extreme heat conditions for the stadium users. | Section 4.6 & 6.2.5 | Appendix B & C |
| • Provide details regarding shaded areas within the site outside the stadium structure for the event ticket holders as well as other users of the public spaces within the site. | Section 4.6 & 6.2.5 | Appendix B & C |

| Requirement | Reference | |
|---|---|---|
| **9. Traffic, Transport and Accessibility (Construction and Operation)**<br>• Include a traffic and transport accessibility impact assessment, which includes details of, but is not limited to, the following:<br>– accurate details of the current daily and peak hour vehicle, existing and future public transport networks, special event bus network and pedestrian and cycle movement provided on the road network surrounding the stadium on a typical weekday and weekend (event day) with consideration of simultaneous events within the Moore Park Precinct and parking occupancy on a typical weekday and weekend (event day) including peak events (full capacity) and double header (two peak events occurring within the precinct);<br>– indicate the activities at the stadium, including type of events, number of events and capacity of the various type of events;<br>– details of estimated total daily and peak hour trips generated by the completed stadium including vehicle (including point-to-point transport), public transport, coaches, special event buses, pedestrian and bicycle trips, major events (full capacity), double header events (full capacity), minor events (half capacity) and no event scenarios and the impact upon the surrounding road network with consideration of simultaneous events within the Moore Park Precinct;<br>– the adequacy of existing public transport or any future public transport infrastructure within the vicinity of the site including the Sydney Light Rail, pedestrian and bicycle networks and associated infrastructure, including future enhancements, to meet the demand for the future development;<br>– the estimated future daily and peak hour trips and movements for each event scenario in the surrounding road network, including cumulative impact from nearby development, within and outside of the Moore Park Precinct, including from point to point transport and continued operation of special event buses;<br>– the impact of trips generated (pedestrians, bicycle, motor vehicles and public transport (including the Sydney Light Rail and special event buses) by the development on nearby intersections, with consideration of the cumulative impacts with appropriate traffic modelling from other approved developments in the vicinity and simultaneous events within the Moore Park Precinct;<br>– the identification of infrastructure required to manage any impacts on transport efficiency and public transport operation (including the Sydney Light Rail and special event buses) and road safety impacts associated with the future development, including details on improvements required to affected intersections;<br>– the impact of increased demand generated by operations of the stadium on the existing and future public transport network, (including the Sydney Light Rail and special event buses), pedestrian and bicycle networks and point-to-point transport and coach facilities and the adequacy of the networks and facilities to cater for the development;<br>– integration of the development with the existing / future public transport network including the Sydney Light Rail;<br>– measures to encourage worker staff and visitors to travel by public transport, walking, cycling and car sharing, including minimal on-site parking for spectator use, integrated ticketing between events and transport providers;<br>– provision of adequate bicycle parking and end of trip facilities and improved connections between the stadium and public transport nodes and pedestrian and bicycle networks;<br>– the wayfinding strategy and associated infrastructure (including lighting) to support the movement of large crowds to and from public transport servicing the Moore Park Precinct (including from the CBD, Central Station and Kings Cross Station), special event buses, coach and point to point transport pick-up and drop-off locations, including consideration of signage height and illumination and decision points;<br>– the operational access arrangements, including internal circulation network (for motor vehicles, pedestrians and cyclists), and measures to mitigate any associated traffic and road safety impacts and impacts on the road network, public transport and pedestrian and cycle networks;<br>– the impact of any proposed roads or driveways;<br>– access arrangements for emergency vehicles; | Section 2.2.2, 4.10, 6.3 | Appendix H, AA & Q |

| Requirement | Reference | |
|---|---|---|
| – strategies and associated infrastructure to segregate hostile vehicles from public transport users (including paths between the stadium and public transport nodes) and areas of people congregation;<br>– provisions of adequate set-down/pick-up facilities for buses, coaches, taxis and ride-share point to point transport vehicles and coaches (including coach layover) for each event scenario to meet the demand of the development; compliance with the relevant and Australian Standards for vehicle parking with accessible areas close to main entries incorporating lighting and passive surveillance; and<br>– service vehicle access, delivery and loading arrangements and estimated service vehicle movements (including vehicle type, routes and the likely arrival and departure times).<br>• Provide a plan for the management of traffic and transport for the various event scenarios of the development to ensure that event traffic and transport, including pedestrians and cyclist is safely and efficiently managed, including during simultaneous events within the Moore Park precinct.<br>• Provide an indicative mapping of potential overflow parking impacts on surrounding suburbs and areas including Centennial Park, parts of Kensington and northern parts of Randwick during a major event, in the Green Travel Plan or Travel Demand Management Strategy to be submitted with the application.<br><br>Relevant Policies and Guidelines:<br>• *Guide to Traffic Generating Developments (Roads and Maritime Services);*<br>• *Cycling Aspects of Austroads Guides;*<br>• *NSW Planning Guidelines for Walking and Cycling;*<br>• *Austroads Guide to Traffic Management Part 12: Traffic Impacts of Development;*<br>• *Standards Australia AS2890.3 (Bicycle Parking Facilities);*<br>• *Standards Australia AS2890.1, AS2890.2 and AS2890.6; and*<br>• *Development near Rail Corridors and Busy Roads – Interim Guideline.* | See also Section 5.3.7 | |
| **10.Signage Details**<br>• Provide a detailed signage strategy for the entire site including information and scaled drawings of the location, type, construction, materials and total number of signs proposed for the development. | Section 4.7, 5.4 & 6.1.7 | Appendix I & K |
| **11.Public Art**<br>• Provide details of public art strategies to be incorporated into the overall design to:<br>– deliver essential infrastructure in creative and innovative ways through the use of public art;<br>– promote sustainability through public art in new development;<br>– ensure that public art is an integrated and cohesive part of new development; and<br>– recognise former uses through interpretive public art.<br><br>Relevant Policies and Guidelines:<br>• *City of Sydney Public Art Strategy and Policy* (available at http://www.cityartsydney.com.au/about/public-art-strategy-policy/). | Section 4.6.2, 6.1.8 & 6.6.3<br><br>See also Section 5.3.7 | Appendix C & DD |
| **12.Wind Effects**<br>• Provide a Wind Effects Report based on the conclusions and recommendations in the preliminary *Wind Considerations for Stadium Design* prepared by Arup dated 27 April 2018 (SSD 9249). □ The report is to be prepared by a suitably qualified engineer and is to:<br>– be based on wind tunnel testing, which compares and analyses the current wind conditions and the wind conditions created by the proposed stadium and any other ancillary buildings; o report the impacts of wind on the pedestrian environment at the footpath level within the site and the public domain; and<br>– provide design solutions to minimise the impact of wind on the public and private domain.<br>• Assess the potential wind impacts on the ground level environment having regard to Section 3.2.6 (wind effects) of Sydney Development Control Plan 2012 (Sydney DCP) | Section 6.2.3 | Appendix Z |

| Requirement | Reference | |
|---|---|---|
| **13. Reflectivity**<br>• Ensure that light reflectivity does not exceed 20%.<br>• Ensure that building materials do not lead to hazardous, undesirable or uncomfortable glare to pedestrians, motorists or occupants of surrounding buildings. | Section 6.2.7 | Appendix BB |
| **14. Ecologically Sustainable Development (ESD)**<br>• Detail how ESD principles (as defined in clause 7(4) of Schedule 2 of the *Environmental Planning and Assessment Regulation 2000*) will be incorporated in the design and ongoing operation phases of the development.<br>• Demonstrate how the future development will be designed to achieve LEED rating using the previous stadium as the "reference building" for the assessment or any other equivalent sustainability rating tool as listed in section 5.3 of the *Sydney Football Stadium Redevelopment Environmentally Sustainable Design Strategy* prepared by Aurecon dated 11 May 2018 (SSD 9249).<br>• Undertake an analysis of the likely service demands for drinking water, wastewater and recycled water services and outline the Integrated Water Management principles detailing any proposed alternative water supplies, proposed end uses of potable and non-potable water, and water sensitive urban design. This should include preliminary details of sustainability initiatives that will minimise/reduce the demand on supplies.<br>• Address the implementation of water sensitive urban design and energy conservation and efficiency measures, including sizing of key elements.<br>• Measures could include (but not be limited to):<br>– rainwater harvesting and re-use;<br>– water efficient fixtures;<br>– installation of rooftop solar photovoltaic arrays for on-site electricity generation;<br>– storage of surplus energy generated by rooftop solar photovoltaic arrays; use of electric vehicles for dedicated on site transport tasks (where possible); and<br>– energy efficient electrical equipment, fittings and fixtures.<br>Relevant Policies and Guidelines<br>• *NSW and ACT Government Regional Climate Modelling (NARCliM) climate change projections; and*<br>• *OEH (2015) Urban Green Cover in NSW Technical Guidelines.* | Section 4.11 & 6.7<br>See also Section 5.3.7, 5.4 | Appendix M & P |
| **15. Environmental Risk**<br>• Include preliminary consideration of the management of environmental risks to all persons utilising the future facility, including (but not limited to):<br>– extreme heat;<br>– storms and flooding; and<br>– building performance and / or mitigation of climate change, including consideration of Green Star Performance. | Section 6.18 | Appendix B, C, M & P |
| **16. Design of Resilience to Climate Change**<br>• Provide a statement regarding how the design of the future development is responsive to the CSIRO projected impacts of climate change, specifically in relation to:<br>– hotter days and more frequent heatwave events;<br>– extended drought periods;<br>– more extreme rainfall events;<br>– gustier wind conditions; and<br>– how these will inform material selection and social equity aspects (respite / shelter areas).<br>• Provide details of integration of landscape design and plant choice to future proof the design for change. | Section 6.18 | Appendix M, P & Z |
| **17. Heritage**<br>• Provide a heritage impact statement (HIS) addressing the extent of impact on the heritage significance of the heritage items/heritage conservation areas, landscape | Section 6.6 | Appendix T, CC & DD |

| Requirement | Reference | |
|---|---|---|
| items and settings within the site and in the vicinity, in accordance with the guidelines in the NSW Heritage Manual. | | |
| • In particular, assess the impact of the proposal on the following heritage items: | | |
| − Busby's Bore including tunnels, shafts and wells (SHR No. 00568); | | |
| − existing trees within the site; | | |
| − Sydney Cricket Ground Members Stand and Lady Members Stand (SHR No. 00353); | | |
| − Centennial Park, Moore Park, Queens Park (SHR No. 01384); | | |
| − Paddington South Conservation Area; | | |
| − Moore Park Conservation Area; and | | |
| − Sydney Cricket Ground Conservation Area. | | |
| • Address the proposal's compliance with policies or relevant Conservation Management Plans (if applicable) for the abovementioned sites / conservation areas along with relevant mitigation measures (where relevant) in the HIS. | | |
| • Provide an archaeological assessment that identifies the locations and appropriate buffer zones of archaeological relics in or near the current project boundary area including Busby's Bore. | | Appendix T & CC |
| • Provide an archaeological research design and excavation methodology, prepared by a suitably qualified Excavation Director based on the archaeological assessment and impact analysis, to support the mitigation strategy. | | Appendix T |
| • Provide mitigation measures (recommended by a suitably qualified Structural Engineer) to avoid direct or indirect impact on significant archaeological relics. | | |
| • Provide a draft Construction Heritage Management Plan that details measures to avoid impacts on surrounding heritage items. This should incorporate the recommendations of the Methodology Statement – Working Near Busby's Bore dated September 2018 (SSD 9249). | | Appendix T |
| • Provide a Heritage Interpretation Plan such that the history and significance of the site is interpreted and incorporated as part of the detailed design of the site including the landscaping, public domain areas and new stadium itself. | See also Section 4.6.2 | Appendix DD |
| • Consider the impacts of the proposed stadium design on the settings and view lines for the above-mentioned heritage items and include appropriate management and / or mitigation measures to minimise adverse visual impacts. | See also Section 6.2.1 | Appendix T & W |
| Relevant Policies and Guidelines:<br>• *Centennial Parklands Conservation Management Plan.* | See also Section 5.3.7 | |
| **18. Social Impacts**<br>• Assess the social and economic impacts of the development, including impacts the stadium will have on the Sydney CBD and the local region, including tourism, retail, entertainment and night-time economies. In particular, assess how the proposed development will respond to any impacts relating to: | Section 6.9 | Appendix O |
| • proposed pedestrian connections to the adjoining lands; | Section 4.7 | Appendix G |
| • impacts on the Moore Park and Centennial Parklands due to any increased frequency of events and greater use of the on-grass car parking on Moore Park; | Section 6.2.8 & | Appendix H |
| • impacts on Sydney Light Rail construction works; and | Section 6.3.2 | Appendix H |
| • anti-social behaviour and security risks that may be related to the operation of the stadium. | Section 6.8 | Appendix R, Q & LL |
| Relevant Policies and Guidelines:<br>• *Centennial Parklands Plan of Management 2006 – 2016; and*<br>• *Moore Park Master Plan.* | See also Section 5.3.6 & 5.3.7 | Appendix T<br>Appendix G |
| **19. Aboriginal Heritage**<br>• Identify and describe the Aboriginal cultural heritage values that exist across the site and document these in an Aboriginal Cultural Heritage Assessment Report (ACHAR).<br>• Identify and address the Aboriginal cultural heritage values in accordance with the Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in | Section 6.6 | Appendix CC |

| Requirement | Reference | |
|---|---|---|
| NSW (OEH, 2011) and Code of Practice for Archaeological Investigations of Aboriginal Objects in NSW (OEH, 2010).<br>• Undertake consultation with Aboriginal people and document in accordance with Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW). The significance of cultural heritage values of Aboriginal people who have a cultural association with the land are to be documented in the ACHAR.<br>• Identify, assess and document all impacts on the Aboriginal cultural heritage values in the ACHAR.<br>• The EIS and the supporting ACHAR must demonstrate attempts to avoid any impact upon cultural heritage values and identify any conservation outcomes. Where impacts are unavoidable, the ACHAR and EIS must outline measures proposed to mitigate impacts. Any objects recorded as part of the assessment must be documented and notified to OEH. | | |
| **20. Noise and Vibration**<br>• Identify and provide a quantitative assessment of the main noise and vibration generating sources including details of the impacts on surrounding residences and other noise sensitive locations (including the adjoining UTS campus) during (but not limited to):<br>– demolition of the existing slabs and footings, pavements and redundant in-ground services;<br>– site preparation, piling, bulk earthworks, construction and construction-related activities and vehicle movements;<br>– proposed on-site concrete crushing (if any)<br>– the likely noise impacts due to the operation of the new stadium and associated facilities, particularly:<br>○ during events involving the use of sound amplification; and<br>○ during pre and post event activities such as sound test, rehearsals, 'bump-in'/'bump-out', site clean-up, goods deliveries and waste collection including out-of-hours activities and vehicles accessing the basement.<br>– the likely noise impacts of operation of the new stadium and associated facilities, in conjunction with existing facilities located on the Trust lands; and<br>– identification of key noise mitigation and management measures that would inform the final design of the new stadium.<br>• Outline the likely noise impacts during events involving pyrotechnic displays and include measures to manage any adverse acoustic impact on the surrounding noise sensitive locations during such events.<br>• Outline measures to minimise and mitigate the potential noise impacts on surrounding occupiers of land including (but not limited to) acoustic details of the stadium structure, management of events / activities within and outside the stadium structure (within the open areas of the site outside the structure), restrictions to construction hours, appropriate location of the crusher, intra-day respite periods during noisy activities, noise barriers where needed and operational hours and restrictions.<br>• Provide a clear / plain English explanation of the adopted noise levels under the proposed new noise management framework, referred to in the development consent for SSD 9249, and how they relate to the noise levels prescribed in Notice of Preventive Action 1003904 (as at the date of the development application and as varied from time to time).<br>• Provide a justification as to why the proposed new noise management framework is the appropriate approach for the development.<br>• Provide a draft Construction Noise and Vibration Management Plan that outlines measures to minimise and mitigate the potential noise impacts on surrounding occupiers of land.<br>Relevant Policies and Guidelines<br>• *NSW Noise Policy for Industry 2017 (EPA);*<br>• *Interim Construction Noise Guideline (DECC);*<br>• *Assessing Vibration: A Technical Guideline 2006; and*<br>• *Development Near Rail Corridors and Busy Roads – Interim Guideline (Department of Planning 2008).* | Section 6.4<br>See also Section 5.3.7, 5.4 | Appendix X |

| Requirement | Reference | |
|---|---|---|
| **21. Contamination**<br>• Assess and quantify any soil and groundwater contamination and demonstrate that the site is suitable for the proposed use in accordance with SEPP 55.<br>• Provide details of the methods of identification, handling, transport and disposal of any asbestos containing and other hazardous materials that may be encountered during this development.<br>• Include documentation that demonstrates the requirements of SEPP 55 are addressed. In this regard, the hierarchy of assessment may include but not be limited to the following:<br>– Preliminary Environmental Site Investigation (PSI or Stage 1 assessment);<br>– Detailed Environmental Site Investigation (DSI or Stage 2 assessment);<br>– Remediation Action Plan (RAP);<br>– Review by NSW EPA Site Auditor;<br>– Site Validation Report; and<br>– Site Audit Statement (SAS).<br>• Submit Spoil and Demolition Waste Strategy or Protocol, in case of a RAP being submitted. The Spoil and Demolition Waste Strategy should identify how contaminated material and soil will be managed during the demolition stage both on-site and off-site demonstrating that suitable processes would be in place to ensure no cross contamination or unauthorised disposal of contaminated material occurs.<br>Relevant Policies and Guidelines<br>• *Managing Land Contamination: Planning Guidelines - SEPP 55 Remediation of Land (DUAP);*<br>• *NSW EPA Sampling Design Guidelines;*<br>• *Guidelines for the NSW Site Auditor Scheme (3rd edition) 2017;*<br>• *Guidelines for Consultants Reporting on Contaminated Sites 2011; and*<br>• *The National Environment Protection (Assessment of Site Contamination) Measure 2013 (as amended).* | Section 6.12<br><br>See also Section 5.3.7 | Appendix J |
| **22. Underground Petroleum Storage**<br>• Provide details of measures proposed to ensure the development would not compromise the integrity of the existing underground petroleum storage system, and to prevent adverse impacts on groundwater resources in the event that the integrity of the underground petroleum storage system is compromised during Stage 2 works.<br>• Provide details of coverage of the design, installation and operation of any emergency back-up generator and associated 'underground petroleum storage system' within the meaning of the Protection of the Environment Operations (Underground Petroleum Storage Systems' Regulation 2014). | Section 6.5<br><br>Section 4.14 & 6.5 | Appendix AA<br><br>Appendix U |
| **23. Biodiversity Impact**<br>• Assess and document the flora and fauna impacts related to the proposal by a suitably qualified person.<br>• Biodiversity impacts related to the proposed development (SSD 9249) are to be assessed in accordance with the Biodiversity Assessment Method and documented in a Biodiversity Development Assessment Report (BDAR). The BDAR must include information in the form detailed in the Biodiversity Conservation Act 2016 (s6.12), Biodiversity Conservation Regulation 2017 (s6.8) and Biodiversity Assessment Method.<br>*Note: Notwithstanding these requirements, the Biodiversity Conservation Act 2016 requires that State Significant Development Applications be accompanied by a Biodiversity Development Assessment Report unless otherwise specified under the Act*.<br>• Provide details of the impacts of the proposal on the Kippax Lake habitat and fauna, in relation to noise and light spill. | Section 6.11<br><br>See also Section 5.4<br><br>See also Section 6.2.4 and 6.4.1 | Appendix EE |
| **24. Utilities**<br>• Prepare an Infrastructure Management Plan in consultation with relevant agencies, detailing information on the existing capacity and any augmentation and easement requirements of the development for the provision of utilities including staging of infrastructure. | Section 4.14 & 6.13 | Appendix U & P |

| Requirement | Reference | |
|---|---|---|
| • Prepare an Integrated Water Management Plan detailing any alternative water supplies, end uses of potable and non-potable water, and water sensitive urban design, measures for rainwater harvesting for irrigation and stormwater polishing. | Section 6.10 | Appendix P |
| **25. Contributions**<br>• Address City of Sydney Council's 'Section 7.11 Contribution Plan'. | Section 5.4 | - |
| **26. Drainage**<br>• Detail measures to minimise construction and operational water quality impacts on surface waters and groundwater including Kippax Lake and Moore Park.<br>• Stormwater plans detailing the methods of drainage without impacting on the downstream properties.<br>Relevant Policies and Guidelines:<br>• *Guidelines for development adjoining land and water managed by DECCW (OEH, 2013).* | Section 6.10<br><br><br><br>See also Section 5.3.7 | Appendix P & GG |
| **27. Water and Natural Resources**<br>• Identify the background conditions for any water resource likely to be affected by the development.<br>• Identify the annual volumes of surface water and groundwater proposed to be taken by the activity (including through inflow and seepage) from each surface and groundwater source as defined by the relevant water sharing plan.<br>• Identify any volumetric water licensing requirements (including those for ongoing water take following completion of the project).<br>• Identify and map the water sources likely to be impacted by the development including rivers, estuaries, waterways, wetlands, groundwater, groundwater dependent ecosystem, proposed intake and discharge locations.<br>• Identify whether any construction activities would intersect the water table and require dewatering, in accordance with the assessment process for aquifer interference activities, NSW Aquifer Interference Policy 2012.<br>• Assess impacts on hydrology including water balance, surface and ground water sources (both quality and quantity), downstream water dependent flora and fauna, related infrastructure, adjacent licensed water users, rivers, streams, wetlands, estuaries, basic landholder rights, groundwater dependent ecosystems.<br>• Outline strategies and measures proposed to reduce and mitigate these impacts on hydrological attributes.<br>• Provide full technical details and data (where relevant) of:<br>– all surface and groundwater modelling;<br>– surface and groundwater monitoring activities and methodologies;<br>– management and disposal of produced or incidental water;<br>– monitoring groundwater levels to assess the high wet weather groundwater levels and its relation to the basement level; and<br>– final landform of the site, including final void management (where relevant) and rehabilitation measures.<br>• Any dewatering (if applicable) should identify and demonstrate the drawdown impacts on nearby users including potential Groundwater Dependent Ecosystems.<br>• Where dewatering is required, a Dewatering Management Plan must be developed that includes the method of groundwater disposal.<br>• Identify an adequate and secure water supply for the life of the project. This includes confirmation that water can be sourced from an appropriately authorised and reliable supply. This is also to include an assessment of the current market depth where water entitlement is required to be purchased.<br>• Assess any potential cumulative impacts on water resources, and any proposed options to manage the cumulative impacts.<br>• Prepare groundwater level contour map (mAHD) of the Botany Sands Groundwater Source, for the entire site with actual field data indicated at bore sites, based on field observation.<br>• Provide a detailed and consolidated site water balance. | Section 6.10<br><br>Section 4.13<br><br><br>Section 2.2.7<br><br>Section 6.10<br><br>Section 2.2.5-2.2.8 & 6.10 | Appendix P & GG<br><br><br><br><br>Appendix EE<br><br><br>Appendix P, GG & EE |

| Requirement | Reference | |
|---|---|---|
| • Provide the assessment of the impact on "Water and Soils" in relation to the proposed development in accordance with the document 'Attachment A – OEH Standard Environmental Assessment Requirements (sub points 10 - 13), which is attached to the SEARs<br><br>Relevant Policies and Guidelines<br>• *NSW Aquifer Interference Policy (2012).* | Refer to Table 2 below.<br><br>See also Section 5.3.7 | |
| **28. Flooding**<br>• Identify flood risk on-site (detailing the most recent flood studies for the project area) and consideration of any relevant provisions of the NSW Floodplain Development Manual (2005), including the potential effects of climate change, sea level rise and an increase in rainfall intensity. If there is a material flood risk, include design solutions for mitigation.<br><br>Relevant Policies and Guidelines:<br>• *City of Sydney Interim Floodplain Management Policy; and*<br>• *Centennial Park Floodplain Risk Management Plan.* | Section 6.10<br><br>See also Section 5.3.7 | Appendix P |
| **29. Aviation**<br>• Provide details of impact of the proposed development on Aviation and Airspace protection considering the Obstacle Limitation Surface for Sydney Airport. | Section 5.4 | - |
| **30. Construction Management (including construction traffic)**<br>• Provide an assessment of 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.<br>• Identify proposed construction hours and provide details of the instances where it is expected that works will be required to be carried out outside the standard construction hours.<br>• Identify, quantify and classify the likely waste streams to be generated during construction and operation and describe the measures to be implemented to manage, reuse, recycle and safely dispose of this waste.<br>• Detail measures and procedures to minimise and manage the generation and off-site transmission of sediment, dust and fine particles<br>• Assess construction traffic impacts in a draft Construction Traffic and Pedestrian Management Plan (CTPMP) which shall address, but not be limited to, the following:<br>– an assessment of the cumulative impacts associated with other construction activities;<br>– an assessment of road safety at key intersections and locations subject to heavy vehicle movements and high pedestrian activity;<br>– details of the construction program detailing the anticipated construction duration and highlighting significant and milestone stages and events during the construction process; o details of anticipated peak hour and daily truck movements to and from the site;<br>– details of car parking and access arrangements of construction vehicles, construction workers to and from the site, emergency vehicles and service vehicles, including measures to reduce construction worker private vehicle trips;<br>– details of temporary cycling and pedestrian access arrangements during construction;<br>– details of any crane locations and road closures;<br>– details of construction vehicle access arrangements at all stages of construction;<br>– details of a consultation strategy for liaison with surrounding stakeholders;<br>– details of the traffic and transport impacts during construction and how these impacts will be mitigated for any impacts to traffic, pedestrians, cyclists, parking, and public transport (including special event buses) within the Moore Park Precinct, including during adjacent events; and<br>– details of vehicle size, truck routes, truck movements, hours of construction, access arrangements, parking arrangements and traffic control measures for all demolition/construction activities. | Section 4.15, 6.3.2, 6.4, & 6.5 | Appendix H, P, X, AA |

| Requirement | Reference | |
|---|---|---|
| Relevant Policies and Guidelines:<br>• *Managing Urban Stormwater – Soils & Construction Volume 1 2004 (Landcom);*<br>• *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (EPA);*<br>• *Guidelines for development adjoining land and water managed by DECCW (OEH, 2013);*<br>• *Waste Classification Guidelines Parts 1 (General):* (https://www.epa.nsw.gov.au/your-environment/waste/classifying-wast e/waste-classificationguidelines); and<br>• *Underground Petroleum Storage Systems Best Practice Guide for Environmental Incident Prevention and Management:* (https://www.epa.nsw.gov.au/your-environment/contaminated-land/pre venting-contaminatedland/upss). | | |
| **31. Staging**<br>• Outline the details of staging of construction works and the timing for each stage of the works (where relevant). | Section 4.15 | Appendix AA |
| **32. Community Engagement Report**<br>• Identify and detail the communication and community engagement activities undertaken and proposed to be undertaken. | Section 3.0 | Appendix HH |
| **Plans and Documents** | Technical Study | |
| 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: | | |
| • Architectural drawings showing key dimensions, RLs, scale bar and north point, including:<br>– plans, sections and elevation of the proposal at no less than 1:200; illustrated materials schedule including physical or digital samples board with correct proportional representation of materials, nominated colours and finishes;<br>– details of proposed signage, including size, location and finishes; and detailed annotated wall sections at 1:20 scale that demonstrate typical cladding, window and floor details, including materials and general construction quality. | Appendix B | |
| • Landscape architectural drawings showing key dimensions, RLs, scale bar and north point, including:<br>– integrated landscape plans at appropriate scale, with detail of new and retained planting, shade structures, materials and finishes proposed;<br>– plan identifying significant trees, trees to be removed and trees to be retained or transplanted; and<br>– detailed public domain plans including the proposed public spaces and key spaces for Driver Avenue entry and interfaces with surrounding open spaces, parks and streets<br>– hardworks plans including all pavement, wall, stairs, ramps, structures, kiosks and furniture. | Appendix C | |
| • Site survey plan, showing existing levels, location and height of existing and adjacent structures / buildings and site boundaries. | Appendix D | |
| • Site and context analysis plan. | Appendix B | |
| • Plans and schedules showing compliance with SSD 9249 (Sydney Football Stadium Concept Proposal and Stage 1). | Appendix B & L | |
| • Architectural, urban design and public domain statement. | Appendix B & C | |
| • View analysis including a comprehensive Visual Impact Assessment Report, photomontages and architectural renders, including from those from public vantage points, surrounding heritage items and from locations where private views are affected | Appendix W & T | |
| • Shadow / solar access report and diagrams for the stadium and all public spaces including nearby parkland and public domain, and verification. | Appendix B | |
| • Physical and 3D digital model in accordance with City of Sydney specifications. | Submitted under separate cover | |

| Requirement | Reference | |
|---|---|---|
| • Wind assessment Report. | Appendix Z | |
| • Flood assessment / stormwater management plan(s). | Appendix P | |
| • Contaminated land assessment in accordance with SEPP 55 guidelines, Remedial Action Plan and Validation Report (where relevant). | Appendix J | |
| • ESD assessment report including a whole of life assessment. | Appendix M | |
| • Pre-submission consultation statements in accordance with the requirements of SSD 9249. | Appendix HH | |
| • Competitive Design Alternatives Report. | Appendix E | |
| • Design Integrity Assessment Report. | Appendix F | |
| • Moore Park Masterplan 2040 – Stadium Implementation Plan as required by the development consent for SSD 9249. | Appendix G | |
| • Heritage impact statement and archaeological assessment report. | Appendix T, CC, DD | |
| • Social and economic impact assessment report. | Appendix O | |
| • Access / DDA impact statement. | Appendix V | |
| • Transport, traffic and parking assessment including a Construction Management Plan.<br>• Travel Demand Management Strategy.<br>• Green Travel Plan. | Appendix H | |
| • Sediment and erosion control plan. | Appendix P | |
| • Noise and vibration report (construction and operation). | Appendix X | |
| • Air quality assessment report. | Appendix AA | |
| • Services and utilities infrastructure report. | Appendix U | |
| • Geotechnical and structural report. | Appendix II & KK | |
| • Lighting strategy. | Appendix Y | |
| • Arborist report. | Appendix KK | |
| • Waste management plan. | Appendix JJ | |
| • CPTED assessment (including a safety and security assessment). | Appendix N | |
| • Community Consultation Report. | Appendix HH | |
| **Consultation** | | |
| During the preparation of the EIS, you must consult with the relevant local, State or Commonwealth Government authorities, service providers, community groups, Community Consultative Committee (where one exists), special interest groups including local Aboriginal land councils and registered Aboriginal stakeholders and affected landowners.<br><br>In particular you must consult with:<br>• City of Sydney, Woollahra, Randwick and Waverley Councils;<br>• Office of Environment and Heritage;<br>• Sydney Coordination Office within Transport for NSW;<br>• Sydney Light Rail;<br>• Roads and Maritime Services;<br>• Environment Protection Authority;<br>• Sydney Water;<br>• Department of Primary Industries; and<br>• Centennial Parklands Trust.<br><br>Consultation with stakeholders should commence as soon as practicable to agree the scope of investigation.The EIS must describe the consultation process and the issues raised and identify where the design of the development has been amended in response to these issues. Where amendments have not been made to address an issue, a short explanation should be provided. | Section 3.0 | Appendix HH |

**Table 2** below provides an assessment of the impact on 'Water and Soils' in relation to the proposed development in accordance with the document 'Attachment A – OEH Standard Environmental Assessment Requirements (sub points 10 - 13), that was included in the OEH submission to the SEARs and referenced in the SEARs.

**Table 2 OEH additional 'Water and Soils' SEARs requirement response**

| Requirement | Response |
|---|---|
| The EIS must map the following features relevant to water and soils including:<br>a. Acid sulfate soils (Class 1, 2, 3 or 4 on the Acid Sulfate Soil Planning Map). | It was confirmed in the Stage 1 DA and the Groundwater Assessment Report prepared by Arup that accompanied the Stage 1 EIS, that OEH's Acid Sulfate Soils Risk Map dataset does not identify any risk of Acid Sulfate Soils on the site or in the vicinity of the site. This is discussed in **Section 2.2.5** below. |
| b. Rivers, streams, wetlands, estuaries (as described in s4.2 bf the Biodiversity Assessment Method). | Refer to **Section 2.2.7** and **Figure 15** below. |
| c. Wetlands as described in s4.2 of the Biodiversity Assessment Method. | There are no important wetlands (SEPP 44 or Ramsar sites) present in the development footprint, 1500 metre buffer, or downstream of the site. Refer to **Section 2.2.7** and **Appendix EE**. |
| d. Groundwater. | Groundwater is present on the site at variable depths, as discussed in **Section 2.2.5** below and **Appendix GG**. |
| e. Groundwater dependent ecosystems. | The BDAR at **Appendix EE** had completed a review of the federal Bureau of Meteorology's Atlas of Groundwater Dependent Ecosystems (GDE). |
| f. Proposed intake and discharge locations | The Stormwater Management Plan at **Appendix P** identifies the intake and discharge locations for stormwater and potable water. No change is proposed to the existing groundwater wells under water extraction licence 24543. This is discussed further in **Sections 2.2.8** and **6.13** of the EIS. |
| The EIS must describe background conditions for any water resource likely to be affected by the development, including:<br>a. Existing surface and groundwater. | The Stormwater Management Plan at **Appendix P** identifies the existing surface water conditions for the site, and the Geotechnical Investigation and Groundwater Assessment identifies the groundwater conditions for the site at **Appendix II** and **GG** respectively. This is discussed further in **Sections 0, 4.13**, and **6.10** of the EIS. |
| b. Hydrology, including volume, frequency and quality of discharges at proposed intake and discharge locations. | The Stormwater Management Plan at **Appendix P** assesses the volume, frequency and quality of water discharged into the system. This is discussed further in **Sections 4.13**, and **6.10** of the EIS. |
| c. Water Quality Objectives (as endorsed by the NSW Government htt12://www.environment.nsw.gov.au/ieo/index.htm) including groundwater as appropriate that represent the community's uses and values for the receiving waters. | The quality of water discharged from the site achieves the relevant water quality requirements, as detailed in the Stormwater Management Plan at **Appendix U** and **Section 6.10** of the EIS. |
| d. Indicators and trigger values/criteria for the environmental values identified at (c) in accordance with the ANZECC (2000) Guidelines for Fresh and Marine Water Quality and/or local objectives, criteria or targets endorsed by the NSW Government. | The MUSIC modelling that has informed the assessment in the Stormwater Management Plan at **Appendix P** is provided under separate cover. |
| e. Risk-based Framework for Considering Waterway Health Outcomes in Strategic Land-use Planning Decisions http://www.environment.nsw.gov.au/research-andpublications/ publications-search/risk-based-framework-for-considering-waterwayhealth-outcomes-in-strategic-land,-use-planning | No change of use is proposed as part of this application. The site will continue to be used for recreation, sporting and entertainment purposes that is consistent with the current use of the site, and long-running history of the site. |
| The EIS must assess the impacts of the development on water quality, including:<br>a. The nature and degree of impact on receiving waters for both surface and groundwater, demonstrating how the development protects the Water Quality Objectives where they are currently being achieved, and contributes towards achievement of the Water Quality Objectives over time where they are currently not being achieved. This should include an assessment of the mitigating effects of proposed stormwater and wastewater management during and after construction. | The quality of water discharged from the site achieves the relevant water quality requirements, as detailed in the Stormwater Management Plan at **Appendix P** and **Section 6.10** of the EIS. The MUSIC modelling that has informed this assessment is provided under separate cover.<br><br>This assessment also provides a detailed erosion and sediment control that will be implemented for the site during the construction process. |
| b. Identification of proposed monitoring of water quality. | |
| c. Consistency with any relevant certified Coastal Management Program (or Coastal Zone Management Plan) | The site is not subject to any relevant Coastal Management Program. |

| | |
|---|---|
| The EIS must assess the impact of the development on hydrology, including:<br>a. Water balance including quantity, quality and source. | The Stormwater Management Plan identifies the quantity, quality and source of water captured, used and discharged from the site at **Appendix P**. As discussed in the Groundwater Assessment at **Appendix GG**, no change is proposed to the existing quantity, source, or use of bore water on the site. This is discussed further in **Sections 4.13**, and **6.10** of the EIS. |
| b. Effects to downstream rivers, wetlands, estuaries, marine waters and floodplain areas.<br>c. Effects to downstream water-dependent fauna and flora including groundwater dependent ecosystems.<br>d. Impacts to natural processes and functions within rivers, wetlands, estuaries and floodplains that affect river system and landscape health such as nutrient flow, aquatic connectivity and access to habitat for spawning and refuge (e.g. river benches). | The Stormwater Management Plan at **Appendix P** assesses the volume and quality of runoff and confirms the site will meet all relevant requirements.<br><br>The Biodiversity Development Assessment Report prepared by Jacobs (**Appendix EE**) and the Groundwater Assessment by Douglas Partners (**Appendix GG**) further confirms that the proposed development does not pose any risk to hydrological processes. The proposed development will not impact the water table or surface water flows. |
| e. Changes to environmental water availability, both regulated/licensed and unregulated/rules-based sources of such water. | No change is proposed to the process or existing licencing agreements in regard to groundwater extraction (licence 24543). |
| f. Mitigating effects of proposed stormwater and wastewater management during and after construction on hydrological attributes such as volumes, flow rates, management methods and re-use options. | The Stormwater Management Plan at **Appendix P** assesses the volume and quality of runoff, including water reuse mechanisms, and confirms the site will meet all relevant requirements. This EIS is also accompanied by an erosion and sediment control plan (**Appendix P**) and Construction Management Plan (**Appendix AA**) which details how the site will be managed during construction. |
| g. Identification of proposed monitoring of hydrological attributes. | Groundwater Monitoring activities are detailed in the Geotechnical Investigation (**Appendix II**). Surface water modelling has taken place based on historical data. |

## 1.7 Project team

The following is the project team and their respective area of assessment.

**Table 3 The project team**

| Consultant | Area |
|---|---|
| Ethos Urban | • Planning<br>• Community consultation<br>• Social and economic impacts<br>• Anti-social behaviour<br>• Visual and view impacts |
| COX Architecture | Architecture |
| Aspect Studios | • Landscape design<br>• Crime prevention through environmental design<br>• Wayfinding and Signage |
| Infrastructure NSW | • Community consultation<br>• Competitive design process and design integrity |
| Arup | • Transport and access<br>• Noise and vibration<br>• Wind |
| Curio Projects | • Heritage<br>• Archaeology |
| SJB | • Urban design<br>• Visual and view impacts |
| Douglas Partners | • Contamination<br>• Geotechnical conditions<br>• Groundwater |
| Jacobs | Biodiversity |

| Consultant | Area |
|---|---|
| LCI | • Sustainability<br>• Infrastructure |
| Aurecon | • Stormwater and flooding<br>• Structural design |
| Lendlease | • Life cycle<br>• Construction management |
| Intelligent Risks | Security |
| SCSG Trust | Event management |
| Foresight Environmental | Operational waste |
| Senversa | Contamination (site auditor) |
| Rygate Surveyors | Survey |
| Before Compliance | DDA compliance |
| Steve Watson & Partners | BCA compliance |
| Norman Disney & Young | Fire engineering compliance |
| Stowe | • Lighting<br>• Emergency power |
| Prism Facades | Reflectivity |
| Tree IQ | Arboricultural impacts |
| Wilkinson Murray | Air quality |

# 2.0 Site analysis

## 2.1 Site location and context

The Sydney Football Stadium is located at 40-44 Driver Avenue, Moore Park within the City of Sydney Local Government Area (LGA). The site is located on the eastern edge of the city, approximately 3km from the Sydney CBD, and forms part of a larger entertainment and recreation precinct shared with Centennial and Moore Parks, Fox Studios, and the Entertainment Quarter. It is located in the northern corner of the precinct and is bounded by Moore Park Road to the north, Paddington Lane to the east, the existing Sydney Cricket Ground stadium to the south and Driver Avenue to the west. The site is located immediately to the south of the suburb of Paddington, with the suburbs of Centennial Park to the east and Surry Hills to the west.

The site is connected to Sydney's transport network through existing bus routes and train stations, and will benefit from a dedicated stop on the soon to be completed Sydney CBD and South East Light Rail.

The site's locational context is shown at **Figure 6** below.


**Figure 6 Location Plan**

*Source: COX Architecture*

## 2.2 Site description and ownership

The site is legally described as Part Lots 1528 and 1530 in Deposited Plan 752011 and Lot 1 in Deposited Plan 205794. The site is Crown Land, with the Sydney Cricket Ground and the Sydney Sports Ground Trust designated as the sole trustee under the *Sydney Cricket and Sports Ground Act 1978*.

The site to which the SSD DA relates is as follows:

- Sydney Football Stadium, including forecourts and Paddington Lane vehicular access.

- Ancillary buildings including the Sheridan Centre, Roosters Building, Waratahs Building, Cricket NSW Administration Building and Indoor Wickets.
- Moore Park 1 (MP1) Car Park – included within site boundary to allow for temporary use of this area for demolition staging and construction compound.

**Figure 7** illustrates the site boundary for the Development Application.

The site boundary does not include the Rugby Australia Building (UTS), the National Rugby League Central building, the Sydney Cricket Ground or the Outdoor Practice Wickets, which are not subject to this application. This Stage 2 SSD DA also excludes the outdoor tennis courts from the site boundary consistent with the approved modification application as discussed in **Section 1.4**.

The site has an area of approximately 8.7 hectares including the MP1 car park, and an approximately 270m long frontage to Moore Park Road (plus 100m for MP1) and an approximately 100m frontage to Driver Avenue (plus 170m for MP1). A Site Survey Plan has been prepared by Rygate Surveyors and is located at **Appendix D.**


1. Allianz stadium
2. Sheridan Centre
3. Sydney Roosters
4. Cricket NSW
5. MP1 Carpark

**Figure 7 Aerial photo of the site including site boundaries and former stadium (January 2018)**

*Source: SJB*

### 2.2.1 Existing development

Stage 1 of the planning process enabled demolition works to commence on the site for the stadium and associated buildings and public domain areas. These works commenced in late-2018 meaning existing development on the site is in the process of being demolished to facilitate the delivery of the proposed stadium and associated site improvements discussed in **Section 4**.

Those areas being demolished comprise:

- the Sydney Football Stadium (also previously known as Allianz Stadium);
- the Sheridan Centre;
- the SFS Forecourt that includes the headquarters for the Sydney Roosters and Waratahs and the stadium store;
- the Cricket NSW Headquarters, venue services building, and the indoor wickets; and
- the members' car park (also known as Moore Park Carpark 1 or MP1).

The National Rugby League Central building (NRL Building) (**Figure 8**) and the Australian Rugby Development Centre (ARDC) (**Figure 9**) buildings are to be retained and do not form part of the redevelopment site. Whist forming part of the context of the site, the Sydney Cricket Ground, Moore Park and Fox Studios/Entertainment Quarter are also not subject to this application.

**Figure 8 National Rugby League Central Building being retained, as viewed from the MP1 car park (May 2018)**

**Figure 9 The Australian Rugby Development Centre (UTS) being retained, as viewed from the MP1 car park (May 2018)**

**Sydney Football Stadium**

Design

The Sydney Football Stadium (also previously known as Allianz Stadium) was opened on 24 January 1988, during Australia's Bicentennial. It was designed by Philip Cox Richardson Taylor and Partners Pty Ltd and underwent a number of alterations over the years including minor renovations in 2006. In 2018, the stadium and associated improvements were approved for demolition which has commenced on the site.

The key features of the former stadium are as follows:

- The stadium had capacity for up to 45,000 patrons surrounding a rectangular field. Spectators were divided into the members area comprising the upper levels of the western stand, and all other areas were split between general public and corporate ticket holders. A total of 28 seats were available for persons in wheelchairs (0.06% of total seats).
- The stadium was designed with a wave-like roof structure that shielded approximately 55% of the available seating from the 'drip line', which meant the lower bowl remained uncovered and the back of the tiers were exposed through openings in the roof line. This made it the lowest level of weather protection of any Tier 1 stadium in Australia.
- Access to the stadium and surrounds were controlled via fences, with entry/exit to the site made available from two locations; off Driver Avenue and Moore Park Road. The Moore Park Road entry was only accessible via

stairs, to manage the 12m change in level between the road and stadium that was created when the seating bowl was sunk into the ground to reduce bulk and scale. Entry to the stadium perimeter was closed off and limited to authorised personnel outside of event times.

- Circulation within the stadium was via a relatively narrow, non-continuous ring at the main concourse level.
- Food and beverage kiosks were available, however, due to spatial constraints there was very limited opportunity for food preparation, restricting the nature and quality of food offerings. Corporate facilities were available in the form of private suites that were in undercover balcony seating areas with private catering and beverage options.
- It accommodated only 2 change rooms, limiting the ability of the stadium to host double-headers or development events (e.g. W-League and A-League double-headers, reserve and junior grade games).
- Only 48 women's toilets were made available within the stadium.
- Servicing was accommodated in back of house areas with only a single goods lift for the entire stadium, with no basement loading area to provide for separation of loading activities from public/operational spaces. The movement of goods, staff and waste around the venue routinely leads to a cross-over between operations and patrons, including the movement of waste and goods through internal patron circulation spaces during events.
- Large scale LED screens are located at the northern and southern ends of the stadium.

The key features of the stadium were reflective of the time in which it was designed and constructed. It was conceived when sport was largely amateur in Australia and there was no Super Rugby, A-League and women's competitions or special events like the Sydney Sevens and US College Football. This period in both sport and architectural design influenced the design and operation of SFS, which did not hold up to contemporary standards in accessibility, women's sports and facilities, corporate facilities, modern media requirements, access or evacuation.

Programming

When operational, the SFS hosted Australia's international teams such as the Kangaroos, the Wallabies and the Socceroos, with the longer term and more permanent tenants being the Sydney Roosters (since 1988), the NSW Waratahs (since 1996) and Sydney FC (since 2005). The stadium also regularly hosted other sporting events such as the International Rugby 7's tournament and occasional live music concerts. The range of events typically hosted at the SFS during the year comprised:

- NRL season games and finals
- Rugby league: international games
- Super Rugby: Waratahs season games and finals
- Rugby union: international games
- Rugby Sevens tournament (multi-day)
- A-League: Sydney FC season games and finals
- Asian Champions League games
- Football: international games
- Concerts: maximum of six per annum
- Others sporting events: US College Football, AFL X

Crowds at each event varied significantly depending on a range of factors including the type of event, participating teams, popularity, day of the week, time of day, weather conditions and timing of other competing entertainment events, amongst others. Typical average and maximum crowds for key regular events were as follows:

- Rugby League (2017): Average = 15,524; Maximum = 40,864
- Rugby Union (2017): Average = 18,876; Maximum = 35,925
- Football (2017): Average = 17,364; Maximum = 41,546
- Concerts: Ranging from 30,000 to 50,000

Staffing levels at the existing stadium also varied based upon the type of event and scale of anticipated attendance. Staff at a typical event included customer service, crowd safety, catering and on-site contractor personnel. Typical staffing levels for events held at the SFS were as follows:

- Up to 15,000 patrons: 600 staff
- 15,000- 30,000 patrons: 830 staff
- 30,000- 45,000 patrons: 1,200 staff
- Concerts: 1,200 staff
- No event: 120 staff

A photograph of the stadium is included at **Figure 10** below.


**Figure 10 Aerial of the former Sydney Football Stadium (2018)**

*Source: Sydney FC*

### Moore Park Car Park 1 (MP1)

Moore Park Car Park 1 (MP1) is the only permanent publicly accessible car park on the site and is located to the north west of the stadium. The car park is presently being used as a compound for on-site waste processing, stockpiling, loading and deliveries, materials and storage handling, site sheds and other demolition/construction management activities associated with the demolition and construction of the stadium. Prior to this, the car park accommodated approximately 600 spaces for use by employees of the Trust and patrons of the members-only Stadium Club. The MP1 Car Park will be reinstated upon completion of the demolition and construction works as part of this proposal (refer to **Section 4**).

### Ancillary buildings

Several of the existing buildings and facilities for the tenants and venue members of the SCG and SFS are also in the process of being demolished to enable the delivery of the new proposed stadium. These buildings comprise:

- the Sheridan Building that is located at the corner of Moore Park Road and Driver Avenue, and included medical facilities and offices for the Sydney Swans and Sydney FC;
- the SFS Forecourt that fronts Driver Avenue, to the south of the Sheridan Building, and includes the headquarters for the Sydney Roosters and Waratahs and the stadium store;

- the Cricket NSW Headquarters, venue services building, and the indoor wickets that front driver avenue and the entry plaza to the SFS; and
- the Stadium Club that is located just south of the stadium and comprises a gym, 25m outdoor pool, four synthetic tennis courts, two squash courts, large group exercise studio, spa, sauna, steam room, crèche, two massage rooms and a café. It for exclusive use of the members of the SFS.

### 2.2.2 Access

Being located on the periphery of the Sydney CBD, the site and surrounding precinct is highly accessible through a range of transport modes as illustrated at **Figure 11** and discussed below.

#### Light rail

The Precinct will benefit from ongoing improvements in Sydney's light rail network. Specifically, the CBD and South East Light Rail is a new light rail line for Sydney, currently under construction. The 12km route will feature 19 stops, extending from Circular Quay, along George Street to Central Station, through Surry Hills to Moore Park, and then to Kensington and Kingsford via Anzac Parade and Randwick via Alison Road and High Street. The site will be serviced by a dedicated light rail stop, with services expected to commence in late-2019, prior to the opening of the stadium.

For special events (e.g. large concurrent events at the SCG and SFS with crowds totalling over 45,000), the light rail will have the capacity to transport approximately 14,000 passengers per hour to and from Moore Park. Improvements to the public domain within the stadium precinct and upgrades to wayfinding will enhance the connection between the Light Rail Stop and the redeveloped stadium. This includes a new 6m wide pathway within Moore Park that is being constructed as part of the Sydney Light Rail and will connect the light rail stop, Tibby Cotter Bridge and Driver Avenue.

#### Pedestrian

The site benefits from an extensive pedestrian network connecting the stadium to the surrounding localities. The terrain surrounding the stadium is relatively flat, with the exception of the approach from Central Station to SFS that is characterised by a steep incline along Foveaux Street and within Paddington to the north which slopes up to the ridgeline at Oxford Street. The main pedestrian thoroughfares comprise Foveaux Street and Fitzroy Street (1.5km travel distance), Cooper Street and Arthur Street (1.8km travel distance), Devonshire Street and Cleveland Street (2.4km travel distance). The highest volume of pedestrians is observed along Foveaux Street and Fitzroy Street, which is lined with bars and restaurants, but it is expected that Devonshire Street will be heavily utilised once the construction of the light rail is complete.

New pedestrian pathways to the site are being provided within Moore Park as part of the Sydney Light Rail project to connect Driver Avenue with the new Moore Park light rail stop, and in Moore Park West that links to the Tibby Cotter Bridge.

#### Heavy Rail

Central Station is located 1.8km to the west of the site and is accessible via major walking routes along Foveaux Street, Devonshire Street and Cleveland Street, and Kings Cross Station is located 2.2km north of the site and is accessible by Greens Road, Oxford Street and Victoria Street. No additional services are provided on event days, however, all lines are able to access Central Station including the airport line and intercity lines. Upgrades to Central Station and the Light Rail interchange will provide public domain improvements and wayfinding that will assist in access to the stadium.

#### Buses

Event buses run from Central Station and carry people directly into the Moore Park precinct, using the event bus loop located to the west of the SFS. The CPMP Trust recently delivered a new bus interchange in Moore Park, which improved the existing interchange alongside Tramway Oval. Anzac Parade, Moore Park Road and Oxford Street are also major bus routes, with a number of stops available in proximity of the site. Buses along Anzac Parade benefit from a bus only road that bypasses peak hour traffic.

### Bicycle Access and Parking

The site is located within an extensive local and regional bicycle network. This includes off-road shared paths along Anzac Parade, Lang Road, Cleveland Street and Fitzroy Street, and an on-road dedicated bicycle lane on Moore Park Road and Greens Road. City of Sydney Council are also planning a new two-way separated cycleway along the complete length of Moore Park Road, connecting to the cycleway on Bourke Street in Surry Hills. These pathways ensure that safe and direct cycle routes are available in every direction to the site. Bicycle parking rails are available in close proximity of the stadium and close to the SFS entries.

### Vehicle access and parking

SFS is located at the junction of significant state and regional roads, which are used to access the major on-site car parks and vehicle drop-off points. Anzac Parade is the key north/south road and is three lanes in each direction and provides access to the Eastern Distributor tunnel as well as other key destinations. Moore Park Road is the key east/west road and is two lanes in each direction and also provides access to the northbound lanes of the Eastern Distributor. The other vehicular routes are Lang Road and Driver Avenue, which provide access to the four car parking areas within the Precinct. These parking areas are generally located to the west and south of the stadium and are shared with the Entertainment Quarter and SCG, providing in the order of 4,700 parking spaces. An additional 750 parking spaces are available in the Sydney Girls and Sydney Boys High School Grounds, which are made available during key events.

### Taxis and rideshare

Set down areas for taxis are provided on the eastern side of Driver Avenue for pre-event drop-offs. These areas are not available after events when Driver Avenue is typically closed during and after events to improve pedestrian safety and assist in clearing the car parks. The only dedicated post event private vehicle pick-up area is on Errol Flynn Avenue adjacent to the Entertainment Quarter. There is no dedicated rideshare area and as such drop off and pick ups usually occur informally in the surrounding road network.

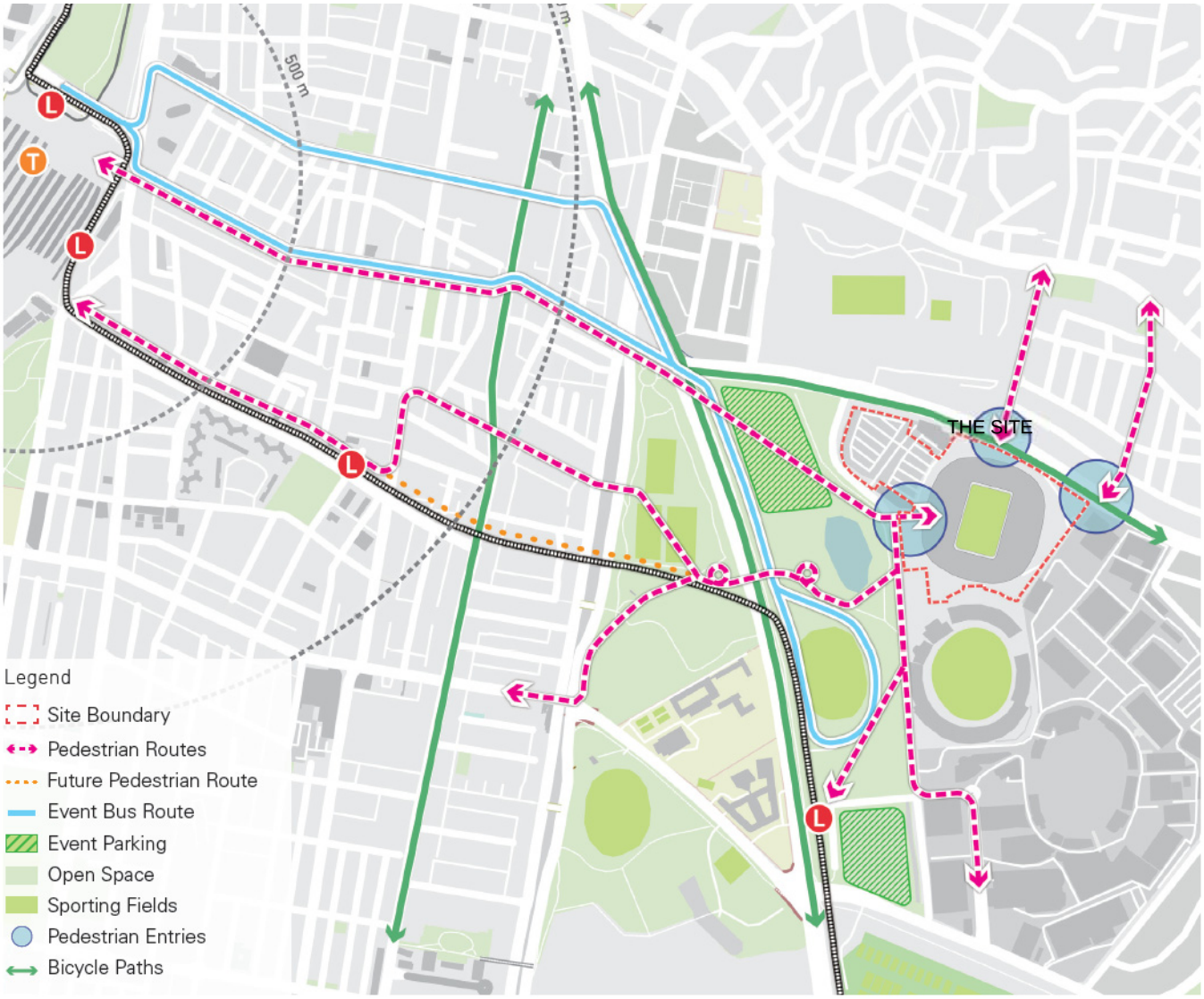



**Figure 11 Access and movement diagram**

*Source: SJB*

### 2.2.3 Vegetation

The site benefits from a parkland setting created by Moore Park and Centennial Park, but does not itself encompass significant areas of landscaping. Existing trees on the site have been planted in rows along road reserves or surrounding car parking areas and pedestrian circulation areas, or in clusters at key site entries or clearings.

As part of the Stage 1 DA, the trees on the site were assessed and key trees were identified for removal or protection, with all other trees and vegetation to be removed as part of the approved demolition works. Those trees retained under the Stage 1 DA are as follows:

- Tree 125 – Moreton Bay Fig near Moore Park Road and Sheridan Building (see **Figure 12**). This tree is classified as an outstanding tree and is considered to have individual significance as an important component of the precinct. The tree is listed on the City of Sydney Register of Significant Trees.
- Trees 231-238 – Cluster of trees, including Weeping Hill Fig, near the Moore Park Road gates and Paddington Lane;
- Trees immediately to the south of the SCG outdoor practice wickets and the rear of the Members' Stand, and all other trees within the SCG located outside of the site boundary; and
- Existing street trees along Moore Park Road and Driver Avenue.

**Figure 12 Moreton Bay Fig tree fronting Moore Park Road, to be protected (Tree 125) (May 2018)**

### 2.2.4 Heritage context

The former SFS was not identified as a statutory heritage item and is in the process of being demolished, however, the site is located within the Sydney Cricket Ground Conservation Area and is located in close proximity to a number of heritage items of varying levels of significance. Of particular note are the following:

- **Busby's Bore** – this is a State Heritage Item (00568) and is listed on Sydney Water's Section 170 Heritage and Conservation Register. It is significant for being Sydney's sole fresh water source in the early 1800's, and afterwards was used to flush creeks and ponds in the Botanic Gardens. It comprises of a tunnel that is cut into the sandstone bedrock and is some 3.6km long, and is not visible or accessible. It runs beneath the northern portion of the site, along Moore Park Road, and also branches to beneath the MP1 car park. **Figure 13** below shows the current believed alignment of the bore and shafts.
- **Sydney Cricket Ground Members Stand** – this is a State Heritage Item (SHR 00353) and is located immediately to the south of the site. It is the surviving feature of the original cricket grounds, and was constructed in the 1900's. It is subject to a permanent heritage conservation order.
- **Moore Park Heritage Conservation Area** – the area comprises Moore Park and Sydney Boys and Sydney Girls High School, and is of local significance for being part of the Sydney Common that was reserved by Governor Macquarie in 1811 and for having evolved over time from being essentially grazing land to a public park with passive and active recreation. Moore Park, Centennial Park and Queens Park are also heritage items of State significance (01384).
- **Sydney Cricket Ground Heritage Conservation Area** – the Sydney Cricket Ground is of local significance for being part of the Sydney Common and for being an original link to the game of cricket that is a cornerstone of Sydney's sporting history. This conservation area includes the SFS.
- **Victoria Barracks** – this is a Commonwealth Heritage Item that is located to the north west of the site and is significant for being one of the few surviving sites connected with the British military presence in Australia. It is also the focus of a heritage conservation area under the Sydney LEP.

The site is also influenced by a number of surrounding heritage items and conservation areas, which are detailed in **Table 4**.

**Table 4 Key heritage items**

| Heritage Item | Commonwealth Heritage List | State Heritage Register | Sydney LEP Listing |
|---|---|---|---|
| **Moore Park Conservation Area** | - | - | C36 |
| **Moore Park Showground** | - | - | (SEPP 47) |
| **Sydney Cricket Ground Conservation Area** | - | - | C37 |
| **Busby's Bore** \| Centennial Park to College Street | - | 00568 (No.5045164) | I1 |
| **Sydney Cricket Ground Members Stand and Lady Members Stand** \| Driver Avenue | - | 00353 (No.5045563) | - |
| **Centennial, Moore, and Queens Park** | - | 01384 (No.5045397) | - |
| **Victoria Barracks** \| 75 Oxford Street | Listed (Victoria Barracks Precinct) | - | I1086 |
| **Paddington South Conservation Area** | - | - | C48 |
| **Victoria Barracks Conservation Area** | - | - | C49 |
| **Terrace House 'Verulam'** \| 284 Moore Park Road | - | - | I1078 |
| **Olympic Hotel** \| 308 Moore Park Road | - | - | I1079 |
| **Sydney Boys High School** \| 556-560 Cleveland Street | - | - | I958 |
| **Sydney Girls High School** \| 556-560 Cleveland Street | - | - | I959 |


**Figure 13 Approximate location of Busby's Bore and shafts in relation to the site (aerial from December 2018)**

*Source: Curio Projects*

### 2.2.5 Soil, geotechnical and groundwater conditions

#### Soil and geotechnical conditions

The Sydney 1:100,000 scale geological series sheet indicates the site is underlain by Holocene aged marine sands, with Triassic aged Hawkesbury Sandstone to the north and east of the site. The Holocene sands are typically underlain by Pleistocene sand deposits (commonly known as 'Botany Sands') to a depth of 10 to 30 m below ground, over the Pleistocene aged clay beds units. The Great Sydney Dyke that runs between Waverly and Rozelle has not been recorded within the site, but is located in proximity of the site. The site's geotechnical conditions are detailed further at **Appendix II**.

#### Groundwater

Groundwater levels vary across the site. It has been measured at RL 40.9m in the north eastern corner of the site, close to the bedrock surface, and drops to RL 34m and RL 33m in the south eastern and south western corners, respectively (refer to **Figure 14**). The groundwater is associated with two aquifers beneath the site, being the Botany Sands Aquifer and the Hawksbury Sandstone Aquifer, with the site primarily interacting with the Botany Sands Aquifer. This aquifer is a considerable groundwater resource that runs between Paddington and Botany Bay and is locally recharged by rainfall infiltration in the large surrounding open space areas of Centennial and Moore Park.

It is noted that SCSG Trust is licensed to use 20 ML per year of bore water extracted from the Botany Sands aquifer for playing field irrigation across the SFS and SCG.

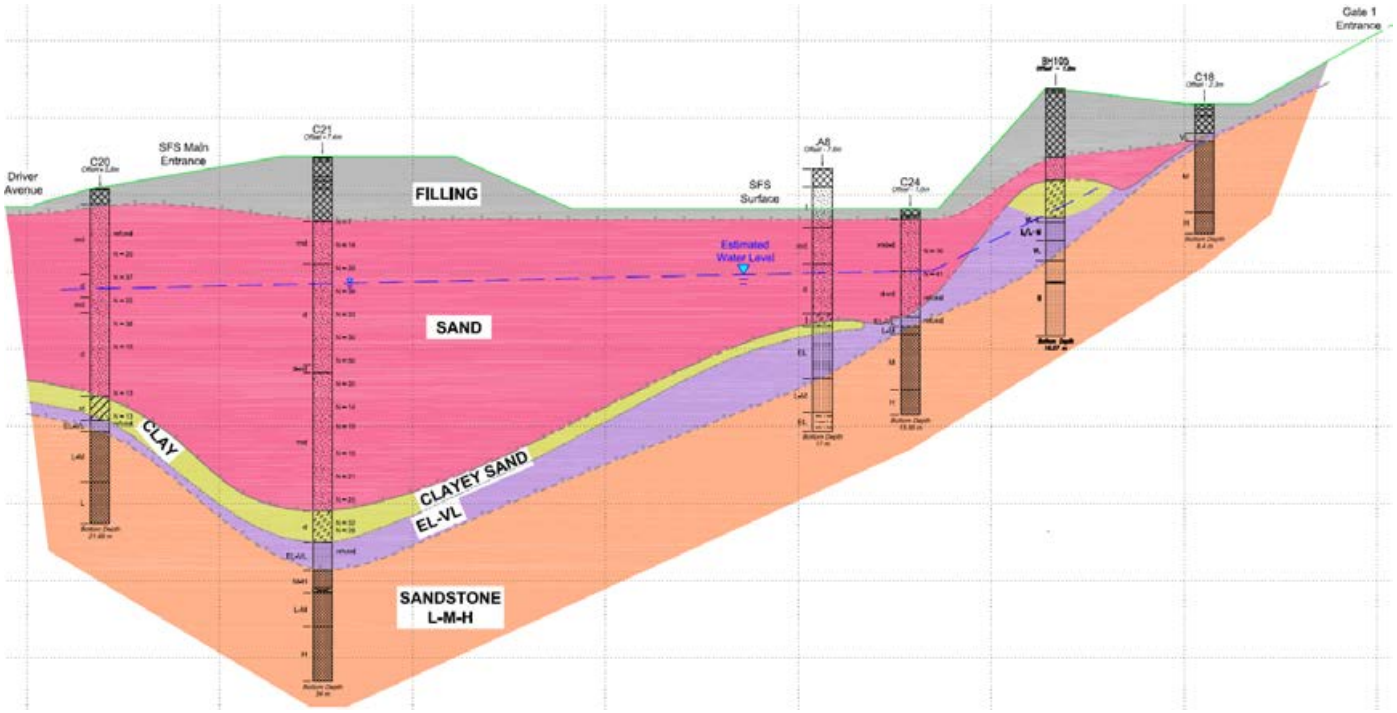



**Figure 14 Illustration of soil conditions on the site and groundwater beneath the proposed stadium**

*Source: Douglas Partners*

#### Acidic and saline soils

The NSW Office of Environment and Heritage Acid Sulfate Soil Risk Map does not identify the site as being at risk of acid sulfate soils, or for these soils as being in vicinity of the site. The site is also not mapped as being at risk of soil salinity, and the data acquired from bores demonstrates that salinity levels are indicative of 'fresh' water quality.

### 2.2.6 Flooding

Aurecon has prepared a Stormwater Management Plan (**Appendix P**), which confirms that the site is located within the Centennial Park catchment area and is subject to flooding, as a function of its position on an overland flow path for surface water flowing from Moore Park Road to the north and Driver Avenue to the South West. Overland flow typically drains to Kippax Lake and a low point in Driver Avenue adjacent to the SCG, and eventually to Centennial Park. Historical incidences of flooding have been recorded within the SFS and adjoining SCG sites, and modelling indicates that localised flooding occurs in each instance from a 2-year Average Recurrence Interval (ARI) up to a 100-year ARI event with significantly deeper and more widespread flooding occurring during the Probable Maximum Flooding (PMF) event.

### 2.2.7 Rivers, streams, estuaries and wetlands

There are no rivers, streams, wetlands or estuaries within the development footprint, and no important wetlands (in the meaning of SEPP 44 or Ramsar sites) within 1,500m or downstream of the site.

However, Rushcutters Creek is present at the outer northern edge of the 1,500 metre landscape buffer which drains to the harbour at Rushcutters Bay. Kippax Lake is present to the west of Driver Avenue and there are several lakes present within the 1,500 metre buffer in the Centennial Parklands including Busbys Pond, Randwick Pond, and Duck Pond. Refer to **Figure 15** below.

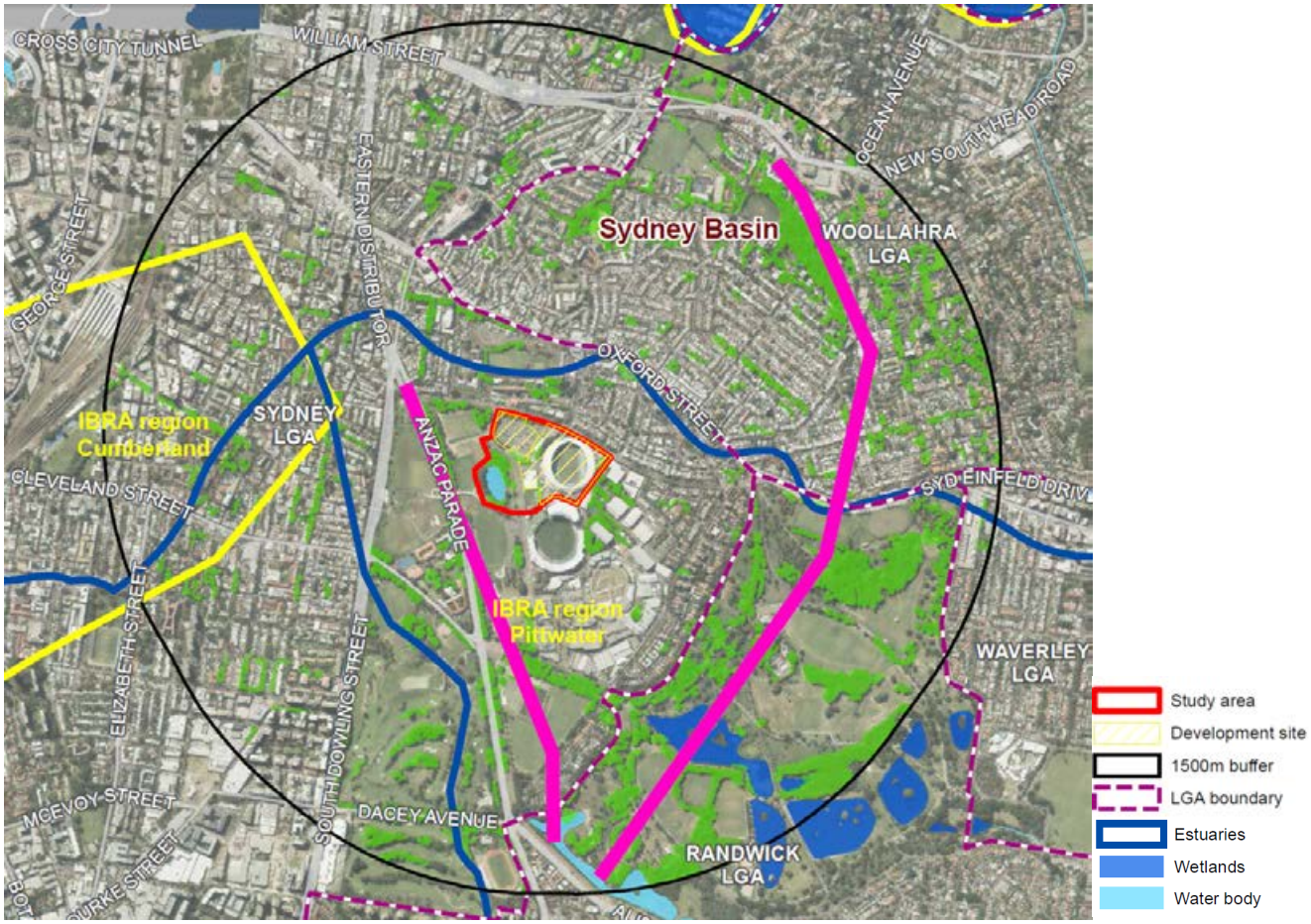



**Figure 15 Estuaries, wetlands and water bodies surrounding the site**

*Source: Jacobs*

### 2.2.8 Infrastructure and services

An Infrastructure Management Plan has been prepared for the site (**Appendix U**) detailing the existing utilities and services within vicinity of the site. The infrastructure identified below has been found to have existing connections to the stadium:

- Electricity – the stadium is currently connected to the Ausgrid Paddington Zone Substation via single 11kV supply, which enters the site from Moore Park Road to the control chamber at the northern end of the stadium containing switchgear, metering equipment and private high voltage switchgear. This supply forms a private ring main within the site and feeds other substations on the site.
- Communications – the stadium is supported by optical fibre cabling, but there is no dedicated telecommunication carrier incoming links. There were also base stations identified on the eastern and western sides of the former SFS roof, but no internal distributed antenna system is provided.
- Gas – gas is supplied to the site by a network of 110mm mains (210 kPa) along Moore Park Road and Driver Avenue, including gas metres also along these frontages, and private gas infrastructure throughout the site.
- Potable water – the existing water infrastructure comprises water mains on Moore Park Road and Driver Avenue, including water metres along these frontages and Paddington Lane, water supply lines to the fire sprinkler booster valves in Paddington Lane and associated with the ARDC building and Rugby League Building, and private water infrastructure throughout the site.
- Sewer – one sewer main traverses the site in an east/west direction towards Driver Avenue, one sewer main is located in the north west corner of the site on Driver Avenue, and there is a private wastewater infrastructure and grease water systems throughout the site.
- Stormwater – Currently the site discharges to both the Driver Avenue and the Fox Studios trunk mains, though the area discharging flow to Fox Studios was reduced following the Noble-Bradman Stand upgrade. The existing main traversing through the site is also proposed to be diverted from beneath the footprint of the stadium as part of MOD 2 (see **Section 1.4**).

## 2.3 Surrounding development

The site is located in an interface area between the larger entertainment and recreation precinct shared with Centennial and Moore Parks, Fox Studios, and the Entertainment Quarter, and the eastern edge of the city that accommodates a mix of residential, commercial and educational uses. It is uniquely characterised by the predominant parkland setting to the south and west, sporting and entertainment uses to the south and east, and surrounding urban and lively mixed uses areas. The relationship between the redeveloped stadium and its surrounds will not significantly change, as it will be constructed on the site of the existing stadium. Notwithstanding, a key driver of this application has been to improve connections to the surrounding area as explored further in this report. **Figure 16** below identifies the key uses that defined the locality of the site.


**Figure 16 Site context map**

### Sydney Cricket Ground – to the South

The Sydney Cricket Ground (SCG) borders the site to the south and is a significant representation of sporting and cricket in Sydney. The complex comprises mix of stands, buildings, and paved and landscaped spaces, recognising that this space has been continually used and changed since the first matches were played in the 1850's. The key features include the heritage-listed Members and Ladies Members Stand (refer to **Section 3.2.4** above) and the Walk of Honour which extends from the SFS entry through to the members gates.

The stadium itself seats 50,000 spectators around an oval field that is used for cricket, AFL, rugby league and rugby union matches, recognising that this field was the major rugby venue prior to the opening of the SFS, as well as live music and entertainment. Recent works have occurred on site to redevelop the Noble and Bradman Stand and the Messenger Stand, which includes one of the largest video screens in Australia. These works have increased the capacity of the stadium as well as various other improvements.

Outdoor spaces available onsite are predominantly for use by members on event days and are unavailable to other ticket holders. The stadium offers no outward facing active uses, or soft landscaping to Driver Avenue, and is closed from public access outside of events, except for those with membership to the Stadium Club.

**Figure 17 Sydney Cricket Ground**

*Source: COX Architecture*

**Figure 18 SCG Members Stand and Lady Members Stand**

*Source: NSW Office of Environment and Heritage*

### Entertainment Quarter – to the South

Further to the south and east of the Sydney Cricket Ground is the Entertainment Quarter. It incorporates a range of both contemporary and heritage buildings that are bordered by high brick walls, isolating the Quarter in areas from its surrounds. The Quarter includes a range of venue such as the Hordern Pavilion, Royal Hall of Industries, Show Ring and Comedy Store that are important spaces for hosting events in Sydney. The Entertainment Quarter also features one of the only permeant car parks in the area, being a multi-storey car park accessed off Errol Flynn Boulevard and Park Road with capacity for some 2,000 cars.

Further to the south is Centennial Park (the suburb), which comprises apartments and detached dwellings that frame the eastern and southern edges of the Entertainment Quarter and mark the threshold between Moore Park and Centennial Parklands.

### Fox Studios – to the East

Fox Studios border SFS to the east and is separated from SFS by a brick wall that prevents any movement between the sites. Fox Studios have occupied the site since 1998 and feature a collection of buildings that house several sound stages, office space, and workshop and construction spaces that make up one of only three production and filming studios in Australia (the others being located in Melbourne). Primary vehicular access for the studios is from Driver Avenue to the south of the SCG. The studios are adjacent to the Entertainment Quarter (discussed further above) and are managed by the Centennial and Moore Park Trust.

**Figure 19 Brick wall demarcating the boundary with Fox Studios (left) and Paddington Lane**

### Paddington – to the North

To the north of the site is the suburb of Paddington. This suburb comprises largely residential uses with commercial, food and beverage venues concentrated around Oxford Street and Moore Park Road. Development is characterised by predominantly medium density terraces that feature dual frontages to the street and laneways, and contribute to an overall fine grain built form and street structure. The area is also characterised by landscaped streets and a significant topography that rises up towards the stadium, creating local views of the stadium roofline.

Within this area, to the north west of the site between Oxford Street and Moore Park Road, is Victoria Barracks. It comprises a series of sandstone colonial era buildings surrounded by open space and bordered by sandstone walls. The Barracks do not present active frontages or provide pedestrian connections, being an active military base, which effectively creates a barrier to pedestrian and retail access from Oxford Street down to Moore Park and the stadia.

An existing child care centre (Kira Child Care Centre) is located at the corner of Moore Park Road and Oatley Road directly to the north of the site. The centre is surrounded by a tall brick wall, and includes a driveway from Oatley Road which provides access to internal parking and drop-off areas.

### Moore Park – to the West

To the west of the site is Moore Park, which is generally bounded by Driver Avenue, Anzac Parade, South Dowling Street, and Cleveland Street. The park comprises a mix of active and passive recreation opportunities that are controlled by the Centennial and Moore Park Trust. Moore Park is approximately 115 hectares in area and includes the ES Marks Athletics Field, an 18-hole Group One Championship Public Golf Course and Driving Range, tennis courts and netball courts. It has traditionally accommodated more formalised active forms of recreation than Centennial Park further to the south of the site.

### Surry Hills – to the West

To the west of Moore Park, across South Dowling Street and the Eastern Distributor, is the suburb of Surry Hills. This suburb is similar in character to Paddington, comprising large areas of medium density terraces and a fine-grain built form and street structure. The suburb is mixed in land uses, incorporating a range of office and business premises, restaurants, bars and cafes, and is mixed in the scale of development, with density typically increasing closer to Central Station and the CBD. The suburb is bordered by Oxford Street to the north, Moore Park to the east, Cleveland Street to the south, and Central Station and the railway to the west.

## 3.0 Consultation

INSW engaged Ethos Urban to provide communication and stakeholder engagement services for the project. The consultation program included engagement and collaboration with the local community, neighbours, key stakeholders, and government authorities agencies to present an overview of Stage 2 and gather feedback during the preparation of the Stage 2 SSD DA. In undertaking this consultation, full consideration has been given to the SEARs as well as the Stage 1 Conditions of Consent and Mitigation Measures for the project.

The consultation completed prior to the lodgement of this SSD DA is detailed in the Consultation Outcomes Report prepared by Ethos Urban and INSW (**Appendix HH**). It addresses all consultation activities, the key issues discussed, the feedback received, and whether there have been any associated amendments to the proposal.

It identifies the proactive and strategic approach to communications and stakeholder engagement undertaken for this project. In delivering this approach, the transparent and comprehensive engagement was timely, genuine and constructive, broad reaching, and engaging. Each consultation exercise was undertaken in coordination with INSW and the relevant technical experts that have contributing to developing and refining the proposed development.

The overall objectives of the consultation were to:

- facilitate collaboration with all stakeholders and government authorities;
- ensure the audiences are broadly reached;
- minimise opportunity for speculation and misinformation;
- improve stakeholder relationships, particularly with key local resident action groups; and
- promote confidence in the project and decision makers.

**Figure 20** below provides a snapshot of the pre-lodgement activities.


**Figure 20 Pre-lodgement activities**

A variety of engagement tools were used as part of these consultation exercises. These included:

- letterbox drops to 23,000 local residents;
- issuing 31 stakeholder letters;
- placing 2 newspaper advertisements;
- establishing a '1800 number' and email address that were advertised as part of the consultation exercises; and
- providing updates and information on the INSW project page.

Three community information sessions were held for members of the community, residents and business to review the preliminary scheme and comment, and organised meetings were held with 20 key stakeholder groups. The majority of feedback received during these sessions focussed on the following key issues, which have been considered on this subsequent statement:

- the architectural design and height of the new stadium;
- the occurrence of on-grass parking within Moore Park; and
- general parking and traffic issues in surrounding suburbs.

Throughout this process, INSW has endeavoured to keep all stakeholders up to date and aware of developments in the project where appropriate including the local community, government authorities and agencies, the CPMP Trust and SCSG Trust, prior to lodgement of the Stage 2 SSD DA.

INSW has also consulted with all agencies referred to in the SEARs, being:

- City of Sydney, Woollahra, Randwick and Waverley Councils;
- Office of Environment and Heritage;
- Sydney Coordination Office within Transport for NSW;
- Sydney Light Rail;
- Roads and Maritime Services;
- Environment Protection Authority;
- Sydney Water;
- Department of Primary Industries; and
- Centennial Parklands Trust.

The Community Consultative Committee established under the terms of SSD 9249 was also consulted at key points in accordance with the requirements of the Stage 1 DA, and their feedback taken into account and addressed as set out in **Appendix HH**.

Consultation with the Aboriginal community was also completed in accordance with OEH statutory guidelines by Curio Projects, noting that the site is a significant location for the La Perouse Aboriginal community. This consultation is detailed in the Aboriginal Cultural Heritage Assessment Report at **Appendix CC** and included gathering information about the cultural significance of the site, developing strategies to mitigate impacts, and receiving and integrated feedback into the final assessments.

Infrastructure NSW will continue to engage with all stakeholders and the community during the formal public exhibition period.

# 4.0 Description of the development

Pursuant to Section 4.22 of the EP&A Act, this State Significant Development Application seeks consent for the detailed design, construction and operation of the new Sydney Football Stadium at 40-44 Driver Avenue, Moore Park generally in accordance with the approved Concept Proposal (Stage 1 DA). The application seeks approval for the following:

- detailed design, and use construction of a new stadium comprising:
  - up to 45,500 seats (additional 10,000 person capacity in the playing field in concert mode) in four - tiers including general admission areas, members seating and corporate / premium seating;
  - 100% drip-line roof coverage for all seats;
  - pedestrian circulation zones;
  - a mezzanine level with staff and operational areas;
  - a basement level (at the level of the playing pitch within the stadium) accommodating pedestrian and vehicular circulation zones, 50 car parking spaces, facilities for teams and officials, media and broadcasting areas, storage and internal loading areas;
  - a rectangular playing pitch, sports and stadium administration areas;
  - food and drink kiosks, corporate and media facilities; and
  - soft landscaped areas on the roof of the stadium.
- construction and establishment of the public domain within the site, comprising:
  - hard and soft landscaping works;
  - publicly accessible event and operational areas;
  - public art; and
  - provision of pedestrian and cycling facilities.
- extension and augmentation of utilities and infrastructure as required;
- signage zones, wayfinding signage and lighting design within the site;
- reinstatement of the existing Moore Park Carpark 1 (MP1) car park upon completion of construction works with 540 at-grade car parking spaces, and vehicular connection to the new stadium basement level; and
- operation and use of the new stadium and the surrounding areas within the site for a range of sporting and entertainment events.

The following sections set out the details of the proposed works and ongoing operational matters and should be read in conjunction with the supporting documentation accompanying the EIS. In particular, the following are the key reports and plans documenting the design vision for the site.

| | | |
|---|---|---|
| **Appendix B** | Architectural Design Statement + Architectural Plans | COX Architecture |
| **Appendix C** | Landscape and Public Domain Statement + Landscape Plans | Aspect Studios |
| **Appendix I** | Wayfinding and Signage Strategy | Aspect Studios |

## 4.1 Design principles

The design development of the stadium and surrounds has been guided by the Urban Design Guidelines prepared by SJB (September 2018) and approved as part of the Stage 1 DA as the framework for design and to ensure development achieves design excellence. Some of the key design principles underpinning the detailed design and operation of the proposal include:

- Accommodating the functional requirements of a Tier 1 stadium within the loose fit envelope, located and oriented on-site to allow for external circulation and public domain spaces.
- Designing a high-quality stadium that satisfies the complex highly functional requirements of a Tier 1 stadium as well as creating a unique and distinctive destination which responds to its setting amongst Moore Park, Paddington and the SCG.
- Selecting materials that contribute to the distinctive design of the stadium and reinforce the unique destinational characteristics of the Sydney Cricket and Sports Ground.
- Respecting the cultural and heritage significance of the site and surrounds by embedding visible and legible interpretations of the site's rich history into the design of the stadium and public domain.

- Designing the public realm and open space to ground the precinct within its surrounds and ensure it belongs to its context. It should be robust to facilitate a heightened event day experience while providing the public with a tactile, human scale experience. The stadium site should facilitate enhanced access and use of Moore Park and the surrounding areas.
- Providing high quality soft and hard landscape to extend the surrounding suburbs and context into the stadium site.
- Creating an active and dynamic stadium 'front door' along Driver Avenue to enhance the event day experience, transition from Moore Park to the stadium and provide connection to public and active transport nodes and routes.
- Considering all users in the design of access and movement, including event patrons, service providers, those employed on-site and the general public in both event periods and day-to-day.
- Integrating the existing and proposed transport infrastructure and pedestrian paths with surrounding precincts.
- Promoting and supporting active transport uptake through the design and integration of the stadium into its surrounds and provision of infrastructure.
- Designing vehicle access and servicing to fulfil and streamline the operational requirements of the SFS, SCG, and Fox Studios without compromising the quality of public domain spaces.
- Accommodating a variety of permanent active tenants to promote the day to day use of the site. The retail/commercial provision should complement the use of the site and encourage visitors outside of event schedules and will include food and beverage outlets or retail such as the venue merchandise store.
- Reinforcing clear wayfinding and signage that supports, in a clean and legible manner, seamless transition for the public from the surrounds into and with the site.

The proposed Architectural Plans and Design Statement prepared by COX Architecture (**Appendix B**) and landscape plans and Landscape and Public Domain Statement prepared by Aspect Studios (**Appendix C**) provide greater details on how the design response has achieved the comprehensive list of principles and guidelines contained in the Stage 1 DA Urban Design Guidelines.

## 4.2 Off-site works – not subject of this EIS

The detailed design and operation of the stadium has been developed in consideration of the broader context of the site, and specifically how the stadium will fit within and potentially improve this context. As a result, a number of the strategies, plans and technical studies accompanying this EIS detail not only the proposed development works occurring on the site, but also the planned and potential future works that may occur in the surrounding area. This integrated approach enables the stadium to anticipate and positively change it surrounds and enables INSW to complete a comprehensive assessment of the proposed development, ensuring the stadium is not viewed as an isolated facility.

However, it does mean that some works discussed in this EIS and the appended documents are not the subject of this application. These works are occurring outside of the site boundary and are either being undertaken by others, such as City of Sydney Council, Transport for NSW and the Centennial Park and Moore Park Trust, or will be subject to future consultation with other agencies and may be completed via a separate planning process. These external works are highlighted where relevant in the following sections of the development description.

As outlined in the Mitigation Measures at **Section 8.0**, INSW will continue to work with key stakeholders and government agencies responsible for land outside of the SCSG Trust lands to ensure that the design and use of the stadium is coordinated with other key projects (e.g. CBD and South East Light Rail, Moore Park Road separated cycle path) and other agency planning and public domain activities (e.g. Moore Park Master Plan 2040, other City of Sydney strategies).

## 4.3 Numerical overview

The table below provides an overview of the key numerical parameters relating to the proposed development.

**Table 5 Numerical overview**

| Component | Value |
|---|---|
| Capacity | Up to 45,000 seats (plus an additional 10,000 standing during concert-mode) |
| Height | • Maximum RL 85m (38.5m tall) on the eastern and western sides<br>• Maximum RL 69m (22.5m tall) on the northern and southern sides |
| Trees | 7 trees to be removed, and an additional tree to be protected |
| Trees planted | 120 trees |
| Vehicle parking | 590 spaces for staff and stadium club members through the reinstatement of the MP1 carpark and basement |
| Bicycle parking and end of trip | • 150 public bicycle spaces<br>• 75 staff bicycle parking spaces<br>• end of trip facilities for staff |
| Loading spaces | 3 loading bays within the basement, and 3 spaces for outside broadcast vehicles |

## 4.4 Land use - 'Recreation Facility (Major)' and ancillary uses

This application seeks consent for the construction and operation of a new major rectangular sports stadium to replace the former SFS, which is defined as a 'recreation facility (major)'.

The former SFS was not restricted in terms of the nature, frequency or duration of general sporting events. It is important that, as a Tier 1 stadium sited within a long-established major events and sporting precinct, the new stadium is capable of accommodating growth in existing sporting events and patronage as well as facilitating new sporting events or major event opportunities as they arise. Significant effort and resources have been dedicated to ensuring that the operational and event management capacities of the former stadium supports this event profile and minimises environmental impacts to an acceptable level, and it has been designed so that the new stadium will maintain or improve upon these arrangements.

In light of this, it is not proposed to further constrain the ability of the stadium to host sporting events by imposing any further restrictions on the operational profile of events in terms of the number of events or attendance capacity. The existing limit of six (6) concerts/ entertainment events per annum is currently applied under the terms of existing noise restrictions that relate to the site would be retained.

Events are generally a single sporting match, however, a single event can also include back-to-back games held over several hours (e.g. junior and reserve grade games held immediately prior to an NRL match) or double-games (e.g. a W-League and A-League match or two NRL matches played back-to-back). In addition, the Rugby Sevens tournament is a single event which occurs over multiple days. It is proposed that the type of events hosted at the new stadium would include, but would not be limited to, the following:

- NRL – Season games
- NRL – Finals
- Rugby League – International games
- Super Rugby – Waratahs season games
- Rugby Union – International games
- Rugby Sevens (typically a multi-day event)
- A-League – Sydney FC season games
- Football (soccer) – International games
- Exhibition sporting events
- Women's competitions

- Concerts
- AFLX
- Major international tournaments

Any and all events are capable of attracting the maximum occupancy crowd (approximately 45,000 seats, and an additional 10,000 standing for concerts). Whilst most events will typically not reach the maximum capacity, as outlined above it is essential that the ability to accommodate a maximum capacity crowd for all events is provided.

In order to support these events, further ancillary land uses are anticipated for the site including merchandise stores, food and beverage and visitors and member's information. The nature of these uses is subject to the detailed stadium design and operational profile, noting that the detailed tenants of these spaces are not known and as such their detailed design, fit-out and operation will be subject to a separate and future stage, as required. Notwithstanding, space for ancillary uses have been provided in the stadium and public domain as described in the development description in the following sections.

Further description of the proposed stadium operation and usage is provided in **Section 4.9**.

## 4.5 Stadium design

A description of the detailed design of the stadium is discussed below, and the intended operation and use of the stadium and surrounding land is discussed in **Section 4.9** below. The Architectural Design Statement and Plans prepared by COX Architecture which identify the detail of the proposed stadium building accompany this EIS at **Appendix B**. Illustrations of the proposed stadium are included a **Figure 21** to **Figure 23** below.

**Figure 21 The stadium looking towards the Sydney CBD**

*Source: COX Architecture*

**Figure 22 The stadium seating bowl**

*Source: COX Architecture*

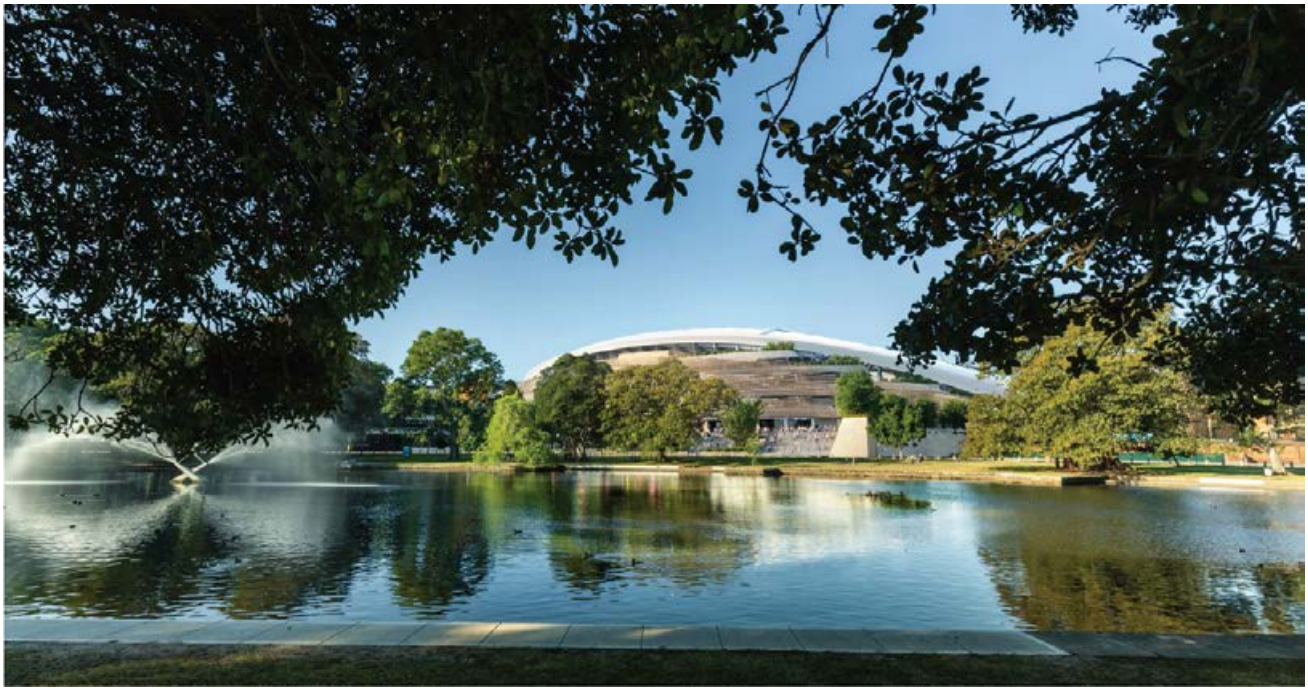


**Figure 23 The stadium as viewed from Moore Park across Kippax Lake**

*Source: COX Architecture*

**Figure 24 The stadium as viewed from Moore Park Road**

*Source: COX Architecture*

The new stadium is intended to deliver a high-quality user and fan experience, commensurate with the intended role of the new stadium as one of only three Tier 1 stadia within NSW. The stadium has five (5) levels of facilities including a mezzanine level and four (4) tiers of seating, providing capacity for approximately 45,000 seats. Seating is configured around a new rectangular playing pitch, with 100% drip-line roof coverage for all seats and a 360-degree pedestrian circulation zone within the stadium structure. A range of seating types have been provided including general admission, active supporter zones, members seating and corporate seating, and wheelchair accessible seats to ensure that the stadium meets the requirements of current and future patrons. In concert mode, additional standing capacity for 10,000 patrons would be provided on the playing field.

A detailed description of the proposed stadium is provided in **Table 6** below.


**Figure 25 Western elevation (to Driver Avenue)**

*Source: COX Architecture*

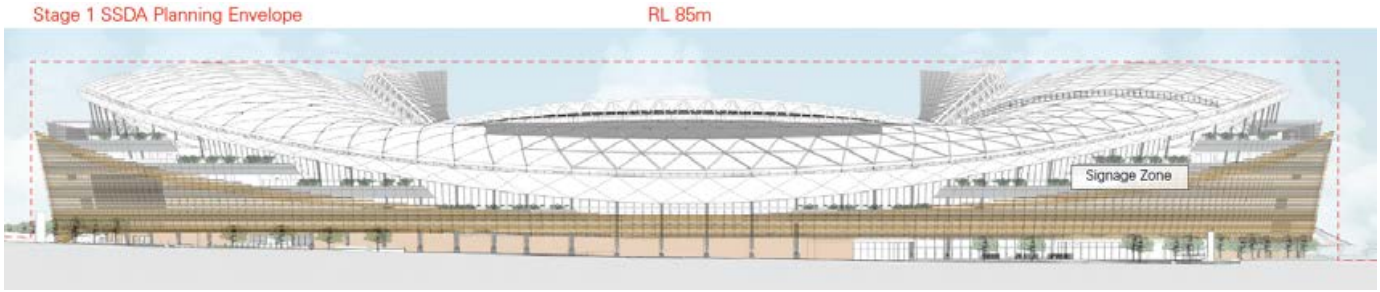



**Figure 26 Northern elevation (Moore Park Road)**

*Source: COX Architecture*

**Table 6 Design description of the proposed stadium**

**Form:**

- The stadium form references the former SFS 'saddle' design with a taller roof form above the eastern and western stands, sweeping down to lower heights at the smaller northern and southern grandstands as illustrated in **Figures 23** and **24**.
- It is five (5) storeys (plus roof) on the eastern and western elevations, and is reduced in height to three (3) storeys (plus roof) on the northern and southern elevations where the stadium interfaces with surrounding residences and the SCG.
- The stadium has a maximum height of RL 85m, and a maximum depth of 39.3m.

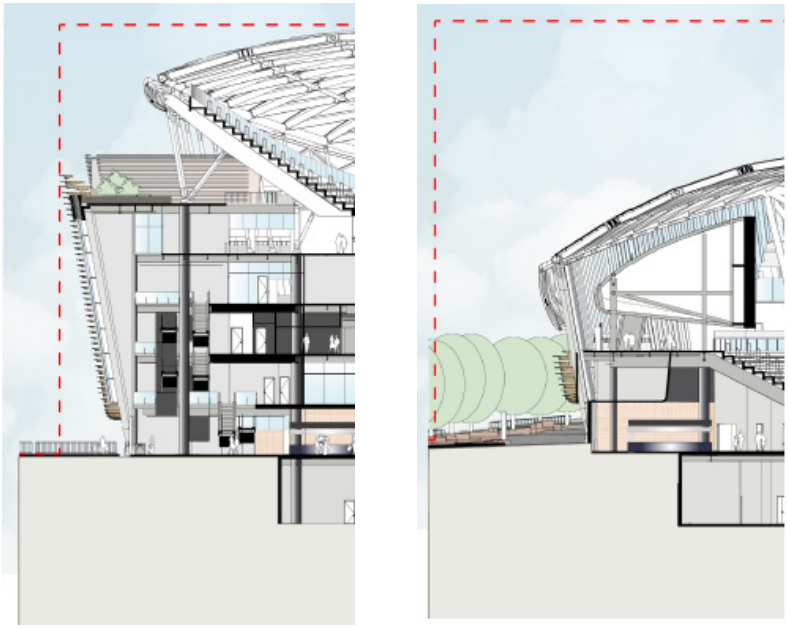


**Figure 27 Sections through the taller eastern side of the stadium (left) and the reduced northern side of the stadium (right)**

*Source: COX Architecture*

**Playing Pitch:**

- The stadium is constructed around a rectangular pitch laid out to meet national and international standards for each of the major rectangular-pitch sporting codes, ensuring that the stadium is capable of hosting the full ambit of national, regional and international sporting events.
- The centreline of the pitch has been orientated to meet the general requirements of the sporting codes surrounding daylight and shadows on playing fields, and improves the address of the stadium to Moore Park Road.

**Figure 28 Alignment of the pitch and stadium**

*Source: Aspect Studios + COX Architecture*

**Basement:**

- A single basement level is provided beneath the stadium, providing 360º vehicular circulation in the form of a ring road to allow for servicing and access.
- The basement accommodates back of house areas, 50 vehicle parking spaces for use by stadium staff, loading areas, spaces for teams and officials, and media and broadcasting areas (refer to the discussion in **Section 4.7** below).

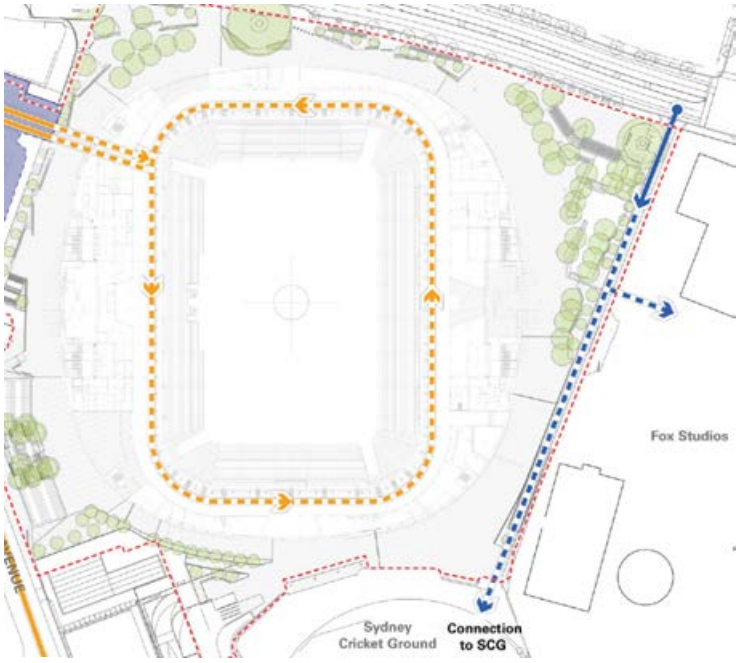



**Figure 29 Basement level and vehicle circulation**
*Source: COX Architecture*

**Concourse and Level 1:**

- The first level of the stadium accommodates the concourse for the General Admission spectator facilities and circulation for seats in the lower seating bowl. The concourse wraps around the entire seating bowl, for uninterrupted 360º circulation.
- The concourse accommodates food and beverage areas fronting the main circulation path, cleaning and waste areas, bathrooms, staff facilities, members facilities, merchandise sales, and services.
- A mezzanine level over the concourse provides staff and operational areas such as meeting rooms, break out spaces, the boardroom, locker areas, bathrooms, services and back of house areas.


**Figure 30 Artist's impression of the stadium concourse**
*Source: COX Architecture*

- Access to the concourse is available from separate entry points to the north, east, and west/south west of the pitch.
- General Admission seating can be accessed from each side of the stadium, whilst members will typically use the western entry, and VIP/Corporate seating will use either the eastern or western entries. The detailed design of these entry points is discussed further in **Section 4.6**.

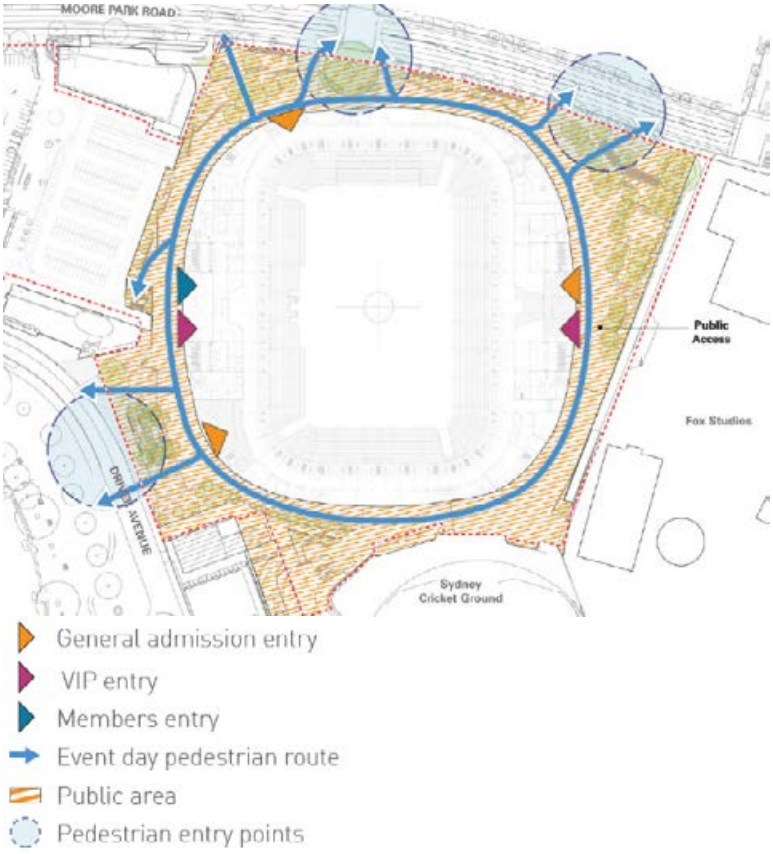



**Figure 31 Access points for the stadium concourse**
*Source: COX Architecture*

**Level 2:**

- Level 2 of the stadium primarily accommodates the members and corporate facilities and provides access to the next tier of the seating bowl.
- This level houses members seating and facilities including a club lounge, corporate boxes, premium lounges and terraces, bathrooms, services and back of house areas.

**Figure 32 Artist's impression of the seating bowl**
*Source: COX Architecture*

**Level 3:**

- Level 3 of the stadium accommodates the media and team facilities and further premium seating areas.
- This level comprises premium viewing suites, media areas for production and broadcasting, the team coaches' boxes and officials' boxes, bathrooms, services and back of house areas.
- The video replay/scoreboards are located at the northern and southern ends of the seating bowl.

**Figure 33 Artist's impression of the seating bowl and video scoreboards**
*Source: COX Architecture*

**Level 4 and outdoor terraces:**

- Level 4 of the stadium accommodates further members and General Admission areas and provides access to the upper tier of the seating bowl, which comprises stands on the eastern and western sides of the stadium only.
- This level houses members seating, General Admission seating, bathrooms, services and back of house areas.
- Outdoor terraces on this level provide landscaped, informal viewing spaces.

**Level 5 and the green roof:**

- Level 5 of the stadium provides a series of landscaped 'green roof' areas that sit beneath the sweeping roof structure. The green roof is a landscaped design feature of the stadium that is visible from the public domain and within the stadium itself.
- Access to the green roof is available for maintenance staff only. It is not a publicly accessible/programmed area.

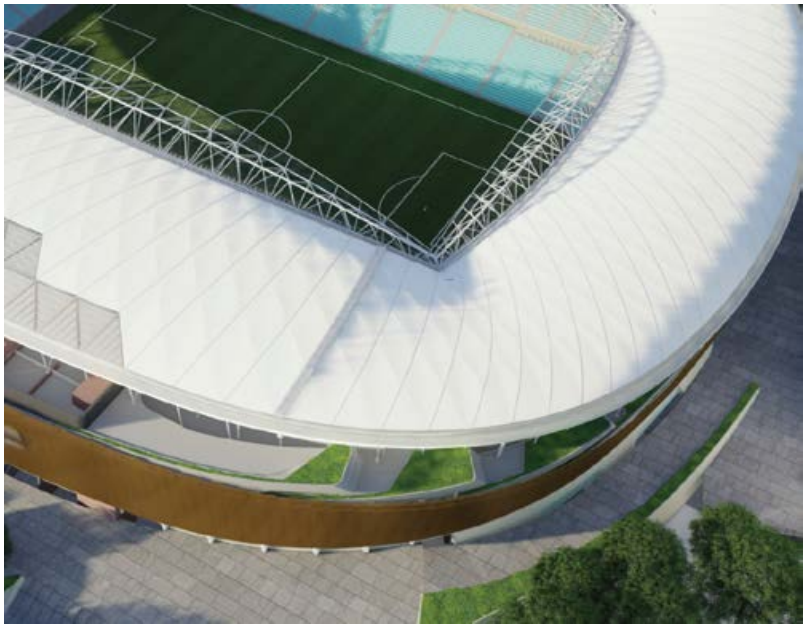


**Figure 34 Outdoor terraces**
*Source: COX Architecture*

**Roof:**

- The roof form is concaved above each wing of the stadium, softening the roofline and reflecting crowd noise back into the stadium. It is setback from the eastern and western stadium facade edges, to reduce scale and massing and expose the outdoor terraces and green roof areas.
- The roof is finished in long strips of polytetrafluoroethylene (PTFE) that drape over steel hoops, creating a series of diamond shapes. More transparent roof materials have been used in the ring around the pitch and on the north part of the roof to enable light to penetrate down to the pitch.
- Photovoltaic cells (solar panels) will be applied to areas of the roof, enabling the stadium to capture enough power to support daytime operations. A zone has been nominated on the plans for where cells can be best integrated with the stadium roof.
- The roof (and seating bowl beneath) is reduced in height at the northern and southern ends of the stadium, referencing the form of the former stadium and reducing the scale of the development as it presents to the streetscape to the north. The stadium roofline sits 1m below that of the former SFS where it interfaces with Moore Park Road.
- The roof provides 100% drip-line coverage to all permanent seating.

**Figure 35 Roof form**
*Source: COX Architecture*

**Facades:**

- The facade has been designed as a 'veil' of bronze coloured aluminium louvres that filter views out the stadium, glass curtain walls, and either sandstone coloured pre-cast concrete or brick walls at the concourse level.

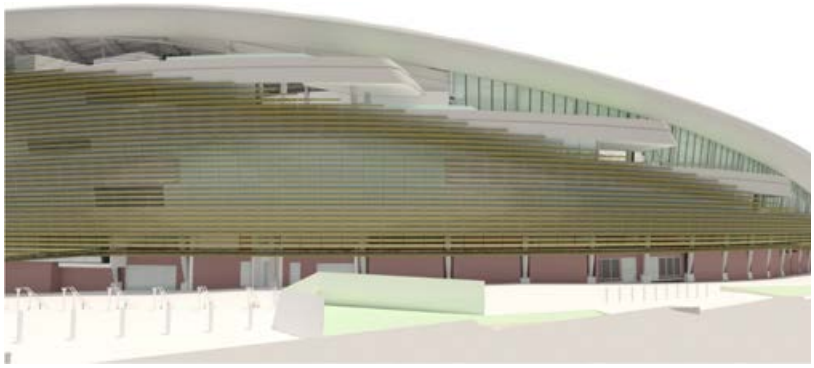


**Figure 36 Stadium facade**
*Source: COX Architecture*

**Accessible facilities:**

- Within the stadium there are various areas of accessible seating which are been distributed across all stadium levels and ticketing types.
- Universal access toilets are also provided in proximity of wheelchair seating and provided in pairs to reduce queuing.
- A changing facility is provided on the public concourse level.

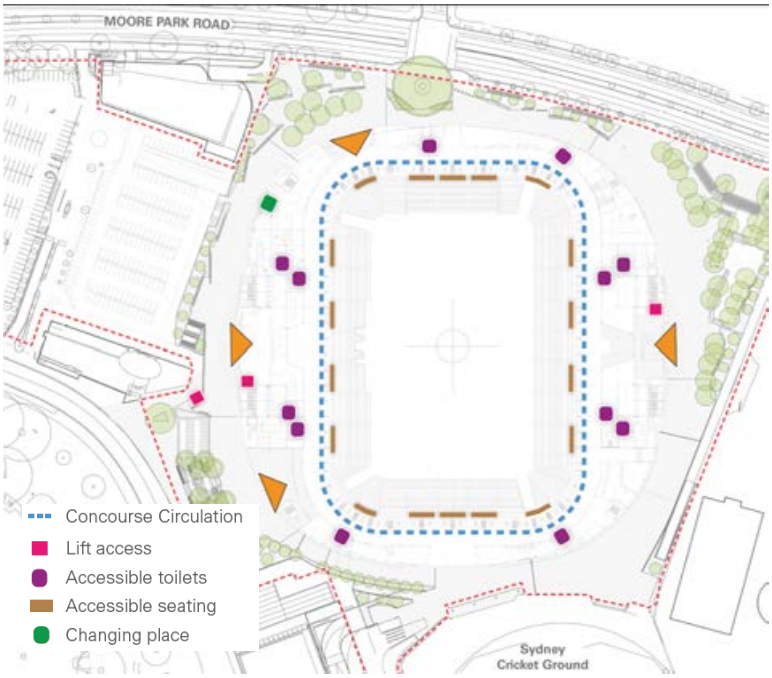



**Figure 37 Accessible seating and facilities**
*Source: COX Architecture*

## Materials and finishes

The materiality of the stadium will contribute to the distinctive design of the stadium and reinforce the context and heritage of its location. It incorporates brick and sandstone-coloured precast concrete walls as a base to the stadium where it interfaces with the public domain, bronze aluminium louvres and glass curtain walls on the stadium facades above, and lightweight roof materials that reduce the visual mass of the stadium volume and create visually interesting diamond patterns on the roof.

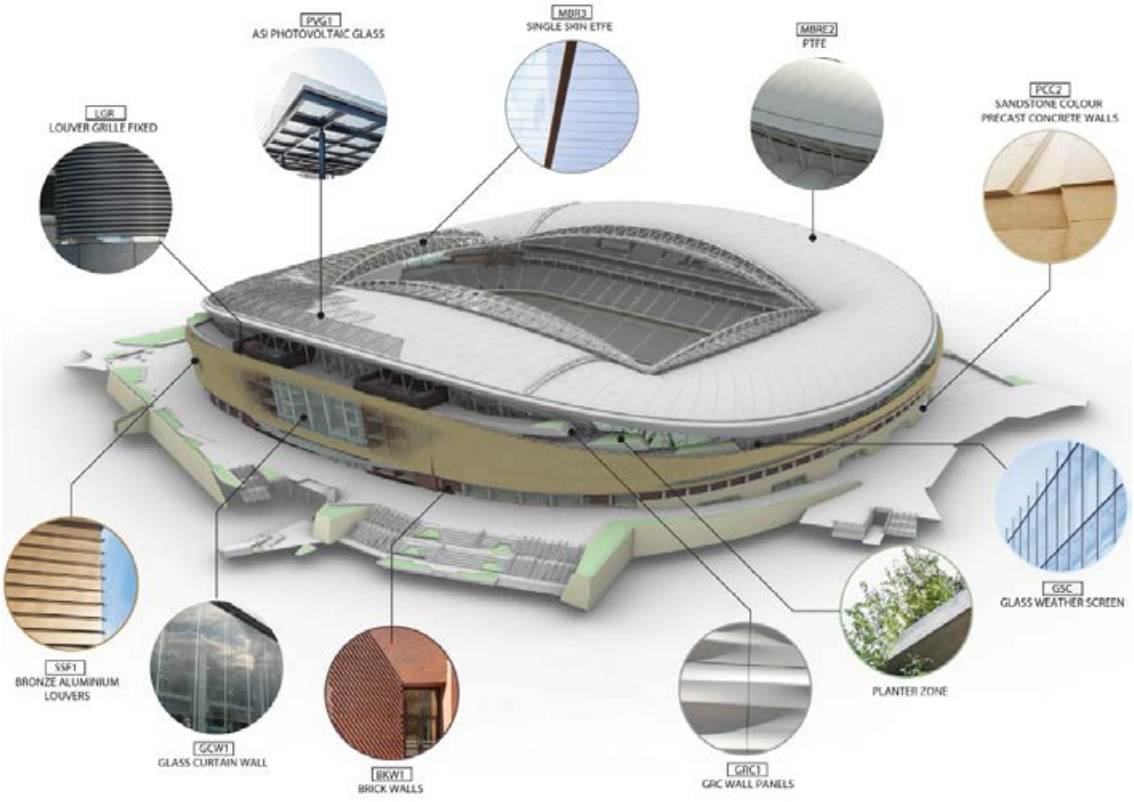



**Figure 38 Materials and finishes of the stadium**
*Source: COX Architecture*

## 4.6 Public domain

The focus of the proposed public realm is to meet the functional requirements for stadium ingress and egress, whilst also seeking to enhance recreational, sporting and cultural opportunities by providing the platform for free activities including informal sports, small-scale play and passive recreation, and potential future locations for pop-up retail and community events (subject to separate approval). A series of passive and active habitable spaces are provided at key points around the stadium. The Landscape and Public Domain Statement and Landscape Plans prepared by Aspect Studios accompany this EIS at **Appendix C**.

### 4.6.1 Design

The public domain functions as new public space connecting Paddington at Moore Park Road in the north through to Driver Avenue and Moore Park in the south, shortcutting the existing circuitous route of Driver Avenue to enable public access and activity throughout the day and year-round (with the exception of a small number of events requiring perimeter enclosure of the stadium). The design approach has been centred on creating three (3) key gathering places, or activity nodes, that align with the main stadium entrances and are connected by a linking concourse as illustrated in **Figure 39** below. A detailed description of the public domain is provided in **Table 7** below.

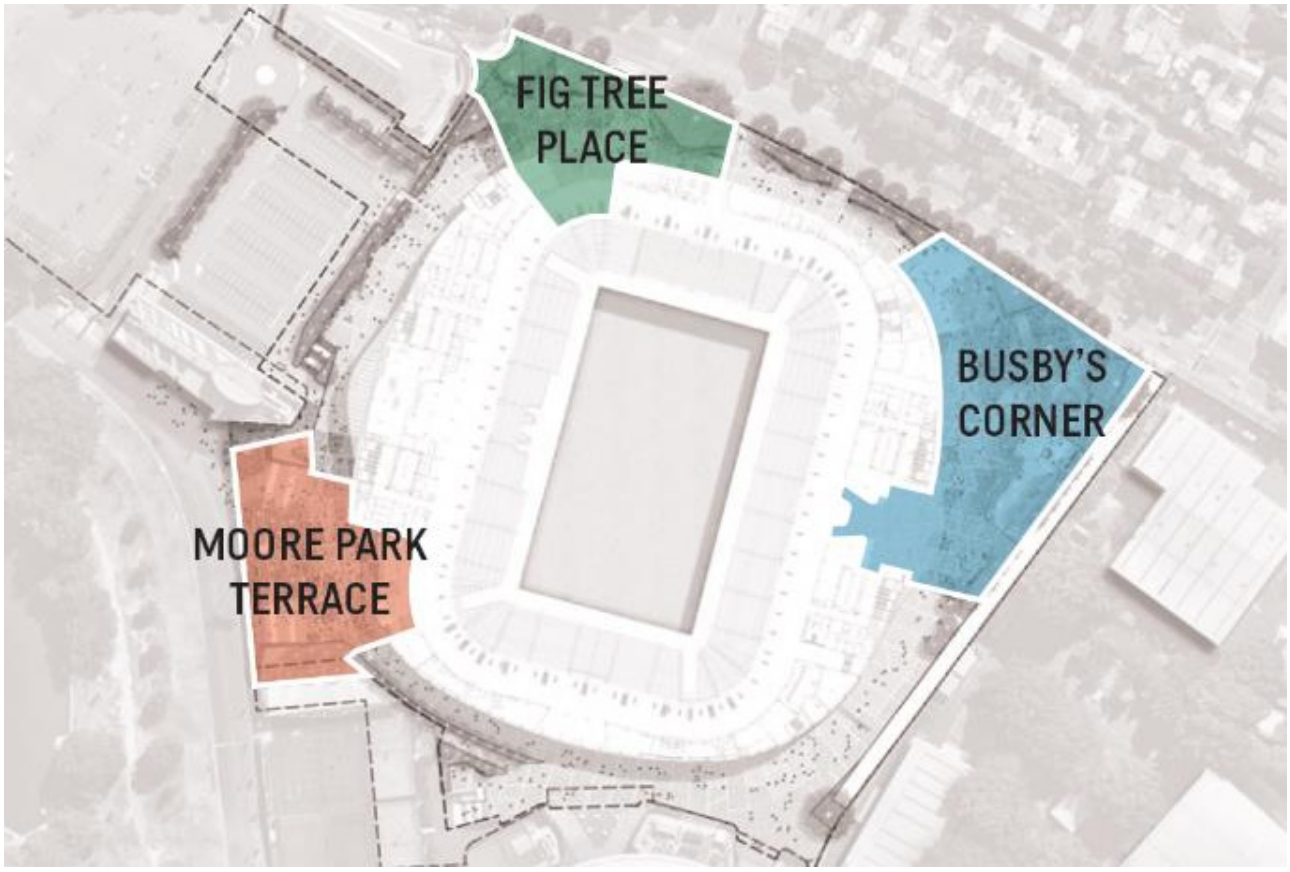



**Figure 39 The key nodes of activity in the public domain, and the circulation space between nodes**

*Source: Aspect Studios*

**Figure 40 Landscape masterplan for the site**

*Source: Aspect Studios*

**Table 7 Design description of the proposed public domain**

| | |
|---|---|
| **Moore Park Terrace:**<br>• Facing onto Driver Avenue and Moore Park, this space marks the primary entrance to the stadium.<br>• The entrance is signified by two (2) grand stairways that align with the lines of pedestrian movement either side of Kippax Lake and along Driver avenue.<br>• By elevating the stadium entry on Driver Avenue, the public domain level is able to tie more seamlessly with the northern site boundary and the Moore Park Road public domain allowing increased permeability and pedestrian movement along this edge.<br>• Two lifts are provided for equitable access.<br>• Trees, ground planting, and terraced seats are provided through the central section of the stairs, which are also trafficable. |  |

**Figure 41 Moore Park Terrace**

*Source: Aspect Studios*

**Fig Tree Place:**

- The north western corner of the site has been designed to explore and celebrate the history and culture of the site.
- It centres around the retained Tree 125 fig and accommodates timber decked seating around the base of the tree, a sculpture garden, new fig trees and other tree and landscape planting throughout.
- This entrance level is designed to be flush with the existing footpath levels on Moore Park Road, providing access without the need for stairs and allowing this space to be readily perceived as a public access space that is an extension of the existing public domain along Moore Park Road.

**Figure 42 Fig Tree Place**

*Source: Aspect Studios*

**Busby's Corner:**

- The north eastern corner of the site has been treated as the primary activity node, creating a new gathering place for the Paddington community and supporting event day activities.
- This entrance is designed to be flush with the existing footpath levels for part of the Moore Park Road frontage, providing access without stairs.
- Stepped, multifunctional play and recreation platforms step along the eastern boundary providing space for fitness equipment and basketball hoops.
- Tree planting and seating walls are also provided throughout.

**Figure 43 Busby's Corner**

*Source: Aspect Studios*

**Seating:**

- Seating is provided throughout the public domain to encourage people to inhabit this space during event and non-event periods.
- This comprises large format custom seating on Moore Park Road, seating walls along planter edges, a raised wall and deck around Tree 125, freestanding benches, and seated terraces incorporated into stairs such as at the Driver Avenue main entrance.

**Figure 44 Seating in Fig Tree Place**

*Source: Aspect Studios*

**Planting:**

- 120 trees and understorey planting are proposed throughout the public domain, framing the edges of the site to integrate the stadium with its surrounds without impeding on circulation and movement.
- Trees are being replaced on the site at a ratio of approximately 3 new trees for every 1 removed.
- The plant species proposed for the site are primarily Australian Native species, many of which are endemic to the Eastern Suburbs Banksia scrub group.
- New planting within the reinstated MP1 carpark will provide additional shading.

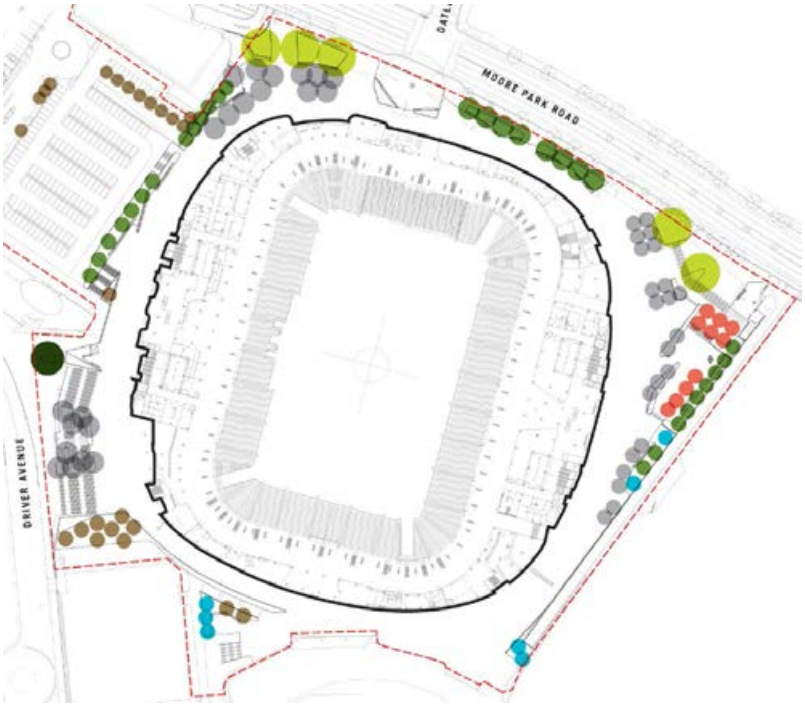



**Figure 45 Site wide tree planting**

*Source: Aspect Studios*

### 4.6.2 Public art and heritage interpretation

A range of public art/heritage interpretation initiatives are proposed to be integrated into the stadium and surrounding public domain, including reinstating existing public artworks where practicable. These initiatives will communicate the varied and changing use of the site and are subject to ongoing collaboration with heritage consultants and key stakeholders to ensures an engaging and appropriate response to the site is achieved. Some initiatives being considered for the detailed design of the stadium and surrounds include:

- Gadigal language inlaid near planting and fixed furniture;
- paving to reference the transient and variable nature of the sand dunes and underlying clay once experienced by both the Gadigal and Gameygal clans;

- use of timber finishes and a cohesive, extensive planting palette to reference the once existing scrub and swampland;
- feature paving following the line of Busby's Bore, pit lids as a point of interest, and historic text inlaid along the route;
- interpretative play and exercise equipment (i.e. water play spouts to reference gunpowder explosions) in Busby's Corner to reference the former rifle range on the site;
- bronze inlays of speedway time records;
- spaces and corners to be activated with sporting and exercise related elements that expand on the stadium programming;
- referencing the geometry of the zig-zag WW2 trenches that surrounded the site in the ground plane; and
- reinstatement of a number of sculptures, plinths and plaques that have been recovered from the site.

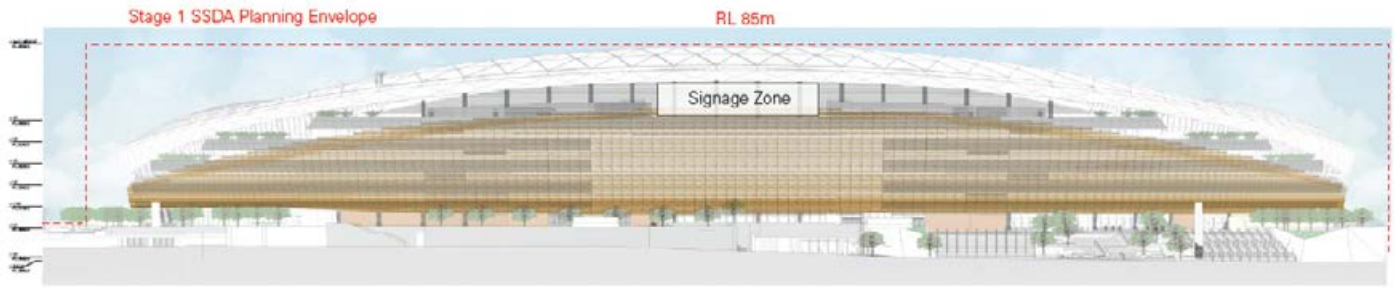
The Public Art Strategy incorporated in the Landscape and Public Domain report prepared by Aspect Studios (**Appendix C**) and the Heritage Interpretation Strategy prepared by Curio Projects (**Appendix DD**) include further detail of the process for procuring, curating and delivering public art and interpretive features within the public realm.

## 4.7 Signage

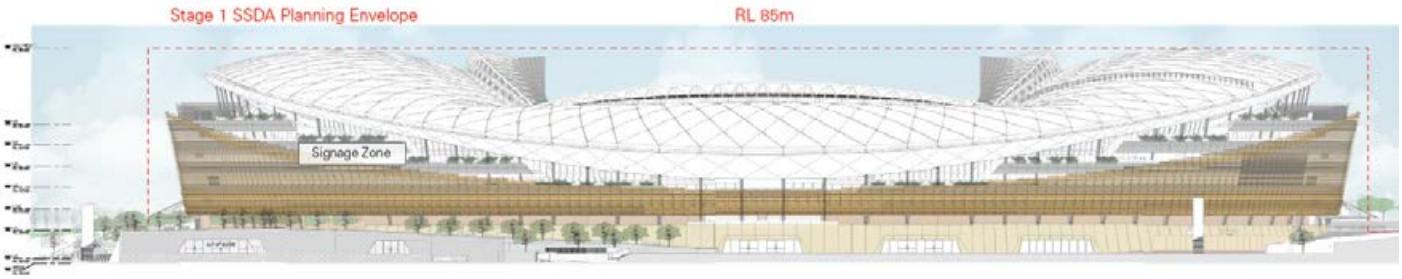
### Stadium signage

The stadium facade includes four (4) proposed signage zones, one on each facade, for the future naming of the stadium (building identification signage). The zones define the location and maximum extent of signs to be mounted on the facade (refer to the elevations within the Architectural Drawings at **Appendix B**). Details of the exact content, materiality, and illumination of signs within these zones will be the subject of further detailed design when the naming of the stadium is known. It is proposed that the detailed signage design would be submitted to the Secretary prior to the issue of the relevant Construction Certificate, with the detail provided regarding the zones being sufficient for the planning assessment phase.

Other tenant and business identification signage associated with ancillary uses on the site, such as the stadium store, does not form part of this application and will be subject to separate future approval, as required, as part of the detailed fit out of these spaces.




*East/west zones*




*North/south zones*

**Figure 46 Signage zones on the stadium facades**

*Source: COX Architecture*

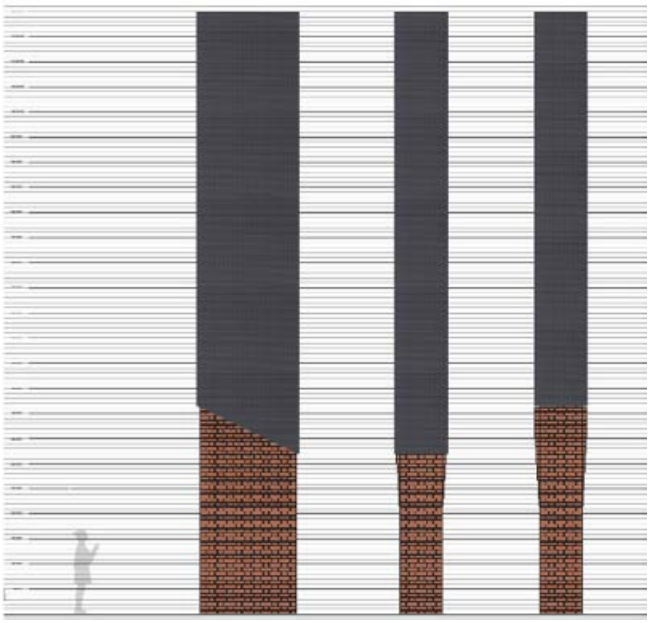
### Public domain signage

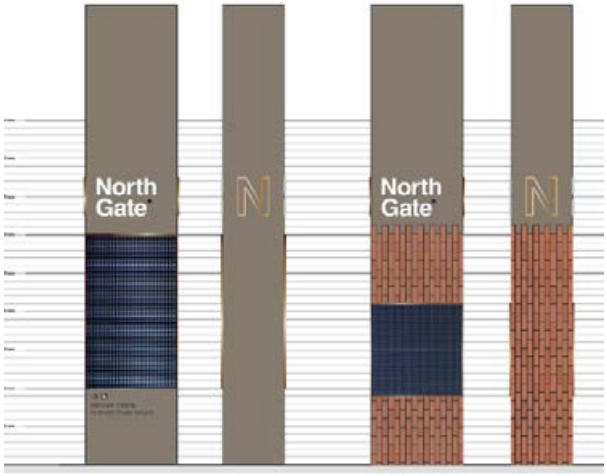
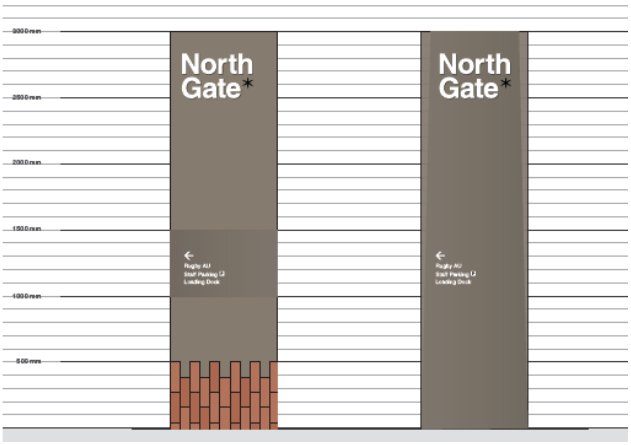
Wayfinding to and from the site, and within the site, is a key component for the successful operation of the stadium. Whilst the stadium is a wayfinding element in its own right, with the architecture, lights, and pedestrian movement and activity help to direct patrons to the venue, there are opportunities to improve wayfinding to the precinct and from within the stadium site.

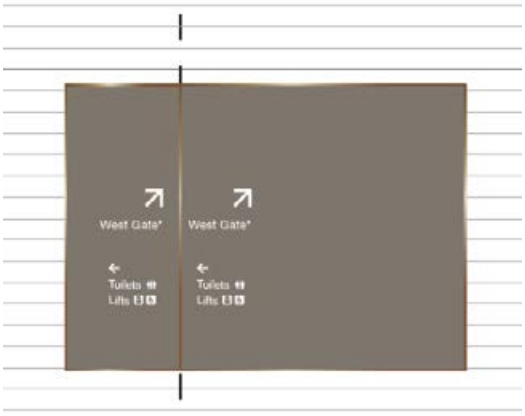
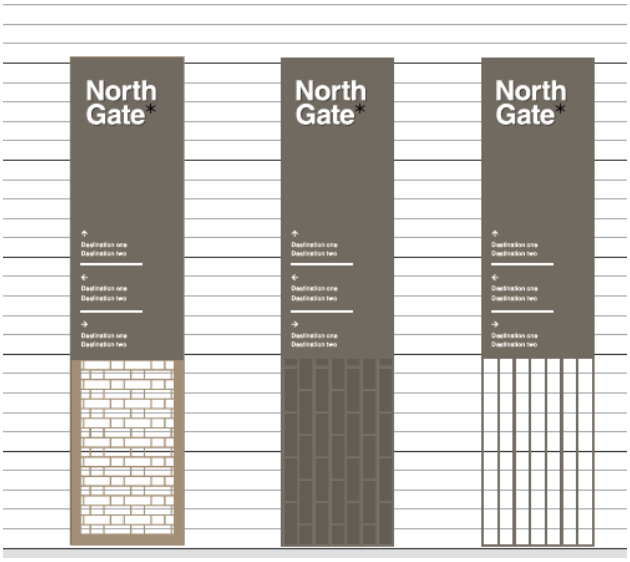
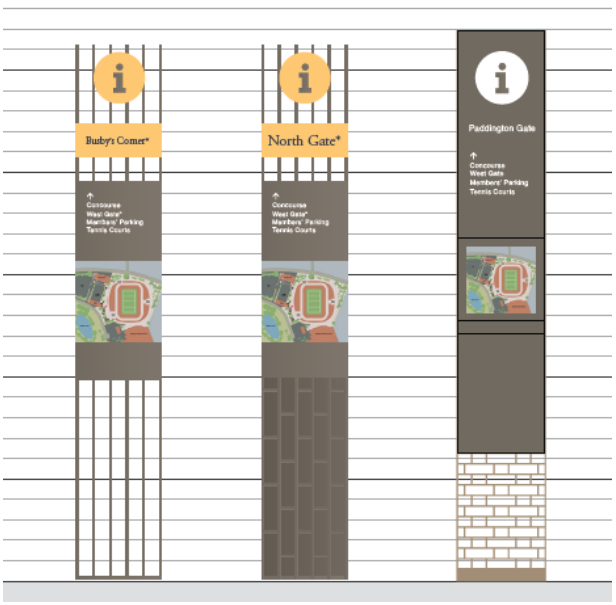
Aspect Studios has completed a comprehensive review of existing wayfinding signage and have provided details of proposed new external wayfinding and site identity signage that will be delivered as part of this project, as well as opportunities for signage and wayfinding systems in areas outside of the project site that may be pursued separately in consultation with key stakeholders such as CPMP Trust, TfNSW and Council who are responsible for the surrounding land (**Appendix I**).

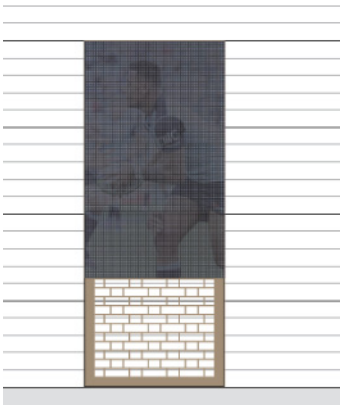
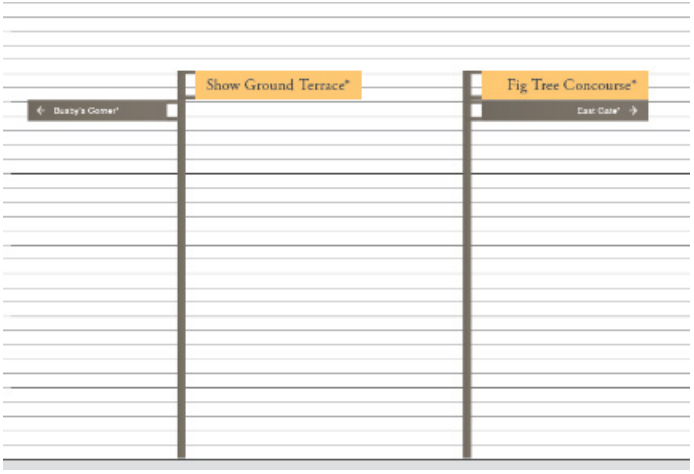
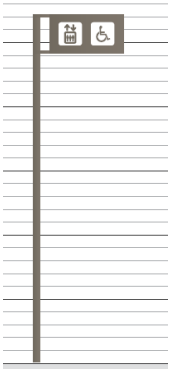
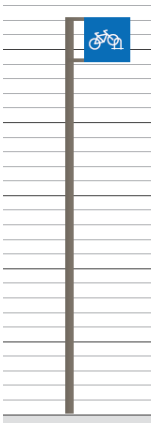
**Table 8** below describes the wayfinding signage to be incorporated into the site, and is proposed as part of this application.

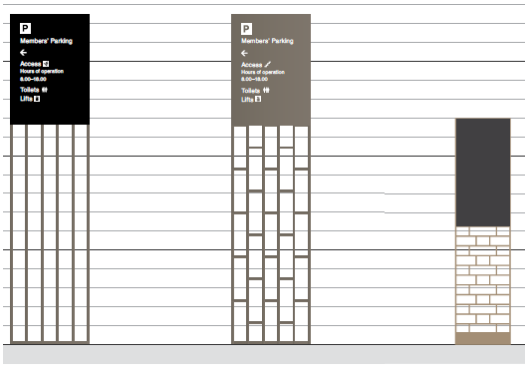
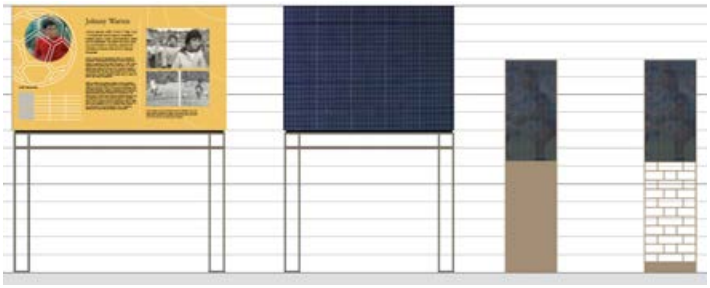
**Table 8 Proposed wayfinding signage**

| Type | Location & design | Example Design |
|---|---|---|
| Gate Entry Signs | Fixed to the stadium facade at the three (3) stadium entries, identifying the north, east and western entry gates. The signage letters would be internally illuminated. |  |
| Major Entry Markers | Pylon signage installed at the entries to the site off Moore Park Road and Driver Avenue identifying the north, east and west entries to the site. The signage incorporates digital displays containing information and graphics relevant to events held at the stadium. There may also be opportunities for this signage to incorporate public art of interpretive features. |  |

| Type | Location & design | Example Design |
|---|---|---|
| Digital Entry Pylons | Smaller pylon signage installed at secondary entrances off Moore Park Road. The signage incorporates small digital displays and brass lettering. |  |
| Secondary Directional Pylon Signs | Smaller pylon signage installed at secondary entrances off Moore Park Road. The signage incorporates internally illuminated lettering. |  |
| Vehicle Entry Pylon Signs | Directional vehicle only signage to the loading docks for delivery vehicles, and for members and staff parking areas, to be installed on Driver Avenue and Paddington Lane. |  |

| Type | Location & design | Example Design |
|---|---|---|
| Directional Wall Panel Signs | Wall mounted signs providing directional cues. |  |
| Gate Marker Pylon | Pylon signage installed at key decision points, located within the circulation space surrounding the stadium near the main gates |  |
| Concourse Directional Maps | Pylon sign information points such as directional maps, which have been designed to conform with the standard Centennial and Moore Park styles, and Council pylon signage dimensions. These maps are installed within the circulation space surrounding the stadium. |  |

| Type | Location & design | Example Design |
|---|---|---|
| Concourse Digital Panel | A smaller digital pylon displaying changing messaging to reflect arrivals, departures and events. |  |
| Concourse Finger Signage | Pole signage installed within the circulation space surrounding the stadium, which includes directional messaging. The signage conforms with the standard Centennial and Moore Park styles, and Council pylon signage dimensions. |  |
| Accessible Route Signage | Pole signage identifying the location of the stadium lifts and wheelchair access. |  |
| Bike Parking Signage | Pole signage identifying the location of bicycle parking. |  |

| Type | Location & design | Example Design |
|---|---|---|
| Concourse egress signage | Pylon signage located around the stadium which identify the location and hours of operation for members parking, toilets and lifts on the site |  |
| Heritage interpretation panels | Heritage interpretation panels will communicate elements of the history of the site and comprise printed or variable pylon signage at key locations in the public domain surrounding the stadium |  |
| Heritage interpretation ground markers | Surface plaque with a 1m diameter identifying the bore access shafts |  |

## 4.8 Lighting

### Stadium lighting

The stadium will provide roof-integrated sports field lighting to meet the contemporary requirements for a stadium and for television broadcasting. LED spotlights are mounted on the roof perimeter and under the roof fabric, which are orientated downwards to illuminate the pitch. No sports lighting is directed upwards or outside the stadium roof. This ensures that all proposed lighting is contained within the stadium envelope and no light poles, like those used at the adjacent SCG, are proposed.

### Public domain lighting

Lighting is required to create safe and accessible public domain areas. This comprises:

- Standard pole mounted lighting distributed through the site supplemented by LED strip lighting at steps and benches. This LED lighting will be orientated downwards to illuminate paths of travel.
- Up-lighting is also proposed to be used to highlight a limited number of public domain feature trees (such as Tree 125) and would be fitted and designed so that lighting is predominantly blocked by the foliage above, with electronic control to ensure that lighting is turned off at a specified curfew time .
- Feature lighting associated with heritage interpretation and public art installations, and wayfinding signage.

All public domain lighting will be designed, installed and operated in accordance with the relevant Australian Standards.

Other initiatives outside of the site such as further public domain pole lighting may be pursued separately, noting that those works are desirable but not necessary for the stadium and do not form part of this application and would be subject to consultation with other stakeholder such as TfNSW, CPMP Trust and Council.

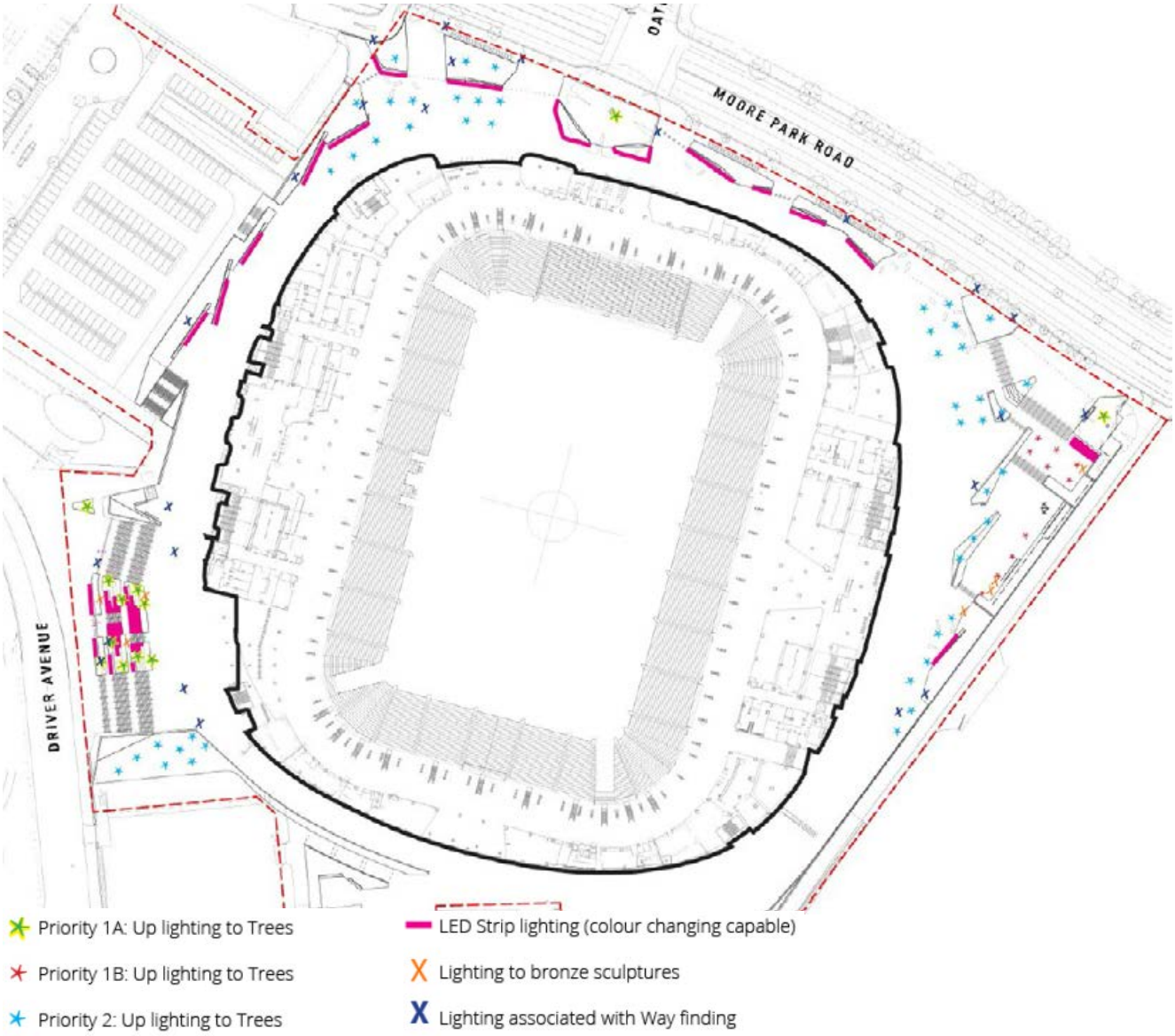



**Figure 47 Proposed lighting in the public domain**

*Source: Aspect Studios*

## 4.9 Stadium operation and use

The operation and use of the stadium is proposed to be generally consistent with the characteristics of the former Sydney Football Stadium, as outlined in the following sections.

### 4.9.1 Event Operations

#### Event Management Protocols and Procedures

The SCSG Trust has prepared an Event Management Strategy (**Appendix Q**) which sets out the operational management procedures and practices involved in the operation of the stadium. The Event Management Strategy sets out the approach for key areas of the:

- event-day management responsibilities and complaint-handling procedures;
- management of pedestrian and crowd arrivals for a range of operating scenarios;
- stadium egress for a range of operating scenarios;
- vehicular access and rejection from the MP1 carpark and stadium basement;

- security;
- noise management; and
- emergency response and evacuation protocols.

In addition to the Event Management Strategy, a specific Anti-Social Behaviour Strategy has been prepared by Ethos Urban (**Appendix R**) in consultation with a range of relevant stakeholders including the SCSG Trust, INSW, NSW Police, City of Sydney Council, TfNSW, the CPMP Trust and the CCC in order to set out an anti-social behaviour mitigation plan to provide a framework for the safe and inclusive operation of the stadium.

**Nature of Events**

The stadium hosts a diverse range of sporting and entertainment events which vary on a season-to-season and year-to-year basis. Along with hosting a range of regular sporting fixtures for national competitions, the stadium will host international sporting matches and tournaments, concerts and special events over the course of its lifespan.

For the purpose of this EIS and Development Application, an 'event' includes things such as:

- a single scheduled sporting match (e.g. a single A-League game);
- a series of scheduled sporting matches occurring on a single day (e.g. both A-League and W-League games, or AFLX);
- a series of scheduled sporting matches occurring on more contiguous days where these sporting matches are organised by a single hirer (e.g. Rugby World Sevens Tournament);
- a music concert; and
- any other entertainment event that is not a sporting match or a music concert.

Furthermore, an 'event' includes activities such as:

- carrying out of the sporting match, music concert or other entertainment event at the stadium (the fixture);
- carrying out and providing any required temporary structures for activation activities prior to and during the fixture such as temporary food and beverage services, merchandise stalls, hirer and sponsor promotional activities and crowd entertainment within the stadium site;
- bringing materials to the stadium and setting up of any temporary structures within the stadium or stadium site necessary to carry out the event, whether this occurs on the same day or another day preceding the fixture (bump-in); and
- removing materials and any temporary structures from the site at the conclusion of the event, whether this occurs on the same day or another later day after the fixture (bump-out).

**Number of Events and Operational Hours**

No restriction on the number of events hosted at the stadium is proposed. The exception to this is the existing limitation on the number of concerts that may be hosted, which is proposed to be maintained. This approach is consistent with operation of the former stadium. Rather, it is proposed that the operations of the stadium be governed by the Event Management Plan and restrictions on the hours of operations so as to ensure that the stadium does not give rise to any significant unacceptable impacts on the amenity of the locality. This is because the number of events will fluctuate significantly on a year-to-year basis depending on a range of factors include scheduling of international fixtures, qualification of Sydney and NSW-based teams (e.g. Super Rugby finals series) for finals or international tournaments (e.g. the Asian Champions League) and potential hosting rights of major regional or international tournaments (e.g. FIFA Women's World Cup 2023 or Rugby World Cup 2027). The imposition of prescriptive numerical restrictions on the number of events hosted would particularly impact on the ability of the new stadium to attract and host the infrequent major events that deliver the most significant per-event economic benefits to Sydney and NSW.

In addition to the above, it is not proposed to specifically define the nature or type of events that may be hosted at the stadium (with the exception of concerts). This is because the types of events hosted by the stadium are diverse and responsive to the changing nature of sports and entertainment in the Australian and international markets. In the modern sports market an event could include a single game fixture, back-to-back fixtures for men's and women's teams, or a tournament involving multiple matches on a single day (e.g. World Rugby Sevens Series or the NRL 'Magic Round'). Limiting the types of events able to be hosted at the stadium would be contrary to the need for the stadium to evolve and respond to the changing nature of sports. Furthermore, limiting the nature of events would favour more certain regular fixtures (e.g. programmed national league matches) and potentially limit the opportunity to attract opportunistic events or trial more innovative programming (e.g. increased men's/women's double-header matches, AFLX or American football).

Having regard to the above, it is proposed that the operation of the stadium would be governed by the continuance of the time restrictions for noisy activities that applied to the use of the former stadium which are set out in **Table 10** below along with the operational procedures outlined in the Event Management Plan to maintain the amenity of the local environment. This approach will ensure that each event is managed in a manner that does not give rise to unacceptable effects on the amenity of the local area.

**Table 9 Former and proposed continuing time restrictions on fixtures**

| Fixture | Time Limits for Fixture | | | Maximum length of event |
|---|---|---|---|---|
| | Not to commence before: | Not to finish after: | If delayed outside of the Trust's control, may continue until: | |
| Sporting match | 8:00 AM | 10:30 PM | 11:00 PM | - |
| Concert | 10:00 AM | 10:30 PM | 11:00 PM | 5 hours |
| Concert rehearsals | 10:00 AM | 7:00 PM | - | Kept to absolute minimum |
| Concert sound tests | 10:00 AM | 7:00 PM | - | Kept to absolute minimum |
| Other outdoor fixture with sound amplification – days preceding working days | 10:00 AM | 8:00 PM | - | - |
| Other outdoor fixture with sound amplification – days not preceding working days | 10:00 AM | 10:30 PM | - | - |

### 4.9.2 Non-event periods

The stadium and surrounds have also been designed to support the use and operation of the site by the community outside of event periods. This will primarily occur via informal active and passive recreation spaces provided within the new public domain surrounding the stadium, including the new gathering spaces and facilities for active recreation (described further in **Section 4.6.1** below). The site will be publicly accessible on non-event days (and during most event days) and will function as an extension of the surrounding public space by removing all boundary fencing and managing the significant level changes through stairs and lifts (refer to **Figure 48** below), enabling pedestrians to walk through and use the site.

The stadium structure itself will accommodate an externally-facing merchandise store and food and drink premises, fronting the north western corner of the site. These externally facing spaces are intended to service the day-to-day needs of staff and visitors to the precinct and to provide activation of the site outside of event periods. This application seeks consent for the provision of these tenancies as part of the stadium design, however, use and operating conditions of these tenancies (hours, extent etc.) would be the subject of separate future approval as required.

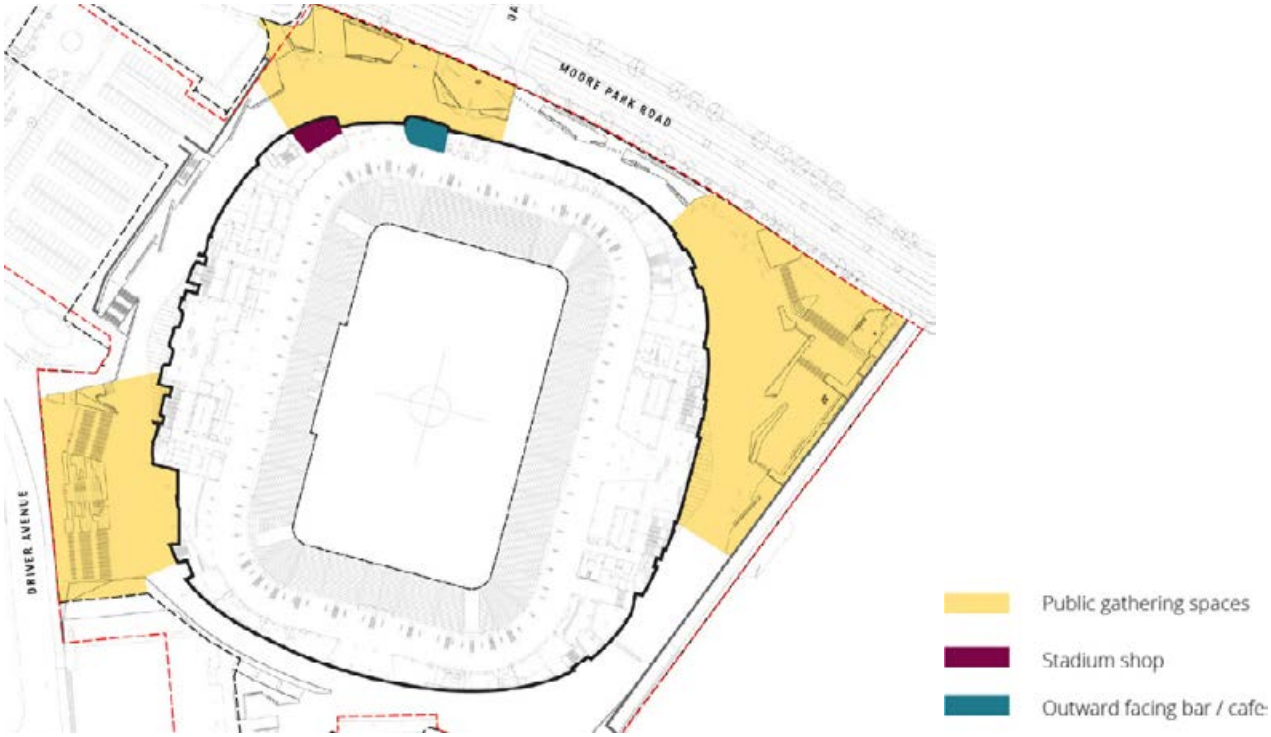



**Figure 48 Non-event day activation**

*Source: Aspect Studios*

## 4.10 Parking, access and movement

### 4.10.1 Parking

**Private vehicles**

No new parking for general patrons of the stadium will be provided as part of the development. The SCSG Trust will continue to liaise with operators of external parking venues (CPMP Trust, Entertainment Quarter, Sydney Girls & Boys High School) in relation to the provision and management of off-site parking during the scheduling and hosting of events at the new stadium. It is noted that these off-site parking facilities are not located on land controlled by SCSG Trust/ Infrastructure NSW and the operation and management of these facilities is outside of the direct control of the stadium operator.

Parking for members and employees of the Trust will be reinstated on the site within the MP1 carpark, which would be temporarily used as a construction compound under the Stage 1 DA and would be reconstructed as part of this development. This carpark represents the only publicly accessible carpark on the site and is exclusively used by employees of the Trust and stadium club members. The reinstated carpark will accommodate 540 at-grade parking spaces, which is approximately 60 spaces less than the former MP1 carpark, due to the need to provide a vehicular connection to the new stadium basement and an improved vehicle-rejection turning loop within the car park.

The reduction in parking spaces within MP1 will be largely offset by the provision of 50 parking spaces within the new stadium basement. Parking within the basement will be restricted to authorised users including stadium and sports administrators, hirers, media/broadcasting and medical and support staff.

**Loading**

The basement includes a series of loading bays for a range of vehicle sizes that will vary in use throughout the event cycle (bump-in, event, bump-out) including for deliveries of event collateral, broadcast vehicles, waste removal and the like. Loading bays and circulation within the basement has been designed in accordance with AS2890.2 (Off-street commercial vehicle facilities).

### Bicycles

Dedicated bicycle parking for staff and patrons will be provided on site to promote increased active travel to the stadium:

- Bicycle parking for up to 90 patron bicycles is integrated with the Moore Park Road frontage of the site, and will be publicly accessible at all times. There is also the opportunity to provide a further 60 spaces within Moore Park for use by the general public, however, this does not form part of this application but would be subject to future discussions with the CTMPT.
- Bicycle parking for permanent staff and casual employees is located within the secure stadium basement. This parking will be in the form of wall mounted racks to accommodate a total of 75 bicycles. End of trip facilities for staff use are also provided within the basement.

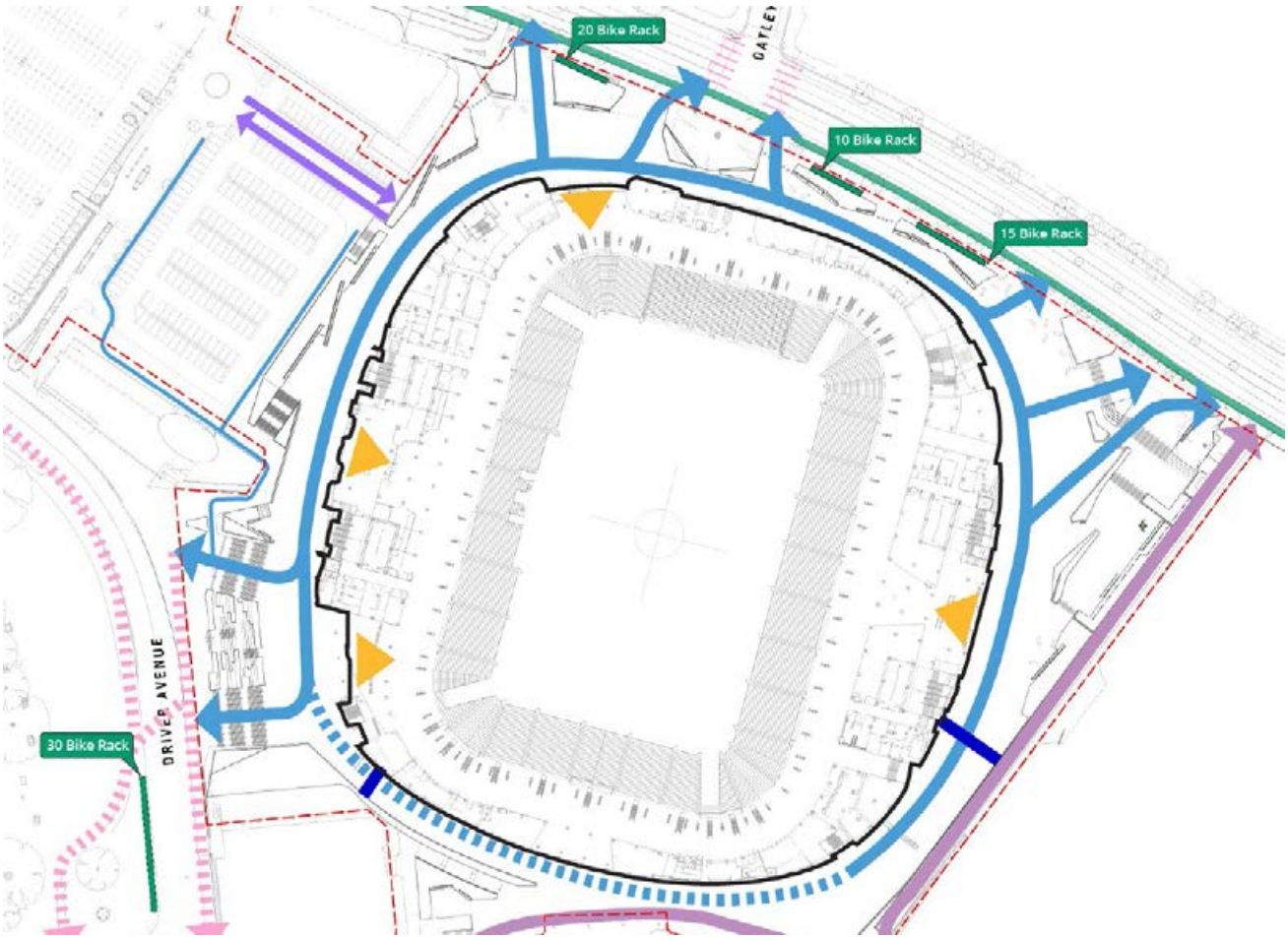



**Figure 49 Bicycle parking on the site**

*Source: Arup*

## 4.10.2 Access

### Pedestrians

A key design principle for the new stadium is to enhance pedestrian accessibility within and through the site. The previous stadium provided minimal public access to the site and was secured by fencing at the site boundary, acting as a barrier to pedestrian movement between Paddington and Moore Park, and leading pedestrians to navigate poor quality and illegible paths of travel through the MP1 carpark.

Access outside of events

Pedestrian access within the site has been improved by removing boundary security fencing and providing public access to and through the site at all times of the day and year. Pedestrians can access the site via the entrances at Fig Tree Place and Busby's Corner on Moore Park Road and the Moore Park Terrace entrance on Driver Avenue, and move between these points via the new public domain around the north-western edge of the stadium. The south eastern area of the site will not be accessible as it is required for activities occurring within the adjoining SCG (which is not currently designed to allow for permanent public interface) and for SFS operational bump-in/bump-out activities. The proposed public and restricted areas are outlined in **Figure 50**.

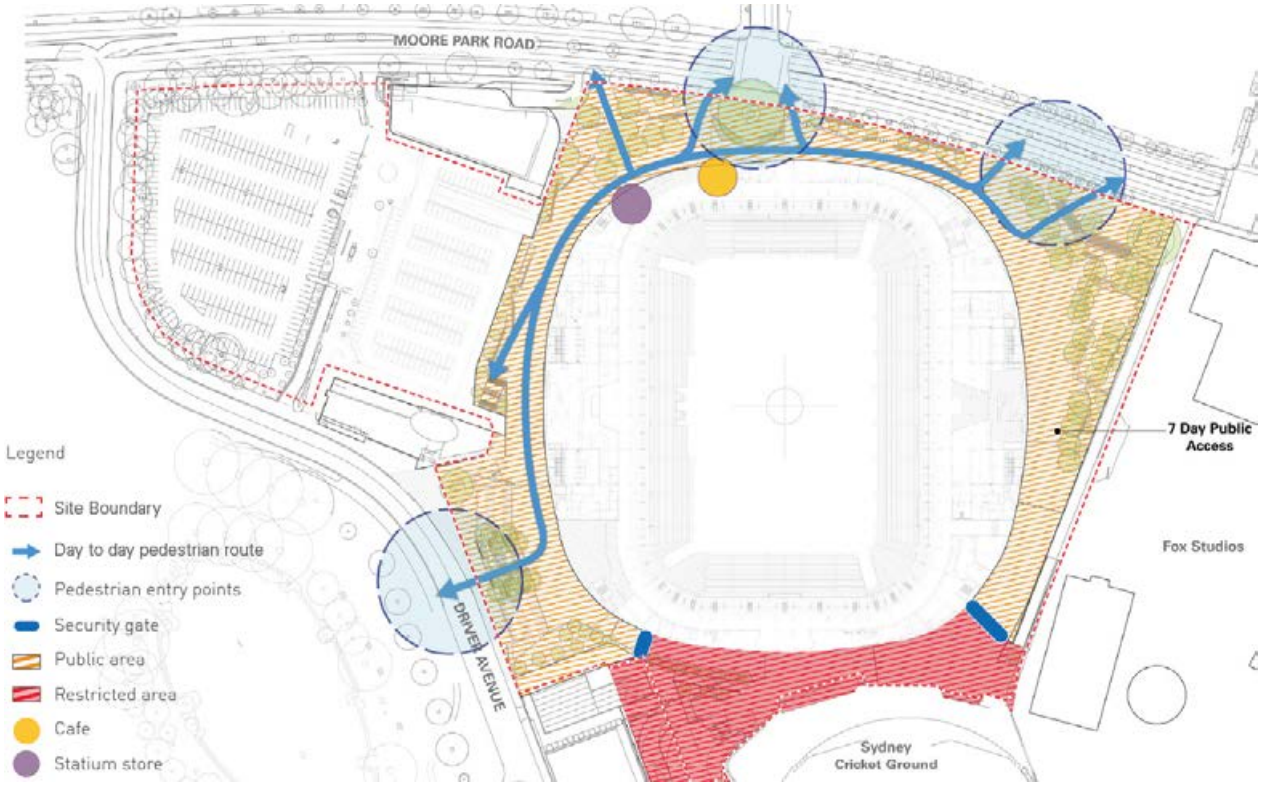



**Figure 50 Pedestrian access to the site – no event**

*Source: Aspect Studios*

Access during events

Pedestrian access during events will operate differently depending on the event overlay and the specific operational and safety requirements.

- When an event is on at both the SCG and the SFS at the same time, termed a 'double-header', the public pedestrian access and circulation arrangements will be the same as those adopted for non-event periods. Namely, all entrances and areas of the external concourse will be accessible with the exception of the south eastern portion of the site where the stadium site connects with the existing SCG. This prevents potential conflicts with access and egress to SFS and SCG while these are operating at the same time. Refer to **Figure 51** below.
- Public pedestrian access during SFS-only events, when the SCG is not in operation, will utilise all entrances and the entire external perimeter of the stadium providing for 360° pedestrian movements. Refer to **Figure 52** below.
- For certain special events requiring use of the forecourt and stadium exterior (e.g. Rugby Sevens tournament), the site may be secured out to the site boundary to allow for additional patron spaces and activation. During this period public pedestrian access may be restricted, or may continue subject to security screening, depending on the operational and ticketing requirements of the specific event. Refer to **Figure 53** below.

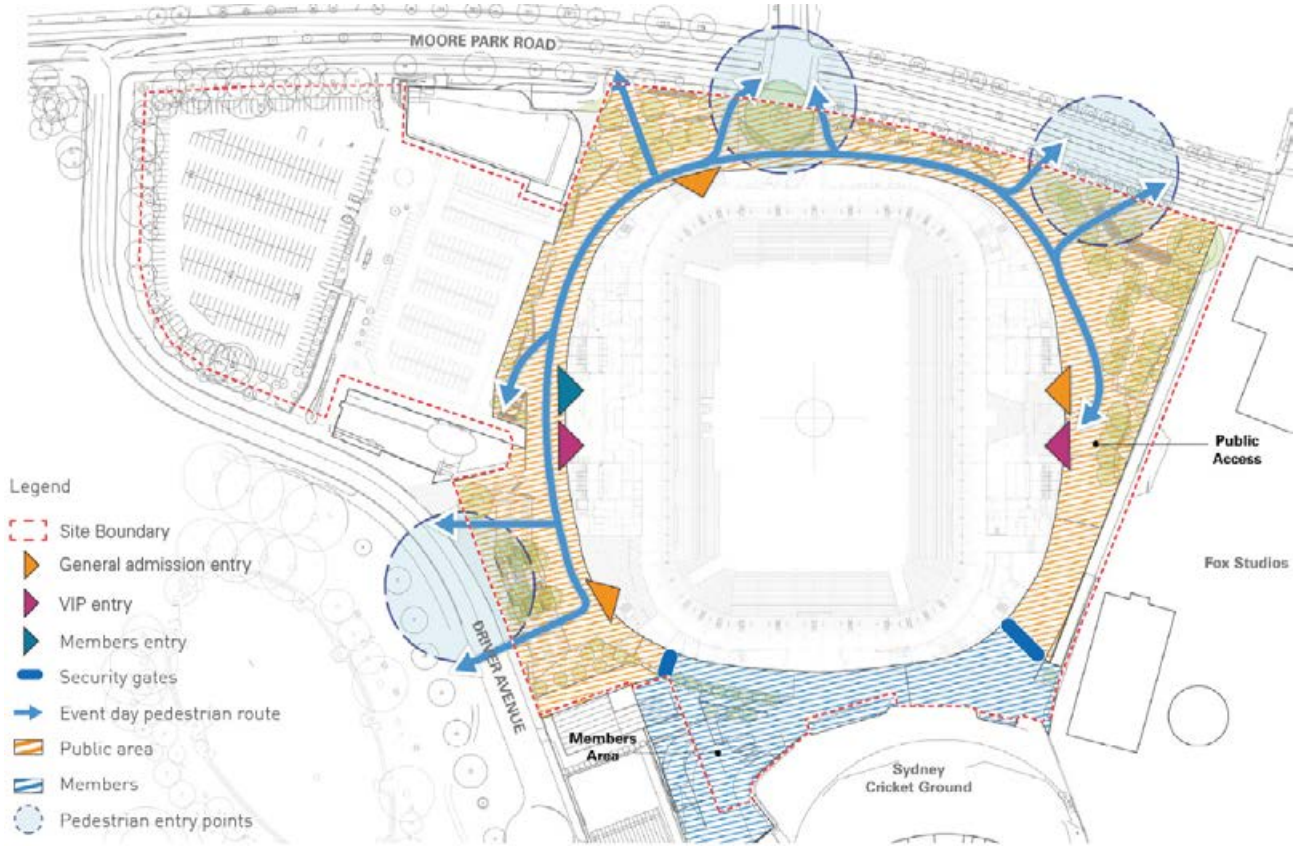



**Figure 51 Pedestrian access to the site – concurrent SCG and SFS events**

*Source: Aspect Studios*

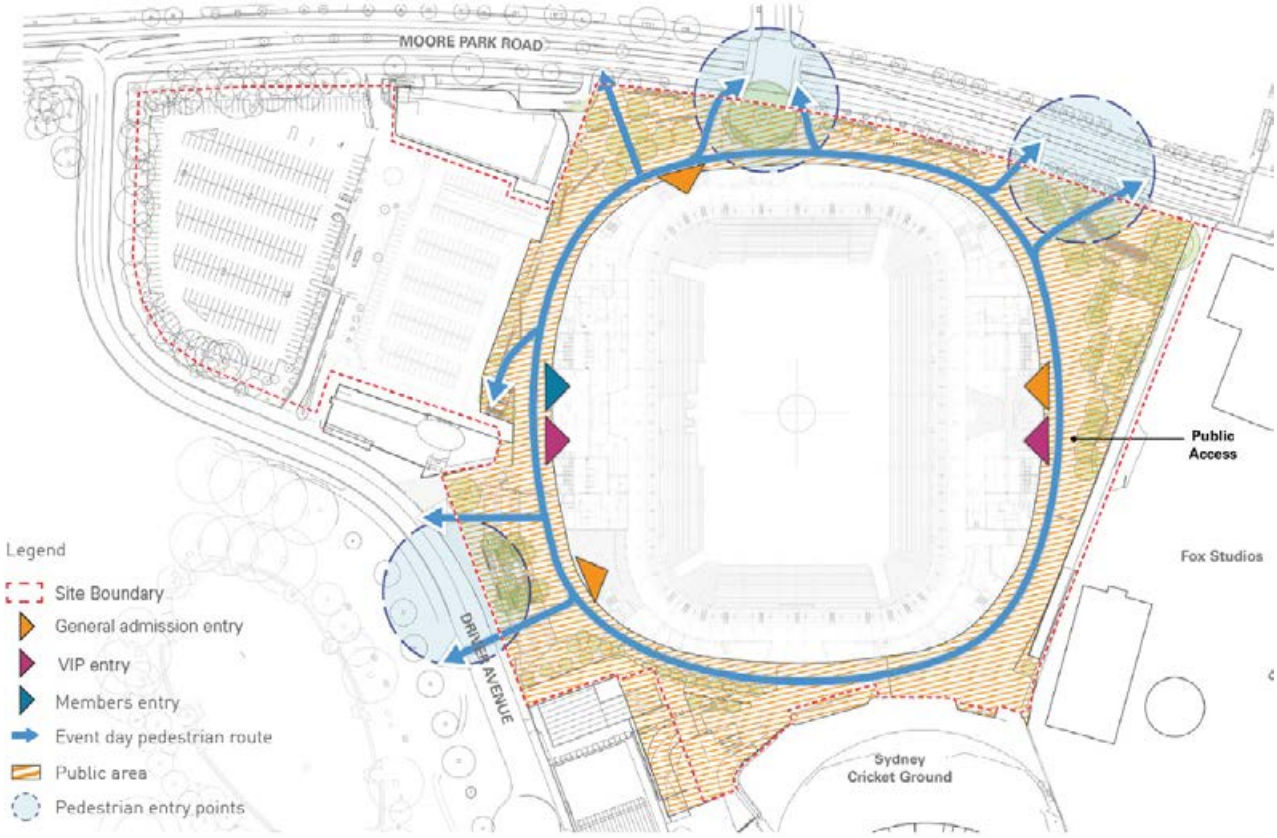



**Figure 52 Pedestrian access to the site – event only held at the SFS**

*Source: Aspect Studios*

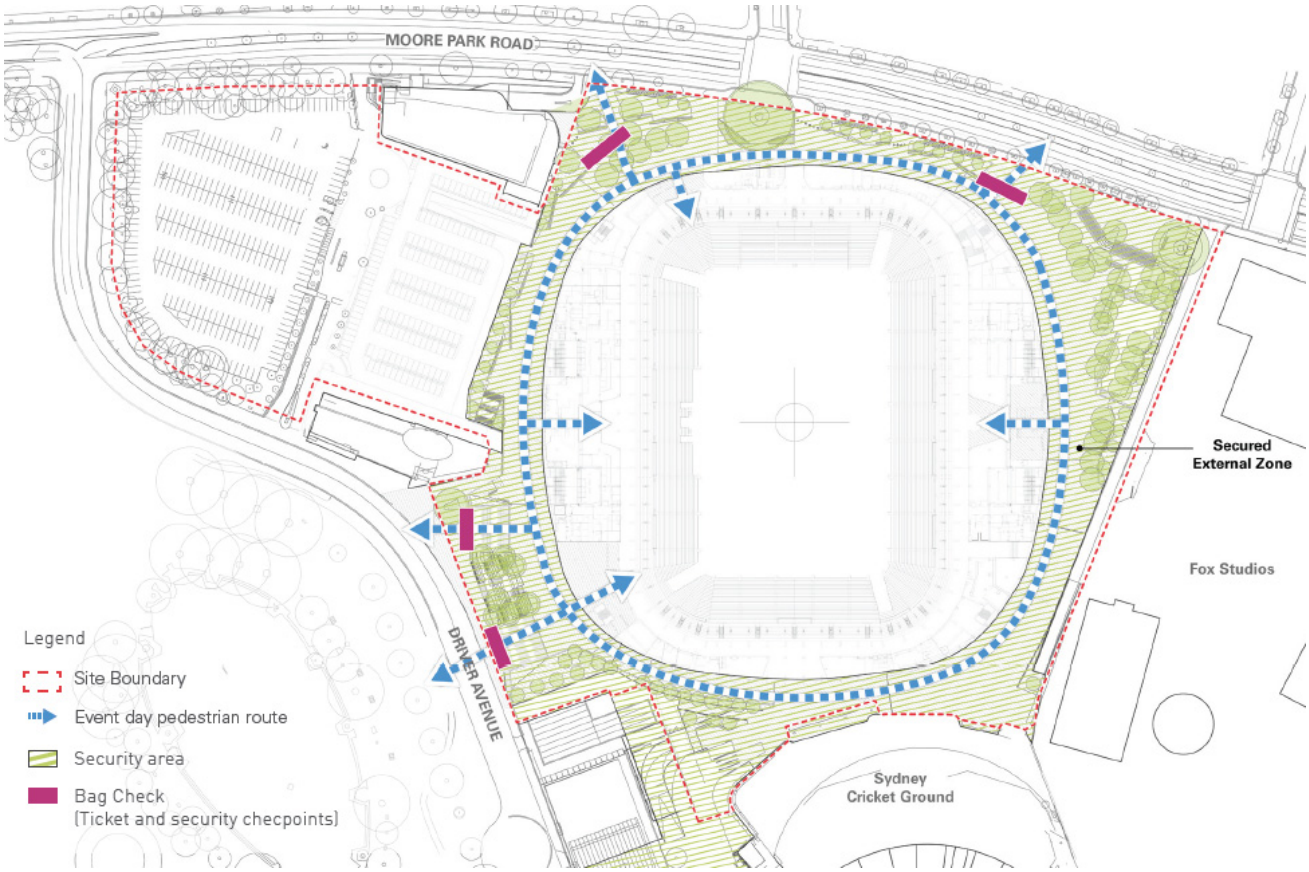



**Figure 53 Pedestrian access to the site – special events**

*Source: Aspect Studios*

Pedestrian access to the site from the surrounding area has been outlined in the Transport Assessment (**Appendix H**), review of the Moore Park Masterplan 2040 (**Appendix G**), and the Wayfinding Strategy (**Appendix I**), and is discussed further in **Section 5** and **6**. In addition to improving pedestrian access on and through the site, there are identified opportunities to improve pedestrian access outside of the site that may be pursued separately in consultation with key stakeholders such as Transport for NSW's Transport Management Centre and the CPMP Trust.

As discussed in **Section 2.2.2**, the main pedestrian routes to the stadium are from:

- Central Station via Foveaux/Fitzroy Street and Devonshire Street;
- the light rail station via Moore Park and Driver Avenue;
- Kings Cross Station via Greens Road/Oxford Street/Victoria Street;
- the enhanced special event bus loop adjoining Tramway Oval; and
- other bus stops along Anzac Parade and Oxford Street.

There are also works underway to provide a new 6m wide pedestrian footpath through Moore Park, connecting Tibby Cotter Bridge, the new light rail stop and Driver Avenue that will also support improved pedestrian access to and from the site. There is also the potential for a future connection between the site and Fox Studios and the Entertainment Quarter to the east via the southern side of SFS, subject to future works and agreement with surrounding leaseholders and the CPMP Trust.

### Vehicles

The proposed development will modify the existing layout of the MP1 carpark to provide a new turn-around facility within the site, integrating necessary security upgrades with vehicle access arrangements. Vehicles will continue to access the site via Driver Avenue, utilising the current vehicle access point on Driver Avenue adjacent to the NRL building. A new dual lane driveway within MP1 is used to access the reinstated carparking spaces for Trust staff and members, and the driveway to the stadium basement. Access to the MP1 carpark and the basement will be controlled via boom gates. Vehicle access to the basement will be restricted to authorised users including stadium and sports administrators, hirers, media/broadcasting, players and officials, and medical and support staff. Vehicles rejected at the boom gates, or those seeking to turn around, will utilise a new roundabout within the site (refer to **Figure 54** below).

VVIP buses carrying players and officials will utilise the stadium basement and lay-by areas for buses adjacent to the team change areas.

Emergency vehicles can access the site via Driver Avenue and Paddington Lane, Fig Tree Corner, and from the separate SCG entrance on Driver Avenue. The new public domain surrounding the stadium can be used to access all sides of the stadium in the event of an emergency. Refer to **Figure 55** below.

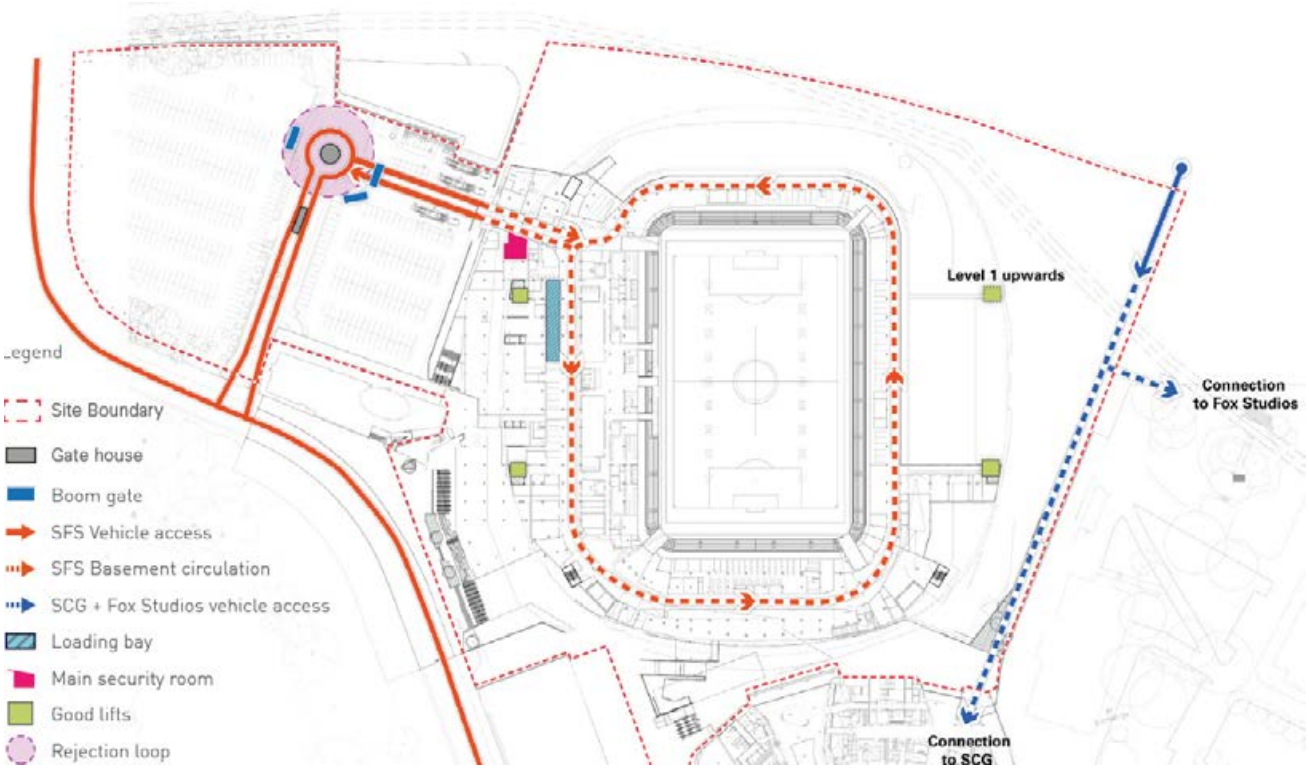



**Figure 54 New vehicle access/egress routes**

*Source: Arup*

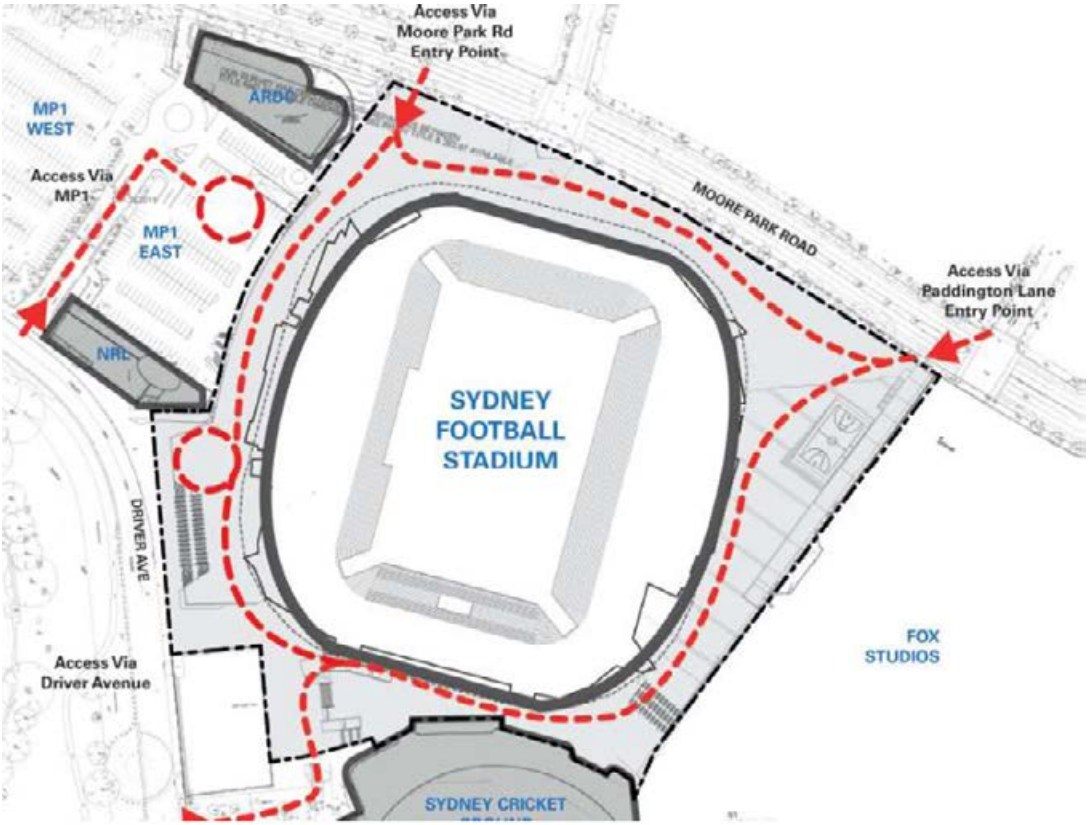



**Figure 55 Emergency vehicle access to the site**

*Source: Arup*

### Point to point transfers

No change is proposed to the existing drop off and pick up locations surrounding the stadium for taxis and rideshare vehicles as part of this application. Taxis currently utilise the eastern side of Driver Avenue before events to drop off passengers, or the taxi rank on Errol Flynn Drive within the Entertainment Quarter at any time. The drop off and pick up of passengers by rideshare vehicles occurs informally on surrounding streets in lieu of a dedicated area for rideshare services.

Further opportunities for taxis and rideshare services have been explored in the Transport Assessment at **Appendix H** and discussed further in **Section 6.2.8** below. These include potentially using the northern kerbside of Moore Park Road adjacent to the Victoria Barracks, and the southern kerbside of Moore Park Road between Oatley Road and Poate Road, which operate as clearways during events and informally for taxis and rideshare vehicles at other times. An existing 'no-stopping' zone on the northern kerbside of Lang Road between the Equestrian Centre and Cook Road has also been identified by TfNSW as a potential drop off and pick up zone. These arrangements may be pursued separately in consultation with key stakeholders such as local residents/businesses, TfNSW's Transport Management Centre, and the CPMP Trust, however, it is outside of the scope of this project to provide these facilities directly on the site.

### Coaches

No change is proposed to the existing coach parking and access arrangements for the former SFS and SCG as part of this application. Coaches currently utilise the parking bays at the southern end of Driver Avenue to drop off and pick up passengers.

Further opportunities for coaches to use the Moore Park Road kerbside that currently operates as a clearway during major events has been explored in the Transport Assessment at **Appendix H** and discussed further in **Section 6.2.8** below. This would apply to land outside of the site and is an operational overlay rather than a specific work, and as such would be pursued separately from this application in consultation with key stakeholders including local residents/businesses, TfNSW's Transport Management Centre and the CPMP Trust.

### DDA access

The stadium and public domain have been designed to provide safe, easy access for people with mobility impairments. Access is provided via:

- A dedicated drop-off area for members of the public with special access requirements is provided within the MP1 carpark, and accessed via vehicle from Driver Avenue. The drop off area will be managed by staff and arranged via a pre-booked system. An accessible path of travel is provided from MP1 to the main stadium entry, with access via the proposed lifts.
- Entries from Moore Park Road are designed to be level with the footpath, with no stairs between the property boundary and the stadium entrances. No lift access is required at these locations.
- Compliant circulation paths are provided throughout the external and internal stadium concourses.

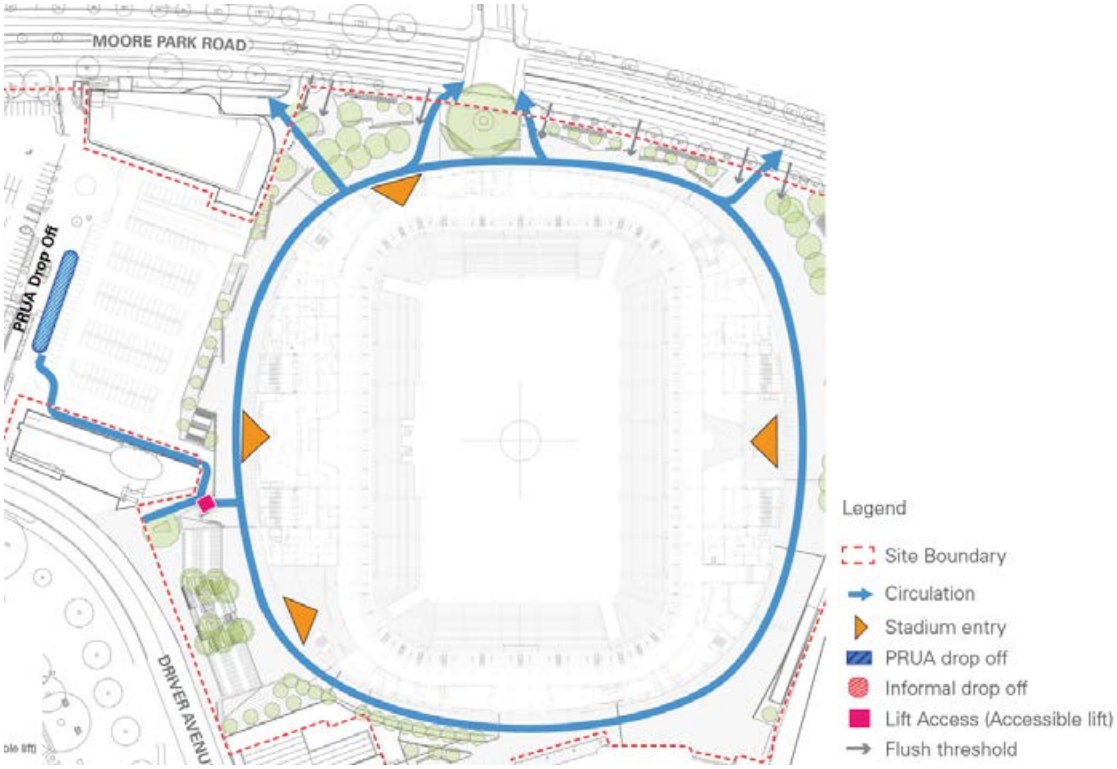



**Figure 56 Accessible entries and paths of travel to access the stadium**

*Source: COX Architecture*

## 4.11 Sustainability

A key driver in the detailed design, construction and operation of the stadium is the achievement of best practice ESD targets to minimise the consumption of resources and guide sustainable operation in the future. An Environmentally Sustainable Design report prepared by LCI (**Appendix M**) outlines how the stadium will achieve a Leadership in Energy and Environmental Design (LEED) certified Gold Rating.

The LEED rating system provides a framework to assess how a building reduces its impact on the environment while meeting the economic and social needs for its occupants and surrounding communities. The LEED certification process is the most widely used green building rating system in the world and has been utilised by other local and overseas stadia development to ensure minimum levels of performance are met across the full spectrum of sustainability initiatives. This includes implementing waste reduction design measures, future proofing, use of sustainable and low-carbon materials, energy and water efficient design and technology and the use of renewable energy.

Sustainability initiatives pursed in the development include, but are not limited to, the following:

- installing photovoltaic panels (solar panels) to offset the stadium during daytime operations, reducing energy consumption and operational costs to Government;
- designing the pitch and playing surface to reduce demand for irrigation by 80%, and using rainwater harvesting and bore water to further reduce demand for non-potable water;
- using a high proportion of native vegetation to enhance the green setting of the site;
- diverting 90% of all demolition and construction waste from landfill to recycling;
- installing digital monitoring systems to manage and reduce energy demands in real-time; and
- prioritising pedestrian circulation and permeability in the future design, providing bicycle parking for staff and visitors to assist in game-day peak periods, and other measures to encourage the uptake of sustainable modes of transport.

## 4.12 Site preparation works

Development consent has been issued for the first stage of physical works required to prepare the site for redevelopment under Stage 1. These works are underway and do not form part of this application, comprising:

- Demolition of the proposed stadium existing Sydney Football Stadium and ancillary structures, including the existing Sheridan, Roosters, Waratahs and Cricket NSW buildings down to the existing slab level.
- Site and construction management, including the use of the existing MP1 carpark for construction staging, management and waste processing, and provision for temporary pedestrian and vehicular access management.
- Protection and retention of Tree 125 and the cluster Tree 231-238 and existing street trees, and the removal of all other vegetation within the proposed future building footprint.
- Augmentation and diversion of services to enable the retained buildings adjoining the MP1 carpark to continue operating.

The concurrent modification to the approved Stage 1 DA (MOD 2) also proposes to undertake associated site preparation works including the removal and disposal of the existing ground slabs, pavements, footings and piles, and the associated diversion of two existing stormwater pipes running through the site.

The following sections outline the next phase of site preparation works that are sought as part of this DA.

### 4.12.1 Earthworks

The new stadium accommodates a basement level with a 360° ring-road. This basement will generally be constructed at the same elevation as the sunken playing pitch (approximately RL 39.3m), with some slightly lower areas required in the south of the site. Excavation for the basement will require a further 700-900mm in depth to install the slab and piling for the supporting foundations.

Land to the east of the stadium footprint will accommodate up to 3m-5m of fill to account for the sunken footprint of the former SFS, create level paths of travel for pedestrians and vehicles, and create platforms for exercise equipment and recreation spaces in Busby's Corner. **Figure 57** below shows the areas of cut and fill on the site, which have also been summarised in the table below. A detailed bulk earthworks plan is provided at **Appendix AA**.

**Table 10 Proposed cut and fill on the site**

| Location | Construction Activity | Existing RL (average) | Proposed RL (average) | Average depth of excavation |
|---|---|---|---|---|
| Playing field | Cut | 39.62m | 38.62m | Approximately 1m |
| West basement | Cut | 45.87m | 39.30m | Approximately 6m |
| East basement | Fill | 39.27m | 39.50m | Approximately 1m |
| North basement | Cut | 44.95m | 39.30m | Approximately 6m |
| South east basement | Cut | 40.11m | 35.13m | Approximately 5m |
| South west basement | Cut | 40.10m | 39.18m | Approximately 1m |

*Source: Curio Projects + Aurecon*

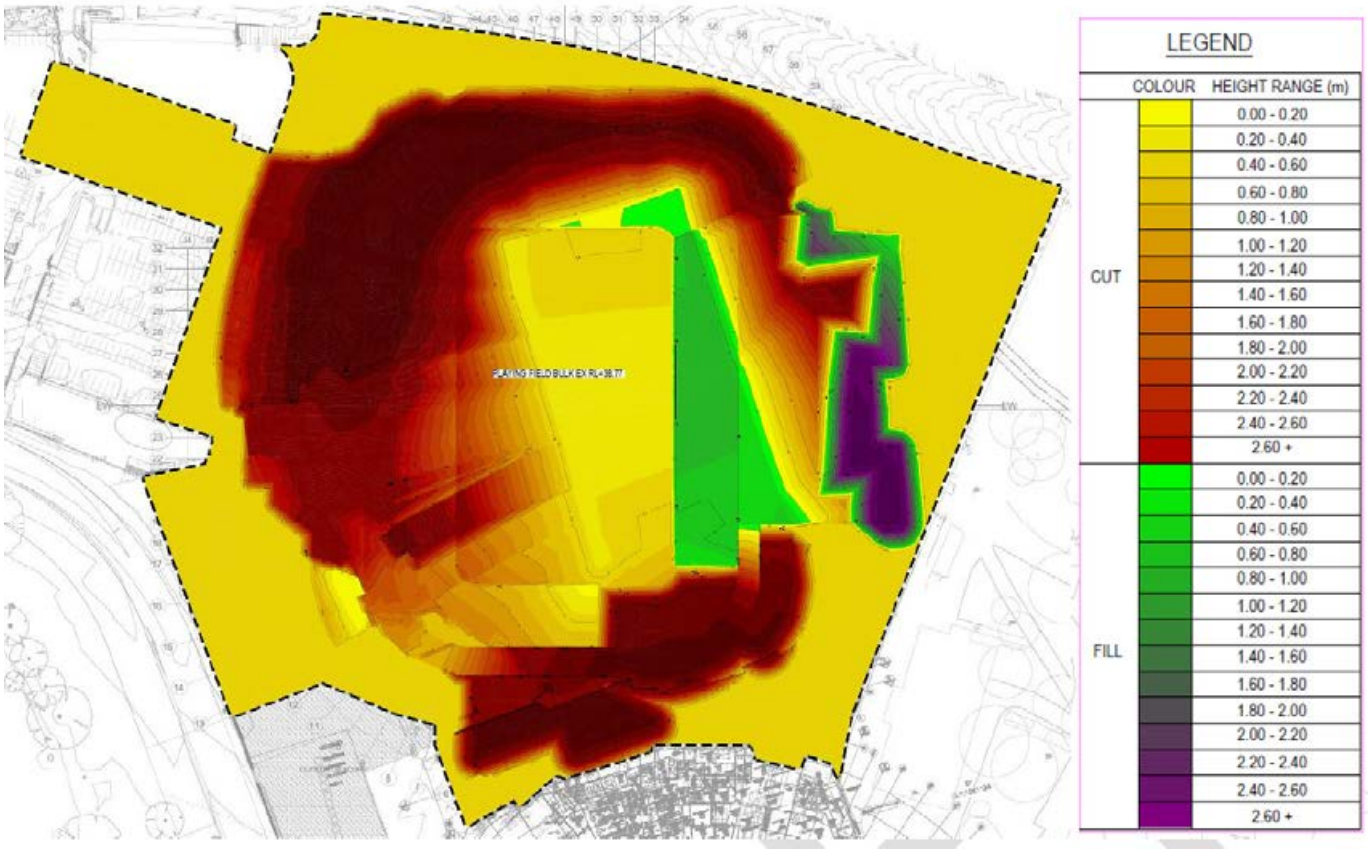



**Figure 57 Cut and fill across the site**

*Source: Aurecon*

### 4.12.2 Tree removal

A number of trees located within the footprint of works have been previously approved for removal as part of the Stage 1 DA. This Stage 2 DA seeks to retain and remove additional trees beyond those previously considered under the Stage 1 DA, to account for the Stage 2 detailed design of the stadium and public domain. Specifically, this application seeks to retain one tree that was previously approved for removal (Tree 231) as this tree is no longer within the footprint of works. This application also seeks consent to remove seven (7) trees located in the north-east corner of the site that were previously identified for retention in order to enable the development of a new stadium entry, level public domain circulation path, and the new activity node at Busby's Corner. The significant Tree 125 will continue to be retained and protected. The proposed changes to tree removal and retention is illustrated in **Figure 58** below.

In addition to the above, one tree located on Moore Park Road within the road corridor would be required to enable pedestrian access to the site. The location of this tree is identified in **Figure 53** below and would be offset by replacement planting within the SFS site, however, approval for the removal of this will be sought and obtained separately.


**Figure 58 Tree removal on the site**

*Source: Aspect Studios*

## 4.13 Water management

The Stormwater Management Plan at **Appendix P** details the proposed water cycle and management works to support the proposed development. These include:

- Employing a range of water quality treatment works including providing gross pollutant traps, filters and litter baskets to manage the quality of stormwater leaving the site.
- Installing 2 new 150KL water tanks in the northern and southern ends of the stadium to capture rainwater from the roof for reuse within the site. This will primarily be for toilet flushing, and potentially site maintenance.
- Installing a new 1,000m$^3$ on site detention tank in the east of the site and increase the capacity of an existing storage tank beneath the Noble Bradman Stand to 3,000m$^3$. These tanks will discharge from the site via the existing discharge points on Driver Avenue and Fox Studios, subject to further agreement with Sydney Water and City of Sydney Council who are responsible for these assets.

### 4.13.1 Bore water

The SCSG Trust is currently licensed to use 20 ML per year of bore water extracted from the Botany Sands aquifer for playing field irrigation across the former SFS and SCG (water extraction licence 24543). The location of the existing bore is outside of the site boundary for this Development Application and it is not proposed to alter the bore or license as part of this application. Bore water is collected and stored in an existing tank located within the SCG basement, from which it is available for distribution via pipework to the future SFS for irrigation of the playing field. No change is proposed to this arrangement and no water is proposed to be taken outside of the existing license.

## 4.14 Utilities and services

In order to support the operation of the new stadium it is proposed to relocate, alter or augment infrastructure for the site including stormwater, sewer, water, gas and communications, which will be subject to further discussions and approval from the relevant asset owners and authorities. The Infrastructure Management Plan at **Appendix U** and letter by Stowe (included with **Appendix U**), which identify the following works at this preliminary stage:

- Electricity – the stadium will be supplied via two dedicated 11kV high voltage feeders from the Paddington Zone Substation. The electrical supply will run along Oxford Street, Oatley Road and across Moore Park Road to two new high voltage control chamber substations located adjacent to the SFS. From this point, SFS will operate as a private high voltage network with reticulation to private substations located in each quadrant of the stadium through a high voltage ring. An electrical easement will be required on the site between Moore Park Road and the high voltage control chamber substations.
- Communications - two diverse incoming cabling pathways will be provided to the precinct with a minimum separation distance of 20m.
- Potable water – it is proposed to provide a new DSW connection to the Sydney Water main in Moore Park Road, subject to a separate Section 73 Sydney Water approval.
- Sewer connection – it is proposed to gravity drain to the existing sewer line at Diver Avenue. If required based on utility authority advice, a second connection will be investigated for the 400mm main at the north western corner of Driver Avenue to reduce flows to the existing 225mm main on Diver Avenue. This would be subject to a separate Section 73 Sydney Water approval.
- Gas – a new gas connection is proposed using the high pressure main on the Moore Park Road frontage of the site.
- Stormwater – refer to the discussion in **Section 4.13** above.
- Emergency generator – four emergency diesel generator sets will provide the emergency power supply for the stadium and will be supported by diesel fuel tanks located within the secure building basement. Non in-ground fuel distribution pipes are proposed.

## 4.15 Construction management

A Construction Management Plan has been prepared by Lendlease (**Appendix AA**), which is intended to establish the overarching principles and practices for the management of construction activities. The Plan establishes site management principles that are to inform the preparation of a detailed Construction Environmental Management Plan which would be required to be prepared by the appointed contractor prior to the commencement of works and adhered to for the duration of construction.

The preliminary Construction Management Plan also considers the works completed as part of the site establishment for demolition works already occurring on the site. No roads or footpaths are required to be obstructed as part of the proposed works.

**Hours of Work**

All work on site will only occur between the following hours:

- 7am and 6pm Monday to Friday
- 8am and 1pm Saturday

- No works on Sundays or public holidays
- Unless otherwise approved in writing by the NSW Department of Planning and Environment due to extenuating circumstances (e.g. erecting and dismantling tower cranes, services connections and other works that would unduly interfere with the surrounding area or road network during normal daytime hours and should therefore be completed out of hours).

It is intended that heavy vehicle movements would occur outside of peak periods, such as between 10am and 3pm on weekdays.

It is further noted that these maximum hours are unlikely to be fully utilised, particularly in respect of Friday evenings and Saturdays due to restrictions on the ability to undertake construction works prior to and during events hosted at the SCG.

**Site Protection**

Fencing has already been erected around the perimeter of the site to enable the demolition of the stadium under Stage 1. This fencing will be retained during the construction process to control access and protect pedestrians where appropriate. The fence line generally aligns with the existing property boundary, with pedestrian access to the footpath along Moore Park Road maintained.

Security measures are employed to ensure the site is protected and only authorised personnel would be able to access the site. This includes turnstiles set up at the entry to the construction site and the requirement for security passes that will only be issued after completing a site induction.

**Construction and Demolition Compound (MP1)**

The existing MP1 carpark is being utilised during the Stage 1 demolition phase, and will continue to be used throughout Stage 2 as a construction compound. It provides an isolated area for on-site waste processing, stockpiling, loading and deliveries, materials storage and handling, site sheds and other demolition/construction management activities.

**Waste Management**

Waste processing activities will be undertaken within the construction compound, including separation of waste streams, storage and processing to enable re-use of materials on-site, or recycling and disposing of materials where this is not possible in the construction phase. No on-site concrete crushing facility is proposed to be used during the construction of the stadium.

**Air quality controls**

Whilst odour problems are not associated with this type of work and are expected to be negligible/minimal, dust emissions are expected to occur as a result of the proposed construction works. Mitigation measures will be implemented to avoid dust generation, including both on-site practices such as limiting or ceasing crushing activities or enacting other dust suppression measures when there are high winds (>30 km/h). Physical measures will also be employed such as erecting screens and barriers around dusty activities. No concrete crushing will occur on site.

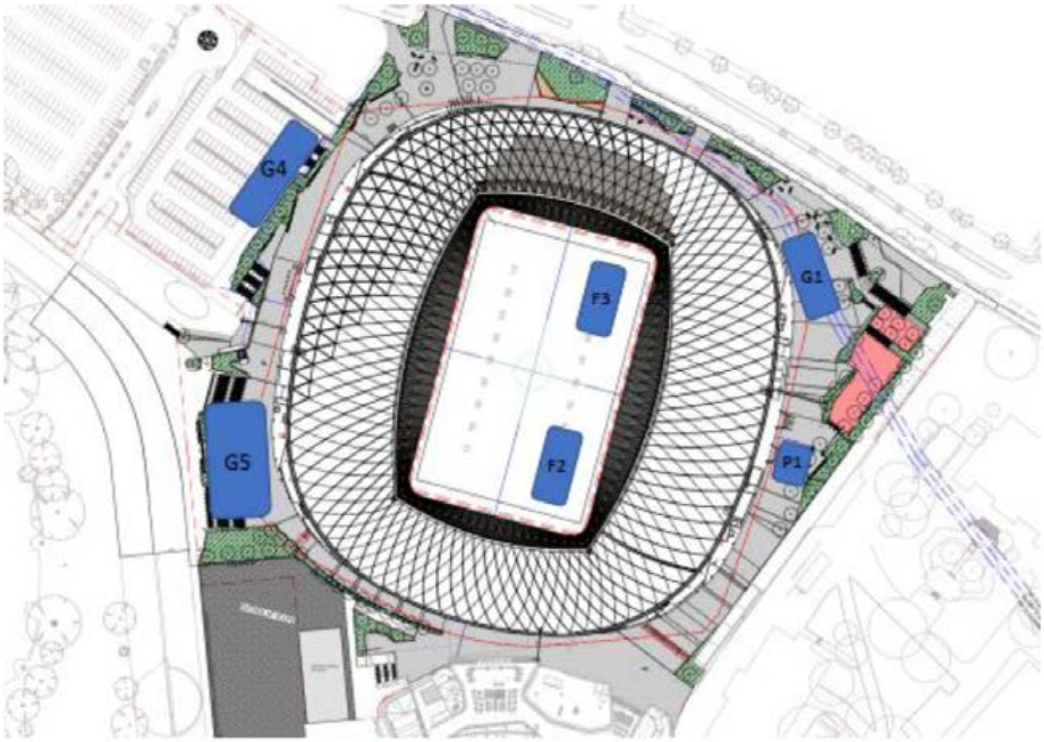
**Equipment and Plant**

The construction of the stadium will require the use of a range of equipment and plant, including (but not limited to):

- Temporary cranes (approx. 250 tonne);
- Heavy lift crawlers and mobile cranes;
- Excavators and bobcats;
- Jackhammers/ rockbreakers/impact drill;
- Mulcher/chipper;
- Angle grinders;
- Hand tools;
- Chainsaw;
- Forklifts;
- Generators;
- Water tanks;
- Trucks; and
- Light vehicles.

### Work zones

All construction vehicles will be unloading within the site, with no loading or unloading to occur on the street. As such no on-street work zones are proposed or required. **Figure 59** below identifies the material handling zones within the site.




| | |
|---|---|
| G1 | Materials Handling – Gate 1 – Access through Gate 1 off Moore Park Road with egress from Gate 3. Semi Trailer Access available |
| G4 | Materials Handling - Gate 4 – Access through Gate 4 off Driver Ave into MP1 East. egress out Gate 4. Semi Trailer Access available |
| G5 | Materials Handling – Gate 5 – Access through Gate 5 off Driver Ave. Egress out Gate 5. Semi Trailer Access available |
| F2 | Materials Handling – Field 2 – Access through Gate 1 or 4 into the Field of Play. Semi Trailer Access available |
| F3 | Materials Handling - Field 3 – Access through Gate 1 or 4 into the Field of Play. Semi Trailer Access available |
| P1 | Materials Handling - Paddington Lane 1– Access through Paddington lane or Gate 1. Semi Trailer Access available |

**Figure 59 Materials handling zones**

*Source: Lendlease*

### Vehicular Access

All vehicles will enter and exit the site via Paddington Lane, Moore Park Road, or Driver Avenue using existing vehicle access points on these frontages (see **Figure 60** to **Figure 62** below). The detailed vehicle access points will change depending on the phase of works on the site as follows:

- During civil and piling works – it is expected that vehicles will enter the site from Moore Park Road via Paddington Lane and exit the site via Driver Avenue, utilising two alternate locations on Driver Avenue depending on the works occurring on the site.
- During the construction of the stadium structure, facade and roofing – it is expected that access and egress points will increase to include vehicles entering and exiting from both Driver Avenue and Moore Park Road, enabling materials handling and services on multiple work fronts.

- During finishes and external works – it is expected that vehicles will only enter and exit the site via the reinstated MP1 carpark.


**Figure 60 Vehicles entering and exiting the site during excavation and piling works**

*Source: Lendlease*

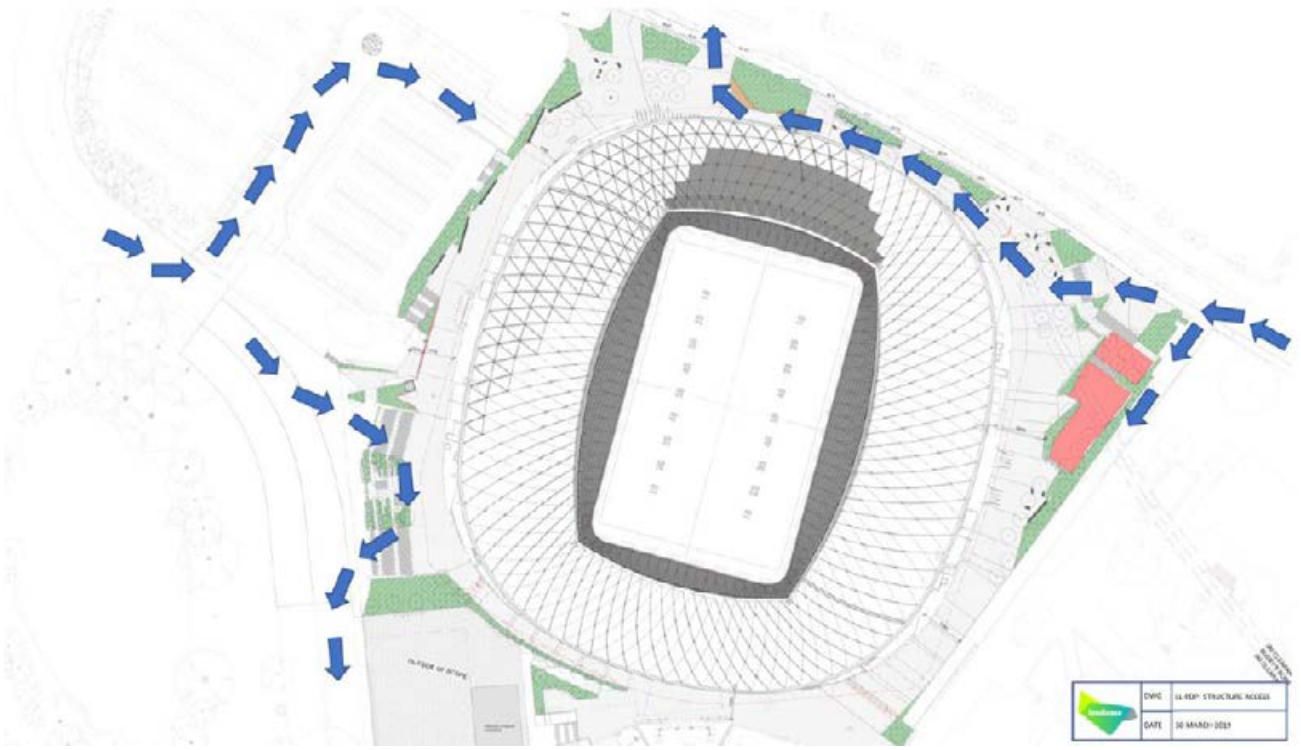


**Figure 61 Vehicles entering and exiting the site during the construction of the stadium structure, facade, roof**

*Source: Lendlease*

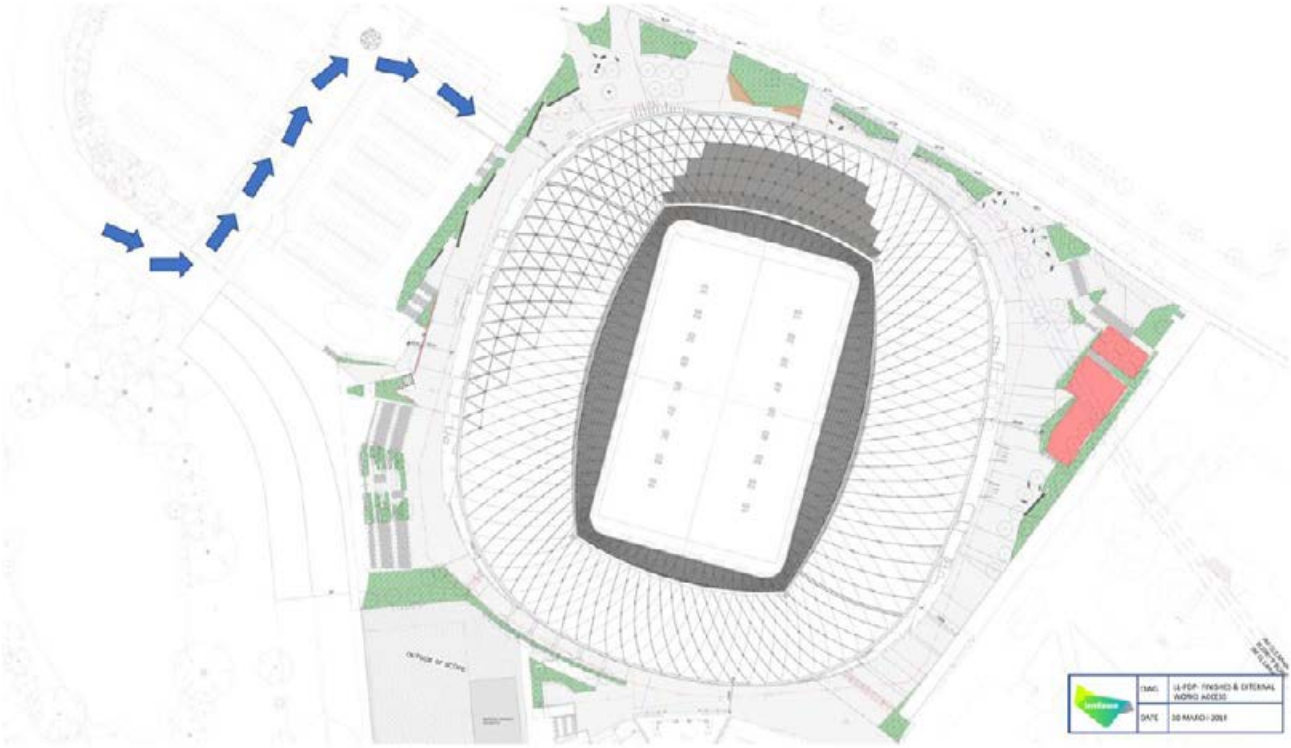


**Figure 62 Vehicles entering and exiting the site during the finishes and external works**

*Source: Lendlease*

It is expected that during a busy construction day, the number of heavy vehicles will include 30 concrete trucks, 20 pre-cast steel and structural delivery trucks, and 10 small delivery vehicles.

Construction traffic will travel to and from the site using main roads only in order to access the regional road network. Within the immediate vicinity of the site, this will involve vehicles utilising Moore Park Road, South Dowling Street and Oxford Street. All heavy vehicle operators will be instructed not to use local roads. There will be no heavy vehicle traffic for the project on Oatley Road or Regent Street. No queuing or marshalling of construction vehicle will be permitted on public roads.

Vehicular access to the Rugby League Central building from Driver Avenue will be maintained throughout, as will vehicular access to the ARDC building from Moore Park Road.

Owing to the extent of works occurring on the site, it is likely that no on-site car parking will be provided for construction workers. Workers will instead be required to arrive by public transport or park in nearby parking stations, which is similar to arrangements for other major development projects in close proximity to the Sydney CBD. Local and regional roads in the immediate vicinity of the site include time-limited parking restrictions and resident/business parking restrictions that would continue to be enforced by the relevant road authority.

A workforce travel plan has been prepared by Lendlease for the demolition phase of the project, and will be revised to consider the construction phase of the project, to outline measures to minimise impacts on local on-street parking, including information regarding public transport and the availability of parking along Driver Avenue and within the Entertainment Quarter public car park. The key principles of the workforce travel plan would form part of the standard site induction process provided for all staff.

### Crane locations

The construction of the structure for the stadium will require tower cranes to be erected on site. These cranes will likely be co-located with the materials handling zones included within the site and shown at **Figure 59** above. The tower cranes will also be supplemented by heavy lift crawlers and mobile cranes. The strategy for cranes operating on the site will continue to be developed, and will be subject to the standard separate and future certification process including the submission of relevant details to the Civil Aviation Safety Authority and Sydney Air Corporation Limited prior to the operation of cranes.

### Stakeholder consultation

Lendlease employs a communication protocol for coordinating works with external stakeholders and the community as required. This includes appointing a communications manager responsible for all external communication and consultation, including:

- Managing and actioning complaints in relation to the works;
- Providing regular project updates to surrounding stakeholders; and
- Ensuring all workers on site are aware of their responsibilities in relation to project communications.

### Construction staging

The below details the indicative construction staging for the new stadium, which is intended to commence operations in March 2022.

**Table 11 Indicative construction staging**

| Stage | Indicative Timing | |
|---|---|---|
| Stage 1: Site establishment | January 2019 | Subject of Stage 1 EIS |
| Stage 1: Demolition of ancillary buildings (exc. Cricket NSW) | February 2019 – May 2019 | |
| Stage 1: Demolition of Cricket NSW building and indoor wickets | September 2019 – October 2019 | |
| Stage 1: Demolition of Sydney Football Stadium Roof | January 2019 – July 2019 | |
| Stage 1: Demolition of Sydney Football Stadium Structure | January 2019 – December 2019 | |
| Stage 2: Construction of new stadium<br><br>*Including the following works within this program:*<br>*Earthworks……*<br>*Piling……*<br>*Concrete structure……*<br>*Roof construction……*<br>*Internal facade and fit-out……*<br>*Facade ……*<br>*External works ……* | October/November 2019 – June 2021<br>*Inclusive of the following concurrent / overlapping timeframes:*<br>*6 months*<br>*7 months*<br>*18 months*<br>*18 months*<br>*18 months*<br>*12 months*<br>*6 months* | Subject of this Stage 2 EIS |
| Stage 2: Testing and commissioning (subject to this application) | June 2021 – February 2022 | |
| Stage 2: Commencement of stadium operation | March 2022 | |

# 5.0 Legislation, policies and requirements

This chapter of the EIS contains our assessment or summary of the compliance of the proposed development with relevant statutory instruments, strategic plans and policies, and other assessment and design requirements. The environmental effects of the proposed development are discussed in detail in the proceeding **Section 6.0** of the EIS.

## 5.1 Secretary's Environmental Assessment Requirements

**Table 1** in **Section 1.5** provides a summary of the individual matters listed in the SEARs and identifies where each of these requirements has been addressed in this EIS and the accompanying technical studies.

## 5.2 Environmental Planning and Assessment Act & Regulation 2000

The EP&A Act establishes a specific assessment system to consider projects classed as State Significant Development (SSD). SSD is development deemed to be of State significance, and includes for example projects of a certain value that are being completed on sites regarded as important to the NSW Government, such as the Sydney Sports Stadiums Site, or for a particular purpose such as major sporting facilities. As noted, the proposed development that is the subject of this DA is categorised as SSD.

Division 4.4 of the EP&A Act relates to concept development applications. A concept development application is one that sets out concept proposals for the development of a site, and for which detailed proposals for separate parts of the site are to be the subject of subsequent development applications. The application may also concurrently set out detailed proposals for the first stage of development. A Concept DA is commonly referred to as a 'Stage 1 Development Application' or a 'Concept Proposal'. These terms are used interchangeably throughout the consultant reports, but should be interpreted to mean 'staged DA' (for the purposes of section 4.24 of the EP&A Act) in each instance.

Section 4.24 of the EP&A Act provides that while any consent granted on the determination of a staged DA for a site remains in force, the determination of any further development application in respect of that site cannot be inconsistent with that consent. An assessment of the Stage 2 development against the requirements of the Concept Proposal set out in the terms of SSD 9249 has been undertaken that demonstrates that the proposed development is consistent with the Concept Proposal and is provided at **Appendix AA**.

This EIS has examined and taken into account all possible matters affecting or that are likely to affect the environment by reason of the proposed development. **Table 12** provides an assessment of the proposed development against the objects of the EP&A Act.

The proposed development is consistent with Division 4.1 of the EP&A Act, particularly for the following reasons:

- the development has been declared to have state significance;
- the development is not prohibited by an environmental planning instrument; and
- the development has been evaluated and assessed against the relevant heads of consideration under Section 4.15(1).

**Table 12 Objects of the EP&A Act**

| Object | Comment |
|---|---|
| Section 1.3:<br>(a) to promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources, | The proposal has the potential to provide a range of social and economic benefits and has been carefully designed and tested, and will be monitored through the delivery and operational period, to ensure that it does not result in any adverse cultural or environmental impacts. This is detailed further in **Section 5** and the Mitigation Measures in **Section 7** of this EIS. |
| (b) to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment, | The principles of Ecologically Sustainable Development, as set out in Schedule 2 of the EP&A Regulation, as well as other relevant economic, environmental and social considerations have been addressed in this EIS and the accompanying information. The 'Justification of the Proposal' is outlined in **Sections 6** and **9** of this EIS demonstrates how such factors have been considered in the detailed design, delivery and operation of the stadium. |

| Object | Comment |
|---|---|
| (c) to promote the orderly and economic use and development of land, | The proposed development enables the redevelopment of the site to realise the vision set under the NSW Stadia Strategy and the Stage 1 DA, in accordance with the established planning and design parameters, enabling the orderly and economic development of land. The staged delivery of the stadium aims to limit the disruptions to Sydney's sporting infrastructure and population and deliver the stadium in a timely manner. |
| (d) to promote the delivery and maintenance of affordable housing, | Not applicable. |
| (e) to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats, | The proposed development takes place in a modified and disturbed environment, which does not impact on biodiversity values. The site is not considered to have habitat suitable for any threatened flora and fauna, as was confirmed in the Biodiversity Development Assessment Report submitted with the Stage 1 DA. This assessment considered the values of the site, and informed the conditions of consent for the Stage 1 DA that have been fulfilled in this subsequent Stage 2 DA. A waiver request has been made to the Department and OEH confirming that no further Biodiversity Development Assessment Report is needed for the proposal. |
| (f) to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage), | The SFS is not identified as a heritage item in an environmental planning instrument or under the *Heritage Act 1977*, and is in the process of being demolished. However, Busby's Bore (State Heritage) traverses the site and the site is located within a Heritage Conservation Area under the Sydney LEP 2012. Furthermore, the site is surrounded by and influenced by a number of heritage items of varying significance. An assessment of the heritage context of the site, an interpretation strategy, and a detailed assessment of the archaeological remains on the site has been prepared by Curio Projects (**Appendices T, CC** and **DD**). These detailed assessments and strategies promote the sustainable management of heritage in the redevelopment of the site. Refer to **Sections 6.6** for further detail. |
| (g) to promote good design and amenity of the built environment, | The proposal is the outcome of a competitive architectural and landscape architecture design process and exhibits design excellence in accordance with the Sydney LEP (refer to **Section 5.6** and **Appendices E** and **F**). It has been developed in accordance with the Design Excellence Strategy and Urban Design and Public Realm Guidelines established at Stage 1 to guide and promote good design and amenity.<br><br>An assessment of the proposed detailed design of the stadium and associated public domain, and the potential impacts of this design relative to the impact assumed for the approved building envelope has been completed in **Section 6** below. This assessment demonstrates that the detailed design and operation of the stadium achieves excellence in design and does not adversely impact the surrounding environment. |
| (h) to promote the proper construction and maintenance of buildings, including the protection of the health and safety of their occupants, | The current SFS is no longer fit for purpose and does not comply with modern standards in terms of accessibility, construction, safety and security. The new stadium is designed to meet these standards and ensure that the stadium is fit for purpose into the future, to ensure the protection of the health and safety of patrons, staff and hirers. |
| (i) to promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State, | Consultation has been undertaken with various levels of government and government agencies during the preparation of this Development Application as outlined in **Section 4.0**, and all agencies will be afforded the opportunity for further input into the development process during the public exhibition process. |
| (j) to provide increased opportunity for community participation in environmental planning and assessment. | Community consultation and participation to date has informed, and will continue to assist, the development and operation of the proposed stadium. This is detailed in **Section 4.0** of the EIS. Further consultation will be carried out during exhibition of the application, through the design development process, prior to the commencement of construction, and throughout the construction period. |

In addition to the above, the EIS has addressed the criteria within Clause 6 and Clause 7 of Schedule 2 of the EP&A Regulation. Similarly, the EIS has addressed the principles of ecologically sustainable development through the precautionary principle (and other considerations), which assesses the threats of any serious or irreversible environmental damage (see **Section 6.18**).

As required by Clause 7(1)(d)(v) of Schedule 2 of the EP&A Regulation, the following additional approvals set out in **Table 13** are either not required by virtue of the fact that the project is SSD, or because they are not required in order to permit the proposed development to occur.

**Table 13 Other legislation which does and does not apply**

| Act | Approval Applicable/ Required? |
|---|---|
| **Approvals that do not apply to State Significant Development** | |
| *Coastal Protection Act 1979* | N/A |
| *Fisheries Management Act 1994* | N/A |
| *Heritage Act 1977* | N/A |
| *National Parks and Wildlife Act 1974* | N/A |
| *Native Vegetation Act 2003* | N/A |
| *Rural Fires Act 1997* | N/A |
| *Water Management Act 2000* | N/A |
| **Legislation that must be applied consistently** | |
| *Fisheries Management Act 1994* | No |
| *Mine Subsidence Compensation Act 1961* | No |
| *Mining Act 1992* | No |
| *Petroleum (Onshore) Act 1991* | No |
| Protection of the Environment Operations Act 1997 | No |
| *Roads Act 1993* | No |
| *Pipelines Act 1967* | No |

## 5.3 Compliance with strategic planning framework

The approved Stage 1 DA addressed the strategic context on the site and the delivery of the new SFS. It addressed the various plans and policies governing the long-term development of Sydney over the next forty years, and was found to be consistent with and support the strategic goals, directions and actions of these plans and policies. As this Stage 2 DA is pursuant to and consistent with the Stage 1 DA, it therefore remains generally consistent with the provisions of the relevant planning policies that have been identified in the SEARs. As detailed in the following sections and other supporting technical information appended to this EIS, this application will seek to deliver a key piece of sporting and entertainment infrastructure to support the ongoing attraction of Sydney to domestic and international visitors and the ability to host major events.

### 5.3.1 NSW Premier's priorities

The NSW Premier's Priorities represent 12 of the 30 key policy priorities for the NSW Government, replacing the former NSW 2021 plan. The priorities outline the NSW Government's vision and objectives for the State's near-term future and are intended to guide all government action. The priorities set a series of targets designed to rebuild the economy, deliver quality government services, improve infrastructure, strengthen our local environment and communities and improve governance structures. The key priorities as they relate to the proposed development are discussed below.

#### Creating Jobs

The NSW Government identifies NSW as leading the nation on key economic indicators, whilst also acknowledging that more can be done to attract new jobs and businesses to the State. The State Government has targeted the creation of 150,000 new jobs in NSW by 2019 and aims to make the NSW economy as competitive as possible and therefore help create employment opportunities across the state. Whilst this jobs target was achieved in May 2016, the NSW Government is continuing to develop key initiatives that assist in the creation of jobs, such as creating jobs and apprenticeships for the construction sector to promote the strength and continued growth of the economy.

The proposed development directly benefits job creation and more widely contributes to tourism and the Global presence of Sydney. As detailed in the Social and Economic Impact Assessment Statement that was prepared by Ethos Urban and submitted as Appendix O of the Stage 1 EIS, the stadium can create approximately 600 new full time equivalent jobs during the construction process and 300 full time equivalent jobs at the stadium once it is operating. In addition to these direct benefits, the stadium is expected to have a wide range of indirect employment broader economic benefits occurring within the local and wider Australian economy as a result of the flow-on economic activity, including supporting an additional 346 part time equivalent jobs in local hospitality, accommodation and entertainment industries.

**Building Infrastructure**

The NSW Government has also committed to delivering high-profile infrastructure projects on time and on budget, and credits Infrastructure NSW as the expert, independent advisory body on the government's ambitious infrastructure projects. Whilst the proposal is not identified as being one of the 10 high-profile infrastructure projects being tracked in NSW, the proposal ties into surrounding 'step-change' projects and contributes to the broader renewal of ageing infrastructure in NSW to support the future needs of the community.

The stadium will benefit from ongoing improvements in Sydney's light rail network. Specifically, the CBD and South East Light Rail is identified as being one of the 10 priority infrastructure projects, and will provide a dedicated light rail stop that services the stadia. Services are expected to commence in 2020, before the reopening of the stadium, ensuring that the stadium operates in conjunction with improved transport capacity.

### 5.3.2 NSW Stadia Strategy

In 2012, the NSW Government released the NSW Stadia Strategy. The strategy covered seven Government-owned or leased stadia, namely:

- Stadium Australia;
- Sydney Showground;
- Sydney Cricket Ground (SCG);
- Sydney Football Stadium (SFS);
- Western Sydney Stadium;
- Hunter Stadium; and
- Wollongong Stadium.

The NSW Stadia Strategy 2012 provides a vision for the future of stadia within NSW, prioritising investment to achieve the optimal mix of venues to meet community needs and to ensure a vibrant sports and event environment in NSW. A key action of the strategy included development of master plans for Tier 1 stadia and their precincts covering transport, integrated ticketing, spectator experience, facilities for players, media, corporate and restaurant and entertainment provision. SFS is one of three designated Tier 1 stadia within NSW under the Strategy, with the others being Stadium Australia (Olympic Park) and the Sydney Cricket Ground (SCG) (**Figure 63**).

In order to qualify for Tier 1 status, a stadium is required to include:

- Seating capacity greater than 40,000;
- Regularly host international sporting events;
- Offer extensive corporate facilities, including corporate suites, open-air corporate boxes and other function/dining facilities; and
- Be the home ground for sporting teams playing in national competitions.

The approved Stage 1 DA and subsequently this Stage 2 DA have been developed to respond directly to these criteria and provide for a future stadium that meets each of these criteria.

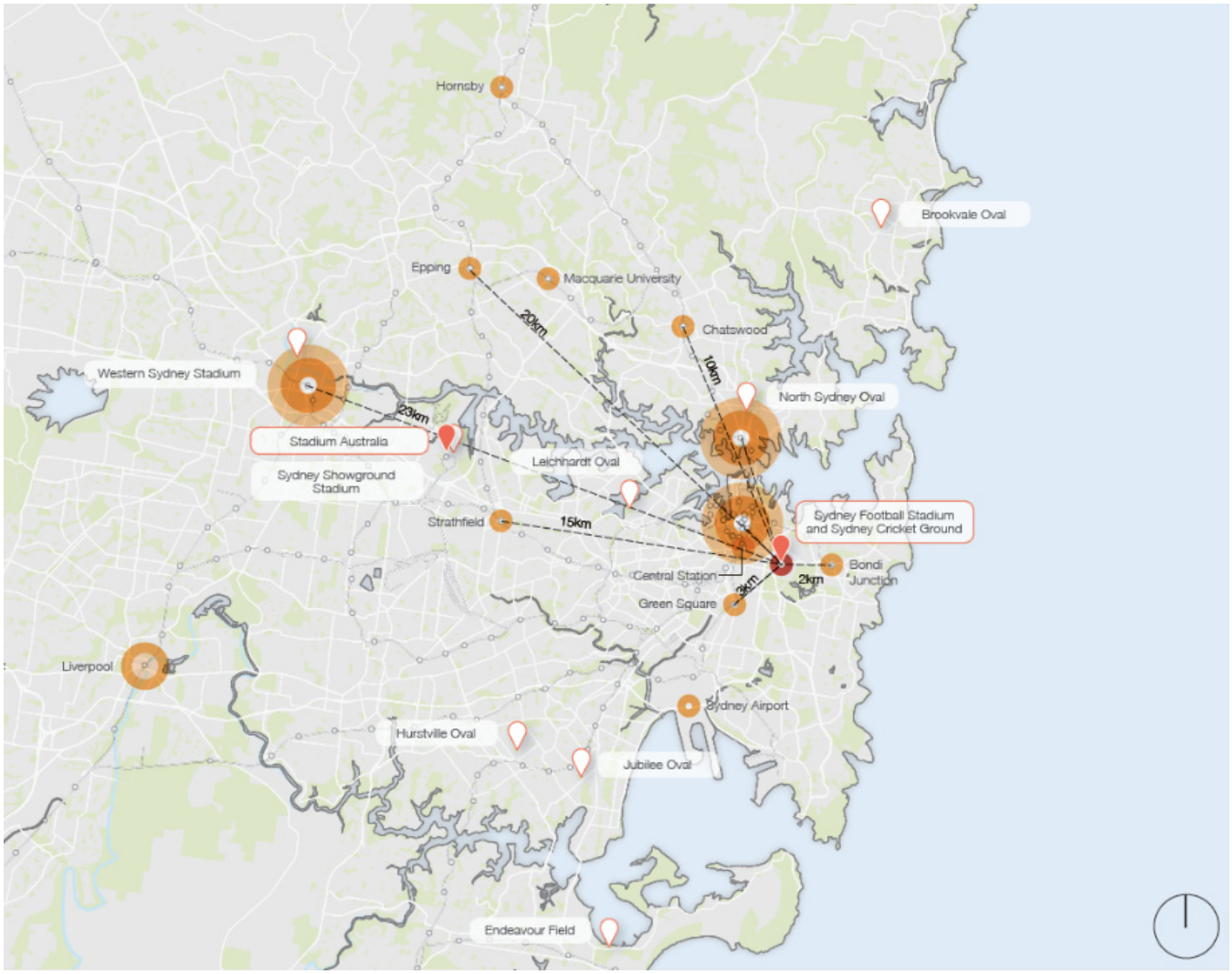


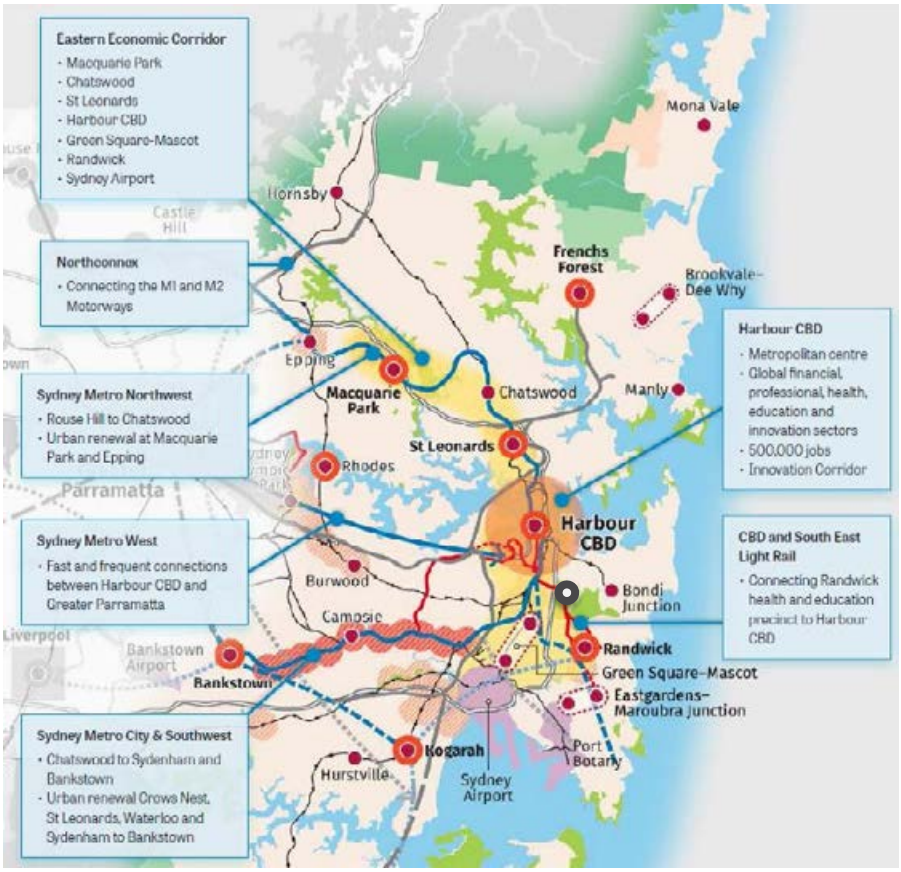

**Figure 63 Sydney's Tier 1 and Tier 2 Stadia**

*Source: SJB*

### 5.3.3 Greater Sydney Region Plan

The *Greater Sydney Region Plan* is the overarching strategy for growing and shaping the Greater Sydney Area. It sets a 40-year vision (to 2056) and establishes a 20-year plan to manage growth and change for Greater Sydney in the context of social, economic and environmental matters. The plan was adopted in March 2018 and seeks to reposition Sydney as a metropolis of three cities – the western parkland city, central river city, and the eastern harbour city. In the same vein as the former *A Plan for Growing Sydney*, the Plan provides 10 high level policy directions supported by 40 objectives that inform the District Plans, Local Plans and Planning Proposals which follow in the planning hierarchy.

Under this Plan, the site is identified as being within the Eastern City which is well established and serviced and is credited as being the State's greatest economic contributor. A key objective for the Eastern City is focusing on innovation and global competitiveness, that underpin continued growth. The SFS is located on the periphery of the CBD and the Eastern Economic Corridor, and is in close proximity of the CBD-South East Light Rail as shown in **Figure 64** below.




The Site

**Figure 64 Features of the Eastern City**

*Source: Sydney Region Plan*

The proposal is consistent with the strategic directions for the growth and development of Sydney as follows:

**A city supported by infrastructure**

- The revitalised SFS delivers a key piece of sporting and entertainment infrastructure to support the ongoing attraction of Sydney to domestic and international visitors and the ability to host major events. The stadium enables more people to attend such events, and aligns with ongoing and forecast growth within Sydney.
- SFS benefits from both existing and planned public transport infrastructure, particularly the CBD-South East Light Rail project, ensuring that the stadium is delivered in conjunction with improved transport capacity.
- The redevelopment of the stadium represents the most cost-effective means of ensuring it is able to meet sporting and patron requirements over the coming 50 years.

**A collaborative city**

This direction acknowledges that managing the competing needs of the city requires all levels of government, industry and the community to work together.

- Whilst the site is not identified as being within a 'collaboration area' in the Regional Plan, the SCSG Trust precinct is a significant sporting precinct not only for events but also for administration and training. The Rugby League Central and ARDC buildings (rugby union), which will be retained through the SFS redevelopment, are national-scale sporting administration facilities for rectangular-field sports, whilst the presence of UTS within the precinct also provides synergies with research and education. Ensuring that the SFS remains relevant within the NSW and Australian sporting ecosystem is vital to the maintenance of this cluster.
- SFS remains consistent with the existing and long term strategic vision for the area as a recreation, sporting and entertainment precinct that is accessible to all Sydney-siders and visitors. Improved public domain will provide for increased integration with, and accessibility to, regional-scale recreational facilities in Moore Park.

**A city for people**

- A key outcome of the proposal is to improve infrastructure and services and therefore drastically improve the usability of the stadium. This includes balancing the previous deficit in female, disabled, and unisex facilities, which was a key concern with the former stadium, and providing prayer rooms for different user groups.
- The stadium has been designed to meet best-practice standards in universal design and compliance with the applicable Building Code of Australia provisions and Australian Standards, and rectifies the poor level of accessibility and facilities for disabled persons in the former stadium.
- In creating an improved venue and atmosphere for sporting events, the new stadium will contribute to enhanced community associations with sporting teams, codes and communities.
- SFS will support a social dynamic that will build a community that is 'strong, healthy and well connected'. It has been designed as a new destination within Sydney that supports social interactions, active transport and exercise in a range of open spaces and community facilities.
- A driver of the Stage 1 DA and this proposal is to make the stadium accessible to a diverse range of people of different ages, socio-economic statuses and backgrounds.
- The redeveloped stadium will cater for a wider range of sporting fixtures and be able to accommodate the increase in women's professional sport with appropriate player facilities.

**Housing the city**

- No housing is provided on site.
- The Stage 2 DA seeks to continue the existing and envisaged use for the site as a recreation, sporting and entertainment precinct. The site cannot be used for residential purposes and as such it does compete with housing supply opportunities.

**A city of great places**

- The site is located in proximity of concentrated employment opportunities, retail, education and entertainment opportunities, and offers 'more than just new homes and jobs'. It creates a new and enhanced destination within Sydney and contributes to a safer and more inclusive and walkable Precinct.
- The redevelopment of the stadium will allow for new areas of the site to be opened for public access on a day-to-day basis, delivering new high-quality public domain and significantly enhanced pedestrian connections between Paddington and Moore Park.

**A well connected city**

- SFS is located on the periphery of the CBD, with easy access to surrounding jobs, schools and services and access to other strategic centres. It benefits from existing and planned transport connections, which future development will seek to leverage and enhance.
- The Stage 2 DA offers improved accessibility and active travel to the venue, including making pedestrian travel through the site and public bicycle parking accessible at all times, improved and increased bicycle parking facilities, and improved wayfinding and communications to promote walking, cycling and public transport utilisation.
- A key outcome of the proposal is also to improve the walkability and permeability of the precinct during the day-to-day use of the site.

**Jobs and skills for the city**

- The proposal directly benefits job creation and more widely contributes to local hospitality, accommodation and entertainment industries and the Global presence of Sydney.
- Further, entertainment and tourism facilities are recognised as being assets that support the global role of the Eastern City by driving the 'visitor economy'. SFS directly contributes to the long-term health of the visitor economy.

**A city in its landscape**

- The proposal provides for the retention of all existing street trees adjoining the site as well as the retention of significant existing trees (e.g. Tree 125 – Moreton Bay Fig) and the provision of 120 new trees and soft landscaping.
- Greater than 1.5 new trees are being planted in place of every tree that is removed, contributing to an increase in the urban canopy and the landscaped setting of the site.
- The proposal does not affect any protected biodiversity or remnant or significant vegetation.

**An efficient city**

- The proposal seeks to deliver a more sustainable development was existing on the site, contributing to the resilience and longevity of the stadium. It will achieve a LEED Gold Rating, and undertake a number of initiatives over and above this certification.

**A resilient city**

- The proposal minimises exposure to natural hazards by ensuring that future development is not affected by flooding.
- The environmental initiatives implemented through the development contribute to enhanced environmental outcomes and seek to mitigate impacts related to climate change.
- Increasing tree canopy to reduce urban heat island effect and provide shaded areas for the community.

### 5.3.4 Eastern City District Plan

The *Eastern City District Plan* underpins the *Greater Sydney Region Plan* and sets the 20-year vision for the District through 'Planning Priorities' that are linked to the Region Plan. The proposal is therefore consistent with a number of these priorities, as follows:

- **Infrastructure and collaboration:** The new stadium delivers a key piece of sporting and entertainment infrastructure that supports the ongoing attraction of Sydney. It is being constructed in an area that is serviced and benefits from public transport connections and road infrastructure. The proposal supports the ongoing attraction of Sydney to domestic and international visitors.
- **Liveability:** A driver of the project is to provide a stadium that is accessible and inclusive. The proposed stadium provides enhanced female, disabled, and unisex facilities, as well as prayer rooms, creating an inclusive development and social dynamic that will build a community that is 'strong, healthy and well connected'.
- **Productivity**: The new stadium directly contributes to the long-term strength and productivity of the visitor economy, which is supported by entertainment and tourism facilities. It increases the capacity of the site to host events and more informal activities, and renews tired and inadequate facilities so that the stadium is able to attract both domestic and international events and therefore tourists. It supports broader economic growth in the region, as a direct benefit of the increased tourism and activity.
- **Sustainability**: The removal of existing landscaping on the site has been minimised, and will be replaced at a rate of 3 trees planted for every one removed. Vegetation on the site will be 95% native species. The proposed stadium will also use solar panels on the roof to account for the daytime operation of the stadium, as well as initiatives for water recycling and reduction, sustainable and active transport programs and facilities, and more.

The site is identified as being on the edge of the Harbour CBD and Eastern Economic Corridor (**Figure 65**). It is in close proximity of the CBD-Sydney East Light Rail and is just north of a Green Grid Priority Corridor between Centennial Park and Bondi Junction. The sporting, recreation and entertainment precinct encompassing Centennial and Moore Parks, Fox Studios, and the Entertainment Quarter is considered to be an asset that brings together a diverse range of cultural, creative educational, and recreational endeavours, noting that "*there is the potential to grow the opportunities of this precinct*". Whilst the proposal does not seek to diversify the use of the site, rather it enhances the long term vision for this site and in doing so supports the visitor economy and the attraction of local, national, and international guests to the SFS.

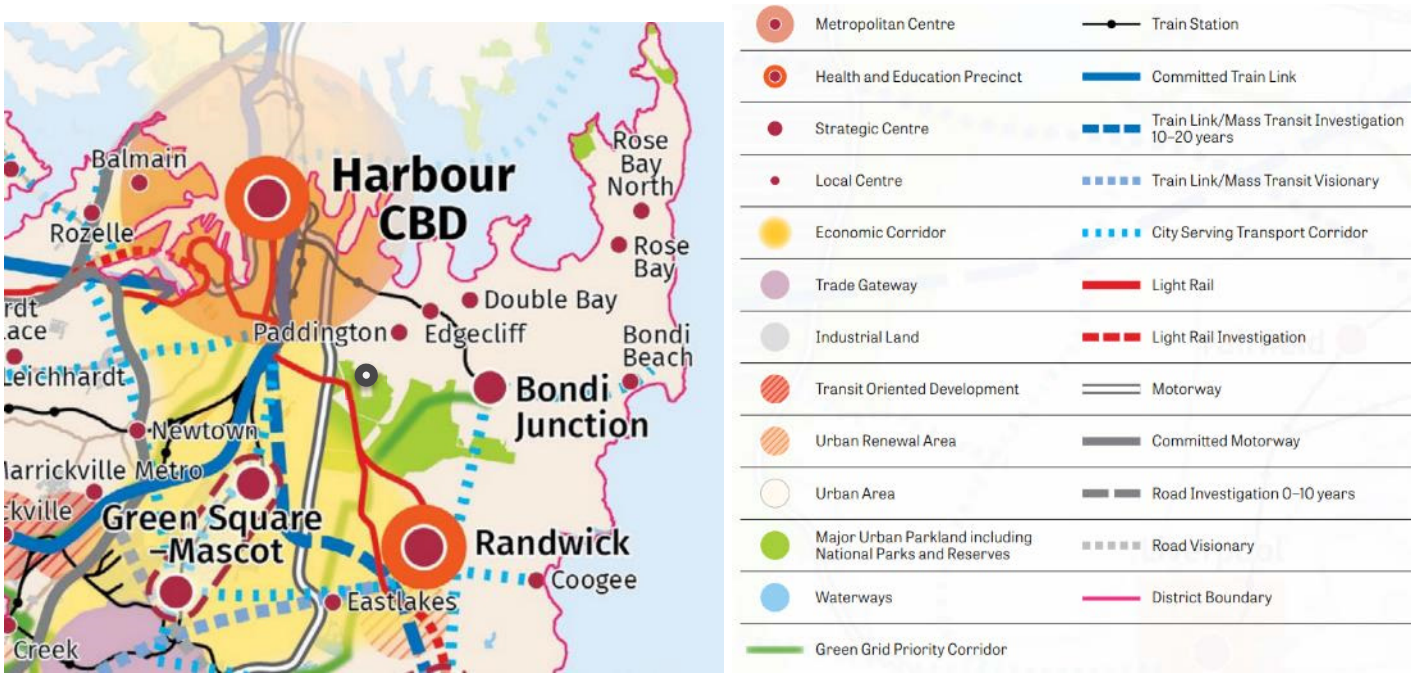



**Figure 65 The Eastern City District**

*Source: Eastern City District Plan*

### 5.3.5 Sustainable Sydney 2030

*Sustainable Sydney 2030* is the City of Sydney Council's vision for the sustainable development of the City to 2030 and beyond. It includes ten specific targets to achieve a sustainable Sydney, as well as 10 strategic directions to guide the future of the city. The proposal supports a number of relevant targets and strategic directions, including:

- ***Target 1*** *– The city will reduce greenhouse gas emissions by 70 per cent.*
- ***Target 2*** *– The city will have the capacity to meet 100 per cent of electricity demand by local electricity generation, 30 per cent of water supply by local water capture and increased canopy cover of 50 per cent by 2030.*
- ***Strategic Direction 2*** *– A Leading Environmental Performer.*
- ***Strategic Direction 9*** *– Sustainable development renewal and design.*

The detailed design of the stadium has explored the sustainability initiatives and targets identified in the Stage 1 DA, which sought to set the framework for a stadium that is leading in environmental performance. The stadium will achieve a LEED (Leadership in Energy and Environmental Design) Gold rating, as well as other sustainability initiatives over and above this rating. Initiatives to reduce energy and water consumption include (but are not limited to) installing LED lighting and photovoltaic cells on the roof to generate energy; capturing rainwater for reuse, continuing the use of bore water, and designing the pitch and playing field with reduced irrigation needs; prioritising sustainable modes of transport such as public transport, walking and cycling, and providing for future electric car charging facilities in the limited on-site parking available.

- ***Target 5*** *– 97,000 additional jobs with an increased share in finance, advanced business services, education, creative industries and tourism sectors.*
- ***Strategic Direction 1*** *– A globally competitive and innovative city*

The proposal is forecast to increase employment opportunities on the site and in Sydney generally as a result of flow-on economic benefits for entertainment and tourism industries and other contributing services. It will directly assist in sustaining Sydney as a globally competitive city, and rectify the currently poor user experience that would otherwise result in the loss of opportunity to host major events and halt a likely a decline in attendance and the loss of major national, regional and international events to other stadia beyond NSW. The proposal is important to Sydney's future success as a competitive and innovative city.

- ***Target 6*** *– Trips to work using public transport will increase*
- ***Strategic Direction 3*** *– Integrated transport for a connected city*

The site benefits from a both existing and planned public transport infrastructure, particularly the CBD-South East Light Rail project that is set to open in late-2019 to early-2020, ensuring that the stadium commences operating in conjunction with improved transport capacity. A key outcome of the proposal is also to improve the use of sustainable modes of transport by improving the permeability and walkability of the site, providing additional facilities for cyclists, implementing initiatives to encourage public transport, not providing additional parking and accommodating future facilities for electric vehicles in the limited on-site parking available. These initiatives, and more, have been detailed in the Environmentally Sustainable Design Strategy prepared by LCI (**Appendix M**) and discussed in **Sections 4.11** and **6.7**.

- ***Target 7*** *– At least 10 per cent of city trips will be made by bicycle and 50 per cent by pedestrian movement.*
- ***Strategic Direction 4*** *– A city for pedestrians and cyclists*

Pedestrian movements through the site were not possible under the previous stadium, which acted as a barrier to walking between Paddington and Moore Park and led pedestrians to navigate poor quality informal and illegible paths of travel through the MP1 carpark or via the circuitous alignment of Driver Avenue. Rectifying the existing issues with access and egress, the proposed stadium enables pedestrians to move through the site at any time of the day or year and has been designed with consideration of planned and potential future pedestrian paths from the surrounding area into and through the site. Rectifying the existing issues with access and egress is a key outcome of the proposal that ensures people are able to walk to and from surrounding suburbs and connecting modes of transport.

The proposal will also provide new bicycle parking and end of trip facilities to encourage people to make more trips by bicycle.

- ***Target 9*** *– residents will be within walking distance of continuous green links that connect to the harbour foreshore, harbour parklands, Moore or Centennial or Sydney parks.*

The proposed building envelope is in a comparable location to the existing stadium, ensuring that no parkland is lost as a result of the development. The reimagining of the site presents the opportunity to improve the landscape setting of the site, and connections to Moore Park, Centennial Park and the SCG. Significant trees on the site are being retained and celebrated as key features of the public domain design, in addition to significant replanting at a rate of approximately three new trees for every one that has been lost on the site.

### 5.3.6 Moore Park Master Plan 2040

The *Moore Park Master Plan 2040* is a strategic framework document developed by the CPMP Trust in 2017 that outlines the opportunities for improvement and investment in the park. Whilst this proposed development pertains to land controlled by the SCSG Trust, and as such is outside of the scope of the Master Plan, the proposal has been designed with consideration of the themes of the Master Plan and to contribute to realising opportunities for links, activation, and contribute to heritage interpretation. The Urban Design Report prepared by SJB at **Appendix G** addresses the objectives, key moves and strategies outlined within the Master Plan and highlights components of the stadium and public domain that supports either directly, or indirectly, its aspirations.

The Master Plan highlights a number of new connections and openings to increase the permeability of the Entertainment Quarter, Fox Studios, and the SFS and SCG. The position of the proposed stadium and the design of the public domain enables the delivery of new pedestrian links between the stadia and down the eastern side of the site, consistent with the vision in the Master Plan (see **Figure 66** below). However, the continuation of these links beyond the site and into Fox Studios cannot be delivered by this project. This land is controlled by the CPMP Trust, and is subject to long-standing land tenure agreements, and as such can only be delivered by these external stakeholders. Notwithstanding, SJB notes that the land to the east and south east of the site is not ‘destinational’, meaning that there is not significant activity pulling people to these locations, and as such new pedestrians links through the Fox Studios would not be expected to be significantly used during events or day-to-day.

Where applicable, the proposal is also consistent with the central themes of the Master Plan as outlined in the SJB’s Urban Design Report at **Appendix G**.

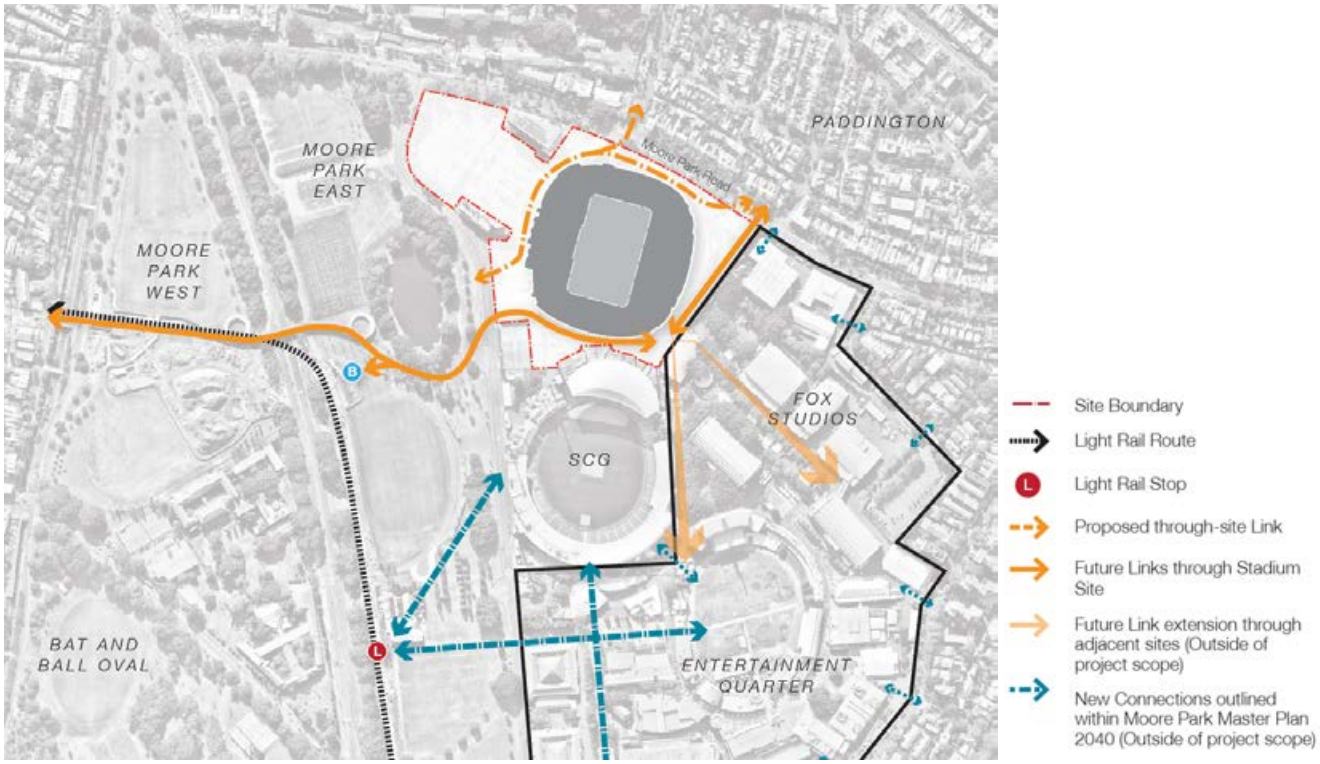



**Figure 66 Connections under the Master Plan and the proposed development**

*Source: SJB*

### 5.3.7 Additional relevant strategies and plans

In addition to the above, the proposal remains consistent with the key additional planning policies, guidelines, and strategies identified in the SEARs as outlined in **Table 14** below.

**Table 14 Summary of consistency with additional strategies and plans**

| Document | Comment |
|---|---|
| NSW Future Transport Strategy 2056 | The Strategy is the 2017 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. Whilst a number of these outcomes relate to integrating technological advancements with services and providing regional connections, the proposal is consistent with the desire to encourage active and sustainable options and provide more seamless customer experiences. |
| NSW Energy Efficiency Action Plan 2013 | The Action Plan seeks to reduce energy use, with the NSW Government committing to 'leading by example' and saving energy and electricity costs in its own operations. The proposal is consistent with the intent of this policy, in seeking to improve the environmental performance and energy efficiency of the new stadium, comparative to the former stadium, and incorporate power saving initiatives such as photovoltaic cells. |
| NSW Resource Efficiency Policy (GREP) | The *NSW Resource Efficiency Policy* seeks to reduce the government's operating costs and lead by example in increasing the efficient use of resources. It nominates measures, targets and minimum standards for the efficient use of energy, water, waste and clean air. Whilst these measures primarily relate to the design and operation of government offices, the Environmentally Sustainable Design Strategy at (**Appendix M**) details how the stadium will achieve best practice sustainable building principles and meet the measures of the GREP. |
| Better Placed | The design process for the future stadium has been developed with reference to the NSW Government Architect's (GANSW) integrated design policy *Better Placed*, which recognises that large-scale urban renewal projects are complex and often involve multiple projects being undertaken across stages. It also notes that competitive design processes are a good mechanism for driving good design outcomes. As detailed in the Competitive Design Alternatives Report prepared by Infrastructure NSW (**Appendix E**), the design of the stadium and public domain has been developed and critiqued with reference to the objectives of *Better Placed*. |

| Document | Comment |
|---|---|
| Draft Greener Places | This Draft Policy was developed by the GANSW and seeks to deliver a network of green spaces or semi-natural systems across Sydney's urban environment. The redevelopment of the public domain surrounding the stadium has provided the opportunity to significantly increase planting and provide a greater tree canopy on the site (with new trees planted at a ratio of approximately 3:1 for every tree removed). The proposed public domain design also contributes to connectivity and the creation of a network of green spaces, in enabling pedestrians to travel between Paddington and Moore Park through the site and use new recreation and gathering spaces within the site. This is detailed in the Landscape Report at **Appendix C**. |
| Crime Prevention Through Environmental Design (CPTED) Principles | The principles of Crime Prevention Through Environmental Design have been considered when developing the design for the stadium and public domain, and addressed in the CPTED Report prepared by Aspect Studios (**Appendix N**) and discussed in **Section 6.8.2** of the EIS. |
| City of Sydney Public Art Strategy and Policy | The Public Art Strategy prepared by Aspect Studios (**Appendix C**) proposes a range of public art initiatives that will be integrated into the stadium and surrounding public domain, including reinstating existing public artworks where possible. This selection process for artwork on the site will be undertaken utilising the development-specific criteria, and public art on the site will be reviewed by a panel of experts including a representative from the City of Sydney Council's Public Art Advisory Panel. |
| City of Sydney Cycling Strategy and Action Plan 2018-2030 | The City of Sydney's Cycling Strategy and Action Plan 2018-2030 establishes a target for 10% of all trips in the LGA to be made by bicycle by 2030. The proposed development actively promotes cycling as a transport option by providing dedicated bicycle parking for staff and patrons, end of trip facilities for casual and permanent staff, and nominating a range of strategies to be implemented in the operation of the stadium to encourage the uptake of cycling (discussed further in **Section 6.3.1**). The site also benefits from its inner-city location that is highly accessible by bicycle and will be supported by a new cycleway proposed by the City of Sydney Council along Moore Park Road. These initiatives will encourage more people to travel to and from the stadium by bicycle, reducing car dependency and aligning with the objectives of the Strategy and Action Plan. |
| City of Sydney Walking Strategy and Action Plan 2015-2030 | The City of Sydney's Walking Strategy and Action Plan 2015-2030 aims to encourage walking by improving wayfinding, encouraging a fine grain street network, creating lively and interesting streets, improving ramps and footpaths and slowing down traffic. The proposal is consistent with this strategy as it will deliver a high quality, permeable pedestrian network that facilitates walking around the stadium and throughout the site with improved connections to the wider local area. The previous stadium suffered from a series of 'pinch points' that prevented efficient pedestrian access/egress and circulation around the stadium. Pedestrian movements through the site were not possible due to perimeter fencing that blocked access to the site outside of events, and acted as a barrier to walking between Paddington and Moore Park. The proposed stadium rectifies these issues, by enabling pedestrians to move through the site outside of events and has been designed with consideration of planned and potential future pedestrian paths from the surrounding area into and through the site. |
| City of Sydney's Liveable Green Network | The Liveable Green Network aims to create a pedestrian and cycling network that connects people with the city and village centres as well as major transport and entertainment hubs, cultural precincts, parks and open spaces. The proposed development will contribute to creating a 'green network' by contributing to cycling infrastructure in the local area in providing bicycle parking and end of trip facilities, and by delivering a more permeable pedestrian network that enables pedestrians to walk through the site. |
| NSW Planning Guidelines for Walking and Cycling | The NSW Planning Guidelines for Walking and Cycling, released in 2004, aims to assist land-use planners and related professionals in planning for walking and cycling. The proposed development will also support the objectives of this Guidelines in encouraging walking and cycling through the delivery of bicycle parking spaces, end of trip facilities, and the creation of a more permeable pedestrian network that enables pedestrians to walk through the site. |
| Cycling Aspects of Austroads Guides | The proposed bicycle parking and end of trip facilities have been designed and will be installed in accordance with the cycling aspects of the Austroads Guides. |
| Sydney's Bus Future 2013 | *Sydney's Bus Future 2013* is the NSW Government's long-term plan to redesign the city's bus network to meet customer needs now and into the future. Whilst the specific projects identified in the Plan do not directly relate to the proposal, the proposal is consistent with Plan's objective to encourage use of the Sydney bus network by commuters. Public transport options will be advertised to patrons of events (see **Section 6.3.1**), and the stadium will utilise 'integrated ticketing' where possible, to encourage the use of public transport. |

| Document | Comment |
|---|---|
| City of Sydney Tourism Action Plan 2015 | The Tourism Action Plan sets out how City of Sydney will work with partners to maintain and develop a vibrant tourism sector in Sydney. The Action Plan acknowledges the challenges facing the tourism sector and states that the role of the city is to work with industry and government partners to "create an investment climate that allows tourism, including eco-tourism and environmentally sensitive tourism, to diversify, grow and develop". As a result, the Action Plan notes that a key area of focus will be on 'destination development', being the development of product and infrastructure.<br><br>Whilst the stadium is not specifically mentioned as a major destination that is being developed, the Action Plan was prepared in 2013 and could not have anticipated the delivery of this project. The proposal remains consistent Action Plan as it will significantly improve the ability of the stadium to attract both domestic and international events and therefore tourists, supporting economic growth in the region as a direct benefit of increased tourism and activity. The stadium is considered to be a key destination within Sydney and directly supports the global presence of Sydney.<br><br>The proposed approach to the scheduling and management of events outlined in **Section 4.9** will be critical to the ability of the new stadium to attract and accommodate significant regional and international fixtures and tournaments that bring tourism and investment to Sydney. These major events attract tourism from around the world to Sydney which has direct flow-on benefits to other sectors of the tourism economy including visitor accommodation, food and beverage, entertainment and retail. Limiting the number or types of events that are able to be hosted would be contrary to the objective of this policy to promote Sydney as a significant international tourist destination. |
| City of Sydney Competitive Design Policy 2013 | As detailed in the Competitive Design Alternatives Report (**Appendix E**) and **Section 5.6**, the design of the stadium has been developed in accordance with the design excellence process approved as part of the Stage 1 DA, which involved establishing design guidelines, undertaking a competitive process, and completing a Design Integrity Assessment (**Appendix F**). This has resulted in a stadium that promotes excellence in architectural and landscape design. |
| Centennial Parklands Conservation Management Plan | The Centennial Parklands Conservation Management Plan has been addressed in Section 2.5.2 of the Heritage Impact Statement (HIS) prepared by Curio Projects (**Appendix T**). |
| Centennial Parklands Plan of Management 2006 – 2016 | The Plan of Management provides the overarching strategic direction for the Parklands, sitting above the master plans prepared for the parklands, and guides the detailed plans and policies for the day to day planning, design and management of the parklands. No works are proposed within the Centennial Parklands and as such this plan does not apply. Any future works would be the subject of consultation and a strategic partnership with the CPMP Trust. |
| NSW and ACT Government Regional Climate Modelling (NARClim) Climate Change Projects | The NSW and ACT Government Regional Climate Modelling identifies a number of climate change projections, including more hot days and fewer cold nights, increase in the number of heatwave events and changes in rainfall patterns. The proposed development responds to the projects through design initiatives that will mitigate the effect of future climate change while maximising efficiency in energy, water and material usage. This is detailed in the Environmentally Sustainable Development Strategy at **Appendix M**. |
| OEH (2015) Urban Green Cover in NSW Technical Guidelines | The Urban Green Cover Guidelines aim to improve resilience to climate change, such as heatwaves, intense storms and localised flooding, by encouraging the increased provision of planting, permeable surfaces, green roofs, and open spaces. The proposal is consistent with the Guidelines by providing significantly more trees and landscaping on the site, selecting materials and finishes to have low reflectivity and promote thermal comfort, and providing new amenable and walkable links between Paddington and Moore Park. Refer to the Architectural and Landscape Reports at **Appendix B** and **C** respectively. |
| NSW Aquifer Interference Policy (2012) | No dewatering is required as part of the proposed development, and as such no assessment against the NSW Aquifer Interference Policy 2012 is required. This is addressed in the groundwater assessment prepared by Douglas Partners (**Appendix GG**). |
| City of Sydney Interim Floodplain Management Policy | The City of Sydney Interim Floodplain Management Policy has been addressed in Section 2 of the Stormwater Management Plan prepared by Aurecon (**Appendix P**). Flooding is discussed further in **Section 2.2.6** of the EIS. |
| Guide to Traffic Generating Developments (RMS) | Clause 104 of *State Environmental Planning Policy (Infrastructure) 2007*, discussed further in **Section 5.4** below, requires that the development be referred to the RMS as Traffic Generating Development. This EIS is accompanied by a Transport Assessment prepared by Arup (**Appendix H**), which addresses the demand for parking and traffic generated by the proposal. This is discussed in **Section 6.2.8** below. |

| Document | Comment |
|---|---|
| Guidelines for development adjoining land and water managed by DECCW (OEH, 2013) | The site does not border any land that is owned or managed by the OEH, or land that is reserved or dedicated under the *National Parks and Wildlife Act 1974*. |
| Managing Land Contamination: Planning Guidelines - SEPP 55 Remediation of Land (DUAP) | The Waste Classification Guidelines have been considered in the Construction and Operational Waste Management Plan at **Appendix S** and the Detailed Site Investigation prepared by Douglas Partners at **Appendix J**. |
| NSW EPA Sampling Design Guidelines | The Detailed Site Investigation confirms that site testing that informed this assessment was completed in accordance with the requirements of the Sampling Design Guidelines. |
| Guidelines for the NSW Site Auditor Scheme (3rd edition) 2017 | The Detailed Site Investigation prepared by Douglas Partners is supported by a Site Auditor Statement by Senversa (**Appendix J**). |
| Guidelines for Consultants Reporting on Contaminated Sites 2011 | The Detailed Site Investigation (**Appendix J**) expands on the findings of the Phase 1 Contamination Report prepared for the Stage 1 DA and details the type, extent and level of contamination on the site, in accordance with OEH Guidelines. |
| The National Environment Protection (Assessment of Site Contamination) Measure 2013 (NEPM 2013) | This measure provides assessment levels for various soil, groundwater and vapour contaminants. Under the NEPM 2013, the proposed development is considered to be 'commercial' ('HIL D').<br><br>The Detailed Site Investigation prepared by Douglas Partners references the NEPM 2013 and concludes that the site is considered suitable for the continued use as a sporting stadium without the requirement for remediation, provided that unexpected finds are managed during the construction phase of the project. |
| Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH, 2011) | The Aboriginal Cultural Heritage Assessment Report prepared by Curio Projects (**Appendix CC**) has been prepared in accordance with the requirements of the Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW. |
| Code of Practice for Archaeological Investigations of Aboriginal Objects in NSW (OEH, 2010) | The Aboriginal Cultural Heritage Assessment Report prepared by Curio Projects (**Appendix CC**) has also been prepared in accordance with the requirements of the Code of Practice for archaeological investigations of Aboriginal objects in NSW. |
| Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (DECCW) | As detailed in Section 2 of the Aboriginal Cultural Heritage Assessment (**Appendix CC**), Aboriginal community consultation in accordance with these requirements has been undertaken by Curio Projects. |
| NSW Noise Policy for Industry 2017 (EPA) | Potential noise impacts resulting from the construction and operation of the proposed development has been assessed by Arup in accordance with the Noise Policy for Industry (NPI) in the Noise and Vibration Impact Assessment (**Appendix X**). This is discussed further in **Section 6.4** below. |
| Interim Construction Noise Guideline (DECC) | This Interim Construction Noise Guideline has been considered in Section 3 of the Noise and Vibration Impact Assessment prepared by Arup (refer to **Appendix X**). This is discussed further in **Section 6.4** below. |
| Austroads Guide to Traffic Management Part 12: Traffic Impacts of Development | An assessment of the potential traffic generated by the proposed development during the operation and construction phases of the development is detailed in the Transport Assessment prepared by Arup at **Appendix H**. Refer to **Section 6.2.8** below for further discussion. |
| Managing Urban Stormwater – Soils & Construction Volume 1 2004 (Landcom) | The Stormwater Management Plan at **Appendix P** confirms that erosion and sediment controls are to be provided during the construction phase in accordance with applicable guidelines (e.g. Landcom Blue Book), in accordance with the Sediment and Erosion Control Plan appended to the Stormwater Management Plan. |
| Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (EPA) | The NSW EPA's *Approved Methods for the Modelling and Assessment of Air Pollutants* in *New South Wales* sets out applicable impact assessment criteria for a number of air pollutants. This has been used to develop the air quality criteria and inform the Air Quality Impact Assessment prepared by Wilkinson Murray at **Appendix AA** |
| Waste Classification Guidelines Parts 1 (General) | As discussed in the Construction Management Plan prepared by Lendlease (**Appendix AA**), waste will be identified and classified prior to disposal in accordance with the Guidelines. This will ensure that waste that may pose a risk to the environment or human health is managed appropriately. |

| Document | Comment |
|---|---|
| Underground Petroleum Storage Systems Best Practice Guide for Environmental Incident Prevention and Management | The presence of existing underground storage tanks (USTs) used to store petroleum and diesel for maintenance vehicles for the SFS and SCG was identified in the Detailed Site Investigation prepared by Douglas Partners (**Appendix J**). In accordance with the Guide, the Construction Management Plan prepared by Lendlease (**Appendix AA**) also includes mitigation measures to ensure that the proposed development will not compromise the integrity of the petroleum USTs. |
| Building Code of Australia and the Disability Discrimination Act | Compliance with the Building Code of Australia (BCA) has been addressed in the BCA Assessment Report prepared by Steve Watson & Partners (**Appendix FF**) and discussed in **Section 6.17** of this EIS. Compliance with the Disability Discrimination Act has been addressed separately in the DDA Compliance Statement by Before Compliance (**Appendix V**) and discussed in **Section 6.15** of this EIS. |
| Australian Standard AS2890.3 (Bicycle Parking Facilities) | As detailed in Section 5.4 of the Transport Assessment prepared by Arup (**Appendix H**), bicycle parking will be provided in accordance with Australian Standard AS2890.3 (Bicycle Parking Facilities). |
| Australian Standard AS2890.1, AS2890.2 and AS2890.6 | Section 6.1 of the Transport Assessment prepared by Arup (**Appendix H**) confirms that the loading area will be designed in accordance with the requirements outlined in AS2890.2 (Commercial Vehicle Facilities). As detailed in Section 6.4 of the Transport Assessment and the DDA Compliance Statement by Before Compliance (**Appendix V**), the design of car parking areas and footpaths will be in accordance with AS2890.1 (Off-Street Car Parking) and AS 2890.6 (Off-Street Car Parking for People with Disabilities). |
| Sydney Development Control Plan 2012 | The Sydney DCP 2012 is not applicable to SSD (in accordance with Clause 11 of the State and Regional Development SEPP). Due to the unique nature of the stadium, the majority of the DCP provisions are not of direct relevance to the proposal. |
| City of Sydney Development Contributions Plan 2015 | The site is located within the East Precinct to which this Plan applies. Under the Plan, development is only liable for a contributions liability where there is a net population increase arising from the development. The stadium would give rise to a net increase of 300 full-time-equivalent (FTE) jobs. |

## 5.4 Compliance with legislation and Environmental Planning Instruments

The SSD DA's consistency and compliance with these relevant planning instruments is located in **Table 15** or discussed in more detail in the relevant sections of the environmental assessment in **Section 6.0**.

**Table 15 Compliance with environmental planning instruments**

| Document | Comment |
|---|---|
| *Biodiversity Conservation Act 2016* | In accordance with this Act, an assessment of any State Significant proposal's biodiversity impacts must be undertaken as part of the provision of any SSD DA, including the provision of a Biodiversity Development Assessment Report (BDAR) in instances where it is required. An application was lodged prior to the lodgement of this DA requesting that the Department, in consultation with OEH, waive the requirement to prepare a BDAR on the grounds of the development being unlikely to impact biodiversity values in accordance with Clause 1.5 of the *Biodiversity Conservation Act 2016* and Clause 1.4 of the *Biodiversity Conservation Regulation 2017*. |
| *Sydney Cricket and Sports Ground Act 1978* | All works will be contained within the designated land that is controlled by the Sydney Cricket and Sports Ground Trust under Schedule 2A of the Act. Section 16A provides that the Minister for Sport may approve the carrying out of improvements on such designated land, including the demolition and erection of a new building, and that where approval has been granted the EP&A Act does not apply. Notwithstanding this, the Minister for Sport has determined that the SFS Redevelopment should be subject to assessment and approval by the Minister for Planning under the EP&A Act. |
| *Centennial and Moore Park Trust Act 1983* | No works are proposed in Centennial Park, Moore Park or Queens Park and as such this Act does not apply to the development. |
| Other Acts | Refer to **Section 5.2** in relation to the requirement for approvals under other legislation. |

| Document | Comment |
|---|---|
| **State Environmental Planning Policies** | |
| SEPP (State and Regional Development) 2011 | The proposal is development for the purposes of a 'recreation facility (major)' with a capital investment value (CIV) of more than $30 million, and is development at the Sydney Sports Stadiums Site with a CIV of more than $10 million. Accordingly, the proposal is declared to be SSD for the purposes of the EP&A Act under Schedule 1 Clause 13 and Schedule 2 Clause 7 of the SEPP, respectively. This EIS has accordingly been prepared in support of the SSD DA.<br><br>The Minister for Planning is the consent authority for SSD where the application to carry out the development is made by or on behalf of a public authority (Clause 8A of SEPP SRD). Infrastructure NSW is a public authority, and therefore the Development Application will be assessed by the NSW Department of Planning and Environment and determined by the Minister. |
| SEPP (Infrastructure) 2007 | The proposed development triggers consultation with NSW Roads and Maritime Services (RMS) under the provisions of Clause 104 of the SEPP as the proposed stadium is expected to generate more than 200 vehicle movements. |
| SEPP No. 55 – Remediation of Land | An assessment of the conditions of the site has been completed by Douglas Partners (**Appendix J**), which confirms that the site is suitable for its continued intended use as a sporting stadium, provided that any unexpected finds are managed during the construction phase of the project and the underground storage tanks in the east of the site are managed in accordance with the *Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2008*. This assessment satisfies the requirements in Cl. 7 of SEPP 55. The site is also not listed as being significantly contaminated in accordance with the *Contaminated Land Management Act 1997*. |
| DRAFT SEPP – Remediation of Land | The above discussion and technical assessment at **Appendix J** are considered to satisfy the provisions of the Draft SEPP 55. |
| DRAFT SEPP (Environment) 2017 | The Draft SEPP Environment was released for public exhibition in October 2017 and aims to repeal and replace a number of SEPPs and SREPs that currently apply in NSW. Under the Draft SEPP, the site is identified as being within an area of 'Urban Bushland' and as such would be subject to controls relating to the protection of land that is reserved for public open space. No part of the site is zoned for this purpose at this time, and as such these provisions of the Draft SEPP do not apply.<br><br>It is also noted that this Draft SEPP will also encompass the provisions of the Sydney Harbour Catchment REP. This SREP is discussed further below in the context of the proposal. |
| SEPP No. 64 – Advertising and Signage | Signage for the naming rights of the stadium has been incorporated into the stadium facade, and wayfinding signage will be provided in the public domain as discussed in **Section 4.0**. An assessment against the provisions of SEPP 64 is provided at **Appendix K**. |
| SREP (Sydney Harbour Catchment) 2005 | The site is located within the boundaries of the Sydney Harbour Catchment REP. The precinct is not 'zoned' under this plan nor is it located within the 'Foreshores and Waterways Area', where the majority of the plans provisions apply. The key matter for consideration is therefore the visibility from Sydney Harbour. The View Impact Assessment prepared by Ethos Urban and SJB illustrates that the proposal will not result in any adverse impacts on views from Sydney Harbour, and is therefore consistent with the considerations outlined in the REP (refer to **Appendix W**). |

| Document | Comment |
|---|---|
| **City of Sydney Plans and Policies** | |
| **Sydney Local Environment Plan 2012** | |
| Cl. 1.2 – Aims of the plan | This Stage 2 application for the detailed design, delivery, and operation of the new stadium supports the aims of the Sydney LEP 2012, as follows:<br>• It reinforces the prominence of the City of Sydney LGA as a destination and the primary centre of activity for Metropolitan Sydney.<br>• It directly supports the role of Sydney as the primary centre for activity, tourism and business and contributes to the Global presence of Sydney.<br>• The proposed development has been refined with consideration of best practice ESD targets.<br>• It will increase employment opportunities on the site and broader economic benefits in the local and Australian economy.<br>• It will provide enhanced facilities and infrastructure, and seek to open up and activate the site for use by residents, workers and visitors.<br>• It has been designed with consideration of the capacity and availability of public transport in the region, and will seek to encourage the uptake of public transport when travelling to and from the stadium.<br>• It has been designed with consideration of the amenity of surrounding land, and appropriately minimises and mitigates any potential impacts on amenity throughout the staged delivery process.<br>• It has been the subject of a competitive architectural design process to ensure the future detailed design of the stadium and surrounds exhibits design excellence and reflects its context.<br>• It has been designed with consideration of and to implement the Heritage Interpretation Strategy prepared by Curio, with works being conducted in accordance with the detailed heritage and archaeological assessments prepared by Curio Projects.<br>• It protects and enhances the natural environment where possible, and does not remove or otherwise impede any existing public recreation areas. |
| Cl. 1.6 – Consent authority | The Minister for Planning is the consent authority. |
| Cl. 2.3 – Zone objectives and land use table | The site is zoned SP1 Special Activities, for the purposes of recreational facilities (major). The proposed uses are permissible in the zone, and the development will achieve the objectives of the zone by facilitating the renewal of the stadium consistent with the existing and long-term vision for the use of the site and the approved concept for the site, and by minimising and mitigating any likely impacts. This is discussed further in this section below. |
| Cl. 2.7 – Demolition | Consent for the demolition of this structure was provided under SSD 9249. |
| Cl. 4.3 – Height of buildings<br>Cl. 6.19 – Sun access planes | No building height or sun access plane development standard applies to the site. |
| Cl. 4.4 – Floor space ratio | No floor space ratio development standard applies to the site. |
| Cl. 5.10 – Heritage conservation | The site is not identified as being of heritage significance, but is located within the Sydney Cricket Ground Heritage Conservation Area and above the line of 'Busby's Bore', a State heritage item. The site is also within proximity of a number of heritage items and conservation areas. An assessment of the heritage significance of the site and the potential impacts of development is provided at **Appendix T** and **CC**, and discussed in **Section 6.6** |
| Cl. 6.21 – Design excellence | A competitive design process has been undertaken for the proposed development, and the proposed development achieves design excellence. Refer to the discussion in **Section 5.6** below. |
| Cl. 7.1 – Car parking | No maximum rate for car parking applies to stadiums. The quantum of on-site car parking will remain generally the same as existing, and no additional car parking is proposed for use by patrons. |
| Cl. 7.14 – Acid sulfate soils | The site is identified as having Class 5 Acid Sulfate Soils. No works are proposed within 500m of any Class 1, 2, 3, or 4 areas, and the Groundwater Report prepared by Arup and submitted with the Stage 1 DA confirmed that the site is not at risk of Acid Sulfate Soils, and that these soils are not in vicinity of the site. |
| Cl. 7.15 – Flood planning | Localised flooding occurs in each instance from a 2-year Average Recurrence Interval (ARI) up to a 100-year ARI event, with significantly deeper and more widespread flooding occurring during the Probable Maximum Flooding (PMF) event. The proposed stadium has been designed with regard to this constraint and the applicable flood planning level, as discussed in **Section 6.10.1** below and the Stormwater Management Plan at **Appendix P**. |

| Document | Comment |
|---|---|
| Cl. 7.16 – Airspace operations | The Obstacle Limitation Surface (OLS) is mapped at RL 156 AHD, whilst the PANS-OPS surface is mapped at RL 335.2 AHD for the site. Infrastructure NSW consulted with SACL during the preparation of the Stage 1 EIS, confirming that the maximum envelope height of RL 85 AHD is beneath the Outer Horizontal Surface of RL 156 AHD. SACL provided an approval under section 138 of the *Airports Act 1996* for the Stage 1 maximum building envelope. The proposed Stage 2 design is wholly contained within the Stage 1 maximum building envelope, achieving a maximum height of RL 85m. SACL will have the opportunity to review the Stage 2 plans further during the public exhibition period.<br><br>A separate application for the temporary operation of cranes on the site during construction will be completed at a later stage, as part of the detailed construction planning, as relevant. |
| Cl. 7.20 – Development requiring or authorising the preparation of a development control plan | Section 4.23 of the EP&A Act outlines that a staged development application can take the place of a site specific DCP to satisfy this provision. Accordingly, the approved Stage 1 DA fulfils Clause 7.20 of the Sydney LEP 2012. |

**Permissibility**

The proposed stadium is classified as a recreation facility (major) and is defined under the Sydney LEP 2012 as:

> ***recreation facility (major)*** *means a building or place used for large-scale sporting or recreation activities that are attended by large numbers of people whether regularly or periodically, and includes theme parks, sports stadiums, showgrounds, racecourses and motor racing tracks.*

The development is permitted in the SP1 Special Activities zone that is designated for Recreation Facility (Major) under the Sydney LEP 2012. The proposed stadium also incorporates a range of ancillary uses such as food and drink premises, function spaces, and kiosks which will operate in conjunction with the stadium and potentially operate independently during non-event periods. These uses are ancillary and subordinate to the primary use of the site as a stadium and will be subject to a separate and future approval, as required, for their detailed design, signage, fit-out and operation when the detailed uses and tenants of these spaces are known.

## 5.5 Consistency with approved Concept Proposal

Under Section 4.24 of the EP&A Act, whilst a Concept Proposal/Stage 1 DA remains in force, any further detailed application cannot be inconsistent with the consent for the Concept Proposal/Stage 1 DA. A detailed summary of how the proposal has achieved the conditions of consent and mitigation measures under SSD 9249 is provided at **Appendix L**.

An assessment against the key features of the Stage 1 DA has been provided below. Detailed discussions concerning the mitigation measures and strategies proposed under the Concept Proposal are addressed in the following sections, as relevant. A detailed compliance assessment with the terms of the approved Stage 1 DA is provided at **Appendix L.** In summary, the detailed proposal for SFS is generally consistent with the Stage 1 DA.

**Table 16 Consistency with the Stage 1 DA / Concept Proposal**

| Component | Discussion | Generally consistent |
|---|---|---|
| Land use | The proposed development is consistent with the land uses proposed as part of the Stage 1 DA, which sought consent for a stadium (defined as a Recreation Facility (Major)) with a range of ancillary uses such as food and drink premises, function spaces, and kiosks which will operate in conjunction with the stadium and potentially operate independently during non-event periods. | ✓ |
| Built form | The proposed stadium has been designed to fit entirely within the building envelope established by the Stage 1 DA. The proposed site layout and stadium form is consistent with Stage 1, with the stadium occupying a lesser volume than that permitted by the loose-fit maximum building envelope. This is demonstrated in the Architectural Plans and Design Statement at **Appendix B** and illustrated in **Figure 67** below. | ✓ |
| Building height | The stadium roof and fixtures are compliant with the maximum building height of RL 85m established by the approved building envelope, as demonstrated in the Architectural Plans at **Appendix B**. | ✓ |

| Component | Discussion | Generally consistent |
|---|---|---|
| Building depth | The stadium is also compliant with the maximum building depth of RL 39.3m established by the approved building envelope, as demonstrated in the Architectural Plans at **Appendix B**. | ✓ |
| Environmental performance | Sustainability targets and measures were identified in the Stage 1 DA to guide the environmental performance of the new stadium. The new stadium will achieve a LEED Gold Rating, is supported by a Life Cycle Assessment (**Appendix M**), implements energy efficiency, energy conservation and Water Sensitive Urban Design measures including but not limited to rainwater harvesting and reuse, a commitment to water efficient fixtures and energy efficiency electrical equipment, and the installation of photovoltaic cells on the stadium roof. The operation of the stadium is also informed by a Green Travel Plan (see **Appendix H**). | ✓ |
| Design excellence | A key benchmark of the Stage 1 DA, design development, and delivery of the proposed stadium has been the achievement of design excellence. As discussed in **Section 5.6** above, the design of the stadium has been developed in accordance with the design excellence process approved as part of the Stage 1 DA, which involved establishing design guidelines, undertaking a competitive process, and completing a Design Integrity Assessment. The proposed stadium promotes excellence in architectural and landscape design. | ✓ |
| Urban Design Guidelines | The proposed stadium and public domain have been designed having regard to the site-specific Urban Design Guidelines that were developed to guide the detailed design phase. An assessment of the proposal against these design guidelines has been provided at **Appendices B** and **C**, and discussed where relevant in the following sections. | ✓ |
| Capacity | The proposed stadium is consistent with the assumed capacity and operation considered as part of the Stage 1 DA. This stage will deliver a new stadium of approximately 45,000 seats (plus an additional 10,000 person standing capacity in concert-mode), including playing pitch, grandstands, sports and stadium administration areas, food and drink kiosks, corporate facilities and all other aspects of a modern stadium. It will host a range of sporting and non-sporting events and, consistent with the Stage 1 DA, it is anticipated that there will be between 49-52 events per year and a maximum of 6 concerts per year. | ✓ |
| Access | The proposed stadium and surrounding public domain will facilitate the envisaged access arrangements addressed in the Stage 1 DA. Namely, pedestrians will be able to access and walk through the site outside of events, the stadium does not accommodate any additional private vehicle parking or access points, bicycle parking and end of trip facilities are being provided on site for staff and patrons, and the operation of the stadium will continue to utilise the significant available public transport network, taxis and rideshare vehicles, and coaches. | ✓ |

**Figure 67 The proposed stadium sited within the approved building envelope**

*Source: COX Architecture*

## 5.6 Design excellence

This section of the EIS describes the process by which the stadium and surrounds have been designed to achieve 'design excellence' in accordance with the requirement of Clause 6.21 of the Sydney LEP 2012 and Condition B3 to B9 and C1 of the approved Stage 1 DA.

As part of the Stage 1 DA, a Design Excellence Strategy outlining an alternative design excellence approach for the project was approved by the Minister for Planning, in place an architectural design competition employed under Clause 6.21(5). Clause 6.21(5) requires a competitive design process to be held if the proposed development has a CIV over $100 million (amongst other triggers), and Clause 6.21(4) outlines the factors that are required to be considered by the consent authority in determining whether a development achieves design excellence through the competitive design process.

The process undertaken in accordance with the approved Design Excellence Strategy comprised a competitive tender for the design of the external stadium architecture (façade, roof and structure) and the public domain. This process has supported varied and competitive design responses whilst also recognising the unique circumstances of the project that unreasonably restricted the ability to undertake a standard design competition. It recognised that the design of a stadium is a highly specialised task that by its nature limits potential design variations to the base structure of the stadium.

### 5.6.1 Competitive design process

The approved alternative design excellence process comprised undertaking a competitive tender for the design of the external stadium architecture (façade, roof and structure) and the public domain, in accordance with SFS Design Excellence Strategy. The process comprised the following:

| | |
|---|---|
| **Design consortia** | A brief was developed to inform the competitive design process and 4 architectural firms were invited to participate. Of these firms, 3 consortia elected to participate in the competitive design alternatives process as follows:<br>• Cox Architecture and Aspect Studios<br>• Fitzpatrick Partners and McGregor Coxall<br>• Sydney Architecture Studio, Snohetta and Inhabit<br>The consortia were given 28 days to prepare proposals for the external stadium architecture and public domain in accordance with the design brief. |
| **Panel** | An assessment panel was constituted to select the preferred design based on the submissions received from the above consortia. This panel comprised:<br>• the (then) NSW Government Architect, Peter Poulet;<br>• 2 independent panel members, Kim Crestani and John Perry; and<br>• a representative of Infrastructure NSW, David Riches.<br>It is noted that the Design Excellence Strategy developed at Stage 1 nominated that a representative of City of Sydney Council was also to be provided on the panel. On 29 June 2018, Council advised that participating as a member of the assessment panel would not be possible. |
| **Judging** | The Panel undertook a review of the entries between August and September 2018. A presentation day was held on 3 September 2018 where all participants provided an overview of their entry to the Panel. The Panel made its decision on 11 September 2018.<br>The judging of the entries was completed in accordance with the criteria established in the endorsed Design Excellence Strategy. Namely, each entry was assessed as to how successfully it achieved:<br>• the design excellence requirements contained in Clause 6.21(4) of the Sydney LEP 2012;<br>• the Good Design Objectives contained in *Better Placed,* which is a NSW Government policy for achieving good built environment outcomes; and<br>• the Sydney Football Stadium Urban Design Guidelines which were developed and adopted as part of the Stage 1 DA.<br>An assessment of the design merits of each alternative design in accordance with this criterion and a rationale for the choice of the preferred consortium is detailed in the Competitive Design Alternatives Report at **Appendix E**. |
| **Appointed designer** | The consortium of COX Architecture and Aspect Studios was selected by the panel as the winner of the competitive process. The consortium was then formally appointed by Infrastructure NSW to prepare the plans and design statements for this Stage 2 DA. |

### 5.6.2 Design integrity

A separate process was also developed to safeguard the integrity of winning design scheme for the site. This process ensures that the development that is ultimately delivered aligns with the design presented during the competition process and that the achievement of design excellence is maintained throughout the life of project documentation and construction. This process is outlined in the Design Integrity Assessment (**Appendix F**) and involves a process of further review and endorsement by the panel, which has continued its role from the competition through to the design development process, at key milestones.

The panel compared the competition entry with the DA design and, where the scheme had developed, provided an assessment as to whether it remained generally consistent and whether it altered the Panel's conclusion that the design demonstrates design excellence. The Panel confirmed that developments to the scheme were considered to be consistent with their review of the design in relation to the Sydney LEP 2012, the objectives of *Better Placed*, and the project-specific Urban Design Guidelines, and did not alter the Panel's conclusion that the design demonstrates design excellence.

The panel will be further involved in the design development process to safeguard the integrity of winning design scheme into the construction phase of the project, in the event that an approval is granted for this Stage 2 DA. This will comprise post-determination meetings between the panel and designers, and others as required, in accordance with design development milestones that are to be determined in coordination with the successful construction contractor.

### 5.6.3 Achievement of design excellence

The Competitive Design Alternatives Report at **Appendix E** and Design Integrity Assessment at **Appendix F** provide an assessment of the relevant matters for consideration when determining whether a development exhibits

design excellence in Clause 6.21(4) of the Sydney LEP 2012, and confirm that the development achieves design excellence. A further assessment against the criteria in Condition C1 of Stage 1 DA consent has also been provided in the Architectural Design Statement and Landscape Design Statement at **Appendices B** and **C** respectively. Together, these assessments confirm that the proposal achieves the requirements of the Sydney LEP 2012 and the Stage 1 DA consent and that the proposal exhibits design excellence.

# 6.0 Environmental assessment

This chapter of the EIS contains our assessment of the environmental effects of the proposed development as described in the preceding chapters of this report.

Under Section 4.15 (1) of the EP&A Act, in determining a development application the consent authority has to take into account a range of matters relevant to the development, including the provisions of environmental planning instruments; impacts of the built and natural environment, the social and economic impacts of the development; the suitability of the site; and whether the public interest would be served by the development.

The assessment includes only those key matters under Section 4.15(1) that are relevant to the proposal. The key planning issues associated with the proposed concept proposal are listed in **Table 17** below.

**Table 17 Key planning issues**

| Planning issue | Assessment | Technical study |
|---|---|---|
| Height and depth | Section 6.1.1 | Appendix B |
| Detailing and materiality | Section 6.1.2 | Appendix B |
| Functional planning | Section 6.1.3 | Appendix B |
| Connectivity and activation | Section 6.1.4 | Appendix C |
| Public domain landscaping | Section 6.1.5 | Appendix C |
| Tree removal | Section 6.1.6 | Appendix KK |
| Wayfinding | Section 6.1.7 | Appendix I |
| Public art | Section 6.1.8 | Appendix C |
| Visual and view impacts | Section 6.2.1 | Appendix W |
| Overshadowing | Section 6.2.2 | Appendix B |
| Wind environment | Section 6.2.3 | Appendix Z |
| Lighting | Section 6.2.4 | Appendix Y |
| Shading | Section 6.2.5 | Appendix C |
| Visual privacy | Section 6.2.6 | Appendix B & C |
| Reflectivity | Section 6.2.7 | Appendix BB |
| Transport and accessibility | Section 6.2.8 | Appendix H |
| Noise and vibration | Section 6.4 | Appendix X |
| Construction management | Section 6.5 | Appendix AA |
| Heritage | Section 6.6 | Appendix T, CC, DD |
| Sustainability | Section 6.7 | Appendix M |
| Security assessment | Section 6.8.1 | Appendix LL |
| Crime prevention through environmental design | Section 6.8.2 | Appendix N |
| Anti-social behaviour | Section 6.8.3 | Appendix R |
| Social and economic impacts | Section 6.9 | Appendix O |
| Stormwater and flooding | Section 6.10.1 | Appendix P |
| Groundwater | Section 6.10.2 | Appendix GG |
| Biodiversity | Section 6.11 | Appendix EE |
| Contamination | Section 6.12 | Appendix J |
| Operational waste management | Section 6.13 | Appendix S |
| Utilities infrastructure | Section 6.14 | Appendix U |
| Disabled access | Section 6.15 | Appendix V |
| Fire safety | Section 6.16 | Appendix MM |
| Building Code of Australia | Section 6.17 | Appendix FF |

| Planning issue | Assessment | Technical study |
|---|---|---|
| Environmental risk and climate change | Section 6.18 | - |
| Ecologically sustainable development principles | Section 6.19 | - |
| Site suitability | Section 6.20 | - |
| Public interest | Section 6.21 | - |

## 6.1 Built form and urban design

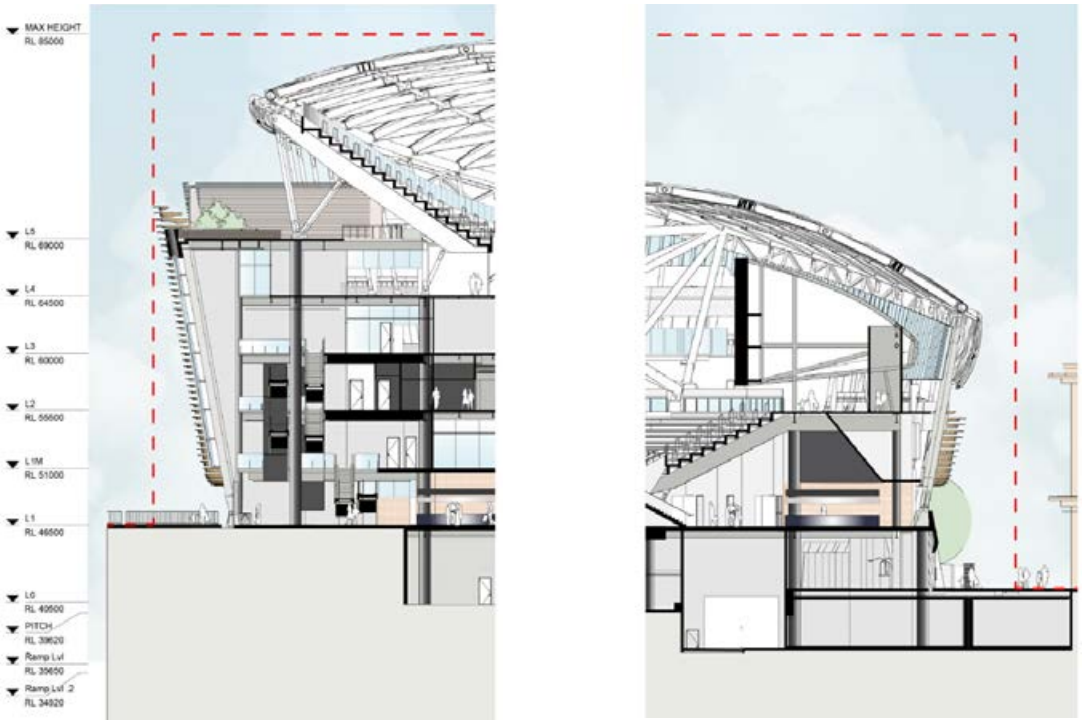
The detailed design of the stadium has been developed with consideration of the site and surrounds and an understanding of the functional requirements of the future stadium and stadium experience. It has been the subject of a competitive design process and has been developed with consideration of the project objectives and planning and design framework considered at Stage 1 of the process. The proposal is wholly contained within the approved maximum building envelope and has been designed to be consistent with the *Sydney Football Stadium Urban Design Guidelines* (2018).

Overall, the proposed development delivers a built form that is a sensitive and intelligent response to the site-specific constraints and features of the site and surrounding area that will deliver a high-quality architectural and landscape outcome for the site. This is detailed further in the following sections and in the Architectural Design Statement and Landscape and Public Domain Statement at **Appendices B** and **C,** respectively.

### 6.1.1 Height and depth

Stage 1 of the planning process tested a range of potential building footprints and orientations and selected a maximum building envelope that achieved the design objectives established for the site as well as the functional requirements for a Tier 1 stadium. The maximum building envelope adopted a larger rectangular building footprint as compared to the former rounded stadium and increased the height of built form on the site compared to the former stadium. The proposed stadium is wholly contained within this maximum building envelope and, therefore, whilst it occupies a different footprint and achieves a greater height when compared to the former stadium, in this respect it is wholly consistent with the approved Stage 1 DA.

The seating bowl comprises of up to five (5) levels of facilities including a mezzanine level and four (4) tiers of seating, which have been stacked so that the upper two (2) levels of the stadium are only provided on the eastern and western sides of the playing field. This references the ‘saddle’ design of the former stadium and reduces the ultimate height of the stadium at the northern and southern ends so that it is only (3) storeys plus roof. As a result, the northern and southern edges of the stadium are significantly reduced in height than what would otherwise be permitted under the approved building envelope (see **Figure 68**). This significantly reduces the scale of the stadium where it interfaces with residences fronting Moore Park Road to the north and with the SCG to the south, ensuring the stadium adopts a more human and transitional scale where it borders the more sensitive residential areas and heritage significant stands as part of the SCG.




*Maximum height of eastern/western edge of the stadium* *Maximum height of northern/southern edge of the stadium*

**Figure 68 Maximum height of the stadium with the approved building envelope in red**

*Source: COX Architecture*

The concaved, sweeping form of the stadium also reduces the ultimate depth and scale of the new structure. Through dropping the height of the stadium at the northern and southern edges, the silhouette and scale of the longer eastern and western edges of the stadium are also reduced. These facades have a clear apex and fall at either end, blending the stadium into the edges of the site and surrounding public domain. This is further enhanced by angling the eastern and western facades, which reduces the footprint of the stadium as it transitions from the roof to the ground plane, and setting back the roof from the eastern and western edges of the facade so that the roof line floats above the bulk of the stadium. Together they soften and articulate the overall form of the stadium and ensure the longer eastern and western facades are not visually dominant when viewed from the boundaries of the site.

**Figure 69 View of the proposed stadium from the western edge of Kippax Lake**

The ultimate design of the stadium also occupies a smaller building footprint than allowed under the approved Stage 1 DA building envelope. It has been shifted to the south west, away from the Moore Park Road and Fox Studios, and has been setback on all sides from the edges of the approved building envelope. This reduces the overall depth of the stadium footprint and increases the separation distance between the stadium and surrounding buildings and Moore Park. This ultimately also provides for greater public domain areas and landscaping surrounding the stadium and provides the opportunity for 360$^{o}$ circulation, which are key project objectives and improvements on the former stadium and the assumptions of the approved Stage 1 DA.

Unlike the former stadium, it is not proposed to further excavate and sink the stadium bowl into the site as this would have the potential to increase environmental impacts with regard to factors including heritage, groundwater construction traffic and accessibility, and is therefore not considered to be in the public interest or the best outcome for the site. The stadium has been designed with recognition of the existing topography of the site and to nestle into the precinct's terrain. It provides a level playing field and internal stadium concourse, essential for circulation and the functional requirements of the stadium, whilst addressing the change in levels between Moore Park Road and Driver Avenue within the public domain areas surrounding the stadium. Increasing the depth of excavation on the site would ultimately reduce the overall height of the stadium structure, but it could also:

- Physically impact heritage items including Busby's Bore and areas of archaeological potential beneath the site, which are currently to be protected by areas of fill or limited excavation.
- Interface with the existing water table beneath the site, which would require a tanked structure to mitigate the risk of flooding to the playing field and building basement, as well as environmental impacts associated with changes and impediments to the natural flow of the groundwater.
- Result in a significant level change between the existing footpath on Moore Park Road and the entries to the stadium site, which would require installing steps and further lifts on this frontage. This would create an impediment to pedestrian flow through the site, restrict the ability of persons with mobility impairments to access the site, and overall reduce the width of recreation, circulation spaces, and landscaping at the site edges.

**Recommendation**

Whilst the proposed stadium has increased in depth and height when compared with the previous stadium, the ultimate form is wholly contained within and results in a lesser impact than the approved maximum building envelope set out in the Stage 1 DA. It sensitively references the concaved and sweeping structure of the former stadium, fits within the topography of the site, and increases the setback of the stadium to neighbouring structures.

- The proposed development references the sweeping roof structure of the former stadium, reducing in scale on the northern and southern ends of the stadium where it interfaces with residences and the SCG stands. This ensures the stadium achieves a more human scale at these more sensitive site boundary interfaces.
- The concaved form is further enhanced by angling the eastern and western facade lines and stepping back the roof from the eastern and western edges of the site to expose the outdoor terraces and green roof areas on the upper levels of the stadium. These soften the silhouette and scale of the longer eastern and western edges of the stadium.
- The footprint of the stadium is setback further from the site boundary to Moore Park Road and Fox Studios and from the edges of the building envelope, providing for greater areas of public domain and landscaping surrounding the stadium and reducing the overall scale of the stadium.
- The stadium has been designed to sit comfortably within the topography of the site. Whilst further excavation to sink the stadium bowl may reduce the overall height of the stadium, it would also have the potential to result in greater negative environmental impacts and is not considered to be in the public interest or the best outcome for the site. Given that the maximum envelope has been previously been determined to be acceptable from an environmental impact perspective in the Stage 1 DA, it is considered that the risk of additional potential impacts would not justify any perceived benefits.

Having regard to the above, it is evident that the proposed stadium will not give rise to any additional impacts than those considered at Stage 1, and has resulted in a high quality, sensitive architectural design for the stadium. No further study or refinement is required, and no specific mitigation measure has been nominated in this instance.

### 6.1.2 Detailing and materiality

The detailed design and materiality of the stadium structure has provided the opportunity to better integrate the stadium with its unique and varied context and provide for a high-quality and visually interesting built form. The stadium has been designed with an 'outside-in' approach, meaning the detailing and materiality of the stadium has been selected in direct response to the stadium's immediate context.

The base of the stadium is to be constructed from brick and sandstone coloured concrete, visually creating a two storey podium and grounding the stadium in its landscape context. This two storey element contributes to the creation of a more human scale and sensitively references the neighbouring masonry architectural elements of the SCG and surrounding residential areas. Above the podium, the facade has been designed with more contemporary and lighter materials to elevate the stadium over the solid masonry base. It is designed so that the stadium structure is enclosed with glass and bronze coloured louvres, which act as a 'veil' over the stadium structure and contribute to the texture and visual interest of the facades. The louvres are described as sculptural ribbons that blend function and architecture and soften the overall presentation of the stadium.

The roof of the new proposed stadium is a strong visual element in the overall design of the stadium, which is in part necessitated by the functional design brief that has required 100% of seating be covered to the drip line to improve the patron experience. The detailing of the roof mitigates the increased solidarity of the roof form when compared to the former stadium by adopting lightweight materials, such as single skin EFTE and PTFE, that are stretched over hoops in the roof structure. It becomes a more ephemeral floating element of the stadium and requires 40% less steal to construct when compared to the Stage 1 reference design, whilst also reducing the visual weight of the stadium roof. A series of diamond shapes are also visible in the roof structure, providing texture and contributing to visual interest.

The design also draws green landscape elements deep into the precinct and up into the fabric of the building. The proposed outdoor terraces and green roof will become hanging gardens that soften the building facades and contribute to the sweeping roof form and interstitial space beneath the setback roof on the eastern and western edges of the stadium. This detailing references the unique context of the site and softens the transition to the edge of Moore Park.

#### Recommendation

The appointed design team have successfully detailed and selected materials that contribute to the distinctive design of the stadium and reinforce its unique context. These strategies provide for a high-quality and visually interesting built form, assist with creating a more human scale, mitigate the integrated solidarity of the roof, and integrate green landscaping into the stadium itself. Accordingly, it is evident that the proposed stadium will improve on the extent of impacts considered at Stage 1. No further study or refinement is required, and no specific mitigation measure has been nominated in this instance.

### 6.1.3 Functional planning

One of the key objectives of the project is the creation of next generation stadium that embodies innovation, wellbeing, design and sustainability that will be utilised long into the future. It is recognised that the former stadium on the site had failed to adapt to the modern requirements for patron and hirer experiences, accessibility, security, and access and egress. In the decades following the construction of the former stadium, new stadium designs have focused on key safety concerns such as emergency egress and opportunities for crime and terrorism and the creation of a family friendly and comfortable environment to attract a diverse array of spectators. Emphasis has also been placed on the design and provision of spectator facilities to create a 'Fan First' experience, which includes considerations ranging from the quality of seats, increased numbers of toilets, emphasis on improving circulation, providing more and better food and beverage options, providing pre, during and post entertainment options, and generally improving the amenity of environments both internally and externally. Technology is being integrated into all areas of stadia to not only improve the spectator experience and better accommodate major entertainment events such as concerts, but to also improve the operational efficiencies of the stadium.

The proposed stadium design has studied and responded to the historical and developing trends for the design and construction of modern stadiums.

- It has been designed to meet the FIFA guidelines on stadia design and the requirements for other major events which specify standards for security, media and corporate facilities and require major overlays within the venue and its perimeter. This includes the 'Green Guide' which is used around the world by architects and designers as a best practice guide for the development and refurbishment of stadiums.
- The facilities on the site have been designed and planned to be adaptable, accounting for possible future changes where possible, such as to the patronage profile.
- There is space allowance for temporary amenities and access/egress provision if needed for special events.
- The combination of high-quality general admission seating as well as corporate offerings provides an enhanced spectator experience across a range of spectators, in-line with modern standards.
- The proposal has also now been designed and will be constructed in accordance with the Building Code of Australia and modern technical design guidelines, which raise the overall quality of the product to align contemporary standards.

It is considered the design of the new proposed stadium recognises the significant advancements in stadium design and operations over the past three decades, and has been 'future-proofed' as best as possible to ensure it continues to be functional, adaptable, and well-utilised.

**Recommendation**

Longevity, functionality, and adaptability has been at the forefront in developing the design for the stadium and public domain. This has involved considering the evolution of modern stadia over the decades and planning the site and stadium to achieve contemporary requirements and also to allow for future adaption and changes. Whilst it may not be possible to account for all possible changes in the future, the proposal represents a significant improvement on the operational and design deficiencies of the former stadium and has been 'future-proofed' wherever possible. No further study or refinement is required and no specific mitigation measure has been nominated in this instance.

### 6.1.4 Connectivity and activation

A key objective of the redevelopment of the site has been to remove the barriers to public access and in doing so enable the development of a sense of ownership and relationship with the site from the public. The proposed stadium design promotes increased site permeability and circulation through removing the boundary security fencing and providing a fully accessible pedestrian concourse, providing the opportunity for 360$^{o}$ circulation around the stadium. This enables pedestrian access to the site during and outside of events, and provides a new pedestrian connection between Paddington and Moore Park to facilitate the enhanced access and use of Moore Park and the surrounding areas. The public domain functions as new public space shortcutting the existing circuitous route along Driver Avenue and Moore Park Road used by pedestrians.

The use and activation of the new increased public domain areas is also encouraged through the provision of key activity nodes at Fig Tree Place, Busby's Corner and Moore Park Terraces that align with the main stadium entrance points and connected by the linking external concourse. These nodes feature stepped, multifunctional play and recreation platforms, and seating that act as a platform for free activities. These nodes will act a catalyst for attracting neighbouring residents and the broader city to engage with and contribute to the activation of the site outside of events.

The stadium structure itself accommodates an externally-facing merchandise store and food and drink premises fronting the north western corner of the site. These tenancies service the day-to-day needs of staff and visitors and will not privatise or otherwise exclude access of the site or the use of the public domain. Rather, these tenancies have been designed to complement and further encourage the activation of the site outside of event periods by providing a secondary destination that draws people into the site.

**Recommendation**

The ultimate stadium design realises opportunities to remove the barriers to public access and invite the public to interact with and take ownership of the areas surrounding the stadium. This represents a significant improvement on the former stadium, which was secured at the boundary to prevent the public from accessing the site, and achieves key objectives for the site in promoting increased permeability, circulation, and activation. The ultimate design directly benefits visitors, staff, and surrounding residents and, in this respect, is not considered to require further study or refinement. No specific mitigation measure has been nominated.

### 6.1.5 Public domain landscaping

A key objective of the redevelopment of the site has been designing the public realm and open space to ground the precinct within its surrounds, whilst also ensuring it is robust and diverse enough to facilitate heightened event day experiences and pedestrian circulation. The design of the public domain and landscaping has, therefore, sought to balance the functional requirements of accommodating large volumes of people circulating around the stadium during events, and the aesthetic and amenity requirements for better utilising the site outside of events and creating an amenable pedestrian experience. The detailed design of the public domain responds to the project objectives and vision for the site and results in a high quality public realm. The key improvements include:

- Significant increasing the urban tree canopy on the site through planting 120 news trees surrounding the stadium and within the reinstated MP1 carpark, which represents a ratio of approximately three new trees for every one replaced. These trees have been selected as predominantly native species that are also appropriate foraging species for native wildlife, ensuring the proposed tree planting contributes to the biodiversity of the region as well as the landscaped aesthetic of the site. New trees planted within the site would have a pot size of 200L, allowing new plantings to establish and provide some additional foliage cover from an early stage.
- Providing mass planting in garden beds at the edges of the stadium, with 10 different planting mixes developed for the site ensuring the landscaping also responds to its unique setting within the site and surrounding context at this micro scale. This planting is predominantly native species and includes shrubs infilled with grasses and groundcovers in a mixture of colours, foliage textures, and sizes.
- Using planting at the site edges to act as a green buffer and assist with intuitive wayfinding around the site, whilst at the same time ensuring there are no impediments to pedestrian circulation. The generous pedestrian concourse has been kept clear of potential barriers and obstructions and supports pedestrian movement around the stadium and through the site. It has been designed to accommodate large volumes of people to enter and exit the site during events.
- Effectively distinguishing between those areas for circulation and those areas for gathering and socialising within the public domain surrounding the stadium. A mix of brick and in-situ concrete paving has been used at the key site and stadium entrances to define the key gathering spaces for the stadium as a ‘front door’ treatment, whilst exposed aggregate is used to visually define the connecting circulation areas. The richer mixed brick texture encourages people to sit and occupy spaces whilst the areas for movement are kept clear and simple. In this way the detailing and materiality of the public domain subtly communicates the different functions of spaces surrounding the stadium.
- Integrating seating, public art, heritage interpretation, lighting and drinking fountains into the surrounding public domain to improve the amenity, functionality and public experience of the site. Where previously the site was sterile and generally inaccessible outside of events, the new proposed public domain seeks to create a welcoming and vibrant extension of the surrounding public space within Moore Park and along Moore Park Road.

**Recommendation**

The detailed landscaping strategy for the site delivers a key improvement on the former site conditions by significantly increasing the quantum of trees and the overall extent of landscaping, providing for areas of circulation and socialising within the site, and integrating other features such as seating, public art, and drinking fountains into the public domain to improve amenity and public experience of the site. This directly benefits the sites interface with the surrounding leafy residential areas and Moore Park. No further study or refinement is required, and no specific mitigation measure has been nominated in this instance.

### 6.1.6 Tree removal

This Stage 2 DA will retain and remove additional trees beyond those previously considered under the Stage 1 DA, to account for the Stage 2 detailed design of the stadium and public domain. The trees removed enable the development of the enhanced stadium and public domain, and will be replaced at a ratio of approximately three trees planted for every one removed. This ensures the ultimate urban tree canopy on the site is significantly increased from what the former stadium provided, and the stadium is integrated with its unique park setting. The Arboricultural Impact Assessment prepared by Tree IQ (**Appendix JJ**) assesses the significance of the trees proposed to be removed and provides recommendations on how to protect those trees being retained.

The assessment confirms that those trees nominated for removal would be impacted by the proposed works and could not reasonably be retained. In each instance, the provision of planting using a healthy, advanced-size specimens at the established replacement rate for the project would replace the loss of amenity from the proposed tree removal within a short timeframe. As discussed in **Section 6.6** and **6.11** below, these trees are not heritage or biodiversity significant features of the site.

Two significant trees are identified for protection, being the significant mature fig tree in the north west corner of the site (Tree 125) and a second fig tree in the north east corner of the site. These trees have high landscape value and a life span of 15-40+ years. Under the current design scheme for the site it is likely that demolition works, concrete/timber bench seating, seating stairs and associated retaining walls, and mass planting could occur within the Tree Protection Zones (TPZ) of these retained trees. Tree IQ nominate measures to minimise any impacts from these works to the protected trees

**Recommendation**

In total seven (7) trees (Trees 232-238) are to be removed as part of the proposed development, of which none are identified as having a high landscape significance or being a priority for retention. Tree IQ assesses the potential works occurring within the TPZs of the trees to be retained on the site and provides tree sensitive construction methods to minimise the potential for adverse impacts. It is recommended that a Tree Protection Plan be prepared by the Project Arborist to further assess the degree of impact to any TPZs and tailor the recommended mitigation measures when the detailed construction plans have been finalised. This will also inform any final Construction Environmental Management Plan for works occurring on the site. It is also acknowledged that extensive new tree planting is proposed across the site, which will significantly increase the site's canopy cover which is currently very low.

| Mitigation measure | Indicative timing |
|---|---|
| A Tree Protection Plan is to be prepared by the Project Arborist which assesses the degree of impact to any Tree Protection Zones and provides strategies and mitigation measures for how to minimise or mitigate these impacts. Consideration should be afforded to the recommendations in the Arboricultural Impact Assessment prepared by Tree IQ (30 May 2019). Tree 125 and Tree 231 are to be retained and protected. | Prior to works commencing on site. |

### 6.1.7 Wayfinding

A Wayfinding and Signage Strategy has been prepared to identify ways in which wayfinding can be improved on the site and in the surrounding area, and as such assess how the proposal supports the movement of large crowds to and from public transport nodes, special event buses, coaches and point to point transfer locations and from within the sporting precinct (refer to **Appendix I**). The strategy recommends wayfinding signage and other measures for within the site, and confirms that external wayfinding outside of the site is sufficient and that no further works are critical to the successful movement of crowds to and from the site.

**External wayfinding**

The two principle pedestrian paths to the site comprise up Foveaux and Fitzroy Streets and up Devonshire Street (see **Figure 70** below). Whilst the Foveaux/Fitzroy Street route has historically been the most utilised pedestrian route to the site, the Devonshire Street route is expected to become the key pedestrian link for the future stadium. This recognises that the construction of the Albert Tibby Cotter Bridge over Anzac Parade and the conversion of the road to form part of the Light Rail will create a more pleasant and walkable route that is capable of accommodate increased pedestrian flows. This route provides easier grades, higher footpath capacity and fewer hold points with only five traffic lights to cross between Central and Driver Avenue, compared to eight on the Foveaux/Fitzroy Street Route.

Other walking routes from the CBD and Kings Cross Station are less predominant modes of travel to the site. This was recognised during the transport behavioural surveys conducted as part of the Stage 1 DA, which did not identify any respondents using Kings Cross Station or walking from the CBD as a means of travel to the stadium.

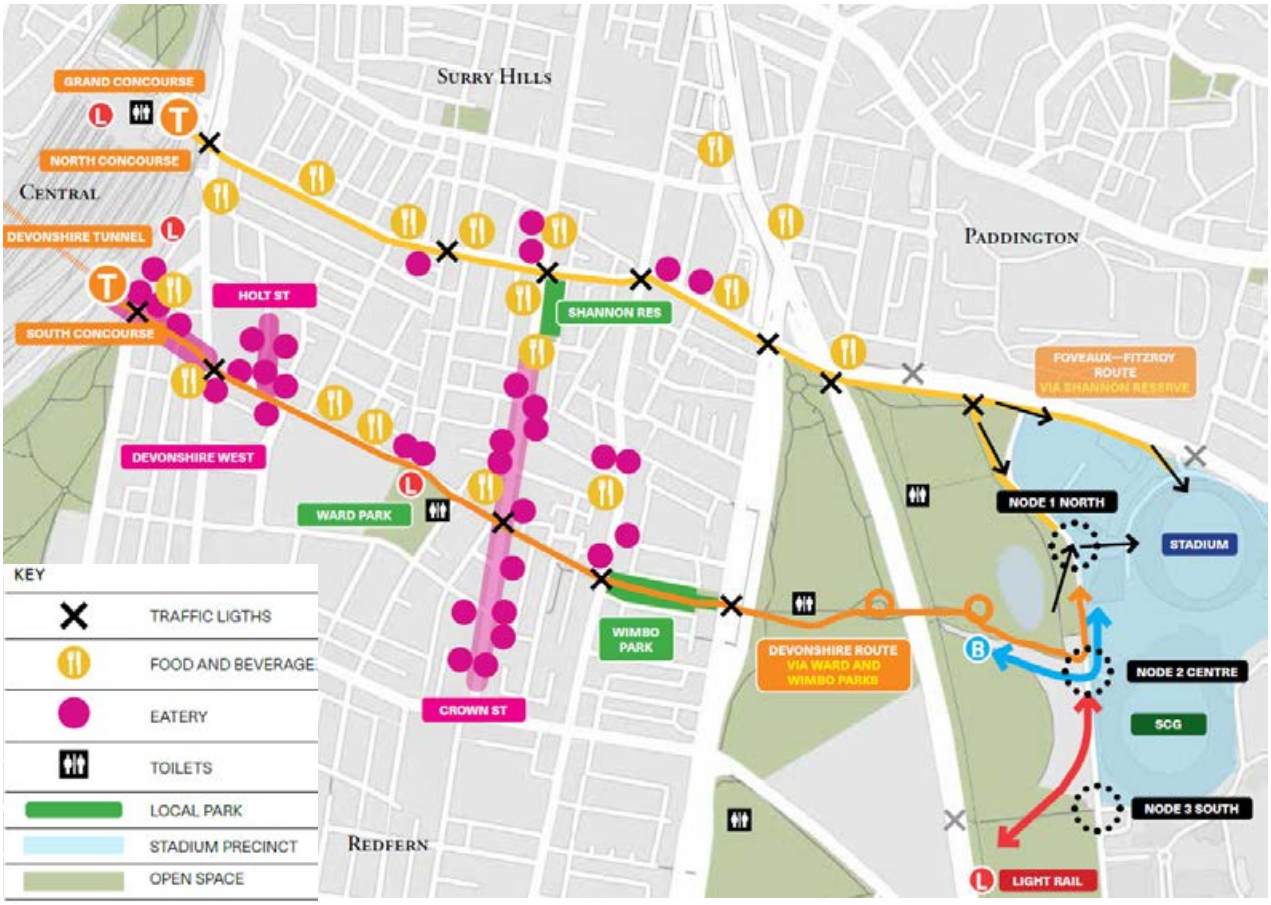



**Figure 70 Key pedestrian routes**

*Source: Aspect Studios*

Accessing the site from surrounding special event buses, coaches and point to point transfer locations and within the precinct will be via shorter and lower capacity walking routes, as the termination point for each of these connections is in close proximity of the site and in often within a line of sight of the stadium and precinct. In this respect the stadium will act as a wayfinding and wayshowing element in its own right, with architecture, lights, pedestrian movement and activity directing visitors to the venue.

It is confirmed in the Strategy that no additional infrastructure beyond that already present is required to support external wayfinding to the site for the following reasons:

- The new stadium is located in the same position as the previous stadium, and adjacent to the SCG, and as a result there is a well-established patron understanding of the location of and wayfinding to the stadium site.
- It is expected that patrons will continue to use smart phone technology to navigate routes and transport options when accessing or leaving the site. This recognises that people are increasingly relying on phone maps and other features as a means of wayfinding within highly urbanised environments for active travel.
- Navigating from Central Station will typically include transferring to the Light Rail or accessing the stadium on foot from this location. The Trust will liaise with TfNSW to ensure there are announcements when alighting from the train at Central Station and appropriate messaging to train commuters during event times. This could include the option of transferring to light rail or walking via Devonshire Street.
- Similar to Central Station, if commuter behaviours change over time and Kings Cross Station becomes a more utilised link to the site, the Trust could liaise with TfNSW to ensure there are announcements when alighting from the train and appropriate messaging to train commuters during event times.
- Should walking from the CBD become a more populous route, the Trust will also work with City of Sydney Council to determine adjustments to existing signage elements. At present the City contains a suite of signage directing people to major landmarks and spaces, and it is anticipated that these existing elements can be updated as required.

- Patrons using the Light Rail, special event buses, coaches and point to point transfers will terminate in close proximity of the stadium which will act as a significant marker within the landscape negating the need for additional signage.
- Key travel routes and connections to the site will also be pre-communicated to patrons through a number of proposed initiatives outlined in the Green Travel Plan prepared by Arup (**Appendix H**) and the Event Management Strategy developed by the Trust (**Appendix Q**).

In addition to the above, no permanent additional infrastructure is required to support wayfinding when leaving the site. Discussions with the CPMP Trust and City of Sydney Council have included consultation on external wayfinding signage, at which point it was considered that additional signage specifically designed to assist stadium egress would only be used during a small window of time post events. Accordingly, the proposed operation of the stadium will utilise more temporary and ephemeral wayfinding options to ensure the proposal does not needlessly clutter external areas to the site. LED screens integrated into wayfinding signage within the site will direct patrons to key transport options and links, whilst temporary variable message boards (VMBs) will be used external to the site. VMBs offer appropriate flexibility to adapt to changing conditions and are not permanent structures, and were used successfully by the former stadium.

**Internal wayfinding**

Once patrons have located the venue, there are a number of key wayfinding tasks for patrons of the stadium to undertake including finding the appropriate gate and seat, finding function spaces within the venue, finding bathrooms and food and drink options, and finding stadium exits and outgoing transport options. The Strategy identifies a range of initiatives for these wayfinding tasks that have been integrated into the design of the stadium and the public domain within the site to create a legible precinct. This Strategy provides a coordinated and precinct-wide design outcome for the site. In particular:

- The proposal seeks to assign each of the stadium gates and precincts within the site with a name, as opposed to numbering or lettering these locations. This is consistent with the wayfinding strategy employed by the nearby Centennial Parklands and offers improved wayfinding from the existing complicated systems that employs a mix of lettering and numbering, which often conflict with the similar systems used by the adjoining SCG, Fox Studios and Entertainment Quarter.
- A range of internal wayfinding signage is also proposed and integrated into the site that will identify key access points, vehicle access and parking locations, access for persons with mobility impairments, bicycle parking facilities, maps of the site and external area, as well as public art and heritage interpretation panels. A number of these signs will also incorporate LED screens that provide the opportunity to display variable messages which can be tailored to transport options or specific operational event details.
- The majority of signage on the site has been designed with reference to the adopted styles used by City of Sydney Council and the CPMP Trust, implementing tried and tested wayfinding systems and reinforcing the ‘public’ look and feel of the areas surrounding the station.

Further measures will be considered at the detailed design and construction stage, including signage for lifts, stairs, concierge services, deliveries, car parking, event spaces, family and parents rooms, prayer rooms, lockers, first aid, ATMs, member areas, training facilities and venue tour starting points, as well as signage for regulatory information, conditions of entry, and advisory and safety information.

**Recommendation**

The Wayfinding and Signage Strategy provides an inclusive assessment of wayfinding within the site, the greater precinct, and the surrounding suburbs. It assesses the current and future wayfinding conditions in the surrounding area and confirms that external wayfinding is sufficient and that no further works are critical to the successful movement of crowds to and from the site. Notwithstanding this, a number of initiatives can be employed in the future operation of the stadium to further enhance wayfinding which have been incorporated into the mitigation measures below.

The internal wayfinding strategy assesses the current deficiencies in the access and wayfinding on the site and provides a coordinated and precinct-wide design outcome for integrating signage into the public domain and stadium. It identifies a variety of signage opportunities to assist in locating stadium gates, activity spaces, amenities, parking, transport and pedestrian connections, bicycle parking, and interpret the heritage of the site.

No specific mitigation measures have been nominated by Aspect Studios in the Wayfinding and Signage Strategy, and as such the following are recommended.

| Mitigation measure | Indicative timing |
|---|---|
| The Trust will liaise with TfNSW to ensure there are announcements when alighting from the trains and appropriate messaging for commuters during event times to assist in wayfinding from Central Station to the stadium. | Ongoing |
| The Trust will liaise with the CPMP Trust regarding the ongoing use of temporary variable message boards after major events to assist in crowd dispersal and wayfinding. | Prior to first major event |
| Internal wayfinding shall be detailed in the construction drawings with reference to the recommendations and material palette, signage typologies, typography, iconography, and map standards contained in Section 5 of the Wayfinding and Signage Strategy prepared by Aspect Studios (29 May 2019). | To be detailed in the construction drawings where possible, and/or implemented prior to occupation. |

### 6.1.8 Public art

A range of public art/heritage interpretation initiatives are to be integrated into the stadium and surrounding public domain, including reinstating existing public artworks where practicable. The proposal commits $2 million to the provision of public art on the site. The process through which public art will be curated, procured and delivered on the site is outlined in the Public Art Strategy developed by Aspect Studios and included as part of the Design Statement at **Appendix C**. This Strategy ensures public art will be further considered in consultation with key stakeholders and the identified opportunities for heritage interpretation on the site, and developed in line with the detailed design and construction of the stadium.

The Strategy proposes to engage a site-specific public art panel to review artistic proposals and involve key stakeholders in the process. This panel will comprise one representative from each of INSW, the appointed design team, the SCSG Trust or CPMP Trust, and the City of Sydney Council's own public art advisory panel. The Terms of Reference for this panel will be developed prior to engaging the panel members, to guide its operation and confirm the criteria for assessing artworks.

#### Recommendations

INSW will appoint an Advisory Committee chaired by the appointed curator to oversee the final procurement of artists and artwork for the site. This selection process will be undertaken utilising development-specific criteria and with recognition of the identified opportunities in the public domain as indicated in the Landscape and Public Domain Statement at **Appendix C**, as well as the Heritage Interpretation Strategy discussed further in **Section 6.6**. The inclusion of public art will contribute to the quality and visual interest of the site.

No specific mitigation measures have been nominated by Aspect Studios in the Public Art Strategy, and as such the following are recommended.

| Mitigation measure | Indicative timing |
|---|---|
| Engage a site-specific public art panel to review the procurement of public art, including heritage interpretation measures as necessary, in accordance with the Public Art Strategy prepared by Aspect Studios. The Terms of Reference will be approved by the Secretary prior to the establishment of the public art panel. | - |

## 6.2 Environmental amenity

### 6.2.1 Visual and view impacts

A Visual and View Impact Assessment (VVIA) has been prepared by Ethos Urban (**Appendix W**), to assess the detailed stadium design, which is benchmarked against the prior state of the site with the former stadium and against the maximum building envelope that was assessed and approved by the Minister for Planning as part of the Stage 1 DA.

**Public views**

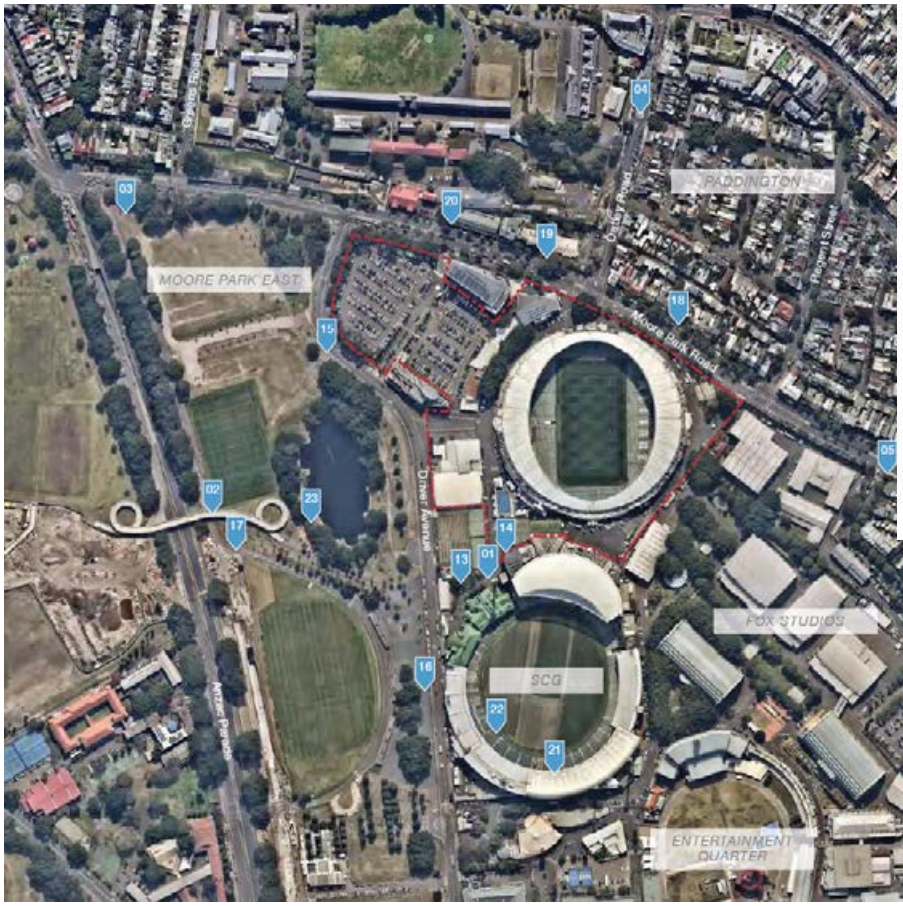
For consistency, the Stage 2 assessment of public views considers the 23 views from the public domain that were selected and assessed as part of the Stage 1 DA. As required by the SEARs, these view locations and the method used to assess the level of impact have been prepared in consultation with the Department and has been discussed and agreed beforehand with the Department.

The methodology used for assessing the impact is as follows:

1. Visual Character – what is the character of the proposal's visual catchment
2. Planning Framework – identification of relevant planning instruments against which visual impact is to be assessed
3. Visual Effect – assessment of the nature and scale of the proposal on the existing visual catchment
4. Visual Impact – assessment of the impact of the visual effect following application of other, relevant considerations
5. Acceptability of Visual Impact – assessment of the visual impact against the planning framework, which have been derived into six criteria to assess the impact on scenic and cultural landscapes, height, bulk and scale, heritage, amenity, view sharing, significant views and view corridors.
6. Mitigation – what measures are needed to ensure acceptability of impact.
7. Recommendation – can the proposal be supported in its current form based on a balance of considerations relevant to visual impact.

Each location assessment is supported by site photos informed by survey data, and photomontages and imagery produced and certified by SJB in accordance with the NSW Land and Environment Court's policy for photomontages.

The public views assessed as part of the VVIA are shown in **Figure 71** and **Figure 72** below. These views are predominantly public domain views, such as from surrounding streets and parks, with some of the views being from semi-public spaces such as from the SCG.




1. SCG - Outside
2. Albert Cotter Bridge
3. Memorial Obelisk - Moore Park Road
4. Junction of Oatley Road and Renny St
5. Junction of Moore Park Road and Poate Road
6. Junction of Anzac Parade and Land Road Bikeway
7. Mount Steel Lookout (Regional)
8. Grand Drive at Duck Pond (Regional)
9. Junction of Robertson Road and Oxley Lane (Regional)
10. Parade Grounds, Centennial Park (Regional)
11. Junction of Darley Road and Carrington Road (Regional)
12. Sydney Park Lookout (Regional)
13. SCG - Outside
14. SCG - Outside
15. Driver Avenue
16. Driver Avenue
17. Gregory Avenue (Under Albert Cotter Bridge)
18. Outside 254-262 Moore Park Road
19. Outside 228 Moore Park Road
20. Outside 34 Moore Park Road
21. SCG - Victor Trumper Stand
22. SCG - Clive Churchill Stand
23. Kippax Lake (added in response to discussions with Centennial Parklands and Moore Park Trust)

**Figure 71 Public viewpoints assessed in the Visual Impact Analysis – near views**

1. SCG - Outside
2. Albert Cotter Bridge
3. Memorial Obelisk - Moore Park Road
4. Junction of Oatley Road and Renny St
5. Junction of Moore Park Road and Poate Road
6. Junction of Anzac Parade and Land Road Bikeway
7. Mount Steel Lookout (Regional)
8. Grand Drive at Duck Pond (Regional)
9. Junction of Robertson Road and Oxley Lane (Regional)
10. Parade Grounds, Centennial Park (Regional)
11. Junction of Darley Road and Carrington Road (Regional)
12. Sydney Park Lookout (Regional)
13. SCG - Outside
14. SCG - Outside
15. Driver Avenue
16. Driver Avenue
17. Gregory Avenue (Under Albert Cotter Bridge)
18. Outside 254-262 Moore Park Road
19. Outside 228 Moore Park Road
20. Outside 34 Moore Park Road
21. SCG - Victor Trumper Stand
22. SCG - Clive Churchill Stand
23. Kippax Lake (added in response to discussions with Centennial Parklands and Moore Park Trust)

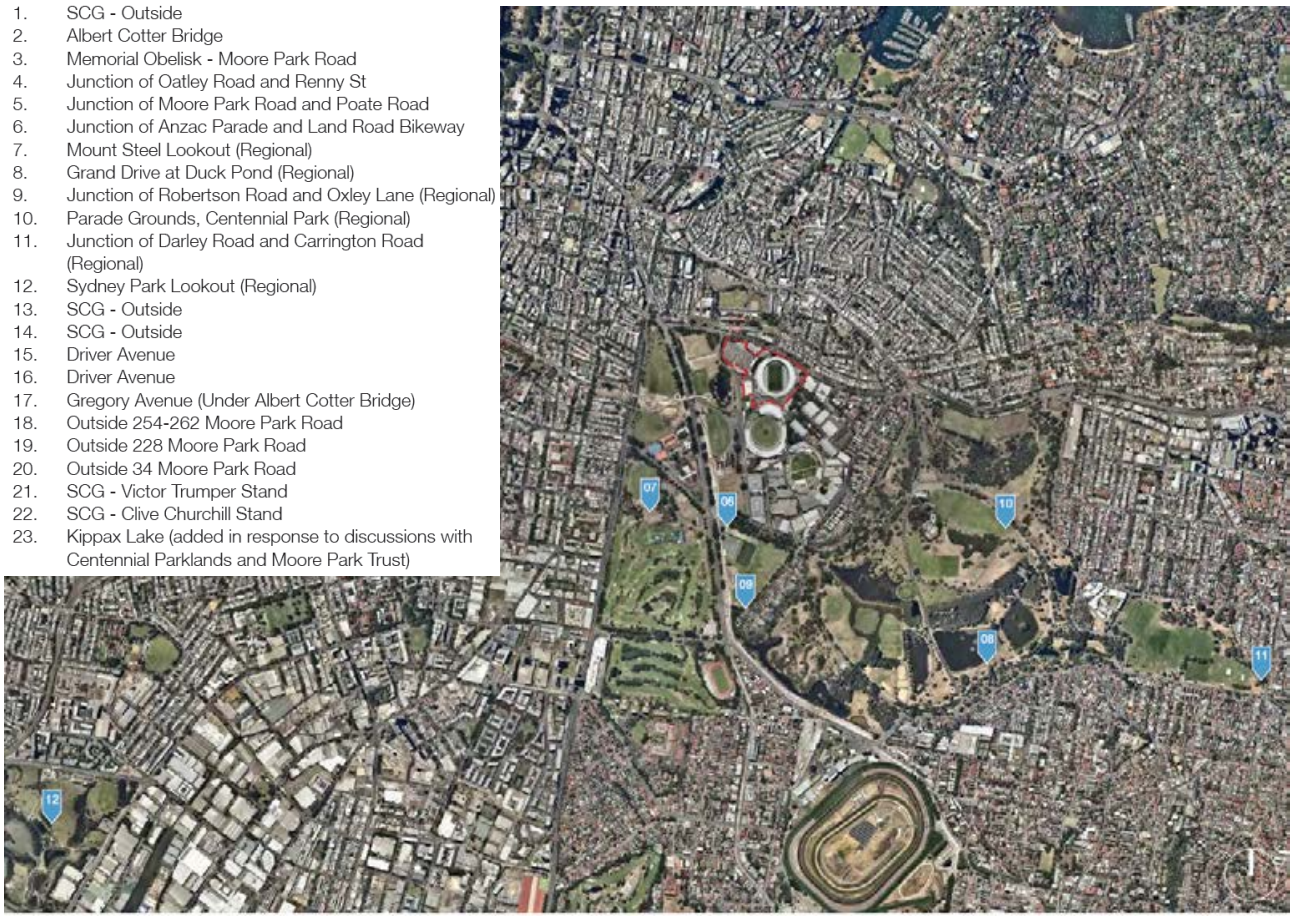


**Figure 72 Public viewpoints assessed in the Visual Impact Analysis – distant views**

The assessment of the 23 public views confirms there is predominantly a medium to low impact on views by the new proposed stadium when compared to the former SFS. A summary of the assessment of each view location including the ultimate level of impact is provided in **Table 18** below.

**Table 18 Summary of impacts to public views**

| No. | Description | View loss or blocking | Assessment summary | Overall category of impact |
|---|---|---|---|---|
| **1** | Members entry forecourt of the SCG (Gate A) | Nil, low impact | The Members Pavilion remains the dominant element. The site and stadium are a minimal element and are only just visible through gaps on the trees and between the built form. | Medium impact |
| **2** | Apex of the Albert Tibby Cotter Bridge | Nil, low impact | The former stadium was visible above the tree line that dominates the middle ground of the view. The dynamic curved roofline of the new stadium is also visible, which plunges into the tree line beneath. | Medium impact |
| **3** | Anzac Parade memorial on the south eastern side of the intersection of Anzac Parade and Moore Park Road | Nil, low impact | The memorial and trees are visible in the foreground, framing a mid-range view to the stadium. The proposal and its roof form provide the main focal point, contributing visual interest to the typical view. | Low impact |
| **4** | Intersection of Oatley Road and Renny Street | Nil, low impact | The stadium is a landmark element, with views terminating at the stadium. The architectural form of the roof line is a striking feature in contrast with the residential scale and setting of the local street. | Medium impact |
| **5** | Eastbound lanes of Moore Park Road adjacent the intersection with Poate Road | Nil, low impact | The stadium is a landmark element within the view. The curve of the road reflects and works with the curve of the roofline. | Low impact |
| **6** | Intersection of Lang Road and Anzac Parade | Nil, low impact | The busy intersection dominates the foreground, with the mid-group characterised by construction areas for the light rail that obscure the plating fields. Trees obscure the lower areas of the stadium and SCG, with only the north western roofline of the stadium visible. | Low to medium impact |
| **7** | Mount Steele lookout | Nil, low impact | The view toward the site and existing stadium is some 45 degrees from the direction of this primary view, with the foreground tree line obscuring the stadium. | Low impact - the stadium is obscured from this view |
| **8** | Southern side of Duck Pond within Centennial Park | Nil, low impact | The stadium is obscured by the mid ground trees that enclose the duck pond. | Low impact - the stadium is obscured from this view |
| **9** | Southern end of the Robertson Road Fields | Nil, low impact | The view is framed by street trees with trees obscuring the lower areas of the stadium and SCG. The roofline is just visible in the background above the tree line. | Low impact |
| **10** | Just north of Loch Avenue adjacent the Centennial Park Parade Grounds | Nil, low impact | The site and both the existing and proposed stadium are not visible, obscured by the vegetation of the distant mid-ground within Centennial Park. | Low impact - the stadium is obscured from this view |
| **11** | Elevated vantage point provided at the upper slopes of the Waverley Ridge, adjacent to the corner of Carrington and Darley Road | Nil, low impact | The view is extensive of the CBD skyline with Queens Park recreational fields in the lower foreground. The existing and proposed stadium are elements within this iconic backdrop, but are not significant recognisable features. The proposed scheme is not discernible from this viewpoint. | Low impact |
| **12** | Sydney Park lookout | Nil, low impact | The proposed scheme is not discernible among the other more dominant urban built forms observed at this viewpoint. | Low impact |
| **13** | Members' Lawn area located to the north-west of the Members' Stand | Nil, low impact | The view is the location within the Member's Lawn which has the least obstructed views of the existing SFS. The proposed scheme is more substantial, and comparable in scale to the Noble Bradman Stand entrance. The Cricket NSW building would be demolished, providing greater openness to the stadium from this view. Compared to the approved concept envelope, the detailed design scheme is of a lower height. | Medium impact |
| **14** | Pedestrian footpath located directly to the | Nil, low impact | Partial views are available beyond the Noble Bradman Stand to the existing stadium. The proposal presents a built form that is | Low to medium impact |

| No. | Description | View loss or blocking | Assessment summary | Overall category of impact |
|---|---|---|---|---|
| | north of the Members' Stand | | comparable in form and massing to the former stadium. Its location in the view, however, has been shifted reducing the amount of sky views available, but providing substantially more sky views relative to the approved building envelope. | |
| **15** | Driver Avenue to the north of Kippax Lake | Nil, low impact | The NRL building acts as the focal point in this view, with the curved roofline of the former stadium being partially visible in the background. The proposal stadium will be more visible in the background of this view, to the rear and sides of the NRL building. Albeit, viewing is generally for short periods only as persons travel through Driver Avenue to their destination, which is likely within this sporting and entertainment precinct. | Low impact |
| **16** | Pedestrian footpath on the western side of Driver Avenue near the Brewongle Stand | Nil, low impact | The view from this location is highly urbanised, being taken from a plaza and looking across the asphalt roadway to the rear of the Brewongle Stand. The proposed scheme would introduce a new urban element in the distance, sitting lower in the skyline than the Brewongle Stand and the Ladies Pavilion, but higher than the Rugby League Central building. | Low impact |
| **17** | Gregory Avenue, looking east towards the stadium precinct towards the alignment of the road | Nil, low impact | The existing stadium is not readily visible from this location, with the sweeping curved form of the Tibby Cotter Bridge forming the main visual element in this view. The new stadium will be visible above the Tibby Cotter Bridge and tree line from this vantage point when compared to the former stadium. The maximum building height is lower than the tallest existing tree in this viewpoint. | Low impact |
| **18** | Footpath outside 254-262 Moore Park Road | Nil, low impact | The curved roofline of the existing stadium sweeps down towards Moore Park Road, with the curved roofline increasing the amount of sky visible in this space. The footprint of the new stadium has shifted, creating additional sky views as well as new views towards the SCG. Street trees would continue to screen parts of the future stadium. | Low to medium impact |
| **19** | Footpath outside 228 Moore Park Road | Nil, low impact | The existing view is characterised by the street trees and vegetation along Moore Park Road, with filtered views through the Sheridan Building. This includes views of the security-fenced perimeter of the existing stadium, and heavily obstructed views of the lower dip of the roofline and back-of-house areas associated with the stadium. The detailed design scheme is further recessed from Moore Park Road, but the demolition of the Sheridan Building will provide more direct views of the stadium. Street trees would continue to screen parts of the future stadium. | Low to medium impact |
| **20** | Footpath outside 34 Moore Park Road | Nil, low impact | The ARDC Building is a prominent, whilst potential views to the existing stadium are blocked by the Sheridan Building, which is itself largely screened by vegetation. The proposed stadium is well below the ARDC Building and appears as a less prominent built form. | Low impact |
| **21** | Upper tier of the Victor Trumper Stand within the Sydney Cricket Ground. | Nil, low impact | The two heritage-listed stands are framed by much larger, modern grandstands, with the existing stadium visible beyond the roofline of the grandstands. The proposed detailed design scheme is also visible to the left of the stands and through the openings of the upper level stands and the roof. The detailed design scheme improves the amount the of open sky visible at this viewpoint relative to the concept envelope approval. | Medium impact |
| **22** | Lower tier of the Clive Churchill Stand within the SCG | Nil, low impact | From a lower elevation within the stadium, the grandstands form a continuous building line around the playing field with no opportunities for views beyond the stadium. The proposed detailed design scheme will be below the MA Noble and Don Bradman Stands. While a small portion of the proposed stadium roof is visible above the Members' Stand, it terminates before the Ladies Pavilion. The height of the stadium is below the clock tower of the Members' Stand and cupola of the Ladies Pavilion. | Medium impact |
| **23** | Western edge of Kippax Lake within Moore Park | Nil, low impact | The view includes a direct view of the stadium, and unobstructed sky views accented by a cluster of the historic Port Jackson fig trees that surround Kippax Lake. The detailed design scheme will | Medium impact |

| No. | Description | View loss or blocking | Assessment summary | Overall category of impact |
|---|---|---|---|---|
| | | | be visible from between the vegetation of the parklands. The height of the proposed scheme is level with some of the taller trees within this view but is significantly lower than the approved concept envelope | |

### Recommendations

The VVIA states that, in essence, the proposal replaces a stadium on the site with a contemporary stadium facility that is largely comparable in bulk and scale. It confirms that the detailed design scheme has an acceptable visual impact, with regard to the following:

- The visual impact from Moore Park Road has been considered and minimised through intentionally lowering the stadiums northern facade to mitigate visual bulk and scale, and by pushing the stadium footprint to the south west to increase the space and landscaping between the stadium and Moore Park Road. Street trees will be maintained and supplemented along this frontage to better integrate the stadium with its surroundings and ensure the landscaped foreground from Moore Park Road remains.
- Intentionally lowering the southern facade of the stadium also reduces the visual change and visual impact on iconic views from the SCG, and ensures the proposal does not significantly impact or modify views of the iconic Sydney CBD skyline from the SCG.
- The proposal does not impact on key views from Centennial Park and other surrounding parks, including Sydney Park and the Mount Steele Lookout, in which instance the proposed stadium is either not visible or continues to form part of the urban view and is of a lesser scale than the approved maximum building envelope.
- The proposal will continue to be visible from Kippax Lake in Moore Park, which is considered to be acceptable as the proposal will simply replace the stadium that is a prominent feature of this view, and will not impact on the more scenic vantage points from Moore Park to the Sydney CBD. The roof form is curved and streamlined to ameliorate visual impact to the western and eastern interfaces.
- The proposal acknowledges the architectural form of the previous stadium, whilst also adhering to the functional brief to bring spectators closer to the playing field and provide weather coverage.
- In terms of comparison to the approved concept envelope, from a visual impact perspective, the proposal offers an improved outcome, presenting a more modest, sculpted and finessed scheme.

The following mitigation measures have been included with consideration of those nominated in the VVIA and with reference to the mitigation measure for tree retention in **Section 6.1.6**.

| Mitigation measure | Indicative timing |
|---|---|
| A Tree Protection Plan is to be prepared by the Project Arborist which assesses the degree of impact to any Tree Protection Zones and provides strategies and mitigation measures for how to minimise or mitigate these impacts. Consideration should be afforded to the recommendations in the Arboricultural Impact Assessment prepared by Tree IQ (30 May 2019). Tree 125 and Tree 231 are to be retained and protected. | Ongoing. |
| INSW and the appointed contractor should consult with the CPMP Trust prior to the commencement of operations to identify any practicable management measures to mitigate impacts of event crowds to mature figs and other associated vegetation around Kippax Lake. | Prior to occupation. |
| INSW and the appointed contractor should avoid impacts to street trees on both sides of Moore Park Road and vegetation in the centre median of Moore Park Road in the vicinity of the site wherever practical. The removal of the one nominated tree on Moore Park Road will occur only with the permission of the relevant land owner and in accordance with the terms of the final development consent. | During construction. |

### Private views

The VVIA at **Appendix W** also considers and addresses the potential impact on private views. 11 key residential private views were selected and assessed as part of the Stage 1 DA, which were selected based on their proximity from the project site and their ability to be potentially impacted by the proposed development. These views were input into a computer model and did not require access to any private properties.

The detailed and updated assessment as part of this Stage 2 DA sought community participation to photograph existing views and mark survey levels, which requires access into the principal living areas of residences. 23 locations were visited and notified through information slips of the time of the visit and how to arrange an alternate and more suitable time for the technicians to access the property. 8 residential properties of the 23 locations contacted provided elected to provide access to their premises to allow the VVIA to be undertaken.

The VVIA notes that the 8 residential properties captured represent a diverse range of views towards the development site and are closely located to the development site (see **Figure 73** below). Photographs from each of the 8 residences were captured form the best vantage point available from within the residence (balcony adjoining the living area, window adjoining the living area), and used for the preparation of the photomontages and imagery that have been produced and certified by SJB. These views can be extrapolated to apply to majority of the surrounding premises within a view cluster.


24. 70/39-43 Cook Road, Centennial Park
25. 300 Moore Park Road, Paddington
26. 278 Moore Park Road, Paddington
27. 35 Alexander Street, Paddington
28. 264 Moore Park Road, Paddington
29. 69/49-51 Cook Road, Centennial Park
30. 42/57-67 Cook Road, Centennial Park
31. 43 Stewart Street, Paddington

**Figure 73 Private viewpoints assessed in the Visual Impact Assessment**

It is best practice when undertaking an assessment of private view impacts in NSW to address the planning principle enunciated by the NSW Land and Environment Court in *Tenacity Consulting v Warringah Council* [2004] NSWLEC 140 (Tenacity). In Tenacity, Senior Commissioner Roseth sets out four steps that must be considered in assessing whether view sharing is reasonable. We note, however, that the situation in the proposed development is distinguished from the Tenacity case on two points:

- The detailed design of the stadium is principally governed by the approved maximum building envelope, which was assessed and approved at Stage 1 of the project. This building envelope establishes the height and development footprint of the stadium that this Stage 2 DA is pursuant to.
- Secondly, Senior Commissioner Roseth specifically states in his judgement (at 25) in NSWLEC 140 (Tenacity) that there are circumstances that do not require any view sharing and where it may be entirely reasonable for development to reduce or entirely block a view. In this instance, the proposal will be replacing an existing stadium within a historical and longstanding sports precinct comprising SCG among other ancillary sport facilities and buildings.

Notwithstanding, the four steps outlined by Senior Commissioner Roseth have been used to identify and assess the potential impact of the proposed development on views. A summary of the assessment of each view location including the ultimate level of impact is provided in **Table 19** below.

**Table 19 Summary of impacts to private views**

| No. | Location of the view | Nature of the view | Visual impact |
|---|---|---|---|
| **24** | Living room of Unit 70 at 39-43 Cook Road, which is approximately 490m from the project site. | The view is to the north west and broadly comprises of residential dwellings, some urban greenery, the SCG and SFS, and is set against the Sydney CBD skyline. The former stadium was a prominent and distinctive part of the view. | The proposal will be a more noticeable visual element in this view, and will interrupt the continuous and relatively unbroken line of the base of the CBD. The overall view loss is, however, minor and particularly when compared to the view loss anticipated by the approved maximum building envelope at this viewpoint. |

**Figure 74 70/39-43 Cook Road with the existing view (left) and proposed view (right)**

*Source: SJB*

| | | | |
|---|---|---|---|
| **25** | Living room of a 3 storey terrace at 300 Moore Park Road, which is approximately 75m from the project site | The view comprises direct view of Moore Park Road and the former stadium (east elevation). Existing urban vegetation and street tree plantings frame the view. | The overall visual impact is considered to be negligible. The proposed stadium is generally comparable in bulk and scale to the former stadium in this location and is modulated and setback from the frontage. The new built form will be screened by supplementary landscaping not captured in the photomontage. |

**Figure 75 300 Moore Park Road with the existing view (left) and proposed view (right)**

*Source: SJB*

| No. | Location of the view | Nature of the view | Visual impact |
|---|---|---|---|
| **26** | Living room of a 2 storey terrace at 278 Moore Park Road, which is approximately 60m from the project site. | The view comprises a direct view of the former stadium (south-east elevation) and Moore Park Road. Urban vegetation and street tree plantings frame this view. | The overall visual impact is considered to be negligible. The stadium footprint has been relocated further south west of the original footprint, making it more recessed from this boundary and improving views of the sky from this location. The proposal only occupies a portion of the approved building envelope and will be screened by supplementary landscaping not captured in the photomontage. |

**Figure 76 278 Moore Park Road with the existing view (left) and proposed view (right)**

*Source: SJB*

| | | | |
|---|---|---|---|
| **27** | Balcony of the two storey terrace at 35 Alexander Street, which is approximately 205m from the project site. | The view broadly comprises of urban vegetation and the rooftops of surrounding low rise residential dwellings. The former stadium is not evident or noticeable in this view. | The new SFS development will largely be screened by the residential dwellings and vegetation observed within this view. A small portion of the new development's diagrid roof will become visible. However, the visual impact, as a result, is minor due to the viewing distance and the overall limited view loss. |

**Figure 77 35 Alexander Street with the existing view (left) and proposed view (right)**

*Source: SJB*

| No. | Location of the view | Nature of the view | Visual impact |
|---|---|---|---|
| **28** | Balcony of the two storey terrace at 264 Moore Park Road, which is approximately 42m from the project site. | The view comprises direct views of former stadium, as well as Moore Park Road. Existing street planting and vegetation screens the former stadium in this view. | The new stadium is taller overall compared to the former and, therefore, some additional visual presence is evident. The roof of the new stadium will be prominent and visible and breaks the composition of the existing horizon by rising above the tree line. The new streamlined roof form, however, is seen to add visual interest to the view. Overall, the visual impact is categorised as being moderate. |

**Figure 78 69/49-51 Cook Road with the existing view (left) and proposed view (right)**

*Source: SJB*

| | | | |
|---|---|---|---|
| **29** | Level 6 balcony (Unit 69) at 49-51 Cook Road, which is approximately 497m from the project site. | The view comprises rooftops of surrounding residential dwellings and urban vegetation, set against the Sydney CBD skyline. The existing stadium building is a direct and distinct feature of this view. Other prominent features include the Sydney Eye Tower, the JP Morgan Building, the MLC building and distant views of North Sydney. | The new stadium will interrupt the continuous relatively unbroken line of the base of the CBD skyline, but the overall change is considered to be minor in terms of the viewing distance and view loss. |

**Figure 79 69/49-51 Cook Road with the existing view (left) and proposed view (right)**

*Source: SJB*

| No. | Location of the view | Nature of the view | Visual impact |
|---|---|---|---|
| **30** | Level 4 balcony (Unit 42) at 57-67 Cook Road, which is approximately 489m from the project site. | The view comprises heritage terraces, hipped and flat rooftops of surrounding residential developments, direct views of the midtown and northern CBD towers, existing commercial buildings within Moore Park and the flood lights of the Sydney Cricket Grounds in the background. The stadium building is highly visible, prominent and located centrally within this view. | The new stadium remains a prominent and noticeable element in this view, but marginally interrupts the Sydney CBD skyline towards the southern city edge. There is no visual change or impact to the northern Sydney CBD skyline observed within the right half of this view. The overall view impact is minor due to the viewing distance and limited visual change. |

**Figure 80 42/57-67 Cook Road with the existing view (left) and proposed view (right)**

*Source: SJB*

| | | | |
|---|---|---|---|
| **31** | Rooftop of a two storey residential terrace at 43 Stewart Street, which is approximately 89m from the project site. | The view comprises views of the rooftops of Victorian terraces set against the backdrop of the stadium. The former stadium is a prominent feature in this view. | The proposal will not obstruct the main visual element of this view, being the three historic terraces in the foreground, and site afloat in the background. It adds visual depth, interest and quality to the view and the overall view loss is limited. The visual impact is categorised as being moderate. |

**Figure 81 43 Stewart Street with the existing view (left) and proposed view (right)**

*Source: SJB*

**Recommendations**

The VVIA confirms that the detailed design of the stadium has an acceptable visual impact, and the majority of existing private views will remain largely unchanged or result in a negligible or minor visual impact. Moderate view loss is only observed for two viewpoints, being at 264 Moore Park Road and 43 Stewart Street, which is owing to the proximity to the project site and the overall presence and prominence of the existing and proposed stadium building within these views. The development replaces an existing stadium and, in this regard, the overall view impact is minor.

No mitigation measures were specified in the VVIA for safeguarding private views. Notwithstanding, it is considered that the mitigation measures developed for safeguarding public views discussed in the section above will remain valid to private views.

### 6.2.2 Overshadowing

Overshadowing plans have been prepared by COX Architecture (**Appendix B**) and replicated at **Figure 82** illustrating the shadow cast by the stadium during the winter solstice, being the time of year when there is the greatest potential for overshadowing. The plans demonstrate that:

- No residential dwellings will be impacted by shadows cast from the stadium at any time.
- The overshadowing of public open space within Moore Park to the west is confined to a short period between 9am and 10am.This shadow does not fall on Kippax Lake and does not extend beyond the site into Moore Park after 10am. The overshadowing is therefore only for a short period of time during the worst-case time period in the year, and the extent of overshadowing is significantly reduced from the shadow cast by the approved Stage 1 maximum building envelope.
- The overshadowing of the Fox Studios site is also limited to short period of time, primarily occurring between 2pm and 3pm, noting that between 12pm and 1pm the shadow generally sits at the boundary line with the Fox Studios site. This is acceptable given that the shadows are generally confined to roadways, car parking, and the studio ‘Building 29’. The extent of overshadowing is also generally consistent with that of the former stadium in this location and is significantly reduced from the shadow cast by the approved Stage 1 maximum building envelope.
- The proposed development does not give rise to any additional overshadowing of the playing field or stands within the SCG. The shadows do not extend beyond the northern facade of the Bradman Noble Stand.
- The proposed public domain areas to the north of the stadium, including Fig Tree Place and Busby’s Corner, benefit from a northerly aspect and will continue to achieve a high level of sunlight during the winter solstice and throughout the year. From 12pm onwards, the Moore Park Terrace main entry plaza will also achieve full sunlight. This will positively contribute to the activation and functionality of these new publicly accessible gathering spaces.

Having regard to the above, it is evident that the proposed stadium will not give rise to any unacceptable overshadowing impacts on any existing or proposed public domain areas, adjoining properties, the SCG or Moore Park including Kippax Lake. The proposed stadium does not give rise to any additional impacts than those considered at Stage 1, and has significantly improved on the extent of overshadowing cast by the approved building envelope.

**Recommendations**

The assessment confirms that the proposed development does not result in any significant or adverse overshadowing, and as such no further study or refinement is required and no specific mitigation measure has been nominated in this instance.

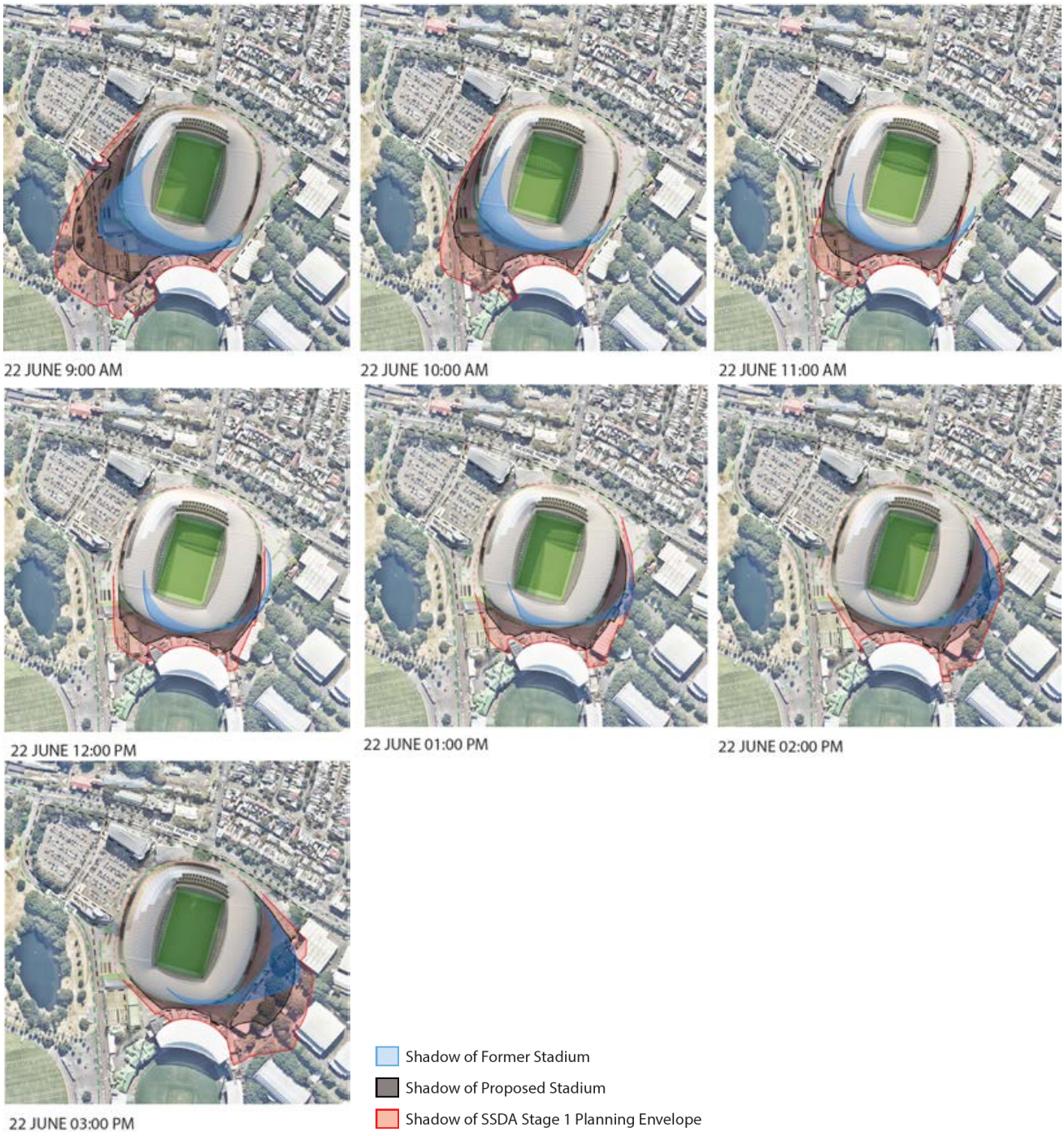



**Figure 82 Shadow cast by the stadium during the winter solstice, as compared to the approved building envelope**

*Source: COX Architecture*

### 6.2.3 Wind environment

Arup has undertaken detailed wind modelling to quantify the potential impacts of the proposed development on the pedestrian environment. The modelling has been conducted for 33 locations around the perimeter of the stadium, and at locations on Driver Avenue and Moore Park Road, as shown in **Figure 83** below. Corresponding measurements were also taken from locations surrounding the former SFS stadium, to determine any change in conditions (refer to **Figure 84** below).

The modelling determines the suitability of the surrounding pedestrian wind environment with consideration of the relevant safety criterion, and the comfort criterion under the Sydney DCP 2012. The Sydney DCP 2012 comfort criterion is a target and was established for the purposes of assessing buildings within a streetscape and not strictly development of this scale, nature and setting.

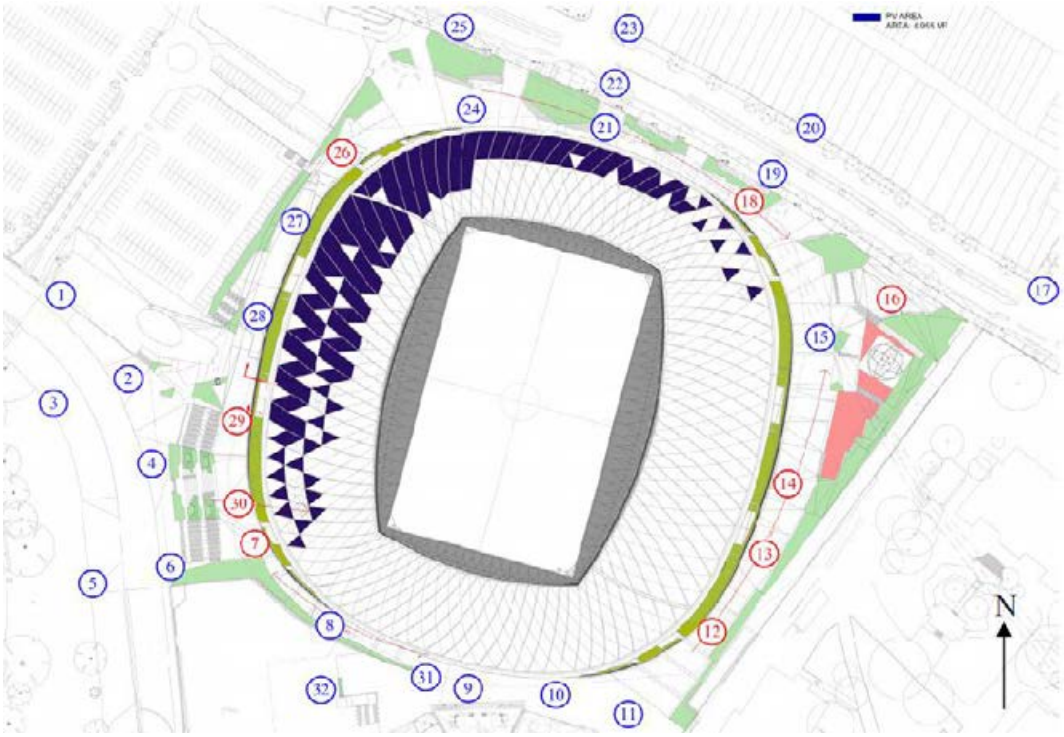



**Figure 83 Wind tunnel testing locations of proposed stadium**

*Source: Arup*

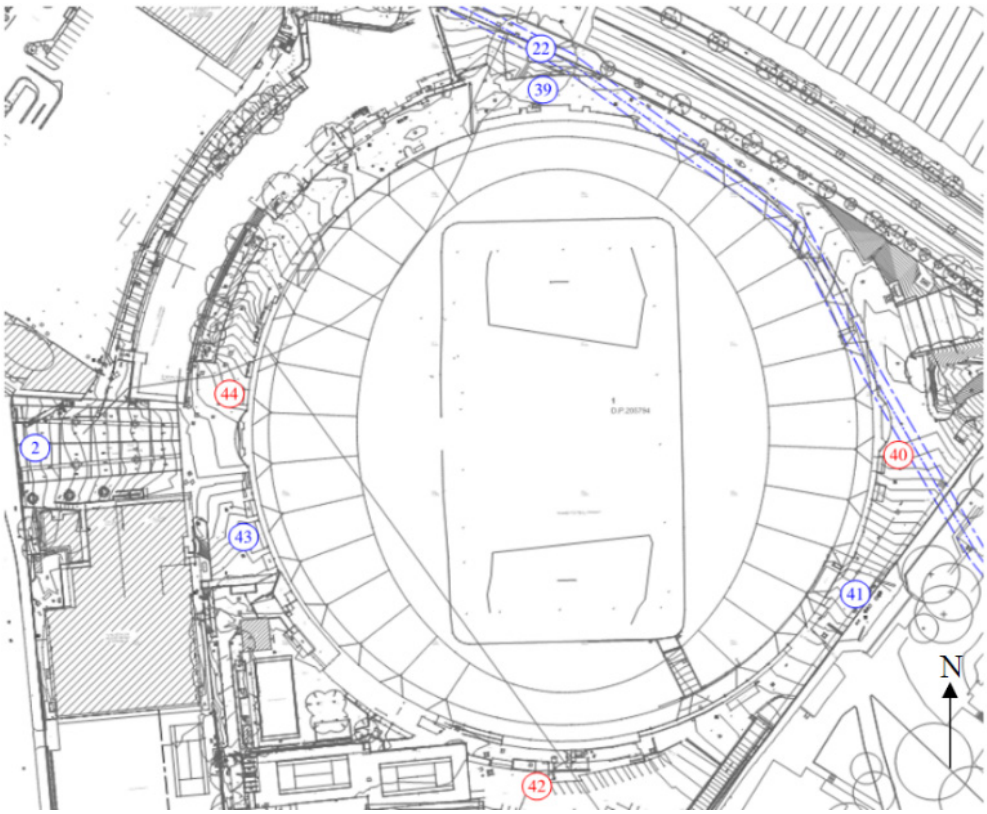



**Figure 84 Wind tunnel testing locations of former stadium**

*Source: Arup*

At all locations the proposed stadium and public domain achieves the relevant safety criterion, and in most instances the proposal also achieves the relevant Sydney DCP 2012 comfort criterion. These locations that meet the comfort criteria enable passive and low intensity recreation across the site, whilst other locations are expected to only be heavily occupied on event days, at which point the dense number of pedestrians offers local wind protection termed the 'penguin-effect'. Modelling of the conditions outside of the site at key intersections on Moore Park Road and Driver Avenue used to access the stadium confirm that the surrounding wind environment is relatively unaffected by the proposed stadium and that these areas will comply with the comfort criteria.

Nine (9) of the 33 locations for the proposed stadium exceed the comfort criterion. These locations are affected by prevailing winds accelerated by the stadium facades, and are primarily located in the corners and on the narrower eastern and western frontages of the site. Notwithstanding, these wind conditions are considered acceptable in view of the following:

- three locations (16, 18 and 29) were measured as either being at or just over the criterion, and for Location 16 the criterion was only exceeded for one wind direction (NNE), meaning these locations represent a very minor discrepancy from the recommended conditions for comfort;
- a number of locations (9, 21, 28 and 31) demonstrated an improvement from the conditions experienced around the former SFS;
- two locations (12 and 13) will not be accessible to the public outside of events or during double-headers when the SCG is also operational and, when publicly accessible, will typically be used for circulation and not for recreation or other activities requiring the use of this area for extended periods of time;
- one of the locations (14) was found to meet the comfort criterion when remodelled incorporating site landscaping;
- one of the locations (26) was also remodelled incorporating landscaping that improved the wind conditions, which could be further improved if necessary by incorporating small-scale vertical screening such as trees, walls, or small wayfinding structures in this area, noting that this space is primarily used for movement between the MP1 carpark and the stadium and is not expected to be occupied for extended periods of time; and
- on a day with exceptional forecast winds, it is likely that any event would be cancelled for weather reasons, and as such it is unlikely that the site will be highly occupied.

**Recommendations**

The modelling confirms that, overall, the wind conditions surrounding the proposed stadium are similar to those experienced surrounding the former SFS, with some areas becoming windier and others calmer. All locations measured will achieve the safety criteria, and most locations within the site and all locations outside of the site will also achieve the comfort criteria. Those locations within the site that exceed the comfort criteria are expected to be used as circulation spaces and not to be occupied for extended periods of time and therefore it is not appropriate to apply comfort criterion, or can be made suitable by incorporating tree planting and other mitigation measures. Arup confirms that the pedestrian wind environment created by the proposed development sufficiently meets the intent of the DCP criterion, with consideration of the applicability of the criterion to a stadium.

No mitigation measures are nominated in the Environmental Wind Assessment.

### 6.2.4 Lighting

Lighting has been incorporated into the design of the stadium structure and public domain. It is essential to the operation of the stadium and the creation of safe and accessible public spaces. The installation of lighting through the stadium and public domain is informed by the architectural design by COX Architecture, the landscape design and wayfinding strategy by Aspect Studios, and the assessment by Stowe (**Appendix Y**).

The location, type and design of lighting has been selected to minimise light spill and any associated impacts on nearby residences or wildlife. The assessment by Stowe confirms that:

- The proposed lighting installed with the stadium roof to illuminate the pitch will ensure no lighting is directed at neighbouring properties, and that no upward light passes the roof perimeter.

- Maximum lighting levels will only occur during night professional sporting events, with reduced levels used during night time training sessions. Any uplighting, such as for the feature trees, will be turned off after curfew hours as required by the Australian Standards.
- All public domain lighting will be designed, installed and operated in accordance with the relevant Australian Standards.
- Screening by trees as part of the landscaping, will also contribute to limiting obtrusive lighting effects including glare.

A further assessment by Jacobs (**Appendix EE**) confirms that public domain lighting has the potential to affect nocturnal fauna. However, the proposed design of lighting associated with the stadium has the potential to improve the environment created by the former stadium. Namely, the removal of the former SFS lighting, and the design of public domain lighting to be limited to downlighting and a curfew, ensures the development will not have any additional impact on Kippax Lake. The new SFS will reduce ambient light pollution experienced surrounding the stadium, and will not have any long-term impacts on Grey-Headed Flying Foxes or other fauna around Kippax Lake.

**Recommendations**

No mitigation measures are nominated in either the assessment by Stowe or Jacobs at **Appendices Y** and **EE** respectively, and as such the following is a recommended mitigation measure. Biodiversity impacts are further discussed in **Section 6.11**, and the development of a lighting strategy is also discussed with regard to the management of the site at **Section 6.8**.

| Mitigation measure | Indicative timing |
|---|---|
| All applicable outdoor lighting will be design, installed, and operated in accordance with the relevant Australian Standards; AS4282 and/or AS/NZS 1158.3.1. | To be detailed in the construction drawings, where relevant, and inform the future operation of the stadium site. |

### 6.2.5 Shading

The proposed stadium provides shading to provide relief for patrons during warmer periods and to reduce the urban heat island effect. The design of the public domain incorporates three times as many trees as were previously on site, framing the stadium and the new gathering spaces surrounding the stadium. The trees have been selected to be primarily native, with some deciduous trees providing shade in summer and sunlight in winter. The public domain also incorporates seating, drinking fountains, and specially selected paving that minimises reflected heat and glare to create comfortable spaces for the public to dwell day-to-day and during events.

**Recommendations**

It is considered that the proposed development does not result in any significant or adverse impacts, and as such no further study or refinement is required. No specific mitigation measure has been nominated in this instance, noting that the development will be conditioned to deliver the landscape design as shown on the plans at **Appendix C**.

### 6.2.6 Visual privacy

The direct interface between the subject site, the existing SFS and the new stadium to residential dwellings is limited to those dwellings located along Moore Park Road to the north. These dwellings address Moore Park Road, which is a main vehicular and pedestrian thoroughfare connecting the eastern suburbs and southern CBD, and therefore generally already incorporate measures to maintain visual privacy within their southern elevations. Dwellings further to the north, within the suburb of Paddington, are sufficiently distant from the site such that there would not be any direct visual interface that would give rise to privacy impacts (e.g. Leinster Street to the north is approximately 90 metres distant from the existing stadium). There are no residential dwellings to the west or south of the site, and the nearest dwellings to the east are located beyond the Fox Studios site, which is more than 200 metres from the site.

The stadium has limited direct visual interface with dwellings to the north, and has been designed to minimise any potential opportunities to overlook these dwellings from within the stadium. The stadium footprint has been shifted to the south west away from these dwellings in order to create the 360° external pedestrian concourse, and has been reduced in height by 1m when compared to the former stadium at this northern facade. The stadium facade has been treated with louvres that screen and limit views, and will be buffered by existing mature trees along the street and northern boundary that are to be retained and enhanced with further tree planting. New trees planted within the site would have a pot size of 200L, allowing new plantings to establish and provide some additional foliage cover from an early stage. Further, at its core, the design of the proposed stadium has sought to maximise and orientate views into the site to the playing field, rather than to views of the surrounding area. For these reasons, the proposed stadium will not give rise to any adverse visual privacy concerns and will not result in any notable change to the interface experienced between the former stadium and the dwellings on Moore Park Road.

**Recommendations**

It is considered that the proposed development does not result in any significant or adverse privacy impacts, and as such no further study or refinement is required. No specific mitigation measure has been nominated in this instance.

### 6.2.7 Reflectivity

A statement has been prepared by Prism Facades (**Appendix BB**) confirming that the materials selected for the stadium will achieve the SEARs reflectivity requirements. All materials and finishes selected for the facade systems have been selected to minimise reflectivity, and all glass and other typically reflective materials and products have been nominated with a spectral reflectivity of less than 20%:

- the PTFE material used in the roof is a known UV blocker, and is substantially matte in texture;
- concrete and anodised aluminium forms used in the façade will be specified with low reflectivity finishes;
- the form of the primary façade slopes outwards, which assists in directing solar reflections to the ground closer to the building, limiting the potential for direct impacts to within the site; and
- highly reflective elements such as glass will be limited in their application and where required, will be partially shaded by the louvre veil, or the primary roof edge.

**Recommendations**

Through the selection of appropriate materials and finishes, it is considered that the proposed development will not result in any significant or adverse privacy impacts, and as such no further study or refinement is required. Prism Facades has been engaged for the duration of the project, including into the detailed design and construction phase, and as such will ensure compliance with the reflectivity requirements for the site.

No specific mitigation measures are nominated in the statement by Prism Facades (**Appendix BB**), and as such the following is a recommended mitigation measure.

| Mitigation measure | Indicative timing |
|---|---|
| All external materials and finishes that are visible from a public road and footpath are to have a spectral reflectivity of less than 20%. | To be detailed in the construction drawings. |

### 6.2.8 Impact on recreational zones

The site is located on the eastern side of Driver Avenue, adjoining Moore Park, and as such forms the eastern edge of the parklands. The proposed development will not impact the environmental and operational conditions of Moore Park and associated recreational activities, with consideration of the following:

- All proposed works are contained to within the boundaries of the site. Planned and potential future works that may occur in the surrounding area, such as the provision of additional bicycle parking or additional wayfinding, as discussed in the EIS and supporting technical studies will be subject to future consultation with the CPMP Trust and completed via a separate planning process as necessary.
- Appropriate mitigation measures are proposed to manage any potential impacts to Moore Park during construction works (as discussed in **Sections 6.3, 6.4,** and **6.5**).

- Further, the ultimate resulting stadium will not significantly overshadow Moore Park (as discussed in **Section 6.2.2**), or otherwise significantly or adversely impact the amenity of this space in terms of noise, lighting, flooding, heritage significance, and views and visual impacts (as discussed in **Sections 6.4, 6.2.4, 6.10.1, 6.6**, **6.2.1**, respectively).
- No change is proposed to the temporary event carparking spaces within Moore Park that are provided by and controlled by the CPMP Trust. INSW and the SCSG Trust will continue to liaise with the CPMP Trust, who are responsible for the control and management of Moore Park including the EP2 and EP3 car parks, in the future. Refer to **Section 6.3.1**.

In addition to the above, the proposed development has sought to better integrate the stadium and site with the broader recreational setting of the site:

- The proposal provides significantly increased site landscaping within the public domain including the planting of 120 new trees, representing a replacement ratio of approximately three new trees for every one removed, and mass planting in garden beds at the edges of the stadium. This landscaping will integrate the stadium with its parkland surrounding, and has been selected to be predominantly native species and incorporate endemic species, including landscaping that are also appropriate foraging species for native wildlife. The proposal contributes to the biodiversity of the region as well as the landscaped aesthetic of the site.
- Landscaping is also integrated into the stadium through outdoor terraces and the green roof, drawing landscape elements deep into the precinct and up into the fabric of the building.
- The new public domain surrounding the stadium supports informal sports, small-scale play and passive recreation to complement and integrate with the adjoining recreation space. These nodes will act a catalyst for attracting neighbouring residents and the broader city to engage with and contribute to the activation of the site and surrounding area.
- The proposed stadium design promotes increased site permeability and circulation through removing the boundary security fencing and providing a fully accessible pedestrian concourse, which provides a new pedestrian connection between Paddington and Moore Park to facilitate the enhanced access and use of Moore Park.
- The position of the proposed stadium and the design of the public domain enables the delivery of new pedestrian links between the stadia to Fox Studios and down the eastern side of the site, consistent with the vision in the greater precinct under the *Moore Park Master Plan 2040*. This supports greater access to and the use of the adjoining recreational space in Moore Park, recognising that the realisation of these links will be subject to further separate works by the CPMP Trust who are responsible for Fox Studios and the Entertainment Quarter.

## 6.3 Transport and accessibility

### 6.3.1 Operation

At a high level, it is emphasised that the project involves the replacement of an existing stadium with a new stadium with generally the same patron capacity, and that existing arrangements for major event transport will continue to operate to support anticipated levels of crowd attendance within an established event management and operational framework. Vehicular and pedestrian access arrangements will be maintained or improved by the new stadium. Refer to the discussion below and the Transport Assessment prepared by Arup (**Appendix H**).

#### Parking

Car parking

As outlined in **Section 4.10.2** above, the provision of parking on site will remain generally unchanged. 590 spaces that were previously available for employees of the Trust, venue hirers and stadium club members will be reinstated on site in the new MP1 carpark and within the internal ring-road/basement area of the new stadium. These spaces will continue to be only for use by staff, members and venue hirers ensuring there is no increase in the number or allocation of public parking spaces as part of the proposed development in order to continue to promote public and active travel modes.

Whilst the proposed staff and members carparking comprise 10 spaces less than what was previously available on site, the reinstatement of all 600 spaces was found not to be possible. The new MP1 carpark accommodates a new vehicle rejection loop, boom gates, and a drop-off location for people with mobility impairments, which are necessary security and accessibility facilities that the previous stadium did not provide. The stadium basement also accommodates significant back-of-house, servicing, and loading areas that the former SFS also did not provide and would temporarily use public areas to manage waste, deliveries and servicing. The loss of 10 spaces on the site to enhance the operational capability, security and accessibility of the stadium is considered appropriate.

Further, Arup confirm that the loss of 10 spaces on site will not materially impact the parking environment in the area, with the reduction representing only a 0.1% of total off-street parking areas provided in the broader precinct. The minor reduction in car parking will result in less vehicles travelling to the precinct on event days, therefore aligning with the overall transport strategy of reducing the impact of vehicular traffic and promoting non-car travel to the stadium.

It is not proposed to provide new dedicated parking for patrons within the site for the following reasons:

- increasing the provision of car parking accessible for patrons in this precinct is likely to induce additional usage of private vehicles for travel to the stadium during events, resulting in increased congestion within the local traffic network and environmental costs;
- the provision of additional car parking would be incompatible with existing City of Sydney Council policies to reduce private car usage within the Central Sydney area;
- additional car parking would require the provision of multi-deck or below-ground car parking, which would result in significant additional costs to the delivery of the project, and would be inconsistent with the transport strategy and development parameters established for the site in the approved Stage 1 DA;
- existing public transport arrangements, supplemented by the future commencement of the CBD and South East Light Rail and emerging point-point transit systems, perform to a reasonable level of service during existing major events including double-headers to transport patrons to and from the site;
- the new stadium provides improved facilities for active travel, particularly cycling, and has been designed to integrate with existing and potential future pedestrian linkages to encourage walking from surrounding areas;
- providing carparking within the basement for use by patrons would conflict with the security assessment for the operation of the stadium, and could lead to additional vehicular movements within the precinct conflicting with pedestrians during events; and
- consistent with the operation of the former stadium, there are approximately 2,000 permanent carparking spaces within the Entertainment Quarter and 2,850 temporary event carparking spaces in the vicinity of the stadium (EP2 – Kippax, EP3 – Showground, Sydney Boys & Girls High School), which are used to cater for events. These car parking facilities are not provided by or controlled by the SCSG Trust, but can be used by patrons of the stadium when made available by the relevant land manager. Whilst it is acknowledged that the *Moore Park Master Plan 2040* provides for the removal of the temporary on-grass car parking at EP2 and EP3, the Master Plan makes clear that this removal will be progressive, occur over the medium and long-term and will only occur where increased access via other transport modes and/or additional car parking is provided in alternative locations, to be explored further via a stakeholder working group. INSW and the SCSG Trust will continue to liaise with the CPMP Trust, who are responsible for the control and management of Moore Park including the EP2 and EP 3 car parks, in the future.

This policy of no additional car parking adopted by the proposed development complements the strategy of promoting public transport, walking and cycling to access the stadium and reducing the reliance on private vehicles.

There is the potential for overflow parking in suburbs and areas surrounding the stadium for patrons using private vehicles to access the site who do not utilise available parking within the Entertainment Quarter or temporary event parking. This overflow could occur in areas of Centennial Park, Kensington, Paddington and Randwick, but would ultimately not be greater than what is experienced with the current stadium. The proposed development is of a comparable capacity to the former stadium and does not introduce any additional parking demands. Existing time restrictions and resident/business parking permit requirements will continue to be managed and enforced by the relevant local road authorities.

Bicycle parking

The stadium will provide bicycle parking and facilities for staff and visitors to encourage the use of bicycles when travelling to and from the stadium. Bicycle parking for the general public will be accessible at all times and will benefit from improved connections between the stadium and cycle networks. Bicycle parking for staff is proposed within the secure stadium basement, and is complemented by end of trip facilities. Arup confirm that bicycle parking will be delivered in accordance with the relevant Australian Standards.

**Travel demand and capacity**

Travel demand is a measure of the available capacities of various transport modes in the hour prior to the start of the event, noting that surveys of the existing demand for the site indicated that 70% of people arrived at the stadium during this period. Travel demand will be shaped by the type of event being held, being standard events (half capacity stadium), major events (full stadium), or a double header (two peak events occurring at SFS and SCG). The transport mode share is also influenced by the type of event, start time, weather conditions, the origin of the opposition team, and other factors that influence the mode and time of travel for patrons to the site. The mode share assumed for Stage 2 is consistent with the Stage 1 DA, which was developed in consultation with TfNSW, surveys, and modelling. Refer to Section 4.1 of Arup's report for the detailed forecast mode shares for various event scenarios.

Pedestrians

Within the project site, pedestrian circulation and capacity has been significantly improved through removing boundary security fencing, allowing for 360° pedestrian circulation around the stadium during event mode, and providing public access to and through the site at all times of the day and year. Pedestrians can access the site via the entrances at Fig Tree Place and Busby's Corner on Moore Park Road and the Moore Park Terrace entrance on Driver Avenue, and move between these points via the new public domain surrounding the stadium.

Arup has modelled pedestrian demand at the end of a double-header event on the capacity of footpaths in the precinct. This modelling assumes the worst-case-scenario of a potential 95,000 people moving from the precinct, noting that this is the theoretical maximum as start and end times are normally staggered between the SFS and SCG to disperse crowds and because no double-header in the history of SCG and SFS operations has exceeded a total of 78,000 people in attendance.

The modelling considers 18 pedestrian routes from the site and determines the pedestrian volumes and associated Level of Service (LOS) that can be expected. A capacity of 80 pedestrians per minute per metre is assumed as the acceptable limit for significant post event crowd movements in the same direction. Using this limit and analysing the capacity of the site, Arup's modelling confirms that footpaths in the surrounding precinct have the capacity to accommodate the worst-case-scenario pedestrian movements, with no footpath approaching maximum density.

There are existing operational measures in place to manage crowds post-event, which will be retained when operating the new stadium including improvements to wayfinding and egress, and to minimise anti-social behaviour (refer to **Section 6.1.7** and **6.8**) and ensure safer pedestrian interactions with vehicles as outlined in the Event Management Plan (**Appendix Q**).

Private Vehicles

As part of the Stage 1 DA, Arup undertook SIDRA modelling to assess the expected operation of surrounding intersections under the worst-case-scenario, being a double-header with a maximum 95,000 patrons. As previously mentioned, this maximum possible attendance is an unlikely scenario as the highest ever combined attendance for a double header to date has been approximately 78,000 people and the end times are staggered between the stadiums.

The modelling considered the operation of key intersections in Moore Park prior to and following the conclusion of a double-header and confirmed that during the worst 30 minute peak hour period, these intersections would continue to operate at LOS B or C, being acceptable levels of service. LOS B and C are attributed to intersections operating well with spare capacity and some delays.

The following was also noted for the performance of surrounding intersections and the road network:

- The proposed development does not increase the capacity of the stadium, or the quantum of on-site car parking. The redevelopment is, therefore, not expected to generate any additional traffic associated with events or the operation of the stadium. Whilst there may be a small increase in staff numbers (from 1,200 staff to 1,500 staff) associated with major events at the new stadium, due to staff travelling outside of the patron peak periods this is not expected to impact upon peak traffic levels.
- Double-header events, as the worst-case scenario, are heavily managed by TfNSW and the Transport Management Centre, who communicate prior to the event for patrons to use public transport and leave their cars at home.
- The operation of the stadium will be supported by a Green Travel Plan (discussed further in below) and will coincide with the delivery of the new Light Rail, supporting the uptake of active and sustainable modes of transport to generate less vehicle traffic during major events.
- The surrounding intersections in Moore Park have been designed to accommodate day to day traffic, and traffic associated with major events that typically range from between 10,000 to 60,000 people. Upgrading intersections to specifically service 95,000 patrons as a rare/non-existent worst-case scenario would reduce the available space for pedestrians, bicycles, and planting and would conflict with one of the key operational drivers for this stadium; being to improve the use of sustainable transport when travelling to and from the site.

Consistent with the existing operation of the stadium, it is recommended that Traffic Management Plans continue to be developed in consultation with key stakeholders like the NSW Police prior to special events occurring in order to manage vehicle and pedestrian movements before, during and after events.

Cycling

As discussed in **Section 2.2.2**, the site is located in the vicinity of key local and regional cycle routes that offer safe and direct pathways in each direction to the site. Whilst cycling did not represent a significant proportion of the mode share attributed to the former stadium, the redevelopment seeks to take advantage of the existing cycle routes and promote the uptake of this mode of transport by increasing the number of parking spaces and end of trip facilities, and improving wayfinding. External improvements to cycle routes include a new separated bike path on Moore Park Road, upgrades to facilities within Moore Park, and potential future improvements to wayfinding will assist in meeting this goal.

Taxis and Rideshare

Taxi and rideshare services represented a significant proportion of people travelling to the former SFS, and this mode-share has increased with the growth of new point-to-point rideshare services. As discussed in **Section 4.10.2** above, there is no change proposed to the existing drop off and pick up locations surrounding the stadium for taxis and rideshare services, which will continue to be used by the proposed stadium. Notwithstanding this, the Transport Assessment prepared by Arup identifies areas located outside of the site boundary but within the broader precinct that are capable of accommodating taxis and rideshare vehicles prior to and/or after an event. These areas have been selected in consultation with TfNSW and their Transport Management Centre to enhance opportunities for taxis in the precinct, and INSW and the SCSG Trust will continue to work with TfNSW to determine whether formal arrangements are appropriate.

Modelling by Arup confirms that under the worst-case-scenario, being a double-header with a maximum 95,000 patrons, the existing and future identified spaces can accommodate the forecast demand.

Further, Arup recommends investigating the potential implementation of a ‘geo-fence’ to prevent users within a designated exclusion zone from hailing ridesharing services. Rideshare users will instead be directed by the relevant app to first walk outside the exclusion area before being able to order a rideshare service vehicle. This will ensure ridesharing services will not adversely impact traffic or pedestrian movements in the immediate vicinity of the stadium during the intensive post-event egress period, and has been successfully adopted at the new Bankwest Stadium in Parramatta. The extent of the geo-fence will be discussed with relevant stakeholders and confirmed prior to the opening of the new stadium.

Coaches

As discussed in **Section 4.10.2** above, there is no change proposed to the current arrangements for coach parking within the precinct, which currently utilise the parking bays at the southern end of Driver Avenue. This coach parking zone is capable of accommodating 32 coaches. The SCSG Trust and TfNSW's Transport Management Centre advised that standard events at SFS generate demand for 10-15 coaches, and major events at SFS generate between 25-30 coaches. The current coach parking arrangement is, therefore, capable of accommodating typical demand.

In the event that there is greater demand, the Transport Management Centre have advised that additional parking/layover areas are provided at the Lee Street Bus Interchange, and on Oxford Street and York Road. The continued use of these areas will provide additional capacity as required.

Public Transport

To determine the demand for public transport, and the potential impacts of the stadium, consideration has also been given to the adequacy of public transport in the area. Initiatives to encourage the use of public transport has been detailed in the Green Travel Plan prepared by Arup and discussed further below.

- Light Rail – the site benefits from a new light rail stop on the eastern side of Anzac Parade that will be accessible via a separated crossing and a new 6m wide pathway within Moore Park as part of the Light Rail project. It forms a key connection between the heavy rail network (Central Station) and the stadium, and can accommodate up to 3,000 to 4,000 passengers per hour, and up to 11,000 passengers per hour in special event mode. The services and operations of the light rail will be dictated by the size of the event, and will be able to be supplemented by special event shuttle buses from Central Station and other locations as necessary to further cater to the anticipated event size.
- Bus – operating direct and specific bus routes from Central Station to the site will continue after the opening of the light rail, however, the number of services will be reduced. The existing bus lane parallel to Anzac Parade will be retained and used by regular bus services, and at this stage the bus loop will be retained for use by shuttles. As discussed in **Section 2.2.2** above, the CPMP Trust has also recently delivered a new bus interchange in Moore Park that improves the existing interchange alongside Tramway Oval.

**Access and management**

Servicing and loading

No additional vehicle access points are provided into the site. Service vehicles will access the basement via the MP1 carpark, and in doing so will not be required to traverse the public domain, or the cycleway proposed to be constructed by Council along Moore Park Road. The turn-around area provided in the MP1 carpark also provides the opportunity for larger vehicles to turn around and return back to Driver Avenue, noting that these vehicles are currently required to perform three-point-turns on Driver Avenue which is undesirable from a safety perspective given the large pedestrian volumes during event periods.

Green travel plan

Arup has prepared a Green Travel Plan (**Appendix H**) outlining practical measures and travel initiatives to ensure that the SCSG Trust work towards minimising the impacts of events on the local and wider transport network, and encourage sustainable modes of transport to reduce car dependency. This plan will be implemented by the Trust, and whilst it is expected that the initiatives will naturally evolve over time, the preliminary Plan includes the following programs in **Table 20**.

**Table 20 Sustainable travel initiatives**

| Measure | Notes | Staff? | Spectator? |
|---|---|---|---|
| Staff cycle advice | Advice on cycling routes and cycling matters | ✓ | |
| Safety training | Cycle safety training courses (provided by others) for staff to improve cycling confidence. | ✓ | |
| Staff induction | All event day staff members to be made aware of the travel plan as part of their induction process, including a tour of end of trip facilities on site and available non-car travel options | ✓ | |
| End of trip facilities | Provision of end of trip facilities for staff (not spectators). | ✓ | |

| Measure | Notes | Staff? | Spectator? |
|---|---|---|---|
| Bicycle parking | On site cycle parking, the use of these spaces will be monitored and requirements reviewed based on their usage. | ✓ | ✓ |
| Wayfinding | Provision of improved static wayfinding signage in the Moore Park precinct to support pedestrian and cyclist movements to/from public transport stops | ✓ | ✓ |
| Real time information | Provide information on public transport journey times to the SFS via links to existing journey planning websites | ✓ | ✓ |
| Shift working | Flexible start and finish times for staff, to allow them to take advantage of off-peak fares and encourage public transport use. | ✓ | |
| Information on website | Information on public transport timetables, pedestrian and cycle routes and facilities. Advertise the parking limitations and restrictions | ✓ | ✓ |
| EV charging points | Provide charging points for electric vehicles within MP1 car park | ✓ | ✓ |
| Travel Plan Induction | Provide all new members of staff with details of the Travel Plan aims and objectives and information on sustainable ways to travel to work. | ✓ | |
| Spectator Information | Work with ticketing agencies to provide travel information to spectators at point of ticket purchase. Travel information could be provided by email by the ticketing agency following the purchase of match day tickets | | ✓ |
| Integrated ticketing | Work with TfNSW who are leading integrated ticketing for events. | ✓ | ✓ |

*Source: Arup*

These initiatives demonstrate the Trust's commitment to creating a more sustainable and resilient stadium, with improved operations that reduce the impact on the local and wider environment. The success of the adopted initiatives will be the subject of a two-yearly review, to assess travel demand and make refinements, as an ongoing commitment to sustainability.

Integrated ticketing

In some instances, the cost of public transport is integrated into the ticket for the event encouraging the use of public transport. This is subject to discussions between individual clubs and TfNSW, and currently applies to all NSW Waratahs and Sydney FC games. Other codes are required to negotiate the terms of integrated ticketing directly with TfNSW, noting that these negotiations are outside of the direct control of the SCSG Trust. TfNSW are currently in discussions with key stakeholders, but these discussions are ongoing and are not finalised.

Event management

The existing Moore Park Precinct Event Operations Plan was developed in August 2005, and is required to be revised to consider a number of changes to the transport environment in the precinct over the years including new pedestrian bridges over Anzac Parade, the new Light Rails stop, the relocation of the special event bus interchange, and other changes associated with the transport strategy supporting the SFS redevelopment. An amended plan has been developed by Arup (Section 9 of **Appendix H**) and will be supported by an updated transport strategy for the Moore Park sporting precinct being conducted by TfNSW in conjunction with the Moore Park Transport Working Group.

In addition to this, as with the former stadium, all events held at the new proposed stadium will require the development of an event-specific traffic management plan to ensure safe and efficient access to the site for staff and patrons. This includes an assessment of any staffing, barricading, gate encloses, signage and marshalling. General procedures for event patrons and staff travelling to and from the stadium has been outlined in the Transport Assessment by Arup (**Appendix H**) and the SFS Event Management Strategy by the SCSG Trust (**Appendix Q**), which will be used to inform future traffic management plans.

**Recommendations**

The Transport Assessment prepared by Arup builds on the key project objectives and assumptions of the approved concept proposal and provides a strategy for a safe, simple, enjoyable and seamless arrival and exit arrangements for patrons. The assessment confirms the following:

- the proposal significantly enhances access and movement for pedestrians in and around the Moore Park precinct, including connectivity through the concourse area between Moore Park Road and Driver Avenue;

- a pedestrian capacity analysis confirms that even under a worst-case scenario, being concurrent events at the stadium and SCG, footpaths in the precinct have the capacity to accommodate crowd movements;
- the peak travel demand will remain unchanged, recognising that the capacity of the stadium will not increase, and can be accommodated within the surrounding transport network for both major events within the proposed stadium and concurrent events at the SCG;
- the proposal has the potential to reduce traffic generation in the long term by designing the stadium to better integrate with surrounding public transport nodes and key pedestrian and cycling routes, and implementing a series of measures as outlined in the Green Travel Plan to reduce demand on private vehicles and positively influence travel behaviour;
- the Light Rail will significantly improve the accessibility of the site, accommodating up to 11,000 passengers per hour which is greater than the capacity of special event buses, further increasing the attractiveness of utilising public transport when travelling to and from the venue;
- special event buses will also continue operating for events at the stadium, albeit in a reduced capacity, supplementing the transport network whilst also recognising the significant role of the new Light Rail for connecting patrons to the site;
- onsite bicycle parking and end of trip facilities will be provided on site, which has also been designed with consideration of the new cycleway along Moore Park Road, enhancing cycling access to the site for patrons, visitors and staff;
- the parking provided on site is generally consistent with the existing operation of the site and surrounds, and does accommodate any increase in parking compared to existing levels;
- the reinstated MP1 carpark and access to the new stadium basement will utilise the same existing crossovers as the former stadium, ensuring there is no change to vehicle access to the site;
- the proposal will successfully internalise vehicle loading and service areas to within the stadium basement, with the basement ring road allowing for the full circulation of service vehicles within the basement;
- dedicated drop off and pick up location for taxis, rideshare vehicles, and coaches in proximity of the stadium has been investigated as part of this application in consultation with TfNSW and the Transport Management Centre to accommodate expected demand; and
- additional measures are proposed to mitigate the impact of informal pick up and drop offs from rideshare vehicles, such as implementing a geo-fence to prevent patrons from ordering rideshare vehicles in the immediate areas surrounding the stadium at key times.

No specific mitigation measures are nominated in the statement by Arup (**Appendix H**), and as such the following are recommended.

| Mitigation measure | Indicative timing |
|---|---|
| Traffic Management Plans will be developed where required, in consultation with key stakeholders such as NSW Police prior to special events occurring on the site, in order to manage vehicle and pedestrian movements before, during and after events, consistent with the existing arrangements. | Ongoing |
| The SCSG Trust/INSW will consult with TfNSW in determining formal arrangements for dedicated taxi and rideshare locations. | Ongoing |
| The recommendations of the Green Travel Plan prepared by Arup (May 2019) are to be implemented, including the preparation of a two-yearly review system to assess travel demand and make refinements to the initiatives. | Ongoing |
| SCSG Trust will liaise with the Moore Park Transport Working Group and TfNSW on the development of the updated transport strategy for the Moore Park sporting precinct. | Ongoing |
| Traffic Management Plans will be developed where required, in consultation with key stakeholders such as NSW Police prior to special events occurring on the site, in order to manage vehicle and pedestrian movements before, during and after events, consistent with the existing arrangements. | Ongoing |

### 6.3.2 Construction

Arup has prepared a preliminary Construction Pedestrian and Traffic Management Plan (CPTMP) (**Appendix H**) to assess the proposed access and operation of construction vehicles and their potential impact on the surrounding area. A detailed CPTMP and associated Traffic Control Plan(s) will be developed with the appointment contractor and the Sydney Coordination Office and confirm the detailed construction methodology and specific measures for safely managing construction traffic in the surrounding area.

#### Pedestrian access

As the SCG will continue to be used throughout the redevelopment, it is essential that access is maintained to this area while works are underway on the site. Consistent with the Stage 1 approved works, it is proposed to cease construction works during major events, enclose the construction area and identify all alternative pedestrian routes with signage, and manage access/egress locations with a qualified traffic controller to avoid conflicts with heavy vehicles and to ensure pedestrian safety. No works zones are identified in the surrounding road network and as such all footpaths will be maintained.

#### Public transport services

Arup advise that public transport services will not be impacted by construction traffic as the work is confined to within the site, and the traffic generated by the proposed works is minimal and manageable. The construction routes have also been developed to avoid key bus corridors wherever possible.

#### Parking

No or only minimal parking will be provided on site for workers during the construction phase. The impacts of construction workforce parking on the local street network is expected to be minimal given the good availability of public transport to the site and the availability of parking spaces on Driver Avenue and within the Entertainment Quarter. Workers will be provided with information to maximum utilisation of public transport and active travel, encouraged to car-pool and park away from local residential streets. On-street parking along Driver Avenue and public car parking within the Entertainment Quarter are considered to have more than sufficient capacity to meet the requirements of the workforce.

It is noted that the significant majority of parking spaces in nearby residential streets are subject to resident parking schemes, whereby parking is not permitted for this without permits for periods of more than two hours. Given staff will be on-site for periods of more than two hours, the use of on-street parking by workers will not be possible. Enforcement of on-street parking restrictions will continue to occur as carried out by the relevant local roads authority.

The temporary closure and use of the MP1 carpark is not expected to result in any significant impacts on local parking, as the majority of the utilisation of this car parking is by members visiting the Stadium Club and staff/visitors to the Sheridan Building, Roosters Building, Waratahs Building and Cricket NSW building, all of which are in the process of being demolished as part of the approved Stage 1 demolition works. Parking is provided within the ARDC and Rugby League Central buildings, and as such these buildings are not reliant on the MP1 carpark. Any overflow parking demand for these two retained buildings can be accommodated along Driver Avenue and within the Entertainment Quarter without any significant impacts upon on-street parking within Paddington.

#### Vehicular access

The heavy vehicle access arrangements outlined in **Section 4.15** will ensure that access to and from the site occurs predominately using major, multi-lane roads and that heavy vehicles will not traverse through local streets in order to access the site. These routes will be communicated to all contractors and sub-contractors involved in the demolition phase in order to ensure that these protocols are adhered to.

No roads or footpaths are required to be obstructed as part of the proposed works, and as such access to the site and surrounding buildings for emergency vehicles will be maintained. Emergency protocols on the site would include a requirement for suitably accredited site personnel to assist with emergency access from the street. During events at the SCG, the site gate at Paddington Lane will also be changed to provides access for authorised vehicles.

**Traffic generation**

Arup note that during a busy construction day, the number of heavy vehicles will include 30 concrete trucks, 20 pre-cast steel and structural delivery trucks, and 10 small delivery vehicles. This equates to approximately 10-12 truck movements per hour, which Arup confirms is minimal in the context of the established road network and does not require any modifications or upgrades to the road network.

The use of the MP1 carpark as a construction compound will also reduce the quantum of vehicles seeking to access the site, resulting in a potential net reduction in traffic.

**Cumulative construction impacts**

Arup note that by the time the construction works sought for approval under this DA commence on the site, which is targeted for the end of 2019, the vast majority of construction activities associated with the Light Rail will be completed. Most of the activity that will coincide with construction works for the stadium and prior to the opening of the Light Rail will be focussed on testing and commissioning rather than significant construction related activities. This ensures that the construction works on the site have limited potential to overlap with intensive construction works for the Light Rail. Further, the nominated routes for construction vehicles accessing the site do not coincide with those used by the Light Rail project, which are focussed on Anzac Parade and the Eastern Distributor (Randwick) entry/exit. Notwithstanding, the appointed contractor will be required to engage in ongoing consultation with Transport for NSW (Sydney Coordination Office) during the construction period.

There are no other significant construction projects underway in close vicinity of the site.

**Recommendations**

Arup has also prepared a preliminary Construction Pedestrian and Traffic Management Plan (CPTMP) for the construction of the stadium. The CPTMP assesses the proposed access and operation of construction traffic associated with the proposed development with respect to safety and capacity, ensuring the construction of the stadium will not result in any long-term, or adverse external environmental impacts. The contractor for the construction of the stadium will be required to prepare a more detailed CPTMP with Traffic Control Plans prior to the commencement of works, detailing specific methods of safely managing construction and pedestrian traffic within the surrounding area with consideration of the preliminary CPTMP.

Arup has also confirmed the following:

- The number of construction vehicles associated with the construction of the stadium is low, and does not warrant any modifications or upgrades to the road network.
- Appropriate measures can be employed to encourage staff to carpool and utilise public transport when travelling to and from the site, and direct workers to external site parking stations where required in all other instances. Parking in the surrounding residential areas is time limited and as such workers will not be able to utilise this parking.
- Construction works on the site have limited potential to overlap with intensive construction works for the Light Rail, and nominated routes for construction vehicles accessing the site do not coincide with those used by the Light Rail project.

No specific mitigation measures are nominated in the statement by Arup (**Appendix H**), and as such the following are recommended.

| Mitigation measure | Indicative timing |
|---|---|
| A detailed Construction Pedestrian and Traffic Management Plan and associated Traffic Control Plan(s) will be developed with the appointment contractor and the Sydney Coordination Office, confirming the detailed construction methodology and specific measures for safely managing construction traffic in the surrounding area. | Prior to the issuance of a construction certificate |
| No roads or footpaths are to be obstructed as part of the proposed works. | During construction |
| The appointed contractor will consult with TfNSW (Sydney Coordination Office) at regular intervals where construction of the new stadium overlaps with the duration of construction works for the Sydney Light Rail project. | During construction |

| Mitigation measure | Indicative timing |
|---|---|
| Construction works are to not to occur during the 2 hours prior to the commencement of an event at the SCG, during the event, and for at least 2 hours after the conclusion of the event. | During construction |

## 6.4 Noise and vibration

Arup has completed a Noise and Vibration Impact Assessment (**Appendix X**), to identify and provide a quantitative and qualitative assessment of the noise and vibration generating sources produced during the construction and operation of the stadium. The assessment considers the surrounding land uses and the noise criteria established at Stage 1 and the outlines mitigation and management strategies that have shaped the final design and operation of the stadium.

### 6.4.1 Noise environment

The site is located on the periphery of the CBD and is surrounded by a mix of homes, businesses, open space, and various other educational and community uses. The density of these surrounding land uses and the scale of the site requires the surrounding environment to be classified into Noise Catchment Areas (NCAs) that accommodate groups of receivers with similar Rating Background Levels, as shown in **Figure 85** below. These NCAs were subject to both long-term and short-term noise monitoring (**Figure 86**) to understand the prevailing ambient environment at the nearest potentially affected receivers and to establish relevant noise criteria. Arup determined that the general noise environment is characterised by traffic noise from Moore Park Road and Anzac Parade, the ‘urban hum’ of the CBD, aircraft noise, and general activities from the use of existing facilities in the sporting and entertainment precinct.

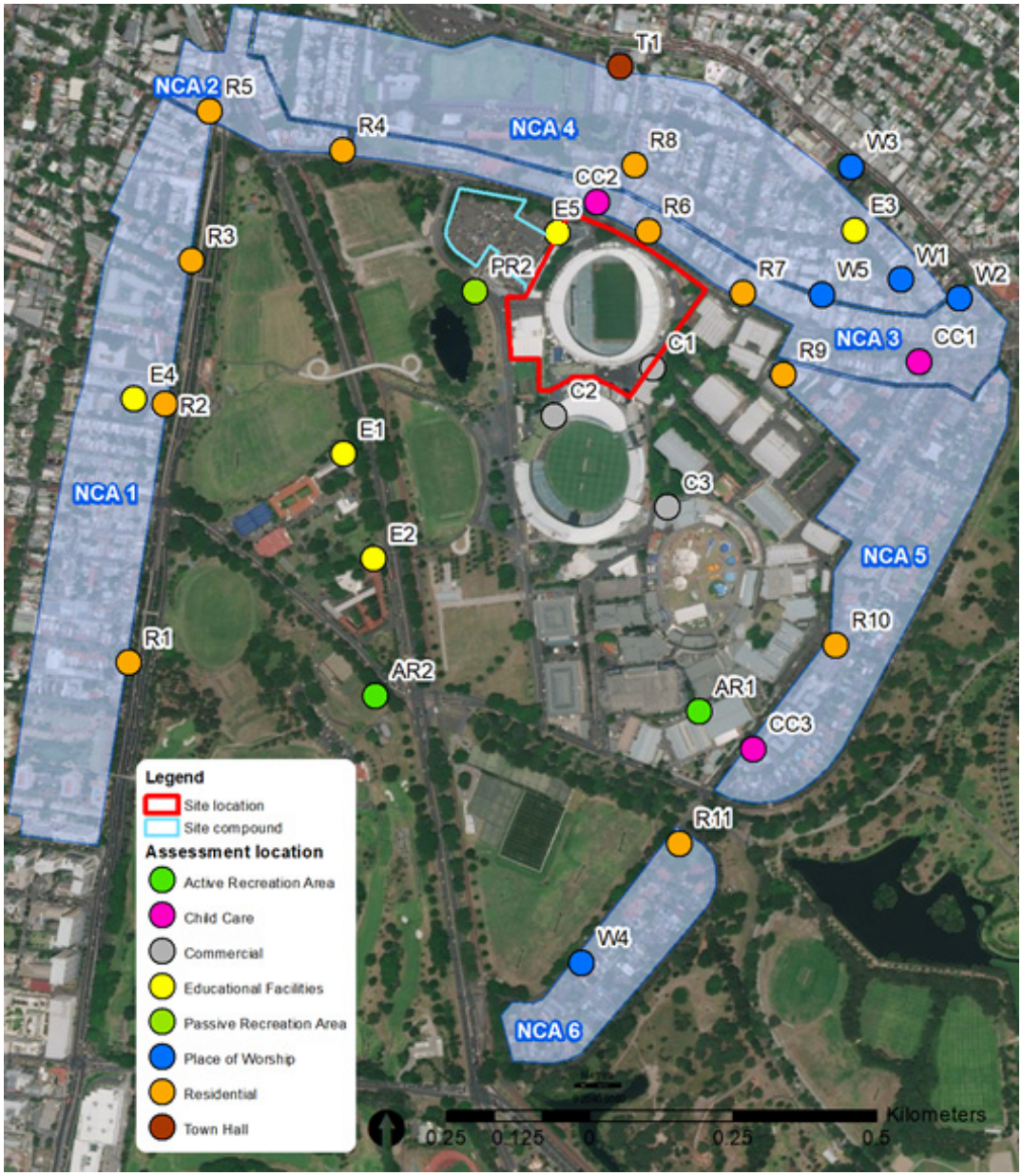



**Figure 85 Noise catchment areas and assessment locations**

*Source: Arup*


**Figure 86 Measurement locations**

*Source: Arup*

### 6.4.2 Construction

#### Noise

A noise emission criterion was established by Arup at Stage 1 of the planning process. This emissions criterion has been used to determine the impacts of the construction phase of the development, with consideration of the extent and program of works on the site, noise monitoring results, and further relevant noise policies and guidelines. It is emphasised that no demolition works or concrete crushing is proposed as part of this application.

The analysis confirms that exceedance of the nominated noise criteria may occur at locations including residential receivers on Moore Park Road, Cook Road and the local streets of Paddington, the UTS building bordering the construction compound within the MP1 carpark, and Fox Studios during stages of the construction process. Only one residence is identified as being 'highly affected', being 252 Moore Park Road, and no other non-residential uses in the surrounding area will be affected. These predicted exceedances represent a conservative worst-case 15 minute period, and would be attributed to the use of such equipment as excavators, impact drills, angle grinders and electric saws. In practice, this equipment is used in short durations and may not be operated concurrently. The noise levels assumed during each stage are expected to be lower than that predicted.

At Moore Park, noise levels from construction activity could exceed passive recreation management levels during some phases of construction. Exceedances of less than 5 dB are predicted during the loudest construction periods at the nearest location in Moore Park. Generally, these exceedances are not expected to prohibit the normal use of the park due to the likely infrequency, relatively small magnitude and location of the predicted exceedances that are only at the nearest sections of the park to site. The on-site contractor will coordinate with event organisers for any recreational event being held at Moore Park and the CPMP Trust to limit potential disruptions.

Trucks associated with the construction works are considered to represent an insignificant short-term effect on the ambient noise environment, in view of the existing significant traffic numbers along Moore Park Road.

Mitigation measures have been identified by Arup to minimise impacts, which have been addressed in the section following.

**Vibration**

A vibration criterion was also established by Arup at Stage 1 of the planning process. This criterion has been used to determine the impacts of vibration on buildings and structures and human comfort.

It confirms that no adverse vibration impacts are expected to occur at any surrounding building, either in terms of cosmetic damage or impacts on human comfort, with the exception of the UTS building adjoining the MP1 carpark construction compound and Busby's Bore that are identified as being potentially impacted. Owing to the proximity of the UTS building, there is the potential for cosmetic damage to the building and the exceedance of human comfort within the building. Mitigation measures have been identified by Arup to minimise impacts, which have been addressed in the section following.

A separate methodology statement has been prepared for working near Busby's Bore and has been previously submitted as Attachment 8 of the Response to Submissions Report for the Stage 1 DA. The methodology statement outlines the process for undertaking vibration intensive works in the vicinity of Busby's Bore to minimise any risk of structural damage. It has informed the Archaeological Research Design and Excavation Methodology prepared by Curio and included at **Appendix T**.

**Recommendations**

In view of the potential modelled impacts on surrounding receivers from noise and vibration, Arup has prepared detailed recommendations to control construction noise during periods when exceedances are predicted above the relevant criteria. It has also been recommended that the construction contractor prepare a detailed Construction Noise and Vibration Management Sub-Plan (CNWMSP) to the Construction Environmental Management Plan which includes reviewing the modelled construction details and noise and vibration impacts contained in the Noise and Vibration Impact Assessment at **Appendix X.**

Regarding vibration, Arup recommends that the identified mitigation measures contained in the Assessment be considered where sensitive receivers are located closer than the 'safe working distances' presented in Section 6.2 of **Appendix X**.

The following mitigation measures are recommended with reference to Arup's findings.

| Mitigation measure | Indicative timing |
|---|---|
| A Construction Noise and Vibration Management Plan shall be prepared, including the final details of the types of plant to be used and updated estimates of the likely levels of noise and the scheduling of activities. The Plan will have references to the recommendations in Table 22 of the Noise and Vibration Impact Assessment prepared by Arup (May 2019). | Prior to the issuance of a construction certificate |
| 'Toolbox talks' will be held at regular intervals as specified in the Construction Environmental Management Plan with contractors, including discussion of noise and vibration mitigation, monitoring and assessment. These topics will also be covered under induction processes. | Prior to the commencement of works and/or during construction |
| High noise activities will be programmed to occur during the daytime hours wherever possible. In the event that these works are approved to occur out-of-hours, noisy activities should be scheduled early in the night to minimise the impact on adjacent residents. Limit the number of consecutive nights receivers are impacted | During construction |

| Mitigation measure | Indicative timing |
|---|---|
| The contractor will adhere to the minimum working distances in Table 23 of the Noise and Vibration Impact Assessment prepared by Arup (31 May 2019), and the Methodology Statement – Working Near Busby's Bore (August 2018). | During construction |
| A Construction Noise and Vibration Management Plan shall be prepared, including the final details of the types of plant to be used and updated estimates of the likely levels of noise and the scheduling of activities. The Plan will have references to the recommendations in Table 22 of the Noise and Vibration Impact Assessment prepared by Arup (May 2019). | During construction |

### 6.4.3 Operational noise during events

At a broad level, the proposed stadium achieves a similar capacity as the former SFS and will not alter the typical nature or frequency of sporting events being held. There would be no change to the number or frequency of concerts, which are the most significant source of noise from the venue.

An assessment of the potential noise generated during events, including amplified music and announcements and crowd noises, has been conducted by Arup against project-specific noise criteria the existing noise policy for the stadium, being the *Sydney Cricket Ground and Allianz Stadium Noise Management Plan 2017*. This Management Plan outlines the noise management measures, monitoring procedures, and processes for handling complaints, and applies to events and the set up and breakdown of events. It has been used as the baseline for assessing the modelled noise emissions to surrounding receivers during events.

Modelling of events in the stadium has been completed with the following assumptions:

- the roof is not included as a conservative assumption that this element is completely acoustically transparent and provides no shielding effect;
- the sound systems for concerts has been modelled using three different configurations, locating speakers on the north, centre, and south of the field;
- crowd noises have been modelled as originating from all tiers of the stadium;
- pyrotechnic displays may occasionally take place during large events;
- there is no change to event operations, including the existing time limits for sporting, concert and other events as follows:
  - sporting events are not to occur before 8am and after 10:30pm;
  - concerts are not to occur before 10am and after 10:30pm, with a maximum duration of 5 hours;
  - sound tests and rehearsals are not to occur before 10am and after 7pm;
  - other outdoor events preceding workdays are not to occur before 10am and after 8pm; and
  - other outdoor events preceding weekends or public holidays are not to occur before 10am and after 10:30pm.

The modelling confirms that the proposed stadium is not expected to increase noise emission compared with the former SFS, and presents no additional or significant acoustic issues:

- During sporting events, all surrounding locations will comply with the noise criteria with the exception of one receiver on Moore Park Road by 1dB, which is considered to be a minor exceedance based on conservative modelling assumptions.
- During typical concert events, when speakers are located at the northern end of the stadium (being the most typical arrangement), predicted noise levels will comply at all locations. In the event that speakers are located at the southern end, or in the centre of the field, there is expected to be an exceedance of the criteria by 8-9dB. These atypical speaker arrangements can comply with the noise emission criteria through the implementation of mitigation measures discussed below.
- During double-headers, the results indicate that the noise levels from the SCG are 10dB below the proposed SFS and as such do not result in any cumulative impact. The infrequency of double-header events further means the likelihood of significant cumulative impacts is low.

Arup confirm that events on the site are capable of complying with the established noise limits for concerts and sporting events, and presents no additional or significant acoustic issues. When compared with the former stadium, the new stadium will result in a reduction in noise levels of between 2dB and 10dB.

**Noise Management Plan**

Arup has prepared a detailed Noise Management Plan (**Appendix X**) to inform the future operation of events on the site. The NMP incorporates an alternative noise management framework that has been prepared as part of the design development and pre-consultation process for the new stadium and is proposed to replace the previous Notice of Preventative Action (1003904 18 January 2017) issued by EPA.

The Notice of Preventative Action outlined the noise management measures for the former SFS, and included requirements for sporting events, concert events and other events held at the stadium, including:

- Requirement for a Noise Management Plan the matters to be contained in the plan
- Complaint management procedure
- Noise monitoring requirements, which requires attended noise monitoring (i.e. personnel are responsible for setting up and attending the monitoring event on each occasion)
- Event time limits
- Noise targets
- Reporting requirements
- Agency and community notification requirements

The proposed alternative noise management framework comprises revised assessment methods for monitoring noise at nearby receivers and will provide a number of advantages over and above the Notice. As part of the alternative management framework, it is proposed to install permanent noise monitors within the site boundary, such as at the stadium roof, to provide indications on the noise levels at receivers and limit the influence of other noise sources such as pedestrians and passing traffic. This enables instant and standardised unattended noise monitoring, and provides for the following:

- it removes the need for onerous attended noise monitoring (i.e. personnel are responsible for setting up and attending the monitoring event on each occasion);
- it allows the prediction of noise impacts at multiple assessment locations simultaneously;
- it minimises the influence of extraneous noise that affect measurements;
- it allows for more accurate predictions of noise impacts at receivers, compared to front of house measurements, by reducing the predictions needed for propagation and shielding effects and measuring all noise sources within the stadium, not just one or two; and
- it allows for real-time feedback and a direct display of measurement levels by potentially integrating the monitoring system into in-house data system.

**Recommendations**

Arup confirms that the proposed stadium is modelled as complying with the established noise limits for concerts and sporting events and is not expected to increase noise emissions when compared to the former SFS. It confirms that in some instances described above there is the potential for events to exceed the noise criteria (such the different configurations of concert speakers), however, during these events noise emissions can be appropriately mitigated through the implementation of the recommended mitigation measures provided below.

Arup also confirm the following:

- Event noise is a feature of the area, comprising both the former stadium and the Sydney Cricket Ground, with the site hosting sporting events for over 150 years.
- The proposed SFS does not propose to increase the number of seats as the existing stadium.
- The change to the shape of the stadium from the ‘saddle’ shape to a more traditional ‘bowl’ with a higher tiered seating and façade at the north of the stadium, is predicted to reduce current event noise levels to surrounding receivers.
- Up to 52 events typically take place at SFS each year, which equates to approximately one per week, and the number of concerts is restricted to 6 per year. No change is proposed to these events or the time limits for

events, which are not to finish after 10:30pm, with a possible extension to 11:00pm if events are delayed outside of the Trust's control.

- A number conservative assumptions have also been made in the assessment of noise impacts, which means the resultant noise impacts are expected to be lower than those predicted in the assessment. These include the omission of the stadium roof and the directionality of line-array speakers.

The following mitigation measures is recommended with reference to Arup's findings.

| Mitigation measure | Indicative timing |
|---|---|
| A review of noise emissions following the commencement of stadium operations is to occur within nine (9) months of issuing the final Occupation Certificate. This review will inform the final Noise Management Plan in consultation with Consent Authorities, relevant stakeholders and a suitably qualified acoustic consultant. | Following commencement of operations |

### 6.4.4 Other operational noise

A range of other potential noise emissions resulting from the operation of the stadium has also been considered by Arup, and summarised as follows:

- On-site car parking – the reinstated MP1 carpark occupies the same general footprint as the existing car park, and will occupy marginally fewer spaces than the former carpark. The noise emitted from car doors slamming at night has been assessed, and this assessment confirmed that it will comply with the sleep disturbance criteria.
- Traffic – as discussed in **Section 6.3.1** above, the development does not increase the capacity of the stadium, or the quantum of on-site car parking, and as such is not expected to generate any additional traffic associated with the operation of the stadium. In addition, the proposal includes new additional measures to promote non-car travel modes which are intended to reduce the number of vehicles travelling to the stadium during events. As such, no adverse noise impacts are expected.
- Loading and waste operations – the loading and waste areas for the stadium have been relocated to the basement of the proposed stadium, and as such noise generated from the use of the loading docks and waste collection is not expected to affect surrounding receivers and represents a significant improvement compared to the former SFS where loading and unloading of waste and goods occurred outside within the stadium perimeter without any acoustic mitigation.
- Mechanical plant – a preliminary design has been developed for mechanical plant and tested by Arup, who confirm that acoustic louvres should be integrated into the detailed design of external plant to ensure the most stringent night-time criteria is met at each receiver. This will be implemented at the detail design and construction of external plant, and Arup will undertake a further assessment at this stage to confirm the specific location, type and size of external plant meets the criteria.
- Emergency plant – emergency plant only operates during testing or in the event of an emergency, and as such is not a frequent source of noise. The NMP establishes a framework for emergency plant to operate over short and intermittent periods. Any testing of the emergency plant would be limited to daytime operations to avoid disruptions to occupants. The specific location, type and size of this emergency plant will also be reviewed by Arup at the detailed design and construction phase.
- Wind noise – noise may be generated by wind passing over elements protruding from the facade, such as fins and louvers, as well as from elements in the public domain such as wind passing through small gaps or holes or vibrating signs. Recommendations to mitigate the occurrences of noise generated by wind passing over the facade include completing an assessment of the facade at the detailed design stage with a particular focus on wind induced noise mechanisms listed on the assessment.

A separate assessment by Jacobs (**Appendix EE**) addresses the impacts of potential noise and vibration levels on Kippax Lake and immediate surrounds from vegetation clearing, ground disturbance, machinery and vehicle movements, and general human presence from events. Jacobs note that given the highly urbanised and disturbed nature of the site, noise sensitive species are unlikely to be present. The assessment confirms the following:

- The impacts from noise emissions associated with the construction of the stadium are likely to be localised to the immediate vicinity of the construction areas, and are not considered to have any significant, long-term, impact on wildlife more distant from the project site.

- The noise associated with the operation of the stadium is considered unlikely to have any long-term detrimental effects on the Grey-headed Flying-fox and would not be notably different to that experienced from the former SFS. This is likewise the case for water birds using the lake, which tolerate human disturbance and have adapted to humans and the urban environment.

### Recommendations

The sources of other operational noise from the stadium are not expected to result in any significant or adverse acoustic impacts to surrounding receivers. The following mitigation measures are recommended with reference to Arup's findings, noting that the mitigation measures concerning biodiversity are contained in **Section 6.11** below.

| Mitigation measure | Indicative timing |
|---|---|
| An initial noise desktop assessment of the entire external façade and ancillaries will be completed to assess the potential for wind induced noise from each element type at the detailed design stage. Consideration of aero-acoustic noise shall be considered with particular focus on the wind-induced noise mechanisms listed in Section 4.3.5 of the Noise and Vibration Impact Assessment prepared by Arup (31 May 2019). Measures will be incorporated into the construction drawings as required. | To be confirmed at the detailed construction drawing phase |
| Noise emissions from any external mechanical plant are to be treated such that noise emission complies with Noise Policy for Industry's project amenity noise level criteria at all surrounding receivers. This may require the use of acoustic louvres, enclosures, barriers or attenuators. Measures will be incorporated into the construction drawings as required. | To be confirmed at the detailed construction drawing phase |

## 6.5 Construction management

Lendlease has prepared a preliminary Construction Management Plan (CMP) detailing the construction processes and procedures to be undertaken (**Appendix AA**). The CMP considers the construction methodology, sequencing and logic for mitigating potential construction risks to the precinct and its stakeholders. The information included in the CMP has also been prepared to respond to the requirements of the SEARs, and will inform a further Project Management Plan and associated technical studies.

### Construction hours

The CMP confirms that Lendlease will operate on site in accordance with the nominated construction hours detailed in **Section 4.15**, which are the standard hours for construction works in NSW under the EPA's *Interim Construction Noise Guideline*. In the event that certain works are required to be undertaken outside of standard hours, prior approval will be sought from the relevant authorities (the Department) and in conjunction with communication protocols for stakeholders and the community.

### Events at the SCG

As the SCG will remain operating throughout the construction process, measures must be in place to minimise disturbances and ensure the safety and amenity of patrons and staff travelling to and from the SCG. These comprise:

- ceasing construction work at least 2 hours prior to the commencement of the event at the SCG;
- undertaking no works during the event; and
- ensuring no works are commenced for at least 2 hours after the completion of the event at the SCG.

During this time, Lendlease will close all site gates and cover construction management signage.

### Air quality

A separate assessment has been prepared by Wilkinson Murray (included at **Appendix AA**) assessing the proposed likely construction activities on the site to determine potential dust impacts and identify mitigation and management strategies to minimise these impacts. It confirms that air pollutants associated with the project comprise dust are particulate matter, but that it is considered unlikely that the proposed works would result in unacceptable air quality impacts, subject to the implementation of the mitigation measures. These measures include protocols around stakeholder communication and complaints, site management and maintenance, dust monitoring, construction vehicles, operating equipment on the site, and measures specific to construction works, haulage, and earthworks. It is recommended that these measures be incorporated into a Dust Management Plan. This has been considered in the mitigation measures below.

### Waste

The majority of waste generated due to construction activities occurred during the Stage 1 demolition works, and as such the main source of waste during the Stage 2 construction works is through the bulk excavation of soil, and incidental waste from onsite construction activities and workers. All waste will be classified prior to its removal from the site in accordance with the relevant guidelines, noting that Douglas Partners has already considered the classification of soil removed from the site in their assessment at **Appendix J** and discussions in **Section 6.12**. Separate bins will be provided for different waste streams, assisting with the maximising the recycling of waste.

All works will be planned to minimise construction waste and contamination of the site and surroundings, and construction personnel will be responsible for maintaining clean and tidy work sites. Site specific waste management controls, monitoring, reporting and performance measures have been identified and include but are not limited to:

- the establishment of designed waste handling areas;
- the correct storage and handling of waste materials including liquids;
- on and off-site separation of wastes for reuse and recycling;
- identifying external opportunities for reuse to achieve mutually beneficial outcomes;
- appropriate disposal and verification of all waste leaving site; and
- monthly reporting of waste and recycling data.

### Erosion and sediment control

The Stormwater Management Plan at **Appendix P** confirms that erosion and sediment controls are to be provided during the construction phase in accordance with applicable guidelines (e.g. Landcom Blue Book). This will confine all ground level soil disturbance between the Moore Park Road and Drive Avenue frontages of the site, so that no sediment will not be transferred to the adjacent streets or introduced into the existing stormwater drainage lines.

During earthworks, suitable temporary sediment basins will be provided to capture all runoff from disturbed areas, and additional measures such as sediment fences surrounding disturbed areas, sand bags around existing pit inlets and a truck shaker grid at the point of access to the work area will be implemented as required.

### Underground storage tanks

Excavation works will be limited and carefully monitored in the immediate area surrounding the existing underground storage tanks on the site to ensure the development will not compromise the integrity of the existing underground petroleum storage system. The area surrounding the underground storage tanks will be physically marked and all workers will be made aware of the existence of the tanks and specific working procedures within this area during site inductions and toolbox talks. All staff working in the vicinity of the tanks will be made aware of the recommendations within *Underground Petroleum Storage Systems Best Practice Guide for Environmental Incident Prevention and Management* (EPA). The site Environmental Manager will be responsible for ensuring this is implemented.

### Recommendations

The preliminary Construction Management Plan prepared by Lendlease considers the construction methodology, sequencing and logic for mitigating potential construction risks to the precinct and its stakeholders. It demonstrates that the impacts of construction works on the site can mitigated and managed, subject to developing a detailed Project Management Plan and associated technical studies.

The Plan prepared by LendLease doesn't nominate specific mitigation measures, and as such the following are recommended.

| Mitigation measure | Indicative timing |
|---|---|
| Prepare a detailed Construction Environmental Management Plan prior to the commencement of works on the site including all required technical management plans and with consideration of other nominated mitigation measures. | Prior to commencing works |
| The CEMP is to include a Dust Management Plan with consideration of the recommendations in Section 6 of the Air Quality Impact Assessment prepared by Wilkinson Murray (May 2019). | Prior to commencing works |

## 6.6 Heritage

Curio Projects has prepared a Stage 2 Heritage Impact Statement (HIS) (**Appendix T**), which examines the potential impact of the proposed development on the heritage significance of surrounding heritage items and heritage conservation areas, as identified under the Sydney LEP 2012, the *Heritage Act 1977* (NSW) and other statutory registers. The HIS also considers the potential impact of the proposed development on landscape items and settings within, and surrounding, the site. The Stage 2 HIS builds on the assessment and findings of the Heritage Impact Statement and Archaeological Assessment prepared for the Stage 1 DA, with specific reference to the detailed design, construction and operation of the new stadium.

### 6.6.1 Non-Indigenous Heritage

#### Physical Impacts

The main physical impacts associated with Stage 2 DA relate to the bulk excavation and earthworks required for the construction of the new basement services level, installation of services, public domain and landscaping works, and the construction of the stadium. Curio confirm that the proposed works do not pose any risk of physical impacts to any identified statutory heritage items, with potential impacts to Busby's Bore (State Heritage) discussed below. Tree 125, which is listed on Council's significant tree register, is proposed to be protected and retained on the site in accordance with the Arboricultural Assessment at **Appendix JJ**.

#### Archaeological Impacts

It is recognised that the site has a long history of occupation and as such there is the potential for archaeological deposits on the site. Curio Projects has completed an assessment of archaeological potential and confirm that there is low to moderate archaeological potential for an archaeological resource related to the former Engineers/Military Depot, a low to nil potential for an archaeological resource associated with the Sydney Sports Ground, and a very low potential for an archaeological resource associated with the Sydney Common and Military Rifle Range.

Accordingly, the majority of site has a low to nil potential for intact archaeological deposits, with the areas of greatest archaeological potential (low to moderate) generally located to the south and north-east (refer to **Figure 87**). Most of the area identified as having moderate archaeological potential are proposed to be filled, thereby protecting archaeological deposits during the construction of the stadium. Those areas that will be impacted by excavation works have generally been assessed as having low archaeological potential.

To inform the construction process, Curio Projects has prepared a Historical Archaeological Research Design (ARD) (**Appendix T**) which proposes a combination of archaeological supervision and an unexpected finds protocol to mitigate potential impacts to potential historical archaeological resources. This follows that in areas of low archaeological potential, the project archaeologist will be required for monitoring and assessment if an unexpected archaeological resource is uncovered during the bulk excavation works. In areas of moderate archaeological potential, bulk earthworks will be subject to an archaeological supervision program implemented in accordance with best practice guidelines (as endorsed by the NSW Heritage Division). This will involve periodic visits by the project archaeologist to verify the nature of subsurface material, with archaeological recording and removal of any significant archaeological deposits or relics that are uncovered (following a stop work order in the vicinity of the find). Curio Projects confirm that constant and ongoing historical archaeological monitoring across the entire SFS site is not required.

**Figure 88** below demarcates the zones where archaeological supervision or an unexpected finds protocol would be required.

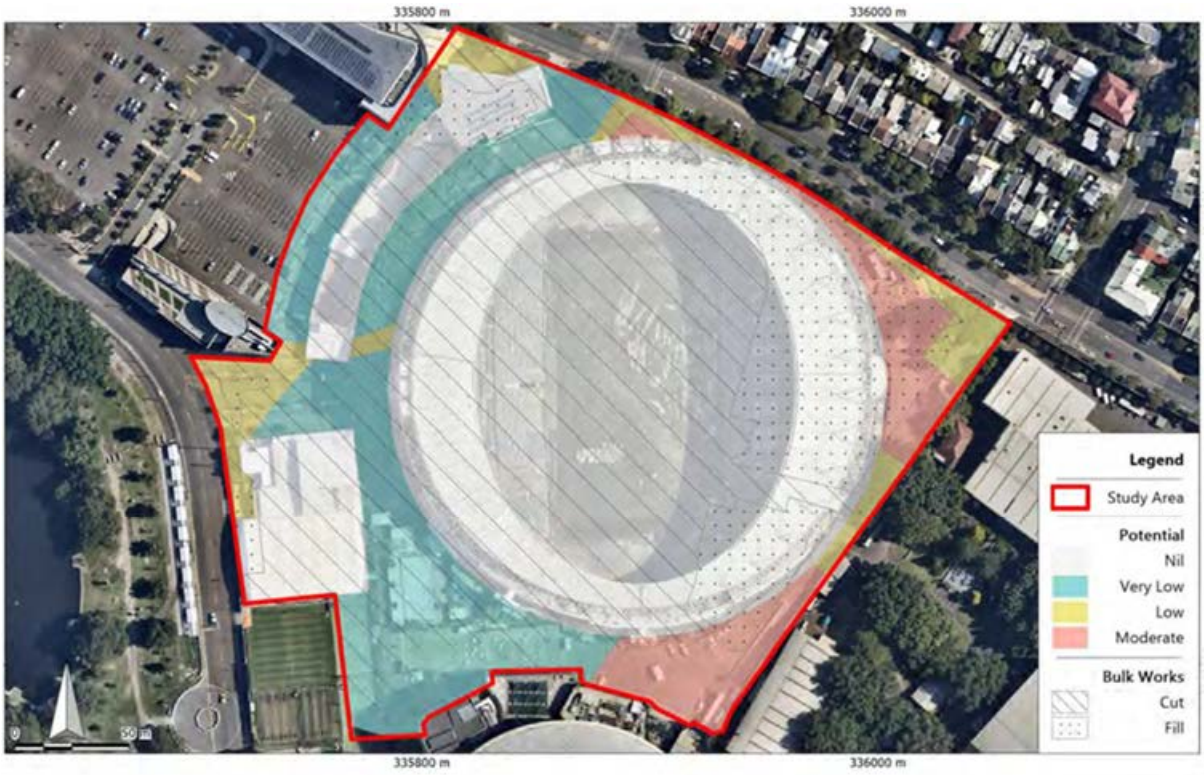



**Figure 87 Areas of archaeological potential on the site**

*Source: Curio Projects*


**Figure 88 Methodology for safeguarding potential archaeology when completing construction works**

*Source: Curio Projects*

### Busby's Bore

The primary known archaeological resource within the site is Busby's Bore, which is understood to traverse the northern portion of the site in the vicinity of Moore Park Road. In accordance with the recommendations of the Stage 1 HIS, additional archaeological investigations have been undertaken between January and February 2019 to gather more precise information on the location, alignment and condition of Busby's Bore, as well as the location of two unconfirmed bore access shafts. However, the archaeological investigations were unable to conclusively determine the alignment of Busby's Bore and the two unconfirmed bore access shafts. Archaeological investigation of the Bore included the clearing of debris from part of Shaft 10 in an attempt to identify the connection between the shaft and tunnel. This clearing occurred to a depth of 11.8m below surface level, beyond which the influx of water made further investigations unsafe. This indicates that the bore, which was not encountered, is at least 11.8m below the existing surface level at this point.

Curio Projects has prepared a *Methodology Statement – Working Near Busby's Bore,* which was submitted as Attachment 8 of the Response to Submissions Report for the Stage 1 DA, and an Archaeological Research Design and Excavation Methodology (**Appendix T**), which assess the potential impacts and establish a methodology for undertaking vibration intensive works in the vicinity of Busby's Bore to minimise any risk of structural damage to the shafts or tunnels. The Construction Management Plan (**Appendix AA**) has been informed by these assessments and establishes principle actions to ensure that Busby's Bore is not impacted by the proposed development:

- Establishment of a physical exclusion zone around the existing known shafts, potential shaft locations, and the location of the Bore tunnels if identified during further investigative processes.
- Installation of vibration monitoring devices within the shafts of the Bore in a location agreed by the project archaeologist, structural engineer and acoustic consultant, with monitors calibrated to generate real-time alerts when a conservative vibration criteria is exceeded. Alerts will be sent to the site manager and trigger a cessation of works giving rise to the vibration exceedances, and require a review of the vibration criterion and demolition methodology to ensure that damage to the Bore does not occur.

It is also noted that Busby's Bore is located outside of the proposed development excavation zone, in an area to be filled rather than excavated. Therefore, Busby's Bore, consistent with the requirements for items listed on the State Heritage Register, will remain protected in situ without any direct physical impacts to heritage fabric.

### Visual impacts on heritage views and vistas

Possible visual impacts pertain to the potential for the stadium to impact on views and vistas to and from surrounding heritage items and heritage conservation areas. In the assessment of potential heritage impacts, Curio Projects confirm the following:

- The bulk and form of the stadium will have a neutral or positive visual impact on heritage values, with the reduction in roof height on the northern and southern ends of the stadium presenting a minor positive visual impact to view lines from these viewpoints when compared to the former stadium. The stadium maintains the distinctive skyline form and positioning of the former stadium, with a positive presentation from all main views and access points.
- The visual permeability of the stadium facade, which is detailed in louvres and glass, softens the visual presentation of the mass and volume of the stadium and facilitates a positive visual impact to the views of the stadium from the heritage precinct that surrounds it.
- The application of specific materials and colours in direct relation to the immediate context and setting of the stadium, acknowledges the different views from different approaches and the layered historical context of the site. The use of these appropriate finishes ensures the stadium retains its existing locational and associative significance and context in the Moore Park landscape, without significantly altering existing views to the stadium or visually detracting from surrounding heritage items.
- The new stadium will be visible from the SCG, including the Members Stand and Ladies Stand. The views of the stadium in this instance do not present any adverse visual impacts to the SCG or heritage items contained within. Views along the significant Driver Avenue streetscape have been retained, and the southern elevation of the stadium has been specifically designed with reference to the SCG including reducing the height of the southern elevation. The existing visual relationship between the SCG and future SFS will continue.

- The new stadium will also be visible from Moore Park Road, and the heritage items in the vicinity including the Paddington Barracks and Paddington South Heritage Conservation Area and mature fig tree (Tree 125). The new stadium will provide no further impact to the view between the stadium and Paddington Barracks, which is already obstructed by the Australia Rugby Building to be retained adjacent to the MP1 carpark. Due to the improved public domain works proposed, views are likely to be positively impacted and relate to the mature fig tree (Tree 125) in using fig trees as a 'unifying language' to connect areas of the public domain.
- Views of the proposed stadium from Moore Park will remain similar to those of the former stadium. The proposal will retain and enhance the leafy aspect and character of Moore Park Road and the new stadium facade serves to soften the visual presentation of the stadium rom the park when compared to the former stadium. The proposal is considered to have a neutral or positive impact on the wider Moore Park Conservation Area.
- The design of the public domain and landscaping for the site responds to the heritage precinct, while vastly improving public amenity, function, and access compared to the former stadium. It is confirmed that overall it presents a major positive visual impact to the site in its heritage context, and creates an inviting space for users to connect with the site not just as a sporting venue but as part of a wider precinct within a heritage setting. The following is noted by Curio Projects:
  - The three new activity nodes/gathering spaces speak to a different historical aspect of the site. Busby's Corner further connects the site with its rich history as a sporting and activity precinct, inspired by historical uses such as the rifle range.
  - The materiality and colours of the public domain respond to the immediate heritage context from each side, such as the use of red brick in the Moore Park Steps that aligns with the heritage wall along Driver Avenue.
  - The fig trees used in the landscaping scheme act as a unifying element for the public domain and retains and enhances the presence of two significant existing fig trees protected along the Moore Park Road frontage of the site. The focus on native vegetation also refences the natural landscape setting of the site.
  - The new timber decks and seating adjacent to the existing trees enables greater appreciation of these elements and a visual connection with the new stadium.
  - The materials and treatment of different spaces in the public domain delineate active versus passive space, and address security needs without the need for the installation of visually obtrusive and intrusive elements such as vehicle barriers and fences.

### 6.6.2 Aboriginal heritage

In addition to the Heritage Impact Statement (**Appendix T**) and Archaeological Research Design and Excavation Methodology (**Appendix T**), Curio Projects has prepared an Aboriginal Cultural Heritage Assessment Report (ACHAR) (**Appendix CC**) in consultation with the Aboriginal community in accordance with the 'Aboriginal cultural heritage consultation requirements for proponents' guidelines (OEH 2010). The ACHAR documents the process which has been undertaken for consulting, investigating and assessing Aboriginal cultural heritage and Aboriginal archaeology as part of the Stage 2 DA.

#### Archaeology impacts

A search of the Aboriginal Heritage Information Management System (AHIMS) database confirms that there are no known artefacts or potential archaeological deposits identified within the site, or within close proximity of the site. The closest AHIMS sites to the subject site are located within Moore Park and Centennial Park to the south of Lang Road, ensuring they are not of a direct concern for this project. The AHIMS results when combined with the geological profile for the site suggest that any artefacts present on the site would likely be stone artefacts or potential archaeological deposits, as the required geology for other site types such as art sites, grinding grooves and scarred trees etc is not present.

With consideration of the above, and an assessment of the original landform, possible levels of disturbance across the site, and original resource zones that would have been favourable to Aboriginal populations, Curio Projects has determined that the site has a low to moderate level of Aboriginal archaeological potential. However, they note that relics uncovered in the surrounding area indicate that Aboriginal people occupied the region and as such there is the potential for Aboriginal sites in the area. Potential deposits on the site are likely to be present within deeper natural soil profiles and beneath layers of historic fill on the site, as well as the layers of fill itself.

As discussed above, Curio Projects has prepared a Historical Archaeological Research Design (ARD) (**Appendix T**) which proposes a combination of archaeological supervision and an unexpected finds protocol to mitigate potential impacts to potential historical archaeological resources, which could include Aboriginal archaeology.

**Other heritage impacts**

- Cultural, social and spiritual values – Registered Aboriginal Parties (RAPs) identified and nominated through the ACHAR process have indicated that the site and surrounds have a high social (cultural) and spiritual significance to the La Perouse Aboriginal community, who maintain an unbroken connection to the land and whose ancestors lived in the study area and surrounds. Consultation with these parties also suggests that the SFS site has more contemporary significance as a modern centre for celebrating Aboriginal sporting history.
- Historic values – *Centennial Parklands Conservation Management Plan* notes that the general region forms part of a complex Aboriginal heritage sites. The SFS site is of moderate to high historical value for its landscape positioning within the eastern Sydney peninsula, as part of a significant Aboriginal landscape, as well as for its significant Aboriginal sporting history.
- Scientific values – The potential Aboriginal archaeological deposit at the site may be of an overall moderate scientific significance, depending on the nature, extent, type and condition of the deposit (if present). Should a deposit be uncovered, it would also have a low to moderate educational potential and moderate significance as part of the wider Aboriginal landscape of Sydney's south eastern peninsula.

**Recommendations**

Curio Projects confirm that the Aboriginal cultural heritage values and Aboriginal archaeological potential of the study area can be managed and mitigated via two main strategies:

- Archaeological investigation – whilst there are no existing known artefacts on the site, there is a low to moderate potential for Aboriginal archaeology to be uncovered on the site. Where development impacts have been identified to be likely to encounter or require impact to natural sands, it is appropriate for archaeological mitigation measures to be implemented in order to investigate the nature of any potential archaeology, and to salvage the deposit (if identified) in areas requiring development impact.
- Aboriginal heritage interpretation – the proposed development could have a potentially positive impact on Aboriginal cultural heritage through interpretative art and other elements, to celebrate and communicate the significance of the site and landscape by the Gadigal (Darug) people, and local Aboriginal community.

The following mitigation measures are proposed with consideration of the recommendations of Curio Projects.

| Mitigation measure | Indicative timing |
|---|---|
| An archaeological induction is to be prepared for all on site contractors, particularly those involved in the bulk excavation works, to familiarise workers with the recommendations and practices outlined in the Archaeological Research Design and Excavation Methodology prepared by Curio Projects (May 2019), and the process should they encounter an unexpected archaeological resource. | Prior to works commencing |
| The detailed Construction Environmental Management Plan is to include details of periodic site visits by the project archaeologist during site works, to verify the nature of any subsurface deposit and assess the potential for any potential archaeological resource to exist and be impacted. In zones of moderate archaeological potential, a program of archaeological supervision is to be implemented. A program of archaeological salvage or monitoring is to be implemented if any significant archaeological resource is encountered during the development that alters the level of supervision required, as confirmed by the archaeologist. | Prior to works commencing |
| Prepare and educate all on site contractors on the Unexpected Heritage Finds Protocol and Unexpected Aboriginal Finds Policy. Should any suspected archaeological resource/relic be encountered, a stop works would be required in the area of the find, and the project archaeologist contacted. | Prior to commencement of works and during construction |
| The detailed Construction Environmental Management Plan is to include details of the implementation of the Methodology Statement – Working Near Busby's Bore (August 2018), and incorporate all necessary measures into the detailed Construction environmental Management Plan and site inductions as required. The heritage specific recommendations of the Noise and Vibration Impact Assessment prepared by Arup (31 May 2019) are also to be included. | Prior to commencement of works and during construction |

### 6.6.3 Heritage interpretation

A Heritage Interpretation Strategy has been prepared by Curio Projects (**Appendix DD**) to identify a range of interpretative options and concepts that may be implemented as part of the proposed development. The main objective of the strategy is to ensure that history and significance of the site is incorporated as part of the detailed design of the site. heritage interpretation measures will be further refined through a process of community consultation and stakeholder engagement.

The strategy identifies opportunities to publicly present, through interpretive elements, the historical and cultural significance of the site, including the non-indigenous historical significance, cultural and archaeological significance, and the Aboriginal archaeological and cultural heritage significance. To provide a coherent framework for heritage interpretation, the Strategy proposes a number of historical themes. These historical themes are consistent with the national and state framework for historic themes prepared by the Australian Heritage Commission and NSW Heritage Council respectively, and comprise:

- Ever-changing Landscapes;
- Country as Provider;
- Urban Life and Public Spaces;
- From Colony to City; and
- Recreation, Entertainment and Leisure.

There are a range of possible interpretive products and initiatives available to integrate the heritage values of the site into the proposed development. Specifically, there is an opportunity to provide interpretative products through:

- the newly designated public spaces surrounding the new SFS stadium;
- any interactive facades of the new building;
- the choice of fabric in the redevelopment;
- the proposed landscape design of the public spaces;
- site specific way-finding and digital content; and
- site specific art installations.

Preliminary design responses, subject to further consultation, have been detailed in the Architectural Design Statement (**Appendix B**) and Landscape Design Statement (**Appendix C**).

#### Recommendations

The strategy concludes that the heritage interpretation of SFS should be intrinsically related to both the sporting and recreation usages of the site as well as the development of the site as a place of amenity and service for the public of NSW and a place of retreat from urban life. In accordance with the recommendations of the Strategy, the proposed heritage interpretation measures will be refined during future development phases through a process of community and consultation and stakeholder engagement. This will include consultation with local residents, the local Aboriginal community, the SCG museum staff and SCSC Trust and others that may have a social, historical and/or emotional connection to the site, as required. This will ensure that the final interpretative products are engaging, inspiring and represent the cultural significance of the site.

The following mitigation measures are recommended based on the findings of Curio Projects, and have been coordinated with the recommendations for public art on the site.

| Mitigation measure | Indicative timing |
|---|---|
| Prepare a detailed heritage interpretation plan confirming the final interpretative elements to be installed on the site with consideration of the following:<br>• The Heritage Interpretation Strategy prepared by Curio Projects (May 2019).<br>• Coordination with public art.<br>• Consultation with the CCC, local Aboriginal community, the SCG Museum staff and SCSG Trust. | Heritage interpretative elements are to be provided prior to occupation |

| Mitigation measure | Indicative timing |
|---|---|
| The La Perouse Local Aboriginal Lands Council should be consulted with reference to the detailed heritage interpretation plan being prepared, in order to seek input into the plan with regard to Aboriginal cultural heritage significance. | Prior to finalising the heritage interpretation plan |

## 6.7 Sustainability

An Environmentally Sustainable Design (ESD) Strategy has been prepared LCI Consultants (**Appendix M**) to demonstrate how the detailed design of the stadium has explored the sustainability initiatives and targets identified in the Stage 1 DA. The ESD Strategy for Stage 2 establishes a more detailed framework for achieving a Gold LEED (Leadership in Energy and Environmental Design) rating, as well as sustainability initiatives over and above this rating. LCI Consulting has developed a LEED v4 pathway which confirms that the proposed development can achieve a Gold LEED rating in accordance with the Stage 1 commitments through implementing a range of sustainability measures outlined in this framework, as discussed in **Section 6.7**.

### Life cycle assessment

Lendlease has undertaken a Life Cycle Assessment to assess the life cycle impacts of the project and identify opportunities to improve the environmental performance of the development, including the embodied carbon associated with materials. The report has been prepared in accordance with the *EN15978 Sustainability of construction works – Assessment of environmental performance of buildings – Calculation method* and assesses all impacts of input and output materials and processes over the building's lifetime.

The assessment highlights the life cycle stages and elements of the stadium which have the most significant contribution to environmental impacts, comprising of concrete, reinforcement, structural steel, PTFE and ETFE and the glazing and façade. By employing a number of initiatives, the global warming potential of the development can be reduced by 12.5% and the building service life potentially reach 60 years. The following key initiatives are recommended:

- Specifying concrete mixes to achieve a 40% cement replacement using supplementary cementitious materials such as fly ash and ground granulated blast furnace slag.
- Using geopolymer concrete in non-structural building elements such as hard landscaping benches, stormwater pits and pipes, wheel stops and stairways.
- Reducing reinforcement requirements by 5%, using high strength steel to reduce lap lengths, ligatures and overall reinforcing requirements.
- Designing to achieve a 5% reduction in structural steel requirements through structural design efficiencies.
- Reduce aluminium content in external louvres and shading devices by dematerialisation or substitution. A 20% reduction in aluminium requirements for construction of the shading elements in the stadium facade was modelled.

Whilst the assessment has not yet explored the life cycle benefits of improving efficiencies in operational energy and water, which together account for 81.1% of the stadium's life cycle impacts, these will be progressively evaluated and tested as the project moves into the detailed design phase.

### Recommendations

The ESD strategy developed by LCI confirms that the proposed development can achieve the sustainability initiatives and targets identified in the Stage 1 DA, which will continue to be investigated and detailed in the next construction and operational phases of the development. Importantly, the Strategy confirms those initiatives that are incorporated into the current design of the stadium and those initiatives that are capable of being achieved and will be targeted at the future stages to achieve the desired Gold LEED rating.

The assessment by Lendlease further assesses the current design of the stadium and identified opportunities to improve the environmental performance of the development, including the embodied carbon associated with materials. By employing a number of initiatives, the global warming potential of the development can be reduced by 12.5% and ensure the building service life potentially reaches 60 years.

No specific mitigation measures are nominated in the assessments. Accordingly, the following are recommended.

| Mitigation measure | Indicative timing |
|---|---|
| The detailed design of the stadium is to achieve a minimum of LEEDv4 Gold rating. | Prior to occupation. |
| The reduction measures nominated in the Life Cycle Assessment (18 March 2019) are to be reviewed and considered during detailed design and prior to the issue of the relevant Construction Certificate, including a progressive assessment of operational energy and water. | Prior to the issuance of the relevant Construction Certificate. |

## 6.8 Safety, security and management

### 6.8.1 Security assessment

Intelligent Risks has completed a review of the proposed development and prepared a Security and Risk Assessment Strategy Report which provides a robust assessment of the risks posed by security hazards through an examination of the threat sources and vectors, potential site vulnerabilities and the consequences of hazard occurrences. The outputs of this assessment will inform subsequent detailed design measures in the construction of the stadium and public domain to manage security and proportionately address assessed risks. A summary of this detailed assessment has been prepared by Intelligent Risks and provided at **Appendix LL**, noting that for security reasons the detailed assessment will not be made public at the recommendation of NSW Police (included at **Appendix LL**) and in accordance with Condition C54 of the Stage 1 consent.

The summary confirms that a detailed assessment of hostile vehicle management (HVM) has been completed in accordance with Condition C54 of the Stage 1 consent. This assessment confirmed that specific areas for vulnerability are at the road frontages near Moore Park Road and Driver Avenue, and this assessment has informed the positioning, design and performance criteria of HVM elements to deter and prevent ramming or intrusion by hostile vehicles. These elements were considered in the Landscape Plans at **Appendix C**, and will be further developed at the detailed design stage to include a mutually supportive mix of security barriers (e.g. bollards), engineered solutions (street furniture and architectural elements) and landscaping to ensure compliance with the current guidelines on best practice implementation of vehicle security measures.

#### Recommendations

The assessment confirms that with that there was a higher risk of incidences during events than in periods outside of events and that, with the implementation of mitigation measures, the risk levels reduce to a ‘medium’ risk during events and a ‘low’ risk outside of events. Intelligent Risks confirms that these revised risk levels through the implementation of mitigation measures represent an acceptable risk beyond which further mitigation is not considered necessary.

Understanding that for security reasons the detailed assessment will not be publicised in accordance with the recommendations of the NSW Police (included at **Appendix LL**) and Condition C54 of the Stage 1 consent, the detailed mitigation measures by Intelligent Risks cannot be incorporated into this EIS. Accordingly, the following is recommended to ensure continued design development and coordination in accordance with the recommendations of Intelligent Risks.

| Mitigation measure | Indicative timing |
|---|---|
| Intelligent Risks will collaborate with designers during the preparation of construction plans to facilitate recommendations for security and risk mitigation. | To be detailed in the construction drawings |
| The stadium will be supported by Standard Operating Procedures (SOPs) and policies. Intelligent Risks, the SCSG Trust, security contractors, and NSW Police will collaborate in the development of SOPs for the stadium. The Trust will be responsible for ensuring that SOPs and associated documents are drafted, and implementing a program to regularly review and update as necessary | Prior to occupation |

### 6.8.2 Crime Prevention Through Environmental Design

A CPTED Report has been prepared by Aspect Studios (**Appendix N**) which outlines the project, policy, and crime context for the project and makes recommendations about appropriate CPTED strategies to reduce the opportunity for crime to occur. Mitigation measures have been developed to minimise the level of crime risk in these areas into the detailed design phase.

A review of crime occurring in the precinct area (the Sydney LGA) was conducted to identify relevant trends as part of the CPTED Report and separate Anti-Social Behaviour Strategy (**Appendix R**) discussed further below. They confirm that the majority of relevant crimes to the project have been decreasing over the last five years and have been stable over the last two years, with the exception of incidences of sexual and indecent assault, trespassing, and intimidation, stalking and harassment that have been on the rise within the Sydney LGA since 2014. These statistics are not specific to the site and encompass the greater LGA including the heavily populated Sydney CBD, Kings Cross in the east, Glebe to the west and Alexandria in the South.

A further review of the Bureau of Crime Statistics and Research's crime maps provides further context to the existing conditions of the site. When reviewing hotspot maps, it is noted that hotpots are indicators of crime density relative to crime concentrations across NSW, and are not adjusted for the number or residents or visitors in the area, meaning they may not reflect the actual risk of victimisation. The following crime categories have been assessed as being the most relevant for informing the design and future operation of the site:

- 'Non-domestic assault' - there is a medium level of non-domestic assault within the SFS and SCG Precinct, noting that relative to NSW the Sydney LGA experiences relatively higher incidents of assault per capita. Rivalry between sporting affiliations and alcohol are known factors that can increase the risk of assault.
- 'Malicious damage' - Compared to the broader Sydney LGA, the SFS and the surrounding area has experienced significantly fewer instances of malicious damage, and trends over the past 24 months indicate that malicious damage to property has declined by 22.6% per year within the locality. The general image and upkeep of a site can greatly impact the public's desire to enter and engage with a space, with a strong association between environmental maintenance and the fear of crime.
- 'Steal from person' – Incidents of theft have declined across NSW over the past 24 months, but remained stable for Sydney and Woollahra. There is the potential for incidents of theft in relation to the operation of the stadium, particularly linked with large scale events such as concerts and sporting events.
- 'Drug use' – Data indicates that the site is located in an area where drug use, possession and supply is moderately higher compared to suburbs in the broader surrounds. Large scale events held at stadiums can be attractive places for recreational drug use and the excessive consumption of alcohol, which are typically higher for concerts rather than sporting events.

Aspect Studios confirm that with consideration of the above, the proposed development is constrained by a largely inactive facade recognising that the stadium will not be heavily occupied throughout the day, inactive boundaries where there is an existing wall demarcating the boundary with Fox Studios and the MP1 carpark, changes in level between the norther and southern ends of the site, and the limited site area in which to accommodate the stadium and associated services.

Recognising these constraints and the crime context of the site, the CPTED Report assesses the design of the stadium and public domain against the CPTED principles for surveillance, access control, territorial reinforcement, and space management. The assessment confirms that the stadium and surrounding public domain areas generally incorporate the principles of CPTED, and details how improvements can be made for the detailed design and operational phases of the project. It confirms that the proposed redevelopment will improve the safety of workers and visitors through:

- increasing the visual and physical permeability of the site, where possible;
- amplifying the usage of the site particularly when no events are occurring on the site with the introduction of additional recreational spaces and uses such as the café and stadium store;
- increasing public amenity and comfort throughout the public domain and including opportunities for community gatherings, games and fitness; and
- introducing a palette of high-quality materials that impart a sense of place that encourages ownership.

Other projects outside of the stadium redevelopment will also influence the activation and safety of the site including:

- the operation of the new Light Rail stop to the south west of the site that will contribute to higher levels of pedestrian activity through and in the vicinity of the site; and

- the proposed cycle lane along Moore Park Road provided by Council will create an additional layer of activation and surveillance along the northern boundary of the site.

**Recommendations**

The assessment confirms that the current design generally achieves the principles of CPTED and offers detailed recommendations on how to further improve safety within the site where appropriate. Further details on specific measures such as lighting layouts and surveillance camera (CCTV) layouts will be progressed at the detailed design and construction phase in accordance with the relevant standards and in coordination with security consultants and NSW Police.

The recommendations of the CPTED Report have informed the following mitigation measures, noting that the measures pertaining to lighting and surveillance have been coordinated with the recommendations of the Anti-Social Behaviour Strategy discussed in **Section 6.8.3** below. Other recommendations pertaining to public art, heritage interpretation, and wayfinding have been captured in the relevant assessment sections.

| Mitigation measure | Indicative timing |
|---|---|
| A CCTV network for the site is to be designed and installed in consultation with a suitably qualified security consultant with a Class 2A licence under the *Security Industry Act 1997* to monitor the site. Signage is to be installed at site entries advising visitors that CCTV is in operation throughout the precinct | To be detailed in the construction drawings where possible, and/or implemented prior to occupation. |
| A lighting strategy is to be designed and implemented in consultation with a suitably qualified lighting expert to ensure that the CCTV network is effective, and the building and public domain will be lit during the night including:<br>• Precinct entries and exits<br>• Building entries and exits<br>• Pathways<br>• Stairs and lifts<br>• Signage<br>• Carparking lighting to the relevant Australian Standards | To be detailed in the construction drawings where possible, and/or implemented prior to occupation. |
| The following specific measures are to be included in the final detailed construction drawings:<br>• Use of robust and graffiti resistant materials or coatings within the public realm and the ground floor facade<br>• Integrate services such as external power and water within various part of the site to accommodate potential future events, markets or performances<br>• Fencing to the south-eastern corner of the site is to be an open palisade style of an appropriate height to restrict access while allowing surveillance to be maintained throughout the precinct<br>• Install wayfinding signage that indicates limitations of access around the eastern periphery of the site | To be detailed in the construction drawings |
| Develop a process for periodic reviews of the site once operational, to identify and implement rectification works that may arise from specific incidents to ensure the site continues to provide a safe and functional space for its intended use. | Prior to occupation. |

### 6.8.3 Anti-social behaviour

The EIS is accompanied by an Anti-Social Behaviour Strategy that has been prepared to establish a framework of measures to manage and reduce the number of instances of anti-social behaviour. The Strategy has been prepared in close consultation with NSW Police (Surry Hills Local Area Command) to ensure that the framework proposed in the strategy is appropriate for tackling anti-social behaviour.

Anti-social behaviour prevention is of paramount importance to the SCSG Trust. Whilst the mechanisms for addressing conduct at sporting events is often reliant on government regulation and policies, there is a growing recognition that innovative strategies are required to address the complexities underlying anti-social behaviour. It is also becoming widely acknowledged that partnership work between police, the community and other agencies is integral to the success of these strategies. Accordingly, the Trust is committed to working with NSW Police through the sharing of information, shadowing of good practice skills and experiences, training of staff, and coordinating with relevant agencies to provide support.

The Strategy identifies a range of measures to be applied in the detailed design and future operation of the stadium, including:

- Implementing surveillance measures through a network of CCTV cameras and public domain lighting, which is consistent with the recommendations of the CPTED Report discussed above.
- Implementing security measures such as scheduling a mobile security patrol through the public domain, a maintenance program for fixtures and landscaping and repairs as required, and screening items brought into the stadium.
- Developing clear conditions of entry, including a list of prohibited and restricted items (such as flares), and measures to prevent intoxicated persons from entering the venue and screening checks for alcohol.
- Managing alcohol on site through a raft of measures relating to the sale of alcohol, the availability of alcohol, the training of staff, signage and messaging relating to restrictions and the enforcement of policies and laws, liaising with external venues, and providing for Responsible Service of Alcohol Marshals, security guards and/or NSW Police personnel.
- Ensuring the ongoing and regular maintenance of the public domain and policies for the rapid removal of vandalism and graffiti.
- Implementing strategies for empowering the community to take ownership of the public domain and to report acts of anti-social behaviour, including detailing what constitutes unacceptable behaviour and the penalties associated.
- Committing to provide direct support to victims including implementing a complaint register that allows victims to submit feedback if they feel a complaint has not been adequately dealt with and providing training to front-line staff.
- Adopting various enforcement measures to punish offenders and deter others from engaging in anti-social behaviour, such as separating supporter groups in the seating bowl, removing offensive material and other situational instigators of violence, and providing holding areas in the stadium to detain spectators who have been arrested or refuse to leave the premises.
- Educating and raising awareness of what constitutes anti-social behaviour through signposting and advertising legislation and penalties for anti-social behaviour.

The strategies developed to mitigate anti-social behaviour as outlined in the Strategy will be subject to a monitoring and review process to increase accountability and improve responses. This comprises:

- treating the Strategy as a living document and updating the document regularly to ensure appropriate response measures are in place;
- surveying victims as a mechanism for providing feedback and gather information on the ‘how and why’ of occurrence of anti-social behaviour; and
- creating a complaints register that makes the operators of the stadium accountable and indicates the success of responses to behaviour.

**Recommendations**

The Anti-Social Behaviour Strategy analyses the context and history of anti-social behaviour on the site and in the surrounding area and provides strategies and processes that are to be delivered through the ongoing implementation and monitoring of the Strategy. These strategies and processes are to be implemented by the SCSG Trust, working collaboratively with NSW Police.

| Mitigation measure | Indicative timing |
|---|---|
| A CCTV network for the site is to be designed and installed in consultation with a suitably qualified security consultant with a Class 2A licence under the *Security Industry Act 1997* to monitor the site. Signage is to be installed at site entries advising visitors that CCTV is in operation throughout the precinct | To be detailed in the construction drawings where possible, and/or implemented prior to occupation. |

| Mitigation measure | Indicative timing |
|---|---|
| A lighting strategy is to be designed and implemented in consultation with a suitably qualified lighting expert to ensure that the CCTV network is effective, and the building and public domain will be lit during the night including:<br>• Precinct entries and exits<br>• Building entries and exits<br>• Pathways<br>• Stairs and lifts<br>• Signage<br>• Carparking lighting to the relevant Australian Standards | To be detailed in the construction drawings where possible, and/or implemented prior to occupation. |
| The following specific measures are to be included in the final detailed construction drawings:<br>• Use of robust and graffiti resistant materials or coatings within the public realm and the ground floor facade<br>• Integrate services such as external power and water within various part of the site to accommodate potential future events, markets or performances<br>• Fencing to the south-eastern corner of the site is to be an open palisade style of an appropriate height to restrict access while allowing surveillance to be maintained throughout the precinct<br>• Install wayfinding signage that indicates limitations of access around the eastern periphery of the site | Prior to occupation |
| An Alcohol Management Plan is to be prepared prior to the commencement of operations including the recommendations on alcohol management in the Anti-Social Behaviour Mitigation Plan in Section 6 of the Anti-Social Behaviour Mitigation Strategy (28 May 2019). | Prior to occupation |

## 6.9 Social and economic impacts

An Addendum Social and Economic Impact Assessment has been prepared by Ethos Urban (**Appendix O**) which considers the detailed Social and Economic Impact Assessment and Addendum assessment that accompanied the Stage 1 DA, and provides an update on the impacts considered in these assessments in accordance with the SEARs issued for this Stage 2 DA. It confirms that the Stage 2 DA remains consistent with the approved Concept Proposal in terms of the potential social and economic impacts and benefits of the construction and operation of the new stadium. The social and economic effects of the development are expected to be the same or less than those previously identified in the Stage 1 assessments.

It addresses the impacts of proposed pedestrian connections, any increased frequency of events and greater use of on-grass parking, impacts on Light Rail construction works, and any anti-social behaviour and security risks that may relate to the operation of the stadium. The assessment is summarised as follows:

- Pedestrian connections will be provided through the site between Moore Park Road near Oatley Road and Regent Street through to Driver Avenue near Kippax Lake. This direct connection is some 300 metres shorter than the alternative formal existing route via the footpath along Moore Park Road and Driver Avenue, providing improved accessibility and safety. The detailed design of the new stadium also makes allowance for future pedestrian connections to the east, however, this would be contingent on the actions of neighbouring landowners and subject to separate future planning approval.
- There is no change or increase to the number of events permitted to be hosted at the new Sydney Football Stadium, noting that the stadium was not previously restricted in terms of the number of sporting events that could be held. The only restriction was for a maximum of 6 concerts a year, which will be maintained.
- In view of this, there will also be no greater use of the on-grass car parking in Moore Park. On-grass car parking on Moore Park during events is controlled by the CPMP Trust, and is made available by the CPMP Trust at their discretion and as a source of revenue for CPMT activities. It is emphasised that the use of the land does not form part of the Stage 2 DA, nor are the transport and access arrangements for the stadium contingent on this parking being made available. INSW and the SCSG Trust will continue to liaise with the CPMT as part of the Moore Park Working Group on the removal of on-grass parking by the CPMP Trust.
- It is anticipated that works on the Sydney Light Rail will be completed, or nearly completed, before any construction works associated with the new stadium have commenced and accordingly there is unlikely to be any significant cumulative social or economic impacts.

- An Anti-Social Behaviour Strategy has been developed for the site, as discussed above, which provides best-practice approaches to behaviour management in order to reduce the social impacts of the stadium on the surrounding community. It will be implemented in coordination with the Event Management Strategy, with the consolidation and coordination of management activities under the umbrella of a single strategy representing an improvement in the management approach for the new stadium that will improve outcomes for patrons and the surrounding community.
- A Security and Risk Assessment has also been developed for the site, as discussed above, which included a Hostile Vehicle Mitigation Strategy. This assessment has provides a significant enhancement in resilience and security mitigation measures compared to the former stadium, thereby reducing the potential associated risk to patrons and the broader community and reducing the potential for significant social and economic impacts which would be associated with a security event.

**Recommendations**

The Addendum assessment confirms that the proposed stadium will make a positive social contribution by delivering new community recreational facilities within the site, improving access for the Paddington community to Moore Park, and implementing best-practice management practices to reduce potential social impacts associated with the operation of the new stadium. The project would provide for 600 full time-equivalent (FTE) jobs during the construction phase and a further 300 FTE jobs on an ongoing basis, with broader flow-on economic impacts to local and regional employment and economic activity throughout Sydney and NSW.

In view of the above and the conclusions of the appended assessment, it is considered that the proposed development does not result in any significant or adverse impacts, and as such no further study or refinement is required. No specific mitigation measure has been nominated in this instance.

## 6.10 Stormwater management, flooding and groundwater

### 6.10.1 Stormwater and flooding

A Stormwater Management Plan has been prepared by Aurecon and is included at **Appendix P**. It assesses the requirements of the stadium with regard to flooding, water quality, water source, and drainage considerations for the site and identifies the measures implemented to achieve relevant requirements and mitigate impacts, which will be carried through to construction.

**Water quantity**

Consistent with the findings in the Stage 1 DA, the existing stormwater network will require adjustment or replacement to accommodate the new stadium with consideration of the existing SCG infrastructure and drainage from the MP1 carpark. The new network will mirror characteristics of the existing network, and will discharge into the Sydney Water system via a relocated main and drains along Moore Park Road and Driver Avenue, and the Fox Studios trunk mains. This proposed arrangement will be subject to a Section 73 Certificate from Sydney Water, noting that a Stormwater Adjustment Application was lodged with Sydney Water in January 2019 and a Section 73 Application was lodged on 4 March 2019.

There is an existing on site detention tank in the SCG that captures drainage from the SFS forecourt, roof, and pitch/stand areas. The proposal seeks to expand this existing tank to 3,000m$^3$ under the central plaza adjacent to the Noble Bradman Stand and to install a new 1,000m$^3$ detention basin just to the south of the Busby's Corner. DRAINs analysis completed by Aurecon confirms that controlled discharge flow from the on site detention to the water culverts will adhere to Council's DCP Drainage and Stormwater Management guidelines and will not exceed 10% of the receiving assets flow capacity. Aurecon confirms that the proposed on site detention detains the peak run off, which is mainly from the stadium roof catchments, and does not result in surcharging.

**Water reuse**

The proposal will seek to capture rainwater for reuse, to minimise demand for portable water. Rainwater will be captured in two new 150kL rainwater tanks in the northern and southern ends of the stadium, for reuse in toilet flushing or other incidental uses such as site maintenance. Any overflow from these tanks will be diverted into the on site detention tanks and discharged into the surrounding stormwater network. The field will continue to be irrigated using borewater, consistent with the operations of the former stadium and the SCG.

### Water quality

The proposed stormwater design employs litter baskets, gross pollutant traps, and filtration units as water quality treatment and control measures as well as the rainwater tanks. MUSIC modelling completed by Aurecon confirms that these measures achieve the treatment quality requirements as summarised in **Table 21** below.

**Table 21 Stormwater treatment targets and results**

| Pollutant | Required reduction | Modelled annual reduction | Compliance |
|---|---|---|---|
| Gross pollutant | 90% | 100% | ✓ |
| Total suspended solids | 85% | 86.2% | ✓ |
| Total phosphorus | 65% | 65.2% | ✓ |
| Total nitrogen | 45% | 48.3% | ✓ |

*Source: Aurecon + Ethos Urban*

### Flooding

As discussed in **Section 2.0**, the site is located within the Centennial Park catchment area and is identified in the *City of Sydney Council Centennial Park Flood Study, April 2016* as being subject to flooding in each instance from a 2-year Average Recurrence Interval (ARI) up to a 100-year ARI event with significantly deeper and more widespread flooding occurring during the Probable Maximum Flood (PMF) event. The redevelopment of the site, therefore, has the potential to alter the risk and extent of flooding.

Aurecon has completed modelling of the detailed design of the stadium and surrounds. It confirms that following the regarding of the site, the overland flow scenario will be consistent with the pre-development site. Namely, overland flows are directed from the high point adjacent to Moore Park Road to the lowest point along Driver Avenue around the stadium, directing flows away from structures and building entry points. Any increase in flows will be partially offset by the increase in the size of on site detention tanks. However, flooding will continue to occur as it did for the former SFS site at the low point on Driver Avenue and at the entrance to the SCG.

The increased flood waters on Driver Avenue will be in the order of 10mm-50mm and will be contained within the sporting precinct. Aurecon confirm that given the size of the Centennial Park catchment area, the minor additional flood levels along Driver Avenue are within the regional modelling sensitivities and are therefore largely unchanged and largely consistent with the former SFS site.

The modelling also confirms that ponding will continue to occur outside the SCG on Driver Avenue. This ponding is consistent with the existing situation, and as such although it reaches depths that represent a flood hazard during major storm events (1% AEP 60min), Aurecon confirm it is not a significant increase over existing ponding and flood hazard ratings. Aurecon confirm that the minor additional levels are manageable and subject to sensitivities within the regional modelling for the Centennial Park catchment area.

### Climate change

The on-site-detention proposed has been tested by Aurecon and found to be adequate to manage high intensity storm events so that the runoff from the site is stored and discharged in a controlled manner. Should the flow rate from greater rainfall exceed todays stormwater pipe capacity, the proposed overland flow strategy detailed in the Stormwater Management Plan allows for controlled flow/velocities around the site without impacting emergency evacuation pathways from the stadium. The site is not affected by sea level rise, noting that the effects of climate change generally are summarised in **Section 6.18**.

### Recommendations

Aurecon in their assessment confirm the following in relation to the conditions of the site and development:

- The proposed stormwater network contains storm events within the network, with no surging occurring within the site. Consistent with Council's requirements, stormwater that is discharged from the site will be less than 10% of the receiving capacity of the network.
- Rainwater tanks provided on the site will enable rainwater from the roof to be captured and reused on site, such as in toilet flushing, to minimise the demand for potable water.

- The implementation of the water quality measures identified in the assessment ensures that water leaving the site achieves Council's water treatment targets.
- Flooding is principally unchanged from the pre-development site, with no significant aflux, flood hazard rating or flood velocity. Additional on site detention tanks are being provided to capture and detain run-off.

It is considered that the proposed development does not result in any significant or adverse impacts, and as such no further study or refinement is required. Further consultation with Sydney Water will be required as part of the determination of the Section 73 Application and Stormwater Adjustment Application. No specific mitigation measures are nominated in the assessment by Aurecon, and as such the following are recommended.

| Mitigation measure | Indicative timing |
|---|---|
| An emergency response plan is to be prepared prior to the commencement of stadium operation to detail flood evacuation routes from the stadium site. The plan should form part of staff induction and training programs. | Prior to operation. |

### 6.10.2 Groundwater

An assessment of the groundwater conditions for the site and the potential impacts of the proposed development on groundwater has been completed by Douglas Partners and included at **Appendix GG**. The depth of groundwater varies across the site and has been measured as being at between RL 40.9m to RL 33m. Douglas Partners confirm that the groundwater table in this instance will be at least 5m beneath the proposed field and the stadium at its shallowest point.

Due to the depth of groundwater, Douglas Partners confirm that dewatering during the construction of the new facility, and in the long term, is unlikely to be required. There are accordingly no dewatering impacts on adjacent sites, and the preparation of a Dewatering Management Plan and extraction licence in this instance under the *NSW Aquifer Interference Policy 2012* is found not to be required.

As discussed in **Section 4.13** above, no change is proposed to the existing water extraction licence 24543 which permits 20 ML of water to be extracted from the Botany Sands aquifer via a bore located within the SCG grounds for playing field irrigation across the SFS and SCG. As the groundwater extraction volumes would continue to be within the terms of the existing license, the new stadium will not impact on the groundwater system and other related water bodies.

#### Recommendations

The assessment confirms that the proposed development will not penetrate the water table beneath the site and as such does not require dewatering or further assessment in this instance. No specific mitigation measure has been nominated in this instance.

## 6.11 Biodiversity

A Biodiversity Development Assessment Report (BDAR) was prepared by Jacobs and submitted with the Stage 1 DA, documenting the results of a biodiversity assessment undertaken for the project in-line with the relevant State and Commonwealth environmental and threatened species legislation and policy. The BDAR addressed Stage 1 and Stage 2 of the Biodiversity Assessment Method. Stage 3 'Improving Biodiversity Values' is only for the purposes of an application for a biodiversity stewardship agreement and as such was not covered in the BDAR as it was not applicable to the project. A supplementary assessment by Jacobs (**Appendix EE**) confirms that the findings and recommendations of the BDAR prepared for the Stage 1 DA remain relevant to the Stage 2 DA. On this basis a BDAR Waiver Request has been submitted for the Stage 2 DA.

The findings of the BDAR confirmed that the site had been heavily modified from its original state, that there was little natural terrestrial vegetation in the locality, and that no threatened ecological communities were located in or directly adjacent to the development site. As an outcome of this study, the development was conditioned to provide suitable replacement planting and a roost for microbats at the Stage 2 detailed design phase, and to employ a number of site maintenance measures prior to and during construction works occurring on the site.

The detailed design of the stadium and surrounds is generally consistent with the conditions of the Stage 1 DA and achieves the recommendations of the BDAR. The proposed development provides substantial replacement planting, including species suitable for foraging by the Grey-headed Flying-fox, and proposes installing artificial microbat roost structures in the significant fig trees fronting Moore Park Road (refer to the Landscape Design Statement at **Appendix C**). The future construction of the stadium will also continue to implement the recommendations concerning site setup and maintenance that were enacted as part of the Stage 1 demolition works (refer to the Mitigation Measures in **Section 8.0**).

**Recommendations**

The main impacts associated with the proposal are those resulting from the removal of non-native and planted (non-indigenous) native vegetation, which has been undertaken as part of Stage 1. The potential for fauna injury or death during construction is considered to be low due to the absence of natural habitats and absence of large populations of species. The following mitigation measures are recommended in accordance with the Stage 1 BDAR, and should be read in coordination with the recommendations for tree protection on the site considered in **Sections 6.2.1** and **6.1.6**. No additional mitigation measures were identified in the supplementary assessment by Jacobs at **Appendix EE**. The following are recommended in this instance.

| Mitigation measure | Indicative timing |
|---|---|
| The artificial microbat roost structure will be provided as indicated in the Landscape Plans prepared by Aspect Studios. | Nominated location to be incorporated into detailed construction drawings |
| Site inductions will include identifying those environmental features to be protected and measures that are to be implemented, including provisions for when fauna is found on site. | During construction |

## 6.12 Contamination

A Detailed Site Investigation has been completed by Douglas Partners (**Appendix J**) to assess the general conditions of the site including any soil contamination and groundwater quality, the potential for contamination to migrate from the site, and ultimately the suitability of the site for its intended use. The assessment provides an update to the Limited Detailed Site Investigation prepared by Douglas Partners in 2018, and is supported by a Site Auditor Statement by Senversa (also at **Appendix J**).

**Soil contamination**

To determine soil conditions, Douglas Partners tested 101 soil samples from 74 boreholes drilled on the site, which provided samples from the site fill and from natural soils underlying the fill. These locations are shown in **Figure 89** below. In testing these sampled, Douglas Partners has classified this land as being a 'commercial site' (Health Impact Level D classification) understanding that the only regular contact with the site soils will be on the playing field which will have an engineered, rebuilt soil profile and surface. Visitors to the site will primarily be in contact with paved areas and will not have direct contact with the areas of historic imported fill on the site.

Utilising this criterion, Douglas Partners confirms the following:

- One sample contained bonded fibre cement, which was the only asbestos-containing material on the site. This suggests that asbestos containing materials may be encountered on the site and should be dealt with via an Unexpected Finds Protocol.
- Samples of the site fill contained detectable concentrations of carcinogenic PAHs (reported as B(a)P.TEQ). The presence of this contaminant is likely from ash from historic on-site activities like incineration or importing fill from power stations. The concentration of this contaminant falls within the HIL D criteria and as such does not trigger the need for remediation. It is also noted that this form of contaminant is generally immobile and presents a low off-site mitigation risk.
- Benzo(a)pyrene was also found to be present on the site. In accordance with the technical report No. 39 *Risk-based management and remediation guidance for Benzo(a)pyrene*, which suggests revised screening levels in Australia, Douglas Partners adopted a concentration of 20 mg/kg. Samples were below this concentration.

On the basis of these findings, the Detailed Site Investigation confirms that the site is suitable for the proposed development and use and that remediation is not required.

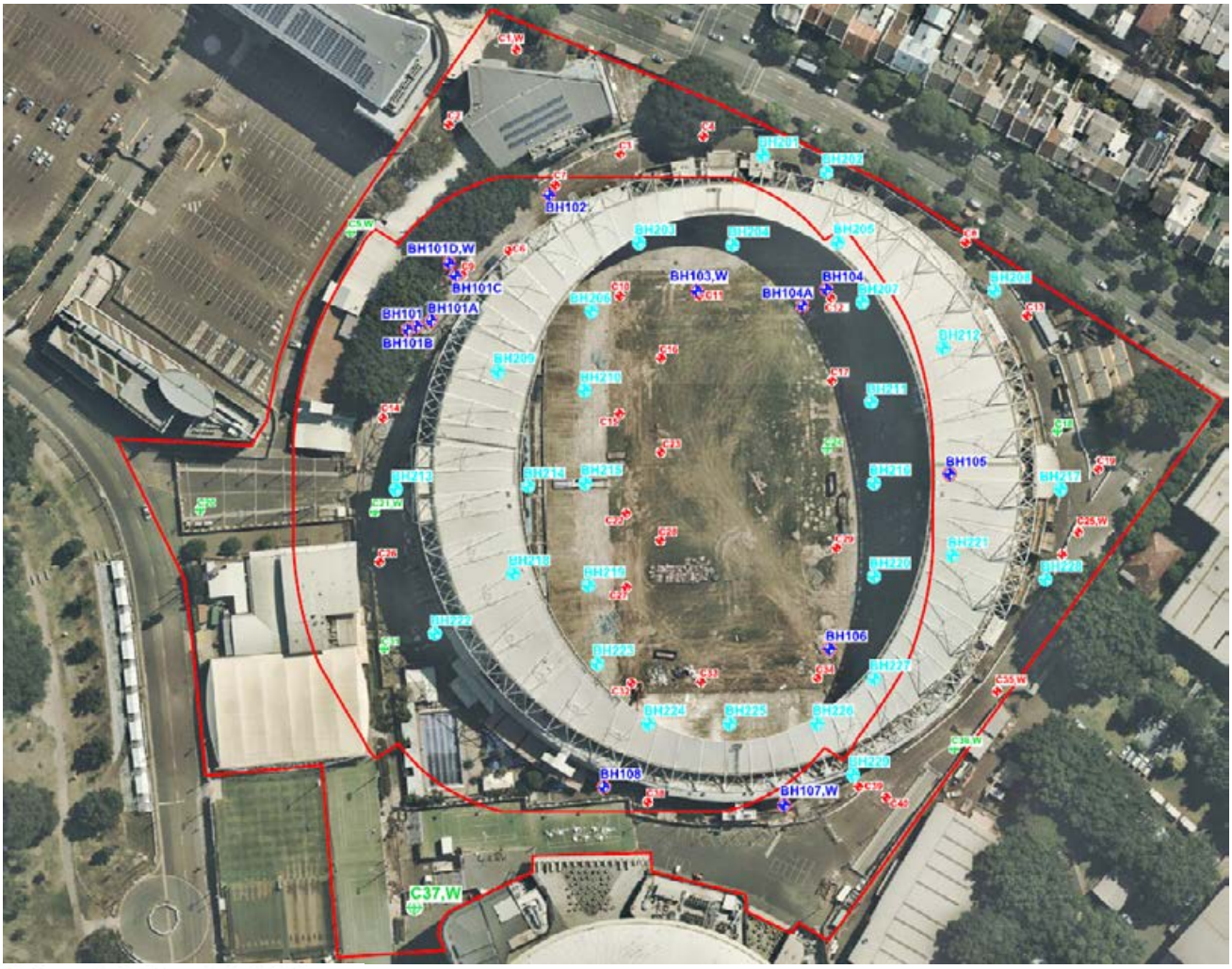



**Figure 89 Borehole location plan**

*Source: Douglas Partners*

### Groundwater

Douglas Partners has drawn from four well and five groundwater samples. They confirmed that the concentrations of copper and zinc were marginally greater than the adopted investigation levels in one sample, but that these concentrations were reflective of typical background concentrations in Sydney. Douglas Partners confirm that this concentration is insignificant, and that the groundwater is not significantly impacted by contamination. This groundwater is currently being used to irrigate the grass at the SCG and SFS, and is not expected to hinder the proposed redevelopment from a contamination perspective.

### Waste classification

With consideration of the above assessment, Douglas Partners confirms that materials removed from the site will need to be classified in accordance with the current EPA *Waste Classification Guidelines*. The preliminary classification would be as follows:

- Historic fill will be classified as 'General Solid Waste (non-protrusible) based on the specific contamination concentrations and the leachable concentrations. This material would need to be disposed of off-site at a suitably licensed landfill.

- Any materials containing asbestos would be classified as 'Special Waste – Asbestos'.
- Any natural soils and rock underlying the filling should be able to be classified as excavated natural material upon excavation, provided that is it not cross-contaminated during construction activities.

**Recommendations**

The assessment confirms that the site is considered suitable for its proposed continued use as a sporting stadium without the requirement for remediation, provided that unexpected finds are managed appropriately during the construction phase of the project. The UST present in the eastern portion of the site will need to be managed in accordance with the *Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2008,* as discussed further in **Section 6.5**.

The Site Auditor Statement also confirms the conclusions of the assessment by Douglas Partners and considers that the report has sufficiently characterised the potential contamination status of the site. It confirms that a remedial action plan does not need to be developed. The recommendations of the auditor have been referenced in the mitigation measures below.

| Mitigation measure | Indicative timing |
|---|---|
| Imported topsoil to the site is to meet the Recreational/ Recreational Open Space criteria defined in Schedule B1 of the *National Environmental Protection Measure, As Amended* (2013). | During construction |
| Any virgin excavated natural material classification should take into account historic and any additional results. | During construction |
| The detailed Construction Environmental Management Plan must set-out clear protocols in the event of an unexpected find. | Prior to the commencement of works on the site |
| The preliminary waste classifications outlined in the Detailed Site Investigation (Contamination) prepared by Douglas Partners (May 2019) are to be amended based on any 'unexpected finds', where appropriate. | During construction |
| Any waste transported off-site is waste classified in line with EPA guidelines and taken to an appropriately licensed facility. | During construction |

## 6.13 Operational waste management

Foresight Environmental has prepared an Operational Waste Management Plan (**Appendix S**), outlining the stadium's waste management operations during events, in periods of no events, and during normal business operations in the management of the stadium. The Plan identifies the likely waste streams and quantities to be generated during the operation of the development, which has been based on benchmark data. The assessment ensures there is sufficient capacity to handle the maximum waste generated during events, being the highest capacity operational period for the stadium.

**Table 22 Maximum estimated waste generation during events**

| Materials stream | Kg per event day | L per event day |
|---|---|---|
| Cardboard / paper | 1,650 | 5,860 |
| Food organics | 3,403 | 21,723 |
| Mixed recycling | 3,231 | 43,851 |
| General waste | 3,720 | 37,932 |
| Cooking oil | 180 | 198 |
| Total | 12,185 | 109,565 |

*Source: Foresight Environmental*

In addition to the maximum estimated waste generated, the following is nominated by Foresight Environmental as being the recycling performance targets. It enables progressive improvements to be made to the waste program each year.

**Table 23 Waste recycling targets**

| | Year 1 | Year 2 | Year 3 |
|---|---|---|---|
| Recovery target | 35% | 45% | 55% |
| Focus | Paper and cardboard recycling as a minimum, and some mixed recycling and organic diversion | Maximised paper and cardboard recycling capture, with increased commingling capture and organics recycling | Maximised paper and carboard recycling and commingled capture, and increased organics recycling |

*Source: Foresight Environmental*

It is assumed that this waste generated during events will be collected only once per event day, which is a conservative modelling scenario that has been implemented by Foresight Environmental to demonstrate the capacity of the waste management systems to handle the maximum load.

The following waste management systems and facilities are incorporated into the stadium design in order to promote the reuse, recycling and safe disposal of waste:

- Central waste storage area:
  - A central waste storage area is provided within the stadium basement, in the north west corner of the basement, and is the primary waste management area for the stadium's operations. All bins will be brought back to the waste storage area and disposed of in the relevant equipment/compactor prior to collection by the external waste contractor.
  - The central waste storage area is the collection point for all waste streams by an external contractor.
  - It includes equipment such as waste compactors, cardboard baler, food waste dehydrator, glass crusher, and bin washers and hose down areas. The indicative specifications for this equipment is appended to the Operational Waste Management Plan.
- Interim storage areas:
  - Additional waste storage areas are located on every level of the stadium to provide additional bin storage capacity.
  - Operational staff will use these bins to dispose of waste from corporate areas, satellite kitchens, and other areas. When the bins are full, the waste will be transferred to the central waste storage area via goods lifts for collection and the bins replaced as required.
- Public bins:
  - Bins will be provided throughout the public domain on all levels and at regular intervals to provide convenient access to patrons to dispose of waste on event days.
  - These will generally comprise two 240L bins in a covered bin enclosure dispersed at regular intervals, with one bin for general waste and the other for mixed recycling.
  - Cleaners will monitor the public place bins and transfer bins to the nearest internal bin store when full, swapping for an empty bin.
- Signage:
  - All bins, equipment, and waste storage areas will be signposted to differentiate the types of waste to be disposed of in these areas.
  - Consistent messaging will be used from the point of generation through to waste storage and disposal.
- Colour coding:
  - Waste storage rooms and interim storage areas will be colour coded to ensure bins are stored in the correct areas and the different waste streams are easily identifiable.
- Atypical waste streams:
  - In addition to general waste and recycling, there is the potential for the stadium to generate waste associated with batteries, mercury-containing lamps, and other e-waste.

- Dedicated systems for these streams will be managed in the maintenance waste room and collections will be requested on an as-required basis due to the ad-hoc nature of these streams.

**Recommendations**

The Management Plan prepared by Foresight Environmental ensures there is sufficient capacity to handle the maximum waste generated during events, and that appropriate management strategies are in place. Foresight Environmental recommend that ongoing monitoring of the waste and recycling program is conducted by the operator of the stadium in conjunction with the appointed waste contractor and cleaning contractor if appropriate. The monitoring and review process include nominated mechanisms for defining clear roles and responsibilities, data integrity and transparency, contamination and facility reviews, and rapid feedback and communication.

| Mitigation measure | Indicative timing |
|---|---|
| Prepare an operational waste management plan prior to operation for staff training and induction outlining the following:<br>• roles and responsibilities for all key stakeholders that will manage waste on site;<br>• staff responsibilities including what materials are appropriate for each stream, the procedures involved in sorting, recommendations on how to minimise waste generation, and instructions on how to operate machinery safely;<br>• data collection and the recycling and performance targets;<br>• an annual review of on-site contamination rates by on-site staff, and disposal facilities through independent audits as necessary; and<br>• appropriate communication channels for all stakeholders. | Prior to operation |

## 6.14 Utilities infrastructure

LCI has prepared an Infrastructure Management Plan (**Appendix U**) that identifies the existing utilities and infrastructure in vicinity of the site and notes any expected impacts or required upgrades as a result of the proposed development. Preliminary consultation has been undertaken with the relevant service providers, noting that further consultation will be required to obtain the necessary consents prior to undertaking works on the site or in the vicinity of existing infrastructure. The assessment confirms that the proposed stadium can be appropriately serviced.

In addition to this Management Plan, a separate assessment has been prepared by Stowe (included at **Appendix U**) confirming the design of emergency power systems for the site. It confirms that four back up systems will be incorporated into the basement of the stadium and supported by fuel tanks. Stowe confirm that the proposed design for the generator fuel system mitigates the risk of fuel leakage into the ground water and environment.

**Recommendations**

The assessment by LCI identifies the existing infrastructure surrounding the site and considers possible upgrades to the site to accommodate the new proposed stadium. Preliminary design solutions connecting new infrastructure within the site to utilities and services has also been developed by LCI through preliminary consultation with utility providers. Issues raised by providers will be addressed and incorporated into the detailed design of the site for construction. Stowe also confirm that the design for the generator fuel system will not result in additional environmental impacts. No specific mitigation measures have been nominated in this instance.

## 6.15 Disabled access

One of the drivers of the design of the stadium and public domain has been to improve accessibility and, therefore, the diversity of users able to access and benefit from the facilities provided on the site. The access arrangements for people with mobility impairments has been considered in the architectural and landscape solutions for the site, and in transport strategies for the operation of the stadium, and discussed in **Section 4.5** and **4.10.2** above.

Before Compliance have reviewed the documentation to confirm whether the design is equivalent to or better than the principles of Universal Access considering all user groups, members of the public, visitors and staff for sensory impairment, mobility impairments, and dexterity impairments. The assessment confirms that the proposed development will be capable of compliance with the applicable requirements of the *DDA Premises Standards 2010* and the Building Code of Australia (BCA). The design of the stadium will be continuously refined during the detailed design phase to ensure that various elements of the proposal will meet the applicable performance requirements of the above codes.

**Recommendations**

Before Compliance confirm that the design is capable of achieving compliance with the applicable requirements of the *DDA Premises Standards 2010* and the Building Code of Australia (BCA). No mitigation measures have been nominated by Before Compliance and we note that compliance with the *Disability Discrimination Act 1992* is a standard requirement as part of the issuance of a Construction Certificate. No specific mitigation measure is necessary in this instance.

## 6.16 Fire Safety

Norman Disney & Young has reviewed the documentation and has assessed the capability of the development to achieve the performance requirements of the BCA (**Appendix MM**).They confirm that the proposed development is capable of compliance with the BCA, and where the relevant Deemed-to-Satisfy (DtS) provisions cannot be achieved or are onerous or irrelevant an alternative performance solution has been proposed to ensure an acceptable level of fire safety is achieved on the site. Fire engineering solutions are to be further developed as part of the detailed documentation stage of the proposal (construction phase) to address and further test the nominated performance solutions.

**Recommendations**

Norman Disney & Young has confirmed that compliance with the Performance Requirements of the BCA is achievable, with the items being addressed under a Performance Solution.

Non-compliances the DtS Provisions of the BCA may be identified as the design further develops that will require additional Performance Solutions. However, it is not considered likely that these Performance Solutions will materially affect the stadium design.

No mitigation measures are identified by Norman Disney & Young. Compliance with the fire safety and engineering requirements of the BCA is a standard requirement of the issuance of a Construction Certificate, and as such no specific mitigation measures are considered to be necessary in this instance.

## 6.17 Building Code of Australia

Steve Watson & Partners has completed a review of the project documentation and confirm that the design is capable of achieving compliance with the BCA (**Appendix FF**). Where additional details are required that are typically provided as the detailed construction documentation stage, Steve Watson & Partners confirm that they will complete an assessment of the design development documentation and specifications issued for construction.

The BCA assessment also confirms that there are few aspects that will be necessary to address by way of a performance solution to meet the relevant fire safety and engineering requirements of the BCA, but that these have been addressed as part of the separate assessment by Norman Disney & Young at **Appendix MM** and will be subject to further review and testing as part of the detailed design and construction process.

**Recommendations**

Steve Watson & Partners confirm that the design is capable of achieving compliance with the BCA. No mitigation measures are identified by Steve Watson & Partners. Compliance with the BCA is a standard requirement of the issuance of a Construction Certificate, and as such no specific mitigation measure is necessary in this instance.

## 6.18 Environmental risk and climate change

The proposed development has been designed with consideration of the management of environmental risks to all persons using the facility including in instances of extreme heat, storms and flooding, terror attacks, and building performance.

**Table 24 Environmental risk summary**

| Risk | Assessment |
|---|---|
| Extreme heat | Externally, the proposal provides for shading through landscaping, high thermal performance building fabric, and drinking fountains to mitigate heat discomfort and heat street. A significant increase in tree planting on the site will contribute to the urban tree canopy.<br>Internally, the mechanical plant and engineered design will provide adequate thermal comfort to occupants and ensure the safe operation of equipment during periods of extreme heat. |

| Risk | Assessment |
|---|---|
| | Refer to the Landscape Plans (**Appendix C**) and the Architectural Plans (**Appendix B**). |
| Storms and flooding | The on-site-detention proposed has been tested by Aurecon and found to be adequate to manage high intensity storm events so that the runoff from the site is stored and discharged in a controlled manner. Should higher intensity rainfall events happen in greater frequency, the modelling confirms that inundation does not occur as a result of the proposed development. Refer to the assessment at **Appendix P**. |
| Terror attacks | The proposed development has been subject to a detailed review by Intelligent Risks Group, including an analysis/ratings for crime, anti-social behaviour, protest hazards and terrorism hazards. This analysis has informed the design of the proposed stadium and public domain, and will inform the detailed construction and future operation of the stadium. The assessment summary is available at **Appendix LL**. |
| Building performance | The proposal will achieve a Gold LEED Rating, and implements a range of sustainability measures to ensure the stadium operates efficiently and reduces the consumption of resources wherever possible. Refer to the strategy at **Appendix M**. |

The proposed development has also been designed with consideration of the resilience to climate change, and the CSIRO's projected impact of climate change which includes the following.

**Table 25 Climate change assessment summary**

| Risk | Assessment |
|---|---|
| Hotter days and more frequent heatwave events | Heat island effect will be minimised through a light-coloured roof and paving, landscaping and shaded areas and an increase in tree planting throughout the site compared to the pre-development situation. |
| Extended drought periods | The proposal will capture rainwater on the site for storage and reuse. It will also continue to utilise bore water to irrigate the playing pitch and reduce demands on potable water. The utilisation of native plant species will also reduce demand for water. Refer to the assessment at **Appendix P** and the Landscape Plans at **Appendix C**. |
| More extreme rainfall events | The on-site-detention proposed has been tested by Aurecon and found to be adequate to manage high intensity storm events so that the runoff from the site is stored and discharged in a controlled manner. Should the flow rate from greater rainfall exceed todays stormwater pipe capacity, the proposed overland flow strategy detailed in the Stormwater Management Plan allows for controlled flow/velocities around the site without impacting emergency evacuation pathways from the stadium. Refer to the assessment at **Appendix P**. |
| Gustier wind conditions | Wind modelling by Arup confirms that, overall, the wind conditions surrounding the proposed stadium are similar to those experienced surrounding the former SFS, and that all locations measured will achieve the safety criteria and all locations outside of the site will also achieve the comfort criteria. Refer to the assessment at **Appendix Z**. |
| Social equity | The proposed stadium has been designed for social inclusion in providing adequate facilities for men, women, and people with physical disabilities, providing a prayer roof for staff and patrons, and designing the stadium and surrounds for equitable access. The removal of boundary fencing and the provision of new on-site recreation and socialisation spaces also promotes community engagement. Further, the stadium is targeting the LEED Innovation Credit for 'social equity within the supply chain' meaning an assessment will be completed of the suppliers of construction materials used on the site to ensure the manufacturing of these materials do not contribute to modern slavery. |

### Recommendation

It is considered that the proposed development does not result in any significant or adverse impacts, and as such no further study or refinement is required. No specific mitigation measures have been nominated in this instance, noting that mitigation measures pertaining to sustainability, stormwater and flooding, landscape design, and safety and security have already been nominated in the dedicated assessment sections above and summarised in the overall Mitigation Measures in **Section 8.0**.

## 6.19 Ecologically sustainable development principles

The EP&A Regulation lists 4 principles of ecologically sustainable development to be considered in assessing a project. They are:

- The precautionary principle;

- Intergenerational equity;
- Conservation of biological diversity and ecological integrity; and
- Improved valuation and pricing of environmental resources.

An analysis of these principles follows.

**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 direct serious threat of irreversible damage to the environment and therefore the precautionary principle is not required to be given further consideration in this instance. Notwithstanding, indirect avoidance of damage to the environment can be achieved through implementing the mitigation measures identified in this EIS, which will inform the construction and operation of the new stadium and public domain.

Proactive measures to prevent environmental degradation have been included within the design, construction and operational phases of the proposed development. The contractor will implement an Environmental Management System that follows NSW Environmental Management System Guidelines during the construction phase, and the SSGT will adhere to the stadiums operational procedures and actively pursue relevant targets to meet the relevant mitigation measures and mitigate or minimise potential environmental risks.

**Intergenerational 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 as a new Tier 1 stadium that:

- Retains and celebrates the heritage of the site and surrounds for future generations to appreciate and enjoy.
- Implement the safeguards and management measure to protect environmental values, and achieve best-practice sustainability targets to ensure the stadium operates efficiently into the future.
- Provides an important social and cultural facility that is capable of hosting significant sporting and other events into the future.
- Facilitate job creation and the provision of housing in close proximity to public transport.
- Improve the public domain and amenity in Moore Park locality.

The proposal has integrated short and long-term social, financial and environmental considerations so that any foreseeable impacts are not left to be addressed by future generations. Issues with potential long term implications such as waste disposal would be avoided and/or minimised through construction planning and the application of safeguards and management measures described in this EIS and the appended 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. As has been demonstrated in **Section 6.11** and throughout this EIS, the proposed development will not result in any significant effect on the biological and ecological integrity of the study area, subject to the implementation of the Mitigation Measures set out in **Section 8.0** below.

**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 things. The cost of infrastructure, biodiversity offsets, design measures, and other sustainability initiatives associated with the proposed stadium have been incorporated into the cost of development and will be delivered in the most cost-effective way via a life cycle cost approach that provides best return on investment. Mitigation measures for avoiding, reusing, recycling and managing waste during construction and operation would be implemented to ensure resources are used responsibly in the first instance. Mitigation measures for the sustainable operation of the stadium and for avoiding, reusing, recycling and managing waste during construction and operation would also be implemented to ensure resources are used responsibly in the first instance. 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 set out in **Section 8.0** below.

## 6.20 Site suitability

Having regard to the characteristics of the site and its location, the proposed development is suitable for the site as it:

- will facilitate the delivery and operation of a globally competitive stadium that achieves the requirements for a Tier 1 stadium to meet future requirements;
- contributes to the long term strategic vision for the area as a recreation, sporting and entertainment precinct that is accessible to all Sydney-siders and visitors;
- has been designed to be developed in a manner that minimises impacts on its surrounds, and has been designed to in some respects improve the natural, historical, and environmental qualities of the site; and
- will result in only minor environmental impacts that can be appropriately managed and mitigated.

The subject site is also considered to be highly suitable for the proposal in that:

- it is zoned for the purpose of ‘major recreation facilities (outdoor)’ under the Sydney LEP 2012;
- is the subject of an approved Concept Proposal (SSD 9249) for the redevelopment of the site for a new stadium;
- the land is Crown Land and has been designated under the *Sydney Cricket and Sports Ground Act 1978* to be used and developed for the purpose of, and in connection, with sporting events;
- it is developed land, which has been used for an extended period of time as a sporting stadium;
- the site has a significant historical and cultural association with the playing and viewing of major sporting events;
- the site is directly adjacent to the Sydney Cricket Ground, providing synergies and efficiencies in the hosting of significant sporting matches, maintenance of facilities and training by local sporting teams;
- the site is immediately next to the Rugby League Central and Australian Rugby Development Centre buildings, which host national-level sporting administration facilities for the codes which are the major users of rectangular stadia;
- the site is also immediately next to the educational training and research facilities of the University Technology Sydney, which are located in the ARDC building, which have the potential to provide synergies between these activities and the new stadium;
- is well-serviced by existing and planned future major event and day-to-day transport arrangements, including public and event buses, trains, car parking, pedestrian footpaths and cycle routes; and
- has existing utility infrastructure connections which have capacity, or which can be readily augmented to provide capacity for, the servicing requirements of a modern stadium.

## 6.21 Public interest

This application represents the next stage in the redevelopment of the Sydney Football Stadium, delivering a Tier 1 stadium with world-class customer experience, state-of-the-art technology and improved facilities, amenities and accessibility. It provides additional direct benefits that the previous site did not accommodate and realises the project objectives to provide a functional, amenable and better integrated stadium on the subject site. The proposal is considered to be in the public interest as it:

- delivers significant social, cultural, and economic benefits to the local, Sydney and NSW community by providing a high-quality venue for viewing sport, which provides capacity to increase patronage and the attraction of national and international events resulting in direct and indirect benefits in terms of employment and expenditure within the NSW economy;
- removes barriers to public access and opens the site up for use by the general public in providing a fully accessible pedestrian concourse that shortcuts the existing circuitous route along Driver Avenue and Moore Park Road used by pedestrians and directly links Moore Park to Paddington, and providing new multifunctional play and recreation platforms for free activities such as informal sports, small-scale play and passive recreation;
- provides for increased efficiency in stadium operations by providing a purpose-built facility that is fit for modern requirements and adaptable to accommodate future requirements, reducing energy consumption and operational costs to Government;
- achieves a high level of environmental performance by demonstrating it will achieve a LEED Gold rating, implementing measures that support the update of and promote sustainable transport options, and designing the stadium with consideration of environmental risks and climate change;
- internalises operational processes such as loading and deliveries, waste storage and management, and other back of house activities to remove unattractive elements from the public domain and reduce impacts on surrounding areas and the enjoyment of the stadium site;
- provides significantly improved landscaping and tree planting across the site including replacing every tree lost on the site with three new trees, to contribute to the parkland setting of the site, support biodiversity and habitat, provide shade for thermal comfort, and ultimately contribute to amenity on the site and in the surrounds;
- increases activation at the key street interfaces to Moore Park Road and Driver Avenue during event and non-event periods, providing an improved level of public amenity and game-day experience for the general public and stadium patrons alike;
- facilitates increased visitation by non-car travel modes, including by public transport, point-to-point services, cycling and walking through the provision, through improved wayfinding and signage, new dedicated facilities, improved coordination with new and existing infrastructure outside of the site, and the implementation of Green Travel Plan as part of the future operation of the stadium;
- considers and integrates with other projects occurring in the surrounding area including the Light Rail, Moore Park Road cycle lane, the new event bus loop, and the overarching vision for the precinct under the *Moore Park Master Plan 2040* to ensure the proposal anticipates and positively contributes to its surrounds;
- ultimately provides a landscape and architectural design scheme that has been subject to a competitive design process, assessed by a panel against best practice criteria, and found to have achieved design excellence; and
- the development will not result in any significant environmental impacts that cannot be managed through adherence to the Mitigation Measures outlined in **Section 7.0**, standard conditions of development consent and any further mitigation measures and conditions identified during the preparation and assessment of the Stage 2 Development Application.

# 7.0 Environmental risk assessment

## 7.1 Risk assessment framework

The Environmental Risk Assessment (ERA) establishes a residual risk by reviewing the significance of environmental impacts and the ability to manage those impacts. The ERA for this EIS has been adapted from Australian Standard AS4369.1999 Risk Management and Environmental Risk Tools.

In accordance with the SEARs, the ERA addresses the following significant risk issues:

- the adequacy of baseline data;
- the potential cumulative impacts arising from other developments in the vicinity of the Site; and
- measures to avoid, minimise, offset the predicted impacts where necessary involving the preparation of detailed contingency plans for managing any significant risk to the environment.

**Figure 90** indicates the significance of environmental impacts and assigns a value between 1 and 10 based on:

- the receiving environment;
- the level of understanding of the type and extent of impacts; and
- the likely community response to the environmental consequence of the project;

The manageability of environmental impact is assigned a value between 1 and 5 based on:

- the complexity of mitigation measures;
- the known level of performance of the safeguards proposed; and
- the opportunity for adaptive management.

The sum of the values assigned provides an indicative ranking of potential residual impacts after the mitigation measures are implemented.

| Significance of impact | Manageability of impact | | | | |
|---|---|---|---|---|---|
| | 5 Complex | 4 Substantial | 3 Elementary | 2 Standard | 1 Simple |
| 1 – Low | 6 (Medium) | 5 (Low/Medium) | 4 (Low/Medium) | 3 (Low) | 2 (Low) |
| 2 – Minor | 7 (High/Medium) | 6 (Medium) | 5 (Low/Medium) | 4 (Low/Medium) | 3 (Low) |
| 3 – Moderate | 8 (High/Medium) | 7 (High/Medium) | 6 (Medium) | 5 (Low/Medium) | 4 (Low/Medium) |
| 4 – High | 9 (High) | 8 (High/Medium) | 7 (High/Medium) | 6 (Medium) | 5 (Low/Medium) |
| 5 – Extreme | 10 (High) | 9 (High) | 8 (High/Medium) | 7 (High/Medium) | 6 (Medium) |

**Figure 90 Risk Assessment Matrix**

## 7.2 Environmental risk assessment

| Identification of Risks and Proposed Mitigation | | | | Risk Assessment | | |
|---|---|---|---|---|---|---|
| **Item** | **Phase**[2] | **Potential Environmental Impact** | **Proposed Mitigation Measures and / or Comment** | **Significance of Impact** | **Manageability of Impact** | **Residual Impact** |
| Transport and Accessibility | C / O | • Construction traffic on local roads.<br>• Congestion associated with stadium operations. | • A Construction Traffic, Transport and Pedestrian Management Plan has been prepared to ensure that demolition activities do not adversely impact upon the amenity or safety of the locality.<br>• Infrastructure NSW will continue to liaise with the Sydney Coordination Office to manage potential cumulative impacts.<br>• The capacity of the new stadium is generally the same as the existing stadium and the parameters established in the Concept Proposal, and accordingly traffic impacts will be within the existing and approved capacity of the site.<br>• A Green Travel Plan has been prepared to encourage increased usage of non-car travel modes including public and active transport. | 3 | 3 | 6<br>Medium |
| Non-Indigenous Heritage | C / O | • Impact on heritage items.<br>• Impact on heritage conservation areas. | • The site will not result in any direct impacts on the Sydney Cricket Ground Members and Ladies Stand. Vibration monitoring will be undertaken during construction.<br>• Further investigation of Busby's Bore has been undertaken which has provided further information regarding the likely depth of tunnels, but has been unable to provide further detail regarding the horizontal alignment, which based upon the best available evidence is located outside of the area of proposed excavation and construction works. Vibration monitoring of shafts would be continued throughout the construction phase and opportunities for improved interpretation of this heritage item will pursued through the Heritage Interpretation Strategy.<br>• The proposed stadium is within the building envelope approved in the Concept Proposal, and the materiality and detailed design has been undertaken with consideration of existing heritage items and landscape views and vistas. | 3 | 3 | 6<br>Medium |
| Indigenous Heritage | C / O | • Impact on archaeology.<br>• Impact on cultural values. | • An Aboriginal Cultural Heritage Assessment Report has been prepared in accordance with the 'Aboriginal cultural heritage consultation requirements for proponents' guidelines (OEH 2010). Through consultation with the relevant Aboriginal stakeholders and historic research a detailed understanding of the sites social and cultural values, as well as potential for | 3 | 3 | 6<br>Medium |

[2] C = Construction phase, O = Operational phase

| Identification of Risks and Proposed Mitigation | | | | Risk Assessment | | |
|---|---|---|---|---|---|---|
| | | | archaeological resource value, has been developed and informed the design and construction planning for the development.<br>• A framework of supervised and unexpected finds management approaches to excavation and construction activity is proposed to ensure that adverse impacts to archaeology, if present, does not occur.<br>• Opportunities to provide education and interpretation of the social and cultural significance of the site to the Aboriginal community, including historic use of the area as well as more recent sporting significance, will be pursued through the Heritage Interpretation Strategy. | | | |
| Noise and Vibration | C / O | • Construction noise.<br>• Operational noise. | • A Noise and Vibration Assessment has been prepared by Arup which considers potential demolition noise and vibration impacts on nearby receivers and sets out mitigation measures to reduce impacts during the demolition phase.<br>• The future stadium will maintain the event time restrictions and limit on the number of concerts that applied to the former SFS.<br>• A Noise Management Plan (NMP) has been prepared in consultation with the regulatory authorities which sets out an approach to the control and prevention of noise impacts, monitoring during events periods and responses to noise should impacts occur. The NMP framework represents a contemporary best-practice approach to managing noise that will allow for detailed, efficient and relevant monitoring of noise from the stadium to maintain or improve local amenity. | 3 | 2 | 5<br>Low/Medium |
| Visual and Views | C / O | • Impact on public views.<br>• Impact on private views. | • The proposed stadium is located within the building envelope approved under Concept Proposal SSD 9249.<br>• The View and Visual Impact Assessment confirms that whilst the proposed building will be visible within the landscape from some locations, impacts would be low or medium in nature and are reasonable within the former development context and applicable planning framework for the land.<br>• Site hoarding is already erected around the site and will be maintained throughout the construction phase to screen views to the site from the public domain. | 2 | 2 | 4<br>Low/Medium |
| Biodiversity | C / O | • Impacts on flora and fauna. | • Previous BDAR has not identified any significant native flora or fauna within the subject site.<br>• Detailed design has been undertaken | 1 | 2 | 3<br>Low |

| Identification of Risks and Proposed Mitigation | | | | Risk Assessment | | |
|---|---|---|---|---|---|---|
| Water Management and Flooding | C / O | • Flooding<br>• Water conservation<br>• Water quality | • The site is subject to flooding during flood events from the 2-year ARI through to the PMF. Additional OSD storage is proposed to reduce the discharge of stormwater from the site to mitigate flooding within the broader catchment. Suitable paths of travel and emergency egress are identified for periods where flooding occurs, however, it is noted that during major storm events with the potential to cause flooding the stadium would not be operational.<br>• Water efficiency targets are identified to reduce potable water consumption through the identification for opportunities to install water efficient appliances and by capturing and reusing rainwater for toilet flushing and site maintenance.<br>• MUSIC modelling has been undertaken to confirm that the development will achieve the identified water quality improvement targets for the project. | 2 | 2 | 4<br>Low/Medium |
| Climate Change | O | • Potential for increase in intensity and frequency of rainfall events<br>• Increase in mean and maximum temperatures | • Stormwater infrastructure and flood assessment has been undertaken having regard to the potential effects of climate change.<br>• The proposal provides for a substantial net increase in tree and landscape planting within the site to reduce potential urban heat island effects and increase canopy cover to provide additional shading within the public domain.<br>• By virtue of the expanded roofline (100% drip-line cover) and steeper tiered seating within the proposed stadium, the new stadium will provide a significant enhancement in weather-protection to patrons to ensure comfort and health whilst allowing mitigating against the potential effects of climate change on the ability to use the stadium for events. | 3 | 2 | 5<br>Low/Medium |
| Contamination and Geotechnical | C / O | • Unexpected finds of contamination.<br>• Potential for spills from proposed fuel storage.<br>• Potential impacts on existing buildings and structures | • The Detailed Site Investigation confirms that the site is suitable for the proposed use without the need for remediation, and this report has been reviewed and confirmed by an EPA-accredited Site Auditor.<br>• An Unexpected Finds Protocol will be implemented through the CEMP.<br>• Proposed fuel storage and associated pipework is located above the proposed ground level within the basement. Storage tanks will be appropriately designed and located to avoid the risk of spillage. Enclosures will be designed to provide the opportunity to correctly contain and dispose of any spillage so that contaminants are not discharged from the site or into soil. | 2 | 3 | 5<br>Low/Medium |

| Identification of Risks and Proposed Mitigation | | | | Risk Assessment | | |
|---|---|---|---|---|---|---|
| | | | • A Geotechnical Statement is provided that confirms the requirements for excavation support and site preparation to ensure that the development does not impact upon the structural and ground conditions of existing buildings. | | | |
| Utilities and Infrastructure | C / O | • Capacity to service new stadium. | • An Infrastructure Management Plan has been prepared which confirms that the site is capable of being serviced via either existing or augmented utility services, with the final detail of utility servicing to be determined via the relevant utility service approval pathways. | 2 | 2 | 4<br>Low/Medium |
| Waste Management | C / O | • Construction waste<br>• Operational waste | • The Construction Management Plan identifies and quantifies likely waste streams during construction and outlines measures for waste minimisation, recycling and reuse.<br>• An Operational Waste Management Plan estimates potential waste generation for a peak event and outlines the waste management systems, spatial provisions and waste collection arrangements for the new stadium including escalating performance targets for recycling over the first three years of operation. | 2 | 2 | 4<br>Low/Medium |
| Wind Impacts | O | • Potential wind impacts on safety and comfort | • An Environmental Wind Assessment has been undertaken which considers the effect of the proposed building on wind conditions within the public domain. At all measures locations wind speeds will comply with the criterion for safety. A small number of locations exceed the criteria for comfort, however, this was considered to be acceptable based on the nature and intended usage of these locations. Further mitigation of wind effects is recommended through the implementation of the Landscape Plans prepared by Aspect Studios. | 3 | 2 | 5<br>Low/Medium |
| Air Quality | C | • Dust impacts during construction activities. | • The Construction Management Plan incorporates an Air Quality Impact Assessment that identifies potential dust-generating construction activities and standard mitigation measures that can be implemented to reduce and avoid adverse air quality impacts. | 2 | 2 | 4<br>Low/Medium |
| Communications and Community | C / O | • Information about Stage 2 DA<br>• Construction impacts and complaints<br>• Operational information | • Section 3.0 of this EIS and the Consultation Outcomes Report identify consultation activities that have been undertaken to date to inform the scope of the project and provide information to the community regarding the proposal and planning process. | 3 | 2 | 5<br>Low/Medium |

| Identification of Risks and Proposed Mitigation | | | | Risk Assessment | | |
|---|---|---|---|---|---|---|
| | | • Operational impacts and complaints | • This EIS will be publicly exhibited by the NSW Department of Planning and Environment. Infrastructure NSW will also undertake further public engagement during this period.<br>• Subject to planning approval, regular communications will be provided to local residents throughout the construction phase to advise of the progress of works, likely impacts and special activities.<br>• The Event Management Plan includes details of the processes for providing information to the public and receiving and appropriately handling any complaints in relation to the operation of the stadium. | | | |
| Safety and Security | C / O | • Potential for crime (unauthorised access, theft) during construction and construction works.<br>• Potential security threats to future stadium and stadium users.<br>• Potential for crime and perception of crime within future public domain areas surrounding stadium.<br>• Potential for anti-social behaviour associated with operation of the stadium. | • The contractor will be responsible for ensuring the security of the site during working and non-working hours, including the provision of on-site security staff and/or regular patrols outside of working hours to reduce the risk of unauthorised access to the site.<br>• A Security Risk Assessment has been prepared which identifies potential risks to public safety and identifies appropriate physical and operational measures to reduce risk to acceptable levels.<br>• A Crime Prevention through Environmental Design (CPTED) assessment has been undertaken that considers the potential for crime to occur within the public domain surrounding the stadium and outlines how this risk will be minimised through detailed design and operational mitigation measures.<br>• An Anti-Social Behaviour Strategy has been prepared that sets out management principles and approaches to be adopted in the operation of the new stadium to reduce instances of anti-social behaviour and integrate appropriate responses to incidents of anti-social behaviour into the operation of the stadium. | 4 | 4 | 8<br>High/Medium |
| Overshadowing | O | • Potential for overshadowing of existing public domain in Moore Park.<br>• Potential for overshadowing of adjoining land.<br>• Potential for overshadowing of new public domain. | • The proposed building design, and consequently all overshadowing, is within the maximum building envelope approved under Concept Proposal SSD 9249.<br>• There is some minor overshadowing of the eastern edge of Moore Park for less than 1 hour between 9am-3pm noon the worst-case day of 21 June. Kippax Lake is not overshadowed.<br>• Overshadowing of adjoining properties is limited in duration, does not affect and areas of special sensitivity and generally consistent with shadows cast by the previous stadium. | 2 | 1 | 3<br>Low |

| Identification of Risks and Proposed Mitigation | | | | Risk Assessment | | |
|---|---|---|---|---|---|---|
| | | | • North facing public domain areas will benefit from good access to sunlight with limited shadowing, whilst areas to the south-west and east will receive high levels of afternoon and morning sun respectively. | | | |
| Building and fire safety | O | • Potential for fire<br>• Potential for evacuation of building | • The Development Application documentation has been the subject of expert review against the provisions of the Building Code of Australia, including a specific review against the relevant provisions for fire safety and egress. These reviews confirm that the project is capable of complying with the relevant requirements, subject to further detailed design and certification at the relevant construction and occupation stages. | 4 | 2 | 6<br>Medium |

## 8.0 Mitigation measures

The collective measures required to mitigate the impacts associated with the proposed works are detailed in **Table 26** below. These measures have been derived from the previous assessment in **Section 5.0** and **6.0** and those detailed in appended consultants' reports.

**Table 26 Mitigation Measures**

| Ref No. | Mitigation measure |
|---|---|
| **Design and operation** | |
| **D/O-BF** | **Built form** |
| D/O-BF1 | Design development and the assessment of design integrity shall occur in accordance with the process outlined in the Design Excellence Strategy (2018) prepared by INSW and endorsed by the NSW Government Architect. |
| D/O-BF2 | The detailed fit-out, operation, and signage for the food and drink tenancy and merchandise store are to be the subject of separate and future approval. |
| D/O-BF3 | Details of the exact content, materiality, and illumination of signs within the stadium facade zones will be submitted to the Secretary for endorsement prior to the issue of the relevant Construction Certificate. |
| D/O-BF4 | Detailed design of the public domain is to be coordinated with the design for the Moore Park Road separated cycleway, if the cycleway is progressed by Council and/or Transport for NSW. |
| **D/O-TA** | **Transport and accessibility** |
| D/O-TA1 | Traffic Management Plans will be developed where required, in consultation with key stakeholders such as NSW Police prior to special events occurring on the site, in order to manage vehicle and pedestrian movements before, during and after events, consistent with the existing arrangements. |
| D/O-TA2 | The SCSG Trust/INSW will consult with TfNSW in determining formal arrangements for dedicated taxi and rideshare locations. |
| D/O-TA3 | The recommendations of the Green Travel Plan prepared by Arup (31 May 2019) are to be implemented, including the preparation of a two-yearly review system to assess travel demand and make refinements to the initiatives. |
| D/O-TA4 | SCSG Trust will liaise with the Moore Park Transport Working Group and TfNSW on the development of the updated transport strategy for the Moore Park sporting precinct. |
| **D/O-HER** | **Heritage** |
| D/O-HER1 | Prepare a detailed heritage interpretation plan confirming the final interpretative elements to be installed on the site with consideration of the following:<br>• The Heritage Interpretation Strategy prepared by Curio Projects (May 2019).<br>• Coordination with public art.<br>• Consultation with the CCC, local Aboriginal community, the SCG Museum staff and SCSG Trust. |
| D/O-HER2 | The La Perouse Local Aboriginal Lands Council should be consulted with reference to the detailed heritage interpretation plan being prepared, in order to seek input into the plan with regard to Aboriginal cultural heritage significance. |
| **D/O-NV** | **Noise and vibration** |
| D/O-NV1 | An initial noise desktop assessment of the entire external façade and ancillaries will be completed to assess the potential for wind induced noise from each element type at the detailed design stage. Consideration of aero-acoustic noise shall be considered with particular focus on the wind-induced noise mechanisms listed in Section 4.3.5 of the Noise and Vibration Impact Assessment prepared by Arup (31 May 2019). Measures will be incorporated into the construction drawings as required. |
| D/O-NV2 | Noise emissions from any external mechanical plant are to be treated such that noise emission complies with Noise Policy for Industry's project amenity noise level criteria at all surrounding receivers. This may require the use of acoustic louvres, enclosures, barriers or attenuators. Measures will be incorporated into the construction drawings as required. |
| D/O-NV3 | A review of noise emissions following the commencement of stadium operations is to occur within nine (9) months of issuing the final Occupation Certificate. This review will inform the final Noise Management Plan in consultation with Consent Authorities, relevant stakeholders and a suitably qualified acoustic consultant. |
| **D/O-BIO** | **Biodiversity and trees** |
| D/O-BIO1 | The artificial microbat roost structure will be provided as indicated in the Landscape Plans prepared by Aspect Studios. |

| Ref No. | Mitigation measure |
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| D/O-BIO2 | INSW and the appointed contractor should consult with the CPMP Trust prior to the commencement of operations to identify any practicable management measures to mitigate impacts of event crowds to mature figs and other associated vegetation around Kippax Lake. |
| **D/O-W** | **Waste** |
| D/O-W1 | Prepare an operational waste management plan prior to operation for staff training and induction outlining the following:<br>• roles and responsibilities for all key stakeholders that will manage waste on site;<br>• staff responsibilities including what materials are appropriate for each stream, the procedures involved in sorting, recommendations on how to minimise waste generation, and instructions on how to operate machinery safely;<br>• data collection and the recycling and performance targets;<br>• an annual review of on-site contamination rates by on-site staff, and disposal facilities through independent audits as necessary; and<br>• appropriate communication channels for all stakeholders. |
| **D/O-WF** | **Wayfinding** |
| D/O-WF1 | The Trust will liaise with TfNSW prior to operation regarding announcements when alighting from the trains and appropriate messaging for commuters during event times, to assist in wayfinding from Central Station to the stadium. |
| D/O-WF2 | The Trust will liaise with the CPMP Trust regarding the ongoing use of temporary variable message boards after major events to assist in crowd dispersal and wayfinding. |
| D/O-WF3 | Internal wayfinding shall be detailed in the construction drawings with reference to the recommendations and material palette, signage typologies, typography, iconography, and map standards contained in Section 5 of the Wayfinding and Signage Strategy prepared by Aspect Studios (29 May 2019). |
| **D/O-PA** | **Public art** |
| D/O-PA | Engage a site-specific public art panel to review the procurement of public art, including heritage interpretation measures as necessary, in accordance with the Public Art Strategy prepared by Aspect Studios. The Terms of Reference will be approved by the Secretary prior to the establishment of the public art panel. |
| **D/O-L** | **Lighting** |
| D/O-L1 | All applicable outdoor lighting is to be design, installed, and operated in accordance with the relevant Australian Standards; AS4282 and/or AS/NZS 1158.3.1. |
| **D/O-REF** | **Reflectivity** |
| D/O-REF1 | All external materials and finishes that are visible from a public road and footpath are to have a spectral reflectivity of less than 20%. |
| **D/O-CM** | **Communications** |
| D/O-CM1 | INSW and the SCSG Trust will participate in the Moore Park Working Group to ensure that the detailed design gives consideration to integration with the actions of other Working Group members. |
| **D/O-SEC** | **Safety, security, and anti-social behaviour** |
| D/O-SEC1 | Intelligent Risks will collaborate with designers during the preparation of construction plans to facilitate recommendations for security and risk mitigation. |
| D/O-SEC2 | The stadium will be supported by Standard Operating Procedures (SOPs) and policies. Intelligent Risks, the SCSG Trust, security contractors, and NSW Police will collaborate in the development of SOPs for the stadium. The Trust will be responsible for ensuring that SOPs and associated documents are drafted, and implementing a program to regularly review and update as necessary |
| D/O-SEC3 | A CCTV network for the site is to be designed and installed in consultation with a suitably qualified security consultant with a Class 2A licence under the *Security Industry Act 1997* to monitor the site. Signage is to be installed at site entries advising visitors that CCTV is in operation throughout the precinct |
| D/O-SEC4 | A lighting strategy is to be designed and implemented in consultation with a suitably qualified lighting expert to ensure that the CCTV network is effective, and the building and public domain will be lit during the night including:<br>• Precinct entries and exits<br>• Building entries and exits<br>• Pathways<br>• Stairs and lifts<br>• Signage |

| Ref No. | Mitigation measure |
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| | • Carparking lighting to the relevant Australian Standards |
| D/O-SEC5 | The following specific measures are to be included in the final detailed construction drawings:<br>• Use of robust and graffiti resistant materials or coatings within the public realm and the ground floor facade<br>• Integrate services such as external power and water within various part of the site to accommodate potential future events, markets or performances<br>• Fencing to the south-eastern corner of the site is to be an open palisade style of an appropriate height to restrict access while allowing surveillance to be maintained throughout the precinct<br>• Install wayfinding signage that indicates limitations of access around the eastern periphery of the site |
| D/O-SEC6 | Develop a process for periodic reviews of the site once operational, to identify and implement rectification works that may arise from specific incidents to ensure the site continues to provide a safe and functional space for its intended use. |
| D/O-SEC7 | The following security measures are to be incorporated into the management program for the site:<br>• Develop conditions of entry including prohibited and restricted items with regard to the recommendations of Anti-Social Behaviour Mitigation Plan in Section 6 of the Anti-Social Behaviour Mitigation Strategy dated 28 May 2019. These conditions of entry will be publicised at the venue and other appropriate platforms, such as the Stadium website.<br>• Schedule site maintenance and security patrols.<br>• Develop conditions for the screening of items brought into the stadium. |
| D/O-SEC8 | An Alcohol Management Plan is to be prepared prior to the commencement of operations including the recommendations on alcohol management in the Anti-Social Behaviour Mitigation Plan in Section 6 of the Anti-Social Behaviour Mitigation Strategy (28 May 2019). |
| **D/O-FL** | **Flooding** |
| D/O-FL1 | An emergency response plan is to be prepared prior to the commencement of stadium operation to detail flood evacuation routes from the stadium site. The plan should form part of staff induction and training programs. |
| **D/O-ESD** | **Sustainability** |
| D/O-ESD1 | The detailed design of the stadium is to achieve a minimum of LEEDv4 Gold rating, and will be certified prior to occupation. |
| D/O-ESD2 | The reduction measures nominated in the Life Cycle Assessment (March 2019) are to be reviewed and considered during detailed design and prior to the issue of the relevant Construction Certificate, including a progressive assessment of operational energy and water. |
| **D/O-O** | **Operation** |
| D/O-O1 | The number of concerts at the stadium is not to exceed six (6) per calendar year. |
| D/O-O2 | The operation of the stadium will be governed by the continuance of the time restrictions for noisy activities as detailed in Table 9 of the EIS. |
| D/O-O3 | The Event Management Strategy prepared by the Trust will be updated as necessary following the detailed design and construction of the stadium, and formalised and implemented for the operation of the stadium. |
| **Construction management** | |
| CM-1 | Prepare a detailed Construction Environmental Management Plan prior to the commencement of works on the site including all required technical management plans and with consideration of other nominated mitigation measures. |
| CM-2 | The CEMP is to include a Dust Management Plan with consideration of the recommendations in Section 6 of the Air Quality Impact Assessment prepared by Wilkinson Murray (May 2019). |
| **CM-TA** | **Transport and accessibility** |
| CM-TA1 | A detailed Construction Pedestrian and Traffic Management Plan and associated Traffic Control Plan(s) will be developed with the appointment contractor and the Sydney Coordination Office, confirming the detailed construction methodology and specific measures for safely managing construction traffic in the surrounding area. |
| CM-TA2 | No roads or footpaths are to be obstructed as part of the proposed works. |
| CM-TA3 | The appointed contractor will consult with TfNSW (Sydney Coordination Office) at regular intervals where construction of the new stadium overlaps with the duration of construction works for the Sydney Light Rail project. |
| CM-TA4 | Construction works are to not to occur during the 2 hours prior to the commencement of an event at the SCG, during the event, and for at least 2 hours after the conclusion of the event. |

| Ref No. | Mitigation measure |
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| **CM-HER** | **Heritage** |
| CM-HER1 | An archaeological induction is to be prepared for all on site contractors, particularly those involved in the bulk excavation works, to familiarise workers with the recommendations and practices outlined in the Archaeological Research Design and Excavation Methodology prepared by Curio Projects (May 2019), and the process should they encounter an unexpected archaeological resource. |
| CM-HER2 | The detailed Construction Environmental Management Plan is to include details of periodic site visits by the project archaeologist during site works, to verify the nature of any subsurface deposit and assess the potential for any potential archaeological resource to exist and be impacted. In zones of moderate archaeological potential, a program of archaeological supervision is to be implemented. A program of archaeological salvage or monitoring is to be implemented if any significant archaeological resource is encountered during the development that alters the level of supervision required, as confirmed by the archaeologist. |
| CM-HER3 | Prepare and educate all on site contractors on the Unexpected Heritage Finds Protocol and Unexpected Aboriginal Finds Policy. Should any suspected archaeological resource/relic be encountered, a stop works would be required in the area of the find, and the project archaeologist contacted. |
| CM-HER4 | The detailed Construction Environmental Management Plan is to include details of the implementation of the Methodology Statement – Working Near Busby's Bore (August 2018), and incorporate all necessary measures into the detailed Construction environmental Management Plan and site inductions as required. The heritage specific recommendations of the Noise and Vibration Impact Assessment prepared by Arup (31 May 2019) are also to be included. |
| **CM-NV** | **Noise and vibration** |
| CM-NV1 | A Construction Noise and Vibration Management Plan shall be prepared, including the final details of the types of plant to be used and updated estimates of the likely levels of noise and the scheduling of activities. The Plan will have references to the recommendations in Table 22 of the Noise and Vibration Impact Assessment prepared by Arup (May 2019). |
| CM-NV3 | 'Toolbox talks' will be held at regular intervals as specified in the Construction Environmental Management Plan with contractors, including discussion of noise and vibration mitigation, monitoring and assessment. These topics will also be covered under induction processes. |
| CM-NV4 | High noise activities will be programmed to occur during the daytime hours wherever possible. In the event that these works are approved to occur out-of-hours, noisy activities should be scheduled early in the night to minimise the impact on adjacent residents. Limit the number of consecutive nights receivers are impacted |
| CM-NV5 | The contractor will adhere to the minimum working distances in Table 23 of the Noise and Vibration Impact Assessment prepared by Arup (31 May 2019), and the Methodology Statement – Working Near Busby's Bore (August 2018). |
| **CM-BIO** | **Biodiversity and trees** |
| CM-BIO1 | A Tree Protection Plan is to be prepared by the Project Arborist which assesses the degree of impact to any Tree Protection Zones and provides strategies and mitigation measures for how to minimise or mitigate these impacts. Consideration should be afforded to the recommendations in the Arboricultural Impact Assessment prepared by Tree IQ (30 May 2019). Tree 125 and Tree 231 are to be retained and protected. |
| CM-BIO2 | INSW and the appointed contractor should avoid impacts to street trees on both sides of Moore Park Road and vegetation in the centre median of Moore Park Road in the vicinity of the site wherever practical. The removal of the one nominated tree on Moore Park Road will occur only with the permission of the relevant land owner and in accordance with the terms of the final development consent. |
| CM-BIO3 | Site inductions will include identifying those environmental features to be protected and measures that are to be implemented, including provisions for when fauna is found on site. |
| **CM-CON** | **Contamination and waste** |
| CM-CON1 | Imported topsoil to the site is to meet the Recreational/ Recreational Open Space criteria defined in Schedule B1 of the *National Environmental Protection Measure, As Amended* (2013). |
| CM-CON2 | Any virgin excavated natural material classification should take into account historic and any additional results. |
| CM-CON3 | The detailed Construction Environmental Management Plan must set-out clear protocols in the event of an unexpected find. |
| CM-CON4 | The preliminary waste classifications outlined in the Detailed Site Investigation (Contamination) prepared by Douglas Partners (May 2019) are to be amended based on any 'unexpected finds', where appropriate. |
| CM-CON5 | Any waste transported off-site is waste classified in line with EPA guidelines and taken to an appropriately licensed facility. |

## 9.0 Conclusion and justification

This EIS has been prepared to assess the environmental, social and economic impacts of the detailed design, construction and operation of the new Sydney Football Stadium. The EIS has addressed the issues outlined in the SEARs (**Appendix A**) and Schedule 2 of the *Environmental Planning and Assessment Regulation 2000* to consider the relevant environmental planning instruments, built form, and social and environmental impacts resulting from the proposed development. Appropriate mitigation measures have been identified to manage the impacts of the development through the construction and operational phases of the project.

The redevelopment of the Sydney Football Stadium aligns with the objectives of the NSW Stadia Strategy 2012 to prioritise investment to achieve the optimal mix of venues to meet community needs and to ensure a vibrant sports and event environment in NSW that delivers social, cultural and economic benefits to the state. The proposed stadium is consistent with the parameters established under the Stage 1 DA that was approved by the Minister for Planning on 6 December 2018, including with respect to land use, stadium capacity, building envelopes, the *Sydney Football Stadium Urban Design Guidelines* (2018), the Design Excellence Strategy and the ESD Strategy. This application sets out the detailed measures relating to the construction, design and operation of the new stadium in a manner that is consistent with the Stage 1 DA and which ensures that the new stadium will achieve the project objectives by delivering a world-class venue for sports and entertainment for the benefit of Sydney and NSW.

Having regard to biophysical, economic and social considerations, including the principles of ecologically sustainable development, the carrying out of the project is justified for the following reasons:

- the redevelopment of the Sydney Football Stadium will provide for a number of significant social, cultural and economic benefits and will deliver a world-class stadium commensurate with Sydney's role as Australia's leading destination for tourism and events;
- the proposed development is permissible with consent and meets the requirements of the relevant statutory planning controls, and is consistent with the Stage 1 DA as required by Section 4.24 of the Environmental Planning and Assessment Act 1979;
- design of the stadium is the result of a competitive design process in accordance with the endorsed Design Excellence Strategy and demonstrates design excellence having regard to the factors identified in Section 6.21(4) of the Sydney Local Environmental Plan 2012;
- the proposal includes a full description of adequate and appropriate measures proposed, developed based on detailed technical assessment carried out in accordance with the Secretary's Environmental Assessment Requirements and the Stage 1 DA conditions of development consent, in order to mitigate any adverse impacts of the development on the environment;
- the land is well served by existing and future public infrastructure, particularly public transport infrastructure with the future commencement of the CBD and South East Light Rail, and other utilities and public infrastructure are readily available given the current operating nature of the precinct as a major stadium, and services can be augmented to meet the future needs of the new, modern stadium;
- the development provides for the proper protection, conservation and protection of statutory local and State heritage items and heritage conservation areas that affect the site or which are in the locality, and includes measures to ensure that the delivery and design of the future stadium protects and conveys the historic and cultural heritage of the site;
- the project has been informed by extensive pre-lodgement community consultation and establishes a framework for ongoing consultation and engagement with the community through the detailed design, construction and operational phases of the development;
- the proposal is consistent with the principles of ecological sustainable development as defined by Schedule 2(7)(4) of the *Environmental Planning and Assessment Regulation 2000*, and will support a more ecologically sustainable stadium by achieving a LEED Gold rating; and
- the delivery of the new stadium will significantly enhance the quality of Sydney's major sporting infrastructure, enabling Sydney to prosper as Australia' leading tourism and events destination.

Given the planning merits described above, and the significant benefits associated with the proposed development, it is recommended that the application be approved.