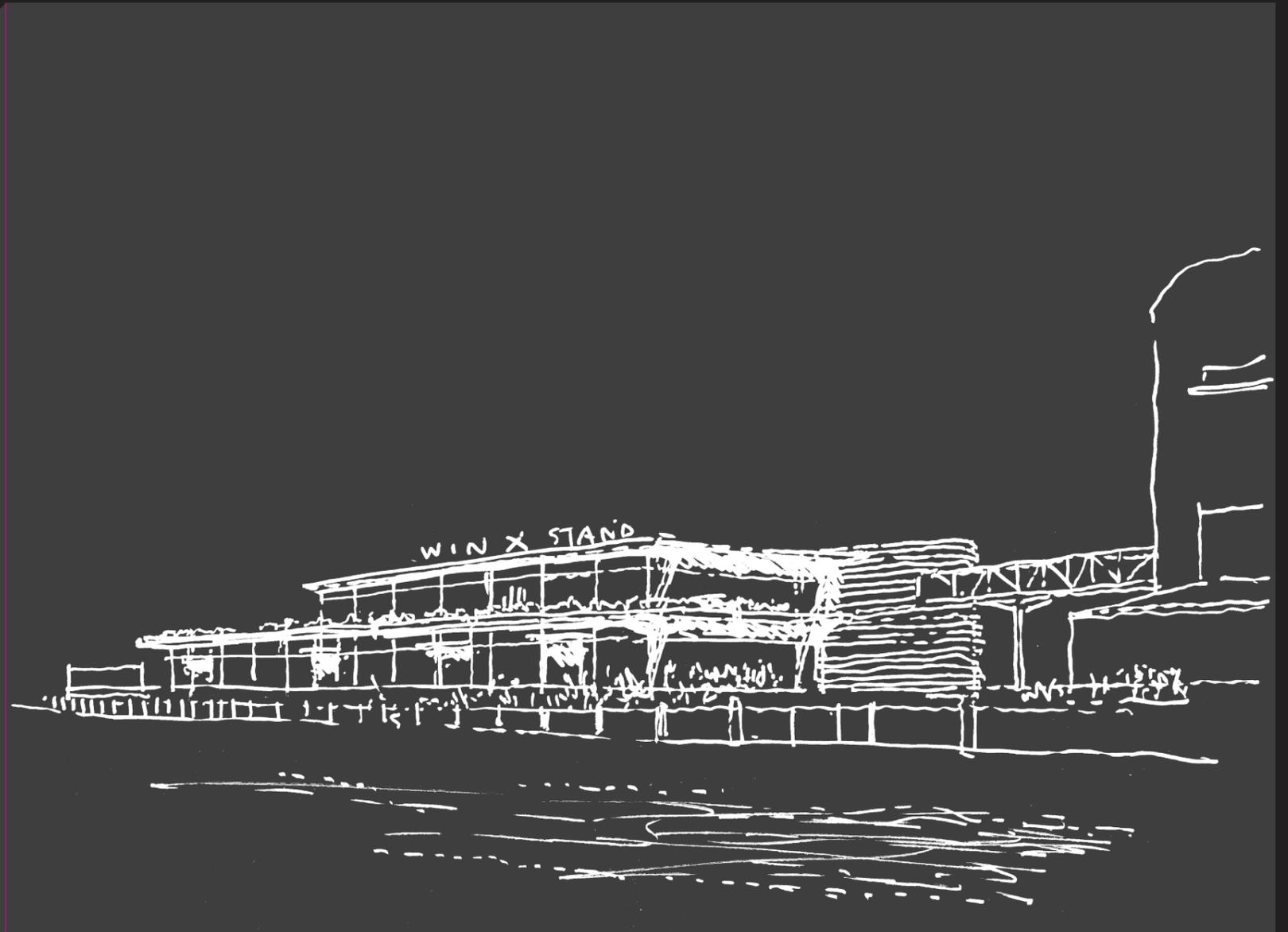


31 October 2019



# ATC & RNSW - WINX STAND

## Architectural Design Report





Australian Turf Club<sup>®</sup>

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C O X

# Introduction

## Introduction

This report supports the State Significant Development (SSD) Development Application (DA) for a multi-purpose race day facility referred to as the Winx Stand at Royal Randwick Racecourse. (SSD 10285)

The development will involve the construction of the two storey multi-purpose facility at the southern end of the existing QEII Grandstand, in the Royal Randwick Spectator Precinct. The proposed facility is designed to significantly enhance the amenity for patrons attending race day events at Royal Randwick and provide a flexible space for non-race day events. The Winx Stand will comprise an approximate 3,546sqm footprint and a maximum building height of 18m. The proposed development is summarised as follows:

Construction of a two storey multi-purpose facility comprising:

- Multi-purpose hall at ground level of approximately 3,255sqmGFA.
- Multi-purpose hall at upper level of approximately 1,788sqm.
- Food and beverage facilities.
- Entry foyer and ancillary facilities.
- Building Identification Signage.
- Laneway peripheral upgrades located between the new facility and the existing multi-deck car park and race day stables.
- Upgrade of grass terrace
- Enhancement of landscape

## Background

The first recorded horse race on the site which became known as Royal Randwick Racecourse occurred in 1833. In that year the Governor of New South Wales announced that the land would be set aside for the development of a racecourse. The organisation named the Australian Jockey Club (AJC) came into existence in 1842. The AJC's tenure of the land was confirmed by a major State Government initiative through the Australian Jockey Club Act 1873. The AJC's current lease on the land expires in 2042.

The site and organisation has evolved over time focussed on racing, spectator and training facilities, with the AJC merging with the Sydney Turf Club (STC) to become the Australian Turf Club (ATC). The Racecourse is considered to be a cultural landscape of State heritage significance for the local area, Sydney generally, and thoroughbred racing in Australia. In recent times the ATC has undertaken up-grading works of its racing and spectator facilities in an effort to be the leading thoroughbred racing club with a strong commercial focus providing the highest quality racing and betting product, facilities and entertainment.

The Winx Stand is intended to be a part of the upgrading of works to increase the amenity of the existing public St. Leger Lawn, with a 100m long public building to the south of the existing QEII.

## Overview of Proposed Development

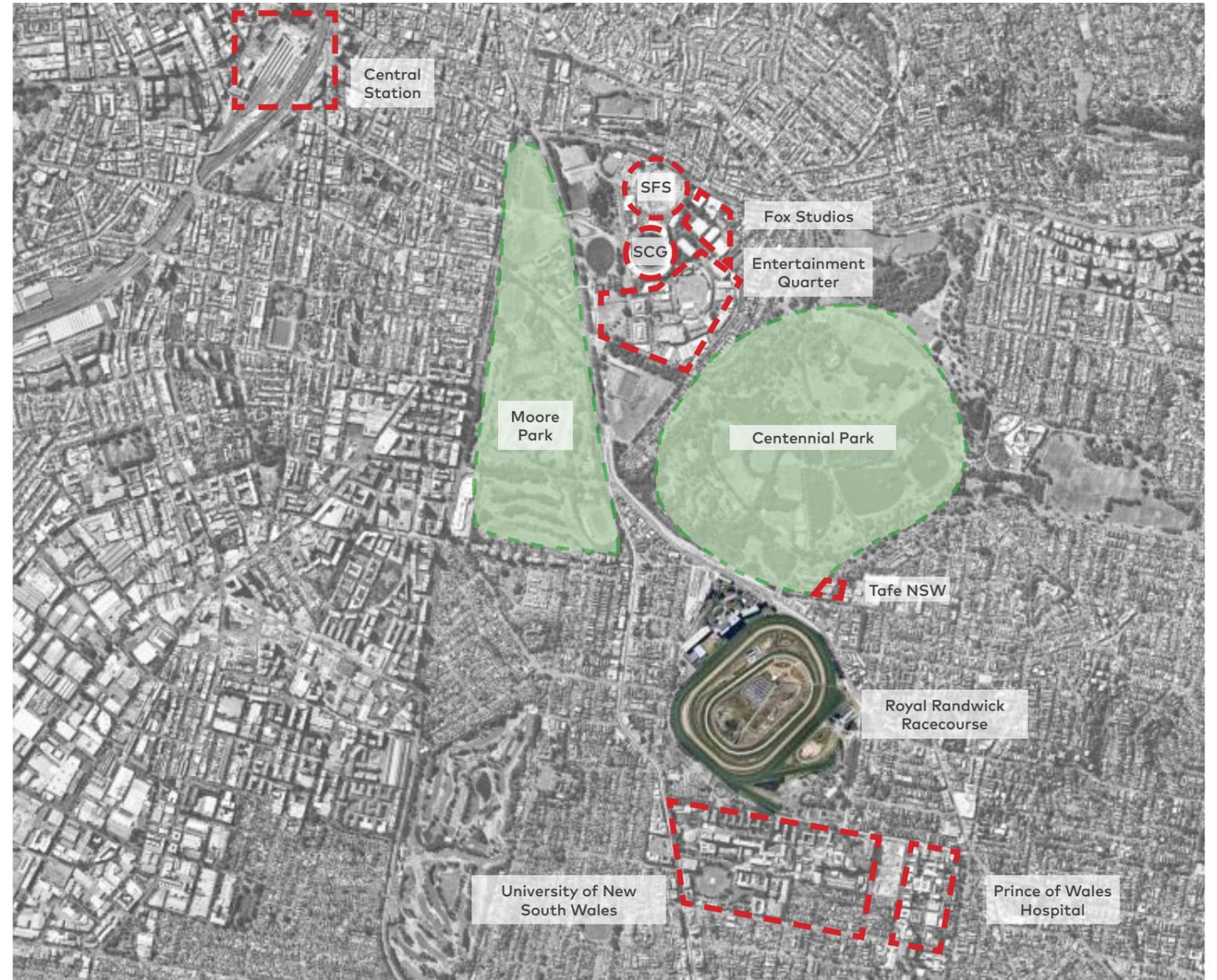
The proposed application represents the intention by the Australian Turf Club and Racing NSW to upgrade the site of the St. Leger Lawn to increase amenity for the General Admission during race days

## Precinct Description

The site is located within Royal Randwick Racecourse

Surrounded by existing sporting facilities and cultural areas including:

- Moore Park
- Centennial Park
- Sydney Football Stadium (SFS)
- Sydney Cricket Ground (SCG)
- Entertainment Quarter
- Fox Studios
- University of New South Wales
- Tafe NSW
- Prince of Wales Hospital



Precinct Plan

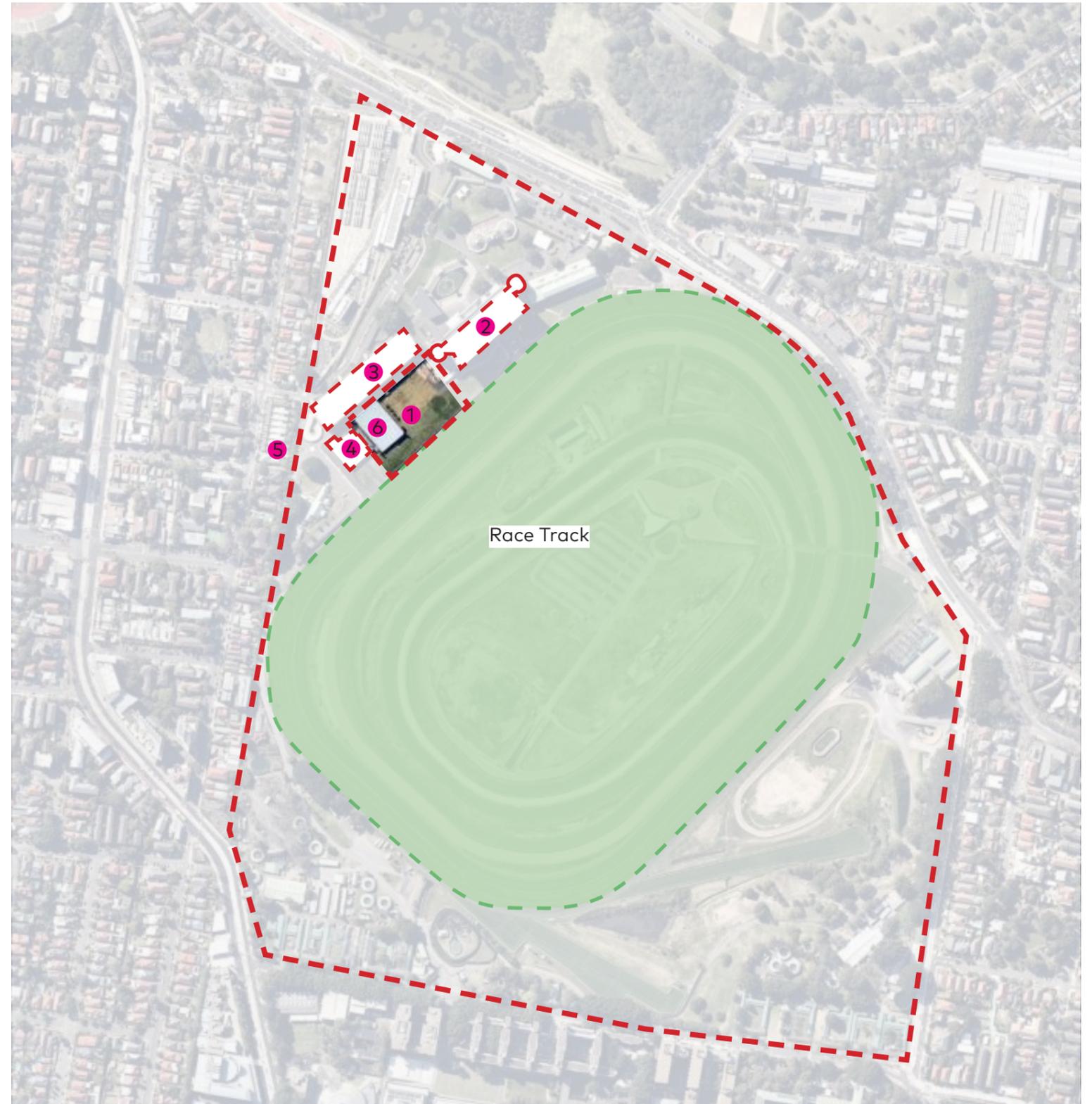
## Site Description

The site of the proposed Winx Stand is located within Royal Randwick Racecourse. The proposed Winx Stand is located around the following facilities:

- Queen Elizabeth II Stand (North East)
- Race Track (South East)
- Swab Building (South West)
- Multi-Deck Carpark (North West)
- Temp Race Day Stalls (To be demolished)

### Legend

- ① Area of Scope of Works
- ② QEII
- ③ Multi-Deck Carpark
- ④ Swab Building
- ⑤ Site Boundary
- ⑥ Temp Race Day Stalls



Site Plan

# Facility Summary

## Ground Floor

- Multi Use Hall (100m frontage)
- Food and beverage facilities
- Amenities
- Entries and circulation
- Back of house facilities

## Upper Level

### Multi use hall (60m frontage)

- Food and beverage facilities
- Amenities
- Entries and circulation
- Back of house facilities
- Landscape balcony
- Bridge link

## Roof

- Non-trafficable roof
- Capacity for future floor

## Externally

- Landscape terracing for race viewing
- Upgraded Laneway periphery

## Structure

- Ground Floor – 100m fully enclosed & serviced
- Level 1 – 60m fully enclosed & serviced, 40m open air (no roof covering + no services)
- Future Proofed for one additional floor
- Link Bridge to QEII

## Capacity:

### Ground Floor –

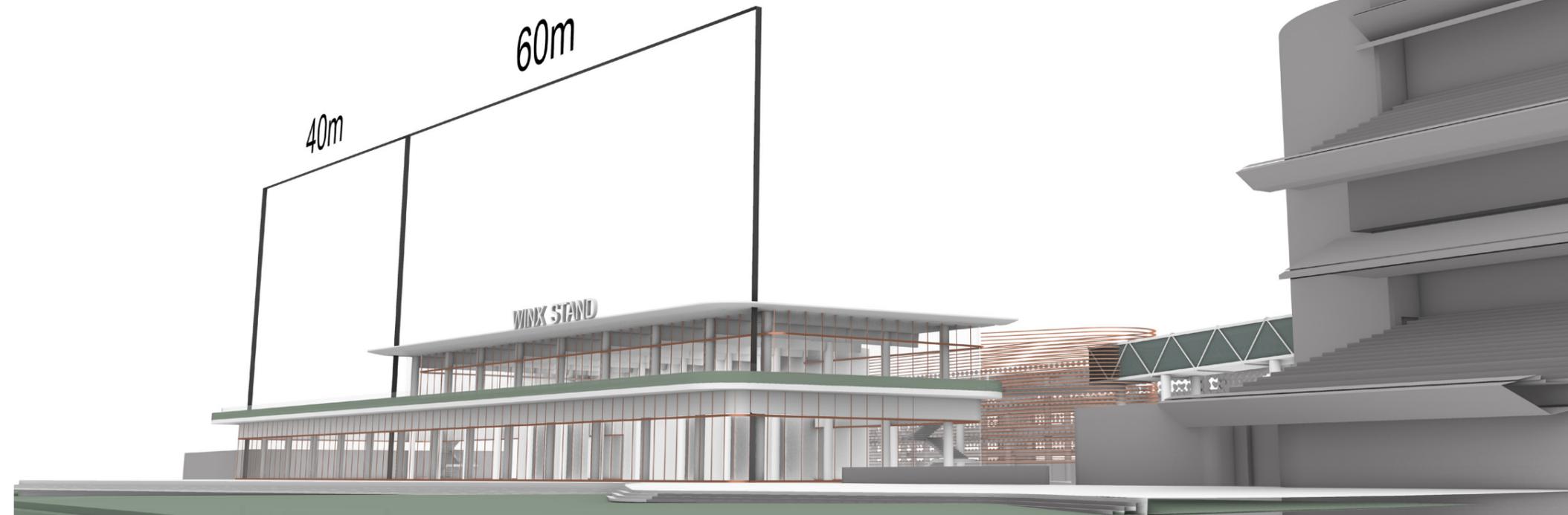
- 1850 Banquet Mode
- 4750 Race Day Mode

### Level 1 –

- 1020 Banquet Mode
- 2750 Race Day Mode

### External

- 1000 Race Day Mode



C O X

## Site Analysis

## The Site

The proposed site boundary of the Winx Stand is approximately 100m x 40m. Existing elements on the site are the Leger Lawn, an uncovered lawn that faces the racetrack and mounds up to the North West boundary and the temporary Day Stalls, which is currently used as a covered area for food & beverage, amenity and storage.

The site begins at the existing internal road to the North West (RL 30.00), proposed to be activated by landscaping and terraced seating, beyond the current road an existing Multi-Deck Car Park (RL 45.34) with the current Race Day Stalls and public parade ring physically encloses the site.

The opposite site boundary faces the Race Track. Starting at RL 32.00 the grassed viewing terraces slopes down gradually to the track at RL 30.00, the main focal point for Race Days.

To the North East the prominent existing Queen Elizabeth II Stand (QEII) stands proud at approx. RL.66.5, whilst at the opposite end the low swab building (RL35.56) encapsulates the indicative site boundary.

Access to the site is between the existing QEII and Multi-Deck Carpark on the northern edge at RL30.00.

### Legend

- ① Area of Scope of Works
- ② QEII
- ③ Multi-deck Carpark
- ④ Swab Building
- ⑤ Site Boundary



Site Diagram

# Site Analysis Plan

## Access & Movement

Due to the multiple uses of the building, site access and movement differs for different functions:

### Raceday:

On race day, General Admission access into and out of the site will not change. General admission to The Royal Randwick Racecourse is through gate B or D at the Northern boundary near Alison Road within the Royal Randwick Spectator Precinct. GA movement will generally be behind the QEII towards the Winx Stand.

For patrons accessing the racecourse via car, movement through the existing tunnel and to the site will occur.

The existing Taxi rank will be maintained with site access around the existing Multi-Deck carpark.

### Non Race Day:

For formal functions and exhibitions foot traffic will take the same path as on race day. Provisions may be made to utilise the existing Multi-Deck carpark on non race day events, including banquets.

Education movement will maintain its existing access into the site.

As the capacity of the site is not increasing, access and movement will generally be maintained, with the benefit of the new light rail at the entrance and the exit of general admission.

## Cultural & Heritage Significance

The Royal Randwick Racecourse has a rich sporting history which is acknowledged on-site through its ongoing sporting uses and heritage interpretation. There are a number of sculptures, plinths and Plaques scattered through the Royal Randwick Spectator Precinct, which contribute to the communication of the cultural and sporting history to the public.

There are no cultural or Heritage Significant elements at grade level of the site in question.

Potentially pre-existing footing of the original Leger Stand will be below the mound. The proposed development will utilise pilings to straddle any elements of Heritage or Cultural significance.

It is within ATC and RNSW to promote the cultural significance of the Royal Randwick Racecourse, with elements including the name of the proposed stand as the 'Winx Stand' to respond to the significance of the precinct.

### Legend

- Pedestrian Access
- Carpark Access
- Taxi



Site Access

# Precinct Wide Connections

## Urban Context

The precinct is well connected by public transport including trains and buses on a day-to-day basis with Anzac Parade forming a key transport corridor between Sydney CBD and the eastern suburbs.

On event days, special event buses are run, outside Central Station into the precinct through Albion Street and back down through Foveaux Street. These take patrons to the bus interchange to the North of The Royal Randwick Racecourse.

The completion of light rail and the Alison Road Light Rail stop in 2020 will enhance access to the precinct. This will bring increased accessibility to the precinct from Sydney CBD.

The delivery of light rail will include the provision of a new pedestrian route above Alison Road to connect directly into the site.



Urban Context

- Legend**
- Light Rail
  - Bus
  - Taxi

# Precinct Wide Connections

## Precinct

The immediate precinct is entered via one key pedestrian entry, off Alison Road.

On a day to day basis there is limited public access into the precinct. The area directly surrounding the Racecourse is only publicly accessible on event days.



- Legend**
- Pedestrian Access
  - Carpark Access
  - Taxi Access

Precinct Connections



C O X

Vision

## Masterplan

The focus of the Winx Stand is to enhance the amenity of a pre-existing site whilst minimising the impact to the surrounding communities. To the east is the Royal Randwick Racecourse and the vibrant community of Randwick; to the North is the lush green respite of Centennial Park; to the West is the vibrant community of Kensington; and to the South is the productive and innovative University of New South Wales.

This has therefore defined the height and location of the mass of the building, responding to its direct context, rising from the swab building to its maximum height closer to the QEII, whilst indirectly promoting the areas of high activity towards the finish line and away from any neighbouring communities.

The proposed building is designed to facilitate all events bar major race day events. Due to major race days 'Carnival' nature, bump in facilities will be incorporated to accommodate the high capacity. Ablution blocks and general amenity will be incorporated to activate and enhance the Laneway.

## Winx Stand Siting

The Winx Stand siting is responding to views and vistas of the existing QEII of the far turn, whilst maximising views towards the finish line and creating a large enough space in height, width and depth to have the capability of housing exhibitions and a 1000 capacity banquet.

The level of the ground plane of the Winx Stand is the same as the QEII (RL32.00) to create a consistent datum around the viewing areas of the finishing line. The ground plane will carry existing traits of the QEII, with stepped landings and a grass lawn from the building to the track. Landscaping, ramping and stairs generates differing vistas for punters to view the race live on grade.

The Winx Stand maintains sightlines to the main bend as-well as the finishing line.

The Multi-Deck Carpark's height of RL 45.34 minimises the impact to neighbouring communities as the Winx Stand's highest trafficable level of RL39.50 is lower.

As the Winx Stand is rotated to focus on the finishing line, the back of house areas encompass the wedge like zone for a parallel frontage to the Laneway.

The building gently falls to grade on the Laneway (RL30.00) to create spaces with landscape intertwined for the general admission to sit and relax, in an area of respite.

## Functional Planning

The function of the building is split into two elements:

- The front of house Multi-Purpose Room (2 levels double height space)
- The back of house services (4 levels, single height space)

Of those elements the following functions are compromised on each level:

- Ground Level (RL 32.00) a 100m long front of house Multi-purpose space, with a back of house zone which houses all services required on ground, two bars, two plating kitchens, amenity, horizontal circulation and vertical circulation
- Mezzanine Level (RL 35.50) a void in the 100m long front of house Multi-purpose space, with back of house mechanical ventilation and storage.
- Level 1 (RL 39.50) a 60m long front of house Multi-purpose space with a 40m open terrace to the south west. A back of house zone which houses bars, plating kitchens, amenity, access to egress and additional BOH spaces.
- Plant Level (RL 42.50) two back of house zones, for all services which require open areas.



# Architectural Design

## Multi-Purpose Space

The purpose of the Multi-purpose space is to be as flexible as possible for any use. For this reason the following elements have been incorporated to create a space with maximum flexibility:

- Large Column Free Space
- Clear Height of 6m to underside of beam
- Operable Walls
- Multiple Entrances (From Both Sides)
- Multiple Plating Kitchens
- Multiple Bars
- Trenches (Ground Floor)
- Grid to house a three by three metre exhibition mode.

## Back of House

The back of house space has been designed to hold the capacity of the site in all modes bar high capacity race events. For additional amenity the laneway will act as the spill over zone for additional requirements.

## Laneway

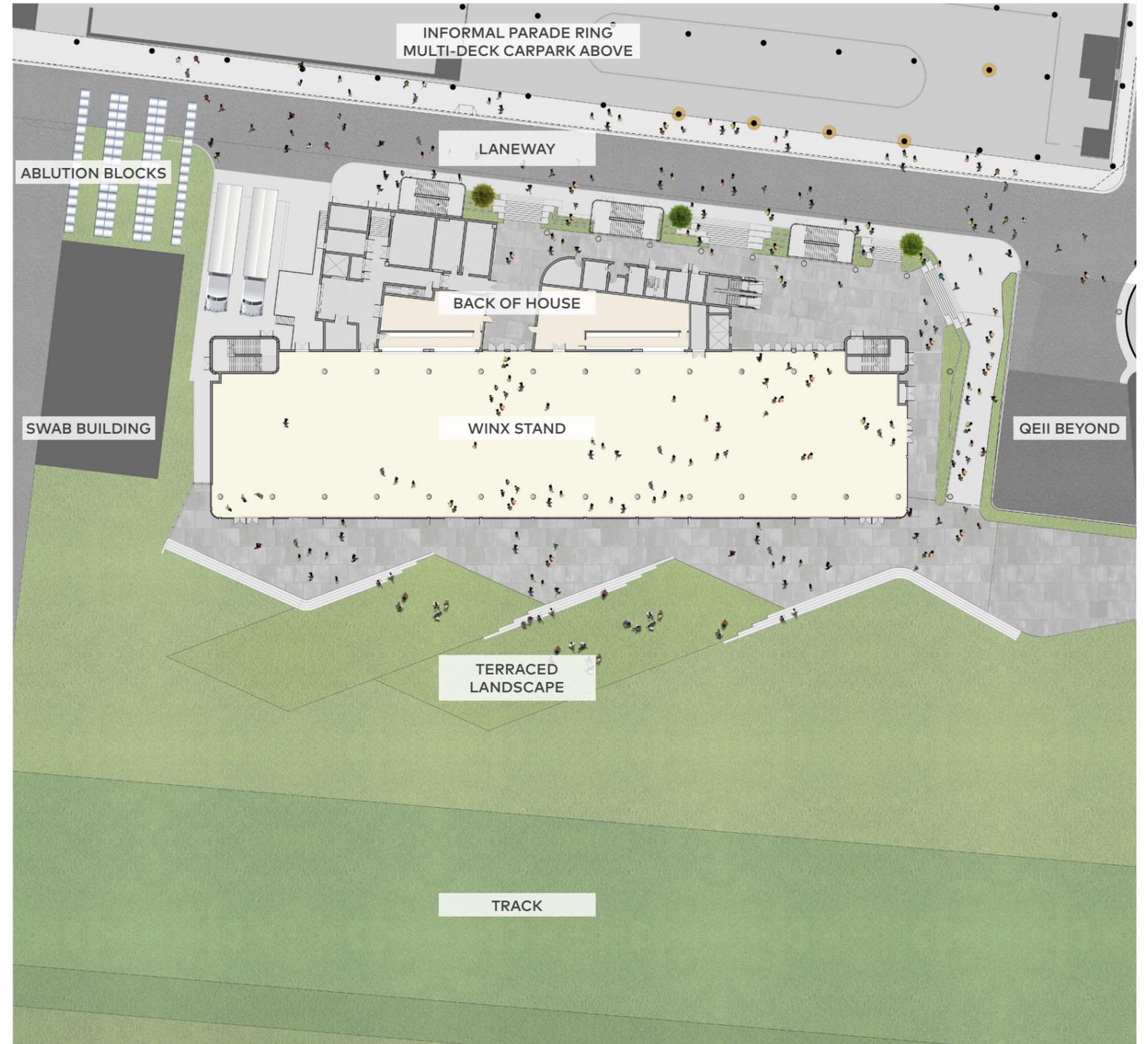
The Laneway is to act as a temporary secondary active edge, to create a zone of respite away from the track. During high capacity events the Laneway will house ablution blocks next to the swab building and bump in seating.

## Terraced Landscape

The terraced landscape will allow for a multitude of sitelines for the spectators, whilst incorporating ramps and stairs for vehicular and pedestrian movement towards the trackside bar. The tiered landscape is mimicked on level 1 with a slab set down towards the track, with a glazed balustrade and planter boxes cantilevering over the edge.

## Form

The general form of the building frames the main straight by continuing the arc of the existing members stand and QEII. The mass of the building shifts towards the QEII to create a visual transition.



Ground Plane Diagram

# Materials

Responding to its place, the building facades vary around the stand to specific conditions and site context. Precedence taken for the existing QEII with long horizontal glazed elements split by gun metal black elements will be a continuation through to the proposed Winx Stand.

An element that remains consistent with all facades and the place of Randwick is the injection of vegetation throughout.

The materials chosen are to respond to the existing elements within the Royal Randwick Racecourse, which include:

- Glass
- Vegetation
- Off form concrete
- Monument Grey facade blades and cladding
- Brown facade blades
- Grey & silver louvres
- Concrete pavers

The façade facing trackside will be as transparent as possible with fold away doors on the ground plane facing trackside to create a seamless connection bringing the outdoors in. With a continuous glass façade, the building is broken up by notable entrance and the removal of the green planting in those zones on the terraced vegetated level 1. A long horizontal building is perceived in this elevation.

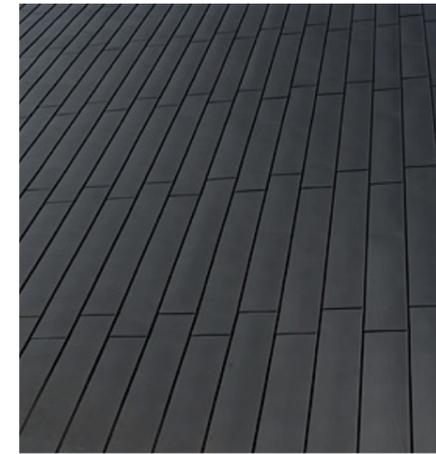
On the Laneway the Winx Stand responds to the existing proportions of the relatively tall Multi-Deck Carpark creating an urban room for respite. The metal vertical louvred fire stairs and metal wind protection screen generates a perception of verticality, which is intertwined with trellis growies and plater boxes throughout the Laneway.

The North East and South West Elevations are continuations of either trackside horizontal elements or Laneway vertical elements.

Aluminium Roof



Monument Grey CFC Panel



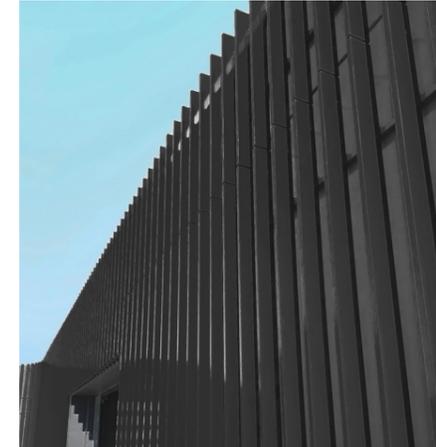
Light Grey CFC Panel



Off-form Concrete



Monument Grey Aluminium Facade Blades



Brown Aluminium Facade Blades



Clear Glass



Grey Louvres



Brown facade blades



Concrete Pavers



Vegetation



Climbing Plants



# Elevations

## Trackside

The important requirement of this building to be in keeping with The Royal Randwick Racecourse events whilst allowing flexibility within the building for a multitude of events. This is achieved by creating a long slender modular building facing the track.

The Winx Stand responds to the adjacent buildings by reducing its height on the South Western Side for the single storey Swab Building, whilst shifting the front of house level 1 a bay towards the proposed pedestrian ramp, to get closer to the QEII.

The majority of the mass is concentrated closest to the QEII, with strong horizontal elements shifting towards the finishing line signifying the flow of movement on the racecourse.

Green elements are all long sweeping planes that reinforce the horizontal.

Operable facades on both floors will facilitate mix mode ventilation.



Elevation - Trackside

# Elevations

## Laneway

Similar to Trackside, a high level of importance of the design was to be in keeping with Royal Randwick Racecourse events whilst allowing flexibility within the building for a multitude of events. This is achieved by creating egress zones distributed evenly to the rear with entrances into the building throughout.

Due to the Winx Stands proximity to the Multi-Deck Carpark, vertical elements respond to the vertical urban room created by the two masses. Vertical vegetation juxtaposes the horizontal elements of trackside, to create a place of relief.



Elevation - Laneway

## Innovation in Design & Delivery

A number of sustainability innovations are considered and outlined in the ESD report.

Key innovating ESD initiatives include:

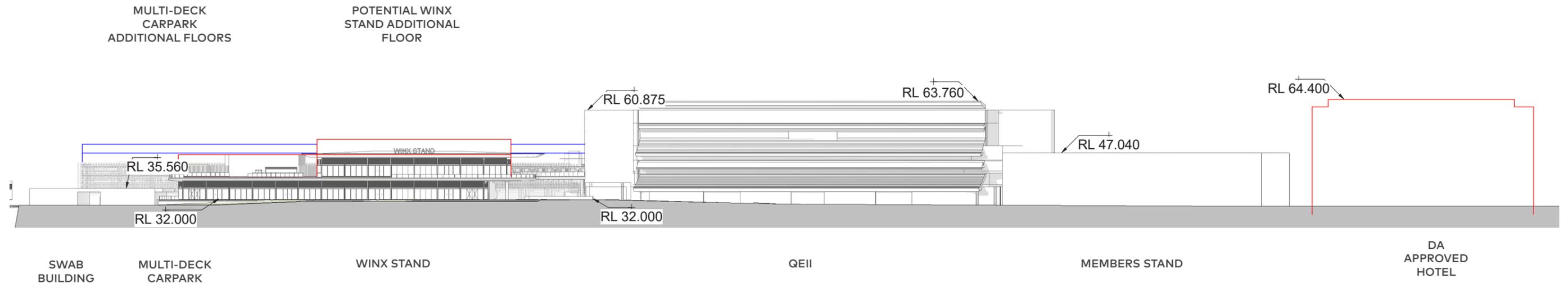
- Net-Zero Ready
- Emerging Technology future provisions

## Future Proofing

The design of the Winx Stand has been conscious of future growth and community profile. With this in mind the structure allows for a further floor on top of level 2 and also for connectivity to the QEII stand at Level 1. The amenities have also been planned in such a way that allows for adaptation should the future patronage profile change.

The existing Multi-Deck Carpark also has the capacity of an additional 2 floors.

Photovoltaics are envisaged for the building, but due to the unknown demand required for the Winx Stand, design and installation will occur post occupancy.



Site Elevation

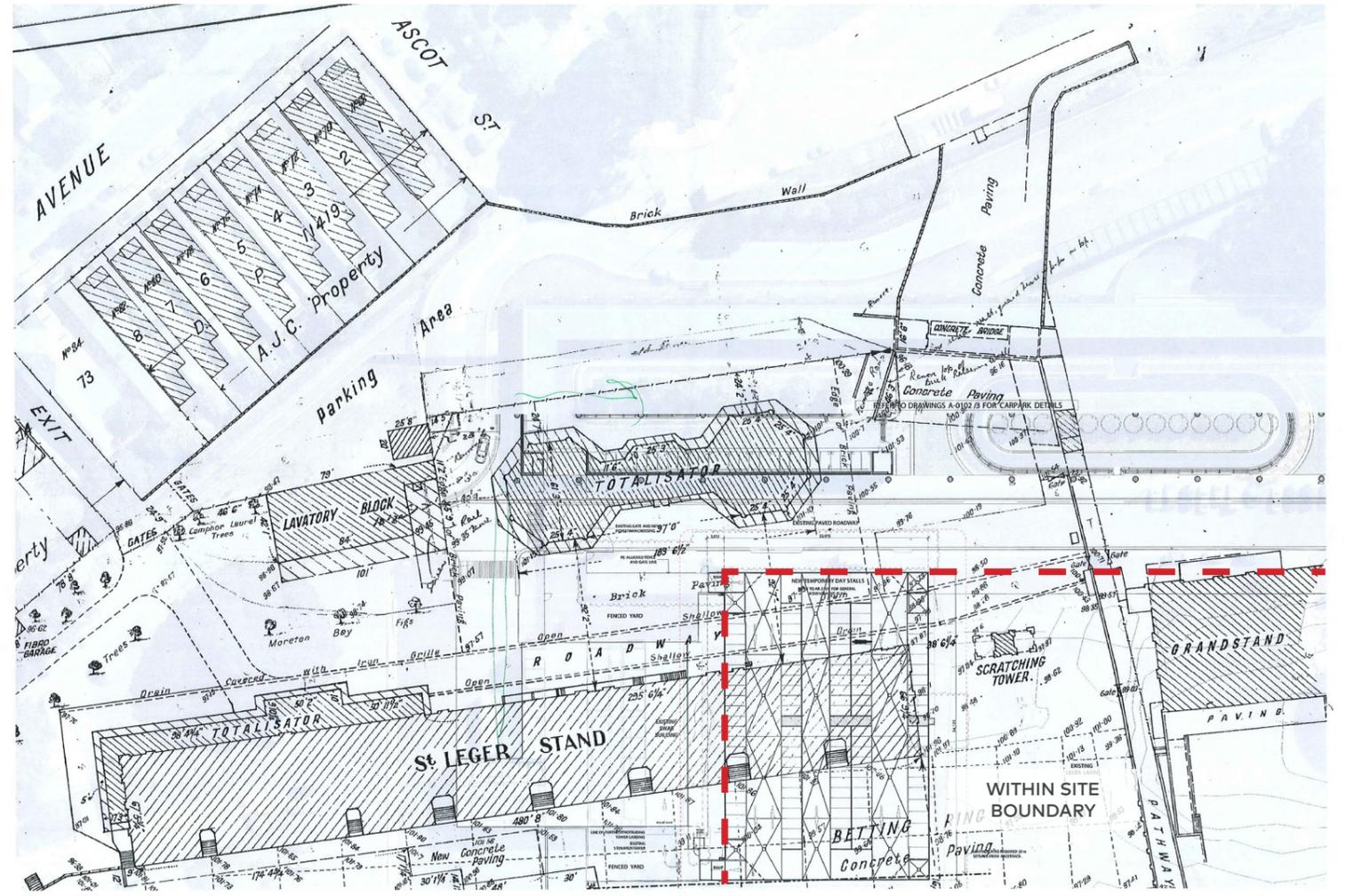
# Heritage & Archaeology

The existing site was home to the following buildings:

- St Ledger Stand
- Grandstand
- Paddock Stand

There are no cultural or Heritage Significant elements on grade of the site in question.

Potentially pre-existing footing of the original Leger Stand will be below the mound. The proposed development will utilise pilings to straddle any elements of Heritage or Cultural significance.



Heritage Overlay

# Environmental Impacts

## Noise & Acoustic Privacy

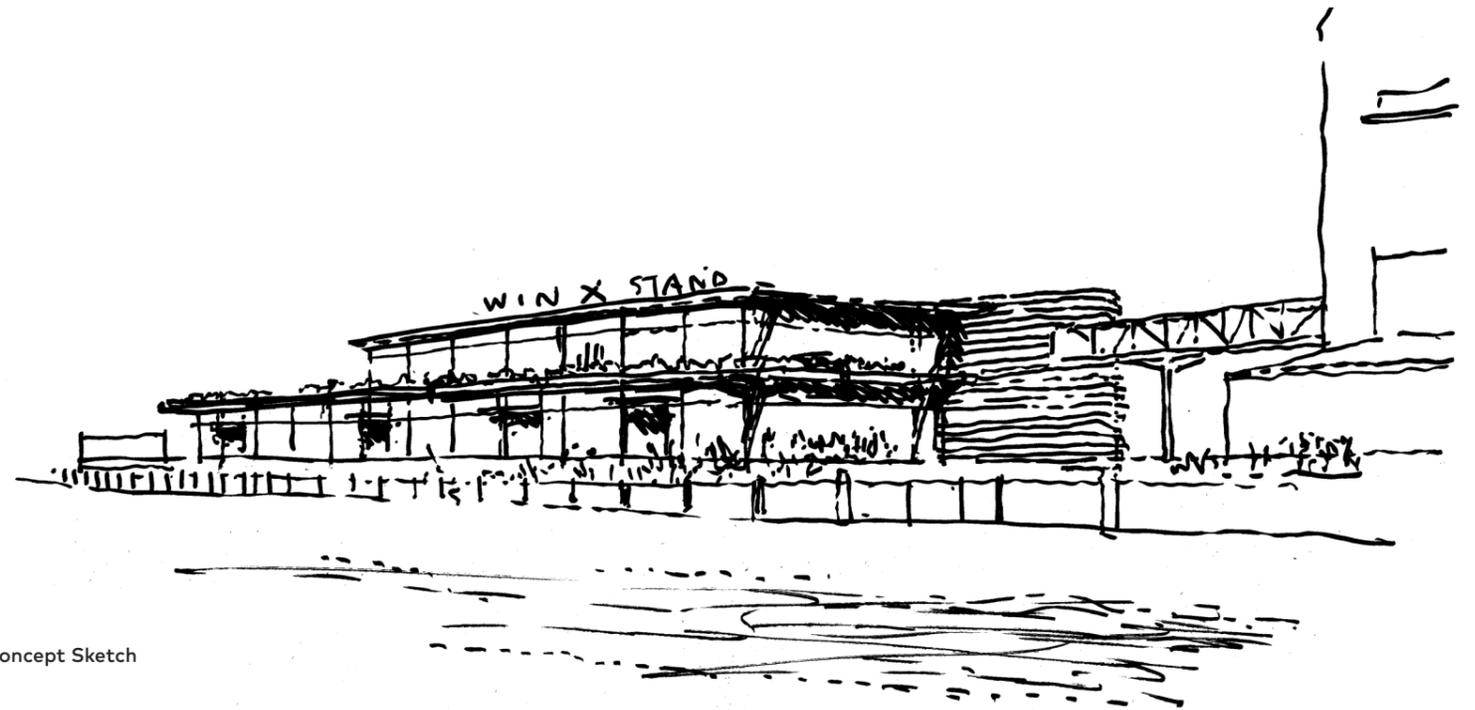
The architectural shaping and massing of the overall built form has been designed to ensure that the design and its uses are responsive to the sensitive residential areas to the south.

The proposed Winx Stand design orientates itself towards with the horizontal shift of the first floor focuses the patrons away from residences.

The first floor terrace will be managed to reduce noise impacts for the residence to the south.

## IEQ

During high capacity days in Autumn and Spring the Winx Stand will utilise mix-mode to ventilate the building efficiently.



Concept Sketch



Section

## Services

### Waste Management

The Waste Room is located in the southern area of the ground floor. It is adjacent to the loading bay. A waste management plan of the Randwick precinct will be managed on large race days.

### Loading zones

The loading zone is located in the southern area adjacent to the swab and Laneway.

### Mechanical Plant

Cooling Towers, Chillers and Boiler plants are located in the Plant level on the southern edge.

Air Handling Units are located in the mezzanine and Plant level above the plating kitchens.

#### Legend

- ① Option 1
- ② Option 2
- Waste
- Loading



Service Diagram

# ESD Principles

## Leadership & Governance

- The Project will target the equivalent of 5 Star Green Star.
- DA design has used cost benefit analysis using simple payback to assess initial feasibility of major initiatives (PV and Electric Heat Pumps)
- Commitment to deliver the building “net zero carbon ready”

## Energy & Carbon Minimisation

Building form and orientation incorporates passive solar design principles:

- Back of house / circulation spaces located to the north west with reduced glazing
- Deep roof overhangs providing shading to glazed elements

Façade / Glazing performance:

- Preliminary thermal / energy modelling completion of architectural design can meet more stringent NCC 2019 requirements.

Walls / Roof Fabric

- Selection of light coloured roof with high solar reflectance and emissivity

Ventilation systems

- Architectural design and window operability supports natural ventilation used as part of a mixed mode system
- Spatial allowance has been made to allow for over sizing ducts and coils to reduce system pressure leading to reduced fan power thus fan energy consumption

Heat rejection / Chillers:

- Spatial allowance made for using of low energy water based heat rejection system

Domestic Hot Water (DHW) / Heating Hot Water (HHW) plant

- Spatial allocation made for use of heat pumps instead of gas systems

IEQ

- Building layout and orientation supports use of natural ventilation to maintain indoor air quality and thermal comfort
- Design of façade and building form supports use of daylighting strategies for circulation spaces and spectator halls
- Outside air rates will be in accordance with AS1668. Economy cycle will be utilised where possible.

- Luminaries will be selected with low glare ratings and typically UGR <19.
- Mix mode ventilation will be utilised to reduce energy use and operating costs.

Material

- Modular design intended to reduce construction waste and off cuts

Operational Waste

- Waste room sizing based on storage required. (refer to Waste Management Plan)

Land Use, Ecology & Biodiversity

- Green Vertical Gardens are proposed throughout the Laneway
- Native plants proposed for landscaped elements

## Emissions and Discharges

- Water sensitive urban design principles have been adopted to reduce stormwater flow and provide basic level of water treatment
- Light spill and pollution will be assessed in accordance with AS4282.
- The majority of audible and visual emissions will be focused on the racetrack
- Capacity in electric infrastructure for future installation of Electric Vehicle charging points

Climate Change Resilience

- Mech plant is designed to allow for temperature increase and increased number of days over 35C by utilising critical conditions within Camel as opposed to comfort conditions.
- Rainfall designed to cater for 1 in 100 year flood levels, with services zones covered or outside of flood plains.

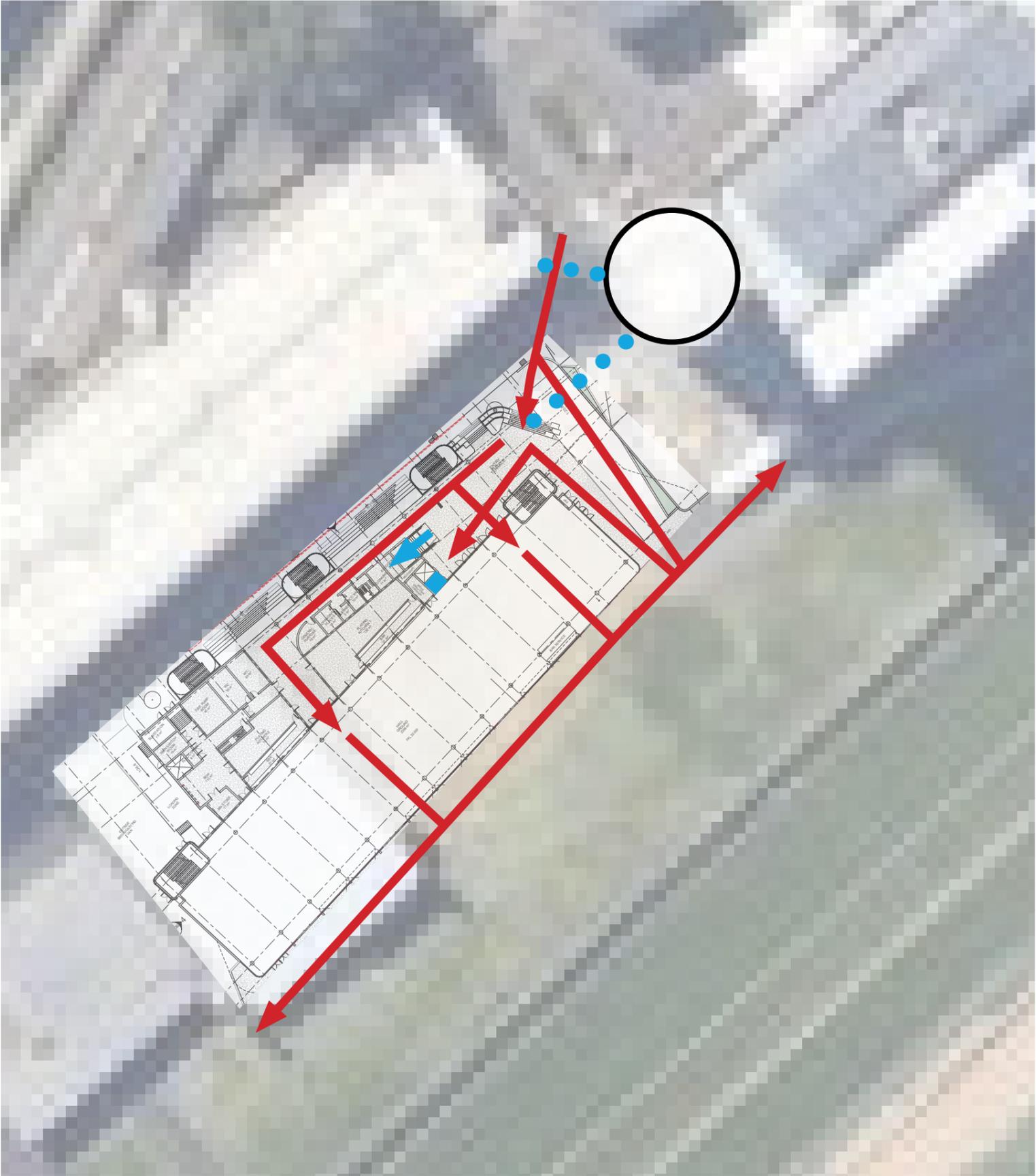
# Access & Circulation

The stand is accessible on all levels via ramps and lifts.

The link bridge connects Winx to the QEII Drum, which in turn connects to the Multi-Deck carpark.

Lifts and escalators are located at the entrance of the building for equitable access to the level above.

- Legend**
- ◀ Access and Circulation
  - Link Bridge
  - Passenger Lift
  - ◀ Escalators



Circulation Diagram

# Emergency Vehicle Access

Emergency Access into the site is predominantly through Alison Road, with the vehicles either accessing the Winx Stand via the roundabout after the theatre of the Horse, or continuing straight wrapping around the Multi-Deck carpark.



Emergency Vehicle Access Diagram

## Service Access & Circulation

Service Access into the site is predominantly through Alison Road, with the vehicles either accessing the Winx Stand via the roundabout after the theatre of the Horse, or continuing straight wrapping around the Multi-Deck carpark.

For race events sufficient area for the Operator Broadcast vans have been allocated south of the loading bay.

The current location of the OB vans are within the loading zone of the QEII. The intention is to rectify the QEII loading zone for an entrance to the Winx Stand with a higher quality of amenity.

## Vehicular Access & Movement

Vehicular Access into the site is predominantly through Alison Road, with the vehicles either accessing the Winx Stand via the roundabout after the theatre of the Horse, or continuing straight wrapping around the Multi-Deck carpark.

Vehicles will only access the site on non event days with the exception of emergency vehicles.

### Legend

- ① Primary Access
- ② Secondary Access
- OB Van



Service Access Diagram

# Modes of Operation

## Race Day

During Race Day events, the building will be open to all of general admission and due to race event being held in Spring or Autumn it is intended that the buildings façade will open up.

## Banquet

Operable doors with a split bar and plating kitchens allows for the multi-use space to accommodate banquets ranging from 200 – 1000 capacity spaces.

## Exhibition

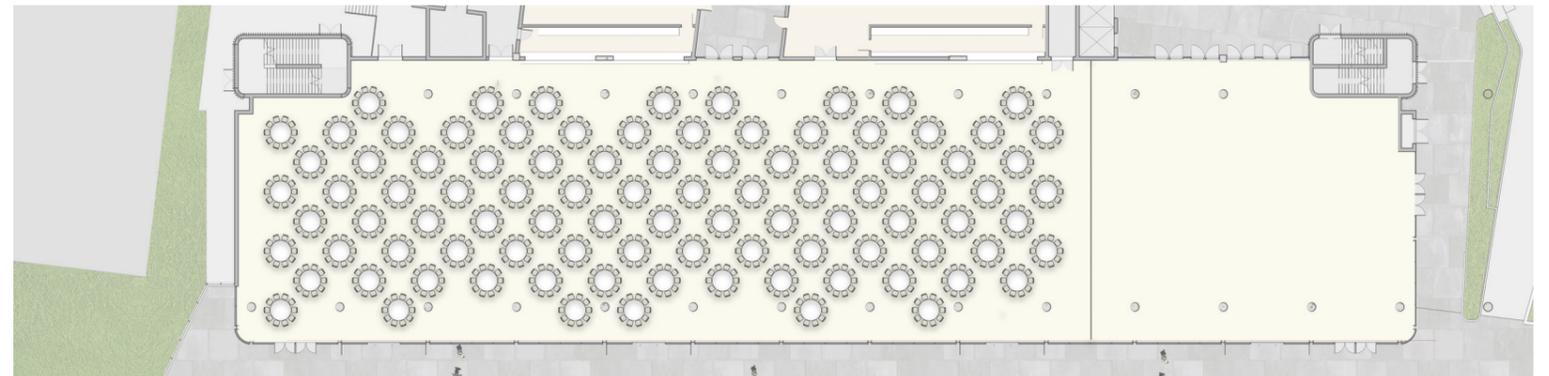
The proposed grid for the Winx Stand has been designed to accommodate the modular 3 X 3 Exhibition stalls, trenches below the modular grid and a 6.5m clear space promotes exhibition uses.

## Education

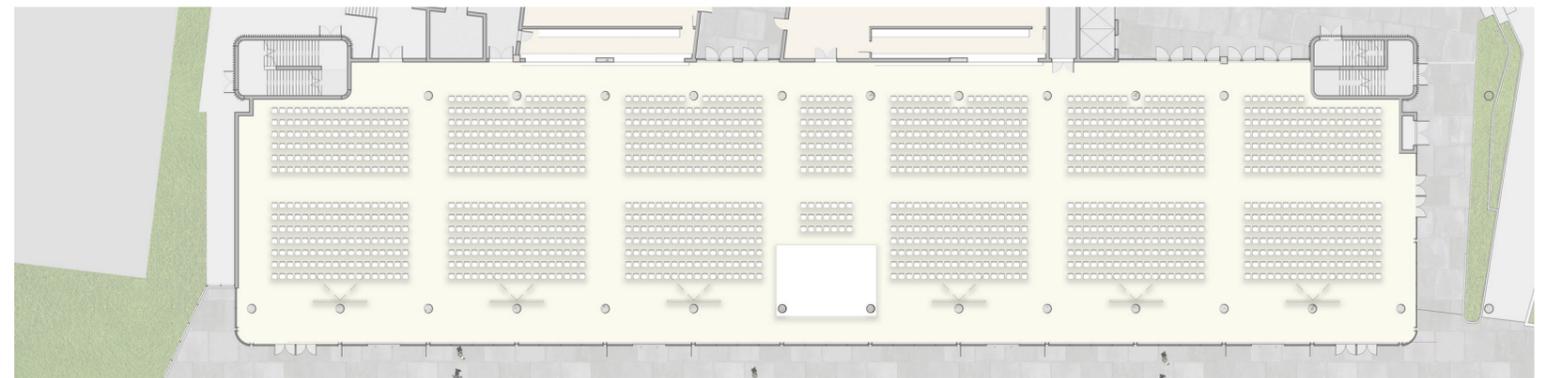
Due to the current utilisation of the QEII for exams, the proposed multi use space is intended to be utilised for examinations.



Exhibition



Banquet



Education / Theatre

# Loading

## Precinct Context

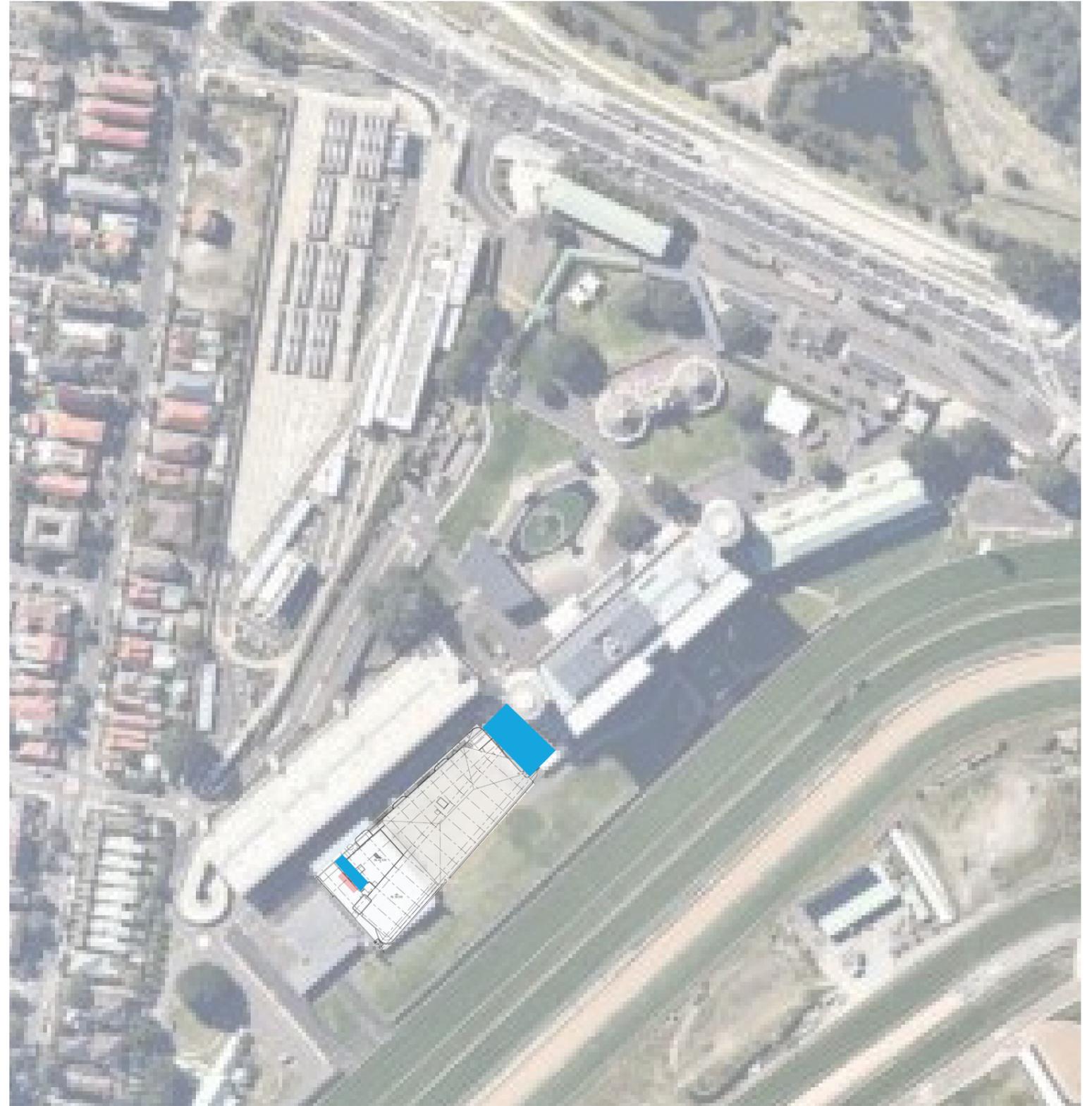
The proposed loading zone will not impact the existing precinct on Race Days as the capacity of the site will not increase.

The loading zone will be utilised outside of functional hours for non race day events for the delivery of goods.

## Within Winx Stand

The proposed loading zone is located on the south western point to be as far away from the front of house activities.

A goods lift is located directly next to the loading zone for any goods required to be delivered to level 1.



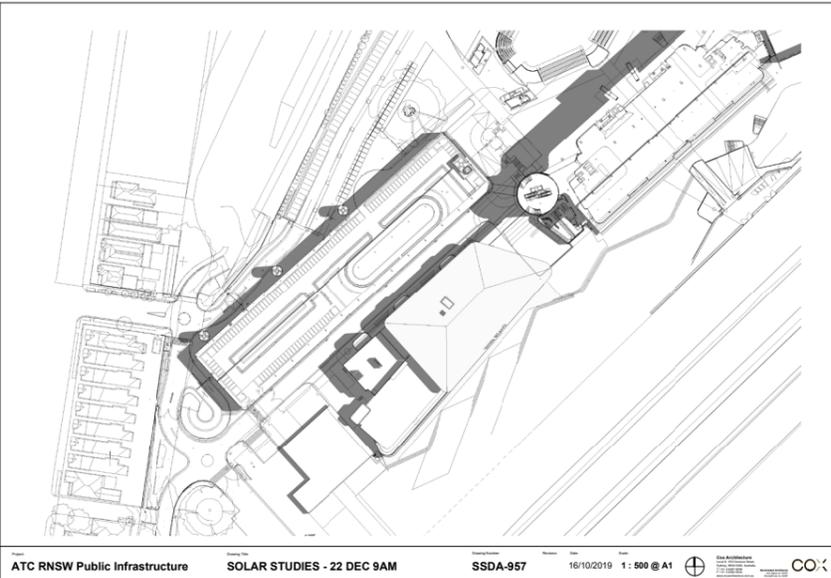
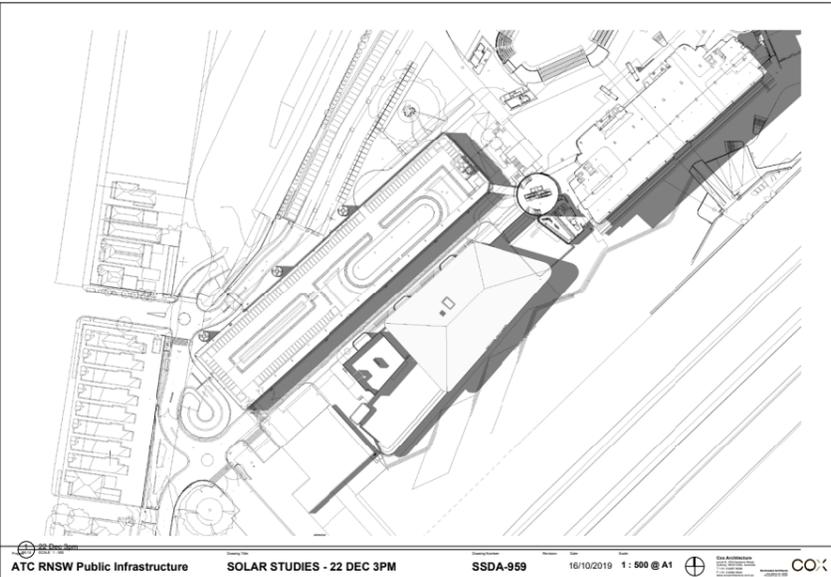
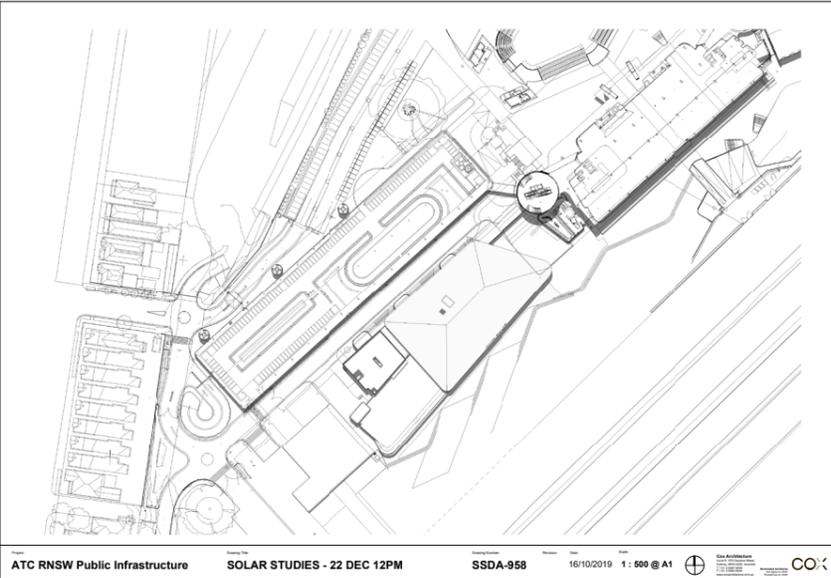
Loading Zones Diagram

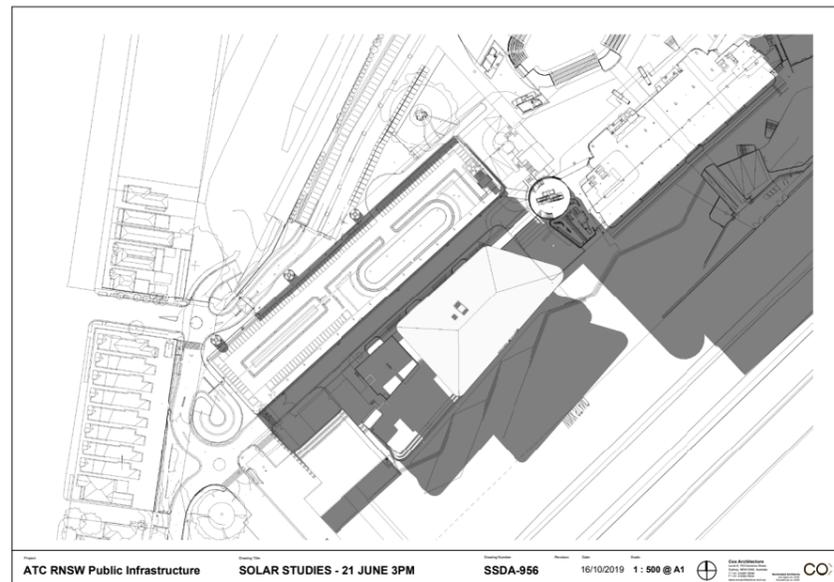
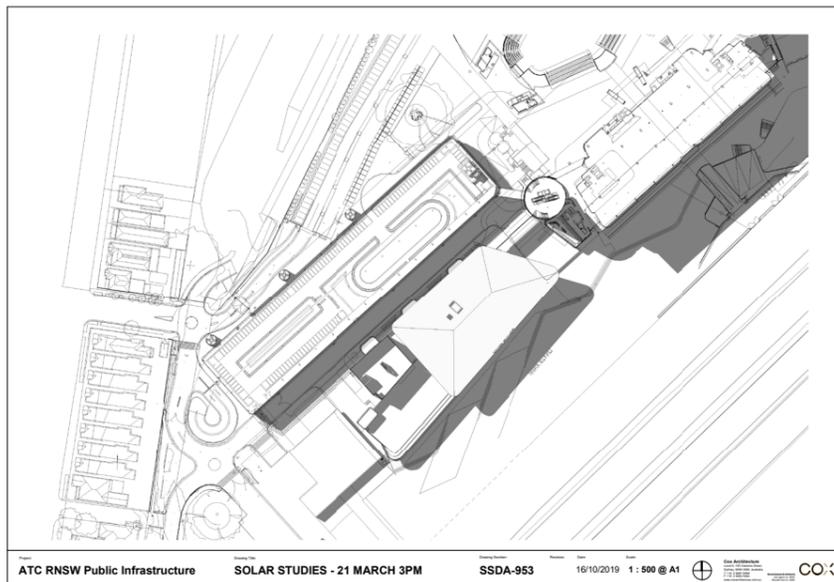
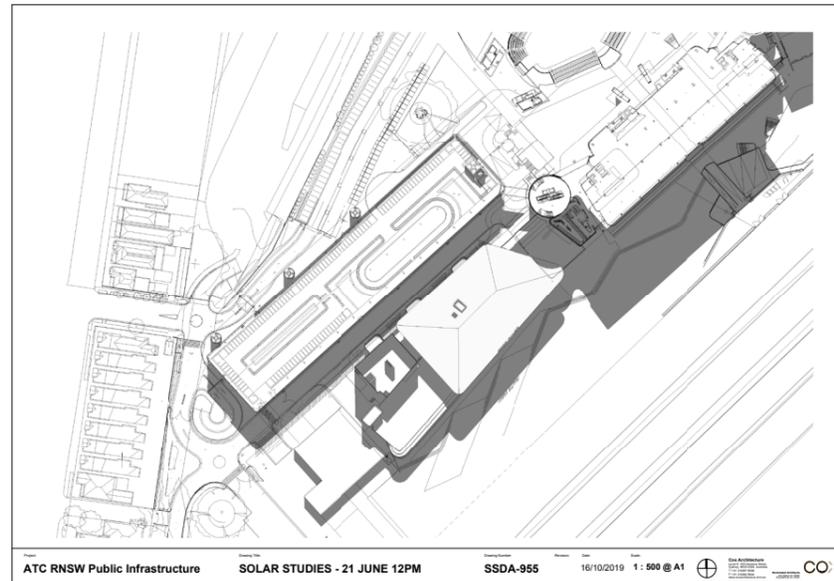
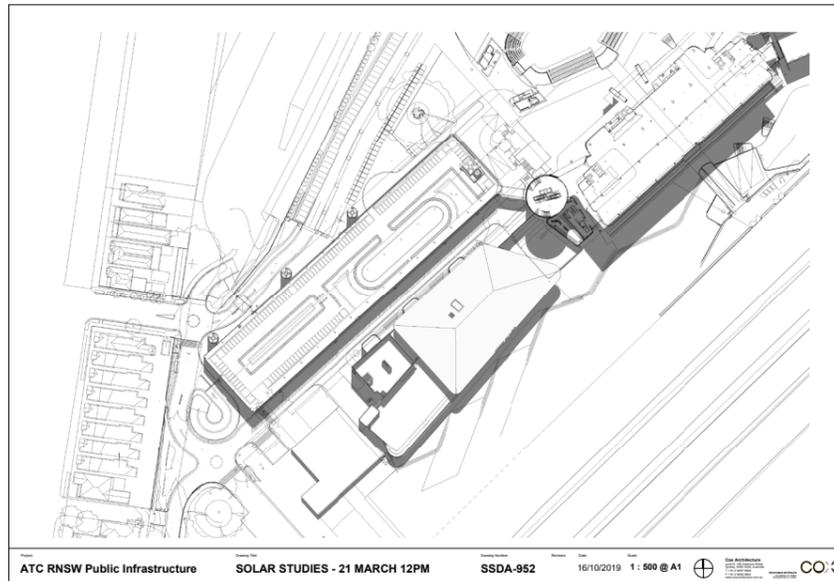
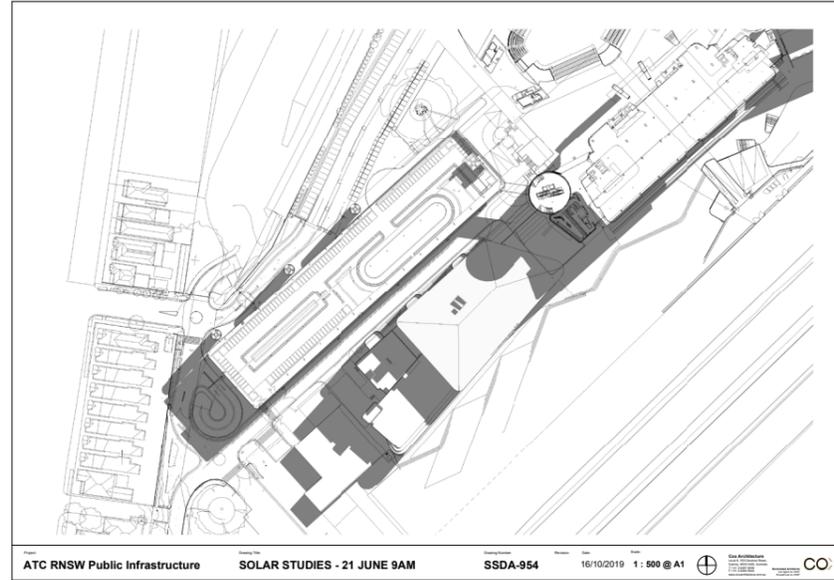
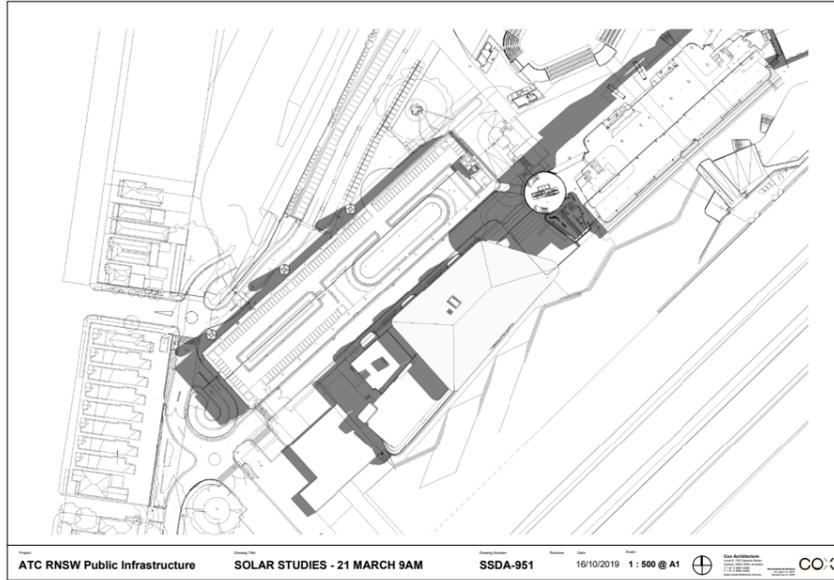
### Legend

● Loading Areas

# Solar Access & Overshadowing

The proposed building will have no overshadowing affects to any adjoining properties.





# Appendices

## Architectural Drawings

SSDA-001	COVER PAGE
SSDA-100	LOCATION PLAN
SSDA-101	BOUNDARIES AND SCOPE OF WORKS
SSDA-102	SITE PLAN
SSDA-103	SITE ANALYSIS
SSDA-140	DEMOLITION PLAN
SSDA-201	GROUND FLOOR PLAN
SSDA-202	MEZZANINE FLOOR PLAN
SSDA-203	LEVEL 1 FLOOR PLAN
SSDA-204	PLANT LEVEL FLOOR PLAN
SSDA-205	ROOF PLAN
SSDA-301	EAST & NORTH ELEVATIONS
SSDA-302	SOUTH & WEST ELEVATIONS
SSDA-401	SECTIONS
SSDA-701	SOLAR STUDIES - 22 MARCH 9AM
SSDA-702	SOLAR STUDIES - 22 MARCH 12PM
SSDA-703	SOLAR STUDIES - 22 MARCH 3PM
SSDA-711	SOLAR STUDIES - 22 JUNE 9AM
SSDA-712	SOLAR STUDIES - 22 JUNE 12PM
SSDA-713	SOLAR STUDIES - 22 JUNE 3PM
SSDA-721	SOLAR STUDIES - 22 DEC 9AM
SSDA-722	SOLAR STUDIES - 22 DEC 12PM
SSDA-723	SOLAR STUDIES - 22 DEC 3PM
SSDA-801	SCHEDULE OF FINISHES
SSDA-811	GFA
SSDA-850	SIGNAGE
SSDA-900	PHOTOMONTAGE
SSDA-901	PHOTOMONTAGE
SSDA-902	PHOTOMONTAGE
SSDA-903	PHOTOMONTAGE