ADP
Consulting : Engineering

ATC Winx Stand

Building Services Infrastructure Report

Prepared for: Mostyn Copper

Project No: SYD0905
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Project:	ATC Winx Stand
Location:	Randwick Racecourse Randwick, NSW 2000
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1. Introduction

1.1 General

ADP has been engaged by the Australian Turf Club to prepare a Building Services Infrastructure Report for a State Significant Development (SSD) within the Royal Randwick Racecourse for the construction of a new spectator stand (SSD 10285).

This Building Services Infrastructure Report will accompany the Environmental Impact Statement (EIS) as requested by the Planning Secretary's Environmental Assessment Requirements (SEARs).

The proposed site for the new spectator stand, known as the Winx Stand, will be located on the current Leger Lawn in Royal Randwick Racecourse.

It is noted that the Royal Randwick Racecourse lies within the Randwick Council Local Government Area.

This report sets out the methodology and findings of the study to assess the services and utilities related considerations.

Overall, the proposed Winx Stand development is summarised as:

- Construction of a two-storey multi-purpose facility comprising:
  - An approximate 3,546sqm footprint and maximum building height of 19.8m.
  - An approximate total 5,043sqm GFA.
  - A fully enclosed and serviced 100m long Ground Floor.
  - 100m long Level 1 with 60m fully enclosed and 40m outdoor terrace and balcony space.
  - Maximum internal capacity for up to 7,500 patrons (in Race day mode).
  - Food and beverage facilities.
  - Entry foyer and Back-of-house facilities.
  - Embellishment of the existing service access road between Leger Lawn and the Multi-deck car park to create 'The Laneway'.
  - New Link bridge connecting to the QEII Grandstand.
- Demolition of the existing Temporary Day Stalls, minor earthworks and site preparation works.
- Associated landscaping and planting.

The location of the proposal is shown in Figure 1.

Figure 1: Proposed Site Location

1.2 Assessment requirements

In preparing this Building Services Infrastructure Report, the Secretary's Environmental Assessment Requirements (SEARs) issued for the Winx Stand project on 26 April 2019 has been addressed.

The key items raised by the SEARs for consideration in the Building Services Infrastructure Report (Item 16) are highlighted below:

> 16. Utilities The EIS shall:

- address the existing capacity of the site to service the development proposed and any augmentation requirements for utilities, including arrangements for electrical network requirements, drinking water, waste water and recycled water
- identify the existing infrastructure on-site and any possible impacts of the construction and operation of the proposal on this infrastructure. The existing capacity and any augmentation requirements of the development for the provision of utilities, including staging of infrastructure and additional licence/approval requirements in consultation with relevant agencies

The items above have been addressed in detail in this report but in summary are as follows:

- the proposed development does not increase the capacity requirements of the site over existing infrastructure reticulated to the site.
- the existing sewer and electrical HV infrastructure on site requires relocation around the proposed site and the required works are detailed within this report.

1.3 Site Description

This report provides an infrastructure assessment for the Australian Turf Club Royal Randwick Racecourse Winx Stand project for the purposes of the SSDA submission.

The assessment is based on the design documents provided and the infrastructure provisions relating to this stage of works.

1.4 Purpose of the Report

This report assesses the Authority infrastructure for the Australian Turf Club Royal Randwick Racecourse proposed Winx Pavillion.

We have undertaken a desk top review of the existing authorities' infrastructure drawings from the infrastructure information provided from the Client and Dial Before You Dig. We have outlined the recommendations for any necessary services diversion works for the proposed development of the site.

The following sections of the report provide a description of the infrastructure provisions associated with the new subdivision.

Authority infrastructure covered by this report includes:

> Electrical (Ausgrid)
> Telecommunications (Telstra/NBN)
> Water & Sewer (Sydney Water)
> Gas (Jemena)

Stormwater (Council) does not form part of the scope of this report and will be covered by others.

1.5 Authority

Authority to provide this report was provided by Mostyn Copper.

1.6 Information Sources

The following information sources were utilised to prepare this report:

> Cox Architecture DA Architectural Plans

2. Electrical Infrastructure

2.1 General

The following section of the report provides a description of the electrical infrastructure associated with the development.

2.2 Existing Infrastructure

There is existing grid connected, electrical authority (Ausgrid) owned and operated substations at various locations, within the Royal Randwick Racecourse precinct. These substations service multiple electrical supplies across the facility, where low voltage reticulation is then made from the electrical switchboards associated with those substations. Figure 1 indicates the approximate locations of these substation assets.

It is important to note that there is an existing kiosk substation in the northern corner of the St Leger lawn.

It would be proposed that this substation is to be removed as part of the proposed development. This substation is confirmed to currently have no low voltage services supplying the precinct, where removal of this substation can be easily accommodated without effect on any existing electrical supplies. It is understood the proposal and requirement to remove this substation is due to the location being impacted by the Winx Stand.

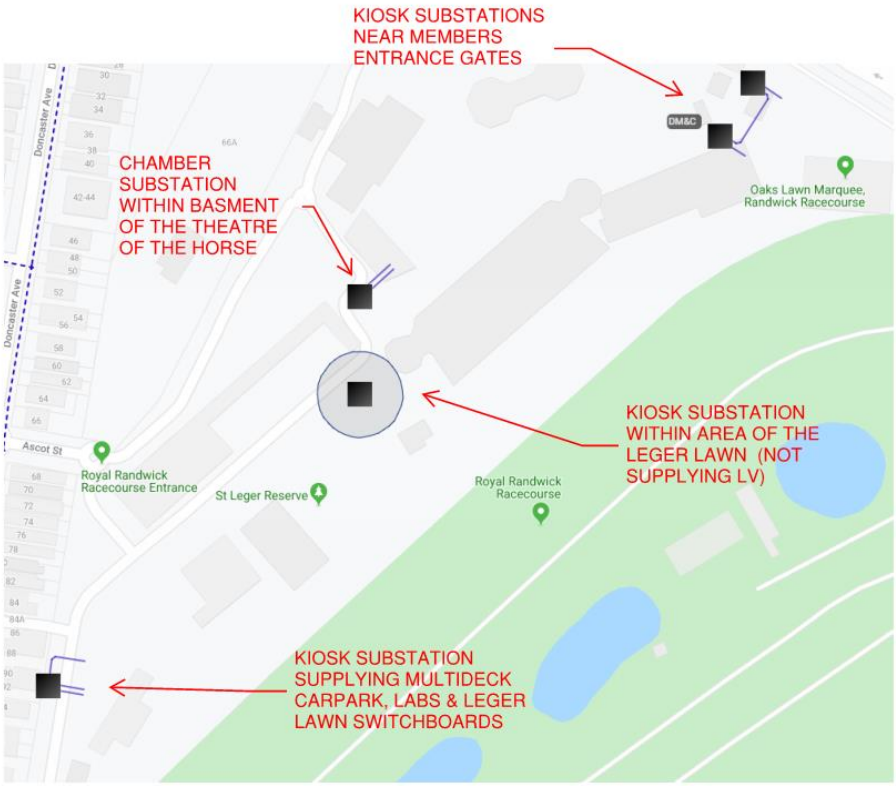

Figure 1: Existing Ausgrid substations (approximate locations)

2.3 New Works Associated with Electrical Infrastructure

Based on preliminary electrical load calculations, a substation will be required to service the new Winx Stand.

A dedicated chamber space has been allocated within the proposed architectural drawings.

This substation will be connected into the existing Ausgrid high voltage network cables that serve the precinct. Where there are Ausgrid cables and conduit located within the access road between the multideck carpark and St Leger Lawn area. The new substation is proposed to join into these cables within that accessway. An image of the high voltage network is below. There are no diversion works that expected for the connections works of the Winx Stand to commence.

With the proposed kiosk substation removal, the new substation will retain the same electrical connectivity as the existing Leger lawn substation, on the Ausgrid network. Initial and preliminary engagement with Ausgrid, has indicated that the new substation servicing the Winx Stand will take the place of the existing St Leger Lawn substation. Additionally, it is anticipated that there will be no network augmentation works necessary, to facilitate the connection of the proposed substation to supply the new Winx Stand.

2.4 Items for Resolution

The following items require resolution:

- In coordination with the electrical services engineer, finalise electrical load demand calculations
- Submit an electrical application for connection to Ausgrid to commence connection negotiations. This will then officially confirm electrical network requirements and commence the process to design the network alterations necessary to remove the existing kiosk substation from site, and, commence the design of the new substation to serve the proposed Winx Stand.

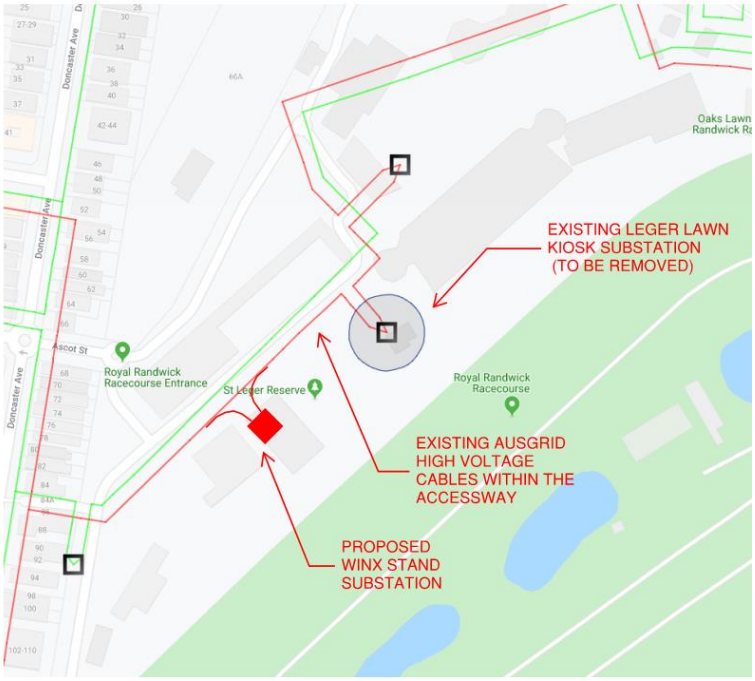

Figure 2: Existing Ausgrid high voltage cables and substation alterations (approximate locations)

3. Telecommunications Infrastructure

3.1 General

The Royal Randwick Racecourse site is currently serviced by it's telecommunications provider. Based on the proposed Winx Stand, the existing network capacity will not require any increase or augmentation of services, and communications for the site will extend off the existing internal network infrastructure.

4. Water & Sewer Infrastructure

4.1 General

The following section of the report provides a description of the water and sewer infrastructure associated with the development.

4.2 Existing Infrastructure

Sydney Water currently have an existing 225 diameter vitrified clay sewer main within the property, located partially within the adjacent access road, partially within the north western corner of the development site boundary and approximately 3.3 metres deep measured from top the access road top of bitumen, as indicated in Figure 1 below.

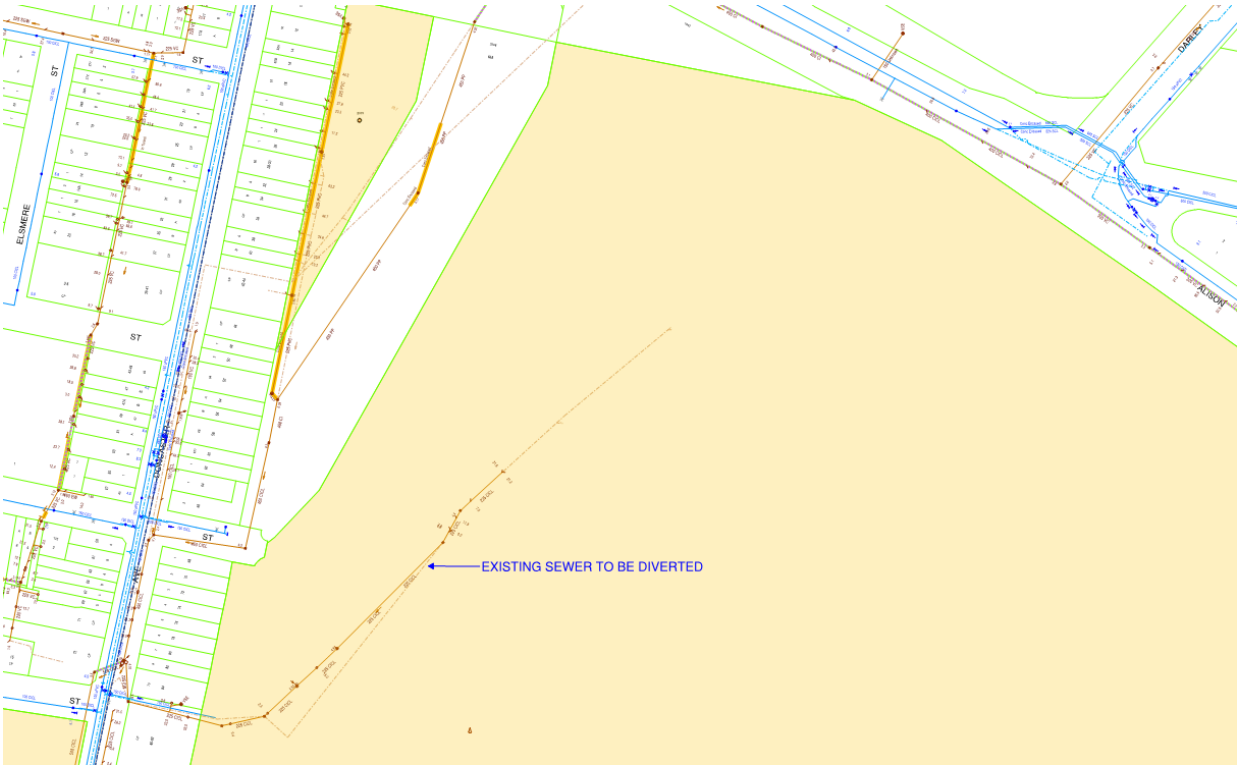

Figure 1: Existing Sydney Water sewer main.

The location of the proposed Winx Stand is directly over the existing Sydney Water sewer asset.

A Building Plan Approval Application will be required to confirm impact on any other existing Sydney Water (SW) Assets.

Sydney Water currently have an existing 300 diameter cast iron cement lined water main located on Alison Road and 150 diameter cast iron cement lined water main located on Ascot Road serving the domestic cold water service and fire services connections to the site.

Based on the proposed development being more than 500m^2 there is a requirement under AS2419.1 (Fire hydrants) and AS2441 (Fire Hose Reels) for hydrants and hose reels within the stand. Locations of hydrants and hose reels will be covered in detailed design.

4.3 New Works Associated with Water & Sewer Infrastructure

It is proposed that the existing sewer shall be diverted to outside the site of the proposed Winx Stand, as indicated in Figure 2 below.

The domestic cold-water service, fire hydrant service, fire hose reel service and fire sprinkler services shall connect to the existing internal services and shall not impact on the existing Sydney Water infrastructure.

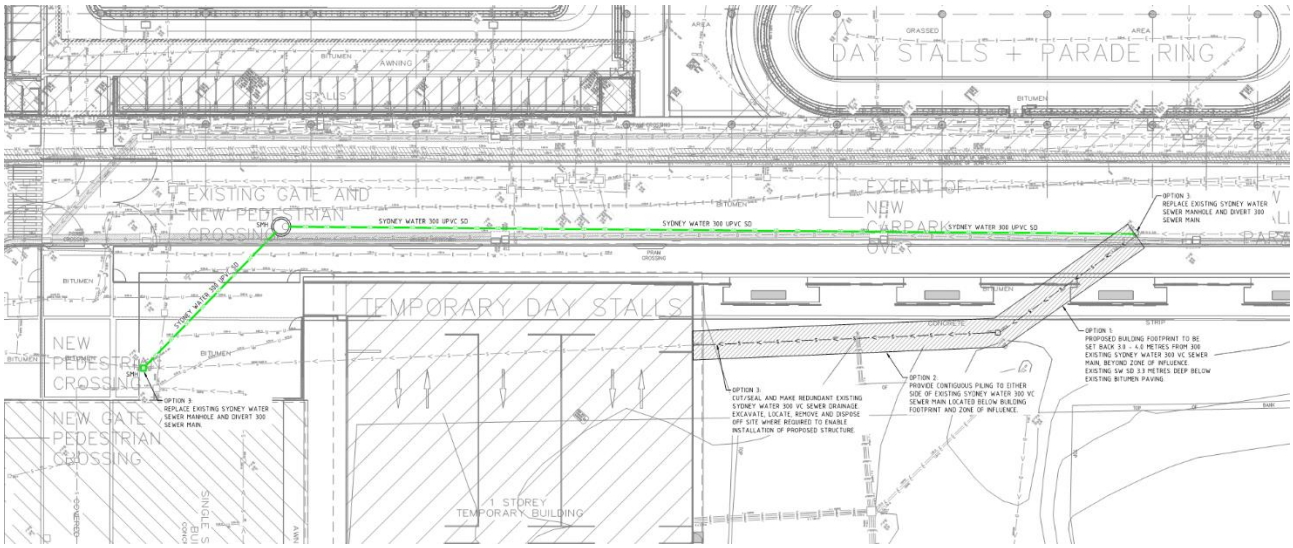

Figure 2: Proposed Sydney Water sewer main diversion works.

4.4 Items for Resolution

The following items require resolution:

- Submit Building Plan Approval Application.

5. Gas Infrastructure

5.1 General

The following section of the report provides a description of the gas infrastructure associated with the development.

5.2 Existing Infrastructure

Jemena currently have an existing 75 diameter nylon 210 kPA medium pressure gas main located on Alison Road serving the natural gas service requirements to the site.

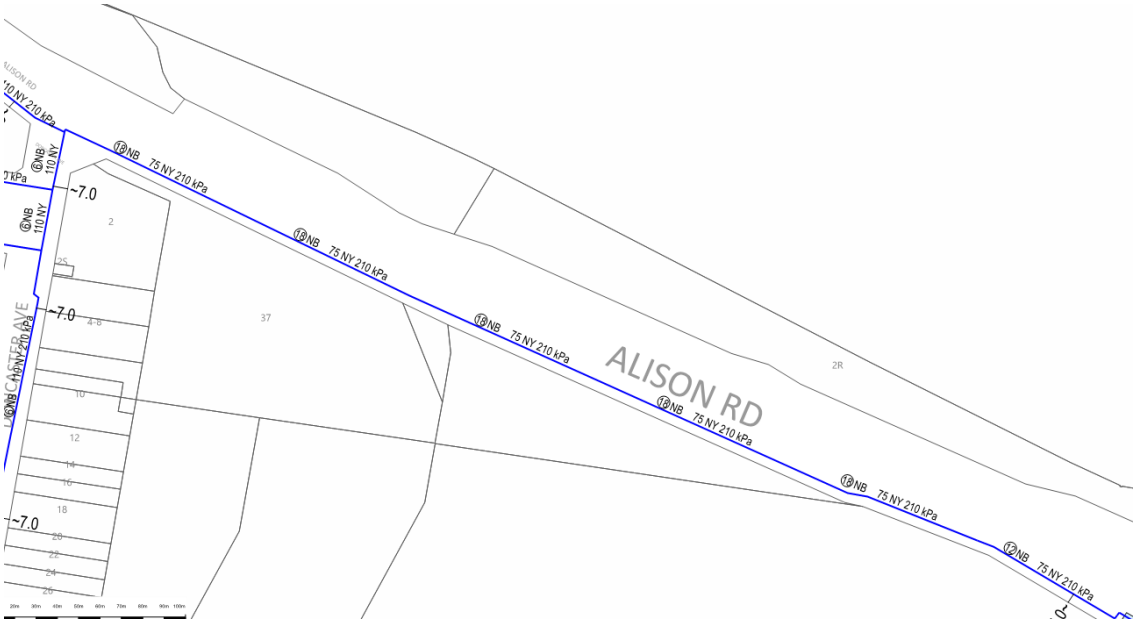

Figure 3: Existing Jemena Gas reticulation main.

5.3 New Works Associated with Gas Infrastructure

Based on the current briefing stating that no cooking is required within the kitchens, no gas service will be provided to the proposed Winx Stand and therefore no upgrade works are proposed to the existing gas main located in Alison Road.

5.4 Items for Resolution

- Gas provision required for the proposed development currently briefed to be zero; allowance to be determined in detailed design if required.
- Apply to Jemena for the new meter to supply the new development if required.
- Confirm existing boundary regulator capacity with Jemena, if required.

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