27th March 2019

Warren Smith & Partners

38 YEARS OF SERVICE

Project No. 2018-5867012

Attention: Melissa Gaspari
Lendlease Building Pty Ltd ABN 97 000 098 162
Level 14, Tower 3, International Towers Sydney
Barangaroo NSW 2000

Dear Melissa,

RE: UNSW D14
SECTION 73 APPLICATION REPORT

WS&P confirms that it has addressed Sydney Water's comments and has prepared a Section 73 Application report which provides details about the proposed Development and how it is to be serviced by sewer and water.

An application for a Notice of Requirements has been lodged to Sydney Water on Case No. 177203 via Sydney Water's E-Developer portal.

Yours faithfully,

Jane Ciabattoni

Liaison Manager - Sydney Water
Phone: 02 8234 8611
Mobile: 0400 201 632
Email: jane@warrensmith.com.au

Warren Smith & Partners

25th March 2019

SECTION 73 APPLICATION FOR AN ANTICIPATED NOTICE OF REQUIREMENTS

BUILDING D14 - UNIVERSITY OF NSW

PROJECT #	5867012
ISSUE	For Approval
DATE	25th March 2019
REVISION	1
AUTHOR	Y. Xing
REVIEWED BY	J. Ciabattoni
STATUS	Current

PREPARED BY:

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PREPARED FOR:

Lendlease / UNSW

Lendlease

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NSW 2000

UNSW

The University of New South Wales
Kensington NSW 2033

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SCHEDULES

1. INTRODUCTION

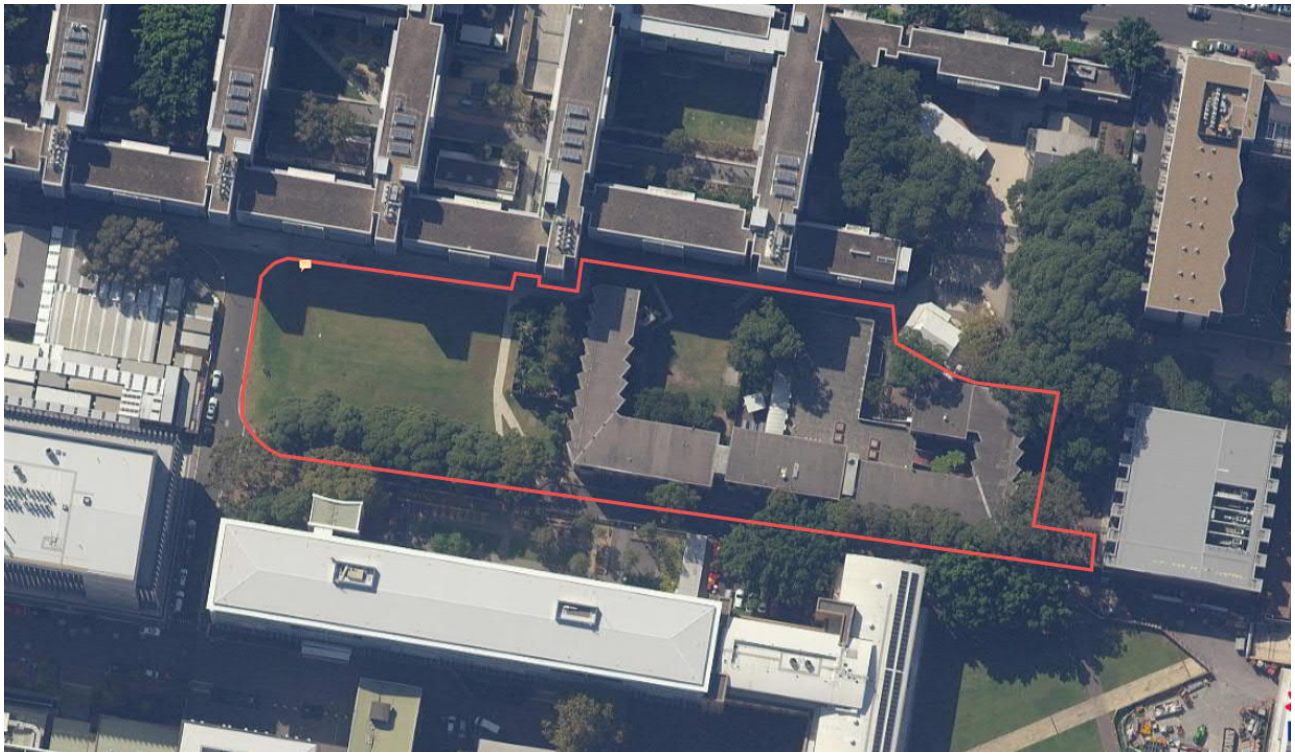
Warren Smith & Partners (WS+P) has been engaged by Lendlease and University of NSW to prepare and submit a Section 73 Application for an Anticipated Notice of Requirements.

The purpose of this application is to understand the capacity of the existing UNSW infrastructure and to identify if any amplifications are required as a result of the proposed development.

The development site sits within Lot 3 on DP1104617. The site is irregular in shape with an area of approximately 8,000m². Refer to *Figure 1* for an aerial view of the site location within the UNSW Kensington Campus. The boundaries of the site are as illustrated in *Figure 2* and *Figure 3*.

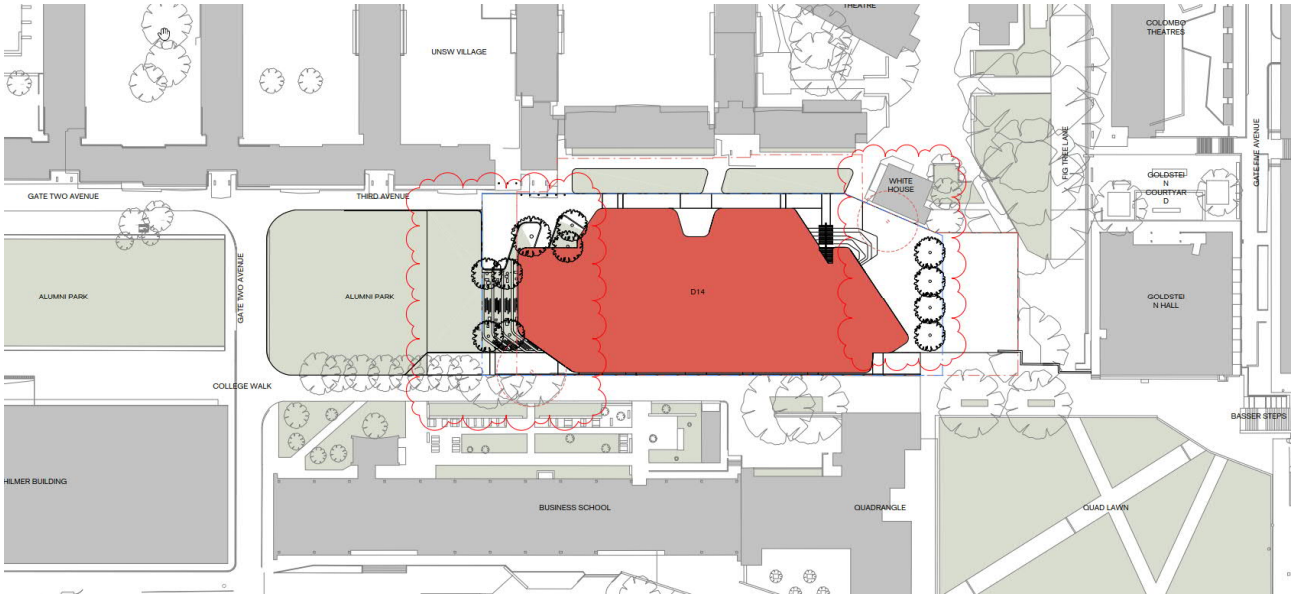
Source: Sixmaps

Figure 1: Aerial View of Site Location



Source: Sixmaps

Figure 2: Aerial View of the Site Boundary



Source: AD00001 REV03, Revised GMP Submission Issue, dated 22nd February 2019

Figure 3: Location Plan of Proposed Building D14

2. DEVELOPMENT

The existing three-storey D14 student accommodation building will be demolished to make way for the construction of an eight-storey multi-purpose building, including retail, teaching, faculty and student use.

3. DEMAND CALCULATIONS

The proposed development will consist of:

- Ground Level – Student led space, retail
- Level 1 – CATS & LED
- Level 2 – CATS & LED
- Levels 3-7 – Faculty office
- Roof Plantroom

3.1 WATER SUPPLY DEMAND CALCULATIONS

The assumption taken in determining the average daily potable water demands for the proposed number of lots has been taken from the Sydney Water table, "Average Daily Water Use by Property Type" and is presented in Table 1 below. Please refer to *Schedule 1* for the Sydney Water table.

Table 1: Average Daily Water Demand

Building	Classification	Metric Unit	Average Demand (L/Metric Unit/Day)
Special Uses			
Student LED and CATS	School	Student	20
Faculty Office	School	Student	20
Commercial			
Retail Units	commercial	Square metre	2.48

The existing building to be demolished provides student accommodation consisting of 208 single rooms with shared facilities including bathrooms, kitchens and common areas. The 208 students that the existing building serves is considered as existing capacity of the current UNSW water and sewer mains, which are deducted from the total average daily demand required by the new building.

Refer to Table 2 – A – C below for the average daily water demand calculations.

Table 2-A: Population Data

Classification	Existing Building to be Demolished	New D14 Building	Difference		
	Metric Unit (Person)	Metric Unit (Person)	Metric Unit (Person)	(L/Metric Unit/Day)	Total Average Daily Water Demand (kL/day)
Students	208	970	762	20	15.2
Faculty	0	1000	1000	20	20.0

Table 3-B: Retail

Classification	Metric Unit (Square metre)	Average Demand (L/Metric Unit/Day)	Total Average Daily Water Demand (kL/day)
Retail Units	479	2.48	1.2

Table 4-C: Summary Table

Classification	Total Average Daily Water Demand (kL/day)
Students	15.2
Faculty	20
Retail Units	1.2
TOTAL	**36.4**

However, the Sydney Water Table does not take recycled water usage into consideration for average daily water use. The cooling tower water demand and toilet flushing for this development will be supplied by the existing UNSW treated bore water supply in the campus.

Therefore, the actual water average daily demand of the building would be less than 36.4 kL/day.

3.2 SEWER DISCHARGE CALCULATIONS

In order to determine the average daily sewer discharge, the author adopted a methodology derived from the NSW Water Directorate where the standard equivalent tenement figures suggest that a 60% of water to sewer discharge factor is appropriate. Refer to *Table 3: Sewer discharge calculation* below for the calculation.

Table 3: Sewer discharge calculation

Total Units Total Average Daily	Total Average Daily Water Demand (kL/day)	Sewer Discharge (kL/Day)
Students	15.2	9.1
Faculty	20	12.0
Retail Units	1.2	0.7
	Total	**21.9**

4. PROPOSED SERVICING SOLUTION

Sewer – The development will connect into the existing 225mm UNSW sewer main infrastructure in College Road.

Water - The potable cold water supply shall connect into the existing potable cold water 200mm loop main infrastructure in College Road.

Refer to *Figure 4* for details.

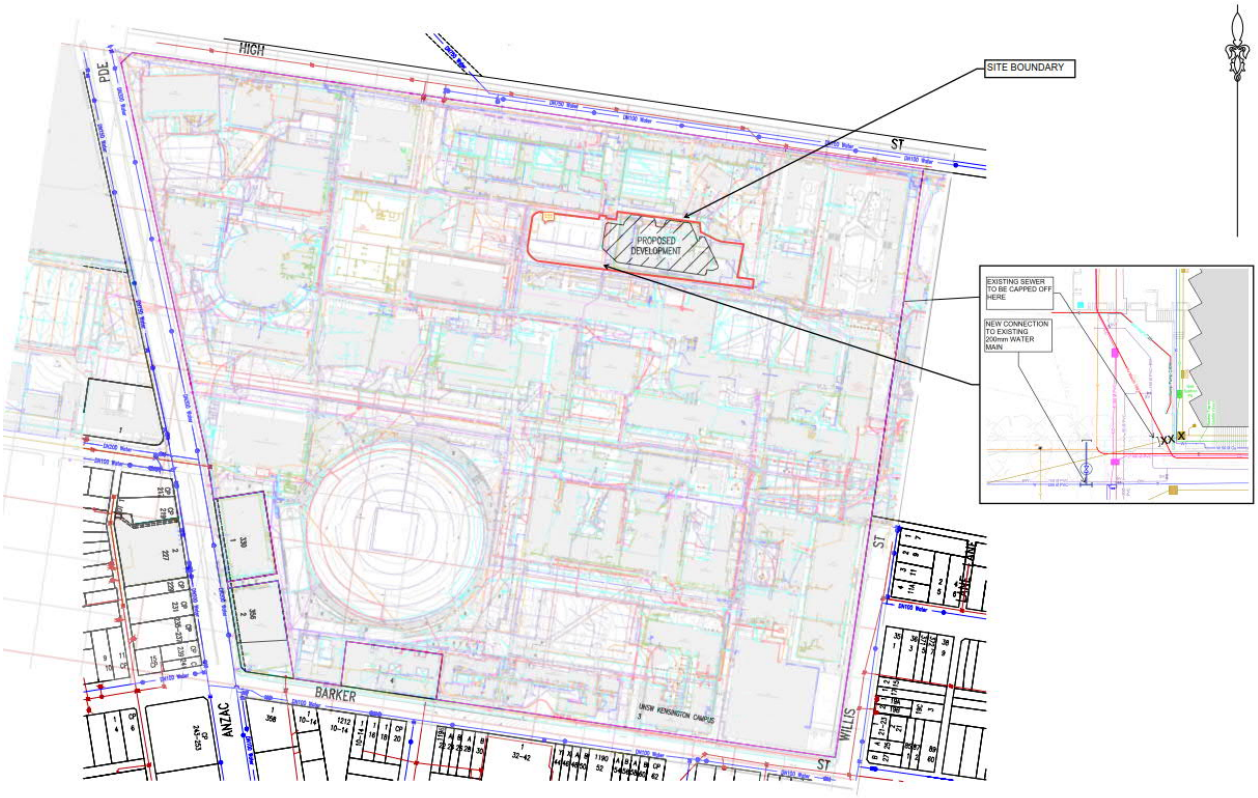


Figure 4: Proposed Servicing Solution

Refer *Figure 5* for existing UNSW sewer and water main infrastructure and their connections points to Sydney Water watermain and Sydney Water sewer main.

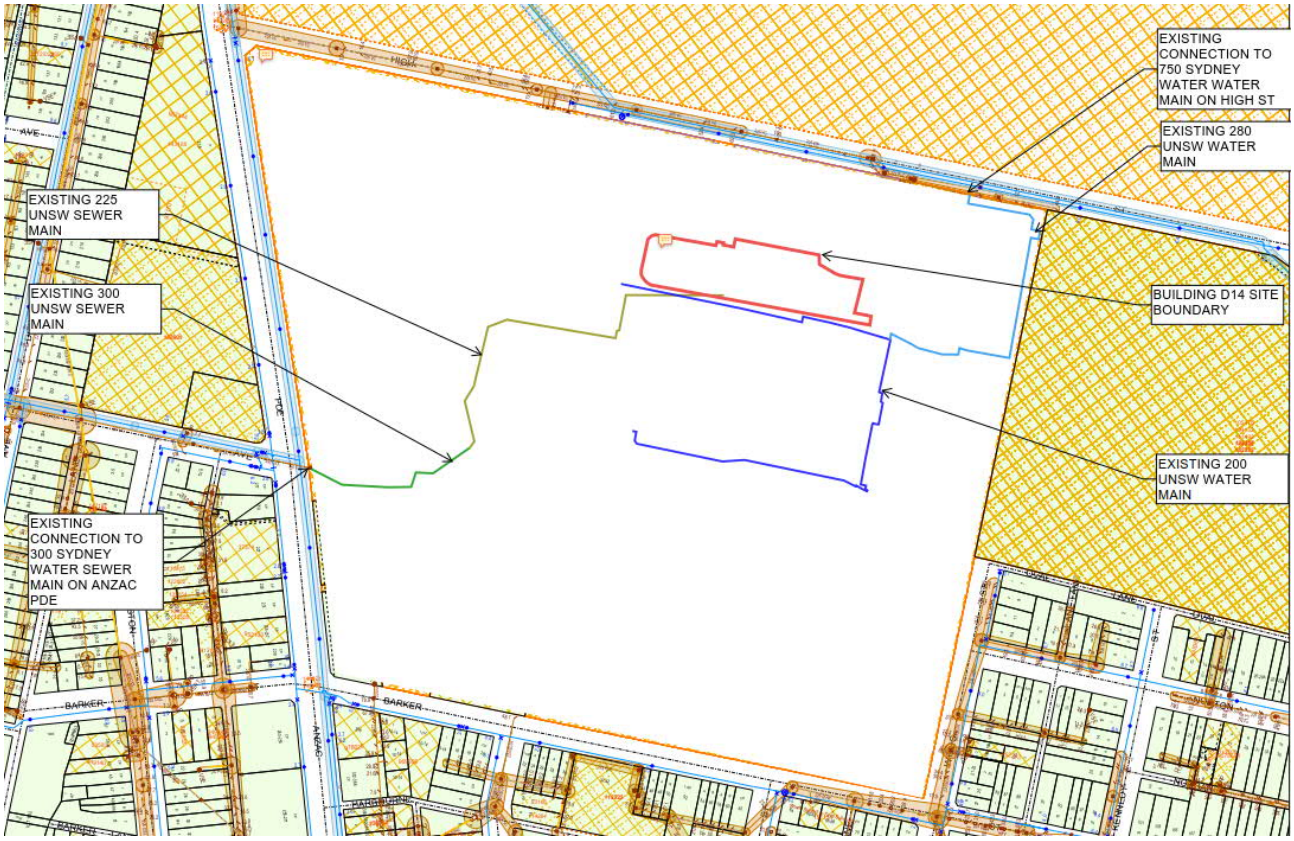


Figure 5: Existing UNSW Sewer and Water Mains to Service D14 building

SCHEDULE 1 – SYDNEY WATER TABLE

"AVERAGE DAILY WATER USE BY PROPERTY TYPE"

Sydney WATER

Average daily water use

By property development type

Water Supply Code of Australia

MWH/PB Flow Study Report

Water usage survey

Development Type	Development Sub-Type	Key Metric	Metric Unit	Average Demand (L/Metric unit/Day)
Residential	Single Lot Torrens	Dwelling	Each dwelling	623.00
	Flats Torrens	Net floor area	Square metre	2.36
	High Rise Units	Net floor area	Square metre	3.34
	Single Lot Community	Dwelling	Each dwelling	623.00
Mixed	Residential / Commercial	Combined floor area	Each dwelling / Square metre	Use separate rates for each component
	Commercial / Industrial	Combined floor area	Square metre	Use separate rates for each component
Commercial	Aged Accom - Self Care	Net floor area	Square metre	2.50
	Aged Accom - Hostel	Bed	Each bed	271.00
	Aged Accom - Full Care	Bed	Each bed	271.00
	Childcare	Net floor area	Square metre	3.60
	Hotel / motel / serviced apartments	Room	Each room	359.94
	Office	Net floor area	Square metre	2.27
	Shopping Centre	Net floor area	Square metre	3.00
	Laundry / Dry Cleaner	Net floor area	Square metre	10.50
	Café / Fast Food / Butcher / Deli	Net floor area	Square metre	2.48
	Retail Units	Net floor area	Square metre	2.48
	Medical / Veterinary	Net floor area	Square metre	2.48
	Mechanical Repair	Net floor area	Square metre	2.48
	Car / Boat Sales	Net floor area	Square metre	2.48
	Car Wash	Net floor area	Square metre	9.40
	Club	Net floor area	Square metre	3.77
Industrial	Heavy Process	As required		
	Chemical Manufacturing	As required		

	Printing Manufacturing	As required		
	Beverage Manufacturing	As required		
	Light Factory Unit	Developed floor area	Square metre	2.82
	Warehousing	Developed floor area	Square metre	2.82
	Transport / Bus depot	Site area	Square metre	0.91
Special Uses	University	Student	Each student	20.00
	School	Student	Each student	20.00
	Hospital	Bed	Each bed	271.00
	Religious assemblies	Developed floor area	Square metre	1.30
	Government depot	Site area	Square metre	0.91
	Community Centre / Library	Floor area	Square metre	1.84
	Sports Fields with amenities	As required		
	Parks & Reserves	As required		
	Services: Police, Ambulance, etc	Floor area	Square metre	1.40

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