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HYDRAULIC SERVICES RETURN BRIEF

**Sydney Olympic Park new High School
Infrastructure Management Plan – Sewer
Water & Natural Gas Services**



Sydney Olympic Park new High School

Infrastructure Management Plan – Sewer, Water & Natural Gas Services

04	27/08/2021	SSDA Issue
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HYDRAULIC SERVICES

1. Proposal

The proposed development is for the construction of a school whereby the project is known as Sydney Olympic Park new high school. The school is to be developed in two stages. The SSD application will seek consent for both Stage One and Stage Two. While Stage Two is submitted as part of this proposal, construction is subject to approval of additional funding.

Stage One will provide for a Stream 5 high school, catering for up to 850 students. Stage Two will bring the school up to a stream 9 school capability catering up to 1,530 students.

The design features a six storey building. To the north of the site, a hall building (for sports and performance) is proposed.

The play space required to meet the need of students for Stage One can be generally accommodated onsite, within the 9,511sqm available. Additional play space may be required to accommodate the increased student numbers anticipated during Stage 2. The proposed adjoining play space comprises an area of around 8,800sqm, and will be subject to a Joint Use Arrangement and available for public use outside school hours. The future Wentworth Point Peninsula Park will result in an open space area of approximately 4 ha.

The remainder of the peninsula (TfNSW land) is under review and will be subject to a separate approval process. Redevelopment of this land will include the new access road proposed off Burroway Road along the eastern boundary of the subject site and is proposed to include car parking, drop-off zones and delivery zones.

2. Site Description

The proposed development is located within the peninsula of Wentworth Point at 7-11 Burroway Road, Wentworth Park across parts of three lots; Lot 202 DP1216628, Lot 203 DP1216628 and Lot 204 DP1216628. The site forms part of the Wentworth Point Planned Precinct, which was rezoned in 2014 for the purposes of high density residential, public recreation, school and business purposes.

The site is approximately 9,511sqm in area, with a frontage of approximately 91m to Burroway Road. It currently contains vacant land, which is cleared of all past development, and almost entirely cleared of native vegetation.

The surrounding area is generally characterised by high rise residential and mixed-use developments. The site is directly adjacent to the Wentworth Point Peninsula Park and immediately east of Wentworth Point Public School.



Figure 1 Site Aerial Map
Source: Mecone

3. Standards & Design Guides

The hydraulic services will be designed to the minimum of the following Standards, except where noted in the deviation list:-

- EP&A – ACT & Regulation
- Plumbing & Drainage – Act & Regulation
- National Construction Code (NCC) – 2020;
- Plumbing Code of Australia (PCA) – 2016
- AS 3500-2015 – Plumbing and Drainage Set
- AS 5061-2004 – Gas Installations
- Trade Waste requirements (based on Local Guidelines)
- Local Stormwater requirements
- Sydney Water / Jemena
- DIN 1988-300 Drinking water supply systems; pipe sizing
- DVGW W551-2004 Drinking water heating and drinking water piping systems; technical measures to reduce Legionella growth; design, construction, operation, and rehabilitation of drinking water installations
- AS 1170.4 Structural design actions Earthquake actions in Australia

4. Utility Services

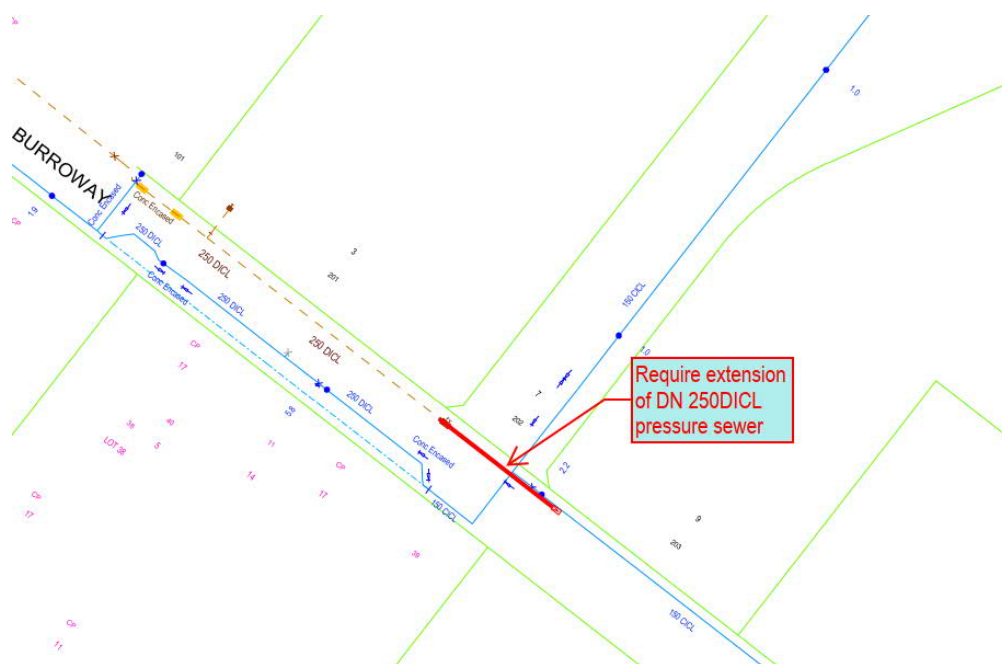
A Sydney Water Corporation Notice of Anticipated Requirements for Section 73 Subdivider / Developer Compliance Certificate (Sydney Water Act 1994, Part 6 Division 9) FEASIBILITY LETTER has been received and is attached to this report.

This is an informative document only and will need to be re-applied for when final Development Consent has been received, but it gives an indication on the requirements of Sydney Water for the sewer and water mains works.

4.1 SEWER MAINS (UTILITY)

4.1.1 EXISTING SEWER MAINS

The site has access to a Sydney Water existing pressure sewer, DN250DICL in Burroway Road and has sufficient capacity for the proposed flows, an extension of approximately 40m along Burroway Road would be required to service the proposed development.



4.1.2 SEWER AVAILABLE CAPACITY

In order to express the results in a total daily sewer discharge, an estimate of the average daily sewer discharge in terms of L/Day has been made by adopting information derived by the NSW Water Directorate. Where the standard equivalent tenement figures suggest that a 60% water to sewer discharge factor is appropriate. Refer to table below for this calculation.

Sewer discharge calculation

Total Units	Average Sewer Discharge 60% of L/ unit/day	Total Average Daily Sewer Discharge (kL)
Special Uses		
School	60% of 1530 = 37,560	37.56

4.1.3 SEWER MAINS SUMMARY

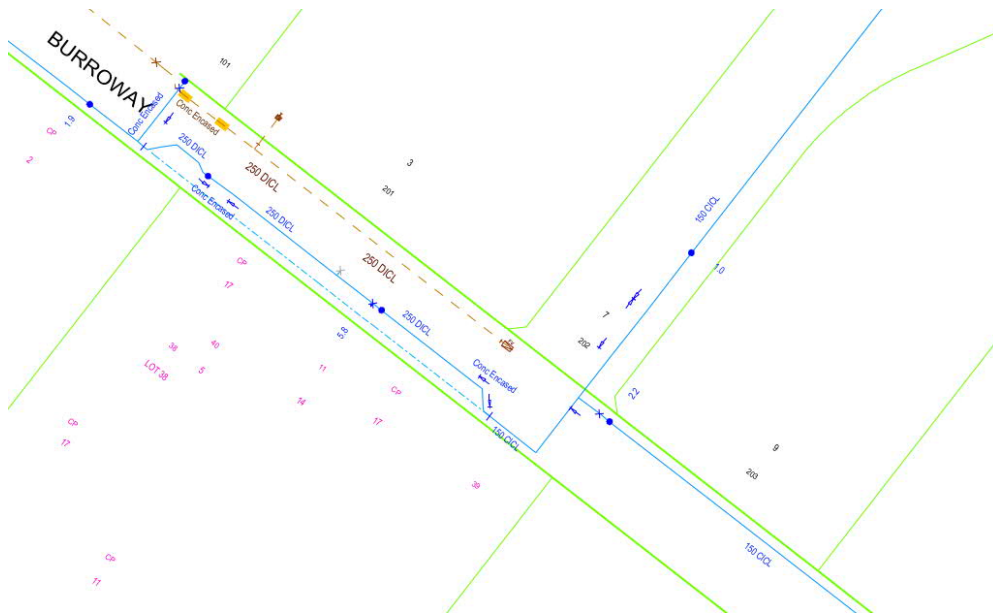
A Sydney Water Corporation Notice of Anticipated Requirements for Section 73 Subdivider/Developer Compliance Certificate (Sydney Water Act 1994, Part 6 Division 9) FEASIBILITY LETTER has been received and is attached to this report.

- The site has access to a Sydney Water existing pressure sewer, DN250D1CL in Burroway Road and has sufficient capacity for the proposed flows, an extension of approximately 40m along Burroway Road would be required to service the proposed development.

4.2 WATER MAINS (UTILITY)

4.2.1 Existing Water Mains

The site has access to one (1) DN150 C1CL Sydney Water water main that runs along the northern side of Burroway Road.



4.2.2 Water Available Capacity

The assumption taken in determining the average daily potable water demands for the proposed development were taken from the Sydney Water table, "Average Daily Water Use by Property Type" and is presented in the tables below.

Where possible, potable water usage will be reduced by the use of low flow taps and sanitary fixtures, typically using the following flow rates:

- Shower = 9.0L/m
- Basin = 7.7L/m
- Sink = 7.7L/m

Average Daily Water Demand

Development Type	Units	Average Demand (L/Metric Unit/Day)
Special Uses		
School	1,530 Students	20.00

Average Daily Water Demand Calculation

Total Units	Average Demand (L/ Unit/Day)	Total Average Daily Water Demand (kL)
Special Uses		
School	1,530 x 20.00 = 30,600	30.60

4.2.3 Water Mains Summary

A Sydney Water Corporation Notice of Anticipated Requirements for Section 73 Subdivider/Developer Compliance Certificate (Sydney Water Act 1994, Part 6 Division 9) FEASIBILITY LETTER has been received and is attached to this report.

- The existing DN150 CICL water main in Burroway Road can service the proposed development. This would be for the domestic supply only;
- A 'Statement of Available Pressure and Flow' (copy attached) for this main shows that it is capable of providing the requirements for fire fighting (fire hydrants and fire hose reels) purposes.

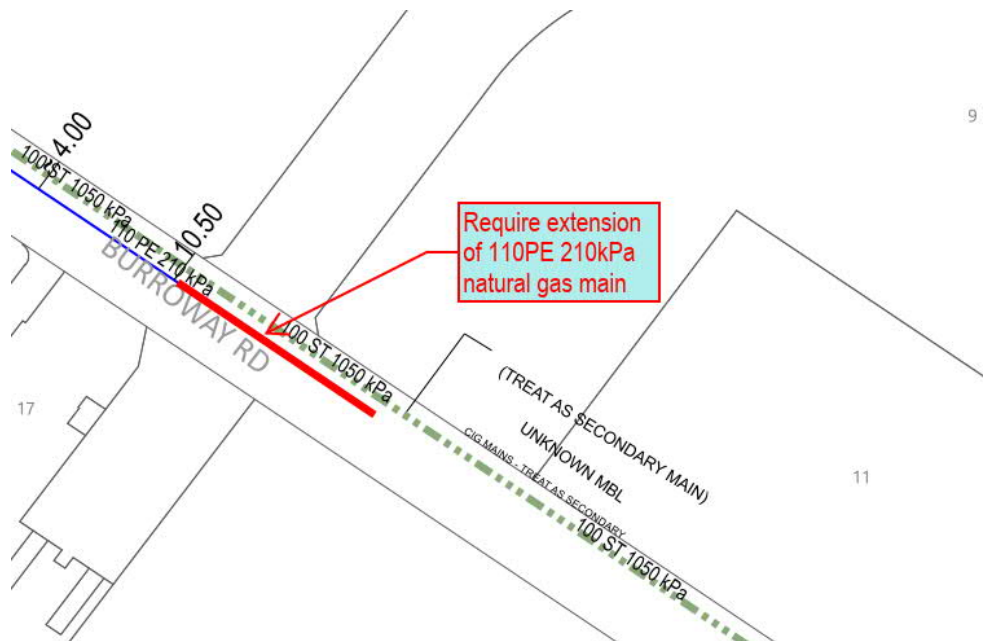
4.3 NATURAL GAS MAINS (UTILITY)

4.3.1 Existing Natural Gas Mains

The site currently does not have access to a Jemena natural gas main.

There is a 110PE 210kPa natural gas main in Burroway Road adjacent to the site so an extension of this main will need to be negotiated with Jemena.

Please note: in discussions with Jemena the "treat as secondary main – 100 ST 1,050kPa" main as show in green on the below image, is an decommissioned main but the pipework has been left in place, so leaving it on their main diagram is altering to its existence.



4.4 RAINWATER & NON-POTABLE WATER REUSE SERVICES

A 30,000 Litre rainwater re-use tank will be provided for the project in accordance with the requirements of NSW Department of Education.

Rainwater from an adequately sized roof catchment is to discharge into the rainwater tank and a potable water make-up is to be provided.

A rainwater treatment and pumped reticulation system will be provided to supply all of the landscape irrigation and non-potable water fixtures as outlined in the EFSG technical guidelines.

There is potential to reuse rainwater for toilet flushing but this is a 5 star additional initiative rather than 4 star Green Star Education equivalent initiative which allows for irrigation only.

The recycled water system will incorporate filtration and treatment equipment to meet the requirements of the Council, EPA and other regulatory authorities.

Sydney Water is investigating the potential to provide recycled water to Wentworth Point, as part of GPOP growth area.

Further information would be provided when the Section 73 is received by Sydney Water.