



Infrastructure Management
Plan
Narrabeen North Public
School

Revision	Date	Description	Author/s	Reviewer
1	02/11/2022	SSD	SF	MS
2	19/01/23	DA	SF	SF

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1 Designated development Preamble

Narrabeen North Public School (NNPS) forms part of the Narrabeen Education Precinct.

The Designated Development (DD) seeks consent for the following works at NNPS.

- Removal of eight (8) trees;
- New accessible pedestrian pathways;
- New substation on Namona Street frontage along with associated conduit connections;
- New fire hydrant booster and associated conduit connections;
- New hard and soft landscaping including planting of 12 new trees.

Other development works are occurring on the site under separate planning pathways including:

- Development Application (DA);
- Tree Removal (DA);
- Development without Consent (REF); and
- Exempt development

The proposed development does not seek to increase staff or student numbers.

2 Introduction

2.1 Overview

This Infrastructure Management Plan has been prepared by erbas™ on behalf of SINSW. It is provided in response to the Designated Development pathway for Narrabeen North Public School (the site).

The subject sites is located at 6 Namona Street, North Narrabeen (referred to as the Narrabeen Education Precinct) and falls within the local government area of Northern Beaches Council. The Narrabeen Education Precinct has a total area of 9.84 hectares.

Narrabeen North Primary School (NNPS) is located on the northern side of Namona Street, North Narrabeen and is legally described as Lot 3 Deposited Plan (DP) 1018621. NNPS is surrounded by residential dwellings to the east, grassed sporting fields (Warriewood Valley Sportsground) to the north and Northern Beaches Indoor Sports Centre to the west. NNPS contains two (2) Binishell domes (Block A and Block B) which are identified as a local heritage item under the Pittwater Local Environmental Plan 2014. The two (2) Binishell Domes are listed as State significant on DoE's Section 170 Heritage and Conservation Register. The Double Binishell Dome (Block B) is listed on the State Heritage Register (SHR). Furthermore, the site lies within 150 metres of Mullet Creek.

Narrabeen Sports High School is located on the southern side of Namona Street.



Figure 1 Satellite image of the site

The current Application and supporting documents seek approval for Proposed ancillary works at Narrabeen North Public School within a coastal wetlands area.

2.2 Purpose

This Infrastructure Management Plan has been provided as part of the Designated Development pathway;

1. Assess the impacts of the development on existing utility infrastructure and service provider assets surrounding the site;
2. Identify any infrastructure upgrades required off-site to facilitate the development and any arrangements to ensure that the upgrades will be implemented;
3. Provide an infrastructure delivery and staging plan, including a description of how infrastructure requirements would be co-ordinated, funded and delivered to facilitate the development.
4. Address the existing capacity of the site to service the proposed development and any extension or augmentation, property tenure or staging requirements for the provision of utilities, including arrangements for electrical network requirements, drinking water, waste water and re-cycled water and how the upgrades will be coordinated, funded and delivered on time and be maintained to facilitate the development
5. Identify the existing service infrastructure on the site or within the network which may be impacted by the construction and operation of the proposal and the measures to be implemented to address any impacts on this infrastructure.

2.3 Introductory information

The project is to be assessed under the NCC 2019 amendment 1 and is subject to ongoing assessments for compliance as design development is progressed.

This report has considered both historical and present reporting in its generation. Renewed services information has been collected and is also detailed herein where relevant to the submission outcome.

The table below identifies the agencies and utility providers influenced by the Development and whom have been consulted with in the preparation of this report.

This report provides commentary to the extent of the statutory infrastructure available to Narrabeen North Public School. The infrastructure and design strategies herein may change or be developed with further scope as the design progresses.

The consulted and/ or notified public authorities are as follows;

Seq. No.	Authority Name	Phone	Status
210935211	Ausgrid	(02) 4951 0899	NOTIFIED
210935212	Jemena Gas North	1300 880 906	NOTIFIED
210935209	NBN Co NswAct	1800 687 626	NOTIFIED
210935207	Northern Beaches Council	0466 015 284	NOTIFIED
210935213	Optus and or Uecomm Nsw	1800 505 777	NOTIFIED
210935214	Sydney Water	13 20 92	NOTIFIED
210935210	Telstra NSW Central	1800 653 935	NOTIFIED
210935208	TPG Telecom (NSW)	1800 786 306	NOTIFIED
210935215	Transport for NSW	(02) 8837 0285	NOTIFIED

2.4 Limitations

The design approach for each of the building services disciplines is based upon preliminary planning solutions and layouts.

This report does not currently incorporate specific fire engineering solutions or identified constraints, which are yet to be determined by the project. Nor does it robustly consider the required fire services alternate solutions for the project.

This report does not incorporate any requirements of the project that may be imposed as part of any required development conditions resultant to this application.

The following methodology was used to develop the strategies herein;

- A review of as built documentation.
- A walk-through inspection of the existing site including plant and exposed services arrangements.
- General commentary on the adequacy of plant and systems to meet a minimum performance requirement set out in the relevant standards and guidelines.
- Supply adequacy based on space standards recorded within the NCC (2019) and the Education & Facilities Guidelines as a minimum requirement.

2.5 Executive summary statement

The main utility services of Water, Gas and Sewer is being actively resolved for the project and the live enquiries are outlined in the following sections below.

- Preliminary indications from the water supplying mains is that there is sufficient pressure and flow to serve the development works at completion without the need for augmentation or diversion of the surrounding supplies.
- Preliminary indications from the sewer drainage connections available and actively serving the site indicate there is sufficient capacity within the surrounding mains to serve the development works at completion. It is anticipated that Sydney Water will request the DN150 C/CL sewer main be extended to be within the site boundaries, this can be completed under the minor works process. We will however request to maintain the existing connection.
- Natural gas is available to the site via a 300mm medium pressure main located on the Southern boundary.

The information within this report has assumed optimal use of available site information whilst also considering the Building Code of Australia, relevant Australian Standards and Codes, client driven design guidance, best practice industry guidelines.

3 Services Design response to SEARs

The following table provides a summary response to the SEARs requirements for Narrabeen North Public School within a coastal wetlands area.

Number	Initiated by	Comments	Response
14	SEARs	Assess of the impacts of the development on existing utility infrastructure and service provider assets surrounding the site.	Each of the major supplying utilities have been consulted for the development. There is no major infrastructure traversing the site requiring relocation as a consequence of current planning.
14	SEARs	Identify any infrastructure upgrades required off-site to facilitate the development and any arrangements to ensure that the upgrades will be implemented on time and be maintained.	Each of the supply authorities have processed the initial applications made as part of the development planning. The sewer and water supplies are adequate for the site and a the Section 73 application will be required for the site. There is an existing gas connection to the site which is to remain.
14	SEARs	Provide an infrastructure delivery and staging plan, including a description of how infrastructure requirements would be coordinated, funded and delivered to facilitate the development.	The reporting herein provide a description of how infrastructure requirements are be coordinated, funded and delivered to facilitate the development and also elaborates how the connections are anticipated to be executed for the project site.

4 Hydraulic Services

4.1 Water

The property is connected to the water main located within the street at Namona Street. This main is a 100mm diameter water main made of uPVC. The water connection reticulates to the site via a water meter and backflow prevention device being 40mm in pipe diameter. All buildings on the site are connected to this reticulating main. Isolation valves have been identified on the site and it is understood there are existing in ground valves to control the existing connections.

Where new reticulation is required, isolation points will be supplied via inground resilient seated ball valves prior to connection of each building and isolation valves will be provided internally in line with the requirements of the connected systems.

4.2 (Hydrant) Water

The property is connected to the water main located within the street at Namona Street. This main is a 100mm diameter water main made of uPVC.

There are external hydrants on the site however, these do not provide sufficient hose coverage and are not compliant with the current Australian Standards AS2419.1.

A new connection to the authority main located in Namona Street is required and is to incorporate a new hydrant booster and backflow protection. A new hydrant system is required to provided hydrant coverage in accordance with the NCC and Australian Standards

There is a wide element of construction staging that is being implemented. The current provisions of the NCC requires buildings exceeding 12m must have temporary fire protection. It is intended to reticulate external hydrant provisions in line with the below NCC requirements;

In a building under construction—

(a) not less than one fire extinguisher to suit Class A, B and C fires and electrical fires must be provided at all times on each storey adjacent to each required exit or temporary stairway or exit; and

(b) after the building has reached an effective height of 12 m—

(i) the required fire hydrants and fire hose reels must be operational in at least every storey that is covered by the roof or the floor structure above, except the 2 uppermost storeys; and

(ii) any required booster connections must be installed.

Where new reticulation is installed, isolation points will be supplied via inground resilient seated ball sluice valves prior to connection of each building and interconnection of each main.

4.3 Sewer

The site currently connects to the 150mm C1CL main located within Namona Street. The connection point of the Authority main is adjacent to the water main connection in the same location.

It is anticipated that Sydney Water will request the DN150 C1CL sewer main be extended to be within the site boundaries, this can be completed under the minor works process. We will however request to maintain the existing connection.

Procedurally a Conditional approval of a Development Application activates the regulatory pathway through the Sydney Water Act to pursue a Section 73 Certificate.

The further refining and determination of the approach is ongoing and as more details are advised through design planning, they will be communicated.

4.4 Gas (natural)

Natural gas is available to the site via a 32mm medium pressure main located on the Southern boundary. The existing Gas meter and regulator are to remain included the existing reticulated gas service.



Statement of Available Pressure and Flow

Tamara Ilic
Level 1, 1 Atchison Street
St Leonards, 2065

Attention: Tamara Ilic

Date: 14/06/2022

Pressure & Flow Application Number: 1420797
Your Pressure Inquiry Dated: 2022-05-30
Property Address: Namona Street, North Narrabeen 2101

The expected maximum and minimum pressures available in the water main given below relate to modelled existing demand conditions, either with or without extra flows for emergency fire fighting, and are not to be construed as availability for normal domestic supply for any proposed development.

ASSUMED CONNECTION DETAILS

Street Name: Namona Street	Side of Street: North
Distance & Direction from Nearest Cross Street	40 metres West from Oak Street
Approximate Ground Level (AHD):	5 metres
Nominal Size of Water Main (DN):	100 mm

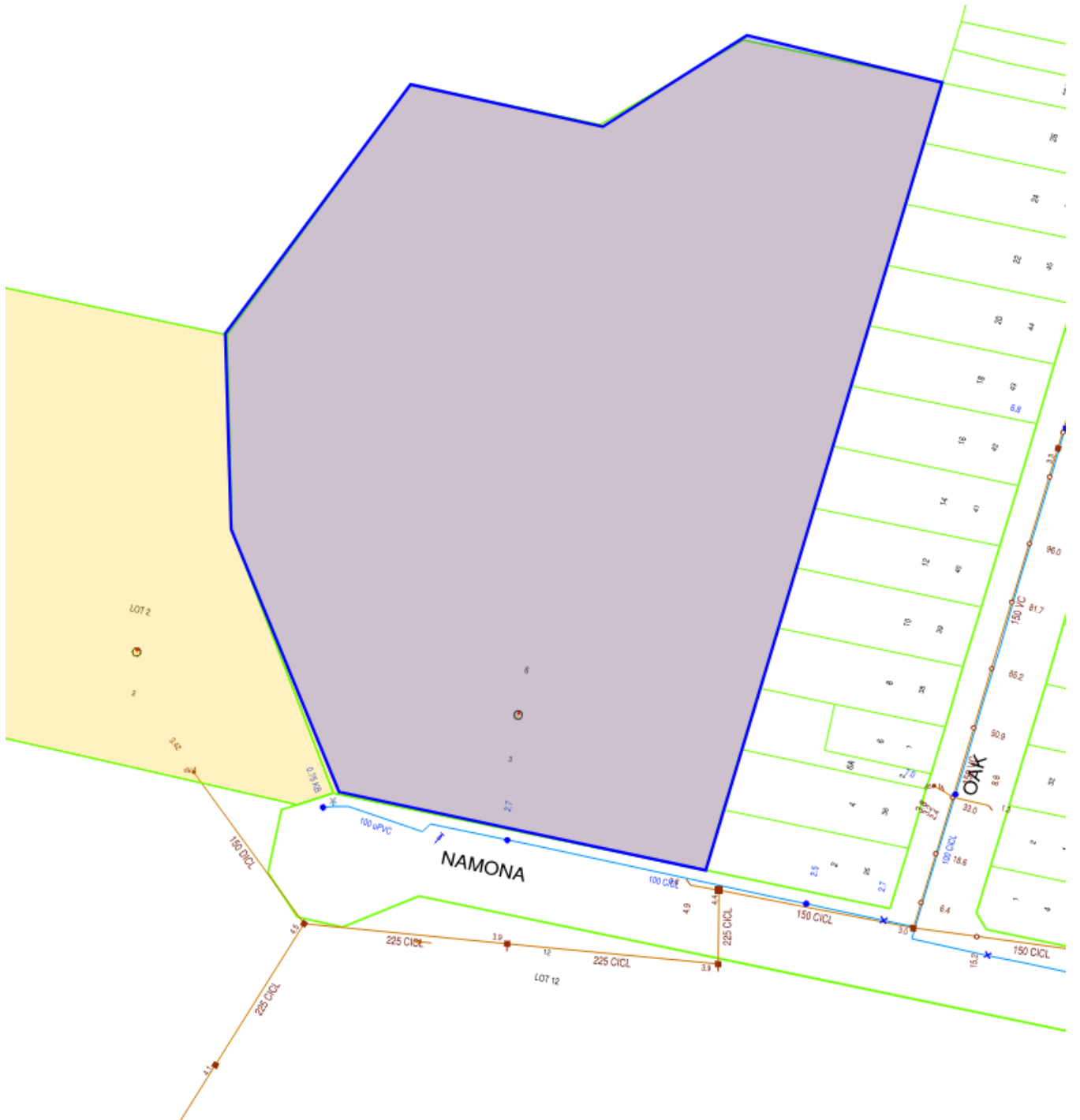
EXPECTED WATER MAIN PRESSURES AT CONNECTION POINT

Normal Supply Conditions	
Maximum Pressure	104 metre head
Minimum Pressure	86 metre head

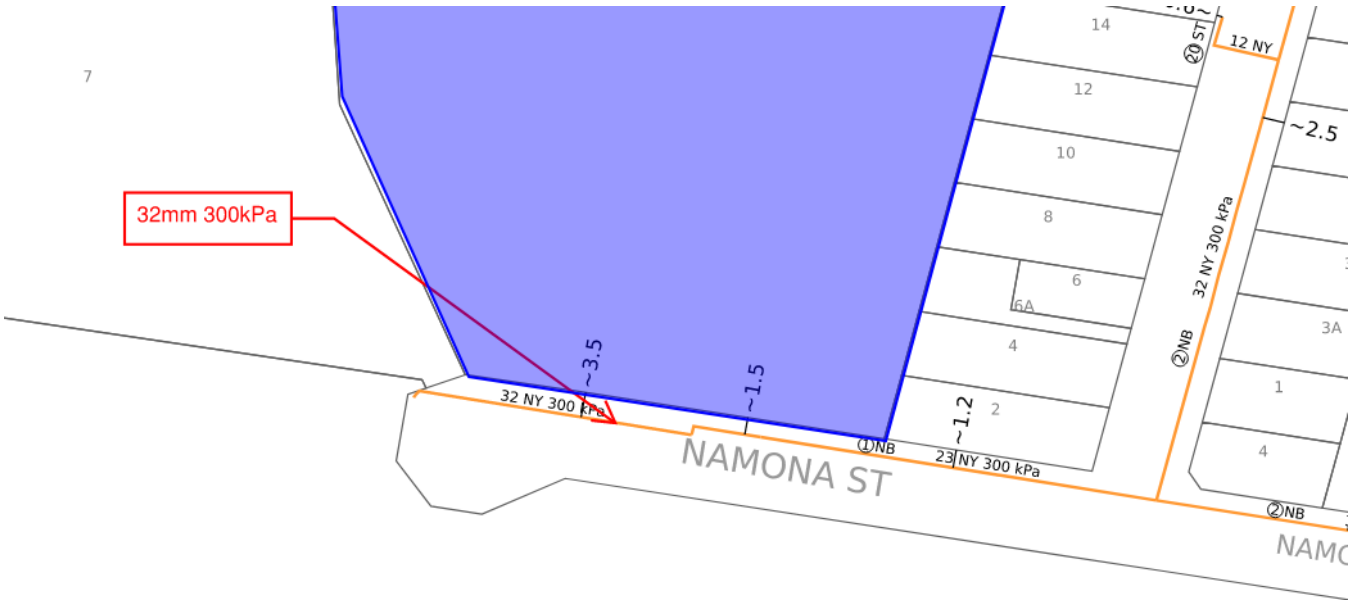
WITH PROPERTY FIRE PREVENTION SYSTEM DEMANDS	Flow l/s	Pressure head m
Fire Hose Reel Installations (Two hose reels simultaneously)	0.66	86
Fire Hydrant / Sprinkler Installations (Pressure expected to be maintained for 95% of the time)	10	82
	15	73
	20	62
Fire Installations based on peak demand (Pressure expected to be maintained with flows combined with peak demand in the water main)	25	47
	10	78
	15	69
Maximum Permissible Flow	20	57
	25	42
	26	38

(Please refer to reverse side for Notes)

7 Hydraulic Infrastructure diagram



8 Gas connection diagram



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