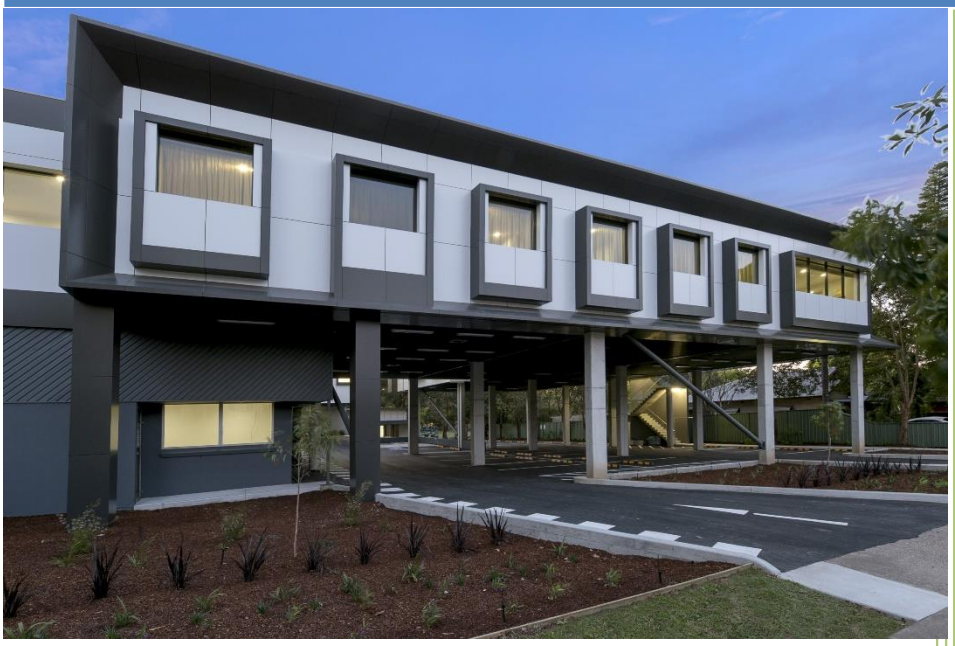
December 20, 2021

NORTHSIDE WEST CLINIC, WENTWORTHVILLE BUILDING SERVICES INTERFACE - EXISTING BUILDING AND NEW BUILDING



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DOCUMENT CONTROL SHEET

Title	Building Services Interface – Existing Building and New Building
Project	Northside West Clinic, Wentworthville
Description	Details of the Changes and Impact of the New Building to the Existing Services in the Building
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1 MECHANICAL SERVICES

1.1 MECHANICAL INTERFACE REQUIREMENTS

The existing site inspection undertaken to review the Mechanical Services interface between the existing and new building has identified the following:

- The existing consulting area currently does not have outside air and each room is served by a wall mounted split system. Each room is deemed compliant from opening windows, however the main waiting area does not comply with natural ventilation and is a potential compliance issue as the building is being extended.
- The existing kitchen exhaust duct will need to be raised to above the new roof.
- Lower ground floor rooms reworked will require new outside air provided for compliance.
- The demolished ward building will require all units pumped down and sealed for return to the Hospital.
- Group Room 1 and Group Room 2 were not upgraded in the previous project, do not have ventilation and do not comply with the BCA.
- The recreation centre is not ventilated and also does not comply with the BCA.
- The male toilet has insufficient ventilation and does not comply to code.
- The waiting area of Level 1 Consulting currently has no compliance for outside air.

1.2 EXISTING BUILDING AIR CONDITIONING

The ward building being demolished is provide with individual split wall mounted air conditioning to each room. No air conditioning is provided to the corridor. The toilets are provided with minimal exhaust and no make up air is provided. All systems will be demolished.

The Consulting Building will be maintained as is and built in to as part of the new works.

The existing ward building built in 2014 is provided with a central VRF system with individual fan coil units for each room. Pre-conditioned make up air is provided for compliance. The ensuites are provided with exhaust to deal with vapour.

1.3 NEW BUILDING AIR CONDITIONING

The mechanical services for the new building are to consist of individual bulkhead mounted fan coil units installed in the ceiling of the vestibule corridor to each ward unit connected to a separate inverter condensing set mounted on roof platforms. The ward units are to be provided with outside air from multiple central systems. The nurse station, corridors, clean utility, office and lounge areas are to be provided with separate inverter heat pump rooftop systems. The lounge and group room are each to be provided with a separate ducted split system. The condensing sets are to be mounted on the roof platforms.

The air conditioning is to be installed into vestibule ceiling plenum. The fan coil unit discharge grille in the face of the vestibule bulkhead is to be installed as an anti-ligature perforated grille. Return air is to be drawn through a hinged core perforated grille (clips not screws) with panel filter. The condensing set is to be mounted on the roof platform. The toilet exhaust grille shall be a perforated grille 280 x 280 in each ensuite connected to the central toilet exhaust systems.

The individual rooms served from the corridor systems shall be provided with VAV diffusers for local control. A supply grille is to be provided from the corridor system to the dirty utility at a rate of 70 l/s. The patient lounge and group room are to be provided with a separate built in ducted system with two grilles and a hinged core filter grille at the return air to the unit.

The ward systems are to be provided with infra-red remote controls with ceiling mounted receiver unit

and a remote control mounted in a holder adjacent each bed. All remotes for the site are to be the same frequency. The controls for the corridor and lounge are to be wired wall mounted systems. The corridor and office system are to be controlled from the nurse's station.

Power for the air conditioning and fans is to be wired from a switchboard MCC mounted in the cupboards on Level 1 and Level 2.

1.4 OUTSIDE AIR/VENTILATION

The ward building is to be provided with outside air ventilation, to meet the required Australian Standard AS 1668, ducted to each of the air conditioning units from an approved source with filter.

The amount of outside air provided to a space is to be selected as a minimum value listed in AS 1668.2, though the minimum figures can be reduced provided the requirements for odour and particulate control are met. Where multiple units are served from an intake, non return dampers and fans are to be provided to create a positive flow to each unit. The building is to be maintained at a positive pressure to the ambient. Outside air is to be ducted to each of the ward spaces at a minimum of 30 to 35 l/s connected directly to the units. The remaining outside air is to be provided in the corridor systems. The contractor is reminded that the new requirements of AS 1668 and the BCA require the exhaust air to be made up with outside air.

The roof top package units are to be operated with enthalpy controlled outside air cycles when appropriate as the first stage of cooling.

1.5 TOILET VENTILATION

The toilets are to be provided with exhaust to AS 1668. All toilets and cleaners rooms are to be provided with exhaust at a rate of no less than 25 l/s per fixture or 10 l/s/m^2. The system is to consist of ceiling mounted egg crate grilles for areas provided with ceilings connected through flexible ducts to risers to exhaust fan and is to discharge to the atmosphere. The exhaust is to be ducted to an approved discharge point. All toilet ventilation is to be linked to operate with the air conditioning systems and/or time clock.

The ensuite ventilation is to be provided at a minimum of 50 l/s per ensuite to clear vapour from the showers.

1.6 DIRTY UTILITIES

The dirty utility is to be provided with exhaust at a rate of 10 air changes and air conditioned make up air at 75%. The design shall maintain the space at not greater than 25^{o}C.

The dirty utility is to be provided with a minimum exhaust rate of 100 l/s complete with air conditioned make up air at 70 l/s

1.7 POWER SYSTEM

It is envisaged that power would be taken to the MCC for the building and that the mechanical contractor would run power from this point to the fans and air conditioning systems. An MCC is to be provided below the building.

1.8 CONTROL SYSTEM

The control system shall be electronic sensor in built controllers for each of the fan coil units complete with infra-red remote controls and wall mounted sensors in the ward rooms. The lounge, nurse's station and corridor air conditioning are to be locally controlled with a central controller mounted in the nurse's station to provide a central control of these units.

1.9 ACOUSTICS

The internal spaces of the facility are to be designed to maintain the noise levels recommended in AS 2107 whilst the outside noise levels are to be designed to achieve a level that is in consideration of the surroundings and not obtrusive to the complex or the adjacent neighbours.

1.10 LIFE SAFETY

The building will have stairs over three (3) levels and therefore is deemed two (2) or more levels under the BCA. This will in turn require the stairs to be pressurized and the corridor to be provided with smoke relief / exhaust.

Zone smoke control will only be required if sprinklers are not fitted.

1.11 DESIGN CONDITIONS

The air conditioning will be designed to operate in temperatures up to 36^{o}C dB and 24^{o}C wB with an internal temperature of 23^{o}C.

2 ELECTRICAL SERVICES

2.1 GENERAL

All services are to be installed to meet (but not limited to) the requirements of:

- NSW Service and Installation Rules
- Endeavour Energy Network and Installation standards
- AS3000
- AS3003
- AS/NZS3008.1
- AS3009
- AS1670 Series
- NCC 2019 A1
- ACMA Manuals and associated Australian Standards
- All other relevant standards for MATV, Access Control and CCTV systems.

Electrical services zones is required for lighting and distribution systems. A dedicated 150mm (minimum) lighting zone is required. The horizontal electrical distribution is in the order of 150mm (this may be shared with other services as required. Coordination will be required). These zones may need to be increased where there are critical clinical areas (ie Theatres) as required to house all required services and allow for coordination.
All vertical riser locations will be dedicated to the nominated services that rise through it. Risers and cupboards cannot be utilised for storage or the installation of other services (ie. Hydraulics, etc).
All nominated electrical and communications rooms will be dedicated for the nominated service only unless noted otherwise.
Full lighting, power, horizontal communications systems, etc. are required to all levels to suit any room data sheets and the like.

2.2 ESD PROVISIONS/CONSIDERATIONS

Energy Metering

Additional load meters will be provided to BCA Section J8 requirements, and to any additional heavy power load equipment systems. Coordination of interconnection to mechanical systems BMS will be required.

Metering Inclusions (but not limited to):

- Mechanical Plant (gas and electricity consumption to be separately metered)
- Lifts
- Lighting
- Power
- Hot Water

Meters will be located in an area that allows regular monitoring and maintenance by facilities managers and other facilities management personnel.

Monitoring Systems

Energy information is proposed to be monitored through an electronic system capable of capturing and processing the data produced by the installed energy meters to meet BCA Section J8.3. The automatic monitoring system must be capable of:

- Collecting data from all meters;
- Alerting to missing data due to failures;
- Recording and processing of data on energy use consumption at user adjustable levels;
- Provide a breakdown of the information by building system type;
- Include the energy consumption, the load versus time (load profile) and the power factor

Minimum Lighting Comfort

Lighting colour rendition index will have a rating CRI >= 80.

General Illuminance and Glare Reduction

Glare will be reduced where possible and “best practice” methods put into place to minimise glare impact issues.

Localised Lighting Control

Ward areas and care areas are generally exempted from lighting control requirements under the NCC.

Individual Wards are generally all locally switched via traditional light switches at the room entrance. We can utilise localised controls in medical suite areas.

PV Cell Installation

A Photo Voltaic (PV) system will be investigated as part of the ESD consultants review. It is anticipated a small PV cell installation could be considered for the site, subject to available roof space and orientation.

Light Pollution to Neighbouring Properties – Lighting Strategy
External and Carparking Lighting

An external lighting system will be required for the proposed new extensions to Northside West as proposed below.

The design and installation of a system of lighting to operate from dusk to dawn via a photo-electric switch within areas where the public have general access will be implemented (external carparking, public vehicle/pedestrian drop-off areas and pathways). Internal carparks will be controlled via movement sensor systems, and/or via the Building Management System.

Any lighting to the facade and accent lighting to highlight the external features of the building, will be incorporated into the design where requested by the design architect. This lighting will be timer controlled via a Building Management System, and linked to a photo-electric switch.

The obtrusive effects of lighting will be controlled in accordance with the requirements of AS4282. This standard outlines the requirements to limit/remove light spill to neighbouring properties from external lighting sources.

Lighting to the external areas of the development will be designed to the minimum following requirements:

- AS/NZS1158.3.1 – Pedestrian Area (Minimum Category P11c External Carpark / Driveway Lighting)
- AS/NZS1158.3.1 – Pedestrian Area (Category P4 for General External Lighting)
- AS/NZS1680 Series – Interior and Workplace Lighting (AS/NZS 1680.2.1 – for Indoor Carparks)

Lamp type will be LED.

Light Pollution to Night Sky
Lighting will be designed to minimise light spill to the night sky.

2.3 SEARs REQUIREMENTS

General

This electrical Services section of this report, addresses the relevant clause requirements outlined in the Planning Secretary’s Environmental Assessments Requirements (SEARs) issued 13 May 2021 for application SSD-17899480 Wentworthville Northside Clinic: Extension.

Item 14 will be addressed.

Utilities

- In consultation with relevant service providers:
  - assess the impacts of the development on existing utility infrastructure and service provider assets surrounding the site.
  - 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.
  - provide an infrastructure delivery and staging management plan, including a description of how infrastructure requirements would be co-ordinated, funded and delivered to facilitate the development.

Refer to Section 2.4 (Substation) and 2.10 (Communication Systems) for details.

2.4 SUBSTATION

A preliminary maximum demand based on area methods give a preliminary additional demand of 500kVA. The existing substation is rated at 750kVA. It services the current hospital, plus a street feeder. A recorded peak of 491kVA has been advised by the supply authority.

It is anticipated the substation will require upgrade/replacement to allow for the additional extension works to the hospital – Preliminary calculations indicate a 1500kVA substation to replace existing via a new substation installed adjacent/nearby the existing (subject to Endeavour Energy assessment).

Final supply arrangements are required to be negotiated by the successful contractor with the local supply authority.

Note: Demand calculation will be revisited upon confirmation of final internal make-up/usage of building.

It is anticipated that padmount type substations will be required to service the site.

Final substation arrangements and design will be carried out by an authorised Level 3 Accredited Services Provider (ASP) during the detailed design phases of the project.

It will be proposed to establish a new padmount substation located adjacent the new extension. This will supply a new main switchboard for the entire facility (new and existing) allowing for the exiting substation to be decommissioned and removed (subject to Endeavour Energy assessment and advice). The new substation would be commissioned prior to the decommissioning of the existing substation to remove/minimise interruptions to the existing Endeavour Energy network system.

Endeavour Energy application and contribution costs will be as Endeavour Energy policies for Substation and Associated works.

Any Endeavour Energy works will be carried out via Endeavour Energy Policies via Level 1 and Level 3 Accredited Services Providers as per NSW Department of Planning and Environment requirements.

2.5 MAIN SWITCHBOARD

Proposed:

The site is required to be serviced via site Main Switchboard (MSB).
Main switchboard/s minimal requirements:

- All general building loads, including lifts, house services, etc.
- All hospital loads including Wards, BOH areas, etc.
- Bulk metering of development, existing and new buildings
- MSB to be arranged into BCA essential, unmetered, hospital essential (if generator system installed) and hospital non-essential sections.

Optional:

- *Inclusion of Automatic Transfer Switching (ATS) system for diesel generation system. Diesel generator section/s to cater for all BCA essential systems supplies and essential hospital loads.*

- *A dedicated diesel generator switchboard for distribution of diesel generator loads.*

Main switchboards (including main diesel generator switchboard) are to be house in 2hr fire rated dedicated rooms to satisfy BCA and AS3000 requirements.

Interface to any solar array system will be implemented into the main switchboard and/or distribution system.

Existing:
The existing main switchboard is estimated to be in the order of 50years old. Parts and equipment are no longer available making it difficult to service and repair.

It cannot support the new extension and therefore will be required to be replaced, and be in compliance with the latest BCA2019, AS/NZS3000 and Endeavour energy requirements.

It is proposed to establish the new site main switchboard in a dedicated 2hr fire rated switchroom, basement level of the existing building (adjacent the existing main switchboard location). Existing loads can then be transferred across for the old to new reducing power interruptions across the site. The new main switchboard will be arranged to suit NCC2019 A1 and AS/NZS3000 requirements.

The new building will have direct supplies from the new main switchboard for Life Safety dedicated supplies to lifts, smoke control equipment etc. and a general main switch to a proposed new main distribution board for the new building (carpark level).

2.6 DIESEL GENERATION SYSTEM

The site is currently serviced via an existing 175kVA diesel generation system.

The generator system supplies generator supply to selected hospital clinical, administration and circulation areas.

If generator Hospital Medical supply is required to the new building, then an upgrade/replacement of the existing generator will be required. The upgrade will need to meet all the NCC2019, AS/NZS3000, AS/NZS3009 and AS/NZS3010 requirements.

As the hospital provides mental health services, it could be considered to remove the existing diesel generator system.

Removal of the generator system may impact on the existing lifts to the existing building to ensure that upon power loss, they return to a level and doors open to allow for any passengers to alight. Further investigation to the existing lifts will be required.

If diesel generation is required/requested, it would be anticipated that a 350kVA size system will be required.

The diesel generator will need be housed in a dedicated 2hr fire rated room/s. Allow for all attenuation and ventilation requirements to satisfy the running requirements of the generator and acoustic performance requirements.

2.7 UNINTERRUPTABLE POWER SUPPLY (UPS) SYSTEM

No additional central UPS system is proposed for the new development.

2.8 CONSUMERS AND SUBMAINS

Consumers mains, Submains from standby generator, submains from generator switchboard, BCA essential supplies and hospital essential supplies are to be WS53 to AS3013, BCA and AS3000 requirements.

Non-essential submains are to be of the XLPE/PVC type.

Dedicated submains are required for all mechanical plant, medical gases plant, etc. Provide separate BCA Essential, hospital essential and non-essential supplies as required.

All major power supplies will be metered/monitored to minimum NCC Section J8 requirements, and to any potential greenstar assessment/ESD requirements.

2.9 GENERAL DISTRIBUTION REQUIREMENTS

Electrical risers are requested to be in a straight line vertically up the building where possible to minimise offsets and bends to the rising cable system/s.

Electrical risers will need to back onto a 2hr fire rated structure.

Carparking – Lower Ground and Ground Level
Essential and non essential supplies to each carparking level. Carparking areas to be divided into east and west distribution sections.

Dedicated supplies to carpark mechanical ventilation supplies (fire rated where required)

Lower Ground Floor
Hospital Medical Essential (if applicable) and non-essential supplies to hospital back of house, administration areas and to general circulation.

Dedicated supplies to BCA essential systems – Upgrade existing to current compliance.

Ground Floor
Hospital Medical Essential and non-essential supplies to hospital back of house, administration areas and to general circulation.

Dedicated supplies to BCA essential systems – Upgrade existing to current compliance.

Dedicated Hospital essential and non-essential supplies to mechanical services (as applicable)

Level 1 - Existing
Resupply Hospital Medical Essential (if applicable) and non-essential supplies to hospital back of house, administration areas and to general circulation.

Dedicated supplies to BCA essential systems – Upgrade existing to current compliance as required.

Level 1 - New

Hospital Medical Essential and non-essential supplies to hospital wards, back of house, administration areas and to general circulation

Dedicated Hospital essential and non-essential supplies to mechanical services (as applicable)

Level 2 - New
Hospital Medical Essential and non-essential supplies to hospital wards, back of house, administration areas and to general circulation

Dedicated Hospital essential and non-essential supplies to mechanical services (as applicable)

Level 3 - New
Hospital Medical Essential and non-essential supplies to hospital wards, back of house, administration areas and to general circulation

Dedicated Hospital essential and non-essential supplies to mechanical services (as applicable)

Plant and Lifts
Dedicated BCA Essential, hospital essential and non-essential supplies to mechanical services switchboards to plant areas and stairs (final extent to be determined and advised by mechanical trades).

Dedicated BCA essential supplies to lifts and lift motor room.

2.10 COMMUNICATION SYSTEMS

General
The new building will be serviced from the existing building ICT network and will not impact on any

service provider systems from the street.

Data and Telephony
The new building will be supplied from the existing building.

Propose to establish a new main communications room for the new building with distribution to all levels of the new building. Fibre Optic backbone extended from the existing PABX room to the new building.

Systems to meet the requirements of the ACMA Manuals and standards.

MATV
An MATV distribution system is to be extended to all new areas from the existing building system. MATV to distribute all Free-to-air (FTA) and Pay TV channels/requirements.

Nurse Call
Data backbone to support nurse call backbone system. Nurse call to each new hospital level via backbone system to allow for hospital inter-departmental interconnection. Extend the exiting nurse call systems (it is noted an Ascom system is currently installed on site)

2.11 ACCESS CONTROL / MONITORING / CCTV SYSTEM

Access control to all new external entries is and lift services is anticipated (for the new building.

Access control provisions to carparking levels, including access control to a potential dedicated staff carparking area.

CCTV to all entries and carparking levels.

All external doors to be monitored under the access control system.

All systems are to be expandable to allow for dedicated hospital and future medical tenancy suite requirements.

3 HYDRAULIC SERVICES

3.1 GENERAL

Hydraulic services within the existing stage 1 building will remain unchanged other than the renovation of the existing ground floor amenities and alterations involved for the lower ground floor loading bay. Hydraulic services for these works will be retained and altered to suit proposed scope, requirements and proposed fixtures. The lower ground floor will include the removal, replacement and relocation of the existing kitchen grease arrestor.

3.2 AUSTRALIAN STANDARDS

All services are to be installed to meet (but not limited to) the requirements of:

- National Construction Code (NCC) – 2019 Volume 1, 2 & 3
- Work Cover Authority requirements
- Local Council regulations having jurisdiction on this project
- NSW Fire and Rescue requirements
- Sydney Water Corporation requirements
- Jemena network operator rules and requirements
- AS 2419.1 Fire Hydrant Installation
- AS 2441 Installation of fire hose reels
- AS 2444 -2001 Portable fire extinguishers and fire blankets -selection and location
- AS 2941-2013 Fixed fire protection installation - pumpset system
- AS 3500.0 Glossary of terms
- AS 3500.1 Water services
- AS 3500.2 Sanitary plumbing & drainage
- AS 3500.4 Heated water services
- AS 5601 Gas installations
- NSW Environmental Planning and Regulation 2000

3.3 METERING

Drinking Cold Water Metering

Stage 2 drinking cold water metering inclusions are as below (but not limited to):

- Stage 2 drinking cold water authority billing meter
- Stage 2 hot water plant
- Stage 2 irrigation supplies
- Stage 2 mechanical supplies

Natural Gas Metering

Stage 2 natural gas metering inclusions are as below (but not limited to):

- Stage 2 hot water plant
- Stage 2 mechanical supplies

Coordination of interconnection of hydraulic meters to mechanical systems BMS will be required. Meters will be located in an area's that allow regular monitoring and maintenance by facilities managers and other facilities management personnel.

Monitoring Systems

Drinking cold water and natural gas consumption is proposed to be monitored through an electronic system capable of capturing and processing the data produced by the installed hydraulic meters. The automatic monitoring system must be capable of:

- Collecting data from all meters;
- Alerting to missing data due to failures;
- Recording and processing of data on water and gas use consumption at user adjustable levels;

- Provide a breakdown of the information by building system type;

3.4 DRINKING COLD WATER

A new drinking cold water connection and supply from the existing authority water main is proposed, with a new boundary billing meter and reduced pressure zone device (RPZD). The new drinking cold water meter and RPZD will supply stage 2 hydraulic fixtures, outlets and fire hose reels only.

3.5 HOT WATER

A new hot water plant serving stage 2 hydraulic fixtures and outlets is proposed. Hot water plant location is to be suitable for a natural gas centralised hot water plant with sufficient natural air flow for natural gas burners and allowance for gas flues to atmosphere.

3.6 WARM WATER

Warm water to amenities and fixtures requiring warm water will be provided from NSW Health approved thermostatic mixing valves (TMV) installed at an accessible height within a recessed lockable stainless-steel box. Each ensuite or double back-to-back ensuites will incorporate a TMV. Dead legs from hot water supplies to each TMV along with dead legs from each TMV to warm water outlets will be kept to a minimum.

3.7 NATURAL GAS

Natural gas for the proposed stage 2 works will connect to the existing stage 1 natural gas meter set adjacent to the loading dock drive way entrance. New stage 2 sub meters will be incorporated for the proposed stage 2 hot water plant and any mechanical gas provisions. The existing natural gas meter and regulator assemblies will be assessed for available capacity to supply stage 2 gas loads.

3.8 FIRE HYDRANT SYSTEM

The existing fire hydrant system will be extended to the proposed stage 2 building. The existing fire hydrant booster assembly location will ideally be retained, with protection of the booster assembly for attending fire personnel meeting AS2419.1 requirements. Flows and pressures will meet the requirements of AS2419.1, and where a shortfall exists tanks and or pumps will be incorporated.

3.9 FIRE HOSE REEL SYSTEM

A new fire hose reel system supplied of the new drinking cold water system will be proposed. Flows and pressures will meet the requirements of AS2441, and where a shortfall exists tanks and or pumps will be incorporated. New fire hose reels will be installed within dedicated fire hose reel cupboards as per the architectural drawings. Fire hose reel cupboards will be locked and released by the FIP in the event of a fire, this is to maintain consistency between stage 1 and stage 2 due to mental health patients.

3.10 SANITARY DRAINAGE & PLUMBING

New stage 2 sanitary drainage and plumbing shall connect to the stage 1 existing sanitary drainage system.

3.11 STORMWATER PLUMBING

New stage 2 stormwater plumbing will connect to civil provisions at ground floor. All eave and box gutter details will be sized as per AS3500.3 requirements.

3.12 TRADE WASTE DRAINAGE & PLUMBING

Based on current architectural drawings, no kitchen is proposed for stage 2. Trade waste works for stage 2 will be include the removal, relocation and replacement of the existing kitchen grease arrestor adjacent to the existing loading dock.

The existing grease arrestor accessed from the loading dock will be relocated due to the proposed loading bay alterations on the lower ground floor.

4 FIRE SERVICES

4.1 GENERAL

A visual inspection was carried out on the existing fire services for the North Side West Clinic (NSWC). This assessment is to determine the general condition of the existing infrastructure services and provision for new extension works where required.

The Fire Services interface between the existing and new building has identified the following:

- There is no existing fire sprinkler system in the existing building (stage 1) and is not required according to the Annual Fire Safety Statement.
- Protection to the existing building (stage 1) consists of fire detection system and EWIS system.
- The existing building (stage 1) is a Class 9a - treatment area which currently has no sprinkler protection which is not required by the NCC.
- The existing building (stage 1) FIP shall be reprogrammed to show the proposed building (stage 2) sprinkler control valve and flow switches signal.
- The fire detection system and EWIS systems for the proposed building (stage 2) will be wired back to the existing buildings (stage 1) FIP and EWIS panel.

4.2 AUSTRALIAN STANDARDS

The wet and dry fire services are to be installed to meet (but not limited to) the requirements of:

- National Construction Code (NCC) – 2019 Volume 1
- Work Cover Authority requirements
- Local Council regulations having jurisdiction on this project
- NSW Fire and Rescue requirements
- Sydney Water Corporation requirements
- AS 2118.4-2012 Automatic fire sprinkler system
- AS1670.1-2018 Fire detection and alarm system
- AS1670.4-2018 Fire detection warning, control, and intercom system
- AS2444-2001 Portable fire extinguishers and fire blankets
- NSW Environmental Planning and Regulation 2000
- NSW Health care facilities design guideline

4.3 FIRE SPRINKLER SYSTEM

A new fire sprinkler system will be required in the proposed stage 2 building. The sprinkler booster assembly location will ideally be adjacent to the existing hydrant booster. Sprinkler water storage tank and pumps requirements are subjected to the Pressure and Flow from the street main.

Sprinkler control valve and flow switches will be connected to the FIP in the existing building.

Flows and pressures will meet the requirements of simultaneous operating of both the fire hydrant and fire sprinkler systems. Sydney Water pressure and flow statements will be obtained to determine the existing water main can provide the flow for simultaneous operating of the fire hydrant and fire sprinkler systems.

A fire engineering solution will be required to allow the existing building to remain as a non-sprinkler protected building.

Consideration will be required for the fire separation of the proposed (stage 2) fire sprinkler protected building and the existing (stage 1) non-fire sprinkler protected building. Wall-wetting sprinklers might be required to protect the openings between the different fire compartments.

Consideration of fire sprinklers within the patient ward areas, institutional sprinkler heads will be detailed within the patient access areas.

4.4 FIRE DETECTION AND EWIS SYSTEM

A fire engineering solution will be required to allow the existing FIP and EWIS system in the existing building (stage 1) to not require upgrading, and the proposed building (stage 2) design and installation to comply with the current standards AS1670.1-2018 & AS1670.4-2018.

The proposed building (stage 2) fire detection system and EWIS will be wired back to the existing buildings (stage 1) FIP and EWIS panel.

Mimic panel will be provided in each smoke zone and nurse station.

Consideration of WIP phones and Manual call points might be accessed by patients, the devices will be located in the cupboards.

The existing buildings (stage 1) FIP shall be reprogrammed to show the proposed buildings (stage 2) sprinkler control valve and flow switches signal and the smoke zones.

The extension board, battery backup and the amplifier in the existing buildings (stage 1) EWIS panel shall be upgraded to allow for the proposed building (stage 2) required provisions.

4.5 FIRE EXTINGUISHERS

New fire extinguishers shall be incorporated into the proposed stage 2 building and located as required to meet AS2444 and NSW health care facilities design guideline requirements.

Consideration of fire extinguisher locations and access to them by patients will be considered in the design.

4.6 FIRE BLANKETS

Fire blankets will be provided at the nurse station, food preparation area and treatment room to meet AS2444 and NSW health care facilities design guideline requirements.

Note: This report is based on high level estimates of the services requirements.