

Wagga Wagga Base Hospital Stage 3 Redevelopment

Ambulatory Care Building and Associated Works –
Hydraulic, Electrical and Communications Engineering
Services

Infrastructure Management Plan

Prepared for: Health Infrastructure

Document no: WWHS_STG3_SSD_HFU_001

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REVISIONS

Revision	Date	Purpose	Prepared By	Approved By
A	09/03/2018	Draft 1 for Review	RRG	RRG
B	28/03/2018	SEARS submission draft review	RRG	RRG
B	23/04/2018	SEARS final submission	RRG	RRG

Unless otherwise advised, the parties who have undertaken the Review and Endorsement confirm that the information contained in this document adequately describes the conditions of the site located at "[Insert Client Site]"

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1 Executive Summary

In accordance with SEARS application requirements, this Infrastructure Management Plan has been prepared, in consultation with relevant agencies, detailing information on the existing capacity and any augmentation and easement requirements of the development for the provision of utilities including staging of infrastructure.

The Wagga Wagga Base Hospital Stage 3 consists of a six storey Ambulatory Care Building, including a rooftop Plant Room, all above an undercroft parking level. The Ambulatory Care Building will provide the following Units:

- 28 flexible Aged Care Beds, including 4 dedicated beds for Acute Delirium.
- 24 Rehabilitation beds, including inpatient therapy and ADL facilities shared with the Aged Care and Older Persons Health inpatient units.
- A 24 bed Older Person's Mental Health Inpatient Unit, including 8 T-BASIS beds.
- A 20 chair Renal Dialysis Unit plus 4 training chairs (2 x HD and 2 x peritoneal) collocated with other Extended Hours Services.
- Ambulatory Clinics, Rehabilitation and Allied Health, comprising 60 bookable (electronic patient flow management system) Interview / Consult rooms and Gym / Allied Health treatment spaces. Services accessing this area will include Primary and Community Health, Outpatients, Prosthetics and Orthotics, Mental Health, Drug and Alcohol, and Oral Health services (8 Dental Chairs).
- An education area including library, conference rooms (60 seats total) and a lecture theatre (100 seats).
- Extended Hours Services including Hospital in the Home, Integrated Care, Rapid Assessment Clinic, After Hours GP, and Infusions using 10 treatment spaces and 6 consultation rooms and shared support areas with renal dialysis.
- Workforce and office accommodation will be provided for staff associated with Stage 3, refined through New Ways of Working (NWW).
- The NWW assessment will be also extended to Support Services staff, including Patient Flow, IT, Health Share, Health Information Services, Pastoral Care and Volunteer Services.

The Wagga Wagga Base Hospital Stage 3 Ambulatory Care Building and Associated works will be provided with "fit for purpose" engineering services systems.

This infrastructure management plan addresses all authority infrastructure supply services available for the proposed Stage 3 development works.

Scope of services covered within this infrastructure management include:

- Sewerage systems provided by Wagga Wagga City Council
- Potable and Fire Water supplies provided by Riverina Water County Council
- Natural gas supply provided by APA Group (Australian Gas Networks)
- Electrical Supply provided by Essential Energy
- Campus Telecommunication provide by Telstra

Authority supply services can be summarized as follows:

ACOR have assessed and reported on the condition, capacity, compliance reliability and efficiency of the existing Wagga City Council sewerage infrastructure system and have found them to be suitable for connection. Capacity of downstream system is still to be determined by Council and will be subject to servicing head works charges.

ACOR have assessed and reported on the condition, capacity, compliance reliability and efficiency of the existing Riverina Water County Council water supply infrastructure system and have found them to be suitable for the proposed building

ACOR have assessed and reported on the condition, capacity, compliance reliability and efficiency of the existing APA Group (APN) natural gas infrastructure system and have found them to be suitable for the proposed building works

ACOR received water quality test results from Hydrochem Pty Ltd on 20th April 2018, and confirms compliance with Australian drinking water guidelines.

JACOBS have assessed and reported on the condition, capacity, compliance reliability and efficiency of the existing Essential Energy electrical supply system and have found them to be suitable for connection.

2 x 1,000kVA kiosk/padmount substations to provide the required power supply for ACB building
An easement for Essential Energy will be created over the substations and over the high voltage incoming cables.

Application for power supply connection has been issued and approved by Supply Authority

1 x 750kVA external standalone generator complete with sound attenuating enclosure. The fuel capacity for 24 hours autonomy will be stored in a belly tank under the generator.

The Stage 3 development does not require any new telecommunication incoming cable connection from the existing public grids.

Stage 3 will be connected to the existing campus distributors already installed on site. Wireless mobile phone connection via distributed antenna system will be provided.

2 Hydraulic Services – Introduction

Acor Consultants Pty Ltd has been engaged by Health Infrastructure to provide authority infrastructure management plan for the proposed Wagga Wagga Base Hospital Stage 3 development works.

The Wagga Wagga Base Hospital Stage 3 consists of a six storey Ambulatory Care Building, including a rooftop Plant Room, all above an undercroft parking level. The Ambulatory Care Building will provide the following Units:

- 28 flexible Aged Care Beds, including 4 dedicated beds for Acute Delirium.
- 24 Rehabilitation beds, including inpatient therapy and ADL facilities shared with the Aged Care and Older Persons Health inpatient units.
- A 24 bed Older Person's Mental Health Inpatient Unit, including 8 T-BASIS beds.
- A 20 chair Renal Dialysis Unit plus 4 training chairs (2 x HD and 2 x peritoneal) collocated with other Extended Hours Services.
- Ambulatory Clinics, Rehabilitation and Allied Health, comprising 60 bookable (electronic patient flow management system) Interview / Consult rooms and Gym / Allied Health treatment spaces. Services accessing this area will include Primary and Community Health, Outpatients, Prosthetics and Orthotics, Mental Health, Drug and Alcohol, and Oral Health services (8 Dental Chairs).
- An education area including library, conference rooms (60 seats total) and a lecture theatre (100 seats).
- Extended Hours Services including Hospital in the Home, Integrated Care, Rapid Assessment Clinic, After Hours GP, and Infusions using 10 treatment spaces and 6 consultation rooms and shared support areas with renal dialysis.
- Workforce and office accommodation will be provided for staff associated with Stage 3, refined through New Ways of Working (NWW).
- The NWW assessment will be also extended to Support Services staff, including Patient Flow, IT, Health Share, Health Information Services, Pastoral Care and Volunteer Services.

New Stage 3 building works is generally proposed to be serviced from the existing WWBH campus site infrastructure.

This infrastructure management plan describes the existing hydraulic and Fire services utility supply capacity to service the proposed development sewage, water and natural gas loads.

Hydraulic and fire services include:

- Sewerage
- Domestic water supply.
- Fire protection water supply.
- Natural Gas supply systems.

This section does not consider stormwater, which are being reported upon by the civil engineering consultant.

Refer section 3 for Jacobs electrical and communications reporting.

2.1 Hydraulic Services – Utility Supply Description

Authority services adequacy is summarized within the tables below:

2.1.1 Sewerage

Stage 3 Ambulatory Care Building

Item	Description
Supply Authority Name and Contact	<p>Wagga Wagga Council</p> <p>Jamie Harwood / Keith Seghers – Sewer Network Engineers</p> <p>Email :harwood.jamie@wagga.nsw.gov.au</p> <p>Ph: 02 69269531</p>
Sewerage Main Details	<p>The existing hospital campus has the following sewer mains available for connection.</p> <ul style="list-style-type: none"> ■ Council's 150mm sewer in Rawson Lane ■ Council's 150mm sewer in Edward Street / Sturt Highway. ■ Council's 150mm sewer in new Lewis Drive / Yabtree street. ■ Council's 150mm sewer in Yathong Street <p>The existing sanitary drainage for Wagga Wagga Base Hospital precinct has seven (7) connections to the Councils sewer system. The connections are listed below;</p> <ul style="list-style-type: none"> ■ 150mm connection in Lewis / Yabtree Street (Stage 2 connection) ■ 2 x 150mm connection in Edward Street / Sturt Highway ("Old hospital") ■ 2 x 150mm connections in Yathong Street (Yathong lodge and Renal)

	<ul style="list-style-type: none"> 2 x 150mm connections in Rawson Lane (Dental and Portion A building) Refer Appendix A Sewer Diagram.
Condition and Reliability	<p>No reports of major failures or surcharging of existing sewer mains</p> <p>Council sewerage system Infrastructure failure would not significantly impact the operation Wagga Wagga Base Hospital facility.</p> <p>Sewerage main surcharge or blockage would discharge via overflow relief gully. Council would implement emergency repairs and temporary measures to allow hospital to operate normally.</p>
Existing Sewage Loads	<p>Current (55 inpatient / hospital beds)</p> <p>Current Equivalent Tenements (ET) = $55 \times 1.43 = 78.65$</p> <p>Average Dry Weather Flow – 0.165 l/sec</p> <p>ADWF = $ET \times 0.0021$</p> <p>Peak Dry Weather Flow – 0.826 l/sec</p> <p>PDWF = $5 \times 0.0021 \times ET$</p>
Proposed Sewage Loads	<p>Proposed Additional Net 24 Bed increase (Total 79 beds inpatient / hospital beds)</p> <p>Proposed Equivalent Tenements (ET) = $79 \times 1.43 = 112.97$</p> <p>Average Dry Weather Flow – 0.237l/sec</p> <p>ADWF = $ET \times 0.0021$</p> <p>Peak Dry Weather Flow – 1.186l/sec</p> <p>PDWF = $5 \times 0.0021 \times ET$</p>
Capacity	<p>Wagga Council to verify.</p> <p>Wagga Wagga County City developer (DSP) charges based on published prices effective effective July 1 2015 are approximately \$4,500 per additional E.T</p> <p>Final determination of additional ET to be agreed between Health Infrastructure and Wagga Wagga City Council.</p>
Proposed Sewage Loads	<p>Proposed Additional Net 8 Bed increase (Total 24 Aged Care beds)</p> <p>Proposed Equivalent Tenements (ET) = $24 \times 1.43 = 34.32$</p> <p>Average Dry Weather Flow – 0.072l/sec</p> <p>ADWF = $ET \times 0.0021$</p> <p>Peak Dry Weather Flow – 0.360l/sec</p> <p>PDWF = $5 \times 0.0021 \times ET$</p>
Capacity	<p>Wagga Council to verify.</p> <p>Wagga Wagga County City developer (DSP) charges based on published prices effective effective July 1 2015 are approximately \$4,500 per additional E.T</p> <p>Final determination of additional ET to be agreed between Health Infrastructure and Wagga Wagga City Council.</p>

2.1.2 Domestic Water

Stage 3 Ambulatory Care Building

Item	Description
Supply Authority Name and Contact	<p>Riverina Water County Council</p> <p>Austin Morris: Water Supply Works Manager</p> <p>Email: amorris@rwccnsw.gov.au</p> <p>Ph 69220657</p>
Water Main Details	<p>The existing hospital campus has the following water mains surrounding the site</p> <ul style="list-style-type: none"> ■ Riverina Water 100mm water main in New Lewis Drive ■ Riverina Water 150mm water main in Edward Street / Sturt Highway. ■ Riverina Water 250mm water main in new Docker street. <p>Wagga Wagga Base Hospital currently has five (5) metered water supplies and reticulates through the facility to the various buildings to serve the fixtures plant and equipment requiring potable water.</p> <p>The existing and proposed potable water connections are listed below;</p> <ul style="list-style-type: none"> ■ Existing 100mm connection to water main in Edward Street – serving the existing redundant ward block and old hospital building. ■ 150mm main connection in Docker street extending to 50kl emergency water storage / break tank and interconnection to phase 1 mental health unit and new phase 2 & 3 works and existing potable water reticulation. <p>Refer Appendix B – Water Main Diagram</p>
Existing Domestic Water Supply Loads	<p>Current (55 hospital beds)</p> <p>Equivalent Tenement (ET)= 55 X 0.90= 49.5ET</p> <p>1ET = 0.73kl/day</p> <p>Total Load = 55 X 0.73kl/day= 40.15kl/day</p> <p>Probable Maximum Simultaneous Flow – 13lsec</p>
Proposed Additional Domestic Water Supply Loads	<p>Proposed Additional Net 24 Bed increase (79 beds inpatient / hospital beds)Equivalent Tenement (ET)= 79 X 0.90= 71.1ET</p> <p>(1 ET =0.73KL/day)</p> <p>Total Load = 69.3ET X 0.73kl/day= 51.903kl/day</p> <p>Probable Maximum Simultaneous Flow – 17.0 l/sec</p>
Condition and Reliability	<p>Good.</p> <p>No reports of major failures.</p> <p>50kl emergency water storage constructed as part of the Phase 2 interconnections with mental health facility and existing hospital supply.</p> <p>During water main failure, Riverina Water would implement emergency repairs and temporary measures to allow hospital to operate normally. Existing water</p>

	main supply in Docker street is classified as a grade 2 water supply with alternative arrangements for isolation and supply available.
Water Supply Available Flow and Pressure	<p>Water supply flow and pressure test results at Docker Street validate that booster pumps are required for the site.</p> <p>Booster pumps and equipment have been installed under current Stage 2 works contract.</p> <p>Booster pumps not required for Yathong lodge.</p>
Capacity	<p>Water supply flow test results provided by Riverina Water validate adequate flow capacity.</p> <p>Note: Riverina Water requirement to provide break tanks where site booster pumps are installed.</p> <p>Riverina Water County Council developer (DSP) charges based on published prices effective July 1 2015 are approximately \$4500 per additional E.T</p> <p>Final determination of additional ET to be agreed between Health Infrastructure and Riverina Water.</p>
Water Quality	<p>Water quality results have been received by Hydrochem and confirm water main supply complies with Australian Drinking Water Guidelines.</p> <p>Site wide water filtration equipment has been installed under current Stage 2 works contract.</p>

2.1.3 Fire Service Water Supply

Stage 3 Ambulatory Care Building

Item	Description
Supply Authority Name and Contact	<p>Riverina Water</p> <p>Austin Morris: Water Supply Works Manager</p> <p>Email: amorris@rwccnsw.gov.au</p> <p>Ph 69220657</p>
Water Main Details	<p>The existing Fire water connections are listed below;</p> <ul style="list-style-type: none"> 150mm connection to Fire services 250mm water main in Docker Street 100mm connection to water main in Edward Street – serving the Multi-story building (To be made redundant upon completion of Stage 2 works.) 100mm connection to water main in Docker Street – serving “old” hospital building (To be made redundant under Stage 2 contract) <p>Refer Appendix B – Water Main Diagram</p>
Existing Fire Water Supply Loads	<p>Fire Service</p> <p>30L/sec Fire Hydrant</p> <p>35l/sec Fire Sprinklers</p>
Proposed Fire Water Supply Loads	<p>Fire Service</p> <p>30L/sec Fire Hydrant</p> <p>35l/sec Fire Sprinklers</p>
Condition and Reliability	<p>Good</p> <p>No reports of major failures.</p> <p>No requirement for additional emergency water storage for stage 3 building works.</p> <p>During water main failure Riverina Water would implement emergency repairs and temporary measures to allow hospital to operate normally. Existing water main supply in Docker street is classified as a grade 2 water supply with alternative arrangements for isolation and supply available.</p>
Water Supply Available Flow and Pressure	<p>Water supply flow and pressure test results provided by Riverina Water validate booster pumps are required and as a consequence fire services break tanks and booster pumps have been installed under Stage 2 contract works.</p> <p>Refer appendix C Fire Flow Results</p>

2.1.4 Natural Gas

Stage 3 Ambulatory Care Building

Item	Description
Supply Authority Name and Contact	<p>APA (Australian Gas Networks) Name :Phil Jenkins (Gas Engineering Officer) Cliff Priest (Local area Customer Liaison officer) Local Area Representative Email : phil.jenkins@apa.com.au cliff.priest@apa.com.au Mobile: Cliff Priest: 0409 779 145 Phil Jenkins 0407 202 713.</p>
Existing Natural Gas Details	<p>The site is currently supplied with high pressure gas main in Rawson lane to a main meter and regulator set constructed during Stage 2 Numerous gas sub meters and regulators are located around the site servicing individual building areas.</p>
Existing Natural Gas Supply Loads	<p>Refer appendix F Total site gas load upon Stage 2 completion Total 21,313mj/hr say 22,000mj/hr</p>
Proposed Natural Gas Supply Loads	<p>Refer appendix F Total site gas load upon Stage 3 completion Total 25,375mj/hr say 26,000mj/hr Net increase of approximately 4000mj/hr</p>
Condition and Reliability	<p>Good No reports of major failures or delivery issues. If the gas authority was unable to supply gas to the site, gas fired plant for domestic hot water and mechanical heating would not be available until repaired. During gas main failure APA (Evenstra) would implement emergency repairs and temporary measures to allow hospital to operate normally as soon as possible.</p>
Capacity	<p>Adequate capacity available subject to final detail calculations Final determination of contribution charges and / or network augmentation to be confirmed by supply authority upon confirmation of final mechanical and hydraulic design loads.</p>
Proposed Works	<p>Stage 3 works to connect to existing site gas infrastructure.</p>

3 Electrical – Infrastructure

The Stage 3 ACB will be approximately 22,053 m² in area, which is inclusive of the proposed 4,200m² carpark no for future expansion.

Therefore, based on the recommendations of the NSW HI Engineering Services Guidelines, the maximum demand of the building will be approximately 1,570 kVA.

An Application for Connection was prepared and the draft was submitted to NSW HI. The draft was approved and the AFC was submitted to Essential Energy.

On 21 February 2018, Essential Energy responded approving the application and provided the Client with an offer to sign for supply at Low Voltage.

The Level 3 ASP design will propose two 1,000kVA kiosk/padmount substations to provide the required power supply. The level 3 ASP design also includes any modifications required to Essential Energy's high voltage network.

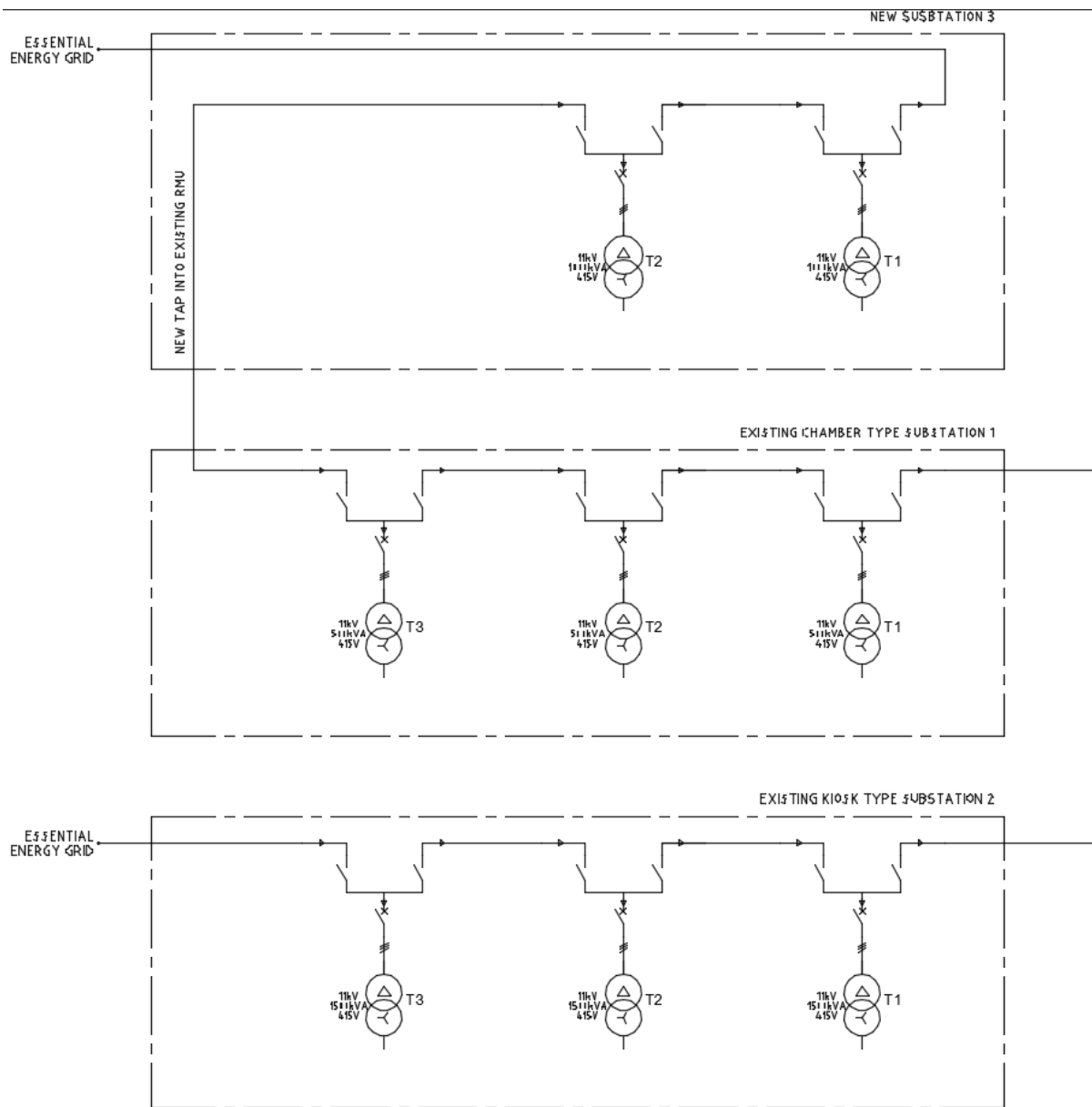
An easement for Essential Energy will be created over the substations and over the high voltage cables.

A back-up generator will be installed standalone on ground level in sound attenuating enclosure. It will provide back-up power supply to the Stage 3 project. The fuel capacity for the required 24 hours autonomy will be stored in a belly tank under the generator. A fuel gauge will also be located at the same location for permanent visibility of fuel level. The fuel level will also be shown on the building management system, along with the status of all incoming power supplies and outgoing distributions.

The standby diesel generator will back-up the power supply to the following:

- communications rooms within the building which will also be complete with UPS supplies
- essential mechanical loads,
- fire and life safety plant and equipment including all lifts,
- lighting and power loads in accordance with the NSW Health Engineering Guidelines.

In addition to the permanent diesel generator, the building will be complete with a mobile generator connection facility to the main LV switchboard to provide additional redundancy to the electrical network in the event of a total diesel generator failure of the main generator.



PROPOSED HV SINGLE LINE DIAGRAM

NOTE: SUBJECT TO CONFIRMATION BY ESSENTIAL ENERGY, NAMELY ON THE CAPACITY OF THE EXISTING RING MAIN CABLE.

Figure 1: Electrical proposed 11kV infrastructure Schematic to provide power to the new Stage 3 ACB



Application number: 47926693

21 February 2018

The Manager
WAGGA WAGGA RURAL REFERRAL HOSPITAL
S 1/ DOCKER STREET
WAGGA WAGGA, NSW 2650

Dear Sir/Madam

Application for a New Connection / Connection Alteration – NMI: 40012576933

Thank you for your recent application. Your application meets the conditions of our:

Model Standing Offer for low voltage standard connection.

Figure 2: Letter of offer from Essential Energy for client signature and further development of the Level 3 ASP design

4 Electrical – Telecommunications Reticulation

The Stage 3 development does not require any new incoming cable connection from the existing public grids. It will connect to the existing campus distributors already installed on site. Wireless mobile phone connection via distributed antenna system will be provided.

Internal Cable connection

The Wagga Wagga Base Hospital currently has two campus distributors, one located within the SSB and the other located within the Mental Health Building. All buildings on the campus are connected to either or both of these campus distributors via the existing underground conduit and pit network.

Stage 3 ACB and new Yathong Lodge buildings will be connected via optical fibre to both Campus distributors, and with Cat 3 copper only from the new ACB BD.1 to Campus Distributor 2 in SSB.

The Stage 3 ACB building will be designed for the required redundancy across the fibre optic backbone cabling. The proposed building will comprise two Building distributors preferably located on the ground floor, however these two rooms can be located at an alternative level to be coordinated with the medical planning for the individual floors. In addition, there will be two floor distributors per floor level (one for the east/west floor plan and one for the north/south floor plan). It is essential that these two rooms are located so that any ICT technical outlet shall be no more than 90m cable length from the patch panel (in the floor distributor) to the technical outlet. It is also essential that these new Comms rooms (both Building distributors and Floor distributors) are not located adjacent to a lift shaft or and electrical riser, switch room or substation.

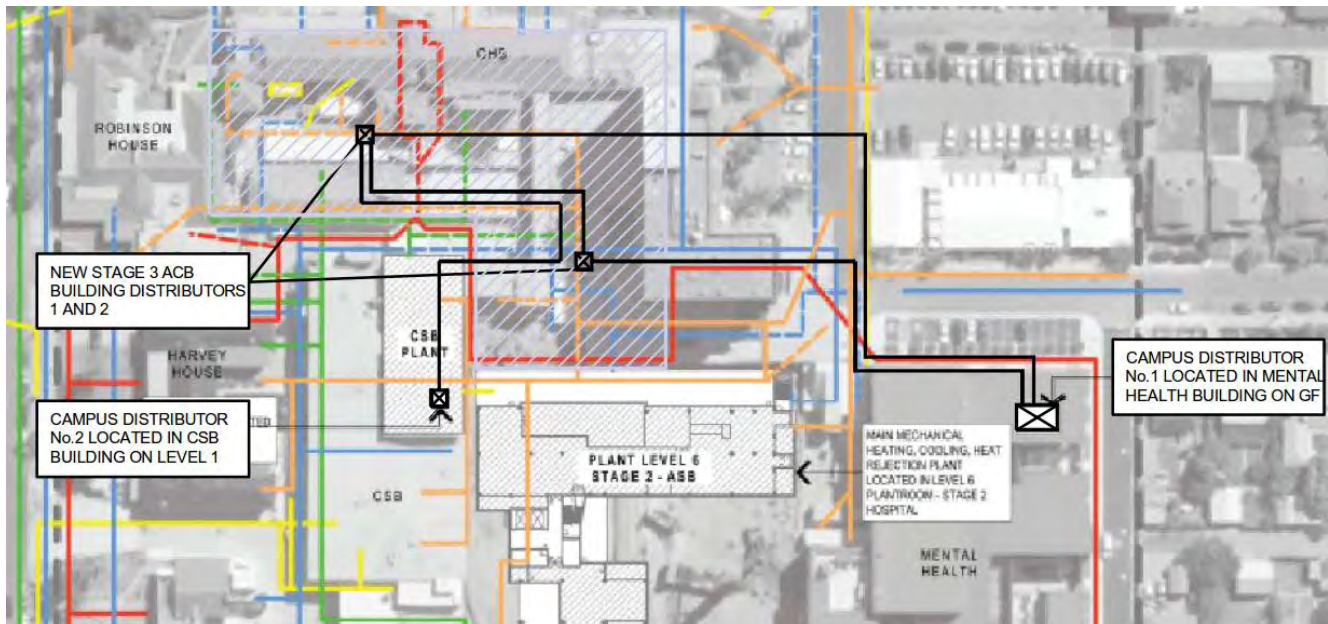


Figure 3: Proposed ICT site infrastructure cable routes relevant to the connectivity of the Stage 3 ACB

To achieve this the following will be carried out:

1. 24 Core Fibre optic cable connecting the existing hospital's Campus distributor No 1 with both the proposed new Building distributors in the ACB.
2. 24 Core Fibre optic cable connecting the existing hospital's Campus distributor No 2 with both the proposed new Building distributors in the ACB.
3. 200 pair telephone cable connecting the Building Distributor No 1 only in the ACB with the existing hospital's MDF in the existing Campus Distributor No 2 in the SSB.

The above will provide a compliant redundant backbone cabling network for Stage 3 ACB. Any subsequent future stages will then be able to follow this methodology for the required redundancy.

4.1 Wireless Connections

Wireless connections will be provided via Wireless LAN and extended Mobile Phone coverage

4.1.1 Wireless LAN

Wireless local area networks (WLAN) shall be provided to comply with IEEE 802.11 a, b, g, n and ac to all levels of the Stage 3 ACB to provide wireless access to data, voice, video services, RTLS (real time location system - tracking) and wireless duress. The system shall be designed for sufficient signal strength and coverage to locate equipment and/or personnel with an accuracy of 1.5 m radius. Within this scope of work and during the construction process a building survey will be carried out to cover the complete ACB building to determine the exact location of access points required to ensure seamless coverage for the whole building.

F/UTP cabling shall be utilised via a radial topology from the floor distributor to the ceiling WAPs. Two 4 pair Cat 6A F/UTP cables shall be installed to each WAP. Power to these access points shall be provided via PoE (Power over Ethernet). A WAP density allowance of one per 70m² of total floor space shall be provided and shall be located to ensure that Access point locations include the complete perimeter of each floor to enable compliant "triangulation" of signals from the WAPs. A survey shall be carried out when the building construction is nearing completion and when all the ceiling services (hydraulic, mechanical, fire and electrical) have been installed, but before the ceiling

tiles are installed. The results from the survey may require that in certain locations within the building that a higher density of WAPs is required to achieve the required Wi Fi coverage.

Access points shall be located to give sufficient coverage with total seamless overlap from one access point to another. The designed system shall provide the user to walk/travel anywhere within the new ACB, including lift lobbies, lift cars, fire stairs and plant rooms without access being denied or the service/signal failing.

4.1.2 Mobile Phone Coverage

In-Building mobile phone coverage shall be provided to cover the whole of the ACB using the DAS (Distributed Antennae System). The type of system to be installed will be either a “passive” or “active” network and the exact methodology will be decided during the design development stage of the documentation. The DAS network is totally separate from the wireless LAN and will only be used for mobile phone coverage associated with the current mobile phone carriers.

The DAS system shall be capable of supporting all frequencies from 700MHZ to 2700MHZ and shall cover the following technologies:-

- 2G (GSM network)
- 3G (Next G or WCDMA network)
- 4G (LTE)

The system shall also be designed and comply with the requirements of “The Mobile Carrier Forum and DAS Design Specification -2014”.

The mobile phone cabling will be carried out using the “fat coax” principal and will terminate in one of the two building distributors for the ACB.

[illegible]

Appendix B - Water Supply Diagram

Date: 22/01/2018



Map 3

Sequence No: 67873984

Docker St Wagga Wagga



Date: 22/01/2018



Map 4

Sequence No: 67873984

Docker St Wagga Wagga



Appendix C - Fire Flow Results



HYDRANT AND FIRE FLOW PRESSURE TEST

Ref: ID 35415

15 March 2018

Acor Consultants Pty Ltd
Suite 2, Level 1, 33 Herbert St
ST LEONARDS NSW 2065

Attn: Caitlyn Kasch

Dear Caitlyn,

**RE: HYDRANT AND FIRE FLOW PRESSURE TESTS
DOCKER ST, WAGGA WAGGA
YATHONG ST, WAGGA WAGGA**

In response to your request for a hydrant and fire flow pressure test, I can confirm payment of \$177.00 was received and the hydraulic modelling has been completed.

I have attached a copy of the results to this letter.
Note the results are current as of the modelling date indicated on the results sheet.

For any further details in relation to this matter please contact RWCC on 02 6922 0628.

Kind Regards

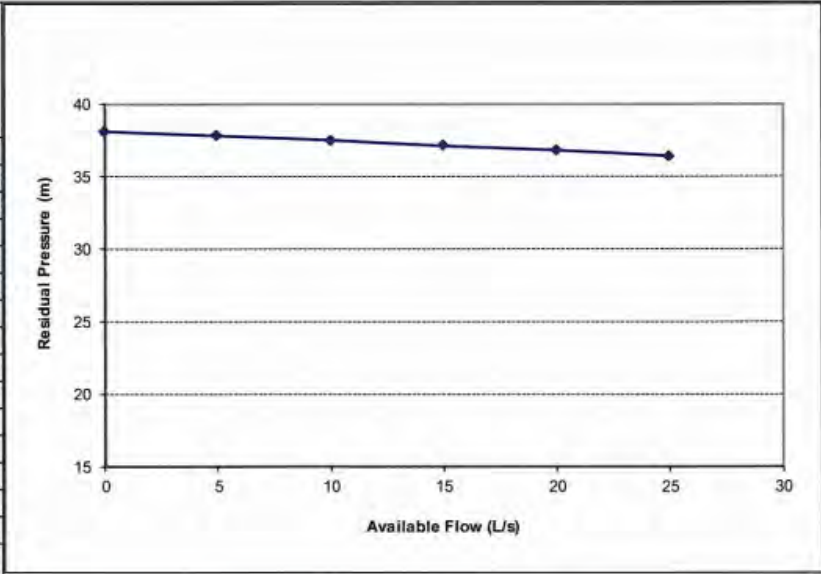


Aran Beckett
Asset Officer

All correspondence to:
General Manager
91 Hammond Avenue, Post Office Box 456
Wagga Wagga NSW 2650
Phone: (02) 6922 0608 Fax: (02) 6921 2241
Email: admin@rwcc.nsw.gov.au
ABN 52 084 883 210

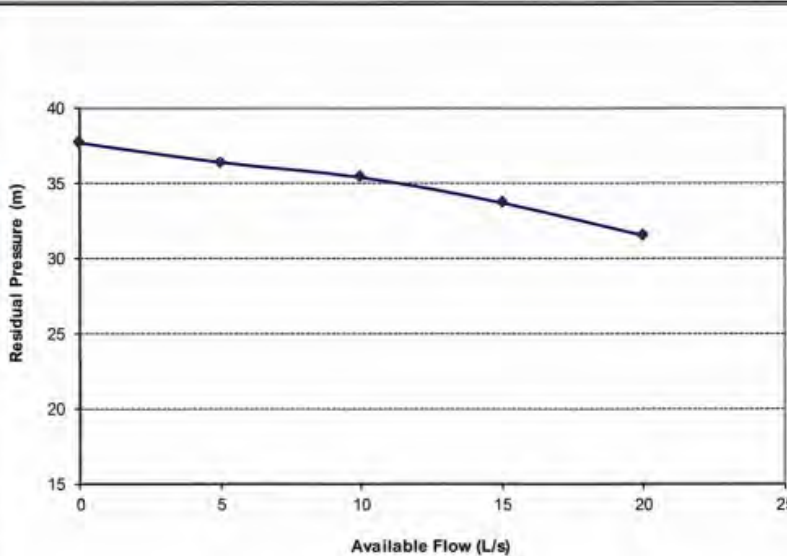
Riverina Water County Council

Network Analysis Report

Client:	Acor Consultants Pty Ltd	Mailing Address:	Suite 2, Level 1, 33 Herbert St, St Leonards, NSW, 2065			
Ref:	Pressure & Flows	e-mail:	ckasch@acor.com.au			
Date:	15/03/2018	PH:	(02) 9438 5098			
Attention:	Caitlyn Kasch	Mobile:				
Pipe Diameter (mm)	250mm	Location:	Wagga Wagga			
Model Junction used	12174	Street Name	Address	Lot No.	Sect. No.	DP. No.
Elevation AHD (m)	182	Docker St		334		1190643
Job / Description:						
Pressure and flow test in the vicinity of Docker St, Wagga Wagga.						
Nearest water mains - Coleman St						
Available Fire Flow Rates (L/sec)	Residual Pressure (m)					
0	38.1					
5	37.8					
10	37.5					
15	37.1					
20	36.8					
25	36.4					
</						

Riverina Water County Council

Network Analysis Report

Client:	Acor Consultants Pty Ltd	Mailing Address:	Suite 2, Level 1, 33 Herbert St, St Leonards, NSW, 2065			
Ref:	Pressure & Flows	email:	ckasch@acor.com.au			
Date:	15/03/2018	PH:	(02) 9438 5098			
Attention:	Caitlyn Kasch	Mobile:				
Pipe Diameter (mm)	100mm	Location:	Wagga Wagga			
Model Junction used	7535	Street Name	Address	Lot No.	Sect. No.	DP. No.
Elevation AHD (m)	184	Yathong St				
Job / Description:						
Pressure and flow test in the vicinity of Yathong St, Wagga Wagga.						
Nearest water mains - Docker St						
Available Fire Flow Rates (L/sec)	Residual Pressure (m)					
0	37.7					
5	36.4					
10	35.4					
15	33.7					
20	31.5					
Comments / Notes						
The Fire Flows and associated Residual Pressures shown above are indicative of what is available 95% of the time. (0.75 peak demand condition). It is important to note that the pressures are indicitive at the main ONLY and not at the output of the fire service.						
Maximum Pressure - 41.8 m						
Minimum Pressure - Peak demand, No Fire Flow: 34.9 m						
Please be aware that RWCC does NOT allow direct pumping out of mains and other measures should be taken such as break tanks						

Appendix D - Water Quality Results



CERTIFICATE OF ANALYSIS

Batch No:	18-18285	Page	Page 1 of 2
Final Report	684273	Laboratory	Scoresby Laboratory
Client:	Hydro-Chem Pty Ltd	Address	Caribbean Business Park, 22 Dalmore Drive, Scoresby, VIC 3179
Contact:	Luis Hidalgo	Phone	03 8756 8000
Address:	27 Viking Court CHELTENHAM VIC 3192	Fax	03 9763 1862
		Contact:	Linna Truong Client Manager Linna.Truong@alsglobal.com
PO No:	Not Available	Date Sampled:	06-Apr-2018
Sampler Name:		Date Samples Received:	10-Apr-2018
ALS Program Ref:	HYDROCHEM	Date Issued:	17-Apr-2018
Program Description:	Miscellaneous Analyses for Hydrochem Pty Ltd		
Client Ref:	WQ analysis		

The sample(s) referred to in this report were analysed by the following method(s) under NATA Accreditation No. 992. The hash (#) below indicates methods not covered by NATA accreditation in the performance of this service.

Analysis	Method	Laboratory	Analysis	Method	Laboratory
Chloride	WD045G	Scoresby	Colilert (2000)	MM514	Scoresby
ColourFilt	WA041	Scoresby	Fluoride	WK040LL	Scoresby
MS Total Metals	WG020A	Scoresby	NO2-N	EK057G	Scoresby
NO3-N	EK058GV	Scoresby	OES Scan	WG005A (Si not NATA); EA065-69	Scoresby
pH	WA005	Scoresby	TDS at 180°C +/- 5°C	WA015	Scoresby
SO4 DA	WD041G	Scoresby	Turbidity	WA045	Scoresby
Iodine	EG020U	ALS Sydney			

Result for pH in water tested in the laboratory may be indicative only as holding time is generally not achievable.

All colour determinations have been completed at the in situ sample pH except when outside the 4-10 range.

On these occurrences the pH is adjusted to 7 before analysis.

Analysis conducted outside holding time due to late arrival or delayed extraction/analysis. Based on APHA, VICEPA, AS & NEPM. Results are approximate and for indicative purposes only.

Late Sample Arrival - Colilert (2000)[5612033] ColourFilt[5612033] NO2-N[5612033] NO3-N[5612033] Turbidity[5612033]

Iodine analysis conducted at ALS Environmental Division Sydney, 277-289 Woodpark Road Smithfield, NSW 2164.
Results may be found in their Report No: ES1810739. NATA Accredited Laboratory Number: 825-10911/14913

Signatories

These results have been electronically signed by the authorised signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11

Name	Title	Name	Title
Chatura Perera	Team Leader Nutrients	Joseph De Alwis	Analyst
John Earl	Team Leader Metals	Linna Truong	Client Manager
Mario Solorzano	Analyst	Ali Shaukat	Analyst



Samples not collected by ALS and are tested as received.

Soil results expressed in mg/kg dry weight unless specified otherwise. Soil microbiological testing was commenced within 48 hours from the day received unless otherwise stated. Water microbiological testing was commenced on the day received and within 24 hours of sampling unless otherwise stated.

MM524: Plate count results <10 per mL and >300 per mL are deemed as approximate.

MM526: Plate count results <2,500 per mL and >250,000 per mL are deemed as approximate.

Calculated results are based on raw data.

Legionella species refers to Legionella species other than Legionella pneumophila

Measurement Uncertainties values for your compliance results are available at this link

Page: Page 2 of 2
 Batch No: 18-18285
 Report Number: 684273
 Client: Hydro-Chem Pty Ltd
 ALS Program Ref: HYDROCHEM
 Program Description: Miscellaneous Analyses for Hydrochem Pty Ltd



Sample No	Site Code	Site Description	Sample Type	Sampled Date/Time
5612033		Hospital Site (Riverina)	WATER	06/04/18 10:30

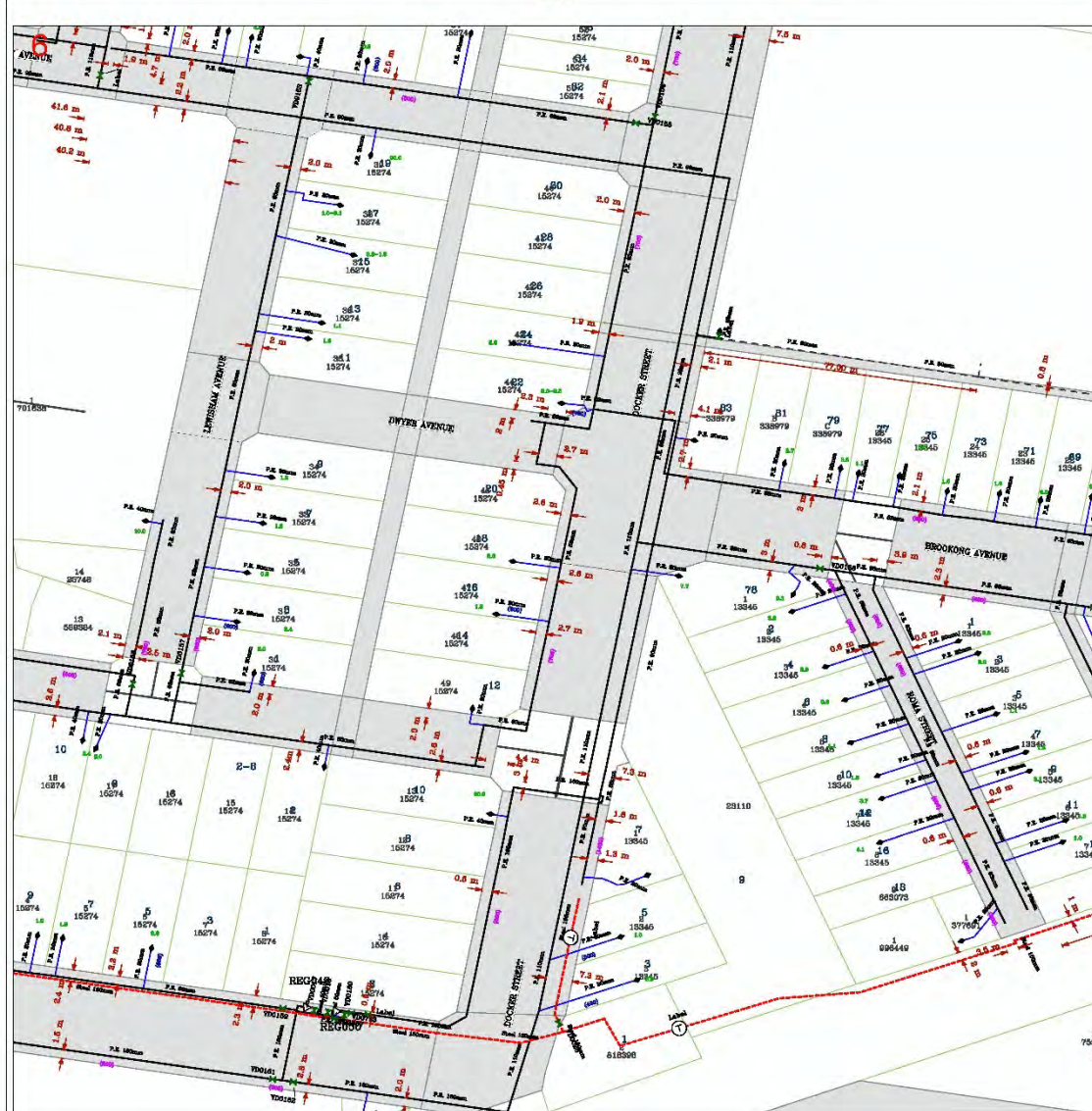
Analysis - Analyte	Sample No. Site Code Units	5612033
pH - pH, units	Units	8.0
TDS at 180°C +/- 5°C - Total Dissolved Solids	mg/L	180
Turbidity - Turbidity, NTU	NTU	0.2
Colour/Filt - Colour (filt), Pt/Co units	Pt/Co units	<2
Fluoride - Fluoride, as F	mg/L	0.31
Chloride - Chloride, as Cl	mg/L	29
SO4 DA - Sulphate, as SO4	mg/L	27
NO3-N - Nitrate, as N	mg N / L	0.17
NO2-N - Nitrite, as N	mg N / L	<0.01
MS Total Metals - Aluminium	mg/L	0.01
MS Total Metals - Antimony	mg/L	<0.001
MS Total Metals - Arsenic	mg/L	0.001
MS Total Metals - Barium	mg/L	0.013
MS Total Metals - Beryllium	mg/L	<0.001
MS Total Metals - Boron	mg/L	<0.02
MS Total Metals - Cadmium	mg/L	<0.0002
MS Total Metals - Chromium	mg/L	<0.001
MS Total Metals - Cobalt	mg/L	<0.001
MS Total Metals - Copper	mg/L	0.31
MS Total Metals - Iron	mg/L	<0.01
MS Total Metals - Lead	mg/L	<0.001
MS Total Metals - Manganese	mg/L	0.005
MS Total Metals - Mercury	mg/L	<0.0001
MS Total Metals - Molybdenum	mg/L	<0.001
MS Total Metals - Nickel	mg/L	<0.001
MS Total Metals - Selenium	mg/L	0.004
MS Total Metals - Silver	mg/L	<0.001
MS Total Metals - Strontium	mg/L	0.13
MS Total Metals - Thallium	mg/L	<0.001
MS Total Metals - Tin	mg/L	<0.001
MS Total Metals - Titanium	mg/L	<0.001
MS Total Metals - Vanadium	mg/L	<0.001
MS Total Metals - Zinc	mg/L	0.008
OES Scan - Hardness, as CaCO3	mg/L	93
OES Scan - Calcium	mg/L	16
OES Scan - Magnesium	mg/L	13
OES Scan - Sodium	mg/L	23
Colifert (2000) - Coliforms MPN Colifert	orgs/100mL	0
Colifert (2000) - E. coli MPN Colifert	orgs/100mL	0
Iodine - Iodine	mg/L	<0.05

A blank space indicates no test performed.

Appendix E - Gas Main Diagram



Site Address	Docker St Wagga Wagga 2650	Sequence No	67873978
Email	ckasch@acor.com.au	Map Reference	Penguin 324F5,324F6,324F7,324F8,324G5,324G6,324G7,324G8,324H6;
Before you commence any works you are required to complete the attached 'Work In The Vicinity Of Critical Gas Assets' request form and forward this to APA asap			



LEGEND					
	Service Pipe		Field Valve		Delivery Point
	Distribution Pipe		Anode Bed		Gas Regulator Site
	Critical Pipe		CP Test Point Site		Depth
	Transmission Pipe				

Map Key:

1	4	8
2	5	9
3	6	10
7	11	14

Scale 1:1000

0 0.1km

NORTH

Appendix F - Existing/Proposed Gas Loads

Location	Load (MJ)	Comment
Lewis Com Health,	870	Existing to be retained (likely future removal)
Lewis Hot Water service,	200	Existing to be retained (likely future removal)
Lewis Nurses,	277	Existing to be retained (likely future removal)
Harvey House HWS,	50	Existing to be retained (likely future removal)
SSB X 2 Hunt,	3600 each (7200)	To be retained Note: Demand load reduced when converted from CSB to SSB
SSB HWS X 10,	190 each (1900)	To be retained Note: Demand load reduced when converted from CSB to SSB
Robinson House Mechanical Heating,	277	To be removed Stage 3 Enabling Works
Robinson House HWS,	190	To be removed Stage 3 Enabling Works
Old Hosp G floor Heating,	277	To be removed Stage 3 Enabling Works
Old Hosp G floor HWS,	190	To be removed Stage 3 Enabling Works
1 st floor Ed, Xray,	1719	To be removed Stage 3 Enabling Works
7 th Floor Hot water MSB,	870	To be removed Stage 3 Enabling Works
7 th Floor Exec Heating,	343	To be removed Stage 3 Enabling Works
Hydro Pool,	278	To be removed Stage 3 Enabling Works
Hydro Pool HWS,	190	To be removed Stage 3 Enabling Works
Ward 9,	278	To be removed stage 3 Enabling Works
Dental gas Ducted,	316.5	Existing to be retained
Dental Clinic HWS,	200	Existing to be retained
D Block Gas Ducted,	316.5	To be removed Stage 3 Enabling Works
D Block HWS,	200	To be removed Stage 3 Enabling Works

Mental Health Unit Plant room Domestic Hot Water	600	Existing to be retained
Mental Health Unit Plant room mechanical boiler	1000	Temporary until proposed phase 2 central energy plant commissioned. TBC
Portion A mechanical	1000	Existing to be retained
Portion A domestic hot water	400	Existing to be retained
Phase 2 Portion B mechanical (including provision for possible future tri gen plant)	8000	Existing to be retained
Phase 2 domestic hot water	2500	Existing to be retained
Stage 3 domestic hot water	1500	Estimate
Stage 3 mechanical	4000	Estimate Mech engineer to confirm
Total equipment load	31,212	Total sum
Estimated Total Gas load upon Stage 3 completion	25,375	Total sum less equipment to be removed under stage 3 enabling works

Appendix G - Authority Consultation

Supply Authority Meeting Minutes



Date: 5 March 2018
Office: ACOR St Leonards
Project Number: SY017-0902

Meeting Minutes	Date /Time	20 TH February 2018 / 10:30am
	Location	APA Office 11 Blaxland Road Wagga Wagga
	Minutes Taken By	Rob Gruber

Attendees	Name	Initials
	Rob Gruber - Acor Consultants - Principal Email: rgruber@acor.com.au	RRG
	Sherwin Rasquinha - Savills Project Management - Project Manager Email: srasquinha@savills.com.au	SR
	Cliff Priest - APA - Customer Liaison Officer Email: cliff.priest@apa.com.au Mobile: 0409 779 145	CP
	Phil Jenkins - APA - Gas Engineering Officer Email: phil.jenkins@apa.com.au Mobile: 0407 202 713	PJ
Apologies	n/a	
Additional for Circulation	Dan Herbertson - Savills Project Management - Senior Project Manager Email: dherbertson@savills.com.au	

Agenda	No.	Meeting Topics
	1	Project Status and Scope
	2	Gas Supply Strategy for Stage 3
	3	Gas Supply Applications and Charges
	4	Gas Infrastructure condition ,capacity and reliability

Meeting Notes and Actions			
No.	ITEM	Action By Whom	Deadline
1.	Project Status and Scope		
1.1	<p>Project Status RRG advised introductory meeting was called to keep APA informed of proposed additional works at the Wagga Wagga Rural Referral Hospital. RG outlined the following:- a) Stage 1 Mental Health Unit completed circa 2013. b) Stage 2 (New Acute Services Building) completed circa 2016. c) Stage 3 (New Ambulatory Care Building), master planning and feasibility complete. Schematic design has commenced. d) SEARS application has been lodge and awaiting approval conditions.</p> <p>Site plan tabled showing works extent including Yathong street site</p>	RRG	N/A
1.2	<p>Project Scope RG outlined the following:- Ambulatory Care Building</p> <ul style="list-style-type: none"> ▪ Basement Carpark ▪ New Ambulatory Care Building ▪ Aged Care Inpatient Unit ▪ Rehabilitation Inpatient Unit ▪ Older Person Mental Health Inpatient Unit ▪ Renal Services ▪ Rapid Assessment Clinic/Infusions/After Hours General Practitioners ▪ Ambulatory Rehabilitation and Allied Health Facilities ▪ Ambulatory Clinics ▪ Aboriginal and Oral Health ▪ Transition Care Unit ▪ Breast Screening ▪ Education, Training and Research ▪ Workforce and office accommodation ▪ Support Services ▪ Consideration for Western building end for vertical expansion 	Note	N/A

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	Yathong Lodge Site		
	<ul style="list-style-type: none"> Yathong lodge and Renal facility site(s) redevelopment works. (Scope to be determined) 		
2.	Gas Supply Strategy for Stage 3		
2.1	<i>PJ tabled Gas mains supply site plan indicating no changes to gas network mains since installation of the stage 2 project gas meter and regulator assembly</i>	Note	N/A
2.2	<p>RRG advised gas loading calculations provided previously are being upgraded to suit new building design and function.</p> <p>RRG to submit loading calculations with estimates maximum hourly (MHQ), maximum daily (MDQ) and annual consumption (ACQ)</p> <p>CP advised accurate estimates of MHQ is critical to determine adequacy of existing gas meter assembly. CP advised that historical hourly consumption data is available via a request to the hospital gas supply retailer.</p>	RRG	ASAP
2.2	<p>RRG advised that additional gas loads are not expected, and that new ambulatory care building is proposed to be connected via the internal 100kpa reticulated supply.</p> <p>Yathong street site redevelopment has not been determined, however can be connected to gas main in Yathong street.</p>	Note	N/A
3.	APA Applications and Charges		
3.1	<p>CP advised there are no application or headworks charges.</p> <p>Charges would apply if existing gas meter and regulator assembly requires upgrading.</p> <p>All applications must go via the gas retailer</p> <p>Retailer submits "Shipper Request" for B to B form which is used for retailer/APA correspondence.</p>	Note	N/A
3.2	CP advised application processing will take at least 8 weeks from receipt of application.	Note	N/A
3.3	CP advised that the hospital is a fixed rate "Tariff D" customer (Over 10 Terajoules per annum) however overrun charges apply if the maximum daily consumption is higher than the calculated and agreed amount	Note	N/A
4.	Gas Main Condition / Capacity / Reliability		
4.1	<p>PJ advised:-</p> <ol style="list-style-type: none"> No issues with main capacity No issues with reliability Area not programmed for any major works, upgrades or programmed shutdowns. 	Note	N/A
4.2	<p>PJ advised that the hospital is connected to a designated "critical main" with equivalent Grade 2 redundancy.</p> <p>During mains failure APA would implement emergency repairs and temporary measures to allow normal hospital operation as soon as possible.</p>	Note	N/A

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	Meeting closed at 11:00am		
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Next Meeting			
No.	Location	Date	Time
5	Next meeting to be confirmed	TBC	TBC

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Supply Authority Meeting Minutes



Date: 25 January 2018
Office: ACOR St Leonards
Project Number: SY017-0902

Meeting Minutes	Date /Time	24 TH January 2018 / 2:00pm
	Location	Riverina Water County Council Office (Wagga Wagga)
	Minutes Taken By	Rob Gruber

Attendees	Name	Initials
	Rob Gruber - Acor Consultants - Principal	RRG
	Sherwin Rasquinha – Savills Project Management - Project Manager	SR
	Austin Morris - Riverina Water - Engineering Manager	AM
	Aran Becket – Riverina Water- Engineering Assistant	AB
Apologies	n/a	
Additional for Circulation	Dan Herbertson – Savills Project Management - Senior Project Manager	

Agenda	No.	Meeting Topics
	1	Project Status and Scope
	2	Water Supply Strategy for Stage 3
	3	Riverina Water Infrastructure
	4	Riverina Water applications
	5	Riverina Water Charges

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OR

	Yathong Lodge Site <ul style="list-style-type: none"> Yathong lodge and Renal facility site(s) redevelopment works. (Scope to be determined) 		
2.	Water Supply Strategy for Stage 3		
2.1	RRG tabled water supply site plan indicating potable water supply and fire fighting water supply for new Ambulatory Care Building to be serviced by recently constructed site infrastructure via break tanks and booster pumps	Note	N/A
2.2	AM / AB raised no concerns, providing existing internal supplies have sufficient capacity for additional new works. RRG confirmed adequate capacity is available and will be supported by calculations during schematic design	Note	N/A
2.2	RRG requested if there were any recent works or issues which may affect hospital water supply. AB confirmed new 250mm water main was extended in Docker street recently to provide improved Grade 2 supply. AB confirmed updated mains are included on current water main diagrams which Acor have requested via dial before you dig applications	Note	N/A
2.3	RRG confirmed that all non required existing water supply connections will be capped and sealed in accordance with RWCC requirements during Stage 3 works		
3.	Riverina Water Charges		
3.1	RRG raised Riverina Water standard charges. AB costs to be defined once additional water supply loads are confirmed and agreed RRG requested Riverina Water determination assessment for additional loading will be based on number of registered beds AB / AM advised this will be determine once more detail building plans are provided	Note	N/A
3.2	RRG advised applications for available fire water flow and pressure and water quality. AB advised there are no significant delays in processing applications at this stage	Note	N/A
	Meeting closed at 2:45pm		

Next Meeting

No.	Location	Date	Time
1.	Meeting with Wagga Wagga City Council sewerage engineers has been scheduled on the 20 th February 2018. At 11:30am RRG to arrange RWCC meeting on the same day at 2pm subject to availability of AB/AM	20 th Feb 2018	tbc

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Meeting Notes and Actions			
No.	ITEM	Action By Whom	Deadline
1.	Project Status and Scope		
1.1	<p>Project Status RRG advised meeting was called to keep RWCC informed of proposed additional works at the Wagga Wagga Rural Referral Hospital.</p> <p>RG outlined the following:-</p> <ul style="list-style-type: none"> a) Stage 1 Mental Health Unit completed circa 2013. b) Stage 2 (New Acute Services Building) completed circa 2016 c) Stage 3 (New Ambulatory Care Building), master planning and feasibility complete. Schematic design has commenced. d) SEARS application has been lodge and awaiting approval conditons <p>Site plan tabled showing works extent including Yathong street site</p>	RRG	To be issued to Council upon approval of Health Infrastructure to release documents.
1.2	<p>Project Scope RG outlined the following:-</p> <p>Ambulatory Care Building</p> <ul style="list-style-type: none"> ▪ Basement Carpark ▪ New Ambulatory Care Building ▪ Aged Care Inpatient Unit ▪ Rehabilitation Inpatient Unit ▪ Older Person Mental Health Inpatient Unit ▪ Renal Services ▪ Rapid Assessment Clinic/Infusions/After Hours General Practitioners ▪ Ambulatory Rehabilitation and Allied Health Facilities ▪ Ambulatory Clinics ▪ Aboriginal and Oral Health ▪ Transition Care Unit ▪ Breast Screening ▪ Education, Training and Research ▪ Workforce and office accommodation ▪ Support Services ▪ Consideration for Western building end for vertical expansion 	Note	N/A

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Supply Authority Meeting Minutes



Date: 5 March 2018
Office: ACOR St Leonards
Project Number: SY017-0902

Meeting Minutes	Date /Time	20 TH February 2018 / 11:30am
	Location	Wagga Wagga Council Office (Wagga Wagga)
	Minutes Taken By	Rob Gruber

Attendees	Name	Initials
	Rob Gruber – Acor Consultants - Principal Email: rgruber@acor.com.au	RRG
	Sherwin Rasquinha – Savills Project Management - Project Manager Email: srasquinha@savills.com.au	SR
	Jamie Harwood - Wagga Wagga City Council (WWCC) – Development Engineering Email: harwood.jamie@wagga.nsw.gov.au	JH
Apologies	n/a	
Additional for Circulation	Dan Herbertson – Savills Project Management - Senior Project Manager Email : dherbertson@savills.com.au	

Agenda	No.	Meeting Topics
	1	Project Status and Scope
	2	Sewerage Strategy for Stage 3
	3	Sewerage Infrastructure
	4	Wagga Wagga City Council applications
	5	Wagga Wagga City Council Charges

Meeting Notes and Actions			
No.	ITEM	Action By Whom	Deadline
1.	Project Status and Scope		
1.1	<p>Project Status RRG advised introductory meeting was called to keep WWCC informed of proposed additional works at the Wagga Wagga Rural Referral Hospital. RG outlined the following:- a) Stage 1 Mental Health Unit completed circa 2013. b) Stage 2 (New Acute Services Building) completed circa 2016. c) Stage 3 (New Ambulatory Care Building), master planning and feasibility complete. Schematic design has commenced. d) SEARS application has been lodge and awaiting approval conditions.</p> <p>Site plan tabled showing works extent including Yathong street site</p>	RRG	N/A
1.2	<p>Project Scope RG outlined the following:- Ambulatory Care Building</p> <ul style="list-style-type: none"> ▪ Basement Carpark ▪ New Ambulatory Care Building ▪ Aged Care Inpatient Unit ▪ Rehabilitation Inpatient Unit ▪ Older Person Mental Health Inpatient Unit ▪ Renal Services ▪ Rapid Assessment Clinic/Infusions/After Hours General Practitioners ▪ Ambulatory Rehabilitation and Allied Health Facilities ▪ Ambulatory Clinics ▪ Aboriginal and Oral Health ▪ Transition Care Unit ▪ Breast Screening ▪ Education, Training and Research ▪ Workforce and office accommodation ▪ Support Services ▪ Consideration for Western building end for vertical expansion 	Note	N/A

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	Yathong Lodge Site <ul style="list-style-type: none"> Yathong lodge and Renal facility site(s) redevelopment works. (Scope to be determined) 		
2.	Sewerage Strategy for Stage 3		
2.1	RRG tabled site sewerage site plan indicating proposed Stage 3 building connections to existing Edward Street connections (2 off).	Note	N/A
3.	Sewerage Infrastructure		
2.2	JH tabled sewerage diagram showing existing sewer connections to 225mm sewer main and confirmed any works to the Council assets have to be performed by a WWCC approved contractor in accordance with WWCC engineering guidelines.	Note	N/A
2.2	RRG requested if there were any recent works or issues which may affect hospital sewerage system. JH advised there have been no recent upgrade work or issues with the subject sewer. JH recommended project conduct CCTV inspection survey of existing sewer branch connections to confirm size and condition. JH confirmed WWCC will conduct CCTV inspection survey of existing sewer main on the north side of Edward Street, to confirm size, exact location and condition.	Note	N/A
2.3	RRG confirmed that ET calculations for new ambulatory care building are still being developed and subject to final clinical planning. JH requested that calculations to be based on net additional registered beds. RRG advised ET's derived using Water Directorate loads calculations. RRG / JH agreed Water Directorate loads based on calculations prepared over 40 years ago, and do not reflect significant reductions in water usage and sewer discharge. It was agreed flow calculations can be negotiated during the approval process.	Note	N/A
3.	Applications		
3.1	Section 68 (Public) application required as part of consent conditions	Note	N/A
3.2	RMS application for works within Edward Street required.	Note	N/A
4.	WWCC Charges		
4.1	RRG raised Wagga Wagga standard charges. JH confirmed:- <ol style="list-style-type: none"> IPART headworks charges apply for additional registered beds at approximately \$4,000 per bed. Standard \$1500 fee apply for plan reviews and inspections during construction Roads and Maritime Services standard charges for works within Edward St apply. 	Note	N/A
	Meeting closed at 12 noon		

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Next Meeting			
No.	Location	Date	Time
1.	TBC	TBC	TBC

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