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27 November 2012

David Gibson
Team Leader
Metropolitan and Regional Projects North
Department of Planning and Infrastructure
22-33 Bridge Street
SYDNEY NSW 2000

Dear David,

RE: Response to Submissions
Dubbo Base Hospital – Redevelopment Project – SSD-5250

DUBBO CITY COUNCIL'S REQUEST FOR ADDITIONAL INFORMATION

We refer to the comments made by Dubbo City Council in regards to infrastructure. In particular our response relates to item 5 – infrastructure services.

"There are no details showing sewerage services, new in-ground potable water, hydraulic or fire services"

In response to Dubbo City Council's issues raised, we offer the following response / comments.

1. Council Infrastructure

1.1 Existing Council Sewer

The existing main sewerage system infrastructure servicing the site is owned and maintained by Dubbo City Council. The hospital site is serviced by two (2) existing Council sewer mains as follows:

Sewer Main No.1 – 600mm diameter gravity sewer main located along the western boundary, parallel to the eastern side of the railway line. The depth of this sewer is approximately 6.0 metres.

Sewer Main No.2 – 150mm diameter gravity sewer main located to the rear of the residential properties parallel to Leonard Street.

The condition of the existing Dubbo Council sewer mains, as indicated above, has been confirmed with Council personnel. We understand that no issued have been identified in terms of condition and/or capacity to service the existing future redevelopment of the hospital.

Refer to Appendix A for Dubbo City Council Sewer Main Diagrams.

1.2 Existing Council Potable Water Infrastructure

The existing water main infrastructure, servicing the site is owned and maintained by Dubbo City Council.

The existing hospital site is currently serviced by a 375mm diameter pressure water main located in Myall Street, based on discussions with Council personnel.

We understand that no issued have been identified in terms of the condition and / or capacity to service the existing and future redevelopment of the hospital.

A pressure / flow enquiry submission to Dubbo City Council has confirmed that the minimum static water pressure in the water main is 229 kPa.

Refer to Appendix B for Dubbo City Council Water Main Diagrams.

2. Existing Dubbo Hospital (Private) Sewer

The existing hospital site is connected to the Dubbo City Council sewer infrastructure in two (2) locations as follows:

Sewer Connection No.1 – 225mm diameter “house service” sewer drainage connection to the existing 600mm diameter Dubbo Council gravity sewer main, located at the western boundary, adjacent to the eastern side of the railway line, this connection is approximately 50.0 metres north of the existing Acacia Cottage.

This connection and internal reticulation serves the majority of the existing hospital buildings and is constructed from a mixture of pipe materials i.e. cast iron, vitrified clay and uPVC. Western NSW LHD personnel have confirmed that no significant issues with the existing house sewer drainage.

Generally, the main “house service” sewer drainage pipelines have sufficient capacity to service / support the new buildings and refurbished areas..

An extensive electronic site survey has been completed to locate the majority of the existing site sewer drainage systems; the survey includes physical location, invert levels of pipe connections and relative levels of access “manholes”.

As part of the Early Works for this project the contractor has been instructed to undertake CCTV of sewer to confirm location and condition.

Sewer Connection No.2 – 100mm diameter “house service” sewer drainage connection to the existing 150mm diameter Dubbo City Council gravity sewer main located to the rear of the residential properties parallel to Leonard Street. The depth of this sewer connection is unknown at this stage and future investigations are required.

The existing sewer would appear to be servicing the existing Diabetic and Oncology buildings only and will remain operational.

3. Existing Dubbo Hospital (Private) Water Supply

The existing hospital site is connected to the Dubbo City Council potable water infrastructure in two (2) locations as follows:

Water Connection No.1 – 150mm diameter water connection to the existing 375mm diameter Dubbo City Council potable water main, located on the corner of Myall Street and Mary McKillop Drive. The water connection reticulates to the existing pump house located adjacent to the existing Acacia Cottage building. A water meter, complete with bypass detector check meter, dual vertical pressure pumps and pump control panel are housed within this building. The pump discharge pipework is connected to the existing site reticulated water supply which is located parallel to McGuinn Drive West.

Water Connection No.2 – 100mm diameter water connection to the existing 375mm diameter Dubbo City Council potable water main. This existing water connection appears to be servicing all the older existing buildings on site, located on the south western side of the site, including (but not limited too) Acacia Cottage, Administration, POP Health, Physiotherapy, Cardiac Rehab, ODU, Kitchen, Renal / Dialysis, CSSD Theatre and Maternity are supplied from this connection.

4. Proposed New Development Sewer.

Disposal of sewage from the development will be provided by connection to the existing sewer main at the Western end of the site.

The existing internal sewer / sanitary drainage appears to have sufficient capacity to service / support the new building and refurbish areas. Extensive investigation/works will be carried out to ensure adequacy of this system

The system will collect effluent from the sanitary plumbing stacks and Ground Floor fixtures and be conveyed by gravity to the "***existing sewer drainage system***" complete with manholes, piping, fittings, etc. Access manholes and rodding points will be located external to the buildings and be fitted with bolt down gas tight covers and frames. As part of the early works package, the existing sewer mains will be cleaned with industrial high pressure system, CCTV and repair/replace as necessary.

Generally all plumbing and drainage systems will be specified as uPVC with solvent welded joints, unless specified otherwise.

Overflow gullies will be provided as part of the new system to prevent surcharge in the event of blockage. The gullies will be external to the building, at ground level, and be accessible for maintenance.

Inspections openings in pipes and fittings will be fitted in accessible positions to facilitate maintenance procedures for each individual section of pipework.

5. Proposed New Water Dubbo Hospital (Private) Water Supply

The current potable water supply, to the site, relies on the Dubbo City Council main in Myall Street

We have investigated an alternate potable water supply with Dubbo City Council and have been advised to make a new secondary 100mm diameter connection to the 150mm diameter water main on the corner of River Street and Moran Drive north of existing site. This new connection will be complete with a water meter and back flow prevention in accordance with AS 3500 requirements and make connection to the existing domestic potable water supply at the existing pump house building. This new water connection will form Phase 1 of a proposed "ring main" system which will be extended as the future stages are constructed.

Based on our meeting with Dubbo City Council on the 4^{th} September 2012 (Mr. Musarrat Khan) We note that it has been confirmed by Council, that the existing dia 375 water main in Myall Street has sufficient capacity to deliver flows in excess of 40 litres per second if required.

The performance of this secondary water supply is not adequate to provide all the fire services and domestic cold water supply to the site. However it will be satisfactory to provide a secondary water supply and keep the hospital running.

6. FIRE PROTECTION SCHEMATIC DESIGN

6.1 FIRE HYDRANT SYSTEM

The existing fire hydrant system shall be modified, and extended, to provide coverage to all existing and new buildings from external 100mm diameter dual head pillar hydrants in accordance with AS 2419. The external hydrants will be located not less than 10.00 metres from the building they protect.

New buildings which require internal fire hydrants for compliance, will be provided with internal single valves located within fire isolated stairs or passages.

The existing diesel fire hydrant pump will be replaced with a compliant unit to comply with the requirements of AS2419. The existing fire hydrant booster assembly, located at the front of the site, will be modified to ensure compliance with Australian Standards.

A new fire brigade hardstand vehicle access will be installed in accordance with Fire and Rescue NSW Guidelines for Emergency Vehicles.

6.2 Automatic Wet Pipe Fire Sprinklers

Fire sprinklers will be provided throughout the building the requirements of AS2118.

The new system will be designed as a Light Hazard system in accordance with AS2118 to include the following features:

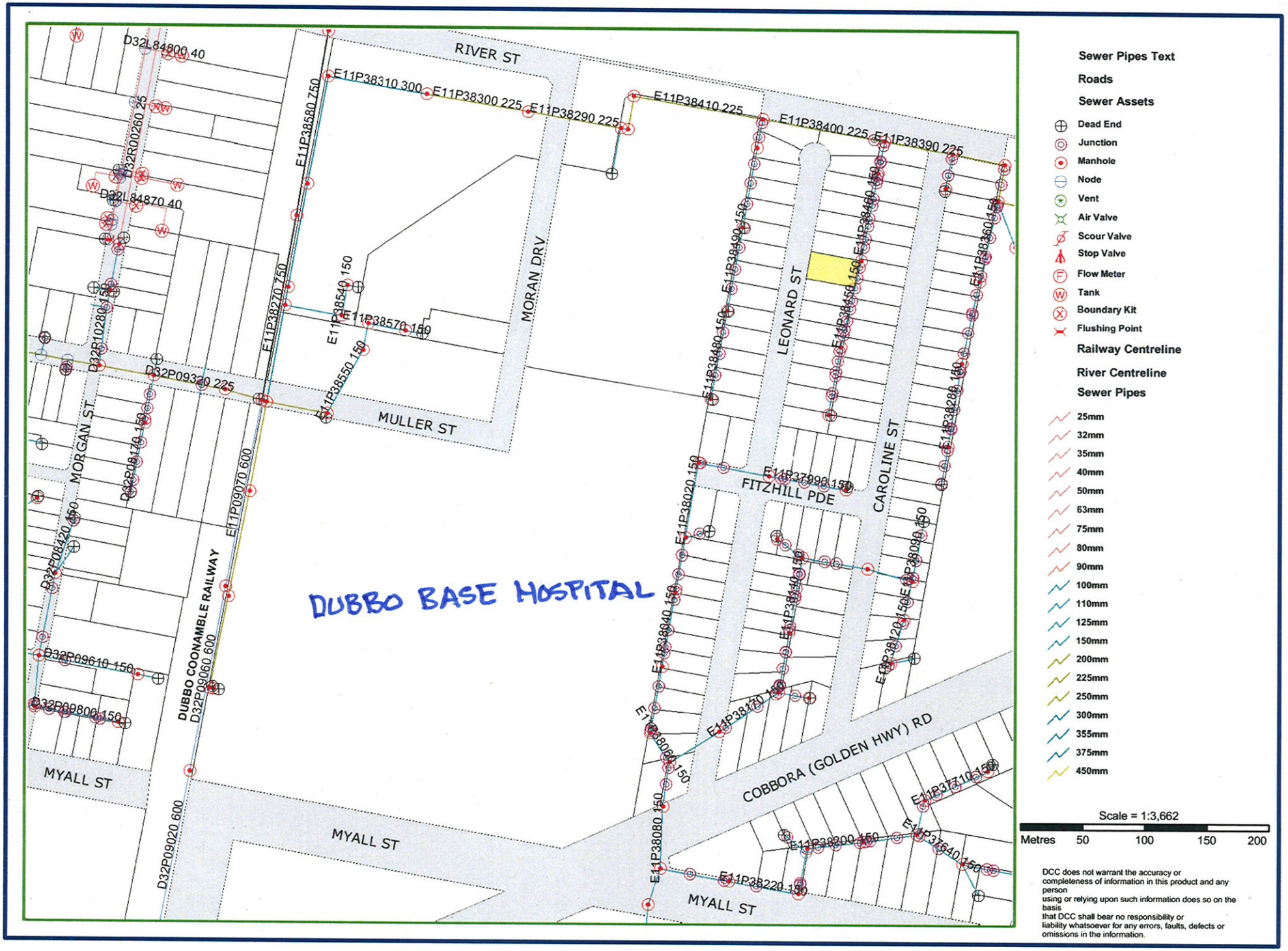
- New water supply from the Myall Street water main complete with dual check backflow prevention device;
- New point fire brigade booster assembly complete with block plan located within the existing pump house adjacent to the existing hydrant booster;
- Reticulation from the booster assembly to the Stage 1 building;
- Automatic diesel booster pump assembly;
- Alarm valves and associated controls;
- Residential sprinkler heads with patient care areas.

Yours faithfully

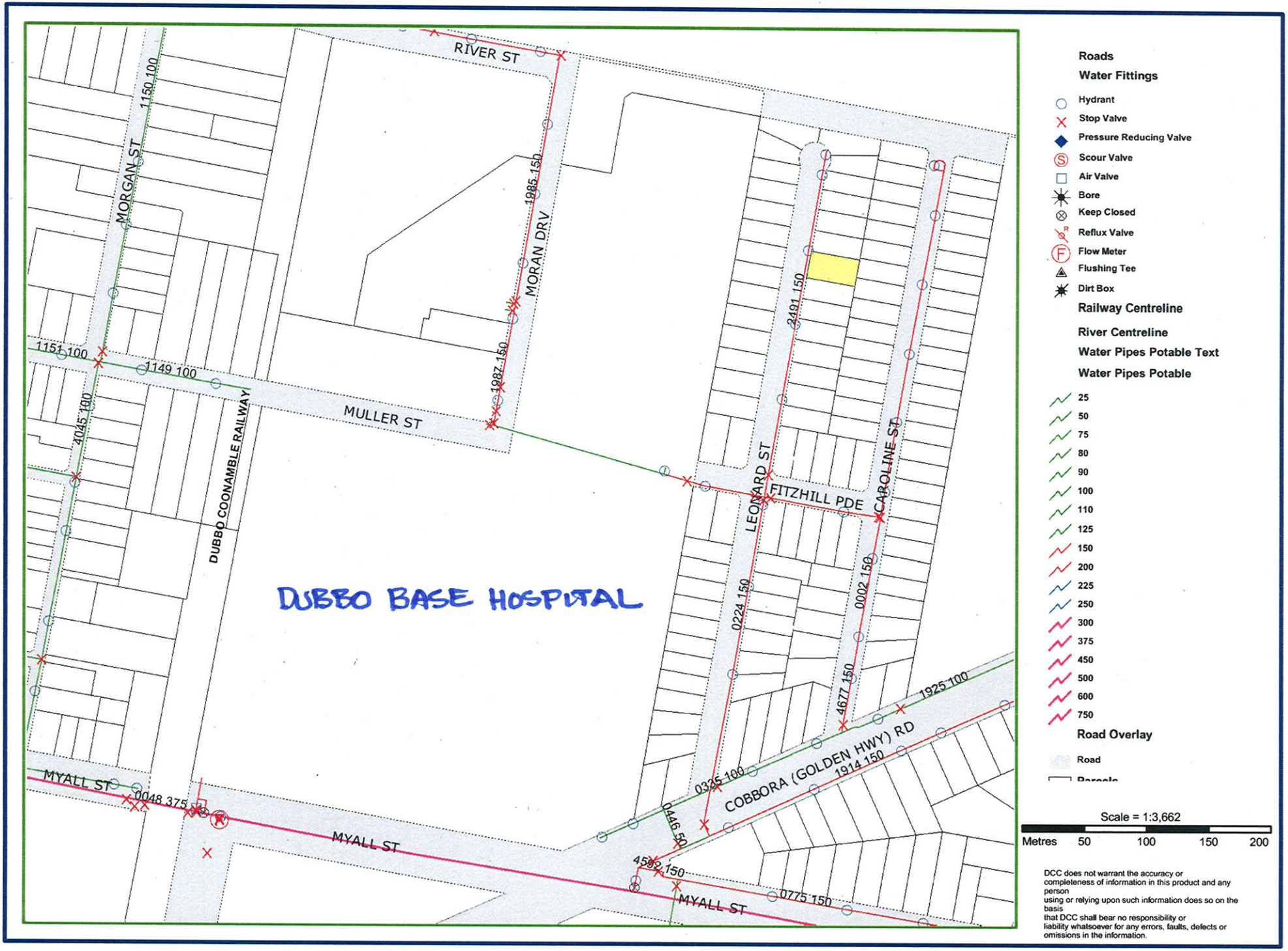
German Romo

Principal – Hydraulic Engineer

APPENDIX A



APPENDIX B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MORGAN ST
1150 100
MORAN DRV
1985 150
1987 150
1151 100
1149 100
MULLER ST
4045 100
DUBBO COONAMBLE RAILWAY
DUBBO BASE HOSPITAL
LEONARD ST
FITZHILL PDE
CAROLINE ST
2491 150
0224 150
0002 150
4677 150
1925 100
COBBORA (GOLDEN HWY) RD
1914 150
0335 100
0446 50
MYALL ST
0048 375
4582 150
0775 150
Roads
Water Fittings
Hydrant
Stop Valve
Pressure Reducing Valve
Scour Valve
Air Valve
Bore
Keep Closed
Reflux Valve
Flow Meter
Flushing Tee
Dirt Box
Railway Centreline
River Centreline
Water Pipes Potable Text
Water Pipes Potable
25
50
75
80
90
100
110
125
150
200
225
250
300
375
450
500
600
750
Road Overlay
Road
Scale = 1:3,662
Metres 50 100 150 200
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