



METRO MEDICATION

CLIENT : Health Infrastructure and Northern Sydney Local Health District
MAIN CONSTRUCTION COMPANY : BESIX Watpac
ARCHITECT : (Planning) nettleontribe, (Delivery) Silver Thomas Hanley
ENGINEER : Taylor Thomas Whitting
CONSTRUCTION VALUE : \$265 million

The NSW Government's Hornsby Ku-Ring-Gai Hospital Redevelopment provides purpose-built facilities for the integration of health services and includes a Medical Imaging department with MRI, ultrasound and associated facilities, a 6-storey Clinical Services Building with roof-top helipad, an expanded and refurbished Emergency Department, new ambulance entry and bays, demolition and subsequent refurbishment of Psychiatric Emergency Care Centre (PECC), demolition of existing buildings, improved accessibility, and extensive landscaping and civil works around the campus.

Healthcare in northern Sydney is undergoing a transformation with Stage 2 of the Hornsby Ku-Ring-Gai Hospital Redevelopment. This major project is funded by the NSW Government as part of a record \$10.7 billion investment programme into state health infrastructure.

The new building houses various departments including intensive care, outpatient services, medical imaging, paediatrics, a combined respiratory/cardiac unit, medical assessment, rehabilitation and other facilities.

The project is being delivered by BESIX Watpac, a leading Australian multi-disciplinary construction company that combines the international multi-sector expertise of BESIX Group with Watpac's four decades of trusted local experience and partnerships.

The project is being completed with multiple completions and go lives of the various clinical services. The project involves partial demolition and reconstruction as well as new build areas. BESIX Watpac is engaged under a full design and construct contract GC21.

"We took a human-centred design approach that considers the patient journey as well as

the working environment for the hospital staff who will operate and staff it," said Nick Limbrey, Senior Project Manager.

User group consultation, open and collaborative, has been key to maintaining a smooth working relationship with the client. "Every department is different with different wants and needs that need planning and to be managed," said Nick. "We are also constructing some new departments not previously at the hospital so we engaged with other district hospitals to provide user feedback."

During construction, BESIX Watpac arranged regular inspections for hospital stakeholders. "It's a chance for us to get feedback, establish expectations and address any issues," Nick explained. "It means the users know what they are getting and the whole project goes a lot smoother."

The site has remained operational as a live hospital throughout the works. This means construction activities have often been in very close proximity to hospital areas.

"The work is carefully integrated with the existing hospital," said Nick. "For example, we may be constructing on one side of a

wall and on the other side there could be an operating theatre or MRI scanner."

The need to maintain normal hospital operation has required BESIX Watpac to employ a meticulously planned business continuity programme to avoid disruption. Careful sequencing of works enabled early access to conduct surveys of buildings slated for demolition. Some hospital departments also needed to be decanted into temporary facilities.

"We needed to do a lot of things differently to a normal project," explained Nick. "We worked with the hospital every day to ensure their daily needs were met. It's been a challenge but a lot of fun as well."

All the departments within the new CSB are already operational having been handed over during the earlier milestones. "The medical imaging and paediatrics departments are both completed and we received great user feedback from staff and the community," Nick said. "The service offering is now greater and the facilities are just fantastic."

The integration of Watpac into BESIX Group in 2018 has given this proud Australian construction company an even greater breadth of expertise. Now with three international hubs in Australia, Europe and the Middle East, BESIX Watpac is a trusted partner for both Government and the private sector with the expertise to deliver cost-effective outcomes on the world's greatest engineering challenges.

With a reputation built on quality, the BESIX Watpac team is united by their common purpose to create sustainable solutions for a better world.

For more information contact BESIX Watpac, Level 24, 44 Market Street, Sydney NSW 2000, phone 02 8741 7400, fax 02 8741 7401, website www.besixwatpac.com.au



Below Quick Plumbing Group completed the Design and Construct Hydraulic installation across the Hornsby Ku-Ring-Gai Hospital Project Stage 2.

Quick Plumbing Group is a Sydney based, 3rd generation family owned business originating in Melbourne and focusing on Tier 1 Design and Construct (D&C) projects for the Government and private sectors.

The diverse experience of Quick Plumbing Group encompasses many project types including large commercial and distribution centres, medical, hospitality, education and facility management. They have experience with major plant installations and environmental systems as well as integrated solutions for NABERS and Green Star targets.

Quick Plumbing Group were engaged in 2018 to perform the D&C Hydraulic installation on the \$265 million Hornsby Ku-Ring-Gai Hospital Stage 2 Project.

Further areas of the hospital redevelopment were expanded including a Level 3 extension of Rehabilitation, Stroke, Delirium and Dementia Services Inpatient Units, a new Level 5 Sydney University Education and LHD Administration space and a rooftop helipad inclusive of hydraulic services capable of handling fuel spills to safely protect the hospital.

As the works were carried out within an old existing hospital precinct, integration and extension of largely undocumented existing services was a constant challenge and required methodical investigation and problem solving. Quick Plumbing Group's scope included delivery of authority infrastructure, as well as infrastructure to support the future expansion of the hospital.

The works have delivered a modern facility that offers greater comfort to patients and modern equipment to allow staff to be more efficient and achieve greater levels of care.

"One unique aspect of this project was the staging," said Thomas Quick, Managing Director. "The lengthy time frame of the project, difficult nature and the moving number of work faces were the biggest challenges faced by the Quick Team. Working on multiple work faces throughout the hospital at varying stages of completeness meant we were often challenged."

"Shifting team members through the different areas and successfully scheduling these movements to maintain the programme

was a high point for us as many areas could not be finished in one pass as is traditional in large hospital projects," Thomas said. "One of the best parts of our approach was that awareness of other work faces and building works when planning each area of works."

Working in an operational hospital also brings challenges. For example, the staged handover required by the hospital and the project team required careful management of the hot and cold water to maintain ring mains and the infection control risk associated with dead legs.

The addition of the helipad midway through the project also introduced a significant challenge which required the design to pivot to new standards of compliance.

Accommodating the current operation of the precinct and successfully integrating new project structures into the existing spaces was a complex task requiring close collaboration between all parties involved in the works.

The Quick Team consistently displayed positive communication and proactive planning to assist the broader project team. The staged testing and handover of areas was complex to manage and integrate with the construction process. This was handled well by the Watpac Site Team and made easier with group planning sessions.

"Clear communication from key stakeholders and the Watpac Team certainly helped to keep the project moving with efficiency," said Thomas. "The Quick Team would like to thank the APP and Watpac Teams for all their assistance and professional delivery of a difficult project."

Recent projects completed by Quick Plumbing Group include the Rail Operations Centre for Transport for NSW, the Acute Services Building, at St George Hospital for NSW Health Infrastructure, Arthur Phillip High School and Parramatta Public School for NSW School Infrastructure, and Axle at South Eveleigh for Mirvac and Commonwealth Bank.



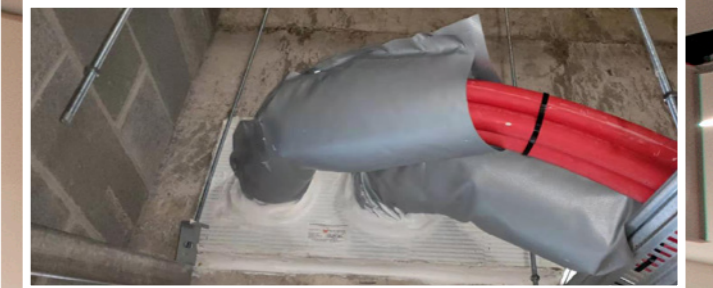
For more information contact Quick Plumbing Group, phone 02 9316 9206, Unit 21, 32 Perry Street, Matraville NSW 2036, email tquick@quickplumbing.com.au, website www.quickplumbing.com.au



Below Renyi conducted computer simulations to analyse the thermal performance of the façade for the hospital redevelopment.



Below MFP Group were appointed for passive fire protection of the Hornsby Ku-Ring-Gai Hospital redevelopment project Stage 2.



Construction of Stage 2 of the Hornsby Ku-Ring-Gai Hospital redevelopment project's design and construction team has focused on achieving a world class new healthcare facility for the local community. Renyi, a leading specialist sustainability consultant, was appointed to help ensure the project achieved its sustainability targets.

Renyi's role in the project was to ensure the building façade and services complied with National Construction Code Section J 2016 (Amendment 1) energy efficiency requirements. They conducted computer simulations to analyse the thermal performance of the project and proposed design improvements to increase energy efficiency where required.

"We tried to improve the façade while staying within the budget," said Allan Ang, Director. "There were multiple façade types around the building envelope and we looked at the details and specifications for each type to make recommendations to achieve better efficiency."

Renyi worked closely with Watpac throughout the construction stage. They produced energy efficiency documentation for submission to statutory authorities and reviewed shop drawings to confirm

compliance. They also played a role checking and verifying as-built details onsite. "We worked quite efficiently and were able to provide real time review and feedback to Watpac," said Allan. "Our approach is always to work with builders to develop energy efficient solutions that are also easy to construct."

"We prioritise using proprietary products to minimise heat gain through the façade resulting in less intensive servicing requirements. We bring our understanding of buildings and façades to help builders achieve what they need to."

Based in Sydney, they have the capability to help builders Australia wide achieve value engineered and optimised design solutions to improve the environmental performance and operational efficiency of buildings of all types. Renyi offers a comprehensive range of environmental building design solutions for many industry sectors including education, commercial, residential, retail and others.

For more information contact Renyi, Suite 2404, Level 23, 520 Oxford Street, Bondi Junction NSW 2022, phone 02 9316 8882, email info@renyi.com.au, website www.renyi.com.au

Max Fire Protection (MFP) Group are a Sydney based specialist provider of top quality fire penetration sealing, fire dampers and safety products from leading brands. With more than 10 years of experience across commercial, residential government and industrial projects, they offer an exceptional passive fire protection service.

The specialist team at MFP works with clients to find practical and cost effective solutions to meet fire protection requirements on projects of all types and sizes. The company also offer all aspects of annual and passive fire inspection services including evaluation, advice and reporting. MFP Group were appointed for passive fire protection of the Hornsby Ku-Ring-Gai Hospital redevelopment project Stage 2.

On the project, MFP Group supplied and installed fire protection products from Promat, TBA and Trafalgar Fire. They provided fire protection coatings to structural steel, fire seals to all control joints and rectification of defects caused by services penetrations through fire barriers.

The project timescale was very challenging to achieve the targeted opening dates for the different areas of the hospital. MFP Group were

on call 24 hours every day to complete urgent tasks when required and ensure the performance and integrity of the building's fire protection systems.

Despite the tight programme MFP Group collaborated closely with main contractor BESIX Watpac to ensure the works ran smoothly and were completed on time. MFP Group delivered a fire protection solution that met the architectural design intent and client requirements while complying with all relevant BCA and AS/NZS specifications.

Maintaining a high standard of quality was a key focus for MFP Group on the project. On all their projects the team of licenced and qualified workers at MFP Group are focused on providing the best level of service and professionalism.

For more information contact Max Fire Protection Services, Unit 9, 14-16 Blemore Road, Punchbowl NSW 2196, phone 0425 088 877, email Leslie.li@mfp.com.au, website www.mfp.com.au