

# SURGICAL PRECISION

The Hospital for Specialist Surgery (HSS) is a unique construction project involving the complete conversion of an existing office building into a specialist surgery hospital. Breaking ground in many ways, this premier facility will expand vertically and horizontally from the original shell to encapsulate the extensive new space required to service the hospital.

MD Equity's state-of-the-art Hospital for Specialist Surgery (HSS) will mark a new era in the delivery of healthcare and patient support by offering the full spectrum of leading-edge patient services in the one location with superior service and amenities. Cockram Construction (Cockram) have been engaged as the Design Development and Construction contractor for the new hospital with Caverstock Group as the client-side Project Manager/Superintendent.

Cockram were awarded the project due to various reasons, including their experience in constructing highly technical and complex health facilities as well as the ability to offer MD Equity innovative ideas and solutions throughout the design development phase leading to cost savings and improved outcomes for the client.

Located in the Norwest Business Park at Bella Vista, the hospital is owned by MD Equity - a privately owned independent consortium of Doctors. Together, they have jointly funded the project and will own and operate the new facility. With a floor area in the order of 15,000m<sup>2</sup>, the new Hospital for Specialist Surgery building was originally a seven-storey commercial office.

The project involves extensive additions, extensions and alterations to the existing structure, and an internal refit of the entire building. The new building overlooking Norwest Lake, includes a hydrotherapy pool, radiology facilities, 78 ward rooms for surgical and rehabilitation use, 10 operating theatres, 21 recovery beds, 3 HDV's medical consulting suites, onsite pharmacy and pathology (with lab), in/outpatient facilities, staff lounge and gymnasium as well as waterfront café and conference centre inclusive of teaching facilities.

As a privately owned, managed and operated facility, MD Equity has a vested interest in the entire lifecycle of the project. Cockram has been working closely with MD Equity to ensure the design, construction, maintenance and future proofing works are transparent and understood by all building end users. Weekly site meetings are conducted to enable effective information transfer between key MD Equity representatives which is then distributed to the wider stakeholder base of 50 shareholders. In order to gain a better understanding of the consortium's requirements for the new facility, Cockram has conducted regular visits to MD Equity's current premises to appreciate their work environment.

Following the contract award, Cockram, in consultation with MD Equity and the consultants, conducted a substantial review of the



tender documentation to identify potential over specification, and rationalise the original design. Specifically, this included the redesign of the new and existing structure from steel to concrete to reduce preventative maintenance and monitoring. It also included redesign of the building access and maintenance system, substantial redesign to the building mechanical services and the addition of stringent vibration requirements to the new operating theatres. Cockram ensured the new façade matched the existing, and the design was developed to accommodate existing design constraints due to the current building floor plates.

The project required complex services design and coordination due to the smaller than ideal floor-to-floor heights of the existing building structure. Cockram has managed to find innovative ways to deliver the services while maintaining standard compliance. Cockram's NSW

State Manager Michael Read said "the expansion of the building on all four faces, instead of one main addition, was a very difficult task."

Construction on four faces meant the construction sequencing was not linear, leading to a tight programme. Cockram managed this effectively by carefully planning the works out of sequence and guiding the trades to follow the sequence. The programme was constantly manipulated to ensure every opportunity was taken to meet the set milestones.

Lightweight steel and concrete structures have been added to the top of the existing building to create additional levels. The reuse of the existing structure for these levels meant the amount of additional load that could be applied to the building was limited.

With complex and extensive services comes detailed compliance and commissioning requirements. Cockram has engaged independent consultants to ensure all services comply with the necessary regulations and authorities. Operating in Australia, Asia and the Americas, Cockram Construction has a long and proud history as a multidisciplinary construction services company since it began in 1861.

As well as developments such as the Hospital for Specialist Surgery, the company continues to work on substantial projects across Australia and overseas.

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# LIGHTING UP NORWEST

Colbros Electrical was engaged to undertake the design review, development and installation of the electrical systems for the new Hospital for Specialist Surgery at Bella Vista.

Focusing on energy efficiency, Colbros installed LED lighting to the main general areas throughout the seven-level facility, which is controlled via a Cbus lighting control system. This provides fully automated set scene lighting management, with lighting increasing or decreasing as required throughout a 24-hour cycle. Further complementing this system are individual PIR motion detectors in all offices, utility and back of house areas.

To cater for the additional electrical load requirements at this state-of-the-

art 10 operating theatres facility, Colbros introduced a second main switch board and Kiosk substation. This provides power to the bulk of the new essential, generator and UPS-supported systems.

Colbros also worked closely with the client and other key design teams to ensure adequate power was distributed and located as required throughout the facility. At the same time focusing on strict compliance with AS3003 - Australian Standard for Electrical installations in hospital patient treatment areas.

“Colbros prides itself on its ability to not only deliver a quality installation at a site level but also to provide a full electrical design and/or design review for our clients,” Colbros Electrical Contracting’s Paul Cole said.

“We undertake the full spectrum of commercial electrical projects but our specialty is the health sector.”

Over the past nine years Colbros has been engaged



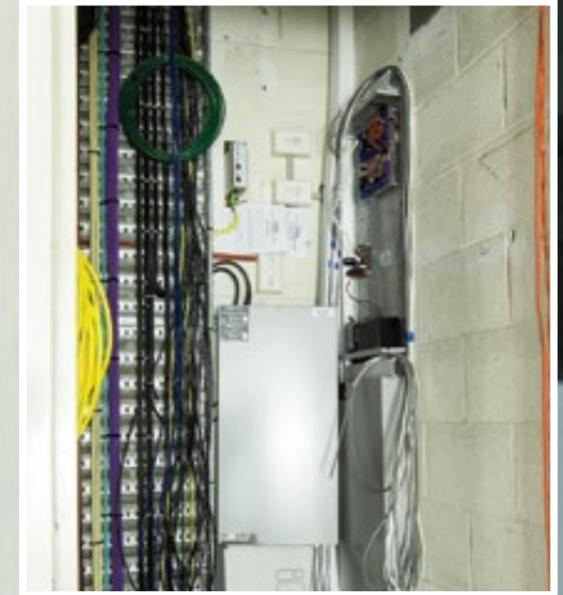
to undertake full electrical contracts on over 20 hospitals and 20 aged care facilities throughout the east coast of NSW. The bulk have been Colbros designed and construct projects.

Its recent projects include Ryde Rehabilitation Hospital, Mt Druitt Hospital, BUPA’s 144 bed Sutherland Residential Aged Care Facility and Moran’s 124 bed Engadine Residential Aged Care Facility.

With the amount of health projects delivered in this timeframe, Colbros would be counted as one of the leading electrical companies in the sector.

“Our knowledge and contacts in this area, as well as our dedication to our clients and their budget requirements, are what we believe sets our company apart from the competition,” Paul added.

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# SECURING EXCELLENCE

Having been historically involved in providing solutions to the healthcare industry, electronic security company Xacom was a natural fit for the Norwest Hospital for Specialist Surgery development.

Xacom’s scope of work for the project involved installing the building’s access control and intruder detection, CCTV and intercoms.

When it came to intruder and access control the company employed the latest technology, choosing the Australian-owned and made Inner Range Integriti system.

“The access control scope of the project included 75 secured doors and a prioritised lift control system tailored for a state of the art hospital,” Xacom’s Daniel Bishop said.

“(For the CCTV), Xacom used Pelco brand Power Over Ethernet (POE) cameras. These are made in the USA and are used extensively

in the defence, healthcare and government sectors. The Video Management Software is Pelco Digital Sentry. This system is used around the world and is highly customisable. The video will record onto large video storage servers.”

Xacom also installed a Jacques Technologies intercom system.

“This is a fully IP (Internet Protocol) based system and will use the building’s data network. Again, this system is highly customisable as it uses a software management system. There are over 15 intercom points in the building,” Daniel added.

“We have used all the products before, however, this is by far the largest site for the intercom system. We have never been involved with a refurbishment of this size. Normally projects of this size are brand new builds, this meant that scheduling work was somewhat different to normal.”

Xacom was also responsible for running all cabling, installing all the hardware, programming the systems and certifying them to the relevant standards. At peak periods, up to four technicians worked on site.

In addition to security technology, Xacom is one of the leading competitors in Nurse Call, Paging and other messaging systems. It is currently providing its technology solutions on new buildings for the University of Western Sydney, the ACT’s Kankinya Aged Care facility and a Defence Housing project in Lindfield, NSW.

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Norwest Hospital For Specialists Surgery, NSW

## MAINTAINING THE EQUILIBRIUM

With a creative design and professional service team Equilibrium Air Conditioning is committed to developing innovative air conditioning and ventilation solutions to suit any type of development. This includes commercial office space, education, retail, industrial and the healthcare industry – such as the Norwest Hospital for Specialist Surgery project.

Equilibrium's Commercial Manager Joe Maric says for this particular development, the company designed and installed a chilled water/hot water system with a combination of variable speed drive centrifugal and screw machines.

"A heat recovery system was installed for the hydrotherapy pool air conditioning and plate heat exchangers for the pool supplementary heating from the cooling tower condenser water system," Joe explains.

"Multi-zone air handling units serve the ward areas and dedicated air handling units serve the eight operating theatres, two endoscopy

rooms, central sterile supply department, first and second stage recovery and MRI.

"The building was an existing office block with most of the structure reused and extended upon," Joe added.

"This presented a timing challenge to design and install in a short period, since most of the floors were available quickly for installation. The incorporation of the smoke management system required the existing building to be modified."

Equilibrium Air Conditioning is currently contracted to a number of health infrastructure projects around New South Wales.

"We have completed the Sydney Adventist Hospital Clinical Services Building (CSB) and upgrades to the existing complex, as well as the final stages of completing an extension to the Mater Hospital at North Sydney," Joe says. "We are also commencing work at Wollongong Private Hospital for Ramsay Health Care."



Joe Maric  
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Equilibrium Air Conditioning

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