



**Norman
Disney &
Young**
A TETRA TECH COMPANY

Secure Mental Health

Forensic Care

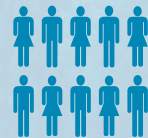
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**NDY by
numbers**



established
1959



600+
people



9
key markets

12
offices



5
countries

Introduction

With more than 600 staff and 12 offices across Asia, Australia, Canada, New Zealand and the United Kingdom, Norman Disney & Young (NDY) offers clients access to the highest quality expertise supported by a depth of knowledge and experience that few firms can rival. In the building services consulting engineering profession, this has made us a provider of choice.

Our specialist healthcare design team recognises that mental health issues is a wide ranging subject matter and it's increasing prevalence is a huge concern in today's society.

Mental illness affects a large percentage of the community to varying degrees. In the most acute of cases, this can lead to harm (both self harm and towards others) and criminal activity.

We understand that Mental Health facilities can include:

- › Home care
- › Outpatient assessment centres
- › Community clinics
- › Voluntary attending/low secure day care/hospitals
- › Medium secure establishments for patients who require more in-depth care
- › High security units where patients could require intensive treatment or be a danger to the general public, staff or themselves.

It is with this understanding that we design engineering services for mental health units that cater for patients with a wide range of needs. This includes those that are transitioning back into the community via either secure Mental Health care or from correctional facilities, right through to dementia units in aged care facilities, as well as for outpatients of a lower acuity, risk or dependency, attending co-located care services within the same Secure Mental Health facility.

We appreciate the need to design engineering services that create an environment that is safe, supportive, non-threatening, welcoming and calming for patients as well as providing security and peace-of-mind for staff, visitors and the families of patients.

Clinical forensic Mental Health services covers the full spectrum of the mental health and criminal justice sectors. Buildings designed to house these facilities have to provide the right balance between inpatient/outpatient clinical care needs, and the security of correctional and criminal justice facilities.

NDY's extensive experience in both healthcare and correctional facilities makes us ideally placed to design solutions that are appropriate to the mental health acuity and level of care for the specific patient groups to be cared for in any given facility.



Our **values**

Excellence

Do it once, do it well

Leadership

**Lead in our profession, industry
and the community**

Integrity

Treat others as we wish to be treated

Collaboration

Listen, share and contribute

Accountability & Ownership

**Understand the impact of our actions
and own the outcomes**

Innovation

Inspired creativity to challenge the norm

“
Our purpose
is making
spaces work
”

Our **vision**

To enhance the lives of others,
by engineering outstanding projects,
mindful that every project matters

To sustain deep and trusting
relationships with our clients,
through solving their problems and
serving them with utmost reliability

To engage our people
with meaningful, rewarding and
inspiring opportunities.

Our ethical statement

NDY has a proud tradition of upholding the highest ethical standards in the manner by which we conduct ourselves as a company. Read our ethical statement at www.ndy.com/about-us/our-ethical-statement



What **we** do

As consulting engineers, our purpose is [Making Spaces Work](#). We listen to the unique requirements of each client, and tailor our services accordingly to every project.

Our collaborative approach to excellence and innovation are core values at NDY. We consistently deliver best practice sustainable building design solutions to achieve our clients' objectives.

Clients come to NDY because they want quality. We take ownership and provide clear recommendations while consulting with the utmost integrity.

Most of all, clients come to us because we listen. We look forward to better understanding your business and collaborating with you to achieve successful outcomes.

Our markets

- ▶ Civic (including Correctional)
- ▶ Education
- ▶ Health
- ▶ Industrial
- ▶ Mission Critical
- ▶ Offices
- ▶ Residential & Hotels
- ▶ Retail
- ▶ Transport

Our services

- ▶ Acoustics
- ▶ Asset Performance
- ▶ Audio Visual
- ▶ BIM (Building Information Modelling)
- ▶ Commissioning Management
- ▶ Communications
- ▶ Controls & System Integration
- ▶ Electrical
- ▶ Fire Engineering
- ▶ Fire Protection
- ▶ Hydraulics
- ▶ ICT Consultancy
- ▶ Interiors
- ▶ Mechanical
- ▶ NDYLIGHT (Specialist Lighting Design)
- ▶ Property Consultancy
- ▶ Security (including Cyber Security)
- ▶ Sustainability
- ▶ Vertical Transportation



NDY **secure mental health experience**

For more than sixty years NDY has provided consulting engineering services on strategic projects throughout Asia, Australia, Canada, Europe, New Zealand and the UK.

These award-winning projects are testament to the quality of our innovation, expertise and personnel. The following examples of our experience are a snapshot of our ability to deliver world's best practice projects of all sizes.

To view a comprehensive outline of our project experience visit our website www.ndy.com

Delivering design excellence in
Mental Health Facilities.



Secure Mental Health Unit (SMHU), Symonston, Canberra ACT

Services:

- Acoustics
- Communications
- Electrical
- Fire Services
- Fire Engineering
- Hydraulics
- Mechanical
- Sustainability
- Vertical Transport

The Secure Mental Health Unit (SMHU) is a unique health centre, providing 25 hospital inpatient beds, co-located with acute care and rehabilitation facilities for consumers requiring medium and low security mental health services.

The Secure Mental Health Unit is a custom designed facility that takes into account the specific needs of the region, and the first of its kind in the ACT.

The project was a unique blend of a health institution and a high security environment.

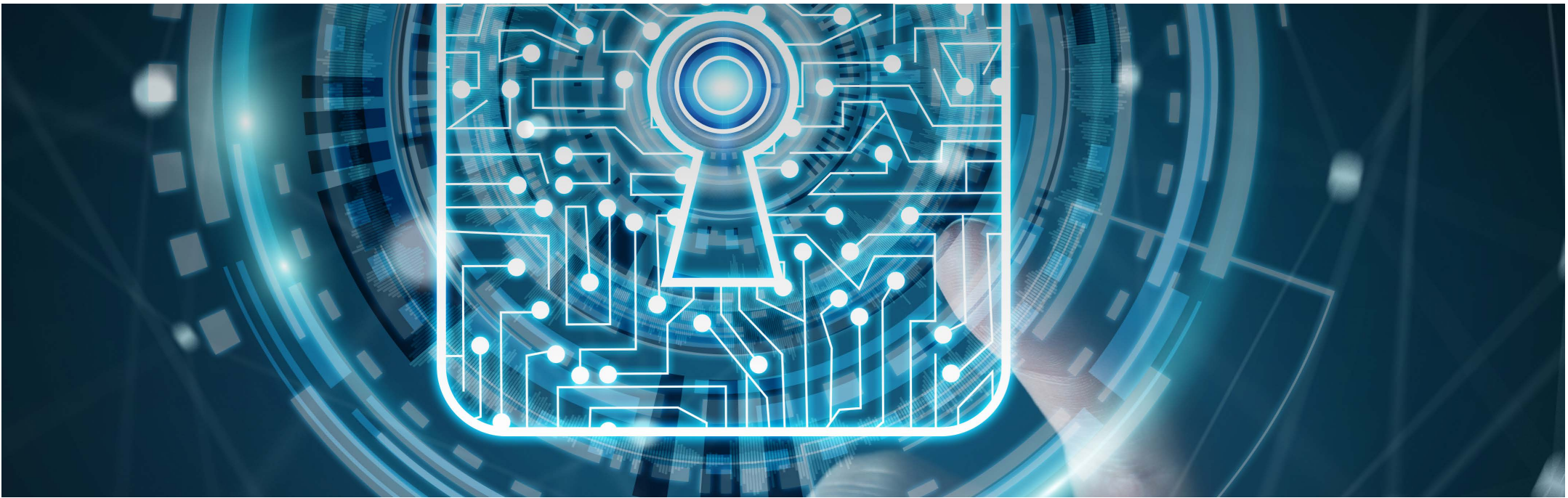
It provides a safe and structured environment with 24 hour clinical support for people with moderate to severe mental illness, who cannot be safely cared for in a less secure environment. This includes people who are (or are likely to become), involved with the criminal justice system, and civil users of general mental health services.

This meant that the team had to draw on a variety of experience and skills, to create a facility that supported the wellness and occupant wellbeing and rehabilitation goals, while also creating an environment where patients and staff were kept safe and secure.

Areas that provided a particular challenge were:

- Bedroom fire safety
- Minimisation of self harm
- Prevention of wilful damage
- Containment/concealment of services to prevent tampering
- Balancing initial capital cost with energy consumption and long term maintenance costs.

This project was procured under the Act Health HIP GC21 - 2 Stage Lump Sum Contract Structure.



Ravenhall Prison PPP, **Ravenhall, VIC**

Services:

- Cyber Security
- ICT Consultancy

Peer Review:

- Electrical
- Fire Engineering
- Fire Protection
- Hydraulics
- Mechanical
- Security.

Ravenhall Prison is a new medium security Victorian Prison with 1000 beds, with the provision for expansion to 1300 beds in the future. Under the GEO Continuum of Care model, Ravenhall Prison provides enhanced in-prison offender rehabilitation programs including evidence-based treatment, integrated with post-release support services.

Operated by Forensicare, dedicated Forensic Mental Health facilities support cognitive behavioural treatment programs aimed at preparing prisoners for successful community reintegration.

In addition to peer review services, Norman Disney & Young (NDY) was engaged in a cyber security advisory and implementation role. This included the delivery of networks accredited to a PROTECTED classification under the ISM; a first for any Australian Prison.

To achieve this, NDY comprehensively briefed all stakeholders on the methods necessary to achieve this goal, from development of the project delivery strategy, down to the most detailed cryptographic requirements.

All seven classified networks were delivered to the satisfaction of three independent IRAP assessors.

NDY engaged with all key stakeholders to develop technical and operational strategies that would deliver a 'cyber ready' facility. The strategies were then employed by JHG designers and GEO to mitigate cyber security risk, throughout the project.

The NDY team collaborated closely with all parties involved to help up-skill the team, particularly in regard to ISM. This allowed the team to develop a process and framework that could be understood by all stakeholders.

The integral nature of Cyber Security in this project prompted NDY to develop an entirely new business capability to service this expanding need. By addressing cyber security from a building engineering perspective, we can ensure that the information and critical infrastructure is protected, from design to delivery.



Watch our New Bendigo Hospital video documentary on NDY TV

New Bendigo Hospital, Bendigo, VIC

Services:

- ▶ Electrical
- ▶ Fire Protection
- ▶ Hydraulic
- ▶ ICT
- ▶ Mechanical
- ▶ Security
- ▶ Specialist Lighting
- ▶ Sustainability
- ▶ Vertical Transportation Services

The New Bendigo Hospital project is Australia's first world-class regional hospital. At 372 beds this new hospital is about 60% larger than the previous facility with expanded capacity to include an integrated regional cancer centre and a new psychiatric inpatient facility.

NDY was appointed by the Victorian Government as part of the successful Exemplar Health consortium to design, build and operate the new hospital. The consortium comprises of Capella Capital as sponsor and Lendlease responsible for construction with architects Silver Thomas Hanley and Bates Smart.

The new hospital services a quarter of Victoria's land mass and will assist Bendigo Health to provide the health services expected by the community in the 21st century.

The cutting-edge facility is also attracting and retaining the best staff, training the future health workforce for the region, and is supporting other health services as part of an effective regional health system.

The state has invested \$630 million in capital funding with a facility that includes:

- ▶ New acute hospital on Barnard Street with 372 acute inpatient beds, 72 same day beds, 80 psychiatric inpatient beds and 10 operating theatres
- ▶ A new integrated regional cancer centre with 26 chemotherapy places (included in the acute same day beds above), 4 radiotherapy bunkers and 30 consulting rooms
- ▶ A satellite dialysis facility with 16 places (included in the acute same day beds above)
- ▶ Diagnostic, outpatient, staff, education, administration, public and back of house spaces to complement the above
- ▶ Mental Health (Psychiatric) Department (IPU, Bedrooms, Medication Rooms, Treatment Rooms and Seclusion Rooms) - NDY also developed the security management strategies and designed the security systems investment in ICT to facilitate effective care delivery and efficient work practices,

to provide the essential tools to support 21st century learning and research, including electronic medical records.

Some of the services features included are:

- ▶ Rainwater from 80 per cent of the available roof area is captured for reuse
- ▶ Diesel Rotary UPS generators provide mission critical redundancy to both clinical and technical loads
- ▶ Two 800kWe cogeneration plants are provided coupled also to an absorption chiller providing trigeneration functionality
- ▶ Low or non volatile compounds in carpets, vinyls and paints
- ▶ Heat rejection via new adiabatic cooling technologies that save water and power (and do not require registration as cooling towers).



Marian Centre Perth, WA

Services:

- Electrical
- Fire Engineering
- Fire Protection
- Hydraulic
- Mechanical

The Marian Centre is a standalone private psychiatric service located in the medial precinct of Subiaco/West Leederville, dedicated to patient focused care with dignity and understanding.

The project includes a new three storey extension and the refurbishment of the upper levels of the existing facility.

The completed project provides an increase in beds from 31 to 73 beds, significantly enhancing the current facility. The facility remained operational during construction.

This project involves the retro-fitting of wet and dry fire systems, electrical and mechanical designs and new toilet/en-suite facilities into an existing and occupied facility, with low ceiling heights, safe and secure anti-ligature fittings and design detailing, plasterboard ceilings and limited access.

Tight budgetary constraints existed, and were closely monitored and controlled, with value engineering re-design applied where relevant.

The nature of the existing building (low storey height, plasterboard, anti-ligature requirements, limited access) is such that specific attention to co-ordination detailing was required for all services.

Working in an occupied building was also a significant constraint and key strategies included relocation of essential services and detailed staging plans to suit the servicing strategies adopted.



New Children's Hospital **Nedlands, WA**

Services:

- › Acoustics
- › Audio Visual
- › Communications
- › Electrical
- › Fire Engineering
- › Fire Protection
- › Hydraulics
- › ICT
- › Mechanical
- › Security
- › Sustainability
- › Vertical Transportation

About the project:

The \$1.2 billion Perth Children's Hospital provides the best possible clinical care for future generations in Western Australia and is the base for continuing WA's outstanding paediatric research with the co-location of the Integrated Research and Education Facilities, including the Telethon Kids Institute.

The hospital has almost 300 inpatient beds and provides tertiary-level health services and key secondary health services, acute treatment and diagnostics. The facilities include intra-operative MRI, specialist theatres and imaging, emergency department, burns, oncology, pharmacy, sterile services unit, 24 bed Child and Adolescent mental health inpatient and outpatient care, allied health services and ambulatory care.

The building features a Northern Winter Garden, a double skin active facade, a hydrotherapy pool, an auditorium, a large central atrium, a helipad, cinema and recreation facilities (indoor and outdoor) including the Starlight Foundation, and significant additional back of house support and office accommodation.

Replacing the existing Princess Margaret Hospital, the new facility is located on the QEII Medical Centre health precinct in Nedlands, Perth. The project was procured via a 2 stage managing contract arrangement.

Construction began in January 2012 and was completed in late 2016. Witness testing and commissioning of complex building services systems, clinical equipment and FF&E fit-out activities and clinical readiness/handover processes were completed in early 2017.

NDY were appointed as the building services consultants for all core disciplines and specialist services, and were at the forefront of the adoption and use of BIM/Revit throughout the project, including for 3D visualisation, clash detection, change management, laser guided services setting out, on site quality management and preparation for FM integration.

Other Mental Health Projects

NDY has worked on many major projects of a similar nature including the following:

Royal Children's Hospital Mental Health Service, VIC

RCH's Mental Health Service provides a range of hospital inpatient, specialist, consultation and community mental health services for infants, children and adolescents/young people. The facility supports interdisciplinary teams (a mix of mental health care professionals of different backgrounds).

Townsville Child Mental Health Unit, QLD

The Community Child and Youth Mental Health Service (CCYMHS) is a specialised mental health service for children and young people (0-18 years) and their families within the immediate Townsville area. CCYMHS offers assessment and therapeutic services for children and young people who are experiencing moderate to severe psychiatric disorders or behavioural, emotional and developmental problems affecting all areas of their daily lives.

Logan Hospital Adult & Child Mental Health Unit, QLD

The Acute Mental Health Inpatient Services Academic Clinical Unit (ACU) at Logan Hospital provides care to people who are experiencing an acute episode of mental illness. If a person is admitted to an acute inpatient unit, it is often because their mental illness is not manageable in a less restrictive setting, such as community-based support.

Shoalhaven Hospital Mental Health Unit, Nowra

The Shoalhaven Sub-Acute Mental Health Unit provides a 20 bed unit on the grounds of Shoalhaven District Memorial Hospital. The Unit offers services in a step-up (greater support than available in the community) and step-down (less restrictive and closer to home than acute services) greatly enhancing mental health services in the region.

Prince of Wales Hospital, Randwick – Mental Health Intensive Care Unit, NSW

The Mental Health Intensive Care Unit (MHICU) is a 12-bed District facility offering a therapeutic program for the most complex persons referred by South Eastern Sydney Local Health District inpatient facilities. The program is delivered within a purpose-built intensive care facility by a multidisciplinary team, including an Exercise Physiologist and Consumer Worker.

Little Sisters Of The Poor, St Joseph's Home, NZ

A new St Joseph's Home, operated by the Little Sisters of the Poor as a convent and home for the aged. The complex was constructed in two stages. Facilities include dining, recreational, occupational therapy and physio facilities, TV and reading/ communal lounges.

MacKay Hospital, QLD

The \$405 million redevelopment of the Mackay Base Hospital includes a new acute hospital building and emergency department. The overall redevelopment has nearly doubled the number of beds to 318 and expanded the capacity of many existing facilities, including operating theatres, coronary, dialysis and intensive care units, day oncology and delivery suites.

Sydney Children's Hospital, Randwick – Child & Adolescent Mental Health Services, NSW

The project consists of a five storey mixed use building linking to the existing site buildings and accommodating:

- ▶ Child and Adolescent Mental Health Services (CAMHS) including inpatient services for 8 beds
- ▶ Paediatric Rehabilitation Services to operate as a statewide service offering a multidisciplinary team which includes Brain Injury Program, Cerebral Palsy Service, School Therapy Team, inpatient rehabilitation services, Spinal Clinic, General
- ▶ Rehabilitation Clinic and the Limb Management Clinic, and the Gait and Motion Analysis Services
- ▶ Family Facility – family friendly amenities and resource area for use by parents and carers visiting the SCH
- ▶ Day only/ short stay (peri-operative) facility of 27 day bed spaces to consolidate multiple surgical and procedural functions from more than five current locations.
Treatment and consultation areas for Audiology, Respiratory Medicine and Cardiology Services.

Dandenong Prevention & Recovery Care Services (PARCS), VIC

With sub-acute, short stay step-up and step-down care (delivered through partnership with the local hospital network) residents can access specialist clinical mental health staff 24 hours a day, while also being supported to strengthen relationships with family and friends, and skills for living safely in the community.



Key Staff Personal Experience

In addition to specific NDY projects, many key staff have previous experience working with international mental health architects and planners, as well as designing Secure Mental Health facilities prior to joining NDY. This experience includes:

- › **Stobhill Forensic Unit - Low Secure Psychiatric Unit (130 beds) – Glasgow, UK**
- › **Mid Argyll Acute Hospital and Integrated Care Centre PFI – Lochgilphead, UK**
PFI project in remote community including a local A&E Dept., Radiology and Maternity Unit, as well as a 60 Bed geriatric and dementia care facility.
- › **Clackmannanshire Community Health Services Project PFI – Alloa, UK**
9000 sq m, 45 Inpatient Bed Community Hospital and Day Medical Centre, including a Mental Health Services Assessment Unit. The Project also accommodates Social Care and Well-Being Services and other Allied Health Professional services.
- › **Midlothian Community Hospital, Edinburgh – UK**
New Community Hospital PFI project with 90 bed elderly care and geriatric assessment unit, Social Services, allied health services and social care accommodation shared with Edinburgh and Midlothian Councils.
- › **Coatbridge Multi-Purpose Health Centre – UK**
6000 sq m facility for joint use of NHS Lanarkshire & North Lanarkshire Council including mental health assessment facilities.
- › **Southland Base Hospital – Inpatient Mental Health Unit – NZ**
New facility built as part of the New Southland Base Hospital redevelopment. Consists of 16 inpatient beds and a high security wing with seclusion suite and living areas.

Our Team

The following are a selection of the key NDY health care design specialists with experience in Mental Health Facilities



Alex Rodger

Position: Group Health Director

Potential Role: Project Director/ Peer Reviewer

Relevant Personal Experience:

- Perth Children's Hospital - 24 bed CAMHS unit, Perth
- Marian Centre – 60 bed psychiatric day hospital, Perth
- Stobhill Forensic Unit – 124 bed secure Mental Health unit, Glasgow
- Several standalone inpatient Mental Health facilities and Mental Health departments within major UK hospitals.



Stephen Paterson

Position: ICT/AV Consultant

Potential Role: Lead ICT/ Electrical Designer

Relevant Personal Experience:

- New Bendigo Hospital
- Grafton Prison (PPP Bid Stage)
- Northern hospital Mental Health Facility



Michael Neill

Position: New Zealand Market Sector Leader

Potential Role: Project Lead/ Peer Reviewer

Relevant Personal Experience:

- Southland Base Hospital – 16 bed inpatient Mental Health unit and High Security wing
- Auckland District Health Board – Acute Mental Health Facility
- GCUH Mental Health unit – Key part of the Gold Coast \$1.8 Billion major university hospital project.



Steven Don

Position: Senior Associate & Electrical Manager

Potential Role: Lead Electrical Designer

Relevant Personal Experience:

- Secure Mental Health Unit, Symonston ACT



It's our people that set us apart:
Industry experts who are committed to providing carefully considered mental health design solutions appropriate to the level of security and acuity of each type of facility.



Key Design Issues

Gender segregation and flexible "Swing" bedroom accommodation/sub-depts to suit changing gender proportions.

Early briefing input from the Chief Psychiatrist or equivalent certifying authority

Fixed, Mobile and personal duress systems

Plantroom and Riser location to suit remote servicing and maintenance.

Understanding the impact that good, safe and secure, innovative design can have on staff attraction and retention

Maximising passive observation while balancing with privacy and dignity

Understanding the impact different operating or clinical models and staffing ratios may have on the built environment

Creating Safe/Secure environments with indoor/outdoor spaces (single storey facilities with internal courtyards)

Flexibility in Use - Swing Beds or Departments

Care appropriate bedroom layouts and inpatient room selection

Integrated traffic flows (Inpatient/Outpatient, Staff/Visitors, Clean/Dirty/FM, part day/24 hour)

Patient, Staff and Visitor safety

Specification of anti-ligature or low risk fixtures and fittings

Non-invasive technology solutions for patient monitoring

Access Control Zoning and Isolation/Chill/Seclusion room design



Design Guidelines

Australian HFG Guidelines

NDY are familiar with the recently updated guidelines for Mental Health inpatient units, released by AHFG/ Health Infrastructure NSW.

HPU 131 Mental Health – Overarching Guideline (Version 1, 14 March 2018) is a new guideline that describes the generic planning and design requirements to be considered when planning mental health inpatient units. It has been developed to act as a Part 1 to each of the following six mental health guidelines:

- ▶ HPU 132 Child and Adolescent Mental Health Unit;
- ▶ HPU 133 Psychiatric Emergency Care Centre (PECC);
- ▶ HPU 134 Adult Acute Mental Health Inpatient Unit;
- ▶ HPU 135 Older People's Acute Mental Health Inpatient Unit;
- ▶ HPU 136 Non Acute Mental Health Unit (including rehabilitation, extended care and forensics) and;
- ▶ HPU 137 Mental Health Intensive Care Unit.

The intent of HPU 131 is to reduce repetition so that the other HPUs can focus on service specific requirements (e.g. the special needs of adolescents). The focus of the document is acute inpatient units but it can be used to inform non-acute environments.



Design **Tools**

NDY Capability in BIM

Norman Disney & Young have developed their BIM consulting and modelling solutions, recognising that BIM is integral to the process of design, construction and management.

NDY have been working in 3D for engineering services since 2001 when we worked in conjunction with AutoDesk to create the libraries that form the basis of AutoCAD MEP today. NDY have led the industry in the application of BIM as a methodology to deliver large scale complex projects in Australia and have successfully delivered a number of BIM projects.

NDY adopted Revit as a standard tool for every project as soon as it was released as a metric version in 2009. We have regular training sessions for our Revit operators and constantly update our processes to take advantage of upcoming technologies. Additionally, we have a dedicated full time development team creating automated design tools and verification processes, intelligent families of objects and researching design integration into Revit.

Federated Model Construction

A key element to the BIM approach is the routine generation of federated models for use by the design and construction teams. The federated model becomes the focal point of design meetings and co-ordination activities. Where relevant to our scope, NDY can construct the federated models to assist the design team by:

Providing different means of viewing the model; whole model, by service, level by level, sections, etc.;

- Differentiation of building elements and engineering services
- Comparison of different aspects of the model (e.g. Electrical services vs structure)
- Providing fixed views to suit the design team
- Providing animation paths throughout the model.

NDY have also developed tools to facilitate the following critical functions:

- Comparison with previous versions to determine change
- Interface into project programs for construction sequencing
- Creation of clash detection reports.

dRofus Implementation

We note that dRofus is used by Health Infrastructure NSW in the delivery of healthcare projects and will be implemented for many future projects in different sectors. We are experienced in using dRofus on several healthcare and other public infrastructure projects including Perth Children's Hospital, Telethon Kids Institute and Casey Hospital Expansion in Victoria, as well as on projects in other market sectors such as prisons and education facilities, and we are at the forefront of collaboration and development with DRofus/Autodesk in further integrating DRofus into the digital engineering project process.

We use dRofus to leverage off the project data such as schedules and room data requirements to assist in our documentation and digital engineering design processes.

Design Tools

3D Tools Development

Our development team has created a full suite of Revit libraries to suit Building Services.

The library comprises over 5,000 equipment items covering mechanical, electrical, fire, public health, communications and security systems. These are optimised to utilise the potential of Revit as a design tool, to interface into BIM federated modelling tools such as Navisworks, and external databases.

A core objective of the development was to create parametric equipment objects, taking into consideration design workflow, system connectivity, error handling, maintenance access, incorporation of NDY and industry standards, 2D and 3D representation, material mapping and standardised equipment parameters for integration into BIM databases.

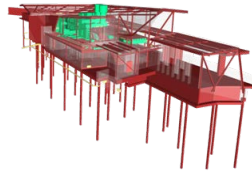
Our internally developed systems can scan any Revit model for object information and load it into an external database for data augmentation and export to external systems.

Technology is the catalyst driving an unprecedented level of change in the very fabric of our industry

An illustration of the NDY BIM/Revit timeline is shown to the right.

Southbank Boardwalk

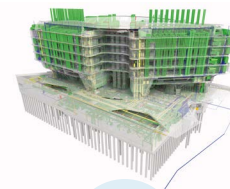
BIM in AutoCAD MEP LOD300



2010

SAHMRI

Full BIM Project LOD300



2011

NCH

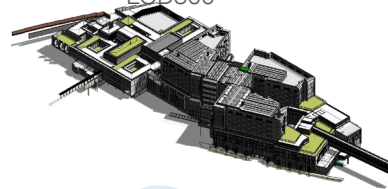
Full BIM Project LOD400



2012

Bendigo Hospital

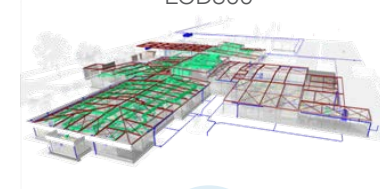
Revit BIM Project LOD300



2014

Warren Hospital

Current Revit BIM Project LOD300



2015

WestConnex

Full BIM Project LOD400



2017

NDY Key Differentiators

NDY VALUE PROPOSITION SPECIFIC TO SECURE MENTAL HEALTH FACILITIES

- ▶ Senior “Thought Leadership” skills
- ▶ Experience in infrastructure design
- ▶ Experience working on “live” sites
- ▶ Cost management experience
- ▶ Multi-disciplinary service
- ▶ Experienced in stakeholder interaction.
- ▶ Client Focus and excellent understanding of key client issues
- ▶ Global Experience in designing patient centric mental health environments
- ▶ Understanding of next generation clinical practices
- ▶ Industry leaders in BIM, Revit and DRofus integration
- ▶ Experienced design team with healthcare, mental health and correctional design experience
- ▶ SCEC accredited Security Consultants with healthcare and prisons experience.
- ▶ Strength in Depth across key healthcare disciplines
- ▶ Health ICT and Cyber Security specialisms

RANGE OF NDY SERVICES

- ▶ Building Information Modelling
- ▶ Communications & audio-visual
- ▶ Controls & System Integration
- ▶ Electrical
- ▶ Fire Engineering
- ▶ Fire Protection
- ▶ Hydraulics
- ▶ ICT Consultancy
- ▶ Mechanical
- ▶ Architectural lighting design
- ▶ Property Consultancy
- ▶ Security (including Cyber Security)
- ▶ Sustainability
- ▶ Vertical Transportation

NDY COMMITMENT TO QUALITY

- ▶ Uniform group approach
- ▶ ISO 9001:2008 certified
- ▶ ISO 14001:2004 certified
- ▶ ISO 18001:2007 certified
- ▶ Emphasis on processes that produce quality coordination, including the use of 3D Modelling tools.
- ▶ Systems are central and accessible to all our offices
- ▶ Ongoing personnel training
- ▶ Regular external audits
- ▶ Project peer reviews
- ▶ Commitment to Revit for coordination
- ▶ Deltek Vision Resource planning and project management tools

NDY EMBRACING SUSTAINABILITY

- ▶ Numerous industry sustainability awards
- ▶ Founding member of GBCA
- ▶ Over 100 completed Green Star certified projects
- ▶ R&D program with a focus on sustainability
- ▶ LEED Gold rating for the South Australian Health & Medical Research Institute
- ▶ Independently assessed 5 star Green Star rating for the Royal Children’s Hospital based on the health pilot tool
- ▶ International team of experts, qualified to manage and deliver a suite of sustainable benchmarking tools including Green Star, One Planet Living, WELL Building Standard, BREEAM, LEED, LENSES, NABERS, CF SH, Passive Haus, etc.
- ▶ Specialist skills in building fabric optimisation and energy management, knowledgeable in validation of complex design solution modelling, such as CFD, energy, indoor environment (daylight autonomy, glare, thermal comfort, air change effectiveness and acoustics), JV3, etc.



Join us on social media at
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