INNOVATION HUB

Probuild are constructing a new facility for Monash University and CSIRO turning the precinct as the most significant technology innovation hub in the southern hemisphere.

CLIENT : Monash University (Ron Crellin)
PROJECT MANAGER : Johnstaff Projects (Pieter van Rensburg)
MANAGING CONTRACTOR : Probuild Constructions Australia (John McManus)
COMPLETION : February 2013
PROJECT END VALUE : $117 Million
ARCHITECT : Lyons

A new facility is being constructed for Monash University and CSIRO for collaborative research on materials engineering including computational and physical modelling of manufactured products and technology for the bio-medical, aerospace and renewable energy fields. The development will establish the Monash University Clayton Innovation Precinct as the most significant technology innovation hub in the southern hemisphere.

Apart from managing the construction process, Probuild's role in the project also includes the management and assistance of the installation of Monash University and CSIRO, furniture, fittings and equipment (FFE) and recommissioning of the building. As Managing Contractor, Probuild was actively involved in the management of the design development process to assist in procuring the New Horizons GMP within the Target Cost Plan of the Client. Probuild, in conjunction with the Project Manager tendered, procured and recommended to the Client significant early works trade packages to ensure the delivery programme was not compromised while finalising the Guaranteed Maximum Price (GMP). This was achieved to budget and within agreed timeframes.

Prior to commencing works on-site Probuild reviewed and developed alternative construction methods and sequence for the project including:

- Façade construction modulation whilst maintaining the architectural design integrity;
- Off-site construction of the cascading stairs in 3 large atria to maintain programme milestones and
- Design intent and ongoing reviews and advice on Building Services and finishes to improve value for money and retain design intent.

The project has been delivered by a Managing Contractor procurement method under the leadership of John McManus (Construction Manager), Dan Larkey (Project Manager) and Tom Nisbet (Assistant Project Manager).

The design team includes Lyons, Bonacci Structural and Civil Engineers, Rimmington Hydraulic and Fire Services Engineers, Umow Lai and Associates (Mechanical & Electrical), Outlines Landscape Architects and Irwinconsult as the ESD/Green Star consultant.

In line with innovative green building systems, the following features have been included in the New Horizons project;

- A 300kL underground stormwater tank which serves the building heat rejection system. Stormwater is harvested from the catchment surrounding the New Horizons building. When water levels are low, stormwater is pumped from the campus underground stormwater drainage system to fill the tank.
- A 200kL underground rainwater tank harvests water from the roof of the building. This water is utilized for cisterns and irrigation of the surrounding landscape. Overflow from the rainwater tank is directed to the stormwater tank.
- Cooling system heat rejection is via low water usage adiabatic chillers. These work as dry air coolers up to an ambient temperature of 18°C, at which point water is pumped over heat rejection coils to increase heat rejection efficiency. This hybrid system saves water by running as a dry air cooler during periods of low ambient temperature.
- The cooling water from lab equipment is recirculated and cooled in a central building system rather than running potable tap water through the equipment.
- Combination of Active mass piping system embedded in the concrete slabs (at high level) and Underfloor Floor Air Distribution system (at low level) of occupied areas to provide cooling as part of the HVAC system.

The New Horizons project is aiming to achieve a 5-star rating for both Design and As-Built rating tools of the Green Star rating system. This is being accomplished not only by adopting the initiatives listed above, but also through the implementation of a 3D BIM process for coordination of building structure and services and by promoting extensive pre-fabrication of design elements. This has resulted in developing more innovative construction methodologies with the intent to reduce the overall risk in the project.

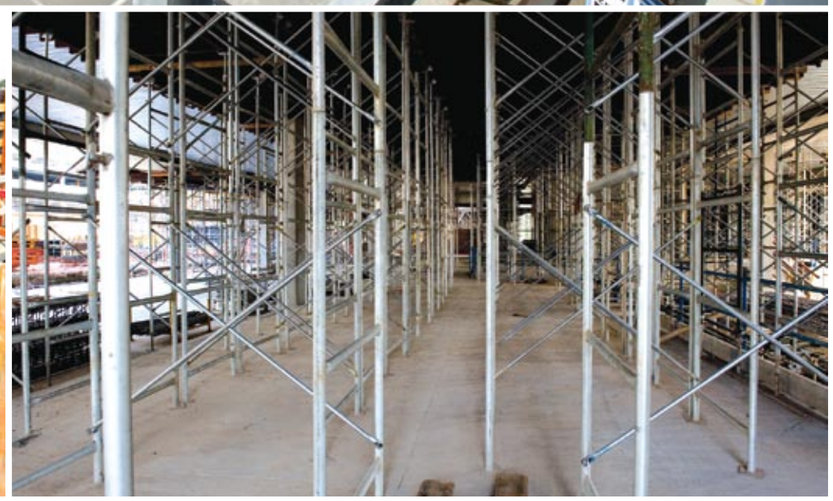
Probuild was founded in 1987 and their success is based on quality people, performance, industry expertise and a focus on forging long term bonds with clients. The company's culture of teamwork, strong but accessible leadership, and high standards has provided the foundation for one of Australia's most successful companies. Probuild is now a nationally diversified company with more than 300 employees.

Probuild's investment in the Monaco Hickey Group enhances their capabilities in the specialist area of health, pharmaceutical and clean room construction. The alliance with Monaco Hickey has been especially beneficial to the New Horizons project as they have provided support and expertise on the construction of the research laboratories at the Monash University facility.

The company has long-term relationships with clients such as the Gandel Group, Sussan Property Group, Cbus, Bendigo Bank, Colonial First State Global Asset Management, University of Melbourne and AMP. Chadstone Shopping Centre was one of Probuild's earliest major projects, and we have been involved in 28 stages of development over 21 years at the centre.

Probuild's expertise encompass all facets of project delivery including programming, project management, design management, estimating and cost planning, site supervision and contract administration.

For more information contact Probuild, phone 03 9693 8222 or visit www.probuild.com.au



NEW HORIZONS

The New Horizons facility has been constructed for Monash University and CSIRO for research activities that focus on the bio-medical, aerospace and renewable energy fields.

I&D Constructions was the structure contractor for the project. Their scope of works included supply & installation of all formwork, reinforcement, post tensioning & concrete.

I&D Constructions' had to organise their schedule to cater for the often harsh weather conditions in Monash. The cantilevering areas of the structure required specific attention to the temporary works design & subsequent installation procedures.

As the New Horizons project is a 5 star Greenstar project, materials supplied for the development were required to meet strict guidelines. Materials included recycled timber, special concrete mixes & reinforcing steel from specific certified plants.

I&D Construcitons were proud to announce that the New Horizons project was completed on time and within budget.

I&D Constructions are regarded as one of the largest deliverers of formwork solutions in Victoria. The Company partner with large-scale building and construction companies in the private and public markets on projects of all sizes.

The staff at I&D Constructions are considered the companies most important resource. Management ensure their personal safety is always a priority. On all projects, I&D Constructions implement a Strategic Safety Management plan and Safe Work Methods. The construction, project and site managers work with the OH&S officer and other construction consultants to ensure that workers are equipped with the safety equipment necessary to perform efficiently and safely.

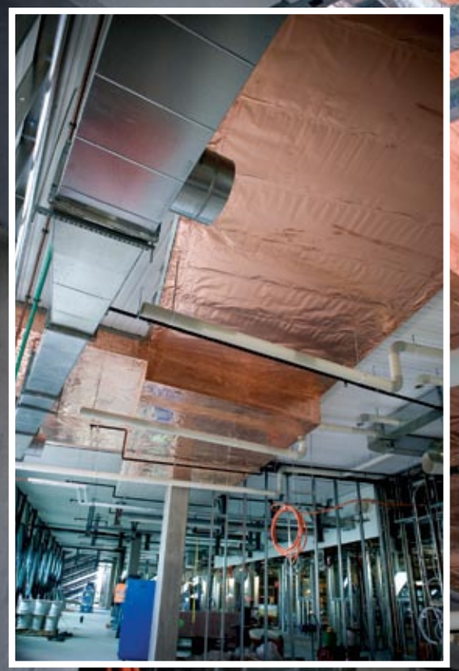
With corporate headquarters and storage yard based in the southeast suburbs, I&D Constructions have at their disposal, thousands of square metres of quality materials along with state of the art lifting and crane equipment, enabling them to smoothly deliver the largest projects.

The company is committed to delivering high quality projects by forming partnerships with their clients and collaborating with project suppliers to ensure each job exceeds expectations.

I&D Constructions was formed in 1994 by Ivan and Kathy Filipovic. Their passion and commitment to getting the job done safely and economically has underpinned their success in the industry. From humble beginnings, I&D Constructions now employs more than 200 dedicated professional and support staff and are involved in a number of landmark projects across Victoria.

I&D Constructions have a history for delivering projects on time and on budget and they believe this is paramount in the success of their business.

For more information contact I&D Constructions, Factory 4/3 Faigh St Mulgrave, phone 03 9560 1812, website www.idconstructions.com



INTERESTING PROJECT

Faraday Pty Ltd.'s involvement with the Monash University New Horizons project started in 2010 with the revision of the EMI/EMC Management Plan. The company provided detailed advice on the electromagnetic shielding requirement for a number of laboratories including electron microscope suites.

The University decided to implement all report recommendations made by Faraday Pty Ltd with only minor adjustments being made.

Faraday Pty Ltd installed various thicknesses of EMF shielding to the LEEM Labs, Spinor BEC and FQ laser rooms on the ground floor. They also carried out work above the substation on Level 1 and the copper shielded enclosure installed on Level 2.

Faraday Pty Ltd is a specialist electromagnetic shielding company. They design, install and certify the shielding systems built to ensure compliance with current electro-magnetic compatibility (EMC) requirements and human exposure regulations.

The company was established over 10 years ago in response to the increasing demand for technologically advanced shielding solutions in the following areas:

- science and education
- defence industries
- medical
- industrial and commercial developments

Faraday Pty Ltd also provides expert EMI consultancy services, conduct interference investigations, surveys and compliance field measurements.

Computer modeling was used on the New Horizons project to establish the shielding requirements for the individual scientific instrumentation, equipment and installation.

The shielding materials were specifically selected and arranged in a manner allowing them to attenuate the interfering electromagnetic field to levels not exceeding the established threshold values.

Faraday Pty Ltd has extensive experience in screening sensitive scientific and medical equipment from influence of electromagnetic interference.

Faraday Pty Ltd found the Monash University New Horizons development to be one of the most interesting projects they have worked on.

For more information contact Faraday Pty Ltd, Kingsley McRae phone 03 9729 5000

MARKET LEADER

Inhabit is an emerging market leader in Façade, Ecologically Sustainable Design, Acoustics and Lighting consultancy, having achieved significant growth internationally over the past 3 years.

Inhabit has been privileged to have collaborated on numerous projects that present technical diversity, complexity and the opportunity to create iconic built environments. Partnering with some of the foremost architects and construction companies in the world, Inhabit takes pride in delivering bespoke design and engineering in response to project requirements.

Lead by Tony Alvaro, Executive Director, Australasia, the team at Inhabit has provided integrated services for the development of the Monash University New Horizons project.

The underlying premise of the Monash University New Horizons development is to provide a hub for future manufacturing research, education and industry collaboration. It will support areas including biomedicine, transport, aerospace and mineral processing. The facility is located at the Engineering Precinct, Clayton campus.

Monash University New Horizons encompassed expertise from both the Inhabit Sydney and Melbourne offices. This included façade detailing, consulting, engineering services and finished fabrications consulting. Inhabit also played a key role in the quality assurance, logistics and project management of this project, including engineering certification. With such a large scale project, spanning more than 12 months, Inhabit chose to manage both quality and risk assigning 6 engineers to ensure validation and verification of work was undertaken efficiently and seamlessly. This resulted in being able to run concurrently with the fabrication and construction phases.

Inhabit offers an extensive range of specialist consulting services to complement building projects of all sizes and types. The company encourages a culture of excellence, with discipline experts who are industry leaders in their respective fields. This integrated approach by the designers and engineers is equally matched by the passion they deliver to each project.

Adopting this methodology has enabled Inhabit collaborations with some of the world's most well-known architects, builders and industry regulatory authorities in the creation of sustainable, built environments that redefine "Living Engineering".

For more information in relation to working with Inhabit, supported by its offices in Melbourne, Sydney & Brisbane, visit www.inhabitgroup.com

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