

JUDGEMENT DAY

Hansen Yuncken's Commonwealth Law Courts Project

TEXT: JOHN MORETON PHOTOGRAPHY: MARK SPAVEN

THE TERM 'LANDMARK' IS OFTEN BANDIED AROUND THE CONSTRUCTION INDUSTRY, and applied it seems, to almost any new development that springs up. A simple dictionary definition describes landmark as, 'A prominent feature of the landscape distinguishing a locality; an important event, or a turning point.' In the case of the Commonwealth Law Courts in Adelaide, the description 'Landmark' is entirely appropriate. The locality has been distinguished by the new architectural feature of the law courts and the construction of the law courts is a significant event and a turning point in terms of the facilities created and the innovative techniques used and challenges overcome.

Topped out in May 2004, and currently in the final stages of completion, the eleven story, 80 million dollar project is made up of three key elements. The main tower to the North, housing the courtrooms in the lower levels and the judges chambers higher up, a smaller tower to the south housing the court staff, and the distinctive 'Opal Building' to the west housing the high court. Sandstone and timber veneer finishes and extensive natural lighting from atria positioned in the south and east of the building have created a vibrant and genuine atmosphere that promotes the significance of the highest court in Australia.



The tendering strategy for the development of the Commonwealth Law Courts in Adelaide was designed in a collaborative manner to ensure the most effective and viable construction methods were employed on this 'landmark' development.

During the process, Hansen Yuncken demonstrated their expertise and experience and were also able to add significant cost savings and value adding to the project which ensured that their bid was successful. Following this, they were engaged as the head contractors for the project under a modified version of AS4000.

Due to the nature of the building, housing the High Court of Australia, the Federal Court of Australia, the Family Court of Australia and the Federal Magistrates Court, the finish and overall quality of the development had to be exceptional. Reflecting and enhancing the nature of the buildings intended life. This was achieved through very careful planning and design, and the concerted approach of the architects Hassell, the consultant engineers Connell Mott MacDonald, the project managers Savant and head contractors Hansen Yuncken.

Reinforced concrete columns and beams cast in situ form the main structure of the development. A 'Deltacore' pre cast panels system was used to span the beams and structural screed was then poured over the panels to complete the slabs. The 'Opal Building' was constructed using similar principles, with the added requirement of raking columns, and the complications associated with the three dimensional parabolic shape. A curtain wall fa ade encloses the main tower and registry tower whilst the 'Opal' is clad with a flush fitting copper panel system and Patina finish.

Significant challenges were encountered during the project; in the early stages, the earthworks and bulk excavation carried out by a separate contractor created difficulties that had to be overcome by substantial shoring in the north of the site to enable other works to commence. The structure itself presented challenges of its own due to its complex nature with varying floor to floor heights and the parabolic shape of the 'Opal building'.



COMMONWEALTH LAW COURTS
HANSEN YUNCKEN PTY LTD
 Location: Victoria Square Adelaide
 Cost: \$80 Million
 Client: Commonwealth of Australia Department of Finance and Administration
 Project Manager: Savant CMR
 Head Contractor: Hansen Yuncken
 Architects: Hassell
 Consulting Engineers: Connell Mott MacDonald

Hansen Yuncken and the project team used an innovative design 'hanging scaffold' developed specifically for the cladding of the Opal Building to overcome the unusual shape and allow work to continue in conjunction with the cladding. Hanging from the roof the scaffold created space that would otherwise not have been available with the standard 'Bird Cage' scaffold originally envisaged. The time and cost savings created were significant.

The incorporation of a satellite self-jacking boom driven by a large ground level pump enabled access to areas that mobile pumps could not reach and in turn freed up the crane for other tasks. A jump form formwork system was used to increase the speed of the lift core construction keeping it two floors above the live deck. Hansen Yuncken also elected to use high strength concrete (above specified requirements) which reduced curing times and allowed the finishing

trades earlier access to the surfaces again creating time and cost savings for the project.

The soon to be completed structure of the Commonwealth Law Courts in Adelaide has once again demonstrated Hansen Yuncken's ability to see through challenging projects. In particular, their ability to procure 'work force' during the overheated industry climate currently prevalent is a clear illustration of their work ethic and dedication to excellence.

The commonwealth law courts presented a number of challenges or choices for the head contractor and Hansen Yuncken were able to provide the appropriate solutions, as they were required. This in itself is solid proof of their ability to look outside the ordinary in sourcing results and a demonstration of the innovative attitude that has led to their current position as industry leaders.





S & S PLASTERBOARD CONTRACTORS

S&S PLASTERBOARD WERE ESTABLISHED IN 1984, during the 20 years they have been in operation, S&S have become a leader in the industry for providing high quality finishes on large and small projects.

In recent times, they have worked on a number of significant developments, including the Adelaide Convention Centre, Elder House, Mawsons Lakes Primary School and a Mormon Temple, which in particular required a very high-class finish that S&S achieved to the satisfaction of their clients. This experience and dedication to their customers ensured that the Commonwealth Law Courts project was being put in safe hands when S&S were awarded the contract.

Hansen and Yuncken engaged S&S Plasterboard to install walls, ceilings and partitions throughout the court complex, due in part to their reputation, but also because of the careful attention to planning, costing and sourcing of appropriate solutions by S&S during the tender process. This attention to detail is clear throughout the work S&S perform.

On the Commonwealth Law Courts Project S&S installed 18,000m² ceilings. These incorporated flush fitting perforated MDF tiles and Veneer tiles that conceal the roof grid and form a smooth finish in keeping with the courtroom ambience. They also supplied and installed approximately 70,000m² of gyprock walls and partitions. This was all completed to the required sound rating of RDW 55, which was essential for the courtrooms and mediation rooms operation as a secure environment.

Cost savings by S&S resulted in significant benefits to the developer throughout the project, which was completed within required time and budget guidelines. To achieve the completed

finish in keeping with the overall quality of the law courts S&S used Dulux Super Surfer, which was crucial to the eventual high quality Class 5 result required by the architects. This was achieved at a greatly reduced price.

S&S's belief in their work and the experience and skill of the 38 tradesmen and staff who were employed on the project was also significant in the result, which is a high quality low maintenance finish of the 24 courtrooms and other offices and anterooms of the complex. S&S Plasterboard are proud of their involvement with this project, and the quality of the work they have completed clearly illustrates their commitment to excellence.

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MORROW EQUIPMENT COMPANY, L.L.C

THE MORROW EQUIPMENT COMPANY IS THE LARGEST PRIVATELY OWNED SUPPLIER of tower cranes in the world with a rental fleet of approximately 472 units. They are also the sole distributor of Liebherr tower cranes with the exclusive rights of the manufacturer to supply and distribute Liebherr Cranes. Morrow have offices throughout Australia, New Zealand and the US. Providing a range of services to the construction industry from sales, to rental including full transportation, servicing, spares and after market support.

Morrow Equipment have previously worked with Hansen Yuncken on a range of projects in NSW and other states throughout Australia and Hansen Yuncken had been impressed with not only the cranes supplied, their reliability and efficiency, something for which Liebherr Cranes are renowned, but also with Morrow's expedition of the transport, delivery, supply and installation of the cranes. (Part of the complete package Morrow can provide) All of which were done efficiently and effectively.

The Morrow Equipment Company supplied one tower crane to the Commonwealth Law Courts, the Liebherr 290 HC. An electric crane with a 70mtr radius, making it ideally suited to the tasks required of it on the project. The positioning of the crane was critical, as on this particular site, it was a very 'busy' crane and needed to be within reach of all the areas specified by the developer. The fast hoist speed of this crane enabled it to effect fast, efficient turnover from truck to job site saving considerable time and money. In addition, the reliability of this model ensured there was no down time or expensive delays during the two years it spent on site. Being an electric crane, it was simply a matter of pushing a button to start in the morning, and pushing a button to stop at night.

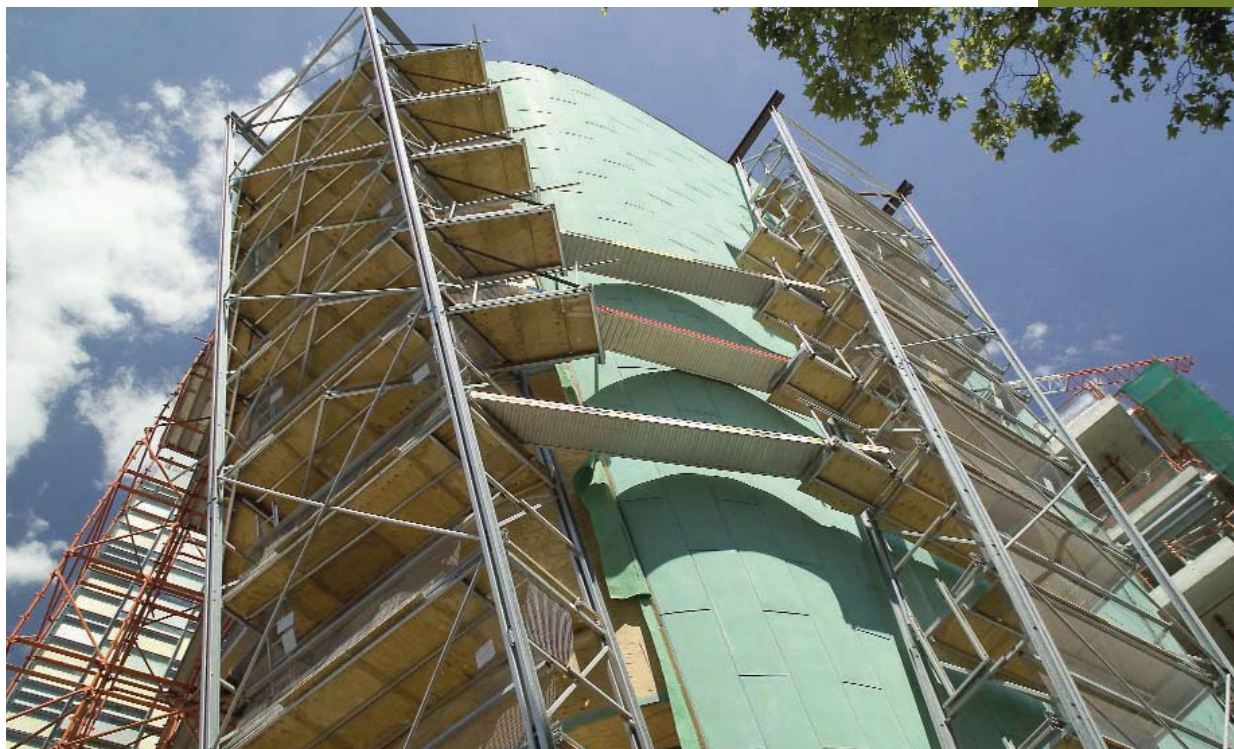
Morrow Equipment Company prides itself on its service and service delivery, constantly updating their fleet with the very latest of the Liebherr Tower Cranes to ensure the customer has the most efficient and reliable equipment for the job. Keeping abreast of rapid developments in crane technology means the newest and most advanced fleet is not only sensible, but also, necessary to remain at the forefront of the industry and provide the very best tower cranes in the world at competitive rates.

The Commonwealth Law Courts in Adelaide allowed Morrow Equipment to display their expertise and efficiency in the supply, installation, maintenance and operation of their tower cranes. Their ability to deliver solutions, whatever the requirements or challenges of the project was clearly demonstrated and they are rightfully proud of their involvement with this prestigious development.

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APPLIED INNOVATIVE SOLUTIONS

IN EVERY INDUSTRY, THERE IS A NEED FOR ALTERNATIVE SOLUTIONS AND THINKING. For people and companies that look for truly creative solutions to problems and challenges. These sorts of people and companies are rare, but when one such company is called upon, they can create original and new concepts within their chosen field that not only solve the problem but also, quite often, save their clients vast amounts of time and money. One such company, as its name suggests, is Applied Innovative Solutions (AIS).

Specialising in construction engineering, Applied Innovative Solutions advice was sought by the Builder, Hansen Yuncken to resolve the challenge provided by the Commonwealth Law Courts opal building's unusual shape, and the inability for conventional scaffolding to operate effectively or within cost parameters.

Best described as an upside down cone, the opal building required a new and more cost effective form of scaffold that would not only perform to the required standard but was required to span over the 20m sloping wall, without intermittent ties, so the delicate copper cladding interlocking pans can be installed.

AIS approached this challenge from an imaginative angle, utilizing advanced computer aided design software and the creative flair for which they have become well known, they came up with a solution. Designing a scaffold structure that hung suspended from the wall, not only solving the original problem, but also allowing work to continue underneath it.

The structure was constructed from lightweight tubing, purlins and ply. It was designed to conform to the scaffold design code. Created 3 bays wide, the tapered rectangular arrangement when finished and in place provided 9 working platforms, and was nearly half the cost of conventional scaffold. Due to its nature,

the structure was pre-assembled off site and delivered in two sections to site. The two sections were joined and together with the head frame were lifted into position by the site crane.

The answer provided by Applied Innovative Solutions for Hansen Yuncken is a good example of their ability to see a challenge from an alternative angle. This ability has served them well on a number of other projects including the Rose & Wine Centre, where they again created an individual scaffolding solution that followed the unusual curves of the centres roof to a height of 20 meters, and traversed on rails.

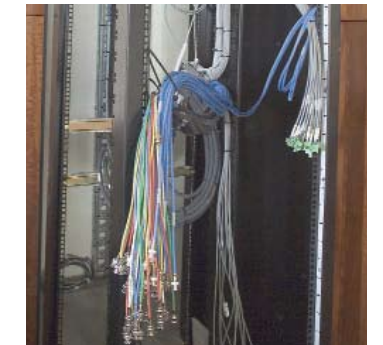
They have also been involved in the Hindmarsh Island Bridge project where they developed a travelling framework that enabled the developers to lay concrete decks in 33 meter sections and effected significant time and cost savings, this project won an Engineering Excellence Award in 1998. Another of their innovations was a climbing screen that negated the need for conventional scaffolding during the demolition of the 12 storey SAPOL HQ building and again resulted in considerable cost and timesavings for the Demolition Contractor.

AIS and their involvement in the Commonwealth Law Courts have once again demonstrated their unique ability to provide cost effective and imaginative solutions to complex and expensive problems.

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 Applied Innovative Solutions Pty Ltd



NILSEN ELECTRIC (SA) PTY LTD

FOUNDED IN 1916 NILSEN HAS BEEN IN OPERATION FOR OVER 85 YEARS

and during this time, the company has established a vast wealth of knowledge, experience and expertise on which to draw. Their extensive understanding and skill in electrical and communication installations, design, project management, switchboard manufacture, instrumentation and service delivery throughout Australia and overseas was an important factor in the decision by Hansen Yuncken to engage Nilsen on the Commonwealth Law Courts project in Adelaide.

In addition to their industry knowledge, Nilsen also have a powerful work ethic, and their 800 employees, company wide are focused on the paradigm of customer partnering and satisfaction. Nilsen's aim is to provide the highest standard of expertise and service possible, to foster continued long-term relationship with their customers based on trust, honesty and integrity. The company as a whole has a clear focus on meeting and exceeding customer expectations in pricing, quality, and delivery of service. This is a core value and integral to Nilsen's success and industry leadership.

Operating at the cutting edge of the electrical and communications industry requires particular skill, not only in the installation and sourcing of advanced technologies but also in accommodating the specific requirements of each client and tailored project management skills.

Nilsen are proud of their ability to collaborate and coordinate with their clients, producing solutions and providing services that are tailored specifically to their clients needs. This ability to work with the client and provide on going support has seen Nilsen win a number of National Electrical Contractor Association (NECA) Awards for excellence over the years including best overall project in 2003 for the Glenelg Waste Treatment Plant and more recently, in 2004, another NECA award for their work on the Kimberly Clark Project.

Nilsen's work on the Commonwealth Law Courts is on going, due for completion in July 2005. They are involved in providing communication and electrical services to the project including installation of submain reticulation, security, general light and power. They have also installed a Systimax structured cabling system throughout the building with 3500 category 6 communication outlets, 70 communication cabinets, and 5000 meters of laser speed optical fibre cable. They are also installing the court media system, which will be used throughout the 22 courtrooms for future video conferencing during cases.

Of particular complexity during the project has been the installation of the lighting control via the Clipsal C-Bus system, which operates over 90% of all lighting within the building. Utilising over a 100 different types of light fittings on this project has required specific and careful procurement and Nilsen's proficiency in this area is a key factor that is contributing to the success and efficient operation of the lighting system.

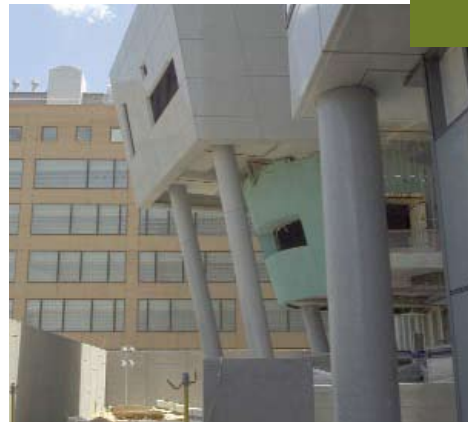
Nilsen have a wide industry knowledge base, having completed installations for construction, industrial, defence, mining, oil and gas, power generation and many other sectors of the community. The many and varied projects they have been successfully involved with include; Adelaide Airport Terminal, ACI Glass Manufacturing Plant, Kimberly Clark Australia, Elizabeth City Centre shopping plaza, Pier Hotel, Adelaide Central Plaza, Liberty Towers and Bent Street Apartment complexes. Operations in remote areas of Australia and South Australia include landmarks such as the Moomba Gas Fields and Pelican Point Power Station, Mount Gambier and Alice Springs Hospitals.

All of these projects have been enhanced by Nilsen's dedicated and cooperative approach to their work, and their involvement in the Commonwealth Law Courts project in Adelaide is certain to generate similar benefits for the developer.

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 NILSEN



SA - commonwealth law courts

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BIANCO WALLING CONSTRESS

BIANCO WALLING ORIGINALLY KNOWN AS BIANCO BRICKLAYING

have developed a sound reputation for providing an exceptional level of service and quality to its valued clients. As a result of their dedication to seeking ways of improving their level of service, Bianco Walling became involved in the manufacture of precast concrete walling in 2001. The decision to move into precast concrete manufacture was a result of meeting client's needs to reduce construction costs and demanding time constraints."

Bianco Walling invested heavily in this process and brought experience and state of the art technology from around the world to create a brand new manufacturing facility that produced high quality precast concrete panels. Their recent acquisition in 2004 of Constress, a company with in depth knowledge and a long history in the manufacture of architectural precast, was another step towards providing the extensive service envisioned by Bianco Walling whilst maintaining their original dedication to excellence.

Bianco Walling's widespread experience in the construction of high quality precast and prestressed architectural concrete and their competitive tendering, ensured their skills and ingenuity would be put to good use to overcome the significant challenges involved in the Commonwealth Law Courts project in Adelaide.

Hansen Yuncken engaged the services of Bianco Walling Constress to create polished reconstructed granite columns and wall panels in keeping with the architect's vision for the high quality interior of the Commonwealth Law Courts in Adelaide. These products were required to be of the very highest standard possible and included the manufacture and delivery of a 26m, 1300mm diameter polished column in the atrium and a number of smaller 900mm diameter polished buttress columns.

Achieving the desired finish required Bianco Walling to collaborate closely with the architects and this resulted in the use of specially designed, computerized polishing machines that were capable of performing to the highest standards. A secondary challenge involved the polishing bay, which had a load restriction of 13t. With some columns weighing up to 20t, it was necessary for Bianco Walling to polish the columns in three post-tensioned sections, and then assemble them on site. This required considerable skill and adherence to exacting tolerances.

Bianco Walling provide a large range of different finishes on their products, from the original grey panels, to sandblasted finishes, washed aggregate, polished concrete granite, smooth off-form finishes, reconstructed sandstone and prestressed products. To create such a diverse range, Bianco Walling have some of the most advanced technology available anywhere in the world including, CAD/CAM equipment, NATA accredited Laboratory, computerised concrete batching plants and state of the art programmable polishing machines.

Bianco Walling Constress is dedicated to providing the very best products and solutions available to its clients, their investment in skills and technology is a clear indication of this. However, most importantly, they have never lost sight of the fact that service and excellence are what sets them apart. Their contribution to the Commonwealth Law Courts development, during the 18 months they were involved in the project, reflects this attitude very clearly.

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SWISS JOINERY PTY LTD

SWISS JOINERY HAS BEEN CREATING HIGH QUALITY

finishes on commercial and residential developments for 25 years. In this time, they have developed an eye for detail and quality that has become the trademark of their work. As a result, when the developer Hansen Yuncken, sought the services of an experienced and capable company to fit out the Commonwealth Law Courts, they found exactly what they were looking for in the successful tender provided by Swiss Joinery.

Being quite possibly the largest joinery tender undertaken in South Australia with over 20,000 m² of timber veneer involved, it was a challenge that Swiss Joinery relished, utilizing all the expertise, project management skills, and experience they have accumulated during their time in the industry.

Laying up the veneer on their own thru-line veneer press allowed Swiss Joinery complete control over the colour matching and quality of the finished Red Gum Veneer. Through this process, they were also able to assist other finishing trades by supplying matching veneer panels to achieve the overall quality required by the client, developer and architects.

Swiss Joinery's team of 24 highly skilled tradesmen employed modern CNC machinery and worked with a variety of materials, including solid timbers and timber veneers to complete the fitout of the 24 courtrooms, judge's chambers, public areas, anterooms, offices and tearooms. The entire joinery fit out included courtroom furniture and benches, witness boxes, wall, ceiling and door paneling and took nearly 2 years from prototyping to completion.

The results of Swiss Joinery's involvement in the Commonwealth Law Courts project is reflected in the rich and fitting colours of Jarrah and Red Gum that give the development the eminence and solemnity required by one of the highest courts in the land.

Swiss Joinery can be very proud of what they have achieved, through their use of skilled tradesmen and their desire to maintain thorough control over the quality of the materials used and the work done, they have produced a level of excellence that is hard to match. To do this on one of the largest joinery projects in South Australia is a true benchmark of their abilities.

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