Warren Smith & Partners

CONSULTING ENGINEERS

TERTIARY & RESEARCH CAPABILITY STATEMENT

HYDRAULIC

FIRE

CIVIL

SYDNEY WATER ACCREDITED
WATER SERVICING
CO-ORDINATOR AND DESIGNER

COMPANY STRUCTURE AND EXPERTISE

Warren Smith & Partners

C25 LOWY CANCER RESEARCH CENTRE, UNIVERSITY OF NSW

NANOSCIENCE BUILDING, UNIVERSITY OF SYDNEY

Warren Smith & Partners Pty Limited, Consulting Hydraulic, Fire, and Civil Engineers, was incorporated and registered on the 10th August, 1981. We have been involved with over 5,800 projects of all development classifications and scale. Our project experience extends to not only NSW, but throughout Australia and abroad.

Since then Warren Smith & Partners has developed a speciality team with a particular focus on and expertise in the tertiary and research sector.

Warren Smith & Partners provide specialist engineering services:

- Due diligence, compliance, condition and investigation reporting
- Tertiary precinct strategic services master planning
- Master planning, concept, and schematic design
- Design development and contract documentation
- Sustainable and strategic system capex and opex analysis
- Construction administration
- Water, sewer and gas precinct services master planning
- Project management
- Feasibility studies
- Risk management
- Safety in design analysis
- Fit for purpose analysis
- Wet lab services

COMPANY STRUCTURE AND EXPERTISE

Warren Smith & Partners

Our key personnel and directors have comprehensive industry experience and knowledge.

Our managers, without exception, are all long term employees of Warren Smith & Partners. Our directors and key tertiary and research personnel are:

		Years in industry	Years with WS+P
Mr Warren Smith	Managing Director	45	36
Mr Andreas Heintze	Chief Operating Officer	39	27
Mr Michael Cahalane	Director – Civil & Water Engineering	19	11
Mr Mark Price	Design Manager – Hydraulic	35	33
Mr Ian Stone	Expertise Leader & Project Manager – Fire	38	30
Mr Daniel Power	Designer – Hydraulic	15	4
Mr Yong Jiang	Engineer – Fire	20	20

Currently, Warren Smith & Partners consists of the following directly employed staff:

3	14	9	8	4	5	6	49
Directors	Engineers & Designers – Hydraulic	Engineers & Designers – Fire	Engineers, Technologists & Designers – Civil	Water Servicing Coordinators Water & Sewer	BIM/CAD – Operators	Support Staff	**TOTAL STAFF**

Our engineers, technologists and designers are qualified professional members of the following organisations:

- Engineers Australia (EA) including Chartered Engineers
- Association of Hydraulic Services Consulting (NSW) inc (AHSCA)
- Fire Protection Association Australia (FPAA)
- Chartered Institution of Building Services Engineers (CIBSE)
- American Society of Plumbing Engineers (ASPE)
- Water and Wastewater Association (WWA)
- Stormwater Industry Association (SIA)

SIRF C23 UNSW

COMPANY STRUCTURE AND EXPERTISE

Warren Smith & Partners

MATERIALS SCIENCE & ENGINEERING BUILDING
(UNIVERSITY OF NEW SOUTH WALES)

Warren Smith & Partners offer skilled professionals, who are effective communicators and valued members of any team. Our team is supported by our progressive design and quality assurance systems.

With access to decades of design and engineering experience, matched by our young innovative staff, we present a dynamic team capable of delivering significant projects.

Our specialty tertiary and research team have a thorough understanding of the tertiary and research environment and its functions. Through our experience, we have developed design intelligence to seamlessly assimilate form and function, innovation, and management, within the tertiary and research environment.

Our tertiary and research team applies our design intelligence to ensure that the documentation we produce, and the advice we provide, is appropriate for the tertiary and research facility and its specific function, operational and technical requirements, whilst ensuring business continuity.

We focus on the delivery of a premium product to our clients, which in the long term, for a tertiary and research precinct or facility, is proven to be the most cost effective option. We also recognise that it is not only engineering that makes for an effective outcome. Engineering needs to be backed up by astute management and understanding of the scope and deliverables.

We work very closely with the other tertiary and research services engineers in the industry, and understand the integration of services within the facility; specifically mechanical, electrical and medical gas services. Having this high degree of understanding enables us to anticipate the specific services the other engineers require to support their systems within the facility.

Our methodologies recognise the importance of pre-planning as a continuous risk mitigation measure, and therefore we focus on detailed pre-planning and management to protect business continuity and enable the maintenance of operational service standards for tertiary and research projects.

COMPANY STRUCTURE AND EXPERTISE

Warren Smith & Partners

Given our project experience, we are well versed in the different procurement and bid processes, and with our understanding of the objectives and required outcomes, we are best able to customise our service and deliverables to suit the project. Our customised deliverables also extend to complex brownfield and greenfield projects.

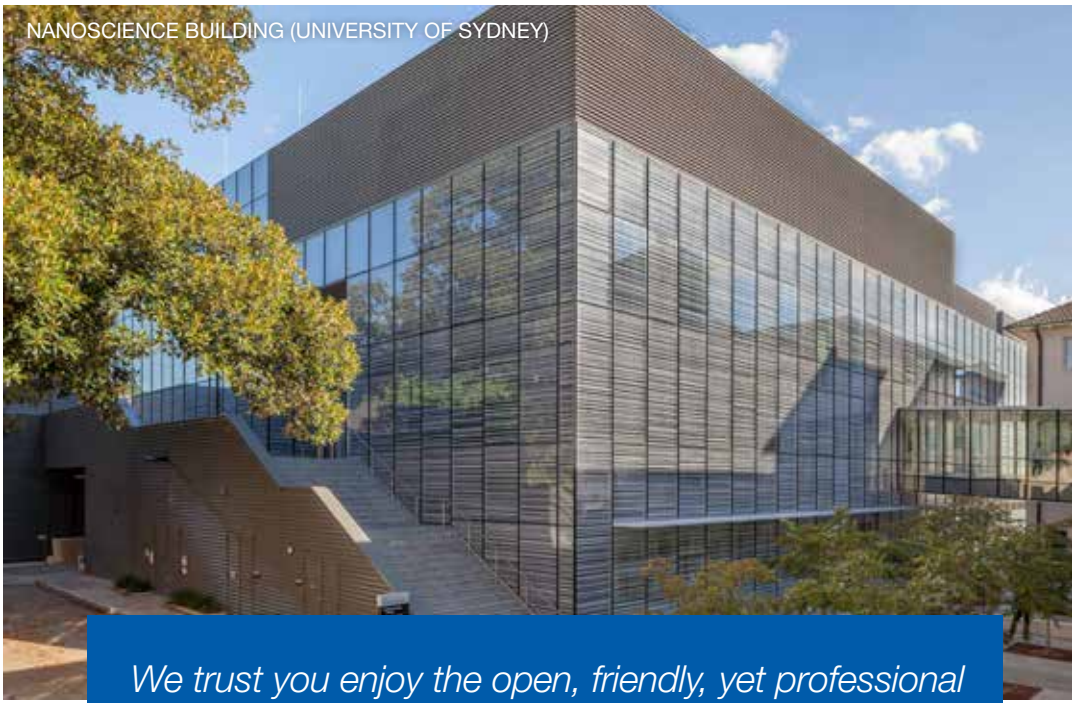
We see it as vital to identify specific project risks and general tender risks that pertain to a project and the selected tender delivery method. As part of our customised deliverables we focus on de-risking the items we identify prior to the project tender being delivered. We identify risk through use of our design intelligence and understanding of the tenderers' needs, we therefore aim to ensure the most accurate cost allowances by the tenderer.

To maintain our high quality outcomes, we retain and expand our expertise by investing in our staff's professional development. We involve ourselves intensively within the broader engineering community and research institutions, and contribute to the development of industry technical standards.

Warren Smith & Partners excellence is driven by our continual pursuit towards our fundamental objectives.

Our objectives are:

- To produce and deliver excellent cost effective design
- To provide dependable professional service with unquestionable integrity
- To continually research and develop new design techniques
- To maintain our position as leaders in our profession
- To be friendly and approachable
- To co-operate within a team



NANOSCIENCE BUILDING (UNIVERSITY OF SYDNEY)

We trust you enjoy the open, friendly, yet professional and skilled culture of our team, when embarking on your next tertiary and research project.

THE TERTIARY AND RESEARCH TEAM

Warren Smith & Partners

Mark Price
Design Manager – Hydraulic

Mark has been working for Warren Smith & Partners for over 33 years and has had a total of 38 years experience within the Hydraulic / Plumbing Industry.

As a result, Mark has an unparalleled appreciation of the Hydraulic Consultancy Spectrum from design, specification and co-ordination to site administration.

Mark's senior management responsibility starts from project inception to construction completion. He has successfully delivered major NSW / Sydney projects within the Healthcare / Tertiary and Research/ Industrial & Commercial sectors.

Ian Stone
Expertise Leader & Project Manager – Fire

Ian has over 38 years of experience in the fire and hydraulic services industry as a plumber and a consultant. In his 30 years at Warren Smith & Partners Ian has delivered a diverse range of projects specialising in healthcare fire services design documentation and commissioning during the construction phase. Ian created the Fire Services department of Warren Smith & Partners and developed the integrated approach to fire protection consultancy incorporating wet and dry fire systems with special hazards fire protection to deliver a single fire services design package.

Ian has been an active member of the FPA Technical Advisory Committee to the Fire Sprinkler and Fire Hydrant Standards.

Andreas Heintze
Chief Operating Officer

Andreas has been working with Warren Smith & Partners for over 25 years with a total of 39 years in the Hydraulic / Plumbing industry.

As a director of Hydraulic Services, and with extensive experience in design and team management of Hydraulic Systems for various types of developments, Andreas is highly skilled in project management, expert witness reports, implementation and management of quality assurance systems, strategic business management of IT systems as well as a number of engineering software.

Andreas has successfully delivered various major Hydraulic projects at The University of Sydney, including The Charles Perkins Building, The Queen Mary Building, Utility Master Plan, Engineering Consultants Panel, F23 Administration Building, Engineering & Technology Precinct, Anderson Stuart Building.

Michael Cahalane
Director – Civil & Water Engineering

Michael Cahalane has been with Warren Smith & Partners since 2006. Prior to this Michael practiced in Ireland for 4 years as a Project Manager and Civil/ Structural Engineer. He has a proven track record in managing major civil and water projects including Barangaroo Reserve, University of Sydney Infrastructure Upgrade, Northconnex M1-M2, and the University of Canberra Public Hospital. Michael's strengths lie in his ability to deliver effective designs within budget and deadline constraints and to challenge engineering norms to provide more efficient systems.

THE TERTIARY AND RESEARCH TEAM

Warren Smith & Partners

Daniel Power
Designer – Hydraulic

Daniel comes from a construction background and has demonstrated great ability to work with contractors to ensure the smooth running and success of major projects. Daniel is highly dependable and committed in achieving high quality designs within the given timeframe. Daniel is currently studying Architectural Design Science-Building Services at Sydney University and is a license plumbing contractor with 10 years' industry experience. Daniel's experience has meant that the many projects he has delivered have adopted sound engineering practices and have been highly resolved to enable contractors to deliver the required solution for the client on time and within budget.

Yong Jiang
Senior Engineer – Fire

Yong is a key staff member at Warren Smith & Partners, Yong's twenty years with our firm brings significant engineering skills to all projects he is involved with. His computer modelling skills combined with strong statutory knowledge makes him a valued Fire Services team member.

Laura Shaughnessy
Engineer – Civil

Laura's career as a civil engineer has been characterised by her ability to work co-operatively with clients, contractors, and operators to ensure the smooth running of projects. Laura has proven herself to be highly dependable and committed in achieving high quality functional designs that are buildable and operable, as well as being effective. Since joining Warren Smith & Partners in 2013, Laura has been involved in many significant projects including the Sydney Light Rail Enabling Works, University of Sydney Campus Infrastructure Upgrade, Victoria Park, University of Canberra Private Hospital, and Barangaroo Reserve.

Jane Ciabattoni
Liaison Manager
Sydney Water

Jane has been part of the civil engineering team at Warren Smith & Partners for over twenty years, with her main focus being the interface between our firm and Sydney Water. Jane provides the Warren Smith & Partners team with all Sydney Water matters including administration, Section 73 applications, building plan approvals, design and project management. In 2013, Jane earned the title of Liaison Manager, and has great rapport with personnel at Sydney Water, which ultimately assists developer projects.

HYDRAULIC SERVICES

Warren Smith & Partners

Warren Smith & Partners hydraulic services team, whilst following our company objectives, focus on selecting the ideal systems for the project and conserving energy in the most cost effective manner.

Selecting the best fit system within the tertiary and research facility is one of the most critical aspects, as the system needs to align with the brief, built form, functionality, and internal planning.

The hydraulic services team's design intelligence allows them to work with the project team, assess the brief and deliver the most effective system.

We are experienced when it comes to energy conservation and have undertaken alternative energy source testing within tertiary and research facilities

Hydraulic services specialise in:

- Cold water services
- Heated water services
- Non-drinking water services
- Sanitary plumbing systems
- Sanitary drainage systems
- Roof drainage systems (internal to the building)
- Surface and subsurface drainage systems (internal to the building)
- On-site wastewater management systems
- On-site liquid trade waste systems
- Natural gas services
- Liquid petroleum gas services
- Speciality water systems, sanitary plumbing systems, sanitary drainage systems and on-site treatment systems for laboratory facilities
- Reverse Osmosis and Ultra Violet water systems

Software for design and analysis:

- Revit – design documentation and analysis
- Pipes building services – water pipe network hydraulic analysis
- SF pressure drop for windows – analysis software for fluids and gases
- T*Sol – domestic hot water system fuel energy analysis

Key personnel

Mark Price
Design Manager – Hydraulic
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Andreas Heintze
Chief Operating Officer
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Daniel Power
Designer - Hydraulic
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Mobile: +61 401 382 024

FIRE SERVICES

Warren Smith & Partners

Warren Smith & Partners fire services team has a long and proud history of providing accurate and cost effective documentation and advice including negotiations with authorities for cost saving dispensations for our tertiary and research clients.

Our practice provides a fully integrated design of fire sprinkler services, emergency warning services, fire alarm, and control wiring within our documentation package to ensure that there are no loose ends between fire electrics and mechanical services. This provides a major benefit in cost savings to our clients.

Our engineers undertake a pipe sizing analysis and optimisation exercise, using appropriate hydraulic sizing computer software, that ensures each fire sprinkler system functions correctly and efficiently.

Fire services specialise in:

- Fire sprinkler systems
- Fire hydrant systems
- Fire hose reel systems
- Combined fire sprinkler / hydrant systems for high rise buildings
- Fire sprinkler systems including deluge and dry pipe pre-action systems
- Portable fire extinguishers
- Fire detection and alarm systems
- Emergency warning and intercom systems (EWIS)
- Gaseous fire suppression systems

Software for design and analysis:

- Revit – Design documentation and analysis
- Hydra cad – Sprinkler pipe network analysis
- Hyena – Fire services hydraulic analysis

Key personnel

Ian Stone
Expertise Leader & Project Manager – Fire
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Yong Jiang
Senior Engineer - Fire
yong@warrensmith.com.au
Direct: +61 2 8234 8625
Mobile: +61 415 409 185

CIVIL SERVICES

Warren Smith & Partners

Warren Smith & Partners civil team was established in 1994 and has completed a range of projects in NSW, ACT and QLD.

Services are provided from master planning, feasibility and development applications, authority negotiations and approvals from design through to construction, within the tertiary and research sector.

The civil group's mission is to provide thorough design and prompt service to our clients.

Civil services specialise in:

- Hydrological, hydraulic and river systems modelling
- Flood studies
- Design of hydraulic structures, culverts, weirs etc
- On site detention modelling and design
- Water sensitive urban design (WSUD)
- Rainwater reuse modelling and design
- Urban drainage and overland flow design
- Stormwater management plans
- Road geometric design
- Flexible and rigid pavement design
- Intersection and roundabout design
- Linemarking and street signage design
- Bulk earthworks
- Erosion and sedimentation management plans

Software for design and analysis:

- CIVIL 3D and ARD – survey, road geometric, bulk earthworks and drainage analysis
- DRAINS AND ILSAX – hydrologic, hydraulic and on-site detention analysis
- HEC-RAS – river and channel hydraulic analysis
- MUSIC – water quality modelling
- LiDAR – 3D satellite imagery
- CIRCLY – road pavement design
- Pipeclass – pipeline design

Key personnel

Michael Cahalane
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DARLING QUARTER

WATER AND SEWER ENGINEERING

Sydney Water Corporation Accredited Water Servicing Co-Ordinator And Designer

Warren Smith & Partners is a licensed Water Servicing Coordinator and designer for both Sydney Water and Hunter Water Corporation. We co-ordinate, project manage, design and control construction quality for a wide range of water and sewer engineering projects.

Water and wastewater engineering:

- Feasibility, strategy studies and investigations
- Water network modelling and design
- Effluent reuse systems
- Sewerage reticulation and distribution pipe networks

The types of infrastructure services include:

- Watermains
- Sewer mains
- Pumping stations
- Stormwater channels
- Amplifications and renewals

Management:

- Project management services for water and sewerage infrastructure

Sydney Water Section 73 Application

A Section 73 Certificate is issued by Sydney Water confirming that sewer and water is available for connection at a development site. All developments within Greater Sydney require a Section 73 Certificate.

Warren Smith & Partners is a listed Water Servicing Co-ordinator with Sydney Water and can undertake the following:

- Submit a Feasibility Application with Sydney Water to obtain requirements prior to a Development Application submission
- Submit an application for a Notice of Requirements once the Development Application is submitted
- Review the requirements and advise on any upgrades or adjustments to Sydney Water infrastructure
- Undertake the design (if required) and project manage the construction
- Submit all necessary paperwork to obtain the Section 73 Certificate

BYRON SHIRE CENTRAL HOSPITAL

TERTIARY & RESEARCH PROJECTS

Warren Smith & Partners

Some of the key tertiary and research projects that we have provided consultancy services on include:

Tyree Building (University of New South Wales)

Building description:

The Tyree Energy Technologies Building is a state of the art energy research facility where research, education and industry can collaborate to develop sustainable energy technologies. The building itself includes six levels and has been awarded a 6-star Green Star certification from the Green Building Council of Australia, it is just the fourth education facility in the country to achieve such a rating. It is predominantly used as an educational centre for engineering students and consists of modular research laboratories, teaching laboratories, lecture theatres, flexible collaborative learning space, student lounge and cafe, exhibition and showcase space, workplace and write-up areas and experimental roof-top areas where testing of photovoltaic arrays can be conducted.

Key design challenges:

- Basement main bore water/ rainwater harvesting 300kL storage tank with triplex variable speed pumps supplying bore water to all buildings throughout the campus.
- Trade waste discharge and treatment of petroleum elated toxic chemicals.

Year: 2012

Client: University of NSW

Builder: Multiplex

Value of project ($): $125 million

Contact:
Joseph Santangelo (UNSW)
02 9385 1887

Services:

- Hydraulic
- Fire
- Water Servicing Co-ordinator

Stages / phases:

- Master planning
- Concept design
- Schematic design
- Design development
- Contract documents
- Construction administration
- Workshop drawings

Thanks to FJMT for these University of New South Wales, Tyree Building images.

TERTIARY & RESEARCH PROJECTS

Warren Smith & Partners

C25 Lowy Cancer Research Centre (University of New South Wales)

Building description:

The Lowy Cancer Research Centre at the University of New South Wales is a joint venture between the UNSW, Faculty of Medicine and the Children's Cancer Institute Australia to bring child and adult cancer research together on one site. The facility is 17000 square metres and accommodates more than 400 researchers and support staff over eight levels consisting of generic microbiological laboratories, shared laboratories that including imaging and cancer genetics, animal research, administrative services and shared common spaces.

Key design challenges:

- Microbiological animal/genetics research, physical and biological, containment of water and drainage services.
- Diversion of natural aquaduct around building site construction zone.

Year: 2009

Client: University of NSW

Builder: Lendlease

Value of project ($): $105 million

Contact:
Geoffrey Leeson (UNSW)
02 9385 5111

Services:

- Hydraulic
- Fire
- Water Servicing Co-ordinator

Stages / phases:

- Master planning
- Concept design
- Schematic design
- Design development
- Contract documents
- Construction administration
- Workshop drawings

TERTIARY & RESEARCH PROJECTS

Warren Smith & Partners

Materials Science & Engineering Building (University of New South Wales)

Building description:

The Material Science and Engineering building is an exciting new space that aims to take the UNSW well into the future of materials science and engineering.

Goals of the Centre:

- Research, develop and implement sustainable materials technologies
- Enhance the sustainable development of industries
- Reduce environmental impact of waste and by-products
- Technology transfer for industry transformation

The purpose-built facility features flexible modular spaces that allows laboratories to be adapted to changing research and teaching demands. There are also several open spaces designed to be flexible and serve as collaborative teaching and learning spaces, exhibition space for student/industry research presentations and conferences.

Key design challenges:

- Intergrated Campus Bore Water Treatment Plant
- Specialised Trade Waste Treatment Plant

Year: 2016

Client: University of NSW

Builder: Multiplex

Value of project ($): $143 million

Contact:
Eddie Swat (UNSW)
02 9385 5111

Services:

- Hydraulic
- Fire
- Water Servicing Co-ordinator

Stages / phases:

- Master planning
- Concept design
- Schematic design
- Design development
- Contract documents
- Construction administration

TERTIARY & RESEARCH PROJECTS

Warren Smith & Partners

Solar Industrial Research Facility (University of New South Wales)

Building description:

The Solar Industrial Research Facility (SIRF) is

a showcase facility for solar cell research and development, and a key educational asset for training the future leaders of the photovoltaics industry.

This world-class, $16 million turnkey pilot line manufacturing facility enables the development of UNSW's silicon solar cell technologies from laboratory processes to factory-ready industrial processes.

It is the first facility of its kind in Australia.

(DOT)a silicon solar cell production line showcasing screen printed silicon monocrystalline and multicrystalline cells

(DOT)three laboratories for developing and demonstrating industrial scale advanced technologies.

In addition, world-leading PV equipment companies will have space to introduce and test toolsets in advanced cell and module processing, which can then be further developed to incorporate the manufacturing improvements that arise.

The buildings main research processed include:

- demonstrate advanced solar cell manufacturing technology to a global customer base
- retain the existing PV research skill base and attract high profile international researchers and collaborations
- provide undergraduate engineering students access to hands on training in a solar cell production line
- provide undergraduate, post graduate and academic research staff from around Australia access to industrial manufacturing capabilities.

Year: 2009

Client: University of Sydney

Builder: Lendlease

Value of project ($): $20 million

Contact: Eddie Swat (UNSW)
02 9385 5111

Services:

- Hydraulic
- Fire
- Water Servicing Co-ordinator

Stages / phases:

- Master planning
- Concept design
- Schematic design
- Design development
- Contract documents
- Construction administration

TERTIARY & RESEARCH PROJECTS

Warren Smith & Partners

Student Accommodation, High Street – Gate 2 (University of New South Wales)

Building description:

The UNSW terraces are the ideal fit for students aiming for a self-sufficient and independent living style. The terraces consist of 371 apartments including beds, desks, kitchen and living area. The building also includes common areas such as study rooms, outdoor barbeque, laundry facilities and car parking.

Year: 2015

Client: Campus Living Villages

Builder: Multiplex

Value of project ($): $90 million

Contact:
Greg Caplan (UNSW)
02 9385 5111

Services:

- Hydraulic
- Fire
- Water Servicing Co-ordinator

Stages / phases:

- Master planning
- Concept design
- Schematic design
- Design development
- Contract documents
- Construction administration

TERTIARY & RESEARCH PROJECTS

Warren Smith & Partners

Australian Institute of Nanoscience (University of Sydney)

Building description:

The University of Sydney now boasts The Australian Institute of Nanoscience, a world leading research and teaching facility purpose designed to meet the demands of nanoscience research. The facility will promote research and innovation to enhance the reputation of the University of Sydney's Physics school as the leading Physics school in Australia. It consists of world class precision laboratories, cleanrooms (ISO Class 5 and 7, upgradable to Class 4) and electron microscope suites with advanced nanoscience tools, modern teaching and learning spaces, both individual and open plan office spaces, informal space and cafe.

Key design challenges:

- Grey Space services co-ordination
- Specialised Clean Room water and drainage provisions (ISO Class 5 and 7)
- Greenroof drainage and irrigation
- Diversion of Sydney Water 1200 dia Stormwater Main traversing the site

Year: 2016

Client: University of Sydney

Builder: Lendlease

Value of project ($): $110 million

Contact:
Martin Ayres (USYD)
02 9351 3445

Services:

- Hydraulic
- Fire
- Water Servicing Co-ordinator

Stages / phases:

- Master planning
- Concept design
- Schematic design
- Design development
- Contract documents
- Construction administration
- Workshop drawings

TERTIARY & RESEARCH PROJECTS

Warren Smith & Partners

Chemical Sciences Building and Analytical Centre (University of New South Wales)

Building description:

The new building houses world-class teaching, research and laboratory facilities, including the Electron Microscope Unit, the Bioanalytical Mass Spectrometry Facility, the Nuclear Magnetic Resonance Facility, and the Solid State & Ele-mental Analysis Unit.

The Analytical Centre houses a host of vital instrumentation used by science, medical and engineering researchers studying the structure and composition of biological, chemical and physical materials. For example, researchers from UNSW's Brain Sciences Group and the Prince of Wales Medical Research Institute are using high-resolution NMR spectroscopy to better understand the biochemical basis for brain function and disease.

The Centre's bioanalytical mass spectrometer is being used in proteomics research aimed at understanding the func-tion of proteins in inflammatory diseases such as osteoarthritis, atherosclerosis and psoriasis.

Engineering research supported by the Centre includes development of next generation solar power devices and spe-cialist polymers for biomaterial applications - research that relies on access to the latest techniques in solid state and surface analysis and electron microscopy.

Year: 2007

Client: University of NSW

Builder: Lendlease

Value of project ($): $200 million

Contact:
Geoff Lim (UNSW)
02 9385 5111

Services:

- Hydraulic
- Fire
- Water Servicing Co-ordinator

Stages / phases:

- Master planning
- Concept design
- Schematic design
- Design development
- Contract documents
- Construction administration

TERTIARY & RESEARCH PROJECTS

Warren Smith & Partners

Charles Perkins Centre (The University of Sydney)

Building description:

The Charles Perkins Centre is a research and education hub located on the Camperdown Campus of The University of Sydney. The Charles Perkins centre aims to ease the global burden of obesity, diabetes, cardiovascular disease and related conditions through innovative thinking and multi-disciplined approach. The Centre houses a clinic, several forms of laboratories, offices, and teaching spaces.

Over 1,500 undergraduate students can be accommodated in a combination of wet and dry teaching laboratory spaces.

The wet lab holds up to 240 students, with eight classes able to be held concurrently and microscope, face camera and computer content streamed from teacher lab stations to student workstations.

The dry labs for teaching and learning provide students with microscopes, learning pods, computer labs, exercise physiology gyms facilities, three seminar rooms and a 360-seat auditorium for lectures and special talks.

Year: 2016

Client: University of Sydney

Builder: Multiplex

Value of project ($): $385 million

Contact:
Martin Ayres (USYD)
02 9351 3445

Services:

- Hydraulic
- Fire
- Water Servicing Co-ordinator

Stages / phases:

- Master planning
- Concept design
- Schematic design
- Design development
- Contract documents
- Construction administration

TERTIARY & RESEARCH PROJECTS

Warren Smith & Partners

Science and Engineering Building (University of New South Wales)

Building description:

The nine-storey Science and Engineering Building, currently under construction, is a new state-of-the-art research and teaching building for the Schools of Chemical Engineering and Chemistry. It will also accommodate a new theatre complex for the School of Arts and Media in a Northern basement extension, situated under Alumni Park.

The new SEB will deliver a world class research environment, providing purpose-built modern facilities for high-end research in Chemical Engineering, Chemistry and the Arts and Media, and to support a new teaching pedagogy. For the first time in UNSW's history Schools of Materials Science, Chemical Engineering, Chemistry, MWAC and School of Arts and Media will be co-located in two state-of-the-art, purpose-built and interconnected buildings.

The Basement, Ground and Level 1 will deliver dedicated undergraduate Chemical Engineering and Chemistry teaching laboratories, Centrally Allocated Teaching Space and theatres for Arts and Media, and incorporating cutting edge facilities, including audiovisual equipment and information technology systems. A flexible infrastructure intensive research Pilot Hall will also be delivered on the first floor as an extension of UNSW's Industry collaboration into research and learning. This focus of teaching activity around the ground floor and adjacent Campus environment is key to UNSW's world-class status and the ambition of providing a rich student experience.

The contemporary laboratory and workplace design will allow for maximum flexibility, shared use of equipment and specialised space, and improved efficiency, flexibility and reliability of plant and equipment.

Environmentally-sustainable design initiatives include the addition of photovoltaic cells, highly efficient building plant and equipment, high performance glazing and the use of bore water for non- potable requirements are to be included.

Year: 2018

Client: University of New South Wales

Builder: Multiplex

Value of project ($): $150 million

Contact: Eddie Swat (UNSW)
02 9385 5111

Services:

- Hydraulic
- Fire
- Water Servicing Co-ordinator

Stages / phases:

- Master planning
- Concept design
- Schematic design
- Design development
- Contract documents
- Construction administration

TERTIARY & RESEARCH PROJECTS OVERVIEW

Warren Smith & Partners

Project Name	Hydraulic	Fire	Civil	Water Servicing Co-ordinator	Master Planning	Concept Design	Schematic Design	Design Development	Contract Documents	Construction Administration	Peer Review	Workshop Drawings	Bid Documentation	Remediation
Loreto College, Kirribilli - Proposed Alterations & Additions to Block J & Science Block	✓					✓	✓	✓	✓	✓				
Macquarie University - Building of Y3A Journalism Teaching		✓				✓	✓	✓	✓	✓				
Macquarie University - Refurbishment of Building E7A	✓	✓				✓	✓	✓	✓	✓				
NIDA Graduate School - Hydraulics and Fire RFT	✓	✓			✓	✓	✓	✓	✓	✓				
NIDA Technical Sandpit	✓	✓			✓	✓	✓	✓						
NIDA Courtyard Event Space	✓	✓			✓	✓	✓	✓						
NIDA Foyer/Cafe	✓	✓			✓	✓	✓	✓						
St Pius School, Enmore			✓											
Sydney Secondary College - Balmain Campus (Public Works)		✓				✓	✓							
The University of Canberra - Public Hospital			✓											
The University of New England - Integrated Agricultural Education Precinct			✓											
The University of New South Wales - Biological Sciences Building - Enabling Works			✓											
The University of New South Wales - Biological Sciences Building - Renewal Project		✓				✓								
The University of New South Wales - C25 LOWY Cancer Research	✓				✓	✓	✓	✓	✓	✓		✓		
The University of New South Wales - Chancellery Walk - STW & Pavement Upgrade Works			✓		✓	✓	✓	✓	✓					
The University of New South Wales - Chemical Sciences Building	✓	✓		✓	✓	✓	✓	✓	✓	✓		✓		
The University of New South Wales - E15 Health Centre Refurbishment	✓					✓	✓	✓	✓					
The University of New South Wales - Energy Technologies Building, 'Tyree Building'	✓	✓			✓	✓	✓	✓	✓	✓		✓		
The University of New South Wales - Materials Science and Engineering Building	✓	✓			✓	✓	✓	✓	✓	✓				
The University of New South Wales - National Facility Human Robot Interaction Research	✓	✓			✓	✓	✓	✓	✓	✓				
The University of New South Wales - New College Post Graduate Village	✓				✓	✓	✓	✓	✓	✓				
The University of New South Wales - New College Student Accommodation	✓				✓	✓	✓	✓	✓	✓				
The University of New South Wales - Randwick R1 - R9 Rabbit Holding Facility	✓					✓	✓	✓	✓					
The University of New South Wales - Science Engineering Building	✓	✓			✓	✓	✓	✓	✓	✓				
The University of New South Wales - Sewer Masterplan			✓	✓	✓									
The University of New South Wales - SIRF Building	✓	✓			✓	✓	✓	✓	✓	✓				
The University of New South Wales - Student Accommodation High Street, Gate 2	✓	✓			✓	✓	✓	✓	✓	✓				
The University of Sydney - A08 Heydon Laurence - Fire & Hydraulics Native Animal House	✓	✓			✓	✓	✓	✓	✓	✓				
The University of Sydney - Abercrombie Precinct - School of Business														
The University of Sydney - Australian Institute for Nanoscience	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
The University of Sydney - Carslaw Building	✓													
The University of Sydney - CIS Integrated Water Management Plan	✓		✓		✓	✓	✓	✓	✓	✓				
The University of Sydney - COCD Water Servicing Coordination, Design and Project Management Role	✓	✓		✓								✓		
The University of Sydney - D17 CPC Project 2	✓	✓									✓	✓		
The University of Sydney - Edward Ford Buidling		✓									✓	✓		
The University of Sydney - Engineering & Technology Precinct (ETP) - ECI Peer Review	✓	✓									✓			
The University of Sydney - Engineering & Technology Precinct (ETP) - Hydraulic Services	✓	✓			✓									
The University of Sydney - FEIT	✓	✓												
The University of Sydney - Full Refurbishment of Levels 2 & 3, Building F, Brain Mind & Research Institute, 100 Mallett Street, Camperdown	✓													
The University of Sydney - G06 International House Fire Engineering Peer Review		✓					✓			✓				
The University of Sydney - G08 Molecular Bioscience Building - Laboratory Refurbishments Levels 4, 6 & 7	✓													
The University of Sydney - G08 Sports and Aquatic Centre, Abercrombie and Codrington Streets - Sydney Water Watermain Design			✓											
The University of Sydney - Health Precinct - Stage 1 - ECI brief preparation	✓	✓			✓									
The University of Sydney - LEES1	✓	✓			✓	✓	✓				✓			
The University of Sydney - Oval No. 2 Grandstand - SWC Feasibility and Jemena Gas Diversion				✓										
The University of Sydney - Queen Mary Building	✓	✓				✓	✓	✓	✓	✓				
The University of Sydney - Senate Room and Quad Refurbishments		✓				✓								
The University of Sydney - Utility Master Plan - Sewer, Water & Gas Masterplan & NSWFR Strategy			✓	✓										
The University of Western Sydney - Greenhouse Feasibility Study	✓					✓								
Wenona School - Project Archimedes	✓	✓			✓	✓	✓	✓	✓	✓				

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HYDRAULIC | FIRE | CIVIL | SYDNEY WATER ACCREDITED WATER SERVICING CO-ORDINATOR AND DESIGNER