

Homebush Olympic Aquatic Centre (2000 games)	Removal of failing original system. Replacement with unique ozone-chlorine pressure DE to give exceptionally clean fast water.
Queanbeyan Aquatic Centre	Upgrade of outdoor 50m and childrens pool convert to deck level. New reticulation. Pressure DE-Chlorine.
Woy Woy Indoor Aquatic Centre	New indoor 25 x 25; leisure, spas, slides. Outdoor 50m. Medium rate sand-UV-Chlorine. Deck level concrete with vinyl Design stage.
Cook & Phillip Park	Indoor unique double chamber wave pool, rapid river, hydrotherapy 50m FINA with boom, Sydney City jumping jewels, most modern ozone-chlorine dual state with shunt backwash. Tender.
Ryde Aquatic Centre	FINA 50m incorporating FINA polo and boom, huge wave pool with Olympic polo training facility, very long rapid river, spas, hydrotherapy spas. Most modern two stage ozone-chlorine with shunt backwash. Tender.
Taree Aquatic Centre	Indoor 8 lane 25m with 400m2 leisure, spa. Outdoor 8 lane FINA 50m Myrtha. Chlorine/UV, shunt backwash, DE- bromine, spas. Tender.
Katoomba & Valley Heights	Indoor 25m x 8 lane, 1000m2 wave pool, river, swirl pool, shade pool, hydrotherapy and 25m x (2 Centres) 8 lane pool. 2 stage ozone-chlorine with 40% slipstream to 25m pool, spa, DE-bromine. Tender.
Lane Cove Aquatic Centre	Indoor 25m x 10 lane, large leisure pool, hydrotherapy spas, DE-chlorine-UV, seperate systems. Tender.
Hurstville Aquatic Centre	Indoor 25m x 10 lane, large leisure pool, spas. Two stage ozone-chlorine, spas, bromine-DE, shunt backwash, seperate systems. Tender.
Toowoomba Aquatic Centre	New indoor wave pool, learn to swim, spas, hydrotherapy. All ozone-chlorine seperate systems, shunt backwash, major upgrade of outdoor 50m convert to deck level, new balance tanks, heating, new filtration.
Narrabri	Major upgrade of outdoor Olympic Pool complex. Upgrade of filtration making children's pool comply with NSW Health Regulations.
Willoughby Aquatic Centre	Removal of ozone-bromine plant. Installation of new 2 stage ozone-chlorine plant. Changes to pools circulation systems 25m, leisure, spas, children's pools all redone. Tender.
Griffith Aquatic Centre	Design of new indoor aquatic centre including 25m pool and leisure, Chlorine/UV. D + C.
Mt Annan Aquatic Centre	New indoor 25m leisure, hydro, spas, Chlorine/UV, shunt backwash. D + C.
Australian Institute of Sport	New indoor 50m with slide pool, spas. Prefabricated Swimplex pool. Vinyl interior. Dual Thredbo ozone-chlorine. D + C.
Wyong & Toukley Centres	Upgrade of indoor 25m, hydrotherapy, spas, new filtration system with slipstream ozone-chlorine. Tender.
Macquarie University	New indoor 50m pool and learn to swim pool. Ozone-chlorine system. Design phase.
RAAF Base Richmond	Major upgrade of an old 50m and children's pool. Conversion to deck level, new balance tanks, new filtration system. Tender.
Barker College Pool	Indoor 25 x 25 polo and learners pool. Single stage ozone-chlorine. Tender.
Royal Brisbane Hospital	'State of the Art' hydrotherapy pool with in-pool jets, spas. Two stage ozone-chlorine most modern with shunt backwash. Tender.
Leichhardt Complex	Upgrade of outdoor 50m, heating, new leisure pool, indoor learn to swim, new filtration systems. Tender.
Yalara Pools	Large ponds, 25m, 15m, 25m, at the complex. Pool filtration medium rate sand-chlorine. Tender.
Panaga Club Brunei	Upgrade of outdoor 50m and children's pool conversion to deck level, new filtration circulation systems, chlorine-sand medium rate. Tender.
Melville Indoor Aquatic Centre	Indoor 50m FINA & diving, leisure with inpool spa, dual spa pools. Reinforced concrete with DIN tiles. Sand-UV-Chlorine and DE-UV-Chlorine systems. Tender.
Riverton Indoor Centre	Indoor Myrtha 50m, Scuba pool, leisure, slides, river hydrotherapy, spas. Reinforced concrete Aquatic DIN tiles. Sand-UV-Chlorine and DE-UV. Tender.
Bunbury Regional Indoor Aquatic Centre	Indoor 50m, leisure with river, slides, spa sprayed concrete and vinyl. Sand-UV and DE-UV systems. D+C.
Warnbro-Rockingham	25m x 25m, large leisure with river toddlers features, spas, hydrotherapy. Outdoor 50m. Sand-UV and DE-UV. Design Stage.
Gosnells Aquatic Centre	Major study to determine and correct deficient plant. New spas and outdoor pools. Sand-UV and DE-UV.
Royal Perth Hospital	Major renovation. Deck level, vinyl, new retic. New DE-UV-Cal hypoplant. Tender.
Mt Newman Outdoor Aquatic Centre	Major upgrade of all pools, new plant wetdeck, new finishes. Sand med. rate gas-chlorine slow filtration. Fast turnover.
Geraldton	Indoor 33 x 25 Fina popl, hydrotherapy, spas, leisure with slide; Chlorine/UV. D+C
Kalgoorlie	Indoor 51.5m x 25m Fina polo with boom, leisure pool, spas, slide; Chlorine/UV. D+C.
Bayswater	Indoor 25 x 25, large multi-use wave pool, children's pool, hydrotherapy and spas; two stage ozone chlorine, slipstream and single stage ozone chlorine. Tender.
Busselton	Outdoor 33 x 25 polo, indoor 25m with leisure and spas. Outdoor chlorine, indoor Chlorine/UV. Tender.
Subiaco	Indoor 25m, Chlorine/UV. Tender.
Inglewood	Indoor 25m, leisure, spas, Chlorine/UV and UV/DE. Upgrade outdoor pools. Tender.
Police Academy	Outdoor 25m (Myrtha) chlorine. Tender.
Esperance	Indoor 25m, hydrotherapy, spas, Chlorine/UV. Tender.
Melville	Indoor 50m, plunge pool (scuba), hydrotherapy, leisure, spas, Chlorine/UV, DE-UV. Tender.
Kwinana	Indoor 25m, leisure spas, hydrotherapy, DE-UV. Tender.

**School Pools**

Barker College, Sydney	Tara Girls School, Sydney	Cranbrook School, Sydney
Loreto College, Sydney	MLC Burwood School, Sydney	Ascham Girls School, Sydney
Danebank Girls School, Sydney	Christchurch Grammar School, Perth	St Margarets School Ascot Queensland
Santa Sabina School, Sydney	Knox Grammar School, Sydney	Ravenswood School for Girls, Sydney
All Saints School, Perth	The Shore School, Sydney	Catholic College Enfield
St Brigids School, Perth	Wenona School, Sydney	Hurlstone Agricultural College NSW
Kinross-Wollaroi School, Orange	MLC Burwood, Sydney	
Tocal College Pool, NSW	PLC Pymble, Sydney	

**Equine Pools**

Nebo Lodge Sydney	Warwick Farm Sydney
Randwick Race Course Sydney	Elleston Polo Facility NSW
Plattner Racing Stables South Africa	Expert Witness Hong Kong Jockey Club

All pools were reinforced concrete decklevel with jet systems, evacuation systems, bridges. Filtration medium rate sand. Pool water heated.

# AQUATIC Engineering ENGINEERING



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  - Scuba Pools
  - Spas
  - Fina Pools
- 
- Aquariums
  - Marine Parks
  - Mammal Exhibits
  - Equine Pools
  - Aquariums
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- Highload City Pools
  - Outdoor Pools
  - Remote Pools
  - Hot Climate Pools
  - Overseas Pools
- 
- Management and Control of TDS
  - Beneficial use of Backwash

**IN THE FOREFRONT OF THE RAPIDLY EVOLVING  
SCIENCE OF SWIMMING POOL ENGINEERING**



# AQUATIC ENGINEERING

## Introduction to Aquatic Engineering

### What does an Aquatic Engineer do?

A good Aquatic Engineer provides far more than basic engineering. In conjunction with the Client and the Architect, he helps set the basic direction of the development in terms of what works best and how much it costs. This type of service requires a multi-discipline approach and a willingness to work as part of a cohesive team. Our firm is widely accepted as a leading and accredited designer and may often be promoted by a number of competing architects. Our experience suggests that the development of an effective pool involves many intrinsic value judgements that requires the Clients participation, and a structured team approach.

### How is GNFP different from other Consultants?

Our firm is unique in that we design and integrate both the pool structure and water treatment plant. These two disciplines are very closely inter-related and are best done as one package. This enables the Designer to develop strategies and economies that are very difficult to deliver if the two elements are undertaken separately. Whilst some of our competitors may offer mechanical building services in conjunction with pool water treatment plant the mechanical is best integrated as part of the general building package. Combining the pool structure and the pool water treatment will solve many of the traditional problems that are commonly associated with the development of a modern pool complex.

### What is Pool Design all about?

Good pool design is all about solving problems and developing strategies that best suit the particular needs and aspirations of the Client. Although we have twenty five years experience in the pool industry, we do not dictatorially promote one definitive answer. Our mission is to design cost effective and appropriate solutions to meet our clients needs. Our basic design concept is that an indoor swimming pool should enclose the largest water surface that is affordable. The cost of the pool and the plant is often less than one quarter of the entire project's cost. The whole purpose in designing an aquatic centre is to create an effective indoor facility that is hygienic efficient to run and easy to operate while obtaining a maximum useable swimming area.



### What Services does GNFP provide?

At the beginning of the job we provide sketch designs, reports, cost estimates, options and choices. Although our firm is generally known for its technical ability, we are also able to provide valuable information on the benefits of various pool configurations and other issues. When an optimum solution has been agreed, we embark upon very detailed design and documentation. Our designs encourage broad based competitive tendering, primarily because they are so well thought out and all problems solved. A loose design, or a design that requires the Contractor to assume some design responsibility, will inevitably become unwieldy and expensive. GNFP's design documentation has evolved over twenty five years and is especially structured to obtain commitment and performance. Whilst some Consultants operate on the premise of providing performance type specifications, there are notable examples to confirm that this delivery method is not in the Client's best interest.

### What is the Basis of GNFP's Design?

The design of a cost effective pool relies heavily on technical knowledge and applied experience. GNFP have successfully completed a wide range of pools and are familiar with the potential pitfalls and the many benefits from innovation and integration. The GNFP design team will commonly include several Engineers working under the direction of a team leader. Without compromising the integrity of our design, GNFP will often engage the services of specialist sub-consultants. These sub-consultants provide the benefit of practical industry experience. In a very young and dynamic industry, this ensures the use of proven, but-up-to-date technology. Although swimming pools are commonly considered in seemingly simple terms, many of the design issues are complex and inter-related. Indoor pools pose many special problems. In keeping with FINA's thinking, our mission is based on using the least pool chemical in the lowest possible concentration. As well as providing healthy pool water this will provide a very comfortable atmosphere within the pool hall. Apart from basic engineering, GNFP can promote innovations that have particular relevance to indoor pools, such as pool energy requirements, chloramine control and the beneficial re-use of backwash water.

GNFP has designed in excess of 15 000 pools over the past 23 years of which some 300 are commercial.

GNFP were chosen by O.C.A. to design the Olympic Pool facilities at Ryde and the Ryde Aquatic Centre, we replaced the original water treatment system at Homebush Olympic Aquatic Centre with the revolutionary pressure DE-ozone system that provided the exceptionally clean and fast water for the 2000 games.