

SECTION 2 EXECUTIVE SUMMARY, RECOMMENDATIONS AND ACKNOWLEDGEMENTS

Executive Summary

The perception, prior to the review, that design mistakes were being repeated was confirmed. The reasons for this are somewhat speculative but there is likely to be reluctance by Councils to share their bad experiences and the lack of involvement in people skilled and experienced in the commissioning and operation of new pools. While it would be hoped that failures, problems, issues and successes would be passed on, the number of common mistakes regularly being made would suggest otherwise.

This review attempted to highlight errors, omissions and mistakes being repeated in new or retrofitted aquatic facilities. These are not limited to the building and associated plant but also making the right decisions at the feasibility and design stage. This is particularly the case where compromise is required when something has to be omitted due to capital cost limitations. It is also prudent to consider not only the capital cost but also the ongoing operating costs. The review found that two councils had deleted heat recovery in order to reduce the capital cost, despite an annual return of 25% on the investment in reduced energy costs. Both sites are now in the process of adding heat recovery. Inadequate provision made at the design stage for likely additions such as heat recovery or features such as slides has proven to be costly to some of the pools. A number of pools have had to retrofit or add features which the original design did not take into consideration which has resulted in greatly increased and largely unnecessary costs.

One council engaged a recruitment company to employ poolside life-guards. Nobody considered swimming ability as an important prerequisite for this employment. While this might seem absurd, it is no worse than designing an aquatic facility without any consideration being given to supervision difficulties, by way of line of sight obstructions or the number of staff required to run the facility. A number of the pools are inefficient in their layout in terms of the number of supervisory staff required.

Four pool managers expressed concern that, due to cost savings, the wave/leisure pool was either also the learner pool or the learner facility had been eliminated altogether. Wave or fun pools have not lived up to the “promise” of being both revenue generators or good teaching facilities and the learner pool is economically much more viable. Perhaps the sudden increase in “fun” and “commercial” features is responsible for some of the decrease in the ability of New Zealand children to swim? There is a serious question to answer, whether the pursuit of strongly promoted “sexy” or “trendy” features have compromised the social purpose of publicly funded pools for water safety, learn to swim, instruction and competition.

A related area of concern was the lack of provision of deep water in half of the review facilities. I concur with Water Safety N.Z. who considers that being confident in deep water is an imperative part of any water safety programme. The number of facilities being built without this provision should be of concern. I got the impression that many of the pools were designed to maximise clients and revenue rather than provide a social service. Unfortunately, much of the anticipated extra client numbers was wishful thinking rather than considered and based on the experience of peer pools. Most of the usage projections were naively optimistic.

In many instances plant rooms were too small for the necessary pool equipment let alone for the storage and mixing of chemicals vital to plant operation. The result was staff carrying heavy chemical bags for some distance across pipes because no access had been made for the supply of chemicals to the plant room from the delivery vehicle. In two cases plant rooms have had to be expanded to allow new plant such as heat recovery units that had been omitted from the original design, to be retrofitted. This is inefficient, costly and short sighted.

Ensuring that the design team being considered for a proposed facility (especially architects, engineers and quantity surveyors) have a proven record in the provision of aquatic facilities cannot be over emphasized. These facilities require experienced professionals due to the complexity of their function. The corrosive nature of the internal environment, due to the need for chlorine and the large volumes of heated water producing condensation, make aquatic facility design vastly different to conventional buildings. Too many "experts" appear not to understand this. In my judgement, many of the problems or issues are obvious design flaws that skilled and experienced consultants would not make.

The need to get the design and installation of vapour barriers and insulation construction correct is also important as any corrective measures at a later stage will be expensive. These areas caused major problems in at least two sites involved in this study. Vapour barriers being punctured during construction and insulation material incorrectly applied resulted in serious condensation problems for these sites. Likewise poor drainage continues to cause problems at a number of pools. If proof is required to show things can go wrong in the design and construction of aquatic facilities, one has only to look at the Oamaru situation. A dispute between council and its architect has resulted in a number of problems, legal action and arbitration. A specific case study, post resolution of these issues would be instructive and valuable.

A conclusion of this review is that meaningful communication has been lacking between Territorial Local Authorities (TLA's) investing in aquatic facilities during the past ten years, judging by the number of faults being repeated. It is simply unacceptable problems and issues are hidden and therefore inevitably repeated in other public facilities. I was surprised at some of the problems and issues that arose. I have kept a close personal and professional interest in new pools and their strengths and weaknesses. That I was not aware indicates that it had been kept quiet. By working together with integrity and honesty, I am sure that all territorial authorities, whether investing in new aquatic facilities, retrofitting existing ones, or struggling with the operational costs of existing facilities, will benefit in regard to both the capital and the ongoing costs involved. This review finds that most of the mistakes, errors or omissions, do not involve additional expenditure and in many cases, costs could have been saved if the correct or more informed decisions had been made.

Some examples of obvious mistakes or omissions found during my site visits were:

- Poor drainage of both poolside and change area floors due to a lack of fall on the floors or inadequate drain size.
- Plant rooms too cramped with little or no provision for future additions.
- Undersized mechanical plant. Two sites had pool water turnover rates that did not comply with the New Zealand standard.
- It would appear that little or no thought was given to the use of natural light or the acoustics of the pool hall.
- Poor choice of pool surround and change area flooring surfaces and too light a colour finish resulting in high cleaning maintenance.
- Little thought given to pool layout resulting in high poolside supervision costs.
- Four sites used steel fittings and fixtures rather than stainless steel grade 316, resulting in corrosion problems and eventual replacement.

Some examples of positive aspects seen:

- Many good examples of bright colour choice within the pool building.
- The increasing provision of separate family and disabled changing areas.
- Three facilities had allowed for future expansion of attractions in the original design.
- Half the sites visited had excellent car parking provision with convenient pool access.

Recommendations

That:

1. SPARC consider offering a peer review service for any feasibility assessments carried out in order to provide an alternative perspective to assumptions or projections. (see section 4)
2. That SPARC collect and collate “peer facility” information and make it available to allow the longitudinal analysis of usage and costs. (see section 4)
3. SPARC consider providing a panel of experienced pool managers who would be available to assist TLA’S considering building or retrofitting an aquatic facility. (See section 5)
4. That SPARC lobby Standards New Zealand to urgently upgrade NZS 4441 to meet the improvements in pool and plant design, water treatment and health considerations of the past thirty odd years. (see section 10)
5. That all new or retrofitted pools have a close-down and maintenance period while any warranties are still in place to ensure suppliers and contractors meet any costs of failures on their part.
6. That SPARC collect and collate reports that report back on any problems, issues or lessons on any new pools or extensions to build up a simple resource for all parties associated with constructing new or upgraded facilities.

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