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architecture +
urban design

zoo water treatment facility

location elliot avenue parkville melbourne australia

status completed june 2006

client melbourne zoo

photography john gollings

The Royal Melbourne Zoological Gardens Parkville opened in 1862 and is the oldest Zoo in Australia. In recent years the structure and management of the Zoo has been completely transformed with Zoos Victoria now located on 3 sites at Parkville, Werribee and Healesville. The Zoo has been progressively implementing a Long Range Master Plan as part of a modernisation program. At the Parkville site many animal enclosures have been rebuilt along with enhancements to the landscape and botanical setting.

The water recycling project was implemented to resolve a long term waste water discharge problem as well as improve water conservation practices. The Zoo resolved in consultation with the EPA, Melbourne Water and the City of Melbourne to recycle and reuse stormwater via an on-site water recycling plant. The new plant exemplifies Zoos Victoria's commitment to sustainable practices and the environment.

The whole of the Zoos stormwater drainage system, including animal wash down areas, converges at one point of discharge at the northern end of the site. A diversion weir has been constructed at that point with a baffle that diverts dry weather run off together with first flush wet weather flows to the water recycling plant. The water is stored in two large underground concrete holding tanks, one 750 kl raw water tank and one 145 kl treated water tank. The harvested water is recycled to class 3A1 quality by a sophisticated reverse osmosis plant. The recycled water is then reticulated throughout the Zoo for use in ponds, animal hose down areas and for landscape irrigation as part of a water management program. An interactive "water discovery exhibit" weaves its way throughout the Zoo, culminating in the water recycling plant building at the northern end of the site.

The water recycling plant building has been designed to be experienced as

a working exhibit. The building is a compact 12 metre square translucent cube set in an open landscape accessed via a public viewing platform. Placing the large water storage tanks underground has reduced the impact of the plant since they are buried into the landform with grassed roofs. The interior of the building is packed with plant and equipment carefully connected by a three dimensional maze of colour-coded pipe work. A large picture window allows visitors to view the operation of the plant, which forms part of the interpretive display. At night the building glows like a shimmering lantern revealing the skeletal silhouette of the working interior.

This is a modest building with very particular functions, driven by the engineering requirements. The task was to create an interesting architecture from limited means to both house and show the working of the plant. The architecture came after the engineering for the specific footprint and volume of the building were already established by the design of the plant. The concept for the building was to create a light filled box sitting on a robust base made from systemised steel and acrylic components. Colour and light has been used to enliven and heighten various components of the building.

"The water recycling building is small and industrial...at night it glows through its shimmering skin...revealing the interior as a working machine...it is that approach to seeking opportunity out of the ordinary that sets this building apart...each individual small piece of this jigsaw is designed and considered, treated with respect, even though the architectural budget was small." Norman Day, The Age 19 December 2007

"Elliott elegantly and playfully demonstrates that there is a place for architecture in the field of infrastructure problems, and shows how design finds delight in utility." Helene Frichot, Architecture Australia, March 2008

