

ASH RESOURCES

MATERIALS FOR TODAY AND THE FUTURE

The Gauteng Provincial government is committed to putting the region on the world map as a prime tourist destination. Of the major tourism-related projects in its multi-billion Rand Blue IQ initiative, none is as exciting and more symbolic for the new South Africa than the development of Constitutional Hill in Johannesburg.

Situated between Braamfontein and Hillbrow, the 95 000m² site is steeped in history, containing prison buildings and the Old Fort dating back to before the Anglo-Boer War. Among its more famous prisoners during the apartheid era were Mahatma Gandhi and Nelson Mandela. The area has long been neglected as if hanging its head in shame. It is now an inspired choice of site to house our Constitutional Court and create an area that will symbolise South Africa's remarkable transformation from its reviled past, to admired evolving democracy. The task of creating buildings that have far more than an important function for South Africa is well under way - these will have soul!

The heart of the development is the Constitutional Court building. The initial R87,5 million construction contract was awarded by the Johannesburg Development Agency to a 50/50 joint venture between WBHO and Rainbow Construction (the Joint Venture) one of the leading black empowerment companies in South Africa. The term 'initial' is used intentionally as this is the first major post-apartheid government building and priority is being given to achieving the vision rather than cost-effective functionality. In an open international architectural design competition, the award went to a South African joint venture between OMM Design Workshop and Urban Solutions. This was a great tribute to the young South Africans working for these innovative architects in the face of stiff overseas competition. Principal design architects are Andrew Makin and Janina Masojada.

As with the nearby Nelson Mandela Bridge project, extensive attention is being given to embodying design features that symbolise integrity, openness, freedom and accessibility for all people whilst, at the same time, making a bold statement of confidence in South Africa's future. The main contractors are very involved in translating the artistic design detail into high quality, durable finishes which often require special construction methods. In parallel with the main construction work there is an Architectural Artworks Programme. This unique concept aims to incorporate the widest possible range of work from South African artists and craftspersons into the fabric of the Court building. This will not be installed as post-construction cosmetics but by involving artists during construction to implement portions of the building. Thirty locations have been earmarked for architectural artworks.

The construction contract was awarded at the end of October 2001. "It was an open tender and the three companies with the lowest tenders were asked to make presentations," says WBHO's Contracts Director, Derek Wallace. "We were the second lowest tender but it was our track record for quality construction and the experienced joint venture relationship with Rainbow Construction that won the day. We have worked extremely well together on the SA Reserve Bank and the Department of Trade and Industries buildings."

"Before we arrived on site, most of the historical buildings had been dismantled under a separate contract," comments Wallace. "This was done with a view to reusing as much of the old material as possible. Approximately 150 000 bricks from the old Awaiting Trial block were cleaned and stored for reuse. These have been used to clad the court chamber. The old prison bars have

been used to refurbish the façade of the old substation on the eastern side of the campus. On the southern side, the four stair towers of the old Awaiting Trial Block have been preserved; one of them actually included in the fabric of the Court foyer. As you can see it is far from being a normal construction contract!"

For the contractors there is virtually nothing that is straightforward on the Constitutional Court contract: just about everything has a special aspect to it. Architect Makin is stretching the design envelope to ensure the client gets what they wanted: a world-class structure that will attract visitors and be admired for decades to come. This applies to the fundamental concrete structure as much as to the detailed finishes. For the soffits, Makin has insisted on special large panels with minimum joints. A double shuttering system was used, involving conventional formwork carefully overlaid with timber boards. Every roof is either curved or sloping and intersecting other panels at unusual angles. The massive concrete roof of the foyer has a pattern of slots designed to create moving areas of dappled sunlight akin to sunlight filtering through a canopy of leaves. Structures that you expect to be supported are suspended, appearing to float. The upstand beams below the double volume foyer roof have been cast with the words "human dignity, equality and freedom" in each of the eleven official languages. These are reproductions of the handwriting of each of the current constitutional judges. "Weekly meetings with the architects are not just the usual administrative exchanges but are creative, how-to-achieve-that-concept, sessions," says Wallace. "We have an excellent team of experienced foremen headed up by our Site Agent, Deon Moller. Everyone has enjoyed being involved in a project that has been so different and tested our skills to the full."

All concrete structures, amounting to some 9 000m³, have been based on a 75/25 CEM I/Dura-Pozz[®] fly ash mix. Concrete Testing Services designed the concrete mixtures and were also responsible for quality control. The Joint Venture used an on-site Liebherr 500 batch plant producing around 15 m³ per hour of concrete, half of which was pumped and the rest crane-placed. Wallace says that for a complex job of this nature they opted for an on-site batch plant to give them total control. The choice of Ash Resources' Dura-Pozz[®] for the mix was based on WBHO's extensive experience with it. "There is obviously the cost benefit which contributed to our gaining the award," he adds. "But we are also very confident working with Dura-Pozz[®], which is particularly applicable to this project where the overwhelming emphasis is on aesthetics and durability. From a construction point of view, the mix pumps well and stays workable. We always pride ourselves on the off-shutter finishes that we achieve with it."

The imposing Constitutional Court will form the centrepiece of the R750million Constitutional Hill campus. The Court contract is on track for completion in November 2003. After their December recess, the judges will move across from their rented facility in Braamfontein and prepare for the first court session at the end of February. The official opening scheduled for Human Rights Day, 2004, will appropriately celebrate South Africa's first ten years as a democracy.

"It is a privilege for our Joint Venture to play a key role in this development," concludes Wallace. "Even before completion, we are already receiving visits from engineers and architects to see this unique structure and the techniques used to create it. I believe that our team has achieved one of the best quality construction jobs that I have ever seen!"