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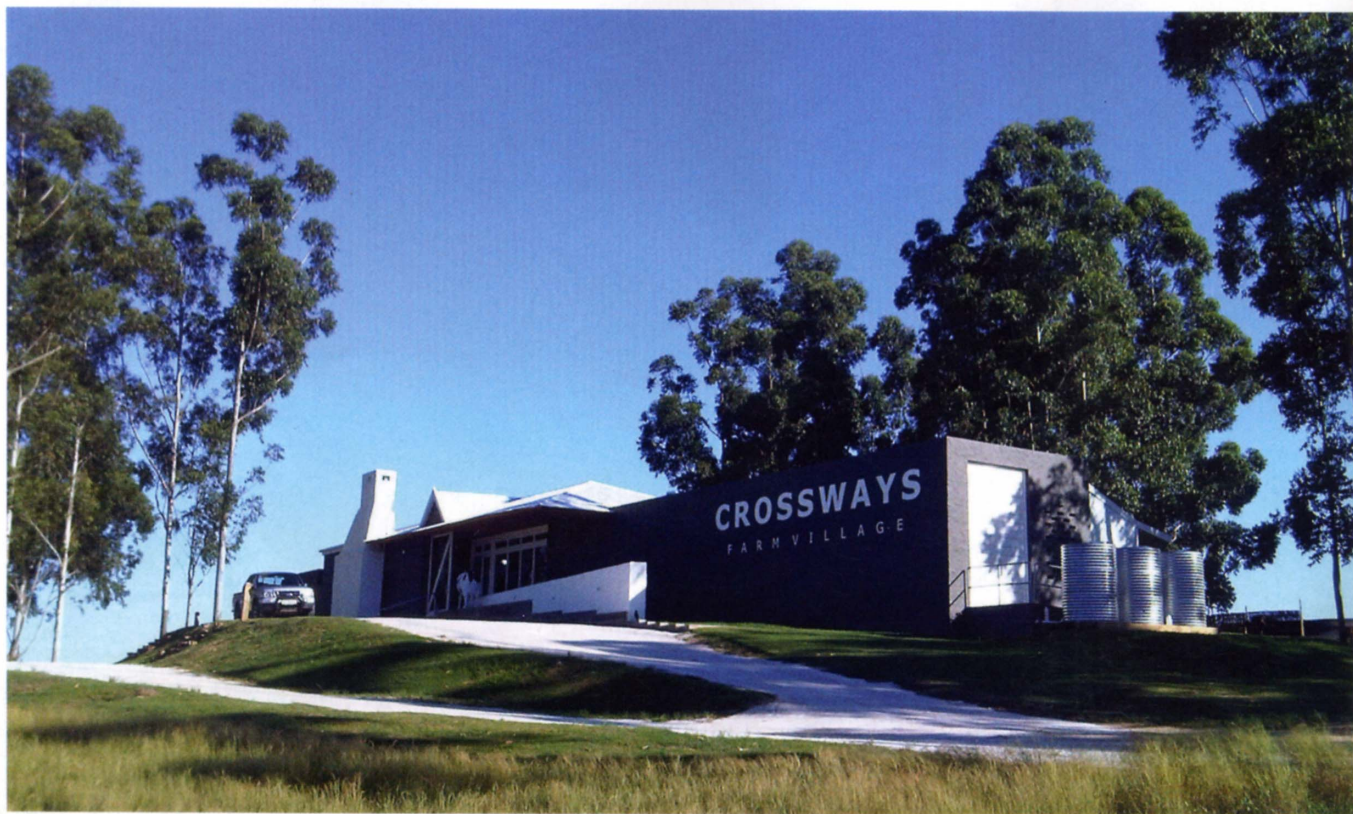
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THE 20TH BIRTHDAY COLLECTOR'S EDITION



how green is our valley

The elegant country community of Crossways Farm Village in the Eastern Cape is a vision for conscious living

A life-sized black-and-white cow comprising a million beads and 11km of wire welcomes curious visitors to Crossways Farm Village, just off the N2, before Port Elizabeth in the Eastern Cape. The Holsteins are an integral part of the village, ambling along designated pathways between grazing, fertilising and milking duties at the working dairy.

This is the passionate project of Crossways' developers, including Chris Mulder and his firm CMAI (Chris Mulder and Associates). The key ethos behind Crossways is rural development (through training, the creation of jobs and poverty alleviation) and community involvement within a secure country setting. It focuses on food security, energy efficiency, livelihood sustainability, and a low carbon footprint. 'It's a third conservation, a third agriculture and a third development,' claims Chris.

While remaining tethered to the area's electricity grid, Crossways has built its roads and infrastructure independently, and provides municipal services, including a water-treatment plant and reservoir, and an electrical substation. 'Ultimately,' says Chris, 'light industrial activities will create work for the nearby community of Thornhill, of which 180 people are presently employed here. Residents receive a percentage of the sales (in the form of a Trust) with the support of the Department of Rural Development.'

Removing foreign vegetation and re-establishing the natural Albany coastal belt thicket and Kouga fynbos is a significant part of the development's sustainability efforts. Alien timber makes up everything from lampposts to carport shade covers, created by local craftsmen in a small onsite business. Rainwater is harvested from angled roofs and street

kerbs, and water from the village's sewage treatment plant feeds into a manmade wetland and bird reserve, running into a dam for the subsequent irrigation of public parks. At the heart of Crossways is a town square with shops, facilities and services planned along the main street, and a regular market that will offer fresh, organic produce.

'It's a third conservation, a third agriculture and a third development.'

Different styles of homes cater for all pockets, from first-time homeowners to the more affluent. Abode choices include compact village and 'castle' houses, and modern, sheltered farmstead buildings.

A rendering depicts bovine 'club members' ambling to the dairy for milking duties. LEFT The reception building at Crossways houses a busy sales office and the popular Crossways Country Kitchen restaurant. BELOW This depiction illustrates future hotel rooms in the forest.



The smallest stands show remarkable use of space and include a garage, a courtyard, a rainwater tank and room for budget-dependent expansion. All villagers have solar geysers with the option to incorporate more energy-efficient measures. A mandatory refuse system supplies four bins for compulsory recycling of glass, plastic, paper and organic material, all of which will be processed at the onsite waste recovery centre.

Though the village will likely take another eight years to complete, it has already garnered considerable international and local interest and, with its comprehensive schooling plan (Woodridge College is nearby) and advanced security measures, this multifaceted investment in sustainability presents a prototype for 'new ruralism' in South Africa.

Crossways Farm Village, 044-382-6732, crosswaysfarmvillage.co.za ▷





sense and sustainability

A contemporary showcase of efficient design in the Eastern Cape transcends paradigms in green building



To say that managing director Brian van Niekerk of Rhino Plastics has a nose for energy efficiency is an understatement. It's his business to take green-building solutions to industry and private homes, and Brian's most elegant example is his own future residence, currently under construction at Crossways Farm Village (see page 190).

The house, designed with CMAI architects, will be completely self-sufficient. What is now a benchmark model for a host of integrated energy systems has lured a steady stream of architects, builders and students. 'We've created as many sustainable elements in the house as possible,' says Brian.

On entering the house there is an aqua garden. This living ecosystem (one of a trio), apart from being an attractive feature, is a natural water-treatment plant that links through to a rim-flow pool in front of the house (pictured above left). All are built with ICF (insulating concrete form), created from interlocking EPS (expanded polystyrene) modules that have been filled with concrete to bestow structure, and waterproofed with a plastic liner.

Sustainability is in the DNA of the house, from foundation to roof. Again, ICF modules, Neopor by BASF, make up the walls. At half the weight and 2.5 times the strength of a brick wall, with soundproofing and superb insulation properties, ICF presents a far lighter carbon

footprint than clay brick. The material is more cost-effective from a time and labour perspective (it's 60 to 70 per cent faster to build with), and is lighter to transport.

Natural light penetrates deep into the house through well-placed skylights and LED fittings are used throughout. Double-glazed windows and a water-based underfloor heating and cooling system work together to maintain the perfect ambient temperature throughout the year.

Most of the angled roof is bedecked with photovoltaic arrays (pictured above) that harness about five hours of optimum solar energy. Electrical energy is stored in a large battery set (in its own designated space) that will last up to 12 years.

Sustainability is in the DNA of the house, from foundation to roof.

Rainwater is harvested and treated before being reused. Black effluent water, organic kitchen waste and grass cuttings are processed by a biodigester to yield cooking gas for the home (see left and top left).

House Rhino will be monitored on an ongoing basis, providing tangible measurements of its performance for future eco-conscious homeowners. *Rhino Plastics*, 041-451-3197, rhinoplastics.co.za ▶

