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'Green city' master plan approved by Gauteng councils

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Published: 26 Jun 09



Figure 9-18: Artistic Perspective of the Airport Industrial, Business & Tourism Gateway

Markus Kaps tells *Engineering News*.

The 'master plan' for the new mixed-use green development of Cradle City has been approved by the councils of the City of Johannesburg and Mogale City, and discussions regarding service delivery are set to start.

Situated alongside Lanseria airport, to the north-west of the Johannesburg central business district, Cradle City is a 900-ha landholding, which, once developed, will feature retail, residential, hotel, general business, office, commercial, light industrial, warehousing and distribution space.

"The objective of this development is to acquire agricultural land, go through the conversion process of environmental-impact assessment and rezoning, and provide serviced land to the market," Cradle City sales development director

What differentiates this development is that it will essentially be a green city, (it is about the size of the Cape Town city bowl) encouraging green building.

"We are not putting up the buildings, but we are creating the infrastructure that supports a green development, and, at the same time, mandating certain requirements, certain performance levels, and minimum standards that we will require from developers and designers who are going to develop and put up buildings," adds Kaps.

"A critical component of the sales process is educating potential buyers on what they are buying into, and understanding what this green city will be – so that they will be able to maximise the green building potential of their development," says WSP Green by Design sustainability consultant **Manfred Braune**.

Kaps points out that Cradle City started the green debate very early on, when determining the urban layout.

"A lot of work has gone into the urban layout, and we have done microclimate studies – wind, rain and sun patterns – so when you are setting out your project in this development, we have already prepared this analysis. Our urban planners and engineers are working extensively with sustainability consultants to ensure the best urban layout."

Kaps further uses the analogy of 'plug and play', where a company could easily plug its building into a green development. Should a developer want to construct a Green Star South Africa-rated building, "we have provided a fantastic platform in which [the developer] can come and do that".

However, if another smaller operator wants to put up a warehouse at Cradle City, and is, perhaps, not aiming for a high Green Star rating, that operator can also come into this development, "but the development will still be greener than it would be elsewhere", adds Kaps.

"The key is that we are trying to facilitate greener developments for those companies that aren't the green building leaders of the world, to make it easier," reiterates Braune.

Kaps notes that Cradle City has had a "great success in sales to date". The process started about six months ago, and already almost 25% of the development has been sold, including the hotel.

"We will only start to transfer land in potentially 18 months' time. When people start designing their buildings, they will understand better how Cradle City's green building guidelines apply to their projects. We will probably only see that in about 6 months' to 12 months' time," states Kaps.

Businesses building in Cradle City will need to consider certain urban design principles, and understand that the architectural ethic aims to create a built fabric that responds to the principles of 'sustainable' and 'green' architecture.

The Cradle City project 'green team' aims at providing infrastructure and a foundation which will, in a sense, secure a base level of points under the Green Building Council of South Africa's Green Star rating points, as part

of the land purchase.

Through 'smart' design, the developers have a vision of creating a city that uses 40% of the electricity used by an existing city of the same composition and size and 50% less potable water; produces only 50% of the sewage; has a 50% reduction in stormwater runoff and 60% of the solid waste going to landfill; and generates only 35% of the carbon dioxide emissions from vehicles.

Technically, there are many challenges to be overcome around this, but the vision will remain, adds Braune.

At this stage, the Cradle City design guidelines state that the architecture is to "reinforce and promote ecology-conscious considerations affecting built form, urban layout, transportation, renewable materials, waste recycling, efficient use and recycling of water, irrigation and energy management and generation."

This, the guidelines add, suggests a development trajectory defined by securing a rating of four stars in the Green Star rating system.

Developments will need to respond to local climatic conditions, including passive temperature control by using shading devices, and capitalising on natural airflow, using environment-friendly and renewable materials, as well as recycling materials and water.

Cradle City falls within the 'urban edge', and sits on what was previously low-value agricultural land, and thus undergoes a process of rezoning. The area fits in with the municipal urban extension plans.

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