Sustainable public eco-tourism facility, Cape Town, South Africa

Project data

Project group: Building and civil engineering works
Client: CapeNature Conservation - SA Government
Project background: Public commission
Estimated start of construction: November 2010

Main author

Name: Andrew Justin Cooke
Profession: Architect
Organization: Architecture co-op
City, country: Cape Town, South Africa

Further author(s)

1. Jessica Tami Cohen, Architect, Architecture co-op, Cape Town, South Africa

Comment of the Holcim Awards jury Africa Middle East

The jury acknowledges the strength of this project lies in the consistent implementation of its initial idea to minimize impact on this vulnerable biosphere and to rehabilitate natural conditions on the previously operated site. The Kogelberg Biosphere Reserve is home to the most complex biodiversity on the planet, and as a contextualized feature the Oudebos Mountain Camp is a commendable example for good practice of balancing tourist needs and preservation aspects. The project offers a thoughtful approach to building design and showcases durable, recyclable, and renewable materials, and through energy efficient design extrapolates the visitors’ experience of the reserve to the structural level.

Relevance of target issues by author

Innovation and transferralability – Progress
An integrated model methodology for design & construction of sustainable ecologically responsive eco-tourism projects & landscape rehabilitation in wilderness conservation areas was developed. Systems mapping and analysis of the site ecology & landscape uncovered opportunities & constraints which engendered innovation from concept to detail. An elemental form allowing place making vision brings people close to nature heightening environmental awareness. Principles include integrated hands on teamwork, ecologically and environmentally responsive strategies - eco system, site & climatic evaluation, (one impact light weight building technologies (frames, panels, gablestech). Off site pre - fabrication, Innovative kit of parts allowing a range of configurations: Design for disassembly. Passive and low energy design. Use of durable, local nautral, renewable, low embodied energy & non toxic materials.

Ethical standards and social equity – People
Flagship eco tourism project provides public access to biodiversity hotspot & UNESCO World Heritage Site. This nurtures biophysical education & development of environmental awareness & enjoyment of nature. Oudebos demonstrates innovative sustainable & ecological design appropriate for a wilderness conservation area. All day and overnight visitors will experience a sensitive, sustainable development where ecological processes are respected & development touches the earth lightly.

Environmental quality and resource efficiency – Planet
The high integration with spatial qualities of the landscape and technical environmental responses. Let this project to its place. Integration and rehabilitation of water and vegetation systems develops biodiversity. The building envelope is environmentally responsive with simple low tech passive design strategies utilized. Orientation, eaves, screening, pergolas, green roofs, insulation, wide openings and cross ventilation provide for comfort and a dynamic relation to the seasonal shifts of the Cape weather. The exclusive use of locally sourced South African materials and products stimulates local economy and reduces the carbon foot print. Selection of natural renewable and recycled materials minimises use of resources. Use of low energy active systems including solar hot water heating, closed combustion fireplaces, LPG gas for cooking, LED lighting further conserves consumption of energy.

Economic performance and compatibility – Prosperity
Eco tourism facility near Cape Town develops economic sustainability & provides funds for conservation projects. Both affordable & accessible benefits broad economic band of populations. Use of sustainable materials, natural heating and cooling systems, ecologically & environmentally responsive design economies on consumption of non renewable resources & increases self sufficiency. Construction from local natural materials & durability minimise life cycle costing & simplifies maintenance.

Contextual and aesthetic impact – Proficiency
A simple elemental, natural sense of place is tailored to suit this rugged and dramatic wilderness. The envelope is articulated to deal with changing seasonal conditions resulting in architectural language built in direct response to climate and context. Pavilion-like structures fit landscape. Modeled scale, fragmented forms, lightweight Rigby quality, planted roofs & landscape rehabilitation graft the project to its context and mask the signs of development.

Project description by author

Heart of the fynbos - A flagship project for sustainable public eco-tourism facility located approximately 3hrs drive from Cape Town, within state owned wilderness area in the Kogelberg Biosphere, a UNESCO World Heritage Site - the heart of the Cape Floral Kingdom. This biodiversity hotspot is of breath taking beauty & extremely high conservation value. The reserve offers opportunities to those seeking outdoor adventure, refuge from the city & a place to study unique fynbos, fauna & complex wetland systems in the cradle of the Cape Fold mountains.

Integrated design - touch the earth lightly - crafting a sustainable, environmentally responsive development, following best practice building & ecological principles, integrating design, consultant mapping & specialist research & demonstrating a low impact model for building in conservation areas underwrote the design ethos. Rehabilitating the impacted site & integrating this with the surrounding site ecology through detailed studies. The Eco tourism project consists of 5 new self catering cabins & a small conference function facility.

Natural form - creating a meaningful sense of place, integrated with the dramatic landscape develops the rugged elemental experience of being in nature. A simple spiral layout organizes the cabins which follow the contours & rectangle the Fynbos. Vanishing boardwalks & paths link pavement like shelters. The central gathering space brings key elements of earth, wind, fire & water to form a natural heart to the camp. Modestly scaled lightweight, stilted basket like structures with planted roofs further develop the natural qualities & provide simple shelter in the vast landscape.

Natural materials - Selection of a palette of natural, renewable, low embodied energy, non toxic local materials. Off site, manufactured demountable custom made timber frame & structures minimise impact on the site. Careful selection of local materials & components to create a uniquely South African product. Recycling materials & components of the existing run down timber structures. Harvesting the seasons - Low tech passive design principles underpin crafting of the building envelope. Eaves, weather screen skin, pergolas & blinds provide shade respite for the hot African sun whilst allowing in winter warmth. Open structures allow cross ventilation & natural lighting. Lath screens provide shelter from prevailing summer winds. Careful insulation of panels & planted roofs contribute to thermal comfort. Sustainable use of recycled rain stream, composting toilets, low flow showers, indigenous planting & mulch baions minimise water consumption. Use of existing energy supply is minimised through use of low energy systems including solar water heating, closed combustion fire, gas cooking, LED lighting.

Acknowledgement prize Africa Middle East

Regional Holcim Awards competition 2011

Holcim awards for sustainable construction

FOR THE ENVIRONMENT, WITH THE ENVIRONMENT