



COMMENDATION: ARCHITECTURAL

Grantleigh Titanium Learning Centre

Maposa, Kwambonambi, KZN

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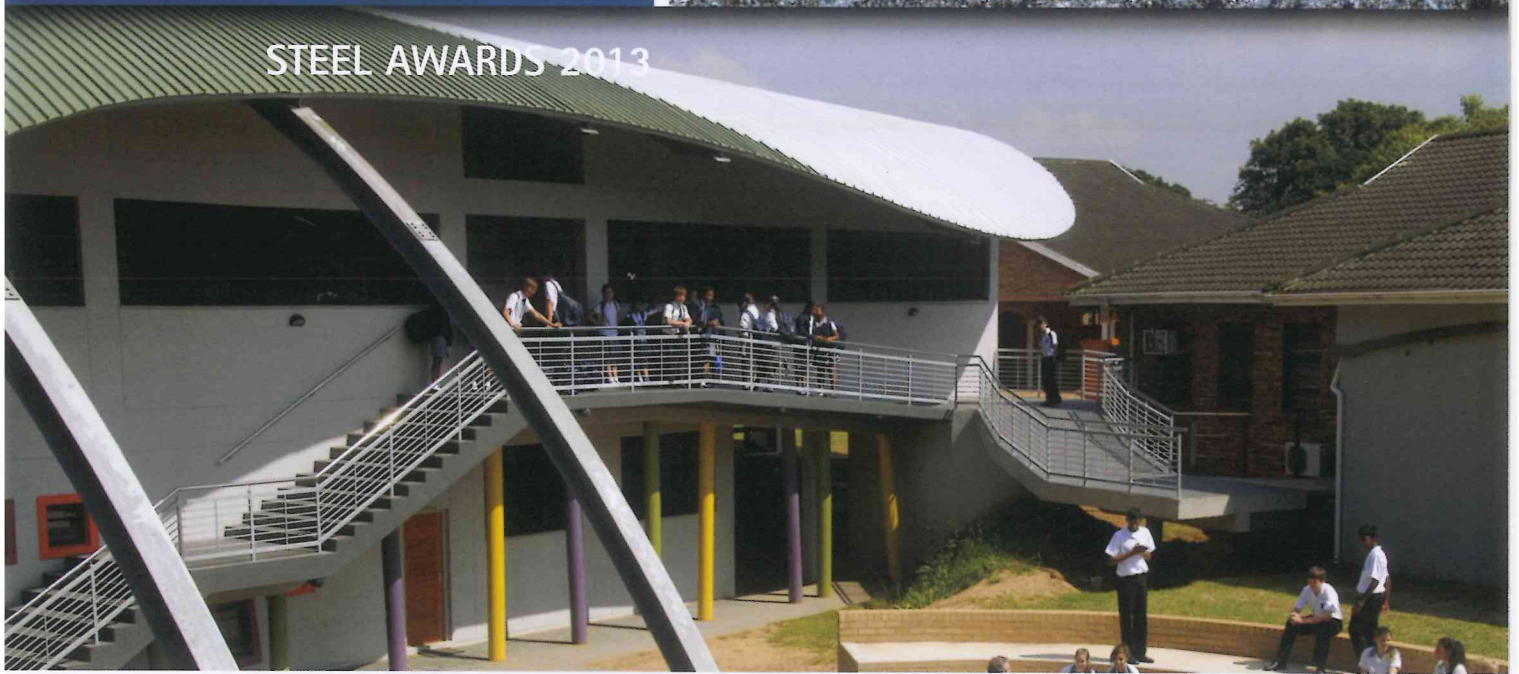
Photography: Craig Hudson

The New TLC 'Titanium Learning Centre' is located approximately 25km north of Richards Bay, KwaZulu-Natal at Grantleigh Private School, Mposa. The new science centre neighbours the classically inspired main reception and auditorium buildings of the existing school and is framed by tall gum tree forests.

The project was funded by Richards Bay Minerals as a development initiative to host top achieving students from rural disadvantaged areas affording them the opportunity to integrate with pupils of Grantleigh School. This initiative facilitates the spread of science and technology to broader rural communities ensuring activated learning amongst the surrounding communities.

The roof concept of the main auditorium building was morphed from the likes of a rib cage of a bird deriving characteristic elements of flight, motion and lightness coupled with a fluent curvature lined steel beam skeletal structure that concludes into the site. The roof form is exclusive as each curved, cold rolled steel beam increases in span from the west to the east portion of the main building enhancing its organic aesthetic.





The main building consists of two science laboratories on the first floor, a 144 raked-seat auditorium, teacher's office, and a boardroom which forms a protected courtyard enclosure with subsidiary maths and ablution blocks. The central courtyard forms the outdoor learning area where dissections and outdoor lectures are conducted. An outdoor amphitheatre is based centrally together with the old maths classroom block, forming a protected learning space.

The main auditorium and ancillary areas are accessed via the main foyer which umbrellas the entrance by use of a curved steel sheeted structure tapering towards the surrounding garden. The foyer is open ended which serves as a link to the courtyard and outdoor amphitheatre. The building is perceived differently as one navigates around it with an experience that is always relational from various view points as it cannot be experienced as an absolute whole.

The steel was fabricated off-site, delivered to site and then erected with a crane and bolted into place. Each radius of cold rolled section was a different size which caused difficulty in setting the steel purlins correctly for the roof sheeting to clip onto. One of the two roof sheeting machines that are available in South Africa was brought to site as the roof sheets had to be rolled and measured according to the different radii of the underlining steel structure. There is no uniformity in the roof radius.

JOJO water tanks and inverter air-conditioners were introduced. The project team used locally sourced materials and locally based consultants.

project team

Developer/Owner:

Grantleigh School

Architect:

TJ Architects, Richards Bay

Structural Engineer:

PD Naidoo and Associates

Quantity Surveyor:

Bingelela Quantity Surveyors

Project Manager:

TJ Architects, Richards Bay

Main Contractor:

Bencon Construction cc

Steelwork Contractor/s:

Impact Engineering

Detailers/Detailing Company:

Impact Engineering

Roof Contractor:

Create Projects

Roofing Supplier:

Global Roofing Solutions

JUDGE'S COMMENT

by Louis Breckenridge representing the Constructional Engineering Association (CEA)

This very impressive learning centre expresses integrated science and technology in its architectural language and detailing, promoting the building as a self exhibition.

It is an example of an excellent architectural concept enhanced by good engineering design and very careful detailing.

What this striking roof structure does is change the whole image of the TLC and the school. The roof is dramatic, cleverly based on a relatively simple theme.

What makes it even more impressive is the clever attention to detail, for instance the sheeting is trimmed to the edge purlin, eliminating the need for clumsy trimmers and the main bracing connection forms a unique feature at the entrance.

The concept is outstanding, the workmanship excellent and the attention to the details of this complicated structure has been very well done. 