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Ecobrick Fun Facts

As part of the V&A Waterfront's commitment to eliminate plastic waste, its development team has devised a novel way to partially incorporate ecobricks in the construction of The Ridge, a new commercial development in the Portwood District overlooking Dock Road.



Some of the ecobricks have been signed by the individuals who made them

How it all started

- The Ridge consultant team were briefed by the V&A Waterfront to find ways in which to incorporate ecobricks in the construction of the Ridge Building.
- As an existing partner of the V&A, Ian Domnisse from Ecobrick Exchange introduced the development team to Long Beach Mall in Noordhoek. In 2018, following an eco-art competition, **Long Beach Mall** became the collection point for ecobricks made by the local Community, even though there was no confirmed end use for them. Long Beach Mall agreed to donate all their ecobricks the Ridge Development Project in return for a donation made to a local NGO.

- **Bhongholethu Foundation**, an NGO preschool serving the Masiphumelele settlement in Noordhoek was the nominated beneficiary. The team at the Foundation have already built a raised vegetable garden out of ecobricks and are currently building ecobrick furniture. The foundation plans to put the R40 000 donation from the Waterfront towards their dream of constructing an entire ecobrick house.
- As more ecobricks were required, Ian again introduced the V&A to the Eros School for physically and mentally challenged children in Athlone. The school champions recycling in their immediate community and has in turn sustained a family recycling business in Mitchells Plain. Eros school could not deliver the full quantity required, so a group of volunteers came forward to assist the school in making up the total requested. These included **Edgemead Primary, Capricorn Primary** in Muizenberg, as well as **Tracy Pretorius, a self-confessed eco warrior**. The school received a donation of R10 000. The school serves as a recycling centre for the families whose children attend the school and they have also used the ecobricks produced by the children and the community to create a vegetable garden and build furniture.
- A final contribution of R10 000 will be made to Ecobrick Exchange for assisting in the sourcing and supplying of some of the 12,000 ecobricks. This will support their initiative of constructing vegetable gardens at schools, so that the schools can have their own food supply.
- Once on site at The Ridge, each of the 12,000 2-Litre plastic bricks was quality control checked and refilled if necessary, by environmental champions **Johan Bosch** and **Fuzile Ntsume** from GVK-Siya Zama's Building Contractors.



GVK's Johan Bosch and Fuzile Ntsume who managed quality control at a site level

Making and using ecobricks

- Ecobricks are an easy way for communities to get rid of unwanted everyday waste such as plastic packets, bags and wrappers. Communities, schools and NGOs can sell their ecobricks to raise money for community projects.

- Ecobrick production is simple and non-technical – it simply requires stuffing a 2-Litre PET plastic bottle with plastic waste until no more can be forced into it. Density is important so for a construction project of this scale, each ecobrick has to be carefully checked for compliance.
- Concrete has a high environmental footprint so construction companies make use of ‘void formers’ to ‘fill’ space and reduce the amount of concrete required. However, the polystyrene (EPS) normally used as void formers is also not an environmentally friendly option. Ecobricks are therefore an ideal replacement.

Using ecobricks at The Ridge

The V&A is using ecobricks as void formers in the concrete slabs in the central toilet areas on each floor of The Ridge. The bricks are placed vertically in the 300mm deep void area and covered with concrete.

The total void volume in the entire building is 41m³ which equates to approximately 12 500 ecobricks. Each bottle has a mass of approximately 418g equalling 5.2 tons of used, single-use plastic that is being reused.



Why it matters

It is estimated that, in South Africa, 16% of plastic is recycled. 10% ends up in the waterways and ocean, and the remainder (74%) ends up in landfill.

The Ridge project will repurpose approximately 5.2 tons of single use plastic. 84% of this plastic would have ended up either in landfill or worse, the ocean.

The significance of preventing this plastic from going to landfill or polluting the ocean can be understood in terms of the average amount of plastic each person uses in a year. The WWF estimates this to be between 30kg to 50kg per person per annum.

At an average of 40kg per person per year, the void formers equal the waste created by 110 people.

By using material already manufactured rather than purchasing material still to be manufactured, the project saved 30t CO2. This is the same saving as taking 6.5 passenger vehicles off the road for a year.



The V&A Waterfront hands over a cheque for R40 000 to the Bhongolethu Foundation.

From left to right:

Franette Ventura: V&A Waterfront Development Tenant Liaison

Donald Kau: V&A Waterfront Head of Communications

Tyler Sutcliffe: Operations Manager, Bhongolethu Foundation

Quinton Matheson: Junior Director, Bhongolethu Foundation

Henry Mathys: V&A Waterfront Programme Manager: Social Inclusion & Placemaking

For more information about the beneficiaries:

- Bhongolethu Foundation near Masiphumelele <https://www.bhongolethufoundation.org.za/>
Tyler Sutcliffe Bhongolethu Foundation Operations Manager
Quinton Matheson Bhongolethu Foundation Junior Director
- Eros Primary School Athlone <https://www.erosschool.org.za/>