

# Sustainability Initiative: Inflatable Brattice Walls

Rozelle Interchange  
WestConnex

JOHN  
HOLLAND

CPB  
CONTRACTORS



## The Challenge

With the majority of the excavated material consisting of sandstone, construction of the Rozelle Interchange tunnels posed a high risk of respirable crystalline silica exposure.

A primary control measure to reduce silica concentration is the installation of a powerful exhaust ventilation system coupled with brattice walls to provide a physical barrier between excavation and non-excavation zones.

However, given the length and large diameter of the Rozelle Interchange tunnels (24km in length, up to 22m x 19m in diameter), installing effective brattice walls would require a significant quantity of materials and time.

## State-First Innovation

JHCPB sought an alternative solution to reduce waste and installation durations, engaging FlexiMake Industrial to design and manufacture an inflatable brattice wall.

The wall was designed to fit the profile of the Rozelle caverns, and with the addition of an extra bladder, the wall can be adjusted to fit different heights. The wall is made from a fire retardant rigid polyvinyl chloride material and can be folded and transported for reuse at the next location.

Originally used in the mining industry, the use of an inflatable brattice wall on a tunnelling project represents a state-first for the NSW construction industry.



## Benefits

### Environmental:

- Diversion from landfill of approximately 14m<sup>3</sup> of waste per wall (timber, plastic, metal).
- Improved quality of the airlock seal due to the use of Velcro doors, compared to typical, makeshift brattice wall doors which are prone to damage from poor design.

### Social:

- Improved safety due to reduced people and plant interaction during installation.
- Program benefits: Offsite manufacture and simple installation methodology mean less time is re-quired for in-situ installation.

### Economic:

- Reusability of the inflatable brattice wall means costs typically associated with single-use brattice walls (raw materials and landfilling) are avoided – approx. \$6000 in materials and disposal costs per wall.

### PROJECT CONTACT:

Veronica Prado Valverde  
Sustainability Advisor

E: [veronica.pradovalverde@rozelleinterchange.com.au](mailto:veronica.pradovalverde@rozelleinterchange.com.au)

M: 0447 024 778

