

ADVANCING LOW CARBON CONCRETE IN AUSTRALIAN INFRASTRUCTURE

An Australian infrastructure milestone has been reached with the approval of a 60 per cent Supplementary Cementitious Material (SCM) concrete mix for use on road and transport projects across Victoria.

The low carbon concrete mix has now been formally approved by VicRoads, marking a significant step forward in reducing the embodied carbon of concrete used in road and bridge construction, while maintaining the performance requirements expected of critical infrastructure assets.

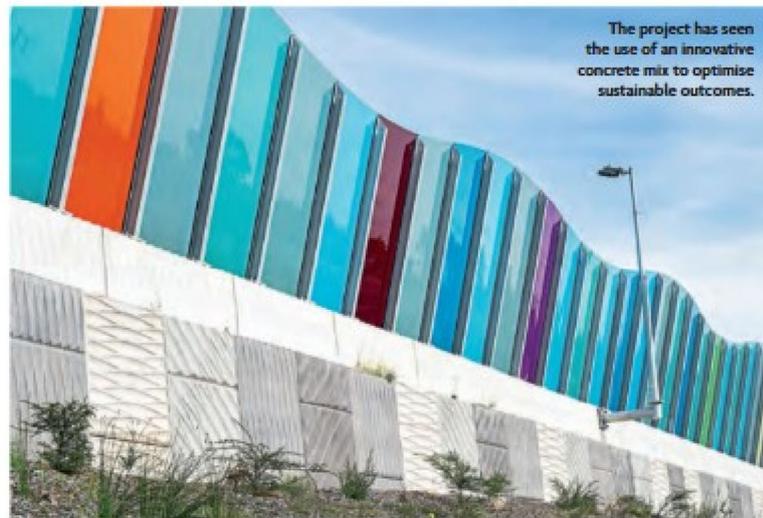
REDUCING CARBON WITHOUT COMPROMISING PERFORMANCE

Developed in collaboration with Heidelberg, the approved mix replaces 60 per cent of traditional Portland cement with SCMs, including slag. This substantial reduction in cement content delivers a meaningful decrease in embodied carbon, while continuing to meet structural performance, durability and longevity standards required for long life infrastructure applications.

The approval demonstrates that sustainability outcomes can be achieved without compromising engineering performance, addressing one of the key challenges facing the infrastructure sector as it works to reduce emissions across the construction supply chain.

INDUSTRY FIRST APPROVAL FOR VICTORIAN INFRASTRUCTURE

The VicRoads approval enables the



The project has seen the use of an innovative concrete mix to optimise sustainable outcomes.

supply of 60 per cent SCM concrete mixes to both government and private infrastructure projects throughout Victoria. It reflects growing momentum across the sector to adopt lower carbon materials that align with government sustainability targets and evolving procurement frameworks.

"This approval represents dedicated research and innovation by our team," says Matthew Sheridan, Eastern Region Precast Concrete Manager at Geoquest Australia, a National Precast member.

"Our goal has always been to provide high performance solutions that meet engineering standards while supporting the industry's transition to a more sustainable future"

BUILDING ON EARLIER LOW CARBON MILESTONES

The approval builds on earlier low carbon concrete applications delivered using 50 per cent SCM mixes, including the Ison Road Overpass in Victoria. That project exceeded sustainability targets and demonstrated the practical, real-world application of high SCM concrete in infrastructure environments.

Subsequent projects incorporating similar reduced carbon mixes have further reinforced the viability of SCM concrete across a range of precast and civil applications.

SUPPORTING THE TRANSITION TO GREENER INFRASTRUCTURE

With the VicRoads approval now in place, the 60 per cent SCM concrete mix represents another step forward in reducing the carbon footprint of infrastructure construction, while maintaining the durability and performance required for long life assets.

As infrastructure owners, designers and contractors continue to prioritise sustainability outcomes, approvals such as this provide a clear and practical pathway for the broader adoption of low carbon concrete across Australia's road and transport networks. ■



Geoquest Australia has vast experience in delivering sustainable outcomes for projects of all sizes.

Images: Geoquest Australia