



# Fast Efficient Strong Smart

## CASE STUDY

# West Gate Freeway Upgrade

## Project Snapshot

### Date

Completion in 2010

### Project Name

West Gate Freeway Upgrade

### Principal

Victoria State Government  
and Transurban

### Client

West Gate Freeway Alliance: Thiess,  
Boulderstone, Hyder Consulting,  
Parsons Brinckerhoff and VicRoads

### Products Used

Approx 5km of the SlimDrain™  
drainage system

## Leading by design to manage stormwater on Melbourne's freeways.

Set to be complete in 2010, the West Gate Freeway upgrade will not only provide intelligent traffic flow through the city, but smarter water flow thanks to the SlimDrain™ drainage system.

### Big picture.

The \$1.39 billion 'Monash-Citylink-West Gate' M1 upgrade is the largest state-funded road project in Victoria's history. Stretching 75km from South Gippsland freeway to the West Gate Bridge, it promises to deliver a safe and efficient four-lane freeway that is Melbourne's transport spine.

The project has been split into four main pieces, and the 6.2km West Gate Freeway section through the CBD is relatively short in length. Yet it more than makes up for it in complexity, and an alliance of five groups is delivering the project. To call this a brownfield site is a major understatement – the working parameters are tight and the existing roadways carry more than 160,000 vehicles every day.

New bridges, ramps, pillars and pavement will all contribute to a smoother and smarter traffic flow for the many motorists using this vital link. However, the addition of more concrete to the landscape means major run-off issues with regard to stormwater and its catchment. With this part of inner Melbourne offering next to no assistance in the form of sloping land to channel water, this terrain poses potential problems.

SMART

**SlimDrain™**  
Drainage System



**James Hardie**  
Concrete Pipes

**Grate expectations.**

Glenn Dunstone, Drainage Team Leader on the project was faced with a scenario that did not favour usual methods. "The longitudinal profile in the roadway was often lower than 0.3% fall" he explains. "This meant that conventional pit and pipe construction is not feasible as you end up with pits spaced too closely – therefore the only option was to use a trench grated system."

Yet this method also had its problems. With trenches set to be located mostly next to fast moving traffic lanes, it would be difficult to maintain or remove grates for cleaning if using a standard grating system. Glenn Dunstone and his team found their solution in the SlimDrain™ drainage system from James Hardie. Its clever one-piece design is essentially a pipe with a continuous grate integrated along the top. "We looked at a number of options but decided that the SlimDrain™ drainage system was the only solution that met all of our needs."

**“ With the SlimDrain™ drainage system we simply install the pipe using conventional processes and place the grate in later.”**

Because SlimDrain™ drainage system acts like a pipe, it can be cleaned like one too, using conventional pipe cleaning methods to clear any silt build-up. It also means faster installation and less fuss than heavy-duty trench grates. "To provide a quality finish the grates were masked with tape which allowed for easy concrete pouring and finishing. This resulted in a smooth finish and maintained grate integrity."

**Flow on effects.**

James Hardie assisted the design team by modifying grate profiles to achieve grading and depth variations. With its aesthetics and height adjustable properties, the SlimDrain™ drainage system provides a low maintenance drainage solution that should help put the West Gate Freeway project in the fast lane to completion. With the finished roadway promising intelligent management and a more efficient flow, it seems only fitting that its stormwater system delivers the same.

**Strong. Fast. Adaptable. Smart.**

Our progressive, innovative approach creates high performance, engineered solutions for above and below ground stormwater drainage applications.

Call James Hardie on the number below to find out all the benefits for your next project.

**“ We looked at a number of options but decided that the SlimDrain™ drainage system was the only solution that met all of our needs”**

Glenn Dunstone - Drainage Team Leader



Ask James Hardie™  
 Call 1800 659 850  
[www.jameshardiepipes.com.au](http://www.jameshardiepipes.com.au)



**James Hardie**  
 Concrete Pipes