

spirit

DRIVING FORCE

Volvo CE President
Martin Weissburg

**CONEXPO
2014**
Showcasing
Volvo machines

**HAPPY 60TH
BIRTHDAY**
to the Volvo
Wheel Loader



The Singapore government has placed great emphasis on the development of infrastructure, seeing it as a cornerstone in strengthening the economy. As such, road transport plays a key role.

Construction of the Marina Coastal Expressway (MCE) tunnels began in the first quarter of 2010. Work was completed in the second half of 2013 with the expressway opening to traffic on December 29. The dual five-lane, 5km-long project provides a vital link between eastern and western Singapore. It replaces part of the East Coast Parkway (ECP), creating an additional high-speed connection with the New Downtown development. This section of the ECP and its access roads are now being realigned to form a significant arterial route to serve the Marina Bay district.

CHALLENGES

Constructing the 420m-long tunnel, Singapore's first undersea expressway of its kind, presented considerable challenges. Passing through the seabed of the Marina Bay Channel, a barrage had to be constructed to allow the work to take place. Consequently, large volumes of water had to be discharged into the surrounding sea and regulated to minimize disruption to the vessels coming in and out of the bay.

Complicating excavations was a stretch of old sea wall buried some 12m underground that had been left behind during land reclamation work more than 30 years ago. It also had to be removed.

Most of the construction was carried out in soft clay conditions some 20m below mean sea level and 14m beneath the seabed. In total, the building work covered an area of 13.1 hectares and produced 3 million cubic meters of excavated material, equivalent in volume to 1,200 Olympic swimming pools.

HIGH-PRECISION

Due to the enormous scale of the S\$4.1 billion (US\$3.27 billion) project a large number of contractors were involved in the construction. They included Samwoh Premix Pte. Ltd. which was given the role of paving the concrete surface of the roads in the MCE tunnels with asphalt. The requirements were strict, having to meet an International Roughness Index (IRI) of 2mm per metre for the final layer. Faced with such high-precision work, Samwoh called on its

COMPLICATING EXCAVATIONS WAS A STRETCH OF OLD SEA WALL BURIED SOME 12M UNDERGROUND

fleet of Volvo pavers. The company has eight in total: three ABG5770s, three ABG5820s and two ABG6820s.

TRAINING

Technical specifications were not the only factor in Samwoh's decision to turn to Volvo for the MCE project, according to David Choo, Business Director for Volvo CE, Singapore. "Samwoh chose Volvo not only for the quality of our pavers but also

for our Road Competency Training, which is our unique added value."

That view is supported by Lo Chee Seng, Samwoh's Operations Manager, who says he expected the training in Germany organised by Volvo for his company's team would be classroom based with some practical lessons in the yard. However, that proved not to be the case. "What Volvo did was very impressive. They gave us the opportunity to experience German teams paving at high German standards."

Although the formal training sessions were completed in 2012, Lo Chee Seng says that the process did not end there, with ongoing email and telephone exchanges extending the training relationship.

Volvo pavers are also used in a number of other road maintenance and improvement projects initiated by Singapore's Land Transport Authority.

"Road paving is a unique and specialized business that requires quality products, excellent service and competency training," says Volvo's David Choo. "That is why we must be there to partner and support our customers all the way." ❏



Singapore: Volvo paver in action

Visit www.volvospiritmagazine.com to watch video of the pavers at work in the MCE tunnel as it was being built