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One of the major challenges for engineering today is to develop infrastructure that is able to withstand the forces of nature without creating an impact of the natural environment and at the same time to support the growth of cities and industries.

Malaysia's Storm water Management and Road Tunnel is one example of the effort to develop the urban landscape while at the same time responding to the demands for environmental management.

Though the city is not among the highest in average precipitation, it has been vulnerable to flash floods which have the potential of progressively growing in terms of impact considering the rate of the city's growth. The government hopes to be able to deal with Kuala Lumpur's concerns regarding flooding seamlessly with its current city planning and to support future urban development projects.

Project Brief

The project, completed on the 14th May of 2007 is the longest stormwater channel in South East Asian region. The project aims to relieve the traffic congestion in getting into the Malaysia's capital Kuala Lumpur or KL as well as to manage seasonal flooding. The project's main proponents are the country's Department of Irrigation and Drainage, Malaysian Highway Authority and the consortium of Gamuda Berhad and Malaysian Mining Corporation Berhad. Preliminary feasibility studies were conducted by the Mott MacDonald Group (Stormwater Management and Road Tunnel, 2007).

The project broke ground in 2004 when tunneling using slurry shield tunnel boring machines began from Gemilang and Tuah commenced

simultaneously. The former was completed in April 2006 and the latter a year later. The tunnel has three modes of operations ranging from no rainfall, minor rainfall and storm water diversion and major rainfall and storm water diversion.

The double deck motorway tunnel has a length of 4 kilometers and links the Kuala Lumpur-Seremban Expressway and the Kg. Pandan Roundabout KL-Seremban Expressway (Kuala Lumpur Flood Mitigation Project, 2007). This crates direct access to the KL city center and the Sungai Besi Airport. So far, access to the motorway has been limited to light vehicles only.

The stormwater tunnel has a length of 9.7 kilometers and a diameter of 13.2 meters. The main holding basin directsthe stormwater flows into programmable reservoirs. The reservoirs are twin-box culvert that also manages the release of the stormwater. Ventilation of the motorway is accomplished with shaft structures equipped with exhausts and fresh air injectors. Management and conditions are maintained through centralized control room through remote computer systems sensor monitoring at interval of one kilometer (Powderhouse Productions, 2006)

. So far, has been limited access to the motorway to light vehicles only though the project has been fully completed and operational. The government aims to allow full access by the end of May and operation of the stormwater tunnels during the upcoming monsoons (Stormwater Management and Road Tunnel, 2007)