

Morwell Main Drain Rehabilitation – Australia

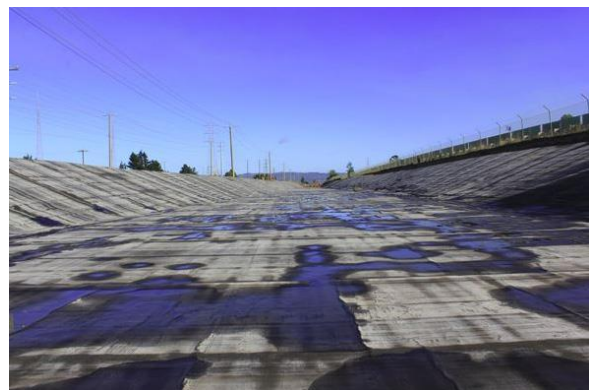
SIPLAST TERANAP TP 531 bituminous geomembranes selected for the Morwell Main Drain located in Victoria, Australia.

The Morwell Main Drain (MMD) in Australia was constructed in the 1950's and part of it was re-aligned in the 1970's. The drain collects run-off from parts of Morwell and industrial areas north-east of the mine, including the Princes Freeway and a small amount of run-off from the Hazelwood Mine.



As a result of heavy rainfall in 2011 causing the ground to move under the northern wall of the Hazelwood Mine located in Morwell Victoria, cracks appeared on the surface of the Princes Freeway and the adjacent areas, requiring the temporary closure of the freeway.

The Department of Primary Industries Victoria and geotechnical experts conducted an investigation into the incident leading to remedial works required to stabilize the area and to ensure public safety before re-opening the Freeway. This included remediation works to the 1.8km earthen channel containing dispersive soils, known as Morwell Main Drain (MMD).



The plan of action was, to reline 1.2 km of the earthen drain with non-dispersive clays and revegetated while the most critical section of 600m would need to be lined with an impervious membrane.

The impervious liner would need to:

- Be flexible enough to take minor settlements while remaining watertight over its service life
- Provide a 50 year service life

- Able to be easily maintained
- Survive exposed for most of its service
- Be cost effective

The lining system composed of 3 components:

- 23,000m² of Mirafi GX 130/130 biaxial geogrid to support liner in case of sinkholes
- 1m wide Verecran heat shield fabric underneath Teranap laps to protect geogrid
- 23,000m² Teranap TP 531, a 5 mm thick heavy duty geomembrane



Aeramix technicians were properly trained to install the Teranap according to Siplast recommendations. Teranap was easily fully bonded directly to all concrete structures to make a watertight structural seal using Siplast primer and then torching. Ends were finished using termination bars.

For more details on Teranap visit: www.teranap.com.au

