

# Pavement Engineering



## Norseman Airstrip

Our sustainable pavement design solutions have been implemented on various airstrips at Norseman, Wiluna, Laverton and Leinster. Our team's accessible expertise extends to other pavement applications; highways, haul roads and industrial pavements. Our unrivaled knowledge of pavement history within Western Australia enables creation of enduring pavement designs that will exceed design life and reduce maintenance costs for the client.



# Providing long service life and cost effective pavement solutions

WML provides investigation and design for all types of pavements and all pavement loadings. We can also provide construction phase services.

## Highways and Local Roads

WML designs pavements for urban and rural highways and local roads. The urban pavements typically include full depth asphalt, stabilised and asphalt surfaced granular pavements. The rural roads usually have granular pavements with a sprayed seal treatment but can be surfaced with asphalt or can be unsealed. A key element of the designs for rural and local roads is the sprayed seal surfacing. We design to Main Roads WA and Austroads standards.

## Airstrips

WML undertakes investigations and designs for new and existing airstrips. We undertake investigations that comprise visual assessments, test pits, pavement dippings and falling weight deflectometer testing. Typically, the field data is back-analysed to provide subgrade strength and pavement layer thickness, and with the aircraft movements the pavement thickness and composition, and Pavement Classification Number are determined. We design to CASA, and use FAA standards and software.

## Haul Roads

WML designs sealed and unsealed haul roads for mine sites. We undertake investigations and provide pavement thickness and composition for the design subgrade and traffic. The service typically involves advice on using processed mine waste materials for the various pavement layers. WML has successfully designed sprayed bituminous surfacings for mine haul trucks of the 400t class. We design haul road pavements using local, US and South African guidelines.

## Industrial Pavements

WML designs segmental block, flexible and rigid (concrete) pavements for industrial sites. For these types of pavements loadings can be very high and channelised. The loadings are typically from fork lifts and reach stackers handling containers. Detailing is very important with industrial pavements as they are usually within facilities that have many interfaces. We design using C&CA or BPA guidelines, or Design Pave and HIPAVE software, as appropriate.



### South Western Highway

WML was engaged by Main Roads Western Australia to provide a geotechnical investigation and pavement design for 6km of road upgrade on the South Western Highway, north of Donnybrook Townsite. The site is adjacent to the Preston River comprising of silt and loam soils.



### Norseman Airport

The airstrip at Norseman was an area demarcated on the Salt Lake adjacent to town. The town wanted an all-weather airstrip. WML provided construction advice for building on soft soil, geometric design of the airstrip, taxiway and apron, and pavement and surfacing design. The pavement design work included a review of local natural materials for incorporation into the works. This resulted in considerable cost savings without compromising the design.



### Kalgoorlie Consolidated Gold Mine Haul Road and Rail Crossing

Design of the approx. 6km of new haul roads required to haul waste rock from the mine's waste rock dumps to the various Tailings Storage Facilities for operational requirements and implementation of closure works. The haul roads include an ARTC railway crossing along its route and is designed for CAT 777 / 785 mine truck usage.

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