

# Welshpool Road East Intersection, Kenwick, WA

## Welshpool Road East

**Douglas Partners was engaged to design the pavement profile for a proposed heavily trafficked intersection located on Welshpool Road East, at the entrance of a new large industrial area (Roe Highway Logistics Park) in Kenwick, WA.**

The geotechnical assessment included field testing along Welshpool Road East, a busy arterial road. To minimise disruption to road users, the field work was completed during night shifts and utilised traffic management approved by Main Roads Western Australia (MRWA). Test locations were carefully selected to minimise disturbance to road users, whilst achieving the objectives of the investigation in a cost effective manner for our client Linc Property.

The assessment of the existing pavement and subgrade included specialised pavement tests such as Falling Weight Deflectometer testing, alongside more conventional testing such as boreholes and dynamic penetrometer tests.

The pavement design was completed in accordance with MRWA standards and subsequently validated following the typical review process by this road authority. Several technically suitable types of granular and deep lift asphalt pavement profiles were suggested to our client to achieve the financial and constructability objectives at this site. The suitability to upgrade several zones of existing pavement using a simple asphalt overlay, rather than a full reconstruction, was also assessed and locally implemented in order to optimise construction costs.

Douglas Partners liaised between MRWA and Linc Property to achieve a common desired solution.

Douglas Partners' office includes several engineers with expertise and successful experience to assist our clients in a wide range of pavement challenges, including:

- design of freeways, highways and local roads;
- assessment of rehabilitation solutions, such as granular and asphalt overlays, to upgrade existing roads to new standards or to meet new traffic loads;
- design of heavy duty industrial pavements, for instance container terminals, which are typically trafficked by heavy forklifts and reach stackers, and require specific design considerations;
- expert advice regarding failed and distressed pavements;
- haulage roads; and
- airport runways, taxiways and aprons, either unsealed or sealed.

All designs are undertaken using the latest relevant guidelines and standards (eg. Austroads, MRWA) and using the latest pavement design software (eg. Circly, Hipave...).



**CLIENT** Linc Property

**YEAR** 2017 - 2018

### SCOPE OF WORK

- Assessment of existing pavement conditions
- Design of new pavement
- Assessment of pavement rehabilitation solutions

*“The pavement design by Douglas Partners for the modified intersection addressed complex and variable foundation conditions and multiple existing pavement types of varying age. The construction period was during winter and required to be completed within a very tight timeframe. Douglas Partners identified cost effective, lower risk pavement options to accommodate the large design vehicle (RAV7) and construction constraints and provided timely and comprehensive advice which contributed significantly to a very successful project delivery.”*

**Brett Chivers**  
 Senior Development Manager  
 Linc Property

