CLIENT NOTE R2K-08

CARPARKS

Carparking facilities in terms of the Australian Standard are referred to as either on street or off street parking. The actual carparks come in all sizes from single bay to thousands of bays and the bays can be accessed either at parallel, angle or right angle direction. In terms of asphalt there are two key elements to consider as follows:

- Method of construction; and
- Design of asphalt.

Traditionally developers, architects and design engineers have designed and specified construction of carparks such that the life of the pavement is not maximised. The unbound pavement construction follows regular construction process and then kerbing is installed including “tree diamonds” before the asphalt. The consequence of this action is extensive areas of relatively poor compaction as asphalt paving equipment endeavours to negotiate the cluttered carpark area. Clients should consider laying asphalt before the kerb to ensure appropriate compaction and resultant density results conducive with long life pavements.

In the case of parallel on street parking bays it is critical that the bays are marked to the correct length as specified in Australian Standard AS 2890.5–1993. The modern vehicle with its power steering has an ability to manoeuvre into the shortest of carparking bays which can result in premature ravelling of the pavement surface due to excessive tyre wear.

It is also imperative that the correct asphalt design is used to surface the carpark. Australian Asphalt Paving Association (AAPA) publication “Asphalt for Lightly Trafficked Streets” prescribes that only dense graded or gap graded asphalts be used for lightly trafficked streets including carparks. Although Stone Mastic Asphalt (SMA) is a gap graded asphalt it has a very high proportion of course aggregates consequently it is not recommended for carparks due to its propensity to flush and/or ravel under the stress of turning movements. Roads2000 recommends that only dense graded asphalts are used in both on street and off street carparks.

References:

1. Australian Standard AS 2890.5-1993 Parking Facilities, Part 5 On-Street Parking.
2. Australian Asphalt Paving Association Advisory Note 5, A Guide to Asphalt for Lightly Trafficked Streets.