



# 12d<sup>®</sup> Model Case Study

## Dapto Race Track (Dapto, NSW, Australia)

**Designer:** Dalton Consulting Engineers  
**Client:** Dapto Showground  
**Location:** Dapto, NSW, Australia

*“Super Alignment editor is the way to go to solve this problem directly”*

### Outline:

Dalton Consulting Engineers (DCE) has combined its engineering and 12d skills to grow into one of Victoria's premier land development design consultancies. DCE offers specialist services to the racing industry, designing racetracks and associated facilities. Recently, DCE was involved in the reconstruction of the dog racing track in Dapto, NSW.

The track is defined by two circular arcs, and front and back straights. It also includes transition spirals. As the track is a closed loop, the new Super Alignment string editor was used. Using a Super Alignment string, there are eight parts to this track.

The two fixed arcs and the two straights are fixed in space. As there are only two tangents, not four, there is only one length of transition spiral that satisfies this geometry and the new Super Alignment editor calculates this length for you exactly as soon as you insert the 'free spiral'.

If you were to try to solve this problem using the previous Alignment editor by inserting transition spirals, you would need to do it via trial and error until you found the spiral length that in effect made the two 'theoretical' end tangents zero length but without the tangent points overlapping.

Clearly the new Super Alignment editor is the way to go to solve this problem directly. Another feature was the position of the zero chainage point. This has to align with a fixed camera position for the photo finish camera.

It turns out that this position is part-way along one of the spirals. With the new Super Alignment string editor, it is trivial to set a zero chainage control point at this camera position.

