

Client: Airports Company South Africa (ACSA)
Value: ~R 500,000 (Fees)
Services: Airport planning and design
Project Duration: June 2013 – Ongoing

OR Tambo International Airport, South Africa

Aircraft Holding Positions: Evaluation and Improvements Detail Design

The Task

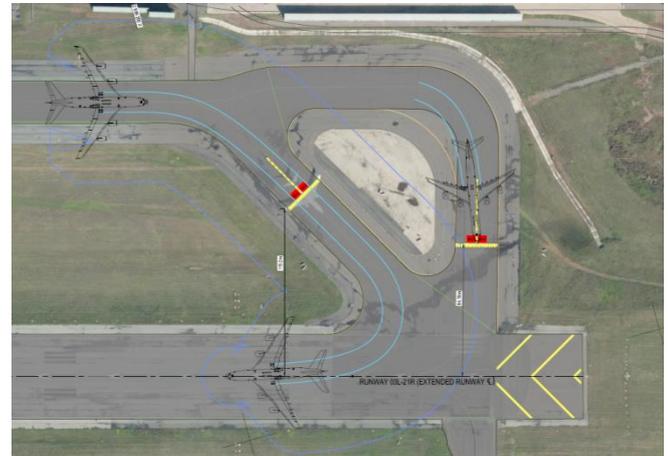
Aurecon, together with Nurizon, was tasked to evaluate aircraft runway and taxiway holding positions at OR Tambo International Airport (ORTIA) and to propose amendments and improvements to ensure that all positions were compliant in terms of the latest ICAO standards and recommendations.

The project is ongoing, however the scope of works has varied considerably over the course of the appointment; initially just a paint marking evaluation exercise. At the time of publication (August 2015), the focus of the project was on the runway holding positions for both primary and secondary runways at the ORTIA, with five 'critical' intersections identified for immediate improvement works.

Design Services

As part of the current scope, holding position offsets from the runway centrelines were evaluated against ICAO standards and detail design drawings produced to account for offset distance modifications, enhanced hold and mandatory paint marking additions, and signage and airfield ground lighting rectifications (stop bars, guard lights and centreline lights). The team used the latest (coordinated) aerial imagery for the airport site, together with accurate site survey in the evaluation and redesign of each hold position.

Improvement solutions considered vertical variations between hold positions and the runway, together with obstacle protection surfaces - in the latter case specifically concerning the north end of Runway 03L-27R). Dedicated A380 aircraft movement routes also had to be considered where applicable.



Aircraft tracking software was employed to model turning movements at two of the five critical hold positions where wingtip clearance distances had to be checked for safety reasons, non-trafficable pavement areas had to be demarcated, or where a new taxiway centreline trace was requested by the client.

ICAO Annex 10 minimum requirements relating to ILS equipment critical (and sensitive) areas were in addition mapped to ensure that existing and proposed hold positions did not conflict with ILS equipment operations.

The Result

Detail design drawings have been submitted for the five critical intersection upgrades, along with a bill of quantities. The consulting team is awaiting client feedback before design implementation commences.



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