

## Project Profile



<b>Client</b>	Department of Defence
<b>Location</b>	Port Wakefield, Cultana and Murray Bridge, South Australia
<b>Value</b>	\$3.4 million
<b>Duration</b>	May 2016 - October 2016
<b>Contract Type</b>	Lump Sum Construct Only

## Project Overview

### Project Overview

The Department of Defence operates several key training and weapon testing sites across the State of South Australia that required maintenance and repair. These included Range Roads at three Australian Army Metropolitan and Regional Sites (MARS) that due to seasonal and traffic degradation over time, and damage from live firing artillery exercises, had deteriorated to a point where they affected operations. The three sites included the Cultana Training Area, the Port Wakefield Proof and Experimental Establishment and the Murray Bridge Training Area.

The 2,100km<sup>2</sup> Cultana Training Area is situated 370km northwest of Adelaide on the Spencer Gulf and features ideal terrain and climate for year-round training. The 56km<sup>2</sup> Port Wakefield Proof and Experimental Establishment located 83km north of Adelaide hosts weapons trials, munitions proofing and environmental testing for the Navy, Army and Air Force. Due to large tidal movements, it is the only range in Australia where projectiles can be fired into a coastal area and retrieved relatively undamaged for assessment.

The 4,000ha Murray Bridge Training Area located approximately 70km east of Adelaide features weapon ranges and firing ranges, and a vehicle maintenance compound.

## Scope of Work

Intract were engaged by Defence to provide upgrade works across 8.3km of hardstand and all-weather access roads on all three sites. Earthworks included clear and grub, cut and fill, shaping of subgrades totalling 300,00m<sup>3</sup>. Road works included 90,000m<sup>2</sup> of road base construction, compaction testing and final trim. Marginal materials included the use of approximately 60,000t of PM2/20 & PM3/20 for reconstruction of roads and major road widening from 4m to 8m. Supplementary works included 22.5km of stormwater drainage and the construction of two 20m floodway culverts and spillways placing 960m<sup>3</sup> of concrete.

At the Cultana site, Intract Australia provided an all-weather access road from the Centre Road El Alamein to Direct Fire Support Weapon Range area. Works included clear and grub embankments of the existing roadway, cut and fill, subgrade level shaping, supply and placement of 320mm of road base for Type A treatment, supply and place of 150mm of road base for Type B treatment, compaction testing and final trim, and the preparation and pour of two new concrete floodways 20m in length.

The Port Wakefield site required road maintenance between the A2 hardstand to forward battery Gate 6 and A2 hard stand to Gate 4. Works included trim and compaction of both existing and new roads, grade in of site won material for the formation of edges, supply and placement of pm2/40 320mm thick to the new unsealed areas, the supply and install new road signs and the repair of existing signage.

The Murray Bridge site required repairs to existing roads along the southern boundary and included trim and compaction of 6km of existing roadway, and the supply and placement of 150mm to 300mm thick road base.

Intract project staff worked in a collaborative manner with Range Control Officers to ensure that construction works did not affect facility operations. Site supervisors liaised daily with Range Control on a direct basis, providing detailed breakdowns of the days proposed activities and the location of work crews.

## Innovations

### Floodway Redesign Savings

The initial design called for 8m wide by 20m long concrete spillways across nominated road sections. Intract proposed an alternative solution at two locations that a redesigned incorporate twin 600mm culvert road crossings. This proved to be a more cost-effective solution while improving road safety. The design was approved and incorporated in the delivered solution.

### Fast Tracked Pavement Works at Port Wakefield

The required works at the Port Wakefield site were limited to a strict two week deliver window. Any works that were outstanding at the end of the two-week period would be delayed until the following year. The Intract project delivery team ensured adequate resources and personnel were mobilised to site and delivered the works ahead of program.

Through the modification of the pavement design at Port Wakefield, Intract were able to offer four heavy vehicle turnout bays at no additional project cost delivering increased value for money to the Department of Defence.

## Local and Indigenous Participation

Project peaked at 30 personnel of which ten were Indigenous Intract Employees, achieving an Indigenous participation of 62% across all works. Works were delivered over 19,000 hours and were completed on time with zero Lost Time Injuries, (LTIs), Medical Treatment Injuries (MTIs) and zero environmental incidents.

The majority of the works were self-delivered. Intract Australia owned and operated plant and equipment utilised on the project included WA380 front end loaders, 14M graders, 5t padfoot rollers, 10t smooth drum roller, 20t excavators, 12,000L water trucks,

25kVA generators and semi-tippers. Where subcontractors were utilised, they were sourced from local companies.

