

# STRUCTURAL CERTIFICATE of COMPLIANCE



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**Company:** N.T. Consulting Engineers  
**Name:** Michael Cooper  
**Reg. No:** 21133ES  
**Category of Practitioner:** Structural Engineer(*cyclonic*)

Street: **Arnhem Highway** Location: **Marrakai** State: **Northern Territory**

## DESIGN

**DESCRIPTION of WORKS:** Scotts Creek Culvert widening: Chainage 54.67<sub>km</sub>  
Narrows Creek Culvert widening: Chainage 66.21<sub>km</sub>

**DOCUMENTS ATTACHED:** BDO Consulting Engineers Dwg. No.'s R11-1000:R11-1002, R1100:R1107, R11-1900, R11-1901

## DESIGN BASIS:

- **Design Standard:** Bridge Design Code: AS 5100 & associated standards  
Precast Reinforced Box Culverts: AS 1597.2  
Concrete Structures Code: AS 3600  
NTG Department of Infrastructure: Std Civil Dwgs
- **Design Life** . . . . . 25 years Department of Infrastructure: RFT: T15-1957
- **Design Speed** . . . . .  $W = 120$  Km/h Department of Infrastructure
- **Exposure Classification** . . . . . B1 AS 5100.5
- **Characteristic Concrete Strength: (deck & supports)** . . . . .  $f'_c = 32$  MPa AS 5100.5
- **Characteristic Concrete Strength: (guardrail beam)** . . . . .  $f'_c = 40$  MPa AS 5100.5
- **Minimum Cover** . . . . .  $c = 45_{mm}$  AS 5100.5
- **Traffic Loads** . . . . . W80 wheel, A160 axle & M1600 tri-axle group AS 5100.2:
- **'W' Guardrail** . . . . . Road Safety Barrier Systems AS 3845 & Department of Infrastructure
- **Fatigue Criteria** . . . . . Fatigue Load Effect AS 5100.2:
- **Allowable Bearing Pressure** . . . . . 340 KPa (ABP) AS 5100.3
- **Earthquake Design** . . . . . Type I: BEDC-1 AS 5100.2:

## CERTIFICATION

I, Michael Cooper, hereby certify that reasonable care has been taken to ensure that the structural engineering aspects of the works described above have been designed in accordance with the requirements of *RFT: T15 1957*, the *Bridge Design Code: AS 5100*, related standards and statutory guidelines.

**Signed:** .....

**Date:**09 December 2015

**Our Ref:**S022683