

Project New Barn Lane				Status	
Date By Checked	11/2020 OJF	Job no. 70061643	Section	Sheet no.	Rev
Rev	Date	Details			
Part Flotation - CHAMBERS					



REF	OUTPUT

450dia. Access Chamber with 150mm thick Concrete Surround

Access Chamber Plan Area = 0.159 m²

Concrete Surround Plan Area = 0.441 m²

Max Depth = 2.00m BGL

Uplift force = 10 kN/m³ * 0.441m² * 2.00m = 8.82 kN

Concrete Slab & Wall s/w = 25 kN/m³ * [(0.441m² * 0.225m) + [(0.441 - 0.159m²) * 1.85m]]m³ = 15.52 kN

Check that 0.9*s/w > 1.50*UPL => 0.90*15.52 = 13.97 kN > 1.5*8.82 = 13.23 kN => **OK**

1800dia. Manhole with 150mm thick Concrete Surround

Manhole Plan Area = 2.545 m²

Concrete Surround Plan Area = 4.155 m² (150mm concrete surround and 100mm chamber wall)

Max Depth = 2.00m BGL

Uplift force = 10 kN/m³ * 4.155m² * 2.00m = 83.1 kN

Concrete Slab & Wall s/w = 25 kN/m³ * [(4.155m² * 0.225m) + [(4.155 - 2.545m²) * 1.85m]]m³ = 97.84 kN

Check that 0.9*s/w > 1.50*UPL => 0.90*97.84 = 88.06kN > 1.5*83.1 = 124.6 kN => **FAILURE**

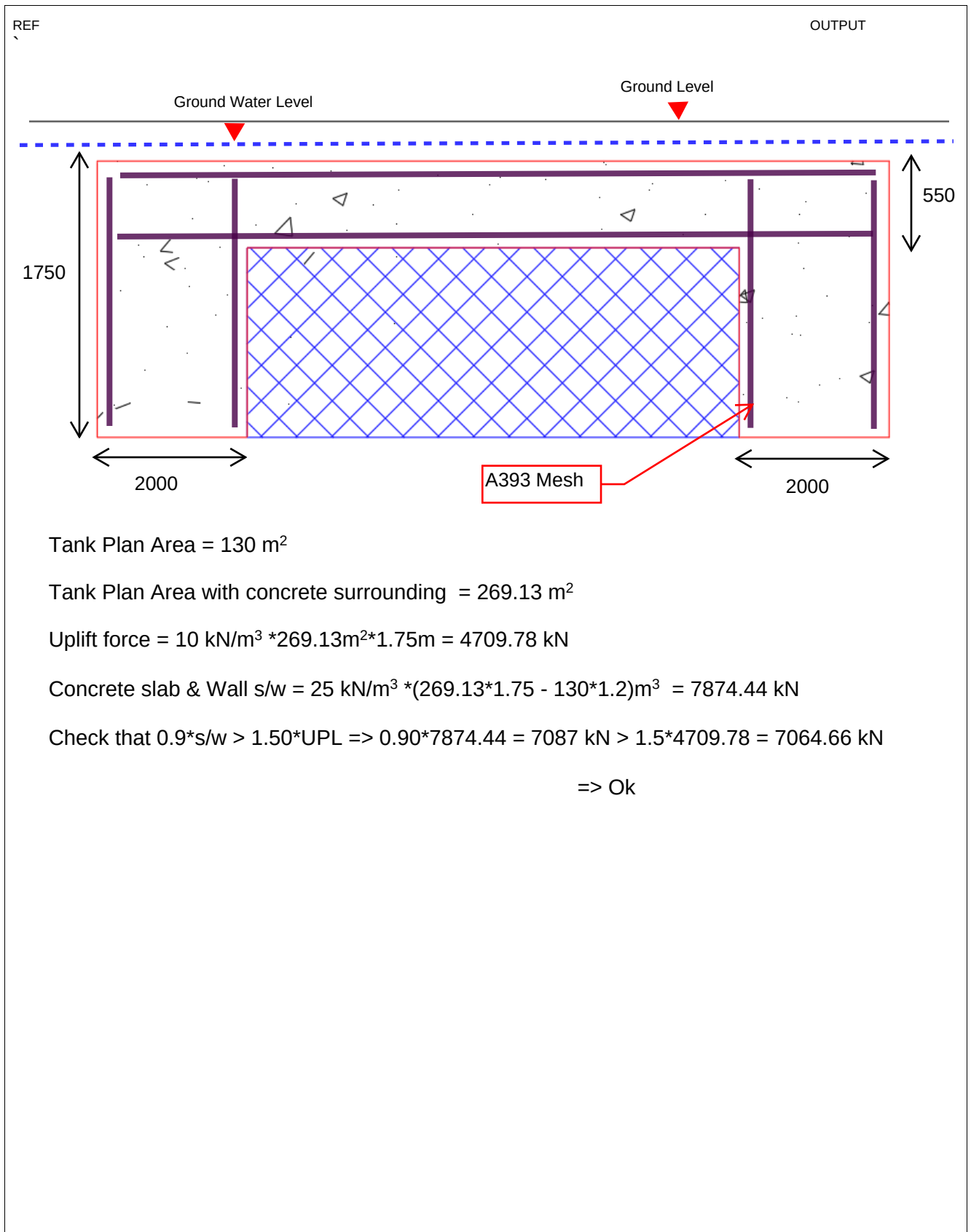
Increase Base Slab Depth to 900mm

Uplift force = 10 kN/m³ * 4.155m² * 2.00m = 83.1kN

Concrete Slab & Wall s/w = 25 kN/m³ * [(4.155m² * 0.900m) + [(4.155 - 2.545m²) * 1.85m]]m³ = 167.95 kN

Check that 0.9*s/w > 1.50*UPL => 0.90*167.95 = 151.16 kN > 1.5*83.1 = 124.65 kN => **OK**

Project New Barn Lane				Status	
Date 10/2020	By PR	Job no. 70061643	Section	Sheet no.	Rev
Rev	Date	Details			
Part Flotation - Tank Option 1					



Project New Barn Lane				Status	
Date By Checked	10/2020 PR	Job no. 70061643	Section	Sheet no.	Rev
Rev	Date	Details			
Part Flotation - Tank Option 2					

