FORT	Project Cable Bound Bolt Replacement Part of structure H ROAD BRIDGE Main Cable	Job Ref Calc sheet no rev
TORT	Drawing ref Calc by Date	Check by Date
Ref	Calculations (5/4) 10/03/12	Output
	Panel Point 54 NE (4 bolts) From AECOM Sheet Hanger DL = 1050 KN } z = 1430 KN LL = 380 KN Slope = 0 = 17.5487°	Note: BSALL Osed but footway loading could be reduced.
	FOS assuming 4 bolts have 800 kN tension \$ 11 = 0.3 has been calculated by AECOM as 2.23 (lowest of all) W= load due to hangers WDL only = 1050 KN W TOPAL = 1430 KN	
	FTOTAL LOADS = 1430 x 0.3015 = 431 KN	
	For only = 1050 x 0,3015 = 317 kN We know that two bolts have cracked nuts & it is likely that the tension on the remaining bolts has decreased due to relaxation (but is unknown)	This is looking at a global failure of the cable band

		Project			Job) Ref
FORT	H ROAD BRIDGE	Part of structure			Calc shee	et no rev
		Drawing ref	Calc by	Date	Check by	Date
Ref		Calculations			Ou	tput
	If one of th	e cradued n	uts can	585 a		
	bolt failure					
	load (R) He	equived in the	e remai	1179 3	Are tylende funda g	
	bolts to ph		-05 fa	lling		
	below unit					
	FO9 13 31mp	sky = MR/F				
	Setting FOS	= 1 = 03>	CR/F		The second secon	
	For the total	load case	(F _T)		er et Opera en 18. en peut	
	R = F7/0.	3 = 431/0.3	, = 143	7 KN	The state of the s	And the second s
		-79 KN per			Herman is the American	
THE SAME AND ADDRESS OF THE SA		800 KM ~		:		The second secon
		e then %				day for the second seco
		olt would 1			Action of the state of the stat	
		/800 × 100			med (it coldens to	Section of the control of the contro
	This assume	s the remainaged (clear				
				24,4,43	to obtain the street	
	For the dead				The state of the s	The state of the s
		6.3 = 1057 KA			H	Water Carlotter printer to the
		and be	চিচ্চত <i>- 3</i> 52 &ত্য	×100 %		
	= 56% to exceed	ter FOS Lum Fall below		>L ashy!		

G:\filing\A_FILES\A64_Standard_Forms\Admin\Forth Road Bridge - Calc Sheet 2011.doc

		Project			lot.	Ref	
FORT	H ROAD BRIDGE	Part of structure		and the second	Calo shee	et no	rev
		Drawing ref	Calc by	Date	Check by	Date	
Ref		Calculations			Ou	tput	
	For the dea 201 = FDL/or which 15 = 5 Therefore % ho bx 50	to fail, what required m sent the Fos load case (= 431/0.3 = 143; g kn / bolt s in tension (800-719)/800 d load case (3 = 317/0.3 = 528 kn / bolt	He reme Falling For 100 " For 1057 Km	minimum aning two below			

	.,	Project CABLE BAND BOLT REARESMENT			Job Ref Calc sheet no rev		
FORTI	I ROAD BRIDGE	Part of structure MAIN CABL					
		Drawing ref	Calc by	Date 12/03/2012	Check by	Date	
Ref		Calculations			Ou	tput	
	PANNEL POINT 2	4					
	From Accom	SMEET					
	Hancen DL =	1540 KN } &=	1920161				
	SLOPE = ANGLE	0 = 16.1402					
		6 BOLTS HAVE = 0.3 Has BI AS 2.70.			p=03(Assumo)	
		1 h)= Lopo Due T	o Mancens			
		We We	DE ONLY = 1540	KN	a and the second se		
	againte a cara transcription de la característica de la característica de la característica de la característic	WF W	101AL = 1920	וכת			
			= SN 16.1402 = 0.27799	0			
	F=Wsin0		C- 0 2 /				
		1920 x 027799					
		1520 x 0.27799 =		7)			
		OUE CRACKED A					
	TO RELAXATION,	REMAINING BOLTS (RELAXATON UNKN	pechenses wow).	Dae			
As Parcon	CALCULATE %0 CAUSE FOS & 1	OF RELAX ATTON i	N S BOLTS	10			
	Fos = MR	/F (R = laso	W BOLT)				
	Fos=1.0 = 0.	32/					
TOTAL CLAD CASE	RT = FT 0.3	= 533.74.	1779.13 4	J			
	Which is 3	155.8 ICN Pan B	304		5 Buts	Carrain :	



Drawing ref Calc by Dis Date Date Date Date Date Date Date Da	ORT	H ROAD BRIDGE	Part of structure Main Cable			Calc sheet no rev		
PANNEL POINT 24 (CONT'S) FOR DEAD COAD (ASE RDC = (472.5)/5 = 281 km Per Bout PORCENTABLE RESULTION = 800-281 x100 = 64°/0 ASSUME 4 BOLTS REMAINABLE (TOTAL COAD) RT = 1779.13 = 444.4 Per (Per Bout) PERCENTAL REDUCTION = 800-444.8 x160 = 44.4 % ASSUME 4 BOLTS REMAINING (DEAD COAD) ROL = (422.5)/4 = 352.1 Per (Per Bolt) PERCENTABLE REDUCTION = 600-352.1 x100 = 56°/6				Calc by		Check by Date		
FOR DEAD COAD (ASE RDI = (422.5)/5 = 281 km Per Boer PERCENTAGE REPORTION = 800-281 ×100 = 64% ASSUME 4 BOLTS REMAINING (TOTAL COAD) RT = 1779.13 = 444.4 Per (Per Bolt) PERCENTAGE REDULTION = 800-444.8 ×160 = 444.4 % ASSUME 4 BOLTS REMAINING (DEAD LOAD) RDL = (422.5)/4 = 352.1 Per (Per Bolt) PERCENTAGE REDULTION = 600-352.1 ×100 = 56%	Ref		Calculations			Output		
RDI = (472.5)/5 = 281 km Pen BOLT PONCENTALE RESULTION = 800-281 x100 = 64°/6 ASSUME 4 BOLTS REMAINING (TOTAL LOAD) RT = 1779.13 = 444.4 ICM (Pen BOLT) PENEUMTAL REDUCTION = 800-444.8 x160 = 44.4 % 800 ASSUME 4 BOLTS REMAINING (DEAD LOAD) RDL = (4225)/4 = 352.1 ICM (Pen BOLT) PENEUMTALE REDUCTION = 600-352.1 x100 = 56°/6		PANNEL POINT Z	4 (CONT'S)					
PERCENTALE REDUCTION = 800-281 x 100 = 64% Solis Consent ASSUME 4 BOLTS REMAINIME (TOTAL LOAD) RT = 444.4 (RN (Pan Bolt)) PERCENTAL REDUCTION = 800-444.8 x 100 = 44.4% SOO ASSUME 4 BOLTS REMAINING (DUAD LOAD) RDL = (4225)/4 = 352.1 (LN (Pen 80LT)) PERCENTALE REDUCTION = 600-352.1 x 100 = 56%		FOR DEAD LOA	O CASE					
PERCENTALE REDUCTION = 800-1521 2100 = 64 10 ASSUME 4 BOLTS REMAINING (TOTAL LOAD) RT = 1779.13 = 444.4 ICN (Pun BOLT) PERCENTAL REDUCTION = 800-444.8 × 100 = 44.4 % 800 ASSUME 4 BOLTS REMAINING (DEAD LOAD) RDL = (422.5)/4 = 352.1 ICN (PER BOLT) PERCENTALE REDUCTION = 600-352.1 × 100 = 56%		ROL = (472.5	= 281 km	o Pen Boet				
RT = 1779.13 = 444.4 ICN (Pan Bolt) PERECUTAL REDUCTION = 800-444.8 × 100 = 44.4% ASSUME 4 BOES REMAINING (DEAD LOAD) RDL = (422.5)/4 = 352.1 ICN (PEN BOLT) PERCENTALE REDUCTION = 600-352.1 × 100 = 56%		PONCONTAGE R	800-2 800	81 x 100 = 6	4%	(3 Bolis Conseibu		
PERCENTAL REDUCTION = 800-444.8 x 100 = 44.4% ASSUME 4 BOES REMAINING (DEAD LOAD) ROL = (4225)/4 = 352.1 ICN (PER BOLT) PERCENTALE REDUCTION = 600-352.1 x 100 = 56%		ASSUME 4 BOLT	IS REMAINING (T	OTAL LOAD)				
ASSUME 4 BOES REMAINING (DEAD LOAD) RDL = (4225)/4 = 352.1 ICN (PER BOLT) RENCENTALE REDURTION = 600-352.1 x100 = 56%		RT = 1779.13	= 444.8100	on Boct)				
ROL = (4225)/4 = 352.1 ICN (Pen 8017) RENCENTALE REDURTION = 600-352.1 × 100 = 56%		PERECUTAL RUDU	ETION = 800-44	14.8 x 100 = 4	4.4%			
PUNCENTALE RUDGETION = 600-352. 100 = 56%								
		ROL = (4225)	4 = 352.1 1	CN (Per BOLT				
		PUNCENTALE RUD		52.1 x100 = 5	6%			
	decide decidentes							

