

LAMPIRAN

Lampiran 1 Pengontrolan Stabilitas Bendung

Pengontrolan stabilitas bendung terhadap banjir (*flood*):

$$H = 43,680 + 5,295 = 48,975 \text{ ton}$$

$$V = 250,856 \text{ ton}$$

$$MR = 2851,977 \text{ ton.m}$$

$$MOT = 26,475 + 281,590 = 308,065 \text{ ton.m}$$

1. Overtuning

$$S.F = \frac{MR}{MOT} = \frac{2851,977}{308,065} = 9,258 > 1,5$$

$$a = \frac{\sum M}{V} = \frac{2851,977 - 308,065}{250,856} = 10,141 \text{ m}$$

$$e = \left| \frac{19,15}{2} - 10,141 \right| = 0,566 \text{ m} < \frac{19,15}{6} = 3,192 \text{ m}$$

2. Sliding

$$S.F = \frac{f \times V}{H} = \frac{0,65 \times 250,856}{48,975} = 3,329 > 1,5$$

3. Bearing Capacity

$$a = 10,141 \text{ m}$$

$$e = 0,566 \text{ m}$$

$$M_V = 250,856 \times 0,566 = 141,984 \text{ ton.m}$$

$$M_H = 26,475 + 281,59 = 308,065 \text{ ton.m}$$

$$\sigma = \frac{V}{A} \pm \frac{M}{W}$$

$$= \frac{250,856}{1 \times 19,15} \pm \frac{141,984}{\frac{1}{6} \times 1 \times (19,15)^2}$$

$$\sigma_{Maksimum} = 15,422 \text{ ton/m}^2 = 1,542 \text{ kg/m}^2$$

$$\sigma_{Minimum} = 10,776 \text{ ton/m}^2 = 1,078 \text{ kg/m}^2$$

Lampiran 2 Data Penyelidikan Tanah (Nspt)

Elevation (m)	Depth (m)	Lithology	Unit	Soil classification and/or rock description	Hardness		Consistency		Density	Core recovery			Penetration (10 cm)	Ø Casing	Water circulation			Coefficient of permeability (cm/sec.)	S.P.T (N-value)	
					soft	medium	hard	soft		medium	stiff / hard	loose			medium	dense	Length (cm)			Progress (cm)
	0.00																			
	1.90		SANDY SILT	Sandy silt, brown, containing roots, organic matter. Consists of volcanic glass, mafic minerals and feldspar					MEDIUM TO SOFT	50	50			CASING Ø 89 mm UP TO 3m				3.2 x 10 ⁻³	N = 40	
	3.00											150	150							
	3.70		WOODS	Woods, black, hard						36	36									

Lampiran 3 Peta Lokasi Bendung