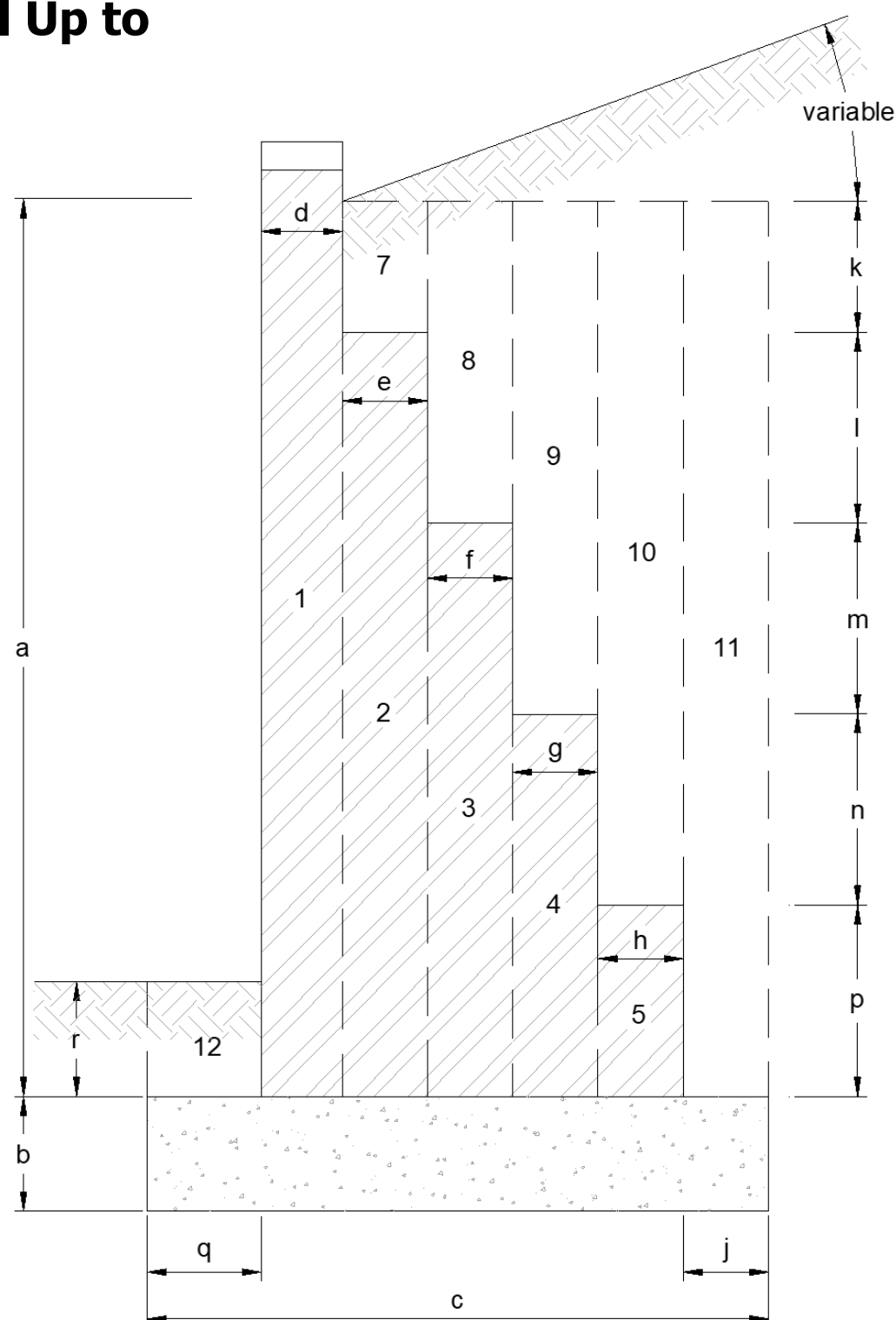


Client: Jehu Projects	Date Prepared: April 2020
Project Title: Coed Darcy, Phase 2	Prepared By: GMcE
Project No: 2432	Date Revised:
Sheet No: 1	Revision:

Surcharge	=	10.00
Parapet	=	0.75
ka	=	0.27
Soil Int. Friction	=	35
Concrete	=	24
Brick/Block	=	16
Fill	=	18
Brick/Block - Fkx	=	0.25
Mat. Str. Factor	=	3.10

a	=	1.200	m
b	=	0.300	m
c	=	1.200	m
d	=	0.215	m
e	=	0.215	m
f	=	0.215	m
g	=	0.000	m
h	=	0.000	m
j	=	0.255	m
k	=	0.300	m
l	=	0.450	m
m	=	0.450	m
n	=	0.000	m
p	=	0.000	m
q	=	0.300	m
r	=	0.300	m



1	16	x	1.200	x	0.215	=	4.128	Kn	x	0.408	=	1.682	Knm
2	16	x	0.900	x	0.215	=	3.096	Kn	x	0.6225	=	1.927	Knm
3	16	x	0.450	x	0.215	=	1.548	Kn	x	0.838	=	1.296	Knm
4	16	x	0.000	x	0.000	=	0	Kn	x	0.945	=	0.000	Knm
5	16	x	0.000	x	0.000	=	0.000	Kn	x	0.945	=	0.000	Knm
6	24	x	0.300	x	1.200	=	8.640	Kn	x	0.600	=	5.184	Knm
7	18	x	0.300	x	0.215	=	1.161	Kn	x	0.6225	=	0.723	Knm
8	18	x	0.750	x	0.215	=	2.903	Kn	x	0.838	=	2.431	Knm
9	18	x	1.200	x	0.000	=	0	Kn	x	0.945	=	0.000	Knm
10	18	x	1.200	x	0.000	=	0.000	Kn	x	0.945	=	0.000	Knm
11	18	x	1.200	x	0.255	=	5.508	Kn	x	1.0725	=	5.9073	Knm
12	18	x	0.300	x	0.300		1.62	Kn	x	0.15	=	0.243	Knm

Wall Mass = 28.604 Kn **Rest' Mom** = 19.394 Knm

Pa	0.27	x	18	x	1.50	x	0.75	=	5.468	Kn	x	0.500	=	2.734	Knm
Ps	0.27	x	10.0	x	1.50			=	4.050	Kn	x	0.750	=	3.038	Knm
ph	0.75							=	0.750	Kn	x	2.000	=	1.500	Knm

Sliding = $\overline{10.268}$ Kn **O/T Mom** = $\overline{7.271}$ Knm

Check Overturning	19.394	/	7.271	=	<u>2.667</u>	O.K
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Check Sliding (tan 35° = 0.7)	20.022	/	10.268	=	<u><u>1.950</u></u>	O.K
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Tel :- 01656 656267

Client:

Jehu Projects

Date Prepared:

April 2020

Project Title:

Coed Darcy

Prepared By:

GMcE

Project No:

2432

Date Revised:

Sheet No:

2

Revision:

Check Bearing Pressures

$$\text{Centre of Gravity} = \frac{\text{Restoring Moment}}{\text{Mass}} = \frac{19.394}{28.604} = \mathbf{0.678 \text{ m}}$$

$$\text{Distance 'X'} = \frac{\text{Disturbing Moment}}{\text{Mass}} = \frac{7.271}{28.604} = \mathbf{0.254 \text{ m}}$$

$$\mathbf{F.La} = \mathbf{7.271}$$

$$\mathbf{e} = 0.254 - 0.078 = \mathbf{0.176 \text{ m}}$$

$$\mathbf{L/6} = \mathbf{0.200 \text{ m}} \quad \mathbf{\text{Within Middle Third, O.K}}$$

Bearing Stress

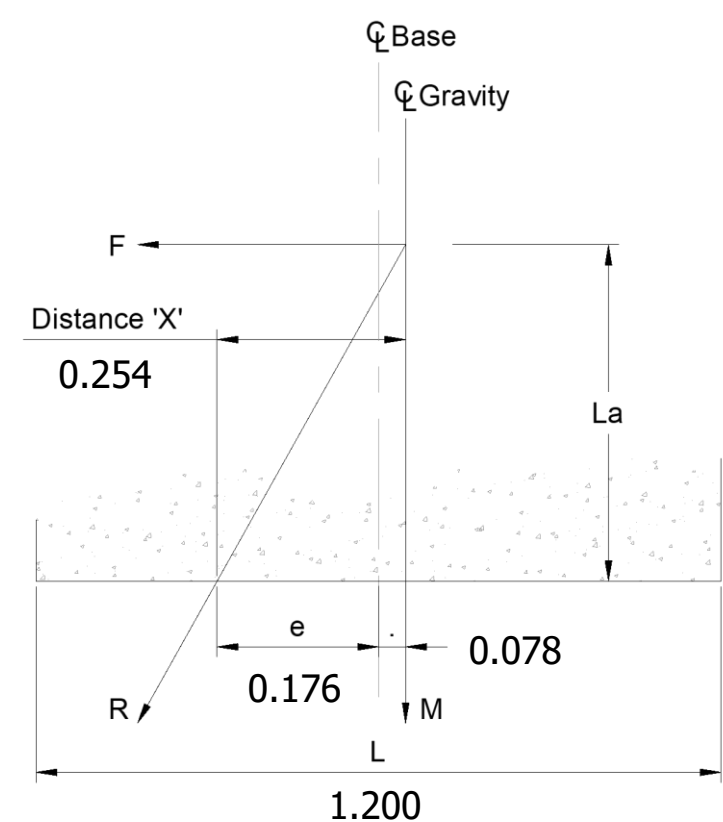
$$\mathbf{f} = \mathbf{k.F / bl}$$

$$\mathbf{k} = \mathbf{1.881 \text{ or } 0.119}$$

$$\mathbf{F} = \mathbf{28.604}$$

$$\mathbf{b . L} = \mathbf{1.200}$$

$$\text{Bearing Stress, } \mathbf{f} = \frac{\mathbf{44.835 \text{ kn/m}^2}}{\text{or } \mathbf{2.838 \text{ kn/m}^2}} \quad \begin{matrix} \mathbf{(max)} \\ \mathbf{(min)} \end{matrix}$$



Check Section at Top of Base

Distubing Forces

Pa	0.270	x	18.000	x	1.200	x	0.600	=	3.499	x	0.400	=	1.400	Kn
Ps	0.270	x	10.000	x	1.200			=	3.240	x	0.600	=	1.944	Kn
Ph	0.750							=	0.750	x	1.700	=	1.275	Kn

$$\mathbf{Horizontal \text{ Force} = 7.489} \quad \mathbf{O/T \text{ Mom} = 4.619 \text{ Knm}}$$

$$\mathbf{Applied \text{ design \text{ Moment} = 4.619 \times 1.400 = 6.466 \text{ Knm}}}$$

Moment of Resistance of Masonry section (BS5628)

$$\text{For Brickwork, } \mathbf{Fkx} = \mathbf{0.250}$$

$$\text{Quality Factor, } \mathbf{\delta m} = \mathbf{3.100}$$

$$\mathbf{Gd} = \frac{\text{Design Vertical load}}{\text{Area}} = \frac{12.836}{0.645} = \mathbf{0.020 \text{ n/mm}^2}$$

$$\text{Section Modulus} = 1000 \times 0.645 \times 0.108 = \mathbf{69.34 \times 10^6 \text{ mm}^2}$$

$$\text{Moment of Resistance} = \mathbf{6.834 \text{ Knm}} \quad \mathbf{O.K}$$