

ตารางที่ 4-1, 4-2 การวิเคราะห์และคำนวณกำลังแบกทางของดินใต้ฐานรากค้ำยัน (q<sub>u</sub>) และคำนวณน้ำหนักสูงสุด (Q<sub>u</sub>) ที่ฐานรากค้ำยันจะรับได้ทีละระยะเรียงกันต่าง ๆ

CASE 1 No. 000 00 16 - 100 100 100

DATA INPUT															CALCULATION															DATA OUTPUT			
SOIL PROPERTY					DESIGN					q'	γ	B <sub>real</sub>	L <sub>real</sub>	B'	L'	BEARING FACTOR			SHAPE FACTOR			DEPTH FACTOR			INCL. FACTOR			q' <sub>u</sub>	Q' <sub>u</sub>	q' <sub>ult(cons)</sub>	Q <sub>ult(cons)</sub>		
c	φ	γ	γ <sub>sat</sub>	γ <sub>o</sub>	D <sub>GWT</sub>	FS	Df	β	T/m <sup>2</sup>							T/m <sup>3</sup>	T/m <sup>3</sup>	m	m	m	m	N <sub>c</sub>	N <sub>q</sub>	N <sub>y</sub>	F <sub>cs</sub>	F <sub>qs</sub>	F <sub>ys</sub>					D/B	F <sub>cd</sub>
0	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	1	1	1	1	5.1	1.0	0.0	1.19	1	0.6	1	1.4	1	1	1	1	1	1	0.8	0.8	0.0	0.0
0.025	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.95	1	0.95	1	5.1	1.0	0.0	1.18	1	0.62	1	1.4	1	1	1	1	1	1	0.8	0.8	0.0	0.0
0.05	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.9	1	0.9	1	5.1	1.0	0.0	1.18	1	0.64	1	1.4	1	1	1	1	1	1	0.8	0.7	0.0	0.0
0.075	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.85	1	0.85	1	5.1	1.0	0.0	1.17	1	0.66	1	1.4	1	1	1	1	1	1	0.8	0.7	0.0	0.0
0.1	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.8	1	0.8	1	5.1	1.0	0.0	1.16	1	0.68	1	1.4	1	1	1	1	1	1	0.8	0.6	0.0	0.0
0.125	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.75	1	0.75	1	5.1	1.0	0.0	1.15	1	0.7	1	1.4	1	1	1	1	1	1	0.8	0.6	0.0	0.0
0.15	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.7	1	0.7	1	5.1	1.0	0.0	1.14	1	0.72	1	1.4	1	1	1	1	1	1	0.8	0.6	0.0	0.0
0.175	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.65	1	0.65	1	5.1	1.0	0.0	1.13	1	0.74	1	1.4	1	1	1	1	1	1	0.8	0.5	0.0	0.0
0.2	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.6	1	0.6	1	5.1	1.0	0.0	1.12	1	0.76	1	1.4	1	1	1	1	1	1	0.8	0.5	0.0	0.0
0.225	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.55	1	0.55	1	5.1	1.0	0.0	1.11	1	0.78	1	1.4	1	1	1	1	1	1	0.8	0.4	0.0	0.0

CASE 1 No. 025 00 16 - 100 100 100

DATA INPUT															CALCULATION															DATA OUTPUT				
SOIL PROPERTY					DESIGN					q'	γ	B <sub>real</sub>	L <sub>real</sub>	B'	L'	BEARING FACTOR			SHAPE FACTOR			DEPTH FACTOR			INCL. FACTOR			q' <sub>u</sub>	Q' <sub>u</sub>	q' <sub>ult(cons)</sub>	Q <sub>ult(cons)</sub>			
c	φ	γ	γ <sub>sat</sub>	γ <sub>o</sub>	D <sub>GWT</sub>	FS	Df	β	T/m <sup>2</sup>							T/m <sup>3</sup>	T/m <sup>3</sup>	m	m	m	m	N <sub>c</sub>	N <sub>q</sub>	N <sub>y</sub>	F <sub>cs</sub>	F <sub>qs</sub>	F <sub>ys</sub>					D/B	F <sub>cd</sub>	F <sub>qd</sub>
0	2.5	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	1	1	1	5.1	1.0	0.0	1.19	1	0.6	1	1.4	1	1	1	1	1	1	22.3	22.3	7.2	7.2	
0.025	2.5	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.95	1	0.95	1	5.1	1.0	0.0	1.18	1	0.62	1	1.4	1	1	1	1	1	1	22.1	21.0	7.1	6.7
0.05	2.5	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.9	1	0.9	1	5.1	1.0	0.0	1.18	1	0.64	1	1.4	1	1	1	1	1	1	21.9	19.7	7.0	6.3
0.075	2.5	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.85	1	0.85	1	5.1	1.0	0.0	1.17	1	0.66	1	1.4	1	1	1	1	1	1	21.8	18.5	7.0	5.9
0.1	2.5	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.8	1	0.8	1	5.1	1.0	0.0	1.16	1	0.68	1	1.4	1	1	1	1	1	1	21.6	17.3	6.9	5.5
0.125	2.5	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.75	1	0.75	1	5.1	1.0	0.0	1.15	1	0.7	1	1.4	1	1	1	1	1	1	21.4	16.1	6.9	5.2
0.15	2.5	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.7	1	0.7	1	5.1	1.0	0.0	1.14	1	0.72	1	1.4	1	1	1	1	1	1	21.2	14.9	6.8	4.8
0.175	2.5	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.65	1	0.65	1	5.1	1.0	0.0	1.13	1	0.74	1	1.4	1	1	1	1	1	1	21.1	13.7	6.8	4.4
0.2	2.5	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.6	1	0.6	1	5.1	1.0	0.0	1.12	1	0.76	1	1.4	1	1	1	1	1	1	20.9	12.5	6.7	4.0
0.225	2.5	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.55	1	0.55	1	5.1	1.0	0.0	1.11	1	0.78	1	1.4	1	1	1	1	1	1	20.7	11.4	6.6	3.7

ตารางที่ 4-1, 4-2 การวิเคราะห์และคำนวณกำลังแบกทานของดินใต้ฐานรากตื้น ( $q_u$ ) และคำนวณน้ำหนักสูงสุด ( $Q_u$ ) ที่ฐานรากตื้นจะรับได้ที่จะละเอียดต่าง ๆ

CASE 1 No. 050 00 16 - 100 100 100

DATA INPUT															CALCULATION															DATA OUTPUT				
SOIL PROPERTY					DESIGN					BEARING FACTOR					SHAPE FACTOR					DEPTH FACTOR					INCLI FACTOR									
$c$ T/m <sup>2</sup>	$\phi$ (deg)	$\gamma$ T/m <sup>3</sup>	$\gamma_{sat}$ T/m <sup>3</sup>	$\gamma_{so}$ T/m <sup>3</sup>	$D_{gwt}$ m	$\beta$	FS	Df m	B m	L m	$q'$ T/m <sup>2</sup>	$\gamma'$ T/m <sup>3</sup>	$B_{real}$ m	$L_{real}$ m	B' m	L' m	$N_c$	$N_q$	$N_y$	$F_{cs}$	$F_{cp}$	$F_{ys}$	D/B	$F_{cd}$	$F_{qd}$	$F_{yd}$	$F_{cd}$	$F_{qt}$	$F_{yt}$	$q'_u$ T/m <sup>2</sup>	$Q'_u$ T	$q_{ult(nee)}$ T/m <sup>2</sup>	$Q_{ult(nee)}$ T	
0	5	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	1	1	1	1	5.1	1.0	0.0	1.19	1	0.6	1	1.4	1	1	1	1	1	43.8	43.8	14.3	14.3	
0.025	5	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.95	1	0.95	1	5.1	1.0	0.0	1.18	1	0.62	1	1.4	1	1	1	1	1	43.4	41.3	14.2	13.5	
0.05	5	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.9	1	0.9	1	5.1	1.0	0.0	1.18	1	0.64	1	1.4	1	1	1	1	1	43.1	38.8	14.1	12.7	
0.075	5	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.85	1	0.85	1	5.1	1.0	0.0	1.17	1	0.66	1	1.4	1	1	1	1	1	42.7	36.3	14.0	11.9	
0.1	5	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.8	1	0.8	1	5.1	1.0	0.0	1.16	1	0.68	1	1.4	1	1	1	1	1	42.4	33.9	13.9	11.1	
0.125	5	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.75	1	0.75	1	5.1	1.0	0.0	1.15	1	0.7	1	1.4	1	1	1	1	1	42.0	31.5	13.7	10.3	
0.15	5	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.7	1	0.7	1	5.1	1.0	0.0	1.14	1	0.72	1	1.4	1	1	1	1	1	41.7	29.2	13.6	9.5	
0.175	5	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.65	1	0.65	1	5.1	1.0	0.0	1.13	1	0.74	1	1.4	1	1	1	1	1	41.3	26.9	13.5	8.8	
0.2	5	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.6	1	0.6	1	5.1	1.0	0.0	1.12	1	0.76	1	1.4	1	1	1	1	1	41.0	24.6	13.4	8.0	
0.225	5	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.55	1	0.55	1	5.1	1.0	0.0	1.11	1	0.78	1	1.4	1	1	1	1	1	40.6	22.3	13.3	7.3	

CASE 1 No. 075 00 16 - 100 100 100

DATA INPUT															CALCULATION															DATA OUTPUT				
SOIL PROPERTY					DESIGN					BEARING FACTOR					SHAPE FACTOR					DEPTH FACTOR					INCLI FACTOR									
$c$ T/m <sup>2</sup>	$\phi$ (deg)	$\gamma$ T/m <sup>3</sup>	$\gamma_{sat}$ T/m <sup>3</sup>	$\gamma_{so}$ T/m <sup>3</sup>	$D_{gwt}$ m	$\beta$	FS	Df m	B m	L m	$q'$ T/m <sup>2</sup>	$\gamma'$ T/m <sup>3</sup>	$B_{real}$ m	$L_{real}$ m	B' m	L' m	$N_c$	$N_q$	$N_y$	$F_{cs}$	$F_{cp}$	$F_{ys}$	D/B	$F_{cd}$	$F_{qd}$	$F_{yd}$	$F_{cd}$	$F_{qt}$	$F_{yt}$	$q'_u$ T/m <sup>2</sup>	$Q'_u$ T	$q_{ult(nee)}$ T/m <sup>2</sup>	$Q_{ult(nee)}$ T	
0	7.5	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	1	1	1	1	5.1	1.0	0.0	1.19	1	0.6	1	1.4	1	1	1	1	1	65.3	65.3	21.5	21.5	
0.025	7.5	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.95	1	0.95	1	5.1	1.0	0.0	1.18	1	0.62	1	1.4	1	1	1	1	1	64.7	61.5	21.3	20.2	
0.05	7.5	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.9	1	0.9	1	5.1	1.0	0.0	1.18	1	0.64	1	1.4	1	1	1	1	1	64.2	57.8	21.1	19.0	
0.075	7.5	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.85	1	0.85	1	5.1	1.0	0.0	1.17	1	0.66	1	1.4	1	1	1	1	1	63.7	54.1	21.0	17.8	
0.1	7.5	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.8	1	0.8	1	5.1	1.0	0.0	1.16	1	0.68	1	1.4	1	1	1	1	1	63.2	50.5	20.8	16.6	
0.125	7.5	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.75	1	0.75	1	5.1	1.0	0.0	1.15	1	0.7	1	1.4	1	1	1	1	1	62.6	47.0	20.6	15.5	
0.15	7.5	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.7	1	0.7	1	5.1	1.0	0.0	1.14	1	0.72	1	1.4	1	1	1	1	1	62.1	43.5	20.4	14.3	
0.175	7.5	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.65	1	0.65	1	5.1	1.0	0.0	1.13	1	0.74	1	1.4	1	1	1	1	1	61.6	40.0	20.3	13.2	
0.2	7.5	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.6	1	0.6	1	5.1	1.0	0.0	1.12	1	0.76	1	1.4	1	1	1	1	1	61.1	36.6	20.1	12.1	
0.225	7.5	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.55	1	0.55	1	5.1	1.0	0.0	1.11	1	0.78	1	1.4	1	1	1	1	1	60.5	33.3	19.9	11.0	





ตารางที่ 4-3, 4-4 การวิเคราะห์และคำนวณกำลังเบกทานของดินในลักษณะดินเหนียว (q<sub>u</sub>) และคำนวณหาพื้นที่รับน้ำหนัก (Q<sub>u</sub>) ที่ฐานรากดินจะรับได้ทีละระยะเบื้องต้นต่าง ๆ

CASE 1 No. 050 28 16 - 100 100 100

DATA INPUT												CALCULATION												DATA OUTPUT									
SOIL PROPERTY						DESIGN						q'	γ	B <sub>real</sub>	L <sub>real</sub>	B'	L'	BEARING FACTOR			SHAPE FACTOR			DEPTH FACTOR			INCL. FACTOR			q' <sub>u</sub>	Q' <sub>u</sub>	q <sub>ult(foot)</sub>	T
c	φ	γ	γ <sub>sat</sub>	γ <sub>o</sub>	D <sub>ewrt</sub>	FS	β	Df	B	L	N <sub>c</sub>							N <sub>q</sub>	N <sub>y</sub>	F <sub>cs</sub>	F <sub>qs</sub>	F <sub>ys</sub>	D/B	F <sub>cd</sub>	F <sub>qd</sub>	F <sub>yd</sub>	F <sub>cd</sub>	F <sub>qd</sub>	F <sub>yd</sub>				
0	5	28	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	1	1	1	1	1.4	1.3	1	1	1	1	1	1	1	1	311.1	311.1	103.4	103.4		
0.025	5	28	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.95	1	0.95	1	1.4	1.3	1	1	1	1	1	1	1	1	305.5	290.2	101.6	96.5		
0.05	5	28	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.9	1	0.9	1	1.4	1.3	1	1	1	1	1	1	1	1	299.8	269.8	99.7	89.7		
0.075	5	28	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.85	1	0.85	1	1.4	1.3	1	1	1	1	1	1	1	1	294.2	250.0	97.8	83.1		
0.1	5	28	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.8	1	0.8	1	1.4	1.3	1	1	1	1	1	1	1	1	288.5	230.8	95.9	76.7		
0.125	5	28	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.75	1	0.75	1	1.4	1.3	1	1	1	1	1	1	1	1	282.8	212.1	94.0	70.5		
0.15	5	28	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.7	1	0.7	1	1.4	1.3	1	1	1	1	1	1	1	1	277.1	194.0	92.1	64.5		
0.175	5	28	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.65	1	0.65	1	1.4	1.3	1	1	1	1	1	1	1	1	271.4	176.4	90.2	58.6		
0.2	5	28	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.6	1	0.6	1	1.4	1.3	1	1	1	1	1	1	1	1	265.7	159.4	88.3	53.0		
0.225	5	28	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.55	1	0.55	1	1.4	1.3	1	1	1	1	1	1	1	1	259.9	143.0	86.4	47.5		

CASE 1 No. 075 28 16 - 100 100 100

DATA INPUT												CALCULATION												DATA OUTPUT									
SOIL PROPERTY						DESIGN						q'	γ	B <sub>real</sub>	L <sub>real</sub>	B'	L'	BEARING FACTOR			SHAPE FACTOR			DEPTH FACTOR			INCL. FACTOR			q' <sub>u</sub>	Q' <sub>u</sub>	q <sub>ult(foot)</sub>	T
c	φ	γ	γ <sub>sat</sub>	γ <sub>o</sub>	D <sub>ewrt</sub>	FS	β	Df	B	L	N <sub>c</sub>							N <sub>q</sub>	N <sub>y</sub>	F <sub>cs</sub>	F <sub>qs</sub>	F <sub>ys</sub>	D/B	F <sub>cd</sub>	F <sub>qd</sub>	F <sub>yd</sub>	F <sub>cd</sub>	F <sub>qd</sub>	F <sub>yd</sub>				
0	7.5	28	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	1	1	1	1	1.4	1.3	1	1	1	1	1	1	1	1	452.9	452.9	150.7	150.7		
0.025	7.5	28	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.95	1	0.95	1	1.4	1.3	1	1	1	1	1	1	1	1	444.7	422.5	148.0	140.6		
0.05	7.5	28	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.9	1	0.9	1	1.4	1.3	1	1	1	1	1	1	1	1	436.5	392.9	145.2	130.7		
0.075	7.5	28	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.85	1	0.85	1	1.4	1.3	1	1	1	1	1	1	1	1	428.3	364.0	142.5	121.1		
0.1	7.5	28	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.8	1	0.8	1	1.4	1.3	1	1	1	1	1	1	1	1	420.0	336.0	139.7	111.8		
0.125	7.5	28	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.75	1	0.75	1	1.4	1.3	1	1	1	1	1	1	1	1	411.8	308.8	137.0	102.7		
0.15	7.5	28	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.7	1	0.7	1	1.4	1.3	1	1	1	1	1	1	1	1	403.5	282.4	134.2	94.0		
0.175	7.5	28	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.65	1	0.65	1	1.4	1.3	1	1	1	1	1	1	1	1	395.2	256.9	131.5	85.5		
0.2	7.5	28	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.6	1	0.6	1	1.4	1.3	1	1	1	1	1	1	1	1	386.9	232.1	128.7	77.2		
0.225	7.5	28	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.55	1	0.55	1	1.4	1.3	1	1	1	1	1	1	1	1	378.6	208.2	125.9	69.3		



ตารางที่ 4-5, 4-6 การวิเคราะห์และคำนวณกำลังแบกทานของดินได้ฐานรากตื้น ( $q_u$ ) และคำนวณน้ำหนักสูงสุด ( $Q_u$ ) ที่ฐานรากตื้นจะรับได้ทีละช่องเสียดังต่อไปนี้

CASE 1 No. 000 28 16 - 100 100 100

DATA INPUT										CALCULATION										DATA OUTPUT							
SOIL PROPERTY					DESIGN					$q'$ T/m <sup>2</sup>	BEARING FACTOR					DEPTH FACTOR					INCLI FACTOR			$q'_u$ T/m <sup>2</sup>	$Q'_u$ T	$Q_{ult(net)}$ T	
$c$ T/m <sup>2</sup>	$\phi$ (deg)	$\gamma$ T/m <sup>3</sup>	$\gamma_{sat}$ T/m <sup>3</sup>	$\gamma_{so}$ T/m <sup>3</sup>	$D_{gwt}$ m	$\beta$	FS	Df m	B m		L m	$N_c$	$N_q$	$N_y$	$F_{cs}$	$F_{qs}$	$F_{ys}$	$D/B$	$F_{ed}$	$F_{qd}$	$F_{yd}$	$F_{ci}$	$F_{qi}$				$F_{yi}$
0	0	28	1.6	1.8	1	0	0	3	1.00	1	1	1	0.8	0.8	1	1	1	1	1.4	1.3	1	1	1	1	27.4	27.4	8.9
0.025	0	28	1.6	1.8	1	0	0	3	1.00	1	1	1	0.8	0.8	0.95	1	0.95	1	1.4	1.3	1	1	1	1	27.0	25.6	8.7
0.05	0	28	1.6	1.8	1	0	0	3	1.00	1	1	1	0.8	0.8	0.9	1	0.9	1	1.4	1.3	1	1	1	1	26.5	23.8	8.6
0.075	0	28	1.6	1.8	1	0	0	3	1.00	1	1	1	0.8	0.8	0.85	1	0.85	1	1.4	1.3	1	1	1	1	26.0	22.1	8.4
0.1	0	28	1.6	1.8	1	0	0	3	1.00	1	1	1	0.8	0.8	0.8	1	0.8	1	1.4	1.3	1	1	1	1	25.4	20.4	8.2
0.125	0	28	1.6	1.8	1	0	0	3	1.00	1	1	1	0.8	0.8	0.75	1	0.75	1	1.4	1.3	1	1	1	1	24.9	18.7	8.0
0.15	0	28	1.6	1.8	1	0	0	3	1.00	1	1	1	0.8	0.8	0.7	1	0.7	1	1.4	1.3	1	1	1	1	24.4	17.1	7.9
0.175	0	28	1.6	1.8	1	0	0	3	1.00	1	1	1	0.8	0.8	0.65	1	0.65	1	1.4	1.3	1	1	1	1	23.8	15.5	7.7
0.2	0	28	1.6	1.8	1	0	0	3	1.00	1	1	1	0.8	0.8	0.6	1	0.6	1	1.4	1.3	1	1	1	1	23.2	13.9	7.5
0.225	0	28	1.6	1.8	1	0	0	3	1.00	1	1	1	0.8	0.8	0.55	1	0.55	1	1.4	1.3	1	1	1	1	22.6	12.5	7.3
0.225	0	28	1.6	1.8	1	0	0	3	1.00	1	1	1	0.8	0.8	0.55	1	0.55	1	1.4	1.3	1	1	1	1	22.6	12.5	7.3

CASE 1 No. 000 29 16 - 100 100 100

DATA INPUT										CALCULATION										DATA OUTPUT							
SOIL PROPERTY					DESIGN					$q'$ T/m <sup>2</sup>	BEARING FACTOR					DEPTH FACTOR					INCLI FACTOR			$q'_u$ T/m <sup>2</sup>	$Q'_u$ T	$Q_{ult(net)}$ T	
$c$ T/m <sup>2</sup>	$\phi$ (deg)	$\gamma$ T/m <sup>3</sup>	$\gamma_{sat}$ T/m <sup>3</sup>	$\gamma_{so}$ T/m <sup>3</sup>	$D_{gwt}$ m	$\beta$	FS	Df m	B m		L m	$N_c$	$N_q$	$N_y$	$F_{cs}$	$F_{qs}$	$F_{ys}$	$D/B$	$F_{ed}$	$F_{qd}$	$F_{yd}$	$F_{ci}$	$F_{qi}$				$F_{yi}$
0	0	29	1.6	1.8	1	0	0	3	1.00	1	1	1	0.8	0.8	1	1	1	1	1.4	1.29	1	1	1	1	31.1	31.1	10.1
0.025	0	29	1.6	1.8	1	0	0	3	1.00	1	1	1	0.8	0.8	0.95	1	0.95	1	1.4	1.29	1	1	1	1	30.5	29.0	9.9
0.05	0	29	1.6	1.8	1	0	0	3	1.00	1	1	1	0.8	0.8	0.9	1	0.9	1	1.4	1.29	1	1	1	1	30.0	27.0	9.7
0.075	0	29	1.6	1.8	1	0	0	3	1.00	1	1	1	0.8	0.8	0.85	1	0.85	1	1.4	1.29	1	1	1	1	29.4	25.0	9.5
0.1	0	29	1.6	1.8	1	0	0	3	1.00	1	1	1	0.8	0.8	0.8	1	0.8	1	1.4	1.29	1	1	1	1	28.8	23.0	9.3
0.125	0	29	1.6	1.8	1	0	0	3	1.00	1	1	1	0.8	0.8	0.75	1	0.75	1	1.4	1.29	1	1	1	1	28.2	21.1	9.1
0.15	0	29	1.6	1.8	1	0	0	3	1.00	1	1	1	0.8	0.8	0.7	1	0.7	1	1.4	1.29	1	1	1	1	27.5	19.3	8.9
0.175	0	29	1.6	1.8	1	0	0	3	1.00	1	1	1	0.8	0.8	0.65	1	0.65	1	1.4	1.29	1	1	1	1	26.9	17.5	8.7
0.2	0	29	1.6	1.8	1	0	0	3	1.00	1	1	1	0.8	0.8	0.6	1	0.6	1	1.4	1.29	1	1	1	1	26.2	15.7	8.5
0.225	0	29	1.6	1.8	1	0	0	3	1.00	1	1	1	0.8	0.8	0.55	1	0.55	1	1.4	1.29	1	1	1	1	25.5	14.0	8.2
0.225	0	29	1.6	1.8	1	0	0	3	1.00	1	1	1	0.8	0.8	0.55	1	0.55	1	1.4	1.29	1	1	1	1	25.5	14.0	8.2

ตารางที่ 4-5, 4-6 การวิเคราะห์และคำนวณกำลังแบกพานของดินใต้ฐานรากตื้น ( $q_u$ ) และคำนวณน้ำหนักสูงสุด ( $Q_u$ ) ที่ฐานรากตื้นจะรับได้ทีละระยะเชิงศูนย์กลางต่าง ๆ

CASE 1 No. 000 30 16 - 100 100 100

DATA INPUT												CALCULATION												DATA OUTPUT											
SOIL PROPERTY												BEARING FACTOR												SHAPE FACTOR				DEPTH FACTOR				INCL. FACTOR			
$e_R$ m	c T/m <sup>2</sup>	$\phi$ (deg)	$\gamma$ T/m <sup>3</sup>	$\gamma_{sat}$ T/m <sup>3</sup>	$\gamma_{\omega}$ T/m <sup>3</sup>	$D_{gwr}$ m	$\beta$	FS	Df m	B m	L m	$q'$ T/m <sup>2</sup>	$\gamma$	$B_{real}$ m	$L_{real}$ m	B'	L'	$N_c$	$N_q$	$N_y$	$F_{cs}$	$F_{qs}$	$F_{ys}$	D/B	$F_{ed}$	$F_{qd}$	$F_{yd}$	$F_{ci}$	$F_{qi}$	$F_{yi}$	$q'_u$ T/m <sup>2</sup>	$Q'_u$ T	$q_{ult(cent)}$ T/m <sup>2</sup>	$Q_{ult(cent)}$ T	
																																			T/m <sup>2</sup>
0	0	30	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	1	1	1	1	30.1	18.4	22.4	1.61	1.58	0.6	1	1.4	1.29	1	1	1	1	1	35.3	35.3	11.5	11.5
0.025	0	30	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.95	1	0.95	1	30.1	18.4	22.4	1.58	1.55	0.62	1	1.4	1.29	1	1	1	1	1	34.7	32.9	11.3	10.7
0.05	0	30	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.9	1	0.9	1	30.1	18.4	22.4	1.55	1.52	0.64	1	1.4	1.29	1	1	1	1	1	34.0	30.6	11.1	10.0
0.075	0	30	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.85	1	0.85	1	30.1	18.4	22.4	1.52	1.49	0.66	1	1.4	1.29	1	1	1	1	1	33.3	28.3	10.8	9.2
0.1	0	30	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.8	1	0.8	1	30.1	18.4	22.4	1.49	1.46	0.68	1	1.4	1.29	1	1	1	1	1	32.6	26.1	10.6	8.5
0.125	0	30	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.75	1	0.75	1	30.1	18.4	22.4	1.46	1.43	0.7	1	1.4	1.29	1	1	1	1	1	31.9	23.9	10.4	7.8
0.15	0	30	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.7	1	0.7	1	30.1	18.4	22.4	1.43	1.4	0.72	1	1.4	1.29	1	1	1	1	1	31.2	21.8	10.1	7.1
0.175	0	30	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.65	1	0.65	1	30.1	18.4	22.4	1.4	1.38	0.74	1	1.4	1.29	1	1	1	1	1	30.4	19.8	9.9	6.4
0.2	0	30	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.6	1	0.6	1	30.1	18.4	22.4	1.37	1.35	0.76	1	1.4	1.29	1	1	1	1	1	29.6	17.8	9.6	5.8
0.225	0	30	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.55	1	0.55	1	30.1	18.4	22.4	1.34	1.32	0.78	1	1.4	1.29	1	1	1	1	1	28.8	15.9	9.3	5.1

CASE 1 No. 000 31 16 - 100 100 100

DATA INPUT												CALCULATION												DATA OUTPUT											
SOIL PROPERTY												BEARING FACTOR												SHAPE FACTOR				DEPTH FACTOR				INCL. FACTOR			
$e_R$ m	c T/m <sup>2</sup>	$\phi$ (deg)	$\gamma$ T/m <sup>3</sup>	$\gamma_{sat}$ T/m <sup>3</sup>	$\gamma_{\omega}$ T/m <sup>3</sup>	$D_{gwr}$ m	$\beta$	FS	Df m	B m	L m	$q'$ T/m <sup>2</sup>	$\gamma$	$B_{real}$ m	$L_{real}$ m	B'	L'	$N_c$	$N_q$	$N_y$	$F_{cs}$	$F_{qs}$	$F_{ys}$	D/B	$F_{ed}$	$F_{qd}$	$F_{yd}$	$F_{ci}$	$F_{qi}$	$F_{yi}$	$q'_u$ T/m <sup>2</sup>	$Q'_u$ T	$q_{ult(cent)}$ T/m <sup>2</sup>	$Q_{ult(cent)}$ T	
																																			T/m <sup>2</sup>
0	0	31	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	1	1	1	1	32.7	20.6	26.0	1.63	1.6	0.6	1	1.4	1.28	1	1	1	1	1	40.1	40.1	13.1	13.1
0.025	0	31	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.95	1	0.95	1	32.7	20.6	26.0	1.6	1.57	0.62	1	1.4	1.28	1	1	1	1	1	39.4	37.4	12.9	12.2
0.05	0	31	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.9	1	0.9	1	32.7	20.6	26.0	1.57	1.54	0.64	1	1.4	1.28	1	1	1	1	1	38.6	34.7	12.6	11.3
0.075	0	31	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.85	1	0.85	1	32.7	20.6	26.0	1.54	1.51	0.66	1	1.4	1.28	1	1	1	1	1	37.8	32.1	12.3	10.5
0.1	0	31	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.8	1	0.8	1	32.7	20.6	26.0	1.51	1.48	0.68	1	1.4	1.28	1	1	1	1	1	37.0	29.6	12.1	9.7
0.125	0	31	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.75	1	0.75	1	32.7	20.6	26.0	1.47	1.45	0.7	1	1.4	1.28	1	1	1	1	1	36.2	27.1	11.8	8.8
0.15	0	31	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.7	1	0.7	1	32.7	20.6	26.0	1.44	1.42	0.72	1	1.4	1.28	1	1	1	1	1	35.3	24.7	11.5	8.1
0.175	0	31	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.65	1	0.65	1	32.7	20.6	26.0	1.41	1.39	0.74	1	1.4	1.28	1	1	1	1	1	34.4	22.4	11.2	7.3
0.2	0	31	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.6	1	0.6	1	32.7	20.6	26.0	1.38	1.36	0.76	1	1.4	1.28	1	1	1	1	1	33.5	20.1	10.9	6.5
0.225	0	31	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.55	1	0.55	1	32.7	20.6	26.0	1.35	1.33	0.78	1	1.4	1.28	1	1	1	1	1	32.6	17.9	10.6	5.8



ตารางที่ 4-5, 4-6 การวิเคราะห์และคำนวณกำลังแบกทานของดินใต้ฐานรากดินเหนียว (q<sub>u</sub>) และคำนวณน้ำหนักสูงสุด (Q<sub>u</sub>) ที่ฐานรากดินเหนียวได้ที่ระยะระยะของศูนย์กลาง

CASE 1 No. 000 32 16 - 100 100 100

DATA INPUT															CALCULATION															DATA OUTPUT				
SOIL PROPERTY															BEARING FACTOR															INCLI FACTOR				
e <sub>B</sub> m	c T/m2	φ (deg)	γ T/m3	γ <sub>sat</sub> T/m3	γ <sub>co</sub> T/m3	D <sub>swrt</sub> m	β	FS	Df m	B m	L m	q' T/m2	γ' T/m3	B <sub>real</sub> m	L <sub>real</sub> m	B'	L'	N <sub>c</sub>	N <sub>q</sub>	N <sub>y</sub>	F <sub>cs</sub>	F <sub>cp</sub>	F <sub>ys</sub>	D/B	F <sub>ed</sub>	F <sub>qd</sub>	F <sub>yd</sub>	F <sub>cd</sub>	F <sub>qi</sub>	F <sub>yi</sub>	q' <sub>u</sub> T/m2	Q' <sub>u</sub> T	q <sub>ult(net)</sub> T/m2	C <sub>ult(net)</sub> T
0	0	32	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	1	1	1	1	35.5	23.2	30.2	1.65	1.62	0.6	1	1.4	1.28	1	1	1	1	45.7	45.7	15.0	15.0
0.025	0	32	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.95	1	0.95	1	35.5	23.2	30.2	1.62	1.59	0.62	1	1.4	1.28	1	1	1	1	44.8	42.6	14.7	13.9
0.05	0	32	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.9	1	0.9	1	35.5	23.2	30.2	1.59	1.56	0.64	1	1.4	1.28	1	1	1	1	43.9	39.5	14.4	12.9
0.075	0	32	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.85	1	0.85	1	35.5	23.2	30.2	1.56	1.53	0.66	1	1.4	1.28	1	1	1	1	43.0	36.6	14.1	12.0
0.1	0	32	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.8	1	0.8	1	35.5	23.2	30.2	1.52	1.5	0.68	1	1.4	1.28	1	1	1	1	42.1	33.7	13.8	11.0
0.125	0	32	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.75	1	0.75	1	35.5	23.2	30.2	1.49	1.47	0.7	1	1.4	1.28	1	1	1	1	41.1	30.8	13.4	10.1
0.15	0	32	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.7	1	0.7	1	35.5	23.2	30.2	1.46	1.44	0.72	1	1.4	1.28	1	1	1	1	40.1	28.1	13.1	9.2
0.175	0	32	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.65	1	0.65	1	35.5	23.2	30.2	1.42	1.41	0.74	1	1.4	1.28	1	1	1	1	39.1	25.4	12.8	8.3
0.2	0	32	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.6	1	0.6	1	35.5	23.2	30.2	1.39	1.37	0.76	1	1.4	1.28	1	1	1	1	38.0	22.8	12.4	7.4
0.225	0	32	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.55	1	0.55	1	35.5	23.2	30.2	1.36	1.34	0.78	1	1.4	1.28	1	1	1	1	37.0	20.3	12.1	6.6

ตารางที่ 4-7, 4-8 การวิเคราะห์และคำนวณกำลังแบกพานของดินใต้ฐานรากตื้น ( $q_u$ ) และค่าต้านทานสูงสุด ( $Q_u$ ) ที่ฐานรากตื้นจะรับได้ทีละระยะเบื้องต้นต่างๆ

CASE 1 No. 100 28 16 - 100 100 100

DATA INPUT															CALCULATION															DATA OUTPUT					
SOIL PROPERTY					DESIGN					$q'$	$\gamma$	$B_{real}$	$L_{real}$	$B'$	$L'$	BEARING FACTOR				SHAPE FACTOR				DEPTH FACTOR				INCLI FACTOR				$q'_u$	$Q'_u$	$q_{ult(net)}$	$Q_{ult(net)}$
$e_R$	$c$	$\phi$	$\gamma$	$\gamma_{sat}$	$\gamma_w$	$D_{over}$	$\beta$	FS	Df							B	L	$N_c$	$N_q$	$N_y$	$F_{cs}$	$F_{qs}$	$F_{ys}$	$D/B$	$F_{ed}$	$F_{qd}$	$F_{yd}$	$F_{ci}$	$F_{qi}$	$F_{yi}$	$T/m^2$				
0	10	28	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	1	1	25.8	14.7	16.7	1.57	1.53	0.6	1	1.4	1.3	1	1	1	1	594.8	594.8	198.0	198.0			
0.025	10	28	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.95	1	25.8	14.7	16.7	1.54	1.51	0.62	1	1.4	1.3	1	1	1	1	584.0	554.8	194.4	184.7			
0.05	10	28	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.9	1	25.8	14.7	16.7	1.51	1.48	0.64	1	1.4	1.3	1	1	1	1	573.2	515.9	190.8	171.7			
0.075	10	28	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.85	1	25.8	14.7	16.7	1.48	1.45	0.66	1	1.4	1.3	1	1	1	1	562.4	478.0	187.2	159.1			
0.1	10	28	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.8	1	25.8	14.7	16.7	1.46	1.43	0.68	1	1.4	1.3	1	1	1	1	551.6	441.2	183.6	146.9			
0.125	10	28	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.75	1	25.8	14.7	16.7	1.43	1.4	0.7	1	1.4	1.3	1	1	1	1	540.7	405.5	180.0	135.0			
0.15	10	28	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.7	1	25.8	14.7	16.7	1.4	1.37	0.72	1	1.4	1.3	1	1	1	1	529.9	370.9	176.4	123.4			
0.175	10	28	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.65	1	25.8	14.7	16.7	1.37	1.35	0.74	1	1.4	1.3	1	1	1	1	519.0	337.4	172.7	112.3			
0.2	10	28	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.6	1	25.8	14.7	16.7	1.34	1.32	0.76	1	1.4	1.3	1	1	1	1	508.1	304.9	169.1	101.5			
0.225	10	28	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.55	1	25.8	14.7	16.7	1.31	1.29	0.78	1	1.4	1.3	1	1	1	1	497.2	273.5	165.5	91.0			

CASE 1 No. 100 29 16 - 100 100 100

DATA INPUT															CALCULATION															DATA OUTPUT					
SOIL PROPERTY					DESIGN					$q'$	$\gamma$	$B_{real}$	$L_{real}$	$B'$	$L'$	BEARING FACTOR				SHAPE FACTOR				DEPTH FACTOR				INCLI FACTOR				$q'_u$	$Q'_u$	$q_{ult(net)}$	$Q_{ult(net)}$
$e_R$	$c$	$\phi$	$\gamma$	$\gamma_{sat}$	$\gamma_w$	$D_{over}$	$\beta$	FS	Df							B	L	$N_c$	$N_q$	$N_y$	$F_{cs}$	$F_{qs}$	$F_{ys}$	$D/B$	$F_{ed}$	$F_{qd}$	$F_{yd}$	$F_{ci}$	$F_{qi}$	$F_{yi}$	$T/m^2$				
0	10	29	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	1	1	27.9	16.4	19.3	1.59	1.55	0.6	1	1.4	1.29	1	1	1	1	651.4	651.4	216.9	216.9			
0.025	10	29	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.95	1	27.9	16.4	19.3	1.56	1.53	0.62	1	1.4	1.29	1	1	1	1	639.3	607.3	212.8	202.2			
0.05	10	29	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.9	1	27.9	16.4	19.3	1.53	1.5	0.64	1	1.4	1.29	1	1	1	1	627.2	564.5	208.8	187.9			
0.075	10	29	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.85	1	27.9	16.4	19.3	1.5	1.47	0.66	1	1.4	1.29	1	1	1	1	615.1	522.8	204.8	174.1			
0.1	10	29	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.8	1	27.9	16.4	19.3	1.47	1.44	0.68	1	1.4	1.29	1	1	1	1	603.0	482.4	200.7	160.6			
0.125	10	29	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.75	1	27.9	16.4	19.3	1.44	1.42	0.7	1	1.4	1.29	1	1	1	1	590.9	443.1	196.7	147.5			
0.15	10	29	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.7	1	27.9	16.4	19.3	1.41	1.39	0.72	1	1.4	1.29	1	1	1	1	578.7	405.1	192.6	134.8			
0.175	10	29	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.65	1	27.9	16.4	19.3	1.38	1.36	0.74	1	1.4	1.29	1	1	1	1	566.6	368.3	188.6	122.6			
0.2	10	29	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.6	1	27.9	16.4	19.3	1.35	1.33	0.76	1	1.4	1.29	1	1	1	1	554.4	332.6	184.5	110.7			
0.225	10	29	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.55	1	27.9	16.4	19.3	1.32	1.3	0.78	1	1.4	1.29	1	1	1	1	542.2	298.2	180.5	99.3			

ตารางที่ 4-7, 4-8 การวิเคราะห์และคำนวณกำลังแบกทานของดินใต้ฐานรากดิน ( $q_u$ ) และคำนวณน้ำหนักสูงสุด ( $Q_u$ ) ที่ฐานรากดินจะรับได้ทีละระยะเบื้องต้นต่างๆ

CASE 1 No. 100 30 16 - 100 100 100

DATA INPUT															CALCULATION															DATA OUTPUT			
SOIL PROPERTY					DESIGN					$q'$	$\gamma$	$B_{real}$	$L_{real}$	$B'$	$L'$	BEARING FACTOR				SHAPE FACTOR				DEPTH FACTOR				INCLI FACTOR			$q'_u$	$Q'_u$	$Q_{ult(est)}$
$c$	$\phi$	$\gamma$	$\gamma_{sat}$	$\gamma_o$	$D_{gwr}$	$\beta$	FS	Df	B							L	$N_c$	$N_q$	$N_y$	$F_{cs}$	$F_{qs}$	$F_{ys}$	D/B	$F_{cd}$	$F_{qd}$	$F_{yd}$	$F_{ci}$	$F_{qi}$	$F_{yi}$	$T/m^2$			
0	10	30	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	1	1	30.1	18.4	22.4	1.61	1.58	0.6	1	1.4	1.29	1	1	1	1	714.9	714.9	238.0	238.0	
0.025	10	30	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.95	1	30.1	18.4	22.4	1.58	1.55	0.62	1	1.4	1.29	1	1	1	1	701.3	666.3	235.5	221.8	
0.05	10	30	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.9	1	30.1	18.4	22.4	1.55	1.52	0.64	1	1.4	1.29	1	1	1	1	687.8	619.0	229.0	206.1	
0.075	10	30	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.85	1	30.1	18.4	22.4	1.52	1.49	0.66	1	1.4	1.29	1	1	1	1	674.2	573.1	224.5	190.8	
0.1	10	30	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.8	1	30.1	18.4	22.4	1.49	1.46	0.68	1	1.4	1.29	1	1	1	1	660.7	528.5	220.0	176.0	
0.125	10	30	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.75	1	30.1	18.4	22.4	1.46	1.43	0.7	1	1.4	1.29	1	1	1	1	647.1	485.3	215.4	161.6	
0.15	10	30	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.7	1	30.1	18.4	22.4	1.43	1.4	0.72	1	1.4	1.29	1	1	1	1	633.4	443.4	210.9	147.6	
0.175	10	30	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.65	1	30.1	18.4	22.4	1.4	1.38	0.74	1	1.4	1.29	1	1	1	1	619.8	402.9	206.3	134.1	
0.2	10	30	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.6	1	30.1	18.4	22.4	1.37	1.35	0.76	1	1.4	1.29	1	1	1	1	606.2	363.7	201.8	121.1	
0.225	10	30	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.55	1	30.1	18.4	22.4	1.34	1.32	0.78	1	1.4	1.29	1	1	1	1	592.5	325.9	197.2	108.5	

CASE 1 No. 100 31 16 - 100 100 100

DATA INPUT															CALCULATION															DATA OUTPUT			
SOIL PROPERTY					DESIGN					$q'$	$\gamma$	$B_{real}$	$L_{real}$	$B'$	$L'$	BEARING FACTOR				SHAPE FACTOR				DEPTH FACTOR				INCLI FACTOR			$q'_u$	$Q'_u$	$Q_{ult(est)}$
$c$	$\phi$	$\gamma$	$\gamma_{sat}$	$\gamma_o$	$D_{gwr}$	$\beta$	FS	Df	B							L	$N_c$	$N_q$	$N_y$	$F_{cs}$	$F_{qs}$	$F_{ys}$	D/B	$F_{cd}$	$F_{qd}$	$F_{yd}$	$F_{ci}$	$F_{qi}$	$F_{yi}$	$T/m^2$			
0	10	31	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	1	1	32.7	20.6	26.0	1.63	1.6	0.6	1	1.4	1.28	1	1	1	1	786.4	786.4	261.9	261.9	
0.025	10	31	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.95	1	32.7	20.6	26.0	1.6	1.57	0.62	1	1.4	1.28	1	1	1	1	771.2	732.6	256.8	243.9	
0.05	10	31	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.9	1	32.7	20.6	26.0	1.57	1.54	0.64	1	1.4	1.28	1	1	1	1	756.0	680.4	251.7	226.5	
0.075	10	31	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.85	1	32.7	20.6	26.0	1.54	1.51	0.66	1	1.4	1.28	1	1	1	1	740.7	629.6	246.6	209.6	
0.1	10	31	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.8	1	32.7	20.6	26.0	1.51	1.48	0.68	1	1.4	1.28	1	1	1	1	725.5	580.4	241.6	193.2	
0.125	10	31	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.75	1	32.7	20.6	26.0	1.47	1.45	0.7	1	1.4	1.28	1	1	1	1	710.2	532.6	236.5	177.3	
0.15	10	31	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.7	1	32.7	20.6	26.0	1.44	1.42	0.72	1	1.4	1.28	1	1	1	1	694.9	486.4	231.4	162.0	
0.175	10	31	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.65	1	32.7	20.6	26.0	1.41	1.39	0.74	1	1.4	1.28	1	1	1	1	679.6	441.7	226.3	147.1	
0.2	10	31	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.6	1	32.7	20.6	26.0	1.38	1.36	0.76	1	1.4	1.28	1	1	1	1	664.2	398.5	221.1	132.7	
0.225	10	31	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.55	1	32.7	20.6	26.0	1.35	1.33	0.78	1	1.4	1.28	1	1	1	1	648.9	356.9	216.0	118.8	

ตารางที่ 4-7, 4-8 การวิเคราะห์และคำนวณกำลังแบกทานของดิน ใต้ฐานรากตื้น ( $q_u$ ) และคำนวณน้ำหนักสูงสุด ( $Q_u$ ) ที่ฐานรากตื้นจะรับได้ทีละระยะเชิงศูนย์กลาง ๆ  
 CASE 1 No. 100 32 16 - 100 100 100

DATA INPUT														CALCULATION														DATA OUTPUT								
SOIL PROPERTY														BEARING FACTOR														SHAPE FACTOR			DEPTH FACTOR			INCLI FACTOR		
$e_R$	$c$ T/m <sup>2</sup>	$\phi$	$\gamma$ T/m <sup>3</sup>	$\gamma_{sat}$ T/m <sup>3</sup>	$\gamma_w$ T/m <sup>3</sup>	$D_{owt}$ m	$\beta$	FS	Df	B	L	$q'$ T/m <sup>2</sup>	$\gamma$	$B_{trial}$ m	$L_{trial}$ m	$B'$	$L'$	$N_q$	$N_y$	$F_{ca}$	$F_{qs}$	$F_{ys}$	$D/B$	$F_{cd}$	$F_{qd}$	$F_{qd}$	$F_{cd}$	$F_{ys}$	$q'_u$ T/m <sup>2</sup>	$Q'_u$ T	$Q_{ult(net)}$ T/m <sup>2</sup>					
																																$N_c$	$N_c$	$F_{ca}$	$F_{qs}$	$F_{ys}$
0	10	32	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	1	1	1	1	35.5	23.2	30.2	1.65	1.62	0.6	1	1.4	1.28	1	1	1	1	867.0	867.0	288.7	288.7		
0.025	10	32	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.95	1	0.95	1	35.5	23.2	30.2	1.62	1.59	0.62	1	1.4	1.28	1	1	1	1	849.9	807.4	283.0	268.9		
0.05	10	32	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.9	1	0.9	1	35.5	23.2	30.2	1.59	1.56	0.64	1	1.4	1.28	1	1	1	1	832.8	749.5	277.3	249.6		
0.075	10	32	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.85	1	0.85	1	35.5	23.2	30.2	1.56	1.53	0.66	1	1.4	1.28	1	1	1	1	815.7	693.3	271.6	230.9		
0.1	10	32	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.8	1	0.8	1	35.5	23.2	30.2	1.52	1.5	0.68	1	1.4	1.28	1	1	1	1	798.5	638.8	265.9	212.7		
0.125	10	32	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.75	1	0.75	1	35.5	23.2	30.2	1.49	1.47	0.7	1	1.4	1.28	1	1	1	1	781.3	586.0	260.2	195.1		
0.15	10	32	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.7	1	0.7	1	35.5	23.2	30.2	1.46	1.44	0.72	1	1.4	1.28	1	1	1	1	764.1	534.9	254.4	178.1		
0.175	10	32	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.65	1	0.65	1	35.5	23.2	30.2	1.42	1.41	0.74	1	1.4	1.28	1	1	1	1	746.9	485.5	248.7	161.6		
0.2	10	32	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.6	1	0.6	1	35.5	23.2	30.2	1.39	1.37	0.76	1	1.4	1.28	1	1	1	1	729.6	437.8	242.9	145.8		
0.225	10	32	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.55	1	0.55	1	35.5	23.2	30.2	1.36	1.34	0.78	1	1.4	1.28	1	1	1	1	712.3	391.8	237.2	130.4		

ตารางที่ 4-9, 4-10 การวิเคราะห์และคำนวณกำลังแบกทางของดินใช้ฐานรากตื้น ( $q_u$ ) และคำนวณน้ำหนักสูงสุด ( $Q_u$ ) ที่ฐานรากตื้นจะรับได้ทีละระยะเมื่อฐานต่างกันต่าง ๆ

CASE I No. 000 28 16 - 100 100 100

DATA INPUT															CALCULATION															DATA OUTPUT		
SOIL PROPERTY					DESIGN					$q'$ T/m <sup>2</sup>	$\gamma$ T/m <sup>3</sup>	$B_{real}$ m	$L_{real}$ m	$B'$ m	$L'$ m	BEARING FACTOR			SHAPE FACTOR			DEPTH FACTOR			INCLI FACTOR			$q'_u$ T/m <sup>2</sup>	$Q'_u$ T	$Q_{all(net)}$ T		
$c$ T/m <sup>2</sup>	$\phi$ (deg)	$\gamma$ T/m <sup>3</sup>	$\gamma_{sat}$ T/m <sup>3</sup>	$\gamma_{\omega}$ T/m <sup>3</sup>	$D_{GWT}$ m	$\beta$	FS	Df m	B m							L m	$N_c$	$N_q$	$N_y$	$F_{cs}$	$F_{qs}$	$F_{ys}$	$D_f/B$	$F_{ed}$	$F_{qd}$	$F_{yd}$	$F_{ci}$				$F_{qi}$	$F_{yi}$
0	28	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	1	1	25.8	14.7	16.7	1.57	1.53	0.6	1	1.4	1.3	1	1	1	1	27.4	27.4	8.9	8.9	
0.025	0	28	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.95	1	25.8	14.7	16.7	1.54	1.51	0.62	1	1.4	1.3	1	1	1	1	27.0	25.6	8.7	8.3	
0.05	0	28	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.9	1	25.8	14.7	16.7	1.51	1.48	0.64	1	1.4	1.3	1	1	1	1	26.5	23.8	8.6	7.7	
0.075	0	28	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.85	1	25.8	14.7	16.7	1.48	1.45	0.66	1	1.4	1.3	1	1	1	1	26.0	22.1	8.4	7.1	
0.1	0	28	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.8	1	25.8	14.7	16.7	1.46	1.43	0.68	1	1.4	1.3	1	1	1	1	25.4	20.4	8.2	6.6	
0.125	0	28	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.75	1	25.8	14.7	16.7	1.43	1.4	0.7	1	1.4	1.3	1	1	1	1	24.9	18.7	8.0	6.0	
0.15	0	28	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.7	1	25.8	14.7	16.7	1.4	1.37	0.72	1	1.4	1.3	1	1	1	1	24.4	17.1	7.9	5.5	
0.175	0	28	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.65	1	25.8	14.7	16.7	1.37	1.35	0.74	1	1.4	1.3	1	1	1	1	23.8	15.5	7.7	5.0	
0.2	0	28	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.6	1	25.8	14.7	16.7	1.34	1.32	0.76	1	1.4	1.3	1	1	1	1	23.2	13.9	7.5	4.5	
0.225	0	28	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.55	1	25.8	14.7	16.7	1.31	1.29	0.78	1	1.4	1.3	1	1	1	1	22.6	12.5	7.3	4.0	

CASE I No. 000 28 17 - 100 100 100

DATA INPUT															CALCULATION															DATA OUTPUT		
SOIL PROPERTY					DESIGN					$q'$ T/m <sup>2</sup>	$\gamma$ T/m <sup>3</sup>	$B_{real}$ m	$L_{real}$ m	$B'$ m	$L'$ m	BEARING FACTOR			SHAPE FACTOR			DEPTH FACTOR			INCLI FACTOR			$q'_u$ T/m <sup>2</sup>	$Q'_u$ T	$Q_{all(net)}$ T		
$c$ T/m <sup>2</sup>	$\phi$ (deg)	$\gamma$ T/m <sup>3</sup>	$\gamma_{sat}$ T/m <sup>3</sup>	$\gamma_{\omega}$ T/m <sup>3</sup>	$D_{GWT}$ m	$\beta$	FS	Df m	B m							L m	$N_c$	$N_q$	$N_y$	$F_{cs}$	$F_{qs}$	$F_{ys}$	$D_f/B$	$F_{ed}$	$F_{qd}$	$F_{yd}$	$F_{ci}$				$F_{qi}$	$F_{yi}$
0	28	1.7	1.9	1	0	0	3	1.00	1	1	0.9	0.9	1	1	25.8	14.7	16.7	1.57	1.53	0.6	1	1.4	1.3	1	1	1	1	30.9	30.9	10.0	10.0	
0.025	0	28	1.7	1.9	1	0	3	1.00	1	1	0.9	0.9	0.95	1	25.8	14.7	16.7	1.54	1.51	0.62	1	1.4	1.3	1	1	1	1	30.3	28.8	9.8	9.3	
0.05	0	28	1.7	1.9	1	0	3	1.00	1	1	0.9	0.9	0.9	1	25.8	14.7	16.7	1.51	1.48	0.64	1	1.4	1.3	1	1	1	1	29.8	26.8	9.6	8.7	
0.075	0	28	1.7	1.9	1	0	3	1.00	1	1	0.9	0.9	0.85	1	25.8	14.7	16.7	1.48	1.45	0.66	1	1.4	1.3	1	1	1	1	29.2	24.8	9.4	8.0	
0.1	0	28	1.7	1.9	1	0	3	1.00	1	1	0.9	0.9	0.8	1	25.8	14.7	16.7	1.46	1.43	0.68	1	1.4	1.3	1	1	1	1	28.6	22.9	9.2	7.4	
0.125	0	28	1.7	1.9	1	0	3	1.00	1	1	0.9	0.9	0.75	1	25.8	14.7	16.7	1.43	1.4	0.7	1	1.4	1.3	1	1	1	1	28.0	21.0	9.0	6.8	
0.15	0	28	1.7	1.9	1	0	3	1.00	1	1	0.9	0.9	0.7	1	25.8	14.7	16.7	1.4	1.37	0.72	1	1.4	1.3	1	1	1	1	27.4	19.2	8.8	6.2	
0.175	0	28	1.7	1.9	1	0	3	1.00	1	1	0.9	0.9	0.65	1	25.8	14.7	16.7	1.37	1.35	0.74	1	1.4	1.3	1	1	1	1	26.8	17.4	8.6	5.6	
0.2	0	28	1.7	1.9	1	0	3	1.00	1	1	0.9	0.9	0.6	1	25.8	14.7	16.7	1.34	1.32	0.76	1	1.4	1.3	1	1	1	1	26.1	15.7	8.4	5.0	
0.225	0	28	1.7	1.9	1	0	3	1.00	1	1	0.9	0.9	0.55	1	25.8	14.7	16.7	1.31	1.29	0.78	1	1.4	1.3	1	1	1	1	25.5	14.0	8.2	4.5	

ตารางที่ 4-9, 4-10 การวิเคราะห์และคำนวณกำลังแบกทางของดินใต้ฐานรากตื้น( $q_u$ ) และคำนวณน้ำหนักสูงสุด( $Q_u$ ) ที่ฐานรากตื้นจระับใต้ระยะเชิงซ้อนต่างๆ  
 CASE 1 No. 000 28 18 - 100 100 100

DATA INPUT															CALCULATION															DATA OUTPUT			
SOIL PROPERTY					DESIGN					$q'$ T/m <sup>2</sup>	$\gamma$ T/m <sup>3</sup>	$B_{real}$ m	$L_{real}$ m	$B'$ m	$L'$ m	BEARING FACTOR				SHAPE FACTOR				DEPTH FACTOR			INCLI FACTOR			$q'_u$ T/m <sup>2</sup>	$Q'_u$ T	$q_{ult(ave)}$ T/m <sup>2</sup>	$Q_{ult(ave)}$ T
$c$ T/m <sup>2</sup>	$\phi$ (deg)	$\gamma$ T/m <sup>3</sup>	$\gamma_{sat}$ T/m <sup>3</sup>	$\gamma_{co}$ T/m <sup>3</sup>	$D_{gwt}$ m	$\beta$	FS	Df m	B m							L m	$N_c$	$N_q$	$N_y$	$F_{cs}$	$F_{cp}$	$F_{ys}$	$D_f/B$	$F_{cd}$	$F_{qd}$	$F_{yd}$	$F_{cd}$	$F_{qd}$	$F_{yd}$				
0	28	1.8	2.1	1	0	0	3	1.00	1	1	1	1	1	1	1	1	1	1.4	1.3	1	1	1	1	1	1	1	1	34.3	34.3	11.1	11.1		
0.025	0	28	1.8	2.1	1	0	3	1.00	1	1	0.95	1	0.95	1	0.95	1	0.95	1	1.4	1.3	1	1	1	1	1	1	1	33.7	32.0	10.9	10.4		
0.05	0	28	1.8	2.1	1	0	3	1.00	1	1	0.9	1	0.9	1	0.9	1	0.9	1	1.4	1.3	1	1	1	1	1	1	1	33.1	29.8	10.7	9.6		
0.075	0	28	1.8	2.1	1	0	3	1.00	1	1	0.85	1	0.85	1	0.85	1	0.85	1	1.4	1.3	1	1	1	1	1	1	1	32.5	27.6	10.5	8.9		
0.1	0	28	1.8	2.1	1	0	3	1.00	1	1	0.8	1	0.8	1	0.8	1	0.8	1	1.4	1.3	1	1	1	1	1	1	1	31.8	25.4	10.3	8.2		
0.125	0	28	1.8	2.1	1	0	3	1.00	1	1	0.75	1	0.75	1	0.75	1	0.75	1	1.4	1.3	1	1	1	1	1	1	1	31.1	23.4	10.0	7.5		
0.15	0	28	1.8	2.1	1	0	3	1.00	1	1	0.7	1	0.7	1	0.7	1	0.7	1	1.4	1.3	1	1	1	1	1	1	1	30.5	21.3	9.8	6.9		
0.175	0	28	1.8	2.1	1	0	3	1.00	1	1	0.65	1	0.65	1	0.65	1	0.65	1	1.4	1.3	1	1	1	1	1	1	1	29.8	19.3	9.6	6.2		
0.2	0	28	1.8	2.1	1	0	3	1.00	1	1	0.6	1	0.6	1	0.6	1	0.6	1	1.4	1.3	1	1	1	1	1	1	1	29.0	17.4	9.3	5.6		
0.225	0	28	1.8	2.1	1	0	3	1.00	1	1	0.55	1	0.55	1	0.55	1	0.55	1	1.4	1.3	1	1	1	1	1	1	1	28.3	15.6	9.1	5.0		

CASE 1 No. 000 28 19 - 100 100 100

DATA INPUT															CALCULATION															DATA OUTPUT			
SOIL PROPERTY					DESIGN					$q'$ T/m <sup>2</sup>	$\gamma$ T/m <sup>3</sup>	$B_{real}$ m	$L_{real}$ m	$B'$ m	$L'$ m	BEARING FACTOR				SHAPE FACTOR				DEPTH FACTOR			INCLI FACTOR			$q'_u$ T/m <sup>2</sup>	$Q'_u$ T	$q_{ult(ave)}$ T/m <sup>2</sup>	$Q_{ult(ave)}$ T
$c$ T/m <sup>2</sup>	$\phi$ (deg)	$\gamma$ T/m <sup>3</sup>	$\gamma_{sat}$ T/m <sup>3</sup>	$\gamma_{co}$ T/m <sup>3</sup>	$D_{gwt}$ m	$\beta$	FS	Df m	B m							L m	$N_c$	$N_q$	$N_y$	$F_{cs}$	$F_{cp}$	$F_{ys}$	$D_f/B$	$F_{cd}$	$F_{qd}$	$F_{yd}$	$F_{cd}$	$F_{qd}$	$F_{yd}$				
0	28	1.9	2.1	1	0	0	3	1.00	1	1	1	1	1	1	1	1	1	1.4	1.3	1	1	1	1	1	1	1	1	37.7	37.7	12.2	12.2		
0.025	0	28	1.9	2.1	1	0	3	1.00	1	1	0.95	1	0.95	1	0.95	1	0.95	1	1.4	1.3	1	1	1	1	1	1	1	37.1	35.2	12.0	11.4		
0.05	0	28	1.9	2.1	1	0	3	1.00	1	1	0.9	1	0.9	1	0.9	1	0.9	1	1.4	1.3	1	1	1	1	1	1	1	36.4	32.8	11.8	10.6		
0.075	0	28	1.9	2.1	1	0	3	1.00	1	1	0.85	1	0.85	1	0.85	1	0.85	1	1.4	1.3	1	1	1	1	1	1	1	35.7	30.3	11.5	9.8		
0.1	0	28	1.9	2.1	1	0	3	1.00	1	1	0.8	1	0.8	1	0.8	1	0.8	1	1.4	1.3	1	1	1	1	1	1	1	35.0	28.0	11.3	9.0		
0.125	0	28	1.9	2.1	1	0	3	1.00	1	1	0.75	1	0.75	1	0.75	1	0.75	1	1.4	1.3	1	1	1	1	1	1	1	34.3	25.7	11.1	8.3		
0.15	0	28	1.9	2.1	1	0	3	1.00	1	1	0.7	1	0.7	1	0.7	1	0.7	1	1.4	1.3	1	1	1	1	1	1	1	33.5	23.5	10.8	7.6		
0.175	0	28	1.9	2.1	1	0	3	1.00	1	1	0.65	1	0.65	1	0.65	1	0.65	1	1.4	1.3	1	1	1	1	1	1	1	32.7	21.3	10.5	6.9		
0.2	0	28	1.9	2.1	1	0	3	1.00	1	1	0.6	1	0.6	1	0.6	1	0.6	1	1.4	1.3	1	1	1	1	1	1	1	31.9	19.2	10.3	6.2		
0.225	0	28	1.9	2.1	1	0	3	1.00	1	1	0.55	1	0.55	1	0.55	1	0.55	1	1.4	1.3	1	1	1	1	1	1	1	31.1	17.1	10.0	5.5		

ตารางที่ 4-11, 4-12 การวิเคราะห์และคำนวณกำลังเบกทานของดินใต้ฐานรากดิน (q<sub>u</sub>) และคำนวณน้ำหนักสูงสุด (Q<sub>u</sub>) ที่ฐานรากดินจะรับได้ทีละระยะเชิงศูนย์กลางๆ

CASE I No. 000 32 16 - 100 100 100

DATA INPUT															CALCULATION															DATA OUTPUT					
SOIL PROPERTY					DESIGN					q'	γ	B <sub>real</sub>	L <sub>real</sub>	B'	L'	BEARING FACTOR				SHAPE FACTOR				DEPTH FACTOR				INCLI FACTOR				q' <sub>u</sub>	Q' <sub>u</sub>	q' <sub>ult(nee)</sub>	Q <sub>ult(nee)</sub>
c	φ	γ	γ <sub>sat</sub>	γ <sub>o</sub>	D <sub>gwrt</sub>	β	FS	Df	B							L	N <sub>c</sub>	N <sub>q</sub>	N <sub>y</sub>	F <sub>cs</sub>	F <sub>qs</sub>	F <sub>ys</sub>	D/B	F <sub>cd</sub>	F <sub>qd</sub>	F <sub>yd</sub>	F <sub>ci</sub>	F <sub>qi</sub>	F <sub>yi</sub>	F <sub>ci</sub>	F <sub>qi</sub>				
0	0	32	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	1	1	1	1	1	1.4	1.28	1	1	1	1	1	1	1	1	1	45.7	45.7	15.0	15.0			
0.025	0	32	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.95	1	0.95	1	0.95	1	1.4	1.28	1	1	1	1	1	1	1	1	44.8	42.6	14.7	13.9			
0.05	0	32	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.9	1	0.9	1	0.9	1	1.4	1.28	1	1	1	1	1	1	1	1	43.9	39.5	14.4	12.9			
0.075	0	32	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.85	1	0.85	1	0.85	1	1.4	1.28	1	1	1	1	1	1	1	1	43.0	36.6	14.1	12.0			
0.1	0	32	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.8	1	0.8	1	0.8	1	1.4	1.28	1	1	1	1	1	1	1	1	42.1	33.7	13.8	11.0			
0.125	0	32	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.75	1	0.75	1	0.75	1	1.4	1.28	1	1	1	1	1	1	1	1	41.1	30.8	13.4	10.1			
0.15	0	32	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.7	1	0.7	1	0.7	1	1.4	1.28	1	1	1	1	1	1	1	1	40.1	28.1	13.1	9.2			
0.175	0	32	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.65	1	0.65	1	0.65	1	1.4	1.28	1	1	1	1	1	1	1	1	39.1	25.4	12.8	8.3			
0.2	0	32	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.6	1	0.6	1	0.6	1	1.4	1.28	1	1	1	1	1	1	1	1	38.0	22.8	12.4	7.4			
0.225	0	32	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.55	1	0.55	1	0.55	1	1.4	1.28	1	1	1	1	1	1	1	1	37.0	20.3	12.1	6.6			

CASE I No. 000 32 17 - 100 100 100

DATA INPUT															CALCULATION															DATA OUTPUT					
SOIL PROPERTY					DESIGN					q'	γ	B <sub>real</sub>	L <sub>real</sub>	B'	L'	BEARING FACTOR				SHAPE FACTOR				DEPTH FACTOR				INCLI FACTOR				q' <sub>u</sub>	Q' <sub>u</sub>	q' <sub>ult(nee)</sub>	Q <sub>ult(nee)</sub>
c	φ	γ	γ <sub>sat</sub>	γ <sub>o</sub>	D <sub>gwrt</sub>	β	FS	Df	B							L	N <sub>c</sub>	N <sub>q</sub>	N <sub>y</sub>	F <sub>cs</sub>	F <sub>qs</sub>	F <sub>ys</sub>	D/B	F <sub>cd</sub>	F <sub>qd</sub>	F <sub>yd</sub>	F <sub>ci</sub>	F <sub>qi</sub>	F <sub>yi</sub>	F <sub>ci</sub>	F <sub>qi</sub>				
0	0	32	1.7	1.9	1	0	3	1.00	1	1	0.9	0.9	1	1	1	1	1	1.4	1.28	1	1	1	1	1	1	1	1	1	51.4	51.4	16.8	16.8			
0.025	0	32	1.7	1.9	1	0	3	1.00	1	1	0.9	0.9	0.95	1	0.95	1	0.95	1	1.4	1.28	1	1	1	1	1	1	1	1	50.4	47.9	16.5	15.7			
0.05	0	32	1.7	1.9	1	0	3	1.00	1	1	0.9	0.9	0.9	1	0.9	1	0.9	1	1.4	1.28	1	1	1	1	1	1	1	1	49.4	44.5	16.2	14.6			
0.075	0	32	1.7	1.9	1	0	3	1.00	1	1	0.9	0.9	0.85	1	0.85	1	0.85	1	1.4	1.28	1	1	1	1	1	1	1	1	48.4	41.1	15.8	13.5			
0.1	0	32	1.7	1.9	1	0	3	1.00	1	1	0.9	0.9	0.8	1	0.8	1	0.8	1	1.4	1.28	1	1	1	1	1	1	1	1	47.3	37.9	15.5	12.4			
0.125	0	32	1.7	1.9	1	0	3	1.00	1	1	0.9	0.9	0.75	1	0.75	1	0.75	1	1.4	1.28	1	1	1	1	1	1	1	1	46.2	34.7	15.1	11.3			
0.15	0	32	1.7	1.9	1	0	3	1.00	1	1	0.9	0.9	0.7	1	0.7	1	0.7	1	1.4	1.28	1	1	1	1	1	1	1	1	45.1	31.6	14.7	10.3			
0.175	0	32	1.7	1.9	1	0	3	1.00	1	1	0.9	0.9	0.65	1	0.65	1	0.65	1	1.4	1.28	1	1	1	1	1	1	1	1	44.0	28.6	14.4	9.3			
0.2	0	32	1.7	1.9	1	0	3	1.00	1	1	0.9	0.9	0.6	1	0.6	1	0.6	1	1.4	1.28	1	1	1	1	1	1	1	1	42.8	25.7	14.0	8.4			
0.225	0	32	1.7	1.9	1	0	3	1.00	1	1	0.9	0.9	0.55	1	0.55	1	0.55	1	1.4	1.28	1	1	1	1	1	1	1	1	41.6	22.9	13.6	7.5			

ตารางที่ 4-11, 4-12 การวิเคราะห์และคำนวณกำลังแบกทานของดินใต้ฐานรากที่  $(q_u)$  และคำนวณหาปัจจัยลด ( $q_u$ ) ที่ฐานรากที่รับได้ทีละระยะเบื้องต้นต่าง ๆ  
 CASE 1 No. 000 32 18 - 100 100 100

DATA INPUT															CALCULATION															DATA OUTPUT			
SOIL PROPERTY					DESIGN					$q'$	$\gamma$	$B_{total}$	$L_{total}$	$B'$	$L'$	BEARING FACTOR				SHAPE FACTOR				DEPTH FACTOR				INCLI FACTOR			$q'_u$	$Q'_u$	$Q_{ult(net)}$
$c$	$\phi$	$\gamma$	$\gamma_{sat}$	$\gamma_{so}$	$D_{gwt}$	$\beta$	FS	Df	B							L	$N_c$	$N_q$	$N_y$	$F_{cs}$	$F_{qs}$	$F_{ys}$	$D/B$	$F_{cd}$	$F_{qd}$	$F_{yd}$	$F_{ci}$	$F_{qi}$	$F_{yi}$	$F_{ci}$			
m	(deg)	T/m <sup>3</sup>	T/m <sup>3</sup>	T/m <sup>3</sup>	m		m	m	m	m																	T/m <sup>2</sup>	T	T/m <sup>2</sup>				
0	0	32	1.8	2	1	0	0	3	1.00	1	1	1	1	1	1	1	1	1.4	1.28	1	1	1	1	1	1	1	1	57.1	57.1	18.7			
0.025	0	32	1.8	2	1	0	0	3	1.00	1	1	0.95	1	0.95	1	1	1	1.4	1.28	1	1	1	1	1	1	1	1	56.0	53.2	18.3			
0.05	0	32	1.8	2	1	0	0	3	1.00	1	1	0.9	1	0.9	1	1	1	1.4	1.28	1	1	1	1	1	1	1	1	54.9	49.4	18.0			
0.075	0	32	1.8	2	1	0	0	3	1.00	1	1	0.85	1	0.85	1	1	1	1.4	1.28	1	1	1	1	1	1	1	1	53.8	45.7	17.6			
0.1	0	32	1.8	2	1	0	0	3	1.00	1	1	0.8	1	0.8	1	1	1	1.4	1.28	1	1	1	1	1	1	1	1	52.6	42.1	17.2			
0.125	0	32	1.8	2	1	0	0	3	1.00	1	1	0.75	1	0.75	1	1	1	1.4	1.28	1	1	1	1	1	1	1	1	51.4	38.5	16.8			
0.15	0	32	1.8	2	1	0	0	3	1.00	1	1	0.7	1	0.7	1	1	1	1.4	1.28	1	1	1	1	1	1	1	1	50.1	35.1	16.4			
0.175	0	32	1.8	2	1	0	0	3	1.00	1	1	0.65	1	0.65	1	1	1	1.4	1.28	1	1	1	1	1	1	1	1	48.9	31.8	16.0			
0.2	0	32	1.8	2	1	0	0	3	1.00	1	1	0.6	1	0.6	1	1	1	1.4	1.28	1	1	1	1	1	1	1	1	47.6	28.5	15.5			
0.225	0	32	1.8	2	1	0	0	3	1.00	1	1	0.55	1	0.55	1	1	1	1.4	1.28	1	1	1	1	1	1	1	1	46.2	25.4	15.1			

CASE 1 No. 000 32 19 - 100 100 100

DATA INPUT															CALCULATION															DATA OUTPUT			
SOIL PROPERTY					DESIGN					$q'$	$\gamma$	$B_{total}$	$L_{total}$	$B'$	$L'$	BEARING FACTOR				SHAPE FACTOR				DEPTH FACTOR				INCLI FACTOR			$q'_u$	$Q'_u$	$Q_{ult(net)}$
$c$	$\phi$	$\gamma$	$\gamma_{sat}$	$\gamma_{so}$	$D_{gwt}$	$\beta$	FS	Df	B							L	$N_c$	$N_q$	$N_y$	$F_{cs}$	$F_{qs}$	$F_{ys}$	$D/B$	$F_{cd}$	$F_{qd}$	$F_{yd}$	$F_{ci}$	$F_{qi}$	$F_{yi}$	$F_{ci}$			
m	(deg)	T/m <sup>3</sup>	T/m <sup>3</sup>	T/m <sup>3</sup>	m		m	m	m	m																	T/m <sup>2</sup>	T	T/m <sup>2</sup>				
0	0	32	1.9	2.1	1	0	0	3	1.00	1	1	1.1	1.1	1	1	1	1	1.4	1.28	1	1	1	1	1	1	1	1	62.8	62.8	20.6			
0.025	0	32	1.9	2.1	1	0	0	3	1.00	1	1	1.1	1.1	0.95	1	0.95	1	1.4	1.28	1	1	1	1	1	1	1	1	61.6	58.6	20.2			
0.05	0	32	1.9	2.1	1	0	0	3	1.00	1	1	1.1	1.1	0.9	1	0.9	1	1.4	1.28	1	1	1	1	1	1	1	1	60.4	54.4	19.8			
0.075	0	32	1.9	2.1	1	0	0	3	1.00	1	1	1.1	1.1	0.85	1	0.85	1	1.4	1.28	1	1	1	1	1	1	1	1	59.1	50.3	19.3			
0.1	0	32	1.9	2.1	1	0	0	3	1.00	1	1	1.1	1.1	0.8	1	0.8	1	1.4	1.28	1	1	1	1	1	1	1	1	57.8	46.3	18.9			
0.125	0	32	1.9	2.1	1	0	0	3	1.00	1	1	1.1	1.1	0.75	1	0.75	1	1.4	1.28	1	1	1	1	1	1	1	1	56.5	42.4	18.5			
0.15	0	32	1.9	2.1	1	0	0	3	1.00	1	1	1.1	1.1	0.7	1	0.7	1	1.4	1.28	1	1	1	1	1	1	1	1	55.1	38.6	18.0			
0.175	0	32	1.9	2.1	1	0	0	3	1.00	1	1	1.1	1.1	0.65	1	0.65	1	1.4	1.28	1	1	1	1	1	1	1	1	53.7	34.9	17.5			
0.2	0	32	1.9	2.1	1	0	0	3	1.00	1	1	1.1	1.1	0.6	1	0.6	1	1.4	1.28	1	1	1	1	1	1	1	1	52.3	31.4	17.1			
0.225	0	32	1.9	2.1	1	0	0	3	1.00	1	1	1.1	1.1	0.55	1	0.55	1	1.4	1.28	1	1	1	1	1	1	1	1	50.8	28.0	16.6			



ตารางที่ 4-13, 4-14 การวิเคราะห์และคำนวณกำลังเบกทานของดินใต้ฐานรากดินเหนียว (q<sub>u</sub>) และค่ากำลังเบกทานของดินเหนียว (q<sub>u</sub>) ที่ฐานรากดินเหนียวได้ทีละระยะเบื้องต้นต่าง ๆ  
 CASE 1 No. 050 00 16 - 100 100 100

DATA INPUT															CALCULATION															DATA OUTPUT		
SOIL PROPERTY					DESIGN					BEARING FACTOR					SHAPE FACTOR					DEPTH FACTOR					INCLI FACTOR			DATA OUTPUT				
c	φ	γ	γ <sub>sat</sub>	γ <sub>o</sub>	D <sub>dwnr</sub>	β	FS	D <sub>f</sub>	B	L	q'	γ	B <sub>real</sub>	L <sub>real</sub>	B'	L'	N <sub>c</sub>	N <sub>q</sub>	N <sub>y</sub>	F <sub>cs</sub>	F <sub>sp</sub>	F <sub>ys</sub>	D <sub>p</sub> /B	F <sub>ed</sub>	F <sub>gd</sub>	F <sub>yd</sub>	F <sub>cd</sub>	F <sub>qt</sub>	F <sub>yt</sub>	q' <sub>u</sub>	Q' <sub>u</sub>	Q <sub>all(net)</sub>
T/m2	(deg)	T/m3	T/m3	T/m3	m			m	m	m	T/m2	T/m3	m	m	m	m														T/m2	T	T/m2
0	5	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	1	1	1	1	5.1	1.0	0.0	1.19	1	0.6	1	1.4	1	1	1	1	1	43.8	43.8	14.3
0.025	5	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.95	1	0.95	1	5.1	1.0	0.0	1.18	1	0.62	1	1.4	1	1	1	1	1	43.4	41.3	14.2
0.05	5	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.9	1	0.9	1	5.1	1.0	0.0	1.18	1	0.64	1	1.4	1	1	1	1	1	43.1	38.8	14.1
0.075	5	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.85	1	0.85	1	5.1	1.0	0.0	1.17	1	0.66	1	1.4	1	1	1	1	1	42.7	36.3	14.0
0.1	5	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.8	1	0.8	1	5.1	1.0	0.0	1.16	1	0.68	1	1.4	1	1	1	1	1	42.4	33.9	13.9
0.125	5	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.75	1	0.75	1	5.1	1.0	0.0	1.15	1	0.7	1	1.4	1	1	1	1	1	42.0	31.5	13.7
0.15	5	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.7	1	0.7	1	5.1	1.0	0.0	1.14	1	0.72	1	1.4	1	1	1	1	1	41.7	29.2	13.6
0.175	5	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.65	1	0.65	1	5.1	1.0	0.0	1.13	1	0.74	1	1.4	1	1	1	1	1	41.3	26.9	13.5
0.2	5	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.6	1	0.6	1	5.1	1.0	0.0	1.12	1	0.76	1	1.4	1	1	1	1	1	41.0	24.6	13.4
0.225	5	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.55	1	0.55	1	5.1	1.0	0.0	1.11	1	0.78	1	1.4	1	1	1	1	1	40.6	22.3	13.3

CASE 1 No. 050 00 17 - 100 100 100

DATA INPUT															CALCULATION															DATA OUTPUT		
SOIL PROPERTY					DESIGN					BEARING FACTOR					SHAPE FACTOR					DEPTH FACTOR					INCLI FACTOR			DATA OUTPUT				
c	φ	γ	γ <sub>sat</sub>	γ <sub>o</sub>	D <sub>dwnr</sub>	β	FS	D <sub>f</sub>	B	L	q'	γ	B <sub>real</sub>	L <sub>real</sub>	B'	L'	N <sub>c</sub>	N <sub>q</sub>	N <sub>y</sub>	F <sub>cs</sub>	F <sub>sp</sub>	F <sub>ys</sub>	D <sub>p</sub> /B	F <sub>ed</sub>	F <sub>gd</sub>	F <sub>yd</sub>	F <sub>cd</sub>	F <sub>qt</sub>	F <sub>yt</sub>	q' <sub>u</sub>	Q' <sub>u</sub>	Q <sub>all(net)</sub>
T/m2	(deg)	T/m3	T/m3	T/m3	m			m	m	m	T/m2	T/m3	m	m	m	m														T/m2	T	T/m2
0	5	0	1.7	1.9	1	0	3	1.00	1	1	0.9	0.9	1	1	1	1	5.1	1.0	0.0	1.19	1	0.6	1	1.4	1	1	1	1	1	43.9	43.9	14.3
0.025	5	0	1.7	1.9	1	0	3	1.00	1	1	0.9	0.9	0.95	1	0.95	1	5.1	1.0	0.0	1.18	1	0.62	1	1.4	1	1	1	1	1	43.5	41.4	14.2
0.05	5	0	1.7	1.9	1	0	3	1.00	1	1	0.9	0.9	0.9	1	0.9	1	5.1	1.0	0.0	1.18	1	0.64	1	1.4	1	1	1	1	1	43.2	38.9	14.1
0.075	5	0	1.7	1.9	1	0	3	1.00	1	1	0.9	0.9	0.85	1	0.85	1	5.1	1.0	0.0	1.17	1	0.66	1	1.4	1	1	1	1	1	42.8	36.4	14.0
0.1	5	0	1.7	1.9	1	0	3	1.00	1	1	0.9	0.9	0.8	1	0.8	1	5.1	1.0	0.0	1.16	1	0.68	1	1.4	1	1	1	1	1	42.5	34.0	13.9
0.125	5	0	1.7	1.9	1	0	3	1.00	1	1	0.9	0.9	0.75	1	0.75	1	5.1	1.0	0.0	1.15	1	0.7	1	1.4	1	1	1	1	1	42.1	31.6	13.7
0.15	5	0	1.7	1.9	1	0	3	1.00	1	1	0.9	0.9	0.7	1	0.7	1	5.1	1.0	0.0	1.14	1	0.72	1	1.4	1	1	1	1	1	41.8	29.2	13.6
0.175	5	0	1.7	1.9	1	0	3	1.00	1	1	0.9	0.9	0.65	1	0.65	1	5.1	1.0	0.0	1.13	1	0.74	1	1.4	1	1	1	1	1	41.4	26.9	13.5
0.2	5	0	1.7	1.9	1	0	3	1.00	1	1	0.9	0.9	0.6	1	0.6	1	5.1	1.0	0.0	1.12	1	0.76	1	1.4	1	1	1	1	1	41.1	24.6	13.4
0.225	5	0	1.7	1.9	1	0	3	1.00	1	1	0.9	0.9	0.55	1	0.55	1	5.1	1.0	0.0	1.11	1	0.78	1	1.4	1	1	1	1	1	40.7	22.4	13.3



ตารางที่ 4-15, 4-16 การวิเคราะห์และคำนวณกำลังแยกทานของดินได้ฐานรากค้ำ (q<sub>u</sub>) และคำนวณน้ำหนักสูงสุด(Q<sub>ult</sub>) ที่ฐานรากค้ำจะรับได้ทีละระยะเบื้องต้นต่างๆ  
 CASE 1 No. 100 00 16 - 100 100 100

DATA INPUT															CALCULATION															DATA OUTPUT			
SOIL PROPERTY					DESIGN					q'	γ	B <sub>real</sub>	L <sub>real</sub>	B'	L'	BEARING FACTOR			SHAPE FACTOR			DEPTH FACTOR			INCL. FACTOR			q' <sub>u</sub>	Q' <sub>u</sub>	q' <sub>ult(nee)</sub>	Q <sub>ult(nee)</sub>		
c	φ	γ	γ <sub>sat</sub>	γ <sub>o</sub>	D <sub>ovrt</sub>	β	FS	Df	B							L	N <sub>c</sub>	N <sub>q</sub>	N <sub>y</sub>	F <sub>ca</sub>	F <sub>qs</sub>	F <sub>ys</sub>	D/B	F <sub>ed</sub>	F <sub>qd</sub>	F <sub>yd</sub>	F <sub>ci</sub>					F <sub>qi</sub>	F <sub>yi</sub>
0	10	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	1	1	1	5.1	1.0	0.0	1.19	1	0.6	1	1.4	1	1	1	1	86.8	86.8	28.7	28.7		
0.025	10	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.95	1	0.95	5.1	1.0	0.0	1.18	1	0.62	1	1.4	1	1	1	1	86.1	81.8	28.4	27.0		
0.05	10	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.9	1	0.9	5.1	1.0	0.0	1.18	1	0.64	1	1.4	1	1	1	1	85.4	76.8	28.2	25.4		
0.075	10	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.85	1	0.85	5.1	1.0	0.0	1.17	1	0.66	1	1.4	1	1	1	1	84.7	72.0	28.0	23.8		
0.1	10	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.8	1	0.8	5.1	1.0	0.0	1.16	1	0.68	1	1.4	1	1	1	1	84.0	67.2	27.7	22.2		
0.125	10	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.75	1	0.75	5.1	1.0	0.0	1.15	1	0.7	1	1.4	1	1	1	1	83.3	62.4	27.5	20.6		
0.15	10	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.7	1	0.7	5.1	1.0	0.0	1.14	1	0.72	1	1.4	1	1	1	1	82.6	57.8	27.3	19.1		
0.175	10	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.65	1	0.65	5.1	1.0	0.0	1.13	1	0.74	1	1.4	1	1	1	1	81.9	53.2	27.0	17.6		
0.2	10	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.6	1	0.6	5.1	1.0	0.0	1.12	1	0.76	1	1.4	1	1	1	1	81.2	48.7	26.8	16.1		
0.225	10	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.55	1	0.55	5.1	1.0	0.0	1.11	1	0.78	1	1.4	1	1	1	1	80.5	44.3	26.6	14.6		

CASE 1 No. 100 00 17 - 100 100 100

DATA INPUT															CALCULATION															DATA OUTPUT			
SOIL PROPERTY					DESIGN					q'	γ	B <sub>real</sub>	L <sub>real</sub>	B'	L'	BEARING FACTOR			SHAPE FACTOR			DEPTH FACTOR			INCL. FACTOR			q' <sub>u</sub>	Q' <sub>u</sub>	q' <sub>ult(nee)</sub>	Q <sub>ult(nee)</sub>		
c	φ	γ	γ <sub>sat</sub>	γ <sub>o</sub>	D <sub>ovrt</sub>	β	FS	Df	B							L	N <sub>c</sub>	N <sub>q</sub>	N <sub>y</sub>	F <sub>ca</sub>	F <sub>qs</sub>	F <sub>ys</sub>	D/B	F <sub>ed</sub>	F <sub>qd</sub>	F <sub>yd</sub>	F <sub>ci</sub>					F <sub>qi</sub>	F <sub>yi</sub>
0	10	0	1.7	1.9	1	0	3	1.00	1	1	0.9	0.9	1	1	1	5.1	1.0	0.0	1.19	1	0.6	1	1.4	1	1	1	1	86.9	86.9	28.7	28.7		
0.025	10	0	1.7	1.9	1	0	3	1.00	1	1	0.9	0.9	0.95	1	0.95	5.1	1.0	0.0	1.18	1	0.62	1	1.4	1	1	1	1	86.2	81.9	28.4	27.0		
0.05	10	0	1.7	1.9	1	0	3	1.00	1	1	0.9	0.9	0.9	1	0.9	5.1	1.0	0.0	1.18	1	0.64	1	1.4	1	1	1	1	85.5	76.9	28.2	25.4		
0.075	10	0	1.7	1.9	1	0	3	1.00	1	1	0.9	0.9	0.85	1	0.85	5.1	1.0	0.0	1.17	1	0.66	1	1.4	1	1	1	1	84.8	72.0	28.0	23.8		
0.1	10	0	1.7	1.9	1	0	3	1.00	1	1	0.9	0.9	0.8	1	0.8	5.1	1.0	0.0	1.16	1	0.68	1	1.4	1	1	1	1	84.1	67.2	27.7	22.2		
0.125	10	0	1.7	1.9	1	0	3	1.00	1	1	0.9	0.9	0.75	1	0.75	5.1	1.0	0.0	1.15	1	0.7	1	1.4	1	1	1	1	83.4	62.5	27.5	20.6		
0.15	10	0	1.7	1.9	1	0	3	1.00	1	1	0.9	0.9	0.7	1	0.7	5.1	1.0	0.0	1.14	1	0.72	1	1.4	1	1	1	1	82.7	57.9	27.3	19.1		
0.175	10	0	1.7	1.9	1	0	3	1.00	1	1	0.9	0.9	0.65	1	0.65	5.1	1.0	0.0	1.13	1	0.74	1	1.4	1	1	1	1	82.0	53.3	27.0	17.6		
0.2	10	0	1.7	1.9	1	0	3	1.00	1	1	0.9	0.9	0.6	1	0.6	5.1	1.0	0.0	1.12	1	0.76	1	1.4	1	1	1	1	81.3	48.8	26.8	16.1		
0.225	10	0	1.7	1.9	1	0	3	1.00	1	1	0.9	0.9	0.55	1	0.55	5.1	1.0	0.0	1.11	1	0.78	1	1.4	1	1	1	1	80.6	44.3	26.6	14.6		



ตารางที่ 4-17, 4-18 การวิเคราะห์และคำนวณกำลังแบกทางของดินใต้ฐานรากที่  $(q'_u)$  และคำนวณน้ำหนักสูงสุด  $(Q'_u)$  ที่ฐานรากที่รองรับได้ทีละระยะเบื้องต้นอย่าง ๗

CASE 1 No. 000 28 16 - 075 100 100

DATA INPUT														CALCULATION														DATA OUTPUT										
SOIL PROPERTY							DESIGN							BEARING FACTOR							SHAPE FACTOR							DEPTH FACTOR							INCLI FACTOR			
$c$ T/m2	$\phi$ (deg)	$\gamma$ T/m3	$\gamma_{sat}$ T/m3	$\gamma_o$ T/m3	$D_{dewt}$ m	$\beta$	FS	Df m	B m	L m	$q'$ T/m2	$\gamma'$ T/m3	$B_{total}$ m	$L_{total}$ m	B'	L'	$N_c$	$N_q$	$N_y$	$F_{\omega}$	$F_{\phi}$	$F_{\psi}$	D/B	$F_{cd}$	$F_{qd}$	$F_{yd}$	$F_{cd}$	$F_{qd}$	$F_{yd}$	$F_{ci}$	$F_{qi}$	$F_{yi}$	$q'_u$ T/m2	$Q'_u$ T	$q'_{all(net)}$ T/m2	$Q_{all(net)}$ T		
0	0	28	1.6	1.8	1	0	3	0.75	1	1	0.6	0.8	1	1	1	1	25.8	14.7	16.7	1.57	1.53	0.6	0.75	1.3	1.22	1	1	1	1	1	1	1	1	1	20.6	20.6	6.7	6.7
0.025	0	28	1.6	1.8	1	0	3	0.75	1	1	0.6	0.8	0.95	1	0.95	1	25.8	14.7	16.7	1.54	1.51	0.62	0.75	1.3	1.22	1	1	1	1	1	1	1	1	1	20.2	19.2	6.5	6.2
0.05	0	28	1.6	1.8	1	0	3	0.75	1	1	0.6	0.8	0.9	1	0.9	1	25.8	14.7	16.7	1.51	1.48	0.64	0.75	1.3	1.22	1	1	1	1	1	1	1	1	1	19.8	17.9	6.4	5.8
0.075	0	28	1.6	1.8	1	0	3	0.75	1	1	0.6	0.8	0.85	1	0.85	1	25.8	14.7	16.7	1.48	1.45	0.66	0.75	1.3	1.22	1	1	1	1	1	1	1	1	1	19.5	16.5	6.3	5.3
0.1	0	28	1.6	1.8	1	0	3	0.75	1	1	0.6	0.8	0.8	1	0.8	1	25.8	14.7	16.7	1.46	1.43	0.68	0.75	1.3	1.22	1	1	1	1	1	1	1	1	1	19.1	15.2	6.2	4.9
0.125	0	28	1.6	1.8	1	0	3	0.75	1	1	0.6	0.8	0.75	1	0.75	1	25.8	14.7	16.7	1.43	1.4	0.7	0.75	1.3	1.22	1	1	1	1	1	1	1	1	1	18.6	14.0	6.0	4.5
0.15	0	28	1.6	1.8	1	0	3	0.75	1	1	0.6	0.8	0.7	1	0.7	1	25.8	14.7	16.7	1.4	1.37	0.72	0.75	1.3	1.22	1	1	1	1	1	1	1	1	1	18.2	12.7	5.9	4.1
0.175	0	28	1.6	1.8	1	0	3	0.75	1	1	0.6	0.8	0.65	1	0.65	1	25.8	14.7	16.7	1.37	1.35	0.74	0.75	1.3	1.22	1	1	1	1	1	1	1	1	1	17.8	11.5	5.7	3.7
0.2	0	28	1.6	1.8	1	0	3	0.75	1	1	0.6	0.8	0.6	1	0.6	1	25.8	14.7	16.7	1.34	1.32	0.76	0.75	1.3	1.22	1	1	1	1	1	1	1	1	1	17.3	10.4	5.6	3.3
0.225	0	28	1.6	1.8	1	0	3	0.75	1	1	0.6	0.8	0.55	1	0.55	1	25.8	14.7	16.7	1.31	1.29	0.78	0.75	1.3	1.22	1	1	1	1	1	1	1	1	1	16.8	9.3	5.4	3.0

CASE 1 No. 000 28 16 - 100 100 100

DATA INPUT														CALCULATION														DATA OUTPUT												
SOIL PROPERTY							DESIGN							BEARING FACTOR							SHAPE FACTOR							DEPTH FACTOR							INCLI FACTOR					
$c$ T/m2	$\phi$ (deg)	$\gamma$ T/m3	$\gamma_{sat}$ T/m3	$\gamma_o$ T/m3	$D_{dewt}$ m	$\beta$	FS	Df m	B m	L m	$q'$ T/m2	$\gamma'$ T/m3	$B_{total}$ m	$L_{total}$ m	B'	L'	$N_c$	$N_q$	$N_y$	$F_{\omega}$	$F_{\phi}$	$F_{\psi}$	D/B	$F_{cd}$	$F_{qd}$	$F_{yd}$	$F_{cd}$	$F_{qd}$	$F_{yd}$	$F_{ci}$	$F_{qi}$	$F_{yi}$	$q'_u$ T/m2	$Q'_u$ T	$q'_{all(net)}$ T/m2	$Q_{all(net)}$ T				
0	0	28	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	1	1	1	1	25.8	14.7	16.7	1.57	1.53	0.6	1	1.4	1.3	1	1	1	1	1	1	1	1	1	1	27.4	27.4	8.9	8.9	
0.025	0	28	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.95	1	0.95	1	25.8	14.7	16.7	1.54	1.51	0.62	1	1.4	1.3	1	1	1	1	1	1	1	1	1	1	1	27.0	25.6	8.7	8.3
0.05	0	28	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.9	1	0.9	1	25.8	14.7	16.7	1.51	1.48	0.64	1	1.4	1.3	1	1	1	1	1	1	1	1	1	1	1	26.5	23.8	8.6	7.7
0.075	0	28	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.85	1	0.85	1	25.8	14.7	16.7	1.48	1.45	0.66	1	1.4	1.3	1	1	1	1	1	1	1	1	1	1	1	26.0	22.1	8.4	7.1
0.1	0	28	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.8	1	0.8	1	25.8	14.7	16.7	1.46	1.43	0.68	1	1.4	1.3	1	1	1	1	1	1	1	1	1	1	25.4	20.4	8.2	6.6	
0.125	0	28	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.75	1	0.75	1	25.8	14.7	16.7	1.43	1.4	0.7	1	1.4	1.3	1	1	1	1	1	1	1	1	1	1	24.9	18.7	8.0	6.0	
0.15	0	28	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.7	1	0.7	1	25.8	14.7	16.7	1.4	1.37	0.72	1	1.4	1.3	1	1	1	1	1	1	1	1	1	1	24.4	17.1	7.9	5.5	
0.175	0	28	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.65	1	0.65	1	25.8	14.7	16.7	1.37	1.35	0.74	1	1.4	1.3	1	1	1	1	1	1	1	1	1	1	23.8	15.5	7.7	5.0	
0.2	0	28	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.6	1	0.6	1	25.8	14.7	16.7	1.34	1.32	0.76	1	1.4	1.3	1	1	1	1	1	1	1	1	1	1	23.2	13.9	7.5	4.5	
0.225	0	28	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.55	1	0.55	1	25.8	14.7	16.7	1.31	1.29	0.78	1	1.4	1.3	1	1	1	1	1	1	1	1	1	1	22.6	12.5	7.3	4.0	

ตารางที่ 4-17, 4-18 การวิเคราะห์และคำนวณกำลังเบรคทางของดินใต้ฐานรากที่  $(q_u)$  และค่ากำหนดที่ฐานรากที่  $(q_u)$  ที่ฐานรากที่  $(q_u)$  ได้ที่ระยะเยื้องศูนย์กลางต่าง ๆ

CASE 1 No. 000 28 16 - 125 100 100

DATA INPUT															CALCULATION															DATA OUTPUT											
SOIL PROPERTY															BEARING FACTOR															SHAPE FACTOR				DEPTH FACTOR				INCL. FACTOR			
$c$ T/m <sup>2</sup>	$\phi$ (deg)	$\gamma$ T/m <sup>3</sup>	$\gamma_{sat}$ T/m <sup>3</sup>	$\gamma_{\omega}$ T/m <sup>3</sup>	$D_{gwr}$ m	$\beta$	FS	Df	B	L	$q'$ T/m <sup>2</sup>	$\gamma$	$B_{real}$ m	$L_{real}$ m	$B'$ m	$L'$ m	$N_c$	$N_q$	$N_y$	$F_{cs}$	$F_{\phi}$	$F_{\psi}$	$D/B$	$F_{cd}$	$F_{\phi d}$	$F_{\psi d}$	$F_{ci}$	$F_{\phi i}$	$F_{\psi i}$	$q'_u$ T/m <sup>2</sup>	$Q'_u$ T	$q_{all(ave)}$ T/m <sup>2</sup>	$Q_{all(ave)}$ T								
																																		$e_R$ m	$\gamma$ T/m <sup>3</sup>	$\gamma_{sat}$ T/m <sup>3</sup>	$\gamma_{\omega}$ T/m <sup>3</sup>	$D_{gwr}$ m	$\beta$	FS	Df
0	28	1.6	1.8	1	0	0	3	1.25	1	1	1	0.8	1	1	1	1	25.8	14.7	16.7	1.57	1.53	0.6	1.25	1.36	1.27	1	1	1	32.6	32.6	10.5	10.5									
0.025	0	28	1.6	1.8	1	0	3	1.25	1	1	1	0.8	0.95	1	0.95	1	25.8	14.7	16.7	1.54	1.51	0.62	1.25	1.36	1.27	1	1	1	32.0	30.4	10.3	9.8									
0.05	0	28	1.6	1.8	1	0	3	1.25	1	1	1	0.8	0.9	1	0.9	1	25.8	14.7	16.7	1.51	1.48	0.64	1.25	1.36	1.27	1	1	1	31.5	28.3	10.2	9.1									
0.075	0	28	1.6	1.8	1	0	3	1.25	1	1	1	0.8	0.85	1	0.85	1	25.8	14.7	16.7	1.48	1.45	0.66	1.25	1.36	1.27	1	1	1	30.9	26.2	10.0	8.5									
0.1	0	28	1.6	1.8	1	0	3	1.25	1	1	1	0.8	0.8	1	0.8	1	25.8	14.7	16.7	1.46	1.43	0.68	1.25	1.36	1.27	1	1	1	30.2	24.2	9.7	7.8									
0.125	0	28	1.6	1.8	1	0	3	1.25	1	1	1	0.8	0.75	1	0.75	1	25.8	14.7	16.7	1.43	1.4	0.7	1.25	1.36	1.27	1	1	1	29.6	22.2	9.5	7.2									
0.15	0	28	1.6	1.8	1	0	3	1.25	1	1	1	0.8	0.7	1	0.7	1	25.8	14.7	16.7	1.4	1.37	0.72	1.25	1.36	1.27	1	1	1	29.0	20.3	9.3	6.5									
0.175	0	28	1.6	1.8	1	0	3	1.25	1	1	1	0.8	0.65	1	0.65	1	25.8	14.7	16.7	1.37	1.35	0.74	1.25	1.36	1.27	1	1	1	28.3	18.4	9.1	5.9									
0.2	0	28	1.6	1.8	1	0	3	1.25	1	1	1	0.8	0.6	1	0.6	1	25.8	14.7	16.7	1.34	1.32	0.76	1.25	1.36	1.27	1	1	1	27.7	16.6	8.9	5.3									
0.225	0	28	1.6	1.8	1	0	3	1.25	1	1	1	0.8	0.55	1	0.55	1	25.8	14.7	16.7	1.31	1.29	0.78	1.25	1.36	1.27	1	1	1	27.0	14.8	8.7	4.8									

CASE 1 No. 000 28 16 - 150 100 100

DATA INPUT															CALCULATION															DATA OUTPUT											
SOIL PROPERTY															BEARING FACTOR															SHAPE FACTOR				DEPTH FACTOR				INCL. FACTOR			
$c$ T/m <sup>2</sup>	$\phi$ (deg)	$\gamma$ T/m <sup>3</sup>	$\gamma_{sat}$ T/m <sup>3</sup>	$\gamma_{\omega}$ T/m <sup>3</sup>	$D_{gwr}$ m	$\beta$	FS	Df	B	L	$q'$ T/m <sup>2</sup>	$\gamma$	$B_{real}$ m	$L_{real}$ m	$B'$ m	$L'$ m	$N_c$	$N_q$	$N_y$	$F_{cs}$	$F_{\phi}$	$F_{\psi}$	$D/B$	$F_{cd}$	$F_{\phi d}$	$F_{\psi d}$	$F_{ci}$	$F_{\phi i}$	$F_{\psi i}$	$q'_u$ T/m <sup>2</sup>	$Q'_u$ T	$q_{all(ave)}$ T/m <sup>2</sup>	$Q_{all(ave)}$ T								
																																		$e_R$ m	$\gamma$ T/m <sup>3</sup>	$\gamma_{sat}$ T/m <sup>3</sup>	$\gamma_{\omega}$ T/m <sup>3</sup>	$D_{gwr}$ m	$\beta$	FS	Df
0	28	1.6	1.8	1	0	0	3	1.50	1	1	1.2	0.8	1	1	1	1	25.8	14.7	16.7	1.57	1.53	0.6	1.5	1.39	1.29	1	1	1	39.0	39.0	12.6	12.6									
0.025	0	28	1.6	1.8	1	0	3	1.50	1	1	1.2	0.8	0.95	1	0.95	1	25.8	14.7	16.7	1.54	1.51	0.62	1.5	1.39	1.29	1	1	1	38.3	36.4	12.4	11.8									
0.05	0	28	1.6	1.8	1	0	3	1.50	1	1	1.2	0.8	0.9	1	0.9	1	25.8	14.7	16.7	1.51	1.48	0.64	1.5	1.39	1.29	1	1	1	37.7	33.9	12.2	10.9									
0.075	0	28	1.6	1.8	1	0	3	1.50	1	1	1.2	0.8	0.85	1	0.85	1	25.8	14.7	16.7	1.48	1.45	0.66	1.5	1.39	1.29	1	1	1	36.9	31.4	11.9	10.1									
0.1	0	28	1.6	1.8	1	0	3	1.50	1	1	1.2	0.8	0.8	1	0.8	1	25.8	14.7	16.7	1.46	1.43	0.68	1.5	1.39	1.29	1	1	1	36.2	29.0	11.7	9.3									
0.125	0	28	1.6	1.8	1	0	3	1.50	1	1	1.2	0.8	0.75	1	0.75	1	25.8	14.7	16.7	1.43	1.4	0.7	1.5	1.39	1.29	1	1	1	35.5	26.6	11.4	8.6									
0.15	0	28	1.6	1.8	1	0	3	1.50	1	1	1.2	0.8	0.7	1	0.7	1	25.8	14.7	16.7	1.4	1.37	0.72	1.5	1.39	1.29	1	1	1	34.7	24.3	11.2	7.8									
0.175	0	28	1.6	1.8	1	0	3	1.50	1	1	1.2	0.8	0.65	1	0.65	1	25.8	14.7	16.7	1.37	1.35	0.74	1.5	1.39	1.29	1	1	1	34.0	22.1	10.9	7.1									
0.2	0	28	1.6	1.8	1	0	3	1.50	1	1	1.2	0.8	0.6	1	0.6	1	25.8	14.7	16.7	1.34	1.32	0.76	1.5	1.39	1.29	1	1	1	33.2	19.9	10.7	6.4									
0.225	0	28	1.6	1.8	1	0	3	1.50	1	1	1.2	0.8	0.55	1	0.55	1	25.8	14.7	16.7	1.31	1.29	0.78	1.5	1.39	1.29	1	1	1	32.4	17.8	10.4	5.7									

ตารางที่ 4-19, 4-20 การวิเคราะห์และคำนวณกำลังแบกทานของดินใต้ฐานรากคาน (q<sub>u</sub>) และคำนวณน้ำหนักสูงสุด (Q<sub>u</sub>) ที่ฐานรากคานจะรับได้ทีละระยะเชิงศูนย์กลางต่าง ๆ

CASE 1 No. 000 32 16 - 075 100 100

DATA INPUT															CALCULATION															DATA OUTPUT				
SOIL PROPERTY					DESIGN					BEARING FACTOR					SHAPE FACTOR					DEPTH FACTOR					INCLI FACTOR			DATA OUTPUT						
c	φ	γ	γ <sub>sat</sub>	γ <sub>o</sub>	D <sub>gwr</sub>	β	FS	Df	B	L	q'	γ'	B <sub>real</sub>	L <sub>real</sub>	B'	L'	N <sub>c</sub>	N <sub>q</sub>	N <sub>y</sub>	F <sub>cs</sub>	F <sub>cp</sub>	F <sub>ys</sub>	D <sub>p/B</sub>	F <sub>cd</sub>	F <sub>qd</sub>	F <sub>yd</sub>	F <sub>ci</sub>	F <sub>qt</sub>	F <sub>yi</sub>	q' <sub>u</sub>	Q' <sub>u</sub>	Q <sub>ult(net)</sub>	T	
m	T/m2	(deg)	T/m3	T/m3	m			m	m	m	T/m2	T/m3	m	m	m	m														T/m2	T	T/m2	T	
0	32	1.6	1.8	1	0	0	3	0.75	1	1	0.6	0.8	1	1	1	1	35.5	23.2	30.2	1.65	1.62	0.6	0.75	1.3	1.21	1	1	1	1	1	34.5	34.5	11.3	11.3
0.025	32	1.6	1.8	1	0	0	3	0.75	1	1	0.6	0.8	0.95	1	0.95	1	35.5	23.2	30.2	1.62	1.59	0.62	0.75	1.3	1.21	1	1	1	1	1	33.9	32.2	11.1	10.5
0.05	32	1.6	1.8	1	0	0	3	0.75	1	1	0.6	0.8	0.9	1	0.9	1	35.5	23.2	30.2	1.59	1.56	0.64	0.75	1.3	1.21	1	1	1	1	1	33.2	29.9	10.9	9.8
0.075	32	1.6	1.8	1	0	0	3	0.75	1	1	0.6	0.8	0.85	1	0.85	1	35.5	23.2	30.2	1.56	1.53	0.66	0.75	1.3	1.21	1	1	1	1	1	32.5	27.6	10.6	9.0
0.1	32	1.6	1.8	1	0	0	3	0.75	1	1	0.6	0.8	0.8	1	0.8	1	35.5	23.2	30.2	1.52	1.5	0.68	0.75	1.3	1.21	1	1	1	1	1	31.8	25.4	10.4	8.3
0.125	32	1.6	1.8	1	0	0	3	0.75	1	1	0.6	0.8	0.75	1	0.75	1	35.5	23.2	30.2	1.49	1.47	0.7	0.75	1.3	1.21	1	1	1	1	1	31.0	23.2	10.1	7.6
0.15	32	1.6	1.8	1	0	0	3	0.75	1	1	0.6	0.8	0.7	1	0.7	1	35.5	23.2	30.2	1.46	1.44	0.72	0.75	1.3	1.21	1	1	1	1	1	30.2	21.2	9.9	6.9
0.175	32	1.6	1.8	1	0	0	3	0.75	1	1	0.6	0.8	0.65	1	0.65	1	35.5	23.2	30.2	1.42	1.41	0.74	0.75	1.3	1.21	1	1	1	1	1	29.4	19.1	9.6	6.2
0.2	32	1.6	1.8	1	0	0	3	0.75	1	1	0.6	0.8	0.6	1	0.6	1	35.5	23.2	30.2	1.39	1.37	0.76	0.75	1.3	1.21	1	1	1	1	1	28.6	17.2	9.3	5.6
0.225	32	1.6	1.8	1	0	0	3	0.75	1	1	0.6	0.8	0.55	1	0.55	1	35.5	23.2	30.2	1.36	1.34	0.78	0.75	1.3	1.21	1	1	1	1	1	27.7	15.3	9.0	5.0

CASE 1 No. 000 32 16 - 100 100 100

DATA INPUT															CALCULATION															DATA OUTPUT				
SOIL PROPERTY					DESIGN					BEARING FACTOR					SHAPE FACTOR					DEPTH FACTOR					INCLI FACTOR			DATA OUTPUT						
c	φ	γ	γ <sub>sat</sub>	γ <sub>o</sub>	D <sub>gwr</sub>	β	FS	Df	B	L	q'	γ'	B <sub>real</sub>	L <sub>real</sub>	B'	L'	N <sub>c</sub>	N <sub>q</sub>	N <sub>y</sub>	F <sub>cs</sub>	F <sub>cp</sub>	F <sub>ys</sub>	D <sub>p/B</sub>	F <sub>cd</sub>	F <sub>qd</sub>	F <sub>yd</sub>	F <sub>ci</sub>	F <sub>qt</sub>	F <sub>yi</sub>	q' <sub>u</sub>	Q' <sub>u</sub>	Q <sub>ult(net)</sub>	T	
m	T/m2	(deg)	T/m3	T/m3	m			m	m	m	T/m2	T/m3	m	m	m	m															T/m2	T	T/m2	T
0	32	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	1	1	1	1	35.5	23.2	30.2	1.65	1.62	0.6	1	1.4	1.3	1	1	1	1	1	45.7	45.7	15.0	15.0
0.025	32	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.95	1	0.95	1	35.5	23.2	30.2	1.62	1.59	0.62	1	1.4	1.28	1	1	1	1	1	44.8	42.6	14.7	13.9
0.05	32	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.9	1	0.9	1	35.5	23.2	30.2	1.59	1.56	0.64	1	1.4	1.28	1	1	1	1	1	43.9	39.5	14.4	12.9
0.075	32	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.85	1	0.85	1	35.5	23.2	30.2	1.56	1.53	0.66	1	1.4	1.28	1	1	1	1	1	43.0	36.6	14.1	12.0
0.1	32	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.8	1	0.8	1	35.5	23.2	30.2	1.52	1.5	0.68	1	1.4	1.28	1	1	1	1	1	42.1	33.7	13.8	11.0
0.125	32	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.75	1	0.75	1	35.5	23.2	30.2	1.49	1.47	0.7	1	1.4	1.28	1	1	1	1	1	41.1	30.8	13.4	10.1
0.15	32	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.7	1	0.7	1	35.5	23.2	30.2	1.46	1.44	0.72	1	1.4	1.28	1	1	1	1	1	40.1	28.1	13.1	9.2
0.175	32	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.65	1	0.65	1	35.5	23.2	30.2	1.42	1.41	0.74	1	1.4	1.28	1	1	1	1	1	39.1	25.4	12.8	8.3
0.2	32	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.6	1	0.6	1	35.5	23.2	30.2	1.39	1.37	0.76	1	1.4	1.28	1	1	1	1	1	38.0	22.8	12.4	7.4
0.225	32	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.55	1	0.55	1	35.5	23.2	30.2	1.36	1.34	0.78	1	1.4	1.28	1	1	1	1	1	37.0	20.3	12.1	6.6

ตารางที่ 4-19, 4-20 การวิเคราะห์และคำนวณกำลังแบกทานของดินใต้ฐานรากตื้น ( $q_u$ ) และคำนวณน้ำหนักสูงสุด ( $Q_u$ ) ที่ฐานรากตื้นจะรับได้ทีละระยะเชิงซ้อนๆ กัน  
 CASE 1 No. 000 32 16 - 125 100 100

DATA INPUT															CALCULATION															DATA OUTPUT			
SOIL PROPERTY					DESIGN					$q'$ T/m <sup>2</sup>	$\gamma'$	$B_{real}$	$L_{real}$	$B'$	$L'$	BEARING FACTOR			SHAPE FACTOR			DEPTH FACTOR			INCLI FACTOR			$q'_u$ T/m <sup>2</sup>	$Q'_u$ T	$q_{ult(cons)}$ T/m <sup>2</sup>	$Q_{ult(cons)}$ T		
$c$ T/m <sup>2</sup>	$\phi$	$\gamma$	$\gamma_{sat}$	$\gamma_{\omega}$	$D_{gwrt}$	$\beta$	FS	Df	B							L	$N_c$	$N_q$	$N_y$	$F_{cs}$	$F_{\phi}$	$F_{\gamma_s}$	$D/B$	$F_{ed}$	$F_{qd}$	$F_{yd}$	$F_{ci}$					$F_{\phi_i}$	$F_{\gamma_i}$
0	0	32	1.6	1.8	1	0	0	3	1.25	1	1	0.8	1	1	1	35.5	23.2	30.2	1.65	1.62	0.6	1.25	1.36	1.25	1	1	1	1	54.2	54.2	17.7	17.7	
0.025	0	32	1.6	1.8	1	0	0	3	1.25	1	1	0.8	0.95	1	0.95	1	35.5	23.2	30.2	1.62	1.59	0.62	1.25	1.36	1.25	1	1	1	1	53.2	50.5	17.4	16.5
0.05	0	32	1.6	1.8	1	0	0	3	1.25	1	1	0.8	0.9	1	0.9	1	35.5	23.2	30.2	1.59	1.56	0.64	1.25	1.36	1.25	1	1	1	1	52.1	46.9	17.0	15.3
0.075	0	32	1.6	1.8	1	0	0	3	1.25	1	1	0.8	0.85	1	0.85	1	35.5	23.2	30.2	1.56	1.53	0.66	1.25	1.36	1.25	1	1	1	1	51.0	43.4	16.7	14.2
0.1	0	32	1.6	1.8	1	0	0	3	1.25	1	1	0.8	0.8	1	0.8	1	35.5	23.2	30.2	1.52	1.5	0.68	1.25	1.36	1.25	1	1	1	1	49.9	40.0	16.3	13.1
0.125	0	32	1.6	1.8	1	0	0	3	1.25	1	1	0.8	0.75	1	0.75	1	35.5	23.2	30.2	1.49	1.47	0.7	1.25	1.36	1.25	1	1	1	1	48.8	36.6	15.9	12.0
0.15	0	32	1.6	1.8	1	0	0	3	1.25	1	1	0.8	0.7	1	0.7	1	35.5	23.2	30.2	1.46	1.44	0.72	1.25	1.36	1.25	1	1	1	1	47.6	33.4	15.5	10.9
0.175	0	32	1.6	1.8	1	0	0	3	1.25	1	1	0.8	0.65	1	0.65	1	35.5	23.2	30.2	1.42	1.41	0.74	1.25	1.36	1.25	1	1	1	1	46.5	30.2	15.2	9.9
0.2	0	32	1.6	1.8	1	0	0	3	1.25	1	1	0.8	0.6	1	0.6	1	35.5	23.2	30.2	1.39	1.37	0.76	1.25	1.36	1.25	1	1	1	1	45.3	27.2	14.8	8.9
0.225	0	32	1.6	1.8	1	0	0	3	1.25	1	1	0.8	0.55	1	0.55	1	35.5	23.2	30.2	1.36	1.34	0.78	1.25	1.36	1.25	1	1	1	1	44.0	24.2	14.3	7.9

CASE 1 No. 000 32 16 - 150 100 100

DATA INPUT															CALCULATION															DATA OUTPUT				
SOIL PROPERTY					DESIGN					$q'$ T/m <sup>2</sup>	$\gamma'$	$B_{real}$	$L_{real}$	$B'$	$L'$	BEARING FACTOR			SHAPE FACTOR			DEPTH FACTOR			INCLI FACTOR			$q'_u$ T/m <sup>2</sup>	$Q'_u$ T	$q_{ult(cons)}$ T/m <sup>2</sup>	$Q_{ult(cons)}$ T			
$c$ T/m <sup>2</sup>	$\phi$	$\gamma$	$\gamma_{sat}$	$\gamma_{\omega}$	$D_{gwrt}$	$\beta$	FS	Df	B							L	$N_c$	$N_q$	$N_y$	$F_{cs}$	$F_{\phi}$	$F_{\gamma_s}$	$D/B$	$F_{ed}$	$F_{qd}$	$F_{yd}$	$F_{ci}$					$F_{\phi_i}$	$F_{\gamma_i}$	
0	0	32	1.6	1.8	1	0	0	3	1.50	1	1	1.2	0.8	1	1	1	35.5	23.2	30.2	1.65	1.62	0.6	1.5	1.39	1.27	1	1	1	1	64.7	64.7	21.2	21.2	
0.025	0	32	1.6	1.8	1	0	0	3	1.50	1	1	1.2	0.8	0.95	1	0.95	1	35.5	23.2	30.2	1.62	1.59	0.62	1.5	1.39	1.27	1	1	1	1	63.5	60.3	20.8	19.7
0.05	0	32	1.6	1.8	1	0	0	3	1.50	1	1	1.2	0.8	0.9	1	0.9	1	35.5	23.2	30.2	1.59	1.56	0.64	1.5	1.39	1.27	1	1	1	1	62.2	56.0	20.3	18.3
0.075	0	32	1.6	1.8	1	0	0	3	1.50	1	1	1.2	0.8	0.85	1	0.85	1	35.5	23.2	30.2	1.56	1.53	0.66	1.5	1.39	1.27	1	1	1	1	60.9	51.8	19.9	16.9
0.1	0	32	1.6	1.8	1	0	0	3	1.50	1	1	1.2	0.8	0.8	1	0.8	1	35.5	23.2	30.2	1.52	1.5	0.68	1.5	1.39	1.27	1	1	1	1	59.6	47.7	19.5	15.6
0.125	0	32	1.6	1.8	1	0	0	3	1.50	1	1	1.2	0.8	0.75	1	0.75	1	35.5	23.2	30.2	1.49	1.47	0.7	1.5	1.39	1.27	1	1	1	1	58.3	43.7	19.0	14.3
0.15	0	32	1.6	1.8	1	0	0	3	1.50	1	1	1.2	0.8	0.7	1	0.7	1	35.5	23.2	30.2	1.46	1.44	0.72	1.5	1.39	1.27	1	1	1	1	56.9	39.8	18.6	13.0
0.175	0	32	1.6	1.8	1	0	0	3	1.50	1	1	1.2	0.8	0.65	1	0.65	1	35.5	23.2	30.2	1.42	1.41	0.74	1.5	1.39	1.27	1	1	1	1	55.5	36.1	18.1	11.8
0.2	0	32	1.6	1.8	1	0	0	3	1.50	1	1	1.2	0.8	0.6	1	0.6	1	35.5	23.2	30.2	1.39	1.37	0.76	1.5	1.39	1.27	1	1	1	1	54.1	32.5	17.6	10.6
0.225	0	32	1.6	1.8	1	0	0	3	1.50	1	1	1.2	0.8	0.55	1	0.55	1	35.5	23.2	30.2	1.36	1.34	0.78	1.5	1.39	1.27	1	1	1	1	52.7	29.0	17.2	9.4



ตารางที่ 4-21, 4-22 การวิเคราะห์และคำนวณกำลังแยกทางของดินใต้ฐานรากตามดินในได้ฐานรากตามดิน (q<sub>u</sub>) และคำนวณน้ำหนักสูงสุด (Q<sub>u</sub>) ที่ฐานรากดินจะรับได้ทีละระยะเบี่ยงศูนย์กลางต่างๆ  
 CASE 1 No. 000 32 18 - 075 100 100

DATA INPUT															CALCULATION															DATA OUTPUT			
SOIL PROPERTY					DESIGN					q'	γ	B <sub>rest</sub>	L <sub>rest</sub>	B'	L'	BEARING FACTOR			SHAPE FACTOR			DEPTH FACTOR			INCL. FACTOR			q' <sub>u</sub>	Q' <sub>u</sub>	q' <sub>u</sub>	Q' <sub>u</sub>		
c	φ	γ	γ <sub>sat</sub>	γ <sub>o</sub>	D <sub>gwrt</sub>	β	FS	Df	B							L	N <sub>c</sub>	N <sub>q</sub>	N <sub>y</sub>	F <sub>ca</sub>	F <sub>qs</sub>	F <sub>ys</sub>	D/B	F <sub>ed</sub>	F <sub>qd</sub>	F <sub>yd</sub>	F <sub>ca</sub>					F <sub>qs</sub>	F <sub>ys</sub>
0	32	1.8	2	1	0	0	3	0.75	1	1	0.75	1	1	1	1	1	1	1.21	1.3	1.21	1	1	1	1	1	1	1	43.2	43.2	43.2	14.1	14.1	
0.025	0	32	1.8	2	1	0	3	0.75	1	1	0.75	1	0.95	1	0.95	1	0.95	1.3	1.21	1.3	1.21	1	1	1	1	1	1	42.3	40.2	43.9	13.2	13.2	
0.05	0	32	1.8	2	1	0	3	0.75	1	1	0.75	1	0.9	1	0.9	1	0.9	1.3	1.21	1.3	1.21	1	1	1	1	1	1	41.5	37.3	43.6	12.2	12.2	
0.075	0	32	1.8	2	1	0	3	0.75	1	1	0.75	1	0.85	1	0.85	1	0.85	1.3	1.21	1.3	1.21	1	1	1	1	1	1	40.6	34.5	43.3	11.3	11.3	
0.1	0	32	1.8	2	1	0	3	0.75	1	1	0.75	1	0.8	1	0.8	1	0.8	1.3	1.21	1.3	1.21	1	1	1	1	1	1	39.7	31.8	43.0	10.4	10.4	
0.125	0	32	1.8	2	1	0	3	0.75	1	1	0.75	1	0.75	1	0.75	1	0.75	1.3	1.21	1.3	1.21	1	1	1	1	1	1	38.7	29.1	42.7	9.5	9.5	
0.15	0	32	1.8	2	1	0	3	0.75	1	1	0.75	1	0.7	1	0.7	1	0.7	1.3	1.21	1.3	1.21	1	1	1	1	1	1	37.8	26.4	42.3	8.6	8.6	
0.175	0	32	1.8	2	1	0	3	0.75	1	1	0.75	1	0.65	1	0.65	1	0.65	1.3	1.21	1.3	1.21	1	1	1	1	1	1	36.8	23.9	42.0	7.8	7.8	
0.2	0	32	1.8	2	1	0	3	0.75	1	1	0.75	1	0.6	1	0.6	1	0.6	1.3	1.21	1.3	1.21	1	1	1	1	1	1	35.7	21.4	41.7	7.0	7.0	
0.225	0	32	1.8	2	1	0	3	0.75	1	1	0.75	1	0.55	1	0.55	1	0.55	1.3	1.21	1.3	1.21	1	1	1	1	1	1	34.7	19.1	41.3	6.2	6.2	

CASE 1 No. 000 32 18 - 100 100 100

DATA INPUT															CALCULATION															DATA OUTPUT			
SOIL PROPERTY					DESIGN					q'	γ	B <sub>rest</sub>	L <sub>rest</sub>	B'	L'	BEARING FACTOR			SHAPE FACTOR			DEPTH FACTOR			INCL. FACTOR			q' <sub>u</sub>	Q' <sub>u</sub>	q' <sub>u</sub>	Q' <sub>u</sub>		
c	φ	γ	γ <sub>sat</sub>	γ <sub>o</sub>	D <sub>gwrt</sub>	β	FS	Df	B							L	N <sub>c</sub>	N <sub>q</sub>	N <sub>y</sub>	F <sub>ca</sub>	F <sub>qs</sub>	F <sub>ys</sub>	D/B	F <sub>ed</sub>	F <sub>qd</sub>	F <sub>yd</sub>	F <sub>ca</sub>					F <sub>qs</sub>	F <sub>ys</sub>
0	32	1.8	2	1	0	0	3	1.00	1	1	1	1	1	1	1	1	1	1.4	1.3	1.4	1.3	1	1	1	1	1	1	57.1	57.1	18.7	18.7		
0.025	0	32	1.8	2	1	0	3	1.00	1	1	1	0.95	1	0.95	1	0.95	1	1.4	1.28	1.4	1.28	1	1	1	1	1	1	56.0	53.2	18.3	17.4		
0.05	0	32	1.8	2	1	0	3	1.00	1	1	1	0.9	1	0.9	1	0.9	1	1.4	1.28	1.4	1.28	1	1	1	1	1	1	54.9	49.4	18.0	16.2		
0.075	0	32	1.8	2	1	0	3	1.00	1	1	1	0.85	1	0.85	1	0.85	1	1.4	1.28	1.4	1.28	1	1	1	1	1	1	53.8	45.7	17.6	14.9		
0.1	0	32	1.8	2	1	0	3	1.00	1	1	1	0.8	1	0.8	1	0.8	1	1.4	1.28	1.4	1.28	1	1	1	1	1	1	52.6	42.1	17.2	13.8		
0.125	0	32	1.8	2	1	0	3	1.00	1	1	1	0.75	1	0.75	1	0.75	1	1.4	1.28	1.4	1.28	1	1	1	1	1	1	51.4	38.5	16.8	12.6		
0.15	0	32	1.8	2	1	0	3	1.00	1	1	1	0.7	1	0.7	1	0.7	1	1.4	1.28	1.4	1.28	1	1	1	1	1	1	50.1	35.1	16.4	11.5		
0.175	0	32	1.8	2	1	0	3	1.00	1	1	1	0.65	1	0.65	1	0.65	1	1.4	1.28	1.4	1.28	1	1	1	1	1	1	48.9	31.8	16.0	10.4		
0.2	0	32	1.8	2	1	0	3	1.00	1	1	1	0.6	1	0.6	1	0.6	1	1.4	1.28	1.4	1.28	1	1	1	1	1	1	47.6	28.5	15.5	9.3		
0.225	0	32	1.8	2	1	0	3	1.00	1	1	1	0.55	1	0.55	1	0.55	1	1.4	1.28	1.4	1.28	1	1	1	1	1	1	46.2	25.4	15.1	8.3		

ตารางที่ 4-21, 4-22 การวิเคราะห์และคำนวณกำลังแบกทานของดิน ใต้ฐานรากตื้นจะได้ฐานรากตื้นจะรับได้ทีละระยะเบื้องต้นต่าง ๆ

CASE 1 No. 000 32 18 - 125 100 100

DATA INPUT															CALCULATION															DATA OUTPUT		
SOIL PROPERTY					DESIGN					q'	γ	B <sub>real</sub>	L <sub>real</sub>	B'	L'	BEARING FACTOR			SHAPE FACTOR			DEPTH FACTOR			INCLI FACTOR			q' <sub>u</sub>	Q' <sub>u</sub>	Q <sub>ult(net)</sub>		
c	φ	γ	γ <sub>sat</sub>	γ <sub>o</sub>	D <sub>GWT</sub>	β	FS	Df	B							L	N <sub>c</sub>	N <sub>q</sub>	N <sub>y</sub>	F <sub>cs</sub>	F <sub>qs</sub>	F <sub>ys</sub>	D/B	F <sub>ed</sub>	F <sub>qd</sub>	F <sub>yd</sub>	F <sub>ci</sub>				F <sub>qi</sub>	F <sub>yi</sub>
m	T/m <sup>2</sup>	(deg)	T/m <sup>3</sup>	T/m <sup>3</sup>	m			m	m	m	T/m <sup>2</sup>	T/m <sup>3</sup>	m	m	m	m								T/m <sup>2</sup>	T	T/m <sup>2</sup>	T					
0	0	32	1.8	2	1	0	0	3	1.25	1	1	1.25	1	1	1	1	1.65	1.62	0.6	1.25	1.36	1.25	1	1	1	1	67.8	67.8	22.2	22.2		
0.025	0	32	1.8	2	1	0	0	3	1.25	1	1	1.25	1	1	1	1	1.62	1.59	0.62	1.25	1.36	1.25	1	1	1	1	66.5	63.2	21.7	20.7		
0.05	0	32	1.8	2	1	0	0	3	1.25	1	1	1.25	1	1	1	1	1.59	1.56	0.64	1.25	1.36	1.25	1	1	1	1	65.2	58.6	21.3	19.2		
0.075	0	32	1.8	2	1	0	0	3	1.25	1	1	1.25	1	1	1	1	1.56	1.53	0.66	1.25	1.36	1.25	1	1	1	1	63.8	54.2	20.9	17.7		
0.1	0	32	1.8	2	1	0	0	3	1.25	1	1	1.25	1	1	1	1	1.53	1.5	0.68	1.25	1.36	1.25	1	1	1	1	62.4	49.9	20.4	16.3		
0.125	0	32	1.8	2	1	0	0	3	1.25	1	1	1.25	1	1	1	1	1.49	1.47	0.7	1.25	1.36	1.25	1	1	1	1	61.0	45.8	19.9	14.9		
0.15	0	32	1.8	2	1	0	0	3	1.25	1	1	1.25	1	1	1	1	1.46	1.44	0.72	1.25	1.36	1.25	1	1	1	1	59.6	41.7	19.4	13.6		
0.175	0	32	1.8	2	1	0	0	3	1.25	1	1	1.25	1	1	1	1	1.42	1.41	0.74	1.25	1.36	1.25	1	1	1	1	58.1	37.8	18.9	12.3		
0.2	0	32	1.8	2	1	0	0	3	1.25	1	1	1.25	1	1	1	1	1.39	1.37	0.76	1.25	1.36	1.25	1	1	1	1	56.6	33.9	18.4	11.1		
0.225	0	32	1.8	2	1	0	0	3	1.25	1	1	1.25	1	1	1	1	1.36	1.34	0.78	1.25	1.36	1.25	1	1	1	1	55.0	30.3	17.9	9.9		

CASE 1 No. 000 32 18 - 150 100 100

DATA INPUT															CALCULATION															DATA OUTPUT		
SOIL PROPERTY					DESIGN					q'	γ	B <sub>real</sub>	L <sub>real</sub>	B'	L'	BEARING FACTOR			SHAPE FACTOR			DEPTH FACTOR			INCLI FACTOR			q' <sub>u</sub>	Q' <sub>u</sub>	Q <sub>ult(net)</sub>		
c	φ	γ	γ <sub>sat</sub>	γ <sub>o</sub>	D <sub>GWT</sub>	β	FS	Df	B							L	N <sub>c</sub>	N <sub>q</sub>	N <sub>y</sub>	F <sub>cs</sub>	F <sub>qs</sub>	F <sub>ys</sub>	D/B	F <sub>ed</sub>	F <sub>qd</sub>	F <sub>yd</sub>	F <sub>ci</sub>				F <sub>qi</sub>	F <sub>yi</sub>
m	T/m <sup>2</sup>	(deg)	T/m <sup>3</sup>	T/m <sup>3</sup>	m			m	m	m	T/m <sup>2</sup>	T/m <sup>3</sup>	m	m	m	m								T/m <sup>2</sup>	T	T/m <sup>2</sup>	T					
0	0	32	1.8	2	1	0	0	3	1.50	1	1	1.5	1	1	1	1	1.62	1.62	0.6	1.5	1.39	1.27	1	1	1	1	80.9	80.9	26.5	26.5		
0.025	0	32	1.8	2	1	0	0	3	1.50	1	1	1.5	1	1	1	1	1.59	1.59	0.62	1.5	1.39	1.27	1	1	1	1	79.3	75.4	25.9	24.6		
0.05	0	32	1.8	2	1	0	0	3	1.50	1	1	1.5	1	1	1	1	1.56	1.56	0.64	1.5	1.39	1.27	1	1	1	1	77.8	70.0	25.4	22.9		
0.075	0	32	1.8	2	1	0	0	3	1.50	1	1	1.5	1	1	1	1	1.53	1.53	0.66	1.5	1.39	1.27	1	1	1	1	76.2	64.7	24.9	21.2		
0.1	0	32	1.8	2	1	0	0	3	1.50	1	1	1.5	1	1	1	1	1.5	1.5	0.68	1.5	1.39	1.27	1	1	1	1	74.5	59.6	24.3	19.5		
0.125	0	32	1.8	2	1	0	0	3	1.50	1	1	1.5	1	1	1	1	1.49	1.47	0.7	1.5	1.39	1.27	1	1	1	1	72.8	54.6	23.8	17.8		
0.15	0	32	1.8	2	1	0	0	3	1.50	1	1	1.5	1	1	1	1	1.46	1.44	0.72	1.5	1.39	1.27	1	1	1	1	71.1	49.8	23.2	16.3		
0.175	0	32	1.8	2	1	0	0	3	1.50	1	1	1.5	1	1	1	1	1.42	1.41	0.74	1.5	1.39	1.27	1	1	1	1	69.4	45.1	22.6	14.7		
0.2	0	32	1.8	2	1	0	0	3	1.50	1	1	1.5	1	1	1	1	1.39	1.37	0.76	1.5	1.39	1.27	1	1	1	1	67.7	40.6	22.1	13.2		
0.225	0	32	1.8	2	1	0	0	3	1.50	1	1	1.5	1	1	1	1	1.36	1.34	0.78	1.5	1.39	1.27	1	1	1	1	65.9	36.2	21.5	11.8		

ตารางที่ 4-23, 4-24 การวิเคราะห์และกำหนดค่าแรงกึ่งเบกทานของดินใช้ฐานรากดิน (q<sub>u</sub>) และค่าน้ำหนักบรรทุก (Q<sub>u</sub>) ที่ฐานรากดินจะรับได้ทีละระยะเบื้องต้นต่าง ๆ

CASE 1 No. 050 00 16 - 075 100 100

DATA INPUT															CALCULATION															DATA OUTPUT				
SOIL PROPERTY					DESIGN					BEARING FACTOR					SHAPE FACTOR					DEPTH FACTOR					INCLI FACTOR									
c	φ	γ	γ <sub>sat</sub>	γ <sub>o</sub>	D <sub>GWT</sub>	β	FS	Df	B	L	q'	γ	B <sub>real</sub>	L <sub>real</sub>	B'	L'	N <sub>c</sub>	N <sub>y</sub>	F <sub>cs</sub>	F <sub>qs</sub>	F <sub>ys</sub>	D/B	F <sub>cd</sub>	F <sub>qd</sub>	F <sub>yd</sub>	F <sub>ci</sub>	F <sub>qi</sub>	F <sub>yi</sub>	q' <sub>u</sub>	Q' <sub>u</sub>	q <sub>ult(net)</sub>			
T/m2	(deg)	T/m3	T/m3	T/m3	m			m	m	m	T/m2	T/m3	m	m	m	m															T/m2	T	T/m2	
0	5	0	1.6	1.8	1	0	3	0.75	1	1	0.6	0.8	1	1	1	1	5.1	1.0	0.0	1.19	1	0.6	0.75	1.3	1	1	1	1	1	1	40.5	40.5	13.3	13.3
0.025	5	0	1.6	1.8	1	0	3	0.75	1	1	0.6	0.8	0.95	1	0.95	1	5.1	1.0	0.0	1.18	1	0.62	0.75	1.3	1	1	1	1	1	1	40.2	38.2	13.2	12.5
0.05	5	0	1.6	1.8	1	0	3	0.75	1	1	0.6	0.8	0.9	1	0.9	1	5.1	1.0	0.0	1.18	1	0.64	0.75	1.3	1	1	1	1	1	1	39.9	35.9	13.1	11.8
0.075	5	0	1.6	1.8	1	0	3	0.75	1	1	0.6	0.8	0.85	1	0.85	1	5.1	1.0	0.0	1.17	1	0.66	0.75	1.3	1	1	1	1	1	1	39.5	33.6	13.0	11.0
0.1	5	0	1.6	1.8	1	0	3	0.75	1	1	0.6	0.8	0.8	1	0.8	1	5.1	1.0	0.0	1.16	1	0.68	0.75	1.3	1	1	1	1	1	1	39.2	31.4	12.9	10.3
0.125	5	0	1.6	1.8	1	0	3	0.75	1	1	0.6	0.8	0.75	1	0.75	1	5.1	1.0	0.0	1.15	1	0.7	0.75	1.3	1	1	1	1	1	1	38.9	29.2	12.8	9.6
0.15	5	0	1.6	1.8	1	0	3	0.75	1	1	0.6	0.8	0.7	1	0.7	1	5.1	1.0	0.0	1.14	1	0.72	0.75	1.3	1	1	1	1	1	1	38.6	27.0	12.7	8.9
0.175	5	0	1.6	1.8	1	0	3	0.75	1	1	0.6	0.8	0.65	1	0.65	1	5.1	1.0	0.0	1.13	1	0.74	0.75	1.3	1	1	1	1	1	1	38.2	24.9	12.5	8.2
0.2	5	0	1.6	1.8	1	0	3	0.75	1	1	0.6	0.8	0.6	1	0.6	1	5.1	1.0	0.0	1.12	1	0.76	0.75	1.3	1	1	1	1	1	1	37.9	22.7	12.4	7.5
0.225	5	0	1.6	1.8	1	0	3	0.75	1	1	0.6	0.8	0.55	1	0.55	1	5.1	1.0	0.0	1.11	1	0.78	0.75	1.3	1	1	1	1	1	1	37.6	20.7	12.3	6.8

CASE 1 No. 050 00 16 - 100 100 100

DATA INPUT															CALCULATION															DATA OUTPUT				
SOIL PROPERTY					DESIGN					BEARING FACTOR					SHAPE FACTOR					DEPTH FACTOR					INCLI FACTOR									
c	φ	γ	γ <sub>sat</sub>	γ <sub>o</sub>	D <sub>GWT</sub>	β	FS	Df	B	L	q'	γ	B <sub>real</sub>	L <sub>real</sub>	B'	L'	N <sub>c</sub>	N <sub>y</sub>	F <sub>cs</sub>	F <sub>qs</sub>	F <sub>ys</sub>	D/B	F <sub>cd</sub>	F <sub>qd</sub>	F <sub>yd</sub>	F <sub>ci</sub>	F <sub>qi</sub>	F <sub>yi</sub>	q' <sub>u</sub>	Q' <sub>u</sub>	q <sub>ult(net)</sub>			
T/m2	(deg)	T/m3	T/m3	T/m3	m			m	m	m	T/m2	T/m3	m	m	m	m															T/m2	T	T/m2	
0	5	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	1	1	1	1	5.1	1.0	0.0	1.19	1	0.6	1	1.4	1.0	1	1	1	1	1	43.8	43.8	14.3	14.3
0.025	5	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.95	1	0.95	1	5.1	1.0	0.0	1.18	1	0.62	1	1.4	1	1	1	1	1	1	43.4	41.3	14.2	13.5
0.05	5	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.9	1	0.9	1	5.1	1.0	0.0	1.18	1	0.64	1	1.4	1	1	1	1	1	1	43.1	38.8	14.1	12.7
0.075	5	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.85	1	0.85	1	5.1	1.0	0.0	1.17	1	0.66	1	1.4	1	1	1	1	1	1	42.7	36.3	14.0	11.9
0.1	5	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.8	1	0.8	1	5.1	1.0	0.0	1.16	1	0.68	1	1.4	1	1	1	1	1	1	42.4	33.9	13.9	11.1
0.125	5	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.75	1	0.75	1	5.1	1.0	0.0	1.15	1	0.7	1	1.4	1	1	1	1	1	1	42.0	31.5	13.7	10.3
0.15	5	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.7	1	0.7	1	5.1	1.0	0.0	1.14	1	0.72	1	1.4	1	1	1	1	1	1	41.7	29.2	13.6	9.5
0.175	5	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.65	1	0.65	1	5.1	1.0	0.0	1.13	1	0.74	1	1.4	1	1	1	1	1	1	41.3	26.9	13.5	8.8
0.2	5	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.6	1	0.6	1	5.1	1.0	0.0	1.12	1	0.76	1	1.4	1	1	1	1	1	1	41.0	24.6	13.4	8.0
0.225	5	0	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.55	1	0.55	1	5.1	1.0	0.0	1.11	1	0.78	1	1.4	1	1	1	1	1	1	40.6	22.3	13.3	7.3

ตารางที่ 4-23, 4-24 การวิเคราะห์และคำนวณกำลังแบกทานของดินใต้ฐานรากค้ำ (q<sub>u</sub>) และค่าน้ำหนักสูงสุด (Q<sub>u</sub>) ที่ฐานรากค้ำตามระดับใต้ระดับเบี่ยงศูนย์ต่าง ๆ

CASE I No. 050 00 16 - 125 100 100

DATA INPUT												CALCULATION												DATA OUTPUT							
SOIL PROPERTY						DESIGN						q'	BEARING FACTOR			SHAPE FACTOR			DEPTH FACTOR			INCL. FACTOR			q' <sub>u</sub> T/m <sup>2</sup>	Q' <sub>u</sub> T	Q <sub>ult(net)</sub> T				
c T/m <sup>2</sup>	φ (deg)	γ T/m <sup>3</sup>	γ <sub>sat</sub> T/m <sup>3</sup>	γ <sub>o</sub> T/m <sup>3</sup>	D <sub>swr</sub> m	β	FS	Df m	B m	L m	L <sub>real</sub> m		B <sub>real</sub> m	L' m	N <sub>c</sub>	N <sub>q</sub>	N <sub>y</sub>	F <sub>cs</sub>	F <sub>qs</sub>	F <sub>ys</sub>	D/B	F <sub>cd</sub>	F <sub>qd</sub>	F <sub>yd</sub>				F <sub>ci</sub>	F <sub>qi</sub>	F <sub>yi</sub>	
0	5	0	1.6	1.8	1	0	0	3	1.25	1	1	1	1	1	5.1	1.0	0.0	1.19	1	0.6	1.25	1.36	1.00	1	1	1	1	42.7	42.7	13.9	13.9
0.025	5	0	1.6	1.8	1	0	0	3	1.25	1	1	1	1	1	5.1	1.0	0.0	1.18	1	0.62	1.25	1.36	1	1	1	1	1	42.4	40.2	13.8	13.1
0.05	5	0	1.6	1.8	1	0	0	3	1.25	1	1	1	1	1	5.1	1.0	0.0	1.18	1	0.64	1.25	1.36	1	1	1	1	1	42.0	37.8	13.7	12.3
0.075	5	0	1.6	1.8	1	0	0	3	1.25	1	1	1	1	1	5.1	1.0	0.0	1.17	1	0.66	1.25	1.36	1	1	1	1	1	41.7	35.4	13.6	11.5
0.1	5	0	1.6	1.8	1	0	0	3	1.25	1	1	1	1	1	5.1	1.0	0.0	1.16	1	0.68	1.25	1.36	1	1	1	1	1	41.3	33.1	13.4	10.8
0.125	5	0	1.6	1.8	1	0	0	3	1.25	1	1	1	1	1	5.1	1.0	0.0	1.15	1	0.7	1.25	1.36	1	1	1	1	1	41.0	30.8	13.3	10.0
0.15	5	0	1.6	1.8	1	0	0	3	1.25	1	1	1	1	1	5.1	1.0	0.0	1.14	1	0.72	1.25	1.36	1	1	1	1	1	40.7	28.5	13.2	9.3
0.175	5	0	1.6	1.8	1	0	0	3	1.25	1	1	1	1	1	5.1	1.0	0.0	1.13	1	0.74	1.25	1.36	1	1	1	1	1	40.3	26.2	13.1	8.5
0.2	5	0	1.6	1.8	1	0	0	3	1.25	1	1	1	1	1	5.1	1.0	0.0	1.12	1	0.76	1.25	1.36	1	1	1	1	1	40.0	24.0	13.0	7.8
0.225	5	0	1.6	1.8	1	0	0	3	1.25	1	1	1	1	1	5.1	1.0	0.0	1.11	1	0.78	1.25	1.36	1	1	1	1	1	39.6	21.8	12.9	7.1

CASE I No. 050 00 16 - 150 100 100

DATA INPUT												CALCULATION												DATA OUTPUT							
SOIL PROPERTY						DESIGN						q'	BEARING FACTOR			SHAPE FACTOR			DEPTH FACTOR			INCL. FACTOR			q' <sub>u</sub> T/m <sup>2</sup>	Q' <sub>u</sub> T	Q <sub>ult(net)</sub> T				
c T/m <sup>2</sup>	φ (deg)	γ T/m <sup>3</sup>	γ <sub>sat</sub> T/m <sup>3</sup>	γ <sub>o</sub> T/m <sup>3</sup>	D <sub>swr</sub> m	β	FS	Df m	B m	L m	L <sub>real</sub> m		B <sub>real</sub> m	L' m	N <sub>c</sub>	N <sub>q</sub>	N <sub>y</sub>	F <sub>cs</sub>	F <sub>qs</sub>	F <sub>ys</sub>	D/B	F <sub>cd</sub>	F <sub>qd</sub>	F <sub>yd</sub>				F <sub>ci</sub>	F <sub>qi</sub>	F <sub>yi</sub>	
0	5	0	1.6	1.8	1	0	0	3	1.50	1	1	1	1	1	5.1	1.0	0.0	1.19	1	0.6	1.5	1.39	1	1	1	1	1	44.0	44.0	14.3	14.3
0.025	5	0	1.6	1.8	1	0	0	3	1.50	1	1	1	1	1	5.1	1.0	0.0	1.18	1	0.62	1.5	1.39	1	1	1	1	1	43.6	41.4	14.1	13.4
0.05	5	0	1.6	1.8	1	0	0	3	1.50	1	1	1	1	1	5.1	1.0	0.0	1.18	1	0.64	1.5	1.39	1	1	1	1	1	43.3	38.9	14.0	12.6
0.075	5	0	1.6	1.8	1	0	0	3	1.50	1	1	1	1	1	5.1	1.0	0.0	1.17	1	0.66	1.5	1.39	1	1	1	1	1	42.9	36.5	13.9	11.8
0.1	5	0	1.6	1.8	1	0	0	3	1.50	1	1	1	1	1	5.1	1.0	0.0	1.16	1	0.68	1.5	1.39	1	1	1	1	1	42.6	34.1	13.8	11.0
0.125	5	0	1.6	1.8	1	0	0	3	1.50	1	1	1	1	1	5.1	1.0	0.0	1.15	1	0.7	1.5	1.39	1	1	1	1	1	42.2	31.7	13.7	10.3
0.15	5	0	1.6	1.8	1	0	0	3	1.50	1	1	1	1	1	5.1	1.0	0.0	1.14	1	0.72	1.5	1.39	1	1	1	1	1	41.9	29.3	13.6	9.5
0.175	5	0	1.6	1.8	1	0	0	3	1.50	1	1	1	1	1	5.1	1.0	0.0	1.13	1	0.74	1.5	1.39	1	1	1	1	1	41.5	27.0	13.4	8.7
0.2	5	0	1.6	1.8	1	0	0	3	1.50	1	1	1	1	1	5.1	1.0	0.0	1.12	1	0.76	1.5	1.39	1	1	1	1	1	41.2	24.7	13.3	8.0
0.225	5	0	1.6	1.8	1	0	0	3	1.50	1	1	1	1	1	5.1	1.0	0.0	1.11	1	0.78	1.5	1.39	1	1	1	1	1	40.8	22.5	13.2	7.3

ตารางที่ 4-25, 4-26 การวิเคราะห์และคำนวณกำลังเบกทางของดินใต้ฐานรากค้ำยัน (q<sub>u</sub>) และคำนวณน้ำหนักสูงสุด (Q<sub>u</sub>) ที่ฐานรากค้ำยันจะรับได้ทีละระยะของเสาเข็มต่าง ๆ  
 CASE 1 No. 050 00 18 - 075 100 100

DATA INPUT												CALCULATION												DATA OUTPUT										
SOIL PROPERTY						DESIGN						q'			BEARING FACTOR			SHAPE FACTOR			DEPTH FACTOR			INCLI FACTOR			DATA OUTPUT							
c	φ	γ	γ <sub>sat</sub>	γ <sub>o</sub>	D <sub>GWT</sub>	β	FS	Df	B	L	q'	γ	B <sub>real</sub>	L <sub>real</sub>	B'	L'	N <sub>c</sub>	N <sub>q</sub>	N <sub>y</sub>	F <sub>cs</sub>	F <sub>qs</sub>	F <sub>ys</sub>	D/B	F <sub>ed</sub>	F <sub>qd</sub>	F <sub>yd</sub>	F <sub>ca</sub>	F <sub>ci</sub>	F <sub>yi</sub>	q' <sub>u</sub>	Q' <sub>u</sub>	q <sub>all(net)</sub>		
m	(deg)	T/m <sup>2</sup>	T/m <sup>3</sup>	T/m <sup>3</sup>	m			m	m	m	T/m <sup>2</sup>	T/m <sup>3</sup>	m	m	m	m															T/m <sup>2</sup>	T/m <sup>2</sup>	T/m <sup>2</sup>	
0	5	0	1.8	2	1	0	3	0.75	1	1	0.75	1	1	1	1	1	5.1	1.0	0.0	1.19	1	0.6	0.75	1.3	1	1	1	1	1	1	40.7	40.7	13.3	13.3
0.025	5	0	1.8	2	1	0	3	0.75	1	1	0.75	1	0.95	1	0.95	1	5.1	1.0	0.0	1.18	1	0.62	0.75	1.3	1	1	1	1	1	1	40.3	38.3	13.2	12.5
0.05	5	0	1.8	2	1	0	3	0.75	1	1	0.75	1	0.9	1	0.9	1	5.1	1.0	0.0	1.18	1	0.64	0.75	1.3	1	1	1	1	1	1	40.0	36.0	13.1	11.8
0.075	5	0	1.8	2	1	0	3	0.75	1	1	0.75	1	0.85	1	0.85	1	5.1	1.0	0.0	1.17	1	0.66	0.75	1.3	1	1	1	1	1	1	39.7	33.7	13.0	11.0
0.1	5	0	1.8	2	1	0	3	0.75	1	1	0.75	1	0.8	1	0.8	1	5.1	1.0	0.0	1.16	1	0.68	0.75	1.3	1	1	1	1	1	1	39.4	31.5	12.9	10.3
0.125	5	0	1.8	2	1	0	3	0.75	1	1	0.75	1	0.75	1	0.75	1	5.1	1.0	0.0	1.15	1	0.7	0.75	1.3	1	1	1	1	1	1	39.0	29.3	12.8	9.6
0.15	5	0	1.8	2	1	0	3	0.75	1	1	0.75	1	0.7	1	0.7	1	5.1	1.0	0.0	1.14	1	0.72	0.75	1.3	1	1	1	1	1	1	38.7	27.1	12.7	8.9
0.175	5	0	1.8	2	1	0	3	0.75	1	1	0.75	1	0.65	1	0.65	1	5.1	1.0	0.0	1.13	1	0.74	0.75	1.3	1	1	1	1	1	1	38.4	25.0	12.5	8.2
0.2	5	0	1.8	2	1	0	3	0.75	1	1	0.75	1	0.6	1	0.6	1	5.1	1.0	0.0	1.12	1	0.76	0.75	1.3	1	1	1	1	1	1	38.1	22.8	12.4	7.5
0.225	5	0	1.8	2	1	0	3	0.75	1	1	0.75	1	0.55	1	0.55	1	5.1	1.0	0.0	1.11	1	0.78	0.75	1.3	1	1	1	1	1	1	37.7	20.8	12.3	6.8

CASE 1 No. 050 00 18 - 100 100 100

DATA INPUT												CALCULATION												DATA OUTPUT											
SOIL PROPERTY						DESIGN						q'			BEARING FACTOR			SHAPE FACTOR			DEPTH FACTOR			INCLI FACTOR			DATA OUTPUT								
c	φ	γ	γ <sub>sat</sub>	γ <sub>o</sub>	D <sub>GWT</sub>	β	FS	Df	B	L	q'	γ	B <sub>real</sub>	L <sub>real</sub>	B'	L'	N <sub>c</sub>	N <sub>q</sub>	N <sub>y</sub>	F <sub>cs</sub>	F <sub>qs</sub>	F <sub>ys</sub>	D/B	F <sub>ed</sub>	F <sub>qd</sub>	F <sub>yd</sub>	F <sub>ca</sub>	F <sub>ci</sub>	F <sub>yi</sub>	q' <sub>u</sub>	Q' <sub>u</sub>	q <sub>all(net)</sub>			
m	(deg)	T/m <sup>2</sup>	T/m <sup>3</sup>	T/m <sup>3</sup>	m			m	m	m	T/m <sup>2</sup>	T/m <sup>3</sup>	m	m	m	m															T/m <sup>2</sup>	T/m <sup>2</sup>	T/m <sup>2</sup>		
0	5	0	1.8	2	1	0	3	1.00	1	1	1	1	1	1	1	1	5.1	1.0	0.0	1.19	1	0.6	1	1.4	1.0	1	1	1	1	1	44.0	44.0	14.3	14.3	
0.025	5	0	1.8	2	1	0	3	1.00	1	1	1	0.95	1	0.95	1	0.95	1	5.1	1.0	0.0	1.18	1	0.62	1	1.4	1	1	1	1	1	1	43.6	41.4	14.2	13.5
0.05	5	0	1.8	2	1	0	3	1.00	1	1	1	0.9	1	0.9	1	0.9	1	5.1	1.0	0.0	1.18	1	0.64	1	1.4	1	1	1	1	1	1	43.3	39.0	14.1	12.7
0.075	5	0	1.8	2	1	0	3	1.00	1	1	1	0.85	1	0.85	1	0.85	1	5.1	1.0	0.0	1.17	1	0.66	1	1.4	1	1	1	1	1	1	42.9	36.5	14.0	11.9
0.1	5	0	1.8	2	1	0	3	1.00	1	1	1	0.8	1	0.8	1	0.8	1	5.1	1.0	0.0	1.16	1	0.68	1	1.4	1	1	1	1	1	1	42.6	34.1	13.9	11.1
0.125	5	0	1.8	2	1	0	3	1.00	1	1	1	0.75	1	0.75	1	0.75	1	5.1	1.0	0.0	1.15	1	0.7	1	1.4	1	1	1	1	1	1	42.2	31.7	13.7	10.3
0.15	5	0	1.8	2	1	0	3	1.00	1	1	1	0.7	1	0.7	1	0.7	1	5.1	1.0	0.0	1.14	1	0.72	1	1.4	1	1	1	1	1	1	41.9	29.3	13.6	9.5
0.175	5	0	1.8	2	1	0	3	1.00	1	1	1	0.65	1	0.65	1	0.65	1	5.1	1.0	0.0	1.13	1	0.74	1	1.4	1	1	1	1	1	1	41.5	27.0	13.5	8.8
0.2	5	0	1.8	2	1	0	3	1.00	1	1	1	0.6	1	0.6	1	0.6	1	5.1	1.0	0.0	1.12	1	0.76	1	1.4	1	1	1	1	1	1	41.2	24.7	13.4	8.0
0.225	5	0	1.8	2	1	0	3	1.00	1	1	1	0.55	1	0.55	1	0.55	1	5.1	1.0	0.0	1.11	1	0.78	1	1.4	1	1	1	1	1	1	40.8	22.5	13.3	7.3

ตารางที่ 4-25, 4-26 การวิเคราะห์และคำนวณกำลังแยกทานของดินใต้ฐานรากค้ำ (q<sub>u</sub>) และค่าหน้าตัดสูงสุด (Q<sub>u</sub>) ที่ฐานรากค้ำจะรับได้ทีละระยะเชิงซ้อนต่างๆ  
 CASE 1 No. 050 00 18 - 125 100 100

DATA INPUT															CALCULATION															DATA OUTPUT		
SOIL PROPERTY					DESIGN					q'	γ	B <sub>real</sub>	L <sub>real</sub>	B'	L'	BEARING FACTOR			SHAPE FACTOR			DEPTH FACTOR			INCLI FACTOR			q' <sub>u</sub>	Q' <sub>u</sub>	Q <sub>ult(nee)</sub>		
c	φ	γ	γ <sub>sat</sub>	γ <sub>o</sub>	D <sub>GWT</sub>	β	FS	Df	B							L	N <sub>c</sub>	N <sub>q</sub>	N <sub>y</sub>	F <sub>cs</sub>	F <sub>qs</sub>	F <sub>ys</sub>	D <sub>p/B</sub>	F <sub>ed</sub>	F <sub>qd</sub>	F <sub>yd</sub>	F <sub>cd</sub>				F <sub>qd</sub>	F <sub>yd</sub>
T/m <sup>2</sup>	(deg)	T/m <sup>3</sup>	T/m <sup>3</sup>	T/m <sup>3</sup>	m			m	m	m	T/m <sup>2</sup>	T/m <sup>3</sup>	T/m <sup>3</sup>														T/m <sup>2</sup>	T	T/m <sup>2</sup>	T		
0	5	0	1.8	2	1	0	0	3	1.25	1	1	1	1	1	1	1	0.6	1.25	1.36	1.00	1	1	1	1	1	1	1	43.0	43.0	13.9	13.9	
0.025	5	0	1.8	2	1	0	0	3	1.25	1	0.95	1	0.95	1	0.95	1	0.62	1.25	1.36	1	1	1	1	1	1	1	1	42.6	40.5	13.8	13.1	
0.05	5	0	1.8	2	1	0	0	3	1.25	1	0.9	1	0.9	1	0.9	1	0.64	1.25	1.36	1	1	1	1	1	1	1	1	42.3	38.0	13.7	12.3	
0.075	5	0	1.8	2	1	0	0	3	1.25	1	0.85	1	0.85	1	0.85	1	0.66	1.25	1.36	1	1	1	1	1	1	1	1	41.9	35.6	13.6	11.5	
0.1	5	0	1.8	2	1	0	0	3	1.25	1	0.8	1	0.8	1	0.8	1	0.68	1.25	1.36	1	1	1	1	1	1	1	1	41.6	33.3	13.4	10.8	
0.125	5	0	1.8	2	1	0	0	3	1.25	1	0.75	1	0.75	1	0.75	1	0.7	1.25	1.36	1	1	1	1	1	1	1	1	41.3	30.9	13.3	10.0	
0.15	5	0	1.8	2	1	0	0	3	1.25	1	0.7	1	0.7	1	0.7	1	0.72	1.25	1.36	1	1	1	1	1	1	1	1	40.9	28.6	13.2	9.3	
0.175	5	0	1.8	2	1	0	0	3	1.25	1	0.65	1	0.65	1	0.65	1	0.74	1.25	1.36	1	1	1	1	1	1	1	1	40.6	26.4	13.1	8.5	
0.2	5	0	1.8	2	1	0	0	3	1.25	1	0.6	1	0.6	1	0.6	1	0.76	1.25	1.36	1	1	1	1	1	1	1	1	40.2	24.1	13.0	7.8	
0.225	5	0	1.8	2	1	0	0	3	1.25	1	0.55	1	0.55	1	0.55	1	0.78	1.25	1.36	1	1	1	1	1	1	1	1	39.9	21.9	12.9	7.1	

CASE 1 No. 050 00 18 - 150 100 100

DATA INPUT															CALCULATION															DATA OUTPUT		
SOIL PROPERTY					DESIGN					q'	γ	B <sub>real</sub>	L <sub>real</sub>	B'	L'	BEARING FACTOR			SHAPE FACTOR			DEPTH FACTOR			INCLI FACTOR			q' <sub>u</sub>	Q' <sub>u</sub>	Q <sub>ult(nee)</sub>		
c	φ	γ	γ <sub>sat</sub>	γ <sub>o</sub>	D <sub>GWT</sub>	β	FS	Df	B							L	N <sub>c</sub>	N <sub>q</sub>	N <sub>y</sub>	F <sub>cs</sub>	F <sub>qs</sub>	F <sub>ys</sub>	D <sub>p/B</sub>	F <sub>ed</sub>	F <sub>qd</sub>	F <sub>yd</sub>	F <sub>cd</sub>				F <sub>qd</sub>	F <sub>yd</sub>
T/m <sup>2</sup>	(deg)	T/m <sup>3</sup>	T/m <sup>3</sup>	T/m <sup>3</sup>	m			m	m	m	T/m <sup>2</sup>	T/m <sup>3</sup>	T/m <sup>3</sup>														T/m <sup>2</sup>	T	T/m <sup>2</sup>	T		
0	5	0	1.8	2	1	0	0	3	1.50	1	1	1	1	1	1	1	0.6	1.5	1.39	1	1	1	1	1	1	1	1	44.3	44.3	14.3	14.3	
0.025	5	0	1.8	2	1	0	0	3	1.50	1	0.95	1	0.95	1	0.95	1	0.62	1.5	1.39	1	1	1	1	1	1	1	1	1	43.9	41.7	14.1	13.4
0.05	5	0	1.8	2	1	0	0	3	1.50	1	0.9	1	0.9	1	0.9	1	0.64	1.5	1.39	1	1	1	1	1	1	1	1	1	43.6	39.2	14.0	12.6
0.075	5	0	1.8	2	1	0	0	3	1.50	1	0.85	1	0.85	1	0.85	1	0.66	1.5	1.39	1	1	1	1	1	1	1	1	1	43.2	36.7	13.9	11.8
0.1	5	0	1.8	2	1	0	0	3	1.50	1	0.8	1	0.8	1	0.8	1	0.68	1.5	1.39	1	1	1	1	1	1	1	1	1	42.9	34.3	13.8	11.0
0.125	5	0	1.8	2	1	0	0	3	1.50	1	0.75	1	0.75	1	0.75	1	0.7	1.5	1.39	1	1	1	1	1	1	1	1	1	42.5	31.9	13.7	10.3
0.15	5	0	1.8	2	1	0	0	3	1.50	1	0.7	1	0.7	1	0.7	1	0.72	1.5	1.39	1	1	1	1	1	1	1	1	1	42.2	29.5	13.6	9.5
0.175	5	0	1.8	2	1	0	0	3	1.50	1	0.65	1	0.65	1	0.65	1	0.74	1.5	1.39	1	1	1	1	1	1	1	1	1	41.8	27.2	13.4	8.7
0.2	5	0	1.8	2	1	0	0	3	1.50	1	0.6	1	0.6	1	0.6	1	0.76	1.5	1.39	1	1	1	1	1	1	1	1	1	41.5	24.9	13.3	8.0
0.225	5	0	1.8	2	1	0	0	3	1.50	1	0.55	1	0.55	1	0.55	1	0.78	1.5	1.39	1	1	1	1	1	1	1	1	1	41.1	22.6	13.2	7.3

ตารางที่ 4-27, 4-28 การวิเคราะห์และคำนวณกำลังแบกทานของดินใช้ฐานรากตัน ( $q_u$ ) และคำนวณหาวิกฤต ( $Q_u$ ) ที่ฐานรากตันจะรับได้ทีละระยะเบื้องต้นอย่าง  
 CASE I No. 100 00 16 - 075 100 100

DATA INPUT															CALCULATION															DATA OUTPUT			
SOIL PROPERTY					DESIGN					$q'$	$\gamma$	$B_{total}$	$L_{total}$	$B'$	$L'$	BEARING FACTOR				SHAPE FACTOR				DEPTH FACTOR				INCLI FACTOR			$q'_u$	$Q'_u$	$Q_{ult(nee)}$
$c$	$\phi$	$\gamma$	$\gamma_{sat}$	$\gamma_o$	$D_{GWT}$	$\beta$	FS	Df	B							L	$N_c$	$N_q$	$N_y$	$F_{cs}$	$F_{qs}$	$F_{ys}$	$D/B$	$F_{ed}$	$F_{qd}$	$F_{yd}$	$F_{ci}$	$F_{qi}$	$F_{yi}$	$T/m^2$			
0	10	0	1.6	1.8	1	0	0	3	0.75	1	1	0.6	0.8	1	1	1	1	0.6	0.75	1.3	1	1	1	1	1	80.4	80.4	26.6					
0.025	10	0	1.6	1.8	1	0	0	3	0.75	1	1	0.6	0.8	0.95	1	0.95	1	0.62	0.75	1.3	1	1	1	1	1	79.8	75.8	26.4					
0.05	10	0	1.6	1.8	1	0	0	3	0.75	1	1	0.6	0.8	0.9	1	0.9	1	0.64	0.75	1.3	1	1	1	1	1	79.1	71.2	26.2					
0.075	10	0	1.6	1.8	1	0	0	3	0.75	1	1	0.6	0.8	0.85	1	0.85	1	0.66	0.75	1.3	1	1	1	1	1	78.5	66.7	26.0					
0.1	10	0	1.6	1.8	1	0	0	3	0.75	1	1	0.6	0.8	0.8	1	0.8	1	0.68	0.75	1.3	1	1	1	1	1	77.8	62.3	25.7					
0.125	10	0	1.6	1.8	1	0	0	3	0.75	1	1	0.6	0.8	0.75	1	0.75	1	0.7	0.75	1.3	1	1	1	1	1	77.2	57.9	25.5					
0.15	10	0	1.6	1.8	1	0	0	3	0.75	1	1	0.6	0.8	0.7	1	0.7	1	0.72	0.75	1.3	1	1	1	1	1	76.5	53.6	25.3					
0.175	10	0	1.6	1.8	1	0	0	3	0.75	1	1	0.6	0.8	0.65	1	0.65	1	0.74	0.75	1.3	1	1	1	1	1	75.9	49.3	25.1					
0.2	10	0	1.6	1.8	1	0	0	3	0.75	1	1	0.6	0.8	0.6	1	0.6	1	0.76	0.75	1.3	1	1	1	1	1	75.2	45.1	24.9					
0.225	10	0	1.6	1.8	1	0	0	3	0.75	1	1	0.6	0.8	0.55	1	0.55	1	0.78	0.75	1.3	1	1	1	1	1	74.6	41.0	24.7					

CASE I No. 100 00 16 - 100 100 100

DATA INPUT															CALCULATION															DATA OUTPUT			
SOIL PROPERTY					DESIGN					$q'$	$\gamma$	$B_{total}$	$L_{total}$	$B'$	$L'$	BEARING FACTOR				SHAPE FACTOR				DEPTH FACTOR				INCLI FACTOR			$q'_u$	$Q'_u$	$Q_{ult(nee)}$
$c$	$\phi$	$\gamma$	$\gamma_{sat}$	$\gamma_o$	$D_{GWT}$	$\beta$	FS	Df	B							L	$N_c$	$N_q$	$N_y$	$F_{cs}$	$F_{qs}$	$F_{ys}$	$D/B$	$F_{ed}$	$F_{qd}$	$F_{yd}$	$F_{ci}$	$F_{qi}$	$F_{yi}$	$T/m^2$			
0	10	0	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	1	1	1	0.6	1	1.4	1.0	1	1	1	1	1	86.8	86.8	28.7					
0.025	10	0	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.95	1	0.95	1	0.62	1	1.4	1	1	1	1	1	86.1	81.8	28.4					
0.05	10	0	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.9	1	0.9	1	0.64	1	1.4	1	1	1	1	1	85.4	76.8	28.2					
0.075	10	0	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.85	1	0.85	1	0.66	1	1.4	1	1	1	1	1	84.7	72.0	28.0					
0.1	10	0	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.8	1	0.8	1	0.68	1	1.4	1	1	1	1	1	84.0	67.2	27.7					
0.125	10	0	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.75	1	0.75	1	0.7	1	1.4	1	1	1	1	1	83.3	62.4	27.5					
0.15	10	0	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.7	1	0.7	1	0.72	1	1.4	1	1	1	1	1	82.6	57.8	27.3					
0.175	10	0	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.65	1	0.65	1	0.74	1	1.4	1	1	1	1	1	81.9	53.2	27.0					
0.2	10	0	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.6	1	0.6	1	0.76	1	1.4	1	1	1	1	1	81.2	48.7	26.8					
0.225	10	0	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.55	1	0.55	1	0.78	1	1.4	1	1	1	1	1	80.5	44.3	26.6					

ตารางที่ 4-27, 4-28 การวิเคราะห์และคำนวณกำลังแบกทานของดินใต้ฐานรากคาน (q<sub>u</sub>) และคำนวณน้ำหนักสูงสุด (Q<sub>u</sub>) ที่ฐานรากคานจะรับได้ที่ระยะเบี่ยงเอียงศูนย์ต่ง ๆ  
 CASE 1 No. 100 00 16 - 125 100 100

DATA INPUT															CALCULATION															DATA OUTPUT		
SOIL PROPERTY					DESIGN					BEARING FACTOR					SHAPE FACTOR					DEPTH FACTOR					INCLI FACTOR			DATA OUTPUT				
c	φ	γ	γ <sub>sat</sub>	γ <sub>o</sub>	D <sub>dwt</sub>	β	FS	Df	B	L	q'	γ	B <sub>real</sub>	I <sub>real</sub>	B'	L'	N <sub>q</sub>	N <sub>y</sub>	F <sub>cs</sub>	F <sub>qs</sub>	F <sub>ys</sub>	D <sub>f</sub> /B	F <sub>ed</sub>	F <sub>qd</sub>	F <sub>pd</sub>	F <sub>cd</sub>	F <sub>ci</sub>	F <sub>qi</sub>	F <sub>yi</sub>	q' <sub>u</sub>	Q <sub>u</sub>	Q <sub>all(cent)</sub>
m	T/m2	(deg)	T/m3	T/m3	m			m	m	m	T/m2	T/m3	m	m	m	m														T/m2	T	T/m2
0	10	0	1.6	1.8	1	0	3	1.25	1	1	1	0.8	1	1	1	1	5.1	1.0	0.0	1.19	1	0.6	1.25	1.36	1.00	1	1	1	1	84.4	84.4	27.8
0.025	10	0	1.6	1.8	1	0	3	1.25	1	1	1	0.8	0.95	1	0.95	1	5.1	1.0	0.0	1.18	1	0.62	1.25	1.36	1	1	1	1	1	83.7	79.5	27.6
0.05	10	0	1.6	1.8	1	0	3	1.25	1	1	1	0.8	0.9	1	0.9	1	5.1	1.0	0.0	1.18	1	0.64	1.25	1.36	1	1	1	1	1	83.0	74.7	27.3
0.075	10	0	1.6	1.8	1	0	3	1.25	1	1	1	0.8	0.85	1	0.85	1	5.1	1.0	0.0	1.17	1	0.66	1.25	1.36	1	1	1	1	1	82.4	70.0	27.1
0.1	10	0	1.6	1.8	1	0	3	1.25	1	1	1	0.8	0.8	1	0.8	1	5.1	1.0	0.0	1.16	1	0.68	1.25	1.36	1	1	1	1	1	81.7	65.4	26.9
0.125	10	0	1.6	1.8	1	0	3	1.25	1	1	1	0.8	0.75	1	0.75	1	5.1	1.0	0.0	1.15	1	0.7	1.25	1.36	1	1	1	1	1	81.0	60.8	26.7
0.15	10	0	1.6	1.8	1	0	3	1.25	1	1	1	0.8	0.7	1	0.7	1	5.1	1.0	0.0	1.14	1	0.72	1.25	1.36	1	1	1	1	1	80.3	56.2	26.4
0.175	10	0	1.6	1.8	1	0	3	1.25	1	1	1	0.8	0.65	1	0.65	1	5.1	1.0	0.0	1.13	1	0.74	1.25	1.36	1	1	1	1	1	79.7	51.8	26.2
0.2	10	0	1.6	1.8	1	0	3	1.25	1	1	1	0.8	0.6	1	0.6	1	5.1	1.0	0.0	1.12	1	0.76	1.25	1.36	1	1	1	1	1	79.0	47.4	26.0
0.225	10	0	1.6	1.8	1	0	3	1.25	1	1	1	0.8	0.55	1	0.55	1	5.1	1.0	0.0	1.11	1	0.78	1.25	1.36	1	1	1	1	1	78.3	43.1	25.8

CASE 1 No. 100 00 16 - 150 100 100

DATA INPUT															CALCULATION															DATA OUTPUT		
SOIL PROPERTY					DESIGN					BEARING FACTOR					SHAPE FACTOR					DEPTH FACTOR					INCLI FACTOR			DATA OUTPUT				
c	φ	γ	γ <sub>sat</sub>	γ <sub>o</sub>	D <sub>dwt</sub>	β	FS	Df	B	L	q'	γ	B <sub>real</sub>	I <sub>real</sub>	B'	L'	N <sub>q</sub>	N <sub>y</sub>	F <sub>cs</sub>	F <sub>qs</sub>	F <sub>ys</sub>	D <sub>f</sub> /B	F <sub>ed</sub>	F <sub>qd</sub>	F <sub>pd</sub>	F <sub>cd</sub>	F <sub>ci</sub>	F <sub>qi</sub>	F <sub>yi</sub>	q' <sub>u</sub>	Q <sub>u</sub>	Q <sub>all(cent)</sub>
m	T/m2	(deg)	T/m3	T/m3	m			m	m	m	T/m2	T/m3	m	m	m	m														T/m2	T	T/m2
0	10	0	1.6	1.8	1	0	3	1.50	1	1	1.2	0.8	1	1	1	1	5.1	1.0	0.0	1.19	1	0.6	1.5	1.39	1	1	1	1	1	86.7	86.7	28.5
0.025	10	0	1.6	1.8	1	0	3	1.50	1	1	1.2	0.8	0.95	1	0.95	1	5.1	1.0	0.0	1.18	1	0.62	1.5	1.39	1	1	1	1	1	86.0	81.7	28.3
0.05	10	0	1.6	1.8	1	0	3	1.50	1	1	1.2	0.8	0.9	1	0.9	1	5.1	1.0	0.0	1.18	1	0.64	1.5	1.39	1	1	1	1	1	85.3	76.8	28.0
0.075	10	0	1.6	1.8	1	0	3	1.50	1	1	1.2	0.8	0.85	1	0.85	1	5.1	1.0	0.0	1.17	1	0.66	1.5	1.39	1	1	1	1	1	84.6	72.0	27.8
0.1	10	0	1.6	1.8	1	0	3	1.50	1	1	1.2	0.8	0.8	1	0.8	1	5.1	1.0	0.0	1.16	1	0.68	1.5	1.39	1	1	1	1	1	84.0	67.2	27.6
0.125	10	0	1.6	1.8	1	0	3	1.50	1	1	1.2	0.8	0.75	1	0.75	1	5.1	1.0	0.0	1.15	1	0.7	1.5	1.39	1	1	1	1	1	83.3	62.4	27.4
0.15	10	0	1.6	1.8	1	0	3	1.50	1	1	1.2	0.8	0.7	1	0.7	1	5.1	1.0	0.0	1.14	1	0.72	1.5	1.39	1	1	1	1	1	82.6	57.8	27.1
0.175	10	0	1.6	1.8	1	0	3	1.50	1	1	1.2	0.8	0.65	1	0.65	1	5.1	1.0	0.0	1.13	1	0.74	1.5	1.39	1	1	1	1	1	81.9	53.2	26.9
0.2	10	0	1.6	1.8	1	0	3	1.50	1	1	1.2	0.8	0.6	1	0.6	1	5.1	1.0	0.0	1.12	1	0.76	1.5	1.39	1	1	1	1	1	81.2	48.7	26.7
0.225	10	0	1.6	1.8	1	0	3	1.50	1	1	1.2	0.8	0.55	1	0.55	1	5.1	1.0	0.0	1.11	1	0.78	1.5	1.39	1	1	1	1	1	80.5	44.3	26.4



ตารางที่ 4-29, 4-30 การวิเคราะห์และคำนวณกำลังเบียดทานของดินใต้ฐานรากที่  $(q_u)$  และค่าน้ำหนักสูงสุด  $(Q_u)$  ที่ฐานรากค้ำจะรับได้ทีละระยะเบื้องต้นต่าง ๆ  
 CASE I No. 100 28 18 - 075 100 100

DATA INPUT															CALCULATION															DATA OUTPUT				
SOIL PROPERTY					DESIGN					BEARING FACTOR					SHAPE FACTOR					DEPTH FACTOR					INCLI FACTOR			DATA OUTPUT						
$c$	$\phi$	$\gamma$	$\gamma_{sat}$	$\gamma_{\omega}$	$D_{GWT}$	$\beta$	FS	Df	B	L	$q'$	$\gamma'$	$B_{real}$	$L_{real}$	B'	L'	$N_c$	$N_q$	$N_y$	$F_{cs}$	$F_{cp}$	$F_{ys}$	D/B	$F_{ed}$	$F_{qd}$	$F_{yd}$	$F_{ci}$	$F_{qi}$	$F_{yi}$	$q'_u$	$Q'_u$	$Q_{all(net)}$		
m	(deg)	T/m <sup>3</sup>	T/m <sup>3</sup>	T/m <sup>3</sup>	m		m	m	m	m	T/m <sup>2</sup>	T/m <sup>3</sup>	m	m	m	m															T/m <sup>2</sup>	T	T/m <sup>2</sup>	
0	10	28	1.8	2	1	0	0	3	0.75	1	1	1	1	1	1	1	25.8	14.7	16.7	1.57	1.53	0.6	0.75	1.3	1.22	1	1	1	1	1	1	552.5	552.5	183.9
0.025	10	28	1.8	2	1	0	0	3	0.75	1	1	0.95	1	0.95	1	0.95	25.8	14.7	16.7	1.54	1.51	0.62	0.75	1.3	1.22	1	1	1	1	1	1	542.5	515.4	180.6
0.05	10	28	1.8	2	1	0	0	3	0.75	1	1	0.9	1	0.9	1	0.9	25.8	14.7	16.7	1.51	1.48	0.64	0.75	1.3	1.22	1	1	1	1	1	1	532.5	479.2	177.2
0.075	10	28	1.8	2	1	0	0	3	0.75	1	1	0.85	1	0.85	1	0.85	25.8	14.7	16.7	1.48	1.45	0.66	0.75	1.3	1.22	1	1	1	1	1	1	522.4	444.1	173.9
0.1	10	28	1.8	2	1	0	0	3	0.75	1	1	0.8	1	0.8	1	0.8	25.8	14.7	16.7	1.46	1.43	0.68	0.75	1.3	1.22	1	1	1	1	1	1	512.3	409.9	170.5
0.125	10	28	1.8	2	1	0	0	3	0.75	1	1	0.75	1	0.75	1	0.75	25.8	14.7	16.7	1.43	1.4	0.7	0.75	1.3	1.22	1	1	1	1	1	1	502.3	376.7	167.2
0.15	10	28	1.8	2	1	0	0	3	0.75	1	1	0.7	1	0.7	1	0.7	25.8	14.7	16.7	1.4	1.37	0.72	0.75	1.3	1.22	1	1	1	1	1	1	492.2	344.5	163.8
0.175	10	28	1.8	2	1	0	0	3	0.75	1	1	0.65	1	0.65	1	0.65	25.8	14.7	16.7	1.37	1.35	0.74	0.75	1.3	1.22	1	1	1	1	1	1	482.0	313.3	160.4
0.2	10	28	1.8	2	1	0	0	3	0.75	1	1	0.6	1	0.6	1	0.6	25.8	14.7	16.7	1.34	1.32	0.76	0.75	1.3	1.22	1	1	1	1	1	1	471.9	283.1	157.1
0.225	10	28	1.8	2	1	0	0	3	0.75	1	1	0.55	1	0.55	1	0.55	25.8	14.7	16.7	1.31	1.29	0.78	0.75	1.3	1.22	1	1	1	1	1	1	461.7	254.0	153.7
0.25	10	28	1.8	2	1	0	0	3	0.75	1	1	0.5	1	0.5	1	0.5	25.8	14.7	16.7	1.28	1.26	0.8	0.75	1.3	1.22	1	1	1	1	1	1	451.5	224.9	150.3

CASE I No. 100 28 18 - 100 100 100

DATA INPUT															CALCULATION															DATA OUTPUT					
SOIL PROPERTY					DESIGN					BEARING FACTOR					SHAPE FACTOR					DEPTH FACTOR					INCLI FACTOR			DATA OUTPUT							
$c$	$\phi$	$\gamma$	$\gamma_{sat}$	$\gamma_{\omega}$	$D_{GWT}$	$\beta$	FS	Df	B	L	$q'$	$\gamma'$	$B_{real}$	$L_{real}$	B'	L'	$N_c$	$N_q$	$N_y$	$F_{cs}$	$F_{cp}$	$F_{ys}$	D/B	$F_{ed}$	$F_{qd}$	$F_{yd}$	$F_{ci}$	$F_{qi}$	$F_{yi}$	$q'_u$	$Q'_u$	$Q_{all(net)}$			
m	(deg)	T/m <sup>3</sup>	T/m <sup>3</sup>	T/m <sup>3</sup>	m		m	m	m	m	T/m <sup>2</sup>	T/m <sup>3</sup>	m	m	m	m															T/m <sup>2</sup>	T	T/m <sup>2</sup>		
0	10	28	1.8	2	1	0	0	3	1.00	1	1	1	1	1	1	1	25.8	14.7	16.7	1.57	1.53	0.6	1	1.4	1.3	1	1	1	1	1	1	601.6	601.6	200.2	
0.025	10	28	1.8	2	1	0	0	3	1.00	1	1	0.95	1	0.95	1	0.95	25.8	14.7	16.7	1.54	1.51	0.62	1	1.4	1.3	1	1	1	1	1	1	1	590.7	561.2	196.6
0.05	10	28	1.8	2	1	0	0	3	1.00	1	1	0.9	1	0.9	1	0.9	25.8	14.7	16.7	1.51	1.48	0.64	1	1.4	1.3	1	1	1	1	1	1	1	579.8	521.8	192.9
0.075	10	28	1.8	2	1	0	0	3	1.00	1	1	0.85	1	0.85	1	0.85	25.8	14.7	16.7	1.48	1.45	0.66	1	1.4	1.3	1	1	1	1	1	1	1	568.9	483.5	189.3
0.1	10	28	1.8	2	1	0	0	3	1.00	1	1	0.8	1	0.8	1	0.8	25.8	14.7	16.7	1.46	1.43	0.68	1	1.4	1.3	1	1	1	1	1	1	1	557.9	446.3	185.6
0.125	10	28	1.8	2	1	0	0	3	1.00	1	1	0.75	1	0.75	1	0.75	25.8	14.7	16.7	1.43	1.4	0.7	1	1.4	1.3	1	1	1	1	1	1	1	546.9	410.2	182.0
0.15	10	28	1.8	2	1	0	0	3	1.00	1	1	0.7	1	0.7	1	0.7	25.8	14.7	16.7	1.4	1.37	0.72	1	1.4	1.3	1	1	1	1	1	1	1	536.0	375.2	178.3
0.175	10	28	1.8	2	1	0	0	3	1.00	1	1	0.65	1	0.65	1	0.65	25.8	14.7	16.7	1.37	1.35	0.74	1	1.4	1.3	1	1	1	1	1	1	1	525.0	341.2	174.7
0.2	10	28	1.8	2	1	0	0	3	1.00	1	1	0.6	1	0.6	1	0.6	25.8	14.7	16.7	1.34	1.32	0.76	1	1.4	1.3	1	1	1	1	1	1	1	513.9	308.4	171.0
0.225	10	28	1.8	2	1	0	0	3	1.00	1	1	0.55	1	0.55	1	0.55	25.8	14.7	16.7	1.31	1.29	0.78	1	1.4	1.3	1	1	1	1	1	1	1	502.9	276.6	167.3
0.25	10	28	1.8	2	1	0	0	3	1.00	1	1	0.5	1	0.5	1	0.5	25.8	14.7	16.7	1.28	1.26	0.8	1	1.4	1.3	1	1	1	1	1	1	1	491.9	244.5	163.8



ตารางที่ 4-31, 4-32 การวิเคราะห์และคำนวณกำลังแบกทานของดินได้ฐานรากที่ (q<sub>u</sub>) และค่ากำหนดสูงสุด (Q<sub>u</sub>) ที่ฐานรากชั้นจอร์บีได้ที่ระยะเชิงซ้อนต่าง ๆ  
 CASE 1 No. 000 28 16 - 100 100 120

DATA INPUT															CALCULATION															DATA OUTPUT			
SOIL PROPERTY					DESIGN					BEARING FACTOR					SHAPE FACTOR					DEPTH FACTOR					INCLI FACTOR			DATA OUTPUT					
c	φ	γ	γ <sub>sat</sub>	γ <sub>o</sub>	D <sub>swt</sub>	β	FS	Df	B	L	q'	γ	B <sub>total</sub>	L <sub>total</sub>	B'	L'	N <sub>c</sub>	N <sub>q</sub>	N <sub>y</sub>	F <sub>cs</sub>	F <sub>φ</sub>	F <sub>ys</sub>	D <sub>f</sub> /B	F <sub>cd</sub>	F <sub>qd</sub>	F <sub>pd</sub>	F <sub>ci</sub>	F <sub>φ</sub>	F <sub>y</sub>	q' <sub>u</sub>	Q' <sub>u</sub>	Q <sub>all(mo)</sub>	
T/m2	(deg)	T/m3	T/m3	T/m3	m			m	m	m	T/m2	T/m3	m	m	m	m									T/m2	T/m2	T/m2	T/m2	T/m2	T/m2	T/m2	T/m2	
0	28	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	1	1	1	1	25.8	14.7	16.7	1.57	1.53	0.6	1	1.4	1.3	1	1	1	1	27.4	27.4	8.9	8.9
0.025	0	28	1.6	1.8	1	0	0	3	1.00	1	0.8	0.8	0.95	1	0.95	1	25.8	14.7	16.7	1.54	1.51	0.62	1	1.4	1.3	1	1	1	1	27.0	25.6	8.7	8.3
0.05	0	28	1.6	1.8	1	0	0	3	1.00	1	0.8	0.8	0.9	1	0.9	1	25.8	14.7	16.7	1.51	1.48	0.64	1	1.4	1.3	1	1	1	1	26.5	23.8	8.6	7.7
0.075	0	28	1.6	1.8	1	0	0	3	1.00	1	0.8	0.8	0.85	1	0.85	1	25.8	14.7	16.7	1.48	1.45	0.66	1	1.4	1.3	1	1	1	1	26.0	22.1	8.4	7.1
0.1	0	28	1.6	1.8	1	0	0	3	1.00	1	0.8	0.8	0.8	1	0.8	1	25.8	14.7	16.7	1.46	1.43	0.68	1	1.4	1.3	1	1	1	1	25.4	20.4	8.2	6.6
0.125	0	28	1.6	1.8	1	0	0	3	1.00	1	0.8	0.8	0.75	1	0.75	1	25.8	14.7	16.7	1.43	1.4	0.7	1	1.4	1.3	1	1	1	1	24.9	18.7	8.0	6.0
0.15	0	28	1.6	1.8	1	0	0	3	1.00	1	0.8	0.8	0.7	1	0.7	1	25.8	14.7	16.7	1.4	1.37	0.72	1	1.4	1.3	1	1	1	1	24.4	17.1	7.9	5.5
0.175	0	28	1.6	1.8	1	0	0	3	1.00	1	0.8	0.8	0.65	1	0.65	1	25.8	14.7	16.7	1.37	1.35	0.74	1	1.4	1.3	1	1	1	1	23.8	15.5	7.7	5.0
0.2	0	28	1.6	1.8	1	0	0	3	1.00	1	0.8	0.8	0.6	1	0.6	1	25.8	14.7	16.7	1.34	1.32	0.76	1	1.4	1.3	1	1	1	1	23.2	13.9	7.5	4.5
0.225	0	28	1.6	1.8	1	0	0	3	1.00	1	0.8	0.8	0.55	1	0.55	1	25.8	14.7	16.7	1.31	1.29	0.78	1	1.4	1.3	1	1	1	1	22.6	12.5	7.3	4.0

CASE 1 No. 000 28 16 - 100 100 120

DATA INPUT															CALCULATION															DATA OUTPUT			
SOIL PROPERTY					DESIGN					BEARING FACTOR					SHAPE FACTOR					DEPTH FACTOR					INCLI FACTOR			DATA OUTPUT					
c	φ	γ	γ <sub>sat</sub>	γ <sub>o</sub>	D <sub>swt</sub>	β	FS	Df	B	L	q'	γ	B <sub>total</sub>	L <sub>total</sub>	B'	L'	N <sub>c</sub>	N <sub>q</sub>	N <sub>y</sub>	F <sub>cs</sub>	F <sub>φ</sub>	F <sub>ys</sub>	D <sub>f</sub> /B	F <sub>cd</sub>	F <sub>qd</sub>	F <sub>pd</sub>	F <sub>ci</sub>	F <sub>φ</sub>	F <sub>y</sub>	q' <sub>u</sub>	Q' <sub>u</sub>	Q <sub>all(mo)</sub>	
T/m2	(deg)	T/m3	T/m3	T/m3	m			m	m	m	T/m2	T/m3	m	m	m	m									T/m2	T/m2	T/m2	T/m2	T/m2	T/m2	T/m2	T/m2	
0	28	1.6	1.8	1	0	0	3	1.00	1	1.2	0.8	0.8	1	1.2	1	1.2	25.8	14.7	16.7	1.48	1.44	0.67	1	1.4	1.3	1	1	1	1	26.5	31.8	8.6	10.3
0.025	0	28	1.6	1.8	1	0	0	3	1.00	1	0.8	0.8	0.95	1.2	0.95	1.2	25.8	14.7	16.7	1.45	1.42	0.68	1	1.4	1.3	1	1	1	1	26.1	29.7	8.4	9.6
0.05	0	28	1.6	1.8	1	0	0	3	1.00	1	0.8	0.8	0.9	1.2	0.9	1.2	25.8	14.7	16.7	1.43	1.4	0.7	1	1.4	1.3	1	1	1	1	25.6	27.7	8.3	8.9
0.075	0	28	1.6	1.8	1	0	0	3	1.00	1	0.8	0.8	0.85	1.2	0.85	1.2	25.8	14.7	16.7	1.4	1.38	0.72	1	1.4	1.3	1	1	1	1	25.1	25.6	8.1	8.3
0.1	0	28	1.6	1.8	1	0	0	3	1.00	1	0.8	0.8	0.8	1.2	0.8	1.2	25.8	14.7	16.7	1.38	1.35	0.73	1	1.4	1.3	1	1	1	1	24.6	23.7	7.9	7.6
0.125	0	28	1.6	1.8	1	0	0	3	1.00	1	0.8	0.8	0.75	1.2	0.75	1.2	25.8	14.7	16.7	1.36	1.33	0.75	1	1.4	1.3	1	1	1	1	24.1	21.7	7.8	7.0
0.15	0	28	1.6	1.8	1	0	0	3	1.00	1	0.8	0.8	0.7	1.2	0.7	1.2	25.8	14.7	16.7	1.33	1.31	0.77	1	1.4	1.3	1	1	1	1	23.6	19.9	7.6	6.4
0.175	0	28	1.6	1.8	1	0	0	3	1.00	1	0.8	0.8	0.65	1.2	0.65	1.2	25.8	14.7	16.7	1.31	1.29	0.78	1	1.4	1.3	1	1	1	1	23.1	18.0	7.4	5.8
0.2	0	28	1.6	1.8	1	0	0	3	1.00	1	0.8	0.8	0.6	1.2	0.6	1.2	25.8	14.7	16.7	1.29	1.27	0.8	1	1.4	1.3	1	1	1	1	22.6	16.3	7.3	5.2
0.225	0	28	1.6	1.8	1	0	0	3	1.00	1	0.8	0.8	0.55	1.2	0.55	1.2	25.8	14.7	16.7	1.26	1.24	0.82	1	1.4	1.3	1	1	1	1	22.0	14.5	7.1	4.7

ตารางที่ 4-31, 4-32 การวิเคราะห์และคำนวณกำลังแบกทานของดินใต้ฐานรากที่  $(q_u)$  และคำนวณน้ำหนักสูงสุด  $(Q_u)$  ที่ฐานรากที่รับได้ทีละระยะของชั้นต่างๆ

CASE 1 No. 000 28 16 - 100 120 120

DATA INPUT												CALCULATION												DATA OUTPUT									
SOIL PROPERTY						DESIGN						q'	γ	B <sub>real</sub>	L <sub>real</sub>	B'	L'	BEARING FACTOR				SHAPE FACTOR				DEPTH FACTOR				INCLI FACTOR			
c	φ	γ	γ <sub>sat</sub>	γ <sub>o</sub>	D <sub>swr</sub>	FS	Df	B	L	β	N <sub>c</sub>							N <sub>q</sub>	N <sub>y</sub>	F <sub>cs</sub>	F <sub>qs</sub>	F <sub>ys</sub>	D/B	F <sub>cd</sub>	F <sub>qd</sub>	F <sub>yd</sub>	F <sub>ci</sub>	F <sub>qi</sub>	F <sub>yi</sub>	q' <sub>u</sub>	Q' <sub>u</sub>	Q <sub>ult(net)</sub>	
T/m2	(deg)	T/m3	T/m3	T/m3	m		m	m	m		T/m2	T/m3	m	m	m	m		T/m2	T/m3	T/m2	T/m2	T/m2	T/m2	T/m2	T/m2	T/m2	T						
0	28	1.6	1.8	1	0	3	1.00	1.2	1.2	0	0.8	0.8	1.2	1.2	1.2	1.2	0.83	1.33	1.25	1	1	1	1	27.4	39.4	8.9	12.7						
0.025	0	28	1.6	1.8	1	0	3	1.00	1.2	1.2	0.8	0.8	1.15	1.2	1.15	1.2	0.83	1.33	1.25	1	1	1	1	27.0	37.2	8.7	12.0						
0.05	0	28	1.6	1.8	1	0	3	1.00	1.2	1.2	0.8	0.8	1.1	1.2	1.1	1.2	0.83	1.33	1.25	1	1	1	1	26.5	35.0	8.6	11.3						
0.075	0	28	1.6	1.8	1	0	3	1.00	1.2	1.2	0.8	0.8	1.05	1.2	1.05	1.2	0.83	1.33	1.25	1	1	1	1	26.1	32.9	8.4	10.6						
0.1	0	28	1.6	1.8	1	0	3	1.00	1.2	1.2	0.8	0.8	1	1.2	1	1.2	0.83	1.33	1.25	1	1	1	1	25.7	30.8	8.3	10.0						
0.125	0	28	1.6	1.8	1	0	3	1.00	1.2	1.2	0.8	0.8	0.95	1.2	0.95	1.2	0.83	1.33	1.25	1	1	1	1	25.2	28.8	8.1	9.3						
0.15	0	28	1.6	1.8	1	0	3	1.00	1.2	1.2	0.8	0.8	0.9	1.2	0.9	1.2	0.83	1.33	1.25	1	1	1	1	24.8	26.8	8.0	8.6						
0.175	0	28	1.6	1.8	1	0	3	1.00	1.2	1.2	0.8	0.8	0.85	1.2	0.85	1.2	0.83	1.33	1.25	1	1	1	1	24.3	24.8	7.8	8.0						
0.2	0	28	1.6	1.8	1	0	3	1.00	1.2	1.2	0.8	0.8	0.8	1.2	0.8	1.2	0.83	1.33	1.25	1	1	1	1	23.9	22.9	7.7	7.4						
0.225	0	28	1.6	1.8	1	0	3	1.00	1.2	1.2	0.8	0.8	0.75	1.2	0.75	1.2	0.83	1.33	1.25	1	1	1	1	23.4	21.0	7.5	6.8						

CASE 1 No. 000 28 16 - 100 100 150

DATA INPUT												CALCULATION												DATA OUTPUT									
SOIL PROPERTY						DESIGN						q'	γ	B <sub>real</sub>	L <sub>real</sub>	B'	L'	BEARING FACTOR				SHAPE FACTOR				DEPTH FACTOR				INCLI FACTOR			
c	φ	γ	γ <sub>sat</sub>	γ <sub>o</sub>	D <sub>swr</sub>	FS	Df	B	L	β	N <sub>c</sub>							N <sub>q</sub>	N <sub>y</sub>	F <sub>cs</sub>	F <sub>qs</sub>	F <sub>ys</sub>	D/B	F <sub>cd</sub>	F <sub>qd</sub>	F <sub>yd</sub>	F <sub>ci</sub>	F <sub>qi</sub>	F <sub>yi</sub>	q' <sub>u</sub>	Q' <sub>u</sub>	Q <sub>ult(net)</sub>	
T/m2	(deg)	T/m3	T/m3	T/m3	m		m	m	m		T/m2	T/m3	m	m	m	m		T/m2	T/m3	T/m2	T/m2	T/m2	T/m2	T/m2	T/m2	T/m2	T						
0	28	1.6	1.8	1	0	3	1.00	1	1.5	0	0.8	0.8	1	1.5	1	1.5	1	1.4	1.3	1	1	1	1	25.6	38.4	8.3	12.4						
0.025	0	28	1.6	1.8	1	0	3	1.00	1	1.5	0.8	0.8	0.95	1.5	0.95	1.5	1	1.4	1.3	1	1	1	1	25.2	35.9	8.1	11.6						
0.05	0	28	1.6	1.8	1	0	3	1.00	1	1.5	0.8	0.8	0.9	1.5	0.9	1.5	1	1.4	1.3	1	1	1	1	24.8	33.4	8.0	10.8						
0.075	0	28	1.6	1.8	1	0	3	1.00	1	1.5	0.8	0.8	0.85	1.5	0.85	1.5	1	1.4	1.3	1	1	1	1	24.3	31.0	7.8	10.0						
0.1	0	28	1.6	1.8	1	0	3	1.00	1	1.5	0.8	0.8	0.8	1.5	0.8	1.5	1	1.4	1.3	1	1	1	1	23.8	28.6	7.7	9.2						
0.125	0	28	1.6	1.8	1	0	3	1.00	1	1.5	0.8	0.8	0.75	1.5	0.75	1.5	1	1.4	1.3	1	1	1	1	23.4	26.3	7.5	8.5						
0.15	0	28	1.6	1.8	1	0	3	1.00	1	1.5	0.8	0.8	0.7	1.5	0.7	1.5	1	1.4	1.3	1	1	1	1	22.9	24.0	7.4	7.7						
0.175	0	28	1.6	1.8	1	0	3	1.00	1	1.5	0.8	0.8	0.65	1.5	0.65	1.5	1	1.4	1.3	1	1	1	1	22.4	21.9	7.2	7.0						
0.2	0	28	1.6	1.8	1	0	3	1.00	1	1.5	0.8	0.8	0.6	1.5	0.6	1.5	1	1.4	1.3	1	1	1	1	21.9	19.7	7.0	6.3						
0.225	0	28	1.6	1.8	1	0	3	1.00	1	1.5	0.8	0.8	0.55	1.5	0.55	1.5	1	1.4	1.3	1	1	1	1	21.4	17.7	6.9	5.7						

ตารางที่ 4-31, 4-32 การวิเคราะห์และคำนวณกำลังแบกทานของดินใต้ฐานรากตื้นจะรับได้ทีละระยะเบื้องต้นต่างๆ  
 CASE-1 No. 000 28 16 - 100 120 150

DATA INPUT															CALCULATION															DATA OUTPUT															
SOIL PROPERTY															DESIGN																														
e <sub>R</sub>	c	φ	γ	γ <sub>sat</sub>	γ <sub>so</sub>	D <sub>gwt</sub>	β	FS	Df	B	L	q'	γ'	B <sub>rest</sub>	L <sub>rest</sub>	B'	L'	BEARING FACTOR			SHAPE FACTOR			DEPTH FACTOR			INCLI FACTOR			q' <sub>u</sub>	Q' <sub>u</sub>	q <sub>all(ult)</sub>	T												
																		N <sub>c</sub>	N <sub>q</sub>	N <sub>y</sub>	F <sub>cs</sub>	F <sub>qs</sub>	F <sub>ys</sub>	D/B	F <sub>cd</sub>	F <sub>qd</sub>	F <sub>ya</sub>	F <sub>ca</sub>	F <sub>qi</sub>					F <sub>yi</sub>	q' <sub>u</sub>	Q' <sub>u</sub>	q <sub>all(ult)</sub>	T							
0	0	28	1.6	1.8	1	0	0	3	1.00	1.2	1.5	0.8	0.8	1.2	1.5	1.2	1.5	25.8	14.7	16.7	1.46	1.43	0.68	0.83	1.33	1.25	1	1	1	1	1	1	1	26.4	47.6	8.5	15.4								
0.025	0	28	1.6	1.8	1	0	0	3	1.00	1.2	1.5	0.8	0.8	1.15	1.5	1.15	1.5	25.8	14.7	16.7	1.44	1.41	0.69	0.83	1.33	1.25	1	1	1	1	1	1	1	1	1	1	26.0	44.9	8.4	14.5					
0.05	0	28	1.6	1.8	1	0	0	3	1.00	1.2	1.5	0.8	0.8	1.1	1.5	1.1	1.5	25.8	14.7	16.7	1.42	1.39	0.71	0.83	1.33	1.25	1	1	1	1	1	1	1	1	1	1	1	1	25.6	42.3	8.3	13.7			
0.075	0	28	1.6	1.8	1	0	0	3	1.00	1.2	1.5	0.8	0.8	1.05	1.5	1.05	1.5	25.8	14.7	16.7	1.4	1.37	0.72	0.83	1.33	1.25	1	1	1	1	1	1	1	1	1	1	1	1	1	25.2	39.8	8.1	12.8		
0.1	0	28	1.6	1.8	1	0	0	3	1.00	1.2	1.5	0.8	0.8	1	1.5	1	1.5	25.8	14.7	16.7	1.38	1.35	0.73	0.83	1.33	1.25	1	1	1	1	1	1	1	1	1	1	1	1	1	24.8	37.2	8.0	12.0		
0.125	0	28	1.6	1.8	1	0	0	3	1.00	1.2	1.5	0.8	0.8	0.95	1.5	0.95	1.5	25.8	14.7	16.7	1.36	1.34	0.75	0.83	1.33	1.25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	24.4	34.8	7.9	11.2
0.15	0	28	1.6	1.8	1	0	0	3	1.00	1.2	1.5	0.8	0.8	0.9	1.5	0.9	1.5	25.8	14.7	16.7	1.34	1.32	0.76	0.83	1.33	1.25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	24.0	32.4	7.7	10.4
0.175	0	28	1.6	1.8	1	0	0	3	1.00	1.2	1.5	0.8	0.8	0.85	1.5	0.85	1.5	25.8	14.7	16.7	1.32	1.3	0.77	0.83	1.33	1.25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	23.5	30.0	7.6	9.7
0.2	0	28	1.6	1.8	1	0	0	3	1.00	1.2	1.5	0.8	0.8	0.8	1.5	0.8	1.5	25.8	14.7	16.7	1.3	1.28	0.79	0.83	1.33	1.25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	23.1	27.7	7.4	8.9
0.225	0	28	1.6	1.8	1	0	0	3	1.00	1.2	1.5	0.8	0.8	0.75	1.5	0.75	1.5	25.8	14.7	16.7	1.29	1.27	0.8	0.83	1.33	1.25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	22.6	25.5	7.3	8.2

ตารางที่ 4-33, 4-34 การวิเคราะห์และคำนวณกำลังแบกพินให้ฐานรากตื้น( $q_u$ ) และคำนวณน้ำหนักสูงสุด( $Q_u$ ) ที่ฐานรากตื้นจะรับได้ทีละระยะเบื้องต้นต่างๆ

CASE I No. 000 32 16 - 100 100 100

DATA INPUT												CALCULATION												DATA OUTPUT									
SOIL PROPERTY						DESIGN						BEARING FACTOR						DEPTH FACTOR						INCLI FACTOR									
$c$ T/m2	$\phi$ (deg)	$\gamma$ T/m3	$\gamma_{sat}$ T/m3	$\gamma_{\omega}$ T/m3	$D_{gwr}$ m	$\beta$	FS	Df	B	L	$q'$ T/m2	$\gamma$ T/m3	$B_{real}$ m	$L_{real}$ m	$B'$ m	$L'$ m	$N_c$	$N_q$	$N_y$	$F_{cs}$	$F_{qs}$	$F_{ys}$	$D/B$	$F_{ed}$	$F_{qd}$	$F_{pd}$	$F_{cd}$	$F_{qd}$	$F_{yd}$	$q'_u$ T/m2	$Q'_u$ T	$Q_{ult(net)}$ T/m2	
0	32	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	1	1	1	1	35.5	23.2	30.2	1.65	1.62	0.6	1	1.4	1.28	1	1	1	1	1	45.7	45.7	150
0.025	0	32	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.95	1	0.95	1	35.5	23.2	30.2	1.62	1.59	0.62	1	1.4	1.28	1	1	1	1	1	44.8	42.6	14.7
0.05	0	32	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.9	1	0.9	1	35.5	23.2	30.2	1.59	1.56	0.64	1	1.4	1.28	1	1	1	1	1	43.9	39.5	14.4
0.075	0	32	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.85	1	0.85	1	35.5	23.2	30.2	1.56	1.53	0.66	1	1.4	1.28	1	1	1	1	1	43.0	36.6	14.1
0.1	0	32	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.8	1	0.8	1	35.5	23.2	30.2	1.52	1.5	0.68	1	1.4	1.28	1	1	1	1	1	42.1	33.7	13.8
0.125	0	32	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.75	1	0.75	1	35.5	23.2	30.2	1.49	1.47	0.7	1	1.4	1.28	1	1	1	1	1	41.1	30.8	13.4
0.15	0	32	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.7	1	0.7	1	35.5	23.2	30.2	1.46	1.44	0.72	1	1.4	1.28	1	1	1	1	1	40.1	28.1	13.1
0.175	0	32	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.65	1	0.65	1	35.5	23.2	30.2	1.42	1.41	0.74	1	1.4	1.28	1	1	1	1	1	39.1	25.4	12.8
0.2	0	32	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.6	1	0.6	1	35.5	23.2	30.2	1.39	1.37	0.76	1	1.4	1.28	1	1	1	1	1	38.0	22.8	12.4
0.225	0	32	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.55	1	0.55	1	35.5	23.2	30.2	1.36	1.34	0.78	1	1.4	1.28	1	1	1	1	1	37.0	20.3	12.1

CASE I No. 000 32 16 - 100 100 120

DATA INPUT												CALCULATION												DATA OUTPUT									
SOIL PROPERTY						DESIGN						BEARING FACTOR						DEPTH FACTOR						INCLI FACTOR									
$c$ T/m2	$\phi$ (deg)	$\gamma$ T/m3	$\gamma_{sat}$ T/m3	$\gamma_{\omega}$ T/m3	$D_{gwr}$ m	$\beta$	FS	Df	B	L	$q'$ T/m2	$\gamma$ T/m3	$B_{real}$ m	$L_{real}$ m	$B'$ m	$L'$ m	$N_c$	$N_q$	$N_y$	$F_{cs}$	$F_{qs}$	$F_{ys}$	$D/B$	$F_{ed}$	$F_{qd}$	$F_{pd}$	$F_{cd}$	$F_{qd}$	$F_{yd}$	$q'_u$ T/m2	$Q'_u$ T	$Q_{ult(net)}$ T/m2	
0	32	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	1	1	1	1	35.5	23.2	30.2	1.54	1.52	0.67	1	1.4	1.28	1	1	1	1	1	44.0	52.8	14.4
0.025	0	32	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.95	1	0.95	1	35.5	23.2	30.2	1.52	1.49	0.68	1	1.4	1.28	1	1	1	1	1	43.2	49.3	14.1
0.05	0	32	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.9	1	0.9	1	35.5	23.2	30.2	1.49	1.47	0.7	1	1.4	1.28	1	1	1	1	1	42.4	45.8	13.9
0.075	0	32	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.85	1	0.85	1	35.5	23.2	30.2	1.46	1.44	0.72	1	1.4	1.28	1	1	1	1	1	41.5	42.3	13.6
0.1	0	32	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.8	1	0.8	1	35.5	23.2	30.2	1.44	1.42	0.73	1	1.4	1.28	1	1	1	1	1	40.6	39.0	13.3
0.125	0	32	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.75	1	0.75	1	35.5	23.2	30.2	1.41	1.39	0.75	1	1.4	1.28	1	1	1	1	1	39.7	35.7	13.0
0.15	0	32	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.7	1	0.7	1	35.5	23.2	30.2	1.38	1.36	0.77	1	1.4	1.28	1	1	1	1	1	38.8	32.6	12.7
0.175	0	32	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.65	1	0.65	1	35.5	23.2	30.2	1.35	1.34	0.78	1	1.4	1.28	1	1	1	1	1	37.8	29.5	12.3
0.2	0	32	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.6	1	0.6	1	35.5	23.2	30.2	1.33	1.31	0.8	1	1.4	1.28	1	1	1	1	1	36.9	26.5	12.0
0.225	0	32	1.6	1.8	1	0	3	1.00	1	1	0.8	0.8	0.55	1	0.55	1	35.5	23.2	30.2	1.3	1.29	0.82	1	1.4	1.28	1	1	1	1	1	35.9	23.7	11.7

ตารางที่ 4-33, 4-34 การวิเคราะห์และคำนวณกำลังแบกทานของดินใต้ฐานรากดิน (q<sub>u</sub>) และค่ากำลังแบกสูงสุด (Q<sub>ult</sub>) ที่ฐานรากดินจะรับได้ทีละระยะเบื้องต้นต่าง ๆ

CASE 1 No. 000 32 16 - 100 120 120

DATA INPUT												CALCULATION												DATA OUTPUT														
SOIL PROPERTY						DESIGN						BEARING FACTOR						SHAPE FACTOR						DEPTH FACTOR						INCL. FACTOR								
c	φ	γ	γ <sub>sat</sub>	γ <sub>0</sub>	D <sub>swr</sub>	β	FS	D <sub>f</sub>	B	L	q	γ	B <sub>reai</sub>	L <sub>reai</sub>	B'	L'	N <sub>c</sub>	N <sub>q</sub>	N <sub>y</sub>	F <sub>cs</sub>	F <sub>sp</sub>	F <sub>ys</sub>	D <sub>/B</sub>	F <sub>ed</sub>	F <sub>qd</sub>	F <sub>yd</sub>	F <sub>qt</sub>	F <sub>ai</sub>	F <sub>ai</sub>	F <sub>ai</sub>	F <sub>ai</sub>	F <sub>ai</sub>	F <sub>ai</sub>	q' <sub>u</sub>	Q' <sub>u</sub>	Q <sub>ult(100)</sub>		
T/m2	(deg)	T/m3	T/m3	T/m3	m			m	m	m	T/m2	T/m3	m	m	m	m																				T	T	T
0	32	1.6	1.8	1	0	0	3	1.00	1.2	1.2	0.8	0.8	1.2	1.2	1.2	1.2	35.5	23.2	30.2	1.65	1.62	0.6	0.83	1.33	1.23	1	1	1	1	1	1	1	45.8	65.9	150	21.6		
0.025	32	1.6	1.8	1	0	0	3	1.00	1.2	1.2	0.8	0.8	1.15	1.2	1.15	1.2	35.5	23.2	30.2	1.63	1.6	0.62	0.83	1.33	1.23	1	1	1	1	1	1	45.0	62.2	14.7	20.3			
0.05	32	1.6	1.8	1	0	0	3	1.00	1.2	1.2	0.8	0.8	1.1	1.2	1.1	1.2	35.5	23.2	30.2	1.6	1.57	0.63	0.83	1.33	1.23	1	1	1	1	1	1	44.3	58.5	14.5	19.1			
0.075	32	1.6	1.8	1	0	0	3	1.00	1.2	1.2	0.8	0.8	1.05	1.2	1.05	1.2	35.5	23.2	30.2	1.57	1.55	0.65	0.83	1.33	1.23	1	1	1	1	1	1	43.5	54.8	14.2	17.9			
0.1	32	1.6	1.8	1	0	0	3	1.00	1.2	1.2	0.8	0.8	1	1.2	1	1.2	35.5	23.2	30.2	1.54	1.52	0.67	0.83	1.33	1.23	1	1	1	1	1	1	42.7	51.3	14.0	16.8			
0.125	32	1.6	1.8	1	0	0	3	1.00	1.2	1.2	0.8	0.8	0.95	1.2	0.95	1.2	35.5	23.2	30.2	1.52	1.49	0.68	0.83	1.33	1.23	1	1	1	1	1	1	41.9	47.8	13.7	15.6			
0.15	32	1.6	1.8	1	0	0	3	1.00	1.2	1.2	0.8	0.8	0.9	1.2	0.9	1.2	35.5	23.2	30.2	1.49	1.47	0.7	0.83	1.33	1.23	1	1	1	1	1	1	41.1	44.4	13.4	14.5			
0.175	32	1.6	1.8	1	0	0	3	1.00	1.2	1.2	0.8	0.8	0.85	1.2	0.85	1.2	35.5	23.2	30.2	1.46	1.44	0.72	0.83	1.33	1.23	1	1	1	1	1	1	40.3	41.1	13.2	13.4			
0.2	32	1.6	1.8	1	0	0	3	1.00	1.2	1.2	0.8	0.8	0.8	1.2	0.8	1.2	35.5	23.2	30.2	1.44	1.42	0.73	0.83	1.33	1.23	1	1	1	1	1	1	39.4	37.8	12.9	12.4			
0.225	32	1.6	1.8	1	0	0	3	1.00	1.2	1.2	0.8	0.8	0.75	1.2	0.75	1.2	35.5	23.2	30.2	1.41	1.39	0.75	0.83	1.33	1.23	1	1	1	1	1	1	38.5	34.7	12.6	11.3			

CASE 1 No. 000 32 16 - 100 100 150

DATA INPUT												CALCULATION												DATA OUTPUT														
SOIL PROPERTY						DESIGN						BEARING FACTOR						SHAPE FACTOR						DEPTH FACTOR						INCL. FACTOR								
c	φ	γ	γ <sub>sat</sub>	γ <sub>0</sub>	D <sub>swr</sub>	β	FS	D <sub>f</sub>	B	L	q	γ	B <sub>reai</sub>	L <sub>reai</sub>	B'	L'	N <sub>c</sub>	N <sub>q</sub>	N <sub>y</sub>	F <sub>cs</sub>	F <sub>sp</sub>	F <sub>ys</sub>	D <sub>/B</sub>	F <sub>ed</sub>	F <sub>qd</sub>	F <sub>yd</sub>	F <sub>qt</sub>	F <sub>ai</sub>	F <sub>ai</sub>	F <sub>ai</sub>	F <sub>ai</sub>	F <sub>ai</sub>	F <sub>ai</sub>	q' <sub>u</sub>	Q' <sub>u</sub>	Q <sub>ult(100)</sub>		
T/m2	(deg)	T/m3	T/m3	T/m3	m			m	m	m	T/m2	T/m3	m	m	m	m																				T	T	T
0	32	1.6	1.8	1	0	0	3	1.00	1	1.5	0.8	0.8	1	1.5	1	1.5	35.5	23.2	30.2	1.44	1.42	0.73	1	1.4	1.28	1	1	1	1	1	1	1	42.4	63.6	13.9	20.8		
0.025	32	1.6	1.8	1	0	0	3	1.00	1	1.5	0.8	0.8	0.95	1.5	0.95	1.5	35.5	23.2	30.2	1.41	1.4	0.75	1	1.4	1.28	1	1	1	1	1	1	1	41.6	59.3	13.6	19.4		
0.05	32	1.6	1.8	1	0	0	3	1.00	1	1.5	0.8	0.8	0.9	1.5	0.9	1.5	35.5	23.2	30.2	1.39	1.37	0.76	1	1.4	1.28	1	1	1	1	1	1	1	40.8	55.1	13.3	18.0		
0.075	32	1.6	1.8	1	0	0	3	1.00	1	1.5	0.8	0.8	0.85	1.5	0.85	1.5	35.5	23.2	30.2	1.37	1.35	0.77	1	1.4	1.28	1	1	1	1	1	1	1	40.0	51.0	13.1	16.7		
0.1	32	1.6	1.8	1	0	0	3	1.00	1	1.5	0.8	0.8	0.8	1.5	0.8	1.5	35.5	23.2	30.2	1.35	1.33	0.79	1	1.4	1.28	1	1	1	1	1	1	1	39.2	47.0	12.8	15.3		
0.125	32	1.6	1.8	1	0	0	3	1.00	1	1.5	0.8	0.8	0.75	1.5	0.75	1.5	35.5	23.2	30.2	1.33	1.31	0.8	1	1.4	1.28	1	1	1	1	1	1	1	38.3	43.1	12.5	14.1		
0.15	32	1.6	1.8	1	0	0	3	1.00	1	1.5	0.8	0.8	0.7	1.5	0.7	1.5	35.5	23.2	30.2	1.3	1.29	0.81	1	1.4	1.28	1	1	1	1	1	1	1	37.4	39.3	12.2	12.8		
0.175	32	1.6	1.8	1	0	0	3	1.00	1	1.5	0.8	0.8	0.65	1.5	0.65	1.5	35.5	23.2	30.2	1.28	1.27	0.83	1	1.4	1.28	1	1	1	1	1	1	1	36.6	35.6	11.9	11.6		
0.2	32	1.6	1.8	1	0	0	3	1.00	1	1.5	0.8	0.8	0.6	1.5	0.6	1.5	35.5	23.2	30.2	1.26	1.25	0.84	1	1.4	1.28	1	1	1	1	1	1	1	35.7	32.1	11.6	10.5		
0.225	32	1.6	1.8	1	0	0	3	1.00	1	1.5	0.8	0.8	0.55	1.5	0.55	1.5	35.5	23.2	30.2	1.24	1.23	0.85	1	1.4	1.28	1	1	1	1	1	1	1	34.8	28.7	11.3	9.3		

ตารางที่ 4-33, 4-34 การวิเคราะห์และคำนวณกำลังแยกทางของดินใช้ฐานรากคาน (q<sub>u</sub>) และคำนวณน้ำหนักสูงสุด (Q<sub>u</sub>) ที่ฐานรากที่นจะรับได้ทีระยะเบื้องต้นต่างๆ  
 CASE 1 No. 000 32 16 - 100 120 150

DATA INPUT															CALCULATION															DATA OUTPUT											
SOIL PROPERTY															BEARING FACTOR															SHAPE FACTOR				DEPTH FACTOR				INCLI FACTOR			
e <sub>b</sub> m	c T/m2	φ (deg)	γ T/m3	γ <sub>sat</sub> T/m3	γ <sub>o</sub> T/m3	D <sub>gwt</sub> m	β	FS	Df	B	L	DESIGN			q' T/m2	γ' T/m3	B <sub>real</sub> m	L <sub>real</sub> m	B'	L'	N <sub>c</sub>	N <sub>q</sub>	N <sub>y</sub>	F <sub>cs</sub>	F <sub>qs</sub>	F <sub>ys</sub>	D/B	F <sub>ed</sub>	F <sub>qt</sub>	F <sub>yd</sub>	F <sub>ci</sub>	F <sub>qi</sub>	F <sub>yi</sub>	c' <sub>u</sub> T/m2	Q' <sub>u</sub> T	c <sub>u(over)</sub> T/m2	Q <sub>u(over)</sub> T				
												γ	γ <sub>sat</sub>	γ <sub>o</sub>																											
0	0	32	1.6	1.8	1	0	0	3	1.00	1.2	1.5	0.8	0.8	1.2	1.5	1.2	1.5	1.5	1.5	35.5	23.2	30.2	1.52	1.5	0.68	0.83	1.33	1.23	1	1	1	1	1	1	44.1	79.3	14.4	26.0			
0.025	0	32	1.6	1.8	1	0	0	3	1.00	1.2	1.5	0.8	0.8	1.15	1.5	1.15	1.5	1.5	1.5	35.5	23.2	30.2	1.5	1.48	0.69	0.83	1.33	1.23	1	1	1	1	1	1	43.4	74.8	14.2	24.5			
0.05	0	32	1.6	1.8	1	0	0	3	1.00	1.2	1.5	0.8	0.8	1.1	1.5	1.1	1.5	1.5	1.5	35.5	23.2	30.2	1.48	1.46	0.71	0.83	1.33	1.23	1	1	1	1	1	1	42.7	70.4	14.0	23.0			
0.075	0	32	1.6	1.8	1	0	0	3	1.00	1.2	1.5	0.8	0.8	1.05	1.5	1.05	1.5	1.5	1.5	35.5	23.2	30.2	1.46	1.44	0.72	0.83	1.33	1.23	1	1	1	1	1	1	41.9	66.0	13.7	21.6			
0.1	0	32	1.6	1.8	1	0	0	3	1.00	1.2	1.5	0.8	0.8	1	1.5	1	1.5	1.5	1.5	35.5	23.2	30.2	1.44	1.42	0.73	0.83	1.33	1.23	1	1	1	1	1	1	41.2	61.8	13.5	20.2			
0.125	0	32	1.6	1.8	1	0	0	3	1.00	1.2	1.5	0.8	0.8	0.95	1.5	0.95	1.5	1.5	1.5	35.5	23.2	30.2	1.41	1.4	0.75	0.83	1.33	1.23	1	1	1	1	1	1	40.4	57.6	13.2	18.8			
0.15	0	32	1.6	1.8	1	0	0	3	1.00	1.2	1.5	0.8	0.8	0.9	1.5	0.9	1.5	1.5	1.5	35.5	23.2	30.2	1.39	1.37	0.76	0.83	1.33	1.23	1	1	1	1	1	1	39.6	53.5	12.9	17.5			
0.175	0	32	1.6	1.8	1	0	0	3	1.00	1.2	1.5	0.8	0.8	0.85	1.5	0.85	1.5	1.5	1.5	35.5	23.2	30.2	1.37	1.35	0.77	0.83	1.33	1.23	1	1	1	1	1	1	38.8	49.5	12.7	16.2			
0.2	0	32	1.6	1.8	1	0	0	3	1.00	1.2	1.5	0.8	0.8	0.8	1.5	0.8	1.5	1.5	1.5	35.5	23.2	30.2	1.35	1.33	0.79	0.83	1.33	1.23	1	1	1	1	1	1	38.0	45.6	12.4	14.9			
0.225	0	32	1.6	1.8	1	0	0	3	1.00	1.2	1.5	0.8	0.8	0.75	1.5	0.75	1.5	1.5	1.5	35.5	23.2	30.2	1.33	1.31	0.8	0.83	1.33	1.23	1	1	1	1	1	1	37.2	41.8	12.1	13.6			



ตารางที่ 4-35, 4-36 การวิเคราะห์และคำนวณกำลังแบกทานของดิน ได้ฐานรากต้นเชิงลาด (Q<sub>u</sub>) และค่ากำลังแบกต้นเชิงลาด (q<sub>u</sub>) ที่ฐานรากต้นเชิงลาดได้ที่ระยะเชิงลาดต่าง ๆ

CASE 1 No. 000 32 18 - 100 100 100

DATA INPUT															CALCULATION															DATA OUTPUT				
SOIL PROPERTY					DESIGN					BEARING FACTOR					SHAPE FACTOR					DEPTH FACTOR					INCLI FACTOR			DATA OUTPUT						
c	φ	γ	γ <sub>sat</sub>	γ <sub>o</sub>	D <sub>gwrt</sub>	β	FS	Df	B	L	q'	γ	B <sub>real</sub>	L <sub>real</sub>	B'	L'	N <sub>c</sub>	N <sub>q</sub>	N <sub>y</sub>	F <sub>cs</sub>	F <sub>qs</sub>	F <sub>ys</sub>	D/B	F <sub>cd</sub>	F <sub>qd</sub>	F <sub>yd</sub>	F <sub>ci</sub>	F <sub>qi</sub>	F <sub>yi</sub>	q' <sub>u</sub>	Q' <sub>u</sub>	Q <sub>ult(net)</sub>		
T/m2	(deg)	T/m3	T/m3	T/m3	m			m	m	m	T/m2	T/m3	m	m	m	m															T/m2	T	T/m2	
0	32	1.8	2	1	0	0	3	1.00	1	1	1	1	1	1	1	1	35.5	23.2	30.2	1.65	1.62	0.6	1	1.4	1.28	1	1	1	1	1	57.1	57.1	18.7	18.7
0.025	32	1.8	2	1	0	0	3	1.00	1	1	1	0.95	1	0.95	1	0.95	35.5	23.2	30.2	1.62	1.59	0.62	1	1.4	1.28	1	1	1	1	1	56.0	53.2	18.3	17.4
0.05	32	1.8	2	1	0	0	3	1.00	1	1	1	0.9	1	0.9	1	0.9	35.5	23.2	30.2	1.59	1.56	0.64	1	1.4	1.28	1	1	1	1	1	54.9	49.4	18.0	16.2
0.075	32	1.8	2	1	0	0	3	1.00	1	1	1	0.85	1	0.85	1	0.85	35.5	23.2	30.2	1.56	1.53	0.66	1	1.4	1.28	1	1	1	1	1	53.8	45.7	17.6	14.9
0.1	32	1.8	2	1	0	0	3	1.00	1	1	1	0.8	1	0.8	1	0.8	35.5	23.2	30.2	1.52	1.5	0.68	1	1.4	1.28	1	1	1	1	1	52.6	42.1	17.2	13.8
0.125	32	1.8	2	1	0	0	3	1.00	1	1	1	0.75	1	0.75	1	0.75	35.5	23.2	30.2	1.49	1.47	0.7	1	1.4	1.28	1	1	1	1	1	51.4	38.5	16.8	12.6
0.15	32	1.8	2	1	0	0	3	1.00	1	1	1	0.7	1	0.7	1	0.7	35.5	23.2	30.2	1.46	1.44	0.72	1	1.4	1.28	1	1	1	1	1	50.1	35.1	16.4	11.5
0.175	32	1.8	2	1	0	0	3	1.00	1	1	1	0.65	1	0.65	1	0.65	35.5	23.2	30.2	1.42	1.41	0.74	1	1.4	1.28	1	1	1	1	1	48.9	31.8	16.0	10.4
0.2	32	1.8	2	1	0	0	3	1.00	1	1	1	0.6	1	0.6	1	0.6	35.5	23.2	30.2	1.39	1.37	0.76	1	1.4	1.28	1	1	1	1	1	47.6	28.5	15.5	9.3
0.225	32	1.8	2	1	0	0	3	1.00	1	1	1	0.55	1	0.55	1	0.55	35.5	23.2	30.2	1.36	1.34	0.78	1	1.4	1.28	1	1	1	1	1	46.2	25.4	15.1	8.3

CASE 1 No. 000 32 18 - 100 100 120

DATA INPUT															CALCULATION															DATA OUTPUT				
SOIL PROPERTY					DESIGN					BEARING FACTOR					SHAPE FACTOR					DEPTH FACTOR					INCLI FACTOR			DATA OUTPUT						
c	φ	γ	γ <sub>sat</sub>	γ <sub>o</sub>	D <sub>gwrt</sub>	β	FS	Df	B	L	q'	γ	B <sub>real</sub>	L <sub>real</sub>	B'	L'	N <sub>c</sub>	N <sub>q</sub>	N <sub>y</sub>	F <sub>cs</sub>	F <sub>qs</sub>	F <sub>ys</sub>	D/B	F <sub>cd</sub>	F <sub>qd</sub>	F <sub>yd</sub>	F <sub>ci</sub>	F <sub>qi</sub>	F <sub>yi</sub>	q' <sub>u</sub>	Q' <sub>u</sub>	Q <sub>ult(net)</sub>		
T/m2	(deg)	T/m3	T/m3	T/m3	m			m	m	m	T/m2	T/m3	m	m	m	m															T/m2	T	T/m2	
0	32	1.8	2	1	0	0	3	1.00	1	1.2	1	1	1.2	1	1.2	1	35.5	23.2	30.2	1.54	1.52	0.67	1	1.4	1.28	1	1	1	1	1	55.1	66.1	18.0	21.6
0.025	32	1.8	2	1	0	0	3	1.00	1	1.2	1	0.95	1.2	0.95	1.2	0.95	35.5	23.2	30.2	1.52	1.49	0.68	1	1.4	1.28	1	1	1	1	1	54.0	61.6	17.7	20.1
0.05	32	1.8	2	1	0	0	3	1.00	1	1.2	1	0.9	1.2	0.9	1.2	0.9	35.5	23.2	30.2	1.49	1.47	0.7	1	1.4	1.28	1	1	1	1	1	53.0	57.2	17.3	18.7
0.075	32	1.8	2	1	0	0	3	1.00	1	1.2	1	0.85	1.2	0.85	1.2	0.85	35.5	23.2	30.2	1.46	1.44	0.72	1	1.4	1.28	1	1	1	1	1	51.9	52.9	17.0	17.3
0.1	32	1.8	2	1	0	0	3	1.00	1	1.2	1	0.8	1.2	0.8	1.2	0.8	35.5	23.2	30.2	1.44	1.42	0.73	1	1.4	1.28	1	1	1	1	1	50.8	48.7	16.6	15.9
0.125	32	1.8	2	1	0	0	3	1.00	1	1.2	1	0.75	1.2	0.75	1.2	0.75	35.5	23.2	30.2	1.41	1.39	0.75	1	1.4	1.28	1	1	1	1	1	49.6	44.7	16.2	14.6
0.15	32	1.8	2	1	0	0	3	1.00	1	1.2	1	0.7	1.2	0.7	1.2	0.7	35.5	23.2	30.2	1.38	1.36	0.77	1	1.4	1.28	1	1	1	1	1	48.5	40.7	15.8	13.3
0.175	32	1.8	2	1	0	0	3	1.00	1	1.2	1	0.65	1.2	0.65	1.2	0.65	35.5	23.2	30.2	1.35	1.34	0.78	1	1.4	1.28	1	1	1	1	1	47.3	36.9	15.4	12.0
0.2	32	1.8	2	1	0	0	3	1.00	1	1.2	1	0.6	1.2	0.6	1.2	0.6	35.5	23.2	30.2	1.33	1.31	0.8	1	1.4	1.28	1	1	1	1	1	46.1	33.2	15.0	10.8
0.225	32	1.8	2	1	0	0	3	1.00	1	1.2	1	0.55	1.2	0.55	1.2	0.55	35.5	23.2	30.2	1.3	1.29	0.82	1	1.4	1.28	1	1	1	1	1	44.8	29.6	14.6	9.6

ตารางที่ 4-35, 4-36 การวิเคราะห์และกำหนดกำลังแยกทานของดิน ใช้ฐานรากคาน (q<sub>u</sub>) และคาน้ำหนักสูงสุด (Q<sub>u</sub>) ที่ฐานรากคานจะรับได้ที่ระยะเชิงของศูนย์ต่างๆ  
 CASE 1 No. 000 32 18 - 100 120 120

DATA INPUT															CALCULATION															DATA OUTPUT		
SOIL PROPERTY					DESIGN					q'	γ	B <sub>real</sub>	L <sub>real</sub>	B'	L'	BEARING FACTOR			SHAPE FACTOR			DEPTH FACTOR			INCLI FACTOR			q' <sub>u</sub>	Q' <sub>u</sub>	Q <sub>u(ult)</sub>		
c	φ	γ	γ <sub>sat</sub>	γ <sub>o</sub>	D <sub>gwt</sub>	β	FS	Df	B							L	N <sub>c</sub>	N <sub>q</sub>	N <sub>y</sub>	F <sub>cs</sub>	F <sub>qs</sub>	F <sub>ys</sub>	D/B	F <sub>ed</sub>	F <sub>qd</sub>	F <sub>yd</sub>	F <sub>ci</sub>				F <sub>qi</sub>	F <sub>yi</sub>
m	(deg)	T/m <sup>3</sup>	T/m <sup>3</sup>	T/m <sup>3</sup>	m			m	m	m	T/m <sup>2</sup>	T/m <sup>3</sup>	m	m	m	m								T/m <sup>2</sup>	T	T/m <sup>2</sup>	T					
0	32	1.8	2	1	0	0	3	1.00	1.2	1.2	1	1	1.2	1.2	1.2	1.2	1.65	1.62	0.6	0.83	1.23	1	1	1	57.2	82.4	18.7	27.0				
0.025	0	32	1.8	2	1	0	3	1.00	1.2	1.2	1	1	1.15	1.2	1.15	1.2	1.63	1.6	0.62	0.83	1.23	1	1	1	56.3	77.7	18.4	25.4				
0.05	0	32	1.8	2	1	0	3	1.00	1.2	1.2	1	1	1.1	1.2	1.1	1.2	1.6	1.57	0.63	0.83	1.23	1	1	1	55.4	73.1	18.1	23.9				
0.075	0	32	1.8	2	1	0	3	1.00	1.2	1.2	1	1	1.05	1.2	1.05	1.2	1.57	1.55	0.65	0.83	1.23	1	1	1	54.4	68.6	17.8	22.4				
0.1	0	32	1.8	2	1	0	3	1.00	1.2	1.2	1	1	1	1.2	1	1.2	1.54	1.52	0.67	0.83	1.23	1	1	1	53.4	64.1	17.5	21.0				
0.125	0	32	1.8	2	1	0	3	1.00	1.2	1.2	1	1	0.95	1.2	0.95	1.2	1.52	1.49	0.68	0.83	1.23	1	1	1	52.4	59.8	17.1	19.5				
0.15	0	32	1.8	2	1	0	3	1.00	1.2	1.2	1	1	0.9	1.2	0.9	1.2	1.49	1.47	0.7	0.83	1.23	1	1	1	51.4	55.5	16.8	18.1				
0.175	0	32	1.8	2	1	0	3	1.00	1.2	1.2	1	1	0.85	1.2	0.85	1.2	1.46	1.44	0.72	0.83	1.23	1	1	1	50.3	51.3	16.4	16.8				
0.2	0	32	1.8	2	1	0	3	1.00	1.2	1.2	1	1	0.8	1.2	0.8	1.2	1.44	1.42	0.73	0.83	1.23	1	1	1	49.3	47.3	16.1	15.4				
0.225	0	32	1.8	2	1	0	3	1.00	1.2	1.2	1	1	0.75	1.2	0.75	1.2	1.41	1.39	0.75	0.83	1.23	1	1	1	48.1	43.3	15.7	14.1				

CASE 1 No. 000 32 18 - 100 100 150

DATA INPUT															CALCULATION															DATA OUTPUT		
SOIL PROPERTY					DESIGN					q'	γ	B <sub>real</sub>	L <sub>real</sub>	B'	L'	BEARING FACTOR			SHAPE FACTOR			DEPTH FACTOR			INCLI FACTOR			q' <sub>u</sub>	Q' <sub>u</sub>	Q <sub>u(ult)</sub>		
c	φ	γ	γ <sub>sat</sub>	γ <sub>o</sub>	D <sub>gwt</sub>	β	FS	Df	B							L	N <sub>c</sub>	N <sub>q</sub>	N <sub>y</sub>	F <sub>cs</sub>	F <sub>qs</sub>	F <sub>ys</sub>	D/B	F <sub>ed</sub>	F <sub>qd</sub>	F <sub>yd</sub>	F <sub>ci</sub>				F <sub>qi</sub>	F <sub>yi</sub>
m	(deg)	T/m <sup>3</sup>	T/m <sup>3</sup>	T/m <sup>3</sup>	m			m	m	m	T/m <sup>2</sup>	T/m <sup>3</sup>	m	m	m	m									T/m <sup>2</sup>	T	T/m <sup>2</sup>	T				
0	32	1.8	2	1	0	0	3	1.00	1	1.5	1	1	1.5	1	1.5	1	1.44	1.42	0.73	1	1.28	1	1	1	53.0	79.5	17.3	26.0				
0.025	0	32	1.8	2	1	0	3	1.00	1	1.5	1	1	0.95	1.5	0.95	1.5	1.41	1.4	0.75	1	1.28	1	1	1	52.0	74.1	17.0	24.2				
0.05	0	32	1.8	2	1	0	3	1.00	1	1.5	1	1	0.9	1.5	0.9	1.5	1.39	1.37	0.76	1	1.28	1	1	1	51.0	68.8	16.7	22.5				
0.075	0	32	1.8	2	1	0	3	1.00	1	1.5	1	1	0.85	1.5	0.85	1.5	1.37	1.35	0.77	1	1.28	1	1	1	50.0	63.7	16.3	20.8				
0.1	0	32	1.8	2	1	0	3	1.00	1	1.5	1	1	0.8	1.5	0.8	1.5	1.35	1.33	0.79	1	1.28	1	1	1	48.9	58.7	16.0	19.2				
0.125	0	32	1.8	2	1	0	3	1.00	1	1.5	1	1	0.75	1.5	0.75	1.5	1.33	1.31	0.8	1	1.28	1	1	1	47.9	53.9	15.6	17.6				
0.15	0	32	1.8	2	1	0	3	1.00	1	1.5	1	1	0.7	1.5	0.7	1.5	1.29	1.27	0.81	1	1.28	1	1	1	46.8	49.1	15.3	16.0				
0.175	0	32	1.8	2	1	0	3	1.00	1	1.5	1	1	0.65	1.5	0.65	1.5	1.28	1.27	0.83	1	1.28	1	1	1	45.7	44.6	14.9	14.5				
0.2	0	32	1.8	2	1	0	3	1.00	1	1.5	1	1	0.6	1.5	0.6	1.5	1.26	1.25	0.84	1	1.28	1	1	1	44.6	40.1	14.5	13.1				
0.225	0	32	1.8	2	1	0	3	1.00	1	1.5	1	1	0.55	1.5	0.55	1.5	1.24	1.23	0.85	1	1.28	1	1	1	43.4	35.8	14.1	11.7				

ตารางที่ 4-35, 4-36 การวิเคราะห์และคำนวณกำลังแบกทานของดินใต้ฐานรากดินเหนียว (q<sub>u</sub>) และค่านำหนักสูงสุด (Q<sub>u</sub>) ที่ฐานรากดินจะรับได้ทีละระยะเบื้องต้นต่าง ๆ

CASE I No. 000 32 18 - 100 120 150

DATA INPUT															CALCULATION															DATA OUTPUT					
SOIL PROPERTY															BEARING FACTOR															INCLI FACTOR					
e <sub>R</sub>	c	φ	γ	γ <sub>sat</sub>	γ <sub>so</sub>	D <sub>50</sub>	β	FS	D <sub>f</sub>	B	L	q'	γ'	B <sub>total</sub>	L <sub>total</sub>	B'	L'	SHAPE FACTOR			DEPTH FACTOR			INCLI FACTOR			Q' <sub>u</sub>	Q' <sub>u</sub>	Q <sub>ult(net)</sub>						
																		N <sub>c</sub>	N <sub>q</sub>	N <sub>y</sub>	F <sub>cs</sub>	F <sub>qs</sub>	F <sub>ys</sub>	F <sub>cd</sub>	F <sub>qd</sub>	F <sub>qd</sub>				F <sub>cd</sub>	F <sub>qd</sub>	F <sub>qd</sub>	F <sub>ci</sub>	F <sub>qi</sub>	F <sub>yi</sub>
0	0	32	1.8	2	1	0	0	3	1.00	1.2	1.5	1	1	1.2	1.5	1.2	1.5	35.5	23.2	30.2	1.5	0.68	0.83	1.33	1.23	1	1	1	1	1	1	55.1	99.2	18.0	32.5
0.025	0	32	1.8	2	1	0	0	3	1.00	1.2	1.5	1	1	1.15	1.5	1.15	1.5	35.5	23.2	30.2	1.5	1.48	0.83	1.33	1.23	1	1	1	1	1	1	54.2	93.5	17.7	30.6
0.05	0	32	1.8	2	1	0	0	3	1.00	1.2	1.5	1	1	1.1	1.5	1.1	1.5	35.5	23.2	30.2	1.48	1.46	0.83	1.33	1.23	1	1	1	1	1	1	53.3	88.0	17.4	28.8
0.075	0	32	1.8	2	1	0	0	3	1.00	1.2	1.5	1	1	1.05	1.5	1.05	1.5	35.5	23.2	30.2	1.46	1.44	0.83	1.33	1.23	1	1	1	1	1	1	52.4	82.5	17.1	27.0
0.1	0	32	1.8	2	1	0	0	3	1.00	1.2	1.5	1	1	1	1.5	1	1.5	35.5	23.2	30.2	1.44	1.42	0.83	1.33	1.23	1	1	1	1	1	1	51.5	77.2	16.8	25.2
0.125	0	32	1.8	2	1	0	0	3	1.00	1.2	1.5	1	1	0.95	1.5	0.95	1.5	35.5	23.2	30.2	1.41	1.4	0.83	1.33	1.23	1	1	1	1	1	1	50.5	72.0	16.5	23.5
0.15	0	32	1.8	2	1	0	0	3	1.00	1.2	1.5	1	1	0.9	1.5	0.9	1.5	35.5	23.2	30.2	1.39	1.37	0.83	1.33	1.23	1	1	1	1	1	1	49.5	66.9	16.2	21.8
0.175	0	32	1.8	2	1	0	0	3	1.00	1.2	1.5	1	1	0.85	1.5	0.85	1.5	35.5	23.2	30.2	1.37	1.35	0.83	1.33	1.23	1	1	1	1	1	1	48.5	61.9	15.8	20.2
0.2	0	32	1.8	2	1	0	0	3	1.00	1.2	1.5	1	1	0.8	1.5	0.8	1.5	35.5	23.2	30.2	1.35	1.33	0.83	1.33	1.23	1	1	1	1	1	1	47.5	57.0	15.5	18.6
0.225	0	32	1.8	2	1	0	0	3	1.00	1.2	1.5	1	1	0.75	1.5	0.75	1.5	35.5	23.2	30.2	1.33	1.31	0.83	1.33	1.23	1	1	1	1	1	1	46.5	52.3	15.2	17.1

ตารางที่ 4-37, 4-38 การวิเคราะห์และคำนวณกำลังแบกทางของดินใช้ฐานรากที่รับได้ทั้งระยะเชิงราบและเชิงตั้ง  
 CASE I No. 050 00 16 - 100 100 100

DATA INPUT															CALCULATION															DATA OUTPUT				
SOIL PROPERTY					DESIGN					q'	γ	B <sub>real</sub>	L <sub>real</sub>	B'	L'	BEARING FACTOR				SHAPE FACTOR				DEPTH FACTOR				INCLI FACTOR			q' <sub>u</sub>	Q' <sub>u</sub>	Q <sub>ult(net)</sub>	
c	φ	γ	γ <sub>sat</sub>	γ <sub>o</sub>	D <sub>gw</sub>	β	FS	Df	B							L	N <sub>c</sub>	N <sub>q</sub>	N <sub>y</sub>	F <sub>cs</sub>	F <sub>qs</sub>	F <sub>ys</sub>	D <sub>f</sub> /B	F <sub>ed</sub>	F <sub>qd</sub>	F <sub>yd</sub>	F <sub>ci</sub>	F <sub>qi</sub>	F <sub>yi</sub>	T/m <sup>2</sup>				T/m <sup>2</sup>
0	5	0	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	1	1	1	5.1	1.0	0.0	1.19	1	0.6	1	1.4	1	1	1	1	1	43.8	43.8	14.3	14.3	
0.025	5	0	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.95	1	0.95	1	5.1	1.0	0.0	1.18	1	0.62	1	1.4	1	1	1	1	1	43.4	41.3	14.2	13.5
0.05	5	0	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.9	1	0.9	1	5.1	1.0	0.0	1.18	1	0.64	1	1.4	1	1	1	1	1	43.1	38.8	14.1	12.7
0.075	5	0	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.85	1	0.85	1	5.1	1.0	0.0	1.17	1	0.66	1	1.4	1	1	1	1	1	42.7	36.3	14.0	11.9
0.1	5	0	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.8	1	0.8	1	5.1	1.0	0.0	1.16	1	0.68	1	1.4	1	1	1	1	1	42.4	33.9	13.9	11.1
0.125	5	0	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.75	1	0.75	1	5.1	1.0	0.0	1.15	1	0.7	1	1.4	1	1	1	1	1	42.0	31.5	13.7	10.3
0.15	5	0	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.7	1	0.7	1	5.1	1.0	0.0	1.14	1	0.72	1	1.4	1	1	1	1	1	41.7	29.2	13.6	9.5
0.175	5	0	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.65	1	0.65	1	5.1	1.0	0.0	1.13	1	0.74	1	1.4	1	1	1	1	1	41.3	26.9	13.5	8.8
0.2	5	0	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.6	1	0.6	1	5.1	1.0	0.0	1.12	1	0.76	1	1.4	1	1	1	1	1	41.0	24.6	13.4	8.0
0.225	5	0	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.55	1	0.55	1	5.1	1.0	0.0	1.11	1	0.78	1	1.4	1	1	1	1	1	40.6	22.3	13.3	7.3

CASE I No: 050 00 16 - 100 100 120

DATA INPUT															CALCULATION															DATA OUTPUT				
SOIL PROPERTY					DESIGN					q'	γ	B <sub>real</sub>	L <sub>real</sub>	B'	L'	BEARING FACTOR				SHAPE FACTOR				DEPTH FACTOR				INCLI FACTOR			q' <sub>u</sub>	Q' <sub>u</sub>	Q <sub>ult(net)</sub>	
c	φ	γ	γ <sub>sat</sub>	γ <sub>o</sub>	D <sub>gw</sub>	β	FS	Df	B							L	N <sub>c</sub>	N <sub>q</sub>	N <sub>y</sub>	F <sub>cs</sub>	F <sub>qs</sub>	F <sub>ys</sub>	D <sub>f</sub> /B	F <sub>ed</sub>	F <sub>qd</sub>	F <sub>yd</sub>	F <sub>ci</sub>	F <sub>qi</sub>	F <sub>yi</sub>	T/m <sup>2</sup>				T/m <sup>2</sup>
0	5	0	1.6	1.8	1	0	0	3	1.00	1	1.2	0.8	0.8	1	1.2	1	1.2	5.1	1.0	0.0	1.16	1	0.67	1	1.4	1	1	1	1	1	42.6	51.1	13.9	16.7
0.025	5	0	1.6	1.8	1	0	0	3	1.00	1	1.2	0.8	0.8	0.95	1.2	0.95	1.2	5.1	1.0	0.0	1.15	1	0.68	1	1.4	1	1	1	1	1	42.3	48.2	13.8	15.8
0.05	5	0	1.6	1.8	1	0	0	3	1.00	1	1.2	0.8	0.8	0.9	1.2	0.9	1.2	5.1	1.0	0.0	1.15	1	0.7	1	1.4	1	1	1	1	1	42.0	45.4	13.7	14.8
0.075	5	0	1.6	1.8	1	0	0	3	1.00	1	1.2	0.8	0.8	0.85	1.2	0.85	1.2	5.1	1.0	0.0	1.14	1	0.72	1	1.4	1	1	1	1	1	41.7	42.6	13.6	13.9
0.1	5	0	1.6	1.8	1	0	0	3	1.00	1	1.2	0.8	0.8	0.8	1.2	0.8	1.2	5.1	1.0	0.0	1.13	1	0.73	1	1.4	1	1	1	1	1	41.4	39.8	13.5	13.0
0.125	5	0	1.6	1.8	1	0	0	3	1.00	1	1.2	0.8	0.8	0.75	1.2	0.75	1.2	5.1	1.0	0.0	1.12	1	0.75	1	1.4	1	1	1	1	1	41.2	37.0	13.5	12.1
0.15	5	0	1.6	1.8	1	0	0	3	1.00	1	1.2	0.8	0.8	0.7	1.2	0.7	1.2	5.1	1.0	0.0	1.11	1	0.77	1	1.4	1	1	1	1	1	40.9	34.3	13.4	11.2
0.175	5	0	1.6	1.8	1	0	0	3	1.00	1	1.2	0.8	0.8	0.65	1.2	0.65	1.2	5.1	1.0	0.0	1.11	1	0.78	1	1.4	1	1	1	1	1	40.6	31.6	13.3	10.3
0.2	5	0	1.6	1.8	1	0	0	3	1.00	1	1.2	0.8	0.8	0.6	1.2	0.6	1.2	5.1	1.0	0.0	1.1	1	0.8	1	1.4	1	1	1	1	1	40.3	29.0	13.2	9.5
0.225	5	0	1.6	1.8	1	0	0	3	1.00	1	1.2	0.8	0.8	0.55	1.2	0.55	1.2	5.1	1.0	0.0	1.09	1	0.82	1	1.4	1	1	1	1	1	40.0	26.4	13.1	8.6



ตารางที่ 4-37, 4-38 การวิเคราะห์และคำนวณกำลังแบกทานของดินใต้ฐานรากดินเหนียว (q<sub>u</sub>) และค่ากำลังแบกทานของดินเหนียวที่ระยะขอบของฐานต่าง ๆ

CASE I No. 050 00 16 - 100 120 150

DATA INPUT												CALCULATION												DATA OUTPUT										
SOIL PROPERTY						DESIGN						BEARING FACTOR			SHAPE FACTOR			DEPTH FACTOR			INCLI FACTOR			Q' <sub>u</sub>			Q <sub>ult(net)</sub>							
c	φ	γ	γ <sub>sat</sub>	γ <sub>so</sub>	D <sub>ewr</sub>	FS	β	D <sub>f</sub>	B	L	q'	γ	B <sub>real</sub>	L <sub>real</sub>	B'	L'	N <sub>q</sub>	N <sub>y</sub>	F <sub>cs</sub>	F <sub>cp</sub>	F <sub>ys</sub>	D <sub>/B</sub>	F <sub>cd</sub>	F <sub>qd</sub>	F <sub>yd</sub>	F <sub>ci</sub>	F <sub>ci</sub>	F <sub>ci</sub>	F <sub>ci</sub>	F <sub>ci</sub>	F <sub>ci</sub>	q' <sub>u</sub>	Q' <sub>u</sub>	Q <sub>ult(net)</sub>
T/m2	(deg)	T/m3	T/m3	T/m3	m			m	m	m	T/m2	T/m3	m	m	m	m																T/m2	T	T/m2
0	0	1.6	1.8	1	0	3	0	1.00	1.2	1.5	0.8	0.8	1.2	1.5	1.2	1.5	5.1	1.0	0.0	1.16	1	0.68	0.83	1.33	1	1	1	1	1	1	1	40.4	72.7	13.2
0.025	0	1.6	1.8	1	0	3	0	1.00	1.2	1.5	0.8	0.8	1.15	1.5	1.15	1.5	5.1	1.0	0.0	1.15	1	0.69	0.83	1.33	1	1	1	1	1	1	1	40.2	69.3	13.1
0.05	0	1.6	1.8	1	0	3	0	1.00	1.2	1.5	0.8	0.8	1.1	1.5	1.1	1.5	5.1	1.0	0.0	1.14	1	0.71	0.83	1.33	1	1	1	1	1	1	1	40.0	65.9	13.1
0.075	0	1.6	1.8	1	0	3	0	1.00	1.2	1.5	0.8	0.8	1.05	1.5	1.05	1.5	5.1	1.0	0.0	1.14	1	0.72	0.83	1.33	1	1	1	1	1	1	1	39.7	62.6	13.0
0.1	0	1.6	1.8	1	0	3	0	1.00	1.2	1.5	0.8	0.8	1	1.5	1	1.5	5.1	1.0	0.0	1.13	1	0.73	0.83	1.33	1	1	1	1	1	1	1	39.5	59.3	12.9
0.125	0	1.6	1.8	1	0	3	0	1.00	1.2	1.5	0.8	0.8	0.95	1.5	0.95	1.5	5.1	1.0	0.0	1.12	1	0.75	0.83	1.33	1	1	1	1	1	1	1	39.3	56.0	12.8
0.15	0	1.6	1.8	1	0	3	0	1.00	1.2	1.5	0.8	0.8	0.9	1.5	0.9	1.5	5.1	1.0	0.0	1.12	1	0.76	0.83	1.33	1	1	1	1	1	1	1	39.1	52.7	12.8
0.175	0	1.6	1.8	1	0	3	0	1.00	1.2	1.5	0.8	0.8	0.85	1.5	0.85	1.5	5.1	1.0	0.0	1.11	1	0.77	0.83	1.33	1	1	1	1	1	1	1	38.8	49.5	12.7
0.2	0	1.6	1.8	1	0	3	0	1.00	1.2	1.5	0.8	0.8	0.8	1.5	0.8	1.5	5.1	1.0	0.0	1.1	1	0.79	0.83	1.33	1	1	1	1	1	1	1	38.6	46.3	12.6
0.225	0	1.6	1.8	1	0	3	0	1.00	1.2	1.5	0.8	0.8	0.75	1.5	0.75	1.5	5.1	1.0	0.0	1.1	1	0.8	0.83	1.33	1	1	1	1	1	1	1	38.4	43.2	12.5



ตารางที่ 4-39, 4-40 การวิเคราะห์และคำนวณกำลังเบกทานของดินใช้ฐานรากตื้น ( $q_u$ ) และค่ากำลังเบกทาน ( $Q_u$ ) ที่ฐานรากตื้นจะรับได้ทีละระยะของศูนย์กลาง

CASE 1 No. 050 00 18 - 100 120 120

DATA INPUT												CALCULATION												DATA OUTPUT											
SOIL PROPERTY						DESIGN						BEARING FACTOR						SHAPE FACTOR						DEPTH FACTOR			INCLI FACTOR								
$e_B$	$c$	$\phi$	$\gamma$	$\gamma_{sat}$	$\gamma_o$	$D_{GWT}$	$\beta$	FS	Df	B	L	$q'$	$\gamma'$	$B_{real}$	$L_{real}$	$B'$	$L'$	$N_c$	$N_q$	$N_y$	$F_{cs}$	$F_{qs}$	$F_{ys}$	$D_f/B$	$F_{cd}$	$F_{qd}$	$F_{yd}$	$F_{ci}$	$F_{qi}$	$F_{yi}$	$q'_u$	$Q'_u$	$Q_{all(net)}$		
m	T/m2	(deg)	T/m3	T/m3	T/m3	m		m	m	m	m	T/m2	T/m3	m	m	m	m														T/m2	T	T/m2		
0	5	0	1.8	2	1	0	0	3	1.00	1.2	1.2	1	1	1.2	1.2	1.2	1.2	5.1	1.0	0.0	1.19	1	0.6	0.83	1.33	1	1	1	1	1	1	41.9	60.4	13.6	19.6
0.025	5	0	1.8	2	1	0	0	3	1.00	1.2	1.2	1	1	1.15	1.2	1.15	1.2	5.1	1.0	0.0	1.19	1	0.62	0.83	1.33	1	1	1	1	1	1	41.7	57.5	13.6	18.7
0.05	5	0	1.8	2	1	0	0	3	1.00	1.2	1.2	1	1	1.1	1.2	1.1	1.2	5.1	1.0	0.0	1.18	1	0.63	0.83	1.33	1	1	1	1	1	1	41.4	54.6	13.5	17.8
0.075	5	0	1.8	2	1	0	0	3	1.00	1.2	1.2	1	1	1.05	1.2	1.05	1.2	5.1	1.0	0.0	1.17	1	0.65	0.83	1.33	1	1	1	1	1	1	41.1	51.8	13.4	16.8
0.1	5	0	1.8	2	1	0	0	3	1.00	1.2	1.2	1	1	1	1.2	1	1.2	5.1	1.0	0.0	1.16	1	0.67	0.83	1.33	1	1	1	1	1	1	40.8	49.0	13.3	15.9
0.125	5	0	1.8	2	1	0	0	3	1.00	1.2	1.2	1	1	0.95	1.2	0.95	1.2	5.1	1.0	0.0	1.15	1	0.68	0.83	1.33	1	1	1	1	1	1	40.5	46.2	13.2	15.0
0.15	5	0	1.8	2	1	0	0	3	1.00	1.2	1.2	1	1	0.9	1.2	0.9	1.2	5.1	1.0	0.0	1.15	1	0.7	0.83	1.33	1	1	1	1	1	1	40.3	43.5	13.1	14.1
0.175	5	0	1.8	2	1	0	0	3	1.00	1.2	1.2	1	1	0.85	1.2	0.85	1.2	5.1	1.0	0.0	1.14	1	0.72	0.83	1.33	1	1	1	1	1	1	40.0	40.8	13.0	13.3
0.2	5	0	1.8	2	1	0	0	3	1.00	1.2	1.2	1	1	0.8	1.2	0.8	1.2	5.1	1.0	0.0	1.13	1	0.73	0.83	1.33	1	1	1	1	1	1	39.7	38.1	12.9	12.4
0.225	5	0	1.8	2	1	0	0	3	1.00	1.2	1.2	1	1	0.75	1.2	0.75	1.2	5.1	1.0	0.0	1.12	1	0.75	0.83	1.33	1	1	1	1	1	1	39.4	35.5	12.8	11.5

CASE 1 No. 050 00 18 - 100 100 150

DATA INPUT												CALCULATION												DATA OUTPUT										
SOIL PROPERTY						DESIGN						BEARING FACTOR						SHAPE FACTOR						DEPTH FACTOR			INCLI FACTOR							
$e_B$	$c$	$\phi$	$\gamma$	$\gamma_{sat}$	$\gamma_o$	$D_{GWT}$	$\beta$	FS	Df	B	L	$q'$	$\gamma'$	$B_{real}$	$L_{real}$	$B'$	$L'$	$N_c$	$N_q$	$N_y$	$F_{cs}$	$F_{qs}$	$F_{ys}$	$D_f/B$	$F_{cd}$	$F_{qd}$	$F_{yd}$	$F_{ci}$	$F_{qi}$	$F_{yi}$	$q'_u$	$Q'_u$	$Q_{all(net)}$	
m	T/m2	(deg)	T/m3	T/m3	T/m3	m		m	m	m	m	T/m2	T/m3	m	m	m	m														T/m2	T	T/m2	
0	5	0	1.8	2	1	0	0	3	1.00	1	1.5	1	1	1	1.5	1	1.5	5.1	1.0	0.0	1.13	1	0.73	1	1.4	1	1	1	1	1	41.6	62.5	13.5	20.3
0.025	5	0	1.8	2	1	0	0	3	1.00	1	1.5	1	1	0.95	1.5	0.95	1.5	5.1	1.0	0.0	1.12	1	0.75	1	1.4	1	1	1	1	1	41.4	59.0	13.5	19.2
0.05	5	0	1.8	2	1	0	0	3	1.00	1	1.5	1	1	0.9	1.5	0.9	1.5	5.1	1.0	0.0	1.12	1	0.76	1	1.4	1	1	1	1	1	41.2	55.6	13.4	18.1
0.075	5	0	1.8	2	1	0	0	3	1.00	1	1.5	1	1	0.85	1.5	0.85	1.5	5.1	1.0	0.0	1.11	1	0.77	1	1.4	1	1	1	1	1	40.9	52.2	13.3	17.0
0.1	5	0	1.8	2	1	0	0	3	1.00	1	1.5	1	1	0.8	1.5	0.8	1.5	5.1	1.0	0.0	1.1	1	0.79	1	1.4	1	1	1	1	1	40.7	48.9	13.2	15.9
0.125	5	0	1.8	2	1	0	0	3	1.00	1	1.5	1	1	0.75	1.5	0.75	1.5	5.1	1.0	0.0	1.1	1	0.8	1	1.4	1	1	1	1	1	40.5	45.5	13.2	14.8
0.15	5	0	1.8	2	1	0	0	3	1.00	1	1.5	1	1	0.7	1.5	0.7	1.5	5.1	1.0	0.0	1.09	1	0.81	1	1.4	1	1	1	1	1	40.2	42.3	13.1	13.7
0.175	5	0	1.8	2	1	0	0	3	1.00	1	1.5	1	1	0.65	1.5	0.65	1.5	5.1	1.0	0.0	1.08	1	0.83	1	1.4	1	1	1	1	1	40.0	39.0	13.0	12.7
0.2	5	0	1.8	2	1	0	0	3	1.00	1	1.5	1	1	0.6	1.5	0.6	1.5	5.1	1.0	0.0	1.08	1	0.84	1	1.4	1	1	1	1	1	39.8	35.8	12.9	11.6
0.225	5	0	1.8	2	1	0	0	3	1.00	1	1.5	1	1	0.55	1.5	0.55	1.5	5.1	1.0	0.0	1.07	1	0.85	1	1.4	1	1	1	1	1	39.5	32.6	12.8	10.6





ตารางที่ 4-41, 4-42 การวิเคราะห์และคำนวณกำลังแบกทานของดินใต้ฐานรากตื้น ( $q_u$ ) และคำนวณน้ำหนักสูงสุด ( $Q_u$ ) ที่ฐานรากตื้นจะรับได้ทีละระยะเบื้องต้นต่าง ๆ

CASE 1 No. 100 00 16 - 100 100 100

DATA INPUT															CALCULATION															DATA OUTPUT				
SOIL PROPERTY					DESIGN					BEARING FACTOR					SHAPE FACTOR					DEPTH FACTOR					INCLI FACTOR									
$c$ T/m2	$\phi$ (deg)	$\gamma$ T/m3	$\gamma_{sat}$ T/m3	$\gamma_w$ T/m3	$D_{cwr}$ m	$\beta$	FS	Df m	B m	L m	$q'$ T/m2	$\gamma$	$B_{real}$ m	$L_{real}$ m	B'	L'	$N_c$	$N_q$	$N_y$	$F_{cs}$	$F_{\phi}$	$F_{ys}$	D/B	$F_{cd}$	$F_{qd}$	$F_{yd}$	$F_{ci}$	$F_{\phi}$	$F_{yi}$	$q'_u$ T/m2	$Q'_u$ T	$q_{ult(net)}$ T/m2	$Q_{ult(net)}$ T	
0	0	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	1	1	1	1	5.1	1.0	0.0	1.19	1	0.6	1	1.4	1	1	1	1	1	1	86.8	86.8	28.7	28.7
0.025	0	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.95	1	0.95	1	5.1	1.0	0.0	1.18	1	0.62	1	1.4	1	1	1	1	1	1	86.1	81.8	28.4	27.0
0.05	0	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.9	1	0.9	1	5.1	1.0	0.0	1.18	1	0.64	1	1.4	1	1	1	1	1	1	85.4	76.8	28.2	25.4
0.075	0	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.85	1	0.85	1	5.1	1.0	0.0	1.17	1	0.66	1	1.4	1	1	1	1	1	1	84.7	72.0	28.0	23.8
0.1	0	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.8	1	0.8	1	5.1	1.0	0.0	1.16	1	0.68	1	1.4	1	1	1	1	1	1	84.0	67.2	27.7	22.2
0.125	0	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.75	1	0.75	1	5.1	1.0	0.0	1.15	1	0.7	1	1.4	1	1	1	1	1	1	83.3	62.4	27.5	20.6
0.15	0	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.7	1	0.7	1	5.1	1.0	0.0	1.14	1	0.72	1	1.4	1	1	1	1	1	1	82.6	57.8	27.3	19.1
0.175	0	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.65	1	0.65	1	5.1	1.0	0.0	1.13	1	0.74	1	1.4	1	1	1	1	1	1	81.9	53.2	27.0	17.6
0.2	0	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.6	1	0.6	1	5.1	1.0	0.0	1.12	1	0.76	1	1.4	1	1	1	1	1	1	81.2	48.7	26.8	16.1
0.225	0	1.6	1.8	1	0	0	3	1.00	1	1	0.8	0.8	0.55	1	0.55	1	5.1	1.0	0.0	1.11	1	0.78	1	1.4	1	1	1	1	1	1	80.5	44.3	26.6	14.6

CASE 1 No. 100 00 16 - 100 100 120

DATA INPUT															CALCULATION															DATA OUTPUT				
SOIL PROPERTY					DESIGN					BEARING FACTOR					SHAPE FACTOR					DEPTH FACTOR					INCLI FACTOR									
$c$ T/m2	$\phi$ (deg)	$\gamma$ T/m3	$\gamma_{sat}$ T/m3	$\gamma_w$ T/m3	$D_{cwr}$ m	$\beta$	FS	Df m	B m	L m	$q'$ T/m2	$\gamma$	$B_{real}$ m	$L_{real}$ m	B'	L'	$N_c$	$N_q$	$N_y$	$F_{cs}$	$F_{\phi}$	$F_{ys}$	D/B	$F_{cd}$	$F_{qd}$	$F_{yd}$	$F_{ci}$	$F_{\phi}$	$F_{yi}$	$q'_u$ T/m2	$Q'_u$ T	$q_{ult(net)}$ T/m2	$Q_{ult(net)}$ T	
0	0	1.6	1.8	1	0	0	3	1.00	1	1.2	0.8	0.8	1	1.2	1	1.2	5.1	1.0	0.0	1.16	1	0.67	1	1.4	1	1	1	1	1	1	84.4	101.3	27.9	33.5
0.025	0	1.6	1.8	1	0	0	3	1.00	1	1.2	0.8	0.8	0.95	1.2	0.95	1.2	5.1	1.0	0.0	1.15	1	0.68	1	1.4	1	1	1	1	1	1	83.8	95.6	27.7	31.6
0.05	0	1.6	1.8	1	0	0	3	1.00	1	1.2	0.8	0.8	0.9	1.2	0.9	1.2	5.1	1.0	0.0	1.15	1	0.7	1	1.4	1	1	1	1	1	1	83.3	89.9	27.5	29.7
0.075	0	1.6	1.8	1	0	0	3	1.00	1	1.2	0.8	0.8	0.85	1.2	0.85	1.2	5.1	1.0	0.0	1.14	1	0.72	1	1.4	1	1	1	1	1	1	82.7	84.3	27.3	27.8
0.1	0	1.6	1.8	1	0	0	3	1.00	1	1.2	0.8	0.8	0.8	1.2	0.8	1.2	5.1	1.0	0.0	1.13	1	0.73	1	1.4	1	1	1	1	1	1	82.1	78.8	27.1	26.0
0.125	0	1.6	1.8	1	0	0	3	1.00	1	1.2	0.8	0.8	0.75	1.2	0.75	1.2	5.1	1.0	0.0	1.12	1	0.75	1	1.4	1	1	1	1	1	1	81.5	73.4	26.9	24.2
0.15	0	1.6	1.8	1	0	0	3	1.00	1	1.2	0.8	0.8	0.7	1.2	0.7	1.2	5.1	1.0	0.0	1.11	1	0.77	1	1.4	1	1	1	1	1	1	80.9	68.0	26.7	22.4
0.175	0	1.6	1.8	1	0	0	3	1.00	1	1.2	0.8	0.8	0.65	1.2	0.65	1.2	5.1	1.0	0.0	1.11	1	0.78	1	1.4	1	1	1	1	1	1	80.3	62.7	26.5	20.7
0.2	0	1.6	1.8	1	0	0	3	1.00	1	1.2	0.8	0.8	0.6	1.2	0.6	1.2	5.1	1.0	0.0	1.1	1	0.8	1	1.4	1	1	1	1	1	1	79.8	57.4	26.3	19.0
0.225	0	1.6	1.8	1	0	0	3	1.00	1	1.2	0.8	0.8	0.55	1.2	0.55	1.2	5.1	1.0	0.0	1.09	1	0.82	1	1.4	1	1	1	1	1	1	79.2	52.3	26.1	17.2

ตารางที่ 4-41, 4-42 การวิเคราะห์และกำหนดค่าของดินใต้ฐานรากตามของดินใต้ฐานรากที่รับได้ (q<sub>u</sub>) และค่าน้ำหนักบรรทุก (Q<sub>u</sub>) ที่ฐานรากที่รับได้ที่ระยะเปลี่ยนของชั้นดินต่าง ๆ

CASE 1 No. 100 00 16 - 100 120 120

DATA INPUT												CALCULATION												DATA OUTPUT									
SOIL PROPERTY						DESIGN						q'	BEARING FACTOR			SHAPE FACTOR			DEPTH FACTOR			INCLI FACTOR			q' <sub>u</sub>	Q' <sub>u</sub>	q' <sub>u</sub> (net)	Q' <sub>u</sub> (net)					
c	φ	γ	γ <sub>sat</sub>	γ <sub>o</sub>	D <sub>swt</sub>	β	FS	Df	B	L	B <sub>real</sub>		L <sub>real</sub>	B'	L'	N <sub>c</sub>	N <sub>q</sub>	N <sub>y</sub>	F <sub>cs</sub>	F <sub>qs</sub>	F <sub>ys</sub>	D <sub>r</sub> /B	F <sub>ed</sub>	F <sub>qd</sub>					F <sub>yd</sub>	F <sub>ci</sub>	F <sub>qi</sub>	F <sub>yi</sub>	q' <sub>u</sub>
T/m <sup>2</sup>	(deg)	T/m <sup>3</sup>	T/m <sup>3</sup>	T/m <sup>3</sup>	m			m	m	m	m	m	m	m															T/m <sup>2</sup>	T	T/m <sup>2</sup>	T	
0	0	1.6	1.8	1	0	0	3	1.00	1.2	1.2	0.8	0.8	1.2	1.2	1.2	5.1	1.0	0.0	1.19	1	0.6	0.83	1.33	1	1	1	1	1	1	82.7	119.0	27.3	39.3
0.025	0	1.6	1.8	1	0	0	3	1.00	1.2	1.2	0.8	0.8	1.15	1.2	1.15	5.1	1.0	0.0	1.19	1	0.62	0.83	1.33	1	1	1	1	1	1	82.1	113.3	27.1	37.4
0.05	0	1.6	1.8	1	0	0	3	1.00	1.2	1.2	0.8	0.8	1.1	1.2	1.1	5.1	1.0	0.0	1.18	1	0.63	0.83	1.33	1	1	1	1	1	1	81.6	107.7	26.9	35.5
0.075	0	1.6	1.8	1	0	0	3	1.00	1.2	1.2	0.8	0.8	1.05	1.2	1.05	5.1	1.0	0.0	1.17	1	0.65	0.83	1.33	1	1	1	1	1	1	81.0	102.1	26.7	33.7
0.1	0	1.6	1.8	1	0	0	3	1.00	1.2	1.2	0.8	0.8	1	1.2	1	5.1	1.0	0.0	1.16	1	0.67	0.83	1.33	1	1	1	1	1	1	80.4	96.5	26.5	31.9
0.125	0	1.6	1.8	1	0	0	3	1.00	1.2	1.2	0.8	0.8	0.95	1.2	0.95	5.1	1.0	0.0	1.15	1	0.68	0.83	1.33	1	1	1	1	1	1	79.9	91.1	26.4	30.1
0.15	0	1.6	1.8	1	0	0	3	1.00	1.2	1.2	0.8	0.8	0.9	1.2	0.9	5.1	1.0	0.0	1.15	1	0.7	0.83	1.33	1	1	1	1	1	1	79.3	85.7	26.2	28.3
0.175	0	1.6	1.8	1	0	0	3	1.00	1.2	1.2	0.8	0.8	0.85	1.2	0.85	5.1	1.0	0.0	1.14	1	0.72	0.83	1.33	1	1	1	1	1	1	78.8	80.4	26.0	26.5
0.2	0	1.6	1.8	1	0	0	3	1.00	1.2	1.2	0.8	0.8	0.8	1.2	0.8	5.1	1.0	0.0	1.13	1	0.73	0.83	1.33	1	1	1	1	1	1	78.2	75.1	25.8	24.8
0.225	0	1.6	1.8	1	0	0	3	1.00	1.2	1.2	0.8	0.8	0.75	1.2	0.75	5.1	1.0	0.0	1.12	1	0.75	0.83	1.33	1	1	1	1	1	1	77.7	69.9	25.6	23.1

CASE 1 No. 100 00 16 - 100 100 150

DATA INPUT												CALCULATION												DATA OUTPUT									
SOIL PROPERTY						DESIGN						q'	BEARING FACTOR			SHAPE FACTOR			DEPTH FACTOR			INCLI FACTOR			q' <sub>u</sub>	Q' <sub>u</sub>	q' <sub>u</sub> (net)	Q' <sub>u</sub> (net)					
c	φ	γ	γ <sub>sat</sub>	γ <sub>o</sub>	D <sub>swt</sub>	β	FS	Df	B	L	B <sub>real</sub>		L <sub>real</sub>	B'	L'	N <sub>c</sub>	N <sub>q</sub>	N <sub>y</sub>	F <sub>cs</sub>	F <sub>qs</sub>	F <sub>ys</sub>	D <sub>r</sub> /B	F <sub>ed</sub>	F <sub>qd</sub>					F <sub>yd</sub>	F <sub>ci</sub>	F <sub>qi</sub>	F <sub>yi</sub>	q' <sub>u</sub>
T/m <sup>2</sup>	(deg)	T/m <sup>3</sup>	T/m <sup>3</sup>	T/m <sup>3</sup>	m			m	m	m	m	m	m	m																T/m <sup>2</sup>	T	T/m <sup>2</sup>	T
0	0	1.6	1.8	1	0	0	3	1.00	1	1.5	0.8	0.8	1	1.5	1	5.1	1.0	0.0	1.13	1	0.73	1	1.4	1	1	1	1	1	1	82.1	123.1	27.1	40.6
0.025	0	1.6	1.8	1	0	0	3	1.00	1	1.5	0.8	0.8	0.95	1.5	0.95	5.1	1.0	0.0	1.12	1	0.75	1	1.4	1	1	1	1	1	1	81.6	116.3	26.9	38.4
0.05	0	1.6	1.8	1	0	0	3	1.00	1	1.5	0.8	0.8	0.9	1.5	0.9	5.1	1.0	0.0	1.12	1	0.76	1	1.4	1	1	1	1	1	1	81.2	109.6	26.8	36.2
0.075	0	1.6	1.8	1	0	0	3	1.00	1	1.5	0.8	0.8	0.85	1.5	0.85	5.1	1.0	0.0	1.11	1	0.77	1	1.4	1	1	1	1	1	1	80.7	102.9	26.6	34.0
0.1	0	1.6	1.8	1	0	0	3	1.00	1	1.5	0.8	0.8	0.8	1.5	0.8	5.1	1.0	0.0	1.1	1	0.79	1	1.4	1	1	1	1	1	1	80.2	96.3	26.5	31.8
0.125	0	1.6	1.8	1	0	0	3	1.00	1	1.5	0.8	0.8	0.75	1.5	0.75	5.1	1.0	0.0	1.1	1	0.8	1	1.4	1	1	1	1	1	1	79.8	89.7	26.3	29.6
0.15	0	1.6	1.8	1	0	0	3	1.00	1	1.5	0.8	0.8	0.7	1.5	0.7	5.1	1.0	0.0	1.09	1	0.81	1	1.4	1	1	1	1	1	1	79.3	83.3	26.2	27.5
0.175	0	1.6	1.8	1	0	0	3	1.00	1	1.5	0.8	0.8	0.65	1.5	0.65	5.1	1.0	0.0	1.08	1	0.83	1	1.4	1	1	1	1	1	1	78.8	76.9	26.0	25.4
0.2	0	1.6	1.8	1	0	0	3	1.00	1	1.5	0.8	0.8	0.6	1.5	0.6	5.1	1.0	0.0	1.08	1	0.84	1	1.4	1	1	1	1	1	1	78.4	70.5	25.9	23.3
0.225	0	1.6	1.8	1	0	0	3	1.00	1	1.5	0.8	0.8	0.55	1.5	0.55	5.1	1.0	0.0	1.07	1	0.85	1	1.4	1	1	1	1	1	1	77.9	64.3	25.7	21.2

ตารางที่ 4-41, 4-42 การวิเคราะห์และคำนวณกำลังแบกทานของดินใต้ฐานรากดินเหนียวใต้ระยะเบี่ยงศูนย์กลาง  
 CASE 1 No. 100 00 16 - 100 120 150

DATA INPUT															CALCULATION															DATA OUTPUT																		
e <sub>n</sub> m	c T/m <sup>2</sup>	φ	γ T/m <sup>3</sup>	γ <sub>sat</sub> T/m <sup>3</sup>	γ <sub>o</sub> T/m <sup>3</sup>	D <sub>GWT</sub> m	β	FS	Df	B	L	DESIGN			q' T/m <sup>2</sup>	γ' T/m <sup>3</sup>	B <sub>trial</sub> m	L <sub>trial</sub> m	B'	L'	BEARING FACTOR			SHAPE FACTOR			DEPTH FACTOR			INCLI FACTOR			q' <sub>u</sub> T/m <sup>2</sup>	Q' <sub>u</sub> T	q <sub>ult(nee)</sub> T/m <sup>2</sup>	Q <sub>ult(nee)</sub> T												
												N <sub>c</sub>	N <sub>q</sub>	N <sub>y</sub>							F <sub>cs</sub>	F <sub>qa</sub>	F <sub>ps</sub>	D/B	F <sub>cd</sub>	F <sub>qd</sub>	F <sub>yd</sub>	F <sub>ci</sub>	F <sub>qi</sub>	F <sub>yi</sub>																		
0	10	0	1.6	1.8	1	0	0	3	1.00	1.2	1.5	0.8	0.8	1.2	1.5	1.2	1.5	1.2	1.5	0.68	1	1.16	1	0.83	1.33	1	1	1	1	1	1	1	1	1	1	80.0	144.0	26.4	47.5									
0.025	10	0	1.6	1.8	1	0	0	3	1.00	1.2	1.5	0.8	0.8	1.15	1.5	1.15	1.5	1.15	1.5	0.69	1	1.15	1	0.83	1.33	1	1	1	1	1	1	1	1	1	1	1	1	1	79.6	137.2	26.3	45.3						
0.05	10	0	1.6	1.8	1	0	0	3	1.00	1.2	1.5	0.8	0.8	1.1	1.5	1.1	1.5	1.1	1.5	0.71	1	1.14	1	0.83	1.33	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	79.1	130.5	26.1	43.1				
0.075	10	0	1.6	1.8	1	0	0	3	1.00	1.2	1.5	0.8	0.8	1.05	1.5	1.05	1.5	1.05	1.5	0.72	1	1.14	1	0.83	1.33	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	78.7	123.9	26.0	40.9			
0.1	10	0	1.6	1.8	1	0	0	3	1.00	1.2	1.5	0.8	0.8	1	1.5	1	1.5	1	1.5	0.73	1	1.13	1	0.83	1.33	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	78.2	117.3	25.8	38.7			
0.125	10	0	1.6	1.8	1	0	0	3	1.00	1.2	1.5	0.8	0.8	0.95	1.5	0.95	1.5	0.95	1.5	0.75	1	1.12	1	0.83	1.33	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	77.8	110.8	25.7	36.6		
0.15	10	0	1.6	1.8	1	0	0	3	1.00	1.2	1.5	0.8	0.8	0.9	1.5	0.9	1.5	0.9	1.5	0.76	1	1.12	1	0.83	1.33	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	77.3	104.4	25.5	34.4		
0.175	10	0	1.6	1.8	1	0	0	3	1.00	1.2	1.5	0.8	0.8	0.85	1.5	0.85	1.5	0.85	1.5	0.77	1	1.11	1	0.83	1.33	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	76.9	98.0	25.4	32.3	
0.2	10	0	1.6	1.8	1	0	0	3	1.00	1.2	1.5	0.8	0.8	0.8	1.5	0.8	1.5	0.8	1.5	0.79	1	1.1	1	0.83	1.33	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	76.4	91.7	25.2	30.3	
0.225	10	0	1.6	1.8	1	0	0	3	1.00	1.2	1.5	0.8	0.8	0.75	1.5	0.75	1.5	0.75	1.5	0.8	1.1	1	1.1	1	0.83	1.33	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	76.0	85.5	25.1	28.2