

No	L(m)	Case 4 HB live load-VL-			Case 5 HB live load-HL-			Case 6		
		M (tm)	S (t)	N (t)	M (tm)	S (t)	N (t)	M (tm)	S (t)	N (t)
1-	2	0.000	-0.976	-77.133	-8.261	29.155	0.000	-94.199	103.863	-234.905
*	1	0.200	-0.976	-77.133	-2.773	25.725	0.000	-74.917	89.063	-232.500
*	2	0.860	-0.976	-77.133	10.471	14.406	0.000	-31.126	44.810	-223.702
*	3	1.700	-0.976	-77.133	16.521	0.000	0.000	-13.661	-1.324	-212.759
*	4	2.540	-0.976	-77.133	10.471	-14.406	0.000	-30.156	-36.049	-201.816
*	5	3.200	-0.976	-77.133	-2.773	-25.725	0.000	-60.698	-55.329	-193.218
2-	1	3.400	-0.976	-77.133	-8.261	-29.155	0.000	-72.220	-59.780	-190.613
2-	3	0.000	77.133	-0.976	-8.261	0.000	-29.155	-72.220	190.613	-59.780
*	1	0.200	67.049	-0.976	-8.261	0.000	-29.155	-36.382	167.764	-59.780
*	2	0.860	26.648	-0.976	-8.261	0.000	-29.155	49.459	92.361	-59.780
*	3	1.700	38.814	-0.976	-8.261	0.000	-29.155	86.827	0.000	-59.780
*	4	2.540	41.463	-0.976	-8.261	0.000	-29.155	49.459	-92.361	-59.780
*	5	3.200	-3.539	-0.976	-8.261	0.000	-29.155	-36.382	-167.764	-59.780
*	5	3.200	-45.892	-0.976	-8.261	0.000	-29.155	-72.220	-190.613	-59.780
3-	2	3.400	-46.396	-0.976	-8.261	0.000	-29.155	-72.220	-190.613	-59.780
3-	4	0.000	-46.396	-0.976	-8.261	0.000	-29.155	-72.220	-190.613	-59.780
*	1	0.200	0.976	-46.396	-8.261	29.155	0.000	-72.220	59.780	-190.613
*	2	0.860	0.976	-46.396	-2.773	25.725	0.000	-60.698	55.329	-193.218
*	3	1.700	0.976	-46.396	10.471	14.406	0.000	-30.156	36.049	-201.816
*	4	2.540	0.976	-46.396	16.521	0.000	0.000	-13.661	1.324	-212.759
*	5	3.200	0.976	-46.396	10.471	-14.406	0.000	-31.126	-44.810	-223.702
4-	3	3.400	0.976	-46.396	-2.773	-25.725	0.000	-74.917	-89.063	-232.500
4-	3	3.400	0.976	-46.396	-8.261	-29.155	0.000	-94.199	-103.863	-234.905
4-	1	0.000	46.396	0.976	-8.261	0.000	-29.155	-94.199	234.905	-103.863
*	1	0.200	44.025	0.976	-8.261	0.000	-29.155	-49.981	207.269	-103.863
*	2	0.860	31.858	0.976	-8.261	0.000	-29.155	56.721	116.071	-103.863
*	3	1.700	6.736	0.976	-8.261	0.000	-29.155	105.471	0.000	-103.863
*	4	2.540	-29.180	0.976	-8.261	0.000	-29.155	56.721	-116.071	-103.863
*	5	3.200	-64.971	0.976	-8.261	0.000	-29.155	-49.981	-207.269	-103.863
1-	4	3.400	-77.133	0.976	-8.261	0.000	-29.155	-94.199	-234.905	-103.863

No	L(m)	Case 7			Case 8			N (t)
		M (tm)	S (t)	N (t)	M (tm)	S (t)	N (t)	
1-	2	0.000	102.243	-226.240	-73.995	151.745	-115.939	
*	1	0.200	87.443	-223.634	-45.703	131.285	-113.334	
*	2	0.860	43.190	-215.036	19.791	68.356	-104.736	
*	3	1.700	-2.944	-204.094	47.051	-1.549	-93.793	
*	4	2.540	-37.669	-193.151	20.384	-60.043	-82.850	
*	5	3.200	-56.949	-184.553	-32.158	-97.999	-74.252	
2-	1	3.400	-61.401	-181.947	-52.780	-108.111	-71.647	
2-	3	0.000	181.947	-61.401	-52.780	71.647	-108.111	
*	1	0.200	159.098	-61.401	-39.293	63.218	-108.111	
*	2	0.860	90.906	-61.401	-6.749	35.402	-108.111	
*	3	1.700	81.043	-61.401	8.120	0.000	-108.111	
*	4	2.540	-5.060	-61.401	-6.749	-35.402	-108.111	
*	5	3.200	-101.027	-61.401	-39.293	-63.218	-108.111	
3-	2	3.400	-129.564	-61.401	-52.780	-71.647	-108.111	
3-	4	0.000	-137.993	-61.401	-52.780	108.111	-71.647	
*	1	0.200	61.401	-137.993	-32.158	97.999	-74.252	
*	2	0.860	56.949	-140.598	20.384	60.043	-82.850	
*	3	1.700	37.669	-149.196	47.051	1.549	-93.793	
*	4	2.540	2.944	-160.139	19.791	-68.356	-104.736	
*	5	3.200	-43.190	-171.082	-45.703	-131.285	-113.334	
4-	3	3.400	-87.443	-179.680	-73.995	-151.745	-115.939	
4-	3	3.400	-102.243	-182.285	-73.995	-151.745	-115.939	
4-	1	0.000	182.285	-102.243	-73.995	115.939	-151.745	
*	1	0.200	165.254	-102.243	-52.172	102.299	-151.745	
*	2	0.860	102.845	-102.243	0.492	57.288	-151.745	
*	3	1.700	9.633	-102.243	24.553	0.000	-151.745	
*	4	2.540	-99.014	-102.243	0.492	-57.288	-151.745	
*	5	3.200	-195.209	-102.243	-52.172	-102.299	-151.745	
1-	4	3.400	-226.240	-102.243	-73.995	-115.939	-151.745	

PICK-UP No. 1 *

M. MAXIMUM

No.	L (m)	Case	M (tm)	S (t)	N (t)	Case	M (tm)	S (t)	N (t)
1 - 2	0.000	C- 8	-73.995	151.745	-115.939	C- 6	-94.199	103.863	-234.905
* 1	0.200	C- 8	-45.703	131.285	-113.334	C- 6	-74.917	89.063	-232.300
* 2	0.860	C- 8	19.791	68.356	-104.736	C- 6	-31.126	44.810	-223.702
* 3	1.700	C- 8	47.051	-1.549	-93.793	C- 6	-13.661	-1.324	-212.759
* 4	2.540	C- 8	20.384	-60.043	-82.850	C- 6	-30.156	-36.049	-201.816
* 5	3.200	C- 8	-32.158	-97.999	-74.252	C- 6	-60.698	-55.329	-193.218
2 - 1	3.400	C- 8	-52.780	-108.111	-71.647	C- 6	-72.220	-59.780	-190.613
2 - 3	0.000	C- 8	-52.780	71.647	-108.111	C- 6	-72.220	190.613	-59.780
* 1	0.200	C- 7	-35.567	159.098	-61.401	C- 8	-39.293	63.218	-108.111
* 2	0.860	C- 6	49.459	92.361	-59.780	C- 8	-6.749	35.402	-108.111
* 3	1.700	C- 6	85.827	0.000	-59.780	C- 8	8.120	0.000	-108.111
* 4	2.540	C- 6	49.459	-92.361	-59.780	C- 8	-6.749	-35.402	-108.111
* 5	3.200	C- 6	-36.382	-167.764	-59.780	C- 7	-39.843	-129.564	-61.401
3 - 2	3.400	C- 8	-52.780	-71.647	-108.111	C- 6	-72.220	-190.613	-59.780
3 - 4	0.000	C- 8	-52.780	108.111	-71.647	C- 6	-72.220	59.780	-190.613
* 1	0.200	C- 8	-32.158	97.999	-74.252	C- 6	-60.698	55.329	-193.218
* 2	0.860	C- 8	20.384	60.043	-82.850	C- 6	-30.156	36.049	-201.816
* 3	1.700	C- 8	47.051	1.549	-93.793	C- 6	-13.661	1.324	-212.759
* 4	2.540	C- 8	19.791	-68.356	-104.736	C- 6	-31.126	-44.810	-223.702
* 5	3.200	C- 8	-45.703	-131.285	-113.334	C- 6	-74.917	-89.063	-232.300
4 - 3	3.400	C- 8	-73.995	-151.745	-115.939	C- 6	-94.199	-103.863	-234.905
4 - 1	0.000	C- 8	-73.995	115.939	-151.745	C- 6	-94.199	234.905	-103.863
* 1	0.200	C- 7	-48.300	165.254	-102.243	C- 8	-52.172	102.299	-151.745
* 2	0.860	C- 6	56.721	116.071	-103.863	C- 8	0.492	57.288	-151.745
* 3	1.700	C- 6	105.471	0.000	-103.863	C- 8	24.553	0.000	-151.745
* 4	2.540	C- 6	56.721	-116.071	-103.863	C- 8	0.492	-57.288	-151.745
* 5	3.200	C- 7	-44.011	-195.209	-102.243	C- 8	-52.172	-102.299	-151.745
1 - 4	3.400	C- 8	-73.995	-115.939	-151.745	C- 6	-94.199	-234.905	-103.863

M. MINIMUM

PICK-UP No. 1 *

S. MAXIMUM

S. MINIMUM

No.	L (m)	Case	M (tm)	S (t)	N (t)	Case	M (tm)	S (t)	N (t)
1 -	0.000	C- 8	-73.995	151.745	-115.939	C- 7	-86.141	102.243	-226.240
* 1	0.200	C- 8	-45.703	131.285	-113.834	C- 7	-67.183	87.443	-223.634
* 2	0.860	C- 8	19.791	68.356	-104.736	C- 7	-24.462	43.190	-213.036
* 3	1.700	C- 6	-13.661	-1.324	-212.759	C- 7	-8.358	-2.944	-204.094
* 4	2.540	C- 6	-30.156	-36.049	-201.816	C- 7	20.384	-60.043	-82.850
* 5	3.200	C- 6	-60.698	-55.329	-193.218	C- 8	-32.158	-97.999	-74.252
2 -	3.400	C- 6	-72.220	-59.780	-190.613	C- 8	-52.780	-108.111	-71.647
2 -	0.000	C- 6	-72.220	190.613	-59.780	C- 8	-52.780	71.647	-108.111
* 1	0.200	C- 6	-36.382	167.764	-59.780	C- 8	-39.293	63.218	-108.111
* 2	0.860	C- 6	49.459	92.361	-59.780	C- 8	-6.749	35.402	-108.111
* 3	1.700	C- 8	8.120	0.000	-108.111	C- 7	81.043	-5.060	-61.401
* 4	2.540	C- 8	-6.749	-35.402	-108.111	C- 7	35.486	-101.027	-61.401
* 5	3.200	C- 8	-39.293	-63.218	-108.111	C- 6	-36.382	-167.764	-59.780
3 -	3.400	C- 8	-52.780	-71.647	-108.111	C- 6	-72.220	-190.613	-59.780
3 -	0.000	C- 8	-52.780	108.111	-71.647	C- 6	-72.220	59.780	-190.613
* 1	0.200	C- 8	-32.158	97.999	-74.252	C- 6	-60.698	55.329	-193.218
* 2	0.860	C- 8	20.384	60.043	-82.850	C- 6	-30.156	36.049	-201.816
* 3	1.700	C- 7	-3.285	2.944	-160.139	C- 6	-13.661	1.324	-212.759
* 4	2.540	C- 7	-21.385	-43.190	-171.082	C- 8	19.791	-68.356	-104.736
* 5	3.200	C- 7	-64.111	-87.443	-179.680	C- 8	-45.703	-131.285	-113.834
4 -	3.400	C- 7	-83.069	-102.243	-182.285	C- 8	-73.995	-151.745	-115.939
4 -	0.000	C- 6	-94.199	234.905	-103.863	C- 8	-73.995	115.939	-151.745
* 1	0.200	C- 6	-49.981	207.269	-103.863	C- 8	-52.172	102.299	-151.745
* 2	0.860	C- 6	56.721	116.071	-103.863	C- 8	0.492	57.288	-151.745
* 3	1.700	C- 7	89.018	9.633	-102.243	C- 6	105.471	0.000	-103.863
* 4	2.540	C- 8	0.492	-57.288	-151.745	C- 6	56.721	-116.071	-103.863
* 5	3.200	C- 8	-52.172	-102.299	-151.745	C- 6	-49.981	-207.269	-103.863
1 -	3.400	C- 8	-73.995	-115.939	-151.745	C- 6	-94.199	-234.905	-103.863

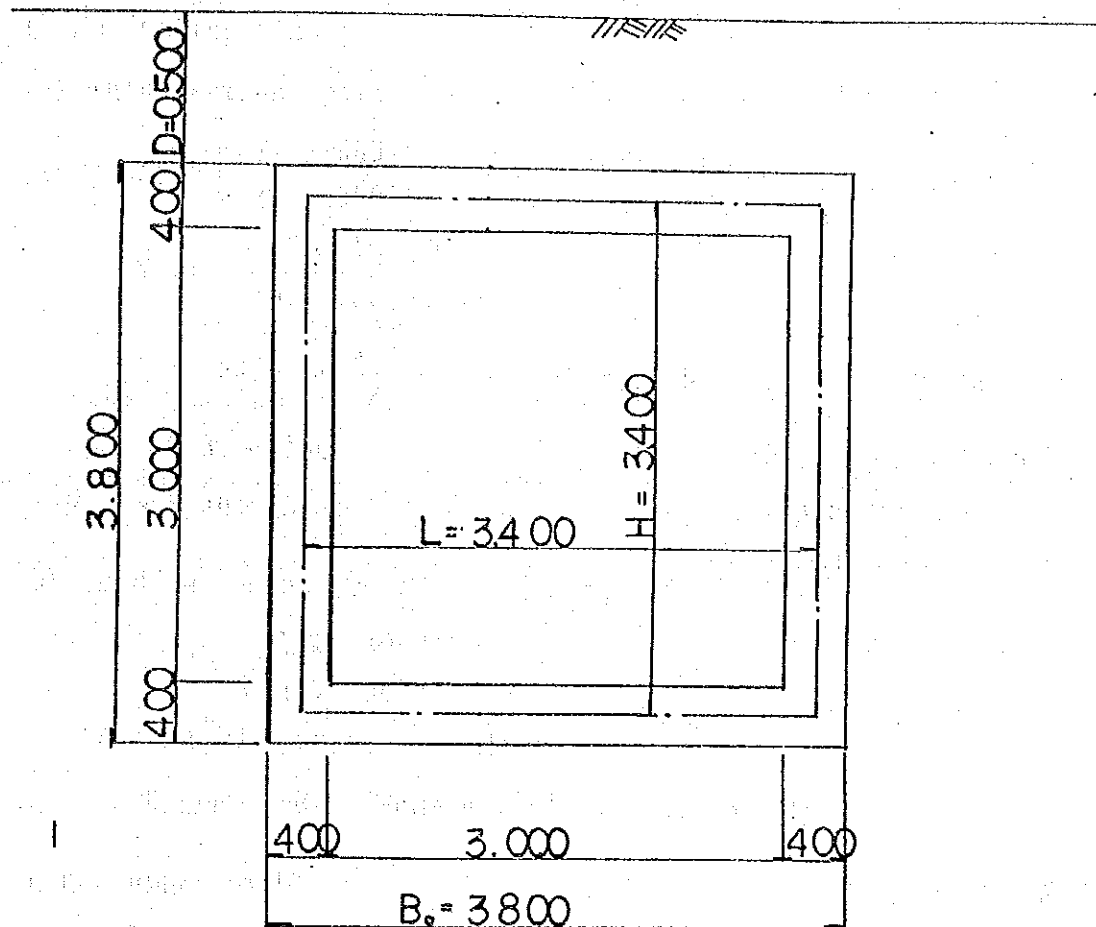
PICK-UP No. 1 *

N. MAXIMUM N. MINIMUM

No.	L (m)	Case	M (tm)	S (t)	N (t)	Case	M (tm)	S (t)	N (t)
1	0.000	C-8	-73.995	151.745	-115.939	C-6	-94.199	103.863	-234.905
*	0.200	C-8	-45.703	131.285	-113.334	C-6	-74.917	89.063	-232.300
*	0.860	C-8	19.791	68.356	-104.736	C-6	-31.126	44.810	-223.702
*	1.700	C-8	47.051	-1.549	-93.793	C-6	-13.661	-1.324	-212.759
*	2.540	C-8	20.384	-60.043	-82.850	C-6	-30.156	-36.049	-201.816
*	3.200	C-8	-32.158	-97.999	-74.252	C-6	-60.698	-55.329	-193.218
2	3.400	C-8	-52.780	-108.111	-71.647	C-6	-72.220	-59.780	-190.613
2	0.000	C-6	-72.220	190.613	-59.780	C-8	-52.780	71.647	-108.111
*	0.200	C-6	-36.382	167.764	-59.780	C-8	-39.293	63.218	-108.111
*	0.860	C-6	49.459	92.361	-59.780	C-8	-6.749	35.402	-108.111
*	1.700	C-6	86.827	0.000	-59.780	C-8	8.120	0.000	-108.111
*	2.540	C-6	49.459	-92.361	-59.780	C-8	-6.749	-35.402	-108.111
*	3.200	C-6	-36.382	-167.764	-59.780	C-8	-39.293	-63.218	-108.111
3	3.400	C-6	-72.220	-190.613	-59.780	C-8	-52.780	-71.647	-108.111
3	0.000	C-8	-52.780	108.111	-71.647	C-6	-72.220	59.780	-190.613
*	0.200	C-8	-32.158	97.999	-74.252	C-6	-60.698	55.329	-193.218
*	0.860	C-8	20.384	60.043	-82.850	C-6	-30.156	36.049	-201.816
*	1.700	C-8	47.051	1.549	-93.793	C-6	-13.661	1.324	-212.759
*	2.540	C-8	19.791	-68.356	-104.736	C-6	-31.126	-44.810	-223.702
*	3.200	C-8	-45.703	-131.285	-113.334	C-6	-74.917	-89.063	-232.300
4	3.400	C-8	-73.995	-151.745	-115.939	C-6	-94.199	-103.863	-234.905
4	0.000	C-7	-83.069	182.285	-102.243	C-8	-73.995	115.939	-151.745
*	0.200	C-7	-48.300	165.254	-102.243	C-8	-52.172	102.299	-151.745
*	0.860	C-7	40.697	102.845	-102.243	C-8	0.492	57.288	-151.745
*	1.700	C-7	89.018	9.633	-102.243	C-8	24.553	0.000	-151.745
*	2.540	C-7	52.559	-99.014	-102.243	C-8	0.492	-57.288	-151.745
*	3.200	C-7	-44.011	-195.209	-102.243	C-8	-52.172	-102.299	-151.745
1	3.400	C-7	-86.141	-226.240	-102.243	C-8	-73.995	-115.939	-151.745

NO. 4 BOX CULVERT FOR FOOTPATH

1) Shape and Size



Where D^m = depth of asphalt and similar surface soil.

2) Factor of section

$$A = 1.00 \times 0.40 = 0.4000 \text{ m}^2$$

$$I = \frac{1.00 \times 0.40^3}{12} = 0.00533 \text{ m}^4$$

$$E_c = 25 \text{ kN/mm}^2 = 2.5 \times 10^7 \text{ kN/m}^2$$

No. ①~④ BOX CULVERT FOR FOOTPATH (D=0.500m)

section $b=100\text{cm}$ $h=40$ $d=34.0(35.0)$ $d'=6.0(5.0)$

1. calculation for bending moment (U.L.S)

1) For bottom slab

a) intersection point ①~④ $M_{u,\min} = -84.6\text{KNm}$

$$A_s = \begin{pmatrix} Y_{12} - 300^{\text{ctc}} \\ Y_{16} - 300^{\text{ctc}} \end{pmatrix} = \begin{pmatrix} 1.131/0.300 \\ 2.011/0.300 \end{pmatrix} = 10.47\text{ cm}^2$$

$$X = \frac{0.87 \times 41000 \times 10.47}{0.40 \times 2500 \times 100} \doteq 3.8\text{ cm}$$

$$Z = 34.0 - \frac{3.8}{2} = 32.1\text{ cm} < 0.95 \times 34.0 = 32.3\text{ cm} \quad \text{OK}$$

$$M_{RS} = 0.87 \times 41000 \times 10.47 \times 32.1 \times 10^{-5} = 120.0\text{KNm} > M_u = 84.6\text{KNm}$$

$$M_{RC} = 0.40 \times 2500 \times 100 \times 3.8 \times 32.1 \times 10^{-5} = 122.0\text{KNm} > M_u = 84.6\text{KNm} \quad \text{OK}$$

b) middle point ④~① $M_{u,\max} = 98.7\text{KNm}$

$$A_s = \begin{pmatrix} Y_{12} - 300^{\text{ctc}} \\ Y_{16} - 300^{\text{ctc}} \end{pmatrix} = 10.47\text{ cm}^2$$

$$M_R = 120.0\text{KNm} > M_u = 98.7\text{KNm}$$

Where... M_R : From calculation of point ①

2) For upper slab

middle point ②~③ $M_{u,\max} = 76.2\text{KNm}$

(intersection point ②=③ $M_{u,\min} = -64.3\text{KNm}$)

$$A_s = Y_{12} - 150^{\text{ctc}} = 1.131/0.150 = 7.54\text{ cm}^2$$

$$X = \frac{0.87 \times 41000 \times 7.54}{0.40 \times 2500 \times 100} \doteq 3.6\text{ cm}$$

$$Z = 35.0 - \frac{3.6}{2} = 33.2\text{ cm} \doteq 0.95 \times 35.0 = 33.2\text{ cm} \quad \text{OK}$$

$$M_{RS} = 0.87 \times 41000 \times 7.54 \times 33.2 \times 10^{-5} = 89.3\text{KNm} > M_u = 76.2\text{KNm}$$

$$M_{RC} = 0.40 \times 2500 \times 100 \times 3.6 \times 33.2 \times 10^{-5} = 119.5\text{KNm} > M_u = 76.2\text{KNm} \quad \text{OK}$$

Point ①~②, ③~④ Middle $M_{u,\max} = 45.8\text{KNm}$

$$A_s = Y_{12} - 150^{\text{ctc}} = 7.54\text{ cm}^2$$

$$M_R = 89.3\text{KNm} > M_u = 45.8\text{KNm}$$

Notice... this type is not necessary for bar arrangement.
for only calculation of check

2. calculation for shearing force

a) intersection point ① = ④ Su.max = 106.5^{kN}

$$A_s = \left(\begin{array}{l} Y_{12} - 300^{ctc} \\ Y_{16} - 300^{ctc} \end{array} \right) = 10.47 \text{ cm}^2$$

$$P = \frac{10.47}{100 \times 34.0} \times 100 = 0.308 \%$$

$$V_c = \frac{106.5 \times 10^3}{100 \times 34.0} = 31.4 \text{ N/cm}^2$$

$$< V_{ca} = \left\{ 35.0 + \frac{15}{0.25} (0.308 - 0.25) \right\} = 38.5 \text{ N/cm}^2 \quad \text{OK}$$

b) intersection point ②, ③ Su.min = -88.3^{kN}

$$A_s = Y_{12} - 150^{ctc} = 7.54 \text{ cm}^2$$

$$P = \frac{7.54}{100 \times 35.0} \times 100 = 0.215 \%$$

$$V_c = \frac{88.3 \times 10^3}{100 \times 35.0} = 25.3 \text{ N/cm}^2$$

$$< V_{ca} = 35.0 \times \frac{0.215}{0.250} = 30.1 \text{ N/cm}^2$$

NO①~④ BOX CULVERT FOR FOOTPATH (D=0.500m)

Load

1) Dead load

a) Vertical load

For upper slab $w_1 = 22.6 \times 0.50 + 23.6 \times 0.40 = 20.740 \text{ kN/m}$

For side wall $w_2 = 23.6 \times 0.40 = 9.440 \text{ "}$

For bottom slab $w_3 = 20.740 + \frac{2 \times 9.440 \times 3.40}{3.40} = 39.620 \text{ "}$

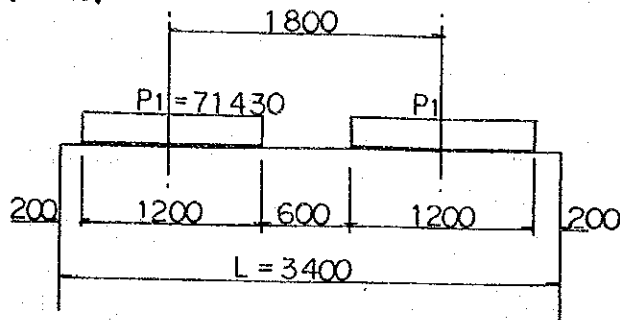
b) Horizontal load (earth pressure)

For side slab $pe_1 = (22.6 \times 0.50 + 19.6 \times 0.20) \times 0.500 = 7.610 \text{ kN/m}$

" $pe_2 = (22.6 \times 0.50 + 19.6 \times 3.60) \times 0.500 = 40.930 \text{ "}$

2) Live load

case-1 Vertical load of symmetry



$B = 0.30 + 0.50 + 0.40$

$= 1.200 \text{ m}$

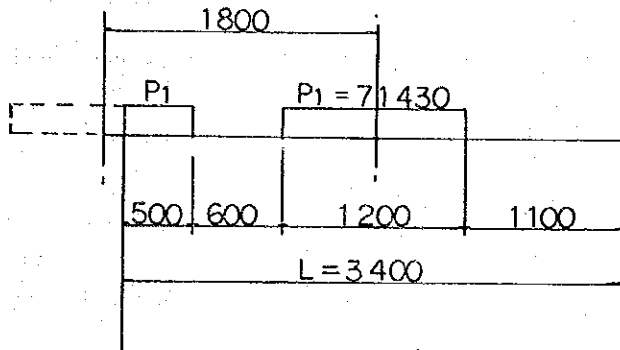
For bottom slab

$P_2 = \frac{2 \times 71.430 \times 1.20}{3.40} = 50.421 \text{ kN/m}$

$P = \frac{10 \times 30}{1.20 \times 3.50}$

case-2 Vertical load of partial for sentral span

$= 71.430 \text{ KN/m}$



For bottom slab

$P_2 = \frac{71.430(0.500+1.200)}{3.40} \pm \frac{6 \times 71.430 \times 0.50 \times 1.450}{3.40^2}$

$= 35.715 \pm 26.879 = \begin{cases} P_{2-1} = 62.594 \text{ kN/m} \\ P_{2-2} = 8.836 \text{ "} \end{cases}$

case-3 Horizontal load ----- eath pressure of liveload surcharge

Live load surcharg : $go = \frac{40.0 \times 30.0}{3.50 \times 10.0} = 34.300 \text{ kN/m}^2$

For side wall: $Pe = 34.300 \times 0.500 = 17.150 \text{ kN/m}$

Where

Loaded strength = P1

$B = 0.300 + 0.500 + 0.400 = 1.200 \text{ m}$

$P_1 = \frac{10.0 \times 30.0}{1.20 \times 3.50} \times 1.00 = 71.429 \text{ kN/m}$

BOX FOR FOOTPATH Depth = 0.500 FOR CHECK ---APPLICATION BOXS NO 1~NO 4.

NOTE: THE DIMENSION(S) BE EXCHANG TO
DIMENSION(KN) INTO THIS CALCULATION

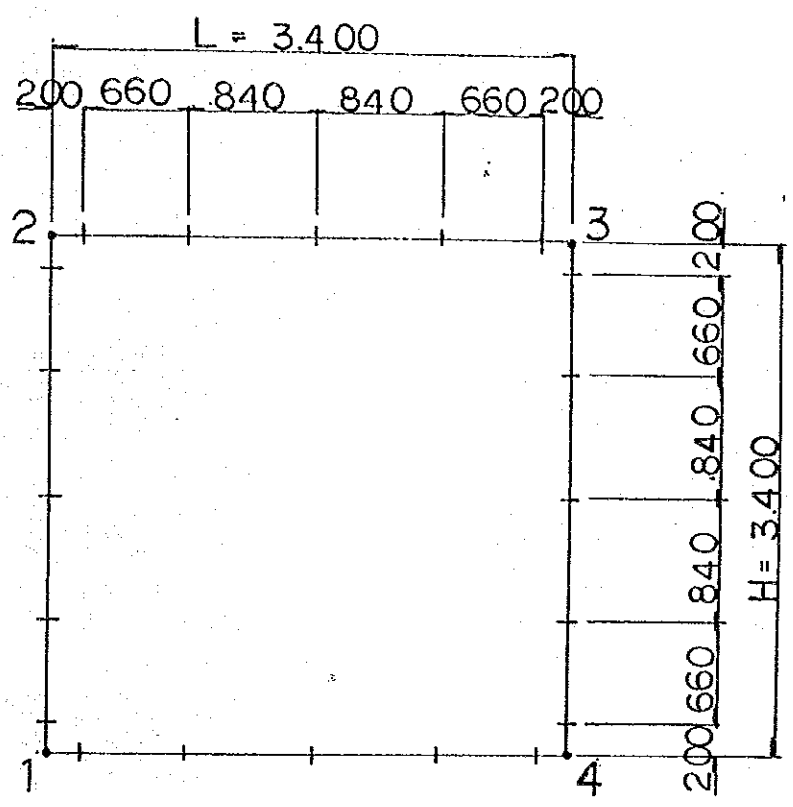
No	X (m)	Y (m)
1	0.0000	0.0000
2	0.0000	3.4000
3	3.4000	3.4000
4	3.4000	0.0000

No	I	J	A (m2)	I (m4)	I - J	L (m)	E (t/m2)	EPS
1	1	2	0.40000	0.005330	Fix - Fix	3.400	2.50E+07	1.00E-05
2	2	3	0.40000	0.005330	Fix - Fix	3.400	2.50E+07	1.00E-05
3	3	4	0.40000	0.005330	Fix - Fix	3.400	2.50E+07	1.00E-05
4	4	1	0.40000	0.005330	Fix - Fix	3.400	2.50E+07	1.00E-05

No	X (t/m)	Y (t/m)	M (tm/Rad)
1	Fix	Fix	Free
4	Free	Fix	Free

No	L-No	L-No	L-No	L-No	L-No	L-No	L-No	L-No	L-No
1	11	12	13	14	15	16	17	18	19
2	2	3	4	5	6	7	8	9	10
3	11	12	13	14	15	16	17	18	19
4	11	12	13	14	15	16	17	18	19

CALCULATION POINTS OF EACH FORCE



BOX FOR FOOTPATH

No. : 1
: Dead load

No	i	-j	Li (m)	Lo (m)	Pi (t/m)	Pj (t/m)
1	1-	2	0.000	3.400	-9.440	-9.440
3	3-	4	0.000	3.400	-9.440	-9.440
2	2-	3	0.000	3.400	-20.740	-20.740
4	4-	1	0.000	3.400	39.620	39.620

$\Sigma V = -0.000 (t)$
 $\Sigma H = 0.000 (t)$

No. : 2
: Earth pressure load

No	i	-j	Li (m)	Lo (m)	Pi (t/m)	Pj (t/m)
1	1-	2	0.000	3.400	40.930	7.610
3	3-	4	0.000	3.400	-7.610	-40.930

$\Sigma V = 0.000 (t)$
 $\Sigma H = 0.000 (t)$

No. : 3
: HB live load-VL-

No	i	-j	Li (m)	Lo (m)	Pi (t/m)	Pj (t/m)
2	2-	3	0.200	1.200	-71.430	-71.430
2	2-	3	2.000	1.200	-71.430	-71.430
4	4-	1	0.000	3.400	50.421	50.421

$\Sigma V = -0.001 (t)$
 $\Sigma H = 0.000 (t)$

BOX FOR FOOTPATH

No. : 4
 : HB live load-VL-

No	i - j	Li (m)	Lo (m)	Pi (t/m)	Pj (t/m)
2	2-3	-Y 0.000	0.500	-71.430	-71.430
2	2-3	-Y 1.100	1.200	-71.430	-71.430
4	4-1	-Y 0.000	3.400	8.836	62.594

$\Sigma V = 0.000$ (t)
 $\Sigma H = 0.000$ (t)

BOX FOR FOOTPATH

No. : 5
 : HB live load-HL-

No	i - j	Li (m)	Lo (m)	Pi (t/m)	Pj (t/m)
1	1-2	-X 0.000	3.400	17.150	17.150
3	3-4	-X 0.000	3.400	-17.150	-17.150

$\Sigma V = 0.000$ (t)
 $\Sigma H = 0.000$ (t)

BOX FOR FOOTPATH

No	C-No 1	C-No 2	C-No 3
No 6	No 6	No 7	No 8
No 1	1.3800	1.3800	1.3800
No 2	1.6500	1.6500	1.6500
No 3	1.4300	0.0000	0.0000
No 4	0.0000	1.4300	0.0000
No 5	0.0000	0.0000	1.6500

BOX FOR FOOTPATH

No 1 : 6 7 8

BOX FOR FOOTPATH

No.	Case. 1		Case. 2		Case. 3	
	RX (t)	RY (t)	RX (t)	RY (t)	RX (t)	RY (tm)
1.	0.000	0.000	0.000	0.000	0.000	0.000
4.	0.000	0.000	0.000	0.000	0.000	0.000

No.	Case. 4		Case. 5		Case. 6	
	RX (t)	RY (t)	RX (t)	RY (t)	RX (t)	RY (tm)
1.	0.000	0.000	0.000	0.000	0.000	0.000
4.	0.000	0.000	0.000	0.000	0.000	0.000

No.	Case. 7		Case. 8	
	RX (t)	RY (t)	RX (t)	RY (tm)
1.	0.000	0.000	0.000	0.000
4.	0.000	0.000	0.000	0.000

BOX FOR FOOTPATH

No.	Case. 1		Case. 2		Case. 3	
	X-DIS. (mm)	Y-DIS. (mm)	X-DIS. (mm)	Y-DIS. (mm)	X-DIS. (mm)	Y-DIS. (mm)
1.	0.00000	0.00000	2.14764	0.00000	-1.58638	0.00000
2.	-0.01359	-0.17444	-1.56154	0.00000	1.39645	0.00063
3.	0.00000	-0.17444	1.56154	0.00000	-1.39645	0.00000
4.	-0.01359	0.00000	-2.14764	0.00000	1.58638	0.00063
No.	Case. 4		Case. 5		Case. 6	
	X-DIS. (mm)	Y-DIS. (mm)	X-DIS. (mm)	Y-DIS. (mm)	X-DIS. (mm)	Y-DIS. (mm)
1.	0.00000	0.00000	2.44373	0.00000	-1.05388	0.00000
2.	-0.18990	-0.26014	-2.47825	0.00000	1.05388	-0.07328
3.	-0.19330	-0.15273	2.34689	0.00000	-1.05388	-0.23146
4.	0.00339	0.00000	-2.08695	0.00000	1.05388	-0.30474
No.	Case. 7		Case. 8			
	X-DIS. (mm)	Y-DIS. (mm)	X-DIS. (mm)	Y-DIS. (mm)		
1.	0.00000	0.00000	3.84359	0.00000		
2.	-0.34574	-0.61273	-3.39470	-0.24073		
3.	-0.50788	-0.45912	3.20684	-0.24073		
4.	-0.30079	0.00000	-3.33055	0.00000		

No	Case 1 Dead load			Case 2 Earth pressure load			Case 3 HB live load-VL-			
	L(m)	M (tm)	S (t)	N (t)	M (tm)	S (t)	N (t)	M (tm)	S (t)	N (t)
1- 2	0.000	-21.334	3.998	-67.354	-12.434	51.138	0.000	-24.182	-0.185	-85.716
* 1	0.200	-20.534	3.998	-65.466	-3.012	43.148	0.000	-24.219	-0.185	-85.716
* 2	0.860	-17.895	3.998	-59.236	17.447	19.562	0.000	-24.341	-0.185	-85.716
* 3	1.700	-14.537	3.998	-51.306	23.380	-4.282	0.000	-24.496	-0.185	-85.716
* 4	2.540	-11.178	3.998	-43.376	12.188	-21.212	0.000	-24.651	-0.185	-85.716
* 5	3.200	-8.539	3.998	-37.146	-4.835	-29.662	0.000	-24.773	-0.185	-85.716
2- 1	3.400	-7.740	3.998	-35.258	-10.946	-31.380	0.000	-24.810	-0.185	-85.716
2- 3	0.000	-7.740	35.258	3.998	-10.946	0.000	-31.380	-24.810	85.716	-0.185
* 1	0.200	-1.103	31.110	3.998	-10.946	0.000	-31.380	-7.667	85.716	-0.185
* 2	0.860	14.912	17.422	3.998	-10.946	0.000	-31.380	33.348	38.572	-0.185
* 3	1.700	22.229	0.000	3.998	-10.946	0.000	-31.380	43.762	0.000	-0.185
* 4	2.540	14.912	-17.422	3.998	-10.946	0.000	-31.380	33.348	-38.572	-0.185
* 5	3.200	-1.103	-31.110	3.998	-10.946	0.000	-31.380	-7.667	-85.716	-0.185
3- 2	3.400	-7.740	-35.258	3.998	-10.946	0.000	-31.380	-24.810	-85.716	-0.185
3- 4	0.000	-7.740	-3.998	-35.258	-10.946	31.380	0.000	-24.810	0.185	-85.716
* 1	0.200	-8.539	-3.998	-37.146	-4.835	29.662	0.000	-24.773	0.185	-85.716
* 2	0.860	-11.178	-3.998	-43.376	12.188	21.212	0.000	-24.651	0.185	-85.716
* 3	1.700	-14.537	-3.998	-51.306	23.380	4.282	0.000	-24.496	0.185	-85.716
* 4	2.540	-17.895	-3.998	-59.236	17.447	-19.562	0.000	-24.341	0.185	-85.716
* 5	3.200	-20.534	-3.998	-65.466	-3.012	-43.148	0.000	-24.219	0.185	-85.716
4- 3	3.400	-21.334	-3.998	-67.354	-12.434	-51.138	0.000	-24.182	0.185	-85.716
4- 1	0.000	-21.334	67.354	-3.998	-12.434	0.000	-51.138	-24.182	85.716	0.185
* 1	0.200	-8.655	59.430	-3.998	-12.434	0.000	-51.138	-8.047	75.632	0.185
* 2	0.860	21.939	33.281	-3.998	-12.434	0.000	-51.138	30.888	42.354	0.185
* 3	1.700	35.917	0.000	-3.998	-12.434	0.000	-51.138	48.676	0.000	0.185
* 4	2.540	21.939	-33.281	-3.998	-12.434	0.000	-51.138	30.888	-42.354	0.185
* 5	3.200	-8.655	-59.430	-3.998	-12.434	0.000	-51.138	-8.047	-75.632	0.185
1- 4	3.400	-21.334	-67.354	-3.998	-12.434	0.000	-51.138	-24.182	-85.716	0.185

BOX FOR FOOTPATH

No	L(m)	Case 4 HB live load-VL-			Case 5 HB live load-HL-			Case 6		
		M (tm)	S (t)	N (t)	M (tm)	S (t)	N (t)	M (tm)	S (t)	N (t)
1-	0.000	-17.602	-0.998	-76.512	-8.261	29.155	0.000	-84.538	89.630	-215.522
* 1	0.200	-17.801	-0.998	-76.512	-2.773	25.725	0.000	-67.941	76.447	-212.917
* 2	0.860	-18.460	-0.998	-76.512	10.471	14.406	0.000	-30.716	37.530	-204.319
* 3	1.700	-19.298	-0.998	-76.512	16.521	0.000	0.000	-16.513	-1.813	-193.376
* 4	2.540	-20.136	-0.998	-76.512	10.471	-14.406	0.000	-30.567	-29.746	-182.433
* 5	3.200	-20.794	-0.998	-76.512	-2.773	-25.725	0.000	-55.188	-43.690	-173.835
2-	3.400	-20.994	-0.998	-76.512	-8.261	-29.155	0.000	-64.220	-46.525	-171.230
2-	0.000	-20.994	76.512	-0.998	-8.261	0.000	-29.155	-64.220	171.230	-46.525
* 1	0.200	-7.120	62.226	-0.998	-8.261	0.000	-29.155	-30.547	165.506	-46.525
* 2	0.860	23.021	40.797	-0.998	-8.261	0.000	-29.155	50.200	79.200	-46.525
* 3	1.700	44.433	-2.061	-0.998	-8.261	0.000	-29.155	75.197	0.000	-46.525
* 4	2.540	19.558	-44.919	-0.998	-8.261	0.000	-29.155	50.206	-79.200	-46.525
* 5	3.200	-10.089	-44.919	-0.998	-8.261	0.000	-29.155	-30.547	-165.506	-46.525
3-	3.400	-19.073	-44.919	-0.998	-8.261	0.000	-29.155	-64.220	-171.230	-46.525
3-	0.000	-19.073	0.998	-44.919	-8.261	29.155	0.000	-64.220	46.525	-171.230
* 1	0.200	-18.873	0.998	-44.919	-2.773	25.725	0.000	-55.188	43.690	-173.835
* 2	0.860	-18.215	0.998	-44.919	10.471	14.406	0.000	-30.567	29.746	-182.433
* 3	1.700	-17.377	0.998	-44.919	16.521	0.000	0.000	-16.513	1.813	-193.376
* 4	2.540	-16.539	0.998	-44.919	10.471	-14.406	0.000	-30.716	-37.530	-204.319
* 5	3.200	-15.880	0.998	-44.919	-2.773	-25.725	0.000	-67.941	-76.447	-212.917
4-	3.400	-15.681	0.998	-44.919	-8.261	-29.155	0.000	-84.538	-89.630	-215.522
4-	0.000	-15.681	44.919	0.998	-8.261	0.000	-29.155	-84.538	215.522	-89.630
* 1	0.200	-6.855	42.836	0.998	-8.261	0.000	-29.155	-43.969	190.166	-89.630
* 2	0.860	18.006	31.473	0.998	-8.261	0.000	-29.155	53.929	106.493	-89.630
* 3	1.700	34.967	7.051	0.998	-8.261	0.000	-29.155	98.656	0.000	-89.630
* 4	2.540	26.727	-28.528	0.998	-8.261	0.000	-29.155	53.929	-106.493	-89.630
* 5	3.200	-3.530	-64.309	0.998	-8.261	0.000	-29.155	-43.969	-190.166	-89.630
1-	3.400	-17.602	-76.512	0.998	-8.261	0.000	-29.155	-84.538	-215.522	-89.630

		Case 7			Case 8		
No	L(m)	M (tm)	S (t)	N (t)	M (tm)	S (t)	N (t)
1-	2	0.000	88.468	-202.360	-63.587	138.000	-92.949
*	1	0.200	75.284	-199.755	-37.882	119.157	-90.343
*	2	0.860	38.368	-191.157	21.369	61.564	-81.745
*	3	1.700	-2.975	-180.214	45.776	-1.549	-70.802
*	4	2.540	-30.909	-169.271	21.962	-53.252	-59.859
*	5	3.200	-44.852	-160.673	-24.337	-85.872	-51.261
2-	1	3.400	-47.687	-158.068	-42.371	-94.366	-48.656
2-	3	0.000	158.068	-47.687	-42.371	48.656	-94.366
*	1	0.200	131.915	-47.687	-33.212	42.932	-94.366
*	2	0.860	82.381	-47.687	-11.111	24.042	-94.366
*	3	1.700	-2.947	-47.687	-1.014	0.000	-94.366
*	4	2.540	-30.487	-47.687	-11.111	-24.042	-94.366
*	5	3.200	-107.166	-47.687	-33.212	-42.932	-94.366
3-	2	3.400	-112.890	-47.687	-42.371	-48.656	-94.366
3-	4	0.000	47.687	-112.890	-42.371	94.366	-48.656
*	1	0.200	44.852	-115.496	-24.337	85.872	-51.261
*	2	0.860	30.909	-124.094	21.962	53.252	-59.859
*	3	1.700	2.975	-135.037	45.776	1.549	-70.802
*	4	2.540	-36.368	-145.979	21.369	-61.564	-81.745
*	5	3.200	-75.284	-154.577	-57.882	-119.157	-90.343
4-	3	3.400	-88.468	-157.183	-63.587	-138.000	-92.949
4-	1	0.000	157.183	-88.468	-63.587	92.949	-138.000
*	1	0.200	143.268	-88.468	-46.091	82.013	-138.000
*	2	0.860	90.934	-88.468	-3.870	45.928	-138.000
*	3	1.700	10.083	-88.468	15.419	0.000	-138.000
*	4	2.540	-86.723	-88.468	-3.870	-45.928	-138.000
*	5	3.200	-173.976	-88.468	-46.091	-82.013	-138.000
1-	4	3.400	-202.361	-88.468	-63.587	-92.949	-138.000

PICK-UP No. 1 *

				M. MAXIMUM				M. MINIMUM			
No.	L (m)	Case	M (tm)	S (t)	N (t)	Case	M (tm)	S (t)	N (t)		
1 -	0.000	C- 8	-63.587	138.000	-92.949	C- 6	-84.538	89.630	-215.522		
* 1	0.200	C- 8	-37.882	119.157	-90.343	C- 6	-67.941	76.447	-212.917		
* 2	0.860	C- 8	21.369	61.564	-81.745	C- 6	-30.716	37.530	-204.319		
* 3	1.700	C- 8	45.776	-1.549	-70.802	C- 6	-16.513	-1.813	-193.376		
* 4	2.540	C- 8	21.962	-53.252	-59.859	C- 6	-30.567	-29.746	-182.433		
* 5	3.200	C- 8	-24.337	-85.872	-51.261	C- 6	-55.188	-43.690	-173.835		
2 -	3.400	C- 8	-42.371	-94.366	-48.656	C- 6	-54.220	-46.525	-171.230		
2 -	0.000	C- 8	-42.371	48.656	-94.366	C- 6	-54.220	171.230	-46.525		
* 1	0.200	C- 7	-29.764	131.915	-47.687	C- 8	-33.212	42.932	-94.366		
* 2	0.860	C- 6	50.206	79.200	-46.525	C- 8	-11.111	24.042	-94.366		
* 3	1.700	C- 7	75.155	-2.947	-47.687	C- 8	-1.014	0.000	-94.366		
* 4	2.540	C- 6	50.206	-79.200	-46.525	C- 8	-11.111	-24.042	-94.366		
* 5	3.200	C- 6	-30.547	-165.506	-46.525	C- 7	-34.009	-107.166	-47.687		
3 -	3.400	C- 8	-42.371	-48.656	-94.366	C- 6	-54.220	-171.230	-46.525		
3 -	0.000	C- 8	-42.371	94.366	-48.656	C- 6	-54.220	46.525	-171.230		
* 1	0.200	C- 8	-24.337	85.872	-51.261	C- 6	-55.188	43.690	-173.835		
* 2	0.860	C- 8	21.962	53.252	-59.859	C- 6	-30.567	29.746	-182.433		
* 3	1.700	C- 8	45.776	1.549	-70.802	C- 6	-16.513	1.813	-193.376		
* 4	2.540	C- 8	21.369	-61.564	-81.745	C- 6	-30.716	-37.530	-204.319		
* 5	3.200	C- 8	-37.882	-119.157	-90.343	C- 6	-67.941	-76.447	-212.917		
4 -	3.400	C- 8	-63.587	-138.000	-92.949	C- 6	-84.538	-89.630	-215.522		
4 -	0.000	C- 8	-63.587	92.949	-138.000	C- 6	-84.538	215.522	-89.630		
* 1	0.200	C- 7	-42.321	143.268	-88.408	C- 8	-46.091	82.013	-138.000		
* 2	0.860	C- 6	53.929	106.493	-89.630	C- 8	-3.870	45.928	-138.000		
* 3	1.700	C- 6	98.656	0.000	-89.630	C- 8	15.419	0.000	-138.000		
* 4	2.540	C- 6	53.929	-106.493	-89.630	C- 8	-3.870	-45.928	-138.000		
* 5	3.200	C- 7	-37.509	-173.976	-88.468	C- 8	-46.091	-82.013	-138.000		
1 -	3.400	C- 8	-63.587	-92.949	-138.000	C- 6	-84.538	-215.522	-89.630		

PICK-UP No. 1 *

S. MAXIMUM

S. MINIMUM

No.	L (m)	Case	M (tm)	S (t)	N (t)	Case	M (tm)	S (t)	N (t)
1 -	0.000	C- 8	-63.587	138.000	-92.949	C- 7	-75.128	88.468	-202.360
* 1	0.200	C- 8	-37.882	119.157	-90.543	C- 7	-58.763	75.284	-199.755
* 2	0.860	C- 8	21.369	61.564	-81.745	C- 7	-22.305	36.368	-191.157
* 3	1.700	C- 8	45.776	-1.549	-70.802	C- 7	-9.079	-2.975	-180.214
* 4	2.540	C- 6	-30.567	-29.746	-182.433	C- 8	21.962	-53.252	-59.859
* 5	3.200	C- 6	-55.188	-43.690	-173.835	C- 8	-24.337	-85.872	-51.261
2 -	3.400	C- 6	-64.220	-46.525	-171.230	C- 8	-42.371	-94.366	-48.656
2 -	0.000	C- 6	-64.220	171.230	-46.525	C- 8	-42.371	48.656	-94.366
* 1	0.200	C- 6	-30.547	165.506	-46.525	C- 8	-33.212	42.932	-94.366
* 2	0.860	C- 7	35.438	82.381	-47.687	C- 8	-11.111	24.042	-94.366
* 3	1.700	C- 8	-1.014	0.000	-94.366	C- 7	76.155	-2.947	-47.687
* 4	2.540	C- 8	-11.111	-24.042	-94.366	C- 7	30.487	-88.276	-47.687
* 5	3.200	C- 8	-33.212	-42.932	-94.366	C- 6	-30.547	-165.506	-46.525
3 -	3.400	C- 8	-42.371	-48.656	-94.366	C- 6	-64.220	-171.230	-46.525
3 -	0.000	C- 8	-42.371	94.366	-48.656	C- 6	-64.220	46.525	-171.230
* 1	0.200	C- 8	-24.337	85.872	-51.261	C- 6	-55.188	43.690	-173.835
* 2	0.860	C- 8	21.962	53.252	-59.859	C- 6	-30.507	29.746	-182.433
* 3	1.700	C- 7	-6.332	2.975	-135.037	C- 6	45.776	1.549	-70.802
* 4	2.540	C- 7	-19.559	-36.368	-145.979	C- 8	21.369	-61.564	-81.745
* 5	3.200	C- 7	-56.016	-75.284	-154.577	C- 8	-37.882	-119.157	-90.343
4 -	3.400	C- 7	-72.381	-88.468	-157.183	C- 8	-63.587	-138.000	-92.949
4 -	0.000	C- 6	-84.538	215.522	-89.630	C- 8	-63.587	92.949	-138.000
* 1	0.200	C- 6	-43.969	190.166	-89.630	C- 8	-46.091	82.013	-138.000
* 2	0.860	C- 6	53.929	106.493	-89.630	C- 8	-3.870	45.928	-138.000
* 3	1.700	C- 7	79.052	10.083	-88.468	C- 8	15.419	0.000	-138.000
* 4	2.540	C- 8	-3.870	-45.928	-138.000	C- 6	53.929	-106.493	-89.630
* 5	3.200	C- 8	-46.091	-82.013	-138.000	C- 6	-43.969	-150.166	-89.630
1 -	3.400	C- 8	-63.587	-92.949	-138.000	C- 6	-84.538	-215.522	-89.630

BOX FOR FOOTPATH

PICK-UP No. 1 *

N. MAXIMUM

N. MINIMUM

No.	L (m)	Case	M (tm)	S (t)	N (t)	Case	M (tm)	S (t)	N (t)
1 - 2	0.000	C- 8	-63.587	138.000	-92.949	C- 6	-84.538	89.630	-215.522
* 1	0.200	C- 8	-37.882	119.157	-90.343	C- 6	-67.941	76.447	-212.917
* 2	0.860	C- 8	21.369	61.564	-81.745	C- 6	-30.716	37.530	-204.319
* 3	1.700	C- 8	45.776	-1.549	-70.802	C- 6	-16.513	-1.813	-193.376
* 4	2.540	C- 8	21.962	-53.252	-59.859	C- 6	-30.567	-29.746	-182.433
* 5	3.200	C- 8	-24.337	-85.872	-51.261	C- 6	-55.188	-43.690	-173.835
2 - 1	3.400	C- 8	-42.371	-94.366	-48.656	C- 6	-64.220	-46.525	-171.230
2 - 3	0.000	C- 6	-64.220	171.230	-46.525	C- 8	-42.371	48.656	-94.366
* 1	0.200	C- 6	-30.547	165.506	-46.525	C- 8	-33.212	42.932	-94.366
* 2	0.860	C- 6	50.206	79.200	-46.525	C- 8	-11.111	24.042	-94.366
* 3	1.700	C- 6	75.197	0.000	-46.525	C- 8	-1.014	0.000	-94.366
* 4	2.540	C- 6	50.206	-79.200	-46.525	C- 8	-11.111	-24.042	-94.366
* 5	3.200	C- 6	-30.547	-165.506	-46.525	C- 8	-33.212	-42.932	-94.366
3 - 2	3.400	C- 6	-64.220	-171.230	-46.525	C- 8	-42.371	-48.656	-94.366
3 - 4	0.000	C- 8	-42.371	94.366	-48.656	C- 6	-64.220	46.525	-171.230
* 1	0.200	C- 8	-24.337	85.872	-51.261	C- 6	-55.188	43.690	-173.835
* 2	0.860	C- 8	21.962	53.252	-59.859	C- 6	-30.567	29.746	-182.433
* 3	1.700	C- 8	45.776	1.549	-70.802	C- 6	-16.513	1.813	-193.376
* 4	2.540	C- 8	21.369	-61.564	-81.745	C- 6	-30.716	-37.530	-204.319
* 5	3.200	C- 8	-37.882	-119.157	-90.343	C- 6	-67.941	-76.447	-212.917
4 - 3	3.400	C- 8	-63.587	-138.000	-92.949	C- 6	-84.538	-89.630	-215.522
4 - 1	0.000	C- 7	-72.381	157.183	-88.468	C- 8	-63.587	92.949	-138.000
* 1	0.200	C- 7	-42.321	143.268	-88.468	C- 8	-46.091	82.013	-138.000
* 2	0.860	C- 7	35.508	90.934	-88.468	C- 8	-3.870	45.928	-138.000
* 3	1.700	C- 7	79.052	10.083	-88.468	C- 8	15.419	0.000	-138.000
* 4	2.540	C- 7	47.980	-86.723	-88.468	C- 8	-3.870	-45.928	-138.000
* 5	3.200	C- 7	-37.509	-173.976	-88.468	C- 8	-46.091	-82.013	-138.000
1 - 4	3.400	C- 7	-75.128	-202.361	-88.468	C- 8	-63.587	-92.949	-138.000

