Appendix A

- Part 1

	Load distribution – Area division of the shear wall (kN/m^2)								
	Area	Floor6	Floor2-5	Area	Floor1	Area	Basement - upper	Area	Basement - lower
Dead load	2,05	11,280488	11,2804878	2,04	11,3357843	1,26	18,3531746	1,56	14,82371795
Added dead load		0,902439	3,15853659		3,17401961		5,138888889		4,150641026
Service load		5,7756098	3,6097561		3,62745098		5,873015873		4,743589744
Dead load	5,73	11,261998	11,2619983	5,68	11,3611356	3,51	18,38497151	4,38	14,7331621
Added dead load		0,9009599	3,15335951		3,18111796		5,147792023		4,125285388
Service load		5,7661431	3,60383944		3,63556338		5,883190883		4,714611872
Dead load	3,11	11,254019	11,2540193	3,08	11,3636364	1,9	18,42105263	-	-
Added dead load		0,9003215	3,1511254		3,18181818		5,157894737		
Service load		5,7620579	3,60128617		3,63636364		5,894736842		
Dead load	2,54	11,257382	11,2573819	2,52	11,3467262	1,56	18,32932692	1,94	14,73904639
Added dead load		0,9005906	3,15206693		3,17708333		5,132211538		4,12693299
Service load		5,7637795	3,6023622		3,63095238		5,865384615		4,716494845
Dead load	10,32	11,264535	11,2645349	10,23	11,3636364	6,32	18,39398734	7,89	14,7338403
Added dead load		0,9011628	3,15406977		3,18181818		5,150316456		4,125475285
Service load		5,7674419	3,60465116		3,63636364		5,886075949		4,714828897
Dead load	2,86	11,265297	11,2652972	2,84	11,3446303	1,75	18,41071429	2,19	14,71175799
Added dead load		0,9012238	3,15428322		3,17649648		5,155		4,119292237
Service load		5,7678322	3,6048951		3,63028169		5,891428571		4,707762557
Dead load	3,11	11,254019	11,2540193	3,08	11,3636364	1,9	18,42105263	-	-
Added dead load		0,9003215	3,1511254		3,18181818		5,157894737		
Service load		5,7620579	3,60128617		3,63636364		5,894736842		
Dead load	5,16	11,258479	11,2584787	5,111	11,3664156	3,16	18,3840981	3,94	14,7446066
Added dead load		0,9006783	3,15237403		3,18259636		5,147547468		4,128489848
Service load		5,7643411	3,60271318		3,63725298		5,882911392		4,718274112
Dead load	2,41	11,345954	11,3459544	2,39	11,4408996	1,48	18,47550676	1,84	14,8607337
Added dead load		0,9076763	3,17686722		3,20345188		5,173141892		4,161005435
Service load		5,8091286	3,63070539		3,66108787		5,912162162		4,755434783

- Part 2

Applied mass for the determination of the earthquake load

Roof			Point load	
Reinforced concrete	25,0	kN/m3	93,225	kN
Dead load - concrete floor	6,25	kN/m2	420	kN
Added dead load	0,5	kN/m2	33,6	kN
Snow load	3,2	kN/m2	215,04	kN
			761,865	kN
		Total mass	77,66207951	t

2.-6. Floor				
Reinforced concrete	25,0	kN/m3	186,45	kN
Dead load - concrete floor	6,25	kN/m2	420	kN
Added dead load	1,75	kN/m2	117,6	kN
Service load	2,0	kN/m2	134,4	kN
			858,45	kN
		Total mass	87,50764526	t

1. Floor			Point load	
Reinforced concrete	25,0	kN/m3	232,55	kN
Dead load - concrete floor	6,25	kN/m2	420	kN
Added dead load	1,75	kN/m2	117,6	kN
Service load	2,0	kN/m2	134,4	kN
			904,55	kN
		Total mass	92,2069317	t

Basement				
Reinforced concrete	25,0	kN/m3	140,55	kN
Dead load - concrete floor	7,65	kN/m2	514,08	kN
Added dead load	4,0	kN/m2	268,8	kN
Service load	2,0	kN/m2	134,4	kN
			1057,83	kN
		Total mass	107,8318043	t

Volumes applied for converting the volume load to point load are:

Roof: 3,729 m^3

2.-6. Floor: 7,458 m^3

1. Floor: 9,302 m^3

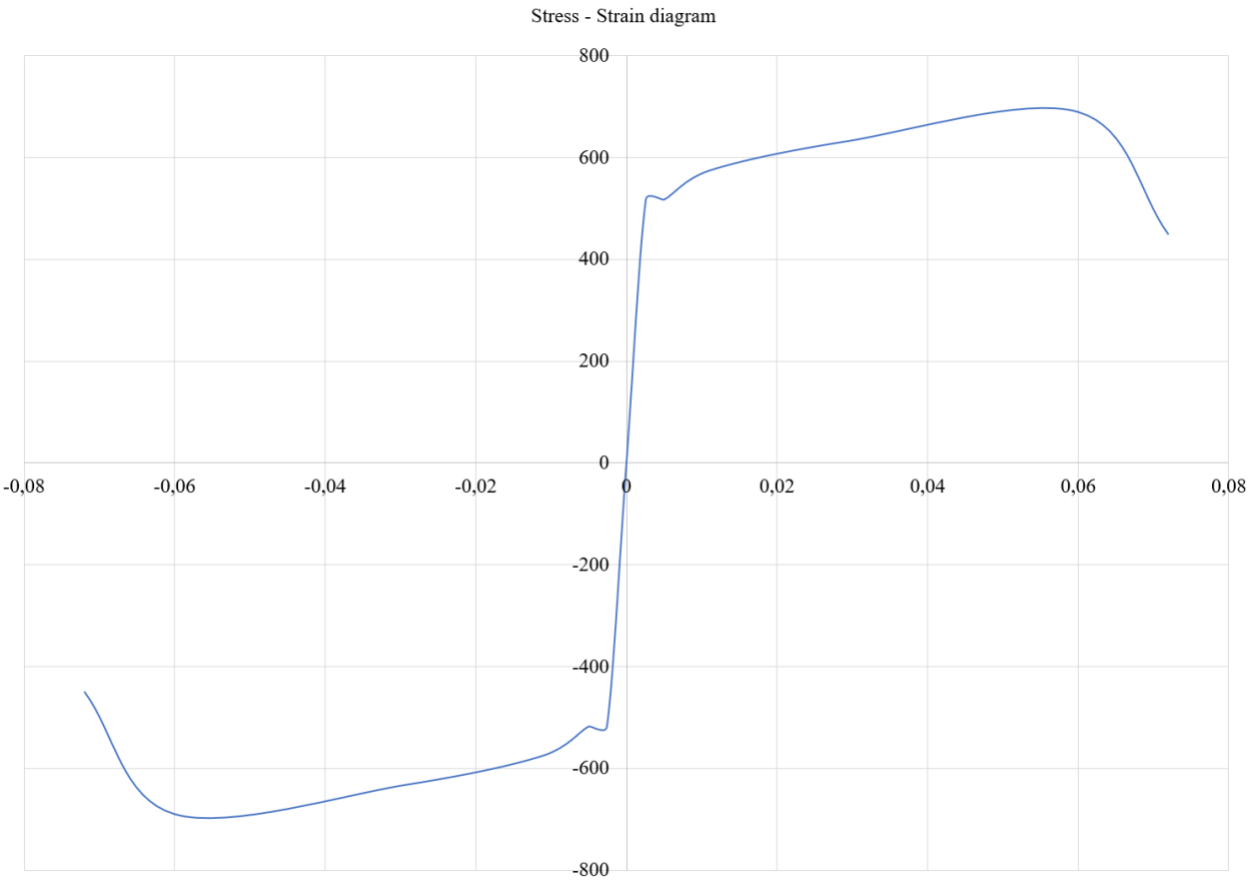
Basement: 5,622 m^3

Area applied for converting the area load to point load: 67,2 m^2

Appendix B

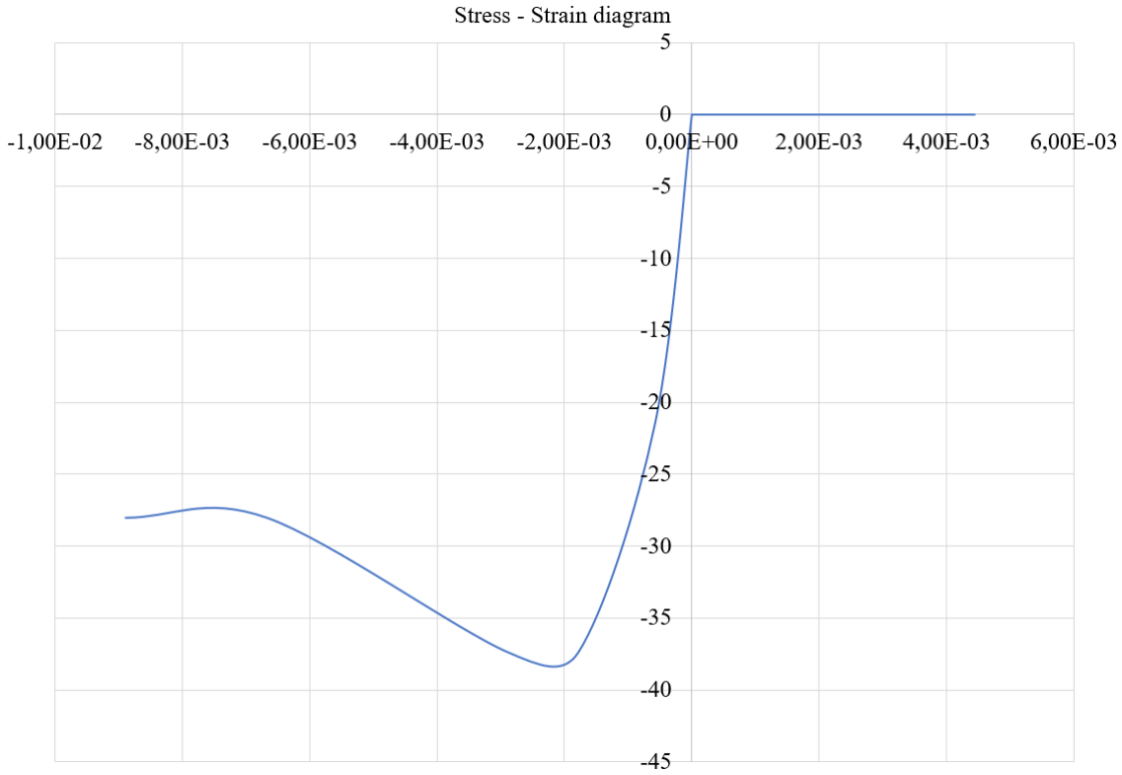
Applied nonlinear properties for the reinforcement

Strain (mm)	Stress (MPa)
-0,072	-449,5
-0,06	-689,5
-0,0294	-632
-0,0111	-574,6
-5,0E-03	-517,1
-2,59E-03	-517,1
0	0
2,59E-03	517,1
5,00E-03	517,1
0,0111	574,6
0,0294	632
0,06	689,5
0,072	449,5



Applied nonlinear properties for the confined concrete

Strain (mm)	Stress (MPa)
-8,89E-03	-28,0389
-6,67E-03	-28,0389
-2,89E-03	-37,3848
-1,78E-03	-37,3848
-5,8E-04	-21,4503
0,00E+00	0
5,76E-10	2,14E-05
4,44E-03	2,14E-05



Appendix C

Calculation of target displacement, from EC8 – part 1, Appendix B.

Multilinear springs

30% capacity margin

- 40% reduced capacity of Pile 2 and 3

E_m (kNm)	d^*_y (m)	T* (s)	d^*_{et} (m)	d_n (m)
6,8462	0,0146	0,7695	0,008576	0,008801

- 30% reduced capacity of Pile 2 and 3

E_m (kNm)	d^*_y (m)	T* (s)	d^*_{et} (m)	d_n (m)
6,6150	0,0137	0,7442	0,008294	0,008512

- 20% reduced capacity of Pile 2 and 3

E_m (kNm)	d^*_y (m)	T* (s)	d^*_{et} (m)	d_n (m)
6,2656	0,0131	0,7277	0,008111	0,008324

- 10% reduced capacity of Pile 2 and 3

E_m (kNm)	d^*_y (m)	T* (s)	d^*_{et} (m)	d_n (m)
5,8727	0,0125	0,7114	0,007929	0,008137

20% capacity margin

- 40% reduced capacity of Pile 2 and 3

E_m (kNm)	d^*_y (m)	T* (s)	d^*_{et} (m)	d_n (m)
5,7446	0,01312	0,7579	0,008447	0,008669

- 30% reduced capacity of Pile 2 and 3

E_m (kNm)	d^*_y (m)	T* (s)	d^*_{et} (m)	d_n (m)
5,5431	0,0122	0,7322	0,00816	0,008374

- 20% reduced capacity of Pile 2 and 3

E_m (kNm)	d^*_y (m)	T* (s)	d^*_{et} (m)	d_n (m)
5,0936	0,0117	0,7162	0,007982	0,008192

- 10% reduced capacity of Pile 2 and 3

E_m (kNm)	d^*_y (m)	T* (s)	d^*_{et} (m)	d_n (m)
4,7362	0,0112	0,7014	0,007817	0,008022

10% capacity margin

- 40% reduced capacity of Pile 2 and 3

E_m (kNm)	d^*_y (m)	T* (s)	d^*_{et} (m)	d_n (m)
4,6978	0,0116	0,7451	0,008305	0,008522

- 30% reduced capacity of Pile 2 and 3

E_m (kNm)	d^*_y (m)	T* (s)	d^*_{et} (m)	d_n (m)
4,3957	0,0109	0,7228	0,008056	0,008267

- 20% reduced capacity of Pile 2 and 3

E_m (kNm)	d^*_y (m)	T* (s)	d^*_{et} (m)	d_n (m)
4,080876	0,010403	0,705001	0,007857	0,008064

- 10% reduced capacity of Pile 2 and 3

E_m (kNm)	d^*_y (m)	T* (s)	d^*_{et} (m)	d_n (m)
3,7224	0,01002	0,6920	0,0077	0,0079

10% below required capacity margin

- 40% reduced capacity of Pile 2 and 3

E_m (kNm)	d^*_y (m)	T* (s)	d^*_{et} (m)	d_n (m)
2,8778	0,00878	0,7162	0,00798	0,008191

- 30% reduced capacity of Pile 2 and 3

E_m (kNm)	d^*_y (m)	T* (s)	d^*_{et} (m)	d_n (m)
2,6046	0,0083	0,6969	0,0078	0,007971

- 20% reduced capacity of Pile 2 and 3

E_m (kNm)	d^*_y (m)	T* (s)	d^*_{et} (m)	d_n (m)
2,2361	0,00802	0,6850	0,007635	0,007835

- 10% reduced capacity of Pile 2 and 3

E_m (kNm)	d^*_y (m)	T* (s)	d^*_{et} (m)	d_n (m)
1,9007	0,00795	0,6812	0,007592	0,007791