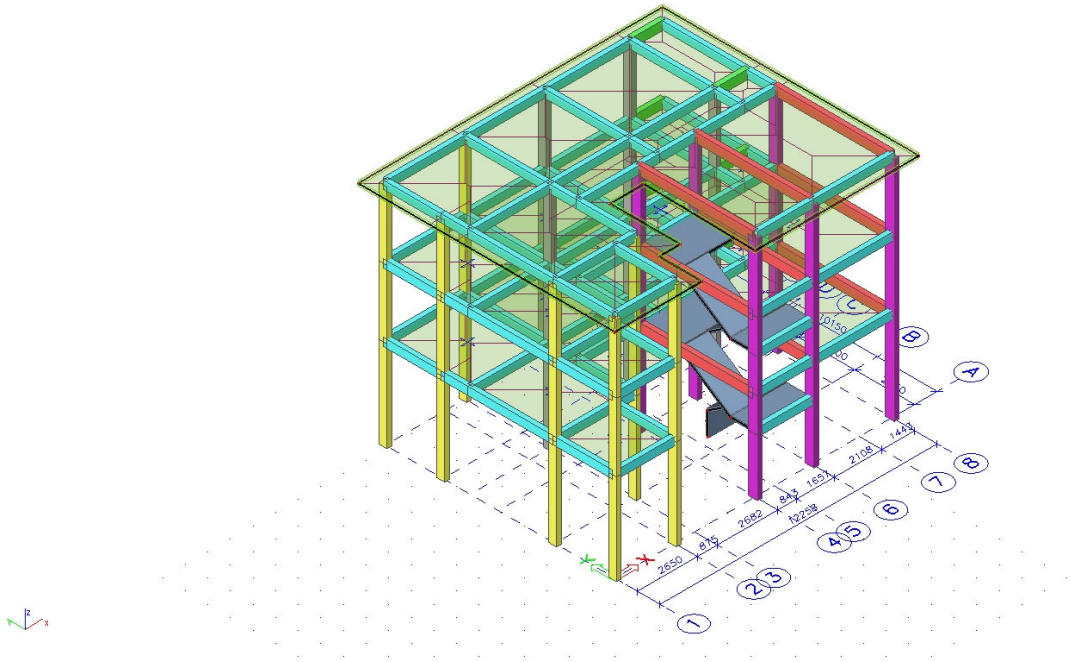
MNU

Design of Gn Fuvahmulah Campus

Staff Accomodation Block

Structural Design Report



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1 EXECUTIVE SUMMERY

Riyan Private Limited has been appointed as the Design Consultant to carry out the design of the building complex which comprises of a main classroom building, a student accommodation building and a staff accommodation building for Gn. Fuvahmula Campus of Maldives National University at Fuvahmulah. This report includes the structural design of the 03 storied Staff Accommodation Block.

This report consists of the basis of design for the Structural design of the main building. The design codes of practice, assumed material properties, partial safety factors, concrete section properties such as cover, load calculations and, load combinations will be discussed in detail in this report. Lastly, the finite element analysis and specimen calculation reports will be shown as annextures.

2 PROJECT INFORMATION

The main building consists of 05 story (Ground + 3 + Roof). The intended usage for each level is shown below in table 1. The proposed foundation system is a combination of individual pad foundation and strip foundation system.

Table 1 - Floor arrangement

Floor	Level (m)	Intended use
Ground floor	+0.250	Entrance lobby, office areas, cafeteria, staff rooms, services block
Level 1	+3.250	Class rooms, services block
Level 2	+6.500	Training room, class rooms, service block, open terrace
Roof Level	+9.25	Open terrace, services block

Based on prior experience an allowable bearing capacity of 150 kN/m2 was assumed for the foundation design. During construction this will be re-evaluated and confirmed.

A three-dimensional finite element model is used to analysis the building for limit state method of analysis under vertical gravity loads as per BS codes and wind loads as per Australian codes of practice respectively. First three modes of frequencies, other modal parameter of interest, and lateral deflection of the building at top level, story drift, base shear force variations under lateral loading are presented under the relevant topics in the Structural Analytical Report. Overall structural performance of the proposed building is verified based on the relevant codes of practices and other approved references.

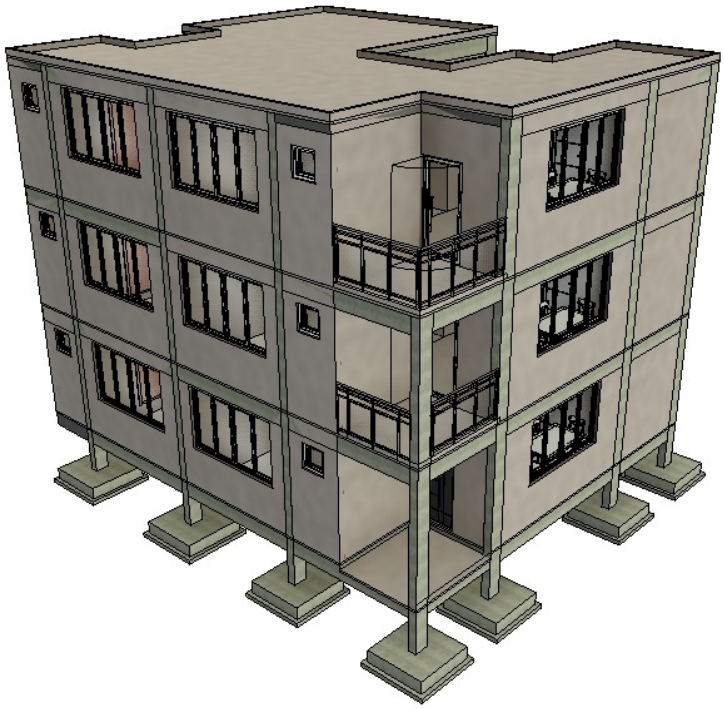


Figure 1 - 3D Revit model form the Architectural concept

The proposed building is modelled in Revit 21 and all structural general arrangements, section at critical locations and details drawings were prepared using that model.

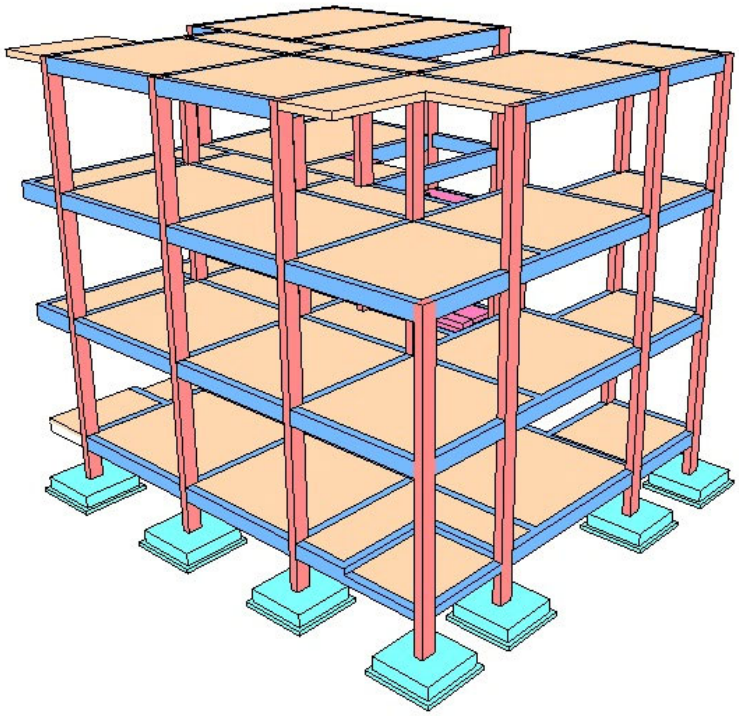


Figure 2 - 3D Revit model from the Structural concept

3 STANDARDS REFERED

3.1 Building Regulations and Codes of Practice

The structure is designed in accordance with the design requirements of the following building regulations and codes of practice:

➢ Structural Use of Concrete	- BS 8110- Part I: 1997
	- BS 8110- Part II: 1997
	- BS 8110- Part III: 1997
➢ Structural steel works in buildings	- BS 5950-Part I: 2000
➢ Design Loading for Buildings	- BS 6399: Part I: 1997 and Part 2:1997
➢ Design of concrete structures for retaining aqueous liquids	- BS 8007: 1987
➢ Code of Practice for Earth retaining Structures	-BS 8002: 1994
➢ Weights of building material	- BS 648
➢ Code of Practice for Foundations	- BS 8004:1986
➢ Wind load calculations	- SAA Loading - Part 2: Wind actions
	- BS 6399- Part 3: 1997 or
	-AS/NZS 1170.2 -2011

Research papers, manuals and hand books referred,

- Manual for Design of Reinforced Concrete Building Structures (IStructE) 2006
- Reinforced Concrete Designer's Hand Book-Charles E. Reynolds
- The Design of Water Retaining Structures by Ian Batty & Roger Westbrook
- Developing a Disaster Risk Profile for Maldives – United Nations Development Program, Maldives, submitted by RMSI

3.2 Material properties

Strength of material used for the structural design are shown below.

Table 2 - Material strength

NOTATION	DESCRIPTION	E (GPa)	V	DENSITY (kg/m3)	a x 10^{-5} ($1/^0K$)
T	Type 02 deformed bars, Characteristic yield strength, fy=500 N/mm2	200	0.3	7.85 x 10^3	1.2
R	Plain bars, Characteristic yield strength, fy=250 N/mm2	200	0.3	7.85 x 10^3	1.2
C25	Grade 30 Concrete, f cu = 30 N/mm2 characteristic cube strength at 28 Days	25	0.2	2.4 x 10^3	1.0
C30	Grade 30 Concrete, f cu = 30 N/mm2 characteristic cube strength at 28 Days	26	0.2	2.4 x 10^3	1.0
C35	Grade 30 Concrete, f cu = 35 N/mm2 characteristic cube strength at 28 Days	27	0.2	2.4 x 10^3	1.0

3.3 Partial safety factors

The design strength of each structural material was derived from dividing the material characteristic strength by the appropriate material partial safety factor. The material partial safety factors, gm, are shown below in table 3.

Table 3 - Partial safety factors

MATERIAL	g_m FOR ULS DESIGN
Reinforcement	1.15
Concrete in flexure or axial	1.5
Shear strength without shear reinforcement	1.25
Bond strength	1.4
Bearing stress	1.5

3.4 Concrete cover

Table 4 - Specified concrete cover for Grade 30

TYPE OF STRUCTURE	EXPOSURE CONDITION	ELEMENT	LOCATION	FIRE RESISTANCE (hrs)	COVER PROVIDED (mm)
Sub structure	Very severe	All elements	All faces	N/A	50
	Moderate	Walls	All faces	N/A	50
		Columns	All faces	N/A	50
		Ground beams	All faces	N/A	50
Super structure	Mild & moderate	Columns	All faces	1	40
		Walls	All faces	1	30
		Beams	All faces	1	35
		Floor slabs & stairs	All faces	1	30
Water retaining structures / structures in contact with water	Severe	All elements	All faces in contact with water	N/A	50

3.5 Properties of materials (For FEM)

Different characteristic compressive strengths (fcu) of concrete used in the Finite Element Modeling. The relevant properties of concrete were taken from BS 8110-2-1997. Different grades of concrete are used for the structural elements. Concrete grades of each structural elements will be given in the general note of typical structural drawings and in the structural design report (under summary of beams, columns & shear wall design.

Table 5 - Modulus of elasticity of concrete for different grades

$f_{cu,28}$ N/mm2	$E_{c,28}$	
	Mean value kN/mm^2	Typical range kN/mm^2
20	24	18 to 30
25	25	19 to 31
30	26	20 to 32
40	28	22 to 34
50	30	24 to 36
60	32	26 to 38

4 LOAD CALCULATION

4.1 Gravity Loads

Dead, Super-imposed dead and live loads are considered as gravity loads. General floor loading values are tabulated as shown below. Note that loading for special areas will be considered based on BS6399: Part 1 for special loading conditions such as machine rooms, transformer rooms, chiller rooms, etc., and where crowd loading is possible.

Table 6 - General floor gravity loads

Floor usage	Super imposed Dead load (SDL) – kN/m^2)		Live load (LL) – kN/m^2
	Finishes	Services & ceiling	
Bedroom	1.15	0.5	1.5
Kitchen	1.15	0.5	1.5
Toilet	1.5	0.5	2.0
Veranda	1.5	0.5	2.0
Staircases	1.5	0.0	3.0
Roof slabs with solar (inaccessible)	1.5	0.5	1.5

- Solid block work (100 mm Tk) = 2.5 kN/m^2
- Solid block work (200 mm Tk) = 4.5 kN/m^2
- Glass density for façade loading = 25 kN/m^3

4.2 Lateral loads

The lateral loads that can act on a building consist of wind loads and earthquake loads (and incidental wave loads for offshore structures). The report by UNDP-Maldives and RMSI under the topic “Developing a Disaster Risk Profile for Maldives” (May 2006) will be used as the guideline for this purpose.

4.2.1 Wind loads

The magnitude of the wind loads on a building will depend on the basic wind speed used for the calculations. It is the three second (3 sec) gust velocity recommended for records collected over 50 years to determine the probable maximum wind speed that can occur at a height of 10m in open country.

The islands of Maldives are less prone to tropical cyclones. The northern islands of the country were affected by weak cyclones that formed in the southern part of the Bay of Bengal and the Arabian Sea. The number of cyclones directly crossing Maldives is small. Only 11 cyclones crossed the islands over the entire span of 128 years. Most of the cyclones crossed Maldives north of 6.0^{o}N and none of them crossed south of 2.7^{o} N during the period. All the cyclones that affected Maldives were formed during the months of October to January except one, which formed in April. Maldives has not been affected by cyclones after 1993. As cyclones affect an area within a radius of 200-300 kilometers, those coming within certain distance from a location have been included for determining their annual occurrence rates.

Using the wind speeds of 21 cyclonic disturbances, the probabilities and return periods of wind speeds have been calculated. Figure 5 shows the return periods for various categories of cyclones. The return period of a cyclonic storm with a wind speed of 34 knots will be about 23 years. For deep depressions with wind speeds 28-33 knots, the return period varies between 10 -20 years. From the return period analysis, it has also been found that very severe cyclonic storm with surface winds having a speed of 65 knots are expected to recur once in 135 years in Maldives.

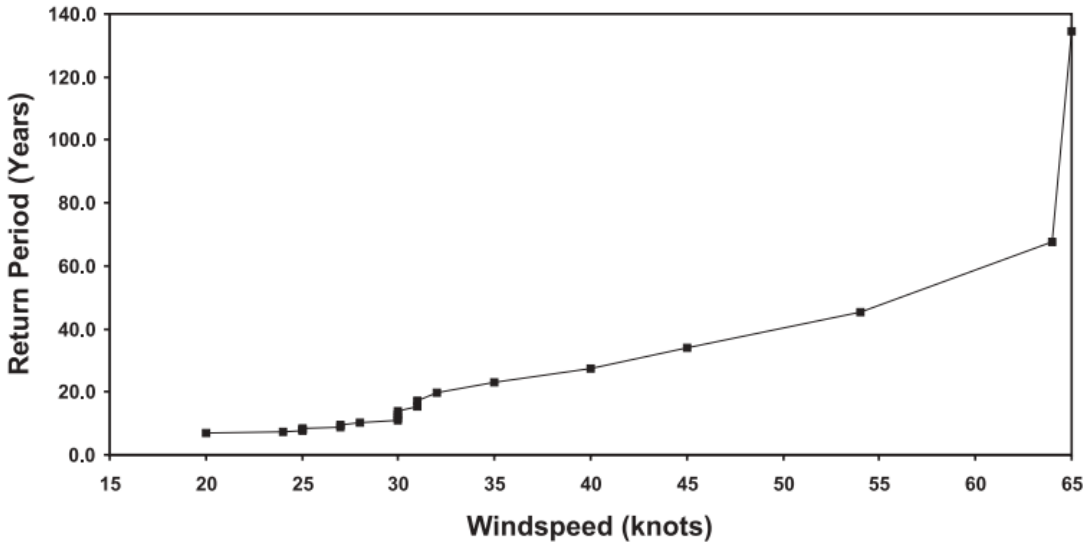


Figure 3 - Return period of Wind speeds associated with cyclones in Maldives

For dividing Maldives into zones with varying scales of cyclone hazards, five regions have been created based on a qualitative judgement of the gradient of the storm tracks from north to south. Figure 6 shows the regions used to compute the highest wind speed of each cyclone captured within the region. Majority of the cyclonic disturbances crossed the northern region. The frequency and wind speed decreases from northern region to southern region. Region 1 is not affected by any storm.

For each hazard zone, probable maximum wind speed has been computed. In this study a 500-year return period has been considered for the probable maximum wind speed estimation. Table 7 shows the probable maximum wind speed for each zone (500-year return period).

The cyclone hazard zones of Maldives have been classified into five regions according to the 500-year return period wind speed of each region. The probable maximum wind speed in Table 8 is the 1-minute average wind speed so as to convert them into Saffir-Simpson hurricane scale. In Region 5 the probable maximum wind speed comes under Category 3 in the Saffir-Simpson hurricane scale.

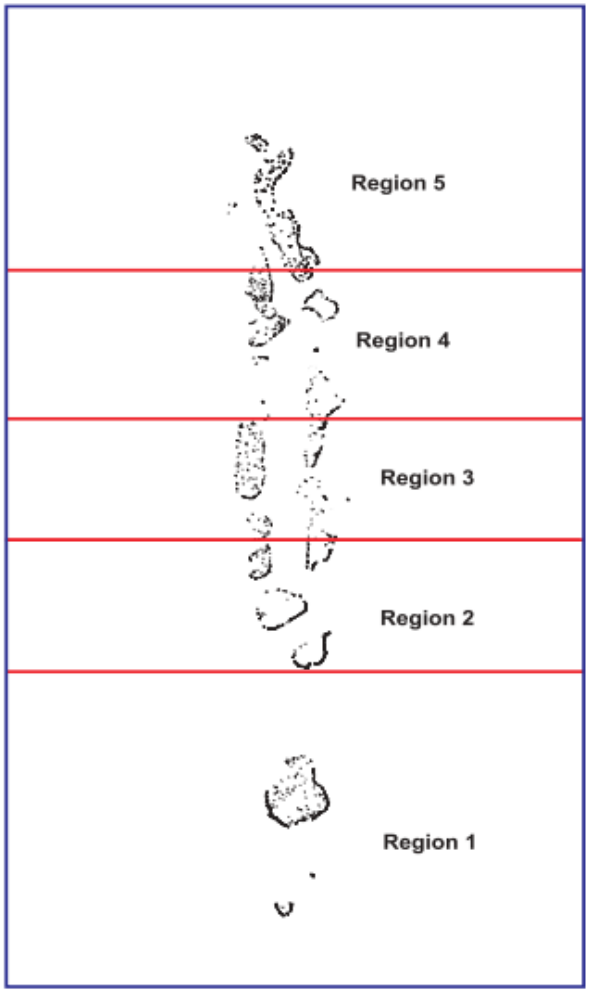


Figure 4 - Hazard zoning regions for Maldives

Table 7 - Probable maximum wind speeds (500 year) and saffir-simpson scale

HAZARD ZONE	WIND SPEED		SAFFIR-SIMPSON SCALE
	knots	m/s	
1	0.0	0.0	0
2	55.9	28.75	0
3	69.6	35.80	1
4	84.2	43.31	2
5	96.8	49.79	3

Table 8 - 1 minute average wind speed based on Saffir-Simpson scale

SAFFIR-SIMPSON CATEGORY	MAX WIND SPEED (m/s)
1	33-42
2	43-49
3	50-58
4	59-69
5	70+

Based on the size (height) of the structure and the availability of other structures around the said building, only a nominal wind load is considered for the purpose of the design.

4.2.2 Earthquake loads

Maldives lays in Indo-Australian Tectonic plate. Maldives is located in the middle of Indian Plate and well away from the plate tectonic boundaries. Therefore, only intra-plate type earthquakes may occur close to Maldives. However, there are few seismic activities recorded during the past and it is safe to conclude that the chances of inter-plate type earthquake affecting Maldives will be remote.

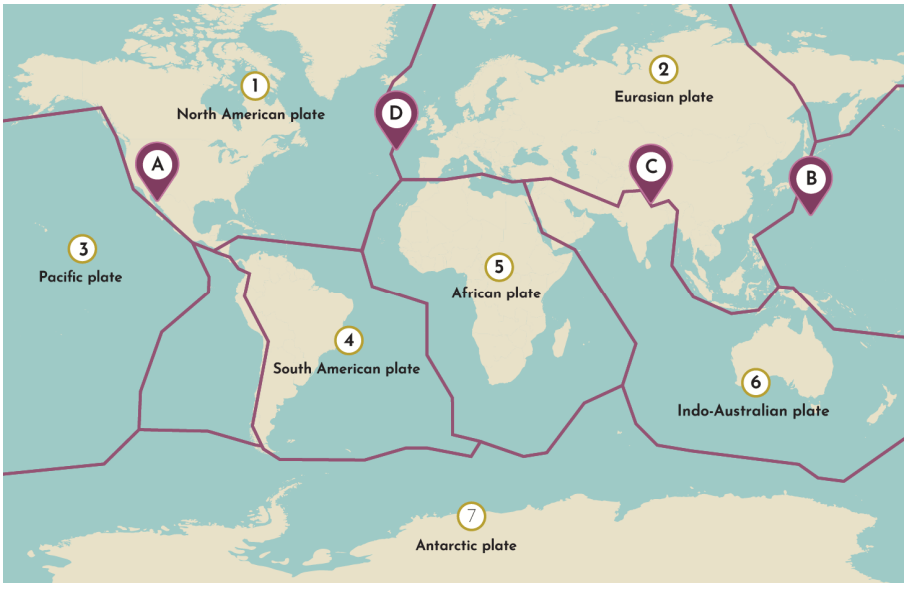


Figure 5 - Major tectonic plates in the world

According to the International Society for Earthquake Technology (ISET), during the period from 1979 to 2004, figure 6 has been derived. It shows that there had been three major events of magnitude above 7.0 had struck the region.

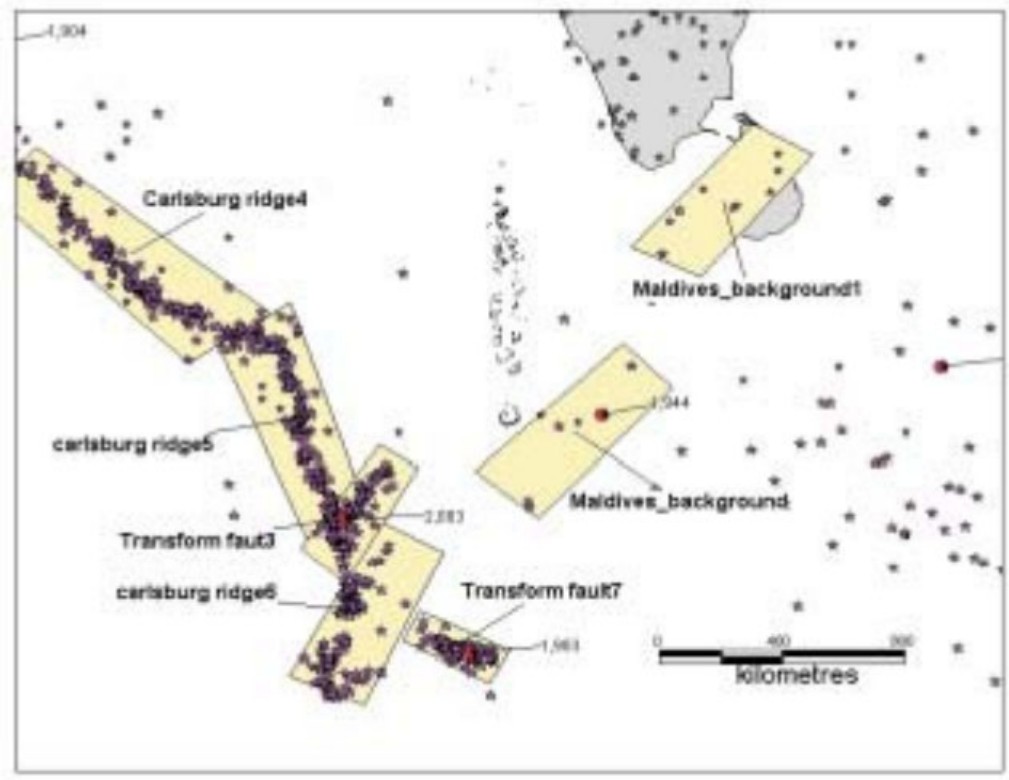


Figure 6 - Earthquake epicenters around Maldives

As main reasons for the poor performance of buildings at an earthquake, the inadequate strength and stiffness of the seismic resisting system, poor distribution of strength and stiffness in successive floors and lack of provision for an adequate load path through the structure, should be considered in the preliminary analysis and design of a building.

A reasonable approach for mitigating the seismic effects by proper reinforcement details at joints and connections, which enhance the ductility at such locations is adopted during the detail design to mitigate seismic effects of the building.

5 LOAD COMBINATIONS

The following load combinations will be used for the structural analysis and design.

SLS Combinations	ULS Combinations
1.0 Gk + 1.0 Qk	1.4 Gk + 1.6 Qk
1.0 Gk + 1.0 Wkx	1.4 Gk + 1.4 Wkx
1.0 Gk - 1.0 Wkx	1.4 Gk - 1.4 Wkx
1.0 Gk + 1.0 Wky	1.4 Gk + 1.4 Wky
1.0 Gk - 1.0 Wky	1.4 Gk - 1.4 Wky
1.0 Gk + 1.0 Qk + 1.0 Wkx	1.2 Gk + 1.2 Qk + 1.2 Wkx
1.0 Gk + 1.0 Qk - 1.0 Wkx	1.2 Gk + 1.2 Qk - 1.2 Wkx
1.0 Gk + 1.0 Qk + 1.0 Wky	1.2 Gk + 1.2 Qk + 1.2 Wky
1.0 Gk + 1.0 Qk - 1.0 Wky	1.2 Gk + 1.2 Qk - 1.2 Wky
	1.0 Gk + 1.4 Wkx
	1.0 Gk - 1.4 Wkx
	1.0 Gk + 1.4 Wky
	1.0 Gk - 1.4 Wky

6 STRUCTURAL ANALYSIS BY FINITE ELEMENT MODELING

The proposed building was modelled in Scia Engineer v.17, a finite element software package. The material properties are assigned to the model and the structural elements are initially selected based on preliminary calculations. Frame type finite elements are used to model the columns and beams whereas shell type of finite elements are used in the modelling of the slabs, pile caps and shear walls. Meshing of the shell elements will be carried out manually in order to have proper connections between nodal points.

The self-weight of the slabs, beams, floor slabs, concrete walls and columns will be calculated using the self-weight option available with Scia Enginer. For this, actual member sizes were used. This is defined as “DEAD” in Scia Engineer model. The dead loads and live loads will be transferred to all the concrete walls and beams that are supporting a slab panel. Additionally, the calculated loads will be assigned to the model. Load cases will be defined for dead loads, live loads & wind loads. This load case will be later scale multiplied to obtain the required load intensity at various load combinations as discussed in the previous chapter. Once the analysis is performed, the initial section sizes will be changed according to the design requirements and structure will be re-analysed until the required design requirements are met.

The three-dimensional forces generated due to lateral loads, eccentricity and asymmetrical frame actions which are considered significant, need to be transferred to the ground without imparting excessive deflection and distress to the structure. The lateral stability against lateral loads will be taken by the shear wall and the frame actions; will be strategically located throughout the structure, and efficient lateral load transfer for the overall structure. The vertical loads generated by the upper floors will be transferred to the foundations via the frames, through concrete walls and columns. These vertical elements will have well spread foundation for efficient force transfer onto the subsoil. The floor slabs at each level will transfer the lateral loads to these stiff elements via diaphragm action, ensuring that the lateral loads are shared proportionately between these vertical elements.

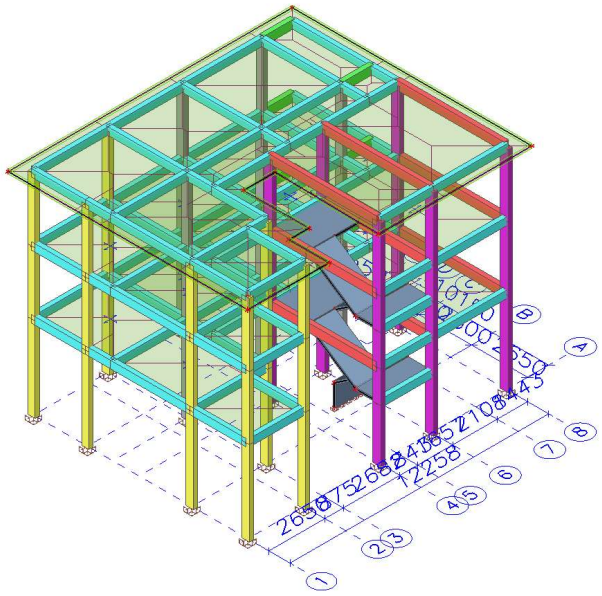
APPENDIX A

STRUCTURAL ANALYSIS REPORT

1. Project

Licence name	Unknown
Project	Detail Design and BoQ for Gn.Fuvahmulah MNU Campus
Part	Staff Accommodation
Description	-
Author	-
Date	01.03.2023
Structure	General XYZ
No. of nodes :	123
No. of beams :	169
No. of slabs :	9
No. of solids :	0
No. of used profiles :	6
No. of load cases :	4
No. of used materials :	2
Acceleration of gravity [m/s^2]	9.810
National code	EC - EN

2. Analysis model



3. Cross-sections

Name	Type	Item material	Fabrication	A [m²]	A_y [m²]	I_y [m⁴]	$W_{el.y}$ [m³]	$W_{pl.y}$ [m³]	Colour
	Detailed				A_z [m²]	I_z [m⁴]	$W_{el.z}$ [m³]	$W_{pl.z}$ [m³]	
C1	Rectangle 400; 200	C20/25	concrete	8.0000e-02	6.6852e-02 6.6713e-02	1.0667e-03 2.6667e-04	5.3333e-03 2.6667e-03	0.0000e+00 0.0000e+00	
C2	Rectangle 350; 200	C20/25	concrete	7.0000e-02	5.8425e-02 5.8363e-02	7.1458e-04 2.3333e-04	4.0833e-03 2.3333e-03	0.0000e+00 0.0000e+00	
C3	Rectangle 350; 200	C20/25	concrete	7.0000e-02	5.8425e-02 5.8363e-02	7.1458e-04 2.3333e-04	4.0833e-03 2.3333e-03	0.0000e+00 0.0000e+00	
B1	Rectangle 400; 200	C20/25	concrete	8.0000e-02	6.6852e-02 6.6713e-02	1.0667e-03 2.6667e-04	5.3333e-03 2.6667e-03	0.0000e+00 0.0000e+00	
B2	Rectangle 350; 200	C20/25	concrete	7.0000e-02	5.8425e-02 5.8363e-02	7.1458e-04 2.3333e-04	4.0833e-03 2.3333e-03	0.0000e+00 0.0000e+00	
B3	Rectangle 400; 200	C20/25	concrete	8.0000e-02	6.6852e-02 6.6713e-02	1.0667e-03 2.6667e-04	5.3333e-03 2.6667e-03	0.0000e+00 0.0000e+00	

4. Materials

Name	Type	ρ [kg/m³]	Density in fresh state [kg/m³]	E_{mod} [MPa]	μ	α [m/mK]	$f_{c.k.28}$ [MPa]	Colour
C20/25	Concrete	2500.0	2600.0	3.0000e+04	0.2	0.00	20.00	
C30/37	Concrete	2500.0	2600.0	3.2800e+04	0.2	0.00	30.00	

Explanations of symbols	
Density in fresh state	The value in the density in fresh state property is used only in case a composite deck is input and its self-weight load is taken into account.

5. Load cases

Name	Description	Action type	Load group	Direction	Duration	Master load case
	Spec	Load type				
LC1	Self weight	Permanent Self weight	LG1	-Z		
LC2	Dead	Permanent Standard	LG1			
LC3	Walls	Permanent Standard	LG1			
LC4	Live load Standard	Variable Static	Domestic		Long	None

6. Combinations

Name	Description	Type	Load cases	Coeff. [-]
EN_ULS	Ultimate limit state	EN-ULS (STR/GEO) Set B	LC1 - Self weight LC2 - Dead LC3 - Walls LC4 - Live load	1.00 1.00 1.00 1.00
EN_SLS	Serviceability limit state	EN-SLS Frequent	LC1 - Self weight LC2 - Dead LC3 - Walls LC4 - Live load	1.00 1.00 1.00 1.00
ULS-Set B (auto)		EN-ULS (STR/GEO) Set B	LC1 - Self weight LC2 - Dead LC3 - Walls LC4 - Live load	1.00 1.00 1.00 1.00
SLS-Char (auto)		EN-SLS Characteristic	LC1 - Self weight LC2 - Dead LC3 - Walls LC4 - Live load	1.00 1.00 1.00 1.00
SLS-Quasi (auto)		EN-SLS Quasi-permanent	LC1 - Self weight LC2 - Dead LC3 - Walls LC4 - Live load	1.00 1.00 1.00 1.00
EN_ULS5		Linear - ultimate	LC1 - Self weight LC2 - Dead LC3 - Walls LC4 - Live load	1.35 1.35 1.35 1.50
EN_SLS4		Linear - serviceability	LC1 - Self weight LC2 - Dead LC3 - Walls	1.00 1.00 1.00

Name	Description	Type	Load cases	Coeff. [-]
			LC4 - Live load	0.50

7. Members

Name	Cross-section	Material	Length [m]	Beg. node	End node	Type
C2	C3 - Rectangle (350; 200)	C20/25	4.000	N3	N4	column (100)
C3	C3 - Rectangle (350; 200)	C20/25	4.000	N5	N6	column (100)
C4	C3 - Rectangle (350; 200)	C20/25	4.000	N7	N8	column (100)
C5	C3 - Rectangle (350; 200)	C20/25	4.000	N9	N10	column (100)
C6	C2 - Rectangle (350; 200)	C20/25	4.000	N11	N12	column (100)
C7	C3 - Rectangle (350; 200)	C20/25	4.000	N13	N14	column (100)
C8	C3 - Rectangle (350; 200)	C20/25	4.000	N15	N16	column (100)
C9	C1 - Rectangle (400; 200)	C20/25	2.500	N17	N130	column (100)
C10	C1 - Rectangle (400; 200)	C20/25	2.500	N19	N129	column (100)
C11	C1 - Rectangle (400; 200)	C20/25	4.000	N21	N22	column (100)
C12	C1 - Rectangle (400; 200)	C20/25	4.000	N23	N24	column (100)
C13	C1 - Rectangle (400; 200)	C20/25	4.000	N25	N26	column (100)
C14	C1 - Rectangle (400; 200)	C20/25	4.000	N27	N28	column (100)
C15	C2 - Rectangle (350; 200)	C20/25	4.000	N29	N30	column (100)
C16	C2 - Rectangle (350; 200)	C20/25	4.000	N31	N32	column (100)
C17	C2 - Rectangle (350; 200)	C20/25	4.000	N33	N34	column (100)
C18	C2 - Rectangle (350; 200)	C20/25	4.000	N35	N36	column (100)
B1	B2 - Rectangle (350; 200)	C20/25	3.525	N2	N10	beam (80)
B2	B2 - Rectangle (350; 200)	C20/25	2.550	N2	N4	beam (80)
B3	B2 - Rectangle (350; 200)	C20/25	2.650	N6	N16	beam (80)
B4	B2 - Rectangle (350; 200)	C20/25	2.500	N18	N20	beam (80)
B5	B1 - Rectangle (400; 200)	C20/25	5.150	N22	N24	beam (80)
B6	B2 - Rectangle (350; 200)	C20/25	3.750	N10	N12	beam (80)
B7	B2 - Rectangle (350; 200)	C20/25	3.765	N32	N30	beam (80)
B8	B2 - Rectangle (350; 200)	C20/25	0.875	N14	N38	beam (80)
B9	B2 - Rectangle (350; 200)	C20/25	2.650	N16	N38	beam (80)
B10	B2 - Rectangle (350; 200)	C20/25	1.443	N24	N41	beam (80)
B11	B1 - Rectangle (400; 200)	C20/25	3.350	N18	N119	beam (80)
B12	B1 - Rectangle (400; 200)	C20/25	3.350	N20	N117	beam (80)
B13	B2 - Rectangle (350; 200)	C20/25	3.750	N36	N30	beam (80)
B14	B2 - Rectangle (350; 200)	C20/25	3.750	N34	N32	beam (80)
B15	B3 - Rectangle (400; 200)	C20/25	1.443	N34	N42	beam (80)
B16	B3 - Rectangle (400; 200)	C20/25	1.443	N32	N43	beam (80)
C	C3 - Rectangle (350; 200)	C20/25	3.000	N2	N44	column (100)
C19	C3 - Rectangle (350; 200)	C20/25	3.000	N4	N45	column (100)
C20	C3 - Rectangle (350; 200)	C20/25	3.000	N8	N46	column (100)
C21	C3 - Rectangle (350; 200)	C20/25	3.000	N6	N47	column (100)
C22	C3 - Rectangle (350; 200)	C20/25	3.000	N16	N48	column (100)
C23	C3 - Rectangle (350; 200)	C20/25	3.000	N14	N49	column (100)
C24	C2 - Rectangle (350; 200)	C20/25	3.000	N12	N50	column (100)
C25	C3 - Rectangle (350; 200)	C20/25	3.000	N10	N51	column (100)
C26	C2 - Rectangle (350; 200)	C20/25	3.000	N36	N52	column (100)
C27	C2 - Rectangle (350; 200)	C20/25	3.000	N30	N53	column (100)
C28	C1 - Rectangle (400; 200)	C20/25	3.000	N28	N54	column (100)
C29	C1 - Rectangle (400; 200)	C20/25	1.500	N18	N113	column (100)
C30	C1 - Rectangle (400; 200)	C20/25	1.500	N20	N114	column (100)
C31	C1 - Rectangle (400; 200)	C20/25	3.000	N22	N57	column (100)
C32	C1 - Rectangle (400; 200)	C20/25	3.000	N24	N58	column (100)
C33	C1 - Rectangle (400; 200)	C20/25	3.000	N26	N59	column (100)
C34	C2 - Rectangle (350; 200)	C20/25	3.000	N32	N60	column (100)
C35	C2 - Rectangle (350; 200)	C20/25	3.000	N34	N61	column (100)
B33	B2 - Rectangle (350; 200)	C20/25	3.525	N10	N36	beam (80)
B34	B2 - Rectangle (350; 200)	C20/25	3.765	N36	N34	beam (80)
B35	B2 - Rectangle (350; 200)	C20/25	3.750	N37	N8	beam (80)
B36	B2 - Rectangle (350; 200)	C20/25	2.650	N8	N6	beam (80)
B37	B2 - Rectangle (350; 200)	C20/25	3.551	N20	N22	beam (80)
B38	B2 - Rectangle (350; 200)	C20/25	1.250	N12	N39	beam (80)
B39	B2 - Rectangle (350; 200)	C20/25	2.500	N39	N14	beam (80)
B40	B2 - Rectangle (350; 200)	C20/25	3.525	N30	N12	beam (80)
B41	B2 - Rectangle (350; 200)	C20/25	3.525	N12	N37	beam (80)
B42	B2 - Rectangle (350; 200)	C20/25	2.650	N38	N8	beam (80)
B43	B2 - Rectangle (350; 200)	C20/25	2.108	N41	N26	beam (80)
B44	B2 - Rectangle (350; 200)	C20/25	1.657	N26	N40	beam (80)
B45	B2 - Rectangle (350; 200)	C20/25	0.843	N40	N28	beam (80)
B46	B2 - Rectangle (350; 200)	C20/25	2.682	N28	N39	beam (80)
B47	B2 - Rectangle (350; 200)	C20/25	1.250	N30	N40	beam (80)
B48	B2 - Rectangle (350; 200)	C20/25	1.250	N32	N41	beam (80)
B49	B2 - Rectangle (350; 200)	C20/25	3.525	N44	N51	beam (80)
B50	B2 - Rectangle (350; 200)	C20/25	2.550	N44	N45	beam (80)
B51	B2 - Rectangle (350; 200)	C20/25	2.650	N47	N48	beam (80)

Name	Cross-section	Material	Length [m]	Beg. node	End node	Type
B52	B2 - Rectangle (350; 200)	C20/25	2.500	N55	N56	beam (80)
B53	B1 - Rectangle (400; 200)	C20/25	5.150	N57	N58	beam (80)
B54	B2 - Rectangle (350; 200)	C20/25	3.750	N51	N50	beam (80)
B55	B2 - Rectangle (350; 200)	C20/25	3.765	N60	N53	beam (80)
B56	B2 - Rectangle (350; 200)	C20/25	0.875	N49	N63	beam (80)
B57	B2 - Rectangle (350; 200)	C20/25	2.650	N48	N63	beam (80)
B58	B2 - Rectangle (350; 200)	C20/25	1.443	N58	N66	beam (80)
B59	B1 - Rectangle (400; 200)	C20/25	3.350	N55	N121	beam (80)
B60	B1 - Rectangle (400; 200)	C20/25	3.350	N56	N120	beam (80)
B61	B2 - Rectangle (350; 200)	C20/25	3.750	N52	N53	beam (80)
B62	B2 - Rectangle (350; 200)	C20/25	3.750	N61	N60	beam (80)
B63	B3 - Rectangle (400; 200)	C20/25	1.443	N61	N67	beam (80)
B64	B3 - Rectangle (400; 200)	C20/25	1.443	N60	N68	beam (80)
B65	B2 - Rectangle (350; 200)	C20/25	3.525	N51	N52	beam (80)
B66	B2 - Rectangle (350; 200)	C20/25	3.765	N52	N61	beam (80)
B67	B2 - Rectangle (350; 200)	C20/25	3.750	N62	N46	beam (80)
B68	B2 - Rectangle (350; 200)	C20/25	2.650	N46	N47	beam (80)
B69	B2 - Rectangle (350; 200)	C20/25	3.551	N56	N57	beam (80)
B70	B2 - Rectangle (350; 200)	C20/25	1.250	N50	N64	beam (80)
B71	B2 - Rectangle (350; 200)	C20/25	2.500	N64	N49	beam (80)
B72	B2 - Rectangle (350; 200)	C20/25	3.525	N53	N50	beam (80)
B73	B2 - Rectangle (350; 200)	C20/25	3.525	N50	N62	beam (80)
B74	B2 - Rectangle (350; 200)	C20/25	2.650	N63	N46	beam (80)
B75	B2 - Rectangle (350; 200)	C20/25	2.108	N66	N59	beam (80)
B76	B2 - Rectangle (350; 200)	C20/25	1.657	N59	N65	beam (80)
B77	B2 - Rectangle (350; 200)	C20/25	0.843	N65	N54	beam (80)
B78	B2 - Rectangle (350; 200)	C20/25	2.682	N54	N64	beam (80)
B79	B2 - Rectangle (350; 200)	C20/25	1.250	N53	N65	beam (80)
B80	B2 - Rectangle (350; 200)	C20/25	1.250	N60	N66	beam (80)
C36	C3 - Rectangle (350; 200)	C20/25	3.000	N44	N1	column (100)
C37	C3 - Rectangle (350; 200)	C20/25	3.000	N45	N69	column (100)
C38	C3 - Rectangle (350; 200)	C20/25	3.000	N46	N70	column (100)
C39	C3 - Rectangle (350; 200)	C20/25	3.000	N47	N71	column (100)
C40	C3 - Rectangle (350; 200)	C20/25	3.000	N48	N72	column (100)
C41	C3 - Rectangle (350; 200)	C20/25	3.000	N49	N73	column (100)
C42	C2 - Rectangle (350; 200)	C20/25	3.000	N50	N74	column (100)
C43	C3 - Rectangle (350; 200)	C20/25	3.000	N51	N75	column (100)
C44	C2 - Rectangle (350; 200)	C20/25	3.000	N52	N76	column (100)
C45	C2 - Rectangle (350; 200)	C20/25	3.000	N53	N77	column (100)
C46	C1 - Rectangle (400; 200)	C20/25	3.000	N54	N78	column (100)
C47	C1 - Rectangle (400; 200)	C20/25	3.000	N55	N79	column (100)
C48	C1 - Rectangle (400; 200)	C20/25	3.000	N56	N80	column (100)
C49	C1 - Rectangle (400; 200)	C20/25	3.000	N57	N81	column (100)
C50	C1 - Rectangle (400; 200)	C20/25	3.000	N58	N82	column (100)
C51	C1 - Rectangle (400; 200)	C20/25	3.000	N59	N83	column (100)
C52	C2 - Rectangle (350; 200)	C20/25	3.000	N60	N84	column (100)
C53	C2 - Rectangle (350; 200)	C20/25	3.000	N61	N85	column (100)
B81	B2 - Rectangle (350; 200)	C20/25	3.525	N1	N75	beam (80)
B82	B2 - Rectangle (350; 200)	C20/25	2.550	N1	N69	beam (80)
B83	B2 - Rectangle (350; 200)	C20/25	2.650	N71	N72	beam (80)
B84	B2 - Rectangle (350; 200)	C20/25	2.500	N79	N80	beam (80)
B85	B1 - Rectangle (400; 200)	C20/25	5.150	N81	N82	beam (80)
B86	B2 - Rectangle (350; 200)	C20/25	3.750	N75	N74	beam (80)
B87	B2 - Rectangle (350; 200)	C20/25	3.765	N84	N77	beam (80)
B88	B2 - Rectangle (350; 200)	C20/25	0.875	N73	N87	beam (80)
B89	B2 - Rectangle (350; 200)	C20/25	2.650	N72	N87	beam (80)
B90	B2 - Rectangle (350; 200)	C20/25	1.443	N82	N90	beam (80)
B91	B1 - Rectangle (400; 200)	C20/25	5.150	N79	N78	beam (80)
B92	B1 - Rectangle (400; 200)	C20/25	5.150	N80	N83	beam (80)
B93	B2 - Rectangle (350; 200)	C20/25	3.750	N76	N77	beam (80)
B94	B2 - Rectangle (350; 200)	C20/25	3.750	N85	N84	beam (80)
B95	B3 - Rectangle (400; 200)	C20/25	1.443	N85	N91	beam (80)
B96	B3 - Rectangle (400; 200)	C20/25	1.443	N84	N92	beam (80)
B97	B2 - Rectangle (350; 200)	C20/25	3.525	N75	N76	beam (80)
B98	B2 - Rectangle (350; 200)	C20/25	3.765	N76	N85	beam (80)
B99	B2 - Rectangle (350; 200)	C20/25	3.750	N86	N70	beam (80)
B100	B2 - Rectangle (350; 200)	C20/25	2.650	N70	N71	beam (80)
B101	B2 - Rectangle (350; 200)	C20/25	3.551	N80	N81	beam (80)
B102	B2 - Rectangle (350; 200)	C20/25	1.250	N74	N88	beam (80)
B103	B2 - Rectangle (350; 200)	C20/25	2.500	N88	N73	beam (80)
B104	B2 - Rectangle (350; 200)	C20/25	3.525	N77	N74	beam (80)
B105	B2 - Rectangle (350; 200)	C20/25	3.525	N74	N86	beam (80)
B106	B2 - Rectangle (350; 200)	C20/25	2.650	N87	N70	beam (80)
B107	B2 - Rectangle (350; 200)	C20/25	2.108	N90	N83	beam (80)
B108	B2 - Rectangle (350; 200)	C20/25	1.657	N83	N89	beam (80)
B109	B2 - Rectangle (350; 200)	C20/25	0.843	N89	N78	beam (80)

Name	Cross-section	Material	Length [m]	Beg. node	End node	Type
B110	B2 - Rectangle (350; 200)	C20/25	2.682	N78	N88	beam (80)
B111	B2 - Rectangle (350; 200)	C20/25	1.250	N77	N89	beam (80)
B112	B2 - Rectangle (350; 200)	C20/25	1.250	N84	N90	beam (80)
C54	C3 - Rectangle (350; 200)	C20/25	4.000	N112	N2	column (100)
B113	B2 - Rectangle (350; 200)	C20/25	2.500	N113	N114	beam (80)
C69	B2 - Rectangle (350; 200)	C20/25	1.250	N24	N43	beam (80)
C70	B2 - Rectangle (350; 200)	C20/25	1.250	N58	N68	beam (80)
C71	B2 - Rectangle (350; 200)	C20/25	3.750	N91	N92	beam (80)
C72	C1 - Rectangle (400; 200)	C20/25	1.500	N130	N18	column (100)
C73	C1 - Rectangle (400; 200)	C20/25	1.500	N129	N20	column (100)
B114	B2 - Rectangle (350; 200)	C20/25	1.200	N4	N37	beam (80)
B115	B1 - Rectangle (400; 200)	C20/25	1.800	N119	N28	beam (80)
B116	B1 - Rectangle (400; 200)	C20/25	1.800	N117	N26	beam (80)
C74	C1 - Rectangle (400; 200)	C20/25	1.500	N113	N55	column (100)
C75	C1 - Rectangle (400; 200)	C20/25	1.500	N114	N56	column (100)
B117	B2 - Rectangle (350; 200)	C20/25	1.200	N45	N62	beam (80)
B118	B1 - Rectangle (400; 200)	C20/25	1.800	N121	N54	beam (80)
B119	B1 - Rectangle (400; 200)	C20/25	1.800	N120	N59	beam (80)
B120	B2 - Rectangle (350; 200)	C20/25	1.200	N69	N86	beam (80)
C76	B2 - Rectangle (350; 200)	C20/25	3.750	N43	N42	beam (80)
C77	B2 - Rectangle (350; 200)	C20/25	3.750	N68	N67	beam (80)
C78	B2 - Rectangle (350; 200)	C20/25	1.250	N92	N82	beam (80)
B121	B2 - Rectangle (350; 200)	C20/25	2.500	N130	N129	beam (80)

8. 2D members

Name	Layer	Type	Element type	Material	Thickness type	Th. [mm]
S1	S1 - Floor	plate (90)	Standard	C20/25	constant	140
S2	S1 - Floor	plate (90)	Standard	C20/25	constant	140
S3	S1 - Floor	plate (90)	Standard	C20/25	constant	140
S4	S1 - Floor	plate (90)	Standard	C20/25	constant	140
S5	S1 - Floor	plate (90)	Standard	C20/25	constant	140
S6	S1 - Floor	plate (90)	Standard	C20/25	constant	140
S7	S1 - Floor	plate (90)	Standard	C20/25	constant	140
S8	S1 - Floor	plate (90)	Standard	C20/25	constant	140
S9	S1 - Floor	wall (80)	Standard	C20/25	constant	140

9. Load panels

Name	Panel type	Load transfer direction	Selection of entities
LP1	To panel edges and beams	all (LCS panel)	Auto selection
LP2	To panel edges and beams	all (LCS panel)	Auto selection
LP3	To panel edges and beams	all (LCS panel)	Auto selection
LP4	To panel edges and beams	all (LCS panel)	Auto selection
LP5	To panel edges and beams	all (LCS panel)	Auto selection
LP7	To panel edges and beams	all (LCS panel)	Auto selection
LP8	To panel edges and beams	all (LCS panel)	Auto selection
LP9	To panel edges and beams	all (LCS panel)	Auto selection
LP10	To panel edges and beams	all (LCS panel)	Auto selection
LP11	To panel edges and beams	all (LCS panel)	Auto selection
LP12	To panel edges and beams	all (LCS panel)	Auto selection
LP13	To panel edges and beams	all (LCS panel)	Auto selection
LP14	To panel edges and beams	all (LCS panel)	Auto selection
LP15	To panel edges and beams	all (LCS panel)	Auto selection
LP16	To panel edges and beams	all (LCS panel)	Auto selection
LP17	To panel edges and beams	all (LCS panel)	Auto selection
LP18	To panel edges and beams	all (LCS panel)	Auto selection
LP19	To panel edges and beams	all (LCS panel)	Auto selection
LP20	To panel edges and beams	all (LCS panel)	Auto selection
LP21	To panel edges and beams	all (LCS panel)	Auto selection
LP22	To panel edges and beams	all (LCS panel)	Auto selection

Explanations of symbols	
Selection of entities	All: selects all edges and beams that support the panel at the same place. Auto selection: in the cases where two or more supporting elements overlap, the selection omits edges that belong to 2D members that lie in the same plane as the panel. User selection: requires a manual selection of supporting edges and beams (by means of using an Action button). By type: only beam members of the

Explanations of symbols	
	types selected in the list are considered as supporting elements.

10. Line force

Name	Member	Type	Dir	Value - P_1 [kN/m]	Pos x_1	Coor	Orig	Ecc ey [m]
	Load case	System	Distribution	Value - P_2 [kN/m]	Pos x_2	Loc		Ecc ez [m]
LF1	B6	Force	Z	-7.70	0.000	Rela	From start	0.000
	LC3 - Walls	LCS	Uniform		1.000	Length		0.000
LF2	B40	Force	Z	-7.70	0.000	Rela	From start	0.000
	LC3 - Walls	LCS	Uniform		1.000	Length		0.000
LF3	B13	Force	Z	-7.70	0.000	Rela	From start	0.000
	LC3 - Walls	LCS	Uniform		1.000	Length		0.000
LF4	B7	Force	Z	-7.70	0.000	Rela	From start	0.000
	LC3 - Walls	LCS	Uniform		1.000	Length		0.000
LF5	B14	Force	Z	-7.70	0.000	Rela	From start	0.000
	LC3 - Walls	LCS	Uniform		1.000	Length		0.000
LF6	B15	Force	Z	-7.70	0.000	Rela	From start	0.000
	LC3 - Walls	LCS	Uniform		1.000	Length		0.000
LF7	B34	Force	Z	-7.70	0.000	Rela	From start	0.000
	LC3 - Walls	LCS	Uniform		1.000	Length		0.000
LF8	B33	Force	Z	-7.70	0.000	Rela	From start	0.000
	LC3 - Walls	LCS	Uniform		1.000	Length		0.000
LF9	B42	Force	Z	-7.70	0.000	Rela	From start	0.000
	LC3 - Walls	LCS	Uniform		1.000	Length		0.000
LF10	B9	Force	Z	-7.70	0.000	Rela	From start	0.000
	LC3 - Walls	LCS	Uniform		1.000	Length		0.000
LF11	B39	Force	Z	-7.70	0.000	Rela	From start	0.000
	LC3 - Walls	LCS	Uniform		1.000	Length		0.000
LF12	B46	Force	Z	-7.70	0.000	Rela	From start	0.000
	LC3 - Walls	LCS	Uniform		1.000	Length		0.000
LF13	B11	Force	Z	-7.70	0.000	Rela	From start	0.000
	LC3 - Walls	LCS	Uniform		1.000	Length		0.000
LF14	B12	Force	Z	-7.70	0.000	Rela	From start	0.000
	LC3 - Walls	LCS	Uniform		1.000	Length		0.000
LF15	B37	Force	Z	-7.70	0.000	Rela	From start	0.000
	LC3 - Walls	LCS	Uniform		1.000	Length		0.000
LF16	B5	Force	Z	-7.70	0.000	Rela	From start	0.000
	LC3 - Walls	LCS	Uniform		1.000	Length		0.000
LF17	B43	Force	Z	-7.70	0.000	Rela	From start	0.000
	LC3 - Walls	LCS	Uniform		1.000	Length		0.000
LF18	B10	Force	Z	-7.70	0.000	Rela	From start	0.000
	LC3 - Walls	LCS	Uniform		1.000	Length		0.000
LF19	B53	Force	Z	-7.70	0.000	Rela	From start	0.000
	LC3 - Walls	LCS	Uniform		1.000	Length		0.000
LF20	B54	Force	Z	-7.70	0.000	Rela	From start	0.000
	LC3 - Walls	LCS	Uniform		1.000	Length		0.000
LF21	B55	Force	Z	-7.70	0.000	Rela	From start	0.000
	LC3 - Walls	LCS	Uniform		1.000	Length		0.000
LF22	B57	Force	Z	-7.70	0.000	Rela	From start	0.000
	LC3 - Walls	LCS	Uniform		1.000	Length		0.000
LF23	B58	Force	Z	-7.70	0.000	Rela	From start	0.000
	LC3 - Walls	LCS	Uniform		1.000	Length		0.000
LF24	B59	Force	Z	-7.70	0.000	Rela	From start	0.000
	LC3 - Walls	LCS	Uniform		1.000	Length		0.000
LF25	B60	Force	Z	-7.70	0.000	Rela	From start	0.000
	LC3 - Walls	LCS	Uniform		1.000	Length		0.000
LF26	B61	Force	Z	-7.70	0.000	Rela	From start	0.000
	LC3 - Walls	LCS	Uniform		1.000	Length		0.000
LF27	B62	Force	Z	-7.70	0.000	Rela	From start	0.000
	LC3 - Walls	LCS	Uniform		1.000	Length		0.000
LF28	B63	Force	Z	-7.70	0.000	Rela	From start	0.000
	LC3 - Walls	LCS	Uniform		1.000	Length		0.000
LF29	B65	Force	Z	-7.70	0.000	Rela	From start	0.000
	LC3 - Walls	LCS	Uniform		1.000	Length		0.000
LF30	B66	Force	Z	-7.70	0.000	Rela	From start	0.000
	LC3 - Walls	LCS	Uniform		1.000	Length		0.000
LF31	B69	Force	Z	-7.70	0.000	Rela	From start	0.000
	LC3 - Walls	LCS	Uniform		1.000	Length		0.000
LF32	B71	Force	Z	-7.70	0.000	Rela	From start	0.000
	LC3 - Walls	LCS	Uniform		1.000	Length		0.000
LF33	B72	Force	Z	-7.70	0.000	Rela	From start	0.000
	LC3 - Walls	LCS	Uniform		1.000	Length		0.000
LF34	B74	Force	Z	-7.70	0.000	Rela	From start	0.000
	LC3 - Walls	LCS	Uniform		1.000	Length		0.000

Name	Member	Type	Dir	Value - P_1 [kN/m]	Pos x_1	Coor	Orig	Ecc ey [m]
	Load case	System	Distribution	Value - P_2 [kN/m]	Pos x_2	Loc		Ecc ez [m]
LF35	B75	Force	Z	-7.70	0.000	Rela	From start	0.000
	LC3 - Walls	LCS	Uniform		1.000	Length		0.000
LF36	B78	Force	Z	-7.70	0.000	Rela	From start	0.000
	LC3 - Walls	LCS	Uniform		1.000	Length		0.000
LF433	B115	Force	Z	-7.70	0.000	Rela	From start	0.000
	LC3 - Walls	LCS	Uniform		1.000	Length		0.000
LF434	B116	Force	Z	-7.70	0.000	Rela	From start	0.000
	LC3 - Walls	LCS	Uniform		1.000	Length		0.000
LF435	B118	Force	Z	-7.70	0.000	Rela	From start	0.000
	LC3 - Walls	LCS	Uniform		1.000	Length		0.000
LF436	B119	Force	Z	-7.70	0.000	Rela	From start	0.000
	LC3 - Walls	LCS	Uniform		1.000	Length		0.000
LF437	B1	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-8.99	0.500	Length		0.000
LF438	B1	Force	Z	-8.99	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF439	B2	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-8.99	0.691	Length		0.000
LF440	B2	Force	Z	-8.99	0.691	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-8.99	0.779	Length		0.000
LF441	B2	Force	Z	-8.99	0.779	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-6.12	1.000	Length		0.000
LF442	B6	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-8.99	0.470	Length		0.000
LF443	B6	Force	Z	-8.99	0.470	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-8.99	0.530	Length		0.000
LF444	B6	Force	Z	-8.99	0.530	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF445	B41	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-8.99	0.500	Length		0.000
LF446	B41	Force	Z	-8.99	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-6.12	0.660	Length		0.000
LF447	B41	Force	Z	-6.12	0.660	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF448	B114	Force	Z	-6.12	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF449	B1	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.64	0.500	Length		0.000
LF450	B1	Force	Z	-2.64	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF451	B2	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.64	0.691	Length		0.000
LF452	B2	Force	Z	-2.64	0.691	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.64	0.779	Length		0.000
LF453	B2	Force	Z	-2.64	0.779	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.80	1.000	Length		0.000
LF454	B6	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.64	0.470	Length		0.000
LF455	B6	Force	Z	-2.64	0.470	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.64	0.530	Length		0.000
LF456	B6	Force	Z	-2.64	0.530	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF457	B41	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.64	0.500	Length		0.000
LF458	B41	Force	Z	-2.64	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.80	0.660	Length		0.000
LF459	B41	Force	Z	-1.80	0.660	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF460	B114	Force	Z	-1.80	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF461	B6	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-8.99	0.470	Length		0.000
LF462	B6	Force	Z	-8.99	0.470	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-8.99	0.530	Length		0.000
LF463	B6	Force	Z	-8.99	0.530	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF464	B13	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-8.99	0.470	Length		0.000
LF465	B13	Force	Z	-8.99	0.470	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-8.99	0.530	Length		0.000
LF466	B13	Force	Z	-8.99	0.530	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF467	B33	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-8.99	0.500	Length		0.000

Name	Member	Type	Dir	Value - P_1 [kN/m]	Pos x_1	Coor	Orig	Ecc ey [m]
	Load case	System	Distribution	Value - P_2 [kN/m]	Pos x_2	Loc		Ecc ez [m]
LF468	B33	Force	Z	-8.99	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF469	B40	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-8.99	0.500	Length		0.000
LF470	B40	Force	Z	-8.99	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF471	B6	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.64	0.470	Length		0.000
LF472	B6	Force	Z	-2.64	0.470	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.64	0.530	Length		0.000
LF473	B6	Force	Z	-2.64	0.530	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF474	B13	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.64	0.470	Length		0.000
LF475	B13	Force	Z	-2.64	0.470	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.64	0.530	Length		0.000
LF476	B13	Force	Z	-2.64	0.530	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF477	B33	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.64	0.500	Length		0.000
LF478	B33	Force	Z	-2.64	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF479	B40	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.64	0.500	Length		0.000
LF480	B40	Force	Z	-2.64	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF481	B7	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-9.56	0.498	Length		0.000
LF482	B7	Force	Z	-9.56	0.498	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-9.56	0.502	Length		0.000
LF483	B7	Force	Z	-9.56	0.502	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF484	B13	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-9.56	0.500	Length		0.000
LF485	B13	Force	Z	-9.56	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF486	B14	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-9.56	0.500	Length		0.000
LF487	B14	Force	Z	-9.56	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF488	B34	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-9.56	0.498	Length		0.000
LF489	B34	Force	Z	-9.56	0.498	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-9.56	0.502	Length		0.000
LF490	B34	Force	Z	-9.56	0.502	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF491	B7	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.81	0.498	Length		0.000
LF492	B7	Force	Z	-2.81	0.498	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.81	0.502	Length		0.000
LF493	B7	Force	Z	-2.81	0.502	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF494	B13	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.81	0.500	Length		0.000
LF495	B13	Force	Z	-2.81	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF496	B14	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.81	0.500	Length		0.000
LF497	B14	Force	Z	-2.81	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF498	B34	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.81	0.498	Length		0.000
LF499	B34	Force	Z	-2.81	0.498	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.81	0.502	Length		0.000
LF500	B34	Force	Z	-2.81	0.502	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF501	B8	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-4.46	1.000	Length		0.000
LF502	B35	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-8.99	0.470	Length		0.000
LF503	B35	Force	Z	-8.99	0.470	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-8.99	0.530	Length		0.000
LF504	B35	Force	Z	-8.99	0.530	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000

Name	Member	Type	Dir	Value - P_1 [kN/m]	Pos x_1	Coor	Orig	Ecc ey [m]
	Load case	System	Distribution	Value - P_2 [kN/m]	Pos x_2	Loc		Ecc ez [m]
LF505	B38	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-6.37	1.000	Length		0.000
LF506	B39	Force	Z	-6.37	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-8.99	0.205	Length		0.000
LF507	B39	Force	Z	-8.99	0.205	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-8.99	0.295	Length		0.000
LF508	B39	Force	Z	-8.99	0.295	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-4.46	0.650	Length		0.000
LF509	B39	Force	Z	-4.46	0.650	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF510	B41	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-6.37	0.355	Length		0.000
LF511	B41	Force	Z	-6.37	0.355	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-8.99	0.500	Length		0.000
LF512	B41	Force	Z	-8.99	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF513	B42	Force	Z	-4.46	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-8.99	0.335	Length		0.000
LF514	B42	Force	Z	-8.99	0.335	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF515	B8	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.31	1.000	Length		0.000
LF516	B35	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.64	0.470	Length		0.000
LF517	B35	Force	Z	-2.64	0.470	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.64	0.530	Length		0.000
LF518	B35	Force	Z	-2.64	0.530	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF519	B38	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.88	1.000	Length		0.000
LF520	B39	Force	Z	-1.88	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.64	0.205	Length		0.000
LF521	B39	Force	Z	-2.64	0.205	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.64	0.295	Length		0.000
LF522	B39	Force	Z	-2.64	0.295	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.31	0.650	Length		0.000
LF523	B39	Force	Z	-1.31	0.650	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF524	B41	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.88	0.355	Length		0.000
LF525	B41	Force	Z	-1.88	0.355	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.64	0.500	Length		0.000
LF526	B41	Force	Z	-2.64	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF527	B42	Force	Z	-1.31	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.64	0.335	Length		0.000
LF528	B42	Force	Z	-2.64	0.335	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF529	B3	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-6.76	0.500	Length		0.000
LF530	B3	Force	Z	-6.76	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF531	B9	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-6.76	0.500	Length		0.000
LF532	B9	Force	Z	-6.76	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF533	B36	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-6.76	0.500	Length		0.000
LF534	B36	Force	Z	-6.76	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF535	B42	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-6.76	0.500	Length		0.000
LF536	B42	Force	Z	-6.76	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF537	B3	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.99	0.500	Length		0.000
LF538	B3	Force	Z	-1.99	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF539	B9	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.99	0.500	Length		0.000
LF540	B9	Force	Z	-1.99	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF541	B36	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.99	0.500	Length		0.000

Name	Member	Type	Dir	Value - P_1 [kN/m]	Pos x_1	Coor	Orig	Ecc ey [m]
	Load case	System	Distribution	Value - P_2 [kN/m]	Pos x_2	Loc		Ecc ez [m]
LF542	B36	Force	Z	-1.99	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF543	B42	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.99	0.500	Length		0.000
LF544	B42	Force	Z	-1.99	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF545	B5	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-9.06	0.345	Length		0.000
LF546	B5	Force	Z	-9.06	0.345	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-9.06	0.650	Length		0.000
LF547	B5	Force	Z	-9.06	0.650	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-9.06	0.655	Length		0.000
LF548	B5	Force	Z	-9.06	0.655	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-7.36	0.720	Length		0.000
LF549	B5	Force	Z	-7.36	0.720	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF550	B10	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-7.36	1.000	Length		0.000
LF551	B12	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-9.06	0.530	Length		0.000
LF552	B12	Force	Z	-9.06	0.530	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-9.06	1.000	Length		0.000
LF553	B37	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-9.06	0.500	Length		0.000
LF554	B37	Force	Z	-9.06	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF555	B43	Force	Z	-7.36	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-9.06	0.158	Length		0.000
LF556	B43	Force	Z	-9.06	0.158	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF557	B116	Force	Z	-9.06	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-9.06	0.014	Length		0.000
LF558	B116	Force	Z	-9.06	0.014	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF559	B5	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.66	0.345	Length		0.000
LF560	B5	Force	Z	-2.66	0.345	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.66	0.650	Length		0.000
LF561	B5	Force	Z	-2.66	0.650	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.66	0.655	Length		0.000
LF562	B5	Force	Z	-2.66	0.655	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.16	0.720	Length		0.000
LF563	B5	Force	Z	-2.16	0.720	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF564	B10	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.16	1.000	Length		0.000
LF565	B12	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.66	0.530	Length		0.000
LF566	B12	Force	Z	-2.66	0.530	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.66	1.000	Length		0.000
LF567	B37	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.66	0.500	Length		0.000
LF568	B37	Force	Z	-2.66	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF569	B43	Force	Z	-2.16	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.66	0.158	Length		0.000
LF570	B43	Force	Z	-2.66	0.158	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF571	B116	Force	Z	-2.66	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.66	0.014	Length		0.000
LF572	B116	Force	Z	-2.66	0.014	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF573	B14	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.68	0.192	Length		0.000
LF574	B14	Force	Z	-3.68	0.192	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.68	0.808	Length		0.000
LF575	B14	Force	Z	-3.68	0.808	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF576	B15	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.68	0.500	Length		0.000
LF577	B15	Force	Z	-3.68	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF578	B16	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.68	0.500	Length		0.000

Name	Member	Type	Dir	Value - P_1 [kN/m]	Pos x_1	Coor	Orig	Ecc ey [m]
	Load case	System	Distribution	Value - P_2 [kN/m]	Pos x_2	Loc		Ecc ez [m]
LF579	B16	Force	Z	-3.68	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF580	C76	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.68	0.192	Length		0.000
LF581	C76	Force	Z	-3.68	0.192	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.68	0.808	Length		0.000
LF582	C76	Force	Z	-3.68	0.808	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF583	B14	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.08	0.192	Length		0.000
LF584	B14	Force	Z	-1.08	0.192	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.08	0.808	Length		0.000
LF585	B14	Force	Z	-1.08	0.808	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF586	B15	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.08	0.500	Length		0.000
LF587	B15	Force	Z	-1.08	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF588	B16	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.08	0.500	Length		0.000
LF589	B16	Force	Z	-1.08	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF590	C76	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.08	0.192	Length		0.000
LF591	C76	Force	Z	-1.08	0.192	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.08	0.808	Length		0.000
LF592	C76	Force	Z	-1.08	0.808	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF593	B10	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.19	0.433	Length		0.000
LF594	B10	Force	Z	-3.19	0.433	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.19	0.567	Length		0.000
LF595	B10	Force	Z	-3.19	0.567	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF596	B16	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.19	0.433	Length		0.000
LF597	B16	Force	Z	-3.19	0.433	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.19	0.567	Length		0.000
LF598	B16	Force	Z	-3.19	0.567	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF599	B48	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.19	0.500	Length		0.000
LF600	B48	Force	Z	-3.19	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF601	C69	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.19	0.500	Length		0.000
LF602	C69	Force	Z	-3.19	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF603	B10	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.94	0.433	Length		0.000
LF604	B10	Force	Z	-0.94	0.433	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.94	0.567	Length		0.000
LF605	B10	Force	Z	-0.94	0.567	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF606	B16	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.94	0.433	Length		0.000
LF607	B16	Force	Z	-0.94	0.433	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.94	0.567	Length		0.000
LF608	B16	Force	Z	-0.94	0.567	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF609	B48	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.94	0.500	Length		0.000
LF610	B48	Force	Z	-0.94	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF611	C69	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.94	0.500	Length		0.000
LF612	C69	Force	Z	-0.94	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF613	B7	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.19	0.166	Length		0.000
LF614	B7	Force	Z	-3.19	0.166	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.19	0.560	Length		0.000
LF615	B7	Force	Z	-3.19	0.560	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.19	0.834	Length		0.000

Name	Member	Type	Dir	Value - P_1 [kN/m]	Pos x_1	Coor	Orig	Ecc ey [m]
	Load case	System	Distribution	Value - P_2 [kN/m]	Pos x_2	Loc		Ecc ez [m]
LF616	B7	Force	Z	-3.19	0.834	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF617	B43	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.19	0.296	Length		0.000
LF618	B43	Force	Z	-3.19	0.296	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.19	1.000	Length		0.000
LF619	B44	Force	Z	-3.19	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.19	0.623	Length		0.000
LF620	B44	Force	Z	-3.19	0.623	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF621	B47	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.19	0.500	Length		0.000
LF622	B47	Force	Z	-3.19	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF623	B48	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.19	0.500	Length		0.000
LF624	B48	Force	Z	-3.19	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF625	B7	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.94	0.166	Length		0.000
LF626	B7	Force	Z	-0.94	0.166	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.94	0.560	Length		0.000
LF627	B7	Force	Z	-0.94	0.560	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.94	0.834	Length		0.000
LF628	B7	Force	Z	-0.94	0.834	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF629	B43	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.94	0.296	Length		0.000
LF630	B43	Force	Z	-0.94	0.296	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.94	1.000	Length		0.000
LF631	B44	Force	Z	-0.94	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.94	0.623	Length		0.000
LF632	B44	Force	Z	-0.94	0.623	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF633	B47	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.94	0.500	Length		0.000
LF634	B47	Force	Z	-0.94	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF635	B48	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.94	0.500	Length		0.000
LF636	B48	Force	Z	-0.94	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF637	B38	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.19	0.500	Length		0.000
LF638	B38	Force	Z	-3.19	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF639	B40	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.19	0.177	Length		0.000
LF640	B40	Force	Z	-3.19	0.177	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.19	0.239	Length		0.000
LF641	B40	Force	Z	-3.19	0.239	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.19	0.823	Length		0.000
LF642	B40	Force	Z	-3.19	0.823	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF643	B45	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.19	0.741	Length		0.000
LF644	B45	Force	Z	-3.19	0.741	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.19	1.000	Length		0.000
LF645	B46	Force	Z	-3.19	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.19	0.767	Length		0.000
LF646	B46	Force	Z	-3.19	0.767	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF647	B47	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.19	0.500	Length		0.000
LF648	B47	Force	Z	-3.19	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF649	B38	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.94	0.500	Length		0.000
LF650	B38	Force	Z	-0.94	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF651	B40	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.94	0.177	Length		0.000
LF652	B40	Force	Z	-0.94	0.177	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.94	0.239	Length		0.000

Name	Member	Type	Dir	Value - P_1 [kN/m]	Pos x_1	Coor	Orig	Ecc ey [m]
	Load case	System	Distribution	Value - P_2 [kN/m]	Pos x_2	Loc		Ecc ez [m]
LF653	B40	Force	Z	-0.94	0.239	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.94	0.823	Length		0.000
LF654	B40	Force	Z	-0.94	0.823	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF655	B45	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.94	0.741	Length		0.000
LF656	B45	Force	Z	-0.94	0.741	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.94	1.000	Length		0.000
LF657	B46	Force	Z	-0.94	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.94	0.767	Length		0.000
LF658	B46	Force	Z	-0.94	0.767	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF659	B47	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.94	0.500	Length		0.000
LF660	B47	Force	Z	-0.94	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF661	B49	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-8.99	0.500	Length		0.000
LF662	B49	Force	Z	-8.99	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF663	B50	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-8.99	0.691	Length		0.000
LF664	B50	Force	Z	-8.99	0.691	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-8.99	0.779	Length		0.000
LF665	B50	Force	Z	-8.99	0.779	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-6.12	1.000	Length		0.000
LF666	B54	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-8.99	0.470	Length		0.000
LF667	B54	Force	Z	-8.99	0.470	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-8.99	0.530	Length		0.000
LF668	B54	Force	Z	-8.99	0.530	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF669	B73	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-8.99	0.500	Length		0.000
LF670	B73	Force	Z	-8.99	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-6.12	0.660	Length		0.000
LF671	B73	Force	Z	-6.12	0.660	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF672	B117	Force	Z	-6.12	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF673	B49	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.64	0.500	Length		0.000
LF674	B49	Force	Z	-2.64	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF675	B50	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.64	0.691	Length		0.000
LF676	B50	Force	Z	-2.64	0.691	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.64	0.779	Length		0.000
LF677	B50	Force	Z	-2.64	0.779	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.80	1.000	Length		0.000
LF678	B54	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.64	0.470	Length		0.000
LF679	B54	Force	Z	-2.64	0.470	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.64	0.530	Length		0.000
LF680	B54	Force	Z	-2.64	0.530	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF681	B73	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.64	0.500	Length		0.000
LF682	B73	Force	Z	-2.64	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.80	0.660	Length		0.000
LF683	B73	Force	Z	-1.80	0.660	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF684	B117	Force	Z	-1.80	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF685	B54	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-8.99	0.470	Length		0.000
LF686	B54	Force	Z	-8.99	0.470	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-8.99	0.530	Length		0.000
LF687	B54	Force	Z	-8.99	0.530	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF688	B61	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-8.99	0.470	Length		0.000
LF689	B61	Force	Z	-8.99	0.470	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-8.99	0.530	Length		0.000

Name	Member	Type	Dir	Value - P_1 [kN/m]	Pos x_1	Coor	Orig	Ecc ey [m]
	Load case	System	Distribution	Value - P_2 [kN/m]	Pos x_2	Loc		Ecc ez [m]
LF690	B61	Force	Z	-8.99	0.530	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF691	B65	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-8.99	0.500	Length		0.000
LF692	B65	Force	Z	-8.99	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF693	B72	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-8.99	0.500	Length		0.000
LF694	B72	Force	Z	-8.99	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF695	B54	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.64	0.470	Length		0.000
LF696	B54	Force	Z	-2.64	0.470	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.64	0.530	Length		0.000
LF697	B54	Force	Z	-2.64	0.530	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF698	B61	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.64	0.470	Length		0.000
LF699	B61	Force	Z	-2.64	0.470	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.64	0.530	Length		0.000
LF700	B61	Force	Z	-2.64	0.530	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF701	B65	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.64	0.500	Length		0.000
LF702	B65	Force	Z	-2.64	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF703	B72	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.64	0.500	Length		0.000
LF704	B72	Force	Z	-2.64	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF705	B55	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-9.56	0.498	Length		0.000
LF706	B55	Force	Z	-9.56	0.498	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-9.56	0.502	Length		0.000
LF707	B55	Force	Z	-9.56	0.502	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF708	B61	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-9.56	0.500	Length		0.000
LF709	B61	Force	Z	-9.56	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF710	B62	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-9.56	0.500	Length		0.000
LF711	B62	Force	Z	-9.56	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF712	B66	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-9.56	0.498	Length		0.000
LF713	B66	Force	Z	-9.56	0.498	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-9.56	0.502	Length		0.000
LF714	B66	Force	Z	-9.56	0.502	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF715	B55	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.81	0.498	Length		0.000
LF716	B55	Force	Z	-2.81	0.498	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.81	0.502	Length		0.000
LF717	B55	Force	Z	-2.81	0.502	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF718	B61	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.81	0.500	Length		0.000
LF719	B61	Force	Z	-2.81	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF720	B62	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.81	0.500	Length		0.000
LF721	B62	Force	Z	-2.81	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF722	B66	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.81	0.498	Length		0.000
LF723	B66	Force	Z	-2.81	0.498	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.81	0.502	Length		0.000
LF724	B66	Force	Z	-2.81	0.502	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF725	B56	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-4.46	1.000	Length		0.000
LF726	B67	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-8.99	0.470	Length		0.000

Name	Member	Type	Dir	Value - P_1 [kN/m]	Pos x_1	Coor	Orig	Ecc ey [m]
	Load case	System	Distribution	Value - P_2 [kN/m]	Pos x_2	Loc		Ecc ez [m]
LF727	B67	Force	Z	-8.99	0.470	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-8.99	0.530	Length		0.000
LF728	B67	Force	Z	-8.99	0.530	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF729	B70	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-6.37	1.000	Length		0.000
LF730	B71	Force	Z	-6.37	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-8.99	0.205	Length		0.000
LF731	B71	Force	Z	-8.99	0.205	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-8.99	0.295	Length		0.000
LF732	B71	Force	Z	-8.99	0.295	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-4.46	0.650	Length		0.000
LF733	B71	Force	Z	-4.46	0.650	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF734	B73	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-6.37	0.355	Length		0.000
LF735	B73	Force	Z	-6.37	0.355	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-8.99	0.500	Length		0.000
LF736	B73	Force	Z	-8.99	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF737	B74	Force	Z	-4.46	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-8.99	0.335	Length		0.000
LF738	B74	Force	Z	-8.99	0.335	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF739	B56	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.31	1.000	Length		0.000
LF740	B67	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.64	0.470	Length		0.000
LF741	B67	Force	Z	-2.64	0.470	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.64	0.530	Length		0.000
LF742	B67	Force	Z	-2.64	0.530	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF743	B70	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.88	1.000	Length		0.000
LF744	B71	Force	Z	-1.88	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.64	0.205	Length		0.000
LF745	B71	Force	Z	-2.64	0.205	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.64	0.295	Length		0.000
LF746	B71	Force	Z	-2.64	0.295	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.31	0.650	Length		0.000
LF747	B71	Force	Z	-1.31	0.650	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF748	B73	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.88	0.355	Length		0.000
LF749	B73	Force	Z	-1.88	0.355	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.64	0.500	Length		0.000
LF750	B73	Force	Z	-2.64	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF751	B74	Force	Z	-1.31	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.64	0.335	Length		0.000
LF752	B74	Force	Z	-2.64	0.335	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF753	B51	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-6.76	0.500	Length		0.000
LF754	B51	Force	Z	-6.76	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF755	B57	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-6.76	0.500	Length		0.000
LF756	B57	Force	Z	-6.76	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF757	B68	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-6.76	0.500	Length		0.000
LF758	B68	Force	Z	-6.76	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF759	B74	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-6.76	0.500	Length		0.000
LF760	B74	Force	Z	-6.76	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF761	B51	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.99	0.500	Length		0.000
LF762	B51	Force	Z	-1.99	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF763	B57	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.99	0.500	Length		0.000

Name	Member	Type	Dir	Value - P_1 [kN/m]	Pos x_1	Coor	Orig	Ecc ey [m]
	Load case	System	Distribution	Value - P_2 [kN/m]	Pos x_2	Loc		Ecc ez [m]
LF764	B57	Force	Z	-1.99	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF765	B68	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.99	0.500	Length		0.000
LF766	B68	Force	Z	-1.99	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF767	B74	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.99	0.500	Length		0.000
LF768	B74	Force	Z	-1.99	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF769	B53	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-9.06	0.345	Length		0.000
LF770	B53	Force	Z	-9.06	0.345	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-9.06	0.650	Length		0.000
LF771	B53	Force	Z	-9.06	0.650	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-9.06	0.655	Length		0.000
LF772	B53	Force	Z	-9.06	0.655	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-7.36	0.720	Length		0.000
LF773	B53	Force	Z	-7.36	0.720	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF774	B58	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-7.36	1.000	Length		0.000
LF775	B60	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-9.06	0.530	Length		0.000
LF776	B60	Force	Z	-9.06	0.530	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-9.06	1.000	Length		0.000
LF777	B69	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-9.06	0.500	Length		0.000
LF778	B69	Force	Z	-9.06	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF779	B75	Force	Z	-7.36	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-9.06	0.158	Length		0.000
LF780	B75	Force	Z	-9.06	0.158	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF781	B119	Force	Z	-9.06	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-9.06	0.014	Length		0.000
LF782	B119	Force	Z	-9.06	0.014	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF783	B53	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.66	0.345	Length		0.000
LF784	B53	Force	Z	-2.66	0.345	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.66	0.650	Length		0.000
LF785	B53	Force	Z	-2.66	0.650	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.66	0.655	Length		0.000
LF786	B53	Force	Z	-2.66	0.655	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.16	0.720	Length		0.000
LF787	B53	Force	Z	-2.16	0.720	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF788	B58	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.16	1.000	Length		0.000
LF789	B60	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.66	0.530	Length		0.000
LF790	B60	Force	Z	-2.66	0.530	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.66	1.000	Length		0.000
LF791	B69	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.66	0.500	Length		0.000
LF792	B69	Force	Z	-2.66	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF793	B75	Force	Z	-2.16	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.66	0.158	Length		0.000
LF794	B75	Force	Z	-2.66	0.158	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF795	B119	Force	Z	-2.66	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.66	0.014	Length		0.000
LF796	B119	Force	Z	-2.66	0.014	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF797	B62	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.68	0.192	Length		0.000
LF798	B62	Force	Z	-3.68	0.192	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.68	0.808	Length		0.000
LF799	B62	Force	Z	-3.68	0.808	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF800	B63	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.68	0.500	Length		0.000

Name	Member	Type	Dir	Value - P_1 [kN/m]	Pos x_1	Coor	Orig	Ecc ey [m]
	Load case	System	Distribution	Value - P_2 [kN/m]	Pos x_2	Loc		Ecc ez [m]
LF801	B63	Force	Z	-3.68	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF802	B64	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.68	0.500	Length		0.000
LF803	B64	Force	Z	-3.68	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF804	C77	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.68	0.192	Length		0.000
LF805	C77	Force	Z	-3.68	0.192	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.68	0.808	Length		0.000
LF806	C77	Force	Z	-3.68	0.808	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF807	B62	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.08	0.192	Length		0.000
LF808	B62	Force	Z	-1.08	0.192	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.08	0.808	Length		0.000
LF809	B62	Force	Z	-1.08	0.808	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF810	B63	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.08	0.500	Length		0.000
LF811	B63	Force	Z	-1.08	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF812	B64	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.08	0.500	Length		0.000
LF813	B64	Force	Z	-1.08	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF814	C77	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.08	0.192	Length		0.000
LF815	C77	Force	Z	-1.08	0.192	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.08	0.808	Length		0.000
LF816	C77	Force	Z	-1.08	0.808	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF817	B58	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.19	0.433	Length		0.000
LF818	B58	Force	Z	-3.19	0.433	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.19	0.567	Length		0.000
LF819	B58	Force	Z	-3.19	0.567	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF820	B64	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.19	0.433	Length		0.000
LF821	B64	Force	Z	-3.19	0.433	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.19	0.567	Length		0.000
LF822	B64	Force	Z	-3.19	0.567	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF823	B80	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.19	0.500	Length		0.000
LF824	B80	Force	Z	-3.19	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF825	C70	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.19	0.500	Length		0.000
LF826	C70	Force	Z	-3.19	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF827	B58	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.94	0.433	Length		0.000
LF828	B58	Force	Z	-0.94	0.433	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.94	0.567	Length		0.000
LF829	B58	Force	Z	-0.94	0.567	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF830	B64	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.94	0.433	Length		0.000
LF831	B64	Force	Z	-0.94	0.433	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.94	0.567	Length		0.000
LF832	B64	Force	Z	-0.94	0.567	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF833	B80	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.94	0.500	Length		0.000
LF834	B80	Force	Z	-0.94	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF835	C70	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.94	0.500	Length		0.000
LF836	C70	Force	Z	-0.94	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF837	B55	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.19	0.166	Length		0.000

Name	Member	Type	Dir	Value - P_1 [kN/m]	Pos x_1	Coor	Orig	Ecc ey [m]
	Load case	System	Distribution	Value - P_2 [kN/m]	Pos x_2	Loc		Ecc ez [m]
LF838	B55	Force	Z	-3.19	0.166	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.19	0.560	Length		0.000
LF839	B55	Force	Z	-3.19	0.560	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.19	0.834	Length		0.000
LF840	B55	Force	Z	-3.19	0.834	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF841	B75	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.19	0.296	Length		0.000
LF842	B75	Force	Z	-3.19	0.296	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.19	1.000	Length		0.000
LF843	B76	Force	Z	-3.19	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.19	0.623	Length		0.000
LF844	B76	Force	Z	-3.19	0.623	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF845	B79	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.19	0.500	Length		0.000
LF846	B79	Force	Z	-3.19	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF847	B80	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.19	0.500	Length		0.000
LF848	B80	Force	Z	-3.19	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF849	B55	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.94	0.166	Length		0.000
LF850	B55	Force	Z	-0.94	0.166	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.94	0.560	Length		0.000
LF851	B55	Force	Z	-0.94	0.560	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.94	0.834	Length		0.000
LF852	B55	Force	Z	-0.94	0.834	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF853	B75	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.94	0.296	Length		0.000
LF854	B75	Force	Z	-0.94	0.296	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.94	1.000	Length		0.000
LF855	B76	Force	Z	-0.94	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.94	0.623	Length		0.000
LF856	B76	Force	Z	-0.94	0.623	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF857	B79	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.94	0.500	Length		0.000
LF858	B79	Force	Z	-0.94	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF859	B80	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.94	0.500	Length		0.000
LF860	B80	Force	Z	-0.94	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF861	B70	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.19	0.500	Length		0.000
LF862	B70	Force	Z	-3.19	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF863	B72	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.19	0.177	Length		0.000
LF864	B72	Force	Z	-3.19	0.177	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.19	0.239	Length		0.000
LF865	B72	Force	Z	-3.19	0.239	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.19	0.823	Length		0.000
LF866	B72	Force	Z	-3.19	0.823	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF867	B77	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.19	0.741	Length		0.000
LF868	B77	Force	Z	-3.19	0.741	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.19	1.000	Length		0.000
LF869	B78	Force	Z	-3.19	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.19	0.767	Length		0.000
LF870	B78	Force	Z	-3.19	0.767	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF871	B79	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.19	0.500	Length		0.000
LF872	B79	Force	Z	-3.19	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF873	B70	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.94	0.500	Length		0.000
LF874	B70	Force	Z	-0.94	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000

Name	Member	Type	Dir	Value - P_1 [kN/m]	Pos x_1	Coor	Orig	Ecc ey [m]
	Load case	System	Distribution	Value - P_2 [kN/m]	Pos x_2	Loc		Ecc ez [m]
LF875	B72	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.94	0.177	Length		0.000
LF876	B72	Force	Z	-0.94	0.177	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.94	0.239	Length		0.000
LF877	B72	Force	Z	-0.94	0.239	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.94	0.823	Length		0.000
LF878	B72	Force	Z	-0.94	0.823	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF879	B77	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.94	0.741	Length		0.000
LF880	B77	Force	Z	-0.94	0.741	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.94	1.000	Length		0.000
LF881	B78	Force	Z	-0.94	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.94	0.767	Length		0.000
LF882	B78	Force	Z	-0.94	0.767	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF883	B79	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.94	0.500	Length		0.000
LF884	B79	Force	Z	-0.94	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF885	B81	Force	Z	-0.36	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.42	0.500	Length		0.000
LF886	B81	Force	Z	-1.42	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.53	0.922	Length		0.000
LF887	B81	Force	Z	-0.53	0.922	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.36	1.000	Length		0.000
LF888	B81	Force	Z	-0.61	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	0.100	Length		0.000
LF889	B82	Force	Z	-0.36	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.42	0.691	Length		0.000
LF890	B82	Force	Z	-1.42	0.691	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.42	0.779	Length		0.000
LF891	B82	Force	Z	-1.42	0.779	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.08	1.000	Length		0.000
LF892	B82	Force	Z	-0.85	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	0.100	Length		0.000
LF893	B83	Force	Z	-0.36	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.15	0.500	Length		0.000
LF894	B83	Force	Z	-1.15	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.36	1.000	Length		0.000
LF895	B83	Force	Z	-0.82	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	0.100	Length		0.000
LF896	B83	Force	Z	0.00	0.900	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.82	1.000	Length		0.000
LF897	B84	Force	Z	-0.36	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.11	0.500	Length		0.000
LF898	B84	Force	Z	-1.11	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.36	1.000	Length		0.000
LF899	B84	Force	Z	-0.86	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	0.100	Length		0.000
LF900	B85	Force	Z	-0.36	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.14	0.252	Length		0.000
LF901	B85	Force	Z	-1.14	0.252	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.43	0.345	Length		0.000
LF902	B85	Force	Z	-1.43	0.345	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.43	0.655	Length		0.000
LF903	B85	Force	Z	-1.43	0.655	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.23	0.720	Length		0.000
LF904	B85	Force	Z	-1.23	0.720	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.81	0.854	Length		0.000
LF905	B85	Force	Z	-0.81	0.854	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.36	1.000	Length		0.000
LF906	B85	Force	Z	-0.42	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	0.100	Length		0.000
LF907	B86	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.12	0.470	Length		0.000
LF908	B86	Force	Z	-2.12	0.470	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.12	0.530	Length		0.000
LF909	B86	Force	Z	-2.12	0.530	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF910	B87	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.75	0.166	Length		0.000
LF911	B87	Force	Z	-0.75	0.166	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.50	0.498	Length		0.000

Name	Member	Type	Dir	Value - P_1 [kN/m]	Pos x_1	Coor	Orig	Ecc ey [m]
	Load case	System	Distribution	Value - P_2 [kN/m]	Pos x_2	Loc		Ecc ez [m]
LF912	B87	Force	Z	-1.50	0.498	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.50	0.502	Length		0.000
LF913	B87	Force	Z	-1.50	0.502	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.37	0.560	Length		0.000
LF914	B87	Force	Z	-1.37	0.560	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.75	0.834	Length		0.000
LF915	B87	Force	Z	-0.75	0.834	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF916	B88	Force	Z	-0.53	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.53	0.314	Length		0.000
LF917	B88	Force	Z	-0.53	0.314	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.53	1.000	Length		0.000
LF918	B88	Force	Z	-2.54	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	0.286	Length		0.000
LF919	B89	Force	Z	-0.36	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.14	0.491	Length		0.000
LF920	B89	Force	Z	-1.70	0.491	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.69	0.500	Length		0.000
LF921	B89	Force	Z	-1.69	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.05	0.670	Length		0.000
LF922	B89	Force	Z	-1.05	0.670	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF923	B89	Force	Z	-0.82	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	0.100	Length		0.000
LF924	B90	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.75	0.433	Length		0.000
LF925	B90	Force	Z	-0.75	0.433	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.87	0.567	Length		0.000
LF926	B90	Force	Z	-0.87	0.567	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.87	1.000	Length		0.000
LF927	B91	Force	Z	-0.35	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.09	0.243	Length		0.000
LF928	B91	Force	Z	-1.09	0.243	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.09	0.252	Length		0.000
LF929	B91	Force	Z	-1.09	0.252	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.06	0.757	Length		0.000
LF930	B91	Force	Z	-1.06	0.757	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.81	0.836	Length		0.000
LF931	B91	Force	Z	-0.81	0.836	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.75	0.854	Length		0.000
LF932	B91	Force	Z	-0.90	0.854	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF933	B91	Force	Z	-0.41	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	0.100	Length		0.000
LF934	B92	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.50	0.243	Length		0.000
LF935	B92	Force	Z	-1.50	0.243	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.53	0.252	Length		0.000
LF936	B92	Force	Z	-1.53	0.252	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.82	0.345	Length		0.000
LF937	B92	Force	Z	-1.82	0.345	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.82	0.655	Length		0.000
LF938	B92	Force	Z	-1.82	0.655	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.50	0.757	Length		0.000
LF939	B92	Force	Z	-1.50	0.757	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.90	0.854	Length		0.000
LF940	B92	Force	Z	-0.90	0.854	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF941	B93	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.11	0.470	Length		0.000
LF942	B93	Force	Z	-2.11	0.470	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.18	0.500	Length		0.000
LF943	B93	Force	Z	-2.18	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.12	0.530	Length		0.000
LF944	B93	Force	Z	-2.12	0.530	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF945	B94	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.87	0.192	Length		0.000
LF946	B94	Force	Z	-0.87	0.192	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.56	0.500	Length		0.000
LF947	B94	Force	Z	-1.56	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.87	0.808	Length		0.000
LF948	B94	Force	Z	-0.87	0.808	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000

Name	Member	Type	Dir	Value - P_1 [kN/m]	Pos x_1	Coor	Orig	Ecc ey [m]
	Load case	System	Distribution	Value - P_2 [kN/m]	Pos x_2	Loc		Ecc ez [m]
LF949	B95	Force	Z	-0.36	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.79	0.500	Length		0.000
LF950	B95	Force	Z	-0.79	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.36	1.000	Length		0.000
LF951	B95	Force	Z	0.00	0.827	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.86	1.000	Length		0.000
LF952	B96	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.75	0.433	Length		0.000
LF953	B96	Force	Z	-0.75	0.433	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.81	0.500	Length		0.000
LF954	B96	Force	Z	-0.81	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.75	0.567	Length		0.000
LF955	B96	Force	Z	-0.75	0.567	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF956	B97	Force	Z	-0.36	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.77	0.191	Length		0.000
LF957	B97	Force	Z	-0.77	0.191	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.42	0.500	Length		0.000
LF958	B97	Force	Z	-1.42	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.23	0.591	Length		0.000
LF959	B97	Force	Z	-1.23	0.591	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.17	0.617	Length		0.000
LF960	B97	Force	Z	-1.17	0.617	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.36	1.000	Length		0.000
LF961	B98	Force	Z	-0.36	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.49	0.498	Length		0.000
LF962	B98	Force	Z	-1.49	0.498	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.49	0.502	Length		0.000
LF963	B98	Force	Z	-1.49	0.502	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.36	1.000	Length		0.000
LF964	B99	Force	Z	-0.36	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.42	0.470	Length		0.000
LF965	B99	Force	Z	-1.42	0.470	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.42	0.530	Length		0.000
LF966	B99	Force	Z	-1.42	0.530	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.41	0.533	Length		0.000
LF967	B99	Force	Z	-1.41	0.533	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.36	1.000	Length		0.000
LF968	B100	Force	Z	-0.36	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.16	0.500	Length		0.000
LF969	B100	Force	Z	-1.16	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.14	0.509	Length		0.000
LF970	B100	Force	Z	-1.14	0.509	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.36	1.000	Length		0.000
LF971	B100	Force	Z	0.00	0.900	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.82	1.000	Length		0.000
LF972	B101	Force	Z	-0.36	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.43	0.500	Length		0.000
LF973	B101	Force	Z	-1.43	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.36	1.000	Length		0.000
LF974	B101	Force	Z	0.00	0.900	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.61	1.000	Length		0.000
LF975	B102	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.75	0.500	Length		0.000
LF976	B102	Force	Z	-0.75	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.75	1.000	Length		0.000
LF977	B103	Force	Z	-0.75	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.37	0.205	Length		0.000
LF978	B103	Force	Z	-1.37	0.205	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.50	0.295	Length		0.000
LF979	B103	Force	Z	-1.50	0.295	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.50	0.300	Length		0.000
LF980	B103	Force	Z	-1.46	0.300	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.93	0.650	Length		0.000
LF981	B103	Force	Z	-0.93	0.650	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.41	1.000	Length		0.000
LF982	B103	Force	Z	0.00	0.900	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.09	1.000	Length		0.000
LF983	B104	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.75	0.177	Length		0.000
LF984	B104	Force	Z	-0.75	0.177	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.88	0.239	Length		0.000
LF985	B104	Force	Z	-0.88	0.239	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.19	0.383	Length		0.000

Name	Member	Type	Dir	Value - P_1 [kN/m]	Pos x_1	Coor	Orig	Ecc ey [m]
	Load case	System	Distribution	Value - P_2 [kN/m]	Pos x_2	Loc		Ecc ez [m]
LF986	B104	Force	Z	-1.19	0.383	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.24	0.409	Length		0.000
LF987	B104	Force	Z	-1.24	0.409	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.43	0.500	Length		0.000
LF988	B104	Force	Z	-1.43	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.78	0.809	Length		0.000
LF989	B104	Force	Z	-0.78	0.809	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.75	0.823	Length		0.000
LF990	B104	Force	Z	-0.75	0.823	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF991	B105	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.33	0.078	Length		0.000
LF992	B105	Force	Z	-0.33	0.078	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.50	0.355	Length		0.000
LF993	B105	Force	Z	-1.50	0.355	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-2.12	0.500	Length		0.000
LF994	B105	Force	Z	-2.11	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.44	0.660	Length		0.000
LF995	B105	Force	Z	-1.44	0.660	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF996	B106	Force	Z	-0.53	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.59	0.335	Length		0.000
LF997	B106	Force	Z	-1.59	0.335	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.59	0.500	Length		0.000
LF998	B106	Force	Z	-1.59	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF999	B107	Force	Z	-0.87	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.26	0.158	Length		0.000
LF1000	B107	Force	Z	-1.26	0.158	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-1.26	0.296	Length		0.000
LF1001	B107	Force	Z	-1.26	0.296	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.37	1.000	Length		0.000
LF1002	B108	Force	Z	-0.37	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.99	0.623	Length		0.000
LF1003	B108	Force	Z	-0.99	0.623	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.99	0.754	Length		0.000
LF1004	B108	Force	Z	-0.99	0.754	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.51	1.000	Length		0.000
LF1005	B109	Force	Z	-0.51	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.51	0.741	Length		0.000
LF1006	B109	Force	Z	-0.51	0.741	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.37	1.000	Length		0.000
LF1007	B110	Force	Z	-0.37	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.68	0.189	Length		0.000
LF1008	B110	Force	Z	-0.68	0.189	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.73	0.224	Length		0.000
LF1009	B110	Force	Z	-0.73	0.224	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.82	0.280	Length		0.000
LF1010	B110	Force	Z	-0.82	0.280	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.82	0.720	Length		0.000
LF1011	B110	Force	Z	-0.82	0.720	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.78	0.748	Length		0.000
LF1012	B110	Force	Z	-0.78	0.748	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.75	0.767	Length		0.000
LF1013	B110	Force	Z	-0.75	0.767	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF1014	B111	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.75	0.500	Length		0.000
LF1015	B111	Force	Z	-0.75	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF1016	B112	Force	Z	0.00	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.75	0.500	Length		0.000
LF1017	B112	Force	Z	-0.75	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	1.000	Length		0.000
LF1018	C71	Force	Z	-0.36	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.79	0.192	Length		0.000
LF1019	C71	Force	Z	-0.79	0.192	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.79	0.808	Length		0.000
LF1020	C71	Force	Z	-0.79	0.808	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.36	1.000	Length		0.000
LF1021	C71	Force	Z	-0.58	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	0.00	0.100	Length		0.000
LF1022	B120	Force	Z	-1.08	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.36	1.000	Length		0.000

Name	Member	Type	Dir	Value - P_1 [kN/m]	Pos x_1	Coor	Orig	Ecc ey [m]
	Load case	System	Distribution	Value - P_2 [kN/m]	Pos x_2	Loc		Ecc ez [m]
LF1023	C78	Force	Z	-0.36	0.000	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.74	0.500	Length		0.000
LF1024	C78	Force	Z	-0.74	0.500	Rela	From start	0.000
	LC4 - Live load	GCS	Trapez	-0.36	1.000	Length		0.000
LF1025	B81	Force	Z	-1.80	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-7.09	0.500	Length		0.000
LF1026	B81	Force	Z	-7.09	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-2.63	0.922	Length		0.000
LF1027	B81	Force	Z	-2.63	0.922	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-1.80	1.000	Length		0.000
LF1028	B81	Force	Z	-3.06	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	0.100	Length		0.000
LF1029	B82	Force	Z	-1.80	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-7.09	0.691	Length		0.000
LF1030	B82	Force	Z	-7.09	0.691	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-7.09	0.779	Length		0.000
LF1031	B82	Force	Z	-7.09	0.779	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-5.40	1.000	Length		0.000
LF1032	B82	Force	Z	-4.24	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	0.100	Length		0.000
LF1033	B83	Force	Z	-1.80	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-5.77	0.500	Length		0.000
LF1034	B83	Force	Z	-5.77	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-1.80	1.000	Length		0.000
LF1035	B83	Force	Z	-4.08	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	0.100	Length		0.000
LF1036	B83	Force	Z	0.00	0.900	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-4.08	1.000	Length		0.000
LF1037	B84	Force	Z	-1.80	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-5.55	0.500	Length		0.000
LF1038	B84	Force	Z	-5.55	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-1.80	1.000	Length		0.000
LF1039	B84	Force	Z	-4.32	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	0.100	Length		0.000
LF1040	B85	Force	Z	-1.80	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-5.70	0.252	Length		0.000
LF1041	B85	Force	Z	-5.70	0.252	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-7.13	0.345	Length		0.000
LF1042	B85	Force	Z	-7.13	0.345	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-7.13	0.655	Length		0.000
LF1043	B85	Force	Z	-7.13	0.655	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-6.13	0.720	Length		0.000
LF1044	B85	Force	Z	-6.13	0.720	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-4.05	0.854	Length		0.000
LF1045	B85	Force	Z	-4.05	0.854	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-1.80	1.000	Length		0.000
LF1046	B85	Force	Z	-2.10	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	0.100	Length		0.000
LF1047	B86	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-10.58	0.470	Length		0.000
LF1048	B86	Force	Z	-10.58	0.470	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-10.58	0.530	Length		0.000
LF1049	B86	Force	Z	-10.58	0.530	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF1050	B87	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.75	0.166	Length		0.000
LF1051	B87	Force	Z	-3.75	0.166	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-7.50	0.498	Length		0.000
LF1052	B87	Force	Z	-7.50	0.498	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-7.50	0.502	Length		0.000
LF1053	B87	Force	Z	-7.50	0.502	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-6.85	0.560	Length		0.000
LF1054	B87	Force	Z	-6.85	0.560	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.75	0.834	Length		0.000
LF1055	B87	Force	Z	-3.75	0.834	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF1056	B88	Force	Z	-2.63	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-2.63	0.314	Length		0.000
LF1057	B88	Force	Z	-2.63	0.314	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-2.63	1.000	Length		0.000
LF1058	B88	Force	Z	-12.68	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	0.286	Length		0.000
LF1059	B89	Force	Z	-1.80	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-5.70	0.491	Length		0.000

Name	Member	Type	Dir	Value - P_1 [kN/m]	Pos x_1	Coor	Orig	Ecc ey [m]
	Load case	System	Distribution	Value - P_2 [kN/m]	Pos x_2	Loc		Ecc ez [m]
LF1060	B89	Force	Z	-8.48	0.491	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-8.46	0.500	Length		0.000
LF1061	B89	Force	Z	-8.46	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-5.25	0.670	Length		0.000
LF1062	B89	Force	Z	-5.25	0.670	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF1063	B89	Force	Z	-4.08	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	0.100	Length		0.000
LF1064	B90	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.75	0.433	Length		0.000
LF1065	B90	Force	Z	-3.75	0.433	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-4.33	0.567	Length		0.000
LF1066	B90	Force	Z	-4.33	0.567	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-4.33	1.000	Length		0.000
LF1067	B91	Force	Z	-1.77	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-5.45	0.243	Length		0.000
LF1068	B91	Force	Z	-5.45	0.243	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-5.44	0.252	Length		0.000
LF1069	B91	Force	Z	-5.44	0.252	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-5.30	0.757	Length		0.000
LF1070	B91	Force	Z	-5.30	0.757	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-4.06	0.836	Length		0.000
LF1071	B91	Force	Z	-4.06	0.836	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.77	0.854	Length		0.000
LF1072	B91	Force	Z	-4.50	0.854	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF1073	B91	Force	Z	-2.06	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	0.100	Length		0.000
LF1074	B92	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-7.50	0.243	Length		0.000
LF1075	B92	Force	Z	-7.50	0.243	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-7.65	0.252	Length		0.000
LF1076	B92	Force	Z	-7.65	0.252	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-9.08	0.345	Length		0.000
LF1077	B92	Force	Z	-9.08	0.345	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-9.08	0.655	Length		0.000
LF1078	B92	Force	Z	-9.08	0.655	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-7.50	0.757	Length		0.000
LF1079	B92	Force	Z	-7.50	0.757	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-4.50	0.854	Length		0.000
LF1080	B92	Force	Z	-4.50	0.854	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF1081	B93	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-10.57	0.470	Length		0.000
LF1082	B93	Force	Z	-10.57	0.470	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-10.91	0.500	Length		0.000
LF1083	B93	Force	Z	-10.91	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-10.58	0.530	Length		0.000
LF1084	B93	Force	Z	-10.58	0.530	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF1085	B94	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-4.33	0.192	Length		0.000
LF1086	B94	Force	Z	-4.33	0.192	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-7.79	0.500	Length		0.000
LF1087	B94	Force	Z	-7.79	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-4.33	0.808	Length		0.000
LF1088	B94	Force	Z	-4.33	0.808	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF1089	B95	Force	Z	-1.80	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.96	0.500	Length		0.000
LF1090	B95	Force	Z	-3.96	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-1.80	1.000	Length		0.000
LF1091	B95	Force	Z	0.00	0.827	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-4.32	1.000	Length		0.000
LF1092	B96	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.75	0.433	Length		0.000
LF1093	B96	Force	Z	-3.75	0.433	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-4.04	0.500	Length		0.000
LF1094	B96	Force	Z	-4.04	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.75	0.567	Length		0.000
LF1095	B96	Force	Z	-3.75	0.567	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF1096	B97	Force	Z	-1.80	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.83	0.191	Length		0.000

Name	Member	Type	Dir	Value - P_1 [kN/m]	Pos x_1	Coor	Orig	Ecc ey [m]
	Load case	System	Distribution	Value - P_2 [kN/m]	Pos x_2	Loc		Ecc ez [m]
LF1097	B97	Force	Z	-3.83	0.191	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-7.09	0.500	Length		0.000
LF1098	B97	Force	Z	-7.09	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-6.13	0.591	Length		0.000
LF1099	B97	Force	Z	-6.13	0.591	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-5.85	0.617	Length		0.000
LF1100	B97	Force	Z	-5.85	0.617	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-1.80	1.000	Length		0.000
LF1101	B98	Force	Z	-1.80	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-7.43	0.498	Length		0.000
LF1102	B98	Force	Z	-7.43	0.498	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-7.43	0.502	Length		0.000
LF1103	B98	Force	Z	-7.43	0.502	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-1.80	1.000	Length		0.000
LF1104	B99	Force	Z	-1.80	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-7.09	0.470	Length		0.000
LF1105	B99	Force	Z	-7.09	0.470	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-7.09	0.530	Length		0.000
LF1106	B99	Force	Z	-7.09	0.530	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-7.05	0.533	Length		0.000
LF1107	B99	Force	Z	-7.05	0.533	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-1.80	1.000	Length		0.000
LF1108	B100	Force	Z	-1.80	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-5.78	0.500	Length		0.000
LF1109	B100	Force	Z	-5.78	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-5.70	0.509	Length		0.000
LF1110	B100	Force	Z	-5.70	0.509	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-1.80	1.000	Length		0.000
LF1111	B100	Force	Z	0.00	0.900	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-4.08	1.000	Length		0.000
LF1112	B101	Force	Z	-1.80	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-7.13	0.500	Length		0.000
LF1113	B101	Force	Z	-7.13	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-1.80	1.000	Length		0.000
LF1114	B101	Force	Z	0.00	0.900	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.04	1.000	Length		0.000
LF1115	B102	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.75	0.500	Length		0.000
LF1116	B102	Force	Z	-3.75	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.75	1.000	Length		0.000
LF1117	B103	Force	Z	-3.75	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-6.83	0.205	Length		0.000
LF1118	B103	Force	Z	-6.83	0.205	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-7.50	0.295	Length		0.000
LF1119	B103	Force	Z	-7.50	0.295	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-7.50	0.300	Length		0.000
LF1120	B103	Force	Z	-7.28	0.300	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-4.65	0.650	Length		0.000
LF1121	B103	Force	Z	-4.65	0.650	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-2.02	1.000	Length		0.000
LF1122	B103	Force	Z	0.00	0.900	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-5.47	1.000	Length		0.000
LF1123	B104	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.75	0.177	Length		0.000
LF1124	B104	Force	Z	-3.75	0.177	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-4.40	0.239	Length		0.000
LF1125	B104	Force	Z	-4.40	0.239	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-5.93	0.383	Length		0.000
LF1126	B104	Force	Z	-5.93	0.383	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-6.20	0.409	Length		0.000
LF1127	B104	Force	Z	-6.20	0.409	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-7.16	0.500	Length		0.000
LF1128	B104	Force	Z	-7.16	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.90	0.809	Length		0.000
LF1129	B104	Force	Z	-3.90	0.809	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.75	0.823	Length		0.000
LF1130	B104	Force	Z	-3.75	0.823	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF1131	B105	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-1.65	0.078	Length		0.000
LF1132	B105	Force	Z	-1.65	0.078	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-7.50	0.355	Length		0.000
LF1133	B105	Force	Z	-7.50	0.355	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-10.58	0.500	Length		0.000

Name	Member	Type	Dir	Value - P_1 [kN/m]	Pos x_1	Coor	Orig	Ecc ey [m]
	Load case	System	Distribution	Value - P_2 [kN/m]	Pos x_2	Loc		Ecc ez [m]
LF1134	B105	Force	Z	-10.58	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-7.20	0.660	Length		0.000
LF1135	B105	Force	Z	-7.20	0.660	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF1136	B106	Force	Z	-2.63	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-7.95	0.335	Length		0.000
LF1137	B106	Force	Z	-7.95	0.335	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-7.95	0.500	Length		0.000
LF1138	B106	Force	Z	-7.95	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF1139	B107	Force	Z	-4.33	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-6.32	0.158	Length		0.000
LF1140	B107	Force	Z	-6.32	0.158	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-6.32	0.296	Length		0.000
LF1141	B107	Force	Z	-6.32	0.296	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-1.87	1.000	Length		0.000
LF1142	B108	Force	Z	-1.87	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-4.97	0.623	Length		0.000
LF1143	B108	Force	Z	-4.97	0.623	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-4.97	0.754	Length		0.000
LF1144	B108	Force	Z	-4.97	0.754	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-2.53	1.000	Length		0.000
LF1145	B109	Force	Z	-2.53	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-2.53	0.741	Length		0.000
LF1146	B109	Force	Z	-2.53	0.741	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-1.87	1.000	Length		0.000
LF1147	B110	Force	Z	-1.87	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.40	0.189	Length		0.000
LF1148	B110	Force	Z	-3.40	0.189	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.67	0.224	Length		0.000
LF1149	B110	Force	Z	-3.67	0.224	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-4.12	0.280	Length		0.000
LF1150	B110	Force	Z	-4.12	0.280	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-4.12	0.720	Length		0.000
LF1151	B110	Force	Z	-4.12	0.720	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.90	0.748	Length		0.000
LF1152	B110	Force	Z	-3.90	0.748	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.75	0.767	Length		0.000
LF1153	B110	Force	Z	-3.75	0.767	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF1154	B111	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.75	0.500	Length		0.000
LF1155	B111	Force	Z	-3.75	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF1156	B112	Force	Z	0.00	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.75	0.500	Length		0.000
LF1157	B112	Force	Z	-3.75	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	1.000	Length		0.000
LF1158	C71	Force	Z	-1.80	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.96	0.192	Length		0.000
LF1159	C71	Force	Z	-3.96	0.192	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.96	0.808	Length		0.000
LF1160	C71	Force	Z	-3.96	0.808	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-1.80	1.000	Length		0.000
LF1161	C71	Force	Z	-2.88	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	0.00	0.100	Length		0.000
LF1162	B120	Force	Z	-5.40	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-1.80	1.000	Length		0.000
LF1163	C78	Force	Z	-1.80	0.000	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-3.68	0.500	Length		0.000
LF1164	C78	Force	Z	-3.68	0.500	Rela	From start	0.000
	LC2 - Dead	GCS	Trapez	-1.80	1.000	Length		0.000

11. Surface load

Name	Dir	Type	Value [kN/m²]	2D member	Load case	System	Loc
SF1	Z	Force	-5.10		LC2 - Dead	LCS	Length
SF2	Z	Force	-5.10		LC2 - Dead	LCS	Length
SF3	Z	Force	-5.10		LC2 - Dead	LCS	Length
SF4	Z	Force	-5.10		LC2 - Dead	LCS	Length
SF5	Z	Force	-5.10		LC2 - Dead	LCS	Length
SF7	Z	Force	-5.10		LC2 - Dead	LCS	Length
SF8	Z	Force	-5.10		LC2 - Dead	LCS	Length

Name	Dir	Type	Value [kN/m²]	2D member	Load case	System	Loc
SF9	Z	Force	-5.10		LC2 - Dead	LCS	Length
SF10	Z	Force	-5.10		LC2 - Dead	LCS	Length
SF11	Z	Force	-5.10		LC2 - Dead	LCS	Length
SF12	Z	Force	-1.50		LC4 - Live load	LCS	Length
SF13	Z	Force	-1.50		LC4 - Live load	LCS	Length
SF14	Z	Force	-1.50		LC4 - Live load	LCS	Length
SF15	Z	Force	-1.50		LC4 - Live load	LCS	Length
SF16	Z	Force	-1.50		LC4 - Live load	LCS	Length
SF18	Z	Force	-1.50		LC4 - Live load	LCS	Length
SF19	Z	Force	-1.50		LC4 - Live load	LCS	Length
SF20	Z	Force	-1.50		LC4 - Live load	LCS	Length
SF21	Z	Force	-1.50		LC4 - Live load	LCS	Length
SF22	Z	Force	-1.50		LC4 - Live load	LCS	Length
SF23	Z	Force	-5.10		LC2 - Dead	LCS	Length
SF24	Z	Force	-1.50		LC4 - Live load	LCS	Length
SF25	Z	Force	-5.10		LC2 - Dead	LCS	Length
SF26	Z	Force	-1.50		LC4 - Live load	LCS	Length
SF27	Z	Force	-5.10		LC2 - Dead	LCS	Length
SF28	Z	Force	-1.50		LC4 - Live load	LCS	Length
SF29	Z	Force	-5.10		LC2 - Dead	LCS	Length
SF30	Z	Force	-1.50		LC4 - Live load	LCS	Length
SF31	Z	Force	-5.10		LC2 - Dead	LCS	Length
SF32	Z	Force	-1.50		LC4 - Live load	LCS	Length
SF33	Z	Force	-5.10		LC2 - Dead	LCS	Length
SF34	Z	Force	-1.50		LC4 - Live load	LCS	Length
SF35	Z	Force	-5.10		LC2 - Dead	LCS	Length
SF36	Z	Force	-1.50		LC4 - Live load	LCS	Length
SF37	Z	Force	-5.10		LC2 - Dead	LCS	Length
SF38	Z	Force	-1.50		LC4 - Live load	LCS	Length
SF39	Z	Force	-5.10		LC2 - Dead	LCS	Length
SF40	Z	Force	-1.50		LC4 - Live load	LCS	Length
SF41	Z	Force	-5.10		LC2 - Dead	LCS	Length
SF42	Z	Force	-1.50		LC4 - Live load	LCS	Length
SF43	Z	Force	-0.60		LC4 - Live load	LCS	Length
SF44	Z	Force	-3.00		LC2 - Dead	LCS	Length
SF45	Z	Force	-3.40	S7	LC2 - Dead	LCS	Length
SF46	Z	Force	-3.40	S1	LC2 - Dead	LCS	Length
SF47	Z	Force	-3.40	S2	LC2 - Dead	LCS	Length
SF48	Z	Force	-3.40	S3	LC2 - Dead	LCS	Length
SF49	Z	Force	-3.40	S4	LC2 - Dead	LCS	Length
SF50	Z	Force	-3.40	S5	LC2 - Dead	LCS	Length
SF51	Z	Force	-3.40	S6	LC2 - Dead	LCS	Length
SF52	Z	Force	-3.40	S8	LC2 - Dead	LCS	Length
SF53	Z	Force	-3.00	S7	LC4 - Live load	GCS	Length
SF54	Z	Force	-3.00	S1	LC4 - Live load	GCS	Length
SF55	Z	Force	-3.00	S2	LC4 - Live load	GCS	Length
SF56	Z	Force	-3.00	S3	LC4 - Live load	GCS	Length
SF57	Z	Force	-3.00	S4	LC4 - Live load	GCS	Length
SF58	Z	Force	-3.00	S5	LC4 - Live load	GCS	Length
SF59	Z	Force	-3.00	S6	LC4 - Live load	GCS	Length
SF60	Z	Force	-3.00	S8	LC4 - Live load	GCS	Length

12. 3D displacement

Linear calculation
Combination: SLS-Quasi (auto)
Selection: All
Location: In nodes avg. on macro. System: LCS mesh element
Results on 1D member (central line):
Extreme 1D: Global

Name	dx [m]	Case	u_x [mm]	u_y [mm]	u_z [mm]	φ_x [mrad]	φ_y [mrad]	φ_z [mrad]	U_{total} [mm]
C42	3.000	SLS-Quasi (auto)/1	**-0.9**	-0.2	-0.5	0.0	0.0	0.1	1.1
B89	0.000	SLS-Quasi (auto)/1	**0.6**	-0.2	-0.3	-0.1	0.2	0.1	0.7
B88	0.875	SLS-Quasi (auto)/1	-0.1	**-0.6**	-0.8	0.1	0.3	0.0	1.0
B83	2.650	SLS-Quasi (auto)/1	0.2	**0.6**	-0.3	-0.2	-0.1	0.1	0.7
B12	2.792-	SLS-Quasi (auto)/1	-0.1	0.1	**-2.1**	0.1	-0.2	-0.1	**2.1**
C10	2.500	SLS-Quasi (auto)/1	-0.3	0.4	**0.6**	-0.1	0.1	0.1	0.8
C71	0.000	SLS-Quasi (auto)/1	-0.3	0.6	-1.6	**-0.7**	0.3	0.0	1.7

Name	dx [m]	Case	u_x [mm]	u_y [mm]	u_z [mm]	φ_x [mrad]	φ_y [mrad]	φ_z [mrad]	U_{total} [mm]
B39	2.500	SLS-Quasi (auto)/1	-0.1	0.1	-0.3	**0.7**	-0.3	0.1	0.4
B116	0.900-	SLS-Quasi (auto)/1	-0.1	0.0	-1.1	0.0	**-0.9**	-0.1	1.1
B12	1.117-	SLS-Quasi (auto)/1	-0.1	0.2	-1.4	0.2	**0.9**	-0.1	1.4
C4	4.000	SLS-Quasi (auto)/1	-0.3	-0.1	-0.1	0.0	0.2	**-0.6**	0.4
C7	4.000	SLS-Quasi (auto)/1	-0.3	-0.1	-0.1	0.1	0.3	**0.7**	0.4
C2	0.000	SLS-Quasi (auto)/2	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**

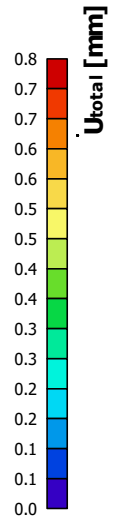
Results on 2D member (central plane):
Extreme 2D: Global

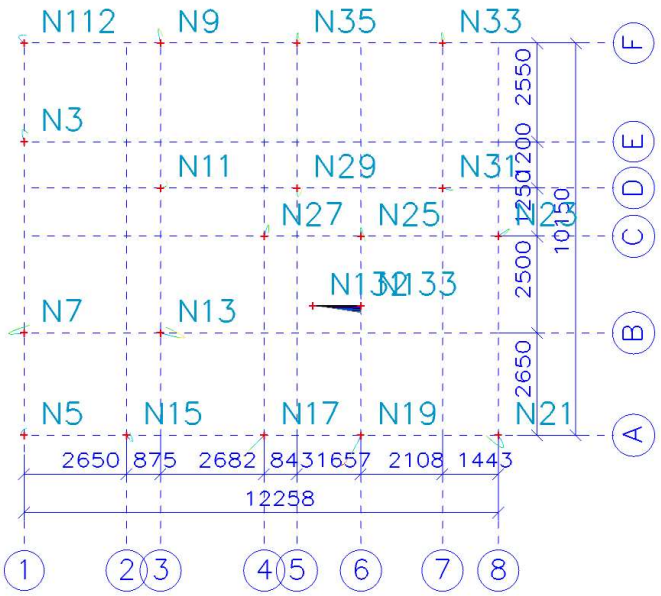
Name	Mesh	Position [m]	Case	u_x [mm]	u_y [mm]	u_z [mm]	φ_x [mrad]	φ_y [mrad]	φ_z [mrad]	U_{total} [mm]
S7	Element: 26 Node: 21	6.207 0.000 2.500	SLS-Quasi (auto)/1	**-0.4**	-0.4	-0.2	-0.1	0.1	-0.1	0.6
S5	Element: 15 Node: 13	8.707 5.150 7.000	SLS-Quasi (auto)/1	**0.2**	0.3	-0.6	0.3	0.1	0.0	0.7
S8	Element: 29 Node: 4	7.457 3.350 4.000	SLS-Quasi (auto)/1	0.0	**-1.0**	-1.4	0.7	0.1	-0.1	1.7
S1	Element: 2 Node: 125	7.457 1.850 5.000	SLS-Quasi (auto)/1	-0.1	**1.0**	-1.9	-0.5	0.0	0.0	2.1
S3	Element: 8 Node: 151	7.457 2.600 6.500	SLS-Quasi (auto)/1	0.1	-0.7	**-2.1**	0.3	0.3	-0.1	2.2
S9	Element: 30 Node: 19	7.457 3.350 1.000	SLS-Quasi (auto)/1	0.0	0.0	**0.0**	0.2	0.1	0.0	0.0
S1	Element: 3 Node: 2	8.707 1.100 5.500	SLS-Quasi (auto)/1	-0.1	0.9	-1.1	**-1.2**	-0.1	-0.1	1.4
S4	Element: 10 Node: 165	8.707 4.250 4.000	SLS-Quasi (auto)/1	0.0	-0.1	-1.1	**0.9**	0.0	-0.1	1.1
S7	Element: 24 Node: 17	8.707 1.100 2.500	SLS-Quasi (auto)/1	-0.3	-0.6	-0.7	-0.5	**-0.2**	-0.1	1.0
S2	Element: 6 Node: 7	6.207 1.100 5.500	SLS-Quasi (auto)/1	-0.1	0.2	-1.2	-1.2	**0.3**	0.0	1.2
S3	Element: 7 Node: 7	6.207 1.100 5.500	SLS-Quasi (auto)/1	-0.1	-0.5	-1.1	-1.2	0.3	**-0.2**	1.2
S1	Element: 1 Node: 4	7.457 3.350 4.000	SLS-Quasi (auto)/1	0.0	1.0	-1.5	0.7	0.2	**0.0**	1.7
S9	Element: 30 Node: 24	8.707 3.350 0.000	SLS-Quasi (auto)/2	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
S1	Element: 1 Node: 124	8.707 2.600 4.500	SLS-Quasi (auto)/1	0.0	0.9	-2.1	0.3	0.1	0.0	**2.3**

Name	Combination key
SLS-Quasi (auto)/1	LC1 + LC2 + LC3 + 0.30*LC4
SLS-Quasi (auto)/2	LC1 + LC2 + LC3

13. Node Numberings

Values: u_{total}
Linear calculation
Combination: SLS-Quasi (auto)
Selection: All
Location: In nodes avg. on macro.
System: LCS mesh element





14. Reactions

Linear calculation
Combination: SLS-Quasi (auto)
System: Global
Extreme: Member
Selection: All

Nodal reactions

Name	Case	R_x [kN]	R_y [kN]	R_z [kN]	M_x [kNm]	M_y [kNm]	M_z [kNm]	e_x [mm]	e_y [mm]
Sn2/N3	SLS-Quasi (auto)/1	**0.28**	**-1.90**	**129.18**	**2.94**	**0.32**	**-0.04**	22.7	2.5
Sn2/N3	SLS-Quasi (auto)/2	**0.30**	**-2.00**	**136.11**	**3.06**	**0.34**	**-0.05**	22.5	2.5
Sn3/N5	SLS-Quasi (auto)/2	**0.36**	**0.11**	**58.84**	**0.25**	**0.42**	**0.03**	4.2	7.2
Sn3/N5	SLS-Quasi (auto)/1	**0.33**	**0.09**	**56.75**	**0.28**	**0.39**	**0.03**	4.9	6.9
Sn4/N7	SLS-Quasi (auto)/2	**1.53**	**0.98**	**176.72**	**-0.89**	**1.94**	**0.06**	-5.0	11.0
Sn4/N7	SLS-Quasi (auto)/1	**1.46**	**0.88**	**169.35**	**-0.77**	**1.86**	**0.05**	-4.5	11.0
Sn5/N9	SLS-Quasi (auto)/2	**0.28**	**-2.90**	**203.97**	**4.18**	**0.33**	**0.01**	20.5	1.6
Sn5/N9	SLS-Quasi (auto)/1	**0.28**	**-2.79**	**196.34**	**4.04**	**0.34**	**0.01**	20.6	1.7
Sn6/N11	SLS-Quasi (auto)/2	**-0.32**	**0.08**	**317.30**	**0.21**	**-0.52**	**0.04**	0.7	-1.6
Sn6/N11	SLS-Quasi (auto)/1	**-0.27**	**0.02**	**303.98**	**0.31**	**-0.46**	**0.03**	1.0	-1.5
Sn7/N13	SLS-Quasi (auto)/1	**-1.77**	**1.83**	**165.98**	**-2.10**	**-2.44**	**-0.10**	-12.7	-14.7
Sn7/N13	SLS-Quasi (auto)/2	**-1.84**	**1.93**	**171.35**	**-2.24**	**-2.54**	**-0.10**	-13.1	-14.8
Sn8/N15	SLS-Quasi (auto)/2	**-0.40**	**1.92**	**92.69**	**-2.40**	**-0.58**	**0.06**	-25.8	-6.2
Sn8/N15	SLS-Quasi (auto)/1	**-0.38**	**1.84**	**90.04**	**-2.27**	**-0.55**	**0.06**	-25.2	-6.1
Sn9/N17	SLS-Quasi (auto)/2	**3.49**	**13.00**	**149.87**	**-14.58**	**3.91**	**0.34**	-97.3	26.1
Sn9/N17	SLS-Quasi (auto)/1	**3.25**	**11.96**	**143.15**	**-13.36**	**3.65**	**0.32**	-93.3	25.5
Sn10/N19	SLS-Quasi (auto)/2	**1.54**	**15.37**	**244.68**	**-18.39**	**2.28**	**0.20**	-75.2	9.3
Sn10/N19	SLS-Quasi (auto)/1	**1.47**	**14.15**	**233.78**	**-16.95**	**2.16**	**0.19**	-72.5	9.2
Sn11/N21	SLS-Quasi (auto)/1	**-0.92**	**4.48**	**175.29**	**-5.93**	**-1.01**	**0.01**	-33.8	-5.8
Sn11/N21	SLS-Quasi (auto)/2	**-0.95**	**4.68**	**180.69**	**-6.21**	**-1.03**	**0.01**	-34.4	-5.7
Sn12/N23	SLS-Quasi (auto)/2	**-0.90**	**-2.86**	**208.21**	**3.77**	**-1.28**	**0.09**	18.1	-6.1
Sn12/N23	SLS-Quasi (auto)/1	**-0.86**	**-2.79**	**201.37**	**3.71**	**-1.22**	**0.09**	18.4	-6.1
Sn13/N25	SLS-Quasi (auto)/1	**0.21**	**-3.93**	**237.49**	**4.83**	**0.21**	**0.09**	20.4	0.9
Sn13/N25	SLS-Quasi (auto)/2	**0.20**	**-4.19**	**249.20**	**5.12**	**0.18**	**0.09**	20.5	0.7
Sn14/N27	SLS-Quasi (auto)/2	**-0.22**	**-4.00**	**222.10**	**5.48**	**-0.37**	**0.13**	24.7	-1.7
Sn14/N27	SLS-Quasi (auto)/1	**-0.24**	**-3.81**	**212.55**	**5.30**	**-0.39**	**0.13**	24.9	-1.8
Sn15/N29	SLS-Quasi (auto)/2	**0.08**	**2.32**	**256.74**	**-3.03**	**0.01**	**0.01**	-11.8	0.0
Sn15/N29	SLS-Quasi (auto)/1	**0.07**	**2.18**	**247.12**	**-2.81**	**0.00**	**0.01**	-11.4	0.0
Sn16/N31	SLS-Quasi (auto)/2	**-0.66**	**0.78**	**256.17**	**-0.91**	**-0.97**	**0.04**	-3.5	-3.8
Sn16/N31	SLS-Quasi (auto)/1	**-0.63**	**0.72**	**246.57**	**-0.82**	**-0.93**	**0.04**	-3.3	-3.8
Sn17/N33	SLS-Quasi (auto)/1	**0.15**	**-2.34**	**226.39**	**3.24**	**0.16**	**0.03**	14.3	0.7
Sn17/N33	SLS-Quasi (auto)/2	**0.15**	**-2.43**	**233.69**	**3.35**	**0.16**	**0.02**	14.4	0.7
Sn18/N35	SLS-Quasi (auto)/1	**0.02**	**-2.47**	**226.20**	**3.36**	**-0.01**	**0.01**	14.9	0.0
Sn18/N35	SLS-Quasi (auto)/2	**0.02**	**-2.55**	**233.76**	**3.42**	**-0.01**	**0.00**	14.6	0.0

Name	Case	R_x [kN]	R_y [kN]	R_z [kN]	M_x [kNm]	M_y [kNm]	M_z [kNm]	e_x [mm]	e_y [mm]
Sn19/N112	SLS-Quasi (auto)/2	**0.54**	**-0.72**	**66.77**	**1.38**	**0.68**	**0.00**	20.7	10.2
Sn19/N112	SLS-Quasi (auto)/1	**0.51**	**-0.70**	**64.15**	**1.36**	**0.64**	**0.00**	21.1	9.9

Linear Intensity

Name	dx [m]	Case	R_x [kN/m]	R_y [kN/m]	R_z [kN/m]	M_x [kNm/m]	M_y [kNm/m]	M_z [kNm/m]
Sle1/S9	1.250	SLS-Quasi (auto)/2	**-5.69**	-8.27	28.52	2.63	**6.13**	**1.36**
Sle1/S9	1.250	SLS-Quasi (auto)/1	-5.20	**-7.10**	**25.79**	**2.17**	5.54	1.18
Sle1/S9	0.000	SLS-Quasi (auto)/2	**0.57**	**-22.95**	**36.28**	**8.60**	**-7.21**	**-2.49**

Reactions on line supports

Name	dx [m]	Case	R_x [kN]	R_y [kN]	R_z [kN]	M_x [kNm]	M_y [kNm]	M_z [kNm]	e [mm]
Sle1/S9	1.250	SLS-Quasi (auto)/2	**-3.56**	-5.17	17.83	1.64	**3.83**	**0.85**	-317.7
Sle1/S9	1.250	SLS-Quasi (auto)/1	-3.25	**-4.44**	**16.12**	**1.36**	3.47	0.74	-306.1
Sle1/S9	0.000	SLS-Quasi (auto)/2	**0.36**	**-14.35**	**22.67**	**5.37**	**-4.51**	**-1.56**	-374.6

Name	Combination key
SLS-Quasi (auto)/1	LC1 + LC2 + LC3
SLS-Quasi (auto)/2	LC1 + LC2 + LC3 + 0.30*LC4

15. Reactions

Linear calculation
Combination: ULS-Set B (auto)
System: Global
Extreme: Member
Selection: All

Nodal reactions

Name	Case	R_x [kN]	R_y [kN]	R_z [kN]	M_x [kNm]	M_y [kNm]	M_z [kNm]	e_x [mm]	e_y [mm]
Sn2/N3	ULS-Set B (auto)/1	**0.28**	**-1.90**	**129.18**	**2.94**	**0.32**	**-0.04**	22.7	2.5
Sn2/N3	ULS-Set B (auto)/2	**0.49**	**-3.05**	**209.02**	**4.60**	**0.55**	**-0.08**	22.0	2.6
Sn3/N5	ULS-Set B (auto)/3	0.44	0.20	67.19	**0.12**	0.53	0.05	1.7	7.9
Sn3/N5	ULS-Set B (auto)/4	0.45	0.12	76.61	**0.38**	0.53	0.04	4.9	6.9
Sn3/N5	ULS-Set B (auto)/1	**0.33**	**0.09**	**56.75**	0.28	**0.39**	**0.03**	4.9	6.9
Sn3/N5	ULS-Set B (auto)/2	**0.56**	**0.23**	**87.05**	0.22	**0.67**	**0.06**	2.5	7.7
Sn4/N7	ULS-Set B (auto)/2	**2.28**	**1.65**	**265.47**	**-1.64**	**2.91**	**0.09**	-6.2	10.9
Sn4/N7	ULS-Set B (auto)/1	**1.46**	**0.88**	**169.35**	**-0.77**	**1.86**	**0.05**	-4.5	11.0
Sn5/N9	ULS-Set B (auto)/2	0.35	**-4.32**	**303.22**	**6.12**	0.40	**0.03**	20.2	1.3
Sn5/N9	ULS-Set B (auto)/3	**0.25**	-3.35	234.50	4.71	**0.28**	0.02	20.1	1.2
Sn5/N9	ULS-Set B (auto)/4	**0.38**	-3.76	265.06	5.46	**0.46**	0.01	20.6	1.7
Sn5/N9	ULS-Set B (auto)/1	0.28	**-2.79**	**196.34**	**4.04**	0.34	**0.01**	20.6	1.7
Sn6/N11	ULS-Set B (auto)/3	-0.50	0.33	370.56	**-0.18**	-0.78	0.04	-0.5	-2.1
Sn6/N11	ULS-Set B (auto)/4	-0.37	0.03	410.38	**0.42**	-0.61	0.05	1.0	-1.5
Sn6/N11	ULS-Set B (auto)/2	**-0.60**	**0.34**	**476.96**	-0.07	**-0.94**	**0.05**	-0.1	-2.0
Sn6/N11	ULS-Set B (auto)/1	**-0.27**	**0.02**	**303.98**	0.31	**-0.46**	**0.03**	1.0	-1.5
Sn7/N13	ULS-Set B (auto)/1	**-1.77**	**1.83**	**165.98**	**-2.10**	**-2.44**	**-0.10**	-12.7	-14.7
Sn7/N13	ULS-Set B (auto)/2	**-2.75**	**2.94**	**250.90**	**-3.54**	**-3.79**	**-0.14**	-14.1	-15.1
Sn8/N15	ULS-Set B	**-0.60**	**2.90**	**134.82**	**-3.71**	**-0.87**	**0.10**	-27.5	-6.5

Name	Case	R_x [kN]	R_y [kN]	R_z [kN]	M_x [kNm]	M_y [kNm]	M_z [kNm]	e_x [mm]	e_y [mm]
	(auto)/2								
Sn8/N15	ULS-Set B (auto)/1	**-0.38**	**1.84**	**90.04**	**-2.27**	**-0.55**	**0.06**	-25.2	-6.1
Sn9/N17	ULS-Set B (auto)/2	**5.60**	**21.36**	**226.86**	**-24.14**	**6.25**	**0.52**	-106.4	27.5
Sn9/N17	ULS-Set B (auto)/1	**3.25**	**11.96**	**143.15**	**-13.36**	**3.65**	**0.32**	-93.3	25.5
Sn10/N19	ULS-Set B (auto)/2	**2.33**	**25.18**	**370.12**	**-30.08**	**3.51**	**0.29**	-81.3	9.5
Sn10/N19	ULS-Set B (auto)/1	**1.47**	**14.15**	**233.78**	**-16.95**	**2.16**	**0.19**	-72.5	9.2
Sn11/N21	ULS-Set B (auto)/1	**-0.92**	**4.48**	**175.29**	**-5.93**	**-1.01**	0.01	-33.8	-5.8
Sn11/N21	ULS-Set B (auto)/2	**-1.39**	**7.02**	**263.63**	**-9.40**	**-1.49**	0.01	-35.6	-5.6
Sn11/N21	ULS-Set B (auto)/3	-1.06	5.46	202.28	-7.32	-1.13	**0.01**	-36.2	-5.6
Sn11/N21	ULS-Set B (auto)/4	-1.25	6.05	236.64	-8.00	-1.36	**0.02**	-33.8	-5.8
Sn12/N23	ULS-Set B (auto)/2	**-1.34**	**-4.11**	**306.08**	**5.34**	**-1.92**	**0.13**	17.5	-6.3
Sn12/N23	ULS-Set B (auto)/1	**-0.86**	**-2.79**	**201.37**	**3.71**	**-1.22**	**0.09**	18.4	-6.1
Sn13/N25	ULS-Set B (auto)/2	0.21	**-6.61**	**379.15**	**7.94**	0.14	0.11	20.9	0.4
Sn13/N25	ULS-Set B (auto)/1	0.21	**-3.93**	**237.49**	**4.83**	0.21	0.09	20.4	0.9
Sn13/N25	ULS-Set B (auto)/3	**0.13**	-5.24	296.03	6.25	**0.07**	**0.08**	21.1	0.2
Sn13/N25	ULS-Set B (auto)/4	**0.29**	-5.30	320.61	6.53	**0.28**	**0.12**	20.4	0.9
Sn14/N27	ULS-Set B (auto)/2	-0.22	**-6.08**	**334.70**	**8.07**	-0.43	**0.18**	24.1	-1.3
Sn14/N27	ULS-Set B (auto)/4	**-0.32**	-5.15	286.95	7.16	**-0.53**	0.18	24.9	-1.8
Sn14/N27	ULS-Set B (auto)/3	**-0.14**	-4.75	260.31	6.21	**-0.29**	0.13	23.9	-1.1
Sn14/N27	ULS-Set B (auto)/1	-0.24	**-3.81**	**212.55**	**5.30**	-0.39	**0.13**	24.9	-1.8
Sn15/N29	ULS-Set B (auto)/2	**0.13**	**3.63**	**381.74**	**-4.91**	**0.02**	**0.01**	-12.9	0.0
Sn15/N29	ULS-Set B (auto)/1	**0.07**	**2.18**	**247.12**	**-2.81**	**0.00**	**0.01**	-11.4	0.0
Sn16/N31	ULS-Set B (auto)/2	**-0.99**	**1.26**	**380.86**	**-1.54**	**-1.46**	**0.05**	-4.0	-3.8
Sn16/N31	ULS-Set B (auto)/1	**-0.63**	**0.72**	**246.57**	**-0.82**	**-0.93**	**0.04**	-3.3	-3.8
Sn17/N33	ULS-Set B (auto)/2	**0.22**	**-3.63**	**342.11**	**4.93**	**0.22**	0.03	14.4	0.7
Sn17/N33	ULS-Set B (auto)/1	**0.15**	**-2.34**	**226.39**	**3.24**	**0.16**	0.03	14.3	0.7
Sn17/N33	ULS-Set B (auto)/3	0.17	-2.81	262.87	3.80	0.17	**0.02**	14.5	0.6
Sn17/N33	ULS-Set B (auto)/4	0.20	-3.16	305.62	4.38	0.21	**0.03**	14.3	0.7
Sn18/N35	ULS-Set B (auto)/1	**0.02**	**-2.47**	**226.20**	**3.36**	**-0.01**	0.01	14.9	0.0
Sn18/N35	ULS-Set B (auto)/2	**0.04**	**-3.72**	**343.17**	**4.85**	**-0.01**	0.00	14.1	0.0
Sn18/N35	ULS-Set B (auto)/3	0.03	-2.85	264.00	3.67	-0.01	**0.00**	13.9	0.0
Sn18/N35	ULS-Set B (auto)/4	0.03	-3.34	305.37	4.54	-0.01	**0.01**	14.9	0.0
Sn19/N112	ULS-Set B (auto)/2	**0.86**	**-1.05**	**99.71**	**1.96**	**1.08**	**0.01**	19.6	10.8
Sn19/N112	ULS-Set B (auto)/1	**0.51**	**-0.70**	**64.15**	**1.36**	**0.64**	**0.00**	21.1	9.9

Linear Intensity

Name	dx [m]	Case	R_x [kN/m]	R_y [kN/m]	R_z [kN/m]	M_x [kNm/m]	M_y [kNm/m]	M_z [kNm/m]
Sle1/S9	1.250	ULS-Set B (auto)/2	**-9.46**	-15.44	48.48	5.21	**10.40**	**2.48**
Sle1/S9	1.250	ULS-Set B (auto)/1	-5.20	**-7.10**	**25.79**	**2.17**	5.54	1.18
Sle1/S9	0.000	ULS-Set B (auto)/2	**1.20**	**-38.88**	**61.02**	**14.74**	**-12.21**	**-4.29**

Reactions on line supports

Name	dx [m]	Case	R_x [kN]	R_y [kN]	R_z [kN]	M_x [kNm]	M_y [kNm]	M_z [kNm]	e [mm]
Sle1/S9	1.250	ULS-Set B (auto)/2	**-5.91**	-9.65	30.30	3.25	**6.50**	**1.55**	-337.3
Sle1/S9	1.250	ULS-Set B (auto)/1	-3.25	**-4.44**	**16.12**	**1.36**	3.47	0.74	-306.1
Sle1/S9	0.000	ULS-Set B (auto)/2	**0.75**	**-24.30**	**38.14**	**9.21**	**-7.63**	**-2.68**	-379.1

Name	Combination key
ULS-Set B (auto)/1	LC1 + LC2 + LC3
ULS-Set B (auto)/2	1.35*LC1 + 1.35*LC2 + 1.35*LC3 + 1.50*LC4
ULS-Set B (auto)/3	LC1 + LC2 + LC3 + 1.50*LC4
ULS-Set B (auto)/4	1.35*LC1 + 1.35*LC2 + 1.35*LC3

16. 1D internal forces

Linear calculation
Combination: ULS-Set B (auto)
Coordinate system: Principal
Extreme 1D: Global
Selection: All
Filter: Cross-section = C1 - Rectangle (400; 200)

Name	dx [m]	Case	Cross-section	N [kN]	V_y [kN]	V_z [kN]	M_x [kNm]	M_y [kNm]	M_z [kNm]
C13	0.000	ULS-Set B (auto)/1	C1 - Rectangle (400; 200)	**-379.15**	-0.21	6.61	0.11	-7.94	0.14
C47	3.000	ULS-Set B (auto)/2	C1 - Rectangle (400; 200)	**-23.63**	-0.81	-8.49	-0.01	-12.75	-1.57
C9	0.000	ULS-Set B (auto)/1	C1 - Rectangle (400; 200)	-226.86	**-5.60**	-21.36	**0.52**	24.14	6.25
C30	0.000	ULS-Set B (auto)/1	C1 - Rectangle (400; 200)	-222.64	-0.65	**-30.77**	-0.11	35.24	3.86
C29	0.000	ULS-Set B (auto)/1	C1 - Rectangle (400; 200)	-142.00	-3.13	-29.93	**-0.37**	30.65	0.63
C33	0.000	ULS-Set B (auto)/1	C1 - Rectangle (400; 200)	-219.23	-0.68	30.26	-0.10	**-48.14**	1.02
C33	3.000	ULS-Set B (auto)/1	C1 - Rectangle (400; 200)	-211.29	-0.68	**30.26**	-0.10	**42.63**	-1.02
C31	0.000	ULS-Set B (auto)/1	C1 - Rectangle (400; 200)	-157.50	7.22	-19.27	0.25	29.99	**-11.11**
C31	3.000	ULS-Set B (auto)/1	C1 - Rectangle (400; 200)	-149.56	**7.22**	-19.27	0.25	-27.83	**10.54**

Name	Combination key
ULS-Set B (auto)/1	1.35*LC1 + 1.35*LC2 + 1.35*LC3 + 1.50*LC4
ULS-Set B (auto)/2	LC1 + LC2 + LC3

17. 1D internal forces

Linear calculation
Combination: ULS-Set B (auto)
Coordinate system: Principal
Extreme 1D: Global
Selection: All
Filter: Cross-section = C2 - Rectangle (350; 200)

Name	dx [m]	Case	Cross-section	N [kN]	V_y [kN]	V_z [kN]	M_x [kNm]	M_y [kNm]	M_z [kNm]
C6	0.000	ULS-Set B (auto)/1	C2 - Rectangle (350; 200)	**-476.96**	0.60	-0.34	0.05	0.07	-0.94
C44	3.000	ULS-Set B (auto)/2	C2 - Rectangle (350; 200)	**-33.56**	0.77	5.94	0.09	8.56	1.29
C53	0.000	ULS-Set B (auto)/1	C2 - Rectangle (350; 200)	-74.71	**-1.47**	8.90	-0.04	-14.18	1.25
C45	0.000	ULS-Set B (auto)/1	C2 - Rectangle (350; 200)	-62.90	-0.59	**-7.94**	0.12	13.12	1.09
C24	0.000	ULS-Set B (auto)/1	C2 - Rectangle (350; 200)	-279.86	1.69	-0.84	**-0.07**	1.15	-2.61

Name	dx [m]	Case	Cross-section	N [kN]	V_y [kN]	V_z [kN]	M_x [kNm]	M_y [kNm]	M_z [kNm]
C44	0.000	ULS-Set B (auto)/1	C2 - Rectangle (350; 200)	-59.85	1.16	9.38	**0.14**	-14.67	-1.52
C26	0.000	ULS-Set B (auto)/1	C2 - Rectangle (350; 200)	-201.08	0.47	15.66	0.08	**-24.41**	-0.76
C26	3.000	ULS-Set B (auto)/1	C2 - Rectangle (350; 200)	-194.13	0.47	**15.66**	0.08	**22.58**	0.63
C34	0.000	ULS-Set B (auto)/1	C2 - Rectangle (350; 200)	-222.61	3.21	-3.83	-0.01	5.77	**-4.82**
C34	3.000	ULS-Set B (auto)/1	C2 - Rectangle (350; 200)	-215.66	**3.21**	-3.83	-0.01	-5.71	**4.82**

Name	Combination key
ULS-Set B (auto)/1	1.35*LC1 + 1.35*LC2 + 1.35*LC3 + 1.50*LC4
ULS-Set B (auto)/2	LC1 + LC2 + LC3

18. 1D internal forces

Linear calculation
Combination: ULS-Set B (auto)
Coordinate system: Principal
Extreme 1D: Global
Selection: All
Filter: Cross-section = C3 - Rectangle (350; 200)

Name	dx [m]	Case	Cross-section	N [kN]	V_y [kN]	V_z [kN]	M_x [kNm]	M_y [kNm]	M_z [kNm]
C5	0.000	ULS-Set B (auto)/1	C3 - Rectangle (350; 200)	**-303.22**	-0.35	4.32	0.03	-6.12	0.40
C39	3.000	ULS-Set B (auto)/2	C3 - Rectangle (350; 200)	**-14.43**	-1.17	-1.71	-0.09	-2.75	-1.86
C20	0.000	ULS-Set B (auto)/1	C3 - Rectangle (350; 200)	-163.22	**-7.95**	-6.10	-0.11	9.46	**12.30**
C40	0.000	ULS-Set B (auto)/1	C3 - Rectangle (350; 200)	-34.27	1.65	-5.71	**-0.22**	9.01	-2.37
C37	0.000	ULS-Set B (auto)/1	C3 - Rectangle (350; 200)	-61.81	-1.52	9.24	**0.41**	-12.99	2.16
C25	0.000	ULS-Set B (auto)/1	C3 - Rectangle (350; 200)	-183.50	-0.71	13.74	-0.02	**-21.39**	0.95
C25	3.000	ULS-Set B (auto)/1	C3 - Rectangle (350; 200)	-176.55	-0.71	**13.74**	-0.02	**19.82**	-1.18
C23	0.000	ULS-Set B (auto)/1	C3 - Rectangle (350; 200)	-151.84	**8.40**	**-8.68**	0.35	13.36	**-12.92**

Name	Combination key
ULS-Set B (auto)/1	1.35*LC1 + 1.35*LC2 + 1.35*LC3 + 1.50*LC4
ULS-Set B (auto)/2	LC1 + LC2 + LC3

19. 1D internal forces

Linear calculation
Combination: ULS-Set B (auto)
Coordinate system: Principal
Extreme 1D: Global
Selection: All
Filter: Cross-section = B1 - Rectangle (400; 200)

Name	dx [m]	Case	Cross-section	N [kN]	V_y [kN]	V_z [kN]	M_x [kNm]	M_y [kNm]	M_z [kNm]
B92	0.000	ULS-Set B (auto)/1	B1 - Rectangle (400; 200)	**-18.21**	0.11	33.48	0.09	-27.68	-0.29
B115	0.000	ULS-Set B (auto)/1	B1 - Rectangle (400; 200)	**41.03**	1.74	-24.31	1.52	32.43	-0.49
B5	5.150	ULS-Set B (auto)/1	B1 - Rectangle (400; 200)	12.80	0.23	**-62.34**	-0.46	-55.36	0.51
B12	0.000	ULS-Set B (auto)/1	B1 - Rectangle (400; 200)	32.21	0.38	**62.91**	1.04	-49.82	-0.70
B116	1.800	ULS-Set B (auto)/1	B1 - Rectangle (400; 200)	21.59	**2.24**	-57.41	**-2.28**	-56.67	0.51
B118	1.800	ULS-Set B (auto)/1	B1 - Rectangle (400; 200)	-6.22	0.15	-40.14	**2.52**	-44.07	0.01
B119	1.800	ULS-Set B (auto)/1	B1 - Rectangle (400; 200)	-13.32	**-1.44**	-54.10	-1.86	**-57.10**	-0.44
B12	2.792-	ULS-Set B (auto)/1	B1 - Rectangle (400; 200)	32.21	0.38	-4.38	1.04	**43.46**	0.36
B59	0.000	ULS-Set B (auto)/1	B1 - Rectangle (400; 200)	-10.29	0.90	43.77	-1.10	-39.26	**-1.30**
B59	3.350	ULS-Set B (auto)/1	B1 - Rectangle (400; 200)	-10.29	0.90	0.07	-1.10	34.18	**1.72**

Name	Combination key
ULS-Set B (auto)/1	1.35*LC1 + 1.35*LC2 + 1.35*LC3 + 1.50*LC4

20. 1D internal forces

Linear calculation
Combination: ULS-Set B (auto)
Coordinate system: Principal
Extreme 1D: Global
Selection: All
Filter: Cross-section = B2 - Rectangle (350; 200)

Name	dx [m]	Case	Cross-section	N [kN]	V_y [kN]	V_z [kN]	M_x [kNm]	M_y [kNm]	M_z [kNm]
B102	0.000	ULS-Set B (auto)/1	B2 - Rectangle (350; 200)	**-12.02**	0.39	21.02	-0.04	-13.84	-0.26
B121	2.500	ULS-Set B (auto)/1	B2 - Rectangle (350; 200)	**15.07**	-1.39	-4.19	-5.58	1.19	-0.09
B8	0.000	ULS-Set B (auto)/1	B2 - Rectangle (350; 200)	5.80	**-2.97**	49.71	1.89	-22.41	0.99
B61	0.000	ULS-Set B (auto)/1	B2 - Rectangle (350; 200)	-6.63	-0.05	**56.79**	0.05	-37.29	0.10
B113	2.500	ULS-Set B (auto)/1	B2 - Rectangle (350; 200)	-2.60	-0.68	-4.82	**-9.80**	0.24	-0.67
B113	0.000	ULS-Set B (auto)/1	B2 - Rectangle (350; 200)	9.44	-1.39	7.62	**10.31**	-2.69	1.15
B6	3.750	ULS-Set B (auto)/1	B2 - Rectangle (350; 200)	9.17	-0.29	**-57.46**	-0.62	**-39.58**	-0.57
B42	0.883-	ULS-Set B (auto)/1	B2 - Rectangle (350; 200)	5.54	0.61	0.17	-0.26	**29.26**	-0.49
B43	2.108	ULS-Set B (auto)/1	B2 - Rectangle (350; 200)	4.11	-2.26	-41.32	0.42	-22.72	**-2.62**
B88	0.875	ULS-Set B (auto)/1	B2 - Rectangle (350; 200)	-6.33	**4.38**	18.08	1.31	9.59	**2.78**

Name	Combination key
ULS-Set B (auto)/1	1.35*LC1 + 1.35*LC2 + 1.35*LC3 + 1.50*LC4

21. 1D internal forces

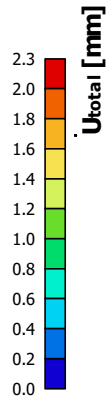
Linear calculation
Combination: ULS-Set B (auto)
Coordinate system: Principal
Extreme 1D: Global
Selection: All
Filter: Cross-section = B3 - Rectangle (400; 200)

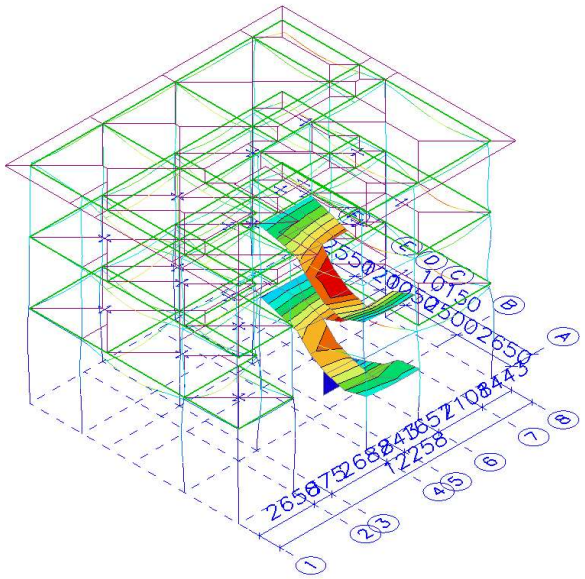
Name	dx [m]	Case	Cross-section	N [kN]	V_y [kN]	V_z [kN]	M_x [kNm]	M_y [kNm]	M_z [kNm]
B64	0.000	ULS-Set B (auto)/1	B3 - Rectangle (400; 200)	**0.63**	0.64	21.60	2.16	-20.34	-0.45
B96	0.000	ULS-Set B (auto)/1	B3 - Rectangle (400; 200)	-0.19	**-2.21**	14.21	**3.52**	-13.02	**1.56**
B15	0.000	ULS-Set B (auto)/1	B3 - Rectangle (400; 200)	0.31	**1.00**	35.17	0.25	-32.48	-0.82
B96	1.443	ULS-Set B (auto)/2	B3 - Rectangle (400; 200)	-0.13	-1.37	**3.39**	2.27	0.69	-1.00
B63	0.000	ULS-Set B (auto)/1	B3 - Rectangle (400; 200)	0.04	0.02	**35.57**	-0.38	**-33.05**	0.06
B95	1.443	ULS-Set B (auto)/1	B3 - Rectangle (400; 200)	**-0.66**	-1.79	14.69	**-1.07**	**1.63**	-1.28
B96	1.443	ULS-Set B (auto)/1	B3 - Rectangle (400; 200)	-0.19	-2.21	5.28	3.52	1.05	**-1.62**

Name	Combination key
ULS-Set B (auto)/1	1.35*LC1 + 1.35*LC2 + 1.35*LC3 + 1.50*LC4
ULS-Set B (auto)/2	LC1 + LC2 + LC3

22. 3D displacement; U_total

Values: **U_{total}**
Linear calculation
Combination: SLS-Quasi (auto)
Selection: All
Location: In nodes avg. on macro.
System: LCS mesh element





APPENDIX A

STRUCTURAL ANALYSIS REPORT

ELEMENT DESIGN to BS 8110:2005

MNU IT CAMPUS

Originated from RCC11.xls v4.0

The Concrete Centre

INPUT Location CS

Design moment, M	2.0	kNm/m	fcu	25	N/mm²	γc =	1.50
ßb	1.00		fy	460	N/mm²	γs =	1.15
span	600	mm	steel class	A			
Height, h	130	mm	Section location	CANTILEVER			
Bar Ø	10	mm	Compression steel	NONE			
cover	30	mm to these bars		*(deflection control only)*			

ONE or TWO WAY SLAB

OUTPUT CS Compression steel = NONE

d = 130 - 30 - 10/2 = 95.0 mm

(3.4.4.4) K' = 0.156 > K = 0.009 ok

(3.4.4.4) z = 95.0 [0.5 + (0.25 - 0.009 /0.893)]^½ = 94.1 > 0.95d = 90.3 mm

(3.4.4.1) As = 2.00E6 /460 /90.3 x 1.15 = 55 < min As = 169 mm²/m

PROVIDE X10 @ 150 = 524 mm²/m

(Eqn 8) fs = 2/3 x 460 x 55 /524 /1.00 = 32.4 N/mm²

(Eqn 7) Tens mod factor = 0.55 + (477 - 32.4) /120 /(0.9 + 0.222) = 2.000

(3.4.6.3) Permissible L/d = 7.0 x 2.000 = 14.000

Actual L/d = 600 /95.0 = 6.316 ok

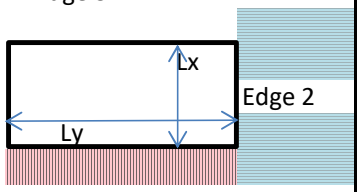
TWO WAY SPANING SLAB

BS 8110:1997

Project Name: Staff Accomodation Block
Client Name: MNU
Location: S1

Slab Data

Slab Width Lx	3550	mm	fck	25	
Slab Length Ly	5150	mm	fy	460	
Slab Thickness h	130	mm			
Cover	30	mm	**(1 continuous / 0 discontinuous)**		
Ly/Lx	1.450704	Two Way Slab	Edge 1	0	
			Edge 2	1	
Self Weight	3.12	KN/m2	Edge 3	0	
Extra Dead Load Gk	1.6	KN/m2	Edge 4	1	
Live Load Qk	1.5	KN/m2			
Design Load n	9.01	KN/m2			



Moment

			Edge 1	
Nd	2			
γ	0.364			
Moment in x-direction				
ßx	0.060	Mx	6.80	KN-m
ß3	0.000	M3	0.00	KN-m
ß4	0.080	M4	9.07	KN-m
Moment in y-direction				
ßx	0.034	My	3.86	KN-m
ß1	0	M1	0.00	KN-m
ß2	0.045333	M2	5.15	KN-m

Steel Reinforcement

x-direction	**Bar Size**	**Spacing**	**As Prov**	**As Req**	**dx**	**zx**	**Status**
Bottom	10	150	524	188	95	90.25	**OK**
Edge 3	10	150	524	169	95	90.25	**OK**
Edge 4	10	150	524	251	95	90.25	**OK**

y-direction	**Bar Size**	**Spacing**	**As Prov**	**As Req**	**dy**	**zy**	**Status**
Bottom	10	150	524	169	95	90.25	**OK**
Edge 1	10	150	524	169	95	90.25	**OK**
Edge 2	10	150	524	169	95	90.25	**OK**

Distribution Bars	**0.13%bh**		169	mm2	
Provide	10	150	**524**	mm2	**OK**
Min Steel for Shirinkage/Thermal Cracks 0.25%bh			169	mm2	
Provide	10	150	**524**	mm2	**OK**

Shear

Shear in x-Direction	**Design v**		**v**	**vc**	**Status**
Edge 3	13.44		0.141	0.742	**OK**
Edge 4	18.54		0.195	0.742	**OK**

Deflection

Mx/bdx^2	0.753				
As req	188	mm2			
As prov	524	mm2			
fs	103.37	N/mm2			
Tension Reinforcement Modification factor			2		
Lx/dx	26				
Allowable Lx/dx	52.00				
Actual Lx/dx	37.37		**OK**		

Cracking Reinforcement

3*dx	285	mm or maximun 750mm			
Bar Spacing	150				
	140				**OK**
%100As/bd	0.55				**OK**

	Project: MNU FVM IT CAMPUS	Calculated by	NAS	Job no.	
	Beam: B1	Checked by	MMW	Sheet no.	1/2
	Code: BS EN 1992-1-1-2004	Client	MNU	Date	01-Mar-23

Ref	Calculations

SPECIFICATION

	b_w =	200	mm	Øbar 1 =	16	mm	f_{ck} =	25	N/mm^2
	h =	400	mm	Øbar 2 =	12	mm	f_{yk} (bar) =	460	N/mm^2
	Span, L =	5.15	m	Ølink =	6	mm	f_{yk} (link) =	250	N/mm^2
	g_k=	2.0	kN/m	Cover =	35	mm	γ_{ck} =	25	kN/m^3
5.3.2.1	q_k=	2.0	kN/m						

6.1 **MAIN REINFORCEMENT**

SPAN

$d = h - C_{nom} - Ø_{link} - Ø_{bar}$ =	343	mm				
Design bending moment, M_{ed} =	35.0	kNm				
$K = M/bd^2f_{ck}$ =	0.059	K < Kbal, Compression reinforcement is not required				
z = d[0.5 + (√0.25 - K/1.134)] =	0.94	≤ 0.95d		0.95d =	268.4	
$A_{s,req} = M/0.87f_{yk}z$ =	270	mm^2/m				
$A_{s,prov}$ =	402	mm^2/m	OK!	0.67		
9.2.1.1 $A_{s,min} = 0.26(f_{ctm}/f_{yk})bd$ =	89.2	mm^2		$A_{s,max} = 0.04A_c$ =	3200.0	mm^2

Layer 1	2	0	Provide	2T16 + 0T12	86	Spacing Ok!
Layer 2	0	0	Provide	0T16 + 0T12		
Layer 3	0	0	Provide	0T16 + 0T12		

SUPPORT

Design bending moment, M_{ed} =	57.0	kNm				
$K = M/bd^2f_{ck}$ =	0.097	K < Kbal, Compression reinforcement is not required				
$A_{s,req} = M/0.87f_{yk}z$ =	458.5	mm^2/m				
$A_{s,prov}$ =	603	mm^2/m	OK!	0.76		

Layer 1	3	0	Provide	3T16 + 0T12	35	Spacing Ok!
Layer 2	0	0	Provide	0T16 + 0T12		
Layer 3	0	0	Provide	0T16 + 0T12		

SHEAR REINFORCEMENT

Design shear force, V_{ed} =	62.0	kN			
6.2.3 Concrete strut capacity, $V_{Rd,max} = 0.36b_w df_{ck}(1-f_{ck}/250)/(\cot Ø+\tan Ø)$			=	191.6	kN
			=	277.8	kN

Shear Links,			No. Links :	2	
$A_{sw}/s = V_{Ed}/0.78f_{yk}d\cot Ø$ =	0.375		Spacing :	150	mm
Asw =	226	mm^2	Area :	754	mm^2/mm
Spacing, s =	604.0	mm	Provide :	2R6@150	OK!
Max. spacing, smax =	257.3	mm	Capacity:	0.25	

Minimum Links

$Asw/s = 0.08f_{ck}1/2b_w/f_{yk}$ =	0.320		Link Ø :	6	mm
Asw =	57	mm^2	No. Links :	1	
Spacing, s =	177	mm	Spacing :	150	mm
$V_{min} = (Asw/s)*(0.78df_{yk}\cot Ø)$ =	63	kN	Provide :	1R6@150	OK!
			Capacity:	0.85	

Link arrangements, Support 2R6@150

Mid Span 1R6@150

	Project: MNU FVM IT CAMPUS	Calculated by	NAS	Job no.	
	Beam: B1	Checked by	MMW	Sheet no.	2/2
	Code: BS EN 1992-1-1-2004	Client	MNU	Date	01-Mar-23

Ref	Calculations					
	DEFLECTION					
	Req. ten. reinf. ratio, $\rho = A_{s,req} / bd$ =	0.004				
	Ref. reinf. ratio, $\rho_0 = \sqrt{f_{ck}}\, 10^3$ =	0.005				
	Req. comp. reinf. ratio, $\rho' = A_{s',req} / bd$ =	0.000				
Table 7.4N	Factor for structural system, K =	**1.3**				
7.16.a	$l/d = K [11 + 1.5\sqrt{f_{ck}}(\rho_0/\rho) + 3.2 \sqrt{f_{ck}} (\rho_0/\rho - 1)^{3/2}$ =	26.7	ρ≤ρo			
7.16.b	$l/d = K [11 + 1.5\sqrt{f_{ck}}(\rho_0/\rho-\rho') + 1/12 \sqrt{f_{ck}} \sqrt{\rho'/\rho_0}]$ =					
	Mod factor 1, b_{eff}/b_w =	1				
	Mod factor 2, $7/l_{eff}$ =	1.00				
	Mod factor 3, $A_{s,prov}/A_{s,req}$ =	1.49				
	(l/d)allowable =	39.8				
	(l/d)actual =	15.0	**OK!**			
7.3	**CRACKING**					
Table 7.1N	Limiting crack width, wmax =		0.3	mm		
	Steel stress, f_s =					
	$f_{yk}/1.15 \times (G_k+0.6Q_k) / (1.35G_k + 1.5Q_k) \times (A_{s,req}/A_{s,prov}) \times 1/\delta$ =		150.8	N/mm^2	160	N/mm^2
Table 7.3N	Max allowable bar spacing =		300	mm		
	Bar spacing, s =		35	mm	**OK!**	

	Project: MNU FVM IT CAMPUS	Calculated by	NAS	Job no.	
	Beam: B2	Checked by	MMW	Sheet no.	1/2
	Code: BS EN 1992-1-1-2004	Client	MNU	Date	01-Mar-23

Ref	Calculations

SPECIFICATION

b_w =	200	mm	Øbar 1 =	16	mm	f_{ck} =	25	N/mm²
h =	350	mm	Øbar 2 =	12	mm	f_{yk} (bar) =	460	N/mm²
Span, L =	3.75	m	Ølink =	6	mm	f_{yk} (link) =	250	N/mm²
g_k =	2.0	kN/m	Cover =	35	mm	γ_{ck} =	25	kN/m³
5.3.2.1 q_k =	2.0	kN/m						

6.1 **MAIN REINFORCEMENT**

SPAN

$d = h - C_{nom} - Ø_{link} - Ø_{bar}$ = 293 mm

Design bending moment, M_{ed} = 28.8 kNm

$K = M/bd^2 f_{ck}$ = 0.067 K < Kbal, Compression reinforcement is not required

z = d[0.5 + (√0.25 - K/1.134)] = 0.94 ≤ 0.95d 0.95d = 258.5

$A_{s,req} = M/0.87 f_{yk} z$ = 262 mm²/m

$A_{s,prov}$ = 402 mm²/m OK! 0.65

9.2.1.1 $A_{s,min} = 0.26(f_{ctm}/f_{yk})bd$ = 76.2 mm² $A_{s,max} = 0.04A_c$ = 2800.0 mm²

Layer 1	2	0	Provide	2T16 + 0T12	86	Spacing Ok!
Layer 2	0	0	Provide	0T16 + 0T12		
Layer 3	0	0	Provide	0T16 + 0T12		

SUPPORT

Design bending moment, M_{ed} = 38.3 kNm

$K = M/bd^2 f_{ck}$ = 0.089 K < Kbal, Compression reinforcement is not required

$A_{s,req} = M/0.87 f_{yk} z$ = 357.1 mm²/m

$A_{s,prov}$ = 402 mm²/m OK! 0.89

Layer 1	2	0	Provide	2T16 + 0T12	86	Spacing Ok!
Layer 2	0	0	Provide	0T16 + 0T12		
Layer 3	0	0	Provide	0T16 + 0T12		

SHEAR REINFORCEMENT

Design shear force, V_{ed} = 57.0 kN

6.2.3 Concrete strut capacity, $V_{Rd,max} = 0.36 b_w d f_{ck}(1-f_{ck}/250)/(\cot Ø + \tan Ø)$ = 163.7 kN

= 237.3 kN

Shear Links,

$A_{sw}/s = V_{Ed}/0.78 f_{yk} d \cot Ø$ = 0.403

Asw = 226 mm²

Spacing, s = 561.2 mm

Max. spacing, smax = 219.8 mm

No. Links :	2	
Spacing :	150	mm
Area :	754	mm²/mm
Provide :	2R6@150	OK!
Capacity:	0.27	

Minimum Links

Asw/s = $0.08 f_{ck}^{1/2} b_w / f_{yk}$ = 0.320

Asw = 57 mm²

Spacing, s = 177 mm

$V_{min} = (Asw/s)*(0.78 d f_{yk} \cot Ø)$ = 54 kN

Link Ø :	6	mm
No. Links :	1	
Spacing :	150	mm
Provide :	1R6@150	OK!
Capacity:	0.85	

Link arrangements, Support 2R6@150

Mid Span 1R6@150

	Project: MNU FVM IT CAMPUS	Calculated by	NAS	Job no.	
	Beam: B2	Checked by	MMW	Sheet no.	2/2
	Code: BS EN 1992-1-1-2004	Client	MNU	Date	01-Mar-23

Ref	Calculations				
	DEFLECTION				
	Req. ten. reinf. ratio, $\rho = A_{s,req} / bd$ =	0.004			
	Ref. reinf. ratio, $\rho_0 = \sqrt{f_{ck}}\ 10^3$ =	0.005			
	Req. comp. reinf. ratio, $\rho' = A_{s',req} / bd$ =	0.000			
Table 7.4N	Factor for structural system, K =	**1.3**			
7.16.a	$l/d = K [11 + 1.5\sqrt{f_{ck}}(\rho_0/\rho) + 3.2 \sqrt{f_{ck}} (\rho_0/\rho - 1)^{3/2}$ =	25.2	ρ≤ρo		
7.16.b	$l/d = K [11 + 1.5\sqrt{f_{ck}}(\rho_0/\rho-\rho') + 1/12 \sqrt{f_{ck}} \sqrt{\rho'/\rho_0}]$ =				
	Mod factor 1, b_{eff}/ b_w =	1			
	Mod factor 2, $7/l_{eff}$ =	1.00			
	Mod factor 3, $A_{s,prov}/A_{s,req}$ =	1.53			
	(l/d)allowable =	38.6			
	(l/d)actual =	12.8	**OK!**		
7.3	**CRACKING**				
Table 7.1N	Limiting crack width, wmax =		0.3	mm	
	Steel stress, f_s =				
	$f_{yk}/1.15 \times (G_k+0.6Q_k) / (1.35G_k + 1.5Q_k) \times (A_{s,req}/A_{s,prov}) \times 1/\delta$ =		146.4	N/mm^2	160 N/mm^2
Table 7.3N	Max allowable bar spacing =		300	mm	
	Bar spacing, s =		86	mm	**OK!**

MID OK!
SUP OK!
LINK OK!
LINK OK!
DEF OK!
CRACKING OK!

LL	4.00			
DL	2.00			
Lx	2.500	Lx	3.75	
Ly	3.750			

33%

Width, B1 = 4

Width, B2 = 4

		kN/m2	kN/m	kN/m (x2)
$w = (nl\,x/6)*[3-(l\,x/l\,y)^2]$	Dead Load	2.1	4.0	7.96
	Live Load	4.0	4.3	8.52
$w = (nl\,x/3)$	Dead Load	2.1	1.7	3.49
	Live Load	4.0	3.3	6.67
$w = 0.5nl\,x$	Dead Load	2.1	3.9	7.85
	Live Load	4.0	7.5	15.00

z = 0.94 ≤ 0.95d

293 Cracking OK
252 Cracking OK
211 Cracking OK

0.94	262
0.95d	259

Layer	No. Bars	Bar Size	No. Bars	Bar Size	Area
1	2	16	0	12	402
2	0	16	0	12	0
3	0	16	0	12	0
				Total	402

0.0012	73
0.0013	76

Ø =
tanØ =
cotØ =

z =	0.91	≤ 0.95d
0.91	357	
0.95d	344	

Layer	No. Bars	Bar Size	No. Bars	Bar Size	Area
1	2	16	0	12	402
2	0	16	0	12	0
3	0	16	0	12	0
				Total	402

138
200
220

0.403	1.508
0.320	0.377

7.16.a	25.19663214073580	1.87		
7.16.b	25.19663214073580	1.00	1.867	1
	25.19663214073580			
	1			

Table 7.3N Maximum bar spacing for crack control[1]

Steel stress[2] [MPa]	Maximum bar spacing [mm]		
	w_k=0,4 mm	w_k=0,3 mm	w_k=0,2 mm
160	300	300	200
200	300	250	150
240	250	200	100
280	200	150	50
320	150	100	-
360	100	50	-

Steel Stress [Mpa]	Max bar spacing [mm] w_k = 0.3mm
160	300
200	250
240	200
280	150
320	100
360	50

146.4	0.00	160
	160	200
	200	240
	240	280
	280	320
	320	360
	360	360
	160	

0.001243478

2.2

fck (MPa)	fck,cube (MPa)
12	15
16	20
20	25
25	30
30	37
35	45
40	50

slab	0.09
beam	1.75
	146.40

2697.3525

0	100
1	125
2	150
3	175
4	200
5	

		1	1	293	1	1	
Spacing		0	0	281	0		
86	86	0	0	240	0		
-118						293	
-118		1	1	293	1	1	
		0	0	281	0		
		0	0	240	0		

22

7

0.40

2.48

Ø = 22°	cot Ø = 2.5	VEd < VRD,max Ø=22°	
Ø = 45°	cot Ø = 1.0	VEd < VRD,max Ø=45°	

293

6

10

1 LAYER	293.0
2 LAYER	280.5
3 LAYER	239.5

Spacing
86
-118
-118

415

130	6	10	20	460
135	10	12	25	500
140		16	30	
145		20	35	

	150	25	40
	155		
	160		
	165		

1.0
1.3
1.5
0.4

1	1.00
1.5	0.95
2	0.90
2.5	0.85
3	0.80
1	

fctm (MPa)

1.6
1.9
2.2
2.6
2.9
3.2
3.5

1
2

1 293
0 252
0 211
293

293

R R
T

250 200 300
415 225 325
460 250 350
500 275 375

300	400
325	425
350	450
375	475
400	500
	525
	550
	575
	600
	625
	650
	675
	700
	725
	750
	775
	800

	Project: MNU FVM IT CAMPUS	Calculated by	NAS	Job no.	
	Beam: CB	Checked by	MMW	Sheet no.	1/2
	Code: BS EN 1992-1-1-2004	Client	MNU	Date	01-Mar-23

Ref	Calculations

SPECIFICATION

b_w =	200	mm	Øbar 1 =	16	mm	f_{ck} =	25	N/mm²
h =	400	mm	Øbar 2 =	12	mm	f_{yk} (bar) =	460	N/mm²
Span, L =	1.443	m	Ølink =	6	mm	f_{yk} (link) =	250	N/mm²
g_k =	1.6	kN/m	Cover =	35	mm	γ_{ck} =	25	kN/m³
5.3.2.1 q_k =	1.5	kN/m						

6.1 **MAIN REINFORCEMENT**

SPAN

$d = h - C_{nom} - Ø_{link} - Ø_{bar}$ = 343 mm

Design bending moment, M_{ed} = 33.0 kNm

$K = M/bd^2 f_{ck}$ = 0.056 K < Kbal, Compression reinforcement is not required

$z = d[0.5 + (\sqrt{0.25 - K/1.134})]$ = 0.95 ≤ 0.95d 0.95d = 253.1

$A_{s,req} = M/0.87 f_{yk} z$ = 254 mm²/m

$A_{s,prov}$ = 402 mm²/m OK! 0.63

9.2.1.1 $A_{s,min} = 0.26(f_{ctm}/f_{yk})bd$ = 89.2 mm² $A_{s,max} = 0.04A_c$ = 3200.0 mm²

Layer 1	2	0	Provide	2T16 + 0T12	86	Spacing Ok!
Layer 2	0	0	Provide	0T16 + 0T12		
Layer 3	0	0	Provide	0T16 + 0T12		

SUPPORT

Design bending moment, M_{ed} = 33.0 kNm

$K = M/bd^2 f_{ck}$ = 0.056 K < Kbal, Compression reinforcement is not required

$A_{s,req} = M/0.87 f_{yk} z$ = 253.6 mm²/m

$A_{s,prov}$ = 402 mm²/m OK! 0.63

Layer 1	2	0	Provide	2T16 + 0T12	86	Spacing Ok!
Layer 2	0	0	Provide	0T16 + 0T12		
Layer 3	0	0	Provide	0T16 + 0T12		

SHEAR REINFORCEMENT

Design shear force, V_{ed} = 36.0 kN

6.2.3 Concrete strut capacity, $V_{Rd,max} = 0.36 b_w d f_{ck}(1 - f_{ck}/250)/(\cot Ø + \tan Ø)$ = 191.6 kN

= 277.8 kN

Shear Links,

$A_{sw}/s = V_{Ed}/0.78 f_{yk} d \cot Ø$ = 0.217

Asw = 226 mm²

Spacing, s = 1040.2 mm

Max. spacing, smax = 257.3 mm

No. Links :	2	
Spacing :	150	mm
Area :	754	mm²/mm
Provide :	2R6@150	OK!
Capacity:	0.14	

Minimum Links

$Asw/s = 0.08 f_{ck}^{1/2} b_w / f_{yk}$ = 0.320

Asw = 226 mm²

Spacing, s = 707 mm

$V_{min} = (Asw/s)*(0.78 d f_{yk} \cot Ø)$ = 252 kN

Link Ø :	6	mm
No. Links :	2	
Spacing :	150	mm
Provide :	2R6@150	OK!
Capacity:	0.21	

Link arrangements, Mid Span 2R6@150

Support 2R6@150

	Project: MNU FVM IT CAMPUS	Calculated by	NAS	Job no.	
	Beam: CB	Checked by	MMW	Sheet no.	2/2
	Code: BS EN 1992-1-1-2004	Client	MNU	Date	01-Mar-23

Ref	Calculations					
	DEFLECTION					
	Req. ten. reinf. ratio, $\rho = A_{s,req} / bd$ =	0.004				
	Ref. reinf. ratio, $\rho_0 = \sqrt{f_{ck}}\ 10^3$ =	0.005				
	Req. comp. reinf. ratio, $\rho' = A_{s',req} / bd$ =	0.000				
Table 7.4N	Factor for structural system, K =	**0.4**				
7.16.a	$l/d = K [11 + 1.5\sqrt{f_{ck}}(\rho_0/\rho) + 3.2 \sqrt{f_{ck}} (\rho_0/\rho - 1)^{3/2}]$ =	8.5	ρ≤ρo			
7.16.b	$l/d = K [11 + 1.5\sqrt{f_{ck}}(\rho_0/\rho-\rho') + 1/12 \sqrt{f_{ck}} \sqrt{\rho'/\rho_0}]$ =					
	Mod factor 1, b_{eff}/ b_w =	1				
	Mod factor 2, $7/l_{eff}$ =	1.00				
	Mod factor 3, $A_{s,prov}/A_{s,req}$ =	1.59				
	(l/d)allowable =	13.4				
	(l/d)actual =	4.2	**OK!**			
7.3	**CRACKING**					
Table 7.1N	Limiting crack width, wmax =		0.3	mm		
	Steel stress, f_s =					
	$f_{yk}/1.15 \times (G_k+0.6Q_k) / (1.35G_k + 1.5Q_k) \times (A_{s,req}/A_{s,prov}) \times 1/\delta$ =		143.0	N/mm^2	160	N/mm^2
Table 7.3N	Max allowable bar spacing =		300	mm		
	Bar spacing, s =		86	mm	**OK!**	

MID OK!
SUP OK!
LINK OK!
LINK OK!
DEF OK!
CRACKING OK!

LL	1.50
DL	1.60
Lx	3.750
Ly	1.443

Lx 1.44

31%

Width, B1 = 4
Width, B2 = 4

		kN/m2	kN/m	kN/m (x2)
$w = (nl\,x/6)*[3-(l\,x/l\,y)^2]$	Dead Load	1.6	-1.8	-3.68
	Live Load	1.5	-3.5	-7.04
$w = (nl\,x/3)$	Dead Load	1.6	2.0	4.09
	Live Load	1.5	1.9	3.75
$w = 0.5nl\,x$	Dead Load	1.6	1.2	2.36
	Live Load	1.5	1.1	2.16

z = 0.95 ≤ 0.95d

343 Cracking NOT OK 0.95 254
302 Cracking NOT OK 0.95d 253
261 Cracking OK

Layer	No. Bars	Bar Size	No. Bars	Bar Size	Area
1	2	16	0	12	402
2	0	16	0	12	0
3	0	16	0	12	0
				Total	402

0.0012	85
0.0013	89

Ø =
tanØ =
cotØ =

z =	0.95	≤ 0.95d
0.95	254	
0.95d	253	

Layer	No. Bars	Bar Size	No. Bars	Bar Size	Area
1	2	16	0	12	402
2	0	16	0	12	0
3	0	16	0	12	0
				Total	402

150
200
257

0.217	1.508
0.320	1.508

7.16.a	8.45687793795576	4.85		
7.16.b	8.45687793795576	1.00	4.851	1
	8.45687793795576			
	1			

Table 7.3N Maximum bar spacing for crack control[1]

Steel stress[2] [MPa]	Maximum bar spacing [mm]		
	w_k=0,4 mm	w_k=0,3 mm	w_k=0,2 mm
160	300	300	200
200	300	250	150
240	250	200	100
280	200	150	50
320	150	100	-
360	100	50	-

Steel Stress [Mpa]	Max bar spacing [mm] w_k = 0.3mm
160	300
200	250
240	200
280	150
320	100
360	50

143.0	0.00	160
	160	200
	200	240
	240	280
	280	320
	320	360
	360	360
	160	

0.001243478

2.2

fck (MPa)	fck,cube (MPa)
12	15
16	20
20	25
25	30
30	37
35	45
40	50

slab	0.04
beam	2.00
	143.03

2697.3525

0	100
1	125
2	150
3	175
4	200
5	

		1	1	343	1	1	
Spacing		0	0	331	0		
86	86	0	0	290	0		
-118						343	
-118		1	1	343	1	1	
		0	0	331	0		
		0	0	290	0		

22

4

0.40

2.48

Ø = 22°	cot Ø = 2.5	VEd < VRD,max Ø=22°	
Ø = 45°	cot Ø = 1.0	VEd < VRD,max Ø=45°	

343

6

10

1 LAYER	343.0
2 LAYER	330.5
3 LAYER	289.5

Spacing
86
-118
-118

415

130	6	10	20	460
135	10	12	25	500
140		16	30	
145		20	35	

	150	25	40
	155		
	160		
	165		

1.0
1.3
1.5
0.4

1	1.00
1.5	0.95
2	0.90
2.5	0.85
3	0.80
1	

fctm (MPa)

1.6
1.9
2.2
2.6
2.9
3.2
3.5

1
2

1	343
0	302
0	261
	343

343

R R
T

250	200	300
415	225	325
460	250	350
500	275	375

300	400
325	425
350	450
375	475
400	500
	525
	550
	575
	600
	625
	650
	675
	700
	725
	750
	775
	800

Project	MNU FUVAHMULAH CAMPUS	The Concrete Centre	
Client	MNU FUVAHMULAH CAMPUS		
Location	C1 STUDENT ACCOMODATION		

SYMMETRICALLY REINFORCED RECTANGULAR COLUMN DESIGN, BENT ABOUT TWO AXES TO BS 8110:2005

Originated from RCC53.xls v3.2 on CD

The Concrete Centre

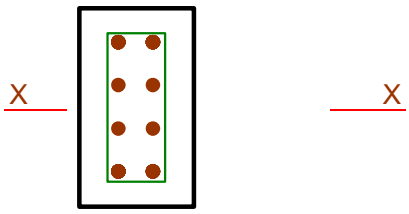
Made by	Date	Page
MMW	1-Mar-23	
Checked	Revision	Job No
	-	

MATERIALS

fcu	25	N/mm²	γm, steel	1.15	Cover to link	40	mm
fy	415	N/mm²	γm, conc	1.5	h agg	20	mm
steel class	A						

SECTION

h	400	mm
b	200	mm
with	2	bars per 200 face
and	4	bars per 400 face



RESTRAINTS

	Lo (mm)	Top Condition	Btm Condition	Braced ?	ß	Le (mm)	Slenderness	Status
X-AXIS	3300	2	1	N	1.3	4290	Lex/h = 10.73	Column is
Y-AXIS	3300	2	1	N	1.3	4290	Ley/b = 21.45	SLENDER

LOADCASES

	AXIAL N (kN)	TOP MOMENTS (kNm) M ix	TOP MOMENTS (kNm) M iy	BTM MOMENTS (kNm) M ix	BTM MOMENTS (kNm) M iy
HIGHEST AXIAL	478	0.1	1.0	0.1	1.0
HIGHEST My	327	0.3	16.7	0.3	16.7
HIGHEST Mx	262	0.0	19.7	0.0	19.7
				0.0	0.0
				0.0	0.0
				0.0	0.0

BAR ARRANGEMENTS

Bar Ø	Asc %	Link Ø	BAR CENTRES (mm) 200 Face	BAR CENTRES (mm) 400 Face	Nuz (kN)	Checks
R 40	12.57	10	60	87	0	Asc > 6 % (3.12.6.2)
R 32	8.04	8	72	91	0	Asc > 6 % (3.12.6.2)
R 25	4.91	8	79	93	2267	ok
R 20	3.14	6	88	96	1772	ok
R 16	2.01	6	92	97	1456	ok
R 12	1.13	6	96	99	1210	ok

DESIGN MOMENTS (kN

	K	X AXIS M add	X AXIS Mx	Y AXIS M add	Y AXIS My	COMBINED Axis	COMBINED M '	REBAR	max V *
HEST AXIAL	0.944	10.4	10.5	20.8	21.8	Y	25.0	8 R12	40.9
HIGHEST My	1.000	7.5	7.8	15.0	31.8	Y	34.5	8 R12	40.8
HIGHEST Mx	1.000	6.0	6.1	12.1	31.7	Y	33.9	8 R16	48.9
0									#DIV/0!
0									#DIV/0!
0									#DIV/0!

SEE CHARTS ON NEXT SHEET

Project	MNU FUVAHMULAH CAMPUS	The Concrete Centre	
Client	MNU FUVAHMULAH CAMPUS		
Location	C1 STUDENT ACCOMODATION		

SYMMETRICALLY REINFORCED RECTANGULAR COLUMN DESIGN, BENT ABOUT TWO AXES TO BS 8110:2005

Originated from RCC53.xls v3.2 on CD

Made by	Date	Page
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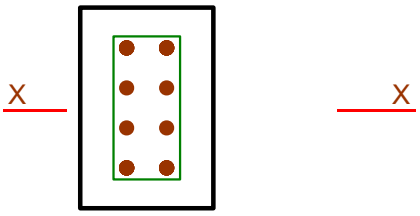
MATERIALS

fcu	25	N/mm²	γm, steel	1.15	Cover to link	40	mm
fy	415	N/mm²	γm, conc	1.5	h agg	20	mm
steel class	A						

SECTION

h	350	mm
b	200	mm
with	2	bars per 200 face
and	4	bars per 350 face



RESTRAINTS

	Lo (mm)	Top Condition	Btm Condition	Braced ?	ß	Le (mm)	Slenderness	Status
X-AXIS	3300	2	1	N	1.3	4290	Lex/h = 12.26	Column is
Y-AXIS	3300	2	1	N	1.3	4290	Ley/b = 21.45	SLENDER

LOADCASES

	AXIAL N (kN)	TOP MOMENTS (kNm) M ix	TOP MOMENTS (kNm) M iy	BTM MOMENTS (kNm) M ix	BTM MOMENTS (kNm) M iy
HIGHEST AXIAL	309	0.0	12.8	0.0	12.8
HIGHEST My	309	0.0	12.8	0.0	12.8
HIGHEST Mx	255	0.2	8.8	0.2	8.8
				0.0	0.0
				0.0	0.0
				0.0	0.0

BAR ARRANGEMENTS

Bar Ø	Asc %	Link Ø	BAR CENTRES (mm) 200 Face	BAR CENTRES (mm) 350 Face	Nuz (kN)	Checks
R 40	14.36	10	60	70	0	Asc > 6 % (3.12.6.2)
R 32	9.19	8	72	74	0	Asc > 6 % (3.12.6.2)
R 25	5.61	8	79	76	2155	ok
R 20	3.59	6	88	79	1661	ok
R 16	2.30	6	92	81	1344	ok
R 12	1.29	6	96	82	1098	ok

DESIGN MOMENTS (kN

	K	X AXIS M add	X AXIS Mx	Y AXIS M add	Y AXIS My	COMBINED Axis	COMBINED M '	REBAR	max V *
GHEST AXIAL	1.000	8.1	8.1	14.2	27.0	Y	30.2	8 R12	37.3
HIGHEST My	1.000	8.1	8.1	14.2	27.0	Y	30.2	8 R12	37.3
HIGHEST Mx	1.000	6.7	6.9	11.7	20.5	Y	23.3	8 R12	37.3
0									#DIV/0!
0									#DIV/0!
0									#DIV/0!

SEE CHARTS ON NEXT SHEET

Project	MNU FUVAHMULAH CAMPUS	The Concrete Centre	
Client	MNU FUVAHMULAH CAMPUS		
Location	C1 STUDENT ACCOMODATION		

SYMMETRICALLY REINFORCED RECTANGULAR COLUMN DESIGN, BENT ABOUT TWO AXES TO BS 8110:2005

Originated from RCC53.xls v3.2 on CD

The Concrete Centre

Made by	Date	Page
MMW	1-Mar-23	
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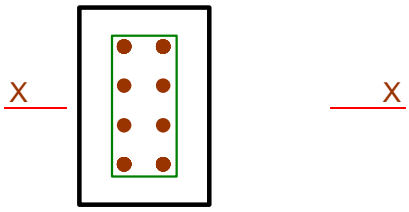
	-	

MATERIALS

fcu	25	N/mm²	γm, steel	1.15	Cover to link	40	mm
fy	415	N/mm²	γm, conc	1.5	h agg	20	mm
steel class	A						

SECTION

h	350	mm
b	200	mm
with	2	bars per 200 face
and	4	bars per 350 face



RESTRAINTS

	Lo (mm)	Top Condition	Btm Condition	Braced ?	ß	Le (mm)	Slenderness	Status
X-AXIS	3300	2	1	N	1.3	4290	Lex/h = 12.26	Column is
Y-AXIS	3300	2	1	N	1.3	4290	Ley/b = 21.45	SLENDER

LOADCASES

	AXIAL N (kN)	TOP MOMENTS (kNm) M ix	TOP MOMENTS (kNm) M iy	BTM MOMENTS (kNm) M ix	BTM MOMENTS (kNm) M iy
HIGHEST AXIAL	478	0.1	1.0	0.1	1.0
HIGHEST My	327	0.3	16.7	0.3	16.7
HIGHEST Mx	262	0.0	19.7	0.0	19.7
				0.0	0.0
				0.0	0.0
				0.0	0.0

BAR ARRANGEMENTS

Bar Ø	Asc %	Link Ø	BAR CENTRES (mm) 200 Face	BAR CENTRES (mm) 350 Face	Nuz (kN)	Checks
R 40	14.36	10	60	70	0	Asc > 6 % (3.12.6.2)
R 32	9.19	8	72	74	0	Asc > 6 % (3.12.6.2)
R 25	5.61	8	79	76	2155	ok
R 20	3.59	6	88	79	1661	ok
R 16	2.30	6	92	81	1344	ok
R 12	1.29	6	96	82	1098	ok

DESIGN MOMENTS (kN

	K	X AXIS M add	X AXIS Mx	Y AXIS M add	Y AXIS My	COMBINED Axis	COMBINED M '	REBAR	max V *
HEST AXIAL	0.855	10.7	10.8	18.8	19.8	Y	23.5	8 R12	37.4
HIGHEST My	1.000	8.6	8.9	15.0	31.8	Y	35.2	8 R16	44.8
HIGHEST Mx	1.000	6.9	6.9	12.1	31.7	Y	34.5	8 R16	44.8
0									#DIV/0!
0									#DIV/0!
0									#DIV/0!

SEE CHARTS ON NEXT SHEET

Name	Case	Rx [kN]	Ry [kN]	Rz [kN]	Mx [kNm]	My [kNm]	Mz [kNm]	ex [mm]
Sn6/N11	EN_ULS5/1	-0.68	-0.04	478.2	0.97	-1.1	0.07	2
Sn15/N29	EN_ULS5/1	0.1	4.22	384.91	-5.44	-0.07	0	-14.1
Sn16/N31	EN_ULS5/1	-1.21	1.24	383.93	-1.37	-1.81	0.09	-3.6
Sn13/N25	EN_ULS5/1	0.15	-5.8	371.22	6.68	0.05	0.23	18
Sn10/N19	EN_ULS5/1	2.68	26.57	361.19	-32.22	4.31	0.22	-89.2
Sn18/N35	EN_ULS5/1	0.02	-3.76	348.58	5.15	-0.08	0.02	14.8
Sn17/N33	EN_ULS5/1	0.17	-4	345.35	5.57	0.13	0.05	16.1
Sn14/N27	EN_ULS5/1	-0.21	-6.44	326.54	9.03	-0.42	0.32	27.7
Sn5/N9	EN_ULS5/1	0.34	-5.08	308.82	7.65	0.36	0.01	24.8
Sn12/N23	EN_ULS5/1	-1.31	-4.03	301.27	5.27	-1.9	0.18	17.5
Sn4/N7	EN_ULS5/1	2.36	1.72	266.56	-1.42	2.96	0.07	-5.3
Sn11/N21	EN_ULS5/1	-1.03	7.37	261.94	-9.85	-0.74	0.03	-37.6
Sn7/N13	EN_ULS5/1	-2.94	2.99	254.48	-3.08	-4.09	-0.19	-12.1
Sn9/N17	EN_ULS5/1	6.32	22.28	217.82	-24.81	7.44	0.8	-113.9
Sn2/N3	EN_ULS5/1	0.46	-3.69	208.92	5.77	0.48	-0.09	27.6
Sn8/N15	EN_ULS5/1	-0.75	3.09	139.88	-3.59	-1.15	0.07	-25.7
Sn19/N112	EN_ULS5/1	0.87	-1.37	106.49	2.73	1.07	-0.01	25.6
Sn3/N5	EN_ULS5/1	0.47	0.12	91.51	0.68	0.47	0.02	7.4

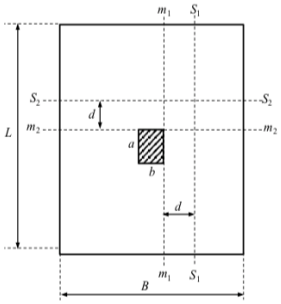
Name	ULS	SLS				
Sn6/N11	Rz [kN]	Rz [kN]				@
Sn15/N29	478.2	327.21		1.6	T12	100
Sn16/N31	384.91	265.48		1.4		
Sn13/N25	383.93	264.82				
Sn10/N19	371.22	251.73				
Sn18/N35	361.19	247.27				
Sn17/N33	348.58	242.58				
Sn14/N27	345.35	240.82				
Sn5/N9	326.54	223				
Sn12/N23	308.82	212.99			T12	150
Sn4/N7	301.27	209.27				
Sn11/N21	266.56	183.05				
Sn7/N13	261.94	182.55				
Sn9/N17	254.48	177.55				
Sn2/N3	217.82	149.18				
Sn8/N15	208.92	140.98				
Sn19/N112	139.88	98.14				
Sn3/N5	106.49	73.23				
	91.51	63.61				

ey [mm]
-2.3
-0.2
-4.7
0.1
11.9
-0.2
0.4
-1.3
1.2
-6.3
11.1
-2.8
-16.1
34.2
2.3
-8.2
10
5.1

Project Name :	FVM	**SQUARE FOOTING F1**	
Client Name :	MNU	**Engineer :**	NAS
Designed Date :	1/3/2023	**Checked Date :**	3/1/2023

Square Footing

Concrete Grade	=	25.00	(N/mm^2)		
F_y	=	460.00	(N/mm^2)		
F_{yv}	=	225	(N/mm^2)		
Depth of Column (a)	=	350.00	(mm)		
Breadth of Column (b)	=	200.00	(mm)		
Nominal Cover	=	50.00	(mm)		



Loads:

Ultimate Load	=	478.20	(kN)		
Service Load	=	327.21	(kN)		
Bearing Capacity	=	150.00	(kN/m^2)		
Area Required	=	2.18	(m^2)	=> 1.48	(m)

Footing Parameters:

Length (L)	=	1700.00	(mm)		
Breadth (B)	=	1700.00	(mm)		
Depth of Footing (D)	=	350.00			
Weight of Base	=	24.28	(kN)		
New Area Required	=	2.34	(m^2)	1.53 m	**OK**
Ultimate Pressure	=	165.47	(kN/m^2)		

Flexural Design:

Bending Moment at Face of Column	=	79.11	(kN/m)		
d	=	272	(mm)		
K	=	0.03			
Z_1	=	264.17	(mm)		
Z_2	=	258.4	(mm)		
Z is lesser of Z_1 and Z_2	=	258.40	(mm)		
As Required		765.04	(mm^2)		
Reinforcement Provided	=	**T12 @100**			
		Total Area :	**1130.97 (mm^2)**		**OK**

Vertical Shear:

Ultimate Shear Force (V)	=	134.46	(kN)		
Design Shear Stress (v)	=	0.29	(N/mm^2)	< 0.8*SQRT(f_{cu})	**OK**
$(100xA_s)/(bxd)$	=	0.24			
v_c	=	**0.40**	**(N/mm^2)**		**OK**

Punching Shear

1.5d	=	408			
Critical Perimeter	=	4064	(mm)		
Shear Force	=	307.40	(kN)		
Design shear stress ***(v)***	=	0.278	(N/mm^2)		**OK**

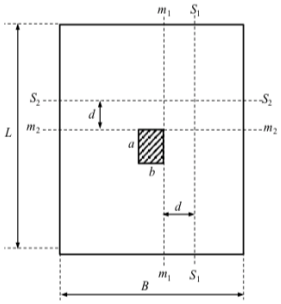
Shear at Column Face

Ultimate Shear Force (V)	=	457.93	(kN)		
Design shear stress *(v)*	=	**1.20**	**(N/mm^2)**		
0.8*SQRT(f_{cu})	=	4.00	(N/mm^2)		**OK**

		SQUARE FOOTING F2	
Project Name :	FVM IT CAMP		
Client Name :	MNU	**Engineer :**	
Designed Date :	1/3/2023	**Checked Date :**	3/1/2023

Square Footing

Concrete Grade	=	25.00	(N/mm^2)		
F_y	=	460.00	(N/mm^2)		
F_{yv}	=	225	(N/mm^2)		
Depth of Column (a)	=	350.00	(mm)		
Breadth of Column (b)	=	200.00	(mm)		
Nominal Cover	=	50.00	(mm)		
Loads:					
Ultimate Load	=	384.91	(kN)		
Service Load	=	265.48	(kN)		
Bearing Capacity	=	150.00	(kN/m^2)		
Area Required	=	1.77	(m^2)	=> 1.33	(m)

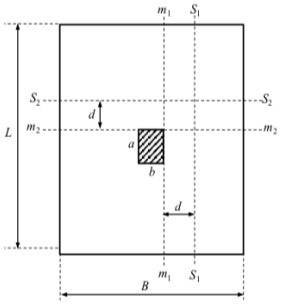


Footing Parameters:					
Length (L)	=	1500.00	(mm)		
Breadth (B)	=	1500.00	(mm)		
Depth of Footing (D)	=	300.00			
Weight of Base	=	16.20	(kN)		
New Area Required	=	1.88	(m^2)	1.37 m	**OK**
Ultimate Pressure	=	171.07	(kN/m^2)		
Flexural Design:					
Bending Moment at Face of Column	=	54.21	(kN/m)		
d	=	222	(mm)		
K	=	0.03			
Z_1	=	214.51	(mm)		
Z_2	=	210.9	(mm)		
Z is lesser of Z_1 and Z_2	=	210.90	(mm)		
As Required		642.26	(mm^2)		
Reinforcement Provided	=	**T12 @150**			
		Total Area :	**753.98 (mm^2)**		**OK**
Vertical Shear:					
Ultimate Shear Force (V)	=	109.83	(kN)		
Design Shear Stress (v)	=	0.33	(N/mm^2)	< 0.8*SQRT(f_{cu})	**OK**
$(100xA_s)/(bxd)$	=	0.23			
v_c	=	**0.39**	**(N/mm^2)**		**OK**
Punching Shear					
1.5d	=	333			
Critical Perimeter	=	3464	(mm)		
Shear Force	=	256.61	(kN)		
Design shear stress ***(v)***	=	0.334	(N/mm^2)		**OK**
Shear at Column Face					
Ultimate Shear Force (V)	=	363.95	(kN)		
Design shear stress *(v)*	=	**1.17**	**(N/mm^2)**		
0.8*SQRT(f_{cu})	=	4.00	(N/mm^2)		**OK**

Project Name :	FVM IT CA	**SQUARE FOOTING F3**	
Client Name :	MNU	**Engineer :**	NAS
Designed Date :	1/3/2023	**Checked Date :**	3/1/2023

Square Footing

Concrete Grade	=	25.00	(N/mm^2)		
F_y	=	460.00	(N/mm^2)		
F_{yv}	=	225	(N/mm^2)		
Depth of Column (a)	=	350.00	(mm)		
Breadth of Column (b)	=	200.00	(mm)		
Nominal Cover	=	50.00	(mm)		



Loads:

Ultimate Load	=	326.54	(kN)		
Service Load	=	223.00	(kN)		
Bearing Capacity	=	150.00	(kN/m^2)		
Area Required	=	1.49	(m^2)	=> 1.22	(m)

Footing Parameters:

Length (L)	=	1400.00	(mm)		
Breadth (B)	=	1400.00	(mm)		
Depth of Footing (D)	=	300.00			
Weight of Base	=	14.11	(kN)		
New Area Required	=	1.58	(m^2)	1.26 m	**OK**
Ultimate Pressure	=	166.60	(kN/m^2)		

Flexural Design:

Bending Moment at Face of Column	=	41.98	(kN/m)		
d	=	222	(mm)		
K	=	0.02			
Z_1	=	215.82	(mm)		
Z_2	=	210.9	(mm)		
Z is lesser of Z_1 and Z_2	=	210.90	(mm)		
As Required		497.42	(mm^2)		
Reinforcement Provided	=	**T12 @150**			
		Total Area :	**753.98 (mm^2)**		**OK**

Vertical Shear:

Ultimate Shear Force (V)	=	88.17	(kN)		
Design Shear Stress (v)	=	0.28	(N/mm^2)	< 0.8*SQRT(f_{cu})	**OK**
$(100xA_s)/(bxd)$	=	0.24			
v_c	=	**0.39**	**(N/mm^2)**		**OK**

Punching Shear

1.5d	=	333			
Critical Perimeter	=	3464	(mm)		
Shear Force	=	201.60	(kN)		
Design shear stress ***(v)***	=	0.262	(N/mm^2)		**OK**

Shear at Column Face

Ultimate Shear Force (V)	=	306.13	(kN)		
Design shear stress *(v)*	=	**0.98**	**(N/mm^2)**		
0.8*SQRT(f_{cu})	=	4.00	(N/mm^2)		**OK**