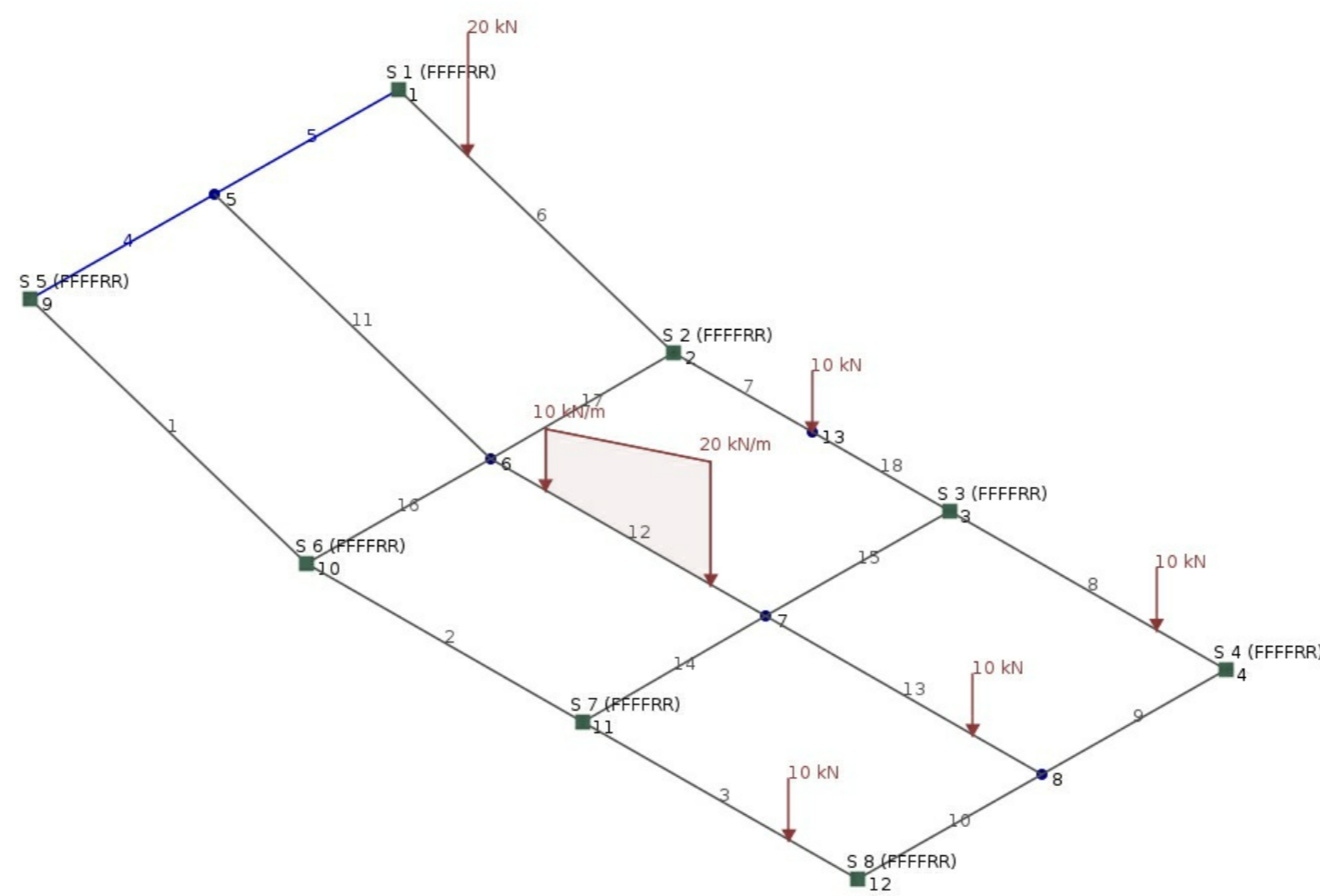




LINEAR STATIC ANALYSIS REPORT

Mon May 22 2017 12:58:35 GMT-0500 (CDT)



File Name: Simon-Demo
Software: SkyCiv Structural 3D v2.1.0

Included in this Report:

- Job Setup
- Screenshots
- Nodal Results

Job Setup

LINEAR STATIC ANALYSIS REPORT

SkyCiv Structural 3D v2.1.0

Date: Mon May 22 2017 12:58:35 GMT-0500 (CDT)

File Name	Simon-Demo
Job Name	Empty
Designer	Empty
Job Description	Empty

Length Units	m
Section Length Units	mm
Force Units	kN
Moment and Torsion Units	kNm
Pressure Units	kPa
Material Strength Units	MPa
Material Density Units	kg/m ³
Translation Units	mm
Stress Units	MPa
Nodes	13
Members	18
Plates	0
Meshed Plates	0
Supports	8
Sections	2
Point Loads	0
Distributed Loads	0
Moments	0
Pressures	0
Units	Metric
Member Evaluation Points	4
General Constraint	RRRRRR
Total Degrees of Freedom	46
Self Weight	ON

NODE COORDINATES (m)

Node	X Coordinate	Y Coordinate	Z Coordinate
1	0.000	2.000	0.000
2	6.000	0.000	0.000
3	12.000	0.000	0.000
4	18.000	0.000	0.000
5	0.000	2.000	4.000
6	6.000	0.000	4.000
7	12.000	0.000	4.000
8	18.000	0.000	4.000
9	0.000	2.000	8.000
10	6.000	0.000	8.000
11	12.000	0.000	8.000
12	18.000	0.000	8.000
13	9.000	0.000	0.000

MEMBERS (deg, mm, m)

F=Fixed, R=Released

Member	Node A	Node B	Type	Section	Angle	Node A Fixity	Node B Fixity	Node A Offsets	Node B Offsets	Cable Length	Length
1	9	10	Normal	1	0.000	FFFFFF	FFFFFF	0,0,0	0,0,0	-	6.325
2	10	11	Normal	1	0.000	FFFFFF	FFFFFF	0,0,0	0,0,0	-	6.000
3	11	12	Normal	1	0.000	FFFFFF	FFFFFF	0,0,0	0,0,0	-	6.000
4	5	9	Normal	2	0.000	FFFFFF	FFFFFF	0,0,0	0,0,0	-	4.000
5	1	5	Normal	2	0.000	FFFFFF	FFFFFF	0,0,0	0,0,0	-	4.000
6	1	2	Normal	1	0.000	FFFFFF	FFFFFF	0,0,0	0,0,0	-	6.325
7	2	13	Normal	1	0.000	FFFFFF	FFFFFF	0,0,0	0,0,0	-	3.000
8	3	4	Normal	1	0.000	FFFFFF	FFFFFF	0,0,0	0,0,0	-	6.000
9	4	8	Normal	1	0.000	FFFFFF	FFFFFF	0,0,0	0,0,0	-	4.000
10	8	12	Normal	1	0.000	FFFFFF	FFFFFF	0,0,0	0,0,0	-	4.000
11	5	6	Normal	1	0.000	FFFFFF	FFFFFF	0,0,0	0,0,0	-	6.325
12	6	7	Normal	1	0.000	FFFFFF	FFFFFF	0,0,0	0,0,0	-	6.000
13	7	8	Normal	1	0.000	FFFFFF	FFFFFF	0,0,0	0,0,0	-	6.000
14	7	11	Normal	1	0.000	FFFFFF	FFFFFF	0,0,0	0,0,0	-	4.000
15	3	7	Normal	1	0.000	FFFFFF	FFFFFF	0,0,0	0,0,0	-	4.000
16	6	10	Normal	1	0.000	FFFFFF	FFFFFF	0,0,0	0,0,0	-	4.000
17	2	6	Normal	1	0.000	FFFFFF	FFFFFF	0,0,0	0,0,0	-	4.000
18	13	3	Normal	1	0.000	FFFFFF	FFFFFF	0,0,0	0,0,0	-	3.000

SUPPORTS (kN/m, kNm/rad)

F=Fixed, R=Released, S=Spring

Node	Restraint Code	X Trans Stiffness	Y Trans Stiffness	Z Trans Stiffness	X Rot Stiffness	Y Rot Stiffness	Z Rot Stiffness
1	FFFFRR	-	-	-	-	-	-
2	FFFFRR	-	-	-	-	-	-
3	FFFFRR	-	-	-	-	-	-
4	FFFFRR	-	-	-	-	-	-
9	FFFFRR	-	-	-	-	-	-
10	FFFFRR	-	-	-	-	-	-
11	FFFFRR	-	-	-	-	-	-
12	FFFFRR	-	-	-	-	-	-

MATERIALS (MPa, kg/m³)

Material	Name	Young's Modulus	Density	Poisson's Ratio
1	Structural Steel	200000.000	7850.000	0.270
2	Aluminium	69000.000	2700.000	0.320

SECTIONS (mm, mm², mm⁴, deg)

Section	Name	Shape	Depth	Width	Shear Area z	Shear Area y	Torsion Radius
1	FD-34	Rectangular	200.000	203.000	-	-	-
2	100	Circular	99.872	99.743	-	-	-

Section	Centroid y	Centroid z	Area	y-Axis Mol	z-Axis Mol	Torsion Constant	Principal Angle
1	100.000	101.500	40600.000	139423783.333	135333333.333	231714491.781	0.000
2	49.936	49.743	7853.982	4908738.521	4908738.521	9817477.042	0.000

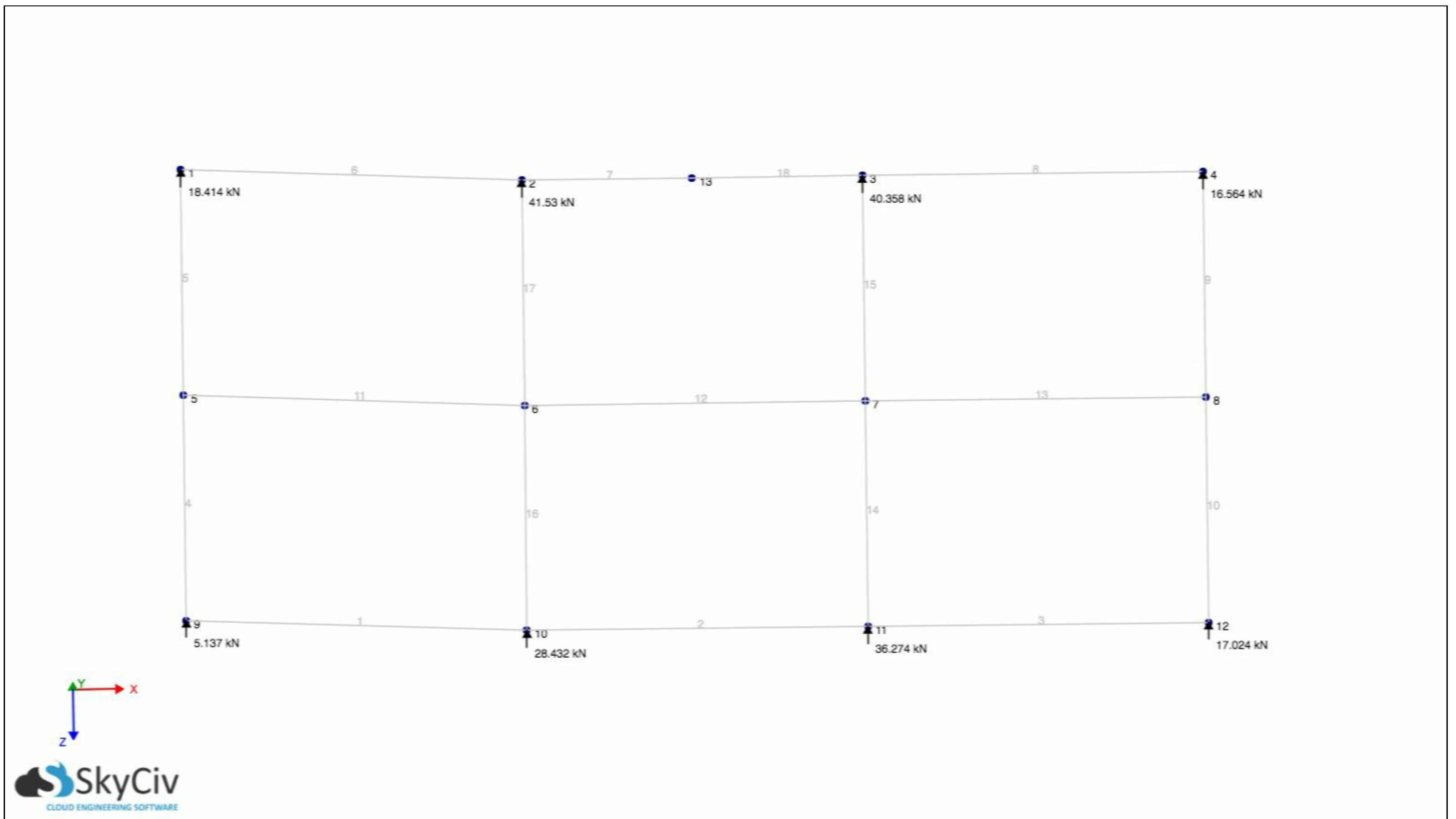
SELF WEIGHT (g's)

Load Group	X Gravity	Y Gravity	Z Gravity
SW	0.000	-1.000	0.000

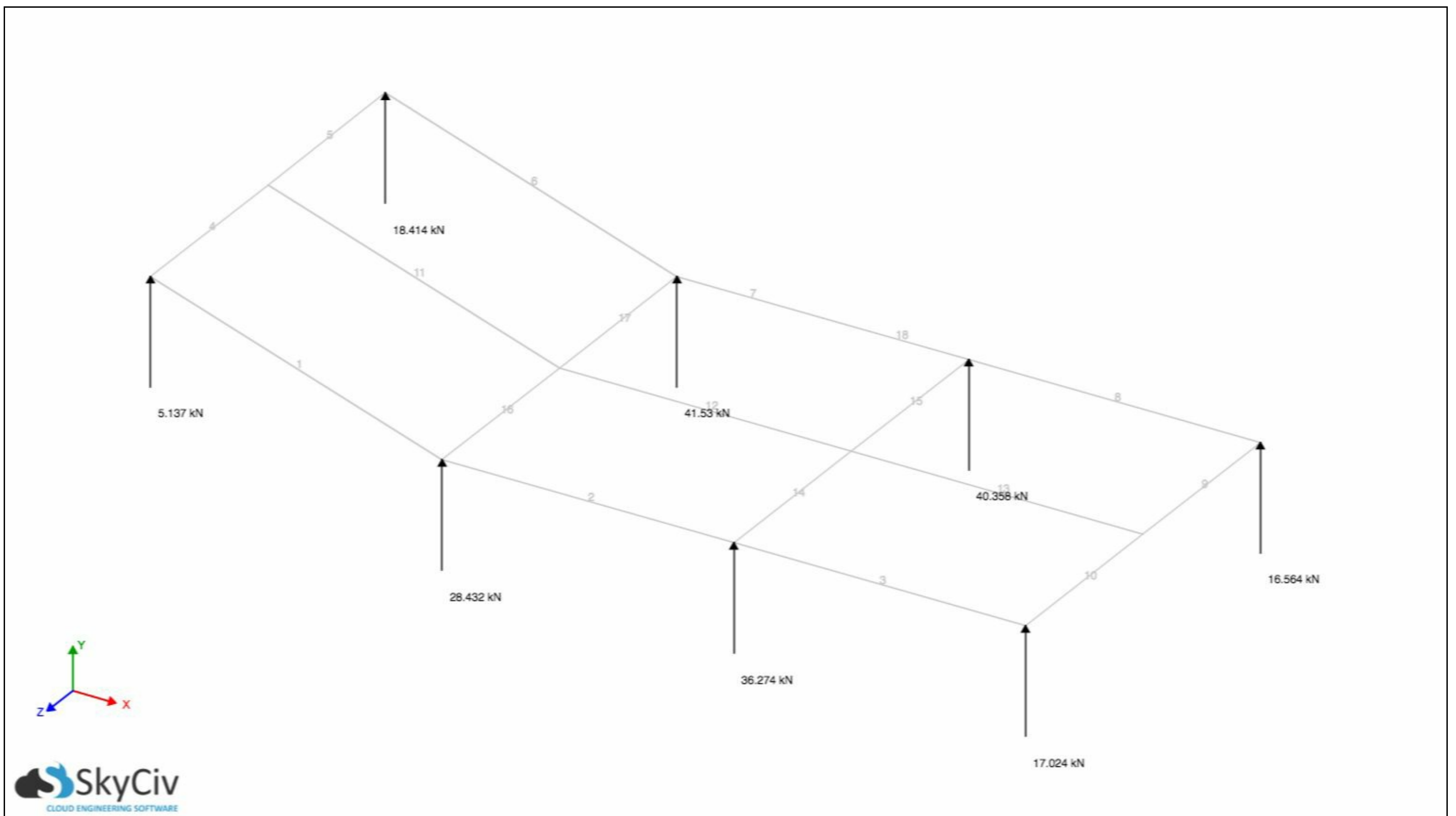
LOAD COMBINATIONS

Load Combination	Name	0 Factor	SW Factor
1	ULS: 1. 1.4D	1.000	1.000
2	ULS: 2&4	1.000	1.000
3	ULS: 3. 1.2D + 1.6 S/Lr/R + L /0.5W	1.000	1.000
4	ULS: 5. 1.2D + E + L + 0.2S	1.000	1.000
5	ULS: 6. 0.9D + 1.0W	1.000	1.000
6	ULS: 7. 0.9D + 1.0E	1.000	1.000
7	SLS: SLS	1.000	1.000

Screenshots



Node Reactions.jpg



Reactions-1.jpg

Nodal Results

Load Combination #1: ULS: 1. 1.4D
= 1×(0) + 1×(SW)

NODE REACTIONS (kN, kNm)

Node	X Force	Y Force	Z Force	X Moment	Y Moment	Z Moment
1	-1.046	18.414	-0.072	-3.528	0.000	0.000
2	0.905	41.530	0.107	-40.420	0.000	0.000
3	0.083	40.358	-0.009	-46.520	0.000	0.000
4	0.058	16.564	-0.026	-13.511	0.000	0.000
9	-0.472	5.137	0.072	3.528	0.000	0.000
10	0.331	28.432	-0.107	40.420	0.000	0.000
11	0.083	36.274	0.009	46.520	0.000	0.000
12	0.058	17.024	0.026	13.511	0.000	0.000
Reaction Sum	-0.000	203.734	-0.000			
Load Sum	0.000	-203.734	0.000			
Equilibrium	-0.000	-0.000	-0.000			