

## Structural Engineering

Often faced with the challenge of delivering high performance services faster and more cost effectively, structural engineering demands a well managed team approach to develop smarter solutions for clients. Atlas provides quality structural modeling, analysis, design and documentation services to international standards to engineers around the world. Our years of experience spans all major structural systems and materials.

Having partnered with some of the world's leading consultants and contractors on over 100 projects we help our clients improve documentation quality, deliver larger more complex projects and become more competitive.

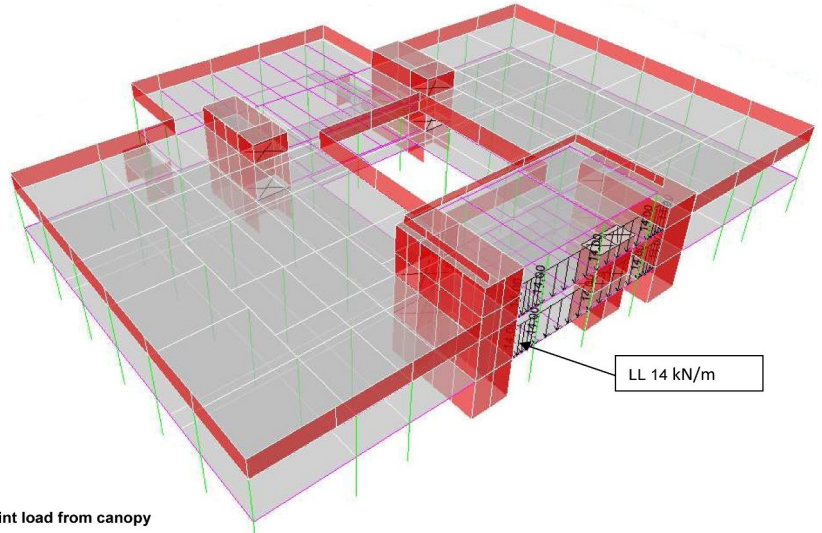
Our completed projects include residential, commercial, healthcare, educational, industrial, infrastructure and mixed use developments.

Our structural services includes:

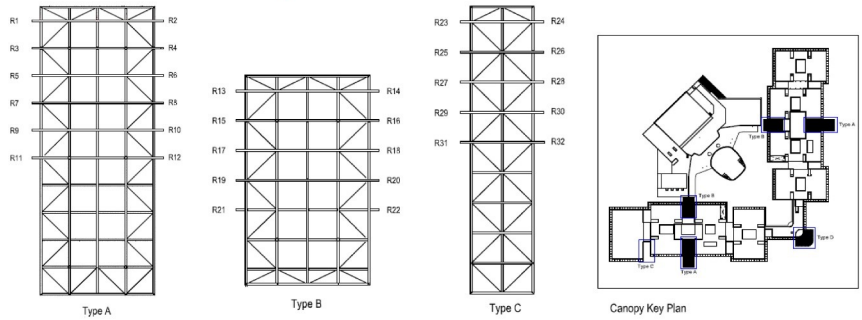
- + Structural modeling
- + Structural analysis / design calculations
- + Value engineering
- + Construction phase temporary works
- + General arrangement documentation
- + Detailing
- + Precast concrete & structural steel fabrication drawings

You will benefit from our extensive experience or wide range of structural software such as:

- + Robot Structural Analysis Professional
- + ETABS
- + SAP2000
- + Safe
- + Consultec Framing
- + Tekla
- + Navisworks
- + Tedds
- + BDES
- + Tata
- + Plaxis



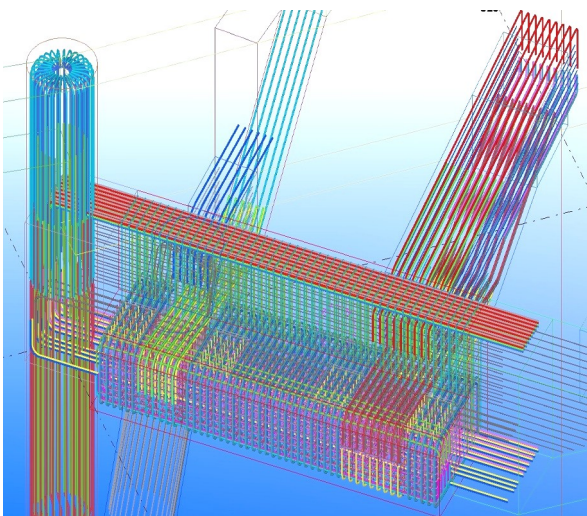
Point load from canopy



Load for this canopy shown as table below:

Reaction Reference	Dead Load (Vertical)				Imposed Load (Vertical)				Downward Wind Load (Vertical)				Upward Wind Load (Vertical)				X Direction Wind Load (Horizontal)				Z Direction Wind Load (Horizontal)				
	X	Y	Z	Value	X	Y	Z	Value	X	Y	Z	Value	X	Y	Z	Value	X	Y	Z	Value	X	Y	Z	Value	
Canopy Point A	R1	0	0	0	0	15	0	0	0	10	0	0	0	-15	0	0	0	0	0	0	0	0	0	0	0
	R2	Free	50	0	0	Free	15	0	0	Free	10	0	0	Free	-15	0	0	0	0	0	0	0	0	0	0
	R3	0	-15	0	0	0	-5	0	0	0	-5	0	0	0	15	0	0	0	0	0	0	0	0	0	0
	R4	Free	-15	0	0	Free	-5	0	0	Free	-5	0	0	Free	15	0	0	0	0	0	0	0	0	0	0
	R5	0	55	0	0	0	15	0	0	0	10	0	0	0	-50	0	0	0	0	0	0	0	0	0	0
	R6	Free	55	0	0	Free	15	0	0	Free	10	0	0	Free	-50	0	0	0	0	0	0	0	0	0	0
	R7	0	55	0	0	0	15	0	0	0	10	0	0	0	-50	0	0	0	0	0	0	0	0	0	0
	R8	Free	55	0	0	Free	15	0	0	Free	10	0	0	Free	-50	0	0	0	0	0	0	0	0	0	0
	R9	0	55	0	0	0	15	0	0	0	10	0	0	0	-50	0	0	0	0	0	0	0	0	0	0
	R10	Free	55	0	0	Free	15	0	0	Free	10	0	0	Free	-50	0	0	0	0	0	0	0	0	0	0
	R11	0	25	0	0	0	5	0	0	0	5	0	0	0	-15	0	0	0	0	0	0	0	0	0	0
	R12	Free	25	0	0	Free	5	0	0	Free	5	0	0	Free	-15	0	0	0	0	0	0	0	0	0	0

Calculation sheet



Detailing

Fabrication drawing