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Structural Option
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Miranova Condominiums
Columbus, Ohio

Appendix A:

Loads



Live Load – as per the 1998 Ohio Building Code

Residential Spaces	40 psf
Corridors	100 psf
Stairs	100 psf
Mechanical Areas	150 psf
Terraces	100 psf

Dead Loads

Slab	52 psf
Deck	3 psf
Beams	5 psf
Partitions	20 psf
Superimposed	
Sprinklers	5 psf
Ceiling/Floor Finishes	5 psf
MEP/Lighting	<u>10 psf</u>
TOTAL	100 psf



Wind Loads – as per the 1998 Ohio Building Code (1996 BOCA)

- Basic Wind Speed – 80 mph
- Exposure Category – B
- Importance Factor – I = 1.0

The story forces in the following figures were determined by RAM by using the inputs listed above.

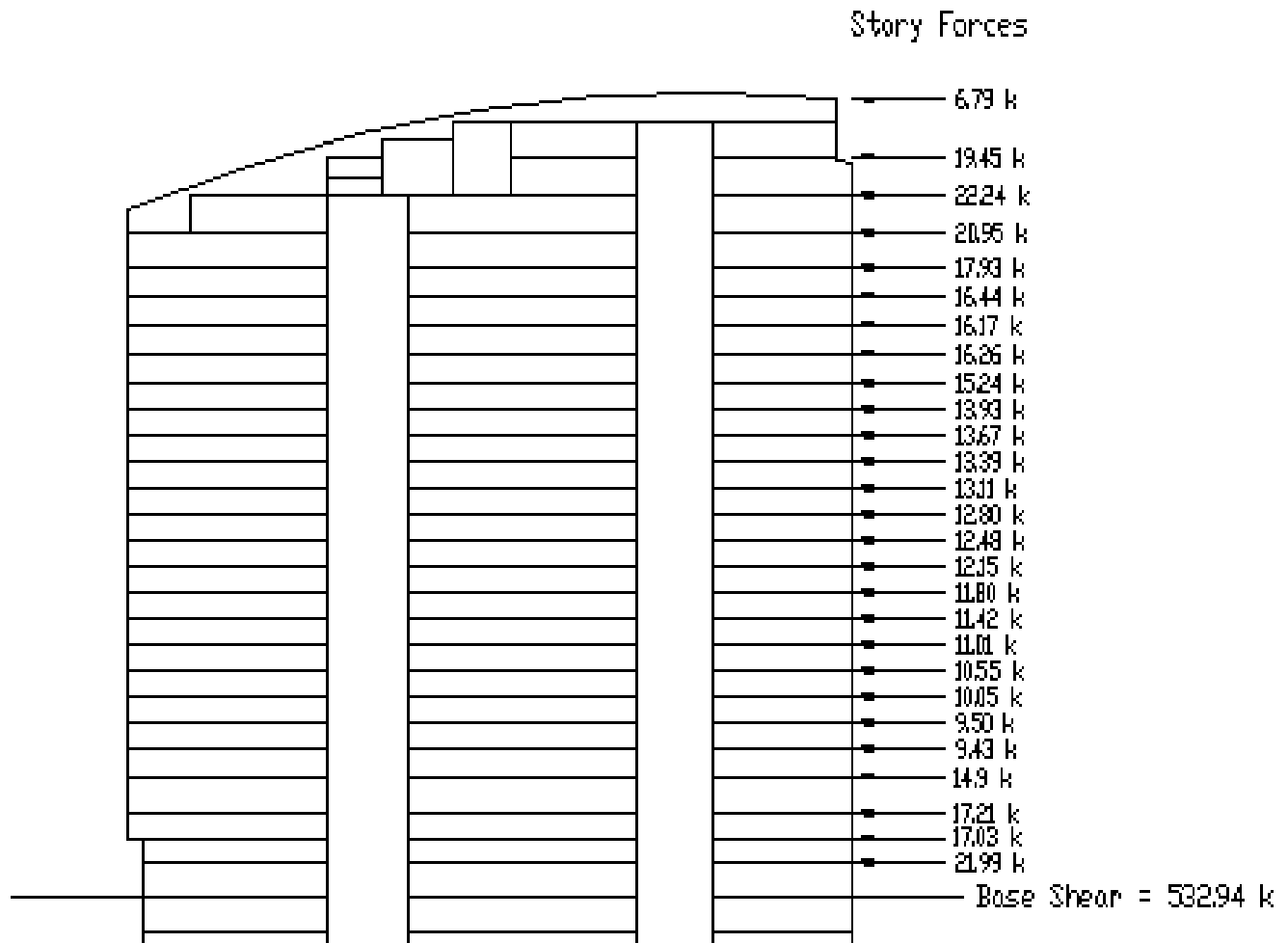


Figure A.1: E-W Wind Loads

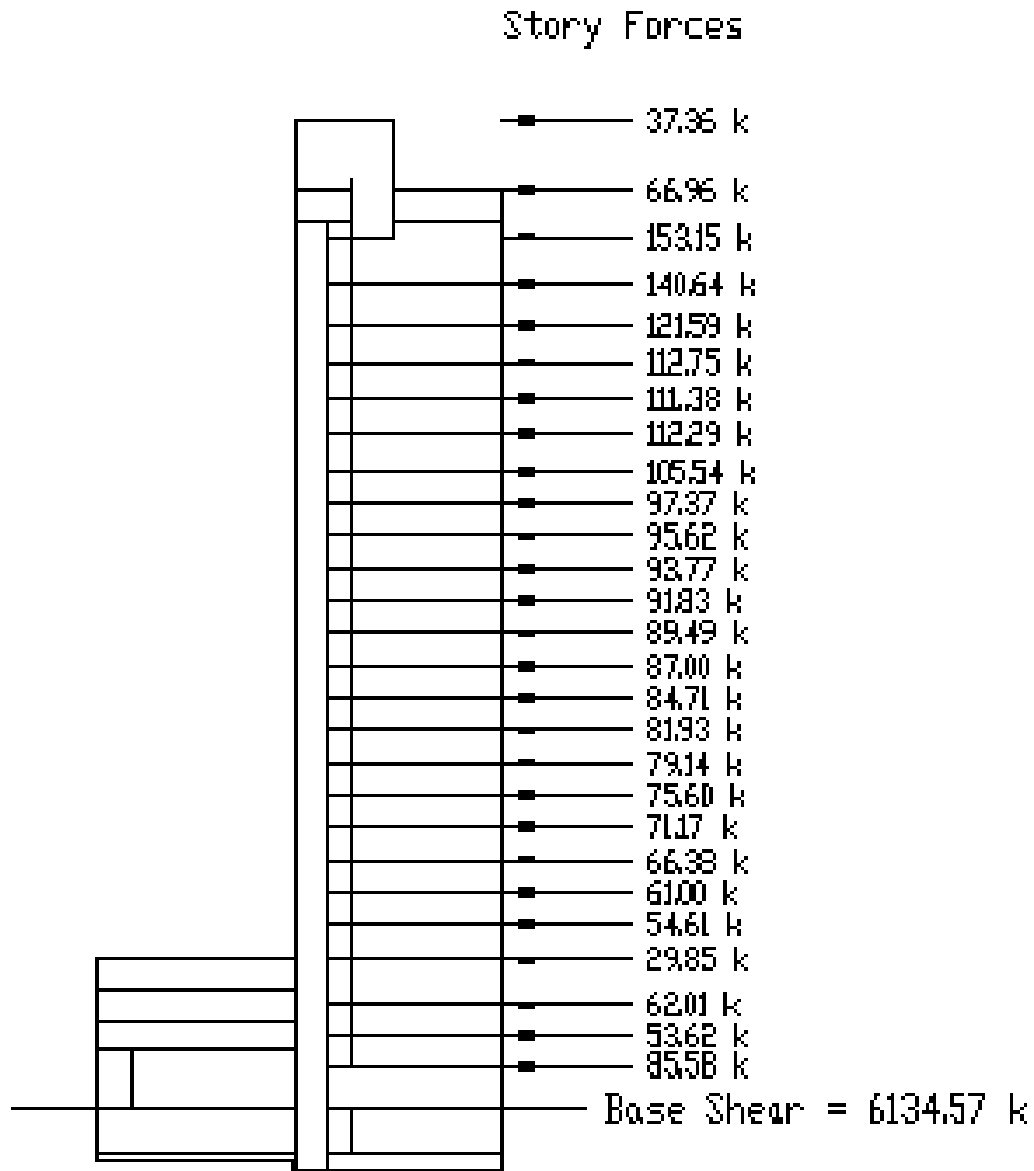


Figure A.2: N-S Wind Loads



Seismic Loads – as per the 1998 Ohio Building Code (1996 BOCA)

- Peak Velocity Related Acceleration – $a_v = 0.077$
- Peak Acceleration – $a_a = 0.100$
- Seismic Hazard Exposure Group – 1
- Seismic Performance Category – B
- Soil Profile Type – S1
- Basic Structural System – Building Frame System
- Seismic Resisting System
 - N-S Direction – Combination of Steel Braced Frames and Reinforced Concrete Shear Walls
 - E-W Direction – Reinforced Concrete Shear Walls
- Response Modification Factor – $R = 5.5$
- Deflection Amplification Factor - $C_d = 5.0$
- Analysis Procedure – Equivalent Lateral Force

The story forces in the following figure were determined by RAM by using the inputs listed above.

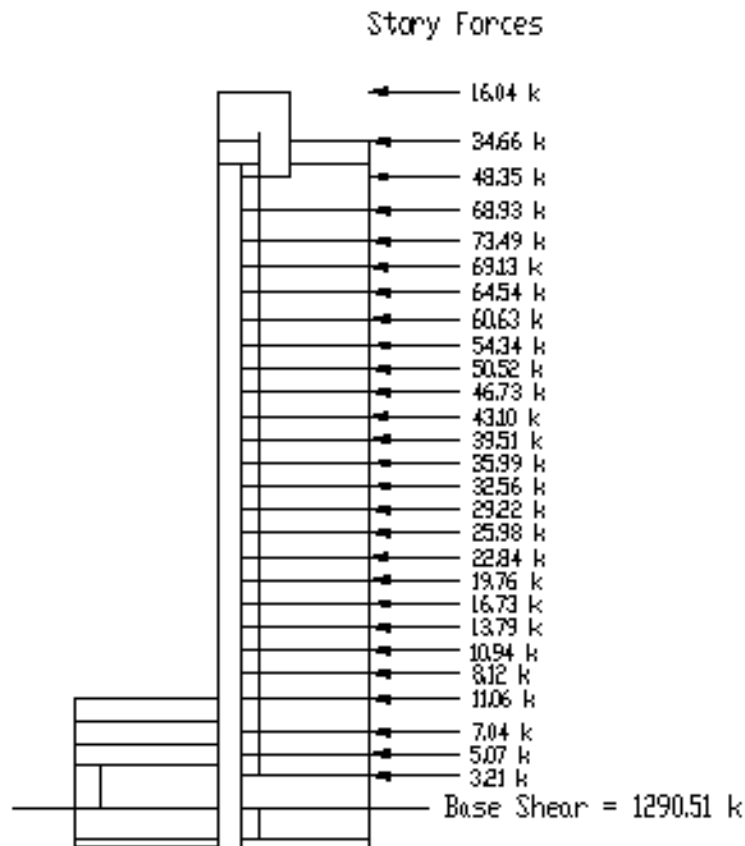


Figure A.3: Seismic Loads (equivalent for both directions)