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Who Builds Skyscrapers?

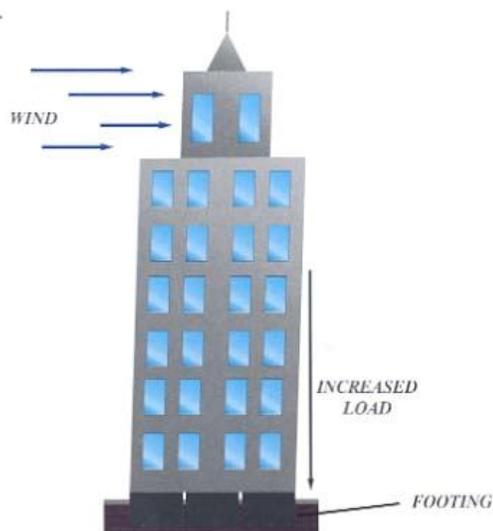
In the United States skyscrapers are usually built by a company or a group of companies. The skyscraper provides a company with office space, but it also provides space that can be rented to others. In that way, the company begins to pay for building the skyscraper.

A company that has the land and money to build a skyscraper brings its idea to architects. Architects, working with the client, make drawings of how the building could look. **Engineers** decide how the building must be built to meet a city's building laws. They also think about space needed, space available, and public safety. **Engineers** planning a skyscraper in Shanghai had to give up. If they built the skyscraper, the building could have been dangerous to planes.

One of the **engineers'** jobs is to figure out loads. Load is where weight falls in a building. Forces like wind, earthquakes, and gravity affect how weight falls. **Engineers** determine loads using math. In the Sears Tower, the load on the building's footings is 3,960 tons (3,603metric), or 33 tons (30 metric) per floor times 120 floors.

Engineers create a detailed plan of how the building should be made. The plans include not just the building materials and the frame, but also the plumbing, electrical systems, elevators, and the foundation. One or more construction companies are hired to build the structure. **Engineers** at the building site watch the quality of the construction.

The city where the building is being built will also monitor the construction by having an on-site building inspector. The building inspector is responsible for making sure all of the building codes are followed and the building is safe.



This illustration shows how wind can affect the load on a skyscraper. This must be considered in the building's design.



Skyscrapers house a tremendous amount of living space at the cost of very little land space.



Architects design buildings to be both safe and beautiful.



Architects and structural **engineers** combine their skills to plan the world's tallest buildings.