

## Spiraling peaks at spire

Like the people on the crowded street below, every one of the 35 stories in a Times Square office building will be different, according to the structural engineer.

Throughout the height of 750 Seventh Avenue, every perimeter column will transfer its loads three or four times. "It is a telescopic tube system. Each tube from the top gets transferred to a larger tube below," explains John G. Shmerykowsky, associate partner with Weiskopf & Pickworth, the New York City-based structural engineer.

The vertical loads are transferred by steel girders located at setbacks that wrap around the building in a stepped-spiral pattern. "There are more than 70 transfers [throughout the building]," says Emanuel Pisetzner, a partner with the structural engineer.

Sizes of the transfer girders change considerably over the height of the building, getting slimmer as the building rises. Shmerykowsky says the girders are very heavy at the bottom, with a 4-in.-thick flange. At the top there are rolled beams as small as W30. Wind forces acting on the building are handled by a modified tube of perimeter columns and a braced core.

The building's form, which was designed by Kevin Roche John Dinkeloo and Associates, Hamden, Conn., was governed by a special provision in the city's zoning resolution requiring setbacks at specific elevations. The setbacks are highlighted by skylights, which follow the same spiral pattern around the building's exterior as the transfer girders. Because the streets they are facing are not parallel, setback depths vary from 3½ to 10 ft.

A spire, rising 100 ft above the parapet, abuts the architectural metal mansard roof, which reaches as high as 667 ft. James F. Murphy, first vice president with construction manager Tishman Construction Corp., says the metal-clad spire "has no purpose other than to highlight the building."

To blend in with the neighborhood's character, and to comply with the special Times Square area requirement for billboard advertising at the street level, the bottom 50 ft of the building will be covered with signs (ENR 2/12/87 p. 20). Although the area's zoning resolution also requires that some part of the building be used



Tower meets Times Square zoning rules.

for entertainment, noise and vibration from surrounding subway lines have discouraged the owner, Solomon Equities Inc., New York City, from putting theaters in the lower levels. Plans for how it will meet its entertainment quota are still undecided. ■