

below this point is obscured by smoke. Exterior Column 20 and the spandrel beams between this column and Columns 19 and 21 are not visible on the 45th floor. On this basis, it was concluded that structural damage was present between Columns 19 and 21 on the 44th through 47th floors.

The space between the western edge of the face and Column 19 is visible for the 43rd to 47th floors. Some façade damage is visible on the corner (see discussion below) while elsewhere the façade seems to be intact, with the exception of the window glass that appears to have been broken over this area. A portion of the upper part of the south face is visible to the immediate right of the large damaged area. The glass appears to have been broken at numerous locations along the top row of windows, including the 11 openings to the immediate east of Column 21.

Figure 5–79 shows the upper west side of the south face of WTC 7 around 4:45 p.m. The façade damage on the southwest corner can be clearly seen on the 41st to 47th floors. The façade damage is particularly heavy on the 42nd to 44th floors. It appears that an object may have entered window 15A on the 42nd floor. The end of the box structure that supported the corner granite spandrel cover on the western edge of the face is visible on this floor. It is possible to discern the area between Columns 15 and 18 from the 34th floor up to the top of the building. While the façade appears to be intact at locations away from the southwest corner, the four columns are visible on most floors, indicating the window glass was broken at most of these locations.

In a frame from a distant view of WTC 7 captured from a helicopter video (not shown) much of the south face was smoke free, and some details could be seen. In particular, it was possible to see the upper east side of the south face down to the 43rd floor. While the alternating granite panel covers and windows could be identified, the columns were not visible. This suggests that this portion of the face was undamaged.

A large area on the west side of the south face was visible down to the 26th floor. Columns were visible at many locations, indicating that most of the window glass in this area was broken. In the same frame it was possible to see a section of the south face from the 35th floor to the 40th floor, east of Column 19, where it appeared that the spandrel covers on these floors abruptly stopped, and Column 19 was not visible on these floors. There was a dark band between the locations where the granite spandrel covers appeared to end and an area to the east that was hidden by a foreground building. It was not clear whether this vertical dark band was due to the presence of smoke or was a feature on the face of the building. As discussed further below, additional images suggest that the band was likely damage to the building.

Figure 5–80 shows a similar view of the south face taken from another video shot from a helicopter. Heavy smoke covers part of the face, but portions are visible elsewhere. The vertical dark band between Columns 19 and 20 is visible between the 34th floor and 37th floor. While Column 21 is visible on each of these floors to the immediate right of the dark band, it is not clear whether Columns 19 and 20 remain in place. The alternating granite panels and windows are visible further to the east. Columns are visible through a limited number of windows in this area.

The cropped photograph shown in Figure 5–81 provides a better view of the dark vertical band on the south face of WTC 7. It was taken from West Street at a location north of Liberty Street. The distinct vertical dark band can be seen from the 32nd floor to the 40th floor. Most of the columns between the band and southwest corner are easily distinguished and confirm that the band lies between Columns 19 and 20. It appears that both of these columns are in place on some of these floors, particularly Column 19 on the