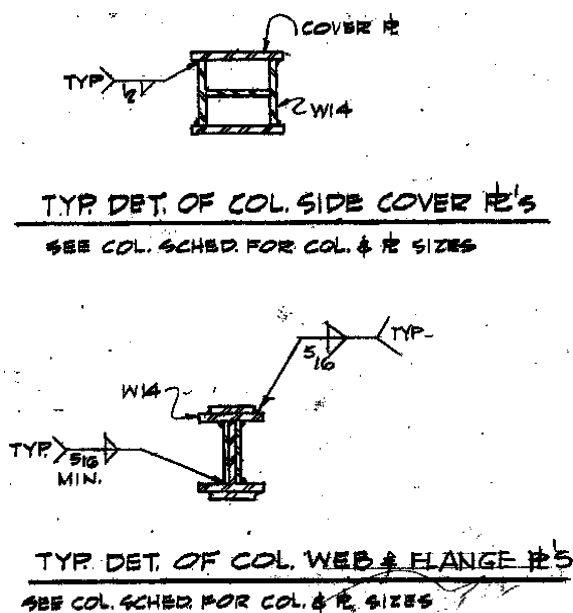




Source: Cantor 1985

Figure D-1. Column side plate attachment details.

using a detonating cord harness (21,000 ft/s (6,400 m/s) velocity of detonation (VOD)), for simultaneity of initiation.

The other scenarios considered would have required much more explosive material, depending on the type and degree of column preparations conducted. Scenarios with a larger explosive charge would have generated much more window breakage and a louder sound, and were generally considered infeasible to carry out without detection.

The time constraint in the second scenario was not a determining factor. It would have taken a skilled burner with an oxy-propane torch about 15 minutes to make the cuts necessary to install the required linear charges of RDX. It would have taken another 5 minutes to place the explosive charges, plus the time to set up an initiation device. In addition, other preparations were required to clear the column for cutting, such as removing walls, column enclosures, SFRM, or other coverings that might have restricted access to bare steel at a column section. It was presumed that these activities could have been performed within the available time, though it is doubtful that such activities would not have been detected after the collapse of the WTC towers.

Preparations for a blast scenario prior to September 11, 2001 would have been almost impossible to carry out on any floor in the building without detection. While the selected blast scenario considered one column, demolition with explosive charges usually prepares many columns in a building. Preparations would have included removal of column enclosures or walls, use of weld torches to cut column sections, installation of charges, and placement of wires for detonation. Occupants, support staff, and visitors would have noticed evidence of such activities, particularly since they likely would have occurred around more than one column. It is highly doubtful that such activities would have not been detected.

This single hypothetical blast scenario was applied to Column 79 in the Phase II blast modeling. While the selected blast scenario only considered one column, demolition with blast charges usually prepares