



SCHEDULE

- Completed in Summer 2011

SERVICES

- 46 Tilt-Up Panels
- 60,465 Sq. Ft. of Wall Panel
- Tilt-Up Panel Shop Drawings
- Tilt-Up Panel Reinforcing Design
- Tilt-Up Panel Lateral Stability Design
- Progressive Collapse Analysis & Design
- Tilt-Up Panel to Floor & Roof Structure Connection Design
- Value Engineering for Warehouse Panel Design

OBJECTIVE:

Provide tilt-up cost saving alternative to steel moment frames and precast concrete panels at multistory office building to resist significant seismic forces while meeting progressive collapse and blast resistance as required for GSA facilities.

DESCRIPTION:

This project involved design and construction of one, two and three story tilt-up concrete wall panels. Special design loads related to seismic forces, blast resistance and progressive collapse made the wall design relatively complex. Worked closely with the Engineer of Record on the coordination and design of connections with their structure.

INNOVATION:

The GSA requirement for blast and progressive collapse resistance required the development of non standard panel to panel connections to resist these forces. Special load combinations were developed to address the loads induced when vertical panel support was removed from adjacent panels.

Special reinforcing detailing was necessary due to seismic loads and quantity of both punched and ribbon style windows.

Elimination of the requirement for perimeter steel moment frames and the use of tilt-up panel to resist lateral loads resulted in a savings to the owner of over half a million dollars.