

Southwest Student Housing Building

1000 Apache Boulevard East, Tempe, Arizona

Project Team:

- **Owner** - Arizona State University
- **Architect** - BOKA Powell
- **Structural Engineer** - Thornton-Tomasetti
- **MEP Engineer** - WSP Flack+Kurtz
- **Agency CM** - Romani Group, Inc.

Construction:

- **Projected schedule** - 302 days total
125 days Preconstruction
177 days Construction
- 4 weeks for concrete cores
- 2 days for each half-floor
(Each floor is constructed on the ground in (2) halves, which are separately lifted into place with (6) 75-ton strand jacks, placed at the corners of the finished concrete cores. Interior work starts immediately on each floor once it is constructed and lifted into place.)

Structural:

- **Foundation** - concrete piers (12 to 60" in diameter) penetrating 12.5 to 47.5' into the ground; piers and mats are located under each core to directly support gravity load
- **Superstructure** - composite floor (3-1/4" lightweight concrete on 3" metal deck) attached to structural steel frame made of wide flange beams (sizes from W14x22 to W24x176) using Hilti fasteners;
Typical bay size: 12'-6"x13'
- **Lateral System** - gravity and lateral system are the same: (3) 8" thick concrete cores, 25'x25' on center with a single layer of rebar running through center

MEP Systems:

- **Mechanical** - 1st floor mechanical room contains chillers, pumps and water tanks 4-pipe system with single fan coil units on each pipe supply hot and chilled water;
Bathroom exhaust fans located on roof, above stacked bathrooms
- **Fire Safety** - wet system in building, dry system in parking lot; jockey pumps in mechanical room;
1 sprinkler in each sleeping room, foyer and bathroom; all corridors are sprinkled
- **Lighting/Electrical** - 1 main panel at each floor with subs in each unit; Electrical design is currently incomplete and pending.

Basics:

- **Purpose** - Dormitories
- **Size** - 268 units with 528 beds;
Area per story - 13,000 ft²
Total area - 260,000 ft²
- **Stories** - 20 stories
- **Estimated Total Cost** - \$37,358,413
- **Distinguishing features** - modular building (3 or 4 modules per floor), prefabricated bathrooms, constructed as a modified lift slab

