

Is Wood-Frame Modular the Future of Multi-Family Construction?

Structural Design: Detailing Strategies

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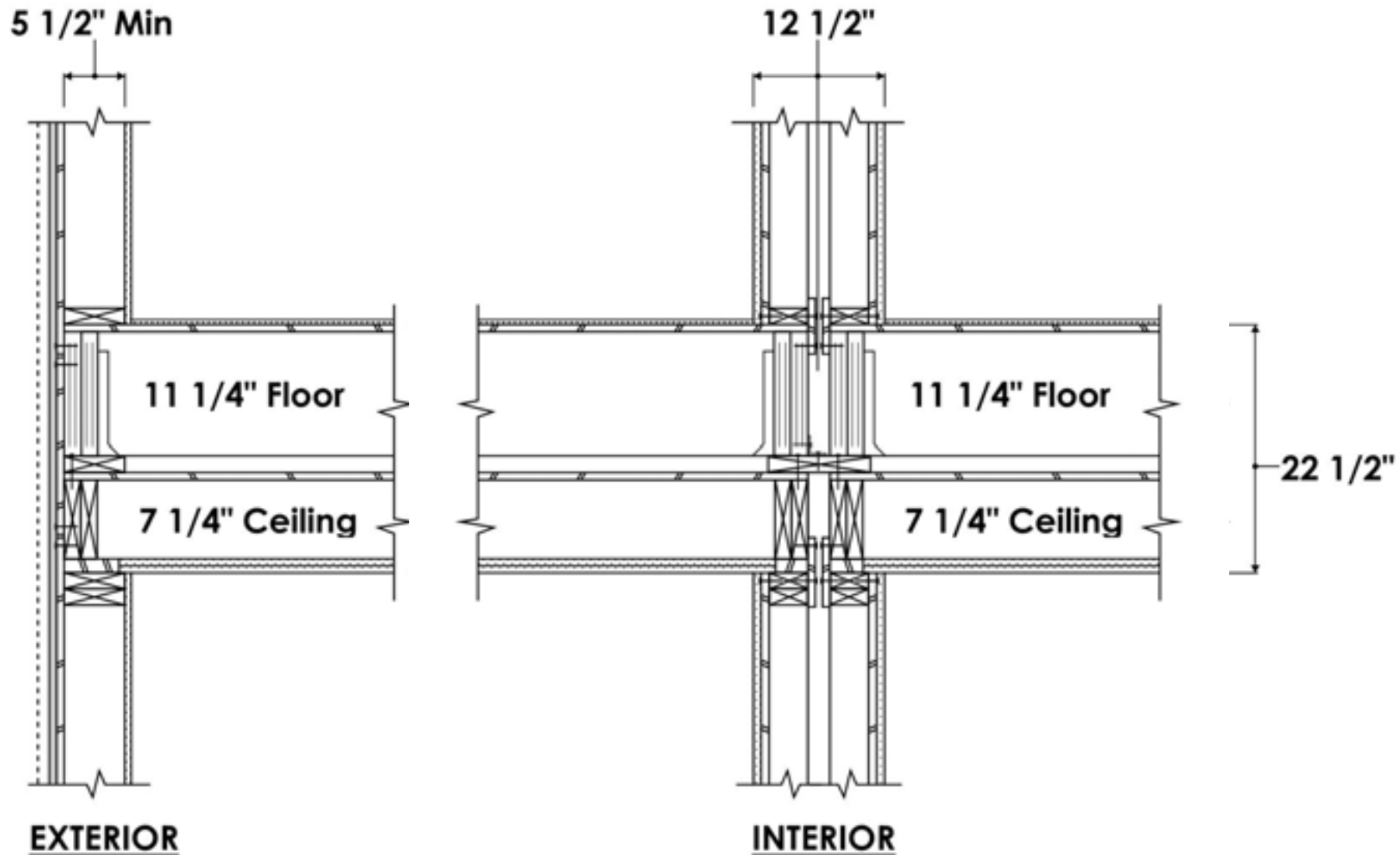


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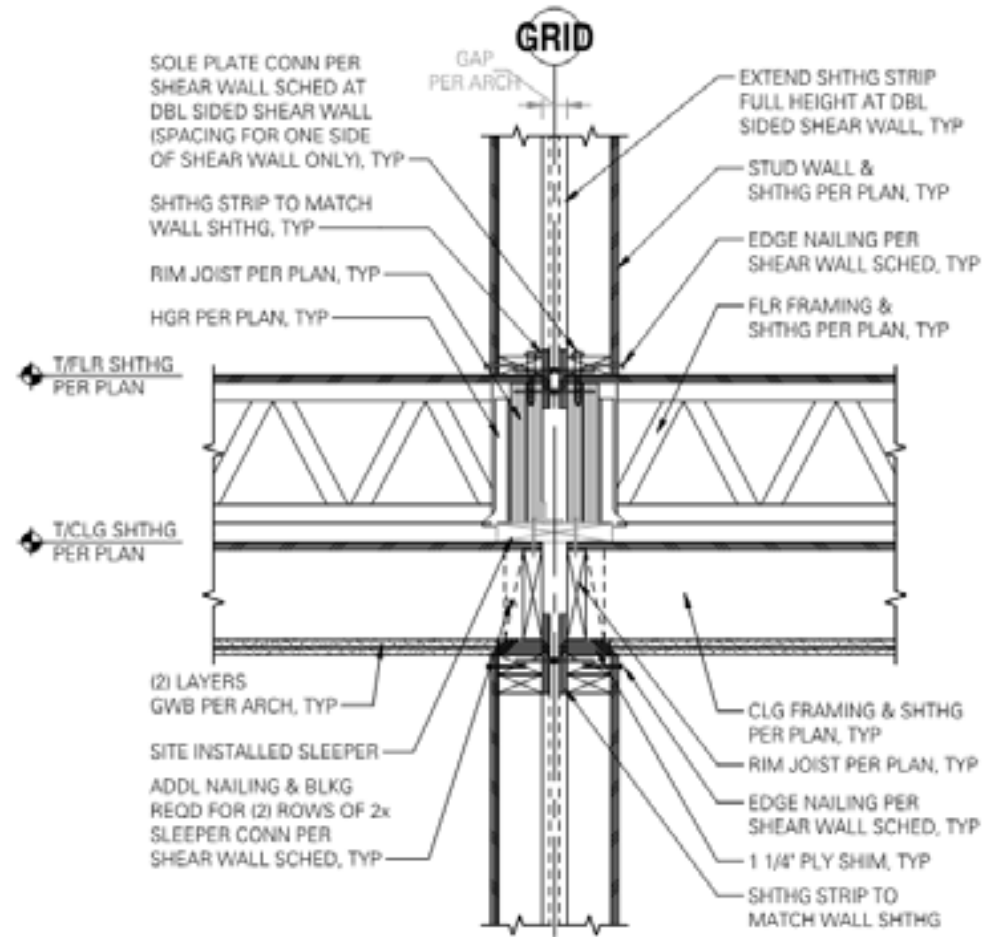
Outline

1. Explore example structural details
2. Discuss building layout design considerations
3. Clarify the interface between site and factory work

Modular Assembly Dimensions

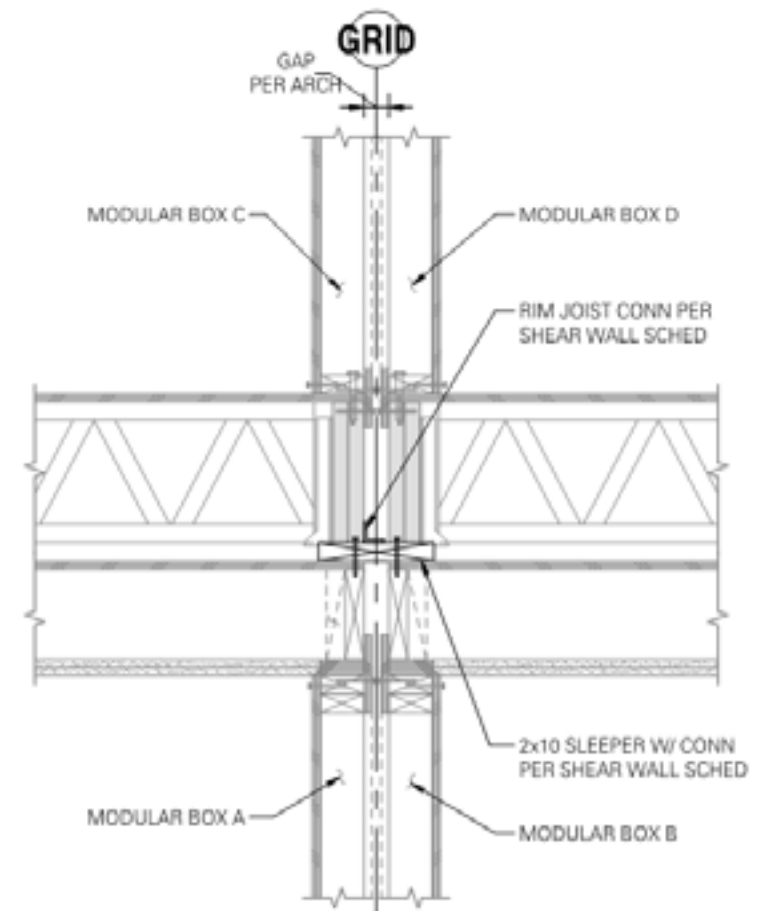


Example Structural Details - Mateline



TYPICAL MATELINE AT MODULAR STACK (FACTORY)

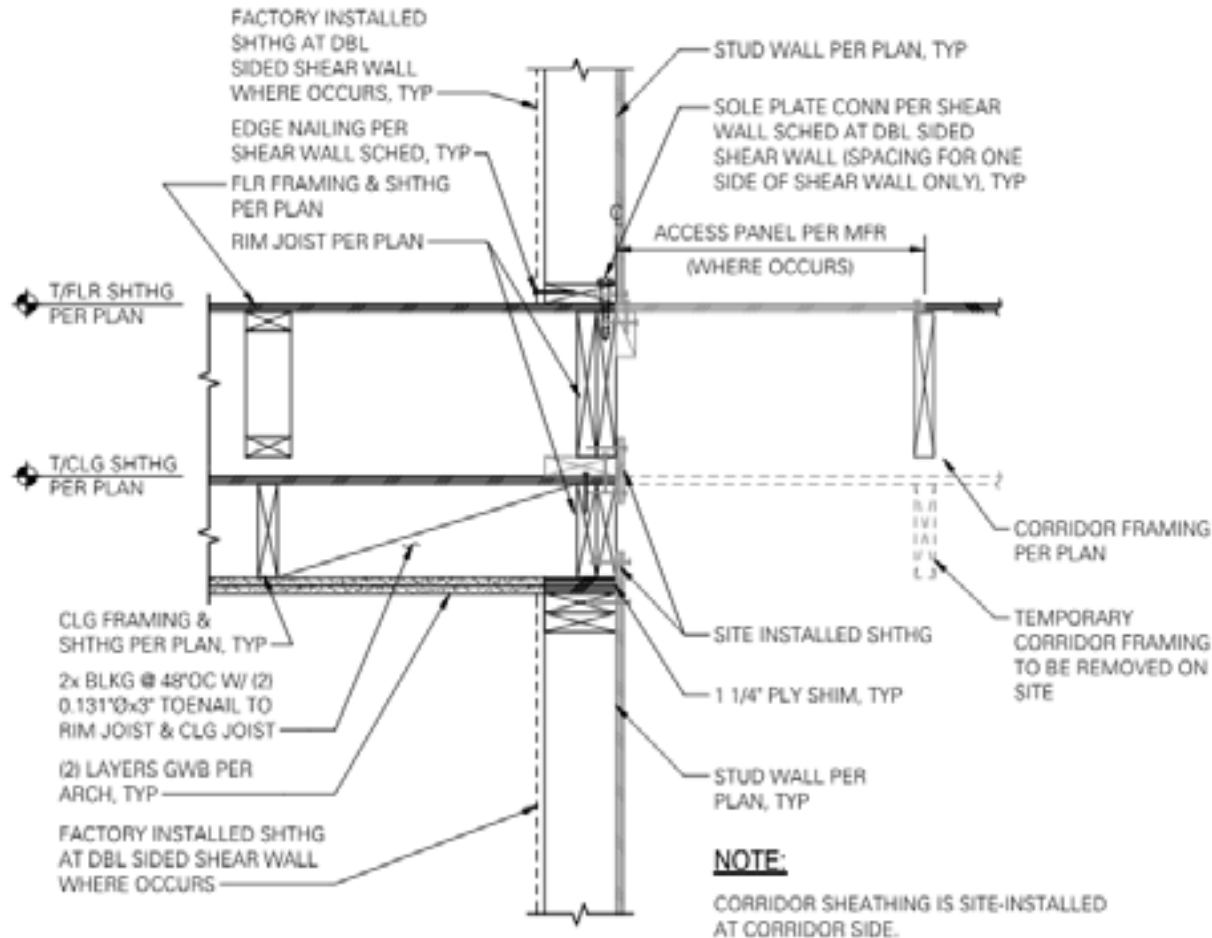
SCALE: 1" = 1'-0"



TYPICAL MATELINE AT MODULAR STACK (SITE-INSTALLED)

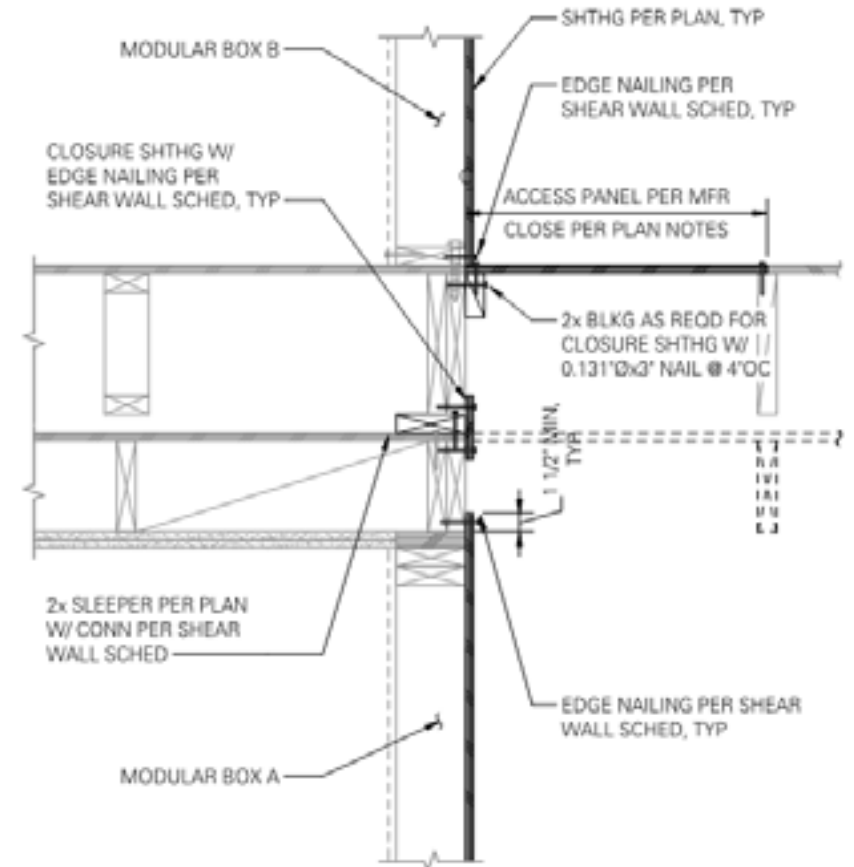
SCALE: 1" = 1'-0"

Example Structural Details - Corridor



**TYPICAL CORRIDOR AT MODULAR STACK
(FACTORY)**

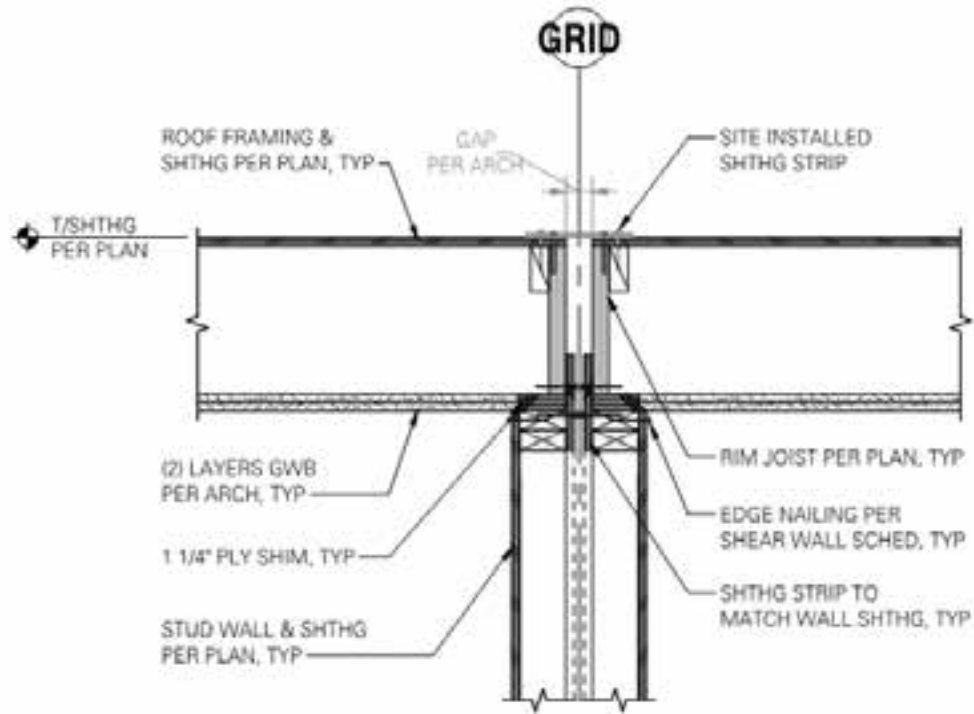
SCALE: 1" = 1'-0"



**TYPICAL CORRIDOR AT MODULAR STACK
(SITE-INSTALLED)**

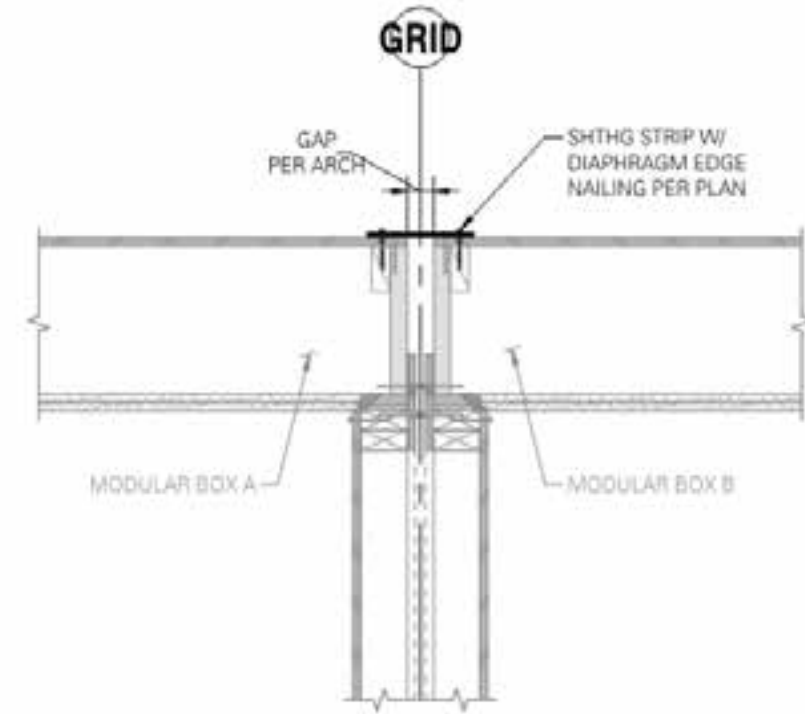
SCALE: 1" = 1'-0"

Example Structural Details – Roof Mateline



**TYPICAL MATELINE AT MODULAR ROOF
(FACTORY)**

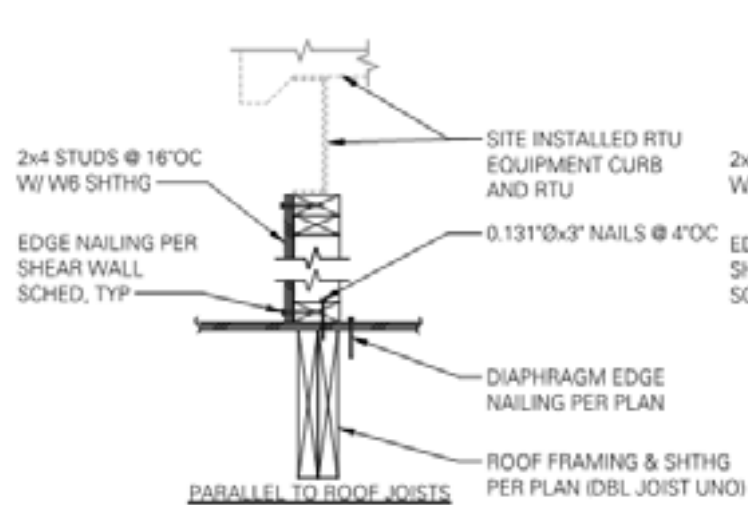
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**TYPICAL MATELINE AT MODULAR ROOF
(SITE-INSTALLED)**

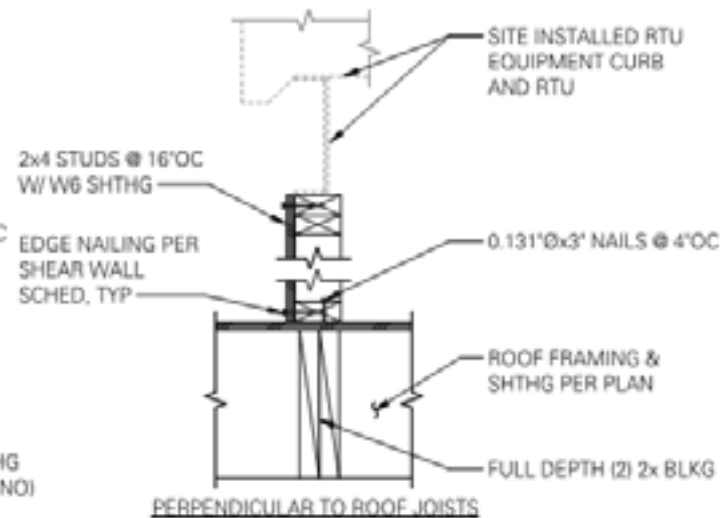
SCALE: 1" = 1'-0"

Example Structural Details – RTU Curb



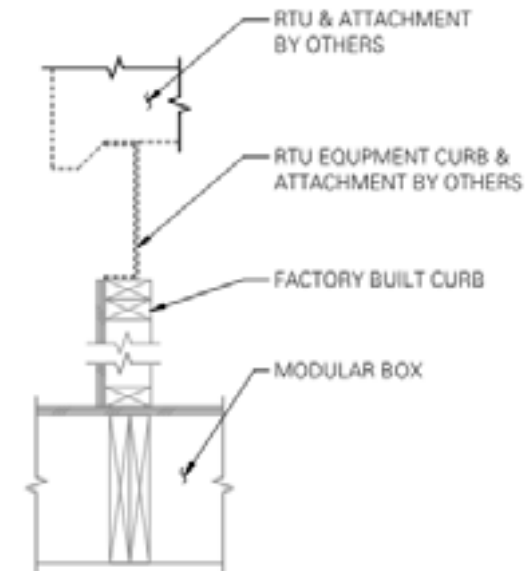
**TYPICAL ROOF TOP EQUIPMENT SUPPORT
(FACTORY)**

SCALE: 1" = 1'-0"

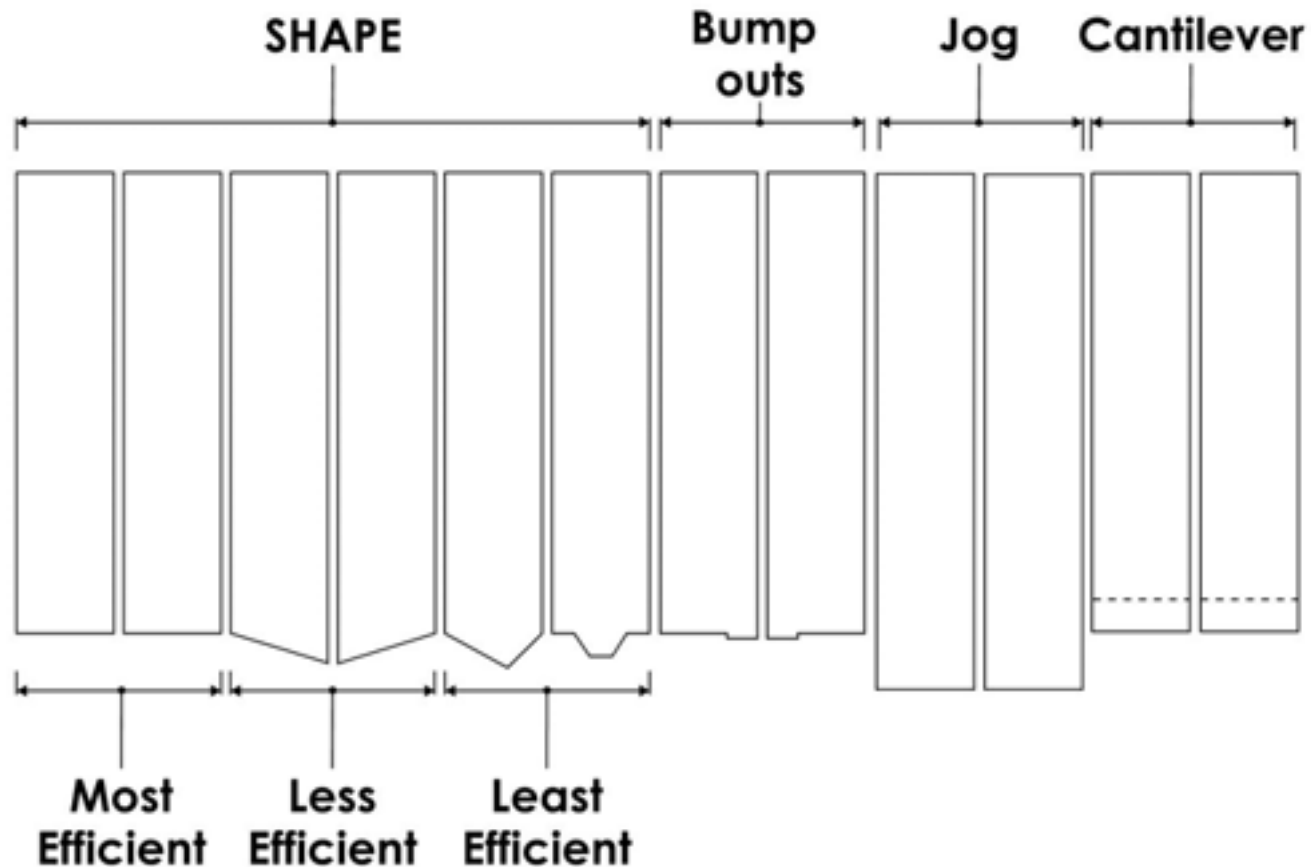


**TYPICAL ROOF TOP EQUIPMENT SUPPORT
(SITE-INSTALLED)**

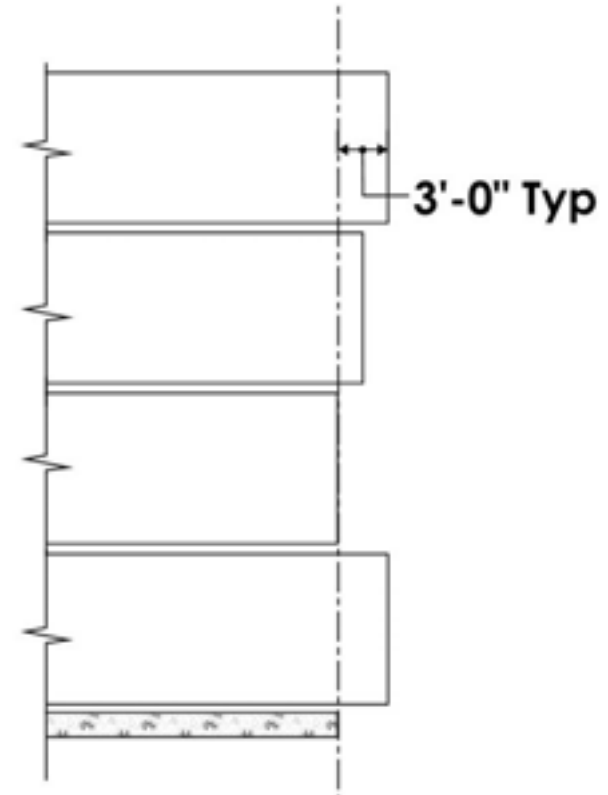
SCALE: 1" = 1'-0"



Exterior Articulation Options



PLAN



SECTION

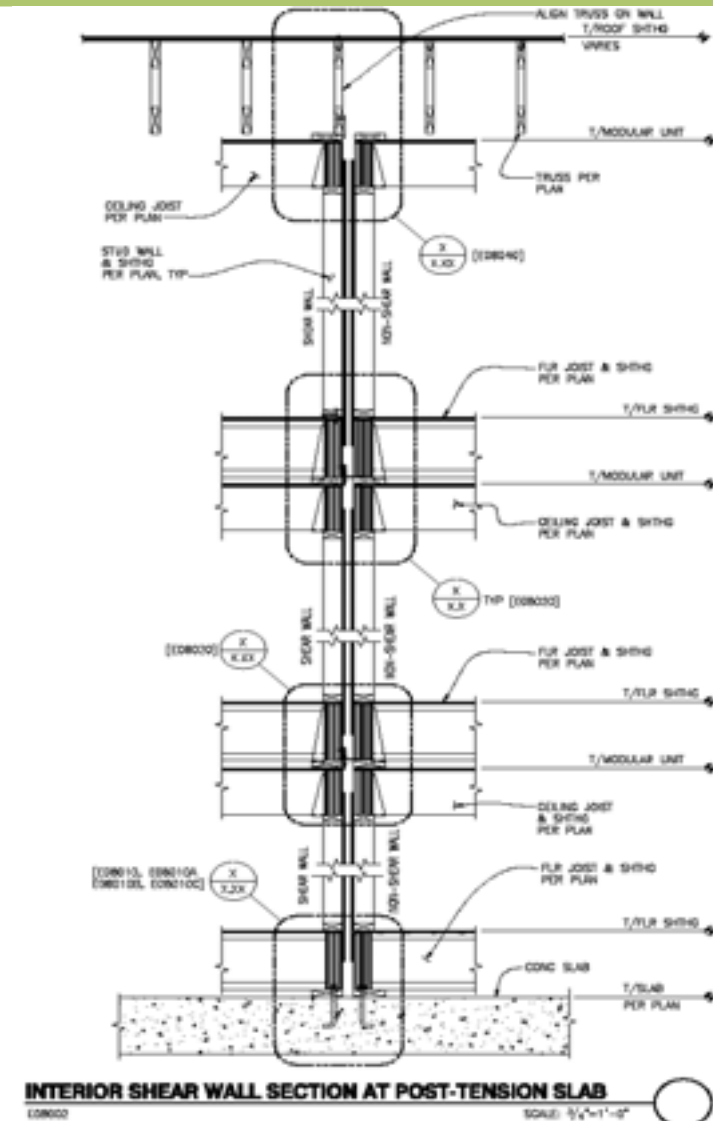
Supporting Structure

DIRECT TO FOUNDATION

- Crawl space on continuous concrete footings
- Concrete mat slab foundation

PODIUM

- Concrete podium transfer slab
- Steel podium with concrete over metal deck
- Precast options such as hollow-core plank are feasible but not typical



Site-Built Structure

SITE BUILT FIRST LEVEL

- Conventional wood framed first floor with modular on top
- Steel, wood, or masonry framing to accommodate local transfer areas



> QUESTIONS?

This concludes The American Institute
of Architects Continuing Education
Systems Course

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