YES!!!!!
CFS CAN DO THAT

The Many Uses of CFS Framing in the United States

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ADTEK

CFSEI
COLD-FORMED STEEL ENGINEERS INSTITUTE

SFIA
STEEL FRAMING INDUSTRY ASSOCIATION

Celebrating 25 Years Of Supporting Cold-Formed Steel Framing
MASFA
Steel Leads the Way
Established 1999

Copyright Material

Learning Objectives

- Identify the many ways CFS framing is used in the United States
- Show how CFS framing can be used in many types of projects
- Show how CFS can be used with other building materials
- Give examples of how CFS is used in actual projects

CFS FRAMING USES IN PROJECTS

Practical Uses For Cold-Formed Steel

Sheathed Floor Systems

Concrete Floor Systems

Whole Buildings

Roof Systems

Exterior Wall Systems (load bearing or curtain wall)

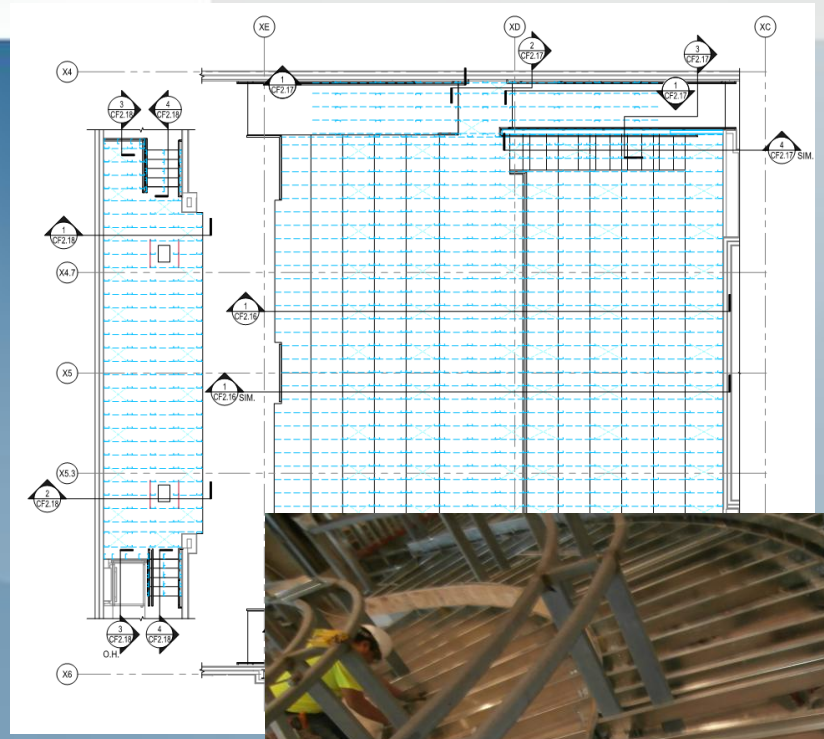
“Sweet Spot” for CFS Wall Framing

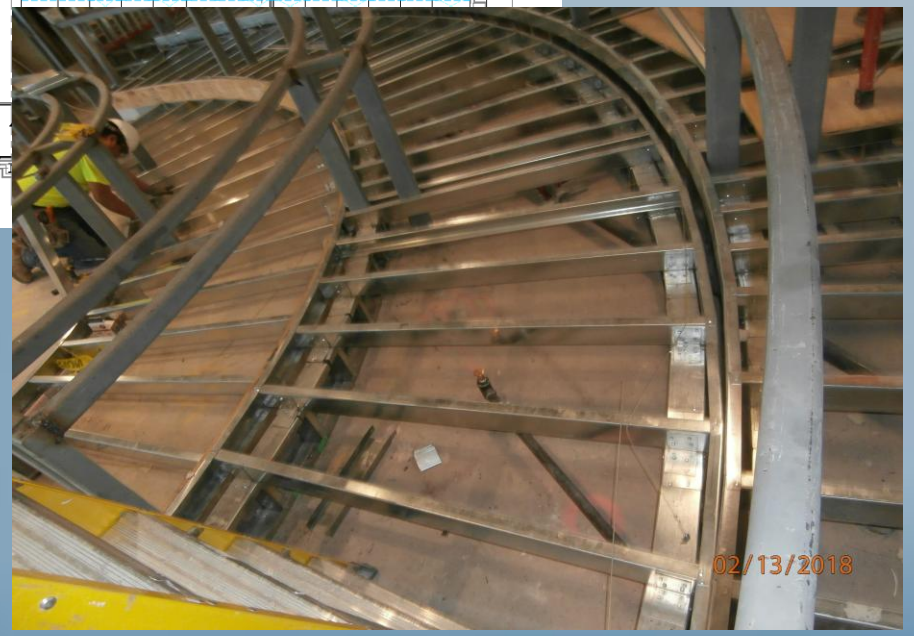
- **Interior Non-Structural Walls**
- **Exterior Non-Load Bearing Walls**
- **Load Bearing Walls**
  - **Low to Mid-Rise** (1-9)
    - Hotel & Motel
    - Apartment & Condo
    - Assisted Living
    - Dormitories
    - Multi-Family
    - Mixed Use

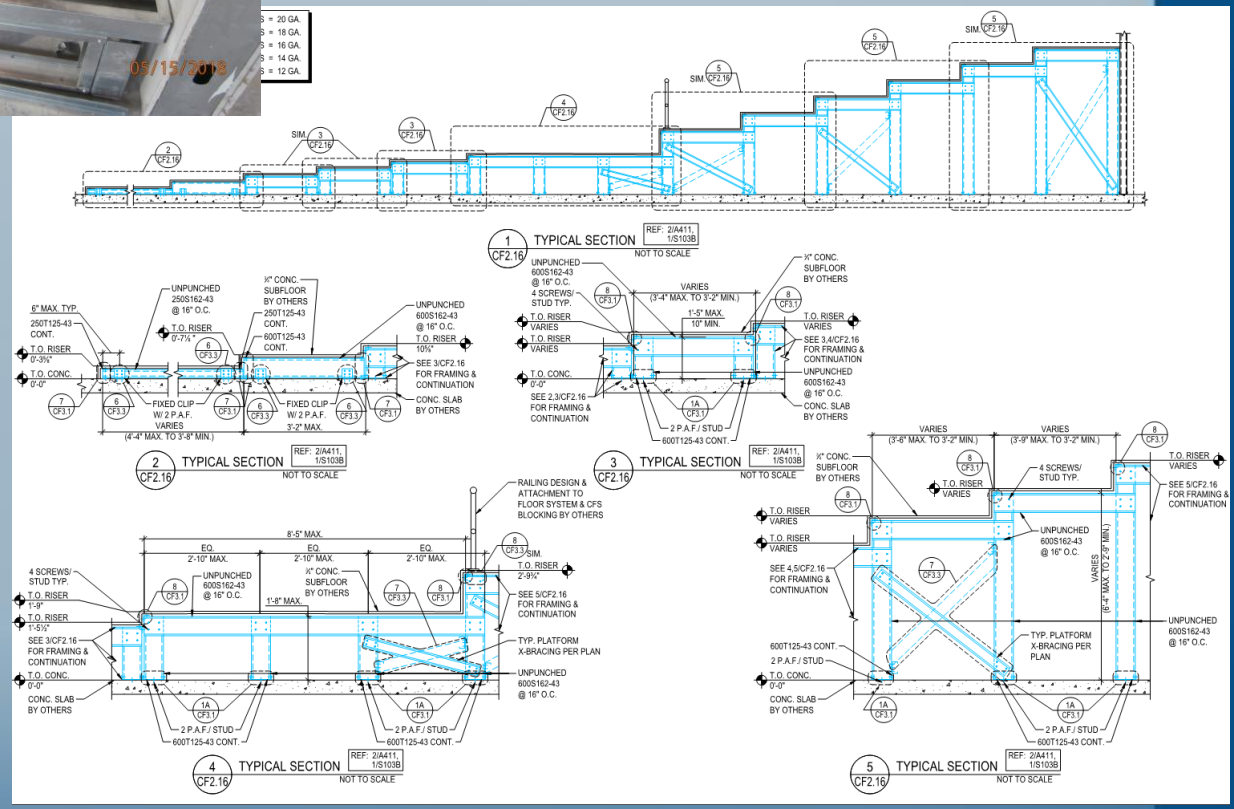
Interior Non-Structural Framing

Interior Non-Structural Framing

Interior Platforms, Seating and Raised Floors







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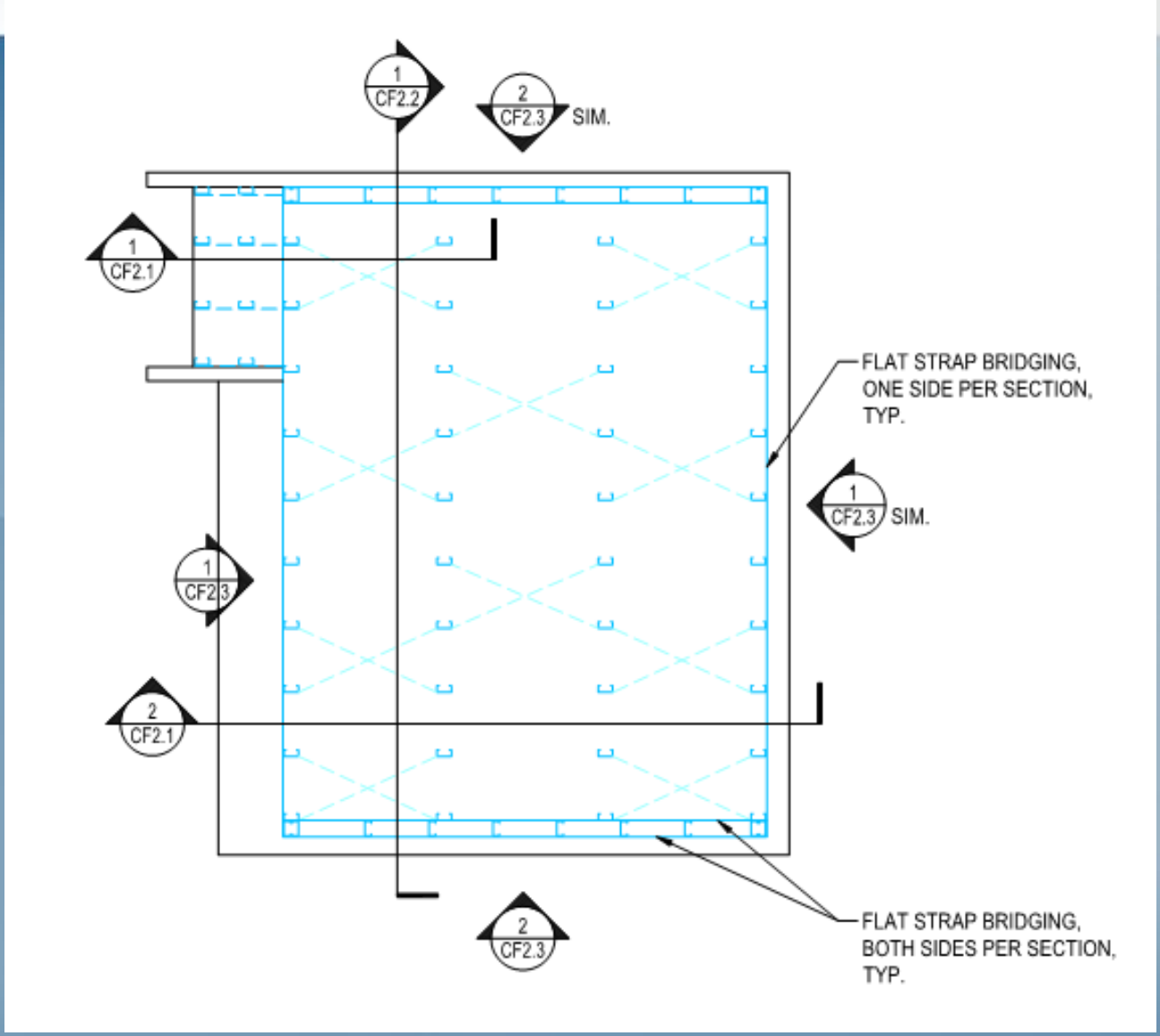
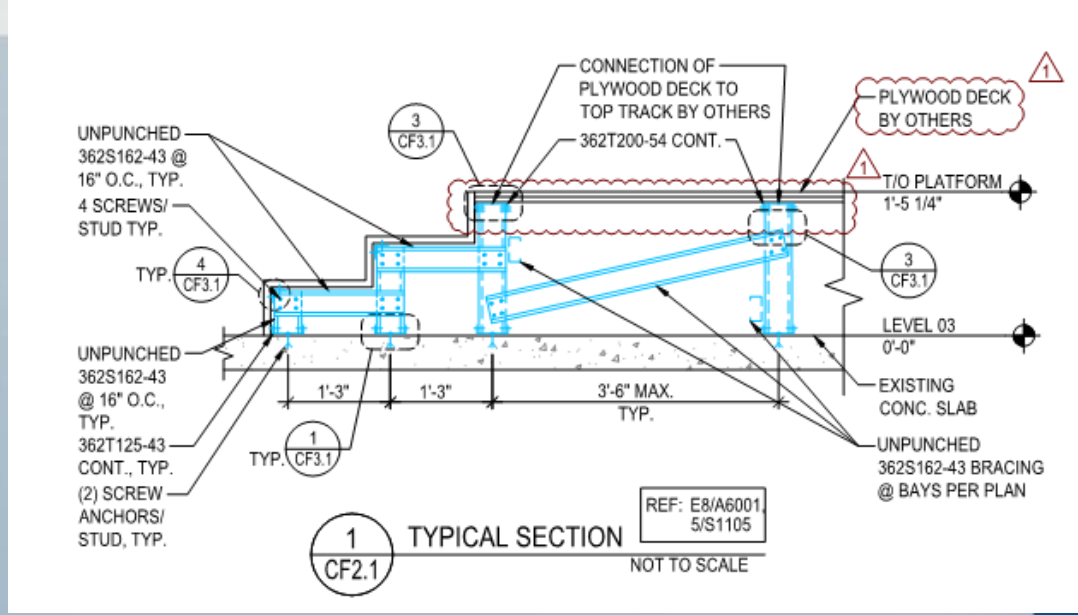
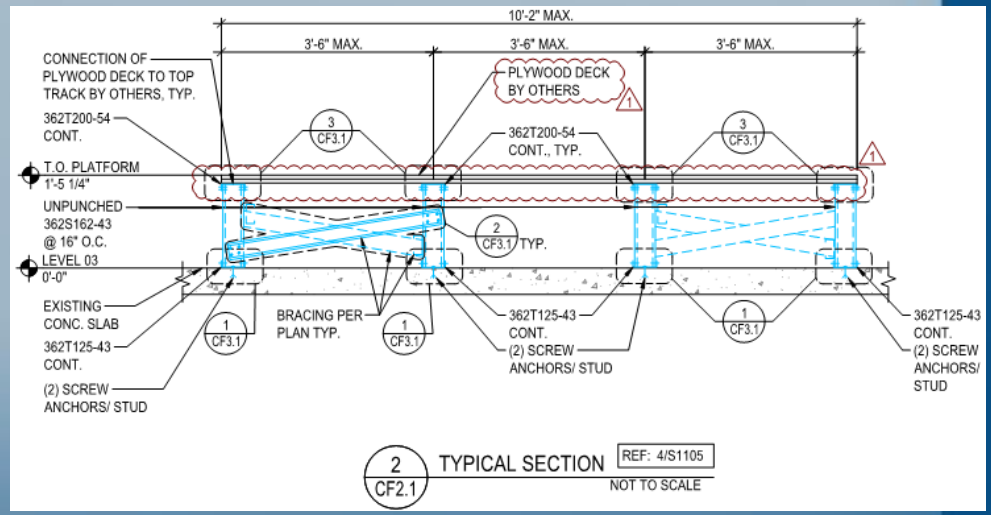
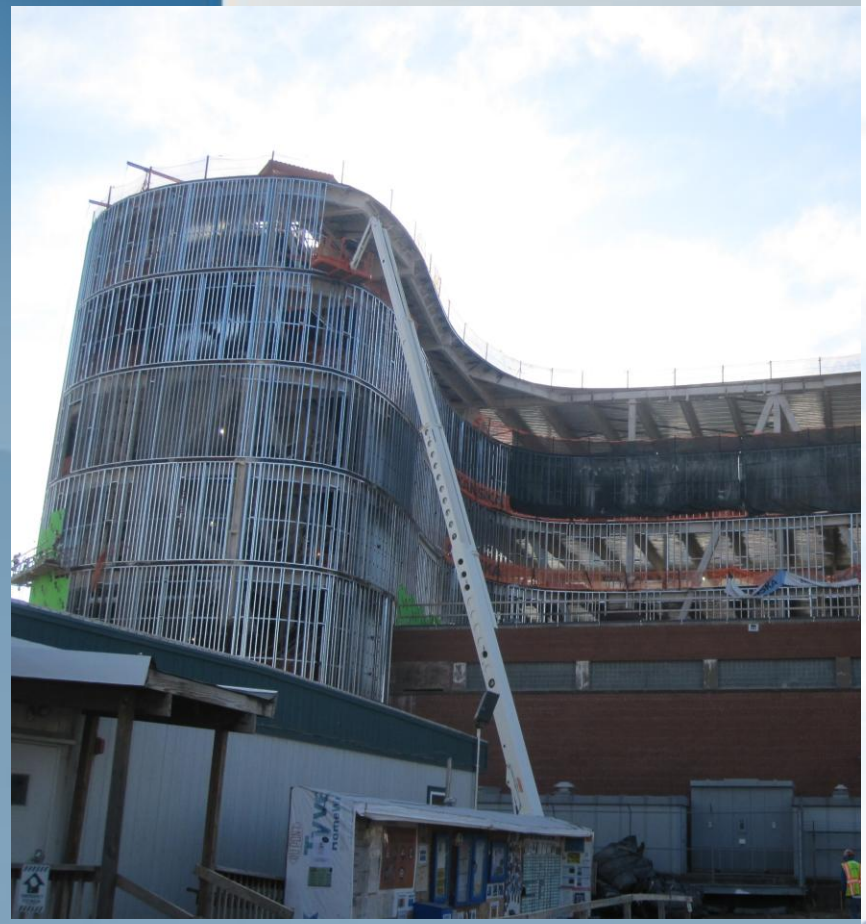






Exterior Non-Load Bearing (Still Structural)

Exterior Non-Load Bearing – Curved Surfarces



Exterior Ceiling / Soffit

Load Bearing Framing (Interior & Exterior)

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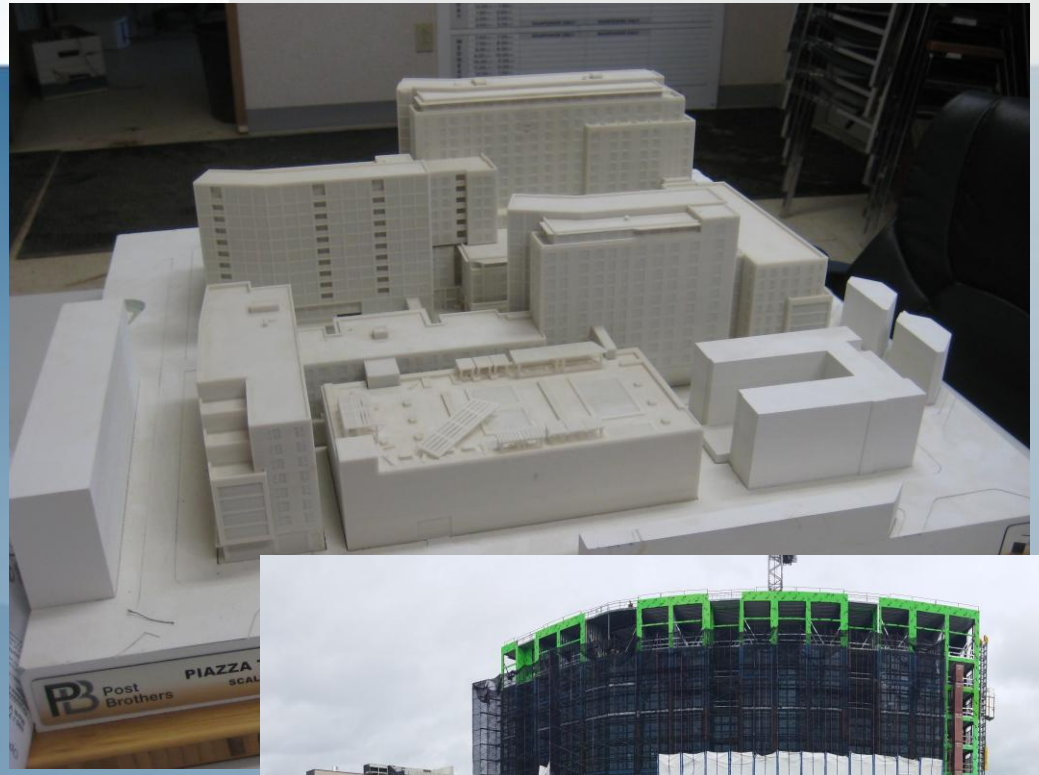
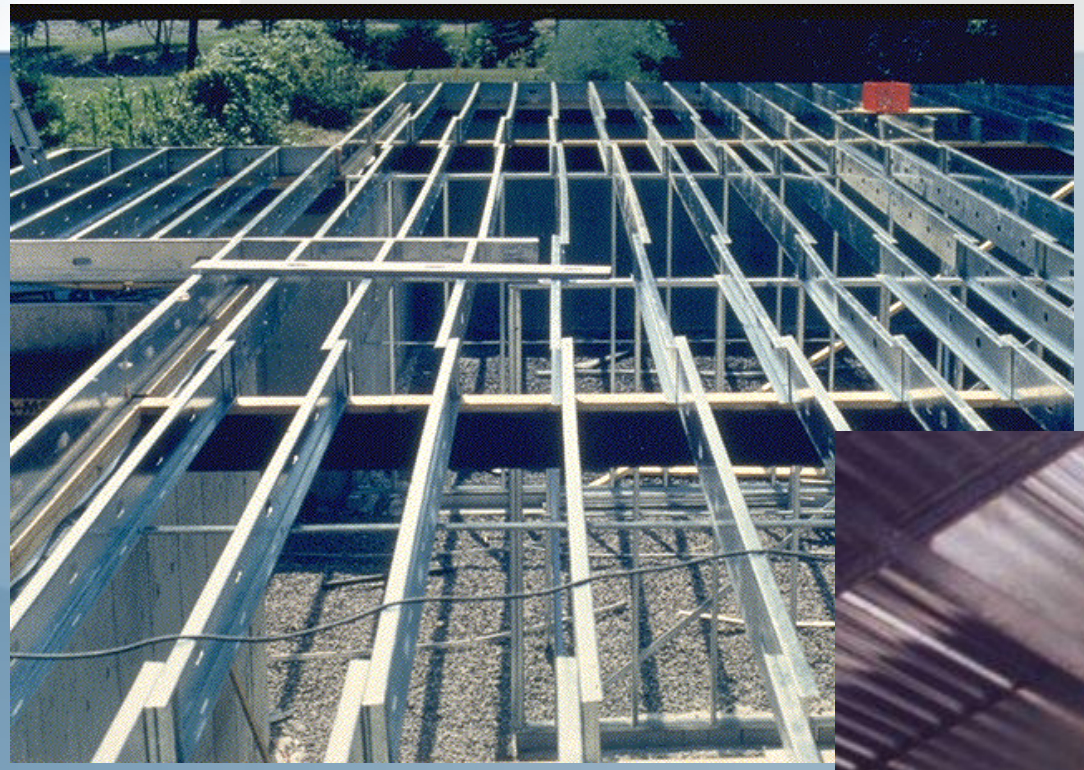
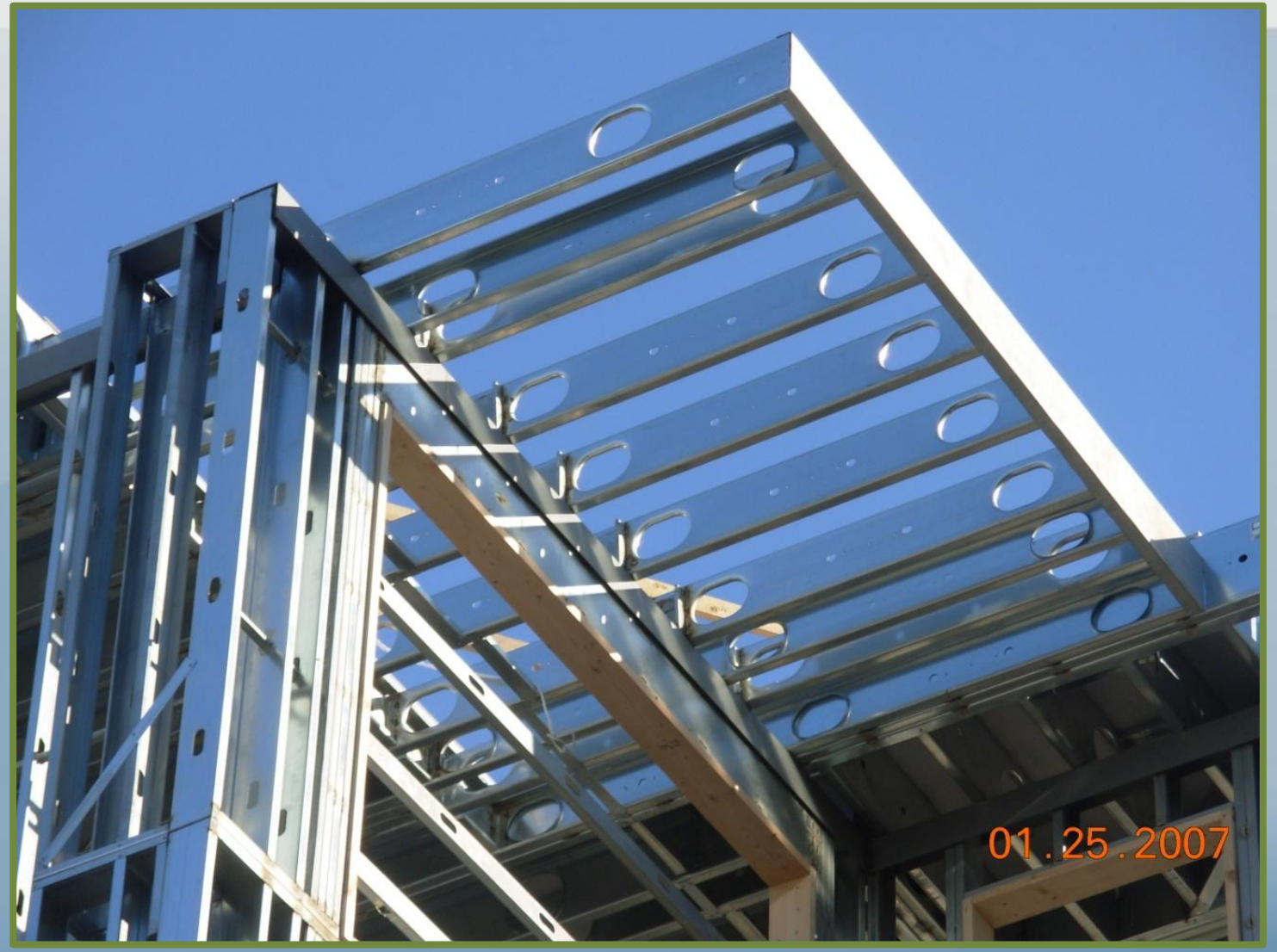


Load Bearing Framing (Interior & Exterior)

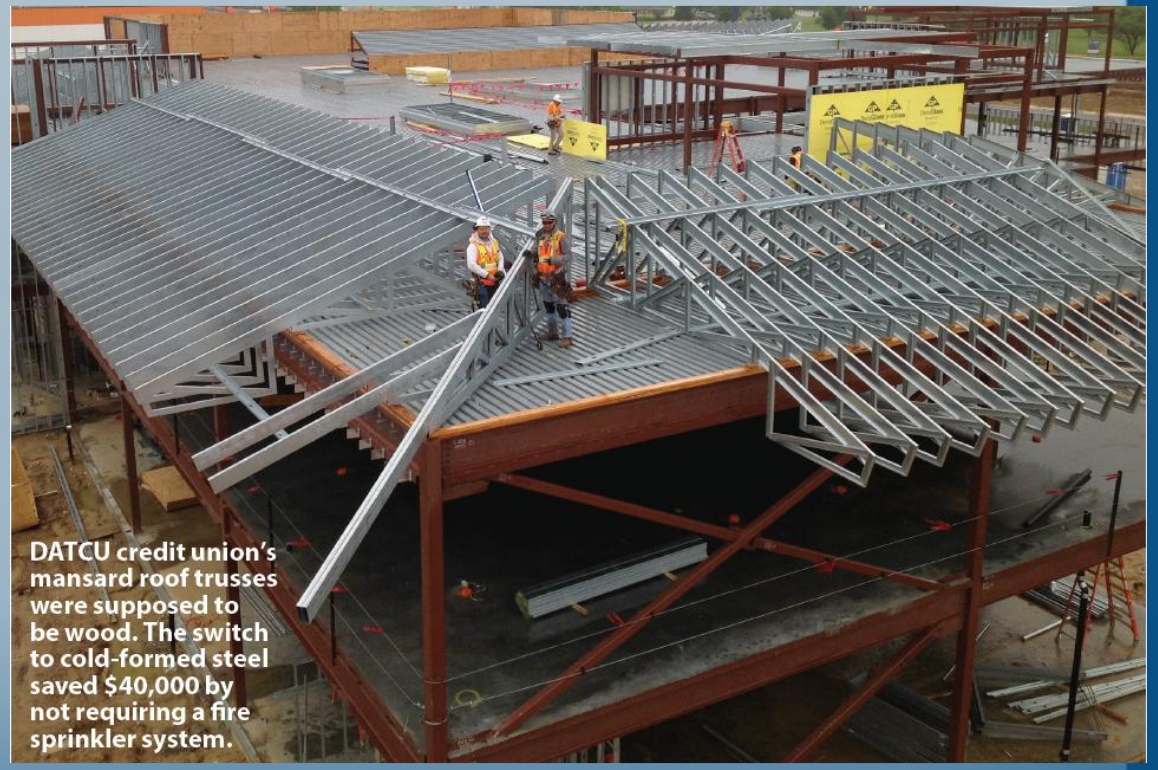
Floor Joist and Truss Framing



Balcony Framing

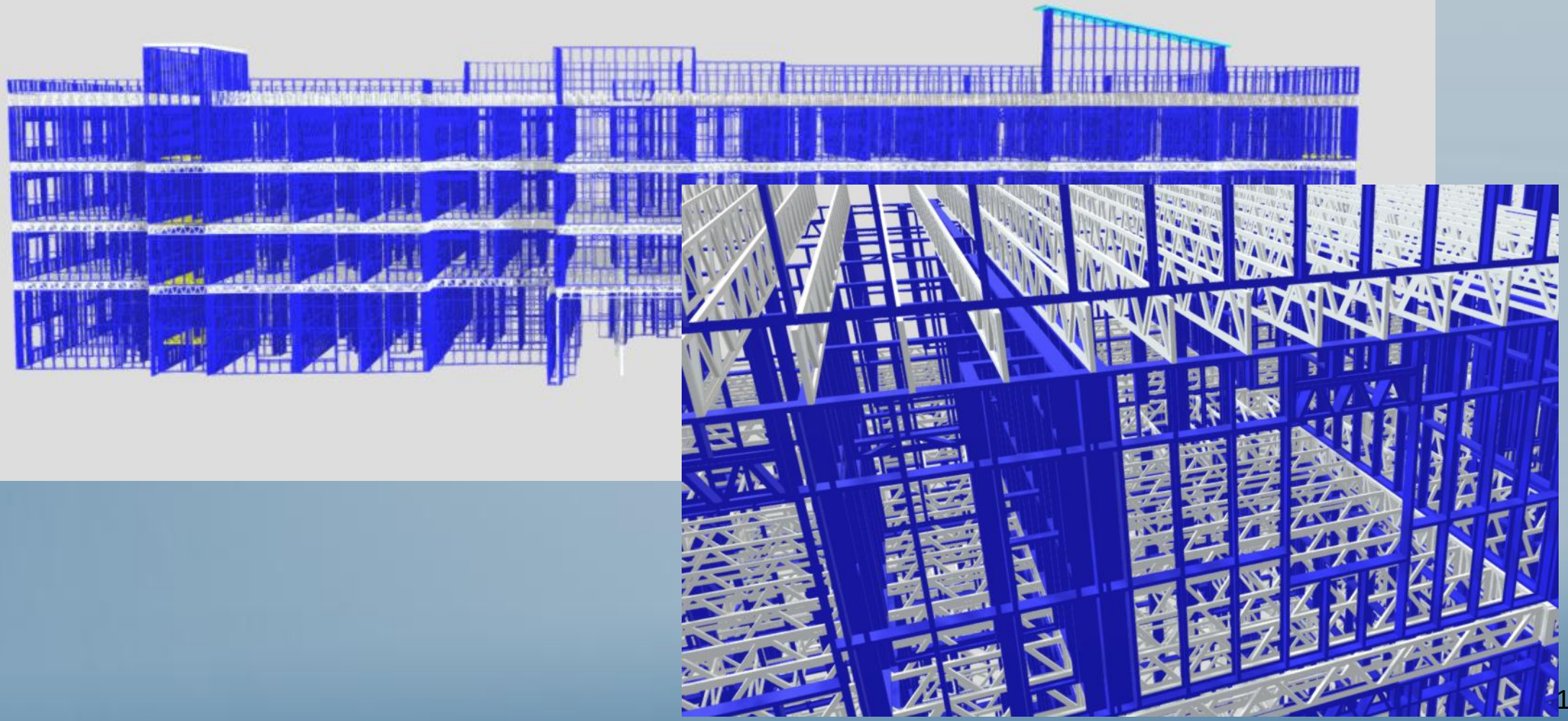


Roof Rafter and Truss Framing



DATCU credit union's mansard roof trusses were supposed to be wood. The switch to cold-formed steel saved $40,000 by not requiring a fire sprinkler system.

Fully CFS System (Walls, Floors and Roof)



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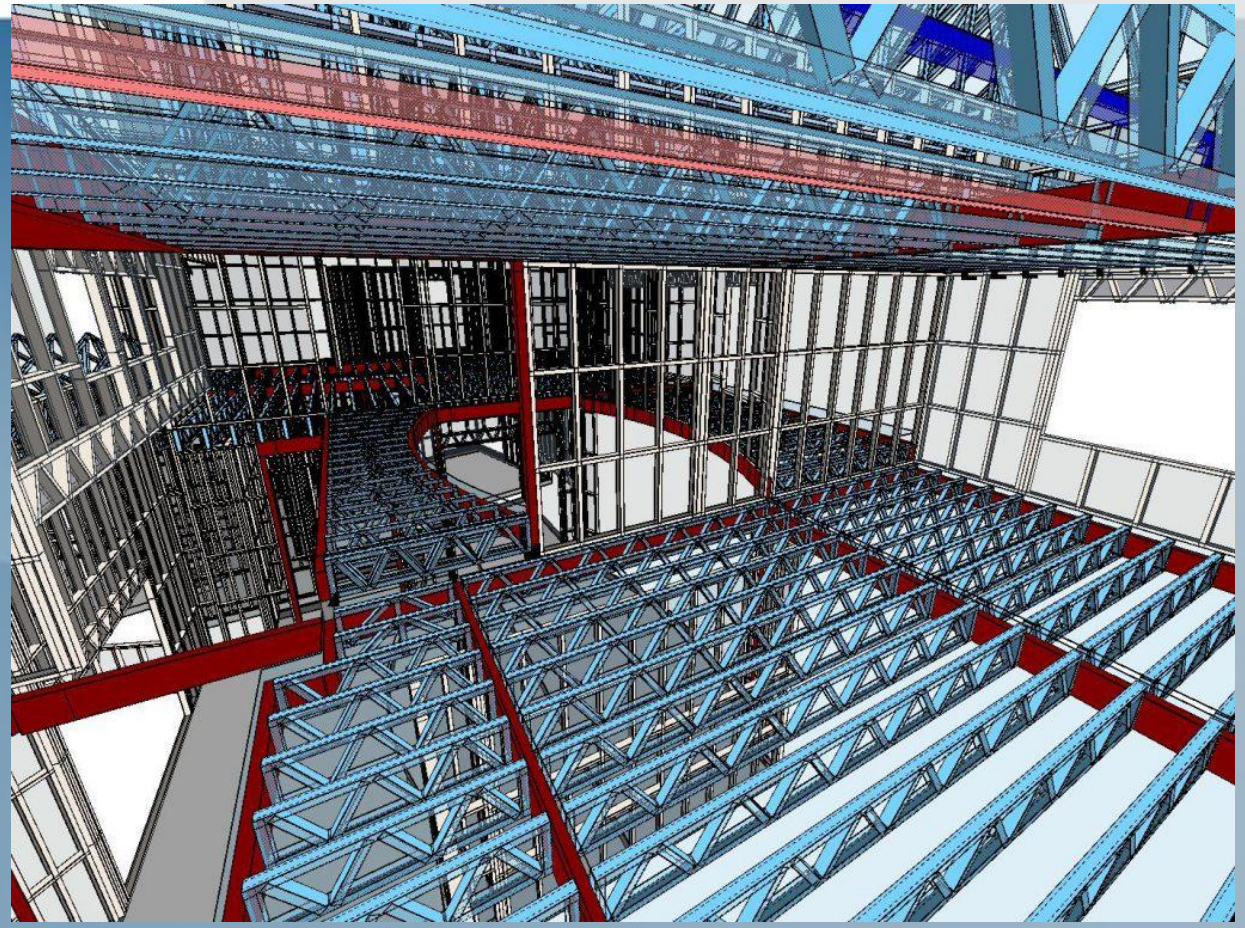
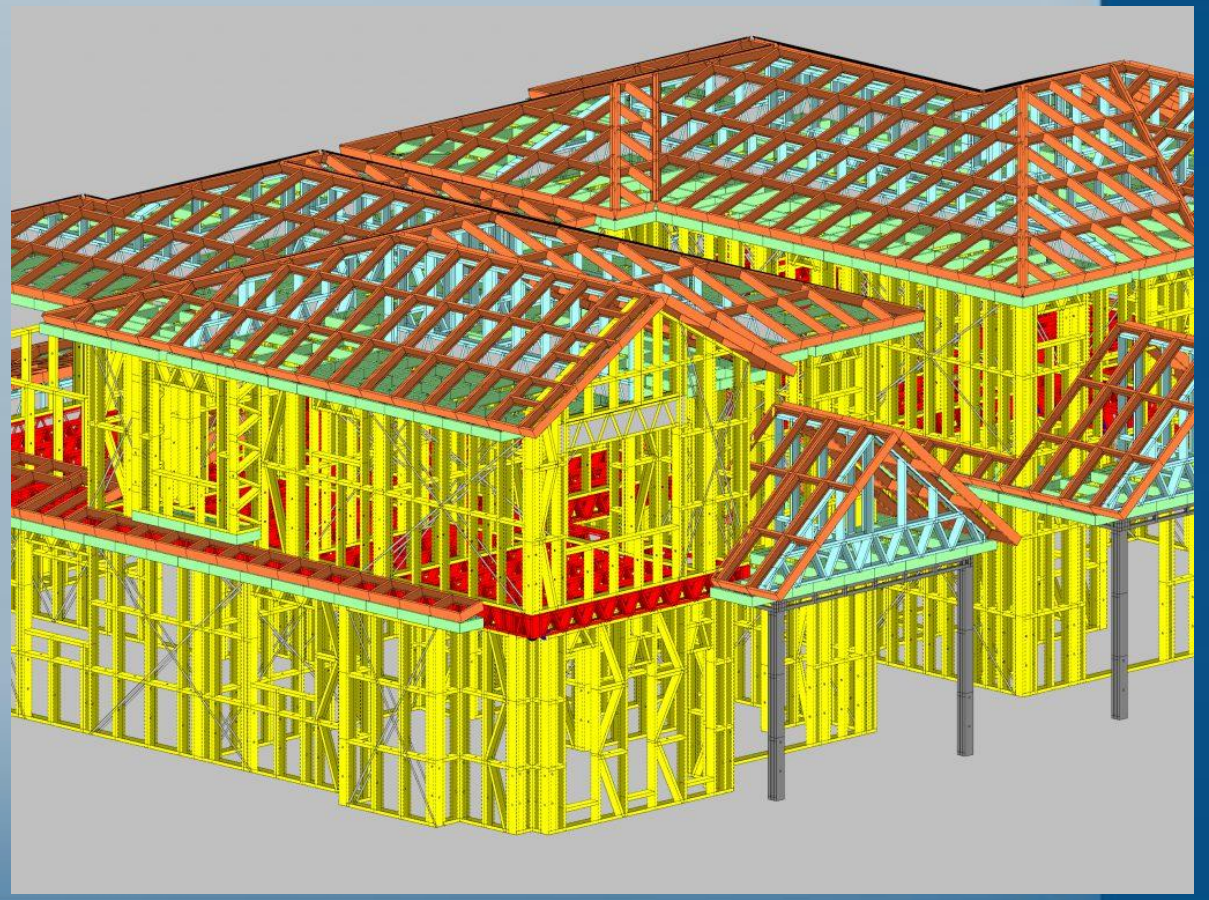
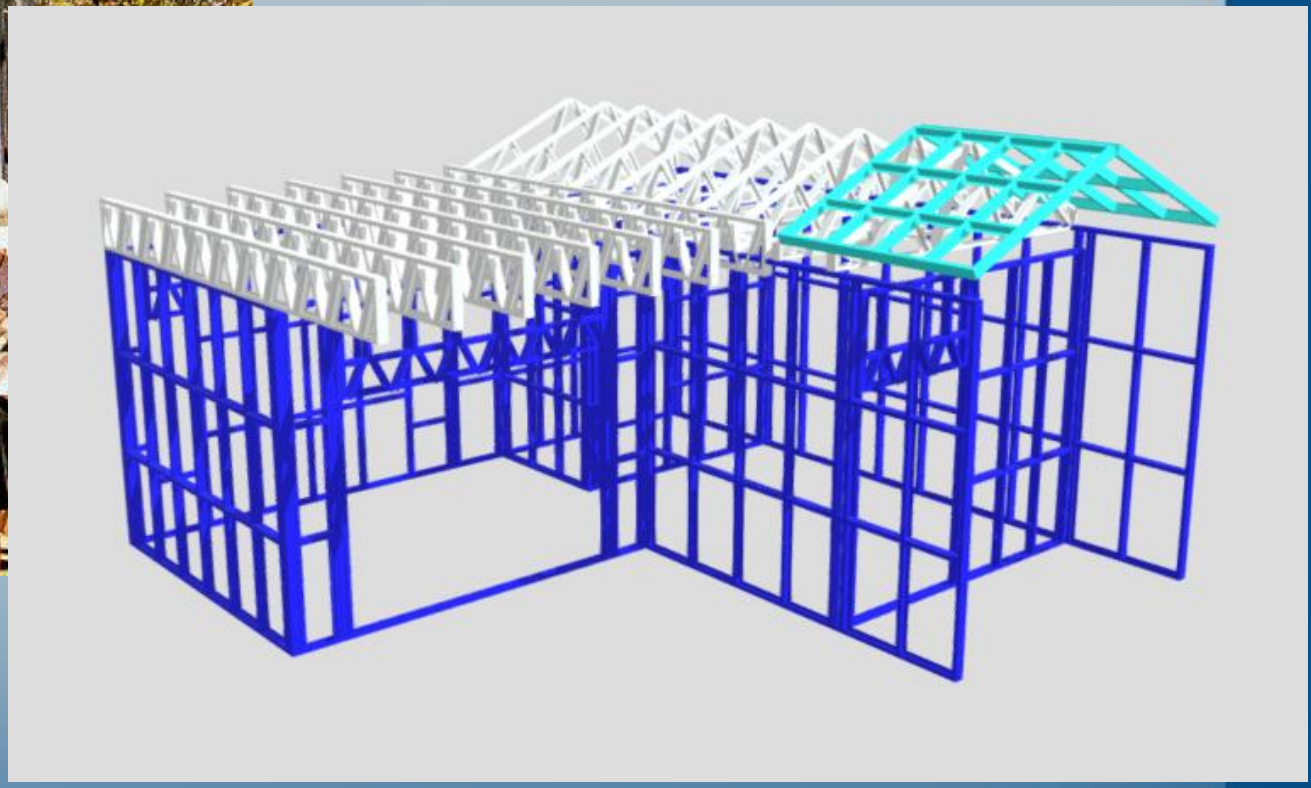




Houses



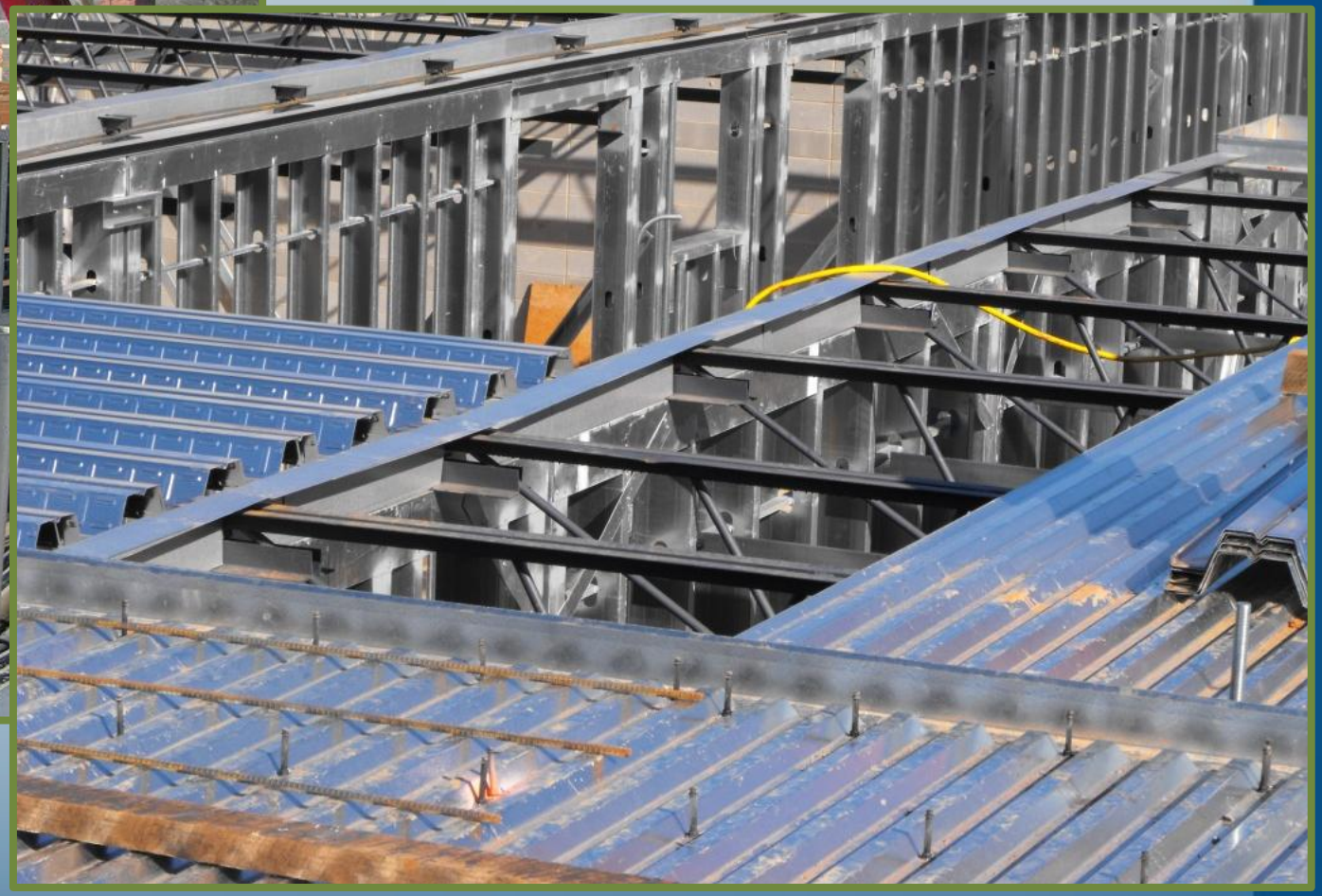
USE OF CFS FRAMING WITH OTHER CONSTRUCTION MATERIALS

Interior Steel Frame with CFS Floor & Exterior Wall

CFS Framing Over Concrete Podium

Concrete/Masonry Stair & Elevator Towers

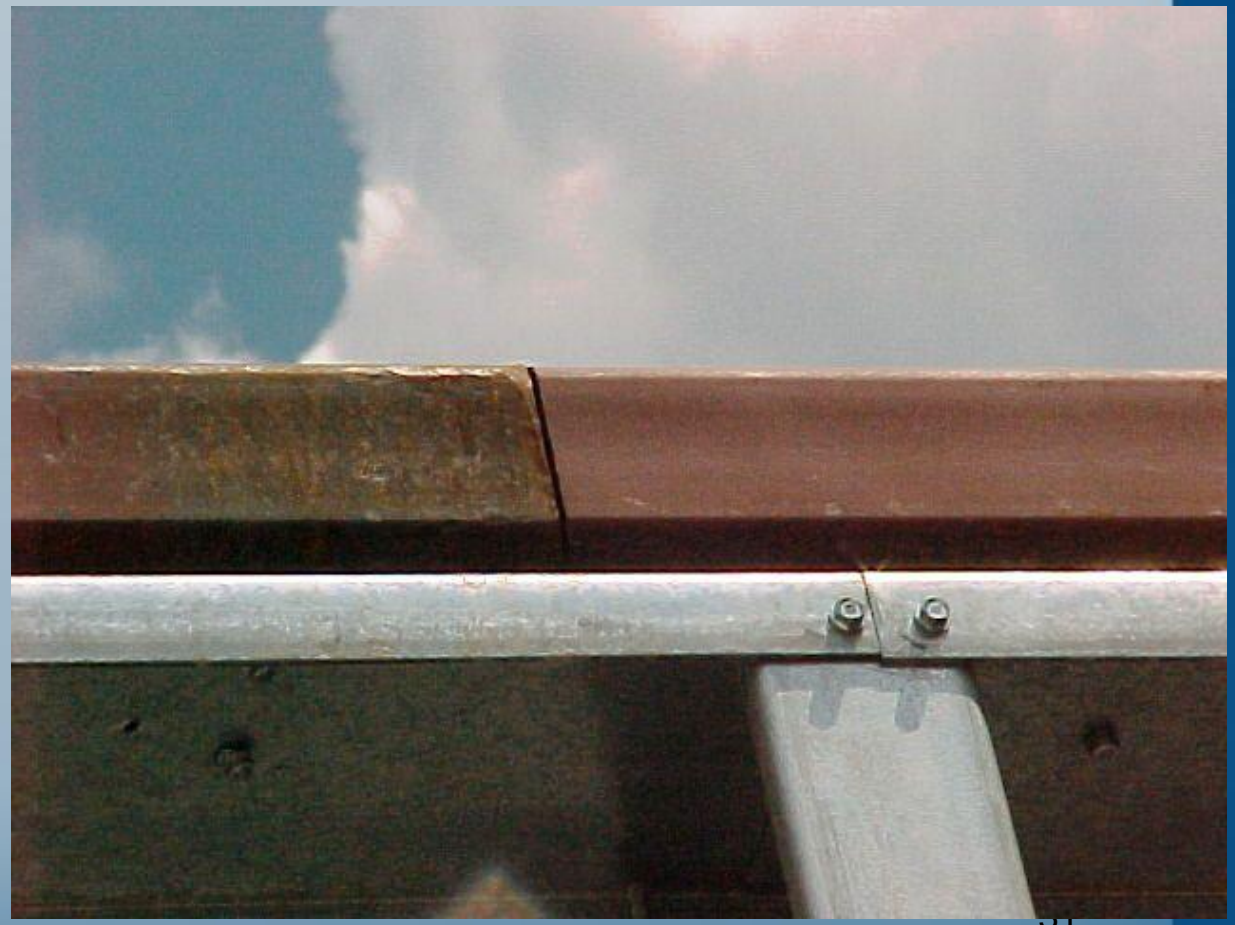
Composite Concrete Deck Floors



Precast Concrete Plank Floors/Roof

Wood Floor and Roof Trusses

Load Distribution Members



Heavy Strucral Steel

THE FUTURE OF CFS FRAMING (SOME OF IT IS NOW!)

Wall, Floor and Roof Panelization

Volumetric Construction (Modular)

Multi-Story Modular

Multi-Story Modular

Tiny Homes

Matsen Tower

- How tall could CFS go overall?
- Conceptual Design
- Type R-3 Apartment Tower
- Conventional Materials
- Generic SFIA cold-formed steel profiles

Matsen Tower

- Physical description
  - 10’-0” story heights
  - 25’- 6” c-c demising walls
  - 2 stairwells (CIP)
  - 4 elevator central core (also CIP)
  - Central corridor

Matsen Tower

- 6” C Studs
- 12” C Joists
- 12”, 16”, 24” spacing
- Lightweight EPDM on metal roof deck
- 1-Aluminum post balconies each floor
- 1/2” gypsum concrete on metal deck floors
- Lightweight exterior finishes

COLD-FORMED STEEL RESOURCES (US)

Cold-Formed Steel Design Standards Currently in IBC

North American Specification – AISI S100

- Non-Structural Framing - AISI S220

- Structural Framing - AISI S240

- Seismic Design - AISI S400

- Diaphragm Design - AISI S310

- Residential Prescriptive- AISI S230

Cold-Formed Steel Design Resources and Education

- Cold-Formed Steel Engineers Institute (CFSEI)

AISI Standards and the North American Specification available for free download

Technical Notes

Design Guides

Extensive library of On-Demand Webinars

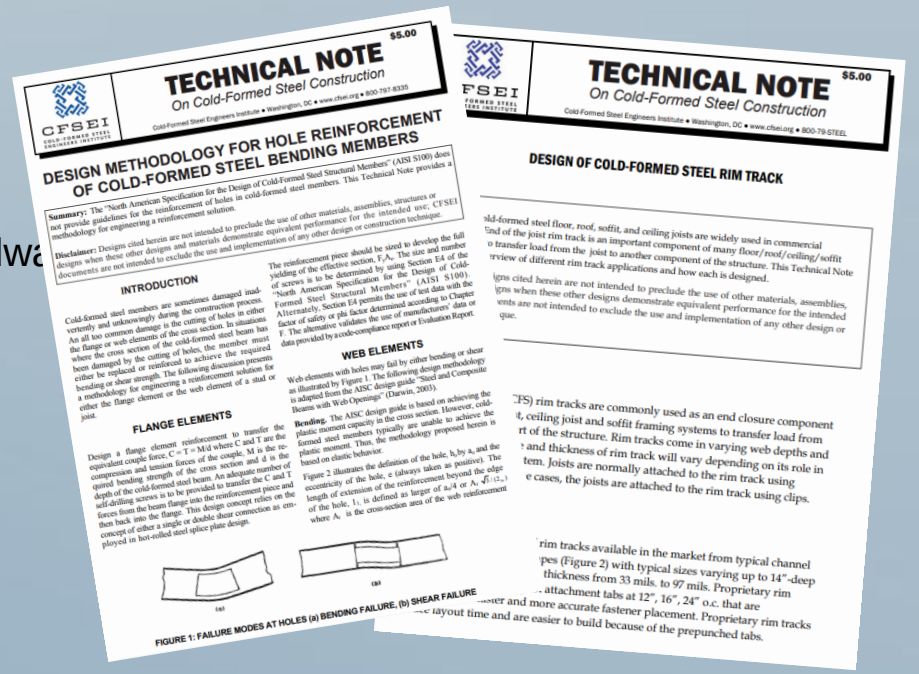
Common Construction Details

Research Reports

Other Resources

Cold-Formed Steel Design Resources and Education

- CFSEI Technical Notes
  - 40+ Existing Tech Notes
    - B000 – Beginner Tech Notes
    - D000 – Corrosion Protection
    - F000 – Fasteners and Connection Hardwa
    - J000 – Floor and Joist Systems
    - W000 – Wall Systems
    - T000 – Thermal, Fire, and Acoustic
    - L000 – Lateral Systems



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Questions?

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Ask an Expert Hotline
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