

BIM and Large Scale multi family wood framed structures – when is it a fit?



Units: 545 — Howard Hughes Center



Our background

- We have completed over 22,000 units of 5 story Type III construction, establishing our company as one of the most experienced Type III framers in CA.
- We have also completed a multitude of 2 to 4 story type V projects including tight inner city infill projects that require intense coordination with the builder and suppliers.
- Starting in 2006 over 20,000 MF units have been BIM coordinated and then built off-site.

Production Framing Facility



Our design and BIM process evolution

- Developed the software
- Built out the facility
- Built up the processes

Is my wood frame project a fit for a BIM

- Project size – MIN 150+ units
- Type of project – 4 story + projects - Slab on grade or Podium
- Is my customer suited to BIM?

What is BIM and tools being utilized?

- Building information modeling
- Revit
- Autocad
- Others
- Navisworks

When should I bring in the key trades ?

- Drawings need to be at minimum 90% DD.
- Get the framing contractor on board 4 months before podium or S.O.G survey begins.
- Podium interface.
- Superstructure interface.
- Why wait?

Key members of the BIM team

Consultants:

- Owners representative
- Architect
- Engineer

Subcontractors:

- Wood Framing
- HVAC
- Plumbing
- Electrical

Notes:

- Designer and Field Foreman should be present for final proof
- Team members should have the ability and authority to make decision

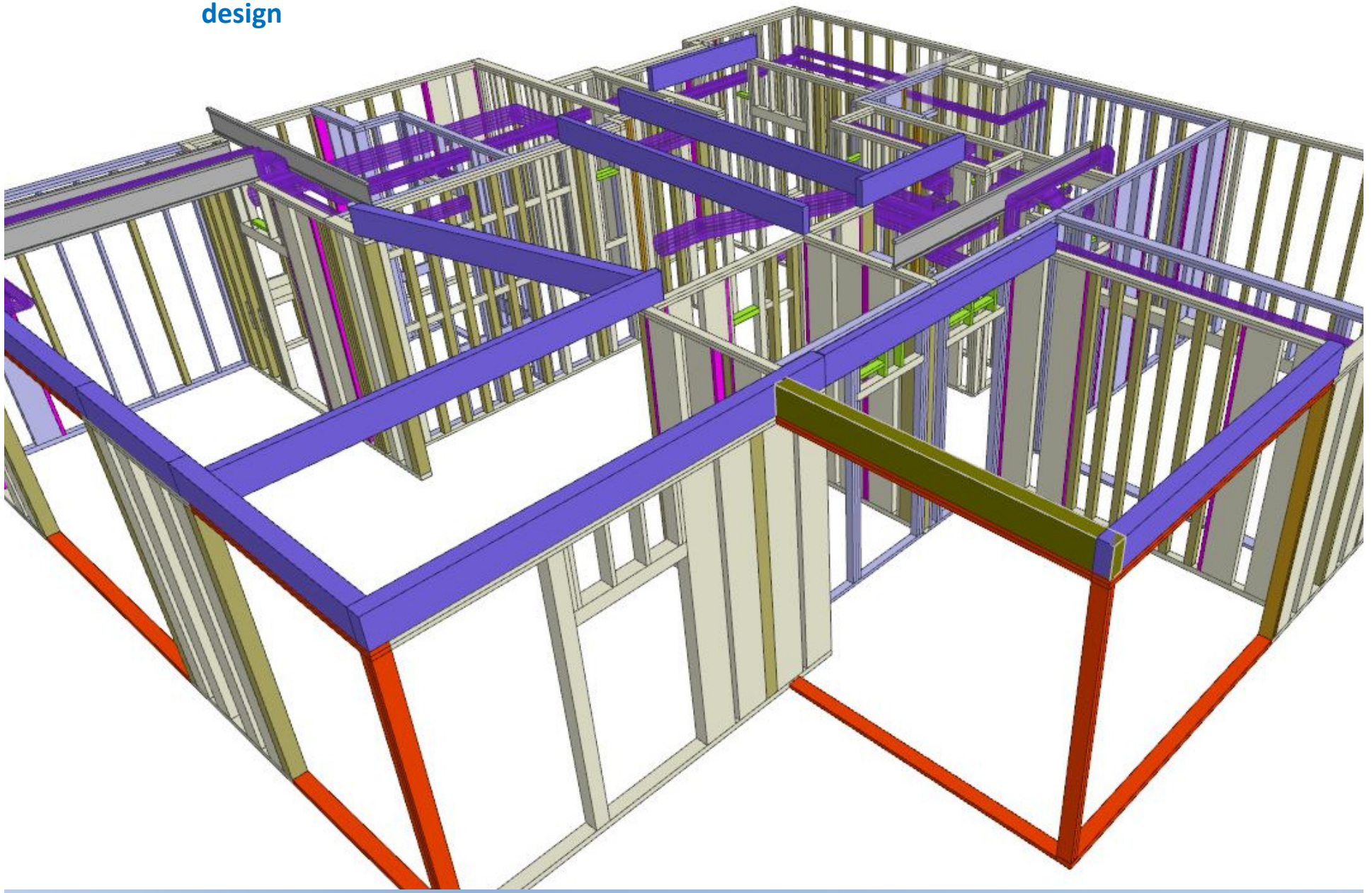
What are the plus and minus of going BIM

- Costs are both a plus and potential minus.
- Time invested.
- The savings if the process is followed properly.

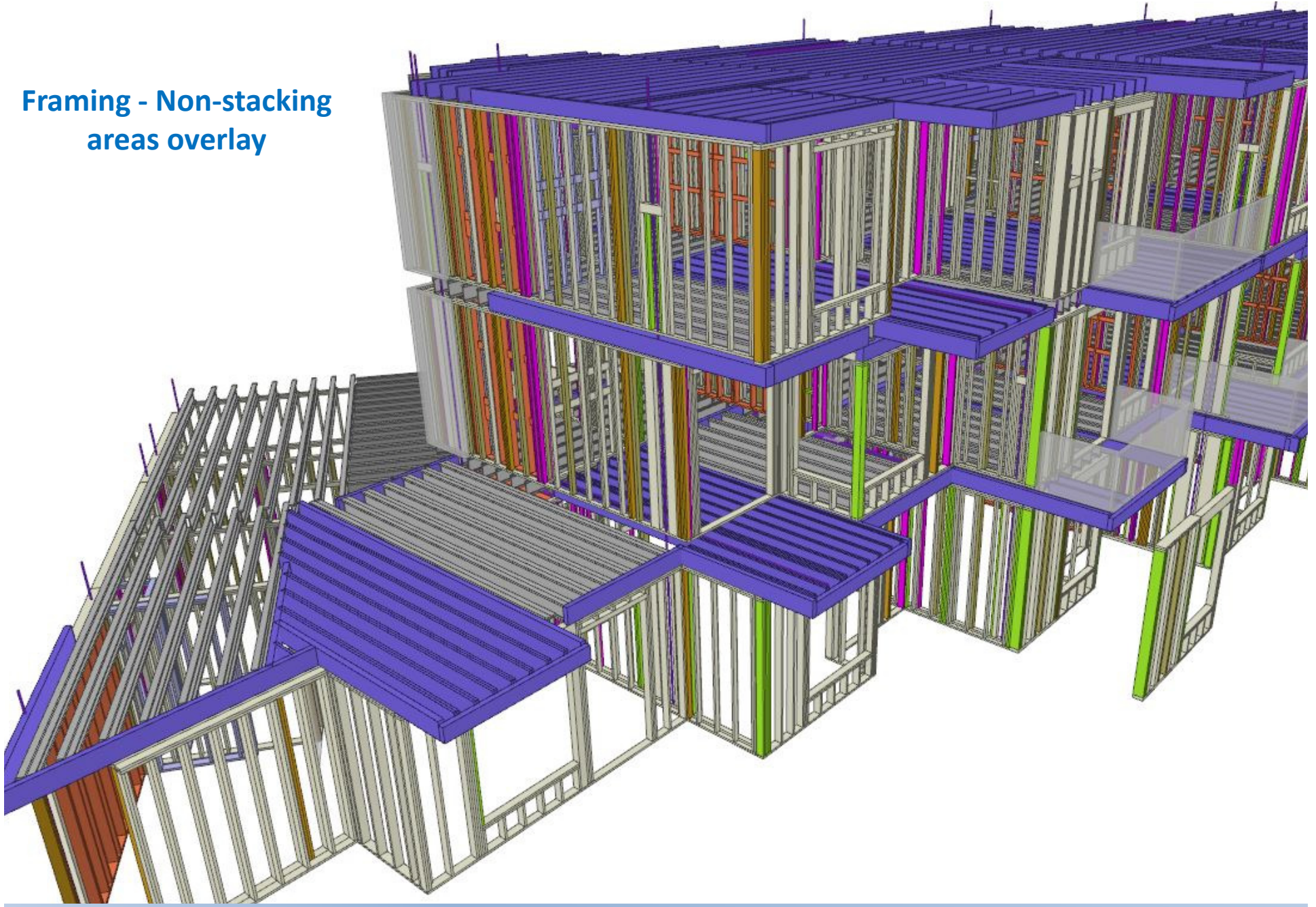
Key Benefits

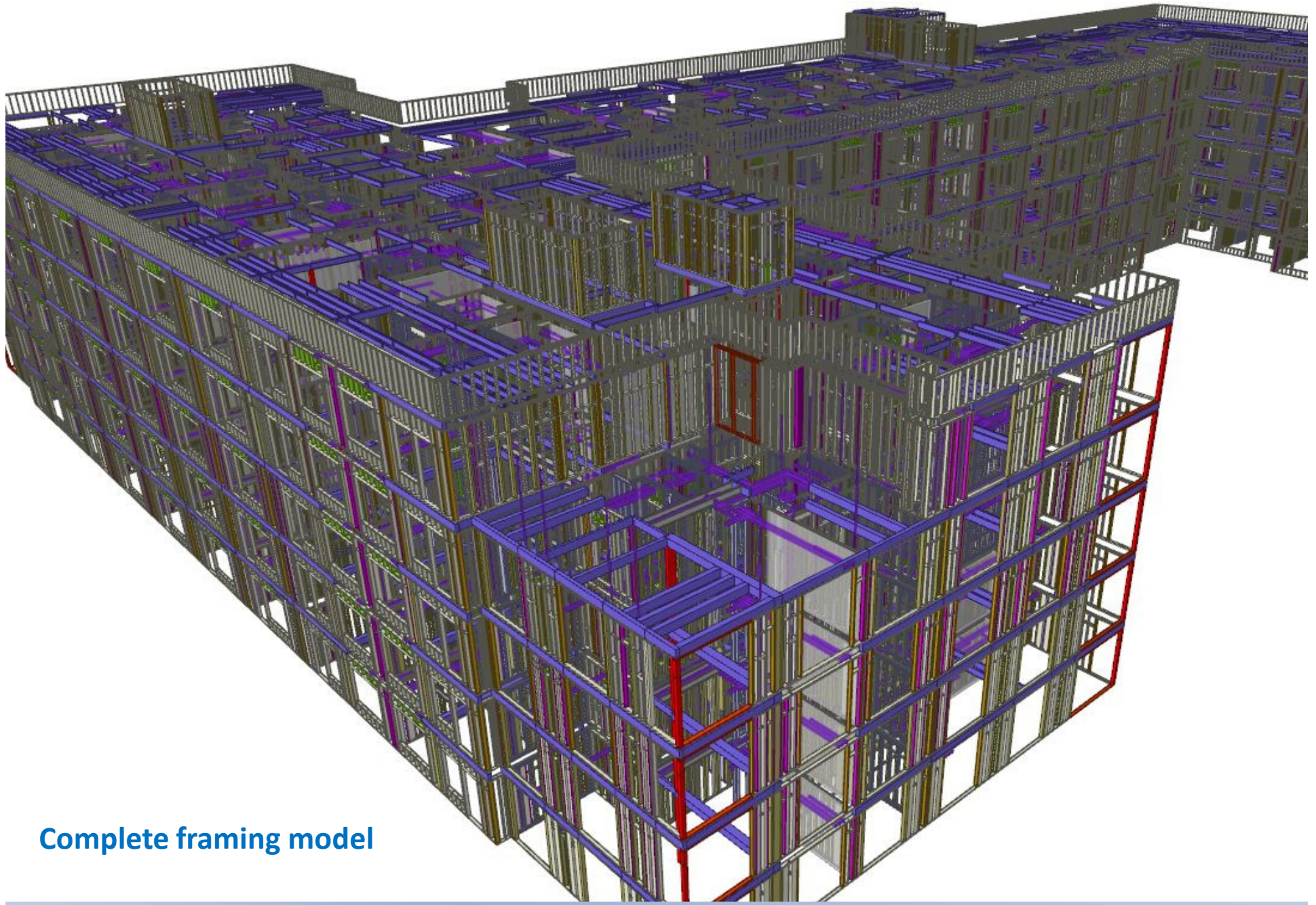
- Vetting majority of the issues prior to construction.
- Team interacts in advance during cooperation process.
- Coordinated model is utilized in the field directly.
- Coordination process potentially saves time on critical path and schedule.
- Cost savings related to future CO reduction.

Framing - Individual unit model design



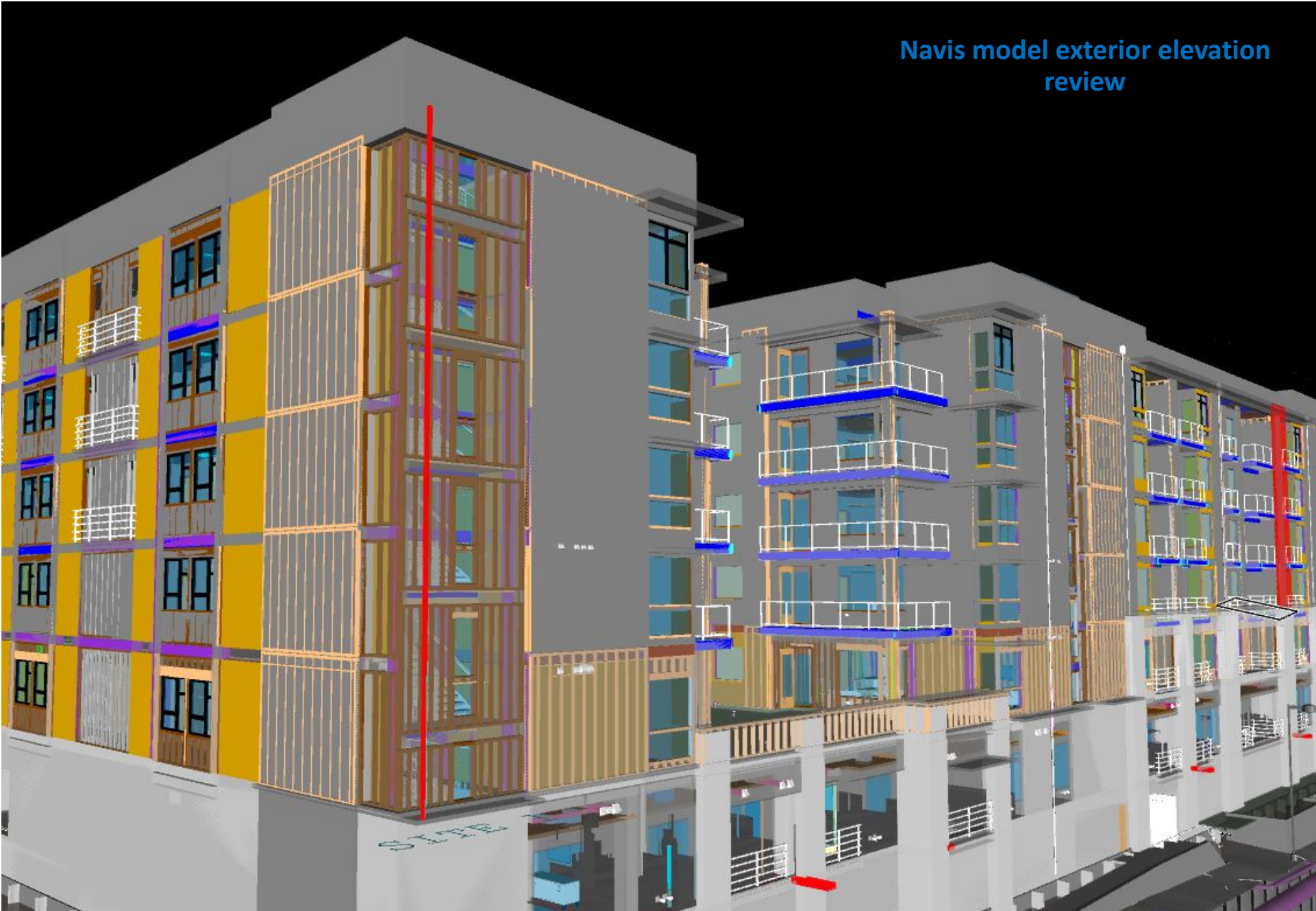
Framing - Non-stacking
areas overlay



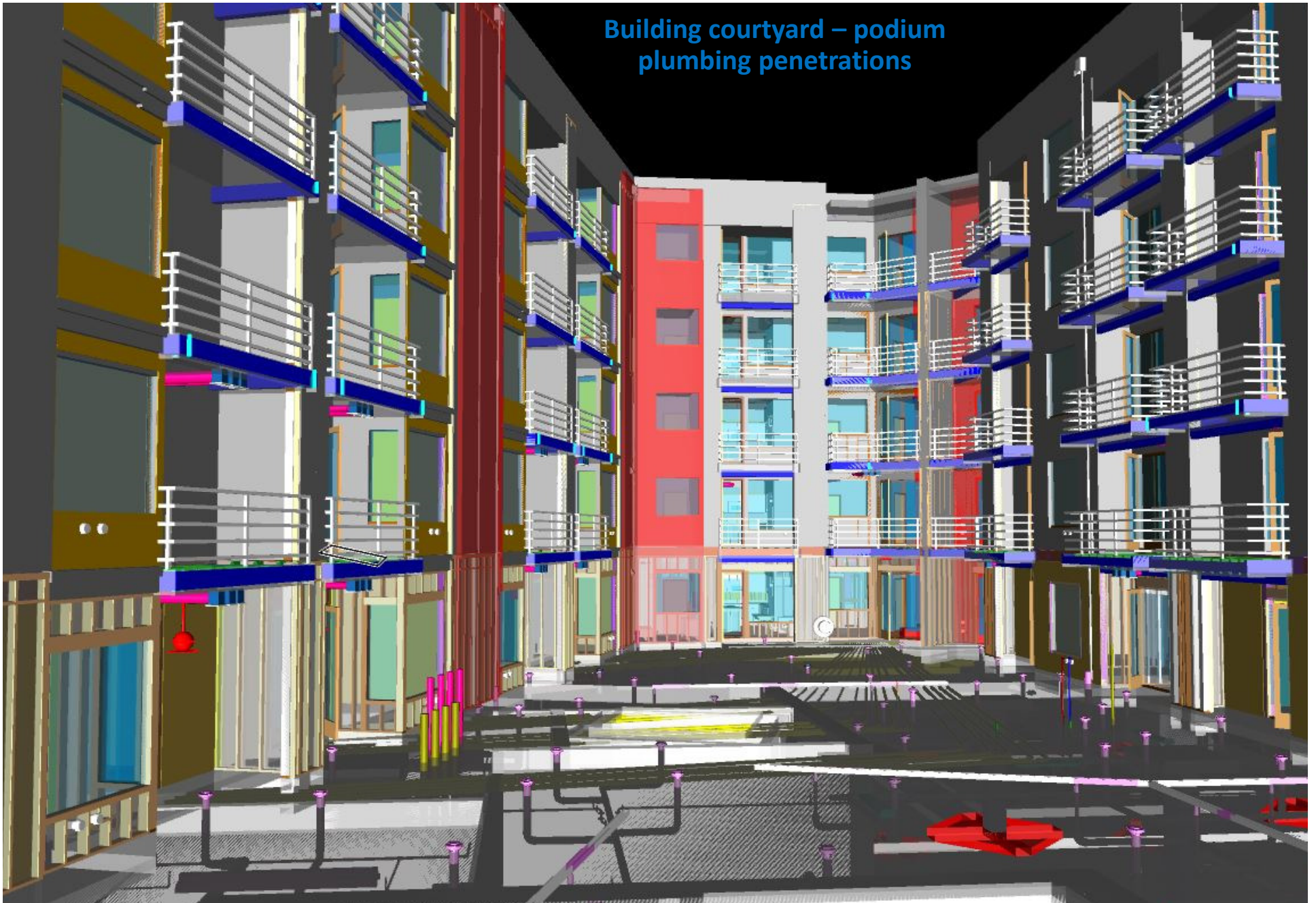


Complete framing model

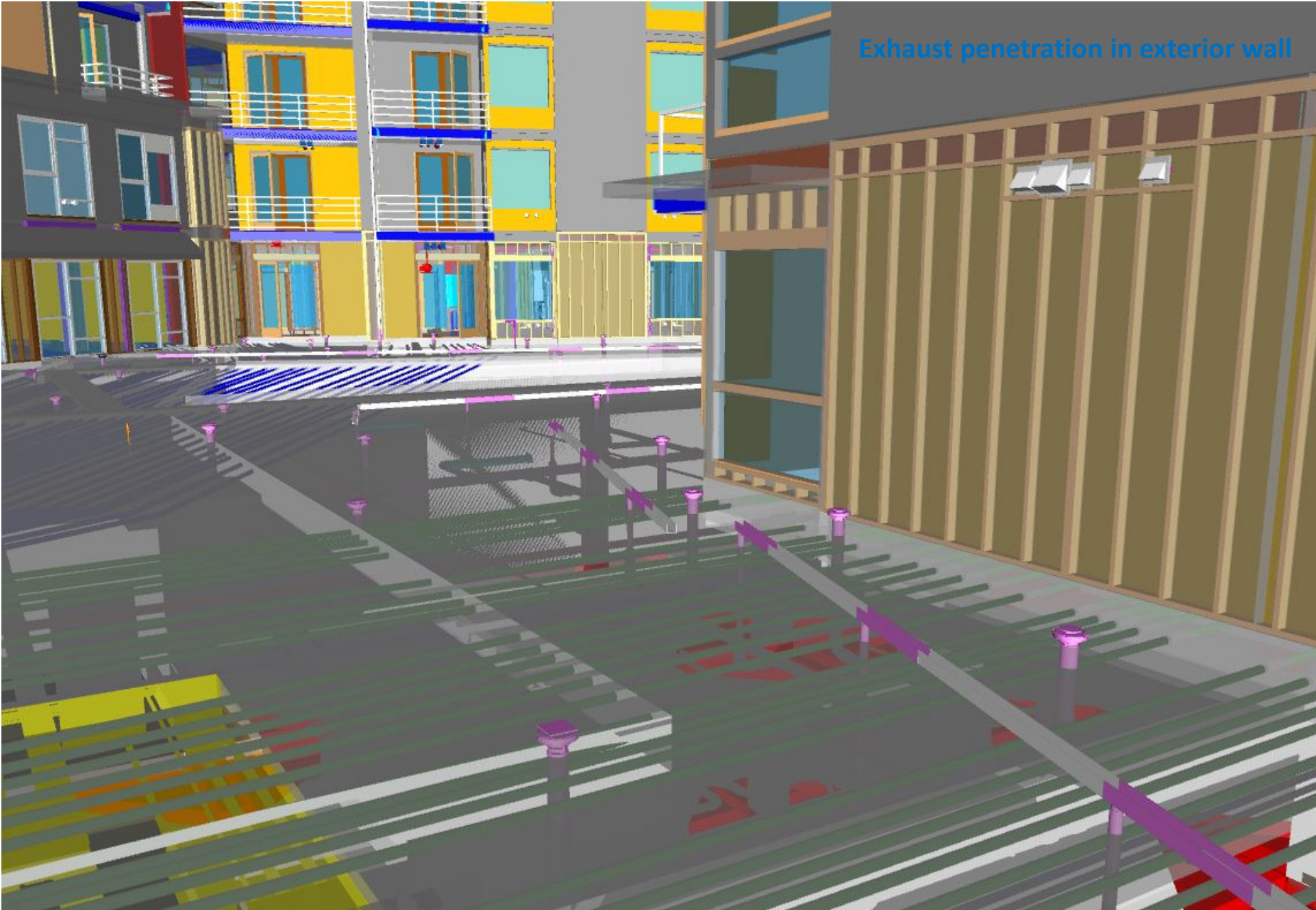
Navis model exterior elevation review



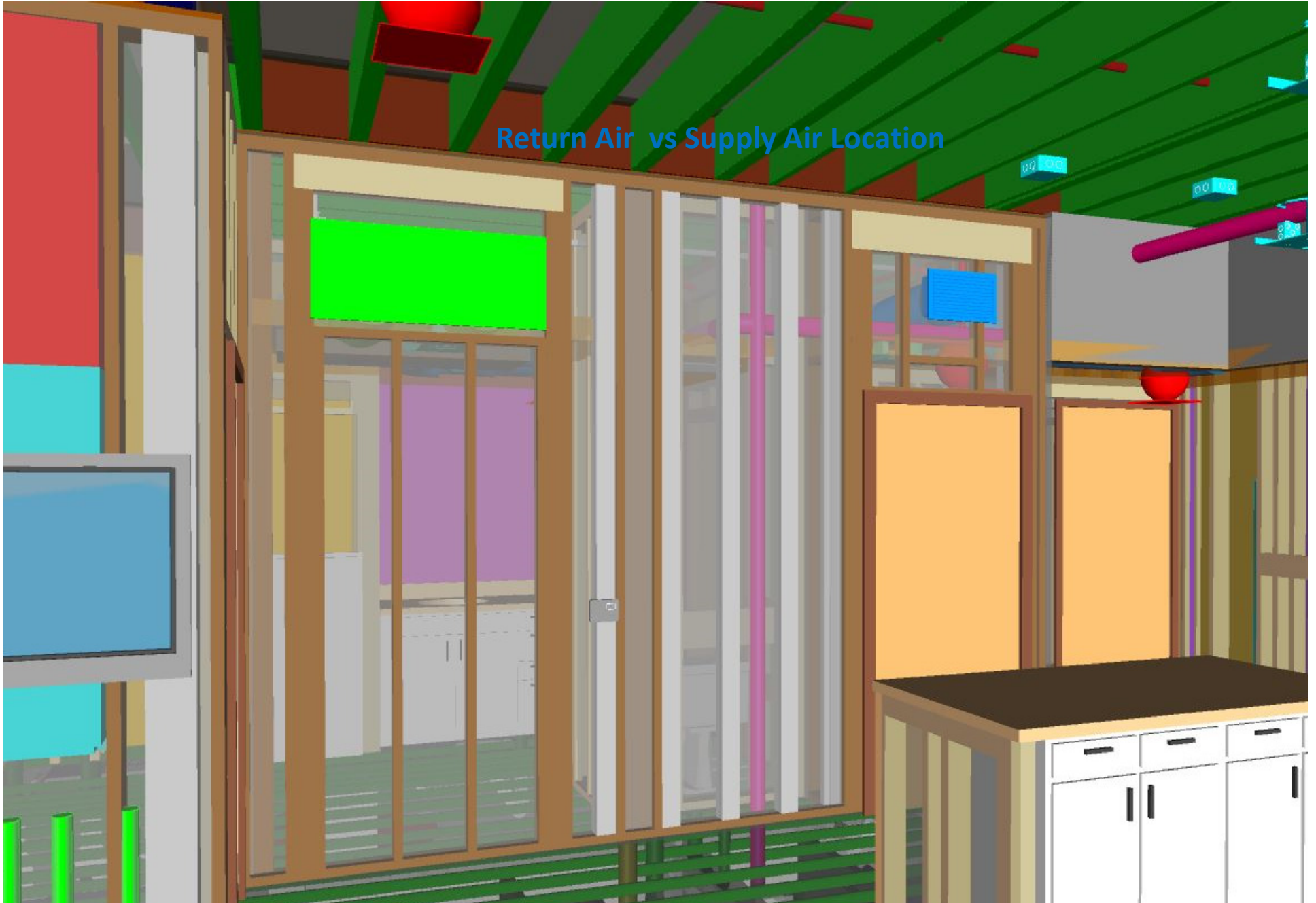
Building courtyard – podium
plumbing penetrations



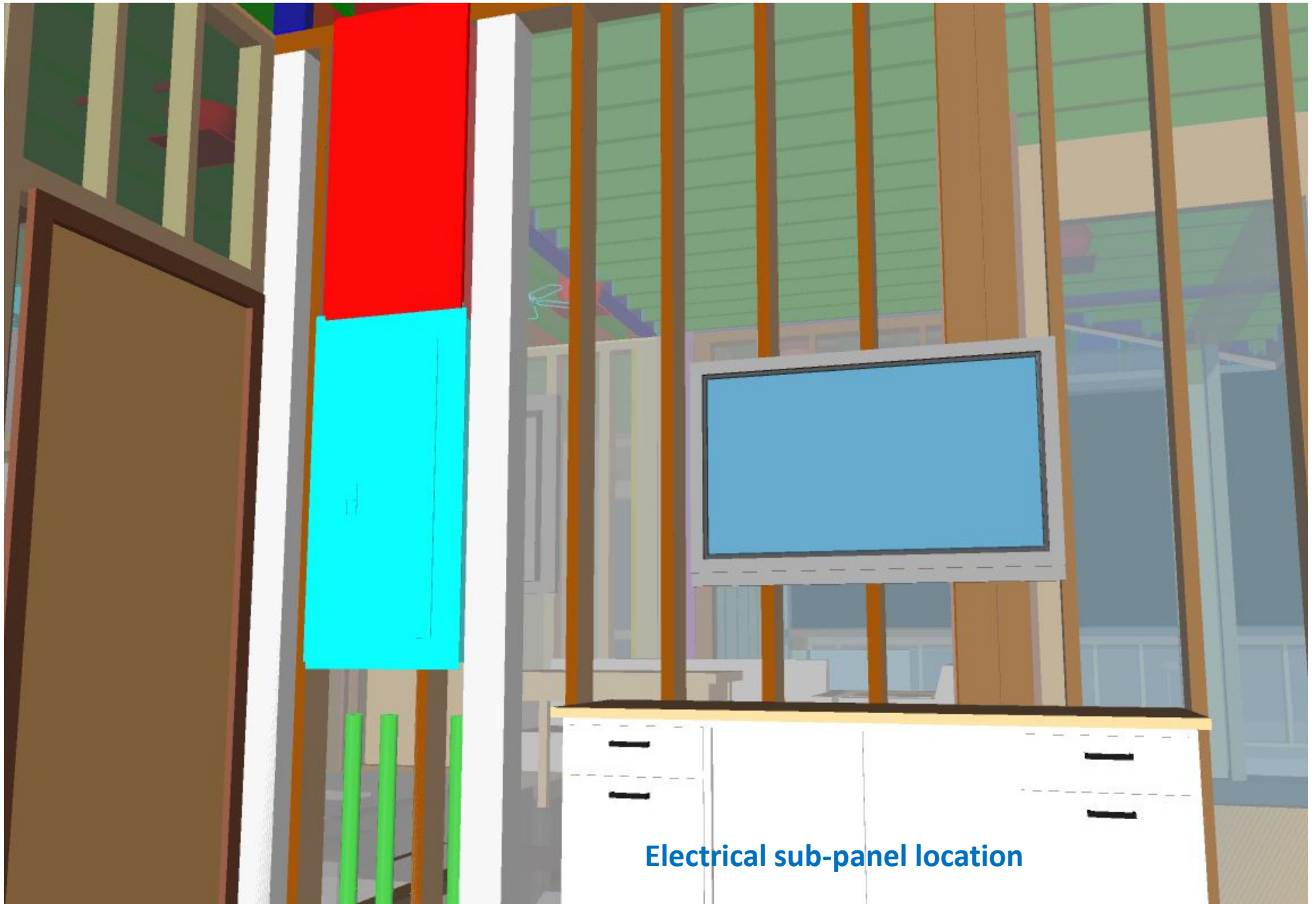
Exhaust penetration in exterior wall



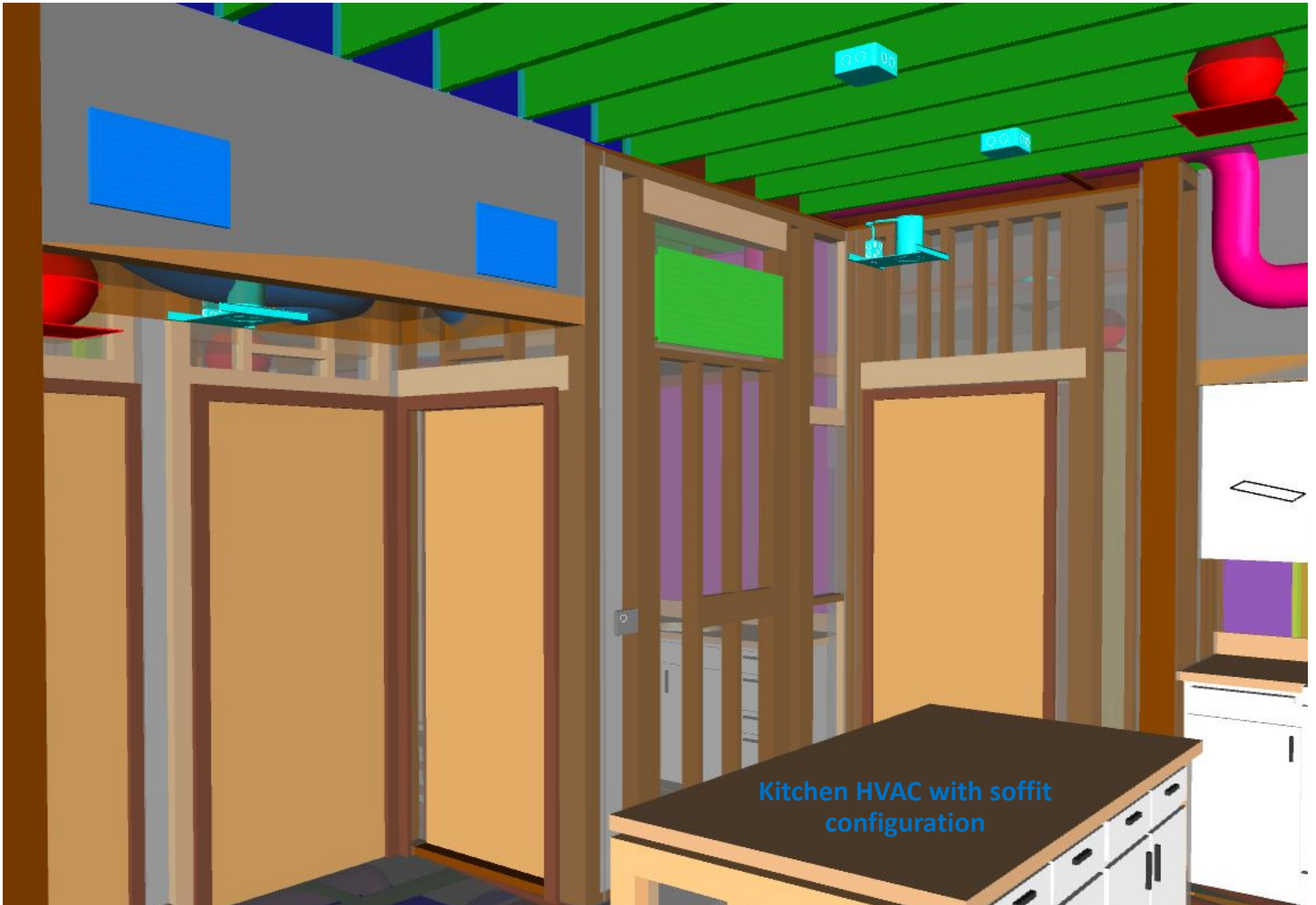
Return Air vs Supply Air Location



ADA backing location inside
toilet cavity

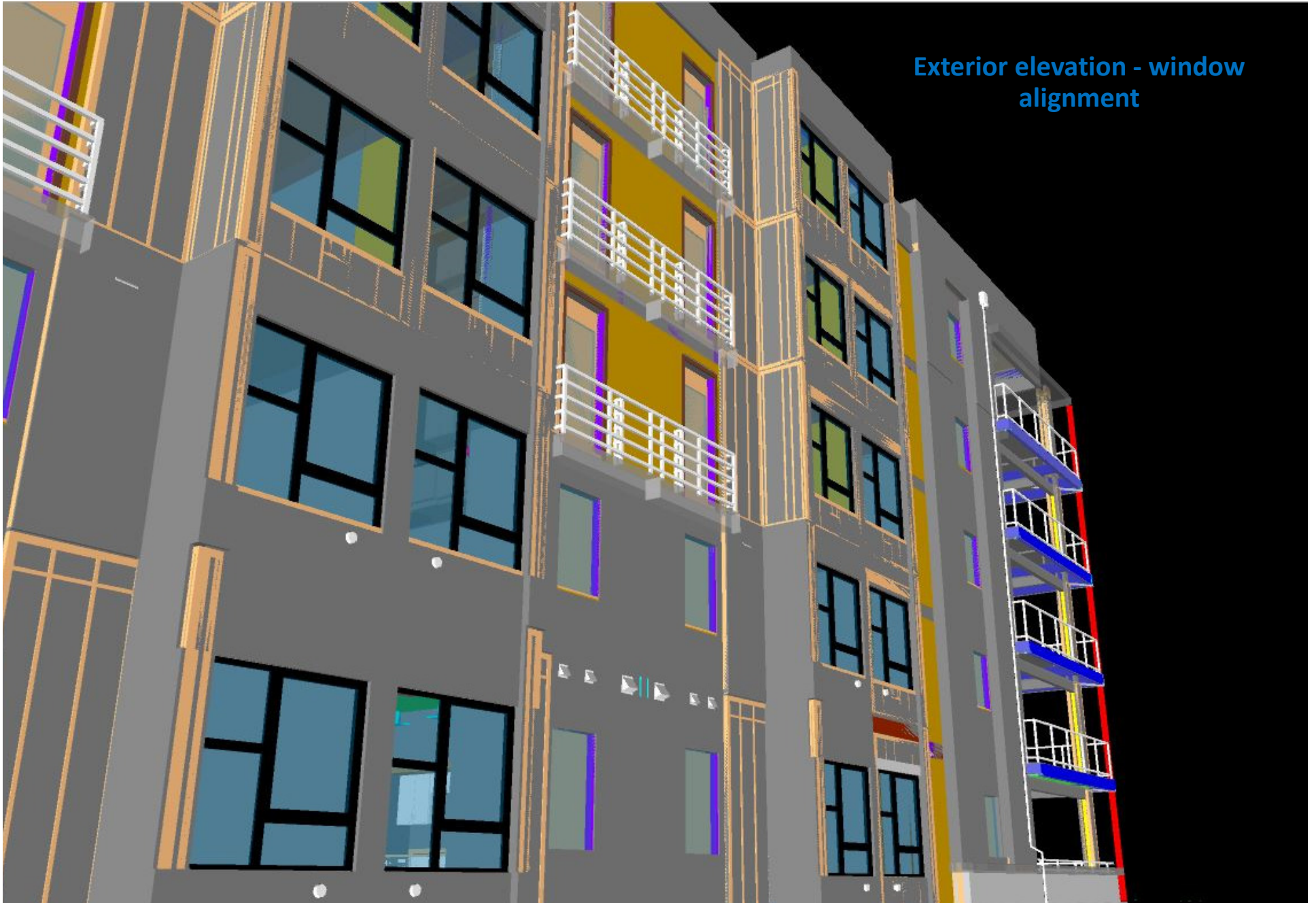


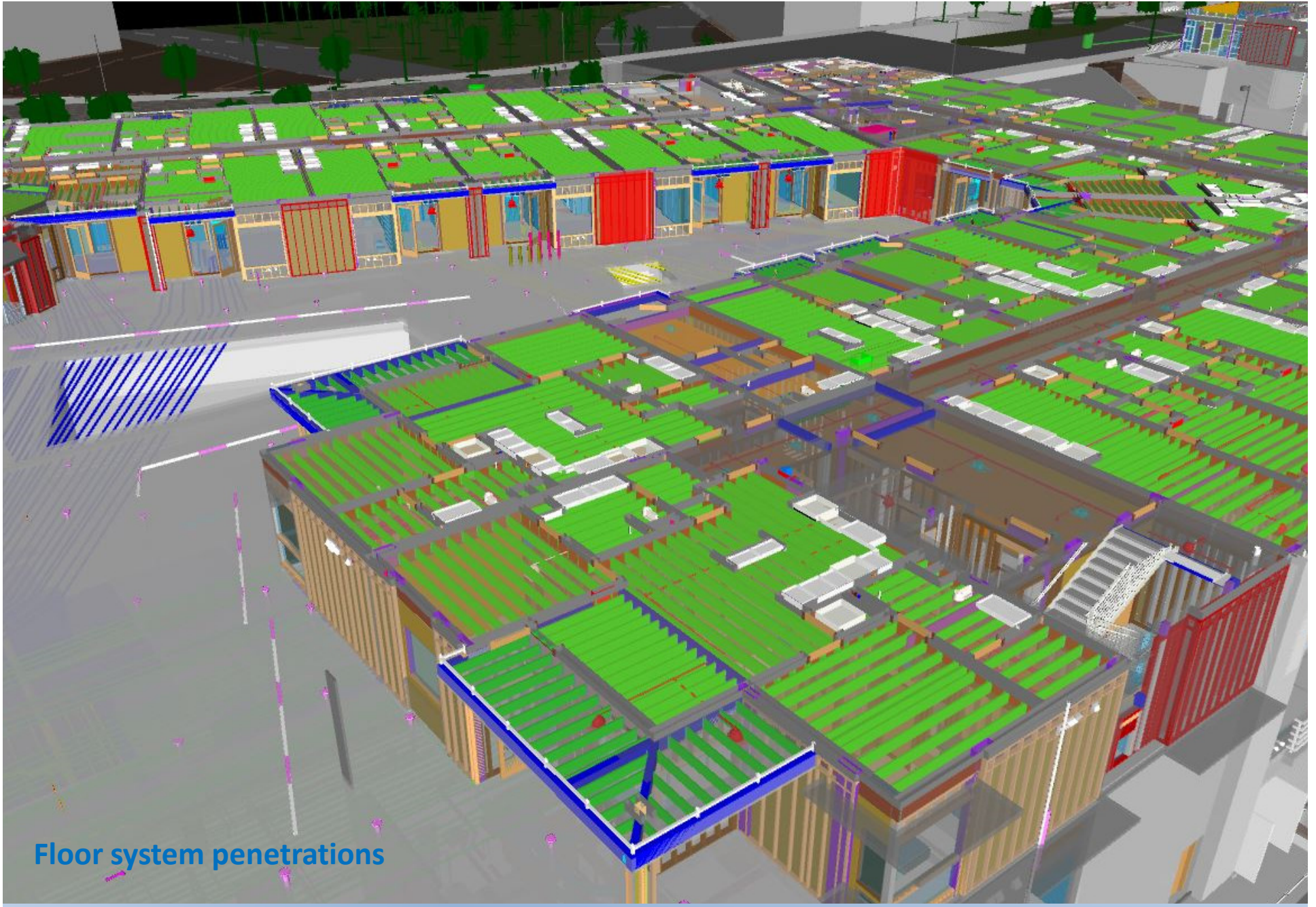
Electrical sub-panel location



Kitchen HVAC with soffit configuration

Exterior elevation - window alignment

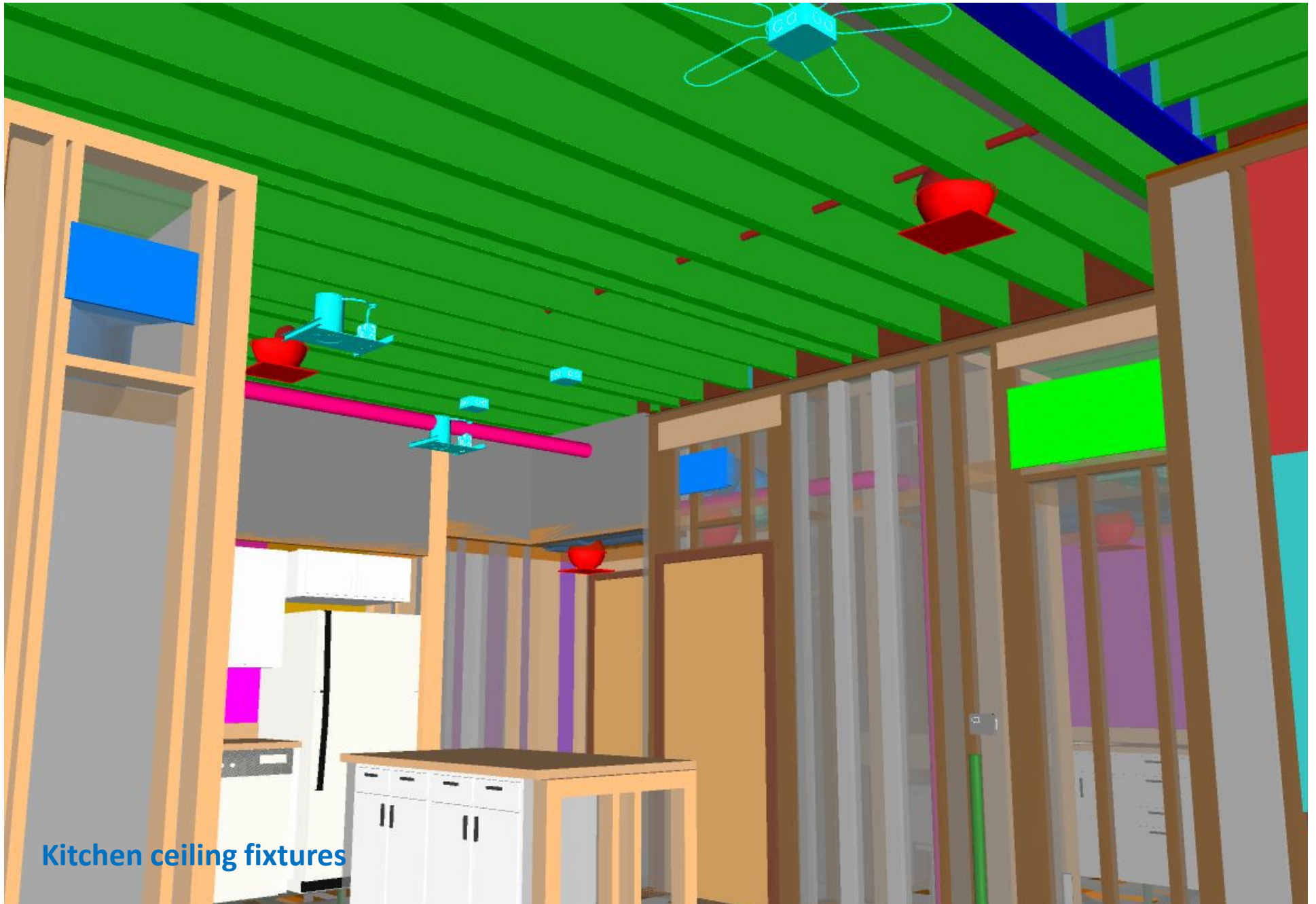




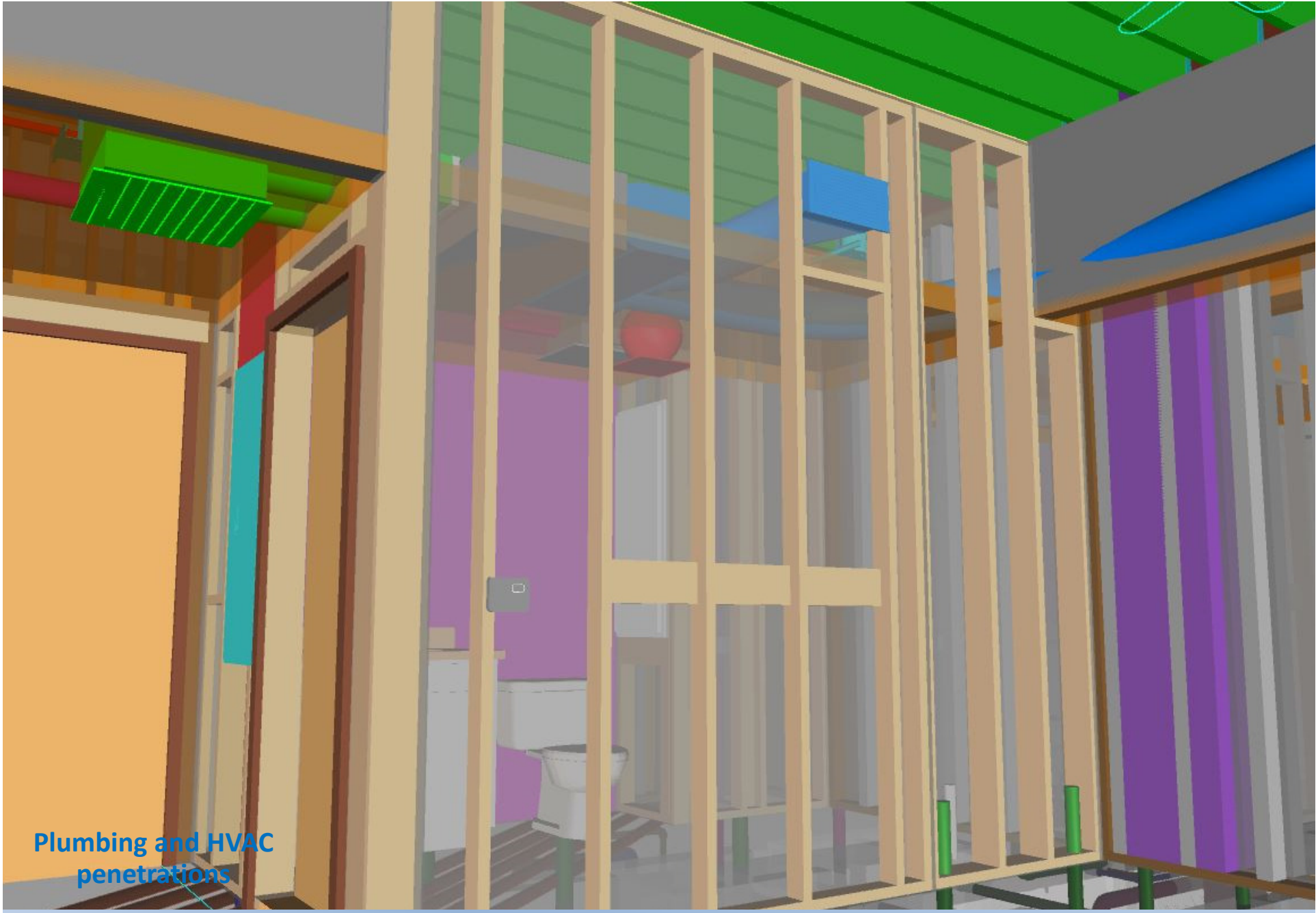
Floor system penetrations



Structural head-out for supply
air grill



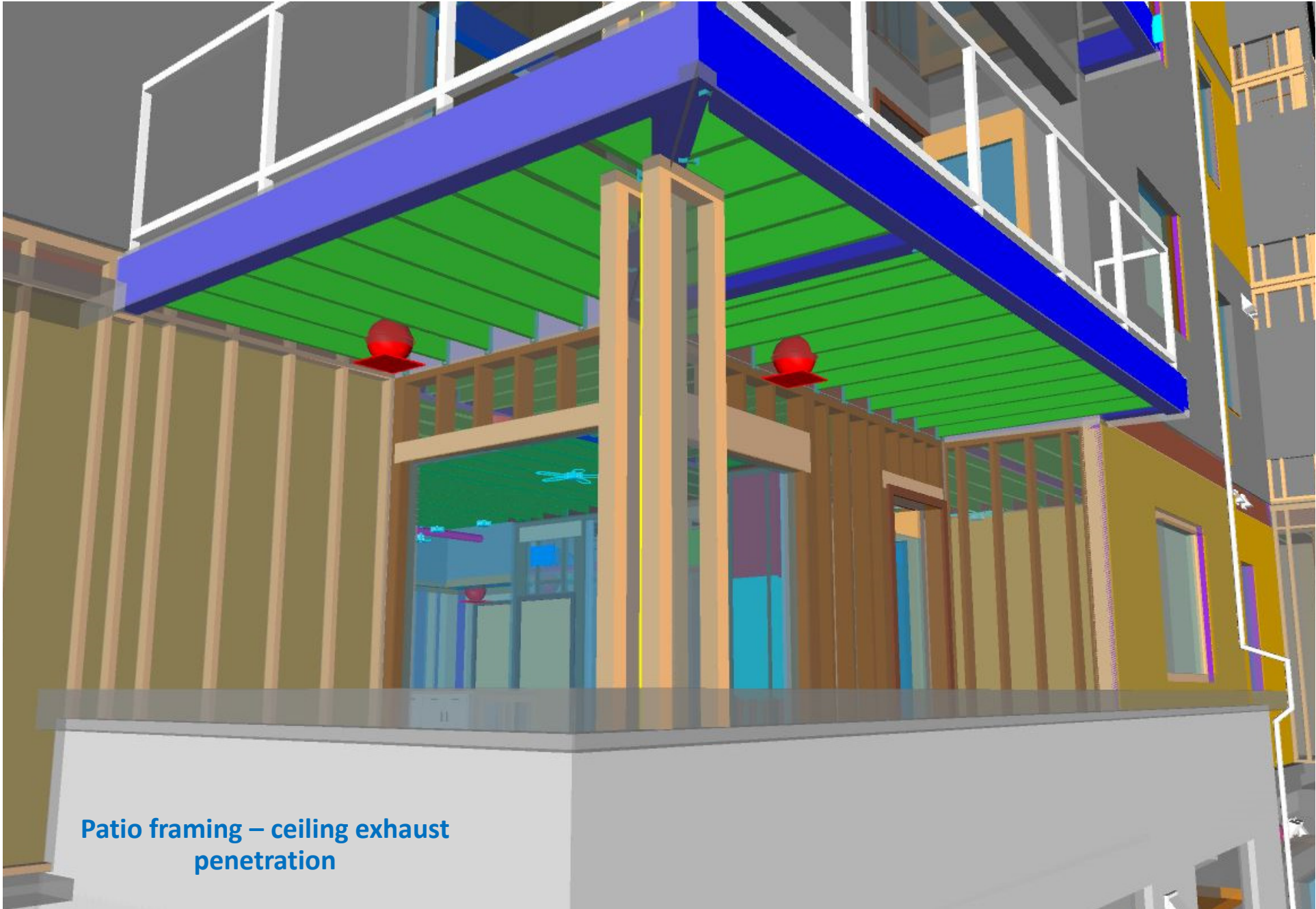
Kitchen ceiling fixtures



Plumbing and HVAC
penetrations

www.ncsea.com





Patio framing – ceiling exhaust penetration