



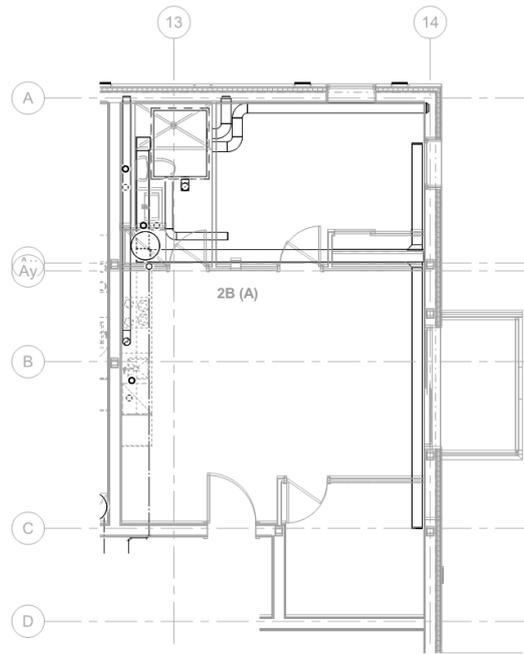
Residential Clash Detection & CFS Stud Wall Shop Drawings

(Architectural, Structural & MEPF Clash Detection, BIM & VDC Coordination Services)

CASE STUDY



TECHTURE



Client : Owner

Team Size : 4 No.s (BIM Engineer & BIM Coordinator)

Disciplines : Architectural, Structural & MEPF

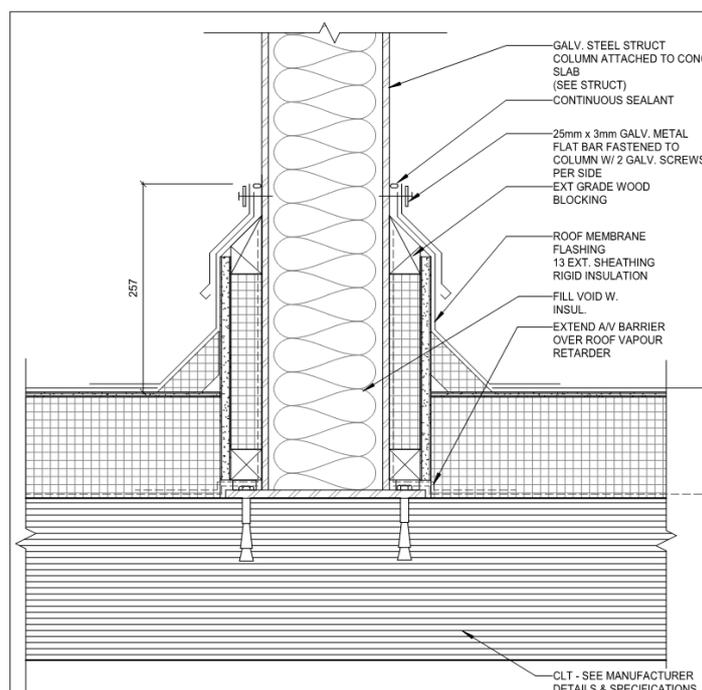
Duration : 4 Months

Scale : 73,700 Sq. Ft.

Software : Autodesk Advance Steel, Revit & Navisworks

Type : Residential

Location : Ontario, Canada



Project Overview

The residential project, spanning approximately 73,700 sq. ft., required advanced BIM coordination, constructability validation, and fabrication-level steel detailing. Using Autodesk Revit, Advance Steel, and Navisworks, Techtire conducted multi-disciplinary clash detection across architectural, structural, and MEPF models provided by the client. In parallel, detailed LOD 400 steel modeling was developed for structural framing and cold-formed steel (CFS) wall systems. A comprehensive constructability report and a large-volume shop drawing package supported clash-free coordination and fabrication-ready delivery. The BIM-driven workflow significantly reduced downstream construction risks and rework.

Scope & Deliverables

- ❏ Navisworks-based clash detection and constructability review between Architecture, Structure, and MEPF BIM models
- ❏ Development of a detailed constructability report with numbered issues, screenshots, locations, and descriptive impact notes
- ❏ LOD 400 modeling of all primary and secondary structural steel and cold-formed steel wall systems using Advance Steel
- ❏ Full modeling of detailed steel connections and placeholder connections where design details were not issued
- ❏ Generation of approximately 600–650 2D shop drawings, including GA, single-part, and assembly drawings across Levels 1–6

Challenges

- ❏ Coordinating architectural, structural, and MEPF models with varying levels of design maturity
- ❏ Managing high-volume steel detailing across multiple floors and over 100 wall segments per level
- ❏ Accurately resolving spatial conflicts impacting steel framing, services routing, and architectural clearances
- ❏ Ensuring drawing consistency and traceability across an extensive shop drawing deliverable set

Techture Approach

- ▣ Federated all discipline models in Navisworks and executed systematic clash detection cycles
- ▣ Logged each constructability issue with numbered viewpoints, sectional views, and annotated screenshots
- ▣ Developed LOD 400 steel and CFS models strictly aligned with issued-for-construction drawings
- ▣ Applied Advance Steel workflows to generate coordinated GA, part, and assembly drawings directly from the model
- ▣ Maintained proactive communication to resolve missing inputs and close issues efficiently

Benefits

- ▣ Early identification and resolution of interdisciplinary clashes prior to fabrication
- ▣ Fabrication-ready steel models and shop drawings reduced shop-floor errors and rework
- ▣ Clear, traceable constructability reports improved coordination across project stakeholders
- ▣ Accelerated construction sequencing through validated steel framing and connection logic
- ▣ Reduced RFIs and site delays through BIM-led coordination and documentation

