



# **LOD 300–400 BIM Modeling, Coordination & Clash Detection for Large-Scale Hospitality Development**

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

**CASE STUDY**



**TECHTURE**



**Client** : Owner

**Team Size** : 6 No.s (BIM Engineer & BIM Coordinator)

**Disciplines** : Architectural, Structural & MEPF

**Duration** : 9 Month

**Type** : Hospitality

**Software** : Autodesk Revit & Navisworks

**Location** : Connecticut, USA



## Project Overview

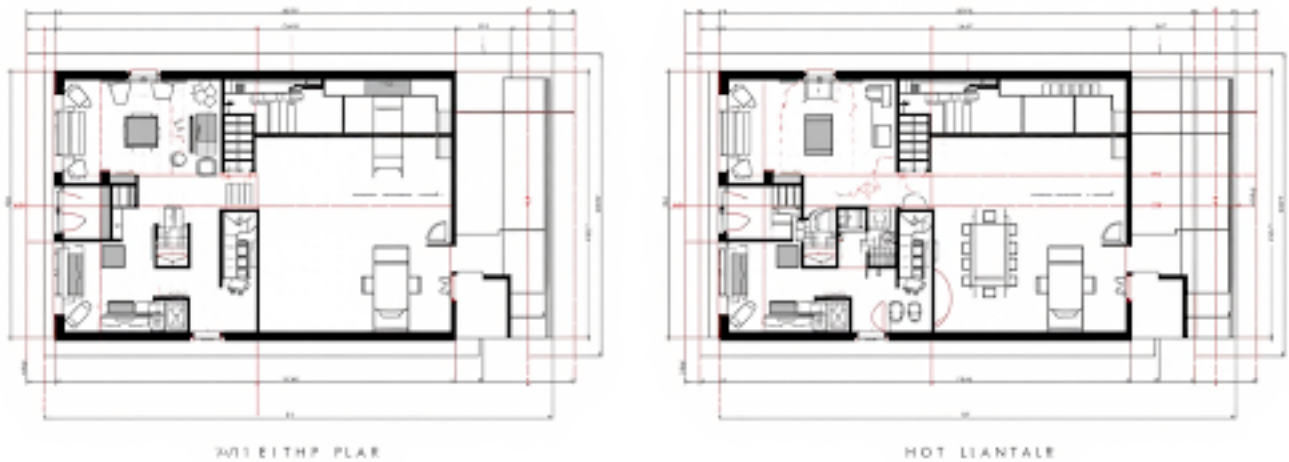
Techture handled 3D modeling and coordination across all disciplines, architecture, structure, MEP, and fire, for a 1,648,839 SF, 14-level hospitality project including casino, convention, hotel, residential, parking, and back-of-house areas. Work progressed from LOD 300 design models to LOD 400 construction models over a 36-month coordination phase, using Revit for modeling and Navisworks for clash detection, and ended with a clash-free, RFI-resolved federated model handover.

## Scope and Deliverables

- Developed LOD 300 architecture and structure models from BID set drawings covering walls, doors, ceilings, façades, slabs, columns, beams, trusses, and steel elements.
- Developed LOD 300 MEPF models per discipline: HVAC, plumbing, drainage, electrical (lighting, panels, and conduit), and fire protection systems.
- Upgraded models to LOD 400 for construction-critical elements based on trade contractor shop drawings.
- Ran clash detection across the federated ASMEPF model in Navisworks, producing numbered, screenshot-based PDF clash reports with room and gridline references.
- Tracked RFI resolutions through coordination meetings and updated all fixes back into the LOD 400 model before final handover.

## Challenges

- Managing a model where some elements sat at LOD 300 and others were upgraded to LOD 400 without losing track of what was updated.
- Identifying and resolving gaps between trade contractor shop drawings and the original permit set.
- Keeping clash resolution active and the model up to date across a 36-month construction phase.
- Working around incomplete drawing information that limited how accurately certain Revit families could be modeled.



## Techture Approach

- ❏ Followed a staged LOD approach: LOD 300 as a one-time design baseline, with LOD 400 upgrades only where shop drawings confirmed final construction scope.
- ❏ Used Navisworks to run clash detection across all disciplines, with each issue numbered, screenshotted, and located by room number or gridline reference.
- ❏ Led BIM coordination meetings with the client's engineering team and trade contractors to review and close out each clash.
- ❏ Updated all RFI resolutions back into the LOD 400 model before handover, delivering both .rvt and .nwd files.

## Benefits

- ❏ Clashes were identified and resolved during the LOD 400 coordination phase, before site installation, reducing the risk of rework on site.
- ❏ A numbered, screenshot-based clash report gave all trades and engineers a clear shared reference throughout the project.
- ❏ The final LOD 400 model reflected actual construction decisions, not just original design intent.
- ❏ Keeping scope focused on clash detection and RFI coordination and excluding 2D drawings, as-builts, and engineering kept the team's effort targeted and efficient.