



Residential Development Architectural BIM Modeling & IFC Documentation

(Architecture & Structural & Modeling, BIM & VDC Coordination Services)

CASE STUDY



TECHTURE



Client : Architect	Team Size : 5 Nos. (Architects, Design Coordinators & BIM Coordinator)
Disciplines : Architecture & Structure	Duration : 3 Months
Scale : 251,300 SF	Software : Autodesk Revit & Autodesk Naviswork
Type : Institutional	Location : Winnipeg, Canada



Project Overview

The project involved the end-to-end development of an architectural BIM model and IFC documentation for a multi-building residential development spanning approximately 251,300 sq. ft. The engagement required modeling and documentation for sixteen townhome buildings—five unique structures and eleven typologies derived from them. Executed over a 12-week duration, the scope covered detailed architectural modeling up to LOD 300 and comprehensive drawing production aligned with IFC standards. The primary goal was to establish a coordinated, high-accuracy BIM model that would streamline design documentation and support seamless construction execution.

Scope & Deliverables

- Development of LOD 300 architectural models for all building types based on conceptual design inputs.
- Preparation of Development Permit (DP) and Issued for Construction (IFC) drawing sets for each unique building type.
- Use of standard and custom Revit families to maintain design consistency and parameterized detailing.
- Coordination with the design team for missing data, clarifications, and controlled design iterations.
- Delivery of Revit (.rvt) models and CAD/PDF drawings for all design and construction stages.

Challenges

- Managing design consistency across multiple repetitive buildings while addressing site-specific differences.
- Working with limited initial inputs and ensuring proactive communication to bridge design information gaps.
- Maintaining precision and documentation quality under a compressed 12-week timeline.
- Ensuring sheet production efficiency while managing a high drawing volume across both DP and IFC stages.

Techture Approach

-  "Deployed a standardized BIM modeling framework leveraging parameterized families and controlled templates.
-  Followed a two-tier in-house quality control process for model accuracy and documentation compliance.
-  Automated sheet setup and annotation workflows using Revit view filters and scripting tools for consistency.
-  Maintained a collaborative delivery model with overlapping working hours for live design coordination and quick feedback turnaround."

Benefits

-  Achieved 30–40% reduction in modeling time through optimized typology replication workflows.
-  Delivered highly coordinated IFC models and drawings, minimizing revisions during later stages.
-  Enhanced accuracy, documentation quality, and visual clarity through standardized BIM detailing.
-  Improved project predictability and efficiency, enabling faster approvals and reduced rework downstream.

