

BimSrv Academy

PROJECT 02

SIX-FLOOR OFFICE BUILDING

ARCHITECTURAL PROGRAM

Learner Reference | Revit 2024 | Commercial BIM Project

1. Project Overview

Project 02 is a six-floor office building used to extend the learner from the controlled residential workflow of Project 01 into a larger commercial BIM project. The building has a typical floor plate of approximately 500 m² and includes basement parking.

The project introduces multi-storey planning, a consolidated circulation/service core, repeated floor conditions, multiple façade systems, an external fire escape, basement coordination and a prescribed multi-storey RCC structural model.

2. Learning Intent

- Apply the Revit/BIM workflow learned in Project 01 to a larger commercial building.
- Manage repeated multi-storey conditions without losing control of level-specific differences.
- Develop and coordinate a central core containing toilets, an internal staircase and three elevators.
- Model and coordinate basement parking with the building core and RCC structure.
- Develop a façade composed of curtain wall, stone-finished solid wall and louvered wall systems.
- Model an external fire-escape staircase and its louvered architectural enclosure.
- Develop and coordinate the prescribed multi-storey RCC structural model.
- Use plan, section and 3D views systematically for commercial-building QA/QC.

3. General Building Description

Project Type	Commercial Office Building
Storeys	Six floors
Basement	Basement parking
Typical Floor Plate	Approximately 500 m ²
Vertical Circulation	Three elevators + main internal staircase + external fire escape
Primary Service / Circulation Zone	Central core
Façade	Curtain wall + stone-finished solid wall + louvered wall
Structural System	Prescribed multi-storey RCC structural system

4. Typical Office Floor Architectural Program

The typical office floor plate is approximately 500 m². The project is organised around a central core, with the office floor area developed around it in accordance with the dimensional and planning information introduced during the course.

- Office floor area arranged around the central core.
- Central core containing toilets, the main internal staircase and three elevators.
- Required circulation between the office floor, core, elevators, staircase and external fire escape.
- External façade developed using the prescribed combination of glazed, solid and louvered systems.

5. Central Core

The core is a major organising and coordination element of Project 02.

- Three elevators are located within the core.
- The main internal staircase is located within the core.
- Toilets are located within the core.
- Elevator shafts, doors/lobbies, stair openings, toilet planning and surrounding circulation must be coordinated vertically across the building.
- Louvered façade treatment is used where prescribed to screen/ventilate the toilet zone.

6. Basement Parking

- Project 02 includes a basement parking level.
- The parking layout is coordinated with the structural grid, columns and vertical circulation.
- The basement must connect logically with the elevator and staircase core.
- Required openings, levels and structural relationships are checked in plan, section and 3D.
- Detailed parking counts, ramp geometry or code-specific requirements are introduced only where prescribed by the course; they are not invented in this Architectural Program.

7. External Fire Escape

- A separate fire-escape staircase is positioned externally along one of the building's external faces.
- The external fire escape connects to the required building levels as prescribed in the project lessons.
- The fire-escape staircase is visually enclosed/screened by a louvered wall system.
- The louvered enclosure must be coordinated with stair flights, landings, floor access and the external façade.
- The exercise focuses on BIM modelling and coordination of the prescribed condition; statutory fire/life-safety design calculations are outside the course scope.

8. External Façade Program

The building envelope combines three principal architectural façade treatments. Their relationship is developed through the prescribed elevations and lesson instructions.

- Curtain Wall — used for the prescribed glazed façade zones.
- Solid External Wall with Stone Finish — used for the prescribed opaque façade zones.
- Louvered Wall — used particularly as screening outside the toilets and around the external fire escape.
- Façade systems must be coordinated with floor levels, slabs, columns, openings, core conditions and the architectural planning behind them.

9. Multi-Storey Modelling and Repetition

- The six-floor building introduces repeated typical-floor conditions.
- Repetition is used only where the building condition is genuinely repeated.
- Copy, groups, arrays or other appropriate Revit methods may be used where prescribed by the course.

- Repeated geometry must still be checked for floor-specific differences.
- Changes to grouped or repeated elements must be reviewed for unintended propagation.
- Project Browser organisation and controlled view naming become increasingly important as the model grows.

10. RCC Structural Modelling Scope

Project 02 includes the prescribed multi-storey RCC structural model so that the learner develops architectural/structural BIM coordination at a larger commercial-building scale.

- RCC structural grids and columns.
- RCC beams.
- RCC floor slabs.
- Basement structural elements.
- Foundations / footings as prescribed.
- Structural conditions associated with the central core, staircases and openings.
- Required structural relationships to the external façade and fire-escape access conditions.

Scope limitation: The learner models the structural system prescribed by the course. Structural analysis, engineering design, reinforcement design and structural member-sizing calculations are outside the scope of Project 02.

11. Architectural / RCC Coordination

- Coordinate columns with office planning, circulation and façade zones.
- Coordinate beams and slabs with the central core, elevator shafts, stairs and required openings.
- Coordinate basement structure with parking and vertical circulation.
- Coordinate structural floor edges and columns with curtain-wall, stone-wall and louvered façade conditions.
- Review architecture and RCC structure together in plan, section and 3D.
- Record, correct and recheck identified coordination issues before documentation.

12. Linked Models and Multidisciplinary Coordination

- Project 02 supports a professional workflow in which architectural and RCC structural information can be coordinated through linked models where prescribed.
- Linked consultant information may be introduced for coordination exercises.
- Positioning and visibility must be controlled rather than adjusted arbitrarily.
- Coordination identifies issues and ownership; it does not mean editing another discipline's design without responsibility.
- Shared-coordinate concepts are introduced separately in the course.

13. BIM Information, Views and Documentation

- Create controlled plans, elevations, sections and 3D views appropriate to the commercial building.
- Use working sections through the core, basement, façade and external fire escape for model checking.
- Apply View Templates where repeated view standards require consistent control.

- Develop required tags, dimensions, notes, callouts and details.
- Create schedules appropriate to the model information introduced by the course.
- Use schedules and views as QA/QC tools as well as documentation outputs.
- Assemble the prescribed drawing set and review it before issue.

14. Information Provided to the Learner

- This Architectural Program.
- Project 02 lesson-by-lesson dimensional and modelling information.
- Typical-floor, core, basement and façade reference diagrams where required.
- External fire-escape reference information.
- RCC structural layouts/references required for the modelling exercise.
- Prescribed Revit families and resources where required.
- Coordination, QA/QC and submission checklists.

15. What Is Not Provided / Not Required

- A completed Revit model to copy instead of developing the project.
- Unspecified architectural dimensions or design decisions not introduced by the course.
- Structural engineering calculations, reinforcement design or structural analysis.
- Elevator engineering/design calculations.
- Fire/life-safety engineering calculations or code certification.
- MEPP engineering design unless specific consultant information is supplied for a coordination exercise.
- IFC export.

16. Expected Project 02 Outcomes

- A coordinated six-floor commercial office architectural BIM model.
- A typical floor plate of approximately 500 m² developed in accordance with the course brief.
- A basement parking model coordinated with vertical circulation and structure.
- A central core containing toilets, the main internal staircase and three elevators.
- An external fire-escape staircase with coordinated louvered enclosure.
- A façade combining curtain wall, stone-finished solid wall and louvered wall conditions.
- A prescribed multi-storey RCC structural model coordinated with architecture.
- Controlled views, schedules and documentation suitable for project QA and issue.
- Required RVT, PDF and DWG outputs where instructed.

17. Project 02 Completion Check

- ☐ Project levels and grids established as prescribed.
- ☐ Six-floor office building and basement created.
- ☐ Typical floor plate developed to approximately 500 m² as prescribed.
- ☐ Central core contains toilets, internal staircase and three elevators.
- ☐ Basement parking coordinated with core and structure.
- ☐ External fire escape complete and connected to prescribed levels.

- ☐ Louvered enclosure around fire escape complete and coordinated.
- ☐ Curtain-wall façade zones complete.
- ☐ Stone-finished solid-wall façade zones complete.
- ☐ Louvered wall zones outside toilets/fire escape complete.
- ☐ Multi-storey RCC columns, beams, slabs and prescribed foundations/basement structure complete.
- ☐ Core, stair and structural openings coordinated.
- ☐ Architecture/RCC conflicts reviewed in plan, section and 3D.
- ☐ Views, schedules and documentation checked.
- ☐ Project QA completed before milestone/submission.