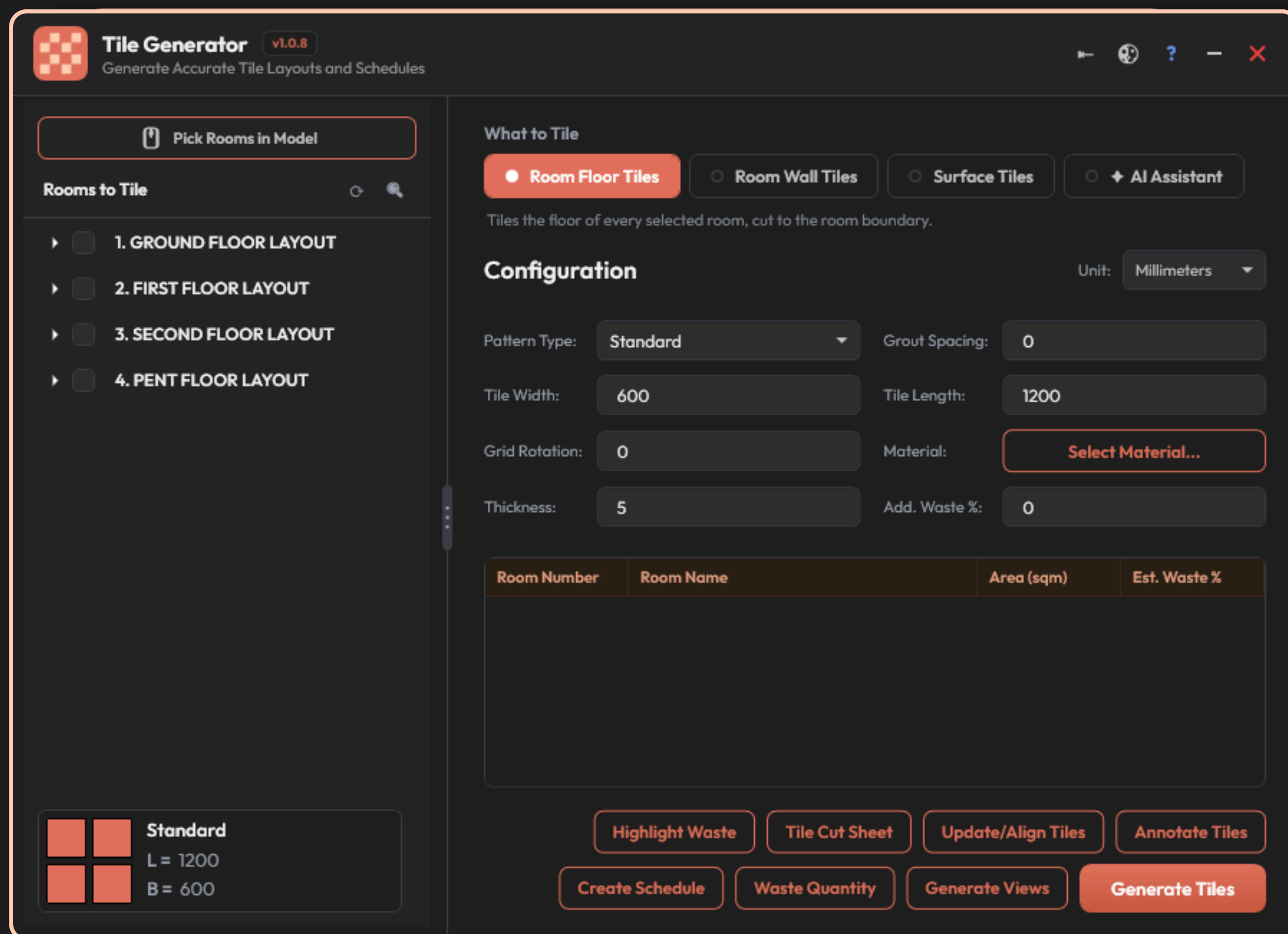
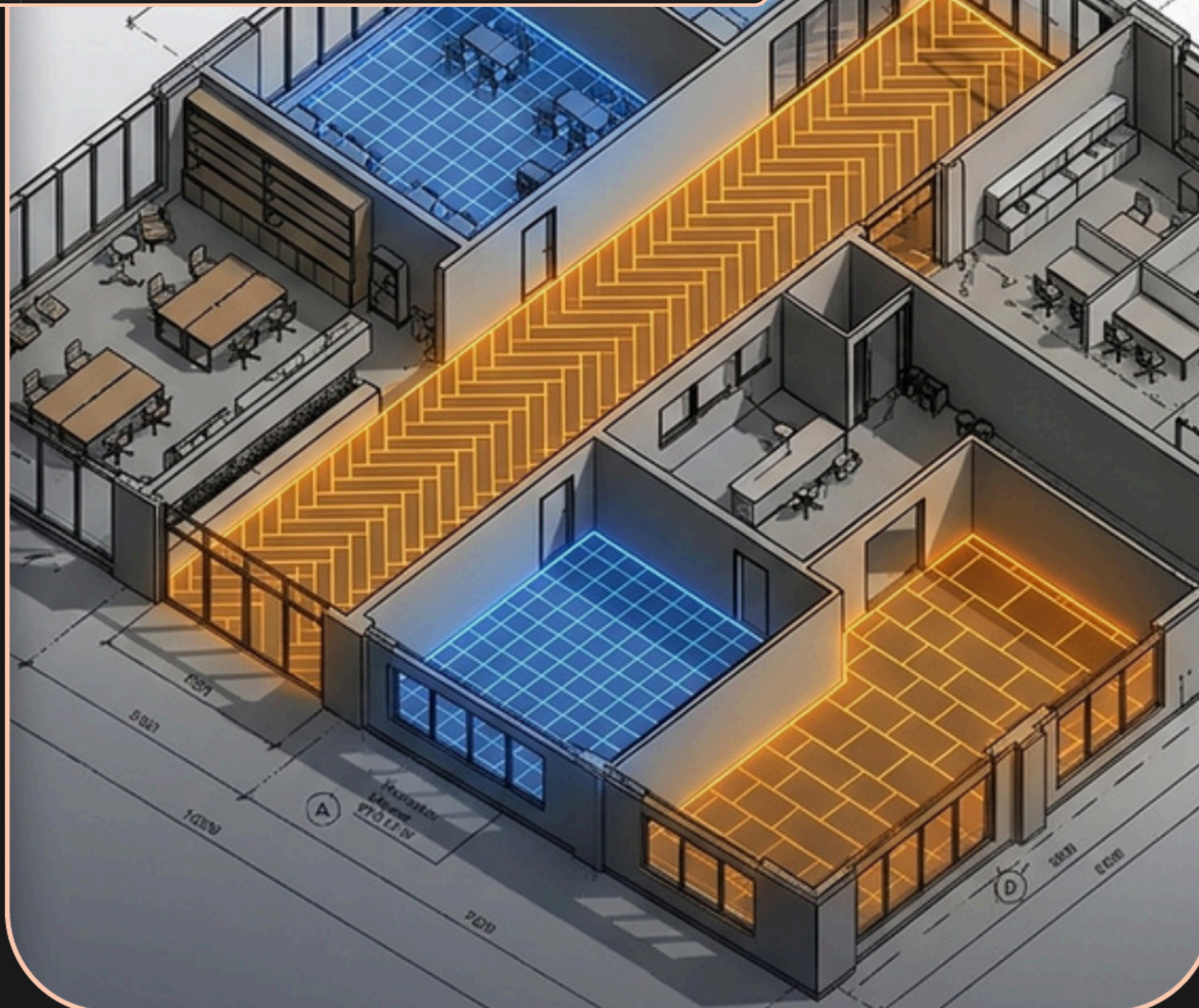




Tile Generator

Automate Floor, Wall & Surface Tile Layouts, Schedules and Sheets in Revit



Product Specification · Version 1.0.8 · October 2026

1. Product Specification

Developed By:	KS Digital Innovations
Product Version:	1.0.8
Product Type:	Autodesk Revit Add-In
Document Date:	October 2026
Supersedes:	Version 1.0.2 (May 2026)
Classification:	Commercial Product – Pre-Sale Specification

2. Product Overview

KS Digital Studio – Tile Generator is a purpose-built Autodesk Revit plugin that automates the generation, layout and documentation of tile finishes directly inside a BIM model — on floors, on walls, and on any flat surface you pick.

It replaces the manual, error-prone process of drawing tile patterns by hand with a parametric, data-rich workflow that produces accurate 3D tile geometry, grout spacing, waste analysis, tile cut sheets, schedules and dimensioned drawing sheets — all without leaving Revit.

Version 1.0.8 adds an **AI Assistant**: describe what you want in plain English and it reads the project, sets the tiling out, lays the tiles and draws the sheets for you.

Designed for architectural practices, interior design firms, construction firms and quantity surveyors, the Tile Generator bridges the gap between design intent and construction documentation — tile take-offs, finish schedules, cut sheets and waste cost estimates at the click of a button.

NOTE

The Tile Generator creates native Revit geometry (DirectShape elements in the Generic Model category, grouped per room or per surface). All tiles are fully schedulable, quantifiable and visible in standard Revit views — no third-party viewer or external file is required.

What's New in Version 1.0.8

Everything below has been added or reworked since the v1.0.2 specification (May 2026).

01 Wall Tiling

Tile the room-facing side of every wall bounding the selected rooms — cut around doors and windows, with start and tiling heights for skirtings, dados and splashbacks.

02 Surface Tiling

Pick any flat face in the model — a wall face, slab soffit, plinth side — and tile it. Openings are cut out; surfaces can be merged under one grid.

03 Generate Views & Sheets

One click creates plans, elevations and section-boxed 3D views of the tiling, dimensions the tile joints and lays everything out on sheets.

04 Tile Cut Sheets

Drafting-view tables of every unique cut tile shape with dimensions, offcut, quantity, rooms and tile marks — per level or per room.

05 Wasted Tiles Schedule

A third schedule type filtered to cut tiles only. All schedules and cut sheets can be filtered to Floor, Wall or Surface tiles.

06 Room-Aligned Grids

The tile grid now follows each room's own walls, so angled wings and rotated projects tile square. Update/Align rebuilds a moved group in place.

07 Dockable Panel

Dock the Tile Generator into the Revit UI or float it, without losing selection or settings. Refresh Rooms reloads rooms and levels live.

08 AI Assistant

A built-in Google Gemini assistant (AI Agent) with 18 tools that can read the project, configure the panel, tile, schedule, cut and draw sheets on request.

3. Core Value Proposition

Benefit	Description
Speed	Tile floors, walls and surfaces for many rooms in seconds, not hours
Accuracy	Tiles are precision-clipped to room boundaries, wall faces and openings (Clipper2 computational geometry)
Waste Reduction	Real-time waste analysis and cut sheets help optimise tile ordering and reduce material cost
BIM-Native	All output is native Revit data — schedulable, view-controlled and model-integrated
Flexibility	Five tile patterns, three tiling modes, full dimensional customisation and material assignment
Documentation	One-click schedules, cut sheets, annotations and dimensioned drawing sheets
AI-Assisted	Plain-English requests drive the whole workflow, several steps at a time

4. System Requirements & Compatibility

4.1 – Supported Autodesk Revit Versions

Revit 2021	Revit 2022	Revit 2023	Revit 2024	Revit 2025	Revit 2026	Revit 2027
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Compiled builds ship for every release above (.NET Framework 4.8 for 2021–2024, .NET 8 for 2025–2026, .NET 10 for 2027).

4.2 – Operating System

Windows 64-bit (Win64) — all versions compatible with the Revit releases listed above.

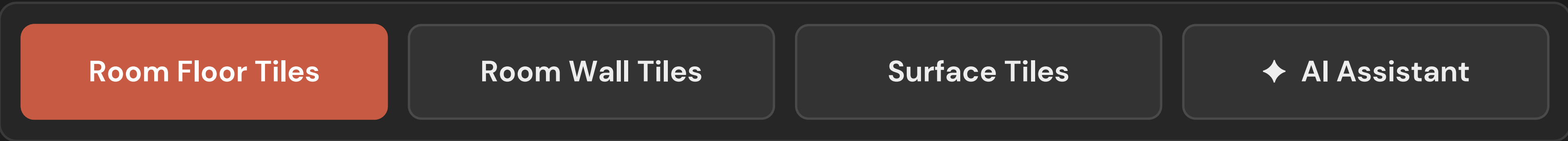
4.3 – Installation & Licensing

- Installed with the KS Studio Installer — a desktop app installer that installs the plugin on all supported Revit versions.
- Distributed as an Autodesk Package (PackageContents.xml), compatible with Autodesk’s standard add-in deployment mechanism.
- Launched from the KS Digital Studio ribbon tab. A sign-in through the installer keeps the licence active for 30 days.

5. Feature Set

5.1 – Tiling Modes NEW IN 1.0.8

A mode selector at the top of the panel ("What to Tile") rewires the whole panel — the sidebar list, the extra inputs, and which actions apply.



Illustrative — mode selector in the Tile Generator panel

- Room Floor Tiles

The original mode. Tiles the floor of every selected room, cut to the room boundary. The grid is set out square to each room’s own walls.
- Room Wall Tiles

Tiles the room-facing side of every wall bounding the selected rooms — ideal for wet areas and splashbacks. Tiles are cut around doors and windows, and every wall of a room ends up in ONE group, so a room’s wall tiling can be selected, scheduled or deleted in a single move.
- Surface Tiles

Tiles individual faces you pick in the model — no room needed. Only flat faces can be picked (refused at the cursor otherwise); openings in them are cut out. Re-tiling a face replaces its tiles instead of stacking a second layer.
- AI Assistant

Hands the whole panel to a conversational assistant (see 5.11).

Wall & Surface Options

Option	Applies to	Description
Start Height	Walls, vertical surfaces	Height above the floor (or bottom of the surface) where tiling starts — e.g. above a skirting, or a splashback starting at worktop height. 0 = from the bottom.
Tiling Height	Walls, vertical surfaces	How far up the tiling runs, measured from the start height. 0 = full height (to the room’s upper limit, or the top of the surface).
Merge surfaces	Surface mode	Faces that share a plane are tiled under a single grid so courses line up across the join, and the whole selection becomes one tile group.

Horizontal and sloped surfaces are tiled whole; heights only apply to vertical surfaces.

5.2 – Room & Surface Selection

Users choose what receives tiles through the sidebar panel:

- **Hierarchical Tree View** — rooms are grouped by Level in a collapsible tree.
- **Multi-Level Checkbox Selection** — checking a Level selects or deselects all its rooms; individual rooms toggle independently.
- **Real-Time Search** — filter rooms by name or number as you type, preserving the expanded/collapsed state.
- **Pick Rooms in Model** — click inside rooms in the Revit canvas to select them, bypassing the tree.
- **Refresh Rooms (new)** — reload rooms and levels from the model after placing or renaming rooms, or switching project.
- **Pick Surfaces in Model (new)** — in Surface mode the sidebar becomes a surface list; pick faces in the model, remove any one, or clear all.
- **Room Preview Grid** — shows Room Number, Room Name and Area of the selection, with automatic unit conversion.

Room Number	Room Name	Area (sqm)	Est. Waste %
131	F.TOILET 131	44.15	TBA
133	DADDY OFFICE 133	13.27	TBA
163	BEDROOM 2 163	11.29	TBA
164	BEDROOM 1 164	9.90	TBA
165	T/BATH 165	2.10	TBA
166	T/BATH 166	2.16	TBA
167	KITCHEN 167	4.08	TBA
168	T/BATH 168	2.14	TBA

Pick Rooms in Model

Rooms to Tile

Rooms to Tile

0 GROUND FLOOR PLAN

01 FIRST FLOOR

SECOND FLOOR PLAN

0 GROUND FLOOR PLAN

F.TOILET 131

DADDY OFFICE 133

BEDROOM 2 163

BEDROOM 1 164

T/BATH 165

T/BATH 166

KITCHEN 167

T/BATH 168

SITTING ROOM 169

RECEPTION 170

TOILET 180

MANAGER OFFICE 181

F.TOI 213

Rooms to Tile

KITCHEN

0 GROUND FLOOR PLAN

KITCHEN 167

01 FIRST FLOOR

KITCHEN 188

SECOND FLOOR PLAN

KITCHEN 221

Pick Surfaces in Model

Surfaces to Tile

Walls: Chase - GWB & Metal Stud...

Walls - Vertical - ID 1454223

Walls: Chase - GWB & Metal Stud...

Walls - Vertical - ID 1454635

Walls: Chase - GWB & Metal Stud...

Walls - Vertical - ID 1502353

Surfaces to Tile

No surfaces picked yet. Use “Pick Surfaces in Model” to select the faces to tile.

☐ Merge the selected surfaces into one

Illustrative — Surface mode sidebar

KS Digital Studio © 2026

5.3 – Tile Pattern Engine

Five professional laying patterns are supported in every tiling mode:

Pattern	Description
Standard	Uniform rectangular grid with consistent horizontal and vertical joints
Ashlar	Staggered coursing — alternating rows offset by half a tile, creating a brick-bond appearance
Herringbone	Tiles laid at 45° in an interlocking V-formation; classic for stone and wood-look tiles
Double Herringbone	Two parallel herringbone runs mirrored side-by-side for a more decorative finish
Wooden Plank	Long-format tiles in a linear run, mimicking timber plank flooring



5.4 – Tile Configuration Parameters

Entered in the Configuration panel, in Millimetres or Feet (switching converts all values automatically).

Parameter	Default	Description
Tile Width / Length	600 / 1200 mm	Shorter and longer tile dimensions
Grout Spacing	2 mm	Gap between adjacent tiles (symmetric inset on each tile edge)
Grid Rotation	0°	Now measured from the room’s own walls — 0 lays tiles square to the room however the building is angled in the project
Thickness	5 mm	Extrusion thickness of the 3D tile geometry
Additional Waste %	10%	Buffer added on top of the computed geometric waste for ordering
Material	Project selection	Revit material from the active document, shown in the model
Start / Tiling Height	0 / 0 mm	Wall and Surface modes only — see 5.1

Configuration

Unit:

Millimeters

Pattern Type:

Standard

Grout Spacing:

2

Tile Width:

600

Tile Length:

1200

Grid Rotation:

0

Material:

Select Material...

Thickness:

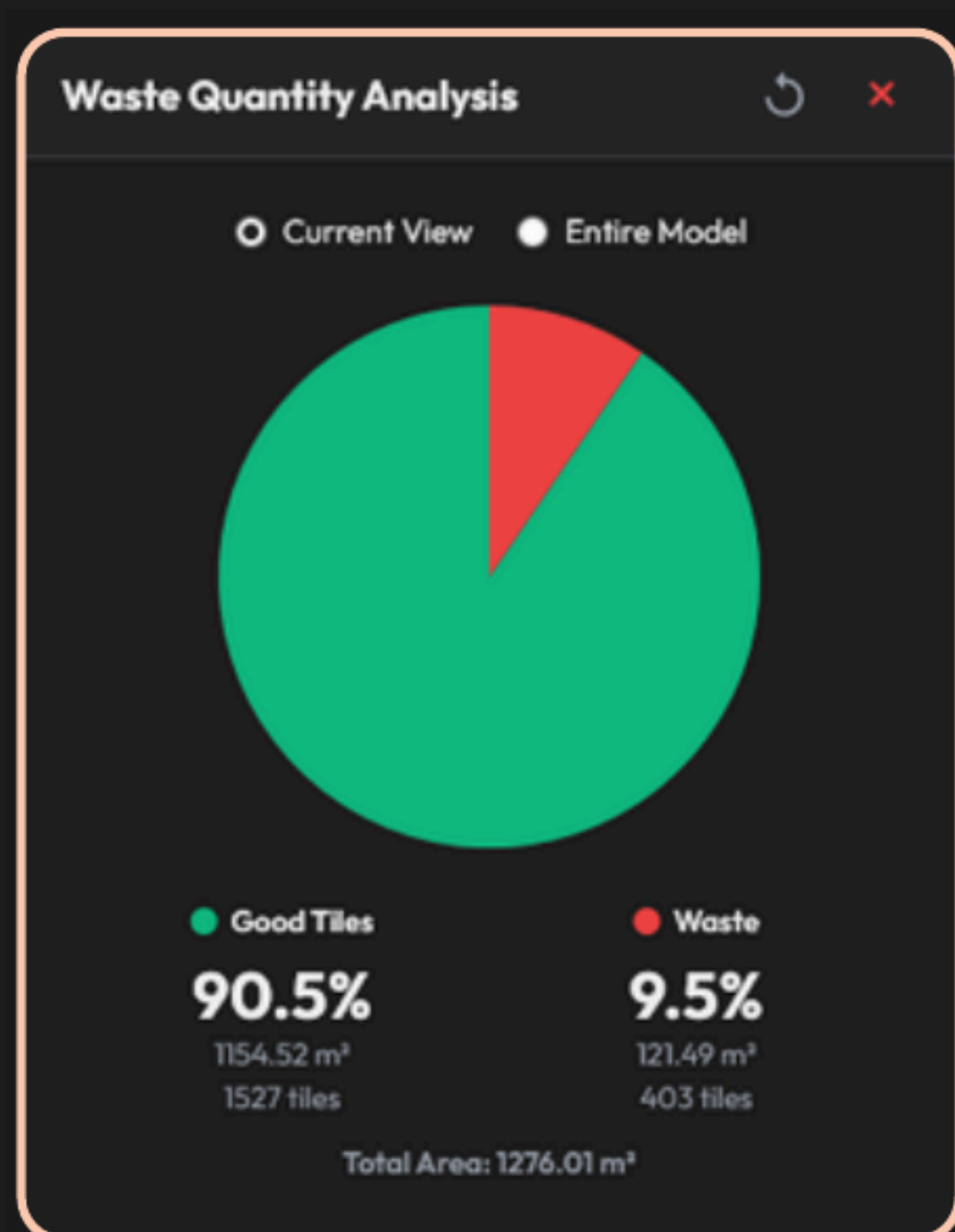
5

Add. Waste %:

10

5.5 – Waste Analysis

- **Geometric Waste Detection** — any tile whose clipped area is less than one full tile is classified as a wasted (cut) tile.
- **Per-Tile Waste Flag** — each tile carries an Is Wasted Tile (Yes/No) parameter.
- **Tile Actual Dimensions (new)** — every cut tile records its real edge lengths, so a cut piece can be set out from the schedule.
- **Waste Highlighting** — a colour picker overrides all wasted tiles in the active view; cleared with one click.
- **Waste Quantity Analysis Panel** — pie chart of Good vs Waste tiles, areas and counts of each, total tile area, Current View / Entire Model toggle and a Refresh button.

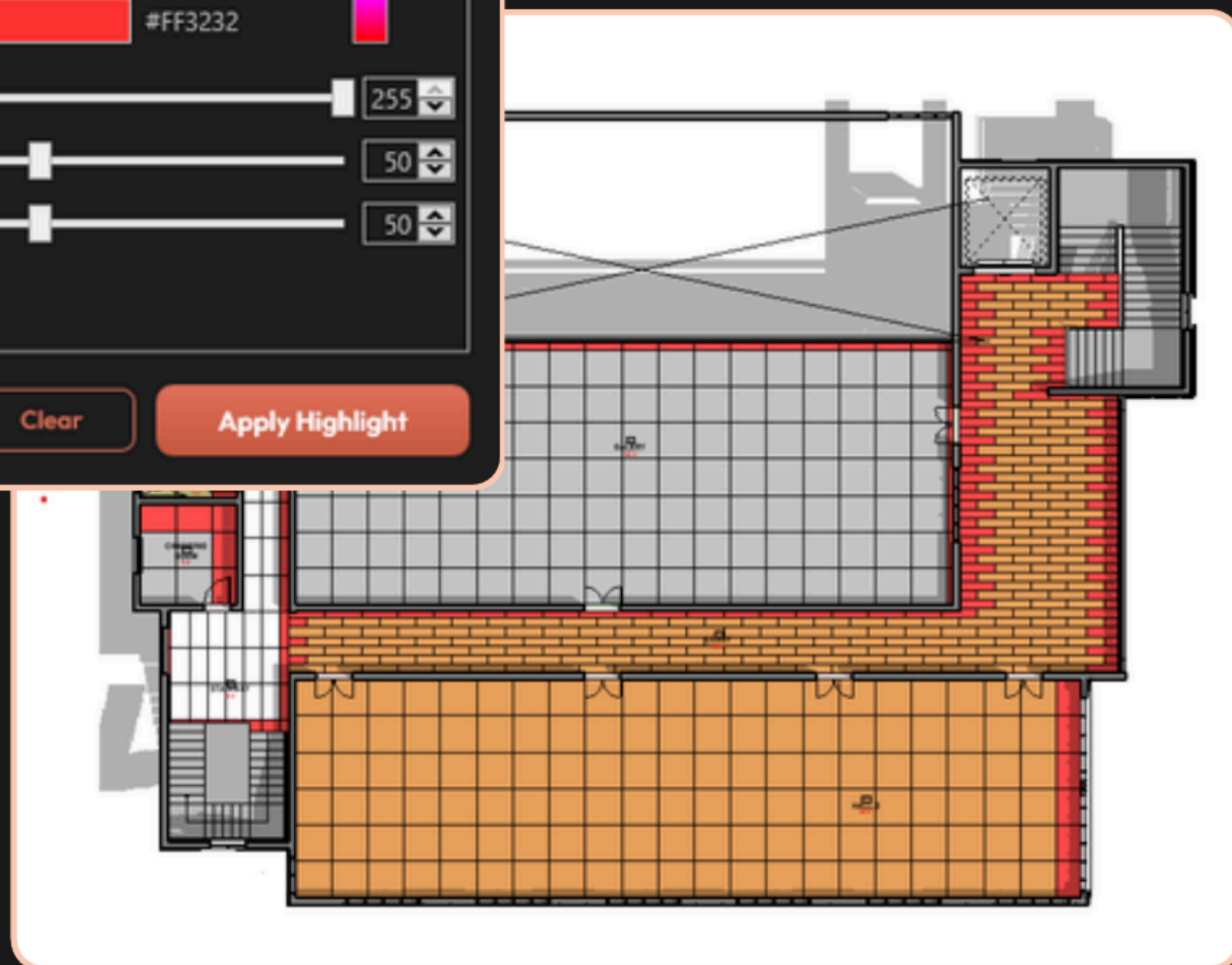



Highlight Waste Tiles

Color Picker: #FF3232

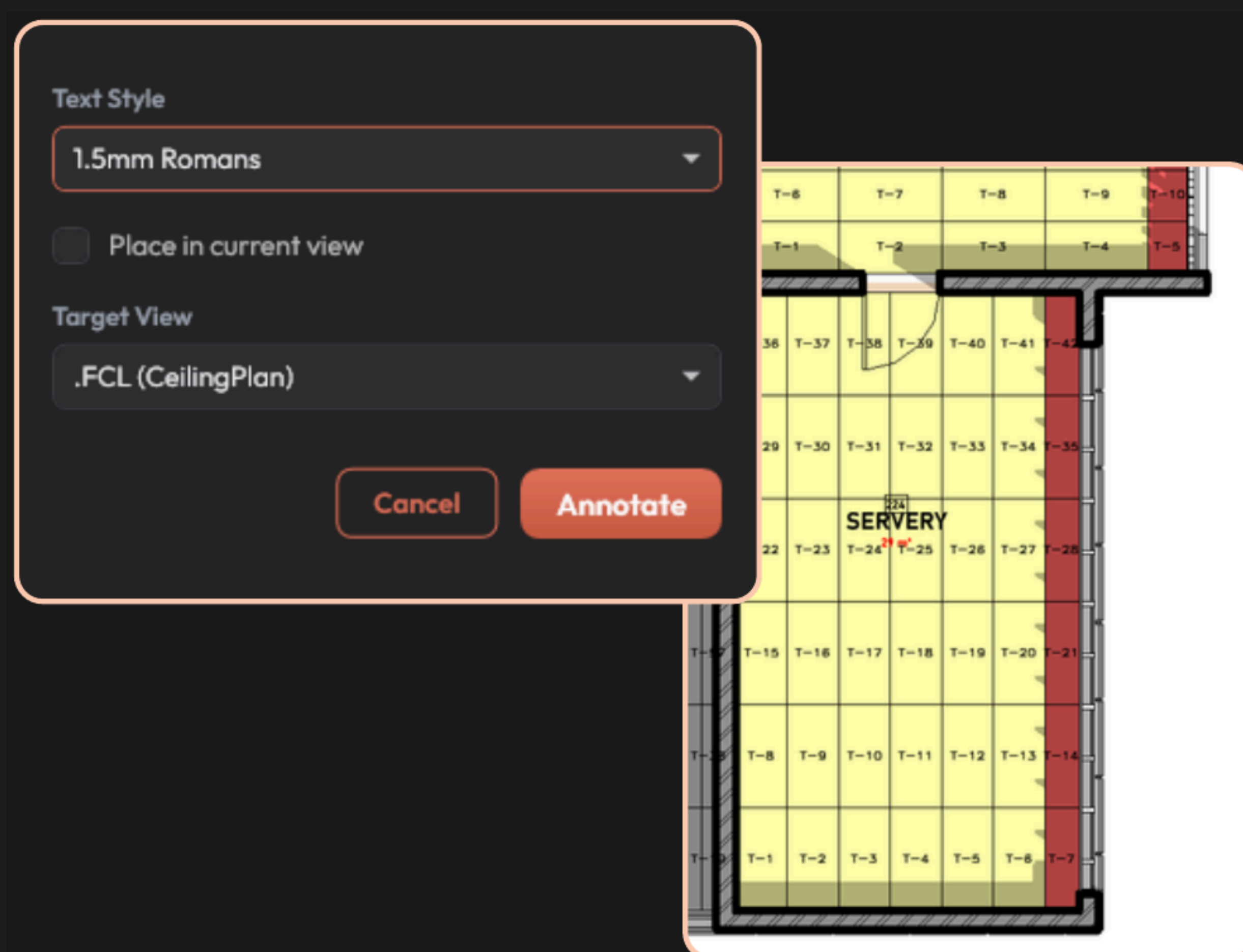
R: 255
G: 50
B: 50

Buttons: Clear, Apply Highlight



5.6 – Tile Annotation

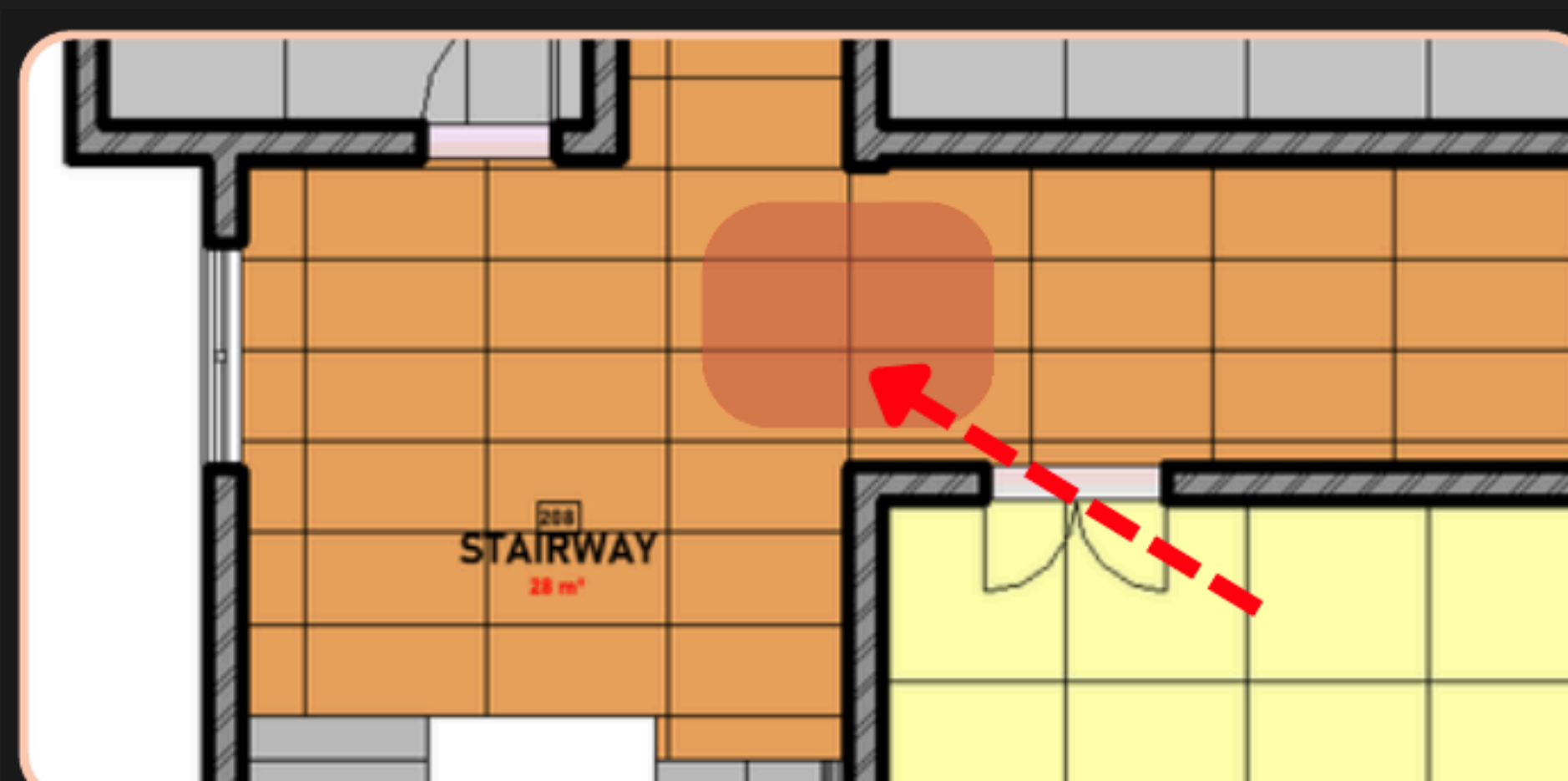
- **Text Type Selection** — choose any project TextNoteType from a dropdown.
- **View Targeting** — place in the Current View or a chosen Floor, Ceiling or Engineering Plan.
- Notes are placed centrally on each tile using the tile's reference point (e.g. T-1, T-2 ...).



5.7 – Update / Align Tiles

NEW IN 1.0.8

- **Move, then rebuild** — drag a tile group to where the setting-out should start, select it, and press Update/Align Tiles — the tiles are rebuilt from that position.
- **Cross-room alignment** — align rooms to a shared origin so tiles read as one continuous field across open-plan floors that span several Revit rooms.
- **Rebuilds from the group itself** — size, pattern, thickness and height band come from the parameters stamped on the group, never from whatever the panel shows.
- **Walls too** — wall tile groups can be realigned the same way.



5.8 – Schedule Generation

One-click Revit View Schedules populated from shared parameters. Choose any combination of three schedules, and filter them by Tile Type (All, Floor, Wall or Surface).

NEW IN 1.0.8

Tile Groups Schedule

One row per room / surface group

Level, Room, Tile Type, Pattern, Material, Size, Rotation, Grout, Added Waste %, Tile & Waste counts, Room Area, Tiles Area, Actual / Added / Total Waste m²

Individual Tiles Schedule

One row per tile

Tile Reference Level, Room, Tile Mark, Width, Height, Tile Actual Dimensions, Tiles Area, Is Wasted Tile, Actual Waste m²

Wasted Tiles Schedule

Cut tiles only

Same columns as the Individual Tiles schedule, filtered to wasted tiles — the cutting list for site

All schedules include:

- Grouping by Reference Level (and Room) with sub-totals, plus a Grand Total row.
- Automatic filtering to plugin-generated tiles only, and by Tile Type when chosen.
- Distinct names per schedule (e.g. "Tile Output Schedule – Wasted Tiles"), so nothing is overwritten.
- Export to Excel or PDF through standard Revit workflows.

<Tile Output Schedule - Groups>

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	
Room Name	Room Number	Tile Type Name	Tile Pattern	Tile Material	Tile Width (mm)	Tile Height (mm)	Rotation	Tiles Grout Spacing	Added Waste %	Room Tiles Count	Wasted Tiles Count	Room Area m²	Tiles Area m²	Actual Waste m²	Added % Waste m²	Total Waste m²	
11 FIRST FLOOR																	
GALLERY 193	193	Floor Tiles	Standard	Softwood_Lumber	1200	1200	0°	0 mm	10%	418	72	559 m²	498 m²	61 m²	56 m²	116 m²	
ECHICAL ROO	196	Floor Tiles	Standard	Textile - Bamboo	600	600	0°	0 mm	10%	54	14	15 m²	14 m²	1 m²	2 m²	2 m²	
TOI 197	197	Floor Tiles	Standard	Textile - Grey, Dark	600	1200	0°	0 mm	10%	17	9	7 m²	6 m²	1 m²	1 m²	2 m²	
TOI 198	198	Floor Tiles	Standard	Textile - Grey, Dark	600	1200	0°	0 mm	10%	18	10	7 m²	6 m²	2 m²	1 m²	2 m²	
CHANGING ROO	199	Floor Tiles	Standard	Cromados_Carro	600	600	0°	0 mm	10%	36	11	11 m²	9 m²	2 m²	1 m²	3 m²	
TAIRWAY 200	200	Floor Tiles	Standard	Cromados_Carro	600	600	0°	0 mm	10%	101	37	28 m²	23 m²	5 m²	3 m²	8 m²	
ERVERY 224	224	Floor Tiles	Standard	Textile - Bamboo	600	1200	0°	0 mm	10%	42	6	29 m²	26 m²	3 m²	3 m²	6 m²	
4010 BOOTH 2	229	Floor Tiles	Standard	Textile - Bamboo	1200	600	0°	0 mm	10%	106	30	65 m²	55 m²	11 m²	7 m²	17 m²	
										792	189	722 m²	637 m²	85 m²	72 m²	157 m²	
										10%	285	33	188 m²	181 m²	7 m²	19 m²	26 m²
										10%	30	10	15 m²	14 m²	1 m²	2 m²	2 m²
										10%	15	9	7 m²	4 m²	3 m²	1 m²	3 m²
										10%	15	9	7 m²	4 m²	3 m²	1 m²	4 m²
										10%	18	9	11 m²	7 m²	3 m²	1 m²	4 m²
										10%	58	26	28 m²	23 m²	5 m²	3 m²	8 m²
										10%	132	27	187 m²	151 m²	34 m²	19 m²	53 m²
										10%	756	88	110 m²	83 m²	27 m²	11 m²	38 m²
										10%	203	210	554 m²	469 m²	84 m²	55 m²	139 m²
										1548	399	1276 m²	1106 m²	169 m²	128 m²	296 m²	

Schedule Name

Tile Output Schedule

Tile Type

☐ All ☒ Floor ☐ Wall ☐ Surface

☒ Create Tile Groups Schedule

☒ Create Individual Tiles Schedule

☐ Create Wasted Tiles Schedule

Filtered to wasted tiles only

Cancel

Generate

<Tile Output Schedule - Tiles>

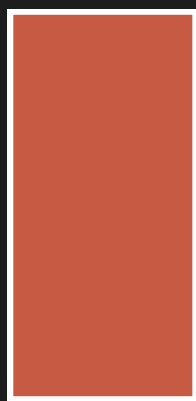
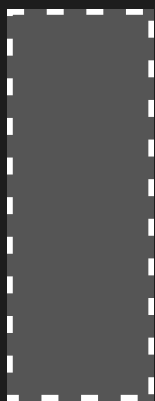
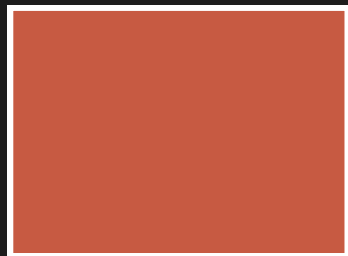
A	B	C	D	E	F	G	H
Tile Mark	Room Name	Room Number	Tile Width (mm)	Tile Height (mm)	Tiles Area m²	Is Wasted Tile	Actual Waste m²
11 FIRST FLOOR							
CHANGING ROOM 199							
1	CHANGING ROOM 199	600	600	0 m²	0 m²	☐	0 m²
2	CHANGING ROOM 199	600	600	0 m²	0 m²	☐	0 m²
3	CHANGING ROOM 199	600	600	0 m²	0 m²	☐	0 m²
4	CHANGING ROOM 199	600	600	0 m²	0 m²	☐	0 m²
5	CHANGING ROOM 199	600	600	0 m²	0 m²	☐	0 m²
6	CHANGING ROOM 199	600	600	0 m²	0 m²	☒	0 m²
7	CHANGING ROOM 199	600	600	0 m²	0 m²	☐	0 m²
8	CHANGING ROOM 199	600	600	0 m²	0 m²	☐	0 m²
9	CHANGING ROOM 199	600	600	0 m²	0 m²	☐	0 m²
10	CHANGING ROOM 199	600	600	0 m²	0 m²	☐	0 m²
11	CHANGING ROOM 199	600	600	0 m²	0 m²	☐	0 m²
12	CHANGING ROOM 199	600	600	0 m²	0 m²	☒	0 m²
13	CHANGING ROOM 199	600	600	0 m²	0 m²	☐	0 m²
14	CHANGING ROOM 199	600	600	0 m²	0 m²	☐	0 m²
15	CHANGING ROOM 199	600	600	0 m²	0 m²	☐	0 m²
16	CHANGING ROOM 199	600	600	0 m²	0 m²	☐	0 m²
17	CHANGING ROOM 199	600	600	0 m²	0 m²	☐	0 m²

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5.9 – Tile Cut Sheets

NEW IN 1.0.8

Generates wasted-tile cut sheets as Revit Drafting Views (1:20): a table with one row per unique cut shape, so the installer knows exactly what to cut and how many.

Installed Piece	Offcut	Procured Size	Actual Dimensions	Qty	Rooms	Tile Marks
		600 × 1200	L 1200 / B 410 L 1200 / B 410	14	LOBBY 227	T-3, T-9, T-15, T-21 ...
		600 × 1200	L 780 / B 600 L 780 / B 600	6	STAIRWAY 208	T-14, T-28, T-42 ...

Illustrative — cut sheet table layout (values are examples)

Scope Options

Scope	Output
Active view – whole level	One table covering the whole level
Active view – per room	One table per room, laid out side by side
Entire project – per level	One drafting view (sheet) per level
Entire project – per level & room	Per level, one table per room
Selected tile groups	One table per selected group (select the group or any of its tiles)

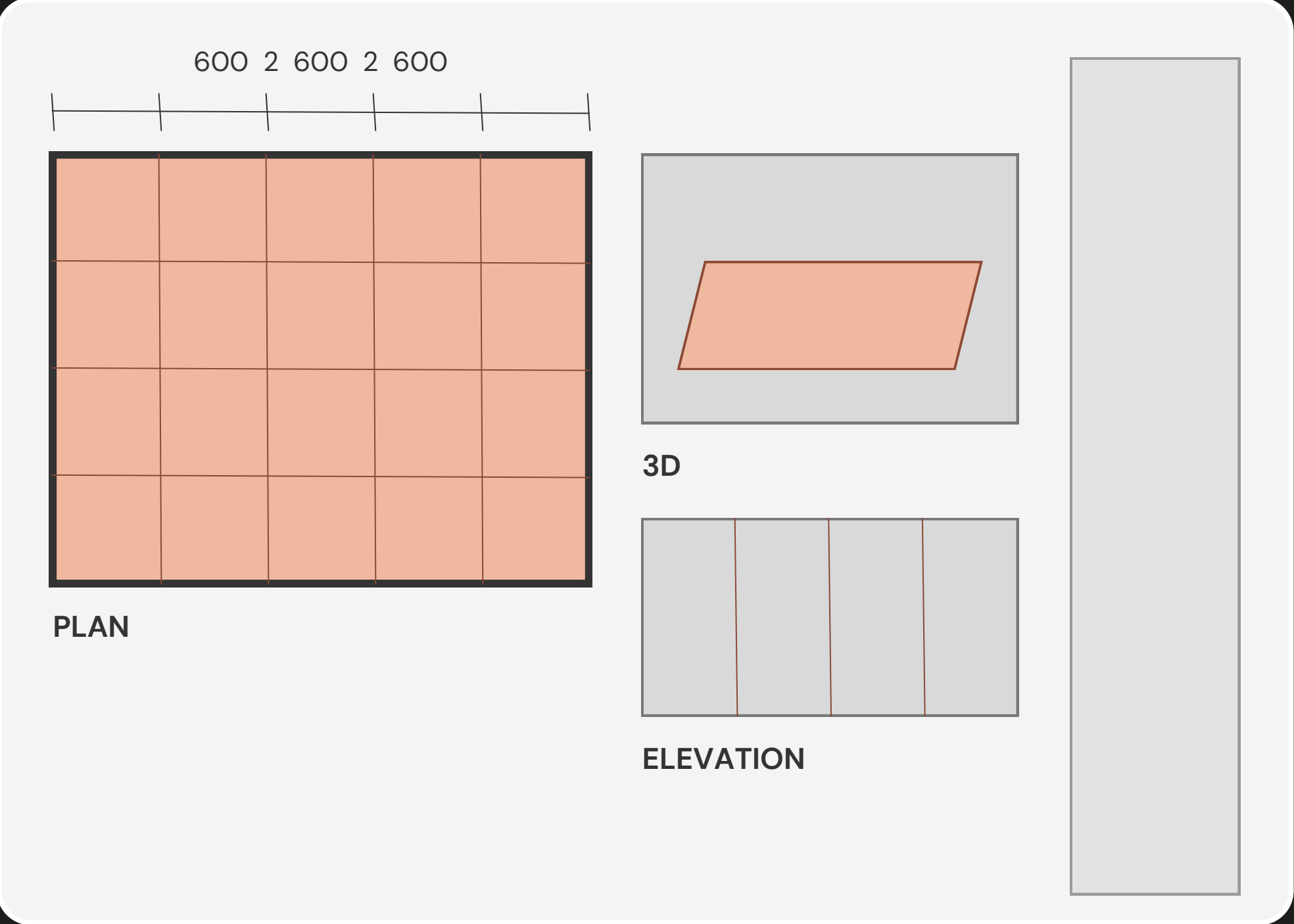
Details

- **Tile Type filter** — cut Floor, Wall, Surface or All tiles — a wall offcut and a floor offcut are usually cut and fixed by different trades.
- **Exact dimensions** — labels are read from the original model geometry and converted directly to mm, so they match the model exactly.
- **Installed piece + offcut** — each row shows the piece that is fixed and the part discarded from the procured tile, with the quantity of tiles sharing that shape.
- **Traceability** — every row lists the rooms and tile marks it applies to, linking back to annotations and schedules.

5.10 – Generate Views & Sheets

NEW IN 1.0.8

Creates dimensioned plans, elevations and 3D views of the tiling and lays them out on sheets — ready to issue.



Illustrative — auto-composed tile sheet

Option	Choices
Scope	Selection · Active level · Whole project
Views	Plan per room (floors) · Elevation per surface (walls / surfaces) · 3D, section-boxed · Overall level plan
Dimensions	Tile-joint chains on plans and elevations, in any dimension style
Sheets	One per room / surface, on any title block
Graphics	Hidden line, Shaded, Realistic ...

How it works

- **Setting-out dimensions** — one chain across the courses and one up them, reading tile, joint, tile, joint (600, 2, 600, 2) so the layout can be taken straight off the sheet. Chains follow the tile grid, even at 45°.
- **Smart sheet composition** — one scale per sheet so views can be compared, chosen as the largest scale at which every view still fits; each viewport is measured and fitted precisely.
- **Cropped to the work** — each plan is cropped to the room and its walls; each 3D view is section-boxed so only that room or surface shows.
- **Shaded as laid** — tiles carry their material, so a shaded style shows the tiling as it will look on site.
- **Robust batches** — a room that cannot be processed is reported in the summary without stopping the rest; the first sheet opens when the run finishes.

Revit does not allow dimensions in 3D views, so dimensions are placed on plans and elevations only.

5.11 – AI Assistant

NEW IN 1.0.8

Ask for what you want in plain English. The assistant reads the project, sets the tiling out, lays the tiles and draws the schedules and sheets — several steps at a time. It runs on Google Gemini with the user’s own API key (the free tier covers everyday use).

◆ AI Assistant

Find every bathroom and WC, set 300 × 600 tiles with a 2 mm joint, and tile their walls to 2100 mm.

✓ list_rooms — 9 wet rooms found

✓ set_tiling_mode — Room Wall Tiles

✓ set_tile_options — 300 × 600, 2 mm

✓ select_rooms — 9 rooms

✓ generate_tiles — 1,284 tiles

Done. Walls of 9 wet rooms tiled to 2100 mm; 11% of tiles are cuts. Want the cut sheets?

Ask me to tile something...

Illustrative — example conversation

What it can do — 18 tools

Area	Tools
Read	Panel state, model overview, rooms, tiling summary, materials
Configure	Mode, tile options, material, room selection, merge surfaces, surface picker
Act	Generate tiles, generate views, create schedule, create cut sheet, align tiles
Review	Highlight / clear waste tiles

Try asking

- “Tile the floors of every room on the ground floor with 600 × 600 tiles, 3 mm joint, then tell me how much to order.”
- “What has been tiled so far, how much waste is there, and how many m² should I order?”
- “Generate dimensioned views and sheets for everything tiled on this level.”

Controls & Safeguards

Setting	Description
API key	Google AI Studio key, stored on the user’s machine only
Model	Default gemini-3.6-flash; Fetch lists the models the key can actually use
Model permission	Toggle "Let the assistant change the Revit model". Off, it still answers, reads the project and plans — it just will not tile
Step limit	Maximum tool steps per message (default 8) so a request can never run away
Allowance	Optional caps on messages per day and tokens per day / month; usage is always counted
Undo & history	Every change is a normal Revit undo. Conversations are saved, can be reopened, reused or cleared

A live "What I can see" summary shows the context the assistant reads before it acts.

6. Shared Parameter Data Model

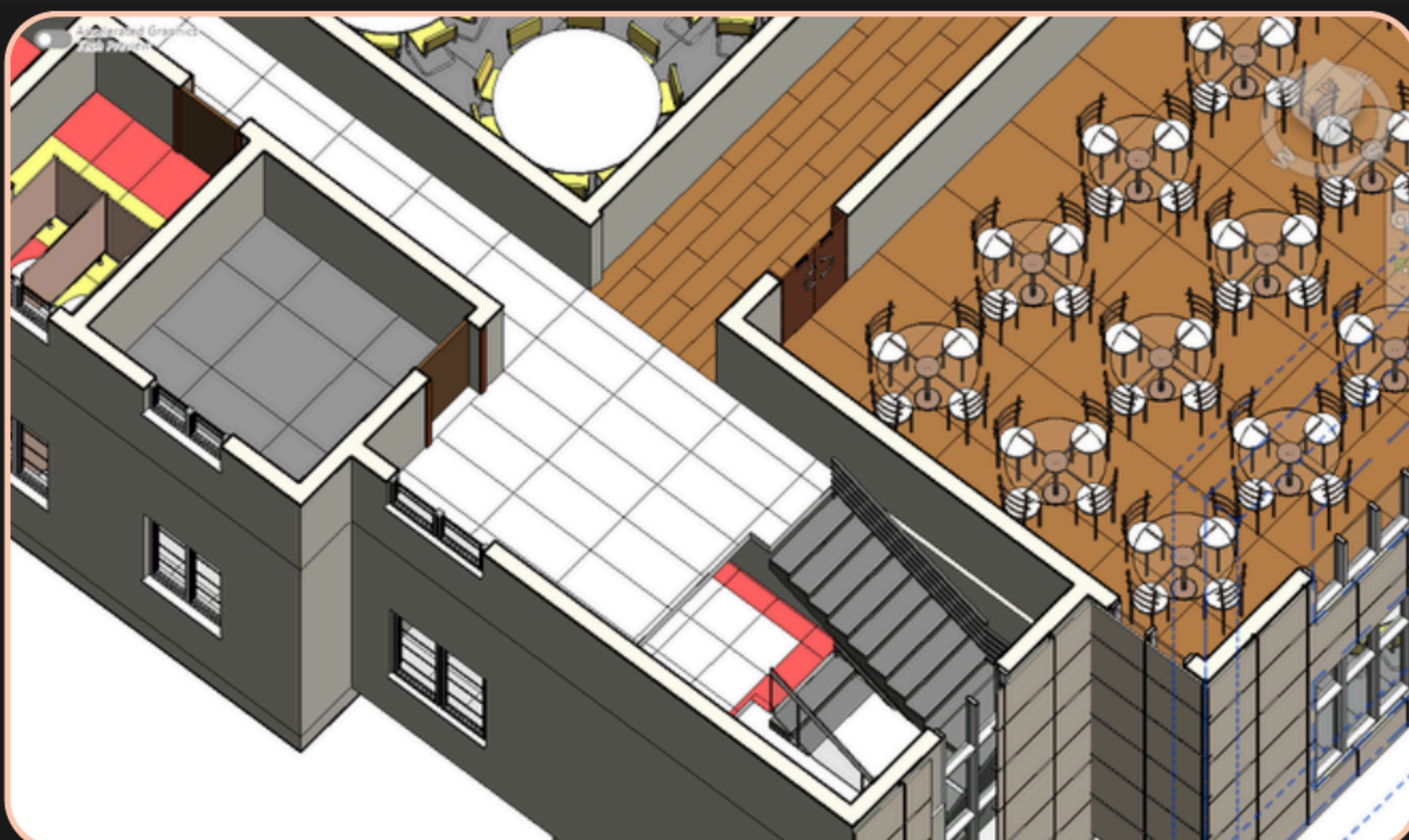
Shared parameters are registered automatically on first run and attached to tile groups (Model Groups) and individual tiles (Generic Models). New in 1.0.8 are highlighted.

Parameter	Type	Applies to
Room Name / Room Number	Text	Both
Tile Width (mm) / Tile Height (mm)	Text	Both
Tile Type Name	Text	Groups — "Floor Tiles", "Wall Tiles" or "Surface Tiles"
Tile Pattern · Tile Material · Rotation	Text	Groups
Tiles Grout Spacing (mm) · Added Waste %	Text	Groups
Tile Mark · Tile Reference Level	Text	Tiles
Room Tiles Count · Wasted Tiles Count	Integer	Groups
Is Wasted Tile	Yes/No	Tiles
Room Area m² · Added % Waste m² · Total Waste m²	Area	Groups
Tiles Area m² · Actual Waste m²	Area	Both
Tile Actual Dimensions	Text	Tiles — real edge lengths of each (cut) tile
Tile Host	Text	Groups — the element a wall / surface group sits on
Tile Thickness (mm)	Number	Groups — used by Update/Align rebuilds
Tile Start Height (mm) · Tile Band Height (mm)	Number	Groups — wall / surface height band
Tile Surface Id	Text	Groups — the exact face a surface group was built on
Room Unique Id	Text	Both — identifies the owning room even when names repeat

New in version 1.0.8

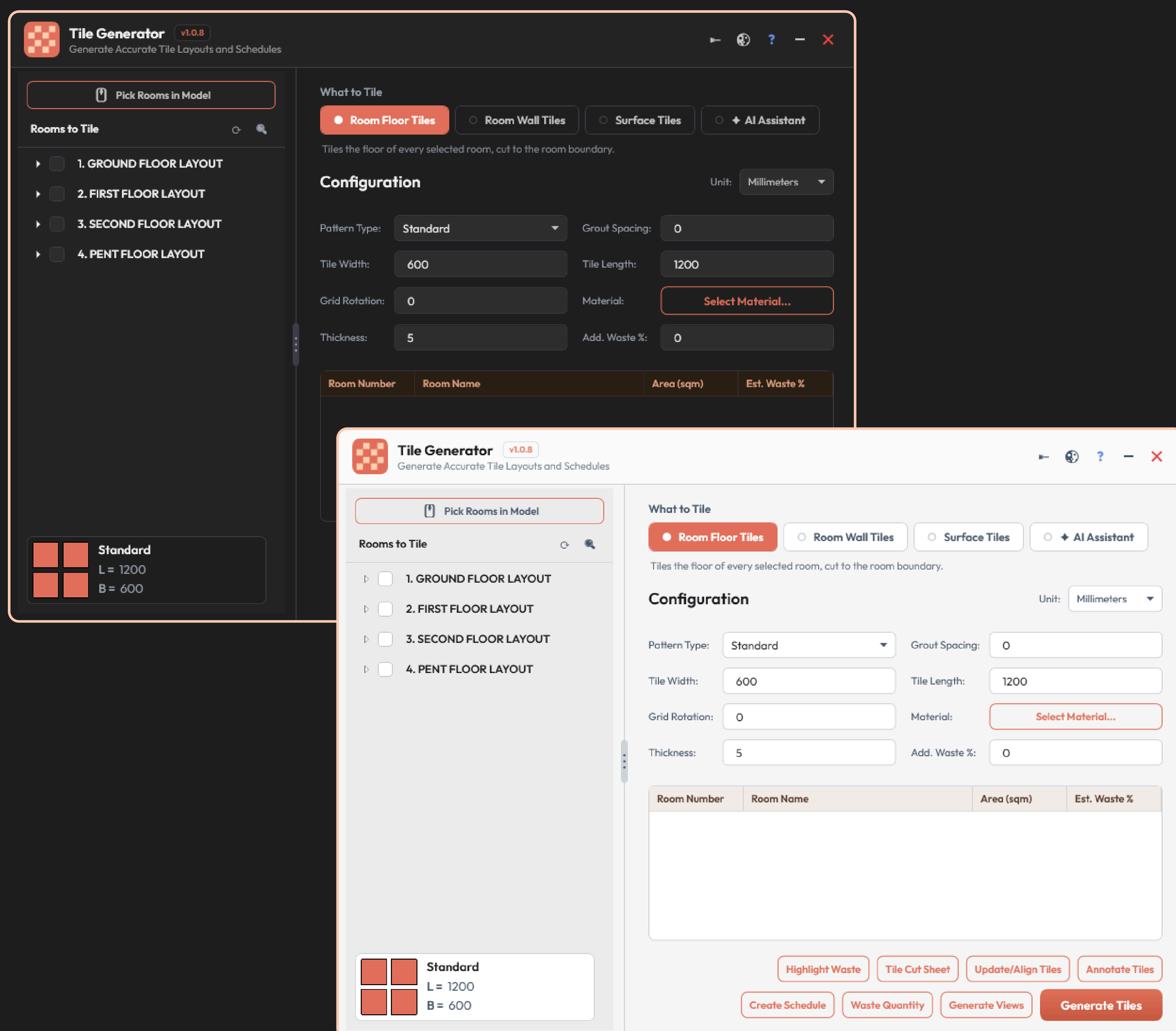
7. Geometry Generation Engine

- **Room-aligned grid (new)** — the grid direction is taken from the room's own walls (ignoring short segments under 300 mm), so angled wings, survey-aligned models and rotated projects tile square. Grid Rotation is added on top.
- **Pattern loop generation** — each pattern generates a grid of rectangles covering the target, expanded for full edge coverage.
- **Boundary clipping** — exact boolean intersection of every tile against the room boundary or face outline — curved walls, offsets, complex polygons.
- **Wall face finder & openings (new)** — finds the room-facing wall faces, trims them to the requested height band and cuts tiles around doors, windows and other openings.
- **Planar tiler (new)** — the same clipping engine runs on any flat plane — vertical walls, soffits, sloped faces — for Wall and Surface modes.
- **Grout inset** — each tile is inset by half the grout spacing before clipping for accurate joints at every edge.
- **Solid extrusion & DirectShape** — each clipped polygon is extruded by the tile thickness and placed as a Generic Model DirectShape.
- **Group assembly** — tiles are grouped per room (floor or walls) or per surface, stamped with their parameters.
- **Idempotent re-generation** — re-running replaces the previous group of the same kind — a room can hold a floor group and a wall group side by side without either being disturbed.



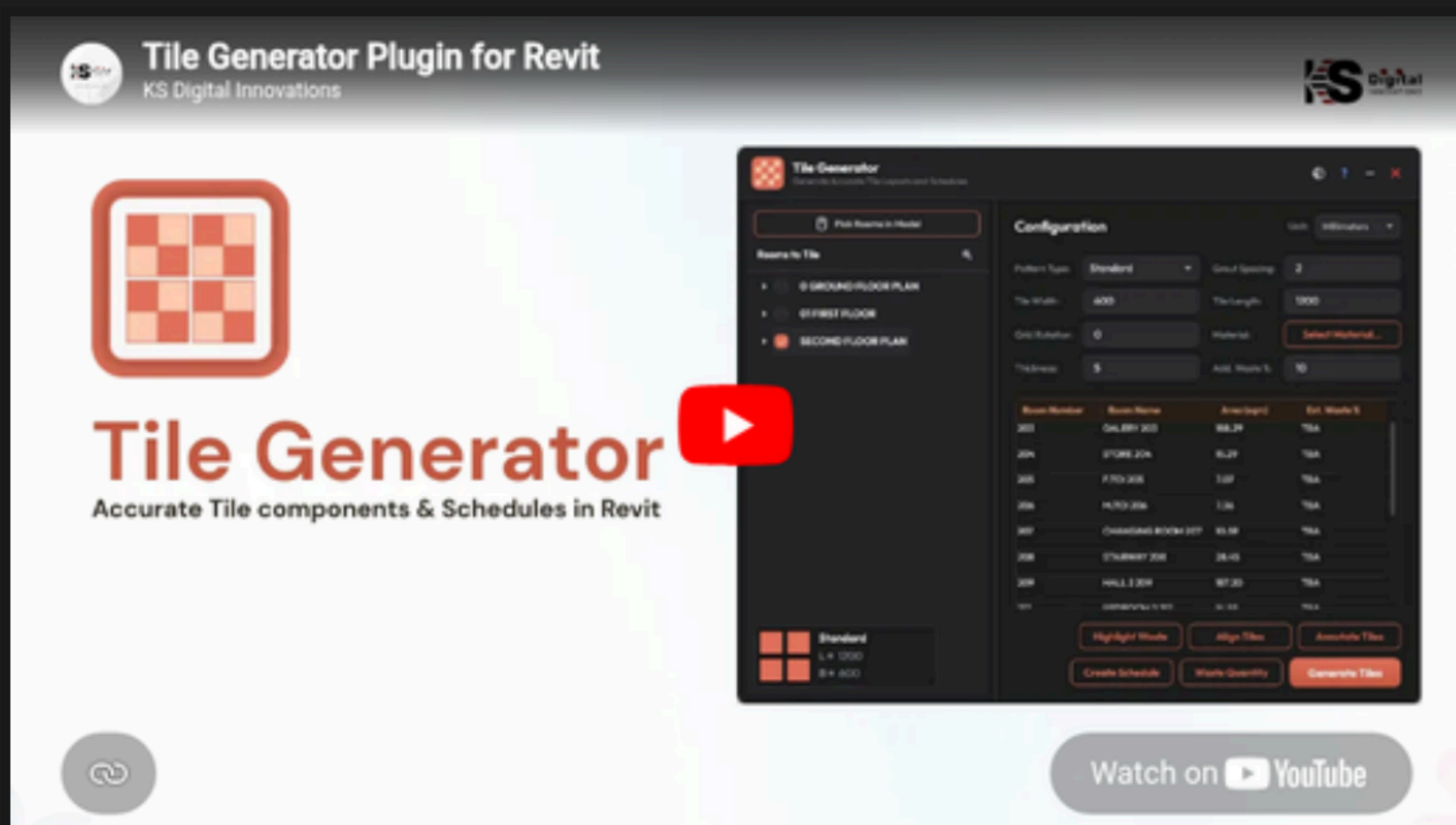
8. User Interface

- **Dockable panel (new)** — dock the panel into Revit or float it as a window with one click. One UI instance moves between the two, so room selection, settings and results survive the switch; Revit remembers your docking layout.
- **Mode selector (new)** — Room Floor · Room Wall · Surface · AI Assistant; buttons and inputs adapt to the mode (e.g. Update/Align shows only where it applies).
- **Custom chrome** — frameless window with rounded corners, drop shadow and branded title bar.
- **Light / Dark theme** — switch at any time; propagates to every dialog.
- **Outfit font** — bundled modern sans-serif for a polished look.
- **Pattern preview card** — live thumbnail of the selected pattern and tile size.
- **Resizable layout** — drag the splitter to resize; double-click to reset.
- **Tooltips & help** — every control has a descriptive tooltip; a Help button opens the documentation.



9. Typical Workflow

- 1 Open a Revit project with defined Rooms and launch Tile Generator from the KS Digital Studio ribbon (dock it if you like).
- 2 Choose a mode: Room Floor, Room Wall or Surface — or describe the job to the AI Assistant.
- 3 Select rooms (tree, search or pick in model) or pick the surfaces to tile.
- 4 Set pattern, tile size, grout, rotation, thickness, material — and start/tiling height for walls.
- 5 Click Generate — 3D tile geometry appears in the model. Use Update/Align to shift the setting-out.
- 6 Review cuts with Highlight Waste and Waste Quantity.
- 7 Create Tile Cut Sheets and schedules (groups, tiles, wasted tiles).
- 8 Generate Views & Sheets and annotate tiles — then export schedules to Excel / PDF.



[Click here to watch the Demo](#)

10. Technical Architecture

Component	Technology
Plugin Framework	Autodesk Revit API (.NET Framework 4.8 / .NET 8 / .NET 10)
UI Framework	WPF, MVVM (ricaun.Revit.Mvvm), Revit Dockable Pane API
Geometry	Clipper2 polygon clipping, DirectShape, CurveLoop, solid extrusion
Data & Scheduling	Shared Parameter API, ViewSchedule API with filters and sort/group fields
Documentation	View, Sheet, Viewport, Dimension and Drafting View APIs
AI	Google Gemini API (streaming, tool calling) — local settings, usage ledger and chat history
Deployment	Autodesk PackageContents.xml, KS Studio Installer
Language	C# (.NET)

11. Feature Summary

Feature	
5 tile laying patterns	✓
Floor tiling per room	✓
Wall tiling with height band	✓ New
Surface tiling + merge	✓ New
Openings cut out (doors / windows)	✓ New
Room-aligned tile grid	✓ New
Grid rotation (any angle)	✓
Parametric size, grout, thickness	✓
Material assignment	✓
Multi-room batch generation	✓
Room search, pick & refresh	✓
Geometric waste classification	✓
Waste highlight & pie chart	✓

Feature	
Tile Actual Dimensions	✓ New
Tile Cut Sheets	✓ New
Group / tile / wasted-tile schedules	✓
Tile Type filter (Floor/Wall/Surface)	✓ New
Tile annotation	✓
Update / Align tiles	✓
Views, dimensions & sheets	✓ New
AI Assistant (Gemini)	✓ New
Dockable panel	✓ New
Light / Dark theme	✓
mm / ft unit switching	✓
Idempotent re-generation	✓
Revit 2021 – 2027	✓

12. Enterprise Pricing Structure

Yearly

\$50 /Month

Minimum of 5 seats
Billed Annually

- ✓ **Shared Access:** Multiple users share seats — one active user per seat at a time
- ✓ **Best for Larger Teams:** Ideal for organisations with a fluctuating number of users or projects
- ✓ **Simplified management:** Straightforward licence tracking — no per-machine assignment
- ✓ **Usage Monitoring:** Detailed licence usage tracking to optimise seat allocation
- ✓ **Greater flexibility:** Not tied to a specific user or machine
- ✓ **Additional Licences:** Discount on extra seats — see table
- ✓ **Premium Support:** Real-time technical support for issues or requests

Extra Seats	Additional Seats Discount
1–14 seats	10% off
15–44 seats	15% off
≥ 45 seats	20% off

See full pricing via this link:

<https://ks-tilegenerator-pricing.my.canva.site/>