



Auto BIM Route AI
E-LEARNING

AUTODESK REVIT · USER HANDBOOK

Feeder Automation

The AI-driven BIM routing engine inside Revit. Automate feeder and branch routing directly in your model and cut coordination time by up to 43%.

Complete offline guide

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learn.autobimroute.com

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GETTING STARTED

1 Auto BIM Route Plugin — Overview

Meet the AI-driven BIM routing engine for Autodesk Revit — what it does and how it fits into your workflow.

Auto BIM Route is an AI-driven BIM routing engine that runs inside Autodesk Revit. It automates feeder and branch routing directly on your model, cutting modeling, design and coordination time by up to **43%**.

What it does

- **Feeder Automation** — automatically routes feeders between source and target equipment, respecting clearances and clashes.
- **Branch Automation** — generates coordinated branch connections that follow your design intent.
- **Drawing Intelligence** — turns your coordinated model into production-ready drawings.
- **Branch Circuit Export** — export branch circuit data from your electrical model for scheduling and analysis.

Who it's for

MEP engineers, BIM coordinators and electrical designers who want to spend less time on repetitive routing and more time on design decisions.

GETTING STARTED

2 Installation

Download, install and activate the Auto BIM Route plugin in Autodesk Revit.

This guide walks you through installing the **Auto BIM Route** plugin for Revit.

1. Download the installer

Sign in to your ABR account and download the latest installer for your Revit version. Enterprise customers receive a dedicated download link with their license.

2. Run the installer

1. Close Revit completely.
2. Run the ABR installer and follow the prompts.
3. Launch Revit — you should see the **Auto BIM Route** tab in the ribbon.

3. Activate your license

Open the **Auto BIM Route** ribbon and click **Activate**. Enter the license key from your welcome email. The plugin validates the key and unlocks your modules.

Having trouble? Check that your environment meets the minimum system requirements and that you're running a supported Revit version.

Next: [Auto BIM Route AI Tips — configure your settings](#).

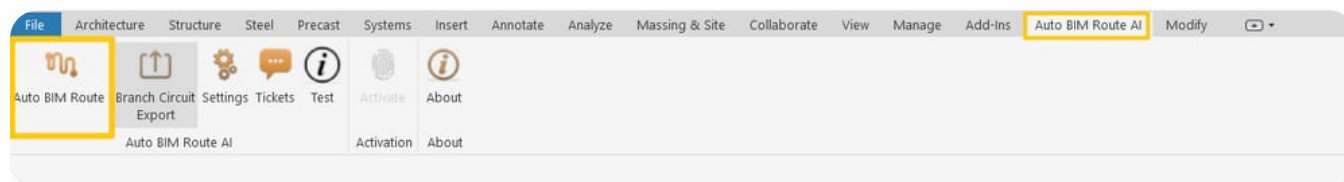
GETTING STARTED

3 Auto BIM Route AI Tips

A tour of the Auto BIM Route main window and how to configure the plugin settings — Graphics, Clash, Panel and Project Standards.

This page introduces the **Start window**, the **main window** and the **Settings** — use the table of contents above to jump to a section.

Auto BIM Route Start Window



In the **Auto BIM Route AI** ribbon tab, click **Auto BIM Route** to launch the plugin. This Start window appears **every time you open it**, before the model is collected.

ⓘ

Before you start, let's **optimize**

This model is large, so extracting everything can be slow. We've pre-selected the categories ABR usually needs (electrical and core structure); everything else is unchecked. Check any extra categories, linked files, or PDF plans you want to include.

Select 3D View

The selected 3D view is the reference ABR uses when extracting categories. The content visible in this view is also what's reflected in the 2D viewer.

Default 3D View

Select Categories That Matter

> ☐ Architecture20

> ☒ Structural6

> ☐ Electrical125

> ☐ Mechanical109

> ☐ Piping683

> ☐ Other629

Estimated processing load on this computer

Fast

☐ Remember my choice

Open ABR AI

Cancel

The Start window lets you choose exactly what ABR collects from your model:

- **Select 3D View** — the 3D view ABR uses as its reference when extracting categories. Whatever is visible in this view is also what appears in the 2D viewer.

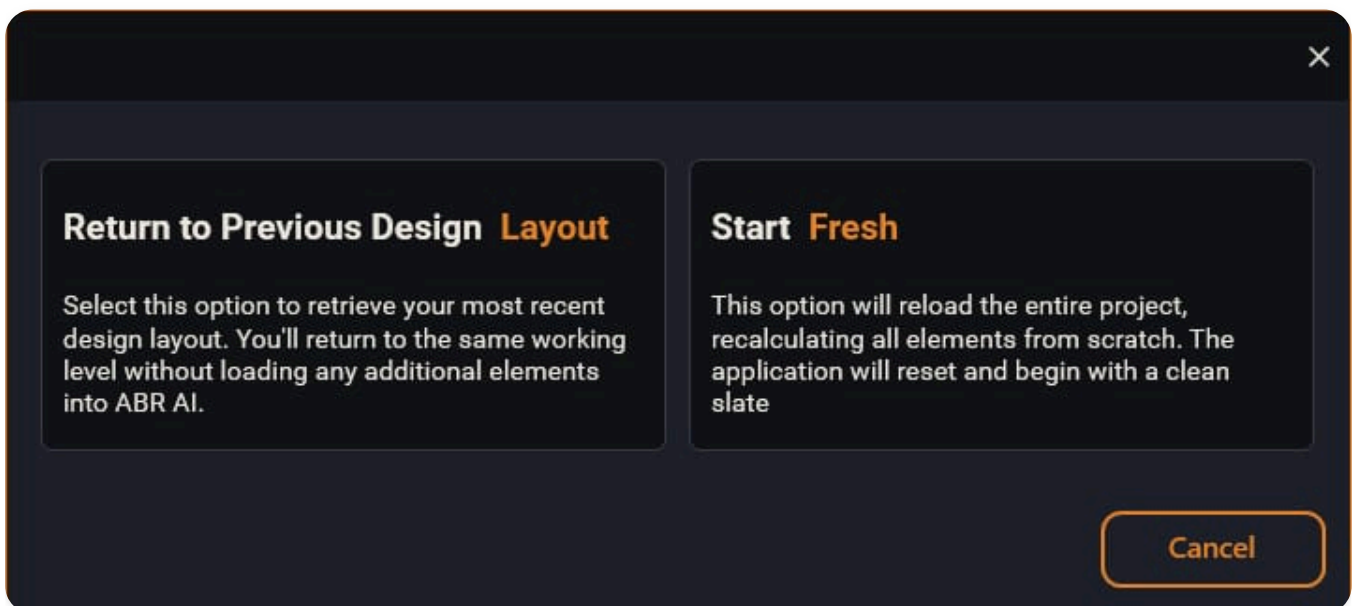
- **Select Categories That Matter** — the categories collected into the viewer. ABR pre-selects the ones it usually needs (electrical and core structure) and leaves the rest unchecked; tick any extra categories, linked files or PDF plans you want to include.

This category selection overrides the Graphics settings. It is designed for **large models**: by collecting only the categories you truly need in the background, you cut the processing load and make ABR noticeably faster. The **Estimated processing load** gauge updates as you change your selection, so you can keep it in the “Fast” range.

Tick **Remember my choice** to reuse this selection next time, then click **Open ABR AI** to continue.

Resuming a session

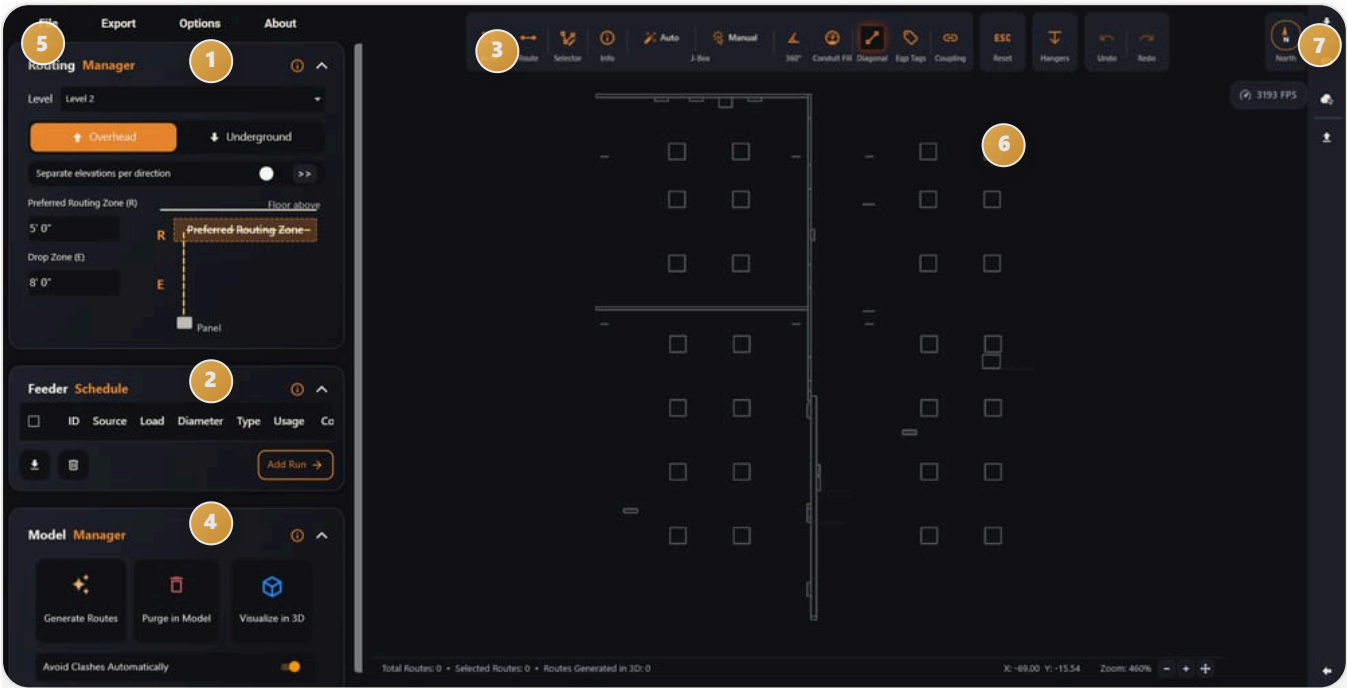
If you open the plugin, close it, and open it again **within the same Revit session**, ABR asks how you want to continue:



- **Return to Previous Design Layout** — retrieve your most recent design layout and return to the same working level, without loading any additional elements into ABR AI. Use this to **preserve your work**.
- **Start Fresh** — reload the entire project and recalculate all elements from scratch. The application resets and begins with a clean slate — a **new session**.

Main Window Introduction

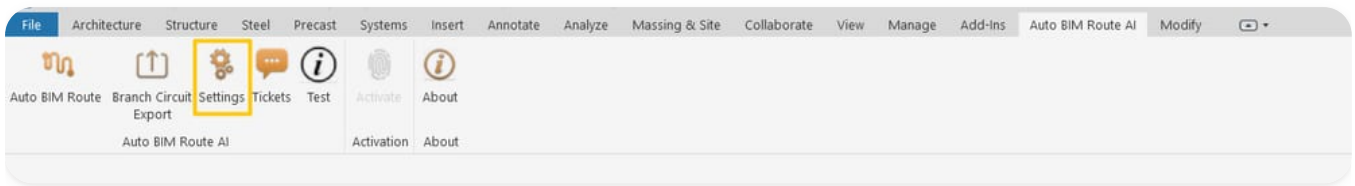
The Auto BIM Route main window is divided into parts, and each part is a module with its own guide. Hover a highlighted area below to preview it, or click it to open that module’s page.



Hover a highlighted area to preview it, or click it to open that module. Every part is listed below.

- 1 Routing Manager Options** — Level, overhead/underground, preferred routing zone and drop zone.
- 2 Feeder Schedule Module** — The list of feeder runs to route.
- 3 Action Buttons** — The viewer toolbar for drawing and editing routes.
- 4 Model and Generation Manager** — Generate routes, purge them, and visualize in 3D.
- 5 Menu Bar Options** — The File, Export, Options and About menu.
- 6 Context Menu** — Right-click shortcuts inside the viewer.
- 7 Side Bar** — Load Runs, Visibility, Sync and Export.

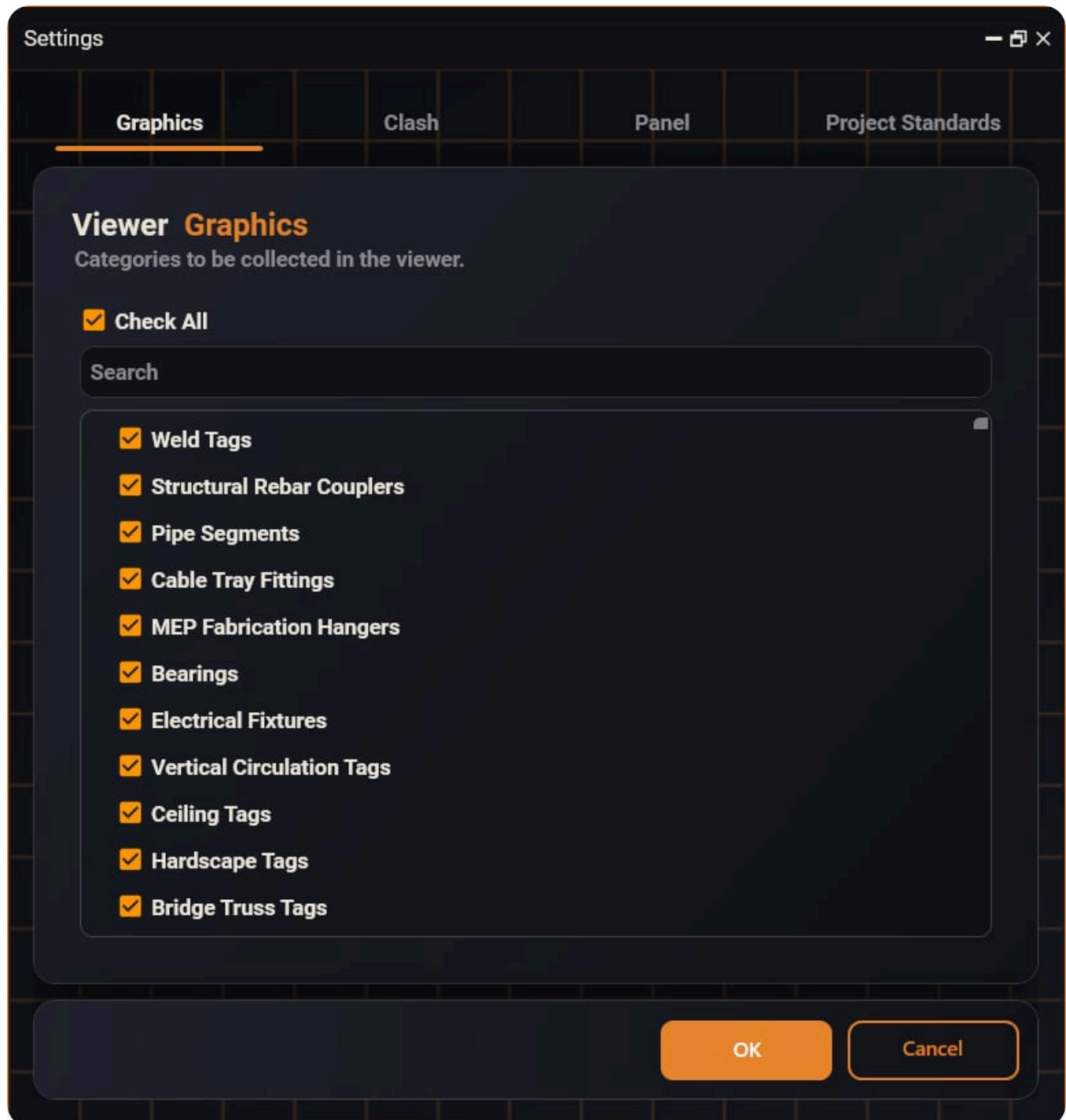
Settings



Open the **Auto BIM Route AI** ribbon tab and click **Settings** (the gear icon shown above). The Settings window opens with four tabs — **Graphics**, **Clash**, **Panel** and **Project Standards**.

These settings are prerequisites. The first time you activate your license and open the Auto BIM Route application, it will ask you to configure them. Once you set them and click **OK**, they are **saved and used as your defaults on every run** — until you change them and save again.

Graphics

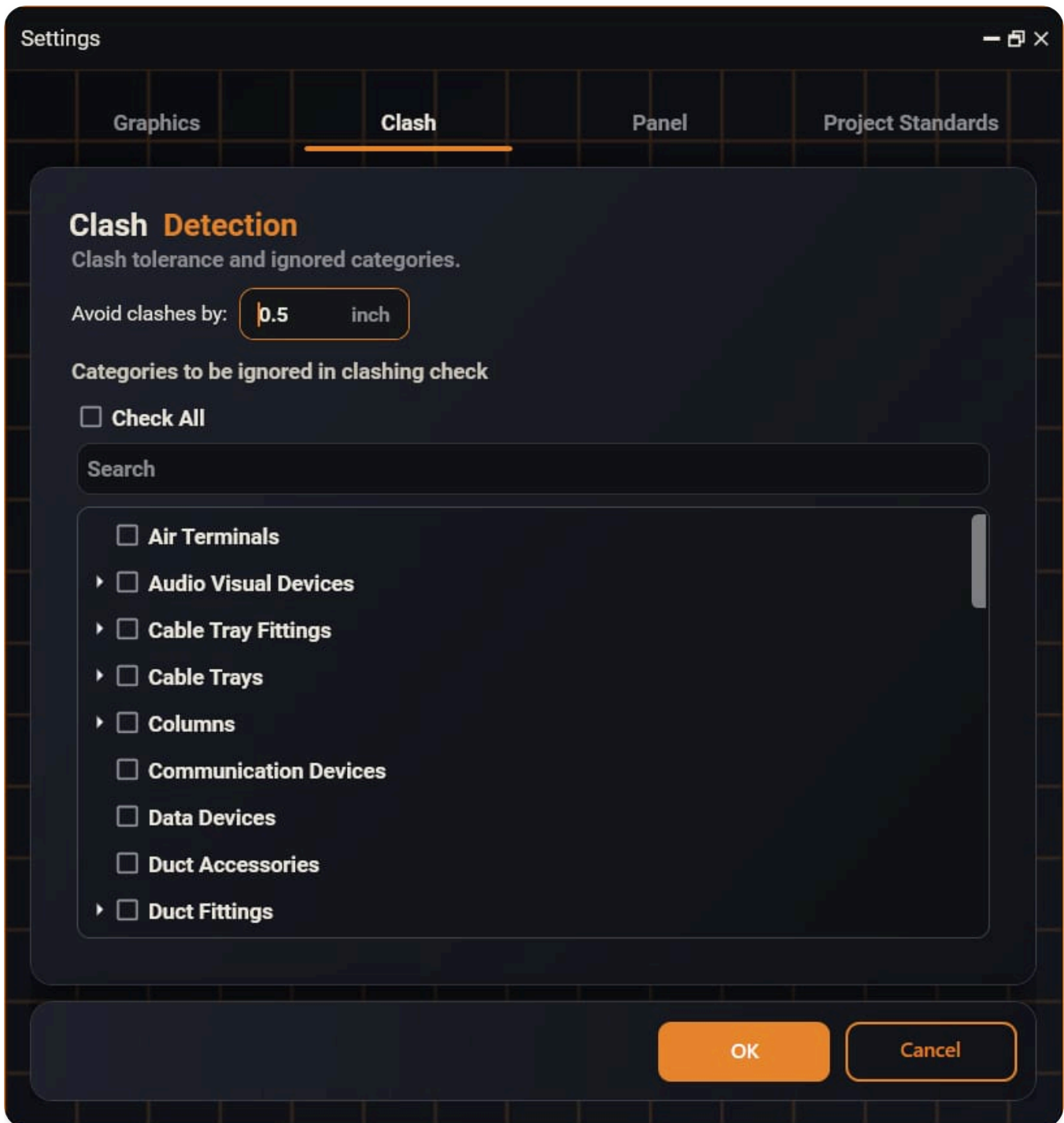


The **Graphics** tab controls which categories are collected and shown in the **background of the Auto BIM Route viewer**. Tick the model categories you want visible for context while you work.

- Use **Check All** to select every category, or the **Search** box to find a specific one.
- Tick only the categories that help you orient in the viewer — keeping the list focused keeps the viewer light and fast.

(You can override this per run from the Start window above — handy for large models.)

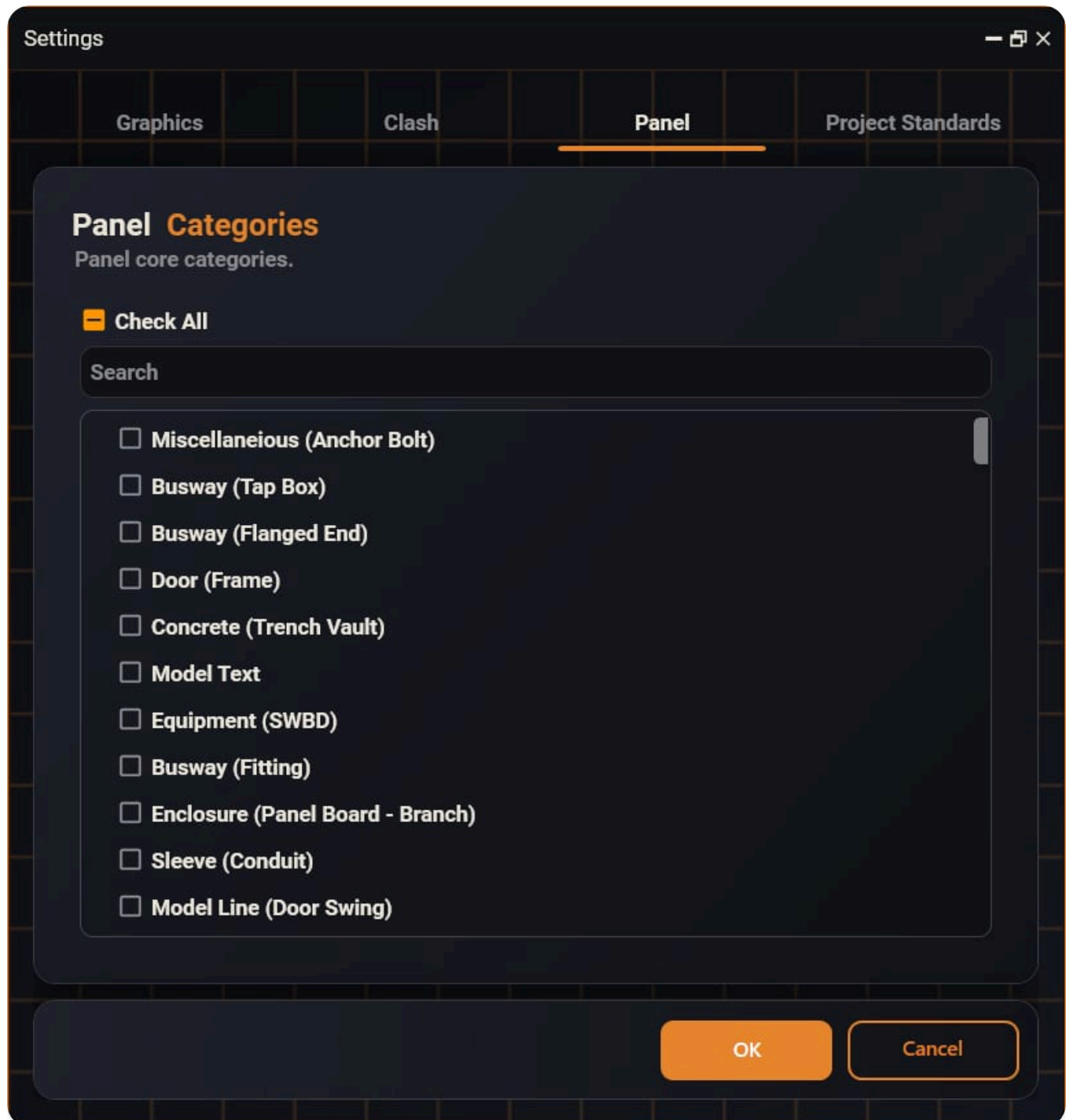
Clash



The **Clash** tab defines how Auto BIM Route detects and avoids clashes.

- **Avoid clashes by** — the clearance ABR keeps between routes and other elements (for example **0.5 inch**).
- **Categories to be ignored in clashing check** — tick the categories ABR should **ignore** during clash detection. Everything you leave unticked is treated as an obstacle that routes must avoid.

Panel



The **Panel** tab tells Auto BIM Route which categories represent the **electrical panels** — the routing source — in your model. Select the category (or categories) your panels are modeled with, so ABR knows where routes originate.

Project Standards

The screenshot shows a 'Settings' window with a 'Project Standards' tab selected. The dialog box contains the following settings:

- Project Standards**
Routing rules and preferred bend angles.
- Maximum Conduit Bend:** 180 degrees
- Minimum Length to change elevation zone:** 15 Feet
- Coupling stick length (split runs every):** 10 Feet
- Turn couplings on/off with the Coupling button in the viewer toolbar.
- Set preferred bend angles order (drag & drop to reorder)**
 - ☒ 90 – Default Value
 - ☒ 30
 - ☒ 45
 - ☒ 60
 - ☒ 15
 - ☒ 22.5

At the bottom of the dialog are 'OK' and 'Cancel' buttons.

The **Project Standards** tab holds the default values ABR uses in its routing calculations.

- **Maximum Conduit Bend** — the largest bend angle allowed (for example 180 degrees).
- **Minimum Length to change elevation zone** — the shortest run length before a change in elevation is allowed (for example 15 Feet).

- **Coupling stick length (split runs every)** — how often long runs are split for couplings (for example **10 Feet**). You can turn couplings on/off with the **Coupling** button in the viewer toolbar.
- **Set preferred bend angles order** — **90°** is the default value. Enable the additional angles you allow (for example **30, 45, 60, 15, 22.5**) and **drag & drop** them to set the order ABR prefers when routing.

Saving your settings

When all four tabs are configured, click **OK** to save. These values become your project defaults for every routing run. To change them later, reopen **Settings**, adjust any window, and save again.

4 Best Known Methods

Field-tested tips for getting clean, constructible routes out of Auto BIM Route — how to size your zones, coordinate, manage interference and batch your runs.

These are the practices that consistently produce **clean, constructible routes**. None of them are required to run Auto BIM Route — but following them gives the routing algorithm the best chance of getting it right the first time, and keeps processing fast and stable.

Electrical Zone Settings: dimension adjustments

The **Electrical Zone Settings** control how much room ABR has to work in — the **width** of the routing zone (the horizontal space above the ceiling) and its **height** (the vertical space below the ceiling). How wide or tight you set those zones is the single biggest lever on the quality of the result.

Widening zones (more space)

- **Pro** — grants the routing algorithm **maximum flexibility** to stagger conduits, avoid obstacles and resolve clashes.
- **Con** — increases the risk of **unconstructible routes**, excessive bends and complicated obstacle maneuvers.

Narrowing zones (less space)

- **Pro** — forces **smoother, highly constructible, realistic** routing paths.
- **Con** — limits routing flexibility; overly tight constraints can cause **processing failures**.

The sweet spot is usually the **tightest zone that still routes cleanly** — start narrow for realistic paths, and only widen if the algorithm can't find a solution.

Final coordination workflow

Treat ABR as the engine for the **first pass**, then finish by hand:

1. **Algorithmic routing** — use ABR to generate the initial, baseline conduit paths.
2. **Manual refinement** — manually adjust conduit **elevations** and **stub locations** for precision where it matters.

Interference management: model categories & Revit links

Before you run, trim what ABR has to look at:

- **Uncheck unnecessary model categories and Revit links** prior to execution — do this from the **Start window** category selection or the **Graphics / Clash settings**.
- Every active category is another set of obstacles ABR tests against. Reducing them **sharply cuts clash-detection processing time** and makes the whole run noticeably faster.

3D conduit processing: batch workflows

Don't process the whole floor at once:

- **Route in small, targeted groups** rather than everything in one pass.
- **Keep each batch tight** — ideally two active panels (a single **From / To** pair) or one localized conduit trunk.
- Smaller batches **drastically reduce computation time** and help **prevent crashes** on large models.

Elevation changes: kicks vs. stubs

When you change a run's elevation, the size of the change decides what ABR draws:

- **Small elevation changes** create a **kick** — a smooth diagonal transition.
- **Large elevation changes** create a **stub** — a vertical up/down.

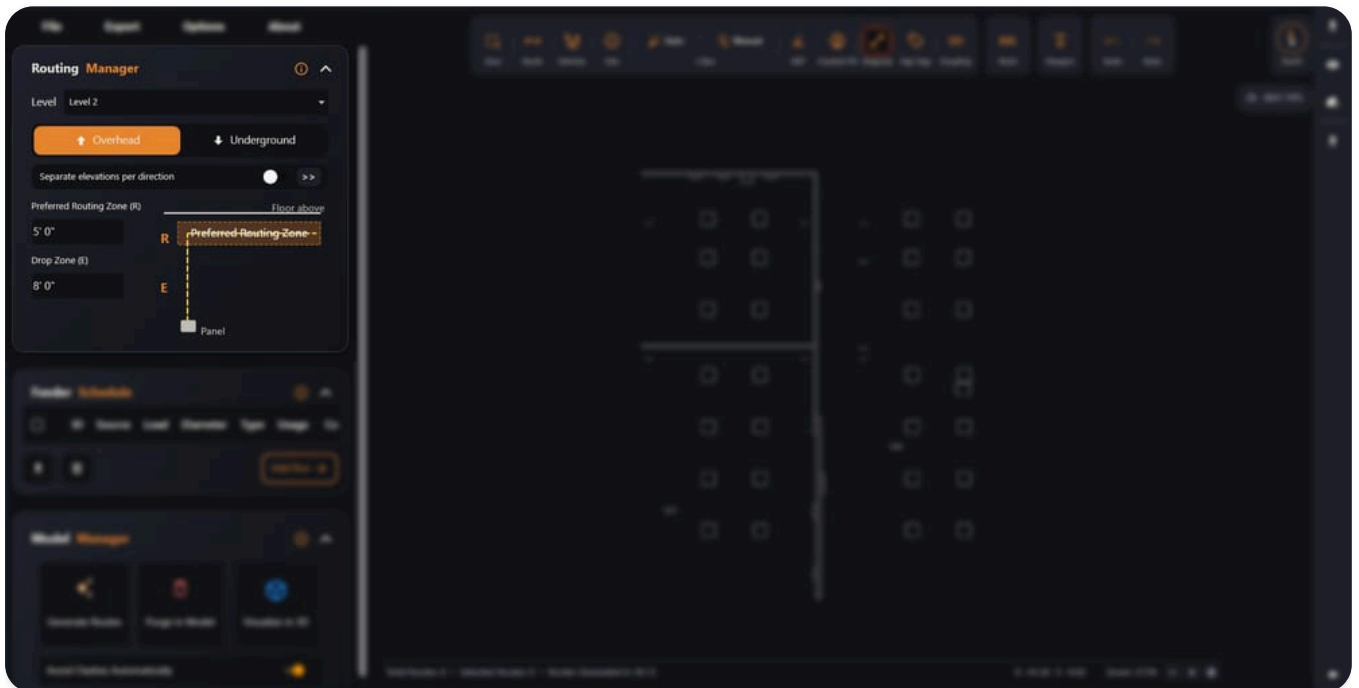
As a rule of thumb, roughly **1 ft 6 in and below** gives a kick, and **1 ft 7 in and above** gives a stub. **Minimizing the zone width** encourages the smoother kick instead of a stub — handy when you want the run to stay tucked up tight.

ROUTING MANAGER OPTIONS

5 Routing Manager Options

Set the routing level, elevation mode, preferred routing zone and drop zone before generating routes.

The **Routing Manager** defines the spatial constraints and elevation zones that govern how Auto BIM Route places electrical conduits through the building. The small diagram on the right of the panel is **live** — it updates as you change values, so you can see the routing zone and drop path before you generate anything.



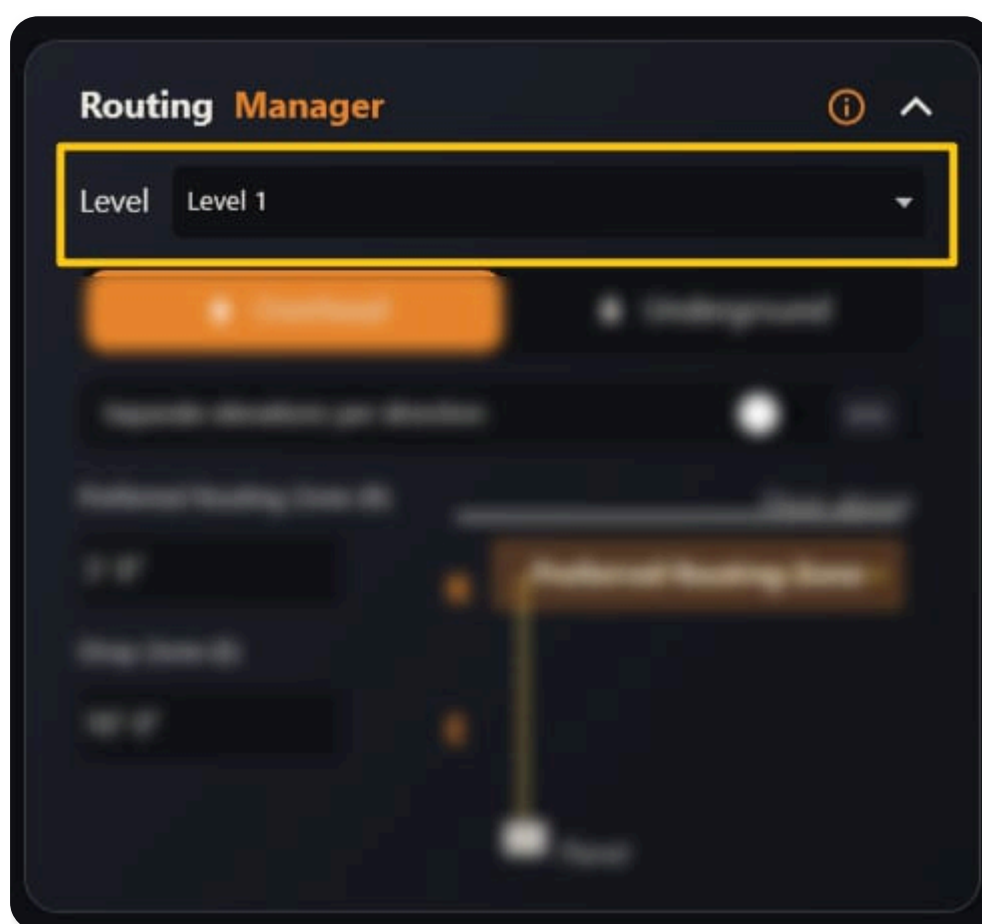
Pick a setting below to learn what it does.

ROUTING MANAGER OPTIONS

6 Level

Pick the building level where routing happens; switching it refreshes R and E.

The **Level** dropdown selects the building level where the horizontal routing happens. Each level can have its own routing parameters, because ceiling heights, structural constraints and coordination with other systems differ floor to floor.



- Switching the level updates the 2D viewer and **refreshes the R and E values** to the ones saved for that level.
- Whatever level is selected here is the one **Generate Routes** will work on.

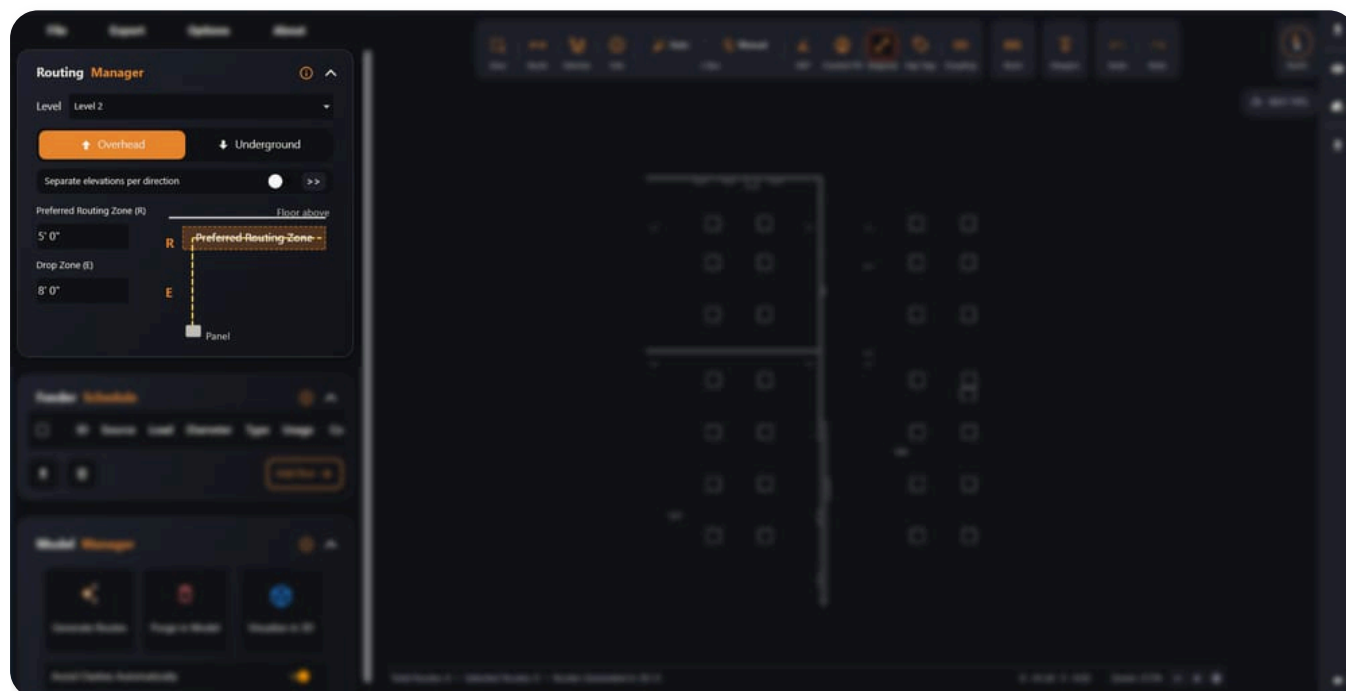
ROUTING MANAGER OPTIONS

7 Overhead vs Underground

Choose whether conduits run in the ceiling or below the slab.

This toggle decides where conduits run:

- **Overhead** — routed in the ceiling space. Runs hang below the slab, follow ceiling grids and avoid structural beams.
- **Underground** — routed below the slab, through slab penetrations and along floor-to-floor vertical paths.



In **Overhead** mode the diagram reads top-down: the **Floor above** line sits at the top, the **Preferred Routing Zone (R)** hangs just below it, and **E** is the rise from the panel up into that zone.



In Underground mode the diagram flips: the **panel** sits at the top with the **Top of Slab** line, and the routing zone drops **below** the slab. You still type **positive** values for R and E — ABR automatically places the zone below the level for you.

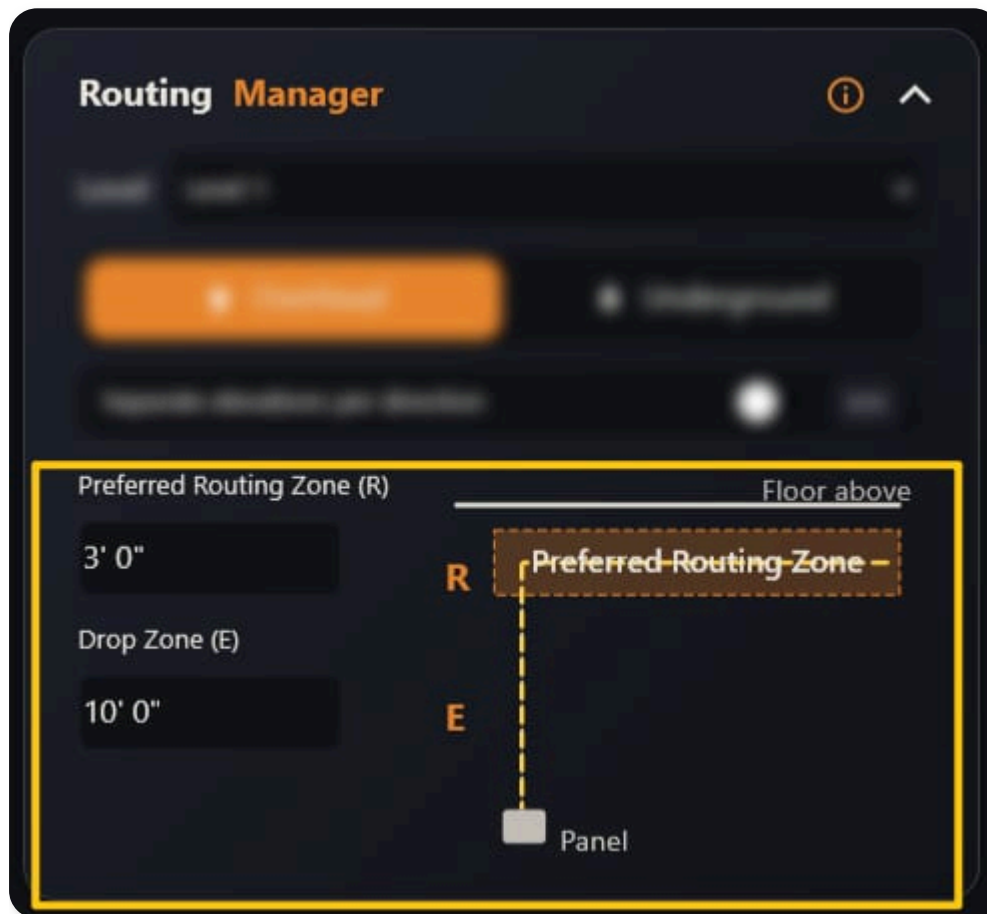
Underground routing also unlocks the **Duct Bank** module.

ROUTING MANAGER OPTIONS

8 Preferred Routing Zone (R)

The height of the band where horizontal conduits run (minimum 3 ft).

The **Preferred Routing Zone (R)** is the vertical band reserved for horizontal conduit runs — the space, measured down from the top of slab, where conduits travel parallel to the floor. Its **height** determines how many conduits can stack and route together while keeping proper clearances. Enter it in feet and inches (e.g. **5' 0"**).



- **A taller zone = more room** for the AI to stagger conduits at slightly different heights and avoid clashes.
- **Minimum is 3 ft.** If you enter less, ABR warns you and resets it, because a compressed zone forces many clashes, extra bends and unconstructable conduits.

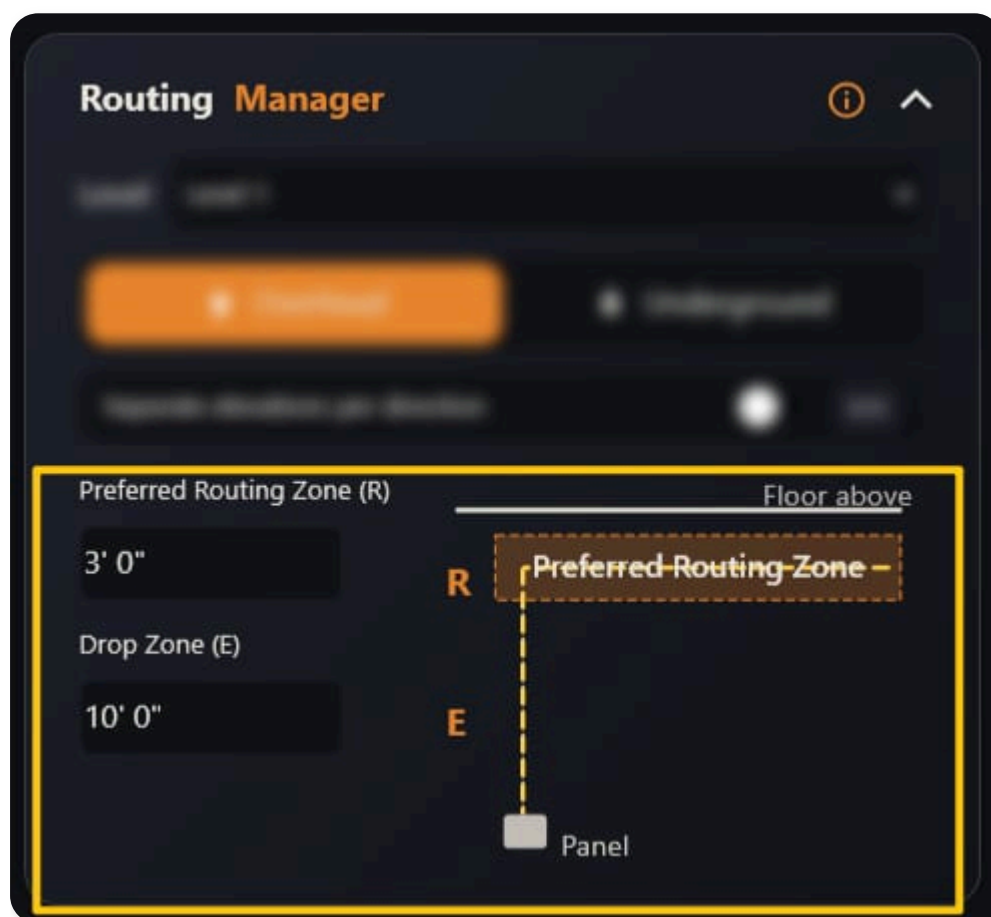
- If you genuinely need conduits pinned to one fixed elevation, turn off **Avoid Clashes Automatically** (in the Model Manager) — that holds the elevation but drops the automatic clash-avoidance.

ROUTING MANAGER OPTIONS

9 Drop Zone (E)

The rise or drop conduits travel between a panel and the routing zone.

The **Drop Zone (E)** is the vertical space conduits travel **between an electrical panel and the routing zone** — the rise (Overhead) or drop (Underground) where a conduit leaves the panel and reaches the routing band. This room lets ABR keep proper bend radii and avoid conflicts with wall penetrations. Enter it in feet and inches (e.g. **8' 0"**).



On the diagram, **E** is the dashed vertical distance between the panel and the routing zone, and **R** is the height of the zone itself.

ROUTING MANAGER OPTIONS

10 Separate elevations per direction

Give North-South and East-West runs different heights to avoid clashes.

Turn this **on** when you want **North-South** runs and **East-West** runs to sit at **different heights**. Where two perpendicular runs cross, they're then on separate elevations and don't clash — handy for coordinating with beams, ducts or other systems whose clearances change by orientation.



When it's on, the panel changes:

- **Only Overhead is available** — Underground is disabled while this mode is on.
- The single **Preferred Routing Zone (R)** is replaced by **two** inputs: **N/S Elevation** and **E/W Elevation** — the height of each direction's band. The diagram shows them as two stacked bands (N/S and E/W).
- The **swap button** (↕) between the bands flips which direction sits on top (N/S over E/W, or the reverse).

How ABR decides which band a conduit uses: **vertical** runs are treated as North-South, **horizontal** runs as East-West, and **diagonal** runs inherit the elevation of their nearest straight

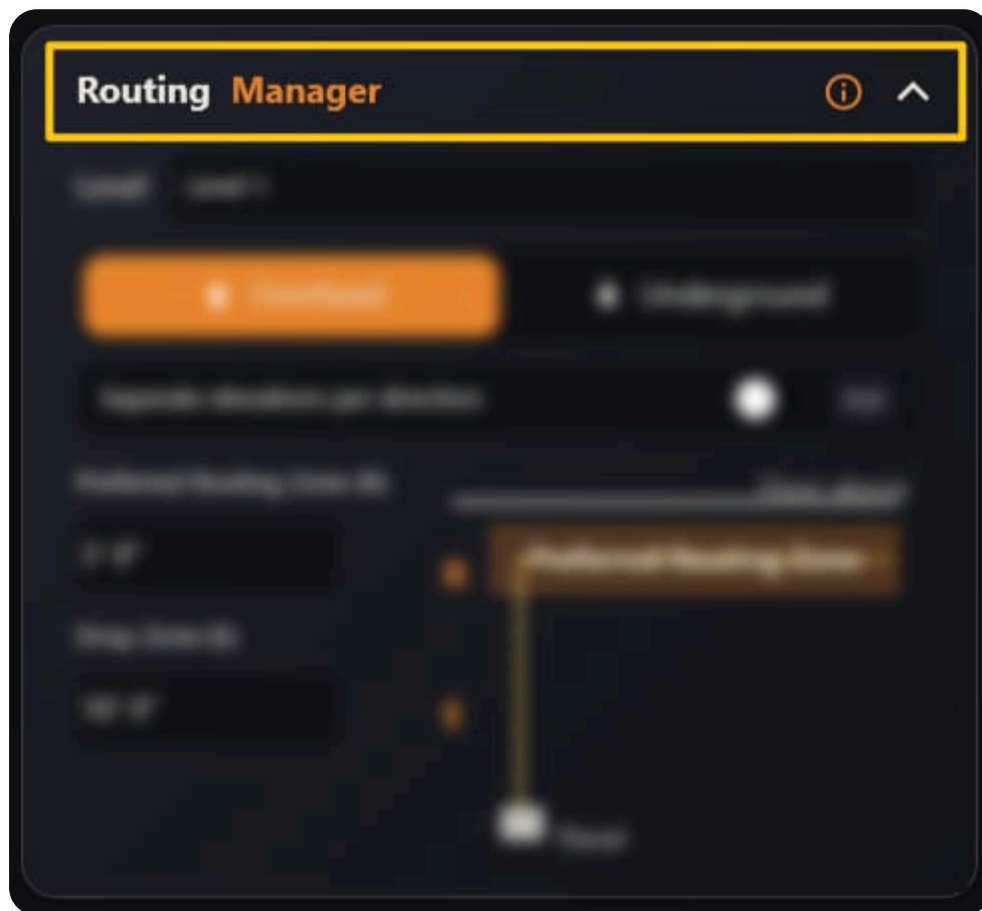
neighbour.

ROUTING MANAGER OPTIONS

11 Panel header controls

The Info, Segment Details and collapse controls on the panel header.

The controls on the **Routing Manager** header row let you get help and tidy up the panel:



- ⓘ **Info** — opens the built-in help for the Routing Manager.
- >> **Segment Details** — opens the Segment Details panel for finer, per-segment control.
- ^ **Collapse** — collapses or expands the Routing Manager panel.

FEEDER SCHEDULE MODULE

12 Feeder Schedule Module

The list of every conduit run ABR routes — each row is a source panel connected to a load.

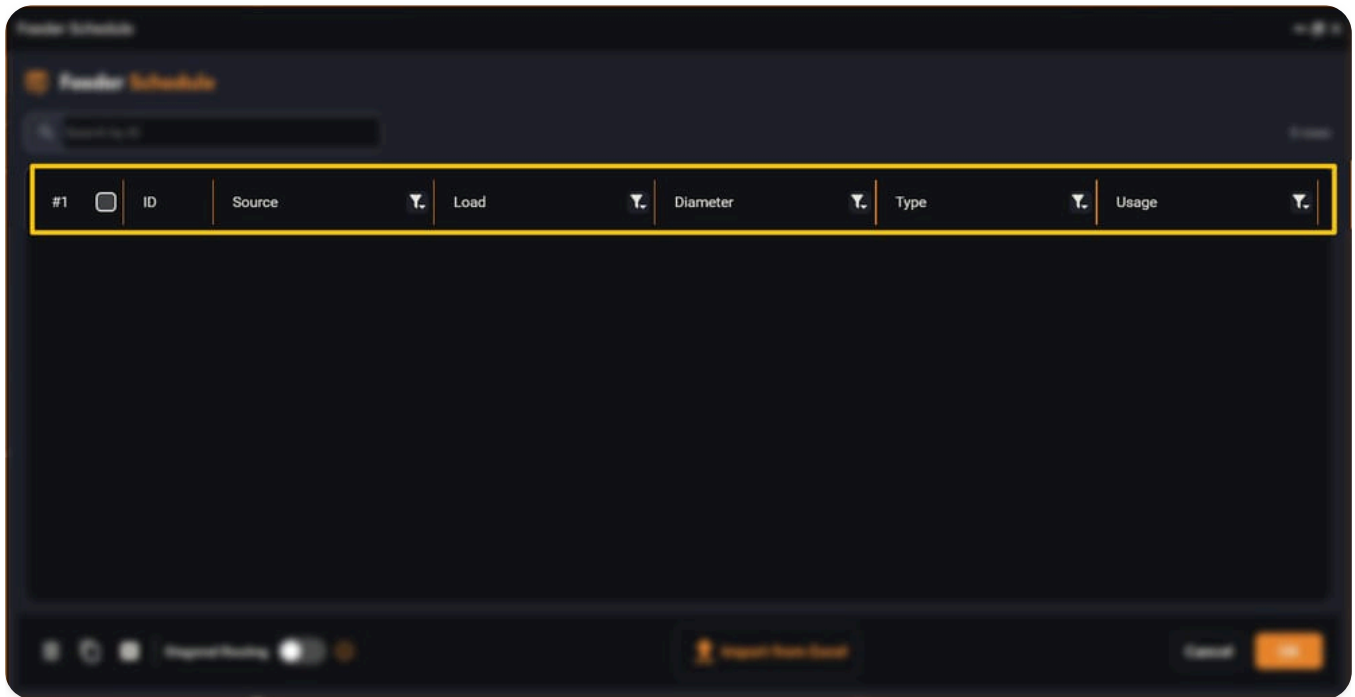
The **Feeder Schedule** is the list of every electrical conduit run in your project. **Each row is one run** — a connection from a **source** panel to a **load** — together with its conduit size, type and usage. This is what ABR routes when you click **Generate Routes**.



Pick a topic below to dig in.

13 The Columns

What each column means — ID, Source, Load, Diameter, Type, Usage, Comments.



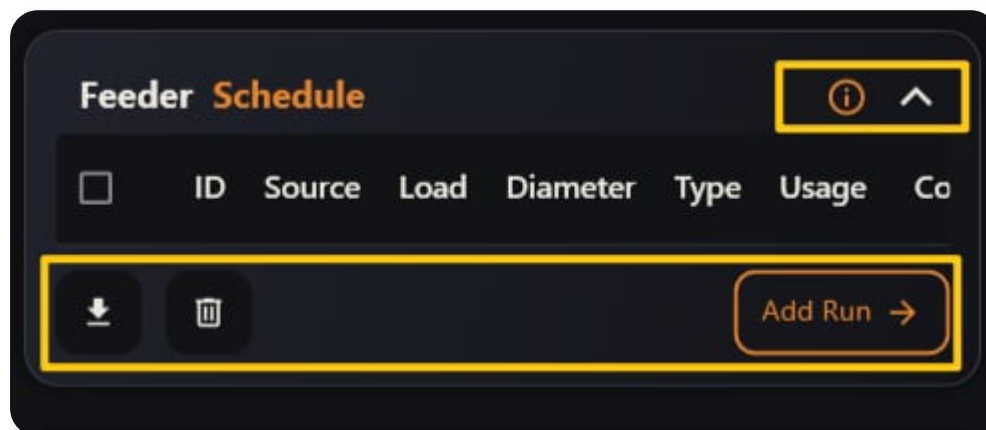
Every row describes one conduit run:

- **ID** — a unique name for the run.
- **Source** — the panel the run starts **from** (the originating panel).
- **Load** — the panel or equipment the run goes **to** (the destination).
- **Diameter** — the conduit size (for example **1/2"**).
- **Type** — the conduit family (for example *Electrical Metallic Tubing*).
- **Usage** — what the run is for (for example **PWR** , **SECURITY**). Its colour shows the **conduit fill** status: **green** = fine, **yellow** = warning, **red** = over-filled.
- **Comments** — notes or messages about the run.

Tick the checkbox on the left of any rows to select them for batch actions (delete, export, etc.).
The checkbox in the header selects everything.

14 Panel Buttons

The Add Run, Download (export) and Delete buttons on the panel.

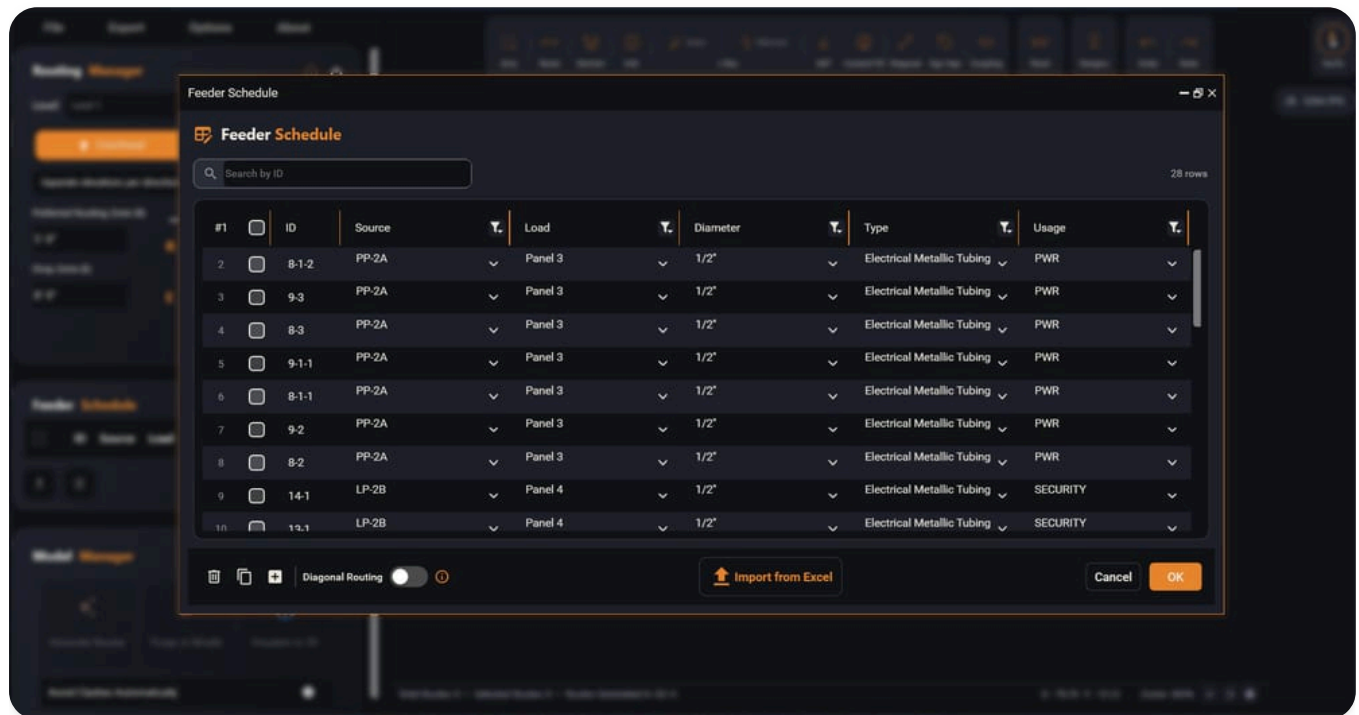


- **↓ Download** — export the feeder schedule data (so you can keep or share it).
- **🗑 Delete** — remove the selected runs from the schedule.
- **Add Run →** — opens the full **Feeder Schedule** window to create and edit runs.
- **ⓘ Info** opens the built-in help, and the **^ chevron** collapses or expands the panel.

15 The Feeder Schedule Window

The full editor — search, filters, editable cells and the bottom toolbar.

Clicking **Add Run** opens the full editor, where you build and fine-tune the whole list.



At the top:

- **Search by ID** — type to filter the list down to matching runs. The × clears it.
- **Row count** (e.g. 28 rows) shows how many runs are currently listed.

The table is fully editable — click any cell to change it:

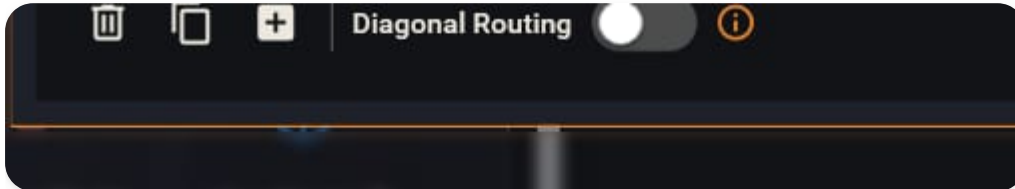
- **#** — the row number.
- **checkbox** — select the row (the header checkbox selects all).
- **ID** — type the run's name.
- **Source / Load / Diameter / Type / Usage** — pick from a searchable dropdown.
- Each column header has a **filter (funnel)** icon; it turns **blue** when a filter is active, so you can narrow the list by any column.

The bottom toolbar:

-  **Delete selected rows**
-  **Copy selected rows** — duplicates them (handy for near-identical runs).
- **+ Add a new row** — adds a blank run to fill in.
- **Diagonal Routing** toggle — see [Diagonal Routing](#).
- **Import from Excel** — load a whole feeder schedule from an Excel file.
- **Cancel** — close without saving your changes.
- **OK** — apply the schedule and close.

16 Diagonal Routing

A straight diagonal preview that skips clash checks — for visualization only.



The **Diagonal Routing** toggle (in the window's bottom toolbar) changes how runs are drawn:

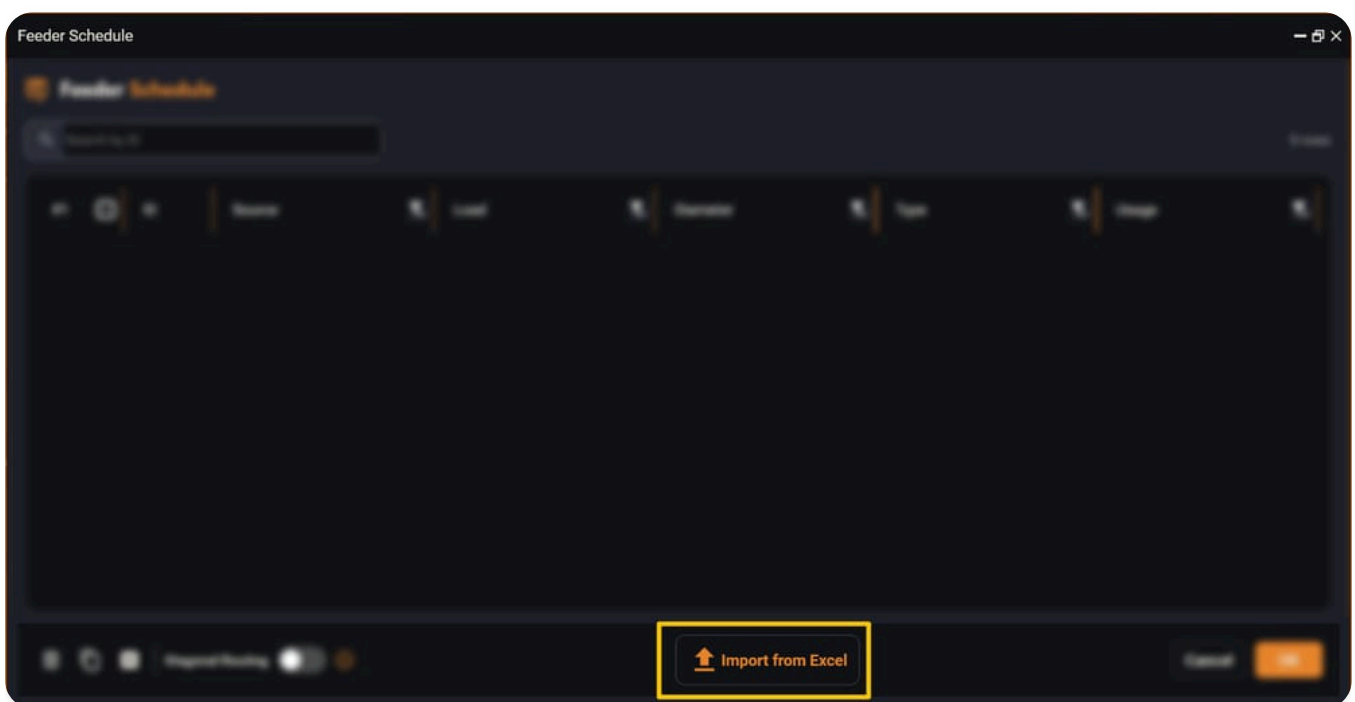
- **When on**, conduits are routed **straight, diagonally** from panel to panel instead of the normal right-angle (orthogonal) layout.
- It's **faster** and skips the offset and clash checks — so it's meant **for a quick preview / visualization only, not for final routing**.

FEEDER SCHEDULE MODULE

17 Import from Excel

Load a whole feeder schedule from a spreadsheet instead of adding runs by hand.

Instead of adding runs one by one, click **Import from Excel** and pick a spreadsheet that contains your feeder schedule. ABR reads the runs (ID, source, load, diameter, type, usage) straight in, ready to route.



18 Parallel IDs

Route several parallel conduits for one run — add a count column and ABR splits it into numbered parallel runs.

When a single feeder is carried by **several conduits running in parallel**, you don't add each one by hand. Instead, tell ABR **how many** parallel conduits the run needs and let it create them for you.

How to set it up

Before importing the conduit schedule, add a **count column** to your spreadsheet that holds the **quantity of conduit** for each run.

What ABR does

On import, ABR **adds a new row for each parallel run** and appends a suffix to the run's ID so every conduit stays uniquely identified:

#1	☐	ID	Source	▼	Load	▼
2	☐	8-1-2	PP-2A	▼	Panel 3	▼
3	☐	9-3	PP-2A	▼	Panel 3	▼
4	☐	8-3	PP-2A	▼	Panel 3	▼
5	☐	9-1-1	PP-2A	▼	Panel 3	▼
6	☐	8-1-1	PP-2A	▼	Panel 3	▼
7	☐	9-2	PP-2A	▼	Panel 3	▼
8	☐	8-2	PP-2A	▼	Panel 3	▼
9	☐	14-1	LP-2B	▼	Panel 4	▼
10	☐	13-1	LP-2B	▼	Panel 4	▼

- A run with ID **A-1** and a count of **3** becomes **A-1-1** , **A-1-2** , **A-1-3** .
- Each numbered row is routed as its own conduit, so the parallel set stacks and coordinates like any other run.

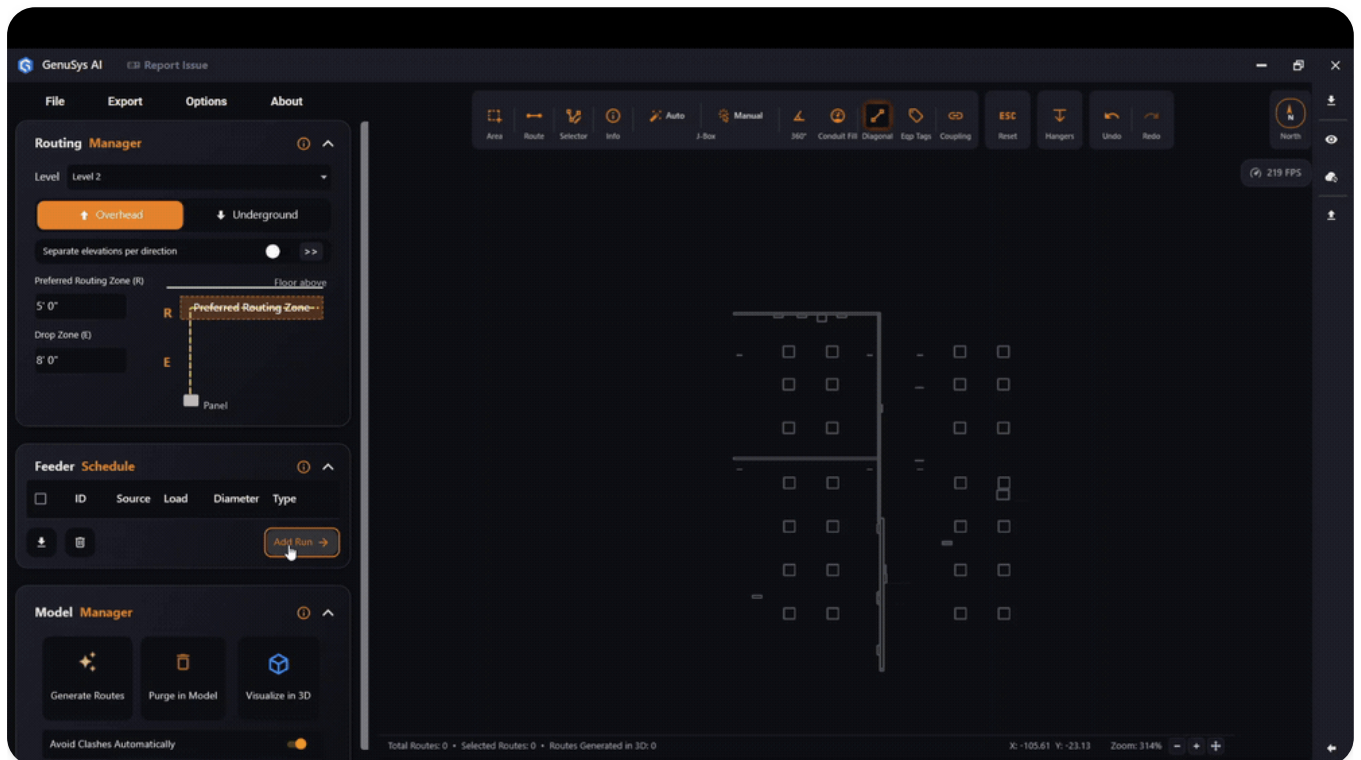
This keeps your schedule accurate — the quantities match the model — without duplicating rows manually.

FEEDER SCHEDULE MODULE

19 Video Walkthrough

A short clip of the Feeder Schedule in action.

Here's the Feeder Schedule in action — importing runs and preparing them for routing:

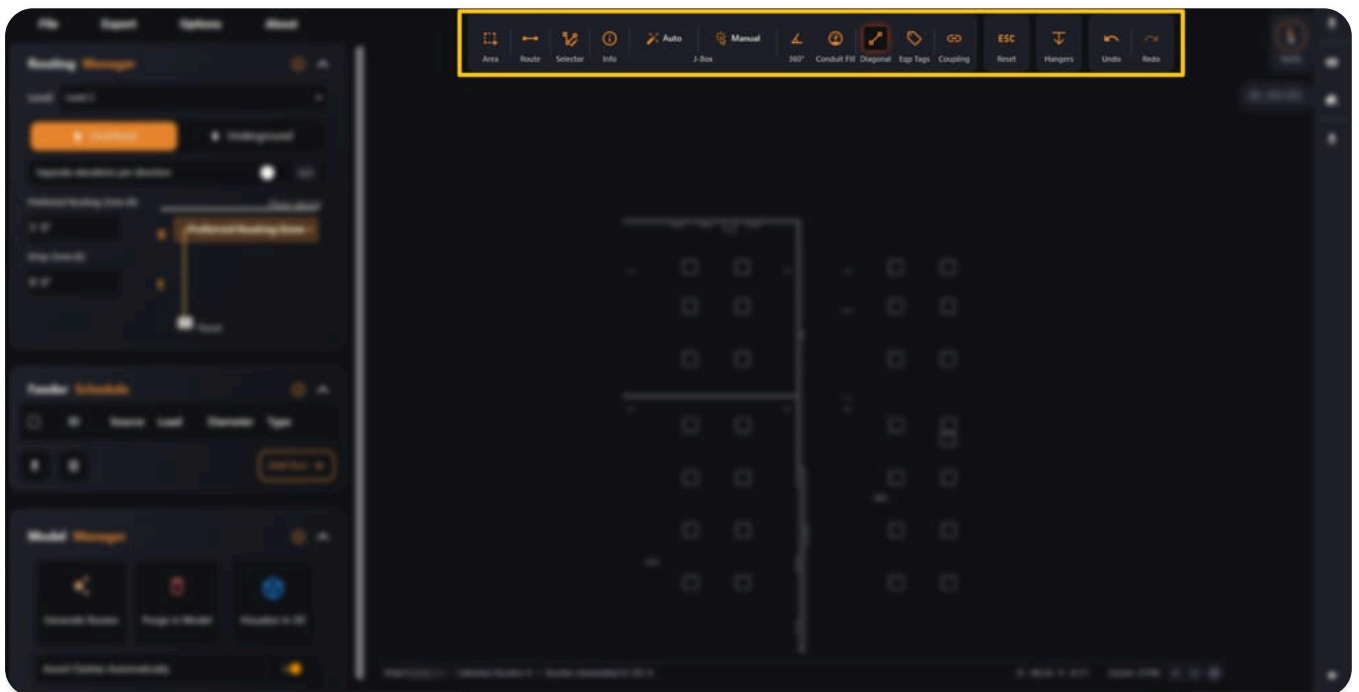


ACTION BUTTONS

20 Action Buttons

The toolbar across the top of the viewer — the tools you use to draw, edit, check and clean up your routes.

The **Action Buttons** are the toolbar across the top of the viewer — the tools you use to draw, edit, check and clean up your routes.



Some buttons are **one-click actions**; others are **modes or toggles** that stay on (and glow) until you turn them off. **Reset (ESC)** exits any active mode. A few tools (**360°, Conduit Fill, Coupling, Hangers**) appear when you're working inside the Revit plugin.

Pick a button below to learn what it does — most have a short clip.

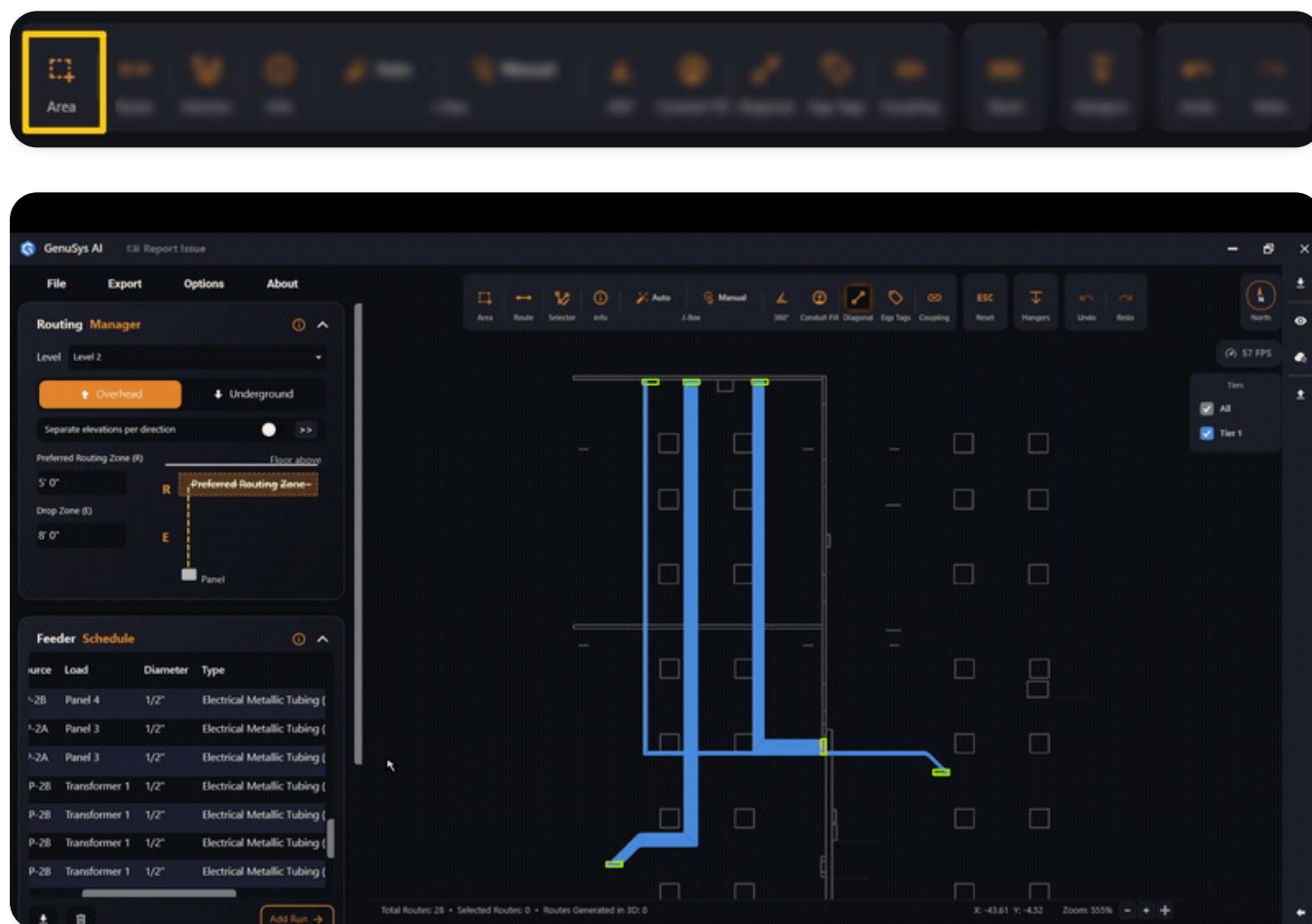
ACTION BUTTONS

21 Preferred Area

Mark zones on the floor plan that routes should prefer to follow.

*In the toolbar this button is labelled **Area**.*

Preferred Area marks zones on the floor plan where routing should go. Click **Preferred Area**, then draw rectangles; routes will **prefer to follow** those zones — great for steering runs down specific corridors or keeping them out of sensitive areas.



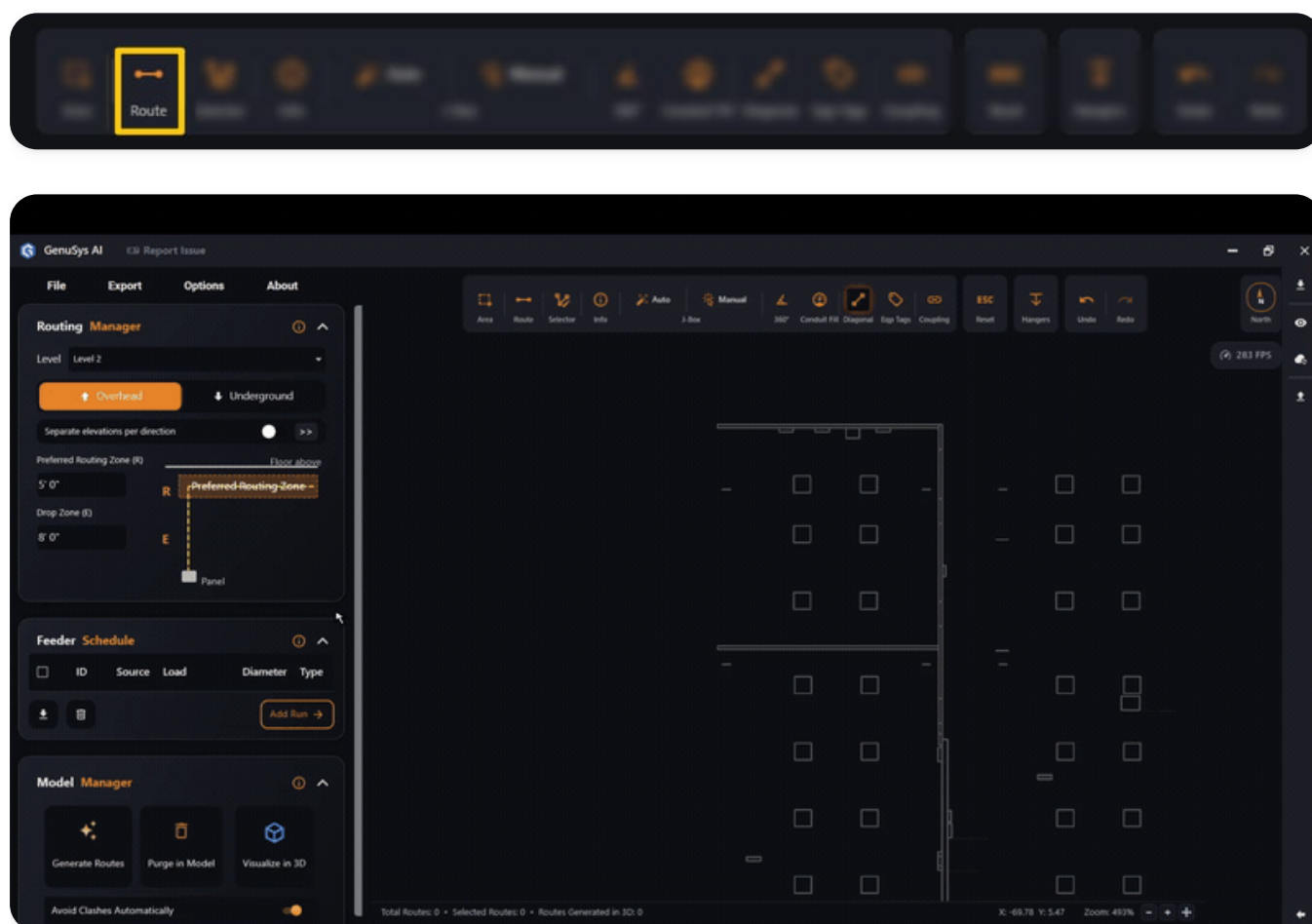
ACTION BUTTONS

22 Route Creation

Instantly draw conduit paths between the panels you've selected.

*In the toolbar this button is labelled **Route**.*

Route Creation instantly draws conduit paths between the panels you've selected using fast pathfinding. It skips the full routing constraints, so it's perfect for a **quick first look** or early planning — you can refine it later with the other tools.



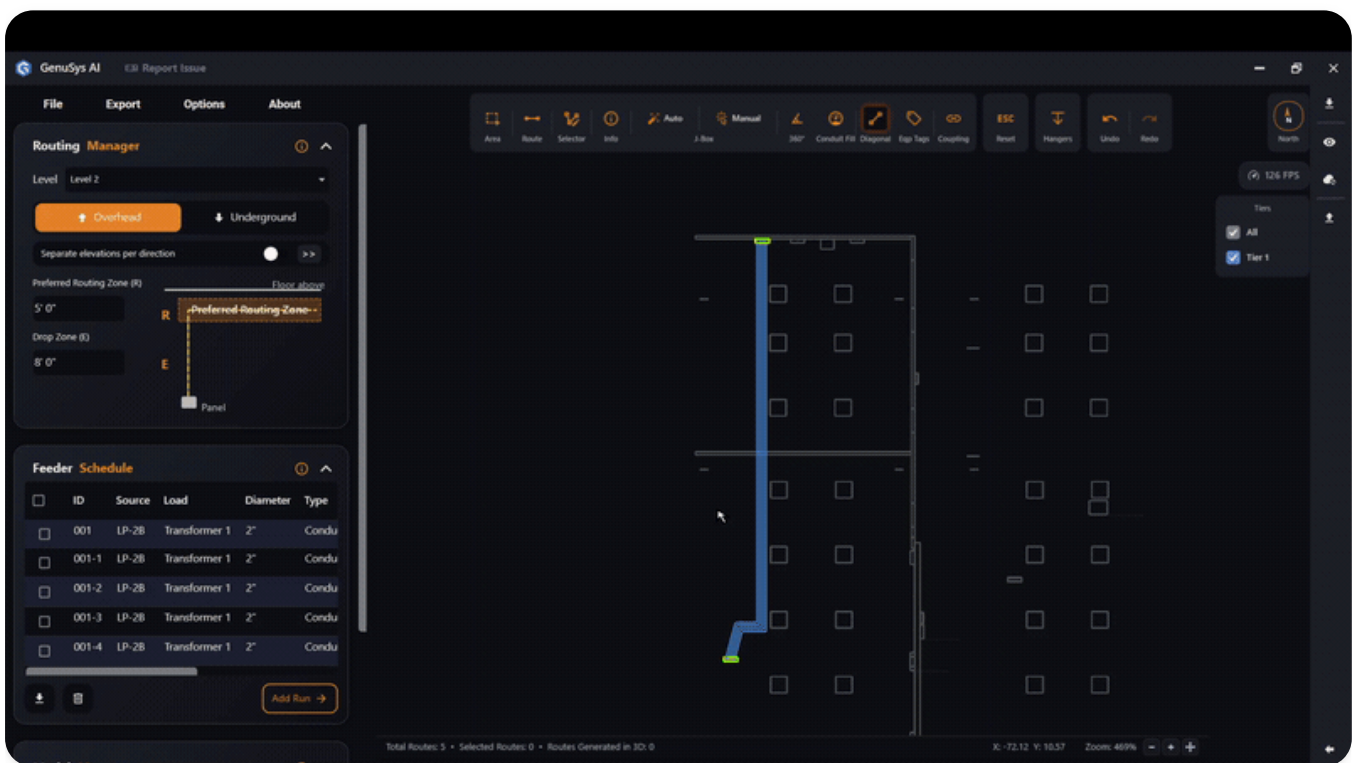
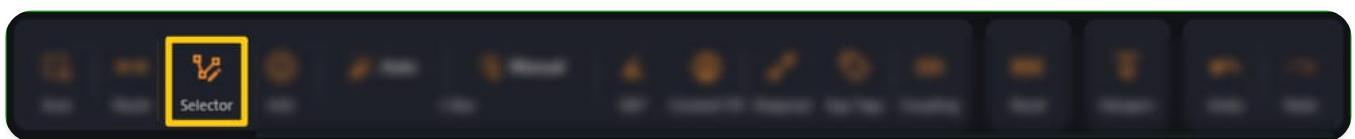
ACTION BUTTONS

23 Segment Selector

Pick and tweak individual conduit segments without regenerating the run.

*In the toolbar this button is labelled **Selector**.*

Segment Selector lets you pick and tweak **individual conduit segments** in a route — adjust a segment's path or properties without regenerating the whole run.

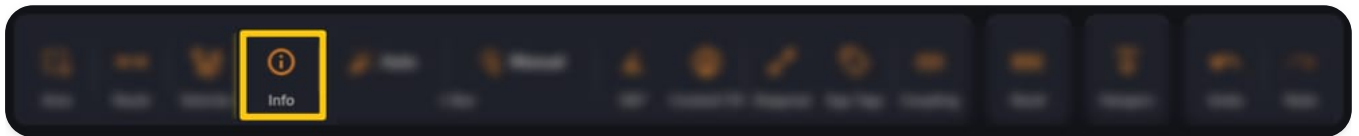


ACTION BUTTONS

24 Info

Click a panel to see its circuits, loads and connections.

Info shows a panel's details — circuit assignments, load calculations and connections. Click the button, then click a panel in the model. Handy for coordination and for checking panel sizing.

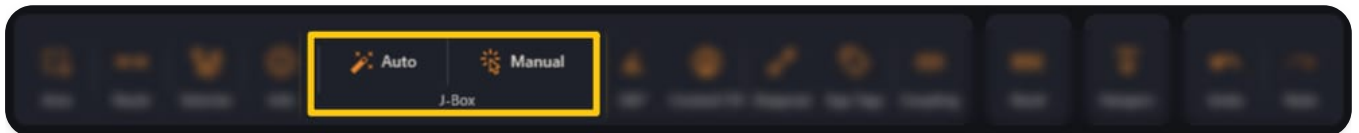


ACTION BUTTONS

25 J-Box

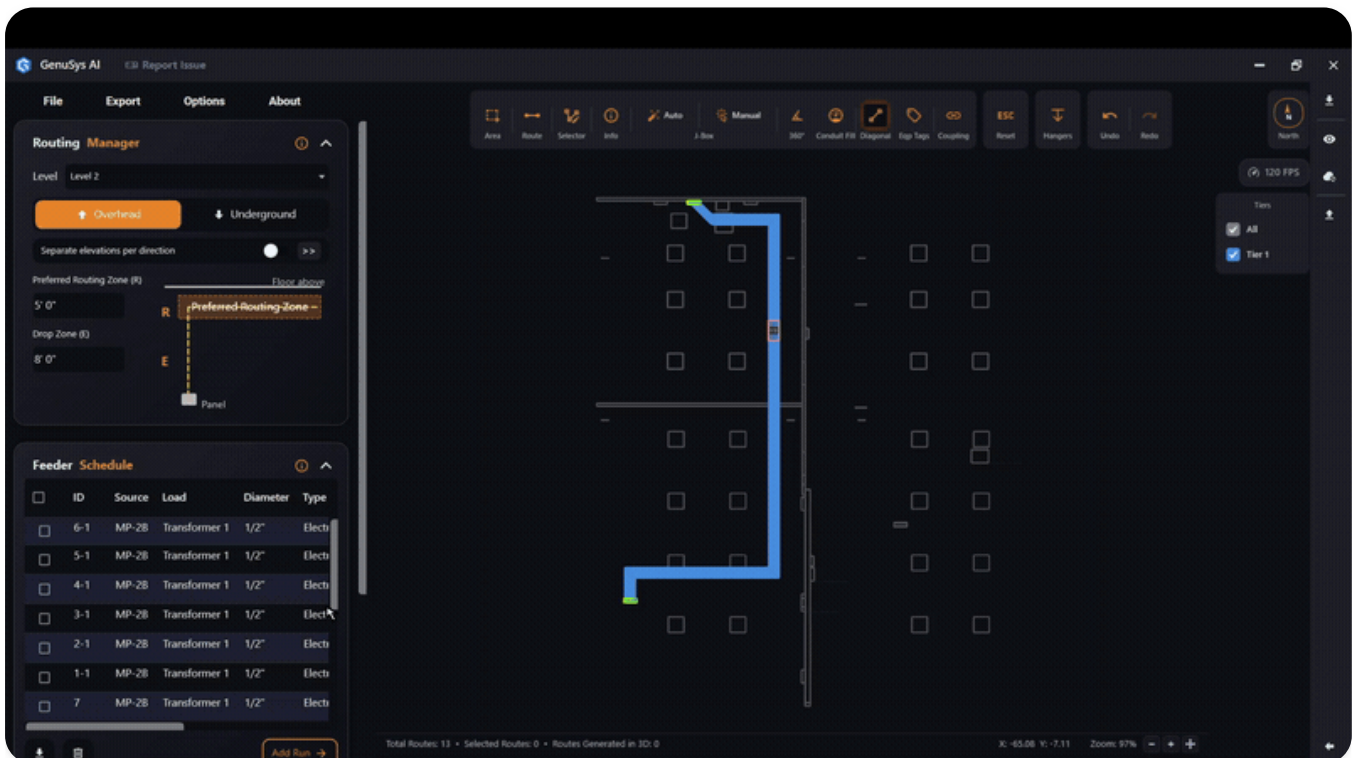
Place junction (pull) boxes automatically at code limits, or by hand.

The **J-Box** button has two halves — **Auto** and **Manual**.



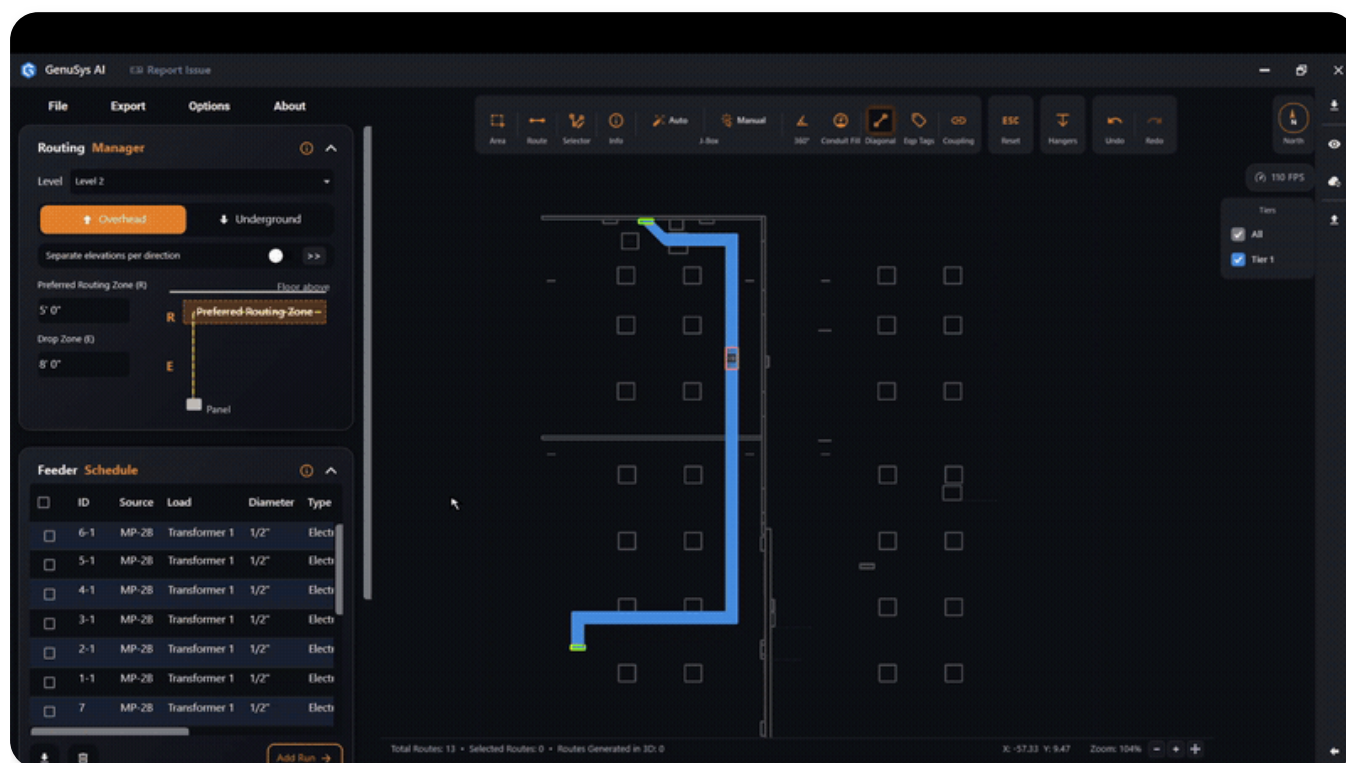
Auto

Auto runs the code-based **pull-point planner** across the whole level. It follows every run, finds where the **total bend passes 360°** (the NEC 314.28 limit), and drops a **junction box (pull box)** at the best reachable spot (corridors and electrical rooms are preferred). Boxes closer than 3 ft to each other are merged. A dialog reports how many it placed; runs it couldn't solve turn **red**.



Manual

Manual turns on placement mode so **you** click anywhere on a run to drop a pull box. The viewer turns **green** while it's on. Right-click (or click Manual again) to exit. Your manual boxes stay put even if you re-run **Auto**.

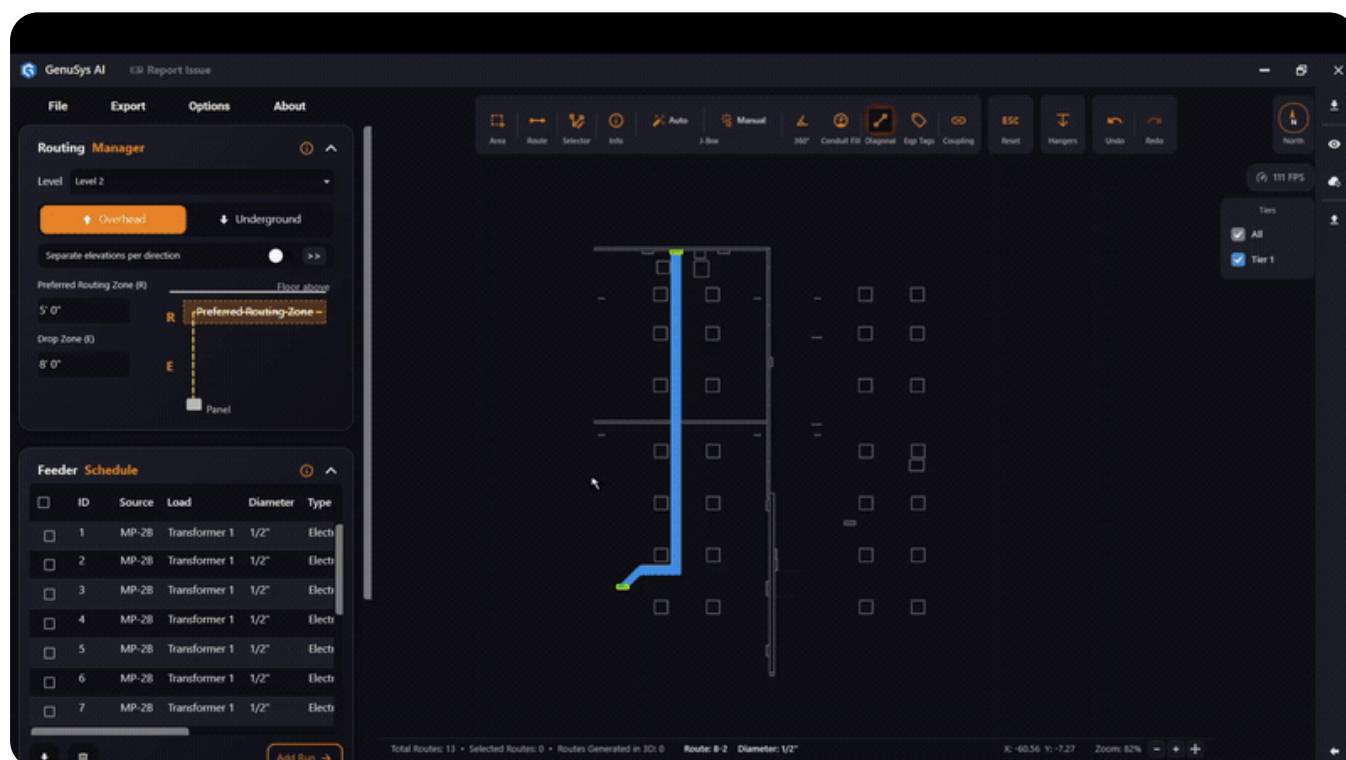
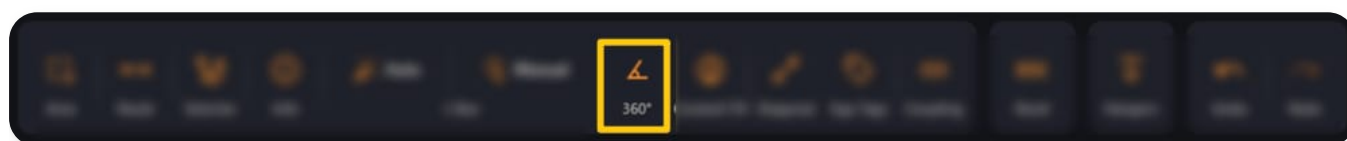


ACTION BUTTONS

26 360° Bend Check

Check each run's total bend between pull points against the NEC 360° limit.

360° checks every run's total bend **between pull points** (each J-box resets the count). It reports the worst stretch: **over 360° turns red**, **270°–360° turns amber**. Run it after placing J-boxes to confirm everything is compliant.

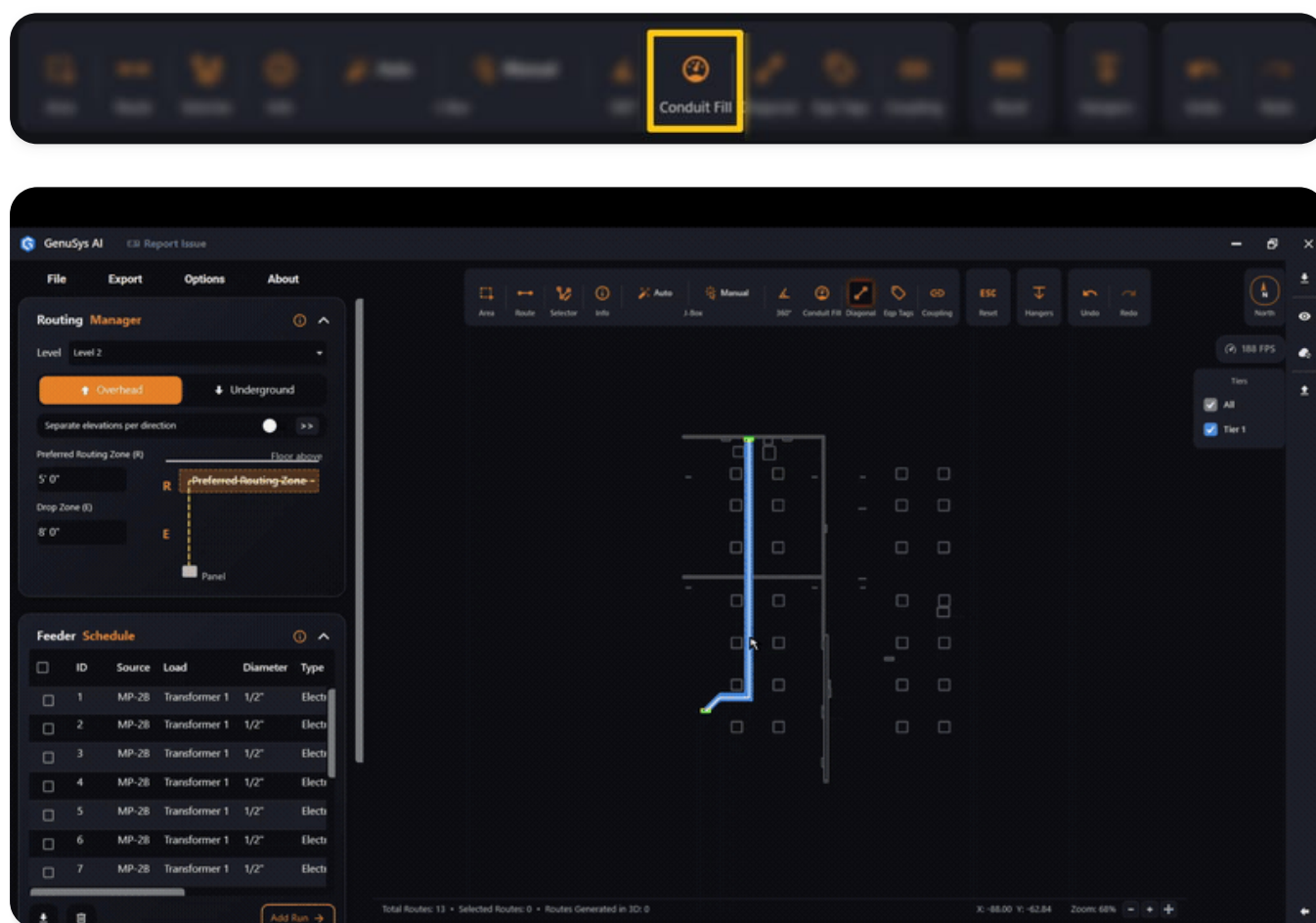


ACTION BUTTONS

27 Conduit Fill

Open the NEC Annex C fill calculator and apply a recommended upsize.

Conduit Fill opens the NEC Annex C **fill calculator** for the selected conduits (or every conduit on the level if none are selected). It shows each run's fill percentage, a cross-section diagram, and a **recommended larger size** when it's over the NEC limit (40% for 3+ conductors) — which you can apply in one click.



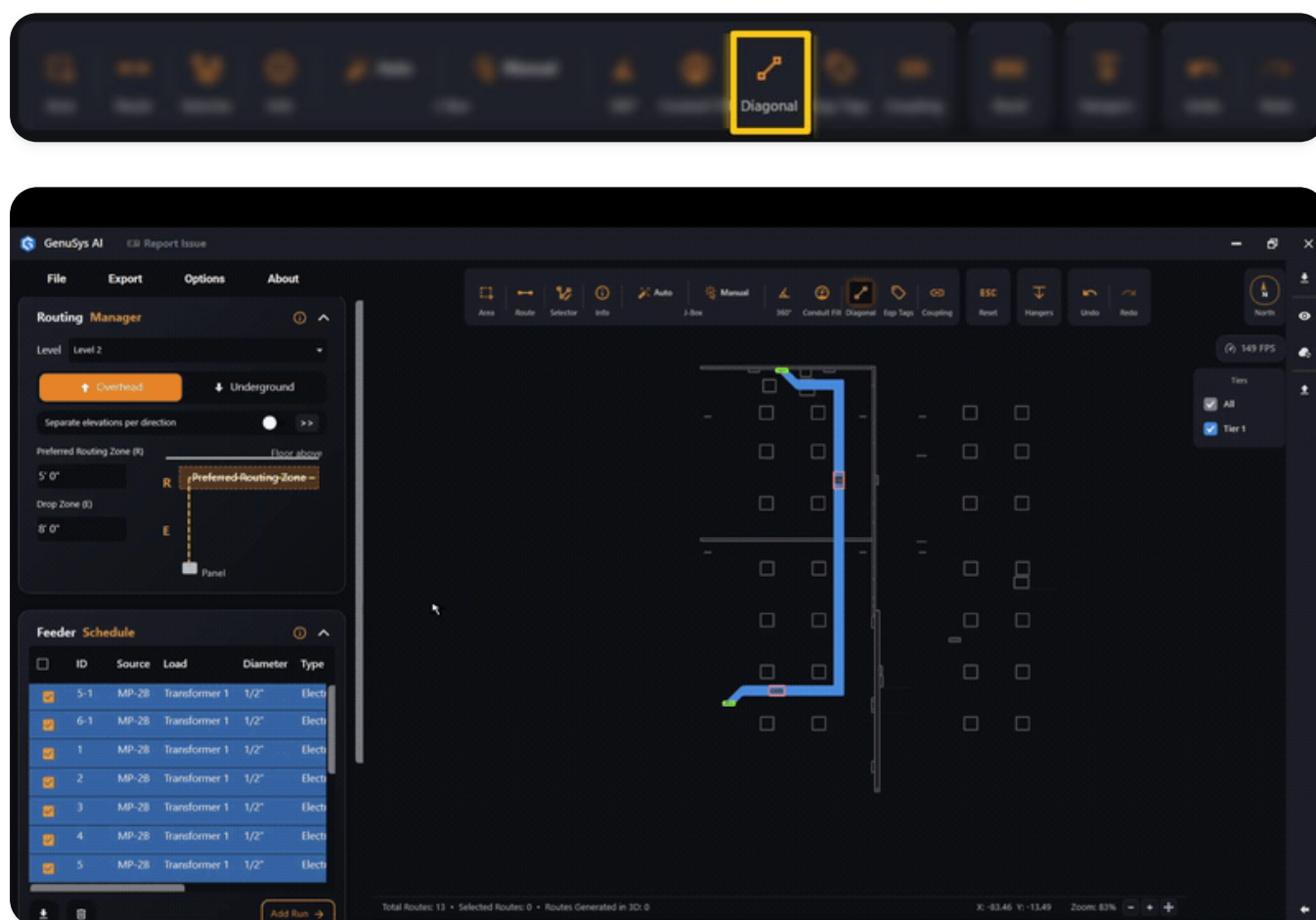
ACTION BUTTONS

28 Diagonal Kick

Replace the two-bend zigzag on top of a panel with a single diagonal.

*In the toolbar this button is labelled **Diagonal**.*

Diagonal Kick is a toggle. When on, ABR replaces the little two-90°-bend zigzag on top of a panel with a single clean **diagonal segment** where there isn't room for two bends. It glows when it's on.

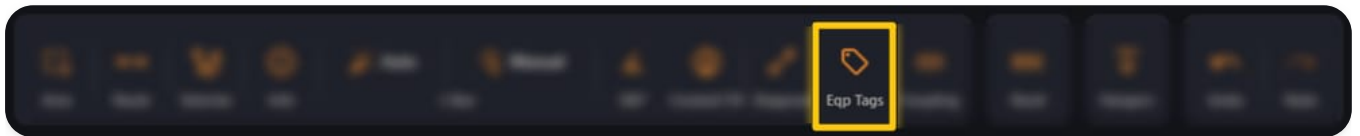


ACTION BUTTONS

29 Eqp Tags

Show or hide equipment tag labels in the viewer.

Eqp Tags is a toggle to **show or hide equipment tag labels** in the viewer. It's off by default (there can be a lot of them); turn it on when you need to read them.



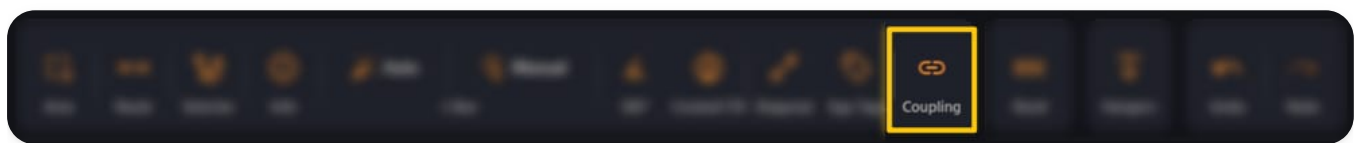
ACTION BUTTONS

30 Coupling

Split long runs into stick-length pieces with a coupling at each cut.

Coupling is a toggle. When on, long straight 3D runs are split into **stick-length pieces** with a coupling (union fitting) at each cut when placed in Revit. Set the stick length in **Settings**.

Nothing changes in the viewer — it's applied at placement time.

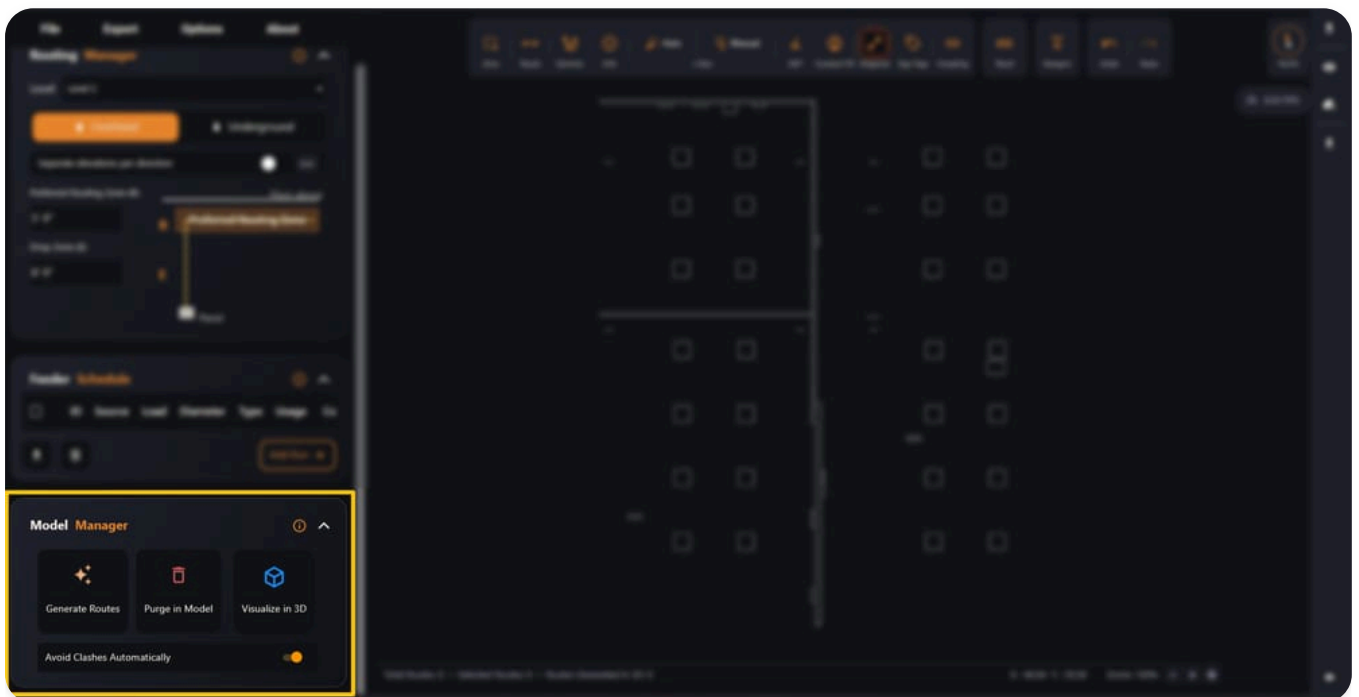


MODEL AND GENERATION MANAGER

31 Model and Generation Manager

Generate routes into the model, purge them, and visualize the result in 3D.

The **Model Manager** is where your work becomes real geometry in Revit. From here you **generate** the routes into the model — with or without automatic clash avoidance — **visualize** the result in 3D, and **purge** the routes when you want to start over.



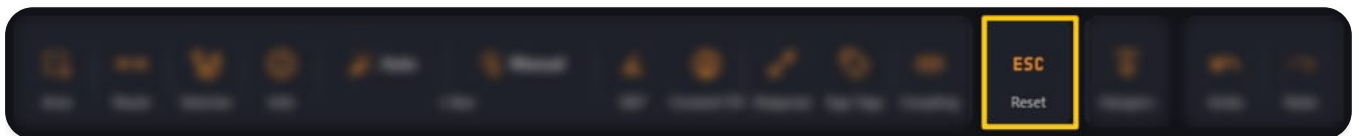
Pick a control below to learn what it does.

ACTION BUTTONS

32 Reset (ESC)

Cancel the active tool, clear the selection, and return to the viewer.

Reset (ESC) cancels whatever tool or mode is active, clears the current selection, and returns you to the normal viewer. Your keyboard **Esc** key does the same thing.



33 Generate Routes (Avoid Clash On)

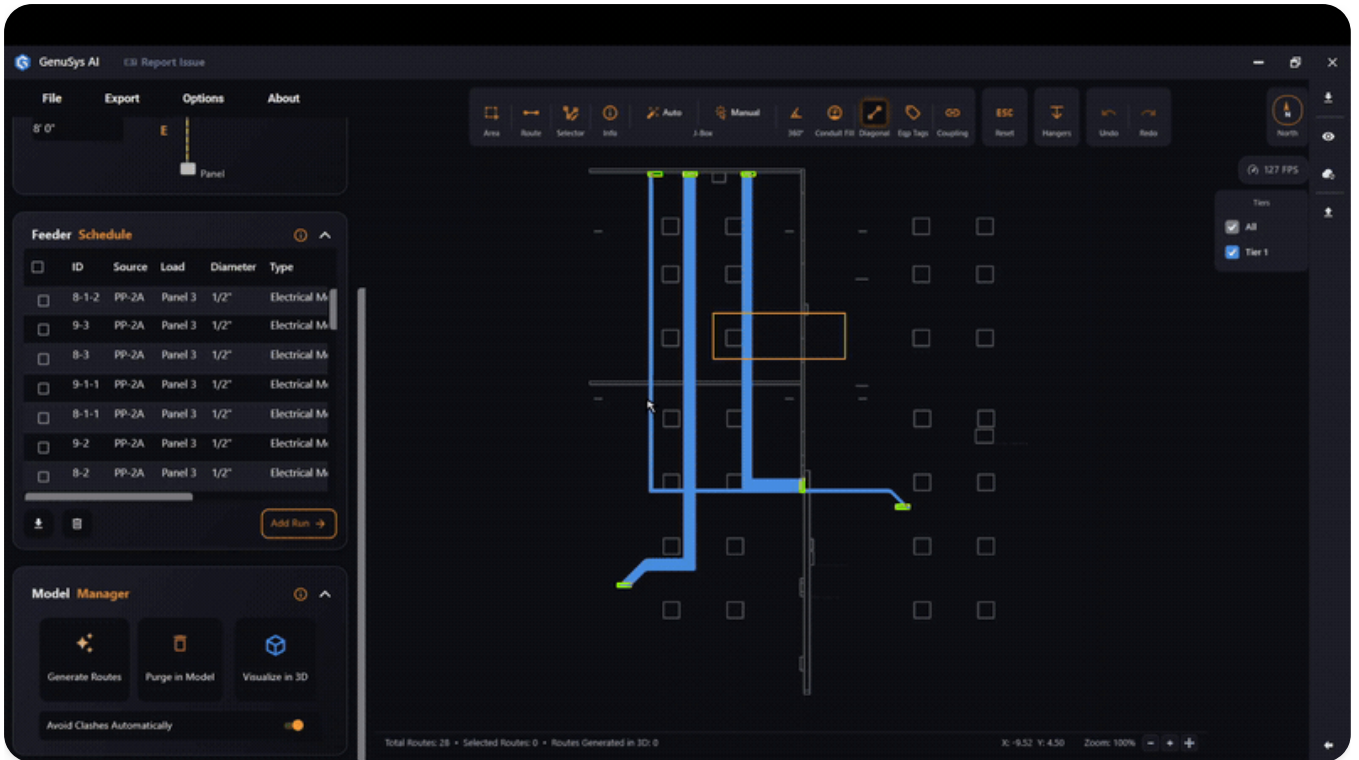
Generate conduit runs that automatically weave around clashes.

Generate Routes turns your 2D routing layout into real conduit geometry in the Revit model. With **Avoid Clashes Automatically** turned **on** (the default), ABR routes around obstacles for you.

Before it runs, ABR does a couple of checks:

- It applies your **Routing Zone (R)** and **Drop Zone (E)** values. If either is **zero**, it stops and asks you to enter non-zero values.
- If your model has **home-run boxes**, it asks how the conduit should meet them.

Then, with clash avoidance on, it **asks which categories the routes should dodge** and searches for **clash-free elevations** so the conduits weave around ducts, beams and other elements — and produces a clash report.

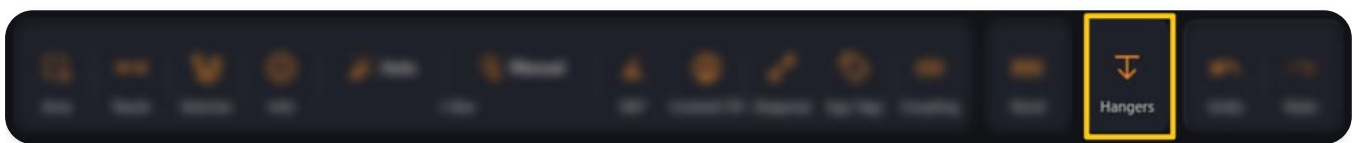


ACTION BUTTONS

34 Hangers

Pick a hanger type and place hangers along the runs to support them.

Hangers opens a menu to pick a hanger type — **Type 1 (Custom Trapeze)**, **Type 2 (Custom Trapeze, Alt)** or **Type 3 (Conduit Trapeze)** — then places hangers along the runs to support them.

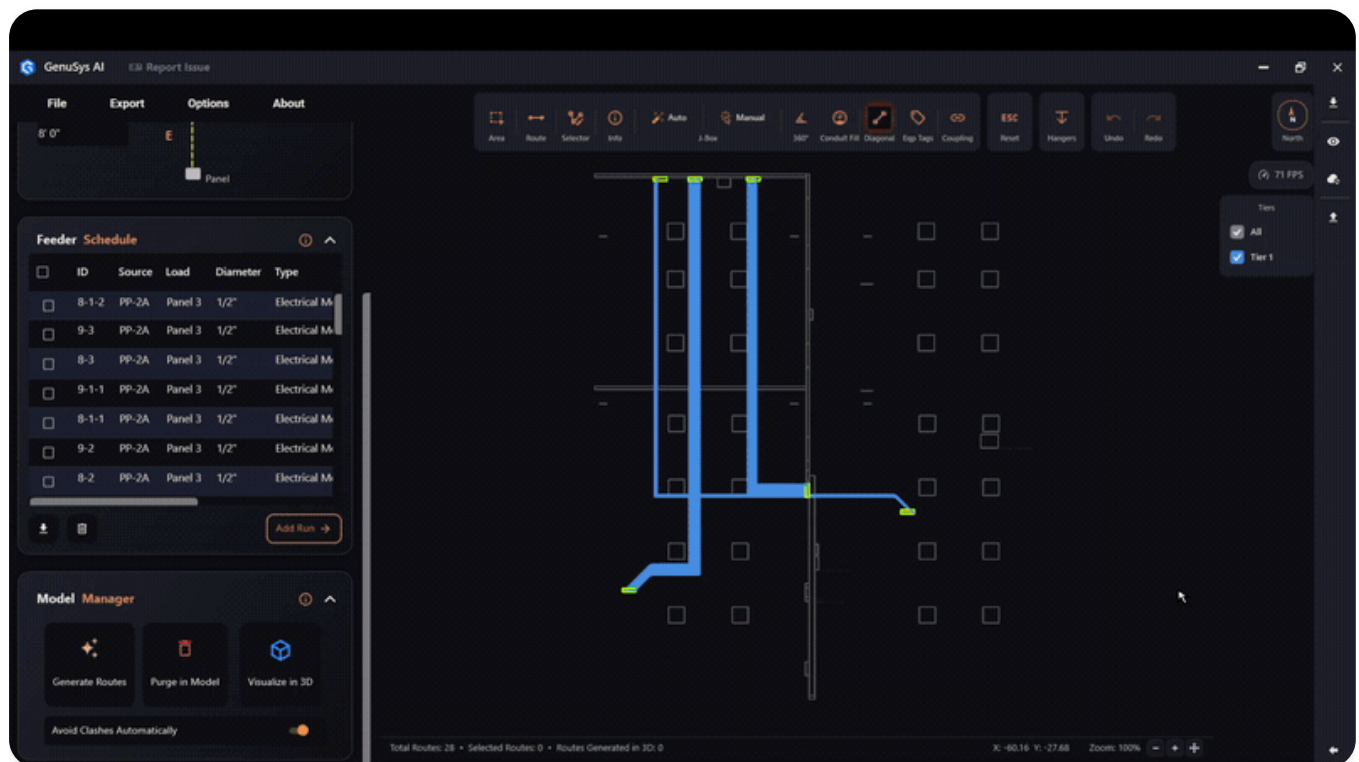


35 Generate Routes (Avoid Clash Off)

Generate conduit runs at a single fixed elevation, without clash avoidance.

When **Avoid Clashes Automatically** is turned **off**, **Generate Routes** skips the clash search entirely and places every conduit at a **single elevation you choose**.

It's faster and predictable, but the runs **won't dodge** ducts, beams or other elements — use it when you want conduits pinned to one height, or when you need a very tight routing zone (see [Preferred Routing Zone \(R\)](#)).



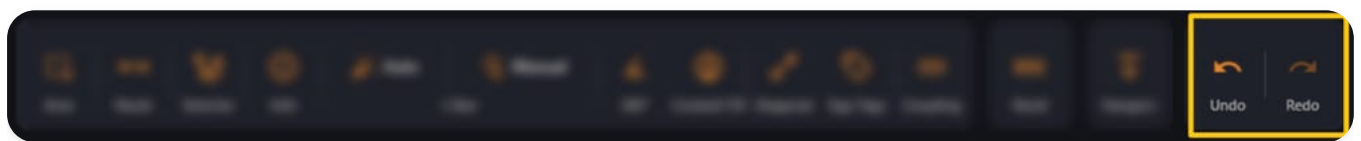
ACTION BUTTONS

36 Undo & Redo

Step backward and forward through your changes, with a history dropdown.

Undo steps backward through your changes and **Redo** steps forward again.

Each one also has a **history dropdown**, so you can jump back (or forward) several steps at once instead of clicking one at a time.

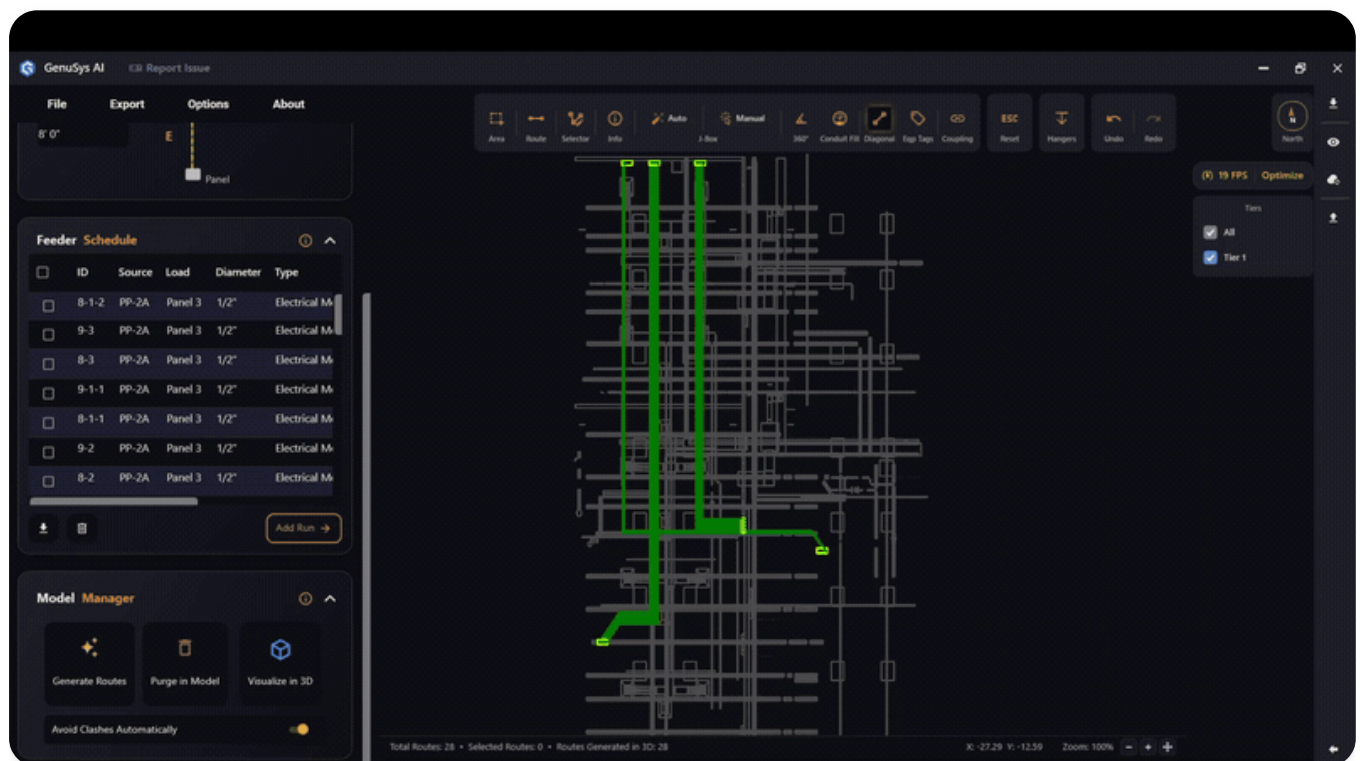


37 Visualize in 3D

Jump into Revit's 3D view with just your routes isolated for review.

Visualize in 3D switches Revit to a 3D view and **temporarily isolates** just your routes and their panels, so you can review the result without the rest of the model in the way.

- You need **generated routes** first (it warns if there are none).
- It's a **temporary** view — your model isn't changed; it just isolates the routes for inspection.

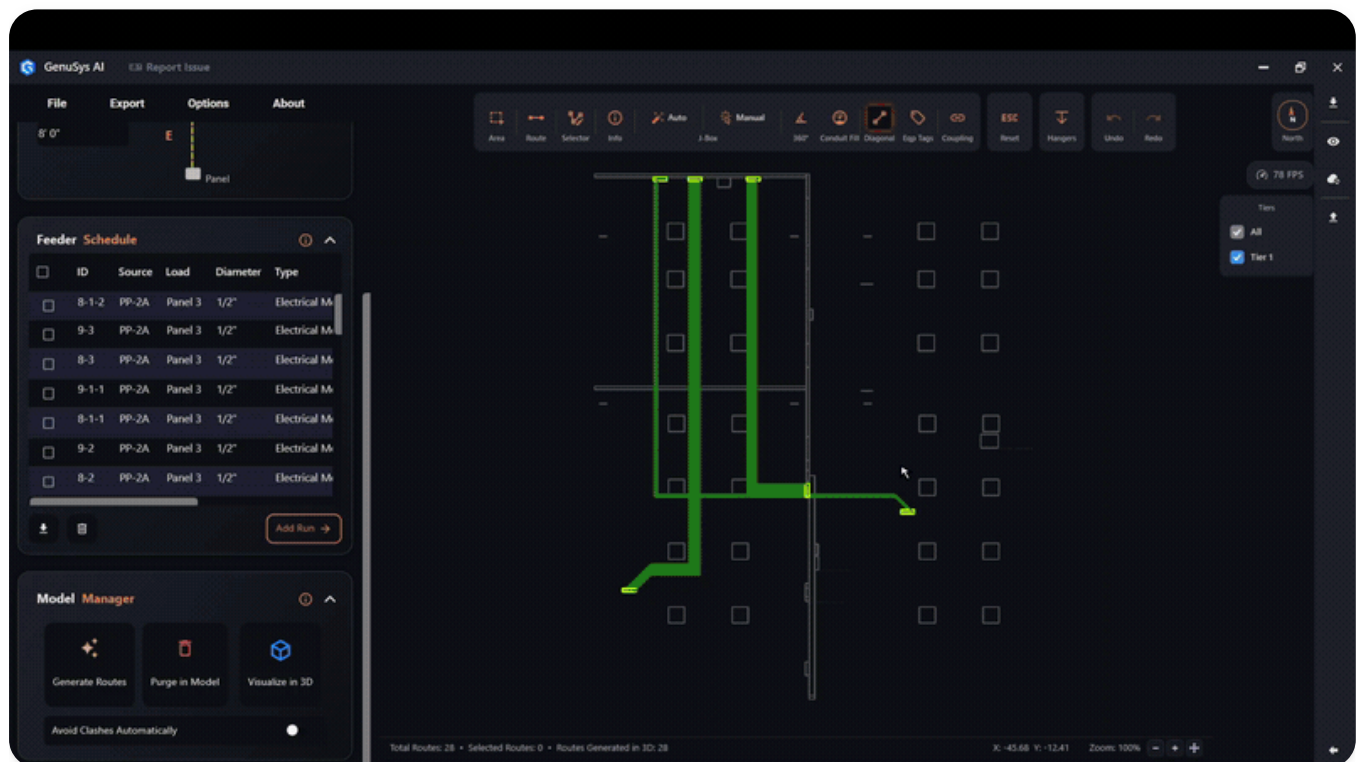


38 Purge in Model

Delete the generated 3D conduits for the selected routes (the 2D layout stays).

Purge in Model removes the generated **3D conduits** for the routes you've selected — handy when you want to regenerate. Your **2D layout stays exactly as it is**, so you can generate again without redrawing.

- **Select the routes** you want to purge first — ABR asks you to before it does anything.
- It confirms **"Are you sure?"** before deleting.
- If any selected routes have **hangers**, it asks whether to delete the hangers too, or keep them.
- If a temporary 3D view is open, it offers to close it and proceed.



CONDUIT STACKING

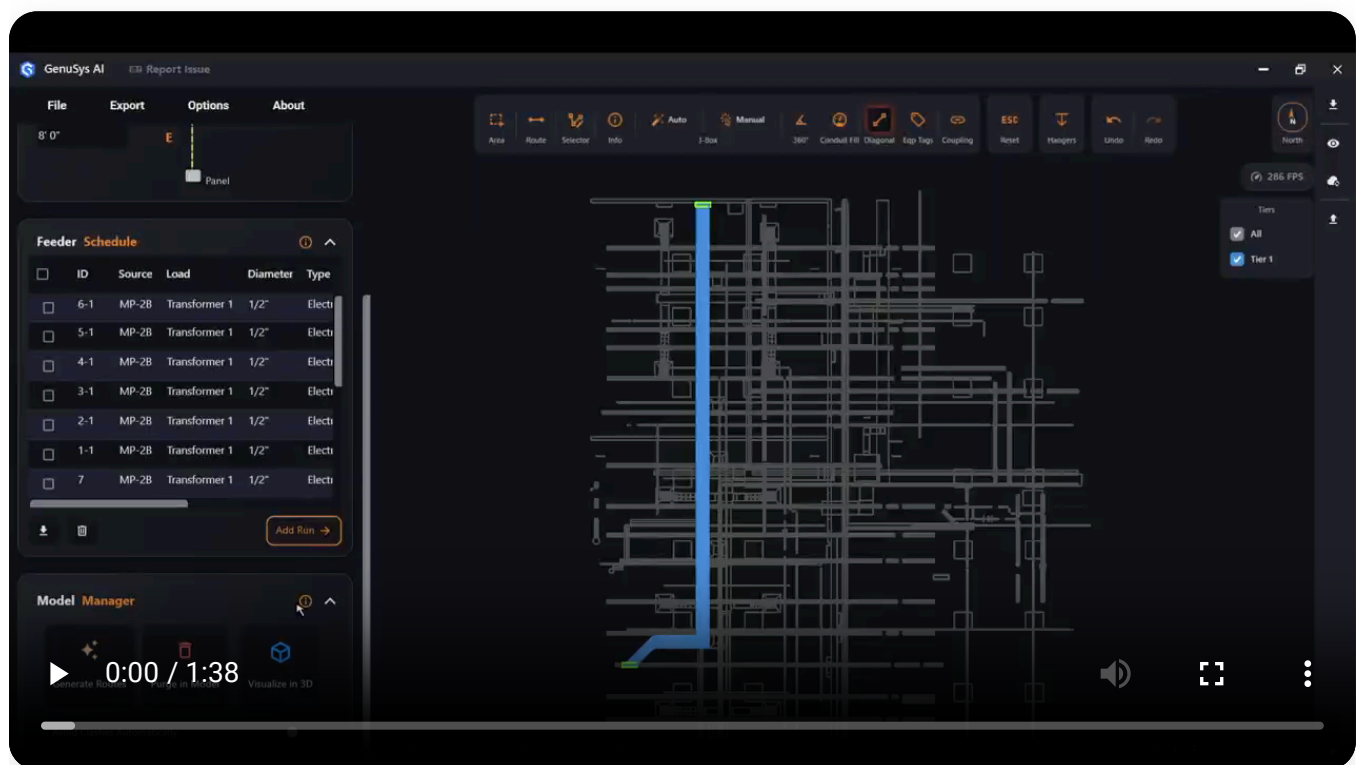
39 Conduit Stacking

Arrange the conduits in a preferred area into neat stacked tiers, like a multi-level rack.

Conduit Stacking lets you take a group of conduits that run side by side and **stack them into neat horizontal tiers** — like a multi-level cable rack — instead of leaving them in one wide row. You control how many tiers there are, how wide each one is, and the order of the conduits.

It works on a **Preferred Area**: you draw an area around the runs you want to tidy up, then open Conduit Stacking for it.

Here's the full walkthrough:



The steps are broken down below.

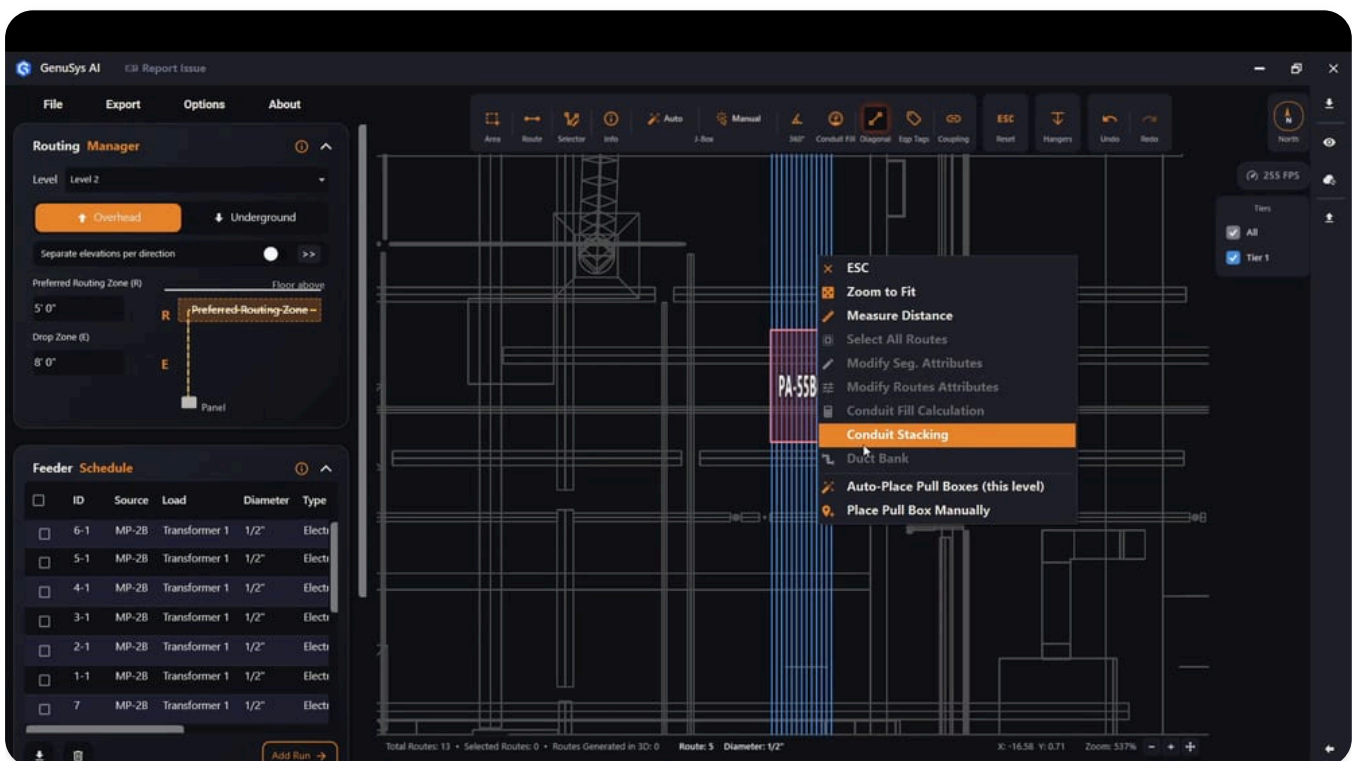
CONDUIT STACKING

40 Opening Conduit Stacking

Draw a Preferred Area, then right-click it and choose Conduit Stacking.

Conduit Stacking works on a **Preferred Area**, so first you mark one:

1. Click **Area** in the toolbar and **draw a rectangle** around the conduits you want to stack. ABR creates a preferred area (for example *PA-5580*).
2. **Right-click** the preferred area and choose **Conduit Stacking** from the menu.



The same right-click menu also has other per-area actions (Duct Bank, Conduit Fill, pull boxes) — Conduit Stacking is the one that opens the stacking window.

CONDUIT STACKING

41 The Stacking Window

Add or remove tiers, set the width and offsets, sort the conduits, then apply.

The **Conduit Stacking Window** shows your conduits arranged on horizontal **bars (tiers)**. Each mark on a bar is a conduit.



- **+ / -** — add or remove a **tier**. More tiers spread the conduits across more rows.
- **Width** (e.g. **10 in**) — how wide each bar is. A wider bar fits more conduits per row; ABR **re-spreads** the conduits automatically when you change it.
- **Left / right offsets** (e.g. **3 in**) — the clear space kept at each end of the bars.

- ↑ / ↓ — sort the conduits along the bars (ascending / descending).
- The **total height** (e.g. 34.5 in) and the spacing between bars update automatically as you add tiers.
- **OK** applies the stacking to your routes; **Cancel** discards it.

The window opens with a sensible auto-layout based on the area's width. If the area was already stacked before, it reopens with that arrangement so you can keep editing it.

DUCT BANK

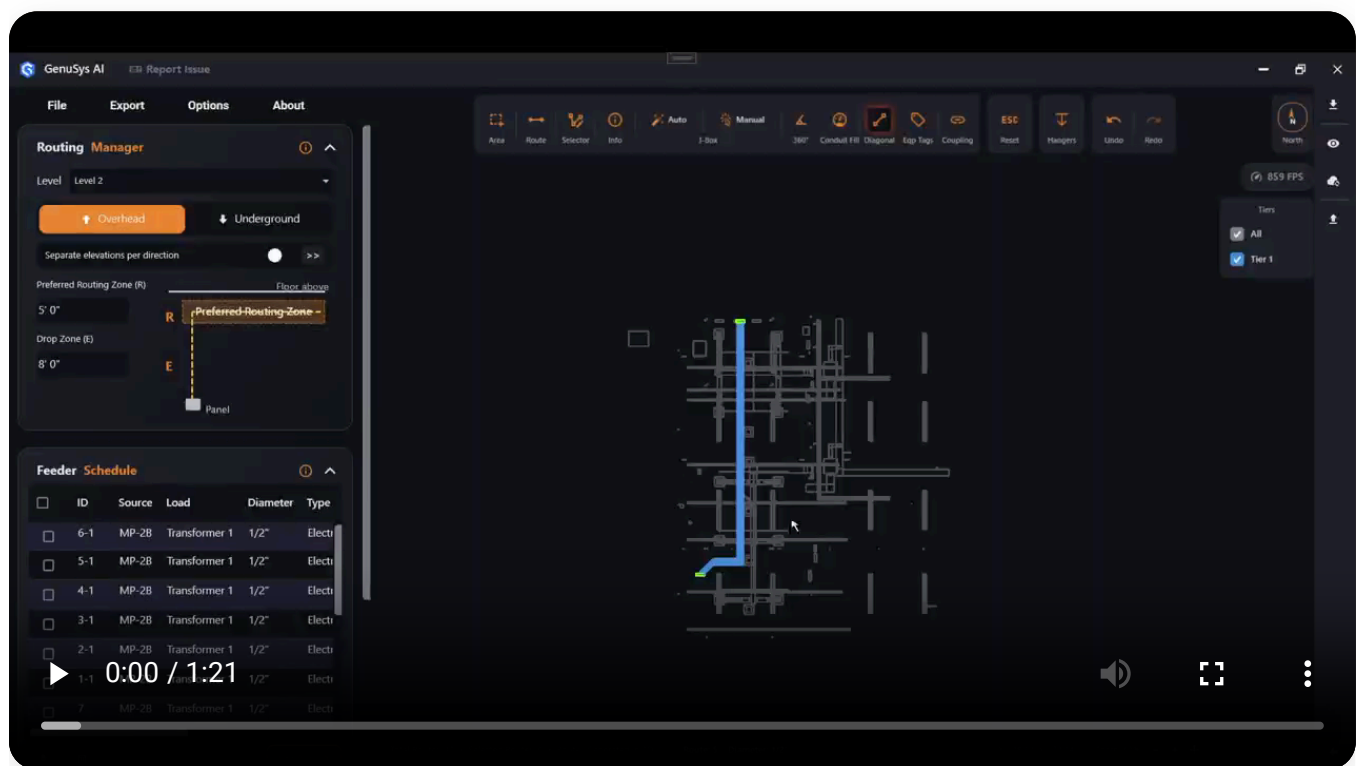
42 Duct Bank

Arrange a preferred area's conduits into an underground duct bank — a grid of conduits at set spacing.

Duct Bank arranges the conduits in a preferred area into a proper **underground duct bank** — a grid of conduits held at set horizontal and vertical spacing, like the cross-section of a concrete-encased duct bank. It's the underground counterpart of [Conduit Stacking](#).

It's available when you're routing **Underground**, and it works on a **Preferred Area**.

Here's the full walkthrough:



The steps are broken down below.

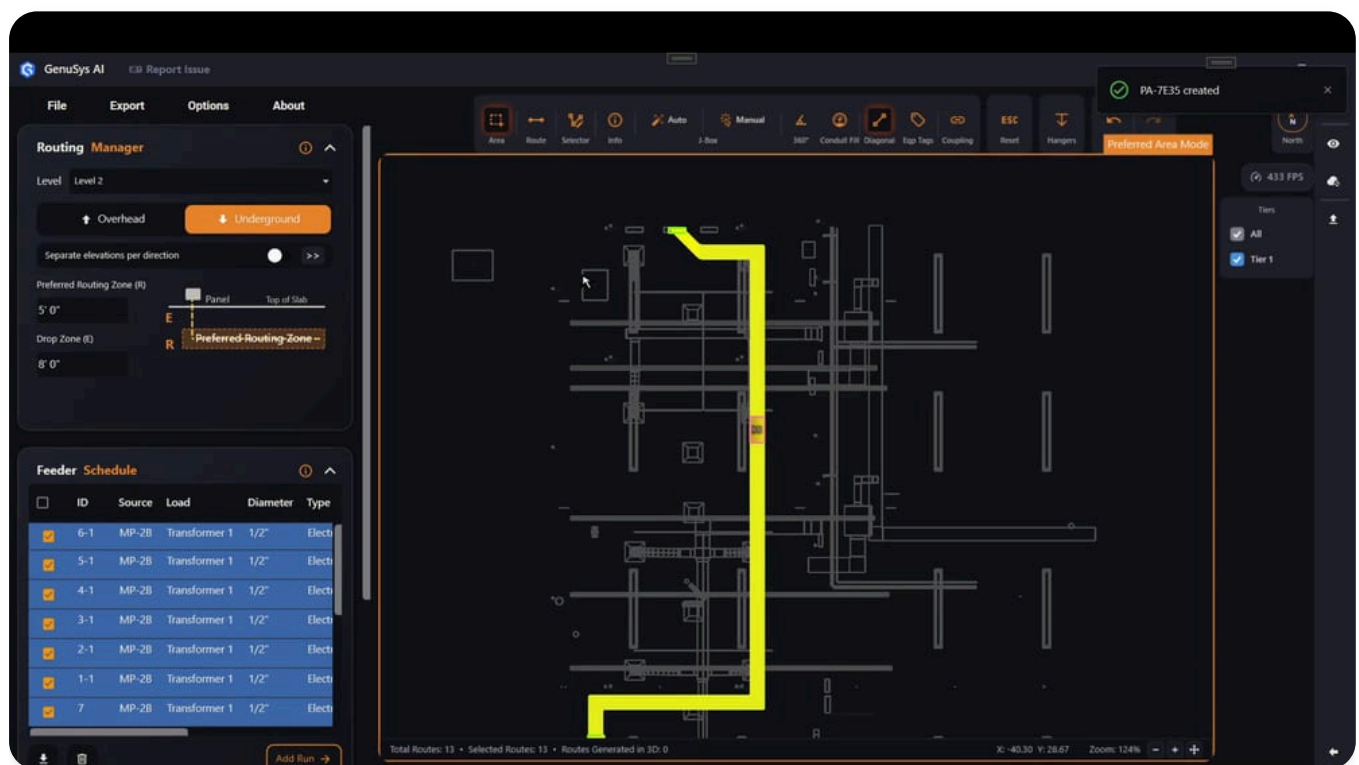
DUCT BANK

43 Opening Duct Bank

Switch to Underground, draw a Preferred Area, then right-click it and choose Duct Bank.

Duct Bank is an **underground** feature, so:

1. In the **Routing Manager**, switch the mode to **Underground**. (Duct Bank only appears for underground routing.)
2. Click **Area** in the toolbar and **draw a rectangle** around the conduits you want to bank. ABR creates a preferred area.
3. **Right-click** the preferred area and choose **Duct Bank** from the menu.

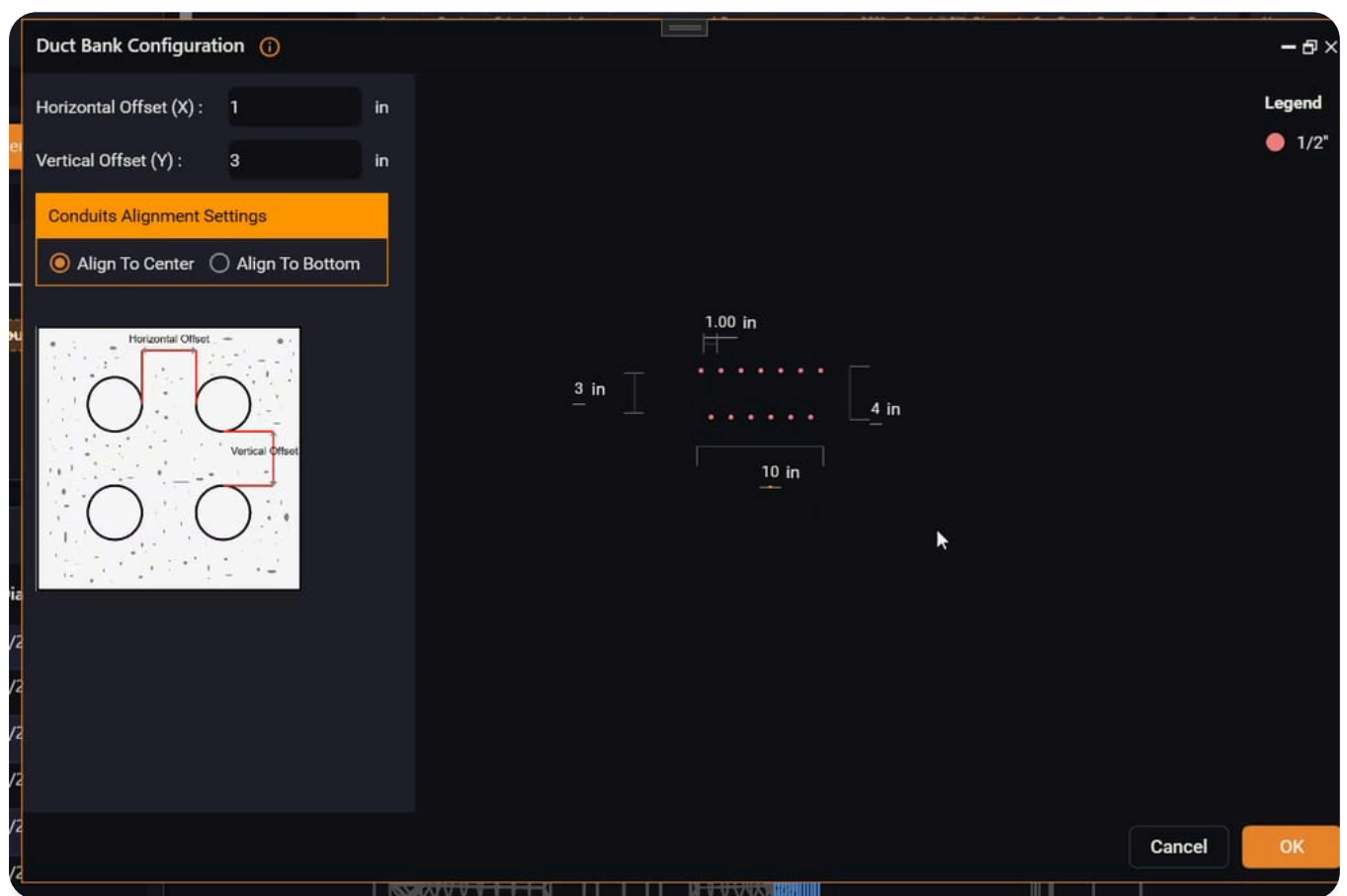


DUCT BANK

44 The Duct Bank Window

Set the horizontal and vertical spacing, choose the alignment, and apply.

The **Duct Bank Configuration** window arranges your conduits into the bank and shows a **live preview** with dimensions. Each conduit is drawn to scale and coloured by diameter (see the **Legend**).



- **Horizontal Offset (X)** — the spacing between conduits sitting side by side in a row (for example **1 in**).
- **Vertical Offset (Y)** — the spacing between rows (for example **3 in**).
- **Conduits Alignment** — **Align to Center** (default) or **Align to Bottom** — how the rows line up.

- The **total width** of the bank (shown as a dimension, e.g. **10 in**) controls how many conduits fit per row — when a row fills up, the next conduit wraps to a new row below. The preview also shows the resulting **total height**.
- **OK** applies the duct bank to your routes; **Cancel** discards it.

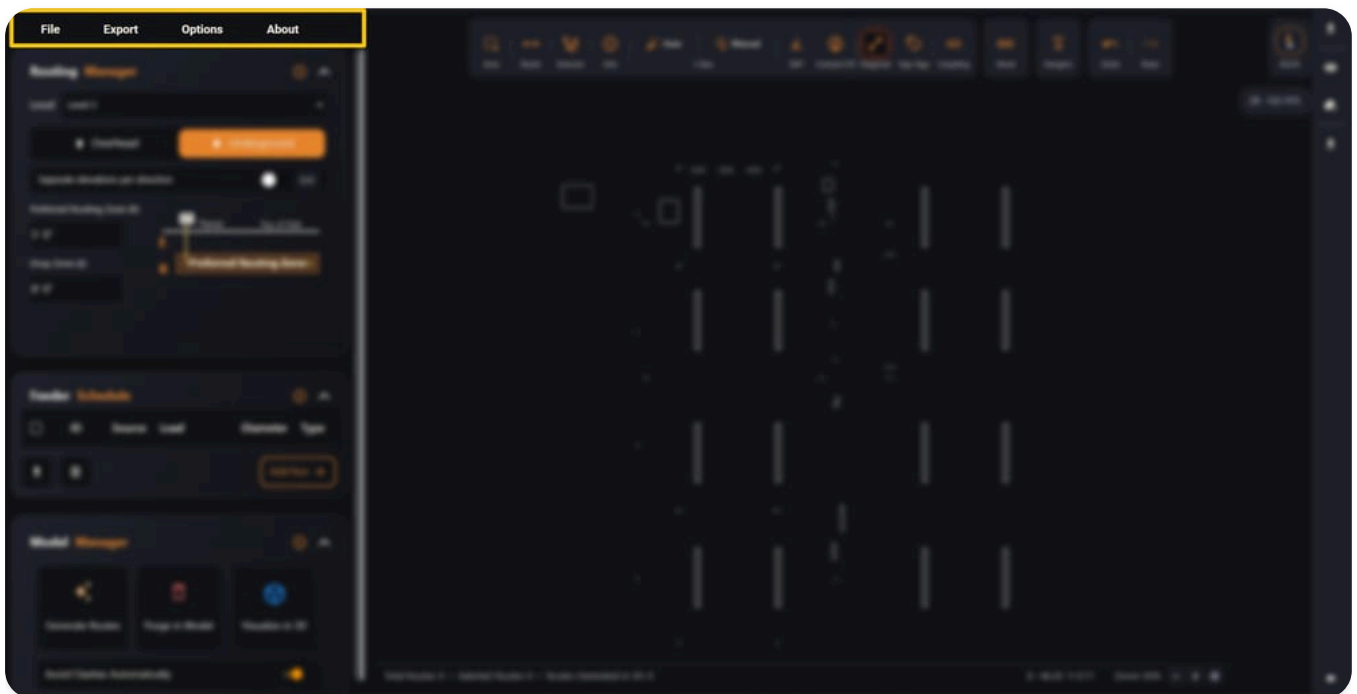
The small diagram on the left explains what the horizontal and vertical offsets mean. If the area already had a duct bank, the window reopens with that configuration so you can keep editing it.

MENU BAR OPTIONS

45 Menu Bar Options

The top menu — File, Export, Options and About — including exporting and re-importing your whole design layout.

The bar across the top of the window holds the application menus — **File**, **Export**, **Options** and **About**. This is where you save your work, bring it back, and export schedules and drawings.



Pick a topic below.

MENU BAR OPTIONS

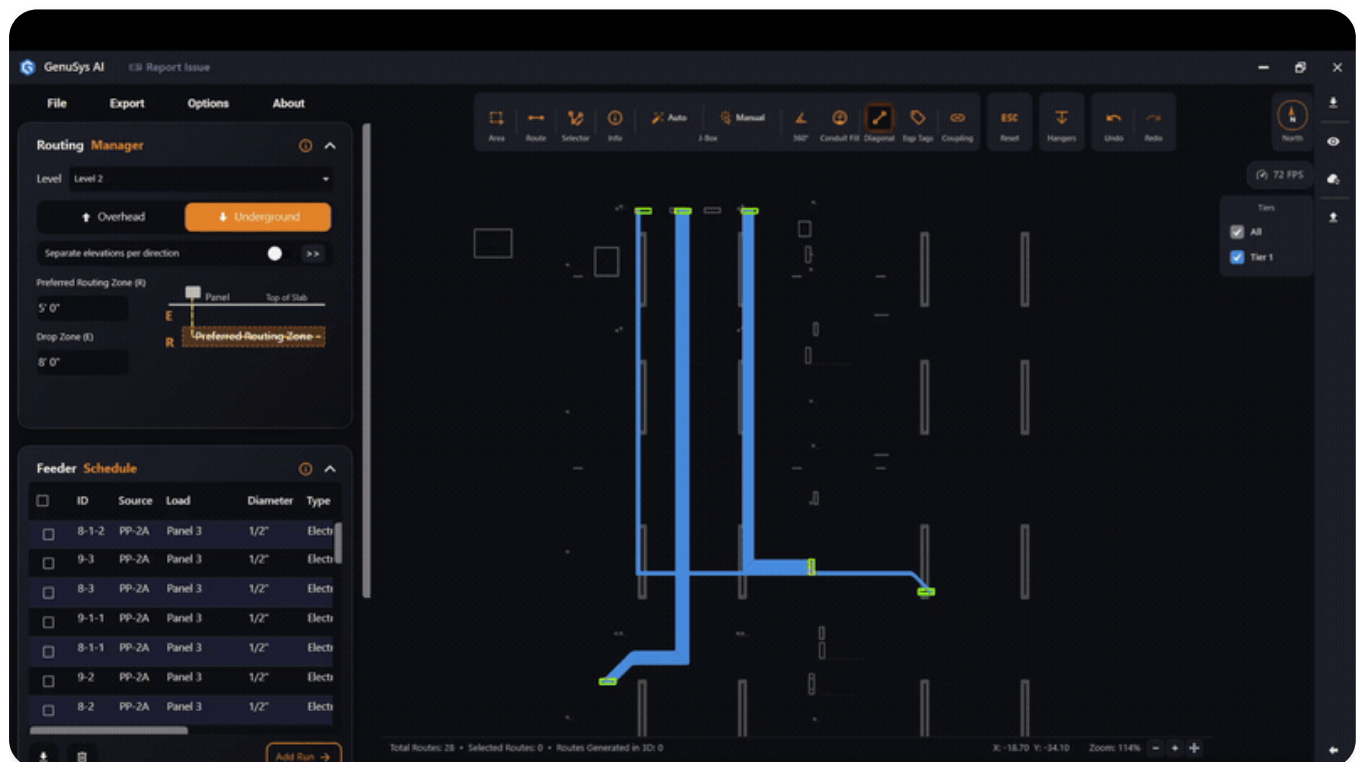
46 Export & Import Design Layout

Save your entire working state to a file and bring it back exactly as you left it.

This is how you **save and resume your work** in Auto BIM Route.

- **Export** → **Design Layout** writes your **entire working state** to a file — the feeder runs, the routes and their 2D layout, the preferred areas, the routing settings, added panels and pull boxes: everything.
- **File** → **Import Design Layout** loads that file back in.

The key point: when you import a design layout, it comes back in the exact same state you exported it. Nothing is recalculated or lost — the routes, preferred areas, tiers and settings are all restored just as they were. So you can stop mid-design, come back later, and pick up exactly where you left off — or hand the file to a colleague and they'll open the identical state.



Use it to:

- **Save a checkpoint** before a big change.

- **Resume** a design in a later session.
- **Share** a design with a teammate so they see precisely what you saw.

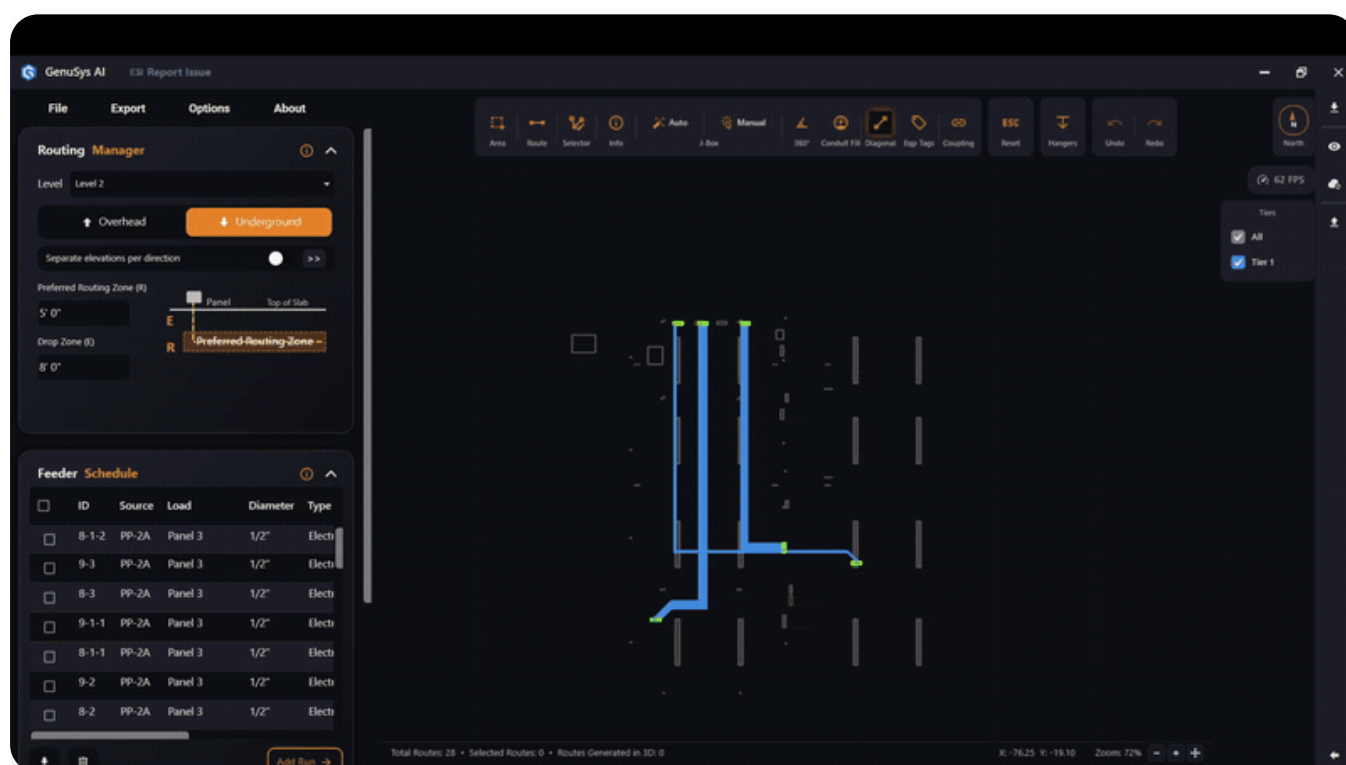
MENU BAR OPTIONS

47 Export to Excel

Export the branch / home-run schedule to an Excel or CSV spreadsheet.

Export → **Excel** produces the **branch home-run schedule** as a spreadsheet (**.xlsx** or **.csv**). For every run it lists the **Branch ID, From, To, circuit numbers, conduit type and size, amps, 2D and 3D lengths, total bend, fittings** and each individual bend angle. A second sheet breaks the circuits down by amp.

Each run is also marked **Accuracy: Actual** once it has a real 3D path, or **Estimated** while it's still a 2D plan.

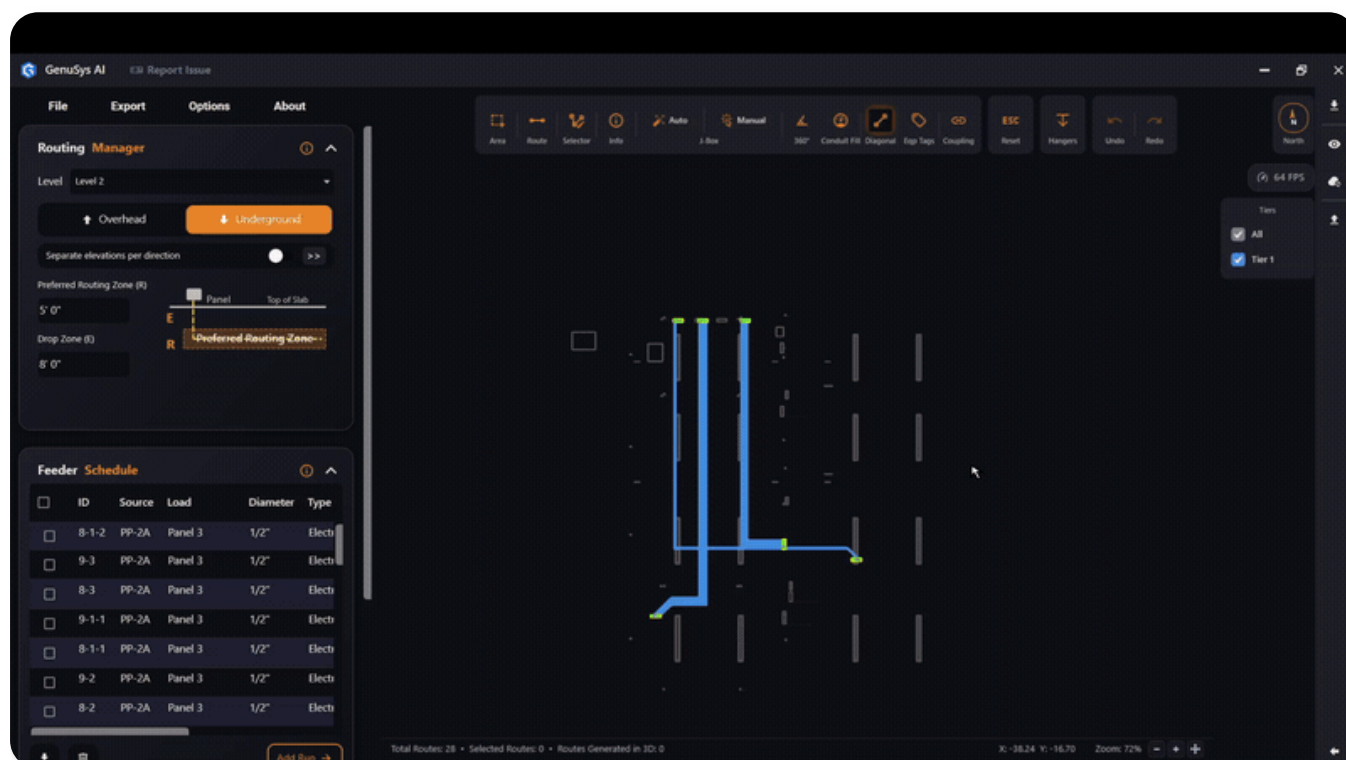


MENU BAR OPTIONS

48 Export to PDF

Export your floor plan and routing drawings to a PDF.

Export → **PDF** opens the PDF export window, where you produce a **PDF of your floor plan and routing** — a shareable drawing of the layout.



49 The File Menu

Save, Save As, Import Design Layout and Exit.

The **File** menu holds the project actions:

- **Import Design Layout** — bring back a previously exported design, restored exactly as it was (see [Export & Import Design Layout](#)).
- **Save** — save the current project.
- **Save As** — save it under a new name.
- **Exit** — close the application.

50 Options & About

The Options menu and the About window.

Options → Analyze

The **Options** menu holds an **Analyze** submenu with two model-side actions that write back into your linked Revit model:

- **Create Schedule in Revit** — generates a structured data sheet (a bill of materials) directly inside the linked Revit model, listing quantities and paths for the routed conduit.
- **Auto-assigns ID for Fixtures in model** — automatically populates a unique identification tag on every electrical fixture and conduit that's missing one, writing the value to a shared parameter. A summary tells you how many IDs were assigned; anything that already had an ID is left untouched. Select any fixture or conduit in Revit and open its **Properties** palette to see the ID.

About

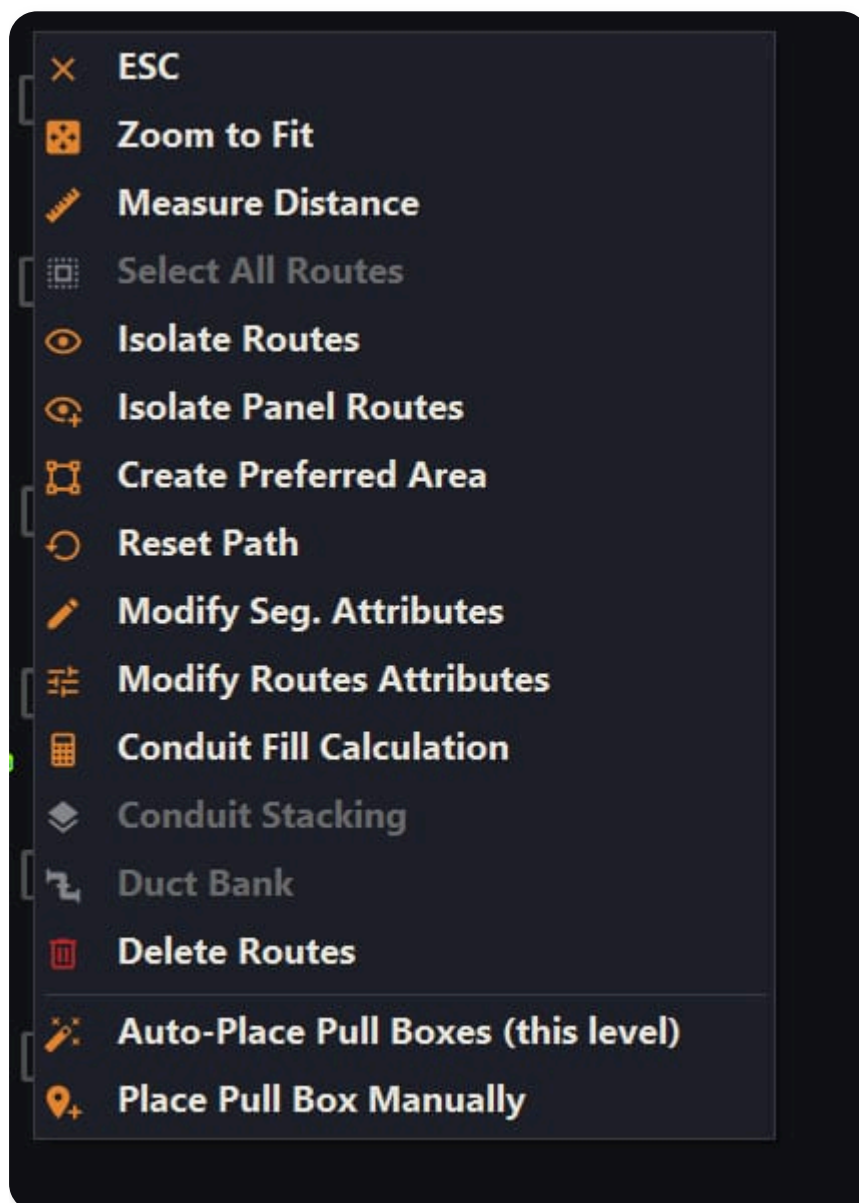
About opens the About window with the application and version information — including **License Information** and **Check for Updates**.

CONTEXT MENU SHORTCUTS

51 Context Menu Shortcuts

The right-click menu in the viewer — quick shortcuts for viewing, selecting, editing and tools, with every item explained.

Right-click anywhere in the viewer to open the context menu — a set of quick shortcuts for the things you do most. Many items are **context-sensitive**: they grey out or hide depending on what you've selected and whether you're routing Overhead or Underground.



View & measure

- **Zoom to Fit** — zoom the viewer so everything fits on screen.
- **Measure Distance** — measure the distance between two points you click.

Select & isolate

- **Select All Routes** — select every route on the current level.
- **Isolate Routes** — hide everything except the routes you selected, so you can focus on them. Press **Esc** (or Reset) to exit and bring the rest back.
- **Isolate Panel Routes** — isolate everything wired to your selection's panels: it takes the panels at **both ends** of the selected routes and shows every route that touches them.

Paths & preferred areas

- **Create Preferred Area** — turn the selected routes' path into a preferred area, so future routing follows it. (Shown when the selection isn't already in a preferred path.)
- **Reset Path** — clear manual edits on the selected routes and let ABR re-route them automatically. (Shown when the selection isn't in a preferred area.)

One path per run. Once runs have been shaped by a preferred path, you can't layer a second path on top. Select the runs, **Reset Path** to return them to their original design, and then draw the new path.

Edit

- **Modify Seg. Attributes** — edit the attributes of the selected conduit **segment(s)** — for example its elevation. (Available when a segment is selected.)
- **Modify Routes Attributes** — edit attributes of the selected **route(s)**.
- **Delete Routes** — delete the selected routes from the layout.

Tool shortcuts

These open the same tools you'll find elsewhere:

- **Conduit Fill Calculation** — open the NEC conduit-fill calculator for the selection (same as the [Conduit Fill](#) button).
- **Conduit Stacking** — open [Conduit Stacking](#) for a preferred area.
- **Duct Bank** — open [Duct Bank](#) for a preferred area (underground routing only — greyed out in Overhead).

Pull boxes

- **Auto-Place Pull Boxes (this level)** — run the automatic pull-box planner across the level (same as [J-Box → Auto](#)).
- **Place Pull Box Manually** — enter manual pull-box placement mode (same as [J-Box → Manual](#)).

ESC

ESC at the top simply closes the menu without doing anything.

SIDE BAR FUNCTIONALITY

52 Side Bar Functionality

The right-hand side bar — Load Runs, Visibility, Sync and Export, plus expand/collapse.

The **side bar** on the right of the viewer holds a few handy shortcuts — loading runs, controlling what's visible, syncing the model and exporting your design.

By default it's a compact strip of icons; click ← **Expand/Collapse** at the bottom to widen it and show the labels (as pictured).



Pick an option below.

SIDE BAR FUNCTIONALITY

53 Load Runs

Open the feeder schedule editor to load and add conduit runs.

Load Runs opens the **Feeder Schedule** window — the same editor you reach with **Add Run** on the Feeder Schedule panel — so you can load or add the conduit runs to route.

See [The Feeder Schedule Window](#) for what's inside it.

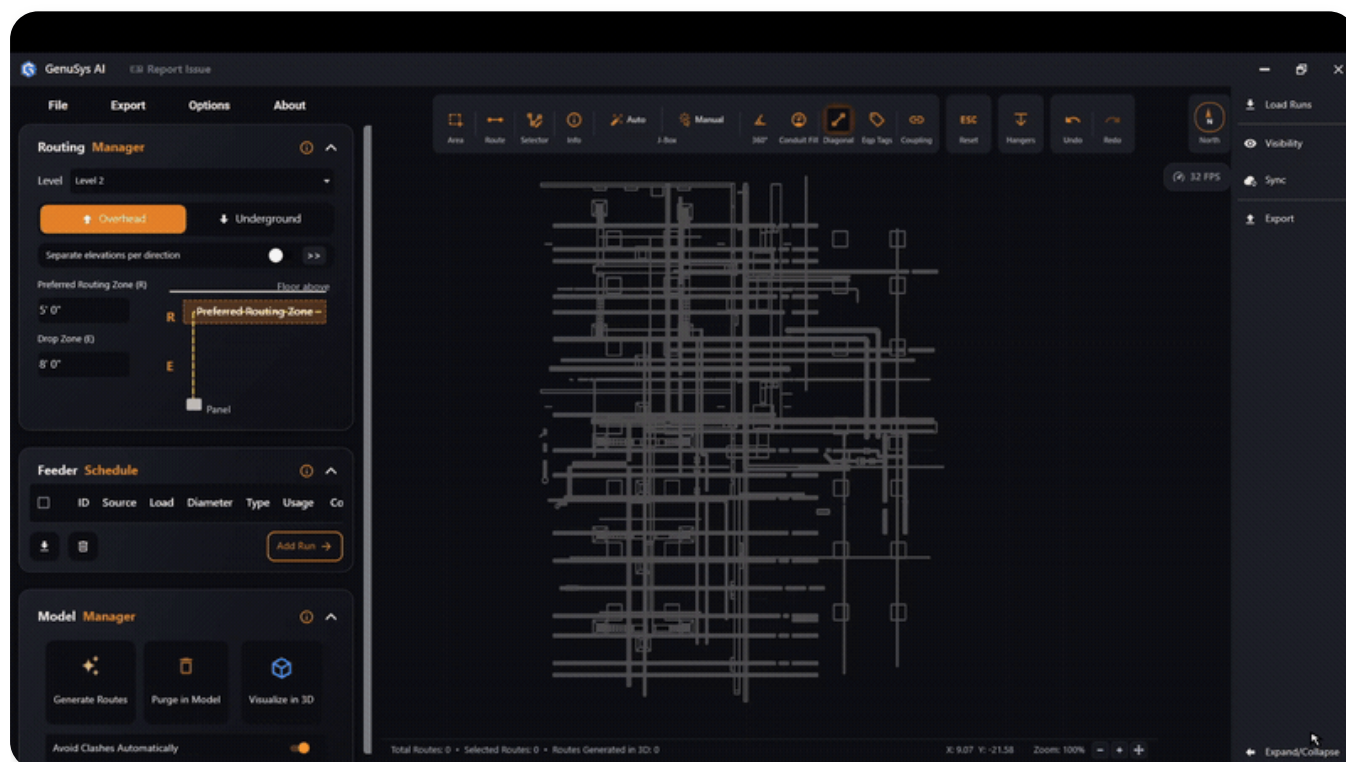
SIDE BAR FUNCTIONALITY

54 Visibility

Choose which model categories are shown in the viewer background.

Visibility opens the graphics picker, where you choose **which model categories are shown in the viewer background** — walls, structure, ducts and so on. Turn categories on to give yourself context, or off to keep the view clean and fast.

It's the same category list as the [Graphics settings](#), but on demand — handy for toggling context while you work.



SIDE BAR FUNCTIONALITY

55 Sync

Re-read the Revit model and refresh the routes after changing it.

Sync re-reads the Revit model and refreshes ABR's data — the panels, the underlay and the routes. Use it after you've **changed something in Revit** (moved a panel, edited the model) so the viewer catches up with the latest state.

SIDE BAR FUNCTIONALITY

56 Export

Save your design layout to a JSON file — a quick checkpoint you can re-import.

Export saves your current **design layout** to a `.json` file — a quick checkpoint of your whole working state. It's the same as **Export** → **Design Layout** in the menu, and you bring it back with **File** → **Import Design Layout**, restored exactly as you left it.

See [Export & Import Design Layout](#) for more.

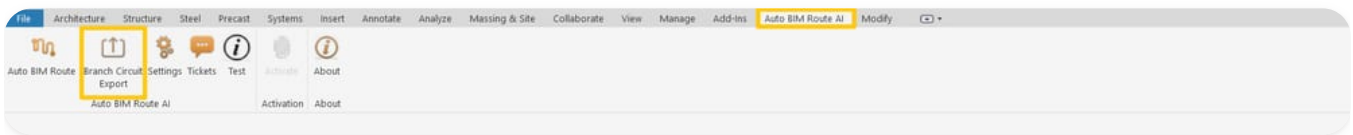
BRANCH CIRCUIT EXPORT

57 Branch Circuit Export

A separate tool that exports a Revit floor plan's electrical branch circuits as an ABR file — ready for routing.

Branch Circuit Export reads the **electrical branch circuits** on a Revit floor plan and packages them — along with the drawing — into an **.abr file**. That file is what you then route in Auto BIM Route.

You'll find it as its own button in the **Auto BIM Route AI** ribbon tab, next to **Auto BIM Route**:



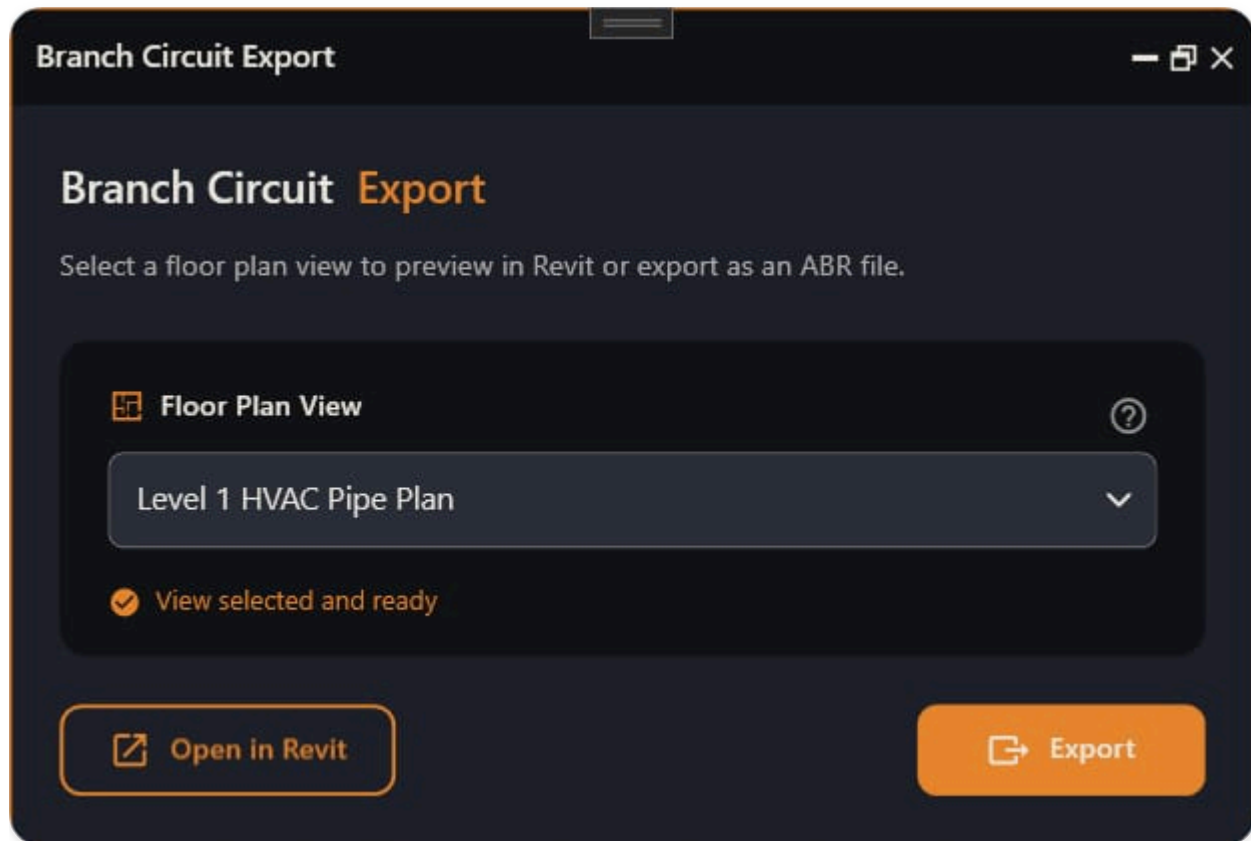
Click it to open the export window.

BRANCH CIRCUIT EXPORT

58 The Export Window

Select a floor plan view, preview it in Revit, or export it as an ABR file.

The **Branch Circuit Export** window lets you pick a view and either preview it or export it.



- **Floor Plan View** — choose the floor (or ceiling) plan view you want to export from the dropdown. You can type to filter the list. Once chosen, it shows “**View selected and ready.**”
- **Open in Revit** — opens that view in Revit so you can check it before exporting.
- **Export** — extracts the branch circuits and writes an **.abr** file.

What happens when you Export

When you click **Export**, ABR walks you through a few quick steps:

1. **Device categories** — standard electrical, lighting and equipment are always scanned; here you can add any other categories that hold mis-modelled power/lighting devices.

2. **Background categories** — choose which categories are drawn into the exported file as context.
3. ABR **extracts** the model data (a progress window shows while it works — this can take a few minutes on large models).
4. A **lighting review** lets you check the lighting and panel analysis.
5. If any circuited device references a **panel that isn't in the export**, ABR warns you before writing.
6. Finally it writes the **.abr** file.



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