Road Platform Slope Templates and The Road Platforms Tree

Road Width · https://mes100.com/docs/road-platform-slope-template-and-the-road-platforms-tree/

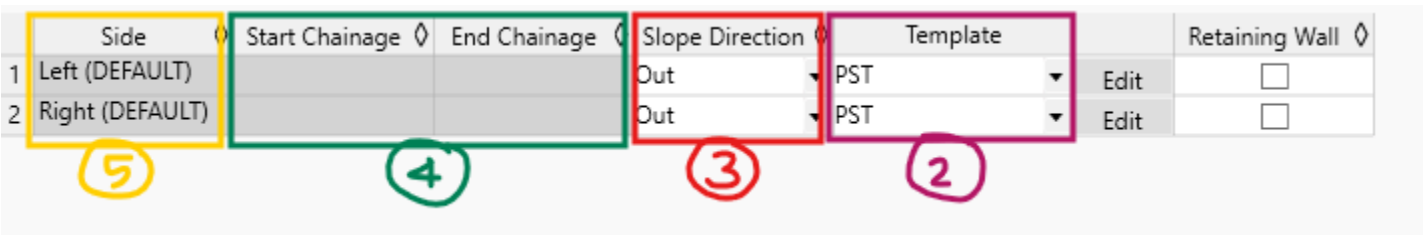
Why this matters for your project?

Up to now, every platform generated for road in the Road & Highway Module - the cut and fill surface that daylights out from the carriageway edge - *used one single slope template* for the entire road. If our job has a stretch that needs a shallower batter through soft ground, a steeper one through rock, or no daylighting at all where the road runs against a retaining wall or a boundary, we had no way to say so in MiTS. We either accepted the compromise or fixed it by hand after generation, and *every regeneration threw that hand-fixing away*.

The latest MiTS 3.4 release adds a **Slope Schedule**: a per-road table where we can assign a **slope template and direction to specific chainage ranges**, on each side of the road independently. Junctions get the same kind of override, on their own. Slope generation, the drawn slope lines, the warnings panel, and the Civil 3D corridor sync **all read from the same schedule**, so what we configure is what we get everywhere- not just in one view.

Alongside the schedule, there's also a new **Road Platforms** tab that lets us see and navigate to the platforms a road actually generated, grouped the way we think about the road (*by side and chainage range, and by junction*), instead of hunting for them in the flat platform list.

Terms used in this guide



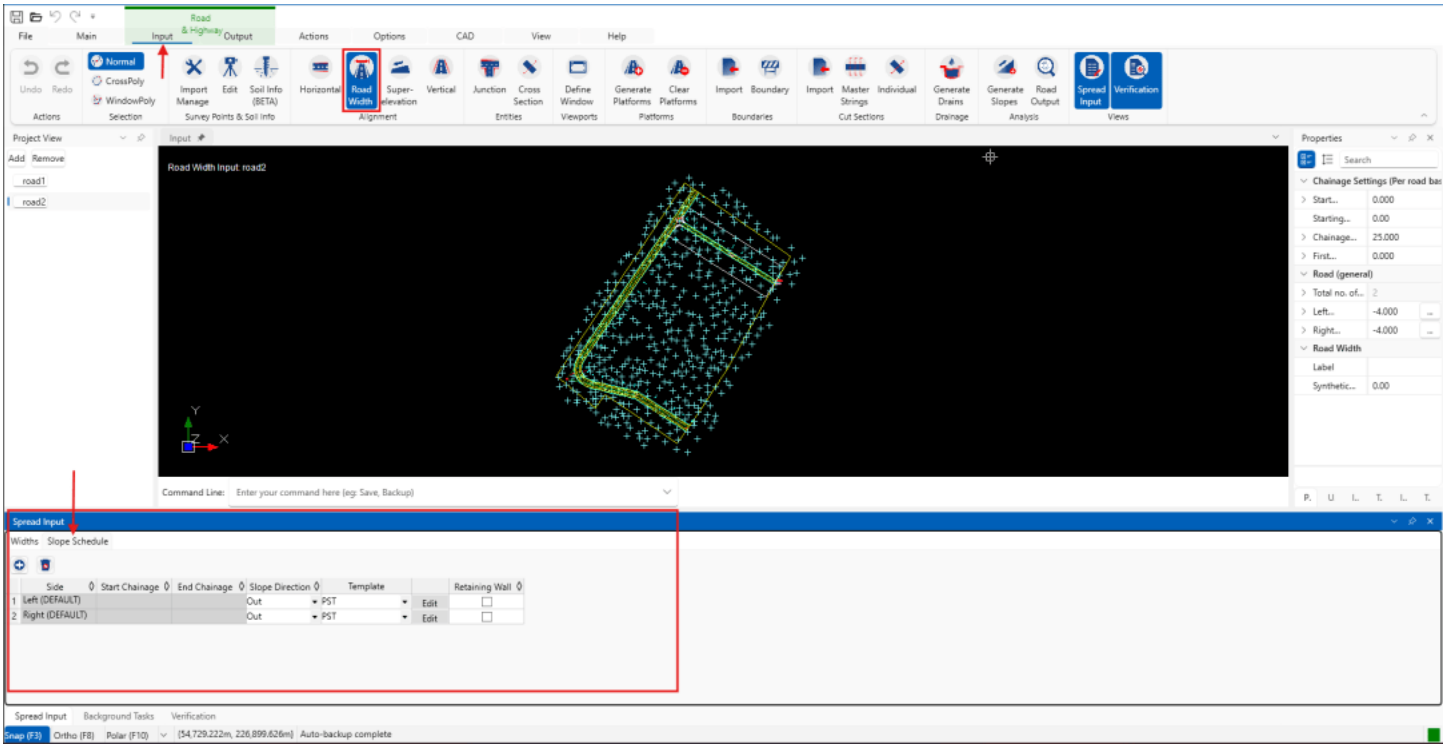
- **Platform** - the cut and fill design surface MiTS generates and computes volumes against. A road automatically generates platforms along its length; we can also draw platforms by hand elsewhere in MiTS
- **Slope Template (2)** - a named, reusable definition of the cut and fill batter (the slope, benches, etc.) applied at a platform's edge. We project keeps a library of these; we pick from it by name.
- **Slope direction (3)** - which way that batter daylights. Setting to **None** means the edge doesn't slope at all- useful anywhere a road shouldn't daylight, such as against a retaining structure or a boundary.
- **Chainage (4)** - the position along the road, as the CH printed on the drawings. It includes the road's Start Chainage: on a road that starts at CH 1000, a point 250 m along the road is CH 1250. A **chainage range** is a From/To pair marking where one schedule row applies.
- **Side (5)** - Left or Right of the road centerline.
- **Junction** - the generated geometry where two roads meet.

1. Setting up a road's Slope Schedule

1. Open the Road's Width Spread Input by navigating to

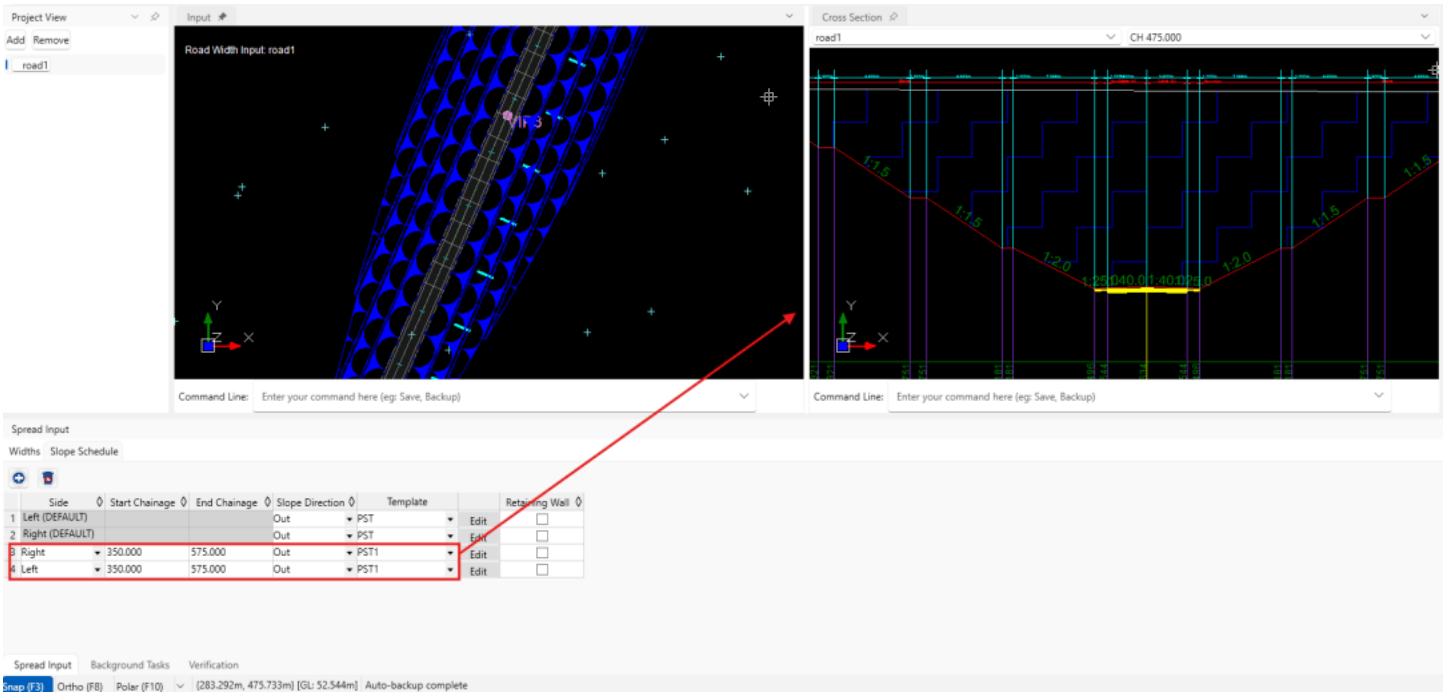
   Road & Highway Module > Input tab > Click

   Note: The same place where we edit the **road offsets**
2. Click the **Slope Schedule** tab, next to **Widths**.

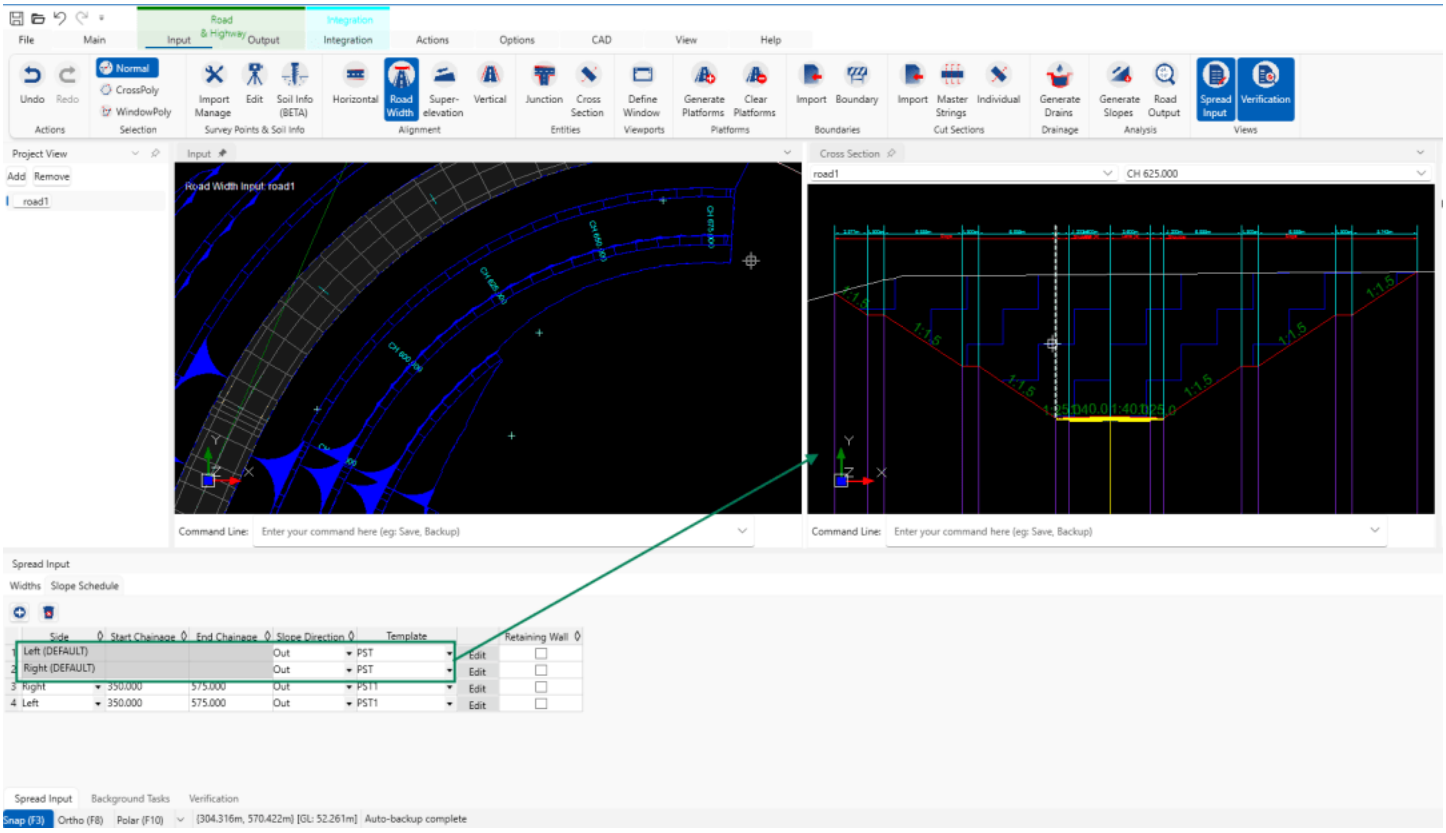


3. Click **Add** to insert a new row, then fill in:

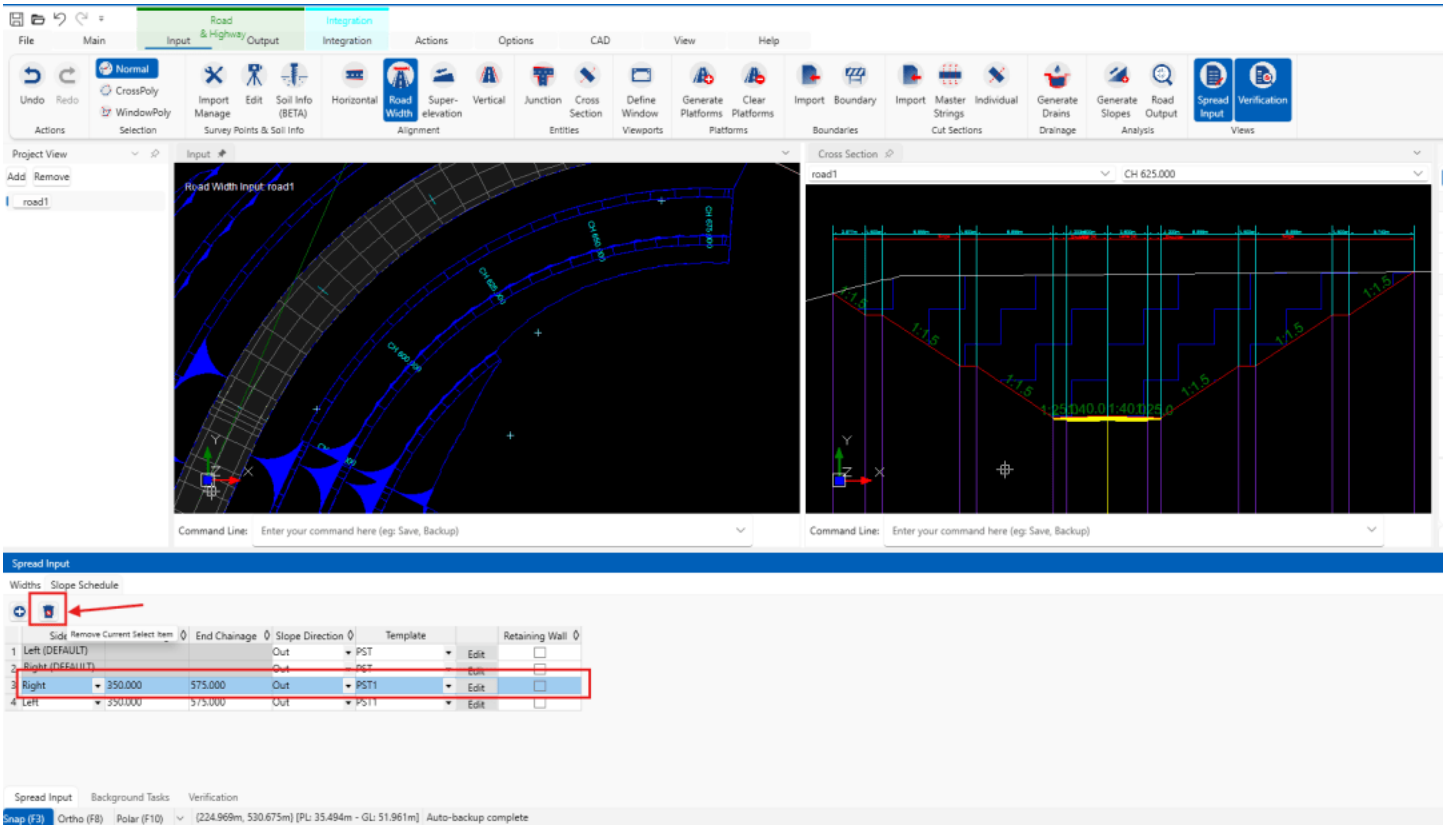
   - **Side** - Left or Right.
   - **Start Chainage/End Chainage** - the range this row covers, in the same CH as the drawings. Hover over either column to see the road's chainage range.
   - **Slope Direction** - pick **Out** for a normal daylighting batter, or **None** for no slope at all over this range
   - **Template** - pick a slope template from our project's library



4. Add as many rows as needed per side. Ranges don't need to cover the whole road as any changes that aren't covered will keep using the road's **default** slope template and direction- it will be shown as *greyed out row* at the top of the grid, labeled as **"Left (DEFAULT)"** or **"Right (DEFAULT)"**.



5. If we wish to remove any configured rows, select the row and click **Remove** to delete it.



6. A row's cells **turn pink** if something is wrong with it- i.e., its chainage falls before the start or past the end of the road, its Start Chainage is at or past its End Chainage, or it overlaps another row on the same side. **The range needs to be fixed before moving on**.

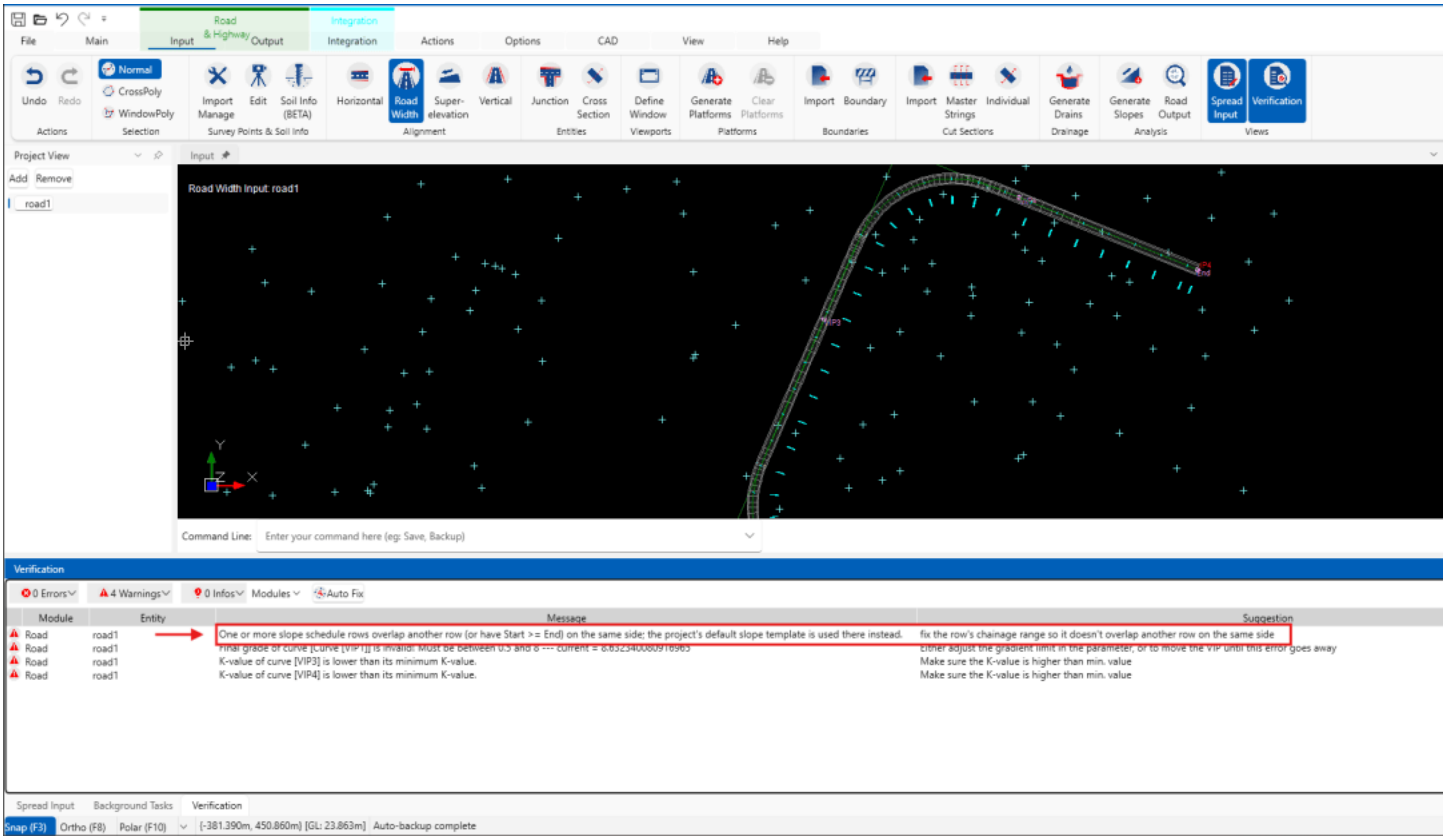
> **Where the road-wide default lives**: if we haven't set up a schedule at all, or a stretch of road falls outside every row we've defined, MiTS uses the project's default platform slope template and direction- it is the same one we're used to setting under **Parameters** > **Earthworks** > **Typical Slope** > **Platform Edge Template Definition**. The **defined Slope Schedule** only needs rows for the stretches that should differ from the default slope design.

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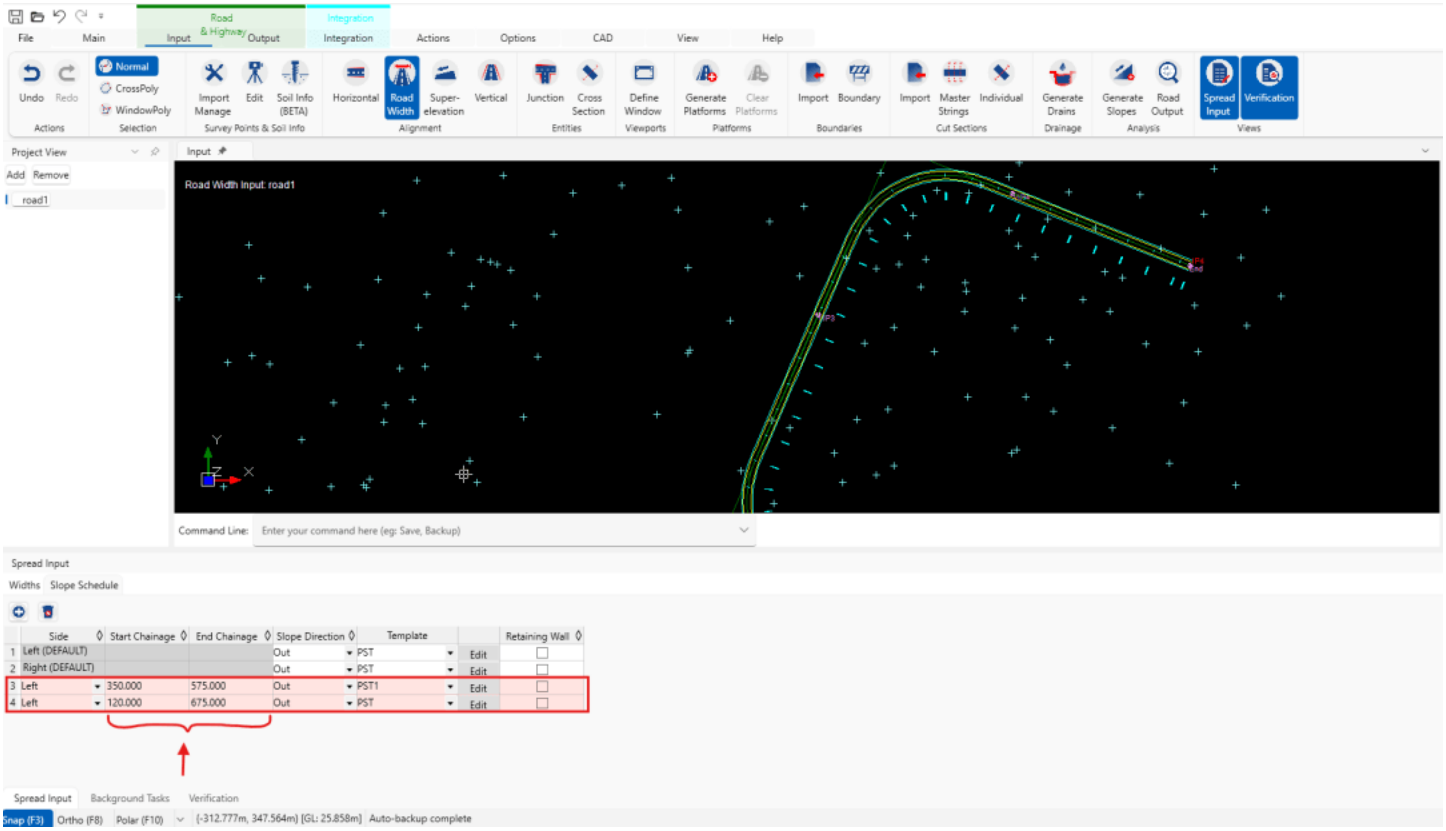
2. Checking your schedule for gaps and mistakes

MiTS automatically checks the Slope Schedule defined and raises warnings in the normal **Warnings** panel, so a *malformed schedule doesn't silently generate the wrong platform*

- **Coverage gap** - at least one row has been added on a side, but the rows don't cover the whole road. (An empty schedule -no rows at all- is normal and isn't flagged; that just means the whole road uses the default slope design)
- **Stale row** - a row's chainage falls outside the road's chainage range, e.g. after the road has been shortened, or when a distance from the road start was typed instead of the CH (on a road starting at CH 1000, typing 250 instead of 1250).
- **Overlapping/inverted row** - two rows on the same side cover the same chainage or row's End Chainage is before its Start Chainage



Open the flagged road's Slope Schedule tab to fix the row directly- the **same red-cell highlight from Step 1** shows you which row is the problem.

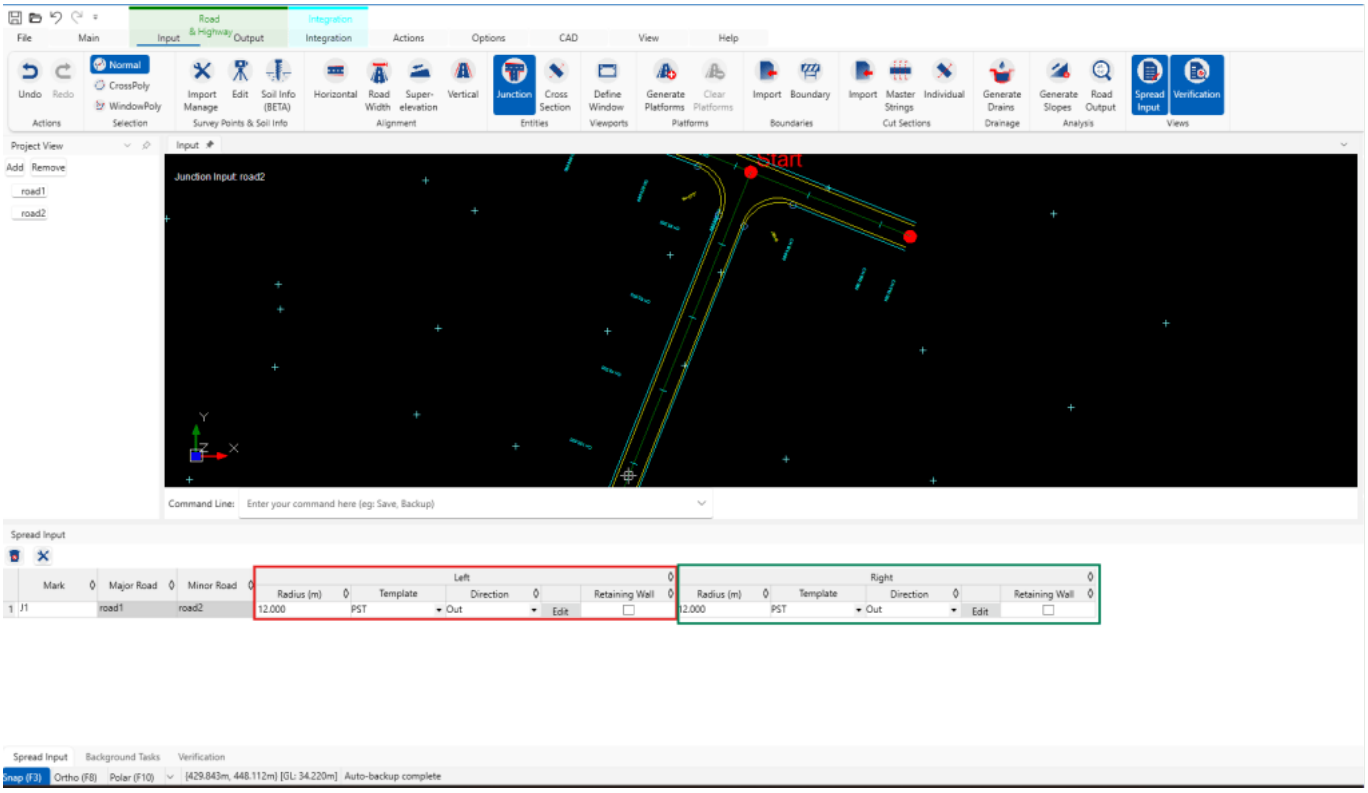


3. Overriding a junction’s slope, independently of either connecting road

Junctions -where two roads meet- generate their own platform, and it now has its own Left or Right slope template and direction, separate from either road’s schedule.

Steps:

1. Open the **Junctions Spread Input** by navigating to Input tab under the Road & Highway Module > Click on the Junction button.
2. Find the junction’s row. The **Left** and **Right** column groups each show a **Radius**, **Template**, and **Direction** column.



3. Set the **Template** and **Direction** for each side we want to override. Leaving a side unset means it keeps using the project's default, the same way an unconfigured road chainage does.

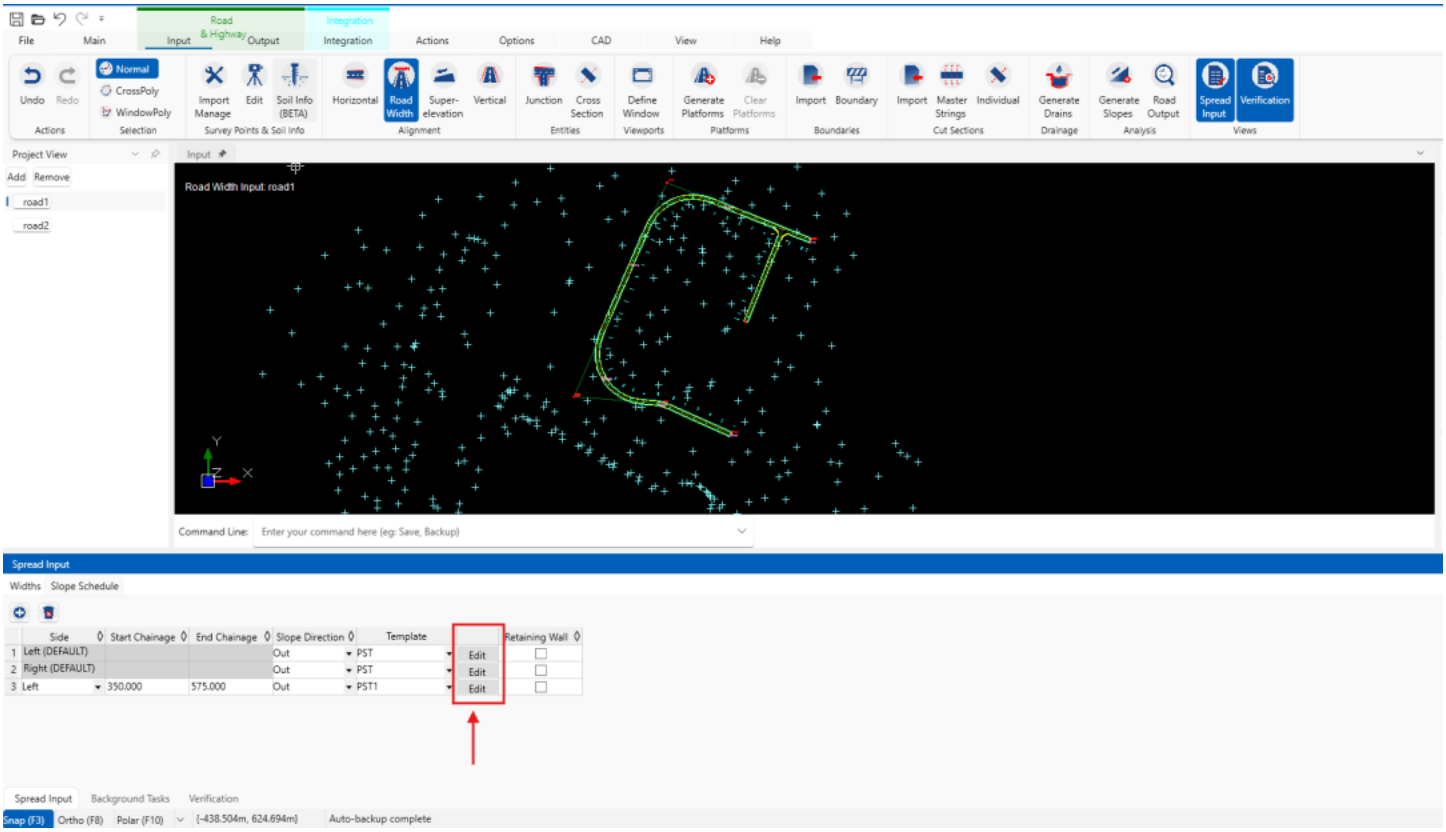
If we're opening a project created before this feature existed, its junctions already have their slope pinned to whatever the project's default was at the time- this happens automatically on the first load, so existing projects don't silently change behavior when we upgrade.

4. Using the Edit button next to a slope template field

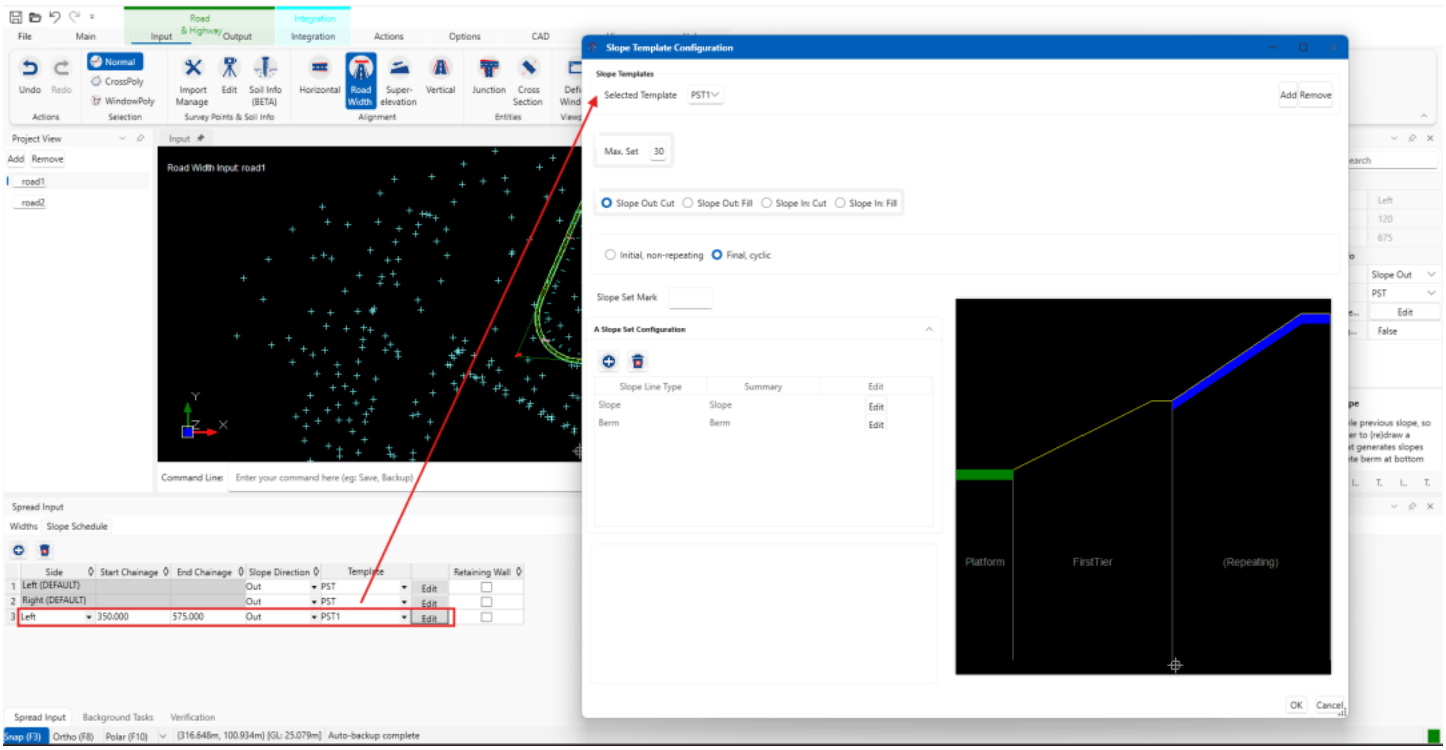
Wherever a slope template is picked -the Slope Schedule grid, the Junction grid, the Platform property grid, or the Parameters dialog- there's now an **Edit** button next to it.

Steps:

1. Click the **Edit** next to any Template field.



2. The template editor opens will be pointing at whichever template is currently assigned to that field- no need to go find it ourself in the template library first.

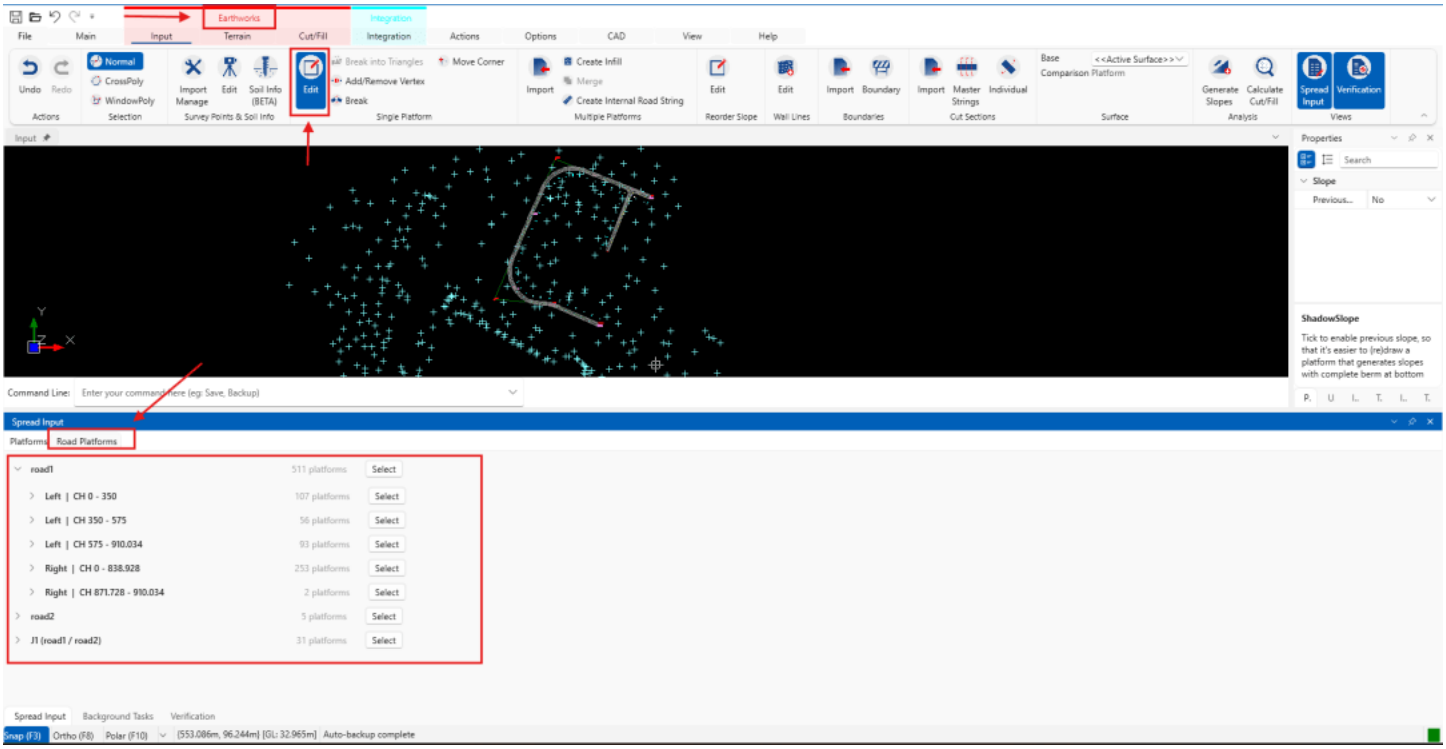


5. Finding and editing the platforms a road generated

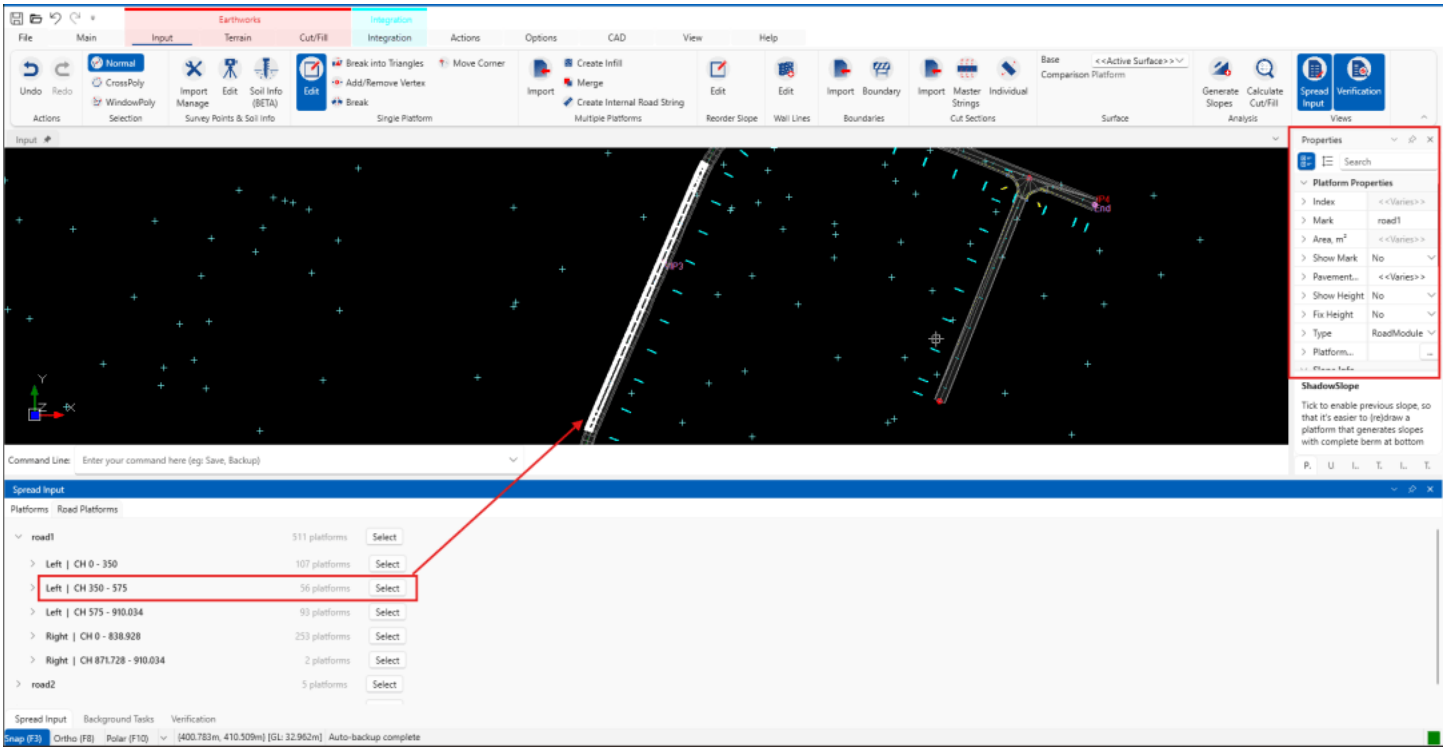
The **Road Platforms** tab (in the same panel as the ordinary Platforms list) groups every platform of the road or junction generated, so we don’t have to pick them out of the full platform list eye by eye.

Steps:

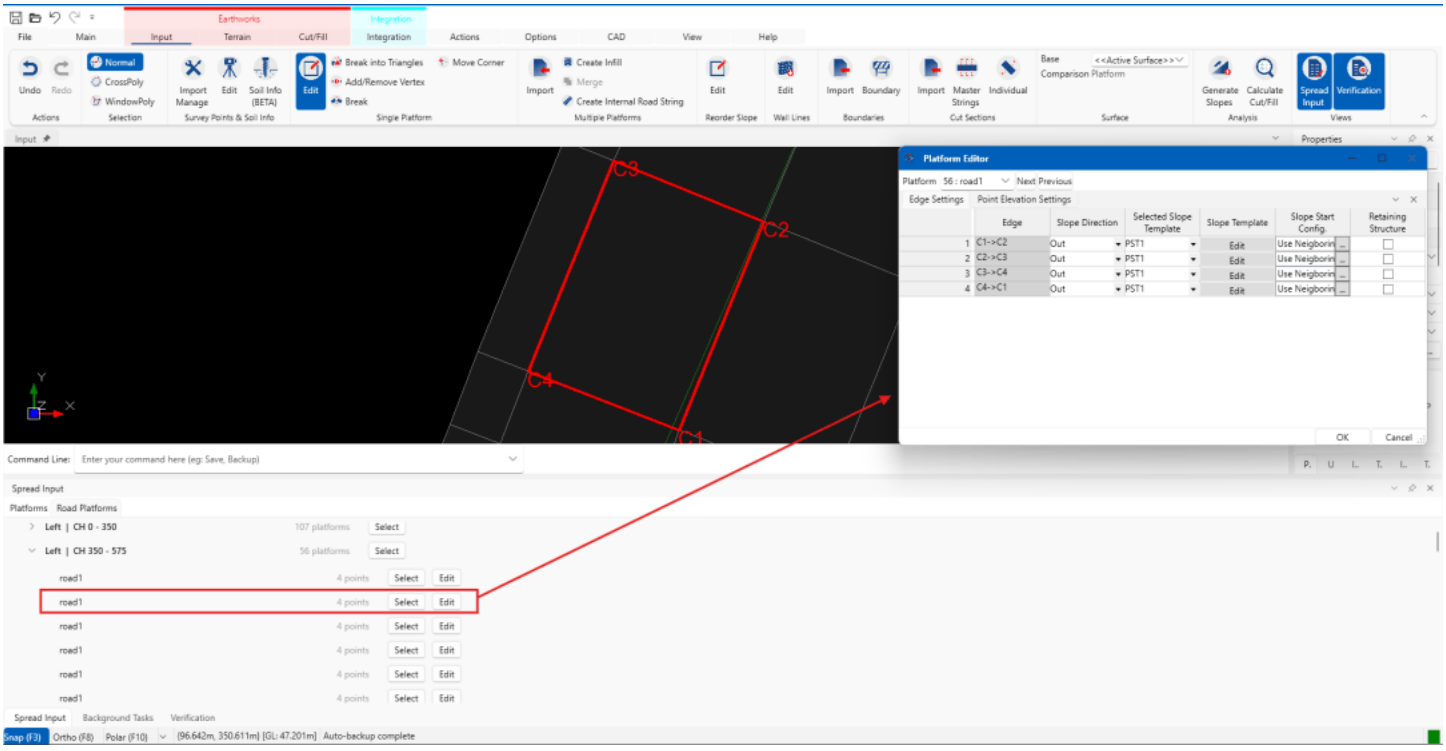
1. Open the **Road Platforms** tab by navigating to Earthworks Module > Edit button (Under Single Platform section) > Platform Spread Input.
2. Roads are grouped by side and chainage range; junctions appear as their own entry, labeled with both roads they connect (e.g. “J1 (RoadA / RoadB)”) so it is clear at a glance which junction we are looking at.



3. Click **Select** on any group or platform to highlight it in the drawing and load it into the Properties panel on the right.



4. Click **Edit** on an individual platform to open the same Platform Editor as the hand-drawn platform, scoped to just one platform- the regular platform selection elsewhere in the app isn't disturbed.



Keep in mind: Regenerating the road discards any manual edits made to its generated platforms- this was already the behavior before this feature and hasn’t changed.

6. Syncing to Civil 3D

When we sync a road to Civil 3D, the corridor’s daylight assembly now follows your Slope Schedule, the same way MITS platform generation does. Each chainage range gets the assembly matching its resolved template and direction, splitting at the same boundaries we have configured.

A range that is set to **None** produces *no daylight subassembly at all* in Civil 3D, matching what we’d see in MiTS.

No extra steps are needed on your part - just set up the schedule in MiTS as described above, then sync as usual.

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I’m the Benevolent Dictator for Life for MiTS Software cum Editor of this website. Read more here.

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