



Civil Site Design

Civil Site Design v27 - What's New

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Project Assist AI (Tex)

Your AI-Powered Civil Design Assistant

Civil Site Design v27 introduces **Project Assist AI**, an integrated AI agent platform designed to provide technical support, project analysis, and reporting directly within your CAD environment.

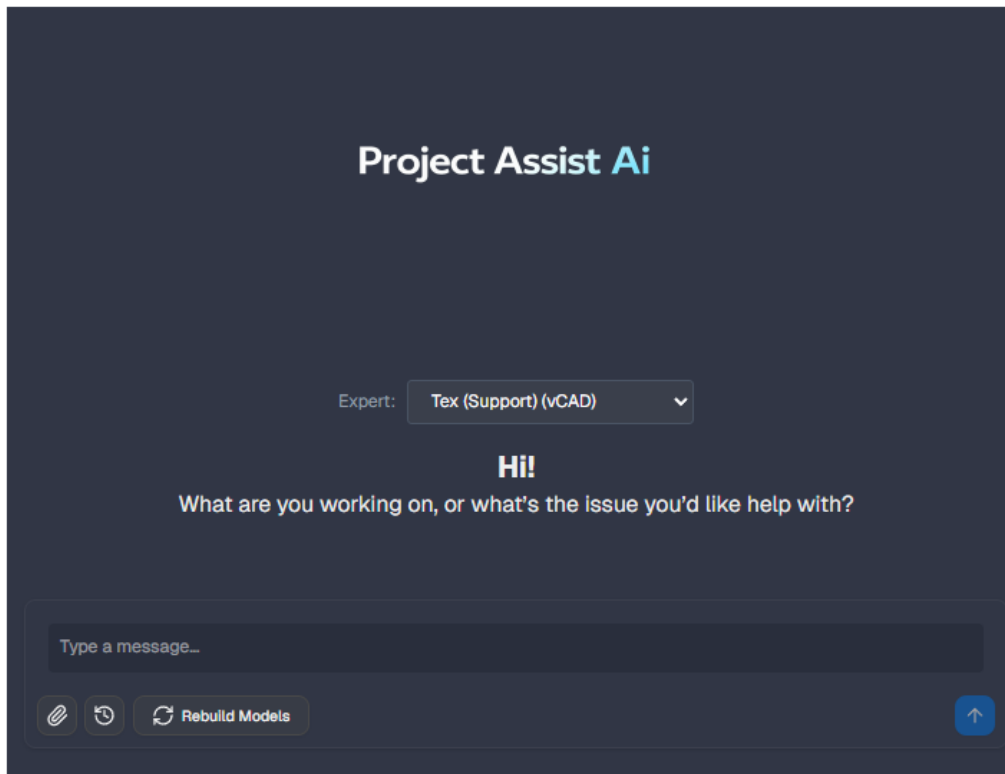


Figure 1: Project Assist AI chat interface

The first agent available is **Tex**, a read-only AI assistant that understands Civil Site Design projects and can provide context-aware assistance.

Typical Uses

- "How do I create a kerb return?"
- "Provide a volume summary for this project."
- "Review this road alignment against Austroads design standards."
- "What issues exist within this pipe network?"

Project Assist AI helps reduce time spent searching documentation while providing project-specific guidance and reporting.

Intelligent Sections AI

Create Intelligent Sections Using Natural Language

Intelligent Sections have long provided powerful cross-section modelling capabilities within Civil Site Design. Version 27 introduces **AI-assisted Intelligent Section creation**, allowing users to describe section requirements in plain language.

Describe the cross-section you want to create:

Create a retaining wall consisting of 0.2m high wall sections with near vertical slope and no horizontal step between sections. The wall should be created if the depth of cut is greater than 0.6m or if a 1:3 batter slope would extend beyond 1.2m, otherwise add a 1:3 batter. The top of the wall should stop up to 0.3m from the existing ground. At the top of the wall add a 0.2m flat section and then a 1:2 batter slope. If that 1:2 batter slope will extend beyond 1.2m, change to a 1:1 batter slope. In fill, apply a 1:6 batter slope if the width of batter is less than 2m. Otherwise, add a -2.5% slope verge for 1m then batter at 1:2 to the surface

Analyse

Review the table below, then click the green button to create it.

Create Intelligent Section

Table Name: Retaining wall with transition to batter

Reasoning:
Created a retaining wall system with 0.2m high near-vertical sections for deep cuts (>0.6m) or when a 1:3 batter would exceed 1.2m width. The wall stops 0.3m below surface, adds a 0.2m flat section, then transitions to a 1:2 batter (or 1:1 if >1.2m width). In fill, uses 1:6 batter for narrow fills (<2m) or a -2.5% verge + 1:2 batter for wider fills.

=== CUT TABLE (12 items) ===
1. Test Surface GoTo WALL_CHECK Comment:- Check if cut depth >0.6m
2. Test Batter GoTo WALL_CHECK Comment:- Check if 1:3 batter would exceed 1.2m
3. Batter Code BT GoTo END Comment:- Standard 1:3 batter
4. Label WALL_CHECK Comment:- Start of retaining wall section
5. Bench Surface Default Comment:- 0.2m high wall sections
6. Label TOP_WALL Comment:- Transition at top of wall
7. Width/Slope W= 0.200 RW Comment:-0.2m flat section
8. Test Batter GoTo STEEP_BATTER Comment:- Check if 1:2 batter would exceed 1.2m
9. Batter Code BT GoTo END Comment:- 1:2 finish batter
10. Label STEEP_BATTER Comment:- Transition to steeper batter
11. Batter Code BT GoTo END Comment:- 1:1 finish batter
12. Finish Comment:- End

Figure 2: AI prompt dialog for describing section requirements

The AI automatically generates the required decision tables and section logic.

Typical Uses

- Table drains
- Cut and fill batters
- Benched batters
- Retaining walls
- Conditional cross-section behaviour

Simply describe the desired outcome and let the AI generate the Intelligent Section framework.

FastTrack

AI-Powered Project Setup

FastTrack is a new AI-assisted workflow that helps automate project creation in Civil Site Design.

Instead of manually creating roads, assigning templates, and configuring alignments, simply describe your project in natural language and FastTrack will generate a proposed workflow ready for review.

The screenshot shows a software window titled "Describe the job you want to set up (e.g. road type, features):". It has a dropdown menu set to "-- Saved Prompts --" and a text input field containing the prompt: "Create all roads using the 'Road - 6m' template. Incorporate 7m kerb returns at intersections, and add a cul-de-sac at the end of Brisbane Street." Below the input field is a tip: "Tip: Type @ to reference CSD objects (alignments, templates, surfaces, etc.)". There are four buttons: "Analyse with AI" (with a brain icon), "Apply & Build Workflow", "Build Project", and "Legacy". Below the buttons, a status message reads: "Classification complete. Enter your prompt." The "AI Analysis Results:" section lists the following items: Cairns St, Canberra Ct, Darwin Ct, Hobart Ct, Melbourne Dr, Outer Circulating Carriageway, Perth St, Stawell Rd, Sydney St, Islands/Roundabouts (1): Inner Island. At the bottom, a note states: "Type your prompt above. Use @ to reference objects. The AI's initial classification is shown above. Your prompt can override any classification (e.g. @\"LOT 12 BDRY\" is actually a footpath)."

Figure 3: FastTrack automates project creation using AI-powered natural language.

Key Benefits

- Automatically identifies road centreline alignments.
- Suggests appropriate cross-section templates.
- Detects boundaries, kerb returns, islands, and widening alignments.
- Reduces repetitive project setup tasks.
- Generates a structured workflow before any changes are made.

Typical Uses

- Create roads from alignments.
- Automatically assign templates across an entire project.
- Configure kerb returns and widening alignments.
- Rapidly build concept and subdivision designs.

FastTrack helps accelerate project setup while keeping users in complete control by allowing all proposed actions to be reviewed before execution.

Model Builder Grip Editing

Edit Model Trims Directly in the Drawing

Model Builder trim regions can now be edited interactively using grips directly within the drawing.

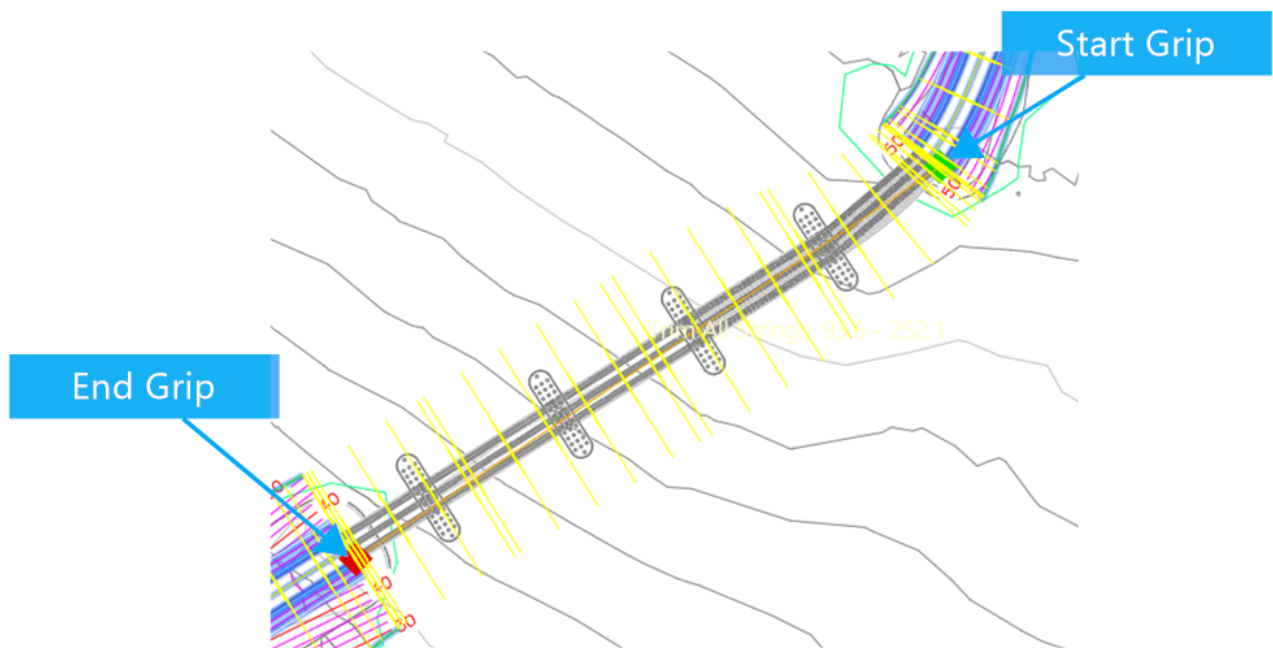


Figure 4: Trim grips being dragged to update extents for a bridge

Previously, trim adjustments required opening the Model Builder dialog and manually editing chainage values. Version 27 introduces visual trim grips that can be dragged to update trim extents.

Additional Toolspace Commands

New Toolspace commands allow you to:

- Add trims
- Edit trims
- Remove trims

These commands provide full control over trim management directly from the Civil Site Design Toolspace.

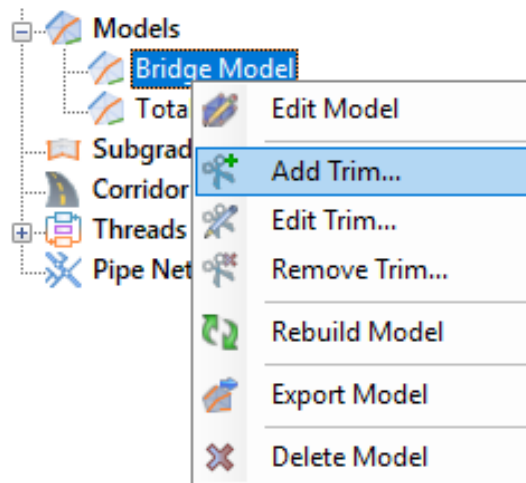


Figure 5: Right-click a Model Builder model in the Toolspace to access the trim tools.

Stage Storage Tool

Basin Volume Analysis and 3D Visualisation

The new **Stage Storage Tool** performs automated basin and depression storage analysis on TIN surfaces.

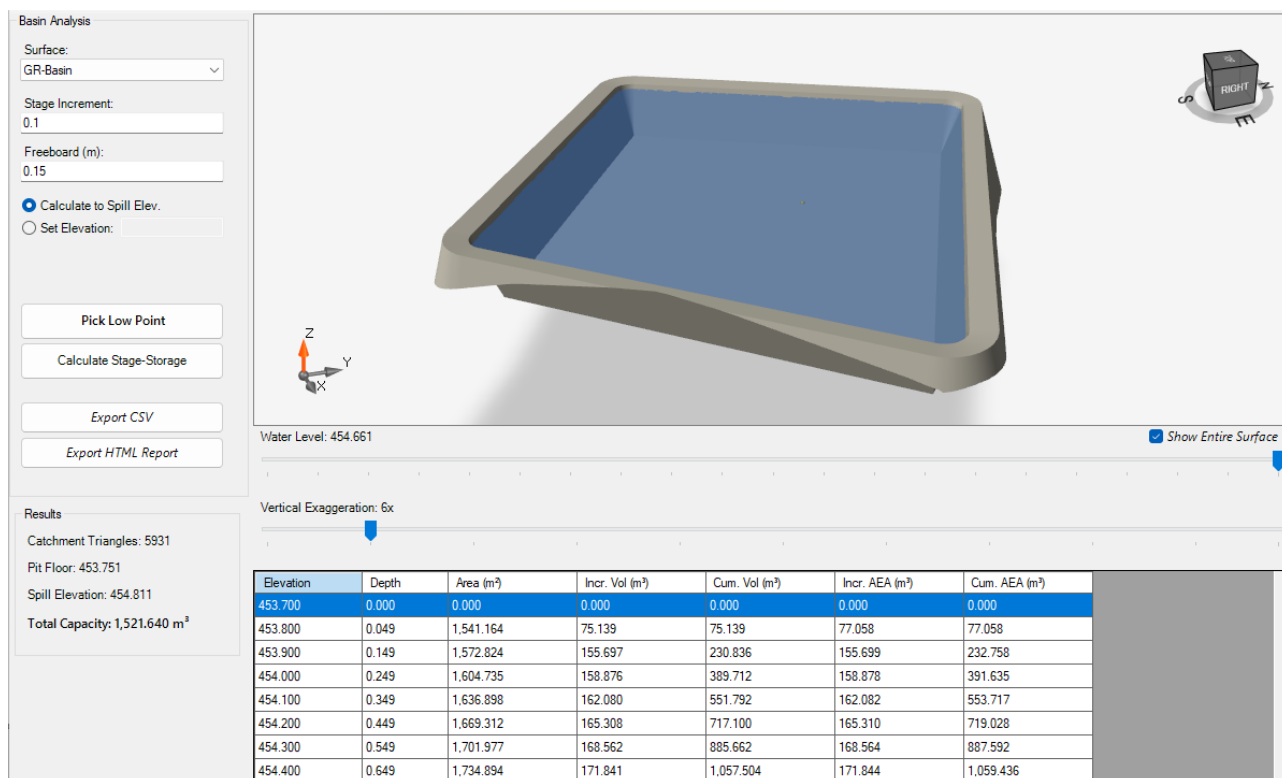


Figure 6: 3D view of basin with stage-storage table

The tool identifies basin extents, calculates spill elevations, generates stage-storage tables, and provides an interactive 3D visualisation environment.

This tool provides a fast and accurate method for assessing detention basins, wetlands, and other storage facilities.

3D Geometry in Model Viewer, VGE and Quick Section

Visualise and Section Native CAD Geometry

Civil Site Design v27 expands support for native CAD 3D entities across several key tools:

- Model Viewer
- Vertical Grading Editor (VGE)
- Quick Section

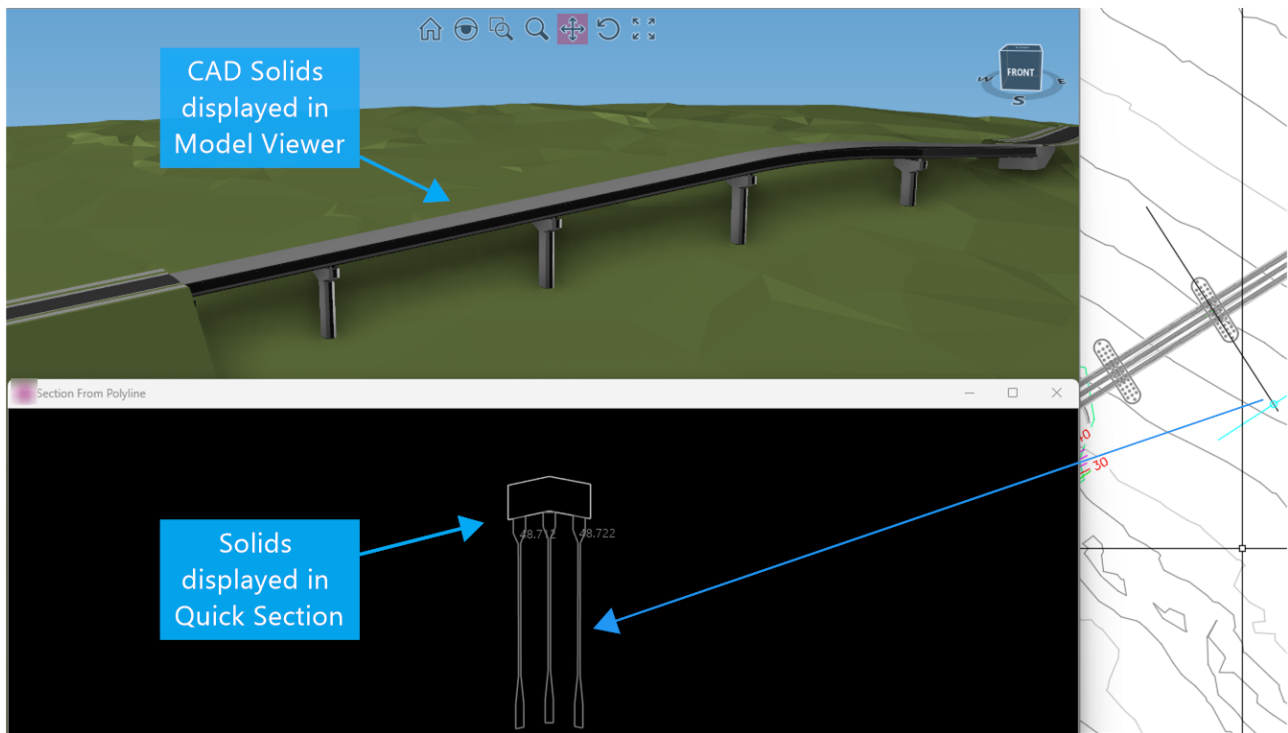


Figure 7: Quick Section and Model Viewer Display Solids from CAD

Users can now visualise and section 3D Solid objects, meshes, 3D faces, and polylines alongside Civil Site Design models and surfaces.

Supported Geometry

- 3D Solid objects
- Meshes
- PolyFace Meshes
- Polygon Meshes
- 3DFace entities
- 2D and 3D Polylines

This enhancement integrates Civil Site Design models with CAD geometry stored in the drawing.

Pipe Networks Added to Toolspace

Centralised Pipe Network Management

Pipe Networks now have a dedicated location within the Civil Site Design Toolspace.

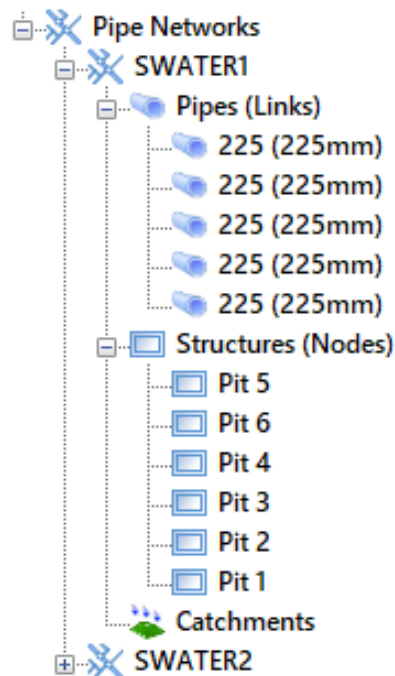


Figure 8: Pipe Networks tree in Toolspace showing hierarchy

The new Pipe Networks tree provides a structured view of all networks, pipes, structures, and catchments within a project.

Toolspace Features

- Network hierarchy view
- Pipe management
- Structure management
- Catchment management
- Long section plotting
- Reporting and table generation
- Network export functions

Users can now manage drainage networks through a modern, organised interface consistent with the rest of the Civil Site Design Toolspace.

Summary

Civil Site Design v27 delivers significant improvements across AI-assisted workflows, drainage design, model editing, project analysis, and 3D visualisation.

Highlights include:

- **Project Assist AI (Tex)** for support and reporting
- **Intelligent Sections AI** for rapid section creation
- **Interactive Model Builder Grip Editing**
- **Stage Storage Analysis** with 3D visualisation
- **3D Geometry support** in Model Viewer, VGE, and Quick Section
- **Pipe Networks Toolspace integration**

Together, these enhancements help designers work faster, gain better project insight, and reduce the time required to create and review designs.