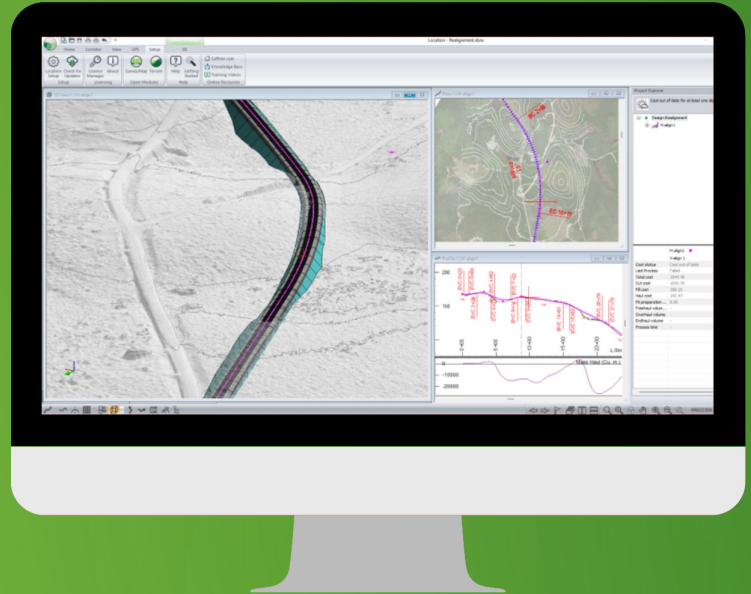# RoadEng® + Softree Optimal

Powering **Efficient, Optimized** Rural Road Design

Streamline your corridor design with intuitive tools and earthwork optimization features.

RoadEng is a comprehensive, user-friendly software designed to meet the needs of civil engineers, surveyors, and planners. Whether you're working on roads, highways, or railways, RoadEng simplifies the process, from initial design to construction-ready plans.

With intuitive 2D and 3D design capabilities, real-time volume calculations, and advanced earthwork optimization tools, RoadEng empowers engineers to create accurate, efficient designs while significantly reducing project costs.

Leverage **LiDAR**

Produce High Quality Designs, **Fast**

Optimize Earthworks

Applicable Projects Include:

- ✓ **Roads and Highways**
- ✓ **Railways**
- ✓ **Forestry and Resource Roads**
- ✓ **Mining Access and Haul Roads**
- ✓ **Renewable Energy Road Networks**
- ✓ **Pathways and Trails**
- ✓ **Land Development and Site Grading**
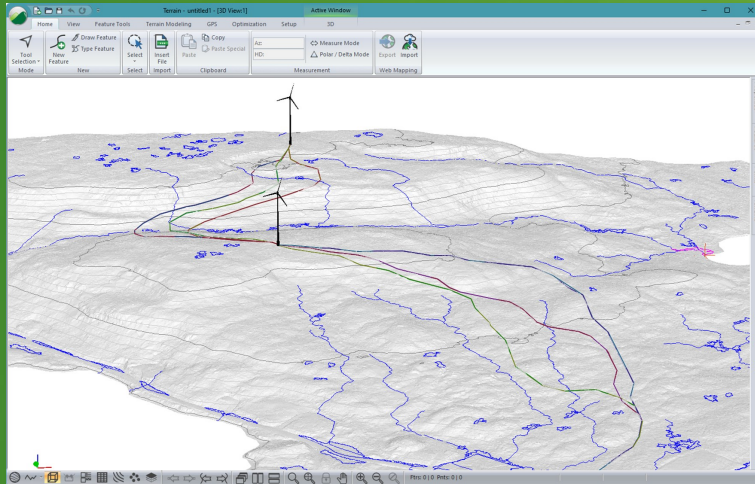- ✓ **Culvert Projects**
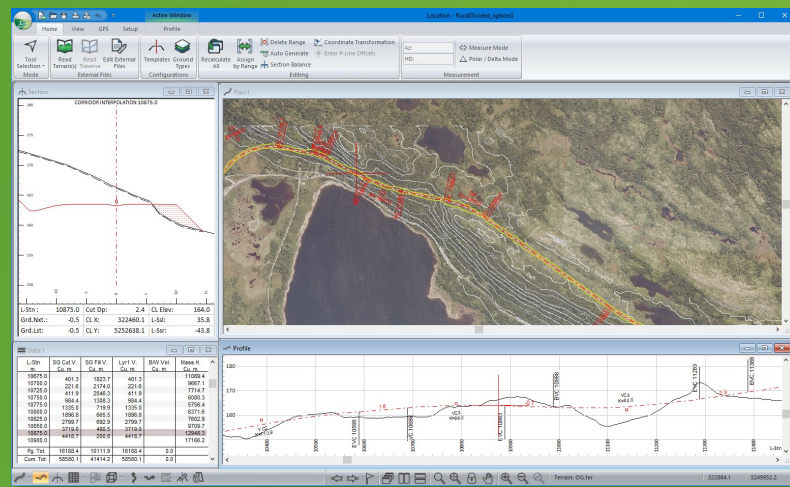- ✓ **Pipeline and Other Corridor Projects**

FOCUS ON ROAD DESIGN

Geometric road design with an intuitive interface. Create surfaces from LiDAR, UAV, and conventional survey data. Easily monitor slopes, right-of-way, grades, volumes, and mass haul in real-time as you design.

OPTIMIZE PRELIM ALIGNMENTS WITH AI

AI-powered Path Explorer quickly generates optimized alignments within the Terrain module, reducing earthwork and surfacing costs while meeting constraints like curvature, grade, side slope, and cut/fill limits. Use construction zones to avoid no-go and high-cost areas.
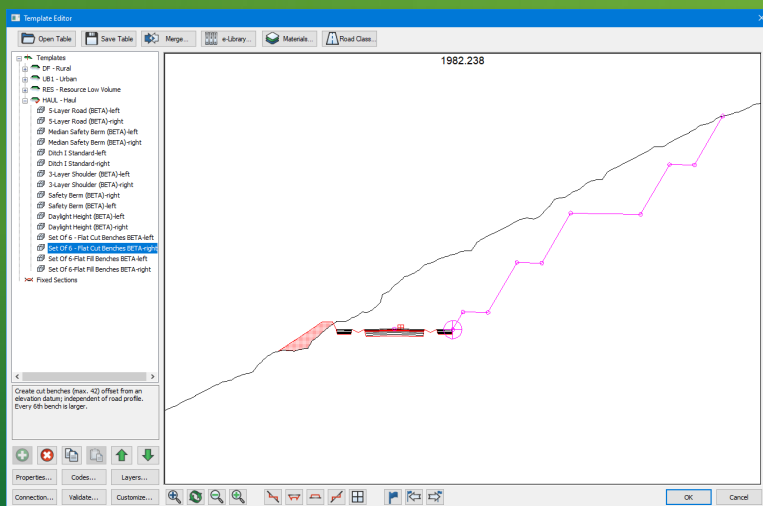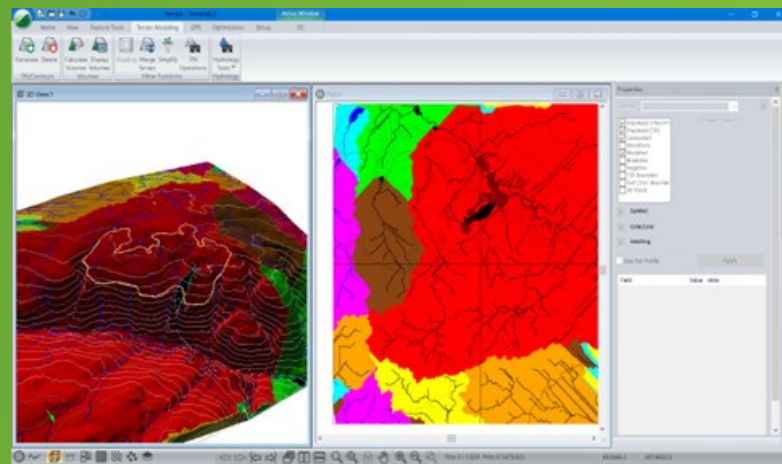
Softree
Optimal
Path Explorer AI

CREATE 3D TERRAIN MODELS

The Terrain module includes a complete set of functions for creating 3D surfaces and digital terrain models (DTM), including control of strategic data thinning, break lines, contours and boundary areas.

Terrain's powerful hydrology tool kit allows you to effortlessly consider important hydrology elements using features that:
- identify streams and ponds,
- delineate catchment areas and drainage areas to features
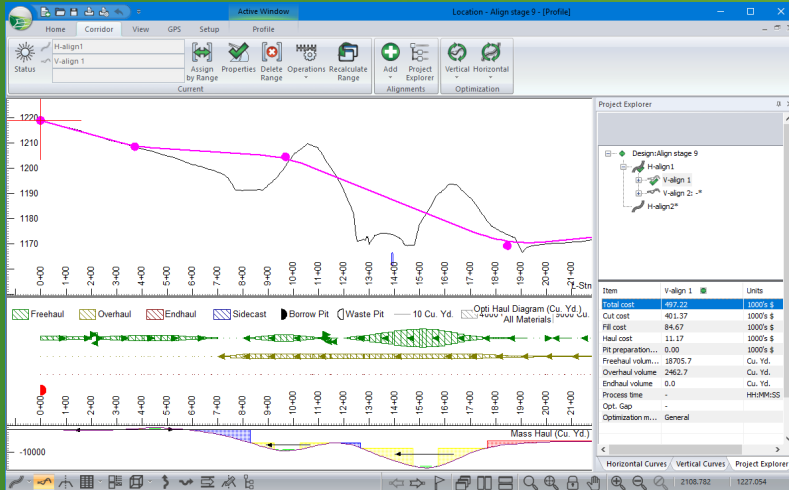- calculate flow paths to/from features.
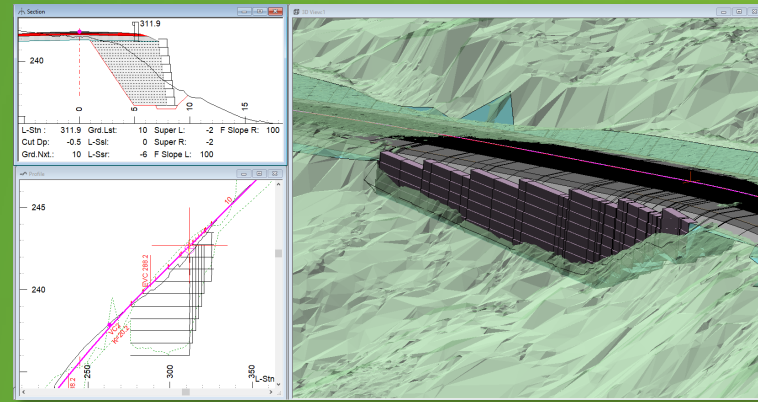

CONTROL YOUR CROSS-SECTION

RoadEng's flexible template editor allows you to assemble typical cross sections using a library of customizable components. Preview how template components work together and their behaviour in typical situations.

Account for ditches, sub-base materials, pavement, varying lane widths, cut slopes, variable height fill slopes, walls, berms, benching and more.

MANAGE COMPLEXITY WITH EASE

RoadEng offers advanced features to design and manage walls, benches, terracing, and more—all within a user-friendly, fast, and interactive interface. Seamlessly account for subsurface conditions and easily control cut/fill slope angles based on material and layer assignments.
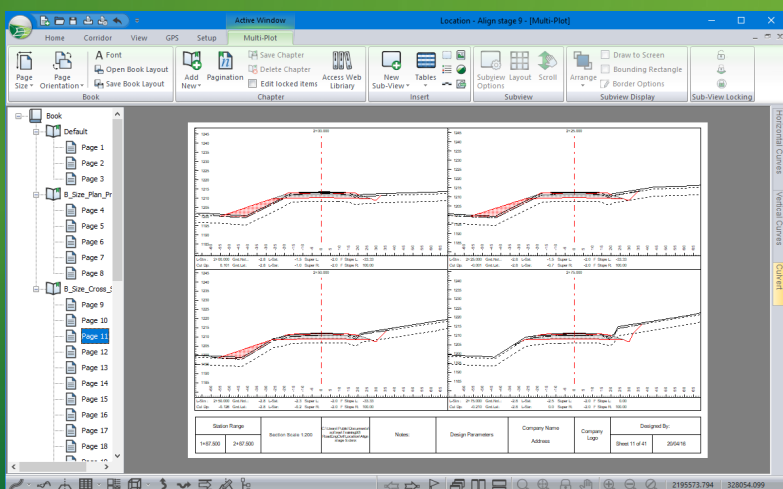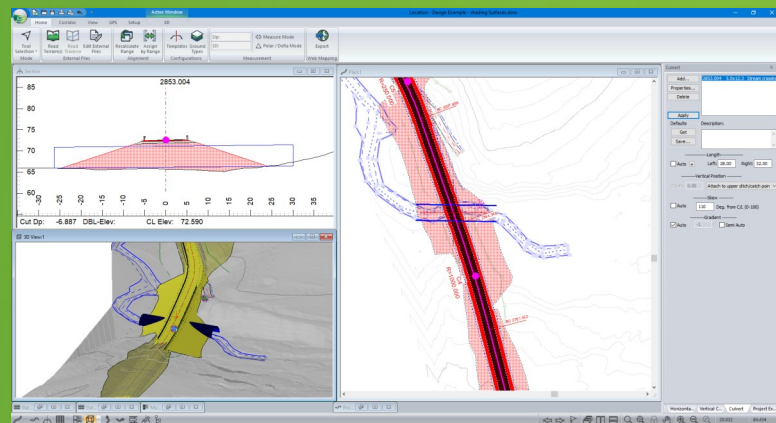

OPTIMIZE YOUR EARTHWORKS

Save time and reduce costs by leveraging profile optimization (via the Softree Optimal add-on), which accounts for assigned design standards and determines the lowest-cost alignment based on earthwork and material movement.

Track material quantities, movement, and costs in real-time with graphical and tabular reports.

DESIGN CULVERTS

The interactive culvert editor panel allows you to modify culvert position, diameter, type, length, skew and gradient. Easily add, edit and remove culverts . Design options available for both natural stream crossings and cross drains.

CUSTOMIZE OUTPUT

Easily share and showcase your design with Multi-Plot Report Builder. Access an e-library of design templates. Print out plan, profile, and cross-section data as one document. Simplify your presentation of deliverables with single document control.

FORESTRY **RENEWABLES** **MINING** **TRANSPORTATION** **AGRICULTURE**

SOFTWARE REQUIREMENTS:

- Windows 10 or 11 OS

- Min. 8 GB RAM recommended

- Min. 800 x 600 resolution (more recommended)

- Processor or motherboard built-in video is adequate

- 1 GB disk space

Reads/Writes:

DWG / DXF

Land XML

XYZ ASCII Points

Shape Files

GeoTiFF

& more

SUPPORT & TRAINING:

Softree provides comprehensive support and training resources, including webinars, videos, and documentation. Annual support subscribers enjoy free email and phone assistance, product upgrades, exclusive features, beta testing access, and more!

WANT TO OPTIMIZE YOUR ROAD DESIGN?
Get in touch with our team for a demonstration or start a free trial today!

Access a Free Trial

Request a Demonstration

"McElhanney discovered "RoadEng" while looking for an easier way to deliver resource based road designs. We tested the software with immediate success, going from watching training modules on the weekend to project delivery without delay in the following weeks.

Since that time, it has quickly become a companywide standard tool for the design of linear based projects including resource roads, construction access, pad design, pipelines, pedestrian trails, etc. We regularly us it to manage large LiDAR base plans, conceptual engineering, earthworks balance, and preparation of final drawings (plan-profile-cross sections-mass haul).

We believe its greatest strengths are how easy it is to learn and fine-tune design alignments. The ability to have the plan, profile, cross section, and mass haul open at the same time provides a great visual aid for designers which leads to more effective designs. The addition of "Optimizer" provides valued engineering for large projects based on a wide range of criteria by automating the process. The Softree team is friendly and provides great support."

~Jason Paquette, AScT,
McElhanney Consulting Services Ltd

"Thanks to your patient explanations, I've managed to create 2 new TINs from wonky overlapping LiDAR tiles, design 8 more pads and a 4.6km section of access road, all without a single call or email to tech support!"

~Kelly Browne
EastWind Project Services

"RoadEng gets back to the basics of what road and civil design is all about, but so fast! It's great! So many designers lose focus of what's important and that is optimizing cut to fills, grades, drainage, volumes. The best point is that I can do it. I have always drawn the line on software, as my time is too valuable in past however now in starting up my own business things change and the speed at which I can knock a design out and present it to a client is impressive. Amazing software thank you!"

~Andrew G
(Civil Engineer from Australia)

Softree
Engineering an Easier Way

Call us Toll Free at **1.866.519.6222** or **1.604.519.6222** | **www.softree.com**
SUITE 215 - 1000 ROOSEVELT CRESCENT | NORTH VANCOUVER B.C. | CANADA, V7P 3R4