

# CIVIL

*Carlson's Civil software provides fast and intuitive civil engineering design capability to visualize projects directly.*

## Carlson offers choice

- AutoCAD® or IntelliCAD®
- Dynamic Design Environment
- 2D, 3D, or Flyover views
- Affordable upgrades

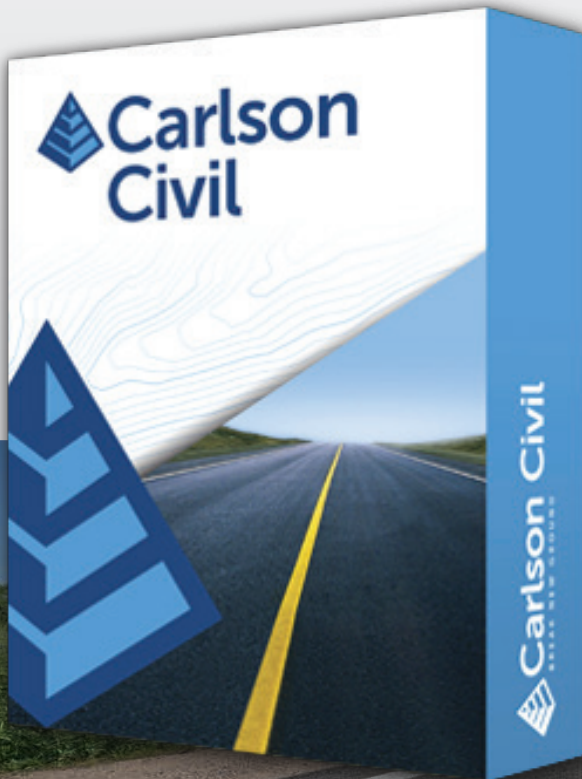
## Get Powerful Automation

What might take days with other civil software takes just hours, or even minutes, with the powerful, intuitive Carlson Civil.

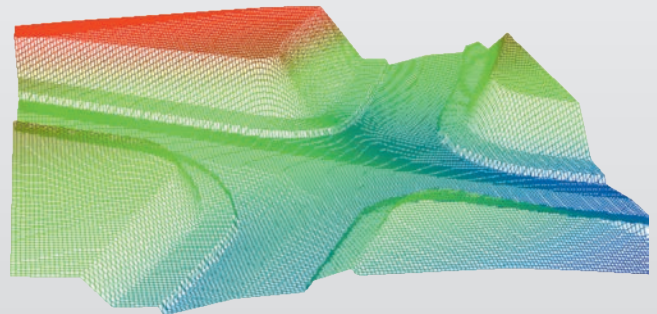
**Road NETWORK.** Build all roads, intersections and cul-de-sacs in 2D and 3D with a single click of the "PROCESS" button.

**Site NETWORK.** Elevate your estimating accuracy with this intuitive layer-based surface generator and earthwork calculator.

**Lot NETWORK.** Quickly define an entire subdivision of lots based on an outer boundary, interior ROWs or Centerlines, and a simple set of user-defined "rules," then pick "PROCESS" and the lots appear, defined and labeled.

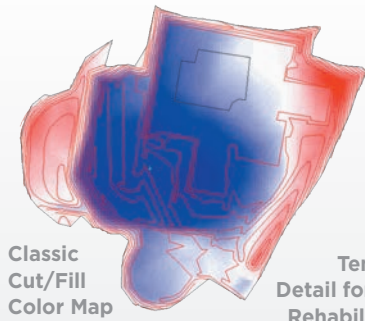


3D Road NETWORK with Vertical Exaggeration

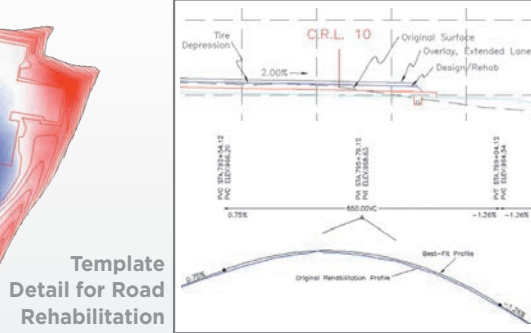


## Top New Features

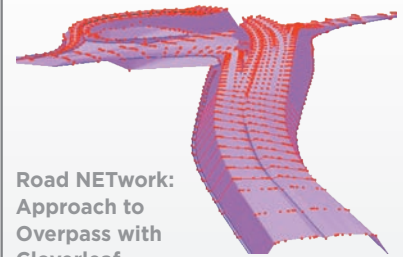
- **New Dual CAD/3D Viewer** — check the design and adjust the drawing at the same time
- **Road NETWORK Enhancements** with support for rounded template transitions and medians that cross the centerline
- **Cleanup for Lot Linework** that automatically finds any overshoots or undershoots and highlights them
- **New Footprint Creator** — a library of different house footprints
- **Road Rehabilitation** command to create profiles for specified overlay with milling or leveling.
- Command for **Vehicle Path Tracking**, which allows you to trace wheel paths for vehicle dimensions along centerline.
- **Edit Contours** and instantly update the underlying 3D model (updates the underlying TIN surface to match the modified contours), a feature that is unique to Carlson.



Classic Cut/Fill Color Map



Template Detail for Road Rehabilitation



Road NETWORK: Approach to Overpass with Cloverleaf, Trapezoidal Ditch

## General

**CAD Platforms:** AutoCAD versions 2007 and up as well as AutoCAD Map, Land Desktop and Civil3D, and IntelliCAD 7.2.

**Project Setup:** Flexible data and settings storage.

**Drafting Enhancements:** Handy tools for working in AutoCAD/IntelliCAD.

**Data Compatibility:** Supports industry standard LandXML plus specific data conversions.

**Languages:** Spanish, Portuguese, Russian, French, German, in addition to English.

## CAD Standards

**Draw Standard Item:** Create common CAD entities with pre-defined properties.

**Settings Explorer:** Manage all program settings from single interface.

**Settings Libraries:** Setup tables for symbols, layers, road templates, etc.

**Data Depot:** Document management for workgroups and archiving.

**Project Sub-Folders:** Custom controls of data folders by type.

## 3D Data

**Elevate 2D to 3D:** For spot elevation, polylines, contours and pads.

**Edit-Assign Polyline Elevations:** Elevates 3D polylines using control points.

**3D Polyline Tools:** Draw, offset, fillet and merge 3D polylines.

## Surfaces

**Build Surfaces:** By triangulation or rectangular grids.

**Contouring:** One step from 3D entities or from surface files.

**Triangulation Utilities:** TIN math and offset, simplify and merge functions.

**Surface Manager:** Change surface properties and data.

**3D Surface Flyover:** 3D viewer with vehicle to drive over surface or follow 3D path.

**Slope Analysis:** Slope reports and zone analysis.

## Grading

**Volumes:** Earthwork volumes between triangulation or grid surfaces.

**Pad Design:** Tie cut/fill slopes from pad perimeters.

**Cut/Fill Color Maps and Labels:** Draw shaded red/blue map with labels.

**SiteNET:** Organize surfaces by layer with subgrade adjustments.

## Centerlines

**Design Centerlines:** Input alignments on screen or in dialog with graphics.

**Label Stations and Offsets:** Annotate along centerline at selected points.

**Calculate Offsets:** Reports stations and offsets for selected points along centerline.

**Offset Points:** Create points at specified stations and offsets.

**Spirals:** Flexible handling of most complex spiral curves.

## Profiles

**Create Profiles:** From surfaces, screen entities, points on centerline, etc.

**Quick Profile:** One step profile creation with real-time updates.

**Input-Edit Profiles:** Enter profile data in dual spreadsheet and graphics.

**Draw Profiles:** Draws profiles on grids or plan-profile sheets.

**Profiles To 3D:** Create points and 3D polylines from profiles.

## Sections

**Create Sections:** From surfaces, screen entities, points, etc.

**Quick Sections:** One step creation of sections

**Draw Sections:** In vertical stack or sheets.

**Input-Edit Sections:** Enter section data in dual spreadsheet and graphics.

**Sections to 3D:** Create points and 3D polylines from sections.

**Mass Haul:** Diagrams and Analysis.

**Section Volumes:** By end areas method.

## Road Design

**Template Design:** Detailed yet simple template design.

**Template Transitions:** Define transitions for templates and superelevation.

**Road Network:** Dynamic road design with intersections and cul-de-sacs.

## Points

**Draw Points:** Draw points with settings for symbols, layers and styles.

**Point Groups:** Point group manager to define sets of point by filters.

**Coordinate File History:** Tracks all changes to points with report and undo functions.

**Fix Point Label Overlaps:** Finds point label overlaps with rules to fix automatically.

**Point Tools:** Utilities for modify point labels such as move with leader, twist and resize.

## Area/Layout

**Label Areas:** Customized area label styles.

**Size Areas:** Sliding side, hinged and radial from curve.

**Lot Manager:** Definitions by point numbers

**Lot Network:** Size lots along alignment.

**Parking, Intersections and Cul-de-Sacs:** Layout for linework.

## Annotation

**Angle & Distance Labels:** Flexible routines to label linework.

**Curve Labels:** Label curve data in stack, along arc or in table.

**Mapping Labels:** Routines to create typical plat labels.

**Linetypes:** Draw special linetypes.