

CARLSON SURVEY 2009

Key Features

General

- **Built on AutoCAD:** Runs in AutoCAD® versions 2000-2009 as well as AutoCAD® Map, Land Desktop and Civil3D and on IntelliCAD 6.4.
- **Project Setup:** Flexible data storage methods
- **Drawing Cleanup:** Fix common drafting errors
- **Drafting Enhancements:** Handy tools for working in AutoCAD® such as Join Nearest, Shrinkwrap Entities, Polyline Utilities, Drawing Inspector, Layer Inspector and Twist Screen
- **Data Compatibility:** Supports industry standard LandXML and scores of specific data conversions

Surfaces

- **Build Surfaces:** By triangulation or rectangular grids
- **Contouring:** One step triangulate and contour from 3D entities as well as contouring from surface files
- **Surface Manager:** Change surface display properties, adjust surface functions to swap edges, add/remove points or breaklines
- **Volumes:** Earthwork volumes between triangulation or grid surfaces
- **Pad Design:** Tie cut/fill slopes from pad perimeter to surface, build pad surface, calculate and balance volumes, and edit pad parameters

Centerlines

- **Design and Edit Centerlines:** Design or input alignments on screen or in dialog with graphics
- **Label Stations and Offsets:** Annotate station and offsets along centerline and at selected points
- **Calculate Offsets:** Reports stations and offsets for selected points along centerline
- **Create Offset Points:** Create points at specified stations and offsets
- **Spirals:** Flexible handling of the most complex spiral curves including “spiral-only” elements going arc-spiral-arc, arc-spiral-line and line-spiral-line

Profiles

- **Create Profiles:** From surfaces, screen entities, points on centerline, etc.
- **Quick Profile:** One step profile creation with real-time update while adjusting centerline
- **Input-Edit Profiles:** Enter profile data in dual spreadsheet and graphic window, and design in reference to controlling profile grade points
- **Draw Profiles:** Draws profiles on grids or plan-profile sheets with auto-updating based on edits
- **Profiles To 3D:** Create points and 3D polylines from profiles

Points

- **Import/Export:** User-defined import and export of point data along with conversions with specific other formats
- **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 rule options to fix automatically
- **Point Tools:** Utilities for modify point labels such as move with leader, twist and resize



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Key Features of Carlson Survey 2009 – Continued

Survey

- **Data Collection Interfaces:** Upload and download to popular data collectors
- **Traverse Adjustment:** Spreadsheet editor for raw data with graphics and processing for traverse adjustments
- **SurvNET:** Advanced network least-squares for total station, GPS and level data
- **Field-to-Finish:** Draw points with styles and in point groups set by point descriptions and draw linework by several flexible methods
- **Field-to-Finish Inspector:** Inspect all field-to-finish elements, see description source and re-draw based on descriptions edits.
- **COGO:** Streamlined inverse, traverse, sideshot, intersections, interpolation, translate, rotate, scale and align
- **Coordinate Transformations:** Transform coordinates and screen entities between lat/lon and grid projections as well as local to local by Helmert and least-squares methods
- **Deeds:** Enter deed by description, read deed data from deed file, deed reports, deed correlation and generate legal description from drawing
- **Cut Sheets:** Create custom cut sheet reports with reference grades and station-offsets

Area/Layout

- **Label Areas:** Customized area label styles and several methods to select areas to label
- **Size Areas:** Sliding side area, hinged area, area radial from curve and bearing area cutoff
- **Lot Manager:** Lot definitions by point numbers with functions to create lots, conduct mapcheck for closure, edit in spreadsheet with graphics, report lots and draw lots
- **Lot Layout:** Size lots along alignment with controls for target area, setback and frontage
- **Offsets, Intersection and Cul-de-Sacs:** Layout for ROW and EOP linework

Annotation

- **Angle & Distance Labels:** Flexible routines to label linework in all possible layout combinations plus available rules to automatically fix label overlaps and revise labels when entities move
- **Curve Labels:** Label curve data in stack, along arc or in table
- **Survey Text:** Routines to create typical plat labels such as offset and building dimensions
- **Label Elevations:** Label spot elevations along an alignment
- **Linetypes:** Draw special linetypes

Companion Programs

- **Carlson SurvCE:** Data collection for Windows CE and Pocket PC
- **Carlson Field:** Take Carlson and AutoCAD to the field for data collection and stakeout with total stations and GPS
- **Carlson Takeoff:** Construction Estimating for earthworks, subgrades, material quantities, strata quantities and trench networks
- **Carlson Point Clouds:** Process laser scan data to generate models, breaklines and points
- **Carlson Natural Regrade:** Design stable land surfaces that follow natural hydrologic and geomorphology principles
- **Carlson Geology:** Models drillholes and strata structures and attributes



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