CARLSON 2024 FEATURE UPDATES

GENERAL

- Added support for AutoCAD 2024
- Added support for IntelliCAD 11.1
- Drawing Setup - Improved projection selection and updated support of predefined projections
- Drawing Setup – improved interactivity of projections when WGS84 Lat/Lon Datum is selected
- Drawing Setup – added support of exporting localization file to .loc and .cg3 formats
- Drawing Setup - added support for EPSG code projections
- New Drawing Wizard - now displays full project path, uses New/Existing coordinate file selection instead of toggles
- Project Setup - Data Type Sub-folders – now allows user defined file extensions for data types
- General Settings – added option to set a maximum width for Mtext entities created by routines
- Edit Points - better support for high resolution screen with additional font sizes
- 3D Viewer – improved speed of display on large data sets
- 3D Viewer – added support for SubMeshD entities
- Drawing Inspector – added ability to Identity Surface
- Drawing Inspector – now displays Point Groups with Point Data
- Import LandXML files – improved ability to detect inconsistencies in import files
- Help Command Search – improved search response and display
- Filter Selection now functions on current selection set in addition to the entire drawing
- import KMZ/KML - added option to select CRDB file format
- Points - Point Selection – changed point selection to Icons for various point selection dialog boxes.
- Densify Polyline – adds points to arc segments
- Reduce Polyline - combines arcs of the same radius and center
- Block Data Report – improved reporting of constant attributes, Carlson points and more display control
- Draw 3D Solids - The command MDL2DWG now allows selection of multiple files
- Cloud based network licensing added as an option (in progress)
- Added a Erase Network from Edit->Erase Menu

SURVEY

- Added Path Selection Automation in ASCII TXT import
- Processing GSAL records for RW5 GPS processing now supports SurvCE/PC versioning
- Edit-Process Raw - Scale Values routine now updates the UN (distance unit) value if explicit destination distance unit is specified by the user
- Edit-Process Raw - Added New/Existing file selection to Edit Process Raw
- Best fit line LSQ - added line printout
- Draw Legend - improved handling text in the entity contents
- SurvNET now handles tilt sensor in GNSS surveys
- Improved the creation of Point Groups by Prefix/Suffix
- Added "Point Notes" toggle to the "Inverse Options" dialog
- Cutsheet - Added "strip trailing zero decimals" option for offsets
- Import Leica DBX – improved ability to import points and measurements along with attributes
- Enter Deed Description – now recalls last entry after Undo
- Interval Along Entity now supports 3D distances
- Improvements adding more flexibility using Offset Points by Interval
- Carlson Cloud - Job Share – now supports CRD, CRDB, CGC, MDB, ZAK
- Carlson Cloud - Added option to play an audio alert upon receiving incoming messages
- **Field to Finish**
    - New setting implemented in F2F that will automatically download missing symbols from the Carlson community.
    - Pipe Feature
        - Added the Manhole Name in the Description Sequence and GIS Attributes
        - Improved Sewer Network Settings
        - Added Manhole name as a record
        - added the ability to set the structure name from the point description
    - DGN Mode: Added ability to open the Line Style Manager and select a line type from the current drawing, an RSC, .lin or dgnlib file
    - Improved performance of drawing points in Field to Finish and Draw-Locate Points
    - Improved interface of Select Attribute dialog box

SURVEY/CIVIL

- Centerlines - Allowed the selection of a Circle for conversion to Centerline (cl)
- Centerlines - Graphic improvements for centerlines with highlighting of tangents, arcs and spirals
- Centerline – Edit Centerline dialog box is now resizable
- Draw Profile - Improved the Tile Layout in Draw Profile
- Added Draw Centerline from within RoadNet, ParkingNet and LotNet.
- Annotate - Improved interface of Angle display is settings
- Area – Improved interface of area defaults
- Draw Profile - Added layer and text scale settings and added more control over invert In/Out labels with identical elevations
- Line and Curve Tables – Added ability to specify unique symbols for line and curves
- Line and Curve Tables - better process of starting new tables
- Draw Grid – added additional options for placement of grid coordinate annotations
- General Settings – Added the ability to manual select annotation scales to support with option for All scales

CIVIL

- **Road Network and ParkingNET** - added the ability to draw existing surface boundary from the project dialog box
- Added a Clear Network Data button for Road and Parking Networks
- Added a Erase Network Entities button for Road and Parking Networks
- Curb Ramps - Improved interface for specifying curb ramp dimensions and slopes with dynamic features, safety mat
- Template Transitions - Improved dialog box display for editing Template Transitions
- Design Template - allows selection of multiple template ID's and displays total distance for subgrade definitions.
- Points by Slope/2 Point option – now has option to dynamically update points in the coordinate file when modifying slope
- Import 12D Files – added control over layer naming during import

HYDROLOGY

- Sewer Network - Added full/max flow, and full/max flow velocity for sanitary network in the sewer report
- Sewer Network – Improvements include highlighting selected pipe in plan view an updated Edit options in dialog box
- Sewer Network – added more control for labeling pipes in plan view including:
  - Structure dimension feature to set the sewer structure symbol size.

- o More label settings for laterals rim elevation at connection and cleanout point.
- o Data Table format for lateral labels at connection/cleanout locations.
- Sewer Network – now exports laterals to points as well as network structures
- Sewer Networks – Interface improvement to Draw Profile specifically for sewer networks
- Sewer Network – Added a "No Label" option for step up and underdrain invert for sewer plan view and profile structure labels.
- Sewer Network - Added the system name in the sewer network reports, custom report, pipe report and HGL report for COA
- Sewer Network - added the color and text style settings for structure/pipe/area labels in plan view
- Sewer Network – improved the operation of updating plan entities for network pipes and laterals when modifications are made to settings.
- Sewer Network - Added "Analyze" next to the Flow Calculation text on the sewer network editor dialog
- Sewer Network - Set sewer network surface file when double clicking the sewer entity and selecting the surface file on the fly and set sewer node ref. CL file name when creating sewer network by CL station/offset method
- Sewer Network - Added Import Rainfall function from an existing rainfall library file by selecting all or some of the rainfalls in Rational Rainfall Library
- Utility Network – added option to extend easement lines at pipe ends
- Utility Network – Added Arch (half circle) pipe type
- Utility Network – added more control over labeling options for pipe labels and connections and added option for Mtext
- HydroNET – Improved report options by adding an option to report all return events in one PDF report and an option to prefix/suffix the default PDF report name
- Watershed – improved Stage -Storage Editor by adding area column for storage-area method and restructuring the dialog box
- Structure – adding ability to remove rainfall events from the default list for Detention Pond Design
- Structure - Changed the default Hydrograph Rational method to Universal method and changed the default Ke value to 0.2 for culvert design
- Structure – Improved interface adding check for missing RCL file and the ability to clear file names
- Define Watershed Layers - Color TIN functions allows selection of layers to process

GIS

- View and Drape Images – improved error reporting
- Point GIS Data – added option to include Google Earth coordinates
- Import Geodatabase (GDB) – upgraded support to GDAL to allow for large GDB file access without conversion
- GIS Data Base – added support of CRDB as a database
- Export Shape File - updated interface and ability to transform through GDAL
- ESRI REST - added ability to download linked files like DEMs and point cloud data.

MINING

- Performance improvement to the Draw 3D Grid File command
- Strata Isopach Map Autorun - Added "Reset Directory Button". Path check and warning when path is manually changed. Added checks for valid files when initially loading .ctr/.ctrx files
- Report Strata Polyline - let user select polylines
- Block Model - new IJK format added and support enabled throughout other routines where older format was used.
- Block Mode Import - enable new block model format w/ aggregate/weighting and parent block import/display
- Block Model - new data editor for IJK format (in progress)
- Adjusted Surface Mine Reserves prioritization for model topography as a constraining surface. Added precision options for tin processing for speed.
- Duplicate Drillhole Report - allows drill holes to be placed at the same location with different names
- Design Bench Pit - new linework based method with support for ramps and seed polylines to modify next bench (in progress)
- Edit Equipment Set - show units of production

POINT CLOUD

- Added Export to MDL for the building outline solid extraction
- Improved performance for:
    - Cloud transformations using grid files
    - Extraction of Profiles
    - Extraction of Tree, Pole and Hydrant features
    - Extraction of Parking lines and Paint Stripes
    - Extraction of planes
    - Extraction of Contours
    - Extraction of Volumes
    - Extraction of Curbs

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- o Creating and Drawing Grids
- o Drawing Points to CAD
- Added display of maximum points
- Added VRAM usage slider control to enable display on lower end graphics cards
- Polylines-Read from CAD allows user to elevate polyline to Cloud/TIN.
- Added report of changes to End and Close Polylines
- Added right-click function to create/elevate to cloud or TIN
- Improve interface of export TIN function
- Improved consistency of interface for various Action commands
- Added right and left clipping planes for use with the cross-section view on the camera page. Added right click menu controls to adjust the station in the create point and create polyline panels
- Improved error messaging for scene failure due to software rendering
- Added "Point Size," "Perspective Point Sizing" and "Point Smoothing" to Scene default options in View Cloud dialog.
- Improved functionality for placing text and layer control
- Added Screen Pick functionality to Layer Manager Import From Drawing Layers
- Added "List" point pick functionality to "Align by Two Pairs of Points" routine
- The Reflector list in the project tree now displays the number of reflectors in the list
- Improved Perimeter selection
- Moved Examine Profile dialog into the Extract Profile sub-dialog.
- Added precision for tree, pole, hydrant and fence extraction
- Added progress bar for rendering large scenes
- Added Surface Model cut out functionality to Building Extraction. Supports CPC obj formats for the surface models
- Added ability to create a point by averaging a selection set
- Removed support for 3DTK engine in Point Cloud (Still possible to convert old 3DTK projects to Tesseract engine).
- The multiple viewers settings now apply to all projects instead of being project specific

TAKEOFF

- Cut/Fill Report – Added ability to include stationing along with cut and fill quantities
- Define Target Layers - improved usability of layer selection

OEM

- Added support for migration wizard in OEM version