Release Notes
MAGNET Software System
Version 6.0
October 29, 2019

MAGNET V6.0 Release Notes - Introduction

Please take time to read these Release Notes. They contain information about the following:
New Features
Improvements
Bug fixes

NOTE:
It is always recommended, before upgrading your field software, users backup their original job; and following any update to your field software, users perform in-the-field checks to ensure data integrity

Table of Contents

MAGNET Field - V6.0

General

The following additions/revisions have been made to MAGNET Field and MAGNET Field Layout V6.0.

Unless noted, the improvements and/or revisions listed below are included in all MAGNET Field Products

New Features/Improvements:

- Added an option in Configure > Global to allow users to change language settings directly in the application.

- Added support for SiteLink V2

- Added support for Users to load Menu Configurations from previous versions. In previous releases of MAGNET Field/Field Layout you could not load the previous version menu configuration to the update. V6.0 will allow you to load a previous version menu.

- For FC5000/FC-6000 switched to Full 64-bit to enhance performance.

Calculate

New Features/Improvements

- Updated Rotate/Translate to allow all points, including GNSS/Optical Measured points to be rotated and translated. The updated function preserves the original job raw data file and creates COGO points in the rotated/translated position.

- Added the ability to Transform a 3D model into the Job coordinate system. 3D models can be Translated by:
    o Matching Line
    o Matching Point
    o Plotting Scale

- Enter Plan:
    o Added the ability to edit the Length or Direction of a line.

- Added the ability to compute the 3D area of a Surface in addition to the 2D area.

- Updated the input of Vertical Curve grade information to support 3-digit precision. This prevents any possible rounding errors in the display of Vertical curve grades

Configure

New Features/Improvements:

Equipment

- mmGPS updates:
  - Improved UI/UX of mmGPS status and setup routines
  - Added a new option for Known Height Offset
  - Added a separate fixed status label to the Topo/Auto-topo and Stakeout routines
  - Allow users to turn Known Point Offset On/Off
  - Added direct Initialization of PZS-1 mmGPS rover sensor

- Updated support for the T-18 Field Controller to support serial connection.

- Added support for height measurement to a Slant Bar for GNSS receivers

- Added support for the HiperVR (JSIMA) and GRX-3 (JSIMA) antennas

- Updated supported Radio modems to allow a 'Factory Reset' to the original default configuration.

- Updated the Radio Configuration UI to replace 'Generic Radio' with 'External Radio'

- Added support for Repeater Mode for the internal FH915+ radio

- Added the ability to enter a default Prism Height to the Survey Configuration wizard.

- Added support for Greek and Danish language.

Coordinate System

New Features/Improvements:

Coordinate Systems:

- Added support for the updated Swedish Geoid

- Added support for the new Iowa State Projections

- Added support for the US Geoid18

Equipment

Optical Enhancements

- Updated support for the GTL-1000 Total Station including:

  o Added the 2D Map Menu on the result screen
  o Added a new target measurement type
  o Improved the Intensity Map with the following:
    - The entire scan area is now displayed on the map
    - The measured point size has been increased on the map to increase visibility of the measured points
    - Three different intensity map (quality) are now supported
    - The BS direction is now shown on the map.

  o Added Shift scan to the scanning options. Shift scan allows the user to add the approximate distance and direction between scans to improve scan registrations.
  o Added a GTL-1000 Scan Simulator

- Added support for the LN-150. Updated the Optical Configuration settings to change the name to LN-Series to now support the LN-100 and LN-150.

- Added support for the GT-500V

- For all configurations added a check and warning if the connected instrument is different than the configuration being used.

Exchange

New Features/Improvements:

New Formats Supported for Import/Export

- IFC (Industry Foundation Classes) support. Perform 3D layout with a BIM interface that enables multiple floor views including filtering by level with the popular IFC file format. IFC (Industry Foundation Classes) file format is a platform-neutral open format BIM that is interoperable across software solutions.

- Added the ability to Import/Export 3D Models (IFC) files between jobs.

- Import of Autodesk DWG 2019 files on all supported platforms including CE/WM

- Import and Export of mmGPS transmitter date to/from 3DMC if the transmitter is not part of the transmitter position set.

- On import of DWG/DXF/PDF files, added the option to automatically merge lines to polylines during import.

- When importing *.dwg's with Surfaces, added the option to include hidden surface triangles during import.

Other Enhancements:

- MaXML V1.4
    - Road Survey Support
    - Full Geoid Definition
    - 3D Model support (IFC)

Edit

New Features/Improvements:

- In Edit > 3D Models, added the option to transform the Model by:
    - Matching Line
    - Matching Point
    - Plotting Scale

These options allow the user to quickly transform the 3D model to the Job coordinate system. In the Edit preview, users can also zoom and rotate the model to view selected elements
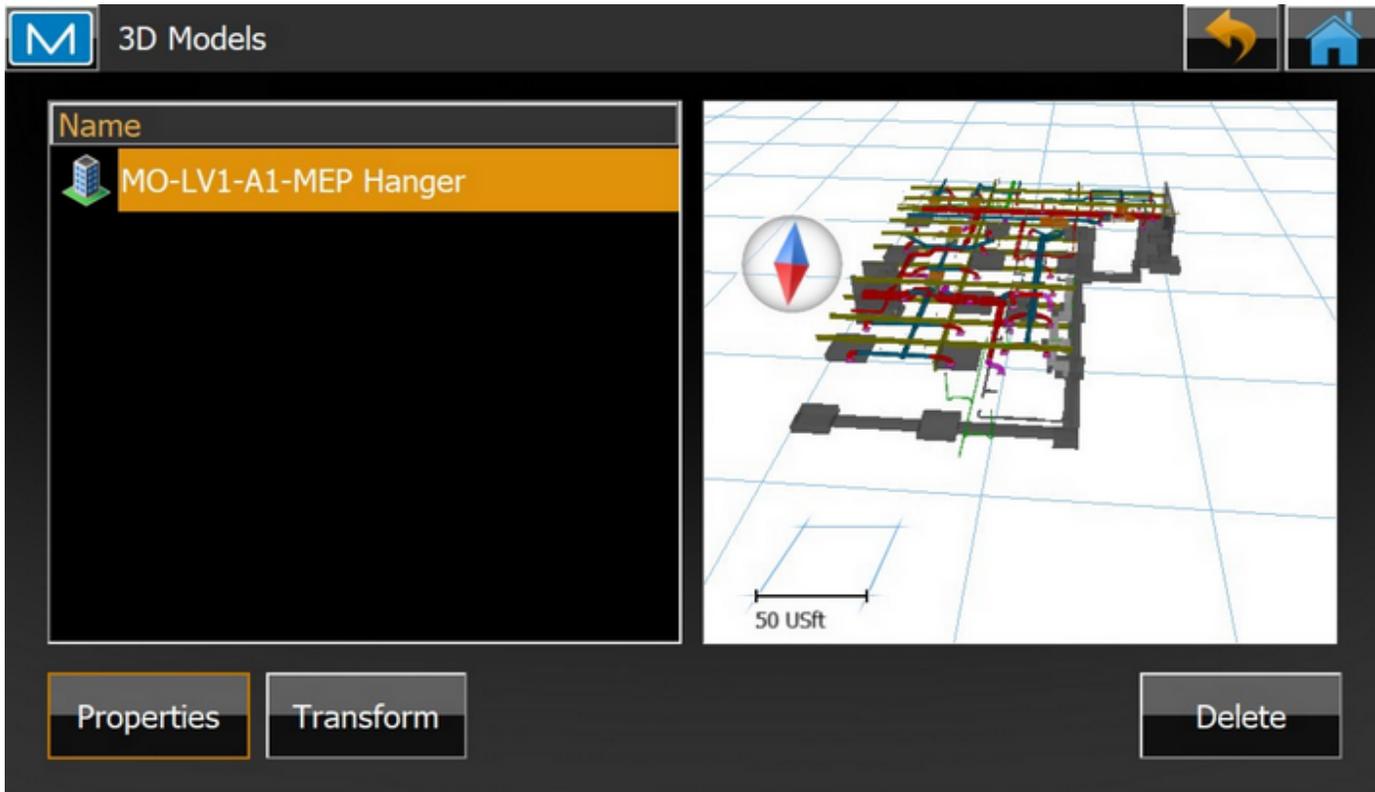
Job

New Features/Improvements:

- Updated 'Copy Job' to support the option to copy the NTRIP credentials with the Job. If the option is set to 'Do not copy' the NTRIP credentials will not copy with the job.

Map

New Features/Improvements:

- 3D Map support
    - Added Full 3d Model support on the Main Map. On the Map, users can now select elements of a 3D model and Click to access options for the selected

element.

- Stake 3D Model

- Show 3D Element Information

- Isolate 3D Elements

- Hide 3D Elements

- Manage 3D Elements

- Added 'Move to Layer' for points created and/or selected on 3D objects.
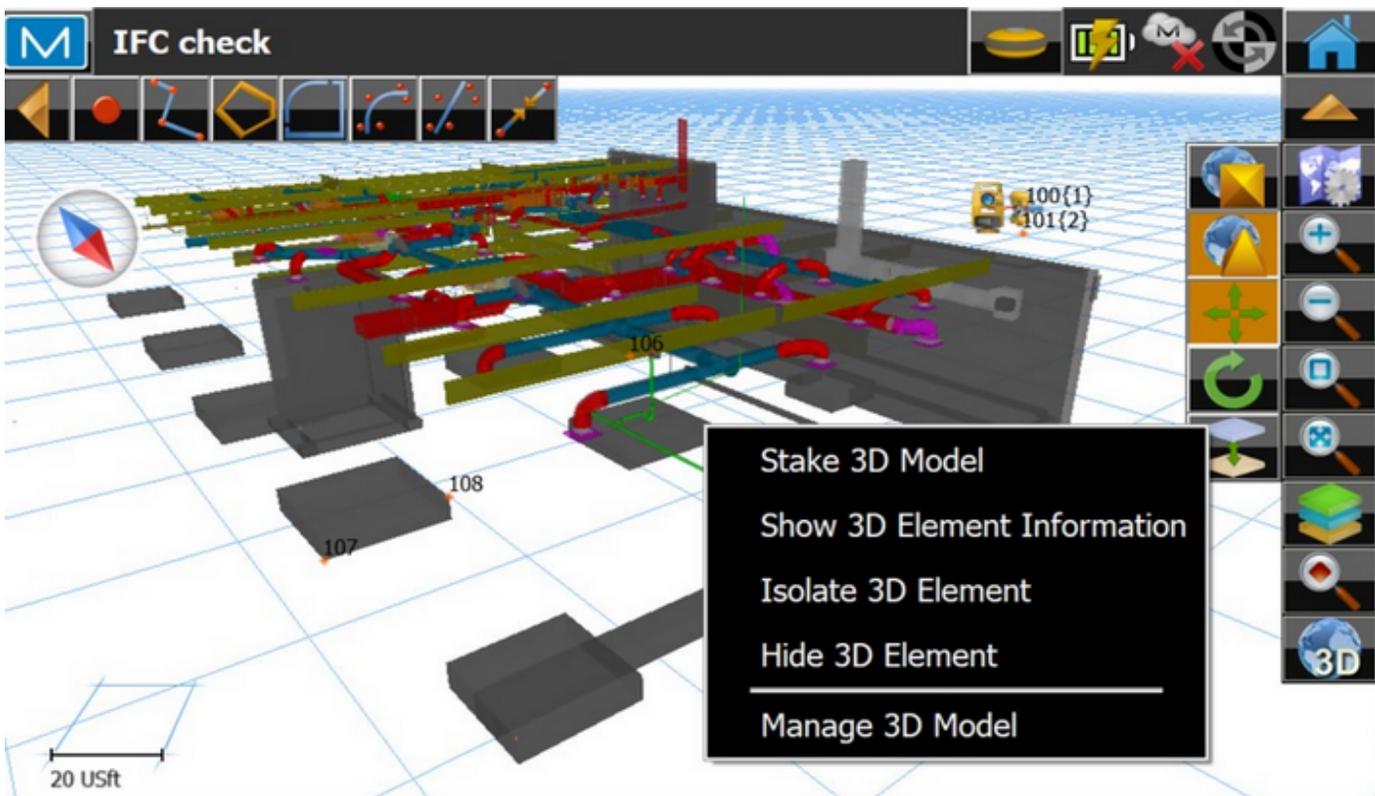
- Manage 3D models will open a feature to show the Model Hierarchy. You can also show and filter on Model elements in the Manage Feature.
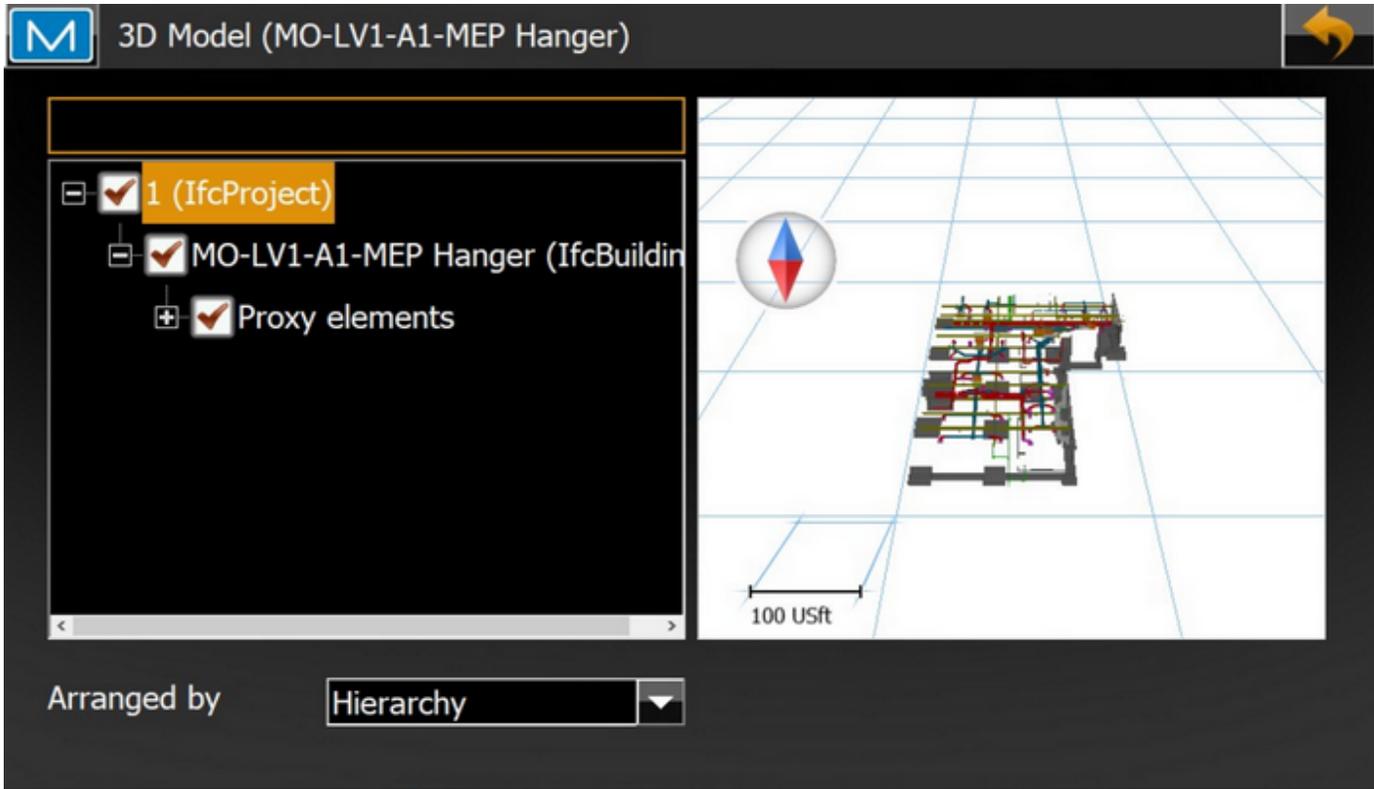
- On the Map, when elements are clustered together, MAGNET Field will now show the number of clustered elements in ( ). As the zoom level is increased, the clustered elements will show on the Map. This improvement allows users to zoom in to see the additional elements, but when zoomed out, maintain readability on the map screen.

- Improved WMS support including new projections and zoom options.

- On the FC 5000, updated the Compass to allow users to move it to the upper right corner of the map screen.

Setup

New Features/Improvements:

- Updated all Setup routines so you can use 2D points for setup.

- Updated Reference Direction Setup(s) so you can now edit the setup line azimuth.

- Updated Resection to allow users to define a custom Scale Factor for the Resection.

- Added the ability in Resection to navigate (stake) to the 3rd resection point. Once the first two points have been measured, the option to stake the third point will become active. This option allows users to quickly turn and navigate to the third Resection point.

- Added support in GNSS configurations so you can now use LongLink as the Remote Control connection for Optical instruments.

- Updated WiFi support for Base and Rover GNSS receivers to allow separate WiFi settings.

Survey

New Features/Improvements:

- Updated Quick Codes with the ability to easily change the String Number for the Quick Code. For Codes that include String Number(s), users can quickly change the string number for a code in the control code page. Click and hold the quick code button to access the control codes and select +1 or -1 depending on the new string number.

- Updated line coding and point numbering for GNSS and Optical measurements (including Hybrid configurations). When switching from GNSS to Optical or visa-versa, MAGNET Field now maintains the current line coding and point numbering.

- Updated Survey > Topo to support extending linework and areas directly on the Topo map. Uses can now extend the linework or area with a new measurement by simply selecting the line or area on the Topo Map. You no longer need to remember the string number or area to extend the measurements, simply click on the element in the map screen and extend with the new measurements.

- Enhanced symbol support to include MAGNET Office pre-defined point symbols such as upsidedown triangles.

- Significant speed improvements to MAGNET Field OnBoard storing of measurements. In previous versions they may have been a delay when storing measurements.

- When using Hidden Point Measurement, added a check for Prism - Base distance to make sure the prism pole has not moved between measurements.

- Updated Topo>Measure>Corner to allow measurements without a Prism.

Stake

New Features/Improvements:

- In Optical Stakeout, updated the instrument reference icons for clarity. The updated icons are a better representation of the instrument to prism reference.

Reports

New Features/Improvements:

- Added an option to store Field and Stake Reports as a PDF in Landscape Mode

Resolved Issues

The Following issues have been resolved in MAGNET Field and MAGNET Field Layout V 6.0.

- Resolved an issue in Resection. The Grid Scale factor was not being applied to the setup. The first known point is now being used to determine the grid scale factor.

- Resolved an issue with the Weighted Average calculation. At times, the weighted average would recalculate when reopening the edit points dialog multiple times.

- Resolved an issue with Stakeout and points with 0 Elevation. MAGNET Field would not

stake out points if they had a 0 Elevation.

- Corrected an issue with the IS-3 Robotic Total Station. When using a WT-100, MAGNET Field would not perform a Grid Scan.

- Addressed an issue with the display of Offsets in Slope Staking. The offset was not being applied to the display.

- Import/Export issues Resolved:

  o Raw Data export in FC-6/GTS-7 format did not include the BS and HV in the raw data.

  o When exporting data in the RW5 format, the file did not include the BS Circle check-Angular Error.

  o Export of Measured data in GTS-7 format was missing the Backsight Point and Distance Offset points and at times would create two entries for one point.

  o When importing Points from a *.dxf file into a layer, editing the Layer properties would only change the Point Color and not the Point Symbol.

  o When importing a *.dwg, at times, arcs would segment and not import as a continuous segment.

  o Updated the KOF raw data export. When the job was configured for Hybrid, the Total Station observations were exported as ellipsoidal heights and not Orthometric Heights.

  o When exporting data to MXL format, the temperature was always exported as 20C and not the user input temperature.

  o When exporting a user defined Cut Sheet in *.txt format, the Elevation was exported as H(Height) and not Z (Elevation).

  o When importing Carlson CL Format, at times you would get an incorrect format message. MAGNET field V6.0 has been updated to support Spirals in *.CL file.

  o When exporting to the StarNet .Dat format, some data records were not exported to the file.

  o When exporting to TDS format, the line codes with strings were not being exported.

  o Resolved an issue when exporting to SHP files. Some records would not export to the file.

- o Updated export to GT Format, the surface code was not exporting to the file.

- o When exporting raw data to *.fbk format, the Prefix F1 was no longer included in the export.

- o When exporting a job to SDR format, the backsight information was not included in the file.

- o If a Job was configured in US or International Feet, when exporting Field Reports, the report would export in Meters.

- o

MAGNET Field Layout -V6.0

General

The following additions/revisions have been made to MAGNET Field Layout V6.0.

New Features/Improvements:

- Added the Imaging and Scanning Module to MAGNET Field Layout to support the GTL-1000

- Removed GNSS support from MAGNET Field Layout.

MAGNET Construction - V6.0

General

Magnet Construction v6 Release Notes:

The following new additions/revisions have been made to Magnet Construction V6.0.

Please take time to read the release notes. They contain information about the following:

- New Features
- Improvements
- Bug Fixes

New Features:

Licenses & Activation

- Check In/Out Licensing has been updated to include new "floating" license functio nality. When exiting a product, the new Check In License dialog will display (optio nal). This dialog contains three new options that are used for modification of the Check In/Out process.

    o Check In License toggle: this option activates automatic check in/out functionality. On application exit the product will be automatically checked in and on applicatio n startup a product can be checked out. The "Keep Logged In" option should be enabled when using the automatic Check In License toggle to eliminate the need for entering Magnet Enterprise credentials.

    o Keep Logged In: this toggle will automatically complete the login to Magnet Enterprise when checked. Check this option after entering Magnet Enterprise login credentials the first time. It is recommended to use this option to speed up the check in/out workflows.

    o Don't Prompt Again: this toggle will suppress the Check In License dialo g when existing the application.

    o Check In/Out Workflows

- To operate as with previous Magnet Office versions, activate the product and retain the license on the device id specified, make sure to toggle off "Check In License" and toggle on "Don't Prompt Again".

- To automatically check in a license on exit, toggle on the Check In License option. On start up a license check out will be required. Note: the previously checked out license will automatically be selected unless it is unavailable for check out. Check out is a manual process using this method.

- To automatically Check In and Check Out a license, toggle on the "Check In License", "Keep logged in" and "Do not prompt" options. This will automatically check in the license on exit and automatically check out the license on start up. License must be available for check out, if not, a message stating the license is not available for check out will be displayed and check in/out UI will display for selection of another available license.

- Note: when checking out a license while using an activated license, the activated license must be checked in before checking out another license.

- To reinstate the Check In prompt on exit, if it has been turned off, navigate to Program Settings, Preferences and tick on the toggle "Prompt License Check In on Close/Exit".

- Check In/Out is not available for network licenses, activation to a USB key, offline activation, or perpetual licenses with an expired service plan.

- The Expiration date displayed for perpetual licenses indicates the expiration date of the service plan. Perpetual licenses never expire, however check in/out functionality requires an active service plan.

- License Check In/out user interface. The Check Out interface has been improved to display all available current licenses. A pool of Magnet Office licenses can now be accessed from the application thus enabling Magnet Enterprise to be utilized as a Cloud based network server. The UI lists the following information for each license:

  o Serial number

  o Product name

  o Expiration Date

  o User

  o Device ID

Product Activation ✕

Online activation

Please enter the serial number found on the Software Purchase Certificate

☑ Show available licenses only

Serial Number	Product	Expiration Date	User	Device ID
5000050020	MAGNET Project	8/20/2019		
5000050259	MAGNET Project	8/22/2019		
5000053774	MAGNET Project	11/13/2019		
5000055641	MAGNET Project	1/8/2020		
5000061047	MAGNET Tools	1/17/2020		
5000061504	MAGNET Project	Expired		
5000071796	MAGNET Project	5/21/2020		
5000071822	MAGNET Project	6/21/2019		
5000072089	MAGNET Construction	5/27/2020		
5000072154	MAGNET Site	5/28/2020		
5000072166	MAGNET Survey	5/28/2020		

Serial number:

5000055641

Device ID:

04BT8-FS96U-7TEU8 (Computer)

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General Functionality

- Added a new modeless Create/Edit Entity interface. Create and Edit Entity are now contained in a common interface, Entity Manager, which can be opened and remain open while performing other tasks. The interface can be docked, utilize autohide option, or moved to an additional monitor. This allows users to keep the interface open and perform common entity insert and edit functions from one common location. It eliminates switching from insert to modify ribbons for common options relating to CAD.

    o Includes additional Arc/Curve data entry options for entities supporting Arcs.

- For individual Arc entry and Arcs for entities containing multiple segments, strings, polygons etc., the Arc insert options are contained in the Right Mouse menu accessed by clicking on the right mouse button.
  - Create and Edit Entity commands located in the Insert and Modify ribbons open the new Entity Manager UI.

- Create Center Points is a new option that quickly creates center points of arcs and circles.
  - Location – Insert Ribbon, Point group, Add Point dropdown.
  - Center points created are not linked to the entity.
  - Arcs contained in strings, polylines and/or polygons required the entity to be exploded before using this command.

- Added "Points on Elevation Interval", a new function located on the Insert ribbon, Points group, Add Point dropdown list. This function creates points on a defined elevation interval between two selected points, selected linework (lines, arcs, strings and polygons) or on a line segment identified by a mouse pick or by selection of the two points that define the segment.
  - Prerequisites for this function are individually selected points must have elevation and selected linework must be defined by points with elevation.
  - The function can be used with a single pre-selected linework entity, (line, arc, string, and polygon) or without a pre-selection.
  - If there is no pre-selection, a prompt to Select Linework or two points is displayed.

From		To Point		☐ Select Segment

  - Define the reference for the interpolation either by picking two points, a line, or a multi-segmented entity.
  - Use the "Select Segment" toggle to create points along a segment of a string or polygon. The segment can be specified by a mouse pick on the segment or by picking on the two points that define the segment.

- Added "Select Similar", a new selection option for the quick selection of similar entities with shared properties.
  - Location – Edit Ribbon and Right Mouse Button menu.
  - Select Similar Settings are provided for specifying shared properties. There are four additional supported selection criteria; Layer, Color, Line Style, and Thickness.
  - By default, no criteria are selected which means if a string is selected and this

command used, all the strings in the job irrespective of the selected string's Layer, Color, Line Style and Thickness will be selected.

- o Note: The selected criteria settings are remembered and used for subsequent Select Similar functions across multiple Magnet Office sessions.

- Dimensions have been improved with new labeling and arrow options. Access Annotation, Dimension Settings for configuration.

  - New option to label dimensions in millimeters when units set to Meters and Inches when units set to US Ft.

  - Arrow options now include double sided, single sided, no arrows and text only.

- Remove Polygons – New option located in the right mouse button menu (RMB) to quickly remove polygons from a selection set.

- Added De-Select by to the right mouse button (RMB) menu.

- DTM Color Fill Settings – added new option to save and load color fill settings.

- DTM Settings is now a modeless interface providing for quicker access for setting the current DTM and controlling visibility of contours and mesh, etc. The UI can remain open, docked, or used on an additional monitor. Autohide is available.

Projections/Geiods

- Added support for the use of RTCM online projections and datums. The following functions have been updated to support RTCM online.

  - o Import MJF

  - o Save to MJO

  - o Open MJO

  - o Export MJF

- Added Denmark projections s34 (s,b,j) supporting negative X coordinate. These projections are listed as S34s_neg, S34b_neg and S34j_neg.

- Added RAF18 French Geiod

Resurface View

- Added support for decreasing stations

- Added new Curved Cross Slope transition

- Changed default settings

    o Profile > Features > Only show centerline

    o Settings > Cross Sections > Display point mark On

    o Settings > Cross Sections > Display cross slope On

    o Settings > Resurface > Profile & Cross Section Views > Smoothed design surface color > Green.

- Display Settings

    o Added new functions of Save as Defaults and Load Defaults in the Display Settings.

    o Added "Reset" button to reset the display settings to program defaults

    o Note: When loading an existing road design, the Display Settings will be lo aded from the existing design and not the default library. To update to the default library, use the Load Defaults option.

Road and Corridor Functionality

- Corridor

    o Added new Grade Sheet Report

    o Added option to include Strata surfaces in Corridor Takeoff volumes. Strata surfaces can now be added to Corridor Cross Section View.

    o Added Report option in Vertical Alignment editor.

- Corridor Cross Section View

    o Added plotting support

    o Added option to plot section on a gridded cross section sheet. In the Cross-Section Plot Settings dialog > Table settings a new section format of Grid has been added.

    o Added label options for section point elevation and/or offset using the new Grid format option in cross section settings.

    o Added optional display of Strata surfaces in Section View.

    o Added option to label subgrade and strata volumes in Section View and Plot. Volumes are reported based on spacing interval only. When dragging section slider for graphic inspection volumes are not displayed in the section graphic view.

    o Added "Max Slope" setting in the Graphic View Settings. This o ption will hide

slope labels greater than the Max Slope setting.

- Road View

    - Display Settings

        - Added new functions of Save as Defaults and Load Defaults in the Display Settings.

        - Added "Reset" button to reset the display settings to previously saved defaults

        - Note: When loading an existing road design, the Display Settings will be loaded from the existing design and not the default library. To update to the default library, use the Load Defaults option.

Improvements

- Program performance improvements – Performance improvements have been made for working with large data sets. Smaller data sets also benefit from these changes as well and represent significant overall program performance enhancements. The following areas have been improved:

    - File size – File sizes have now been reduced compared to previous releases.

    - Job open time

    - Job save time

    - File import speed

    - File export speed

    - Zoom and Pan functions

    - Selection creation

    - Select By and Select All

    - Undo/Redo bulk operations

    - Projects containing many layers

- Layer Manager has been improved to include an "Hide Empty Layer" toggle. This toggle quickly hides any layer that does not contain data.
Note: This option applies to the Layer Manager only. The layer dropdown list in the properties toolbar is not updated when this toggle is activated.

- Undo/Redo performance has been improved.

    o Supports Undo/Redo of file Import.

    o Undo/Redo speed and efficiency has been improved.

- Point Offset located on the Insert Ribbon, Text label has been improved with new options.

    o A new Settings dialog has been added.

    o New Single Headed arrows option.

    o New option to label offset distances in mm or inches depending on project unit settings.

- Import/Export

    o Import/Export UI has been updated to provide a summary tab which shows the total number of available entities to export. The total number of Points, Lines, DTMs, Alignments, and Regions when applicable are listed. Layers are now listed and allowed for selection when importing or exporting on the new Layers Tab.

        ▪ Note: some supported export formats require specific data for export. These formats will not display the new I/E interface.

        ▪ The Linework tab has been removed from the Export Dialog. Linework summary is not listed on the Summary tab.

        ▪ The DTM tab has been updated to graphically preview the dtms selected by hatching the dtm boundary.

    o Autodesk (*.dwg) Support improvements:

        ▪ Import LandXML now provides the option to include or exclude hidden surface triangles when importing LandXML files created in Civil 3D.

        ▪ Import dwg now provides the option to include or exclude hidden surface triangles when importing dwg files containing surfaces.

        ▪ Import displays a summary of data available in the dwg.

        ▪ Import/Export now has a Layers tab providing control for layers to transfer.

        ▪ Export to dwg has been improved to retain smoothing on strings set to smoothed in Magnet Office.

    o Import Text Ascii has improved the predefined formats of E,N,Z and N,E,Z. These formats are used for importing text files containing many points typically created from point clouds in Magnet Collage. When using these formats all checking and

coding functions are not initialized making the import much quicker than other available formats.

- Create Plot Window has been improved to include the option to create all plot sheets in one drawing.

    o Added option to specify the starting sheet number.

- Road View Data Transfer Dialog has been updated to include Select and Clear All butto ns for quickly selecting road strings to transfer.

- Edit Points has been improved for performance when working with large point data sets.

    o Points are now loaded by groups of points, one page at a time. In the past all points were loaded which resulted in time delays when running various functio ns with large data sets. Scrolling the grid will load a new page when required.

    o Added new selection criteria "Current View". This option has two additional optional settings, Auto and Update.

        ▪ The Auto option will update the Edit Point grid when zooming and panning.

        ▪ The Update is best used when the project contains many points. After using the zoom and pan functions to position the screen display pressing Update will update the grid with the points within the display. This is useful when navigating in projects containing mass data. Update is not available when Auto is used.

    o Simplified the Layer filter option.

- Cross Section plotting improvements

    o Improved to automatically calculate and suggest the right/left Figure/Line limits in the cross-section settings.

    o Added option to view Strata surfaces in Corridor Cross Section View.

    o Added links to Text and Justification styles on the Cross Section Table tab in cross section plotting contained in the Road View and Corridor Section plotting.

- Insert Background Images has been revised to improve the quality of the image after import. These improvements also apply to the insert image, import pdf as well as insert pdf functionality.

- Horizontal Curve data input options have been improved to support additional parameters for defining a curve segment.

    o Survey Ribbon > Deed Entry has been updated to include Angle and Tangent parameters. The existing Horz Dist. field can now be used for the Chord Dist.

parameter.

- o Create Entity – Right Mouse Button (RMB) options have been enhanced to include more flexibility and options to define a curve.

- Annotation improvements have been made to the annotation of points and linework.

  - o Point Annotation

    - Position - Previously when point annotation was manually moved, for example to correct overlapping annotation, if the point was edited, for example the elevation was edited, the position of the annotation was reset. Now the modified position is held.

    - Annotation Color – a new option "Set Annotation to Point Color" has been implemented and added to the Point Annotation Settings Tab. This option quickly sets the color of point annotation to the color of the point. The text style definition is not changed.

  - o Linework Annotation –

    - Line Annotation Settings - as with point annotation if the points defining the linework happened to be edited, the annotation setting would resort back to the default settings. For example, if an individual line was set to anno tate the distance value on top of the line, an edit to one of the points defining the line would result in the annotation reverting to the default annotatio n setting for linework. The improvements made now ensure that the annotation holds its defined setting and does not revert to the default settings.

- Drawing Editor

  - o Added Layer Group functionality to the Layer Settings dialog

    - Add Group

    - Select Group

    - Group Settings

    - Added Display/Hide Group to the Drawing Editor, View ribbo n.

- ePlan (Australia)

  - o Updated Multi-part parcel entry to support unclosed parcels.

Modeler/Explorer Functionality

- Modeler/Explorer updated to v6 compatibility

- Explorer
    - Added new option Publish to Magnet Live
    - Added new option, Link to Magnet Live Model

Fixes/Revisions

- Fixed an issue when using Segment Line or Arc selected from the right mouse button menu. The cursor was not displaying when moved along the entity.

- Fixed issue in Create Enclosing Boundary, Tight option when using selected linework for inclusion in the boundary. In some cases, arcs were being skipped.

- Fixed issue with Ellipse not being imported when importing dwg files.

- Corrected issue when transferring a Road design to the Survey view when using a Shift Alignment defined in Super Tables. The CL string was not reflecting the shift defined in the super tables.

- Corrected issue when importing 3D polylines contained in a dwg file. The resulting string points were set to the elevation of the first vertice of the 3D polyline.

- Fixed issue when importing dwg files project units were always changed to metric.

- Fixed issue with contour labels not being exported when exporting to dwg format.

- Fixed issue when exporting to dwg pertaining to color definitions. Colors in Magnet Office may not match the colors available in AutoCAD. In this case these colors will now be defined using the RGB definition. An issue with the color white being defined using RGB has been corrected.

- Corrected issue with Unit Mismatch dialog not displaying during import of dwg files.

- Fixed issue with not all files being created when exporting to Leica Road Runner format.

- Fixed issue when exporting to pdf from the drawing editor. Background images were not being clipped to the title block area and the object order was resulting in some linework being placed behind the image.

- Fixed issue when exporting a project containing multiple background images to a dwg. Not all images were included in the resulting dwg.

- Fixed issue of not being able to create a new project after creating a custom projection in active project.

- Corrected issue with font size and strikeouts when plotting. Strikeouts were not in the same position when plotted as shown in the drawing editor.

- Corrected issue with object information display when using a window selection. The object information was not listed unless the cursor was inside the window area. Information is listed now at any cursor location.

- Road View, fixed issue with Display Point Mark setting in the cross section view not being retained.

- Corrected issue when using French language setting of text files, *.txt not appearing in the Import file selection dialog.

- Fixed issue with import of alignments contained in a Genio file.

- Fixed issue with Parallel Figure not working with alignments containing arcs.

- Fixed issue with Insert-Arc-Angle command; the chord distance was not dynamically updating base on the angle entered.

- Fixed alphabetization issue in Layer Manager. Alphabetical order was not being honored in some cases.

- Fixed crash in Modeler Rules. Attempting to select a material from a user directory or canceling out of a texture selection resulted in crash.

MAGNET Layout V6.0

General

Magnet Layout v6.0 Release Notes:

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- New Features

- Improvements

- Bug Fixes

New Features

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    - Check In License toggle: this option activates automatic check in/out functionality. On application exit the product will be automatically checked in and on applicatio n startup a product can be checked out. The "Keep Logged In" option should be enabled when using the automatic Check In License toggle to eliminate the need for entering Magnet Enterprise credentials.

    - Keep Logged In: this toggle will automatically complete the login to Magnet Enterprise when checked. Check this option after entering Magnet Enterprise login credentials the first time. It is recommended to use this option to speed up the check in/out workflows.

    - Don't Prompt Again: this toggle will suppress the Check In License dialo g when existing the application.

    - Check In/Out Workflows

        - To operate as with previous Magnet Office versions, activate the product and retain the license on the device id specified; make sure to toggle Off "Check in License", and to toggle on "Don't Prompt Again".

- To automatically check in a license on exit, toggle on the Check In License option. On start up a license check out/activation will be required. Note: the previously checked out license will automatically be selected unless it is unavailable for check out. Check out is a manual process using this method.

- To automatically Check In and Check Out a license, toggle on the "Check In License", "Keep logged in" and "Do not prompt" options. This will automatically check in the license on exit and automatically check out the license on start up. License must be available for check out, if not a message stating the license is not available for check out will be displayed and check in/out UI will display for selection of another available license.

- Note: when checking out a license while using an activated license, the activated license must be checked in before checking out another license.

- To reinstate the Check In prompt on exit, if it has been turned off, navigate to Program Settings, Preferences and tick on the toggle "Prompt License Check In on Close/Exit".

- Check In/Out is not available for network licenses, activation to a USB key, offline activation, or perpetual licenses with an expired service plan.

- The Expiration date displayed for perpetual licenses indicated the expiration date of the service plan. Perpetual licenses never expire, however check in/out functionality requires a valid service plan.

- License Check In/out user interface. The Check Out interface has been improved to display all available current licenses. A pool of Magnet Office licenses can now be accessed from the application thus enabling Magnet Enterprise to be utilized as a Cloud based network server. The UI lists the following information for each license:

  o Serial number

  o Product name

  o Expiration Date

  o User

  o Device ID

- Added new function "Create Center Points". This option quickly creates center points of arcs and circles.

  - Center points created are not linked to the entity.

  - Arcs contained in strings, polylines and/or polygons required the entity to be exploded before using this command.

  - Location : Insert Ribbon, Point group

- Added new entity selection options in the Edit ribbon. These options allow selection of data based on entity type filters and supports sub-filter options based on entity properties when applicable.

- o Select by
  - Layers
  - Points
  - Lines
  - Arcs
  - Circles
  - Strings
  - Polylines
  - Polygons
  - Lots
  - Text
- o Select by Region – selects entities based on entity types within a specific region.
  - Select by Points – this option creates an enclosing area based on picked locations and limits the entity selection filter to this area.
  - Select by Window – limits the entity selection filter to a defined window area.
  - Select by Boundary – selects entities within an existing boundary. Boundaries are a specific entity type contained in Magnet Office survey and construction products. Creation of the boundary entity type is not available in Layout.
    - Only boundaries defined in Magnet Office products are supported and must be existing in the project.
  - Entities supported for Select-by Region are the same as the Select-by option.
  - Sub filter selection by entity properties is not available.

- o De-Select by – removes specified entity types for an existing selection set. Supported entities are as follows:
  - Layers
  - Points
  - Lines

- Arcs
- Circles
- Strings
- Polylines
- Polygons
- Lots
- Text
- Sub filter by properties in not available.

- Select by Name – selects entities which support naming. Entities available for selection using the by name option are as follows:
  - Alignment – Existing alignments created in Magnet Office products are available for selection by name. The alignments must be existing. Alignment creation is not available in Magnet Layout.
  - String
  - Polygon
  - Boundary – Must be existing and created in a Magnet Office survey or construction product. Boundary entity type creation is not available in Magnet Layout.
  - Lot - Must be existing and created in a Magnet Office survey or construction product. Lot entity type creation is not available in Magnet Layout.
  - Pad - Must be existing and created in a Magnet Office survey or construction product. Pad entity type creation is not available in Magnet Layout.
  - Results – Multiple options for the result of the Select by option used are available.
    - View – highlights entities selected.
    - List – List entities selected
    - Edit Properties – opens the Edit Group Properties dialog.
- Data Clean-up
  - Added new option to run clean up functions on imported data. This option is helpful in correcting issues contained in imported data.
  - Location: Edit Ribbon, Data Clean-up group.

- Select Similar

  o Added a new selection option for the quick selection of similar entities with shared properties.

  o Select Similar Settings are provided for specifying shared properties. There are four supported selection criteria; Layer, Color, Line Style, and Thickness.

  o By default, no criteria are selected which means if a string is selected and this command ran, all the strings in the job irrespective of the selected string's Layer, Color, Line Style and Thickness will be selected.

  o The selected criteria settings are remembered and used for subsequent Select Similar functions across multiple Magnet Office sessions.

  o Location – Edit Ribbon and Right Mouse Button menu.

- Offset

  o Added new option to offset linework by user defined amount.

Improvements

- Program performance improvements – Performance improvements have been made for working with large data sets. Smaller data sets also benefit from these changes as well and represent significant overall program performance enhancements. The following areas have been improved:

  o File size – File sizes have now been reduced compared to previous releases.

  o Job open time

  o Job save time

  o File import speed

  o File export speed

  o Zoom and Pan functions

  o Selection creation

- Annotation improvements have been made to the annotation of points and linework.

  o Point Annotation

    ▪ Position - Previously when point annotation was manually moved, for example to correct overlapping annotation, if the point was edited, for example the elevation was edited, the position of the annotation was reset.

Now the modified position is held.

- Annotation Color – a new option "Set Annotation to Point Color" has been implemented. This option quickly sets the color of point annotation to the color of the point. The text style definition is not changed.

- o Linework Annotation –

  - Line Annotation Settings - as with point annotation if the points defining the linework happened to be edited, the annotation setting would resort back to the default settings. For example, if an individual line was set to anno tation the distance value on top of the line, an edit to one of the points defining the line would result in the annotation reverting to the default annotatio n setting for linework. The improvements made now ensure that the annotation holds its defined setting and does not revert to the default settings.

- Layer Manager has been improved to include "Hide Empty Layer" toggle. This toggle quickly hides any layer that does not contain data.
  Note: This option applies to the Layer Manager only. The layer dropdown list in the properties toolbar is not updated when this toggle is activated.

- Import/Export

  - o The Import/Export UI has been updated to provide a summary tab which shows the total number of available entities to Import/Export. The total number of Points, Lines, DTMs, Alignments, and Regions when applicable are listed o n the Summary Tab. Specific data such as DTMs, Alignments, Roads, Layers and Regions are listed in individual Tabs and allows for the selection of the data to transfer.

    - File types which display the new I/E UI (mjf, mjfzip, mxl, tp3, xml, and dwg/dxf)

    - Notes: some supported export formats require specific data for export. These formats will not display the new I/E interface.

    - The Linework tab has been removed from the Export Dialog. Linework summary is now listed on the Summary tab.

    - The DTM tab has been updated to graphically preview the dtms selected by hatching the dtm boundary.

  - o Autodesk (*.dwg) Support improvements:

    - Import LandXML now provides the option to include or exclude hidden surface triangles when importing LandXML files created in Civil 3D.

    - Import dwg now provides the option to include or exclude hidden surface

> triangles when importing dwg files containing surfaces.
>
> ▪ Import displays a summary of supported data available in the dwg.
>
> ▪ Import/Export now has a Layers tab providing control for layers to transfer.
>
> ▪ Export to dwg has been improved to retain smoothing on strings set to smoothed in Magnet Office.

Fixes/Revisions

- Fixed an issue when using Segment Line or Arc selected from the right mouse button menu. The cursor was not displaying when moved along the entity.

- Fixed issue with Ellipse not being imported when importing dwg files.

- Corrected issue when importing 3D polylines contained in a dwg file. The resulting string points were set to the elevation of the first vertice of the 3D polyline.

- Fixed issue when importing dwg files project units were always changed to metric.

- Fixed issue when exporting to dwg pertaining to color definitions. Colors in Magnet Office may not match the colors available in AutoCAD. In this case these colors will now be defined using the RGB definition. An issue with the color white being defined using RGB has been corrected.

- Corrected issue with Unit Mismatch dialog not displaying during import of dwg files.

- Corrected issue with object information display when using a window selection. The object information was not listed unless the cursor was inside the window area. Information is listed now at any cursor location.

- Fixed issue with Insert-Arc-Angle command; the chord distance was not dynamically updating base on the angle entered.

- Fixed alphabetization issue in Layer Manager. Alphabetical order was not being honored in some cases.

MAGNET Project - V6.0

General

Magnet Project v6 Release Notes:

The following new additions/revisions have been made to Magnet Project V6.0.

Please take time to read the release notes. They contain information about the following:

- New Features
- Improvements
- Bug Fixes

New Features:

Magnet Project

- "Magnet Project", the Mass haul analysis, scheduling and planning functionality has been completely rewritten in Magnet Office version 6. The user interface is accessed by computing a mass haul analysis using the takeoff functionality of Magnet Office or directly accessed by using the Magnet Project start up icon created during installation of Magnet Office. The UI provides familiar, robust and easy to use scheduling tools to create a location-based, resource-loaded schedule as part of an effective workflow. In includes industry-specific planning capabilities like mass haul optimization, location-based schedule planning and product follow up.
  New features included in the rewrite include:

  o Flexible scheduling where task attributes are optional. No longer are tasks required to have quantities, locations, resources and/or production rates.

  o Tasks now supports several different quantities and quantity types in one task.

  o Tasks now support the addition of metadata columns.

  o Now support WMS, Web Mapping Service, as background maps.

  o Added Export to Microsoft Project XML format

- o User defined text reports.

- o Added View Settings and the ability to save location layouts.

- o Added support for importing "Actual" quantities directly from Magnet Office or Excel.

- o Added options to insert text boxes, images and graphics in views.

- o Added an Autosave function.

- o Now supports multiple monitor configuration.

- o Quantities are imported and stored in full accuracy.

- o Added hierarchy to Bill of Quantities. It's now possible to store multiple revisions of quantities.

- o V6 haul calculations are based on distance unless haul resource costs are defined. In previous versions the haul calculation was based on a haul cost table.

- o New .mjp file format.

- o DynaRoad v5.6.3 and Magnet Project v5.1 can be opened in Magnet Project v6.

  - ▪ Note: If older files are required to be opened, these files should be opened and saved using the latest Magnet Project v5.1 before opening in v6.

- Features in v5.1 that are not available in v6.

  - o Primavera P6 XML export

  - o Import Actual haul data from Sitelink3D Haul Truck system. (to be included in future release)

  - o Manual creation of hauls

  - o Forecast progress based on actuals in Time-Location view

  - o Mass curve view

  - o Resource view

  - o Control view

  - o One-way alignments

  - o Import/Export Tasks as DynaRoad XML (old format)

  - o Send resource graph to iSeekPlant

  - o Import alignment coordinates from VGP files

- o Type-derived dependencies
- o Identified resources (machine license plate)
- o Resource number limitations

Licenses & Activation

- Check In/Out Licensing has been updated to include new "floating" license functio nality. When exiting a product, the new Check In License dialog will display (optio nal). This dialog contains three new options that are used for modification of the Check In/Out process.

  - o Check In License toggle: this option activates automatic check in/out functionality. On application exit the product will be automatically checked in and on applicatio n startup a product can be checked out. The "Keep Logged In" option should be enabled when using the automatic Check In License toggle to eliminate the need for entering Magnet Enterprise credentials.

  - o Keep Logged In: this toggle will automatically complete the login to Magnet Enterprise when checked. Check this option after entering Magnet Enterprise login credentials the first time. It is recommended to use this option to speed up the check in/out workflows.

  - o Don't Prompt Again: this toggle will suppress the Check In License dialo g when existing the application.

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activated license must be checked in before checking out another license.

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- Check In/Out is not available for network licenses, activation to a USB key, offline activation, or perpetual licenses with an expired service plan.

- The Expiration date displayed for perpetual licenses indicated the expiratio n date of the service plan. Perpetual licenses never expire, however check in/out functionality requires a valid service plan.

- License Check Out user interface. The Check Out interface has been improved to display all available current licenses. A pool of Magnet Office licenses can now be accessed from the application thus enabling Magnet Enterprise to be utilized as a Cloud based network server. The UI lists the following information for each license:

  - Serial number

  - Product name

  - Expiration Date

  - User

  - Device ID

General Functionality

- Added a new modeless Create/Edit Entity interface. Create and Edit Entity are now contained in a common interface, Entity Manager, which can be opened and remain open while performing other tasks. The interface can be docked, utilize autohide option, or moved to an additional monitor. This allows users to keep the interface open and perform common entity insert and edit functions from one common location. It eliminates switching from insert to modify ribbons for common options relating to CAD.

  - Includes additional Arc/Curve data entry options for entities supporting Arcs.

▪ For individual Arc entry and Arcs for entities containing multiple segments, strings, polygons etc., the Arc insert options are contained in the Right Mouse menu accessed by clicking on the right mouse button.

o Location: Insert and Modify ribbons.

- Create Center Points is a new option that quickly creates center points of arcs and circles.

    o Center points created are not linked to the entity.

    o Arcs contained in strings, polylines and/or polygons required the entity to be exploded before using this command.

    o Location – Insert Ribbon, Points group, Add Point dropdown.

- Added "Points on Elevation Interval", a new function located on the Insert ribbon, Points group, Add Point dropdown list. This function creates points on a defined elevation interval between two selected points, selected linework (lines, arcs, strings and polygons) or on a line segment identified by a mouse pick or by selection of the two points that define the segment.

    o Prerequisites for this function is individually selected points must have elevatio n and selected linework must be defined by points with elevation.

    o The function can be used with a single pre-selected linework entity, (line, arc, string, and polygon) or without a pre-selection.

    o If there is no pre-selection, a prompt to Select Linework or two points is displayed.

From		To Point		☐ Select Segment

    o Define the reference for the interpolation either by picking two points, a line, or a multi-segmented entity.

    o Use the "Select Segment" toggle to create points along a segment of a string or polygon. The segment can be specified by a mouse pick on the segment or by picking on the two points that define the segment.

- Added "Select Similar", a new selection option for the quick selection of similar entities with shared properties.

    o Location – Edit Ribbon and Right Mouse Button menu.

    o Select Similar Settings are provided for specifying shared properties. There are four additional supported selection criteria; Layer, Color, Line Style, and Thickness.

    o By default, no criteria are selected which means if a string is selected and this command used, all the strings in the job irrespective of the selected string 's Layer,

Color, Line Style and Thickness will be selected.

- o Note: The selected criteria settings are remembered and used for subsequent Select Similar functions across multiple Magnet Office sessions.

- Dimensions have been improved with new labeling and arrow options. Access Annotation, Dimension Settings for configuration.

  - o New option to label dimensions in millimeters when units set to Meters and Inches when units set to US Ft.

  - o Arrow options now include double sided, single sided, no arrows and text only.

- Remove Polygons – New option located in the right mouse button menu (RMB) to quickly remove polygons from a selection set.

- Added De-Select by to the right mouse button (RMB) menu.

- DTM Color Fill Settings – added new option to save and load color fill settings.

- DTM Settings is now a modeless interface providing for quicker access for setting the current DTM and controlling visibility of contours and mesh, etc. The UI can remain open, docked, or used on an additional monitor. Autohide is available.

Projections/Geiods

- Added support for the use of RTCM online projections and datums. The following functions have been updated to support RTCM online.

  - o Import MJF

  - o Save to MJO

  - o Open MJO

  - o Export MJF

- Added Denmark projections s34 (s,b,j) supporting negative X coordinate. These projections are listed as S34s_neg, S34b_neg and S34j_neg.

- Added RAF18 French Geiod

Resurface View

- Added support for decreasing stations

- Added new Curved Cross Slope transition

- Changed default settings

- o Profile > Features > Only show centerline

- o Settings > Cross Sections > Display point mark On

- o Settings > Cross Sections > Display cross slope On

- o Settings > Resurface > Profile & Cross Section Views > Smoothed design surface color > Green.

- Display Settings

  - o Added new functions Save as Defaults and Load Defaults in the Display Settings.

  - o Added "Reset" button to reset the display settings to program default settings. This option resets the display settings to the previously saved default settings.

  - o Note: When loading an existing road design, the Display Settings will be lo aded from the existing design and not the default library. To update to the default library, use the Load Defaults option.

Road and Corridor Functionality

- Corridor

  - o Added new Grade Sheet Report

  - o Added option to include Strata surfaces in Corridor Takeoff volumes. Strata surfaces can now be added to Corridor Cross Section View.

  - o Added Report option in Vertical Alignment editor.

- Corridor Cross Section View

  - o Added plotting support

  - o Added option to plot section on a gridded cross section sheet. In the Cross-Section Plot Settings dialog > Table settings a new section format of Grid has been added.

  - o Added label options for section point elevation and/or offset using the new Grid format option in cross section settings.

  - o Added optional display of Strata surfaces in Section View.

  - o Added option to label subgrade and strata volumes in Section View and Plot. Volumes are reported based on spacing interval only. When dragging section slider for graphic inspection volumes are not displayed in the section graphic view.

  - o Added "Max Slope" setting in the Graphic View Settings. This o ption will hide slope labels greater than the Max Slope setting.

- Road View
  - Display Settings
    - Added new functions Save as Defaults and Load Defaults in the Display Settings.
    - Added "Reset" button to reset the display settings to program default settings. This option resets the display settings to the previously saved default settings.
    - Note: When loading an existing road design, the Display Settings will be loaded from the existing design and not the default library. To update to the default library, use the Load Defaults option.

Modeler/Explorer Functionality

- Modeler/Explorer updated to v6 compatibility
- Explorer
  - Added new option Publish to Magnet Live
  - Added new option, Link to Magnet Live Model

Improvements

- Program performance improvements – Performance improvements have been made for working with large data sets. Smaller data sets also benefit from these changes as well and represent significant overall program performance enhancements. The following areas have been improved:
  - File size – File sizes have now been reduced compared to previous releases.
  - Job open time
  - Job save time
  - File import speed
  - File export speed
  - Zoom and Pan functions
  - Selection creation
  - Select By and Select All

- o Undo/Redo bulk operations

- o Projects containing many layers

- Layer Manager has been improved to include an "Hide Empty Layer" toggle. This toggle quickly hides any layer that does not contain data.
  Note: This option applies to the Layer Manager only. The layer dropdown list in the properties toolbar is not updated when this toggle is activated.

- Undo/Redo performance has been improved.

  - o   Supports Undo/Redo of file Import.

  - o Undo/Redo speed and efficiency has been improved.

- Point Offset located on the Insert Ribbon, Text label has been improved with new options.

  - o A new Settings dialog has been added.

  - o New Single Headed arrows option.

  - o New option to label offset distances in mm or inches depending on project unit settings.

- Import/Export

  - o The Import/Export UI has been updated to provide a summary tab which shows the total number of available entities to Import/Export. The total number of Points, Lines, DTMs, Alignments, and Regions when applicable are listed on the Summary Tab. Specific data such as DTMs, Alignments, Roads, Layers and Regions are listed in individual Tabs and allows for the selection of the data to transfer.

    - ▪ File types which display the new I/E UI (mjf, mjfzip, mxl, tp3, xml, and dwg/dxf)

    - ▪ Note: some supported export formats require specific data for export. These formats will not display the new I/E interface.

    - ▪ The Linework tab has been removed from the Export Dialog. Linework summary is now listed on the Summary tab.

    - ▪ The DTM tab has been updated to graphically preview the dtms selected by hatching the dtm boundary.

  - o Autodesk (*.dwg) Support improvements:

    - ▪ Import LandXML now provides the option to include or exclude hidden surface triangles when importing LandXML files created in Civil 3D.

- Import dwg now provides the option to include or exclude hidden surface triangles when importing dwg files containing surfaces.

- Import displays a summary of supported data available in the dwg.

- Import/Export now has a Layers tab providing control for layers to transfer.

- Export to dwg has been improved to retain smoothing on strings set to smoothed in Magnet Office.

  o Import Text Ascii has improved the predefined formats of E,N,Z and N,E,Z. These formats are used for importing text files containing many points typically created from point clouds in Magnet Collage. When using these formats all checking and coding functions are not initialized making the import much quicker than other available formats.

- Create Plot Window has been improved to include the option to create all plot sheets in one drawing.

  o Added option to specify the starting sheet number.

- Road View Data Transfer Dialog has been updated to include Select and Clear All buttons for quickly selecting road strings to transfer.

- Edit Points has been improved for performance when working with large point data sets.

  o Points are now loaded by groups of points, one page at a time. In the past all points were loaded which resulted in time delays when running various functions with large data sets. Scrolling the grid will load a new page when required.

  o Added new selection criteria "Current View". This option has two optional settings, Auto and Update.

    - The Auto option will update the Edit Point grid when zooming and panning.

    - The Update option is best used when the project contains many points. After using the zoom and pan functions to position the screen display pressing Update will update the grid with the points within the display. This is useful when navigating in projects containing mass data. Update is not available when Auto is used.

  o Simplified the Layer filter option by removing the layer dropdown.

- Cross Section plotting improvements

  o Improved to automatically calculate and suggest the right/left Figure/Line limits in the cross-section settings.

  o Added option to view Strata surfaces in Corridor Cross Section View.

- o Added links to Text and Justification styles on the Cross Section Table tab in cross section plotting contained in the Road View and Corridor Section plotting.

- Insert Background Images has been revised to improve the quality of the image after import. These improvements also apply to the insert image, import pdf as well as insert pdf functionality.

- Horizontal Curve data input options have been improved to support additional parameters for defining a curve segment.

  - o Survey Ribbon > Deed Entry has been updated to include Angle and Tangent parameters. The existing Horz Dist. field can now be used for the Chord Dist. parameter.

  - o Create Entity – Right Mouse Button (RMB) options have been enhanced to include more flexibility and options to define a curve.

- Annotation improvements have been made to the annotation of points and linework.

  - o Point Annotation

    - Position - Previously when point annotation was manually moved, for example to correct overlapping annotation, if the point was edited, for example the elevation was edited, the position of the annotation was reset. Now the modified position is held.

    - Annotation Color – a new option "Set Annotation to Point Color" has been implemented and added to the Point Annotation Settings Tab. This option quickly sets the color of point annotation to the color of the point. The text style definition is not changed.

  - o Linework Annotation –

    - Line Annotation Settings - as with point annotation if the points defining the linework happened to be edited, the annotation setting would resort back to the default settings. For example, if an individual line was set to annotate the distance value on top of the line, an edit to one of the points defining the line would result in the annotation reverting to the default annotation setting for linework. The improvements made now ensure that the annotation holds its defined setting and does not revert to the default settings.

- Drawing Editor

  - o Added Layer Group functionality to the Layer Settings dialog

    - Add Group

    - Select Group

- ▪ Group Settings

- ▪ Added Display/Hide Group to the Drawing Editor, View ribbon.

- ePlan (Australia)

    - o Updated Multi-part parcel entry to support unclosed parcels.

Fixes/Revisions

- Fixed an issue when using Segment Line or Arc selected from the right mouse button menu. The cursor was not displaying when moved along the entity.

- Fixed issue in Create Enclosing Boundary, Tight option when using selected linework for inclusion in the boundary. In some cases, arcs were being skipped.

- Fixed issue with Ellipse not being imported when importing dwg files.

- Corrected issue when transferring a Road design to the Survey view when using a Shift Alignment defined in Super Tables. The CL string was not reflecting the shift defined in the super tables.

- Corrected issue when importing 3D polylines contained in a dwg file. The resulting string points were set to the elevation of the first vertice of the 3D polyline.

- Fixed issue when importing dwg files project units were always changed to metric.

- Fixed issue with contour labels not being exported when exporting to dwg format.

- Fixed issue when exporting to dwg pertaining to color definitions. Colors in Magnet Office may not match the colors available in AutoCAD. In this case these colors will now be defined using the RGB definition. An issue with the color white being defined using RGB has been corrected.

- Corrected issue with Unit Mismatch dialog not displaying during import of dwg files.

- Fixed issue with not all files being created when exporting to Leica Road Runner format.

- Fixed issue when exporting to pdf from the drawing editor. Background images were not being clipped to the title block area and the object order was resulting in some linework being placed behind the image.

- Fixed issue when exporting a project containing multiple background images to a dwg. Not all images were included in the resulting dwg.

- Corrected issue with font size and strikeouts when plotting. Strikeouts were not in the same position when plotted as shown in the drawing editor.

- Corrected issue with object information display when using a window selection. The object information was not listed unless the cursor was inside the window area.

Information is listed now at any cursor location.

- Road View, fixed issue with Display Point Mark setting in the cross section view not being retained.

- Corrected issue when using French language setting of text files, *.txt not appearing in the Import file selection dialog.

- Fixed issue with import of alignments contained in a Genio file.

- Fixed issue with Parallel Figure not working with alignments containing arcs.

- Fixed issue with Insert-Arc-Angle command; the chord distance was not dynamically updating base on the angle entered.

- Fixed alphabetization issue in Layer Manager. Alphabetical order was not being honored in some cases.

- Fixed crash in Modeler Rules. Attempting to select a material from a user directory or canceling out of a texture selection resulted in crash.

MAGNET Site - V6.0

General

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- New Features
- Improvements
- Bug Fixes

New Features:

Licenses & Activation

- Check In/Out Licensing has been updated to include new "floating" license functio nality. When exiting a product, the new Check In License dialog will display (optio nal). This dialog contains three new options that are used for modification of the Check In/Out process.

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  o Keep Logged In: this toggle will automatically complete the login to Magnet Enterprise when checked. Check this option after entering Magnet Enterprise login credentials the first time. It is recommended to use this option to speed up the check in/out workflows.

  o Don't Prompt Again: this toggle will suppress the Check In License dialo g when existing the application.

  o Check In/Out Workflows

- To operate as with previous Magnet Office versions, activate the product and retain the license on the device id specified; make sure to toggle Off "Check in License", and to toggle on "Don't Prompt Again".

- To automatically check in a license on exit, toggle on the Check In License option. On start up a license check out/activation will be required. Note: the previously checked out license will automatically be selected unless it is unavailable for check out. Check out is a manual process using this method.

- To automatically Check In and Check Out a license, toggle on the "Check In License", "Keep logged in" and "Do not prompt" options. This will automatically check in the license on exit and automatically check out the license on start up. License must be available for check out, if not a message stating the license is not available for check out will be displayed and check in/out UI will display for selection of another available license.

- Note: when checking out a license while using an activated license, the activated license must be checked in before checking out another license.

- To reinstate the Check In prompt on exit, if it has been turned off, navigate to Program Settings, Preferences and tick on the toggle "Prompt License Check In on Close/Exit".

- Check In/Out is not available for network licenses, activation to a USB key, offline activation, or perpetual licenses with an expired service plan.

- The Expiration date displayed for perpetual licenses indicated the expiratio n date of the service plan. Perpetual licenses never expire, however check in/out functionality requires a valid service plan.

- License Check In/out user interface. The Check Out interface has been improved to display all available current licenses. A pool of Magnet Office licenses can no w be accessed from the application thus enabling Magnet Enterprise to be utiliz ed as a Cloud based network server. The UI lists the following information for each license:

    o Serial number

    o Product name

    o Expiration Date

    o User

    o Device ID

General Functionality

- Added a new modeless Create/Edit Entity interface. Create and Edit Entity are now contained in a common interface, Entity Manager, which can be opened and remain open while performing other tasks. The interface can be docked, utilize autohide option, or moved to an additional monitor. This allows users to keep the interface open and perform common entity insert and edit functions from one common location. It eliminates switching from insert to modify ribbons for common options relating to CAD.

  o Includes additional Arc/Curve data entry options for entities supporting Arcs.

- For individual Arc entry and Arcs for entities containing multiple segments, strings, polygons etc., the Arc insert options are contained in the Right Mouse menu accessed by clicking on the right mouse button.
  - Location: Insert and Edit Ribbons

- Create Center Points is a new option that quickly creates center points of arcs and circles.
  - Location – Insert Ribbon, Point group, Add Point dropdown.
  - Center points created are not linked to the entity.
  - Arcs contained in strings, polylines and/or polygons required the entity to be exploded before using this command.

- Added "Points on Elevation Interval", a new function located on the Insert ribbon, Points group, Add Point dropdown list. This function creates points on a defined elevation interval between two selected points, selected linework (lines, arcs, strings and polygons) or on a line segment identified by a mouse pick or by selection of the two points that define the segment.
  - Prerequisites for this function is individually selected points must have elevatio n and selected linework must be defined by points with elevation.
  - The function can be used with a single pre-selected linework entity, (line, arc, string, and polygon) or without a pre-selection.
  - If there is no pre-selection, a prompt to Select Linework or two points is displayed.

  - Define the reference for the interpolation either by picking two points, a line, or a multi-segmented entity.
  - Use the "Select Segment" toggle to create points along a segment of a string or polygon. The segment can be specified by a mouse pick on the segment or by picking on the two points that define the segment.

- Added "Select Similar", a new selection option for the quick selection of similar entities with shared properties.
  - Location – Edit Ribbon and Right Mouse Button menu.
  - Select Similar Settings are provided for specifying shared properties. There are four additional supported selection criteria; Layer, Color, Line Style, and Thickness.
  - By default, no criteria are selected which means if a string is selected and this command used, all the strings in the job irrespective of the selected string 's Layer,

Color, Line Style and Thickness will be selected.

- o Note: The selected criteria settings are remembered and used for subsequent Select Similar functions across multiple Magnet Office sessions.

- Dimensions have been improved with new labeling and arrow options. Access Annotation, Dimension Settings for configuration.

  - New option to label dimensions in millimeters when units set to Meters and Inches when units set to US Ft.

  - Arrow options now include double sided, single sided, no arrows and text only.

- Remove Polygons – New option located in the right mouse button menu (RMB) to quickly remove polygons from a selection set.

- Added De-Select by to the right mouse button (RMB) menu.

- DTM Color Fill Settings – added new option to save and load color fill settings.

- DTM Settings is now a modeless interface providing for quicker access for setting the current DTM and controlling visibility of contours and mesh, etc. The UI can remain open, docked, or used on an additional monitor. Autohide is available.

Road and Corridor Functionality

- Corridor

  - o Added new Grade Sheet Report

  - o Added option to include Strata surfaces in Corridor Takeoff volumes. Strata surfaces can now be added to Corridor Cross Section View.

  - o Added Report option in Vertical Alignment editor.

- Corridor Cross Section View

  - o Added plotting support

  - o Added option to plot section on a gridded cross section sheet. In the Cross-Section Plot Settings dialog > Table settings a new section format of Grid has been added.

  - o Added label options for section point elevation and/or offset using the new Grid format option in cross section settings.

  - o Added optional display of Strata surfaces in Section View.

- o Added option to label subgrade and strata volumes in Section View and Plot. Volumes are reported based on spacing interval only. When dragging section slider for graphic inspection volumes are not displayed in the section graphic view.

- o Added "Max Slope" setting in the Graphic View Settings. This option will hide slope labels greater than the Max Slope setting.

- Road View

  - o Display Settings

    - Added new functions of Save as Defaults and Load Defaults in the Display Settings.

    - Added "Reset" button to reset the display settings to the previously saved defaults.

    - Note: When loading an existing road design, the Display Settings will be loaded from the existing design and not the default library. To update to the default library, use the Load Defaults option.

Projections/Geoids

- Added support for the use of RTCM online projections and datums. The following functions have been updated to support RTCM online.

  - o Import MJF

  - o Save to MJO

  - o Open MJO

  - o Export MJF

- Added Denmark projections s34 (s,b,j) supporting negative X coordinate. These projections are listed as S34s_neg, S34b_neg and S34j_neg.

- Added RAF18 French Geiod

Modeler/Explorer Functionality

- Modeler/Explorer updated to v6 compatibility

- Explorer

  - o Added new option Publish to Magnet Live

  - o Added new option, Link to Magnet Live Model

Improvements

- Program performance improvements – Performance improvements have been made for working with large data sets. Smaller data sets also benefit from these changes as well and represent significant overall program performance enhancements. The following areas have been improved:
    - File size – File sizes have now been reduced compared to previous releases.
    - Job open time
    - Job save time
    - File import speed
    - File export speed
    - Zoom and Pan functions
    - Selection creation
    - Select By and Select All
    - Undo/Redo bulk operations
    - Projects containing many layers

- Layer Manager has been improved to include an "Hide Empty Layer" toggle. This toggle quickly hides any layer that does not contain data.
  Note: This option applies to the Layer Manager only. The layer dropdown list in the properties toolbar is not updated when this toggle is activated.

- Undo/Redo performance has been improved.
    - Supports Undo/Redo of file Import.
    - Undo/Redo speed and efficiency has been improved.

- Point Offset located on the Insert Ribbon, Text label has been improved with new options.
    - A new Settings dialog has been added.
    - New Single Headed arrows option.
    - New option to label offset distances in mm or inches depending on project unit settings.

- Import/Export
    - The Import/Export UI has been updated to provide a summary tab which shows the total number of available entities to Import/Export. The total number of Points, Lines, DTMs, Alignments, and Regions when applicable are listed on the Summary Tab. Specific data such as DTMs, Alignments, Roads, Layers and Regions are listed in individual Tabs and allows for the selection of the data to transfer.
        - File types which display the new I/E UI (mjf, mjfzip, mxl, tp3, xml, and dwg/dxf)
        - Notes: some supported export formats require specific data for export. These formats will not display the new I/E interface.
        - The Linework tab has been removed from the Export Dialog. Linework summary is now listed on the Summary tab.
        - The DTM tab has been updated to graphically preview the dtms selected by hatching the dtm boundary.
    - Autodesk (*.dwg) Support improvements:
        - Import LandXML now provides the option to include or exclude hidden surface triangles when importing LandXML files created in Civil 3D.
        - Import dwg now provides the option to include or exclude hidden surface triangles when importing dwg files containing surfaces.
        - Import displays a summary of supported data available in the dwg.
        - Import/Export now has a Layers tab providing control for layers to transfer.
        - Export to dwg has been improved to retain smoothing on strings set to smoothed in Magnet Office.
    - Import Text Ascii has improved the predefined formats of E,N,Z and N,E,Z. These formats are used for importing text files containing many points typically created from point clouds in Magnet Collage. When using these formats all checking and coding functions are not initialized making the import much quicker than other available formats.
- Create Plot Window has been improved to include the option to create all plot sheets in one drawing.
    - Added option to specify the starting sheet number.
- Road View Data Transfer Dialog has been updated to include Select and Clear All buttons for quickly selecting road strings to transfer.

- Edit Points has been improved for performance when working with large point data sets.

  - Points are now loaded by groups of points, one page at a time. In the past all points were loaded which resulted in time delays when running various functio ns with large data sets. Scrolling the grid will load a new page when required.

  - Added new selection criteria "Current View". This option has two additional optional settings, Auto and Update.

    - The Auto option will update the Edit Point grid when zooming and panning.

    - The Update is best used when the project contains many points. After using the zoom and pan functions to position the screen display pressing Update will update the grid with the points within the display. This is useful when navigating in projects containing mass data. Update is not available when Auto is used.

  - Simplified the Layer filter option.

- Cross Section plotting improvements

  - Improved to automatically calculate and suggest the right/left Figure/Line limits in the cross-section settings.

  - Added option to view Strata surfaces in Corridor Cross Section View.

  - Added links to Text and Justification styles on the Cross Section Table tab in cross section plotting contained in the Road View and Corridor Section plotting.

- Background Images has been revised to improve the quality of the image after import. These improvements also apply to the insert image, import pdf as well as insert pdf functionality.

- Horizontal Curve data input options have been improved to support additional parameters for defining a curve segment.

  - Survey Ribbon > Deed Entry has been updated to include Angle and Tangent parameters. The existing Horz Dist. field can now be used for the Chord Dist. parameter.

  - Create Entity – Right Mouse Button (RMB) options have been enhanced to include more flexibility and options to define a curve.

- Annotation improvements have been made to the annotation of points and linework.

  - Point Annotation

    - Position - Previously when point annotation was manually moved, for example to correct overlapping annotation, if the point was edited, for

example the elevation was edited, the position of the annotation was reset. Now the modified position is held.

- Annotation Color – a new option "Set Annotation to Point Color" has been implemented and added to the Point Annotation Settings Tab. This option quickly sets the color of point annotation to the color of the point. The text style definition is not changed.

  o Linework Annotation –

    - Line Annotation Settings - as with point annotation if the points defining the linework happened to be edited, the annotation setting would resort back to the default settings. For example, if an individual line was set to annotate the distance value on top of the line, an edit to one of the points defining the line would result in the annotation reverting to the default annotation setting for linework. The improvements made now ensure that the annotation holds its defined setting and does not revert to the default settings.

- **Drawing Editor**

  o Added Layer Group functionality to the Layer Settings dialog

    - Add Group

    - Select Group

    - Group Settings

    - Added Display/Hide Group to the Drawing Editor, View ribbon.

Fixes/Revisions

- Fixed an issue when using Segment Line or Arc selected from the right mouse button menu. The cursor was not displaying when moved along the entity.

- Fixed issue in Create Enclosing Boundary, Tight option when using selected linework for inclusion in the boundary. In some cases, arcs were being skipped.

- Fixed issue with Ellipse not being imported when importing dwg files.

- Corrected issue when transferring a Road design to the Survey view when using a Shift Alignment defined in Super Tables. The CL string was not reflecting the shift defined in the super tables.

- Corrected issue when importing 3D polylines contained in a dwg file. The resulting string points were set to the elevation of the first vertice of the 3D polyline.

- Fixed issue when importing dwg files project units were always changed to metric.

- Fixed issue with contour labels not being exported when exporting to dwg format.

- Fixed issue when exporting to dwg pertaining to color definitions. Colors in Magnet Office may not match the colors available in AutoCAD. In this case these colors will now be defined using the RGB definition. An issue with the color white being defined using RGB has been corrected.

- Corrected issue with Unit Mismatch dialog not displaying during import of dwg files.

- Fixed issue with not all files being created when exporting to Leica Road Runner format.

- Fixed issue when exporting to pdf from the drawing editor. Background images were not being clipped to the title block area and the object order was resulting in some linework being placed behind the image.

- Fixed issue when exporting a project containing multiple background images to a dwg. Not all images were included in the resulting dwg.

- Fixed issue of not being able to create a new project after creating a custom projection in active project.

- Corrected issue with font size and strikeouts when plotting. Strikeouts were not in the same position when plotted as shown in the drawing editor.

- Corrected issue with object information display when using a window selection. The object information was not listed unless the cursor was inside the window area. Information is listed now at any cursor location.

- Road View, fixed issue with Display Point Mark setting in the cross section view not being retained.

- Corrected issue when using French language setting of text files, *.txt not appearing in the Import file selection dialog.

- Fixed issue with import of alignments contained in a Genio file.

- Fixed issue with Parallel Figure not working with alignments containing arcs.

- Fixed issue with Insert-Arc-Angle command; the chord distance was not dynamically updating base on the angle entered.

- Fixed alphabetization issue in Layer Manager. Alphabetical order was not being honored in some cases.

- Fixed crash in Modeler Rules. Attempting to select a material from a user directory or canceling out of a texture selection resulted in crash.

MAGNET Survey V6.0

General

Magnet Survey v6 Release Notes

The following new additions/revisions have been made to Magnet Survey V6.0.

Please take time to read the release notes. They contain information about the following:

- New Features
- Improvements
- Bug Fixes

New Features:

Licenses & Activation

- Check In/Out Licensing has been updated to include new "floating" license functio nality. When exiting a product, the new Check In License dialog will display (optio nal). This dialog contains three new options that are used for modification of the Check In/Out process.

  o Check In License toggle: this option activates automatic check in/out functionality. On application exit the product will be automatically checked in and on applicatio n startup a product can be checked out. The "Keep Logged In" option should be enabled when using the automatic Check In License toggle to eliminate the need for entering Magnet Enterprise credentials.

  o Keep Logged In: this toggle will automatically complete the login to Magnet Enterprise when checked. Check this option after entering Magnet Enterprise login credentials the first time. It is recommended to use this option to speed up the check in/out workflows.

  o Don't Prompt Again: this toggle will suppress the Check In License dialo g when existing the application.

  o Check In/Out Workflows

- To operate as with previous Magnet Office versions, activate the product and retain the license on the device id specified; make sure to toggle Off "Check in License", and to toggle on "Don't Prompt Again".

- To automatically check in a license on exit, toggle on the Check In License option. On start up a license check out will be required. Note: the previously checked out license will automatically be selected unless it is unavailable for check out. Check out is a manual process using this method.

- To automatically Check In and Check Out a license, toggle on the "Check In License", "Keep logged in" and "Do not prompt" options. This will automatically check in the license on exit and automatically check out the license on start up. License must be available for check out, if not a message stating the license is not available for check out will be displayed and check in/out UI will display for selection of another available license.

- Note: when checking out a license while using an activated license, the activated license must be checked in before checking out another license.

- To reinstate the Check In prompt on exit, if it has been turned off, navigate to Program Settings, Preferences and tick on the toggle "Prompt License Check In on Close/Exit".

- Check In/Out is not available for network licenses, activation to a USB key, offline activation, or perpetual licenses with an expired service plan.

- The Expiration date displayed for perpetual licenses indicated the expiration date of the service plan. Perpetual licenses never expire, however check in/out functionality requires a valid service plan.

- License Check In/out user interface. The Check Out interface has been improved to display all available current licenses. A pool of Magnet Office licenses can now be accessed from the application thus enabling Magnet Enterprise to be utilized as a Cloud based network server. The UI lists the following information for each license:

  o Serial number

  o Product name

  o Expiration Date

  o User

  o Device ID

Product Activation   ✕

Online activation

Please enter the serial number found on the Software Purchase Certificate

☑ Show available licenses only

Serial Number	Product	Expiration Date	User	Device ID
5000050020	MAGNET Project	8/20/2019		
5000050259	MAGNET Project	8/22/2019		
5000053774	MAGNET Project	11/13/2019		
5000055641	MAGNET Project	1/8/2020		
5000061047	MAGNET Tools	1/17/2020		
5000061504	MAGNET Project	Expired		
5000071796	MAGNET Project	5/21/2020		
5000071822	MAGNET Project	6/21/2019		
5000072089	MAGNET Construction	5/27/2020		
5000072154	MAGNET Site	5/28/2020		
5000072166	MAGNET Survey	5/28/2020		

Serial number:

5000055641

Device ID:

04BT8-FS96U-7TEU8 (Computer)

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Projections/Geiods

- Added support for the use of RTCM online projections and datums. The following functions have been updated to support RTCM online.

    o Import MJF

    o Save to MJO

    o Open MJO

    o Export MJF

- Added Denmark projections s34 (s,b,j) supporting negative X coordinate. These projections are listed as S34s_neg, S34b_neg and S34j_neg.

- Added RAF18 French Geiod

General Functionality

- Added a new modeless Create/Edit Entity interface. Create and Edit Entity are now contained in a common interface, Entity Manager, which can be opened and remain open while performing other tasks. The interface can be docked, utilize autohide option, or moved to an additional monitor. This allows users to keep the interface open and perform common entity insert and edit functions from one common location. It eliminates switching from insert to modify ribbons for common options relating to CAD.

  - Includes additional Arc/Curve data entry options for entities supporting Arcs.

    - For individual Arc entry and Arcs for entities containing multiple segments, strings, polygons etc, the Arc insert options are contained in the Right Mouse menu accessed by clicking on the right mouse button.

  - Create and Edit Entity commands located in the Insert and Modify ribbons. Both functions open the new Entity Manager UI.

- Create Center Points is a new option that quickly creates center points of arcs and circles.

  - Location – Insert Ribbon, Point group, Add Point dropdown.

  - Center points created are not linked to the entity.

  - Arcs contained in strings, polylines and/or polygons required the entity to be exploded before using this command.

- Added "Points on Elevation Interval", a new function located on the Insert ribbon, Points group, Add Point dropdown list. This function creates points on a defined elevation interval between two selected points, selected linework (lines, arcs, strings and polygons) or on a line segment identified by a mouse pick or by selection of the two points that define the segment.

  - Prerequisites for this function is individually selected points must have elevation and selected linework must be defined by points with elevation.

  - The function can be used with a single pre-selected linework entity, (line, arc, string, and polygon) or without a pre-selection.

  - If there is no pre-selection, a prompt to Select Linework or two points is displayed.

From		To Point		☐ Select Segment

- o Define the reference for the interpolation either by picking two points, a line, or a multi-segmented entity.

- o Use the "Segment Only" toggle to create points along a segment of a string or polygon. The segment can be specified by a mouse pick on the segment or by picking on the two points that define the segment.

- Added "Select Similar", a new selection option for the quick selection of similar entities with shared properties.

  - o Location – Edit Ribbon and Right Mouse Button menu.

  - o Select Similar Settings are provided for specifying shared properties. There are four additional supported selection criteria; Layer, Color, Line Style, and Thickness.

  - o By default, no criteria are selected which means if a string is selected and this command used, all the strings in the job irrespective of the selected string's Layer, Color, Line Style and Thickness will be selected.

  - o Note: The selected criteria settings are remembered and used for subsequent Select Similar functions across multiple Magnet Office sessions.

- Dimensions have been improved with new labeling and arrow options. Access Annotation, Dimension Settings for configuration.

  - o New option to label dimensions in millimeters when units set to Meters and Inches when units set to US Ft.

  - o Arrow options now include double sided, single sided, no arrows and text only.

- Remove Polygons – New option located in the right mouse button menu (RMB) to quickly remove polygons from a selection set.

- Added De-Select by to the right mouse button (RMB) menu.

- DTM Color Fill Settings – added new option to save and load color fill settings.

- DTM Settings is now a modeless interface providing for quicker access for setting the current DTM and controlling visibility of contours and mesh, etc. The UI can remain open, docked, or used on an additional monitor. Autohide is available.

- Road View

  - o Display Settings

    - ▪ Added new functions Save as Defaults and Load Defaults in the Display Settings.

- Added "Reset" button to reset the display settings to program default settings. This option resets the display settings to the previously saved default settings.

- Note: When loading an existing road design, the Display Settings will be loaded from the existing design and not the default library. To update to the default library, use the Load Defaults option.

Improvements

- Program performance improvements – Performance improvements have been made for working with large data sets. Smaller data sets also benefit from these changes as well and represent significant overall program performance enhancements. The following areas have been improved:

  - File size – File sizes have now been reduced compared to previous releases.

  - Job open time

  - Job save time

  - File import speed

  - File export speed

  - Zoom and Pan functions

  - Selection creation

  - Select By and Select All

  - Undo/Redo bulk operations

  - Projects containing many layers

- Layer Manager has been improved to include an "Hide Empty Layer" toggle. This toggle quickly hides any layer that does not contain data.
  Note: This option applies to the Layer Manager only. The layer dropdown list in the properties toolbar is not updated when this toggle is activated.

- Undo/Redo performance has been improved.

  - Supports Undo/Redo of file Import.

  - Undo/Redo speed and efficiency has been improved.

- Point Offset located on the Insert Ribbon, Text label has been improved with new

options.

- o A new Settings dialog has been added.

- o New Single Headed arrows option.

- o New option to label offset distances in mm or inches depending on project unit settings.

- Import/Export

  - o The Import/Export UI has been updated to provide a summary tab which shows the total number of available entities to Import/Export. The total number of Points, Lines, DTMs, Alignments, and Regions when applicable are listed on the Summary Tab. Specific data such as DTMs, Alignments, Roads, Layers and Regions are listed in individual Tabs and allows for the selection of the data to transfer.

    - File types which display the new I/E UI (mjf, mjfzip, mxl, tp3, xml, and dwg/dxf)

    - Note: some supported export formats require specific data for export. These formats will not display the new I/E interface.

    - The Linework tab has been removed from the Export Dialog. Linework summary is now listed on the Summary tab.

    - The DTM tab has been updated to graphically preview the dtms selected by hatching the dtm boundary.

  - o Autodesk (*.dwg) Support improvements:

    - Import LandXML now provides the option to include or exclude hidden surface triangles when importing LandXML files created in Civil 3D.

    - Import dwg now provides the option to include or exclude hidden surface triangles when importing dwg files containing surfaces.

    - Import displays a summary of supported data available in the dwg.

    - Import/Export now has a Layers tab providing control for layers to transfer.

    - Export to dwg has been improved to retain smoothing on strings set to smoothed in Magnet Office.

  - o Import Text Ascii has improved the predefined formats of E,N,Z and N,E,Z. These formats are used for importing text files containing many points typically created from point clouds in Magnet Collage. When using these formats all checking and coding functions are not initialized making the import much quicker than other available formats.

- Create Plot Window has been improved to include the option to create all plot sheets in one drawing.

    o Added option to specify the starting sheet number.

- Road View > Cross Section Plot Settings

    o Added links to Text and Justification styles on the Cross-Section Table tab in cross section plotting contained in the Road View and Corridor Section plotting.

    o Improved to automatically calculate and suggest the right/left Figure/Line limits in the cross-section settings.

- Road View Data Transfer Dialog has been updated to include Select and Clear All butto ns for quickly selecting road strings to transfer.

- Edit Points improvements:

    o Improved for performance when working with large point data sets. Points are now loaded by groups of points, one page at a time. In the past all points were loaded which resulted in time delays when running various functio ns with large data sets. Scrolling the grid will load a new page when required.

    o Added new selection criteria "Current View". This option has two additional optional settings, Auto and Update.

        ▪ The Auto option will update the Edit Point grid when zooming and panning.

        ▪ The Update is best used when the project contains many points. After using the zoom and pan functions to position the screen display pressing Update will update the grid with the points within the display. This is useful when navigating in projects containing mass data. Update is not available when the Auto setting is used.

    o Simplified the Layer filter option. Removed the Layer combo box which was a listing of selected layers to filter.

- Insert Background Images has been revised to improve the quality of the image after import. These improvements also apply to the insert image, import pdf as well as insert pdf functionality.

- Horizontal Curve data input options have been improved to support additional parameters for defining a curve segment.

    o Survey Ribbon > Deed Entry has been updated to include Angle and Tangent parameters. The existing Horz Dist field can now be used for the Chord Dist parameter.

- o Create Entity – Right Mouse Button (RMB) options have been enhanced to include more flexibility and options to define a curve.

- Annotation improvements have been made to the annotation of points and linework.

  - o Point Annotation

    - ▪ Position - Previously when point annotation was manually moved, for example to correct overlapping annotation, if the point was edited, for example the elevation was edited, the position of the annotation was reset. Now the modified position is held.

    - ▪ Annotation Color – a new option "Set Annotation to Point Color" has been implemented and added to the Point Annotation Settings Tab. This option quickly sets the color of point annotation to the color of the point. The text style definition is not changed.

- o Linework Annotation –

    - ▪ Line Annotation Settings - as with point annotation if the points defining the linework happened to be edited, the annotation setting would resort back to the default settings. For example, if an individual line was set to anno tate the distance value on top of the line, an edit to one of the points defining the line would result in the annotation reverting to the default annotatio n setting for linework. The improvements made now ensure that the annotation holds its defined setting and does not revert to the default settings.

- Drawing Editor

    - o Added Layer Group functionality to the Layer Settings dialog

        - ▪ Add Group

        - ▪ Select Group

        - ▪ Group Settings

        - ▪ Added Display/Hide Group to the Drawing Editor, View ribbo n.

- ePlan (Australia)

    - o Updated Multi-part parcel entry to support unclosed parcels.

Fixes/Revisions

- Fixed an issue when using Segment Line or Arc selected from the right mouse button menu. The cursor was not displaying when moved along the entity.

- Fixed issue in Create Enclosing Boundary, Tight option when using selected linework for inclusion in the boundary. In some cases, arcs were being skipped.

- Fixed issue with Ellipse not being imported when impo rting dwg files.

- Corrected issue when importing 3D polylines contained in a dwg file. The resulting string points were set to the elevation of the first vertice of the 3D polyline.

- Fixed issue when importing dwg files, Magnet office project units were always changed to metric.

- Fixed issue with contour labels not being exported when exporting to dwg format.

- Fixed issue when exporting to dwg regarding color definitions. Colors in Magnet Office may not match the colors available in AutoCAD. In this case these colors will now be defined using the RGB definition. An issue with the color white being defined using RGB

has been corrected.

- Corrected issue with Unit Mismatch dialog not displaying during import of dwg files.

- Fixed issue with not all files being created when exporting to Leica Road Runner format.

- Fixed issue when exporting to pdf from the drawing editor. Background images were not being clipped to the title block area and the object order was resulting in some linework being placed behind the image.

- Fixed issue when exporting a project containing multiple background images to a dwg. Not all images were included in the resulting dwg.

- Corrected issue with font size and strikeouts when plotting. Strikeouts were not in the same position when plotted as shown in the drawing editor.

- Corrected issue with object information display when using a window selection. The object information was not listed unless the cursor was inside the window area. Information is listed now at any cursor location.

- Road View, fixed issue with Display Point Mark setting in the cross section view not being retained.

- Corrected issue when using French language setting of text files, *.txt not appearing in the Import file selection dialog.

- Fixed issue with import of alignments contained in a Genio file.

- Fixed issue with Parallel Figure not working with alignments containing arcs.

MAGNET Tools - V6.0

General

MAGNET Office Tools Release Notes:

New Features and Improvements:

The following new additions/revisions have been made to Magnet Office Tools v6.0.

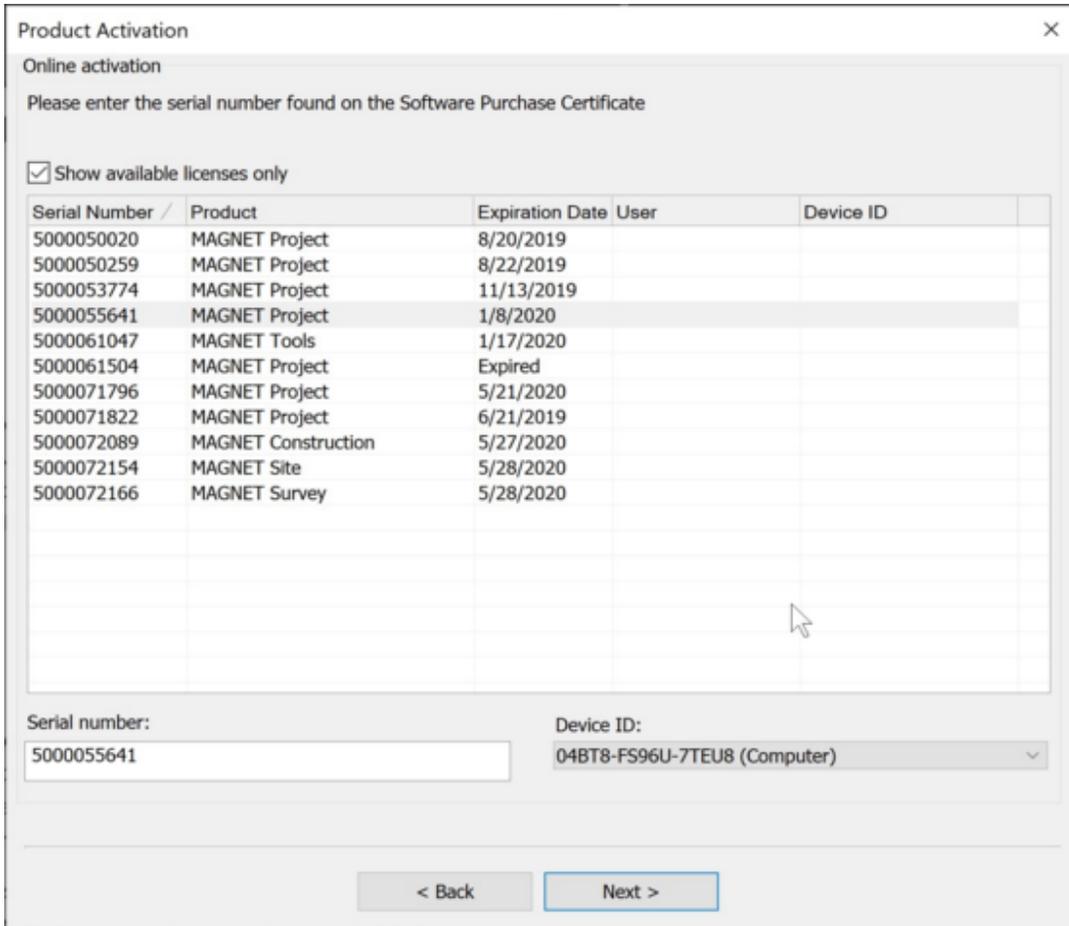Please take time to read the release notes. They contain information about the following:

- New Features
- Improvements
- Bug Fixes

New Features

Licensing:

- Check In/Out Licensing has been updated to include new "floating" license functio nality. When exiting a product, the new Check In License dialog will display (optio nal). This dialog contains three new options that are used for modification of the Check In/Out process.

    - Check In License toggle: this option activates automatic check in/out functionality. On application exit the product will be automatically checked in and on applicatio n startup a product can be checked out. The "Keep Logged In" option should be enabled when using the automatic Check In License toggle to eliminate the need for entering Magnet Enterprise credentials.

    - Keep Logged In: this toggle will automatically complete the login to Magnet Enterprise when checked. Check this option after entering Magnet Enterprise login credentials the first time. It is recommended to use this option to speed up the check in/out workflows.

    - Don't Prompt Again: this toggle will suppress the Check In License dialo g when existing the application.

- o Check In/Out Workflows

    - To operate as with previous Magnet Office versions, activate the product and retain the license on the device id specified, toggle "Don't Prompt Again" on.

    - To automatically check in a license on exit, toggle on the Check In License option. On start up a license check out will be required. Note: the previously checked out license will automatically be selected unless it is unavailable for check out. Check out is a manual process using this method.

    - To automatically Check In and Check Out a license, toggle on the "Check In License", "Keep logged in" and "Do not prompt" options. This will automatically check in the license on exit and automatically check out the license on start up. License must be available for check out, if not a message stating the license is not available for check out will be displayed and check in/out UI will display for selection of another available license.

    - Note: when checking out a license while using an activated license, the activated license must be checked in before checking out another license.

    - To reinstate the Check In prompt on exit, if it has been turned off, navigate to the View Ribbon, select Options icon, select Show or Hide dialogs and tick on the toggle "Show Check in License Dialog on Exit".

    - Check In/Out is not available for network licenses, activation to a USB key, offline activation, or perpetual licenses with an expired service plan.

    - The Expiration date displayed for perpetual licenses indicated the expiration date of the service plan. Perpetual licenses never expire, however check in/out functionality requires a valid service plan.

- License Check In/out user interface. The Check Out interface has been improved to display all available current licenses. A pool of Magnet Office licenses can now be accessed from the application thus enabling Magnet Enterprise to be utilized as a Cloud based network server. The UI lists the following information for each license:

    - o Serial number

    - o Product name

    - o Expiration Date

    - o User

    - o Device ID

- Added new Field report to report configurations

Projections/Geoids

- Added Denmark projections s34 (s,b,j) supporting negative X coordinate. These projections are listed as S34s_neg, S34b_neg and S34j_neg.

- Added RAF18 French Geoid

- Added support for Geoid 18

Data Processing

- Added new "Meteo" model for postprocessing

  - Located in Process Properties > GPS+PostProcess...

- Added "Processing Complete" message when Post Processing

- Added support in GPS+Post Processing allowing the choice of which constellations to use.

General

- Zoom Selection updated to work with 3D View.

- Added option to add screenshot to archive with support info. This is often helpful information for diagnosing support issues.

Improvements

- General

  - Reorganized the Loop Closures Group located in the Process ribbon, Adjustment group.

    - Loop Closure group has been renamed to "Data Check"

    - Loop Closure command has been renamed to GPS Loop Closure

    - TS-Traverse Unadjusted Closure option has been moved from the Adjustment group to the Data Check group.

  - Included NULL antenna models in the antenna database

  - Export circle as polylines to 3DMC formats

- Import/Export

  - Import/Export has been updated to list the data included in the specified file and expanded to allow for selection of the data to import.

  - Binex files (*.log, *.bnx) added to the GPS+Raw Data Import options.

  - Added Import/Export of HeXML 1.7 (xml) files.

  - Upload to and Download from Magnet Enterprise as mjf and tp3 file has been updated to support selection of project data to transfer.

  - The Import/Export format tree has been updated to add "GPS/TS/DL" Combined group. Files located in this group can contain different data types such as TS, DL, RTK, points etc. The following formats are now located in this grouping and have been moved from their previous location:

    - Carlson RW5 (*rw5)

    - GSI (*.gsi)

- Sokkia SDR (*.sdr)

- TDS (*.raw)

- Trimble JXL (*.jxl)

- XD (*.xd)

  o Export 3DMC formats has been updated to export circles as polylines.

  o Added option to transfer surfaces to AutoCAD as a polyface mesh or TIN surface.

- Reports

  o Reporting for GPS data has been updated to include Time and Solution options.

  o Added new report "Field Report Summary" to the report templates.

- Create AutoCAD Drawing has been improved to include the option to transfer surfaces as a polyface mesh or a TIN surface.

Fixes/Revisions

- Corrected issue with a coordinate shift when a Magnet Field job was imported into a Magnet Tools project that had been configured to match the Magnet Field job settings prior to import. This problem, incorrect default datum, did not exist if choosing to use the Magnet Field job settings during import.

- Export to "standard Magnet Geoid (gff)

  o Corrected issue when converting a "standard" Magnet Geoid (gff) file to a Legacy method Geoid for use with 3DMC. The conversion was causing a program crash or producing an unreadable Geoid file.

  o Corrected vertical error issue with export of US 1012b geoid in gff format.

    - Note it is not recommended to use Topcon Link for creating USA or Canadian geoids in gff format. The obsolete Topcon Link does not provide references to the latest updates of NAD83 datum.

- Corrected issue with importing GSI16 files.

- Fixed elevation issue when importing/exporting custom and some predefined text formats.

- Corrected "activation lost" and "not implemented" error displaying after activation lost issues. These issues were due to an expired validation for a license which has been corrected.

Topcon Exchange for AutoCAD

- Added AutoCAD 2020 support.

- Export to MJF and TP3 formats has been improved to allow for the selection of data to be transferred.

- Added command to send Support Info. To execute the command type "Topcon_Collect_Support_Info" in the AutoCAD command line.

- Added "Check for Updates" in the "Help" ribbon group.

MAGNET 3D Exchange - V6.0

General

Magnet 3D Exchange v6 Release Notes:

The following new additions/revisions have been made to Magnet 3D Exchange V6.0.

Please take time to read the release notes. They contain information about the following:

- New Features
- Improvements
- Bug Fixes

New Features:

- Create Center Points is a new option that quickly creates center points of arcs and circles.

    o Location – Insert Ribbon, Point group, Add Point dropdown.

    o Note: Center points created are not linked to the entity.

    o Arcs contained in strings, polylines and/or polygons required the entity to be exploded before using this command.

- Added "Select Similar", a new selection option for the quick selection of similar entities with shared properties.

    o Location – Edit Ribbon and Right Mouse Button menu.

    o Select Similar Settings are provided for specifying shared properties. There are four additional supported selection criteria; Layer, Color, Line Style, and Thickness.

    o By default, no criteria are selected which means if a string is selected and this command used, all the strings in the job irrespective of the selected string's Layer, Color, Line Style and Thickness will be selected.

    o Note: The selected criteria settings are remembered and used for subsequent Select Similar functions across multiple Magnet Office sessions.

- Remove Polygons – New option located in the right mouse button menu (RMB) to quickly remove polygons from a selection set.

- Added De-Select by to the right mouse button (RMB) menu.

- Added support for the use of RTCM online projections and datums. The following functions have been updated to support RTCM online.

  - Import MJF

  - Save to MJO

  - Open MJO

  - Export MJF

- Road View

  - Added new functions of Save as Defaults and Load Defaults in the Display Settings.

    - Added "Reset" button to reset the display settings to defaults.

      - Use this option after changing the display settings when required to reset the settings back to saved defaults.

    - Note: When loading an existing road design, the Display Settings will be loaded from the existing design and not the default library. To update to the default library, use the Load Defaults option.

- DTM Color Fill Settings – added new option to save and load color fill settings.

- DTM Settings is now a modeless interface providing for quicker access for setting the current DTM and controlling visibility of contours and mesh, etc. The UI can remain open, docked, or used on an additional monitor. Autohide is available.

Improvements

- Program performance improvements – Performance improvements have been made for working with large data sets. Smaller data sets also benefit from these changes as well and represent significant overall program performance enhancements. The following areas have been improved:

  - File size – File sizes have now been reduced compared to previous releases.

  - Job open time

  - Job save time

- o File import speed

- o File export speed

- o Zoom and Pan functions

- o Selection creation

- o Select By and Select All

- o Undo/Redo bulk operations

- o Projects containing many layers

- Layer Manager has been improved to include an "Hide Empty Layer" toggle. This toggle quickly hides any layer that does not contain data.
  Note: This option applies to the Layer Manager only. The layer dropdown list in the properties toolbar is not updated when this toggle is activated.

- Projections/Geoids:

  - o Added support for RTCM Online Transformation in the following functions

    - Import/Export Magnet Field (*.mjf)

    - Open/Save Magnet Office (*.mjo)

  - o Added Denmark projections s34 (s,b,j) supporting negative X coordinate. These projections are listed as S34s_neg, S34b_neg and S34j_neg.

  - o Added RAF18 French Geiod

- Undo/Redo performance has been improved.

  - o   Supports Undo/Redo of file Import.

  - o Undo/Redo speed and efficiency has been improved.

- Import/Export

  - o The Import/Export UI has been updated to provide a summary tab which shows the total number of available entities to Import/Export. The total number of Points, Lines, DTMs, Alignments, and Regions when applicable are listed on the Summary Tab. Specific data such as DTMs, Alignments, Roads, Layers and Regions are listed in individual Tabs and allows for the selection of the data to transfer.

    - File types which display the new I/E UI (mjf, mjfzip, mxl, tp3, xml, and dwg/dxf)

    - Notes: some supported export formats require specific data for export.

These formats will not display the new I/E interface.

- The Linework tab has been removed from the Export Dialog. Linework summary is now listed on the Summary tab.

- The DTM tab has been updated to graphically preview the dtms selected by hatching the dtm boundary.

  o Autodesk (*.dwg) Support improvements:

  - Import LandXML now provides the option to include or exclude hidden surface triangles when importing LandXML files created in Civil 3D.

  - Import dwg now provides the option to include or exclude hidden surface triangles when importing dwg files containing surfaces.

  - Import displays a summary of supported data available in the dwg.

  - Import/Export now has a Layers tab providing control for layers to transfer.

  - Export to dwg has been improved to retain smoothing on strings set to smoothed in Magnet Office.

  o Import Text Ascii has improved the predefined formats of E,N,Z and N,E,Z. These formats are used for importing text files containing many points typically created from point clouds in Magnet Collage. When using these formats all checking and coding functions are not initialized making the import much quicker than other available formats.

  o Road View Data Transfer Dialog has been updated to include Select and Clear All buttons for quickly selecting road strings to transfer.

- Edit Points has been improved for performance when working with large point data sets.

  o Points are now loaded by groups of points, one page at a time. In the past all points were loaded which resulted in time delays when running various functions with large data sets. Scrolling the grid will load a new page when required.

  o Added new selection criteria "Current View". This option has two additional optional settings, Auto and Update.

  - The Auto option will update the Edit Point grid when zooming and panning.

  - The Update is best used when the project contains many points. After using the zoom and pan functions to position the screen display pressing Update will update the grid with the points within the display. This is useful when navigating in projects containing mass data. Update is not available when Auto is used.

o   Simplified the Layer filter option by removing the layer dropdown.

Fixes/Revisions

- Fixed issue with Ellipse not being imported when importing dwg files.

- Corrected issue when importing 3D polylines contained in a dwg file. The resulting string points were set to the elevation of the first vertice of the 3D polyline.

- Fixed issue when importing dwg files project units were always changed to metric.

- Fixed issue with contour labels not being exported when exporting to dwg format.

- Fixed issue when exporting to dwg pertaining to color definitions. Colors in Magnet Office may not match the colors available in AutoCAD. In this case these colors will now be defined using the RGB definition. An issue with the color white being defined using RGB has been corrected.

- Corrected issue with Unit Mismatch dialog not displaying during import of dwg files.

- Fixed issue with not all files being created when exporting to Leica Road Runner format.

- Fixed issue of not being able to create a new project after creating a custom projection in active project.

- Corrected issue with object information display when using a window selection. The object information was not listed unless the cursor was inside the window area. Information is listed now at any cursor location.

- Road View, fixed issue with Display Point Mark setting in the cross section view not being retained.

- Corrected issue when using French language setting of text files, *.txt not appearing in the Import file selection dialog.

- Fixed issue with import of alignments contained in a Genio file.

- Fixed issue with Parallel Figure not working with alignments containing arcs.