

MAGNET™



Release Notes
Version 4.3.3
January 4, 2018

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MAGNET V4.X 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

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MAGNET Field - V4.3.3

General

MAGNET Field V 4.3.3 Release Notes

This important update to MAGNET Field solutions V 4.3.3 includes Improvements and Resolved Issues for the following products:

- MAGNET Field
- MAGNET Field Layout

Improvements

- Added support for a serial connection to the SATEL R4-BT Radio

Resolved Issues

- Resolved an issue when exporting a job as an AutoCAD dwg or dxf file. If a Geoid was applied to the points in the MAGNET Field project, the Ellipsoid height was exported rather than the Elevation.
- Resolved an issue when importing a file in KOF format. The import now supports both spaces and underscores in the file.
- Resolved an issue when starting a job on an assumed azimuth, and then later checking to a known point and rotating the job to the known point backsight azimuth. If the known point backsight azimuth was stored as a Check Point, the job would rotate back to the assumed azimuth. The 'Store as Check Point' option has been disabled so the current BS azimuth will not be overwritten and the job will no longer revert to the assumed azimuth.
- Resolved an issue when locked onto a prism in Stake > Point Map view. If there was a background map in the job, when locking onto the prism, the background map would no longer show.

Known Issues

- When starting a Relay session, if the Base configuration is using the modem in the Field Controller to connect to MAGNET Enterprise, it is recommended to limit your Relay session to a

maximum of 10-12 Satellites at the base. At times, increasing the satellite count to more than 12 satellites will result in a Float solution at the Rover.

MAGNET Field - V4.3.2

General

MAGNET Field V 4.3.2 Release Notes

This important update to MAGNET Field solutions V 4.3.2 includes Improvements and Resolved Issues for the following products:

- MAGNET Field
- MAGNET Field Layout

Improvements

- Added support for the improved FC5000. The updated model now supports a improved Class 1 Extended Range Bluetooth Module, allowing up to 500m between the Controller and the instrument.
- Added support for the Japanese Rectangular grid (Japan2000) in Grid->Local localization.

Resolved Issues

- Resolved an issue in Stakeout > Normal View. In the Normal View, when Staking points using GNSS, the Forward/Back and Left/Right values shown for the distances to the point would alternate between the actual value and 0.000.
- Resolved an issue in Stake > Real Time Road. When slope staking, the Catch Point (CP) was incorrectly shown to the CenterLine (CL) and at the height of the users elevation.
- Resolved an issue in Stake > Slope. When displayed in the Cross Section View, the Hinge Point (HP), Catch Point (CP) or Slopes were not shown on the screen.
- Resolved an issue in Stake > Road. When referencing a surface using the 'Horizontal Alignment' method, and setting a Hz and Vertical offset, the offsets were not being applied to the design point. Also, no cut/fill values were being calculated to the design points
- Resolved an issue when MAGNET Field is configured as a Hybrid Survey. The height adapter value was not being applied to the measurements.
- Resolved an issue when importing a Microsurvey txt file. You no longer need to add a column

before 'Name,N,E,Elev,Code'.

- Resolved an issue when importing a DXF file generated by third-party applications. When importing a DXF file that contains Arcs, the Arcs were drawn as straight lines.
- Resolved an issue when importing a DXf or DWG into MAGNET Field. If the imported file contains ellipses, they were drawn incorrectly.
- Resolved an issue when exporting a dwg or dxf from MAGNET Field. When exporting the file, arcs were drawn as complete circles when opening the file in AutoCAD applications.
- Resolved an issue when activating a license that did not have the GPS+ module. When activating the license, the Enter Plan feature was disabled and not available under COGO.
- Resolved an issue when connecting MAGNET Field, on a FC-5000 to a GT Robotic Total Station. When connecting, the HZ circle would move clockwise by 1-2 minutes of arc.
- Resolved an issue when exporting a FBK format file from MAGNET Field. If the job had Hybrid measurements, the height of the resected instrument position was not correct because the Geoid was not applied when exporting the RAW data.
- Resolved an issue when importing a Trimble DC file. When importing the file, if the control points were not used for both Hz and Vt control, the points were not imported.
- Resolved an issue with the HiperHR battery charge level. Even when the internal battery was at 100%, the charge level would only show 95%.
- Resolved an issue with the GT-500 sighting a prism. If the connection was lost to the GT-500, when reconnecting, the Total Station would begin to rotate in circles.

MAGNET Office - V4.3.2

General

MAGNET Office V 4.3.2 Release Notes

This important update to MAGNET Office V 4.3 includes enhancements and resolved issues for the following products:

- MAGNET Office Site
- MAGNET Office Mass Haul
- MAGNET Office Resurfacing
- MAGNET Office Layout
- MAGNET Office 3D Exchange
- MAGNET Office Tools
- Topcon Exchange for AutoCAD

Notes:

- Magnet Office Site is required for Magnet Office Mass Haul and Resurfacing. Revisions and fixes applied to Magnet Site are included in Magnet Mass Haul and Resurfacing modules.
- Magnet Office Layout has been updated to support v4.3.2 Magnet Field and Office files.
- Topcon Exchange for AutoCAD has been update to support v4.3.2 Magnet Field and Office files.

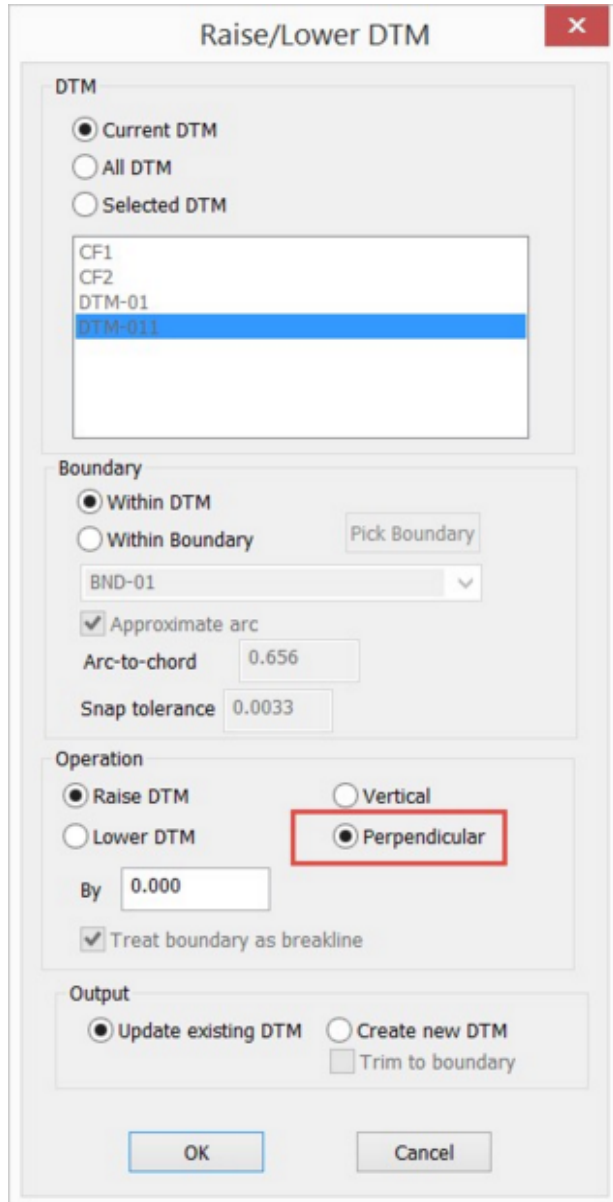
Specific improvements, revisions and corrections are listed below for each Magnet Office product.

Magnet Office Site, Topo, and 3D Exchange

Revisions

- The Raise/Lower DTM function has been updated to include the option to raise or lower a DTM (surface) in a perpendicular direction.





- Added Japanese to supported languages.

Resolved Issues

- Corrected an issue with Cut/Fill color maps converting the least negative depth in an all cut scenario into a positive value. This resulted in an area of fill incorrectly being shown in the legend and shaded within the map.
- Resolved an issue with Delete String Segment requiring a regen to remove the deleted string segment.

Magnet Office Site

Resolved Issues:

- Resolved an issue with Road Design - Subgrade Template Section function which was preventing Pavement Parameters and Subgrade Templates from working properly in some cases.

Magnet Office Resurfacing

Resolved Issues:

- Corrected issue with the Start and End Station marks when the design alignment did not start at Station 0+00. Attempting to set the start station to the true beginning alignment start station resulted in the start station being placed in a random location.
- Corrected an issue with the edit of a profile IP not being reflected in the associated cross section. When dragging an PVI in the profile window the cross section window was not updated with the changes.

Magnet Office Tools

Revisions:

- Added Japanese to supported languages.

MAGNET Field - V4.3.1

General

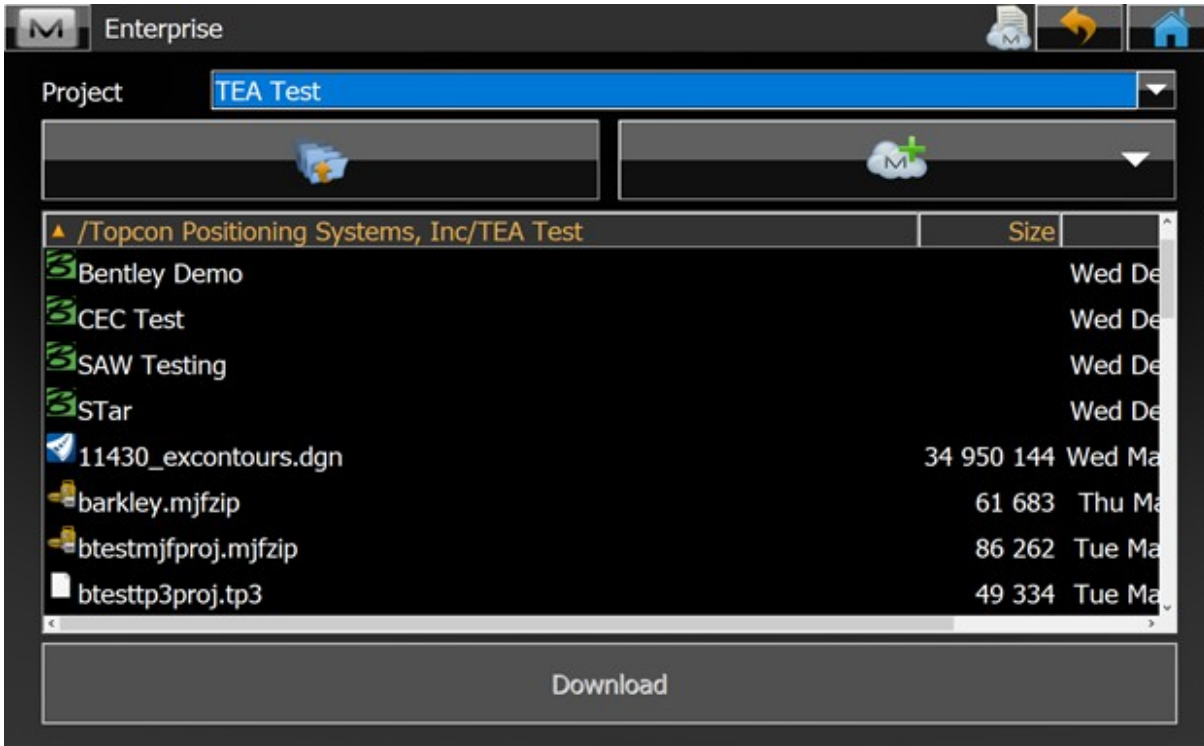
MAGNET Field V 4.3.1 Release Notes

This important update to MAGNET Field solutions V 4.3.1 includes enhancements and resolved issues for the following products:

- MAGNET Field
- MAGNET Field Layout

Improvements

- Added support for the GM100 (SDRbasic) configuration
- Bentley ProjectWise connection enhancements. Added support to allow connecting to Bentley ProjectWise folders via MAGNET Enterprise Data Manager.
 - When connected to MAGNET Enterprise from MAGNET Field, you can directly upload and download data from ProjectWise.



Note: To connect to Bentley ProjectWise, you must have valid login credential for your company ProjectWise instance. The credentials must be entered in MAGNET Enterprise Data Manager.

- MAGNET Enterprise browser has been updated so the columns shown automatically resize.
- Updated the Angle set report to include Horizontal Distances.
- Added Sprint as a provider as a Network RTK Configuration option
- Enhanced Stake Points. Selecting 'Include previous staked design points' checkbox and selecting a previously staked point, will allow the user to advance through the staked points.

Resolved Issues

- Exporting LandXML for use in third-party applications, data from a MAGNET Field job that had Hybrid data, would lead to errors in the data export and at times the files were unreadable.
- Resolved an issue when staking a line in the Map view and MAGNET Field was configured to use a Swedish pre-defined grid projection. MAGNET Field would crash and need to be restarted

- Addressed an issue when exporting a DXF file from MAGNET Field. If you did not select the 'Export areas as lines' option, some of the linework would not appear correctly in the dxf.
- Resolved an issue when editing a point in a job that is using a projection and datum via RTCM03 message from the Austrian APOS and German SAPOS service. Editing point properties could cause a shift in coordinate values.
- Addressed an issue when installing updates to MAGNET Field solutions. If the install was being done via a tethered connection, the update would fail.
- Resolved an issue when transmitting mmGPS calibrations from a *.gc3 file to MAGNET Field. The calibration was not recognized in the *.gc3 file.
- Addressed an issue when exporting raw data to SDR33 file format. When using Hybrid resection, if you exported to a RAW SDR33 file, the height of the resected point does not take the geoid into account.
- Addressed an issue when staking points in a point list that were created from Linework. MAGNET Field would not advance to the next sequential point on the list.
- Addressed an issue when MAGNET Field is configured to use the Japanese language. The stake reports, when printed to PDF were not show correctly.
- Updated the Alinco (Digital) Internal Radio configuration. The previous default settings would cause the radio to stop for 1 minute every 5 minutes.

MAGNET Office - V4.3.1

General

MAGNET Office V 4.3.1 Release Notes

This important update to MAGNET Office V 4.3 includes enhancements and resolved issues for the following products:

- MAGNET Office Topo
- MAGNET Office Site
- MAGNET Office Mass Haul
- MAGNET Office Resurfacing
- MAGNET Office Layout
- MAGNET Office 3D Exchange
- MAGNET Office Tools
- Topcon Exchange for AutoCAD

Note, MAGNET Office Site is required for MAGNET Office Mass Haul and Resurfacing. Revisions and fixes applied to MAGNET Site are included in MAGNET Mass Haul and Resurfacing modules.

Magnet Office Site, Topo, Layout, Mass Haul, and 3D Exchange Revisions

- Added support for connection to Bentley Projectwise folders via MAGNET Enterprise Data Manager. This functionality allows users of MAGNET Office products to directly connect to Bentley Projectwise for uploading and downloading of data.

Note: Valid login credentials for Bentley Projectwise must be entered and stored in MAGNET Enterprise before ProjectWise folders can be seen or accessed from MAGNET Office products

- Import of AutoCAD dwg files has been revised to provide three options to support unit settings for the imported file.
 1. No Conversion (Unitless) - This option works as it did in versions prior to MAGNET Office v4.2. The units of the imported dwg are not read, but consider the dwg file as unitless, and consider the values are the units set in the project settings.

2. Convert importing units to project units – This is a new option. The units in the dwg file are read and converted to the units set in the Magnet Office project.
3. From Inches – This option has not been changed and is as is in previous versions. The values in the dwg file are read as inches/millimeters and converted to the units set in the Magnet Office project.

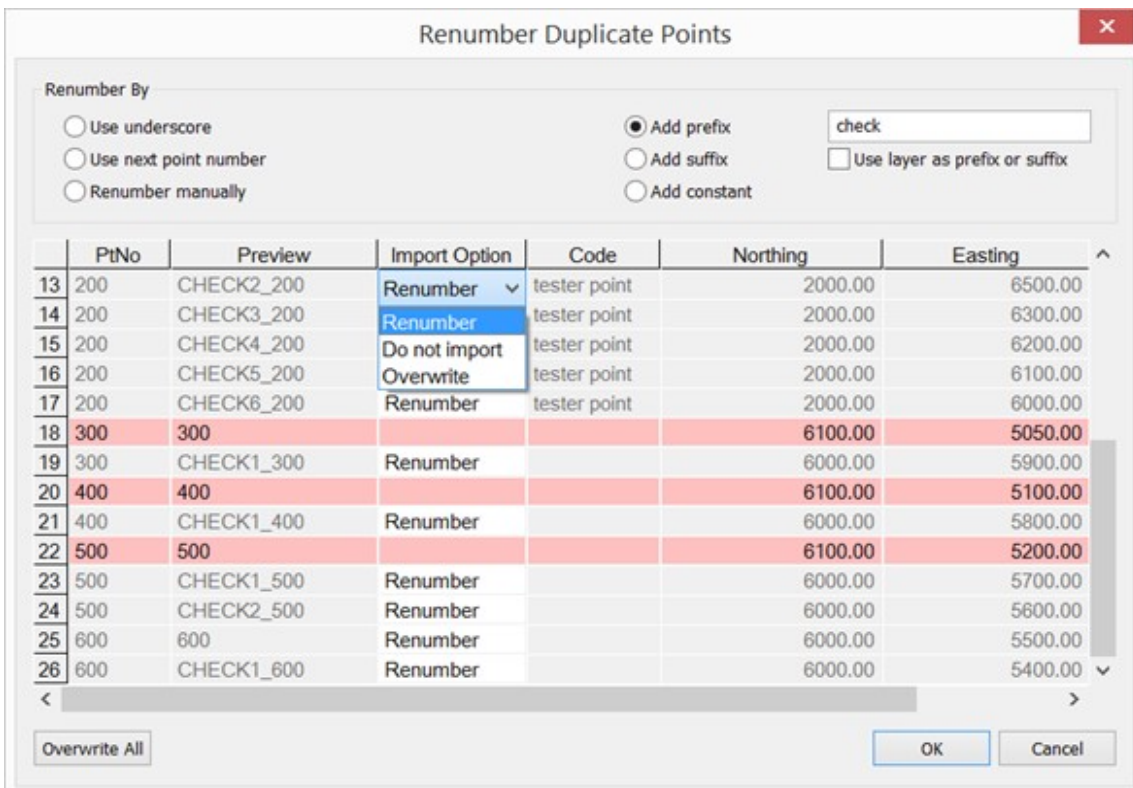
Note 1: If the dwg file is in US Survey Feet, option 1 as listed above must be used for during import.

Note 2: If the imported dwg has units set to Architectural or Engineering, option 3 as listed above must be used during import.

- Import ASCII and TP3 files has been revised to improve the resolution of duplicate point numbers. Pocket 3D users often have duplicate point names in their projects. This implementation allows P3D users to import ASCII or TP3 files containing duplicate point numbers and resolve the duplicates in various ways.
 1. Renumber options include:
 - Use underscore – This default setting adds an _ (underscore) to the original point number. The original point number is retained and resulting duplicates are renumber in a sequential order. For example three point numbers sharing the point name 100 would be renumbered on import as 100, 100_1 and 100_2. Note that the first point name is retained and not renumbered.
 - Use next point number – renumbers duplicate point names beginning at the next available point number in the project
 - Renumber Manually – allows for manual specification of the new point number for any selected point.
 - Add Suffix/Prefix – these options allow for specification of a prefix/suffix to use for renumbering points. Duplicate points named 100 with a prefix of “Check” would be renamed as Check1_100, Check2_100 etc.
 - Add Constant – adds a user specified constant to an existing point number. A constant of 10 added to a point number of 100 results in renumbering as 110, 110_1, 110_2 etc.
 - The preview field updates as renumber options are applied.
 - The Import Option field indicates the method chosen for the resolution of duplicate point names/numbers. These options consist of:
 - Overwrite – This option has contains logic for two different scenarios.
 - In the case of multiple duplicate points in the importing file, this option will use the first common point name and overwrite all other points with the same name. Ten points with name of 100

would result in only the first point 100 being imported.

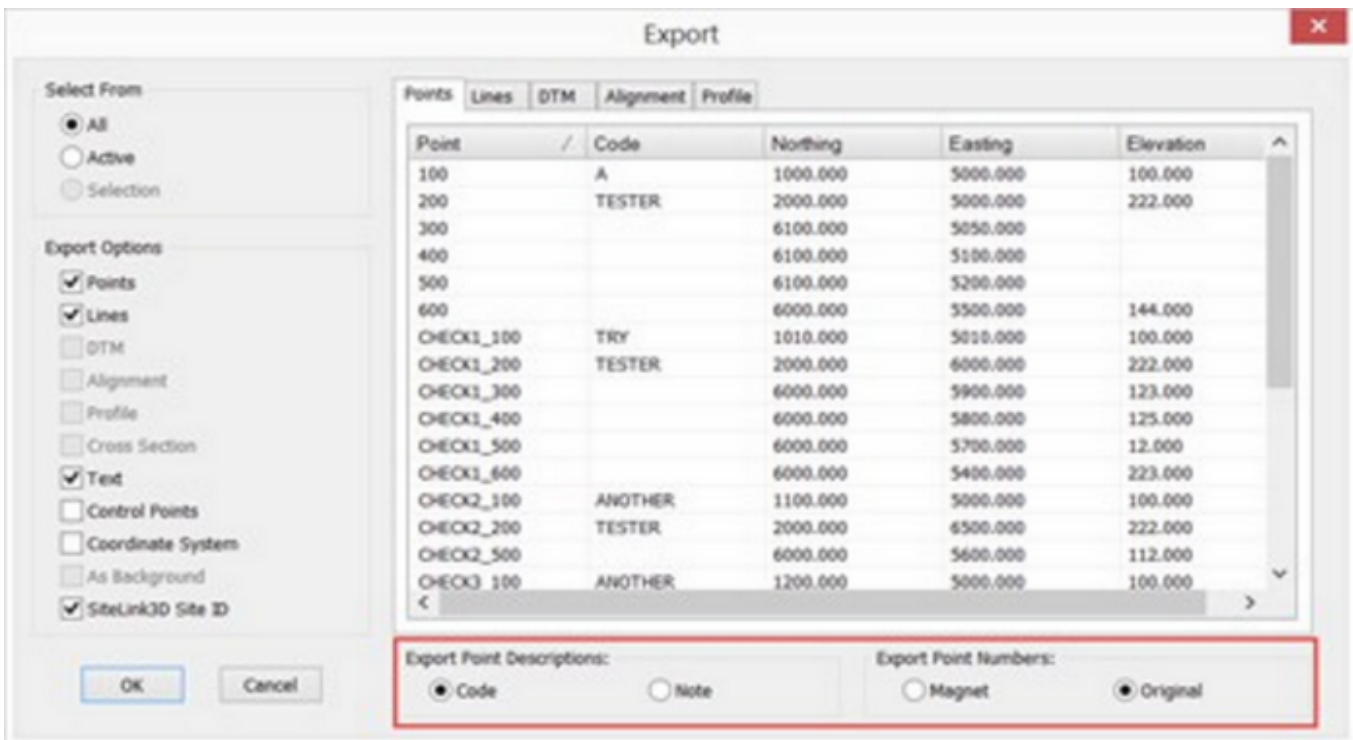
- In the case where point names in the importing file contain the same names as existing points in the project, this option will overwrite the existing point in the project with the importing point of the same name.
- Do Not Import – Points specified as Do Not Import will not be imported
- Renumber – Points specified as renumber will be renumbered based on the user selected renumber method.
- The import option is specified by selecting the drop down after picking a cell in the Import option column.
- Existing point numbers within the project will be highlighted in the grid if duplicated by importing data. Note the Import Options for the duplicate point shown below a highlighted existing project point is used to specify the resolution for this point. Options of overwrite, do not import and renumber are available. The default option is renumber.
- Use layer as prefix or suffix option adds the existing layer, as defined in the importing file, as the selected prefix or suffix. Note that layer information must be included in the file being imported.
- The Overwrite All option will set all point import options to overwrite.



- Note: All original point numbers contained in the imported file are written to the point description field in Magnet Office points by default. These point number descriptions cannot be edited but are designed to retain the correlation of the renumbered points to the original point names as surveyed in the field.
- Added "Description" option to the point information settings in the Display Settings. This allows users who have used the duplicate point resolution revisions to display the original point number when working in the survey view or in the edit point dialog.

The image shows a screenshot of the "Edit Point" dialog box in Magnet Office software. The dialog is titled "Edit Point" and contains several sections of controls. On the left, there are input fields for "Point No." (CHECK3_600), "Code" (empty), "Northing" (6000.00), "Easting" (5400.00), "Elevation" (223.00 with a checkmark), "Use in Surface" (checked), "Layer" (\$DEFAULT), "Color" (?), and "Mark" (+). On the right, there are fields for "Symbol" (_NONE), "X Scale" (1.00000), "Y Scale" (1.00000), "Rotation" (0.0000), "Locked" (unchecked), and "No of Linkages" (0). Below these are "Annotation" options: "Number" (unchecked), "Code" (unchecked), "Height" (unchecked), and "Notes" (unchecked). At the bottom left is an "Annotation Settings" button. On the right side, there is a vertical stack of buttons: "Set Properties", "Get Properties", "Attributes", "Images/Pdf's", "Delete", "Apply", "Notes", "Symbols...", "OK", and "Cancel". The "Description" field, located at the bottom left of the main form area, is highlighted with a red rectangular border and contains the text "600".

- Revised Import of TP3 files to provide option to write TP3 point descriptions as either Point Notes or Codes in MAGNET Office.
- Revised Export to TP3 file to provide option to write MAGNET Office Point Notes or Codes to the description field for TP3 points.
- Revised Export to TP3 file to provide option to export as original point numbers. The original point numbers are written to the description field for a MAGNET point during import when resolution of duplicate point names is required.



- Revised Point Annotation Settings for Point Notes to clear the suffix of "Note:" previously used in the textstyle library as a default setting.

Resolved Issues

- Resolved an issue with MXLZIP files not importing into MAGNET Office. Import directly from MAGNET Enterprise or by using drag and drop method from Windows Explorer is now supported.

MAGNET Office Site, Topo and 3D Exchange Revisions

- Two new options have been added to the Create DTM option. These options pertain to crossing breaklines at the same or different elevations.

The screenshot shows the 'Create DTM' dialog box with the following settings:

- Name: DTM-03
- Num Points: 169
- Highest: 140.25
- Lowest: 140.25
- Ave. Elev: 140.24
- Plan Area: 0.00 m²
- Surface Area: 0.00 m²
- Display: Mesh (checked), Contour (checked), Elevation Values (unchecked)
- Grid Interval: 30.48
- Color: 15
- Size: Normal
- Breaklines: Insert breaklines (checked), Approximate curved breaklines (checked), Check crossing breaklines (checked)
- Segment breaklines (checked) - highlighted with a red box
- Arc-to-chord distance: 0.200
- Check crossing height (checked) - highlighted with a red box

- Segment Breaklines – This option is only applicable when the breakline has multiple segments, such as a string or polyline. If this option is off, when crossing breaklines are encountered, the entire breakline is ignored during DTM creation. When this option is ON, then only the particular segment of the breakline that is crossing is ignored and the remainder of the breakline is used in DTM creation.
- Check Crossing Height – When breaklines cross, even if the breaklines have the same elevation at the crossing point, one of the breaklines will be ignored. With this option ON, when the condition described is encountered both breaklines will be used in the creation of the DTM.

Notes:

- Please verify that these options are set as desired during DTM creation. These settings are retained when modified. Once toggled on, they will remain in that state until changed.
- Breaklines that cross and have different elevations at the point of crossing are invalid breaklines and should be checked for accuracy and resolved manually.

Resolved Issues

- Corrected issue with cut/fill color maps not printing part or all of the Cut/Fill color shading on certain printers.
- Fixed issue with Export DTM not exporting with the correct name.

MAGNET Office Site and Topo

Resolved Issues

- Corrected issue with Quick Access Toolbar (QAT) modification causing crash when using supported 3rd party programs. Related to NZ Traverse program.

MAGNET Office Topo

Resolved Issues:

- Re-enabled the Elevate by DTM option located in the Surface ribbon.

MAGNET 3D Exchange

Revisions:

- New additions to the Delete Triangle options:
 - Delete by line
 - Delete by boundary
- Added Check/Edit Breakline options.

MAGNET Office Resurfacing

Revisions:

- Create Resurface Design has been revised to remove the restriction of 50 meter right and left offsets from the reference centerline.
- Improved the time to open Resurface design projects containing many points.

Resolved Issues:

- Corrected issue with metric units in Plan view. The plan view was showing milling depths as erroneous numbers when project was set to metric. Display only issue.
- Corrected issue with paving depth and mill shading not indicating the same information in milling areas.
- Corrected issue with long section (profile) shading not consistently showing mill/fill shading in the profile view.
- Corrected issue with columns not being ordered correctly in the Resurface Report.
- Fixed issue preventing the import of a resurface design into MAGNET Office road view.
- Edit Limits accessed from the Design ribbon within the Resurface View has been updated to correct the issue of the missing "End Station" column and the retention of defined limits.

MAGNET Office Tools

Revisions:

- The Topcon Ribbon added to AutoCAD and Civil 3D when MAGNET Tools is installed, has been updated to support AutoCAD and Civil 3D 2018.
- Added support for connection to Bentley Projectwise folders via MAGNET Enterprise Data Manager. This functionality allows users of MAGNET Office products to directly connect to Bentley Projectwise for uploading and downloading of data.
 - Note: Valid login credentials for Bentley Projectwise must be entered and stored in MAGNET Enterprise before Projectwise folders can be seen or accessed from MAGNET Office products.
- Added a Topcon "News" link to the Enterprise ribbon. This link provides access to Topcon News feeds keeping users informed of new products, updates, software tips etc.

MAGNET Field - V 4.3

General

MAGNET Field V 4.3 Update Release Notes

This important update to MAGNET Field solutions V 4.3 includes enhancements and resolved issues for the following products:

- MAGNET Field
- MAGNET Field Layout

GNSS Improvements

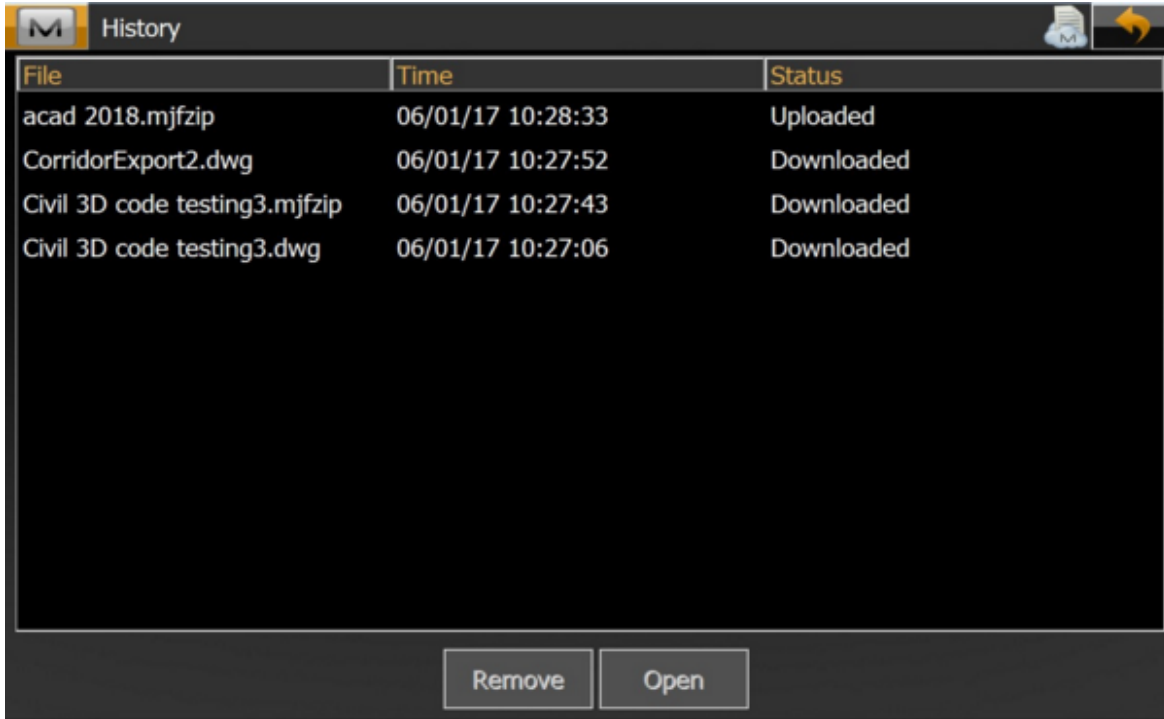
- Added support for mmGPS when configured for a HiperHR GNSS receiver
- Added the CSD Configuration option for the HiperHR Base and Rover
- Updated the options available for NMEA Output from a HiperHR to allow output from a BT Port.
- When configured for a Relay session, added the option to limit the number of Satellites broadcast from the Relay Base
- Updated the Sokkia GCX3 Antenna Calibrations

Optical Improvements

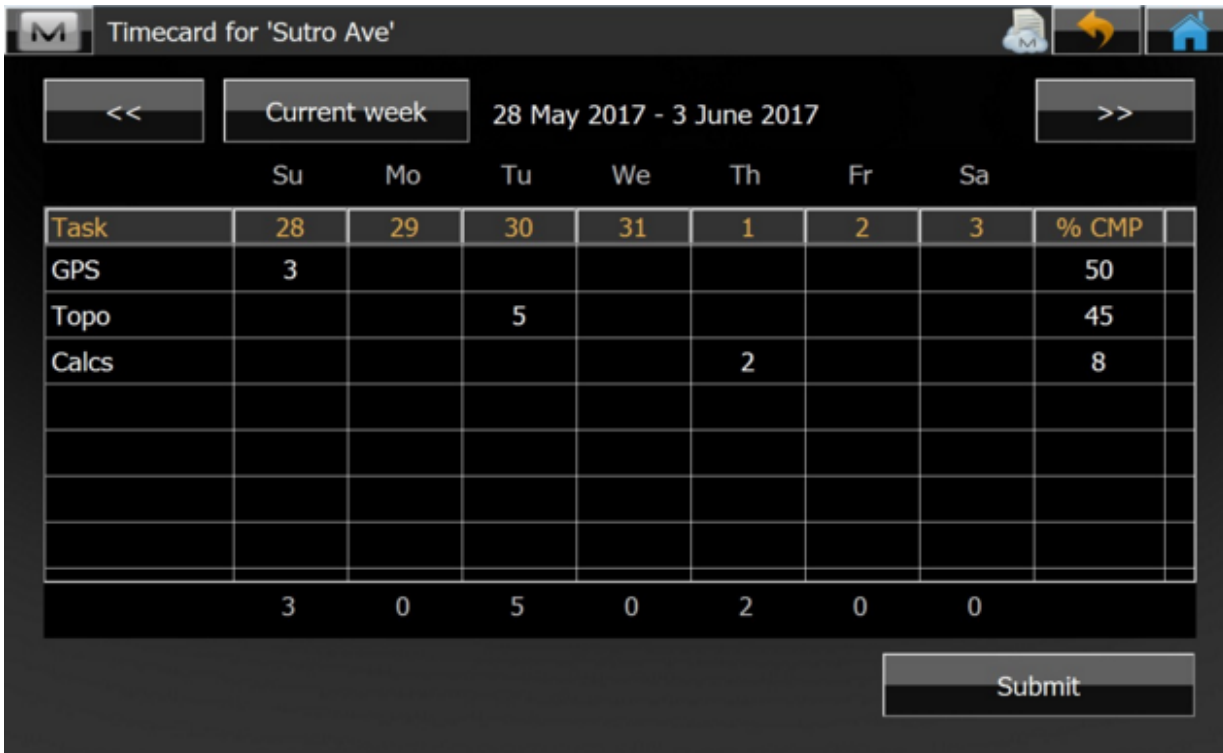
- Added support for Reflective sheet targets for the ES-60 Topcon Manual Total Station

General Improvements

- Updated Exchange > From Enterprise to show both the Date and Time a file was downloaded. In addition, the Status Column now shows if a file has been uploaded or downloaded. Previously, the Status column only showed 'Completed' and the dates were not shown.



- Added the option 'Stake Next Nearest' to Point Lists
- Updated Timecards to show the Date below the Day of the Week



- Enhanced Photo Notes naming so the default name is based on the Point Number and Code the photo is associated with.

Resolved Issues

- Resolved an issue when exporting TS raw data to the KOF format. MAGNET Field would crash and no data was exported.
- Resolved an issue when downloading the latest version of a MAGNET job (*.mjf). If a previous copy of the job was open, after downloading a more recent version to the controller, when you re-opened the job, the older version of the job would be opened.
- Resolved an issue when configured as Network RTK and using the modem in a controller. In previous versions, the option to output NMEA from COM A on the receiver was not available.
- Updated MAGNET Field to use the Russian language help files when Russian language was selected.
- Resolved an issue when staking a line in Normal View. If you lose lock to the prism, when re-acquiring the prism, the map screen would turn solid red.
- Resolved an issue when logging into a project in MAGNET Enterprise. At times, you could not see your project files even if though your permissions allow you to view the files.
- Resolved an issue when using CSD data call and sending NMEA GGA string. The data string was not sent.
- Resolved an issue when surveying and updating a Surface, the existing boundary would not be recognized.
- Resolved an issue when importing a .tp3 or .gc3 file into MAGNET Field. At times the localization was not recognized.
- Resolved an issue when exporting raw data to StarNet .DAT file format.
- Resolved an issue when displaying position stamps on Photo Notes. At times, the position displayed did not correspond to the true photo location
- Resolved an issue when importing TFW/TIFF files. MAGNET Field would import the files in meters only regardless of the file units.
- Resolved an issue with the display of measurements in Map and Normal views. Measurement display values would be different between the views.
- Resolved an issue when exporting dxf files from MAGNET Field. At times, the dxf file would not

open in Autodesk products.

- Resolved an issue when performing a localization in MAGNET Field. When a Geoid was selected and you export a WGS84 to Local Localization, you could not export the localization.
- Updated Auto-Topo when outputting GGA as the Data format, MAGNET Field now outputs the Pole position for all shots.
- Resolved an issue when connecting to MAGNET Enterprise from a Windows Mobile device. If your email address was not the standard User@Company.com you could not log into MAGNET Enterprise
- Addressed an issue when staking out points without heights. MAGNET Field would not allow you to select the points for stakeout.
- Addressed an issue when importing a .dgn file into MAGNET Field. In some cases, linework would not import and the geo-localization was not imported correctly.

MAGNET Office - V4.3

General

MAGNET Office V 4.3 Release Notes

This important update to MAGNET Office solutions V 4.3 includes enhancements and resolved issues for the following products:

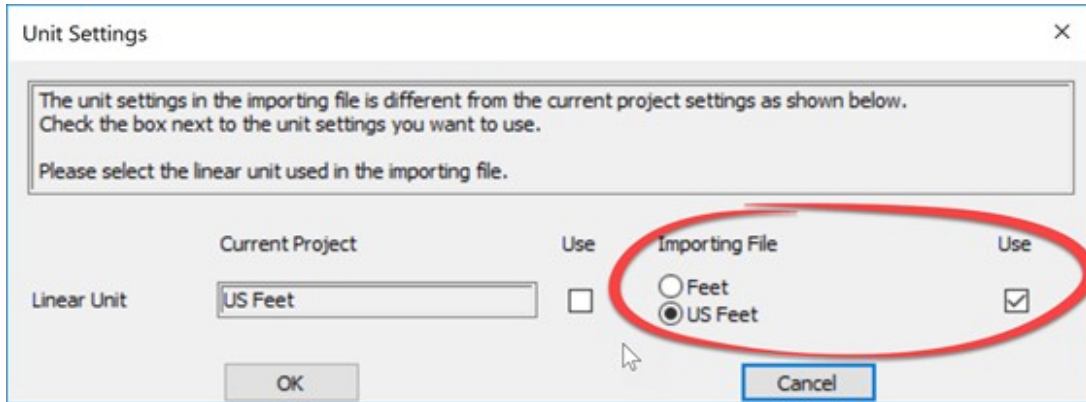
- MAGNET Office Topo
- MAGNET Office Site
- MAGNET Office Mass Haul
- MAGNET Office Resurfacing
- MAGNET Office Layout
- MAGNET Office 3D Exchange
- MAGNET Office Tools
- Topcon Exchange for ACAD

Note: Magnet Office Site is required for Magnet Office Mass Haul and Resurfacing. All Revisions and fixes applied to Magnet Site are included in Magnet Mass Haul and Resurfacing modules.

MAGNET Office Site, Topo, Layout and, 3D Exchange

Revisions

- Improved the Unit Settings dialog when importing dwg files. Replaced the drop down list shown for "Linear Unit" in "Importing File" to individual radial buttons. The radial buttons will only be shown when the current project unit settings are different from the unit settings of the file being imported.



- Added support for import/export of Magnet XML (mxi) compressed format *.mxi.zip.
- Revised Control Points > Import function to support ASCII text files.

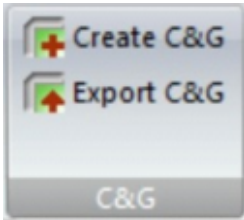
Resolved Issues

- Resolved an issue when reporting the area of a circle when the project units were set to units other than meters.
- Corrected the Command Codes used with the Survey Code library to read "/" for a comment delimiter.
- Corrected an issue with Copy/Paste strings not retaining string point elevations.
- Resolved an issue when importing CSV files. If a csv file was imported into Magnet Office, and the project was discarded and not saved; when opening the csv file in Excel, a message was displayed reporting that the CSV file was locked for editing.
- Resolved the issue of not retaining the elevation of string points when importing Land XML files.
- Corrected an issue when importing dwg files containing polylines set to a specific elevation. The elevation of the polyline was not retained.
- Corrected an issue with Background Images being flipped horizontally when creating a Plot Window (Drawing).
- Corrected an issue with Select By > Points when using an elevation range with negative elevations. Points with negative elevations were not selected.

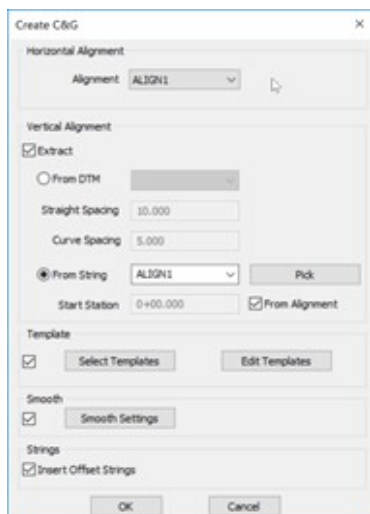
MAGNET Office Site and 3D Exchange

Revisions

- New curb & gutter design features located in the Design Ribbon

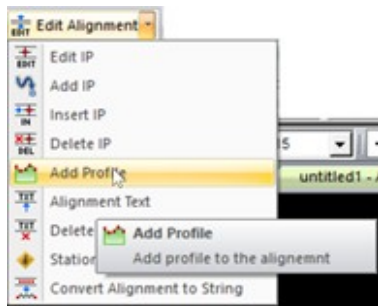


- Includes extraction of vertical alignment from string, surface or alignments.
 - Template design and selection
 - Automatic profile smoothing based on user defined specifications
 - Optional design string creation
 - Export curb & gutter design for use with 3DMC.
- Create C & G



- Vertical Alignment "Extract" will extract the profile elevations.
 - If Extract is unchecked, it will extract the profile from the selected horizontal alignment.
- From DTM - Extracts from the selected DTM

- From String- Extracts from any selected string, profile string or alignment.
- Template - Templates can be selected to be computed for the Curb and Gutter design.
- Smooth – multiple smooth settings can be predefined. Auto-smoothing will be applied to the profile in the design view by adding VC's based on the algebraic difference defined. The user is able to view and adjust according to the “smooth indicator” profile in the design view.
- Insert Offset Strings – design strings defined in the template selection will be created in the Survey view.
- Added the new option, 'Add Profile', to the Design ribbon > Roads group > Edit Alignment. This option allows the user to add a vertical alignment to an existing alignment by selecting an elevated string in the CAD/Survey view. In addition, vertical alignments associated with other horizontal alignments can also be added to a selected alignment.



- Revised 'Create H/V Alignments from String' function to work with strings containing points with the elevation flag turned off. A prompt will display alerting that all points require a valid elevation. Points without elevation will be set to 0 and the command will continue. In previous versions the command would alert that valid elevations were required and end.
- Added a new option “Update Alignment” in the Road Design View. When this option is selected, any modifications in the vertical alignment made in the road design view will be reflected in the Manual Alignment Editors.

Resolved Issues

- Resolved an issue when exporting vertical alignments to 3DMC software. Vertical curve lengths of 0 were being exported as Sym. Parabolas and crash 3DMC Software.
- Resolved a problem with the Quick Profile command not correctly showing subgrade tie slopes.

MAGNET Office 3D Exchange

Revisions

- Revised Manual Alignment Entry to link the vertical alignment data created within the editor to the horizontal alignment. Historically the date entered in the manual alignment editors required creating a road in order to link the horizontal and vertical data.
- Enhanced the Insert Ribbon>Insert Circle command to allow input by Radius and by Diameter.
- Added Vertical Curve (VC) Report to the Road View, Profile ribbon.

MAGNET Office Topo

Revisions

- Revised Manual Alignment Entry to link the vertical alignment data created within the editor to the horizontal alignment. Historically the date entered in the manual alignment editors required creating a road in order to link the horizontal and vertical data.
- Revised Create H/V Alignments from String function to work with strings containing points with the elevation flag turned off. A prompt will display alerting the user that all points require a valid elevation. Points without elevation will be set to 0 and the command will continue. In previous versions the command would alert that valid elevations were required and end.
- Added a new option "Update Alignment" in the Road Design View. When this option is selected, any modifications in the vertical alignment made in the road design view will be reflected in the Manual Alignment Editors.

Resolved Issues

- Corrected an issue with the AutoCAD Layer Translation Table only transferring the first layer into the correct AutoCAD layer.

Magnet Mass Haul

Revisions:

- Added a Help page for the Haul distribution report
- Reduced the minimum size of quantity import dialog to fit low-resolution screens and projectors.
- XML export now exports hauls.

Resolved Issues:

- Corrected an issue with Add Map dialog closing on an invalid input.

Magnet Office Tools

Revisions:

- Added support for import/export of Magnet XML (mxi) compressed format *.mxlzip.
- Added the standard deviation of set collection measurements to the Set Collection Report.

Topcon Exchange for AutoCAD

Revisions;

- Added support for import/export of Magnet XML (mxi) compressed format *.mxlzip.

MAGNET Field - V 4.2

General

MAGNET Field V 4.2 Update Release Notes

This update to MAGNET Field solutions V 4.2 includes the following improvements and resolved issues:

GNSS Enhancements

- Added support for the internal cell modem in the HiperHR.
- Enhanced power management on the HiperHR by supporting improved 'Turn Off Receiver' options
- Added connection options for the Net-G5 GNSS receiver including Internal Cellular, External Radio and Cellular.
- Added support for the GCX3 GNSS receiver
- Added support for the MR-2 as a survey rover
- Added the MR-1 receiver to the list of available GNSS receiver options
- Updated the GNSS tracking options to warn users if L2C is enabled in the configuration, but disabled by the receiver OAF
- Updated all GNSS configurations to use RTCM 3.x MSM.

Optical Enhancements

- Added support for ES-60 Kai (Topbasic) conventional optical instrument
- Added support for Video over a Bluetooth connection for the DS-Ai Robotic Total Station
- Added support for the Remote Control Arrow Screen to the DS/DX-200i

General Enhancements

- Hybrid: Extended the timeout limit when selecting Hybrid Search.
- Updated Hybrid search to use the defined search pattern when you have an autonomous

solution.

- Updated subscription notices so the user is now notified every day during the last seven (7) days of the subscription; and on the day the subscription expires the user is notified their subscription is expired. Previously, the last notice was on the day before the subscription would expire.
- Enhanced mmGPS setup so the user can now get the calibration data from the transmitter without having a connection to a GNSS receiver.
- Added tracking options for Galileo E5 and E6 Signals
- Added the option to limit the number of satellites used for correction data in an RTK Base.
- Added a notice to warn users if L2C is enabled in the Configuration settings but disabled by the receiver OAF.
- Enhanced BDS tracking support so MAGNET Field automatically enables B2 for tracking.
- Added an option 'Fixed GGA" in setup to allow the user to set a fixed GGA position stored in the job and reported to the NTRIP server.
- Enhanced the Radio Configuration screen so Scrambling and FEC are available options and not just available in the Configuration Wizard.
- Updated the Session Name feature to allow for the following options: Custom, Full Date, Day of Year.
- Updated Stake Surface and added the Reference Alignment option.
- Updated the icons used for Prisms to include both normal and 360 Deg Prism.
- Enhanced the Map display point symbol support so the symbol size now corresponds to the Map Font size.
- Increased the size of the scroll bars in MAGNET Field when installed on a Windows 10 Tablet.
- Added GNSS Status to Setup > Backsight in Hybrid mode.
- Updated Code/Attribute support to allow the Attribute list in Edit > Codes to remain in the original order entered by the user.
- Updated the Map Data Labels so when values are unavailable, the empty data label will now show N/A instead of a blank field.
- Updated Exchange > From Enterprise to show the date and time associated with each file.

Coordinate Systems and Geoids

- Added support for the updated UK OSTN15 projection and UK OSGM15 Geoid for the UK and Ireland.
- Added support for the new Nova Scotia MTM (Modified Transverse Mercator) projection.
- Added support for the Iceland Geoid.
- Added GCG2016(ETRS89) Geoid for the North-Rhine-Westfalia region of Germany.

Exchange

- Updated export to TVF (Topcon Vector Format) format to:
 - Include the base antenna height information in the export file.
 - Export only includes ellipsoidal height even if a geoid is applied to a job.
- Updated the APA-SIMA format to include import/export of Area
- Updated the APA-SIMA format to include the Backsight Point from a Resection
- Added export to ImageMaster Project format.
- In Export > Raw Data, added TILT raw data to the Topcon Custom GPS Format.
- Updated Exchange To/From File to allow separate default settings.
- Added support in Exchange > From File to support importing Code Libraries from Hexagon LandXML.
- Updated export to SHP and SHP.Zip to include the following:
 - When exporting as ESRI Shape (.shp) the user can now specify a destination for the files; and all shape files will placed in that location.
 - When exporting as ESRI Shape.zip (SHP.zip), the user can specify the location of the zip file.
- Updated tp3 file support to include the layer name when importing linework.
- Updated the import and export to Topcon Custom Text format and added the <empty> option to the field selection. When defining the import and export format, users can now add the <empty> field to account for spaces between columns.
 - On import, the <empty> type defines the field(s) to be skipped
 - On export the <empty> type defines the fields to be left empty

MAGNET Field Solutions V 4.2 Resolved Issues

- Resolved an issue when creating Field Reports from the 3D Map view; the resulting picture was black and did not show the 3D image captured from the screen.
- Resolved an issue in Set Collection when 'Search After Turn' was set to None. MAGNET Field would continue to search for the Target after turning in Set Collection.
- Resolved an issue in Set Collection when 'Auto Target' was checked. MAGNET Field would not search for the target and continuous measurement would not stop.
- Resolved an issue in Stake Road. When combining a Road for stationing and a TIN for elevation, MAGNET Field would stop responding when switching to the cross section view.
- Updated support for AZERTY keyboard. Users can now select the AZERTY keyboard in Configure > Global Settings > Keyboard.
- Resolved an issue that would result in a crash when exporting Raw Data in SDR format. If the job contained a resection, on export to SDR format, MAGNET Field would crash.
- Resolved an issue with Traverse in MAGNET Field. If the Traverse was created in Set Collection, and distances were measured in all sets, MAGNET Field would not show a traverse.
- Resolved an issue when importing LandXML files with road data. When the LandXML file was imported, the CL imports with the correct height, but the cross sections were set to the incorrect height.
- Resolved an issue when starting the MR-1 GNSS receiver as a base. When started as a base, MAGNET Field would switch on RTS/CTS and all ports would become unavailable.
- Resolved an issue in MAGNET Field OnBoard when importing MAGNET Field V3.3.1 and earlier and TopSURV *.tsj files. After import, when trying to relaunch MAGNET Field, an error would occur and the application would not start.
- Resolved an issue when configuring a Hiper V GNSS receiver for DUHF II and CDMA. You can now switch between the two configurations when needed.
- Resolved an issue with the APA-SIMA format. On export, the Horizontal Angle value was exported in the Distance Field.
- Addressed an issue in Stake Surface. When staking a surface, MAGNET Field would not return a surface height in some locations.
- Addressed an issue when connected to a GT Robotic Total Station. If the connection from the Field Controller to the Total Station was lost, the user would have to return to the Total Station and press the ESC key to allow MAGNET Field to reconnect to the Total Station.

- Resolved an issue when importing MDT (Aplitop) road files. When opening the file, the centerline height was incorrect and shown as 0.
- Resolved an issue when changing antenna heights and connected to a Hiper HR or Hiper SR. If the antenna height was changed in the Topo window, the receiver would stop tracking.
- Resolved an issue with antenna offsets when using a Hybrid Configuration. In Hybrid mode with a Hybrid positioning setup the antenna offset is correct. After disabling hybrid mode, and connecting to the GNSS receiver only the antenna offset would still show the Optical configuration and the offset would be incorrect.
- Updated the Observation Class setting so when the Classes are sorted in a specific order by the user, the sort order is stored with the job.
- Updated Setup > Resection when 'Setup for 3DMC' is enabled. A warning is now shown to alert the user to not turn the instrument before accepting the resection results.

MAGNET Office - V4.2

General

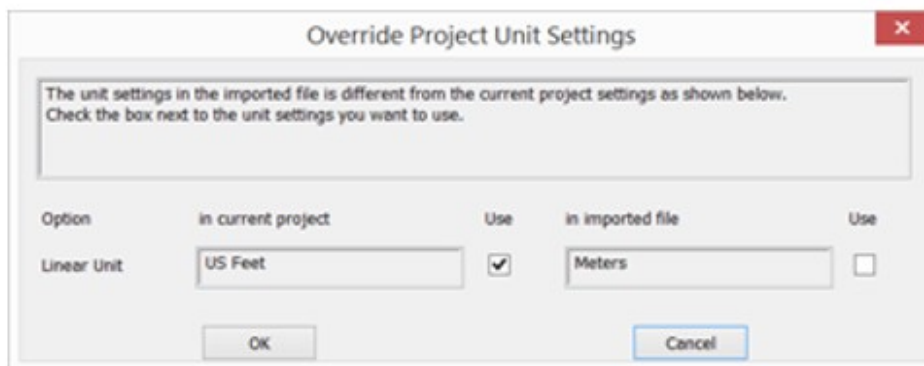
MAGNET Office V 4.2 Release Notes

This important update to MAGNET Office solutions V 4.2 includes the following enhancements and resolved issues

All Products

Revisions

- Survey Code > Command Codes: Using the Command Code "R" for rectangle with three points has been revised. The figure will now create is a parallelogram. Previously a rectangle was being created by inserting two additional points. The Command Code "R" when used with 2 points has not been changed.
- Point "Notes" annotation has been updated to suppress the prefix of "Note:" when a point does not have a valid entry.
- The Open command has been updated to remove the legacy format of *.tsj for Magnet Field jobs. To work with the tsj format use the Import Magnet Field Project option.
- Import AutoCAD *.dwg has been revised to provide an alert when the active project and the file being imported units differ. An option to select the units to use for the project is provided.



- If the unit setting in the imported file is Meters or Feet, and is different than that of the active project, the message in the dialog will be "The unit settings in the imported file is different from the current project settings as shown below. Check the box next to the

unit settings you want to use." By default the unit settings from the current project settings will be selected. User can choose the settings and click OK. The unit settings in the project settings will be updated accordingly.

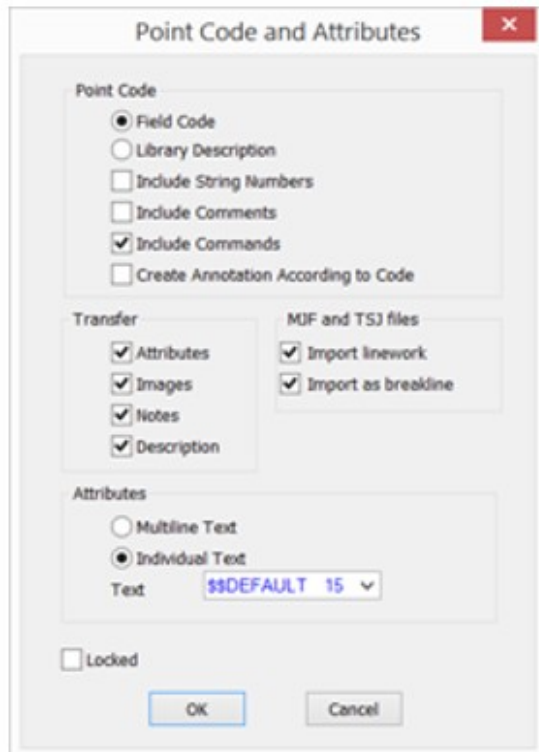
- If the unit setting in the imported file is anything else (other than Meters or Feet), the message in the dialog will be "The unit settings in the imported file is different from the current project settings and not supported. The unit settings in the current project settings will be used." By default the unit settings from the current project settings will be selected. The unit settings in the project settings will not be changed. This may occur when a dwg that contains architectural units is imported. The conversion from inches or mm is done behind the scenes and the file converted to US feet or meters. If distance display, labels or distance entry requires "Feet and Inches" values change the project unit settings to US Feet and Inches.
- If the unit setting in the imported file is "Unitless" (no units defined in the file), the dialog will not be displayed and the unit settings as defined in the project will not be changed.
- The Purge option has been moved from the File ribbon to the Edit ribbon in all products.

Resolved Issues

- Fixed an issue with Snaps when used on entities that do not contain points. When creating a string using a snap option on an entity without points, the string would start at a random intersection along the entity regardless of the snap setting.
- Corrected an issue with attributes values not being transferred between Magnet Office and Magnet Field. The attributes were transferred but the attribute value was not.
- Updated Trim/Extend Line to address intermittent crashes when attempting to drag the end point of the extended/trimmed entity.
- Corrected an issue with moving object(s) using a base point to an existing destination point. If the option to delete the destination point was not selected, the objects were not moved to the correct location.
- Objects Snaps, 'Near To' have been revised to suppress the auto trace function when snapping a near to location along a string. The selected location is now snapped to.
- The Select by Region option has been revised to suppress the prompt for elevation when the Prompt for Elevation in Survey View setting is toggled On.
- The Select Point option has been revised to suppress the prompt for elevation when the Prompt for Elevation in Survey View setting is toggled On.
- Import CCAD v5 file has been revised to improve the import speed. New database changes slowed down the import which gave the impression that the import had failed

and locked the program.

- Import Magnet Field (*.mjf) job has been updated to correct an issue with attributes from field not being imported into a Magnet Office project.
- Import Magnet Field (*.mjf) job has been revised to remove the option "Display Attributes As" toggle on the Point Code and Attributes dialog. Attributes will be imported as simple text or multi-lined text depending on the option selected. The revised dialog is shown below.



- Import options have been updated to include Geocomp (*.str) files.
- Export to a Magnet Field *.mjf file has been updated to correct an issue with the transfer of polygon areas. The fill color specified for a polygon area was not being transferred.
- Corrected an issue with Annotation Settings not working with Bearing Quadrants when the project direction setting is set to Quadrant.
- Corrected an issue when exporting a file to a location that included a (.) in the path. Everything after the (.) was being stripped resulting in the file being saved to an incorrect path.
- Updating and/or selecting Survey Codes on the Properties Toolbar using the code combo box has been revised to set the Use in Surface and Breakline settings for the selected

code.

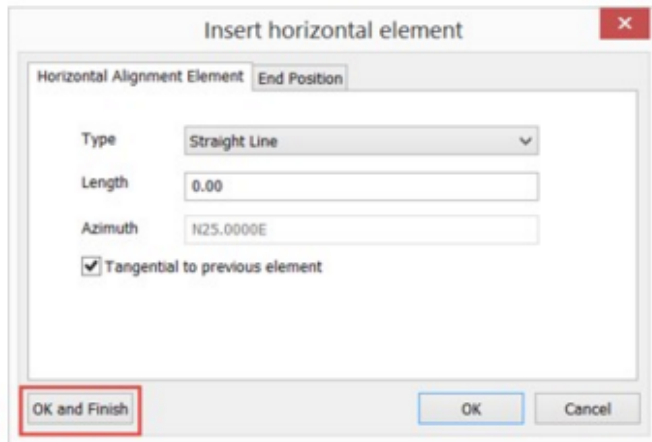
- Resolved an issue pertaining to the import of v3 Magnet Field files. When importing a Magnet Field file and selecting the option to "Include Commands" from the import options, the command codes were not being imported.
- Corrected an issue when opening v2 projects. During the version conversion multiple points were being created at 0,0 coordinates.
- Corrected an issue when importing RD3 files. In some instances, the vertical component of an RD3 file was not being imported along with the horizontal alignment.
- Corrected Import MJF/MXL to retain point notes if duplicate points found and points are renumbered.

MANGET Office Site

Magnet Office Site

Revisions

- Alignment entry by Element: Edit tools for alignments created using the By Element option have been improved to allow for continuous insertion of data before or after a selected element. This corrects the issue of allowing only one edit and then having to start the edit process over again.
 - With the changes the "Insert horizontal element" dialog now has an additional button "OK and Finish". This button will insert the new IP\Element and ends the routine.



- The "OK" button will insert the new IP\Element, highlight the newly created IP\Element, and then displays the "Insert horizontal element" dialog so inserting new IPs or Elements can continue.
- New IPs or Elements will be inserted before, or after according to the initial selection made by clicking the "Insert Before" or "Insert After" button in the "Edit horizontal element" dialog.
- Quick Profile has been revised to disable the copy option when using the ctrl + mouse button simultaneously to drag the profile reference line to another position. Releasing the mouse button first resulted in the reference line being copied to the specified location. However the quick profile view was not being updated to reflect the profile at the copied to location.
 - Note: To move the profile reference line along the surface, select the reference line and then one of the "handles" while pressing the ctrl key and the mouse button. The reference line can then be dragged over the surface and the profile view is updated as the reference line is dragged. Releasing the ctrl button first then the mouse button will move the reference line to the selection location. The profile view will reflect the surface profile at the moved to location.
 - Selecting a profile reference handle while pressing the shift and mouse button in conjunction will allow the reference line to be stretched or to change the direction/angle of the reference line.
- Profile from String has been updated to add the option to create VIPs (Vertical Intersection Points) from the string points.
- Revised the Delete by Boundary option to suppress the prompt for elevation when the Prompt for Elevation option is toggled on in the Program Preferences. This applies when using the Freehand option to create the boundary.
- Revised Strings to support the use of the character "/" in the string name.

Resolved Issues

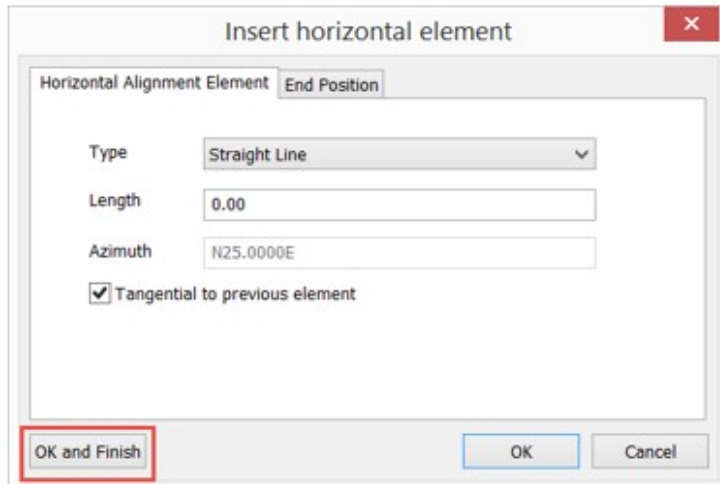
- Resolved an issue when creating a profile from a DTM that would cause the application to crash. When creating a profile from a DTM, if the "Create NS" option was not selected the application would crash.
- Corrected an issue with the Modify DTM option returning an "Encountered an improper argument" message. Selecting OK displayed the changes in the DTM, however the updated DTM was not retained.
- The Raw Data Editor, located in the Survey ribbon, has been updated to fix an issue when using the CR and CE Command Codes in conjunction with the "/" symbol for adding a comment. When the "/" symbol was added after the command codes, the circles were not being created. This issue was present in the Raw Data Editor after importing a Neutral file for processing.
- The Road View, Cross Section window has been revised to correct an issue with not holding the negative (-) symbol on slopes in the cross section view. During the advancement through the cross sections the negative slope symbol (-) would no longer display after advancement through several cross sections.
- The Alignment Text has been updated to correct an issue that was preventing alignment text to be created on an alignment created using the Create Alignment by Element command.
- Sitelink registration has been updated to correct an issue preventing registration using a Registration Key generated by Sitelink.
- Resolved an issue when importing a text file containing coordinates in lat/long. The points were being placed on one lat/long coordinate.
- Resolved issue with creating an arc using TP-IP. Entering tangent distances resulted in incorrect arc creation.
- Corrected an issue with Segment Polyline not setting the created points to the elevation of the polyline.

MAGNET Office Topo

Magnet Office Topo

Revisions

- Removed all Icons for functionality not contained in a specific product. Magnet Office Topo showed functionality that was not included in the product as greyed out Icons.
- The Data Cleanup option has been moved from the Model ribbon to the Edit ribbon.
- The Purge option has been moved from the File ribbon to the Edit ribbon.
- Added Import PDF file format in the File Ribbon > Import. This option imports and creates vectors from the pdf while optionally retaining any included layer information contained in the pdf.
- Added Export PDF file format in the File Ribbon > Export. This option is available from the Survey and Drawing views.
- Improved the Bearing Spread Distance option for annotation.
- Survey Code > Command Codes: Using the Command Code "R" for rectangle with three points has been revised. The figure now create is a parallelogram. Previously a rectangle was being created by inserting two additional points. The Command Code "R" used with 2 points has not been changed.
- Alignment entry by Element: Edit tools for alignments created using the By Element option have been improved to allow for continuous insertion of data before or after a selected element. This corrects the issue of allowing only one edit and then having to start the edit process over again.
 - With the changes the "Insert horizontal element" dialog now has an additional button "OK and Finish". This button will insert the new IP\Element and ends the routine.



- The "OK" button will insert the new IP\Element, highlight the newly created IP\Element and then displays the "Insert horizontal element" dialog so inserting new IPs or Elements can continue.
- The new IPs or Elements will be inserted before or after according to the initial selection made by clicking the "Insert Before" or "Insert After" button in the "Edit horizontal element" dialog.
- Quick Profile has been revised to disable the copy option when using the ctrl + mouse button simultaneously to drag the profile reference line to another position. Releasing the mouse button first resulted in the reference line being copied to the specified location. However, the quick profile view was not being updated to reflect the profile at the copied to location.
 - Note: To move the profile reference line along the surface, select the reference line and then one of the "handles" while pressing the ctrl key and the mouse button. The reference line can then be dragged over the surface and the profile view is updated as the reference line is dragged. Releasing the ctrl button first then the mouse button will move the reference line to the selection location. The profile view will reflect the surface profile at the moved to location.
 - Selecting a profile reference handle while pressing the shift and mouse button in conjunction will allow the reference line to be stretched or to change the direction/angle of the reference line.
- Profile from String has been updated to add the option to create VIP's (vertical intersection points) from the string points.
- The X-Section View has been renamed to Road View
- Road View has been updated with the following options:
 - Alignment Ribbon

- Update Survey
- Data Transfer
- Profile Ribbon
 - Added Profile Report
- Design Ribbon
 - Create/Edit Templates
 - Template Selection
 - Side Slopes
 - Compute Design
- Revised the Delete by Boundary option to suppress the prompt for elevation when the Prompt for Elevation option is toggled on in the Program Preferences. This applies when using the Freehand option to create the boundary.
- Revised Strings to support the use of the character "/" in the string name.

Resolved Issues

- Resolved an issue when creating a profile from a DTM. When creating a profile from a DTM, if the "Create NS" option was not selected the application would crash.
- Corrected an issue with the Modify DTM option returning an "Encountered an improper argument" message. Selecting OK displayed the changes in the DTM however the updated DTM was not retained.
- The Raw Data Editor, located in the Survey ribbon, has been updated to fix an issue when using the CR and CE Command Codes in conjunction with the / symbol for adding a comment. When the / symbol was added after the command codes the circles were not being created. This issue was present in the Raw Data Editor after importing a Neutral file for processing.
- The Alignment Text has been updated to correct an issue that was preventing alignment text to be created on an alignment created using the Create Alignment by Element command.
- Sitelink registration has been updated to correct an issue preventing registration using a Registration Key generated by Sitelink.
- Resolved an issue when importing a text file containing coordinates in lat/long. The points were being placed on one lat/long coordinate.

- Resolved issue with creating an arc using TP-IP. Entering tangent distances resulted in incorrect arc creation.
- Corrected an issue with Segment Polyline not setting the created points to the elevation of the polyline.

MAGNET Office Mass Haul

Magnet Office Mass Haul

Revisions

- Improved USB dongle license support.
- Improved support for MAGNET Enterprise login.
- Added button for copying device id during offline activation process.
- Fixed issue with mill/fill depths not showing correct depth in Resurface View, Plan View window.

Resolved Issues

- Revised sum tasks to not remove child tasks when deleted.
- Revised Excel importer to always import duplicate location names as separate locations.
- Corrected issue with view filter location criterion enabling.
- Corrected issue with editing road line coordinates and dynamic widths.
- Correct issue with missing progress bar in some functions.

MAGNET Office Resurface

Magnet Office Resurface

Resolved Issues

- The Resurface Design View dialog has been updated to corrected an issue preventing the deletion or renaming of an existing resurface design. This issue was causing project files to become corrupt and prevented the reopening of the file.
- Corrected issue with String Selection button on various dialogs. Button was showing "Select All" when all strings were already selected. Button now correctly displays "Select One String" and updates correctly with string selection.

MAGNET Tools

Magnet Tools V4.2

Revisions

- Coordinate Systems
 - Added UK OSTN15 projection
 - Added UK OSGM15 geoid
 - Added Canadian Nova Scotia projections

- Reports
 - Added Tilt parameters to the GPS Observation report.
 - Added Offset parameters to the Point report.

MAGNET Field - 4.1.2

General

MAGNET Field V 4.1.2 Release Notes

This important update to MAGNET Field solutions V 4.1.2 includes the following resolved issues:

- Addressed an issue that could result in data loss in a MAGNET Field job (.mjf). When collecting Topo or AutoTopo data using MAGNET Field 4.0 or higher, if field measurements on a point were interrupted, additional field measurements were flagged as 'temporary' in the MAGNET Field Job and were not saved to the job file. (*.mjf).
- If the Total Station Occupation Points were edited after performing a Setup BackSight by Azimuth, the measured points from the setup were not updated based on the edited Occupation Point coordinates.

MAGNET Field - V4.1.1

General

MAGNET Field V 4.1.1 Release Notes

This update to MAGNET Field solutions V 4.1.1 includes the following:

- Addressed an issue in antenna offset and Hybrid mode. If you disconnect and disable Hybrid mode and then connect to GNSS only, the antenna offset parameter from the optical configuration was still active and the antenna height was incorrect.
- Addressed an issue in GNSS receiver tracking. When changing the antenna height the receiver would stop tracking satellites when changing the antenna height in Survey->Topo window.
- Fixed an issue w/ duplicate device ID's on PC versions.
- Addressed an issue where the Base Radio Connect configuration is changing from Receiver to Controller when the Hiper-HR is used as Rover for MAGNET Relay.
- In a Network RTK configuration, with a default rod height set, if you exit MAGNET Field and then restart MAGNET Field the rod height would revert to 0.00.
- Addressed an issue when Corner angles are calculated. The calculated results did not update when changing the input data.
- Improved Turn off receiver option for improved power management on GNSS Receivers.
- Added support for the final HiperHR antenna calibration.
- Added support for + symbol in codes when importing a *.txt file.
- Fixed an issue with loss of BT connection to total station. Users would have to return to the total station to reconnect the controller.
- Added Backsight point from 'Setup Resection' to APA-SIMA format.
- Addressed an issue when exporting APA-SIMA format. The distance field was not output correctly.
- Addressed an issue when pushing the 'Lock Icon' in Backsight setup. When the 'Lock icon' was selected, MAGNET Field did not lock on the prism.

MAGNET Field - V4.1

General

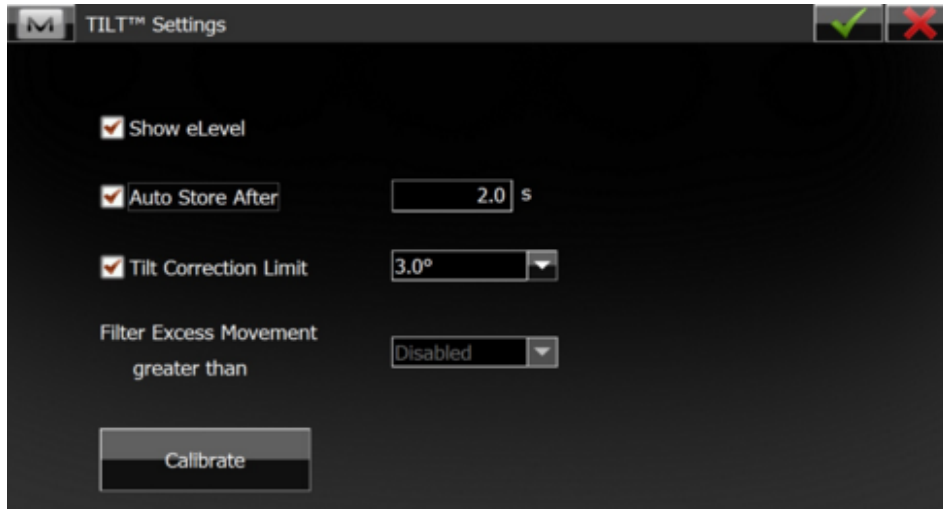
MAGNET Field V 4.1 Update Release Notes

This update to MAGNET Field solutions V 4.1 includes the following:

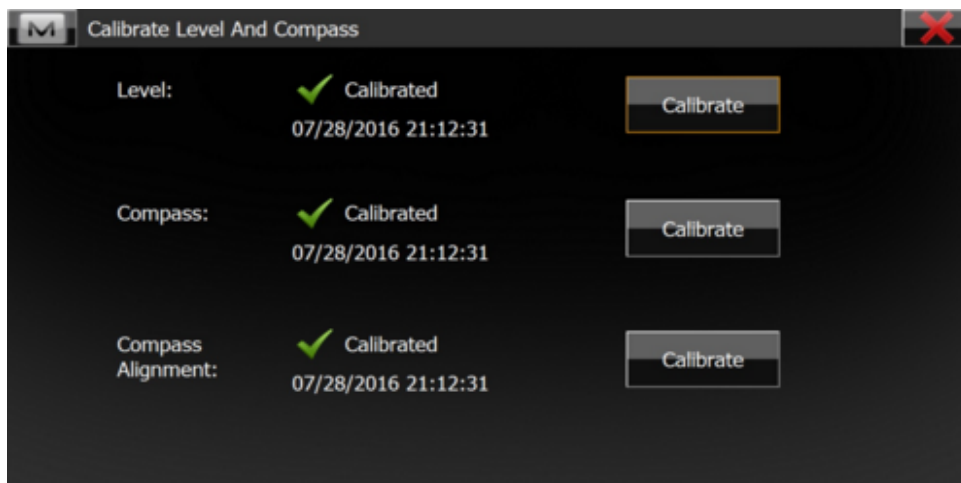
- Support for Topcon's Hiper HR GNSS receiver.
 - Support for TILT Correction (Topcon Integrated Leveling Technology).
 - Full tilt compensation up to 15deg in real-time
 - Filter to detect and reject outlier's due to excessive or sudden movement.
 - E-Bubble support with easy to use user defined settings. Visual indicators when calibration is required or the presence of Magnetic Interference is detected.



- TILT Settings available either by selecting M > Setup > TILT Settings in Topo or Stake. You can also access the TILT Settings by 'Click and Hold' on the Ebubble from the Topo or Stake screens.



- Easy to use visual Field Calibration feature for calibrating the Integrated IMU and Electronic Compass.
 - Calibrate the electronic level of the HiPer HR receiver in the Level field.
 - Calibrate the magnetic compass of the HiPer HR receiver in 3D in the Compass field.
 - Calibrate the magnetic compass of the HiPer HR receiver in the horizontal plane in the Compass Alignment field.



- Integrated Radio communications options supported in MAGNET Field for the Hiper HR include support for integrated Digital UHF radio and internal LongLink communication.
- When using MAGNET Relay with the Hiper HR, support is via a cellular enabled Field

Controller such as the FC-5000.

- When logged into MAGNET Enterprise, the project and file list has been updated to display in Alphabetical Order.

Resolved Issues:

- When choosing the Net-G3/G5 Configuration, users were not able to select the Antenna Type.
- Addressed an issue in Stake Road when a custom interval is defined. the Stake Interval now matches the user defined custom interval.
- Addressed an issue when using Online Transformations in MAGNET Field WM/CE version. At times, MAGNET Field would fail to start when using the transformation in the job.
- Addressed an issue when selecting 'Stake Perpendicular'
- Addressed an issue when importing points with + character in SIMA Format. The + character is now supported
- When exporting txt and csv files Unicode was the default setting. V 4.1 removes Unicode.
- When connecting to a GNSS receiver, the TCP/IP base option was missing. This option has not been added back to the configuration menu.
- When using MAGNET Field on a Tablet, you could not use the touchscreen to select surfaces in Calculate, Volume or Contour.

MAGNET Office - V4.1

General

MAGNET Office v4.1 Update Release Notes

The following revisions/fixes have been made to the MAGNET Office Site, Topo and Layout modules.

Unless noted, the improvements and/or revisions listed below are included in all MAGNET Office modules. When updates apply to specific modules use the following key to identify the affected modules.

MAGNET Office Site (MOS)
MAGNET Office Topo (MOT)
MAGNET Office Layout (MOL)
MAGNET Office Mass Haul (MOM)
MAGNET Office Takeoff (MTO)
MAGNET Office Resurfacing (MOR)

- The Inquiry Ribbon, Compare Jobs routine was updated to correct an issue resulting from upgrading previous versions. The resulting report contained the same point number for all points when comparing mjo files.
- Corrected an issue with inserted tables which prevented the selection of the entire table by selecting the outside edge.
- Resurfacing Module: The Relative Slope and Smooth Profile options have been updated to correct a calculation resulting in overshooting of limits and preventing the creation of a smooth profile. (MOR)
- Cloud Connection Ribbon, Enterprise Options, Updated Upload Current Job for 3DMC to truncate point codes with more than 64 characters to a total of 64 characters. This was preventing the file from uploading to Enterprise.
- PDF Vector display has been updated to correct an issue with the display of vectors as white solid wide lines. This was preventing the display of digitized cross section surface line when using the Digitize Cross Section option. (MOS)
- Takeoff Calculations have been improved to add a warning message when a subgrade polygon contains points that do not have defined elevations. (MTO)
- Surface Ribbon, Create Boundary List has been update to correct an issue preventing the user defined name for the boundary list to be retained. The user defined name was being replaced by a default name. (MOS, MOT)
- Delete Empty Layers has been revised to increase the speed of the command. In some cases

the deletion of layers was taking a long time.

- The import ascii point file dialog has been updated to include the projection option of SnakeGrid and now includes a Settings option to select the *.dat (SnakeGrid) files. (MOS, MOT)
- Corrected issue with unit conversion when importing *.dgn files. Imported files containing a unit setting of US or International feet were being converted to metric units when imported. (MOS, MOT)
- Corrected an issue with the import of Magnet Field files directly or transferred from Magnet Tools not retaining photo notes and/or point notes. (MOS, MOT)
- Updated Land XML file to read road template/string codes.
- Improved Import of *.dwg files containing 3d triangles to convert the triangles to a DTM.
- Added German to supported languages. (MOS, MOT)
- Updated Import to Reinstate the Mobile Device option. This option is used to directly transfer survey data from data controllers to Magnet Office.
- Corrected issue with Import of *.TP3 files not correctly reading point codes.
- Corrected issue with Trench Quantity Report not reporting cost of pipes.
- Reinstated pressing Ctrl+Tab to switch between open view tabs.

MAGNET Tools - V 4.1

General

MAGNET Tools V4.1 Release Notes

This update to MAGNET Tools contains the following resolved issues:

- Improved speed of PDOP computation and saving to project after processing.
- Fixed issue causing a crash when disconnecting from MAGNET Enterprise.
- Fixed issue with Redlines not displaying after disconnecting from a MAGNET Enterprise project and then reconnecting.
- Added German to supported languages.
- Fixed issue with photo notes not being imported from Magnet Field (*.mjf) v3.3.1 files.
- Fixed LandXML import issue containing roads defined by string sets. The string sets were not being imported.
- Fixed issue with *.dgn import concerning arcs. Some arcs were incorrectly calculated and resulted in displaying the large arc instead of correct arc.
- Fixed issue with Control Points not updating after import of new or revised Control Point data in csv format.
- Updated the antenna list to include the Hiper HR antenna calibration

MAGNET Office - V 4.0.1

General

MAGNET Office v4.0.1 Update Release Notes

This update to MAGNET Office V4.0 contains the following resolved issues:

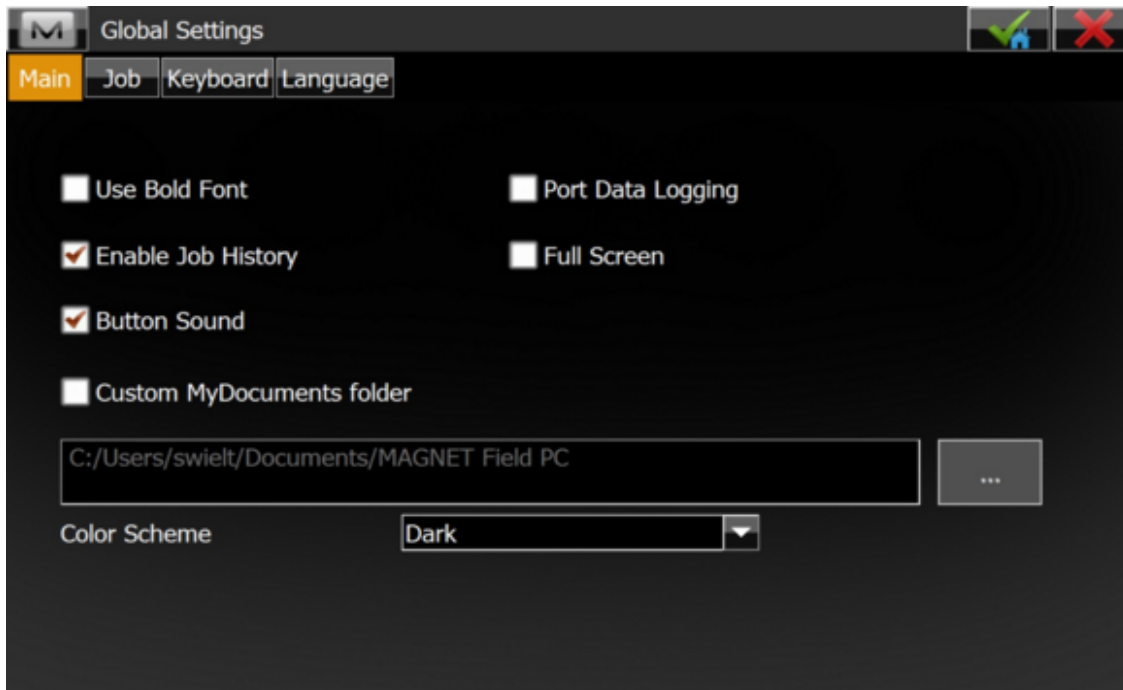
- Road Takeoff calculations from surfaces and materials created using the new Digitize Cross Section routine have been corrected to save entered materials in the material libraries.
- The Road View has been updated to correctly link road data and strings to the Takeoff UI for volume calculation using the Takeoff UI or Takeoff Reports
- Corrected an issue preventing MAGNET Office V3 projects from opening in MAGNET Office V4. V3 projects that contained polylines could not be opened in V4.
- In a couple of isolated cases, existing users were unsuccessful in activating V4 after updating the program. This can be corrected manually by Topcon personnel but the fix can be delayed based on a user's geographical location. There have been changes recently made to resolve the related activation issues.

MAGNET Field - V4.0

General

New Features/Improvements:

- Added support to allow users to change language settings directly in Configure > Global
- Enhanced Global Settings dialog and redesigned for Portrait Screens
- Added Custom MyDocuments Folder setting to Global Settings



- During Install, added the option for Multi-Language support. Users can now select the Language(s) they want to load. Each language and supporting help file can be selected individually
- Load Times: Significantly improved performance when loading surfaces into WM/CE Controllers
- Added Support for ReadDWG 2016
- Enhanced 'Reset RTK' function

MAGNET Field Site Improvements:

- Added Triangle solutions to Calculate
- Added Photo Notes to Job Export

MAGNET Field Layout Improvements:

- User Inbox Icon in Enterprise Exchange
- Added Intersection Calculations

Calculate

New Features/Improvements:

- Added "Offset Line" menu from Topo in "Calculate Offsets"
- Added area calculation with Points only
- Added support for Point in Direction Offset for a selected segment of linework from the Map.
- Added Offset support to Cogo Intersection calculation
- Enter Plan:
 - Added 'proposed lines' for Circle, Close and Rectangle commands
 - Added the options: Close Line and Close Angle/Angle.

Configure

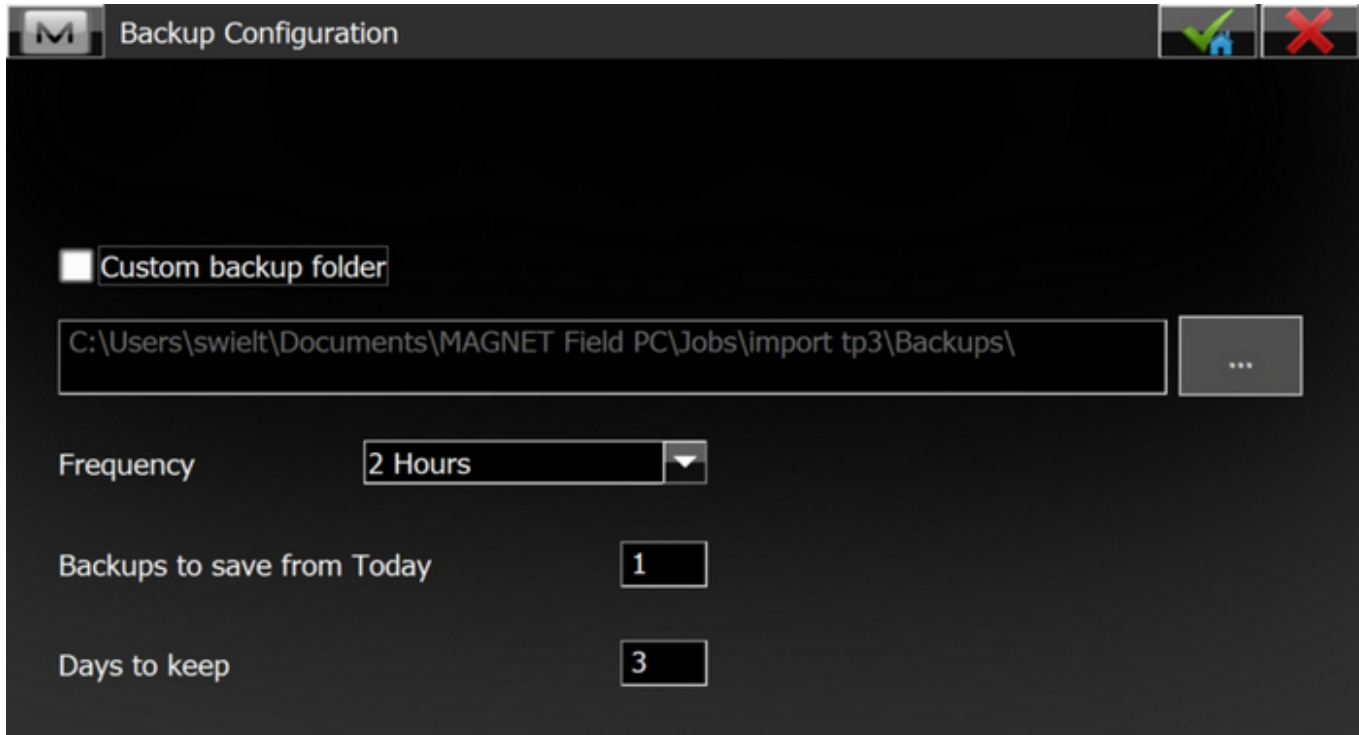
New Features/Improvements:

Equipment

- Added support for multiple NTRIP entries using one username/password. Users can now have different configurations for any use name but with the same IP Address
- Improved radio configurations by remembering the channels available so they only have to use the 'Get Chan' button once, then MAGNET Field will show the available channels

Other

- Robotic – added Auto Target option in the configuration that allows the instrument to aim/point before measuring.
 - Add Auto-Target feature for controller (motorized configuration).
- Added separate aiming/tracking options for Direct/Reverse, Monitor and Set Collection.
- Added 'Right/Left Offset: Rod to TS" option to Reflectorless and Conventional configurations.
- Added a setting in Reflectorless mode 'Continuous Distances' to allow the instrument to shoot continuously in reflectorless mode.
- Added a warning message in Set Collection when measurement tolerances are not set
- Added support in Configure>Codes to allow separate persistence settings for Codes, Attributes, Notes, Control Codes, MultiCodes
- Added Support for AZERTY virtual keyboard
- GNSS Data: Added support for 1103 RTCM MSM3 message for SBAS
- Added 360 Prism checkbox to Edit Prism
- In Config: Survey Settings, the Auto Target setting is not checked on by default
- Enhanced available options for Total Station Turning Speeds and now support 1/64 and 1/128
- Enhanced Backup to allow users to define Backups to Save from 'Today' as well as the Number of Days to keep.



- Added support for Native keyboards on Windows CE/Mobile
- Enhanced the option to turn on/off menu items so when creating a new job, the locked configuration is maintained for the new job.
- Added a 'closing message' when MAGNET Field is shutting down to alert the user that the application is still closing and saving data to the job file.
- Added Optical Simulator mode

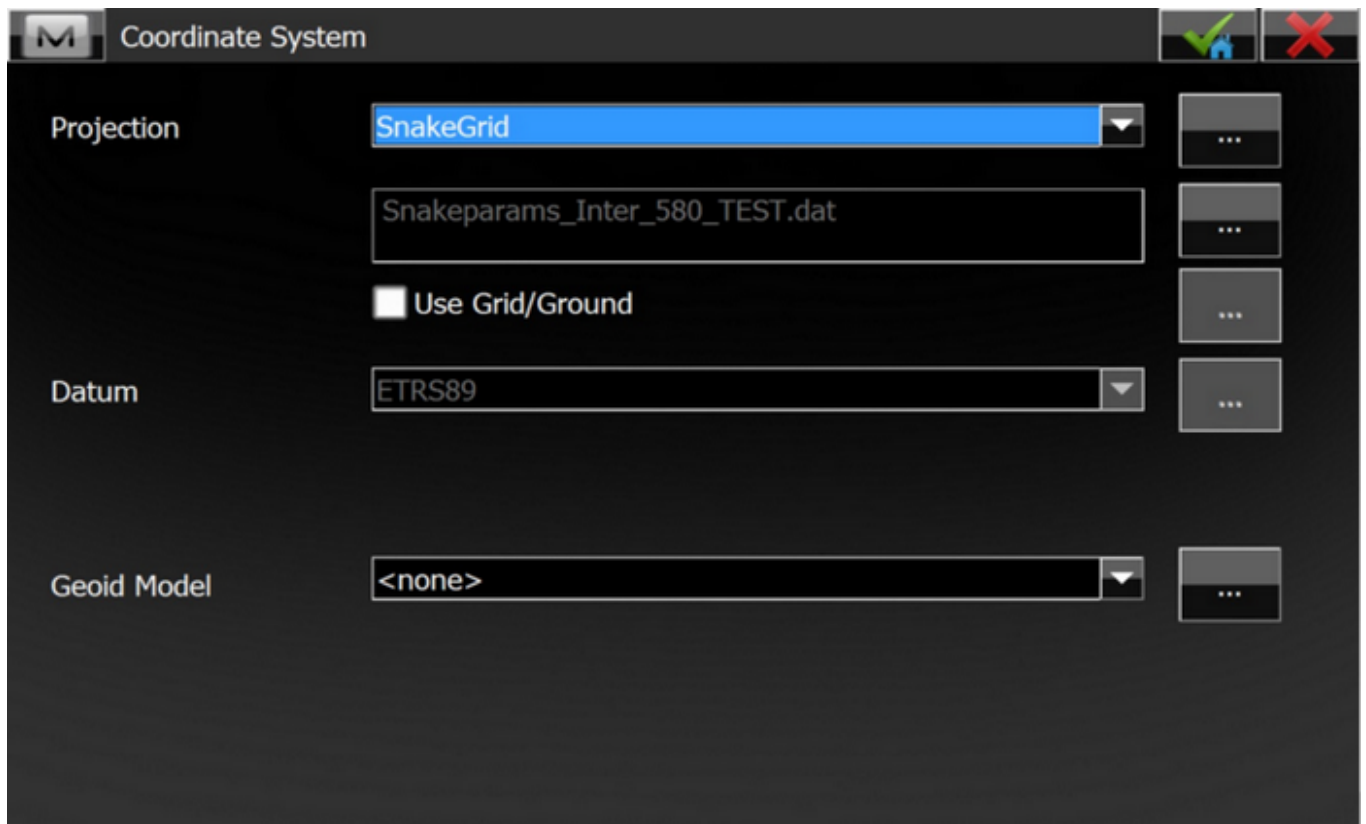
Coordinate System

[New Features/Improvements:](#)

Coordinate Systems:

- Added additional support for GSB files

- Added the ability to select direction of transformation for CSRS GSB files
- Added support for CGCS2000
- Added Support for the Indiana Geospatial Coordinate System (InGCS)
- Added support for the Oman National Geodetic Datum (ONGD14)
- Added Support for South Korea's KNGeoid 14
- Added support for ATS77 (CSRS) datum with GSB Grid Shift file
- SnakeGrid: Added direct Support for SnakeGrid .dat files



- Geoids:
 - Lithuanian Geoid
 - Geoid 2012A

Equipment

GNSS Enhancements

- Added Support for LZ-T5 mmGPS
- Added support for G5-A1 Antenna
- Added support for the Net-G5 to be used as a Base or Rover
- Added support in the HiPer SR Base-Rover for Dual SIM cards
- Added Support for the Alinco digital Radio
- Introduced a 2G/3G switch option for the GRS-1
- Renamed Topcon Generic to Topcon Legacy
- Added the 'Minimize' function to Controller (WM/CE) Versions

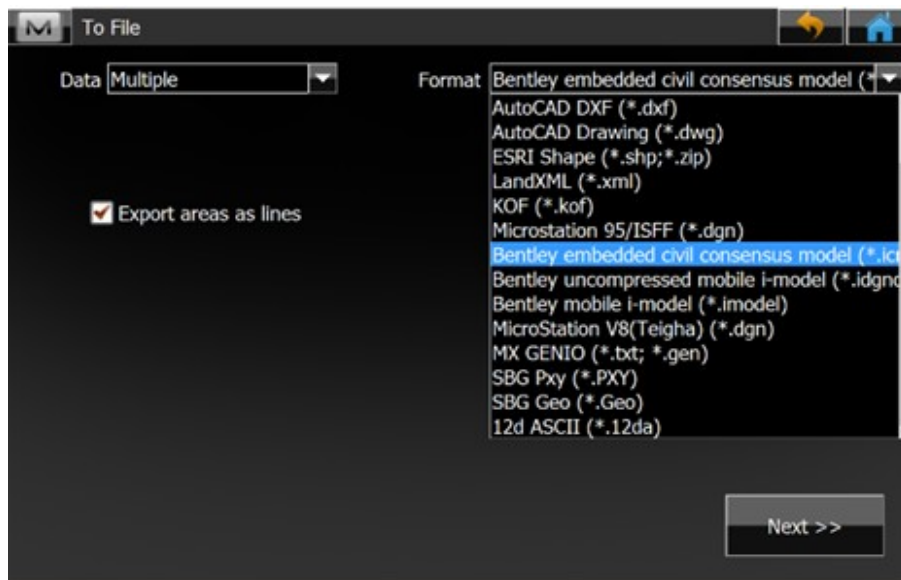
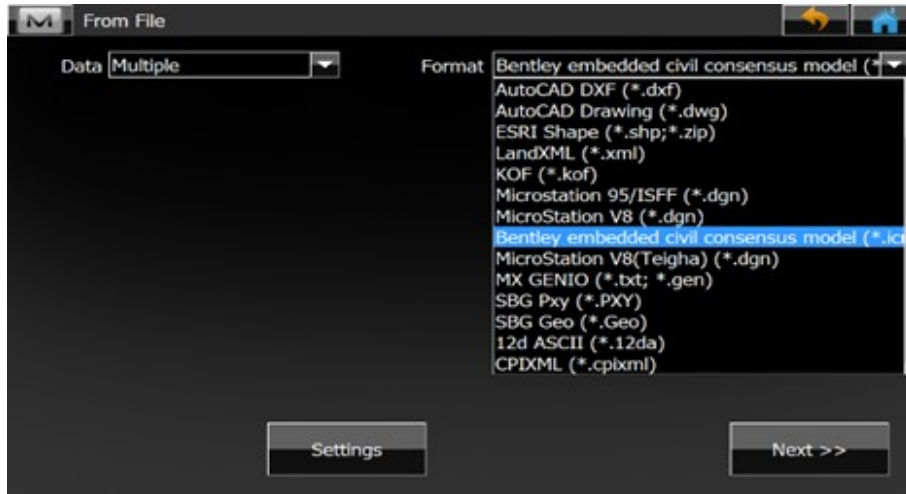
Optical Enhancements

- Added Support for the Topcon GT1000/500 and Sokkia iX1000/500 Robotic Total Stations
 - MAGNET OnBoard the GT and iX series instruments now support MAGNET Enterprise
 - Support the use of Bing Maps on the New Topcon GT1000/500 Robotic Total Station
- Added Support for the Topcon MX-AX II Instrument
- Added Support for the Ridgid SR-24 and Utili-Guard Cable Finder

Exchange

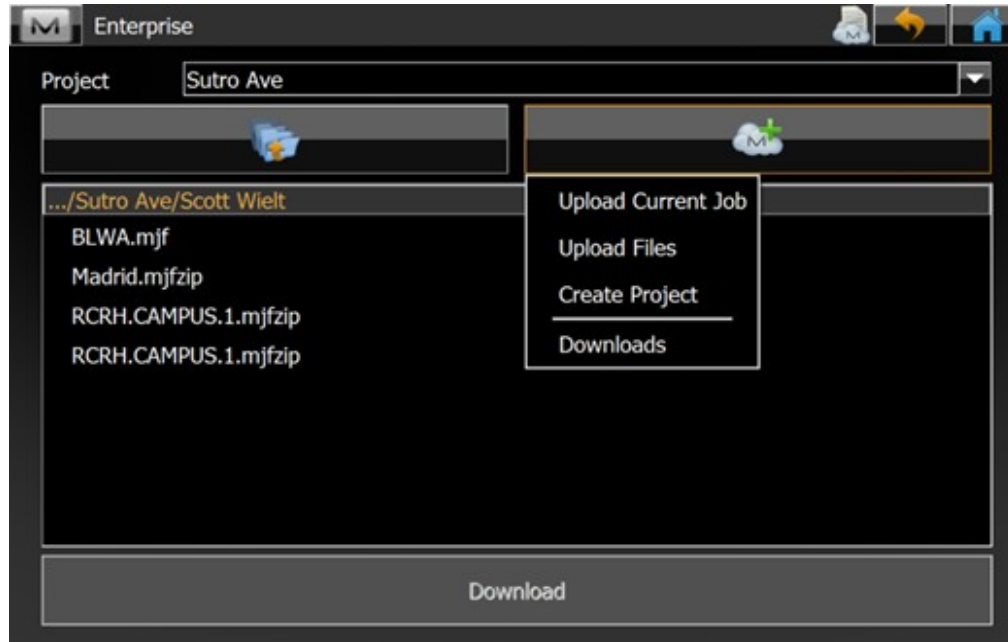
[New Features/Improvements:](#)

- Export
 - Added an option to export Background drawings
- From/To File
 - Introduced MaXML (*.xml) file format as an open exchange format with MAGNET Field and Office Products. Support both the import and export of MaXML files
 - Bentley
 - Support the direct Import and Export of Bentley iModels. Import support includes *.icm.dgn and *.idgnbd formats. Export supports the *.icm.dgn, *.idgnbd and *.imodel formats
 - Export updated project data to iModels

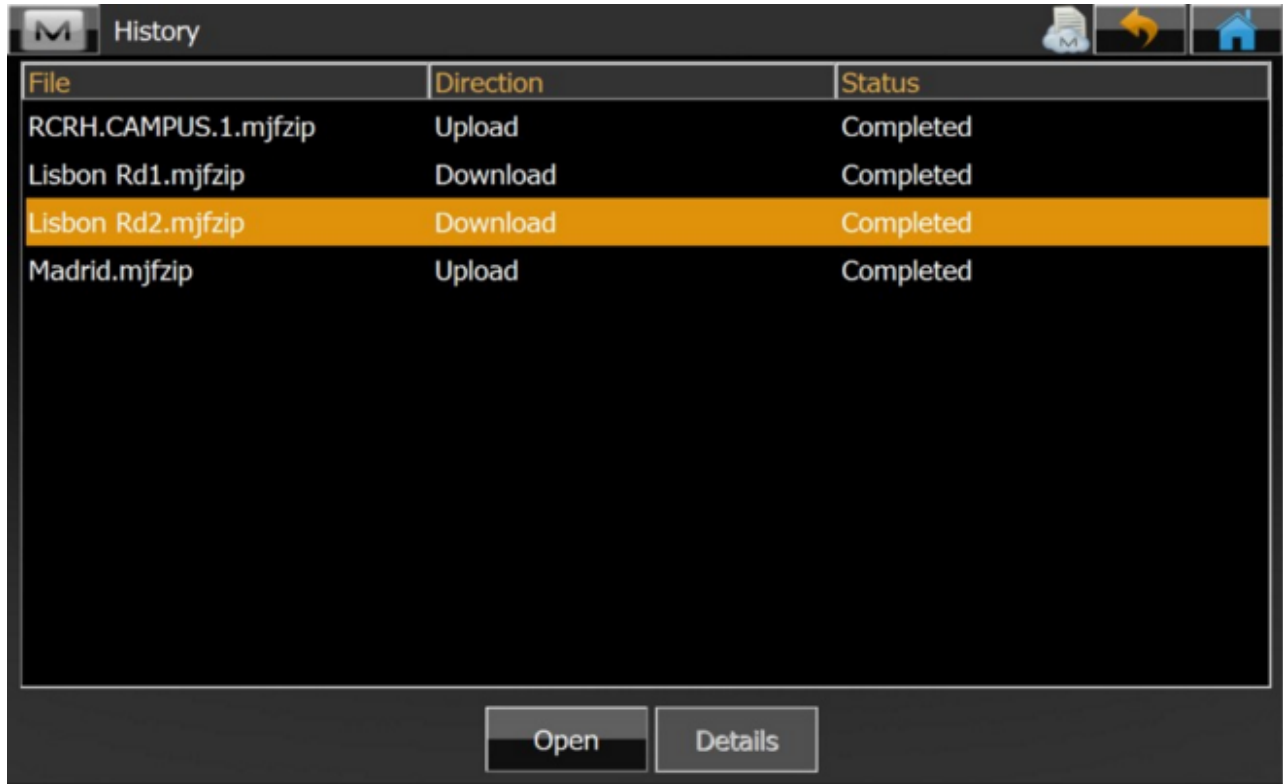


- Added support for export of Photo Notes in OpenRoads Survey format

- Enterprise



- Updated and Simplified the Enterprise Exchange Feature
 - One Button Upload of Current Job
 - Upload and Download files from a Single dialog
 - Quickly change projects
- History Folder Added.
 - Shows a summary of all uploads and downloads
 - One Button open on download, including *.mjfzip



File	Direction	Status
RCRH.CAMPUS.1.mjfzip	Upload	Completed
Lisbon Rd1.mjfzip	Download	Completed
Lisbon Rd2.mjfzip	Download	Completed
Madrid.mjfzip	Upload	Completed

Open Details

- Added the ability to attach scan files using 'save Job as'.
- Added Total Station FW version to the Job Info
- After 'Save Job As' added the option to open the job
- Export to Job now automatically uses the Job Name by default
- Added the ability when exporting 'APA-SIMA' format to export Codes as Notes
- For Shape file import (.SHP) support selection of folders with auto import of all shp files from selected folder (and subfolders) to match importing shapes from zip files.
- Added support for Alphanumeric point names in tp3 files
- Added support for millimeter (mm) as units to import wizard
- Added the option of exporting custom code style to SBG format
- Added support for heights in line-points in LandXML file
- Added the option to export the prism constant with Topcon Custom TS (*.txt)
- Updated Import/Export Code Library so the default delimiter is now a comma

- Updated support for *.dgn files to support the latest version
- Updated GC3 file definition to include mmGPS calibration information
- Updated TP3 file support to allow import of a TP3 file that has mmGPS Setup information included
- Added the option to export a level run in text (*.txt) format.
- Added support for GSI16 format in Raw Data Export
- Added the ability to export Lines 'By Layer'
- Added support for MOSS String Cross Sections

Edit

New Features/Improvements:

- Edit Points
 - Added the option to Sort by Nearest to the option list
 - When using a Total Station for Topo measurement, open the Edit Points dialog, the list jumps to the last measured point
- Edit Raw Data
 - Added information about additional Satellite Systems (BDS, QZSS, SBASS)
- Added the ability to edit prism constants in Raw Data
- General Usability
 - Added Copy/Paste to all editable fields
 - Added the ability in Point lists to sort the data by any column: Name, Time, Code, Type

Job

New Features/Improvements:

- Added the ability to attach scan files using 'Save Job As'.
- Added Total Station FW version to the Job Info
- After 'Save Job As' added the option to open the job
- Export to Job now automatically uses the Job Name by default

- Enhanced Backup Settings:
 - Added options for Number of Backups to save from 'Today' and number of Days to save

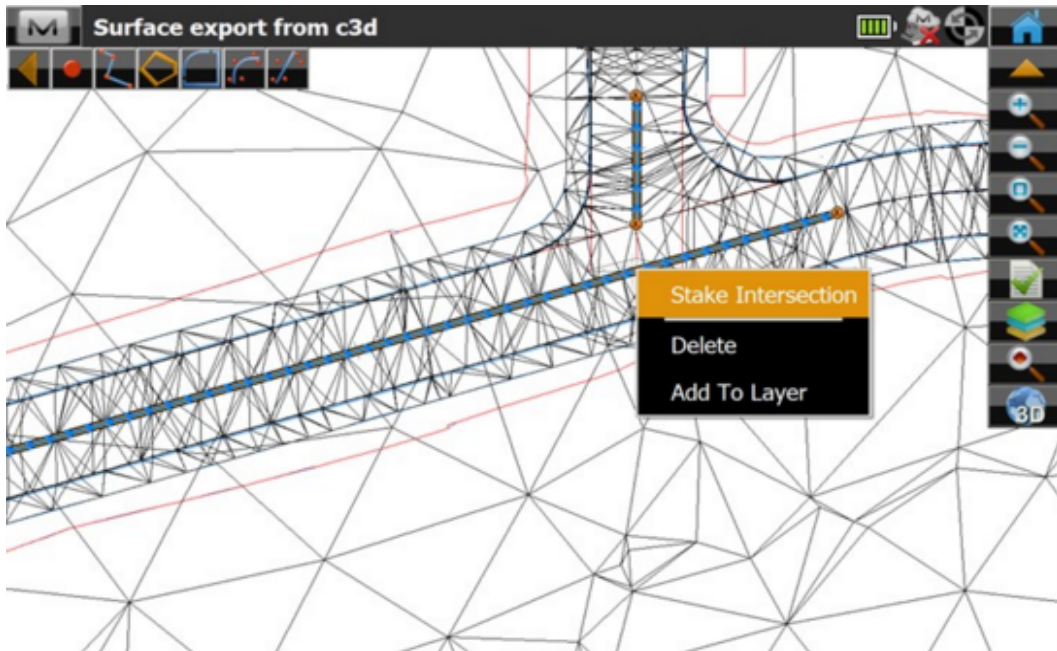
Map

New Features/Improvements:

- Enhanced 3d Mode button options
 - Top, Front, Perspective, Pan and Rotate buttons added to the 3D view



- Allow users to select Multi-segment linework on the map and stake the intersection of two segments



- On the Main Map, when selecting a point, the name of the selected point is now highlighted.
- Improved readability of text shown on the main map by outlining text
- Added a setting for Map Label Name font in the data labels selection page
- Improved Landscape Layout of Field reports when printing to PDF. The picture space now takes up most of the page space
- Enhanced point properties information when double clicking on a point. Coding is now completely shown
- 3D Map Properties: added label properties and support for Label Font size options
- Enhanced 3D Map tools
- Added an option to hide Staked Points
- Added 'Purge All' command to delete all empty layers
- North arrow – when the map is rotated, the north arrow now rotates with the map
- Enhanced the rotating/moving map so the map rotates and moves but your 'position' remains at the center of the screen.
- Enhanced linework support to allow staking of a segment of linework directly from the Map
- Support breakline/exclusion area code flags when creating surfaces in measure routines. When creating a boundary and having the option of breakline selected for the boundary line, MF will now recognize the boundary.

- Enhanced the main **map Right Click** menu to allow the following options:
 - When One linework segment is selected:
 - Stake Linework
 - Stake Line (Segment)
 - When Two segments are selected:
 - Stake Intersection
 - When One segment and One point selected
 - Stake Perpendicular
- Map Properties
 - Added 'select All' and Unselect All buttons to Map Properties
 - Updated Font Properties
 - Updated Map Properties to use Icons for tabs
- Added support for WMS-Maps as background on the Map

Setup

New Features/Improvements:

- Added BS setup errors to Raw Data
- Updated BS setup to remove the 'Fixed Ht' setting. The HR value in the BS screen is now separate from the HR value in Topo, so the setting was no longer needed.
- Added 'Setup instrument for 3DMC' to BS Setup Screen.
- Enhanced the Backsight Configuration so 'Automatically Display BS Setup' is on by default.
- Added the ability to edit the coordinates of the resection points in the field with automatically recalculation of the resection and recomputing the coordinates of already measured points.
 - Allow users to specify which point will be the Backsight point in the Resection Results screen



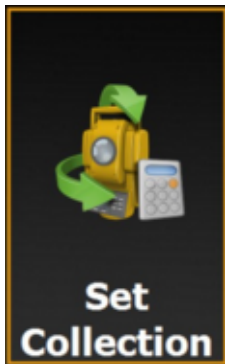
The screenshot shows a software interface titled "Resection 2D+H: Results". The interface includes a menu bar with "EDM", a gear icon, a yellow arrow icon, and a home icon. Below the menu bar is a table with the following columns: BS, Point, Res N, Res E, Res H, H, V, HA, VA, SD, HR, Target Type, and P. The table contains two rows of data.

BS	Point	Res N	Res E	Res H	H	V	HA	VA	SD	HR	Target Type	P
<input checked="" type="checkbox"/>	9231				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	3.000	Prism	T
<input type="checkbox"/>	8005				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	3.000	Prism	T

- Added the ability to edit the coordinates of the resection points in the field with automatically recalculation of the resection and recomputing the coordinates of already measured points
- Added the ability to store the Resection results as a text (*.txt) file
- Added the Observation Info page to the Setup Wizard

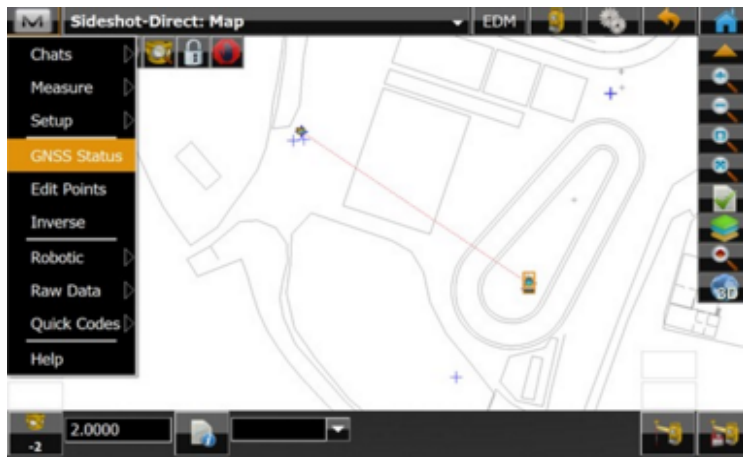
Survey

New Features/Improvements:



- Set Collection/Predefined Points
 - HR now changes to correspond with Target Type
 - Added a warning when measurements are out of the acceptable range
 - Users can now skip a measurement in Set Collection
 - Added sort buttons to Set Collection classes
 - Added the ability in Set Collection to take measurements manually in auto Mode
 - Store observation data after each direction in Set Collection
 - When accepting a measurement, a message is now shown confirming the observation
 - Added the 'settings' button to Set Collection
 - Added a Prompt to continue from last observation
- Monitoring
 - Added additional settings for Direct/Reverse to allow for more than 1 set
- Grid Scan
 - Added Scan Mode Controls: Fine, Course and Grid
 - The measurement grid now allows the user to input a required distance between scanned points
 - Added support for defining an oblique plane defined by three or four corner points
 - Transfer scan files in 'Save Job As'

- Topo
 - Added 'HD to Last Point' to Topo and Auto Topo in GNSS Mode
 - Added the ability to have persistent multi-codes
 - Enhanced Auto Topo so users who have the 20Hz upgrade on the PS can collect points at 0.1s . Exporting points will also have output measurements timestamp: hh:mm:sss
 - Added the option in Topo and Auto Topo to stream Raw data/Coordinates to a COM port
 - Added Weighted Average for Optical Measurements
 - In Optical Mode, added the following Data Labels:
 - Distance/Az From BS
 - Distance/Az from Setup
 - Updated the Data Labels – when data is unavailable for a field, show N/A rather than blank fields
- Hybrid
 - Added GNSS Status to the 'M' menu when in Hybrid Mode (Optical)



- Added the GNSS status bar when using Offset Measurements.
- Prism Contant
 - Added the prism constant value to the prism button in the User Interface
- Status
 - Added support for battery charge level reported by GNSS Receiver

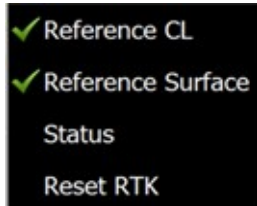
Stake

New Features/Improvements:

Reference Surfaces:

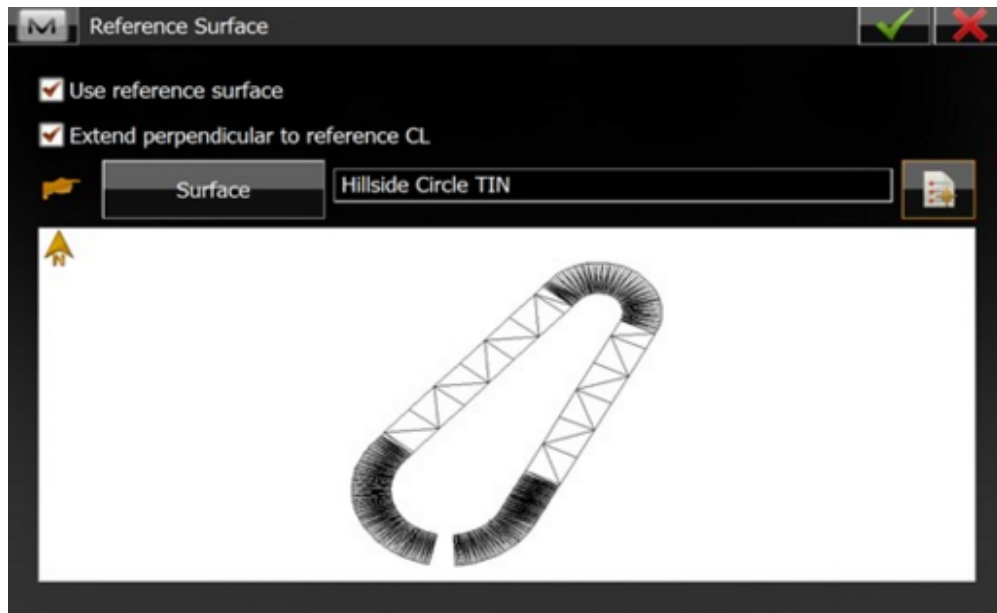
- Reference Surface:

- Added Reference Surface as an option to all Stake routines including: Roads, RealTime Roads, Point, Linework



- Extend Surface

- Added the option to Extend a Surface perpendicular to a Reference Line



- Load Times

- Significantly improved performance when loading surfaces into WM/CE Controllers

- Stake Surface:

- Added the option to display the design offset value on the map.

- Stake Road:

- Added Stake Road display options to Stake Surface/Stake RealTime Road. Added the display option of 'Reference CL Chainage or Offset' when using Stake>Surface and also Stake>Real Time Road.
- Enhanced Stake Road so the selected Alignment or Reference CL is now highlighted on the

- Map
 - Enhanced Stake Road to keep the Reference Set when stepping through screens in stakeout
 - Added Support for Cubic Parabola curves for Alignments
 - Enhanced Stake Road so when the user passes the end of the road, asterics (*) are displayed to inform the user they are beyond the end of the design
 - Edit Roads – added a warning message before closing editing window to remind user to save before exiting.
 - Extend Reference CL option to include Road and Hz alignment options
- Stake Point
 - Stake Point from Map improved so the user is returned to the map screen after selecting and staking a point from the Map
 - Enhanced Stake Point in Direction to support selection of linework segment
- Stake Grid:
 - Added Distance and Direction to 'next point' in Stake Grid
 - Added the option to define the limits of the Grid based on distance from the origin point
-
- Added the option in Stake Configuration to not show already staked points.
- Enhanced Stake Points and Line List options to create custom list(s) of points or lines and maintain the order of items added to the list.
- Added an option in the EDM settings to automatically start measuring in stakeout when in Reflectorless mode
- Added the ability to stake points with Weighted average
- Enhanced Stakeout setting to allow the user to choose left/right display from the Rod 'perspective'

Reports

New Features/Improvements:

- Reports
 - Added an option to store Field and Stake Reports as a PDF in Landscape Mode
 - Added Deflection Angle to Vertical Curve reports
 - Added the ability to save Two Peg Test results to a file

Resolved Issues

Resolved Issues:

- Resolved an issue in Survey Configuration when selecting the 2G/3G switch. The settings were not retained.
- Resolved an issue when importing ISPOL files. Elevations were not importing correctly.
- Resolved an issue when taking Direct/Reverse measurements to a sheet. The incorrect command was used when taking the Reverse measurement.
- Resolved an issue when using DUFII radios. The default baud rate is now 38400.
- Resolved an issue when opening 3.x jobs with background images. The user settings are now retained on upgrade to 4.0
- Resolved an issue when using an IS Instrument and aiming the instrument via the Camera. The distances turned were not correct.
- Resolved an issue when installing the German language help file. The file was not being copied to the correct folder on the field controller
- Resolved an issue when using existing Custom Stake Reports in New Jobs. The reports were not available in the new job.
- Resolved an issue with the wrong battery level being shown when using a HiPerSR.

MAGNET Office - V4.0

General

The following additions/revisions have been made to MAGNET Office Site, Topo and Layout.

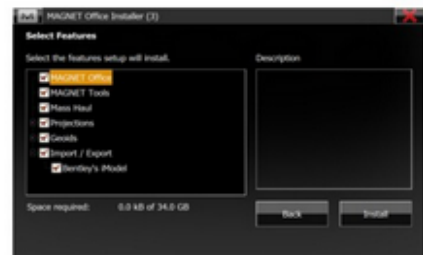
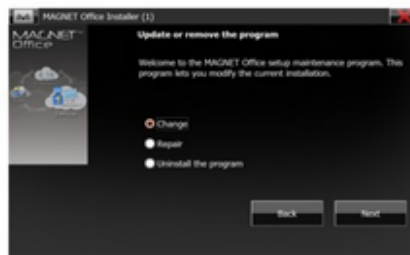
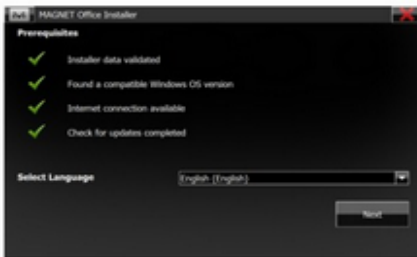
Unless noted, the improvements and/or revisions listed below are included in all MAGNET Office Products

When updates apply to specific products use the following key to identify the affected modules.

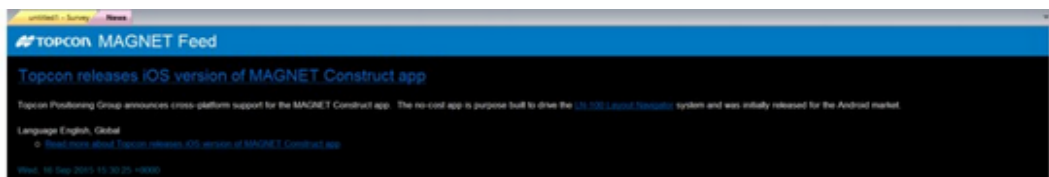
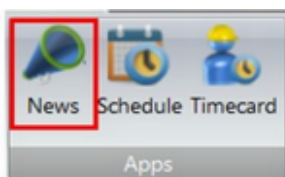
- MAGNET Office Site (MOS)
- MAGNET Office Topo (MOT)
- MAGNET Office Layout (MOL)
- MAGNET Office Mass Haul (MOM)
- MAGNET Office Takeoff (MTO)
- MAGNET Office Resurfacing (MOR)

New Features/Improvements:

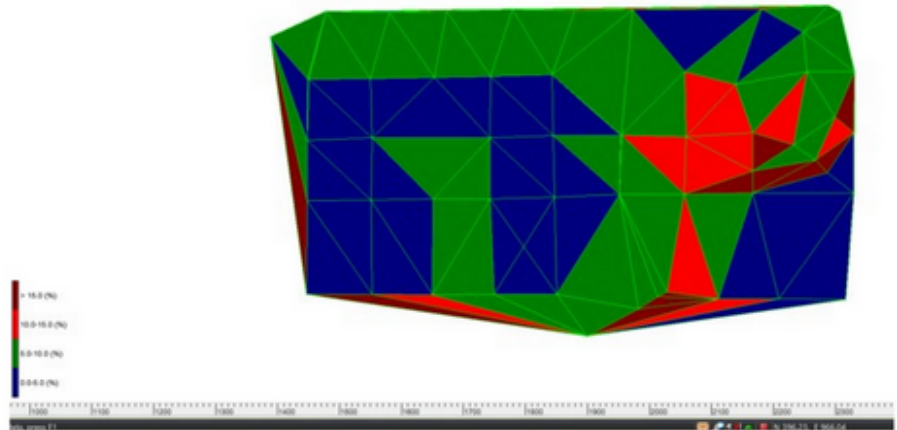
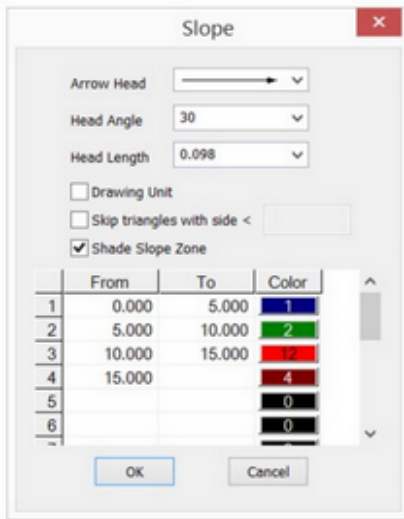
- Implemented new unified installation interface from MAGNET Field.



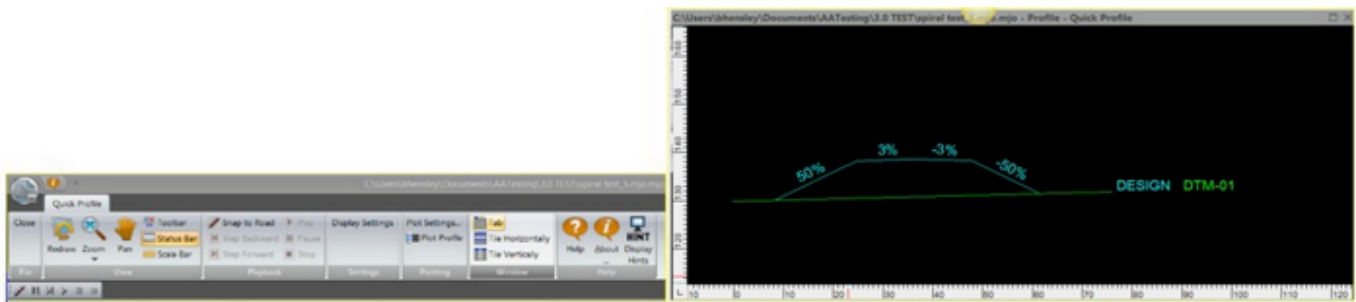
- MAGNET Office Site/Topo/Tools products are included in a single installer with the option to install each product.
 - Magnet Office Layout uses the new installation interface but is not bundled in the MAGNET Office/Magnet Tools installation. MAGNET Office Layout requires a unique installation package which can be downloaded from TopconCare.com.
- Added "News" to the Cloud Connection ribbon, Apps group.



- Added new options to the DTM Slope Arrow Settings.(MOT, MOS)
 - Added new Slope Arrow options and display controls.
 - Added the ability to control the number of slope arrows drawn by specifying the maximum length of the triangle edge.
 - Added new option to color fill slope zones based on user define slope settings.
- Added new option to "Auto Hide" slope arrows in the General Settings dialog

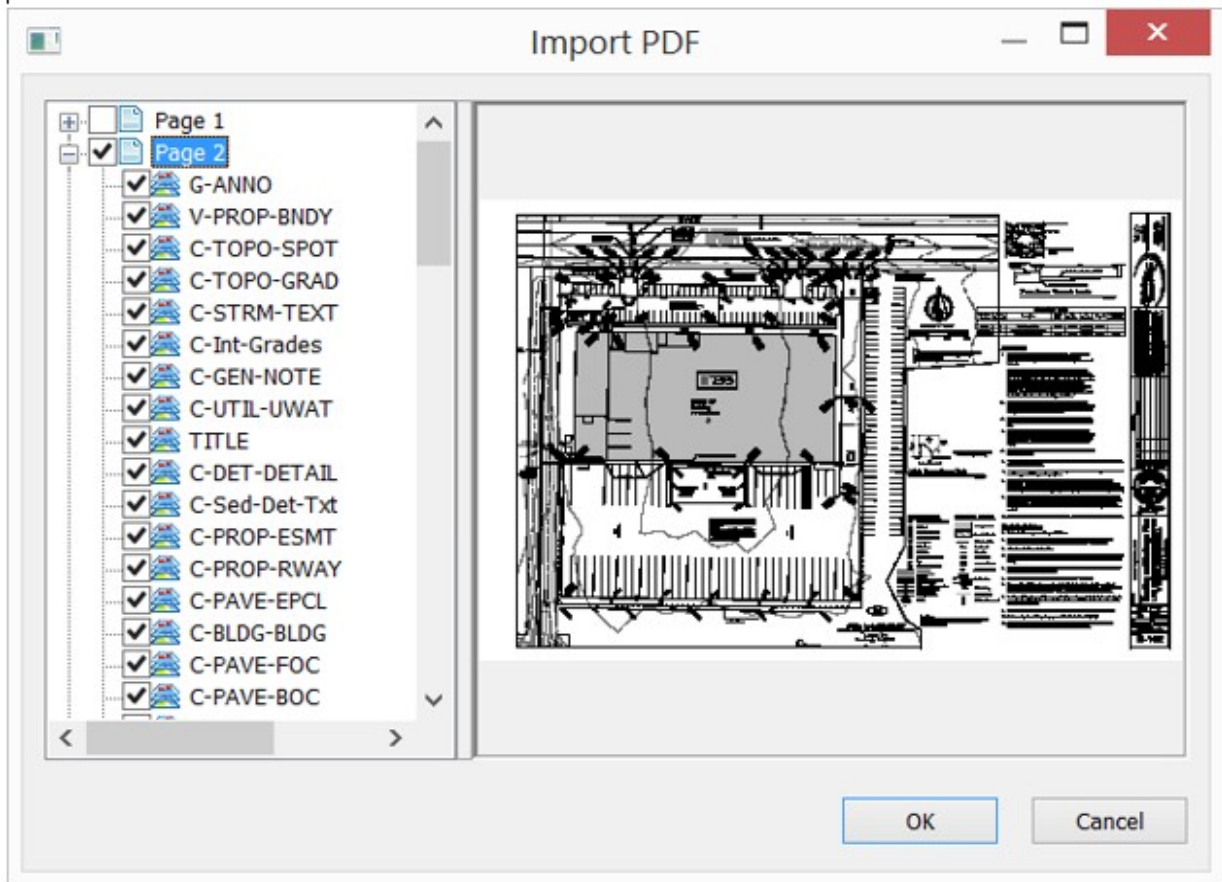


- Added new Quick Profile function in the Design Ribbon, Profile Group. This function creates a profile view that contains a specific set of functionality for viewing and reviewing information from multiple surfaces simultaneously. **(MSite)**



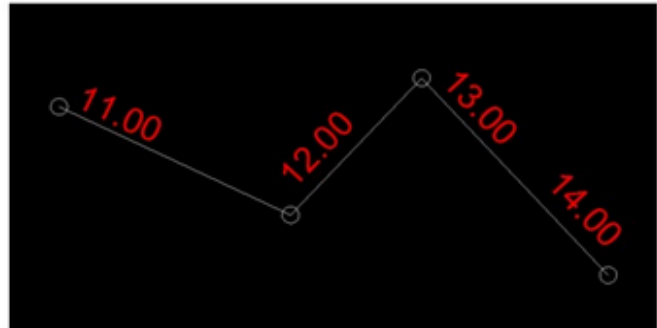
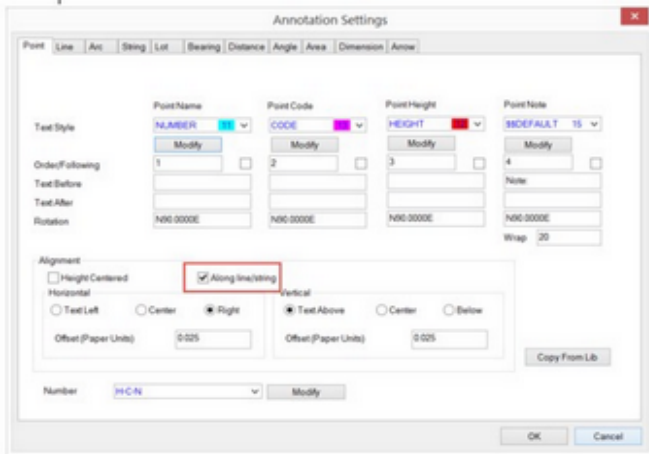
- Snap to Road – snaps to an alignment crossed by the profile route enabling the play function which automatically advances along the alignment at a user specified cross section interval. Step back and step forward by cross section interval is available.
- Multiple Quick Profile views can be opened at the same time.
- Display options – allows for display options for DTMs, slopes along DTMs, slope reference, and vertical exaggeration.

- The profile reference line can be selected and the position changed to reflect a profile of a different area than originally displayed. Profile data updates real-time.
- Import/Export
 - Added new option of not creating points on lines when importing dwg/dxf/pdf/dgn files. This option greatly reduces the time to import complex and busy CAD files. Note: Not all modify or insert functionality can be used with objects without points. Use the Create Point on Entity option to create points on entities when required.
 - Improved AutoDESK *.dwg import support.
 - Added support for the import/export of Bentley I-Model formats. Import support *.icm.dgn and *.idgnbd formats. Export supports the *.icm.dgn, *.idgnbd and *.imodel formats.
 - Added support for import of CPIXML files.
 - Added New Customizable ASCII file import routine.
 - User entered data order is retained and added to the order list.
 - Added option to include Layer name in data order.
 - No longer required to select specific text file type. Support extensions are listed.
 - Revised Export ASCII Text files to include option to export layer name.
 - Added PDF files to the Import/Export supported files. (MOL, MOS)
 - Supports the retention of layer data on import of pdf files containing layer data.
 - Pdf page preview has been added during import.
 - Supports display and selection of layer to import if page includes layers.

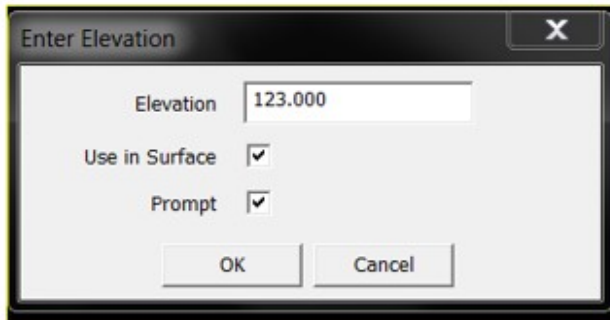


- Added option to enter or pick insertion point for pdf.
- Added option to set rotation of pdf by picking points on screen.

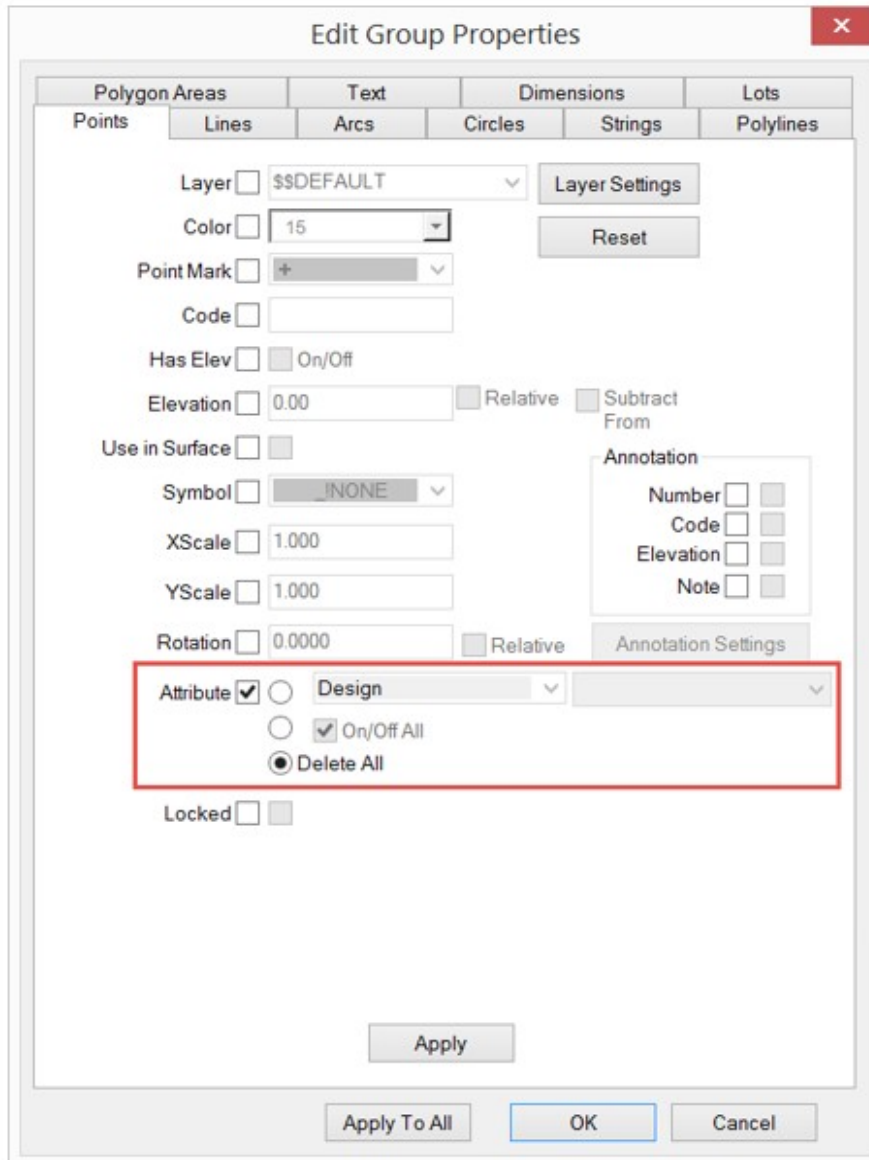
- Support export of project layers when exporting to pdf files.
 - Provides option to export layers that are turned off.
- When importing a pdf file from the Import function, the vector data is automatically extracted and created as polylines.
- Added support for Import/Export of MaXML (Topcon xml format).
- Added option to export MAGNET Office version 4 project to MAGNET Field v3 mjf file. Important: Version 4 mjo files cannot be opened in previous versions of MAGNET Office. Use this export option to create a mjf file that is compatible with previous MAGNET Office version 3 products.
- Implemented new positional setting, "Along Line/String" for Point Annotations. This option allows for aligning the point annotations displayed along a connecting line to a point. The option works for points connected to strings, lines, polygons, pads and boundaries.



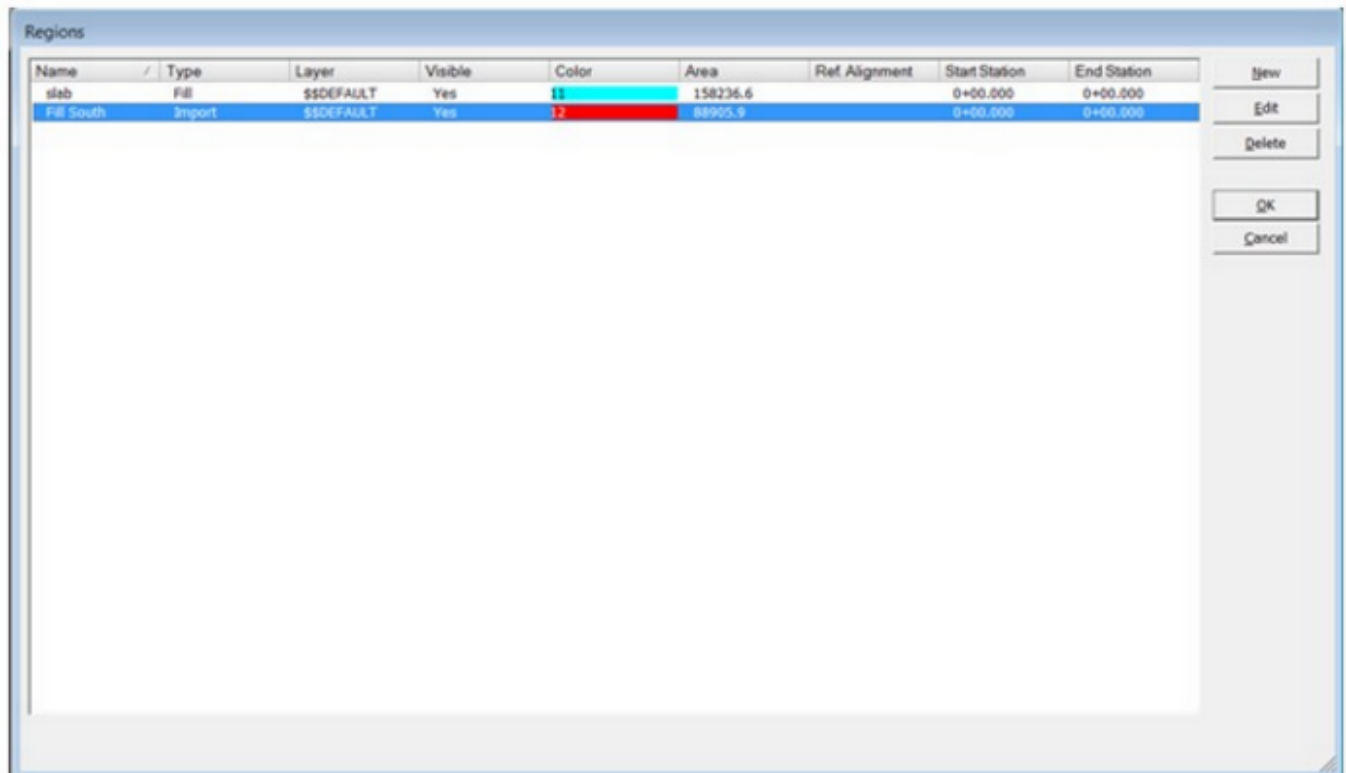
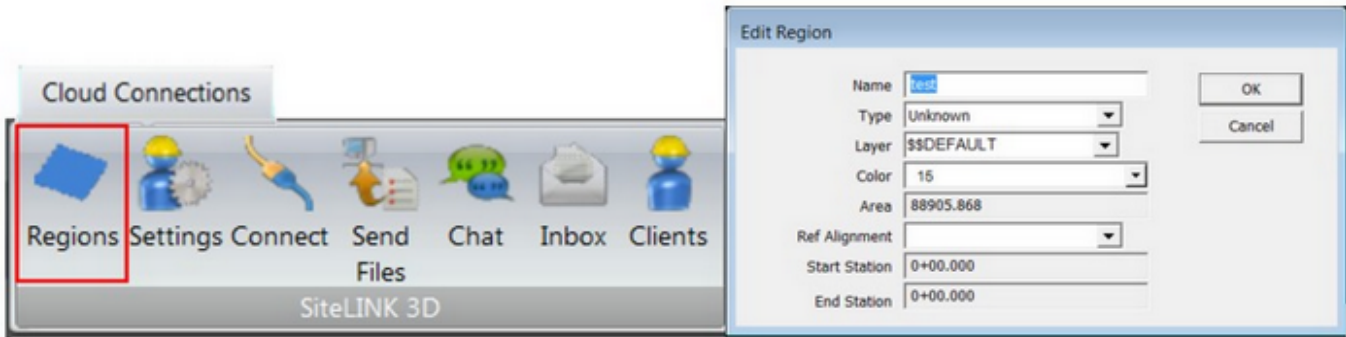
- Added new program preference setting (default ON) to prompt elevation for input point. An Elevation prompt box is displayed during point creation.



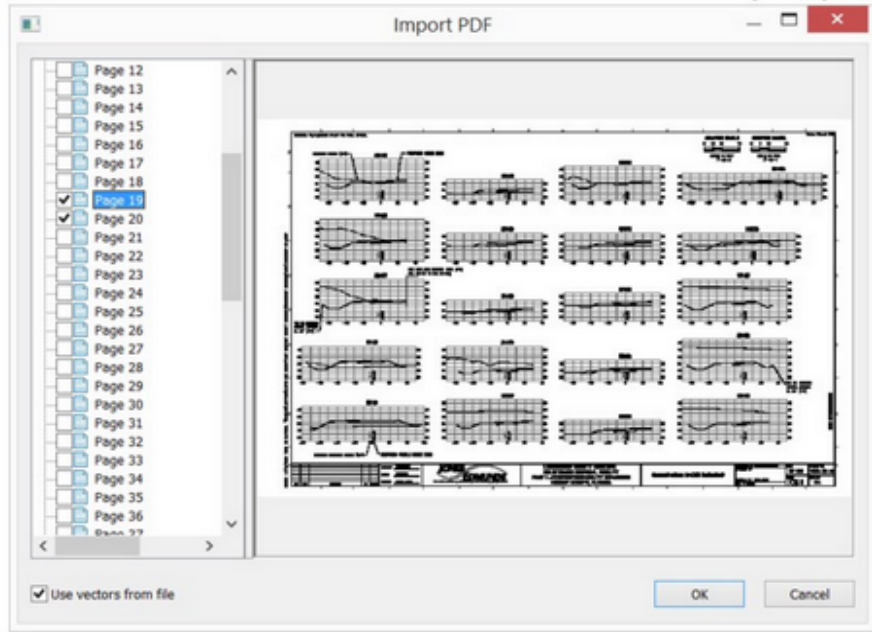
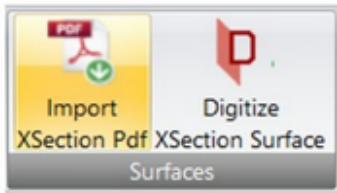
- Added options to the Edit Group Properties dialog for both points and lines for the global display or deletion of “all” attributes.



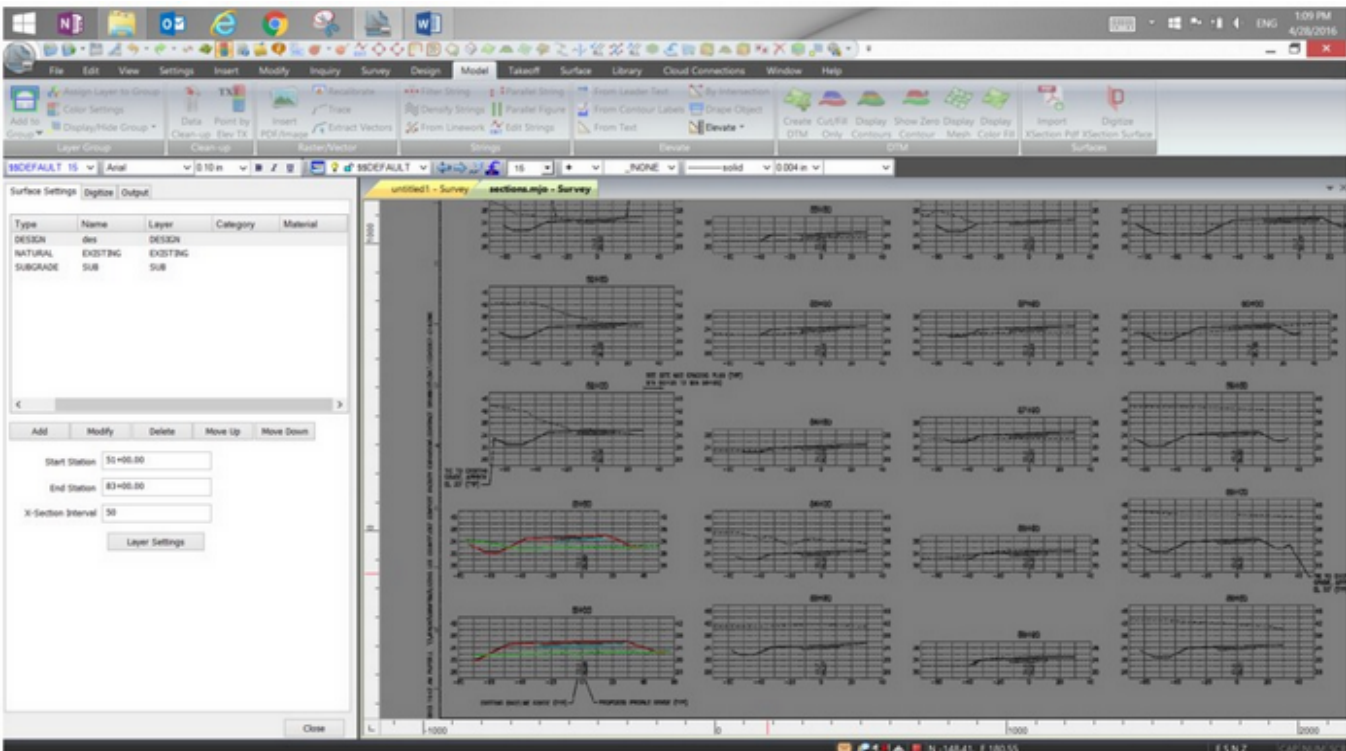
- Added option to create a Polygon Area containing an arc.
- Bing Maps is now available for use as a background image from the View ribbon, Features group. A coordinate projection must be set for a project before Bing Maps can be used.
- Added support for the creation, import and export of "Regions" for use in 3DMC systems and Pocket 3D. Polygons have been updated to support a flag for regions. There are two ways to define a region, 1) right click on an existing polygon and select "Create Region from Polygon" or from the Cloud Connections ribbon; Sitelink 3d group, select "Regions"; New and then select the polygon. (MOS)



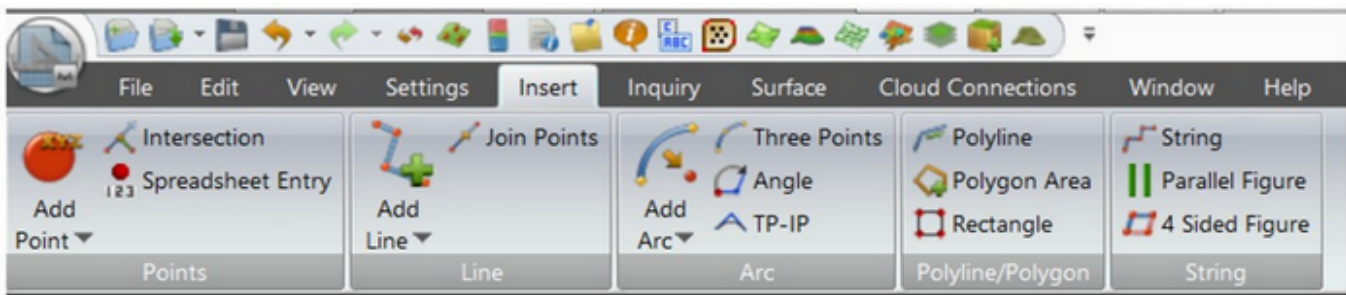
- Added new option to "Copy Attributes" from one object to another. The command is located in the Modify ribbon; Modify ribbon group.
- Added ePlan support for Victoria region in Australia. (MOT, MOS)
- Implemented "Site" project volume/material export to MAGNET Mass Haul module. Previous MAGNET version supported only road data volume/material support. (MOM)
- Added Import X-Section Pdf to the Model, Surfaces ribbon group. This option imports multiple pdf pages simultaneously for use with the Digitize Cross Section routine also located in the Model ribbon. (MOS)



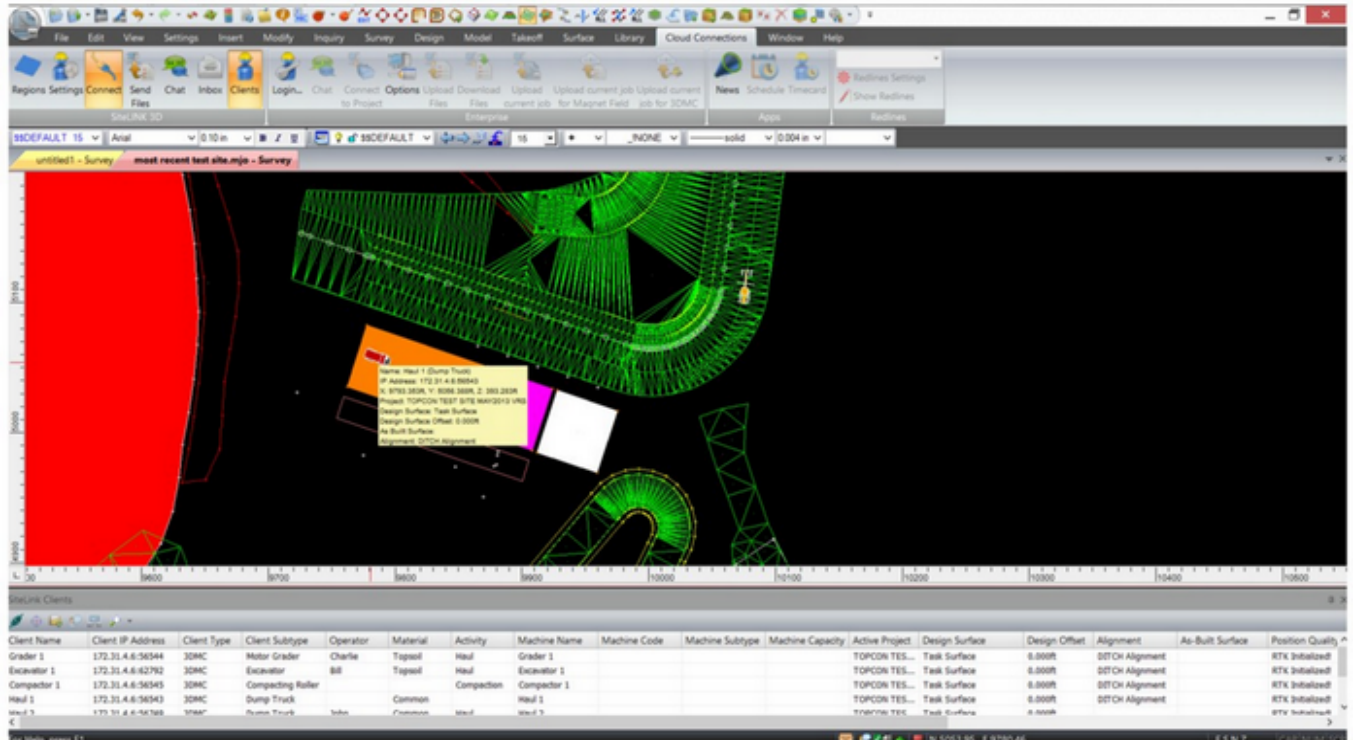
- Improved Digitize Cross Section routine with new UI. (MOS)
 - Surface settings for Layers and order of entry.
 - Option to add material to subgrade surface.



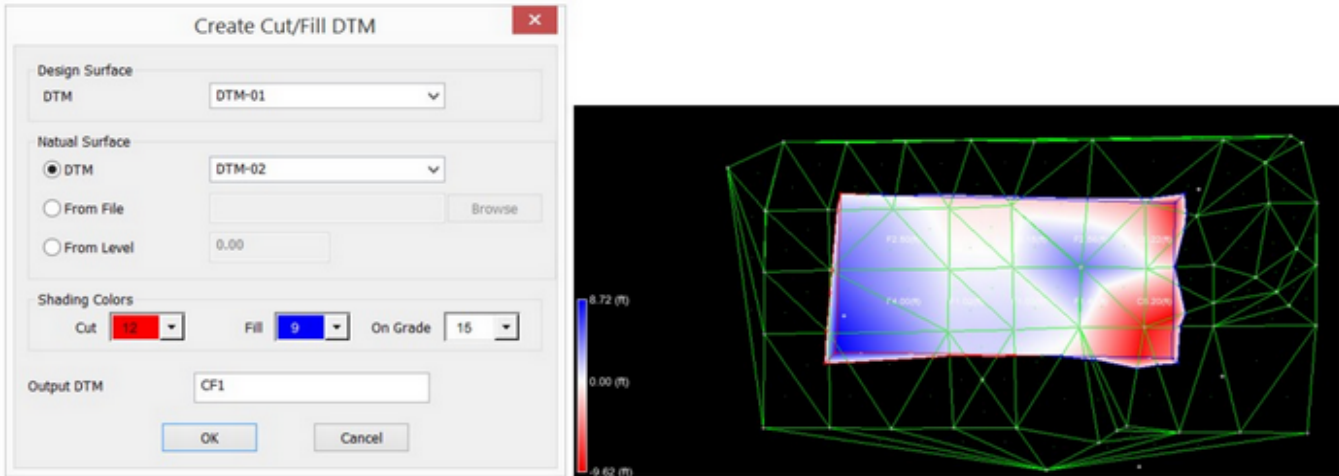
- New options for extracting cross section surface data.
 - From Entities
 - From PDF
 - From Layers
- Provides Output options
 - DTM for any extracted surface
 - Offset Strings
 - Templates can be created from individual cross sections. Automatically stored to project road view for use with road revisions and creation.
- Update 3D View and 3D Tab to allow for inserting of points, lines, strings, polylines, polygons and arcs.



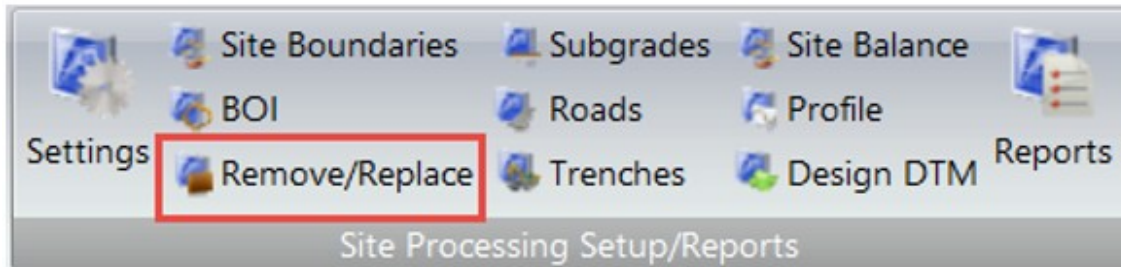
- Added display of machines in the survey view when connected to a SiteLink project. (MOS)



- Added support for MAGNET Enterprise Data Manager. MAGNET Enterprise users can now see the new folder structure in Enterprise.
- Alignments have been updated to include support for the calculation of spiral curves using the Clothoid method or Cubic Parabolas. (MOT, MOS)
- Elevate From Leader Text has improved the general functionality of the routine. (MOS)
 - Leaders can now be represented by lines, strings or polylines.
 - A tolerance setting for the distance from the end of the leader to the point to elevate can now be specified by using the right click context menu. Select the "Tolerance" option after starting the Elevate From Leader command.
- Improved Cut/Fill shading to allow for shade color definition for cut, fill and on grade. Default settings as shown below. (MOT, MOS)



- The Takeoff interface has been revised to include only Site, BOI and Replace/Remove Boundaries that are in the Design Layer group. If adding a boundary of these types while in the Takeoff interface, the boundary will be added to the design group automatically. If the boundary is added in the survey (CAD) view the boundary must be added manually to the design layer group. (MTO)
- Added length to the curb & gutter material calculations in the Takeoff report. (MTO)
- Added "Demolition" areas and demolition material definition options in the Takeoff interface. (MTO)
 - "Topsoil" has been renamed to "Remove/Replace" in the Site Processing ribbon group.



- Demolition area materials are defined by toggling on the "Demolition" option on the remove/replace dialog.

Remove/Replace Area

Used

Name

Topsoil Demolition

Remove

Remove depth

Use as Exclusion

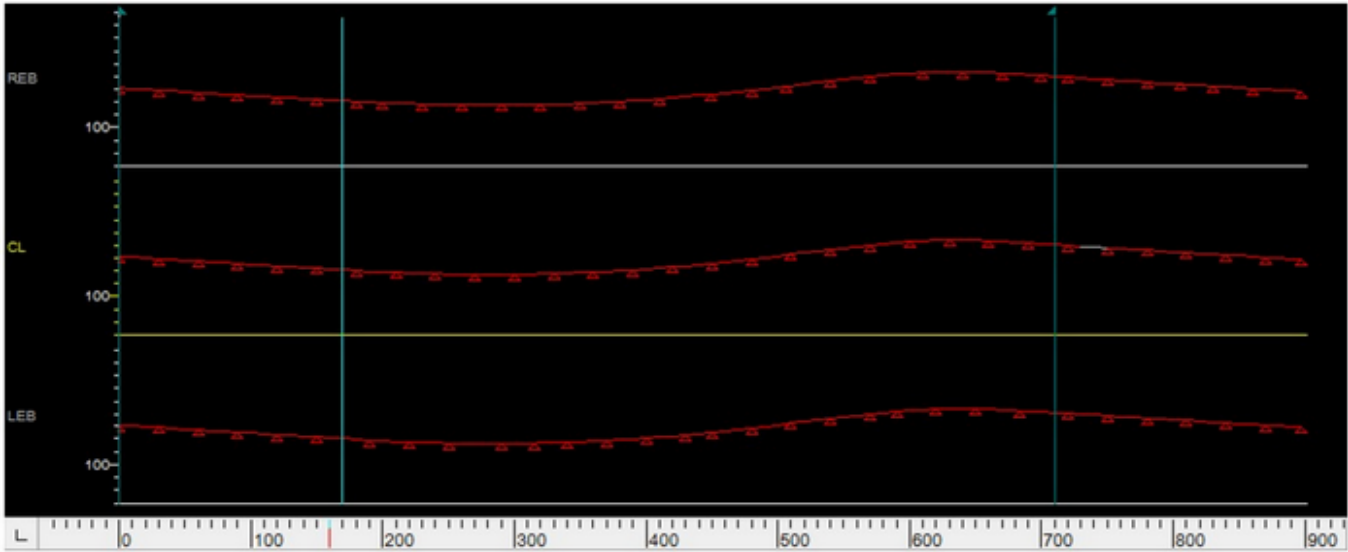
Replace

Replace height

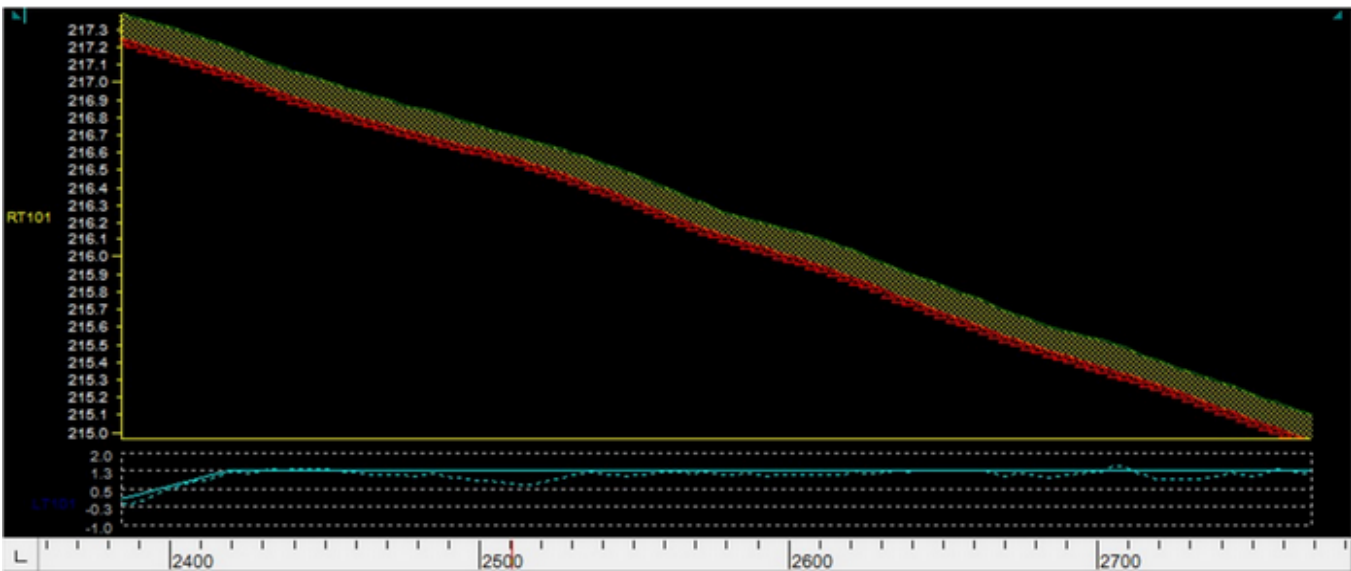
Use as Exclusion

Material	Depth
Concrete	6.0

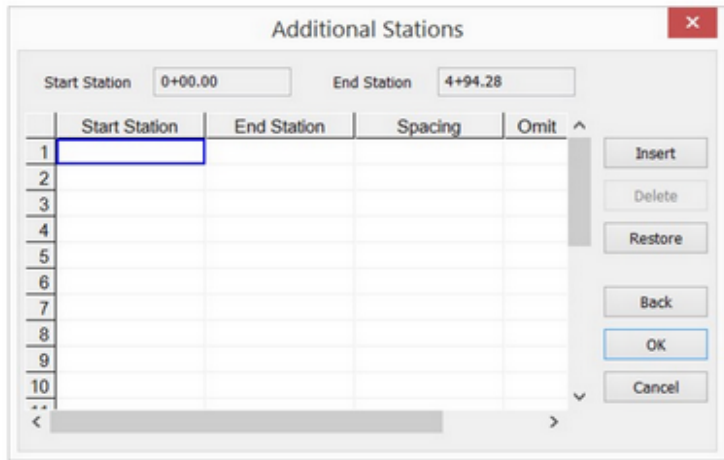
- Improved the setup of a project for Takeoff calculations. (MTO)
 - Removed restriction between boundaries and other polygon types in the Takeoff Interface.
 - All polygon types can be assigned to Site Boundaries, BOI, removal/replacement areas and subgrades.
 - All entities can have multiple purposes. For example a polygon may be a topsoil removal area as well as subgrade.
- Added user defined data display in Plan/Profile/Cross Section within the resurfacing view. (MOR)
- Revised the Resurface view Start and End "Mark" setting to allow for dragging the marks to the desired location. (MOR)



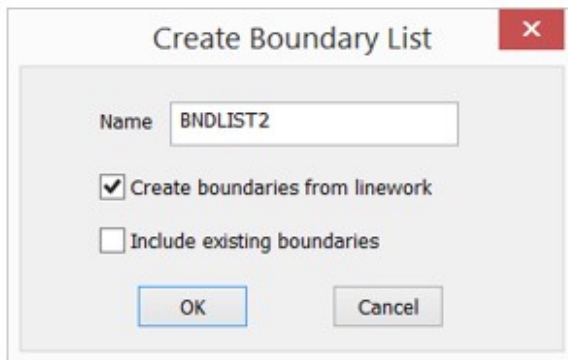
- Added the display of both design and natural cross slope in the Slope Graph in the Profile window within the Resurface view. (MOR)



- Road creation, when not extracting cross sections before opening the "Road" view has been improved to include the "Additional Chainages/Stations" dialog. Pressing the Next button will advance to the Additional Chainages/Stations dialog allowing for revision before opening the road view. (MOS)

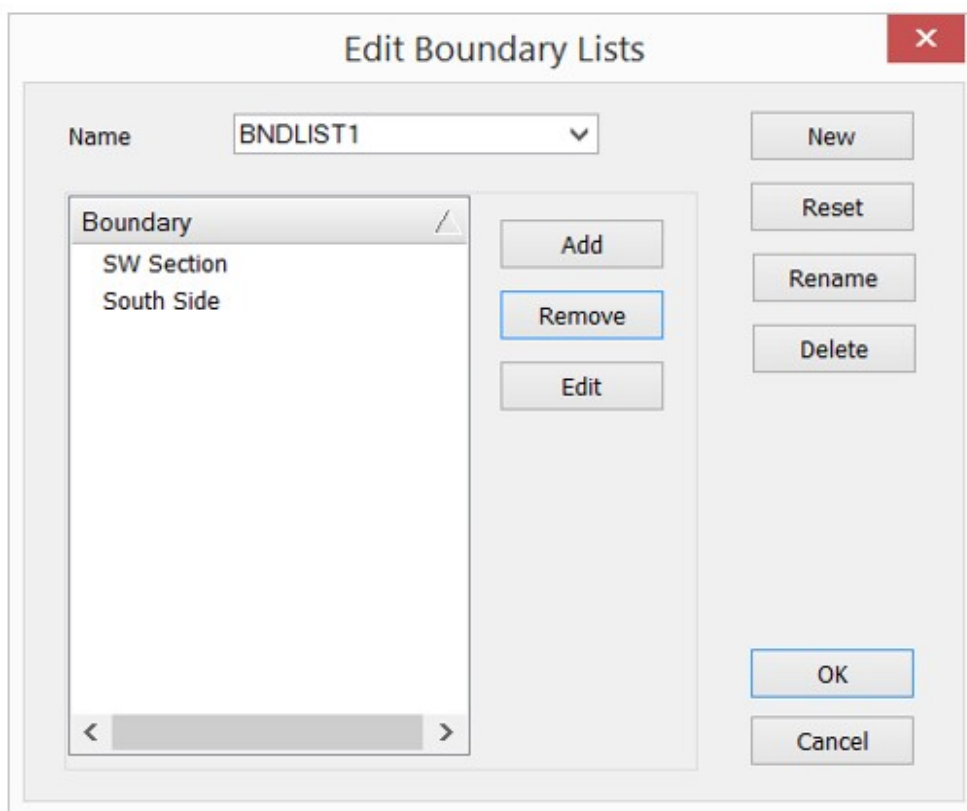


- Create Boundary List improvements. (MOS, MOT)
 - Dialog title is changed to “Create Boundary List”



- Added a new check box “Create Boundaries from Linework”
 - This check box is checked by default.
 - If this check box is checked and user had a selection made, MO will try to create boundaries from the closed linework (lines\arcs\strings\polygon) from the selection.
 - If this check box is checked and user did not have a selection made, MO will try to create boundaries from all the closed linework (lines\arcs\strings\polygon).
- Changed the behavior of the c check box “Include Existing Boundaries”
 - This check box is un-checked by default.
 - If user checks this check box, it will open the “Boundaries” dialog and all the existing boundaries will be listed in that dialog.
 - From the dialog, user can select the boundaries to be included in the boundary list

- From the dialog, user can click the “Pick Boundary” button to pick the boundary from the screen. The selected boundary will be highlighted and the user can continue picking to multi select the boundaries.
 - From the dialog, select the “New Boundary” button to create a new boundary by locating the points\locations on the screen.
 - The selected boundaries will be added to the list only if user click OK to the “Boundaries” dialog.
 - If this check box is un-checked, none of the existing boundaries will be added to the list.
- Edit Boundary List Improvements. (MOS, MOT)
 - The “Edit Boundary Lists” dialog is a new feature.



- The dialog will list all the existing boundaries in the dropdown list
- The boundaries in the selected Boundary List will be listed in a table below
- User can create a new Boundary List by clicking the “New” button. The “Name” field will be populated with next boundary list name and user can change it if needed.
- User can revert the very last change (Boundary List name change or Add\remove of boundaries) by clicking the “Reset” button.
- User can rename the existing Boundary List by clicking the “Rename” button. The “Name” field

will be made editable to make the change.

- User can delete the existing Boundary List by clicking the “Delete” button. Please note that it will only delete the Boundary List not the individual boundaries inside it.
 - User can add any existing boundaries to the selected Boundary List by clicking the “Add” button, it will open the “Boundaries” dialog and user can use the options as described before.
 - User can remove already added boundaries from the selected Boundary IList by clicking the “Remove” button.
- A “Purge” command has been added to the File ribbon.
 - Allows for the purging of deleted data from a project at any time.
 - After running the Purge command, previous changes cannot be undone by using the undo option. An alert before completing the purge is displayed and requires confirmation before a purge is executed.
 - The result of a Purge will be a smaller sized mjo file depending on how much data was deleted and then purged.
 - The purge command runs automatically during the normal use of the program. When certain criteria is met the purge option will be engaged automatically.

Revisions:

- Resolved issue with converting multiple lines to strings not retaining the layer properties of the selected lines
- Resolved issue with Lot numbering when using ePlan. Lots are not correctly numbered when in format Parcel #/Existing plan reference #.
- Resolved issue with Genio file order when loading into Genio Translation Table.
- Revised Move Selection option from the right click menu to provide same options as the Move option in the modify menu.
- Resolved issue with midpoint of arc being deleted when converting an arc to chords. Routine now provides option to delete or retain the point.
- Resolved issue with applying road number prefixes to strings created in the survey view when using the data transfer option from the road view.
- Resolved issue with multi-line text imported as part of a dwg file being extended beyond the text box border.
- Resolved issue with alignment start station not being applied to strings. This occurred when adding strings to the road view using the Add String option.
- Revised the “Check/Edit Breakline” option display a message when no invalid breaklines are found.
- Corrected issue with an Alignment Report listing duplicate stations/chainages.

- Corrected issue with Export to Leica Road Runner files not including surfaces.
- Resolved issue with cross section "Half Angle" section lines not being displayed correctly.
- Resolved issue with Attributes containing a long list of values not importing into Magnet Office.
- Corrected issue with the "Legal Description Writer" template components not inserting into description template correctly.
- Resolved issue when moving an Alignment created by elements. When moving the alignment some elements were not moved to destination location.
- Corrected issue with exported projects containing contours to AutoDESK drawing format. If contours were set to use a linetype other than solid the contours were not exported to the dwg.
- Resolved issue with exporting Annotations as attributes to AutoDESK dwg files. Converted annotations were being located at 0,0 in the dwg file.
- Resolved issue with Alignment starting stations in Resurface View. When modifying the starting station of a resurface alignment by using the alignment property dialog, the changes were not being reflected in the resurface view.

MAGNET Enterprise - V4.0

General

New Features/Improvements:

Project Location Improvement

- The user is now allowed to georeference projects by entering the project address

Sitelink Integration

- Sitelink sites can now be integrated into MAGNET Enterprise
- See the Sitelink site and the associated machines and clients, with their status
- Upload files to one or more machines on a Sitelink site
- Send a message to one or more machines

Web Folder

- The Web Folder is a personal folder that has its own web address
- It can be used as a network location or as a folder to share data with AutoCAD 360

Bentley Integration

- Bentley repositories can now be integrated into MAGNET Enterprise
- Copy Bentley files directly to MAGNET Enterprise

Job File Conversion

- The user is able to convert supported file types to new formats

Job File Export

- Select which features to export, for example a single surface or road
- Convert the file to a new format
- Name the new file
- Select a destination for the new file

Help File Update

- The content of the help file has been updated to reflect MAGNET Enterprise 4.0 changes

MAGNET Tools - V4.0

General

General

- New installation unified with MAGNET Field
- MAGNET Tools and MAGNET Office are now a single installation with options to install just one product
- Support AutoCAD/Civil3D 2016, 2017
- Add new command to collect all support information to the one file and ability to send it to support

License management

- Single Sign On authorization now supported
- Redirect account creating and reset password to the official MAGNET Enterprise web site
- New option to store credentials for activation
- Add ability to copy device from activation dialog for offline activation
- For the network license, show the list of available configurations from the server. (In case of using the new license server)
- Auto restart of application after set of activated modules is changed

Coordinate Systems

- Croatian projection
- Polish coordinate system
- CGCS2000 ellipsoid
- Indiana Geospatial coordinate system (inGCS)
- Oman National Geodetic datum (ONGD14)
- New Zealand NZ2009 geoid
- QATAR geoid
- Colombia GEOCOL2004 geoid
- Add option to save geoids in Unicode/nonUnicode to gff format

Import/Export

- Improve import MX Genio and MOSS Genio formats
- Add support Microstation V8 DGN import/export
- Add support of Bentley I-Models formats.
 - Import support *.icm.dgn and *.idgnbd formats.
 - Export supports the *.icm.dgn, *.idgnbd and *.imodel formats
- Import GNSS raw data from the user defined site and url
- Export GSI16 files
- Add support of MaXML import/export
- Add option to catch points for X-Sections for LandXML import
- Import Prism Constant from NEU format
- Redesign advanced option for RINEX export to be able to exclude L2C and another signals
- Add Layer Name to custom text import format

- Import/Export TDOP values for MJF jobs
- Add ability to update only plane or elevation coordinates on resolve duplicate point dialog

Adjustment

- Added the ability to print the adjustment analysis window
- The adjustment analysis window is now dockable
- Show angle misclosure based on angle value
- Add setting for maximum number of iterations in adjustment
- Calculate traverse without BS data

Reports

- New Set Collection report
- New Surface Compare report

Miscellaneous

- Support Cubic Parabola curves for alignment
- Support editing bearing, azimuth, angle right and angle left on TS Observation dialog and tabular view
- Allow to edit imported Total Station and Digital Level measurements
- Allow to add manually angle only Total Station measurements
- Allow to in-place add manual Total Station observations in tabular view
- Remove some import formats from automatically recognition to avoid incorrect import
- Tabular view screen positions should be stored between application runs
- Add Rubber Band line preview to Add Line command
- Add G5-A1 and SA500 antennae
- Update antennae database from NGS
- Add INT function for Raw Data plot

Topcon Exchange for AutoCAD

General

General

- Topcon Exchange for AutoCAD is now supported in Civil 3D 2016