

Readme for Civil Site Design for BricsCAD

V20.31

This readme contains important information regarding the installation and use of Civil Site Design versions as described above.

This version of Civil Site Design is available for:

- BricsCAD V20 (64bit install)
 - BricsCAD Surface functionality must be included. This is supported for:
 - BricsCAD Platinum
 - BricsCAD Mechanical
 - BricsCAD BIM
 - BricsCAD Ultimate
 - **Build 20.1.08 or later** is required to be installed

Note: It is critical to ensure that the latest version of BricsCAD is installed.

CRITICAL INFORMATION FOR ALL CUSTOMERS - BACKWARDS COMPATIBILITY

Civil Site Design Database

After installing this version and opening a drawing, the CSD data structure may be updated and will not be compatible with Civil Site Design V19.01 or earlier. The drawing file itself (.dwg) is unaffected.

If you try opening the updated V19 format database in Civil Site Design V19.01, V18.211 or earlier then a message will display advising that the 'Road Data has been created by a later version of the software. Please update your software'. Installing this version of Civil Site Design (or any version from Civil Site Design V19.2 or later) will resolve this issue.

Note: A backup copy of the -Data folder is not made when the data format is updated.

BricsCAD Version

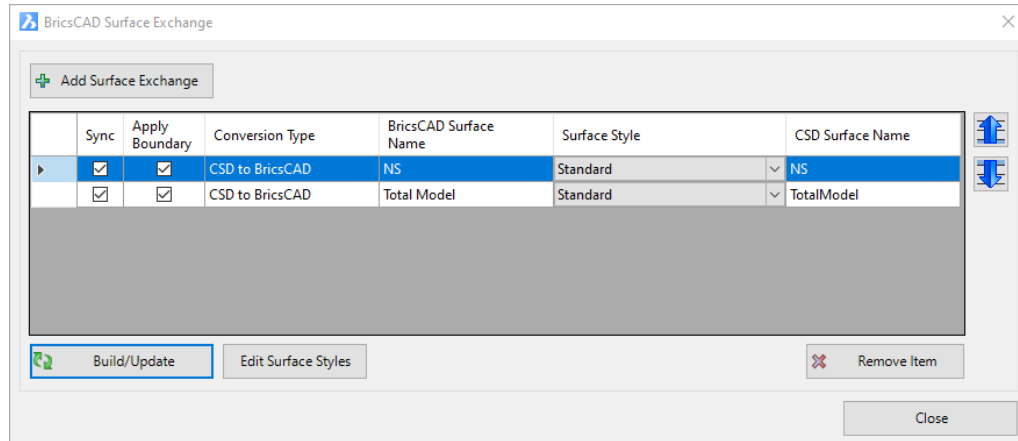
Software updates for BricsCAD V19 and V18 ceases as of Civil Site Design V20.30.

The references to the BricsCAD Surface API restricts backward compatibility for Civil Site Design.

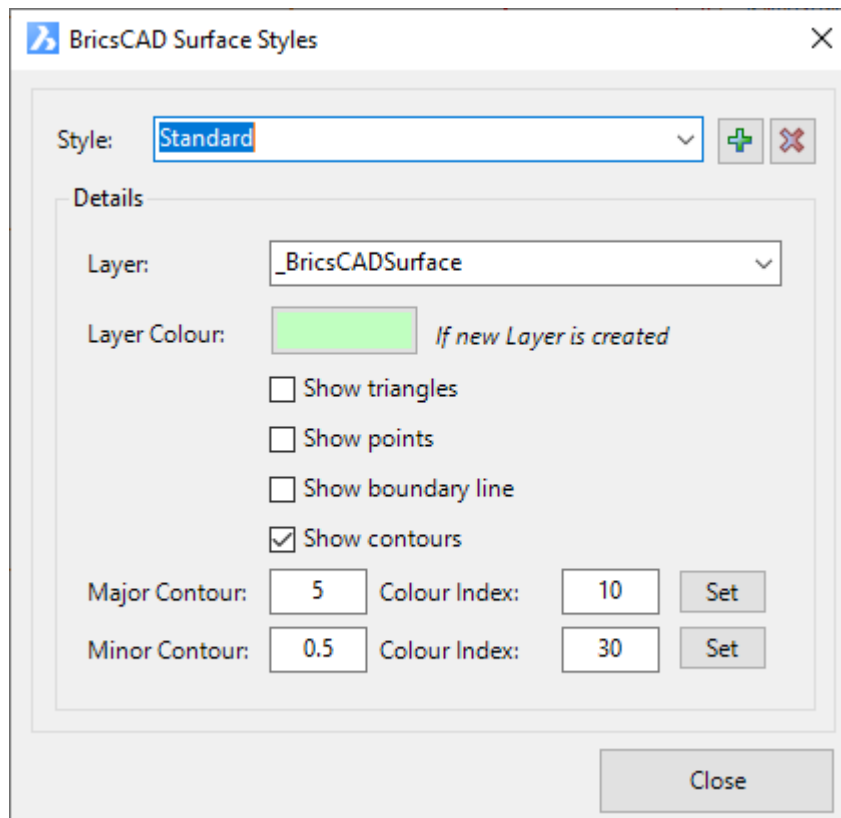
New Features V20.31

- Support for BricsCAD Surfaces (BricsCAD BIM V20 only)

- A new  **BricsCAD Surface** command has been added:



- The command can be found in the menu and on the following ribbons:
 - Surfaces Tab > Create/Edit Panel > BricsCAD Surfaces dropdown > BricsCAD Surfaces
 - Roads Tab > Modelling Panel > BricsCAD Surfaces dropdown > BricsCAD Surfaces
- The Add Surface Exchange supports:
 - Two way surface creation (from Civil Site Design to a BricsCAD surface and vice versa).
 - Creation of a BricsCAD Volume Surface
 - Creation of a BricsCAD Merge Surface
- Sync enables automatic surface updating (particularly for BricsCAD surfaces) when design changes are made in Civil Site Design
- Edit Surface Styles button allows for the user to establish pre-set display controls for BricsCAD surfaces
- A new **Surface Style** command has been created to allow management of BricsCAD surface display controls at the time of creating the surface



- Captures the inputs available for BricsCAD surfaces and allows users to preset the display output
- Create Styles to describe the desired display and apply in the **BricsCAD Surfaces** command

Known Issues

- **Export Corridor**
 - Corridor sections will be assigned to the corridor using the sampled sections in Civil Site Design, not including the 'mesh refinement' applied for vertical curves. Customers will need to increase sampling over these regions to have tighter sampling assigned to the corridor
 - Regions are created to support changes in default widths on the template - this is deliberate to help speed up the corridor (by reducing the number of parameter overrides)
- **Exchange Settings**
 - If Subassembly Composer was used to create the desired subassembly, it is recommended to use the Import **PKT option** when selecting the subassembly, and not selecting it from the Tool Palette it may have been added to. If the subassembly doesn't live in a Catalog (even though it may be in a tool palette) it will not work in the corridor.
 - It is likely that a message will display when using Select Subassembly, about providing read/write access to certain folders. The software is trying to access all folders that contain subassembly catalogs and finding issue - follow the instructions in the message to resolve the issue. This does not stop you from exporting corridors, but may limit the list of subassemblies you can use

Readme for Civil Site Design for Civil 3D, AutoCAD & BricsCAD

V20.30

This readme contains important information regarding the installation and use of Civil Site Design versions as described above.

Civil Site Design is available for:

- AutoCAD Civil 3D 2015 to AutoCAD Civil 3D 2020
- AutoCAD 2015 to AutoCAD 2020 including all AutoCAD derivatives
- BricsCAD V20 (64bit install) and V19 (64bit install)

CRITICAL INFORMATION FOR ALL CUSTOMERS - BACKWARDS COMPATIBILITY

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If you try opening the updated V19 format database in Civil Site Design V19.01, V18.211 or earlier then a message will display advising that the 'Road Data has been created by a later version of the software. Please update your software'. Installing this version of Civil Site Design (or any version from Civil Site Design V19.2 or later) will resolve this issue.

Note: A backup copy of the -Data folder is not made when the data format is updated.

Installation Instructions

You do not need to uninstall any previous versions of Civil Site Design. This installation will install over the top of any previous CSD installation.

If you are upgrading from Civil Site Design V19 or earlier, you will need a V20 license key to continue use beyond the default 30 day evaluation period.

Subscription customers can obtain their V20 license keys, and obtain Home Use Licenses, directly from the CSS Subscription Portal:

<http://www.civilsurveysolutions.com.au/index.php/support-and-services/subscription/civil-survey-solutions-subscription>

CRITICAL INFORMATION - NAHIMIC SOFTWARE INTERFERES WITH MODEL VIEWER

We have found that the software 'Nahimic' may prevent Model Viewer from displaying - the installation of Nahimic creates a conflict in EYESHOT (the graphics engine we use in Model Viewer).

If Model Viewer will not open, please check if Nahimic is installed. If so, updating Nahimic may resolve the issue. Uninstalling it will resolve the issue.

Nahimic software provides enhanced audio (typically for gamers) and is commonly installed with gaming laptops. More information about Nahimic can be found here: <https://www.nahimic.com/gamers/>

New Ribbon Tab - Civil 3D Outputs (Civil 3D Users Only)



A new ribbon tab has been added called Civil 3D Outputs. In our testing, there are cases where this ribbon tab is not automatically added to the workspaces. This looks to be an issue with the Autodesk Autoloader technology - we are making enquiries with Autodesk regarding this.

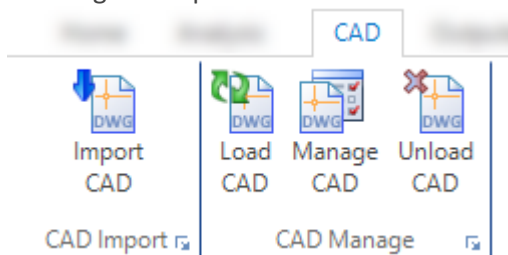
If you are running Civil 3D (2016 or later) and you do not see this ribbon tab, please do the following:

- At the command line type UNLOADCSD. This will force an unload of the menu and a message box to display with instructions
- Close the message box, close and reopen Civil 3D. The Civil 3D Outputs ribbon tab will then display.

New Features V20.30

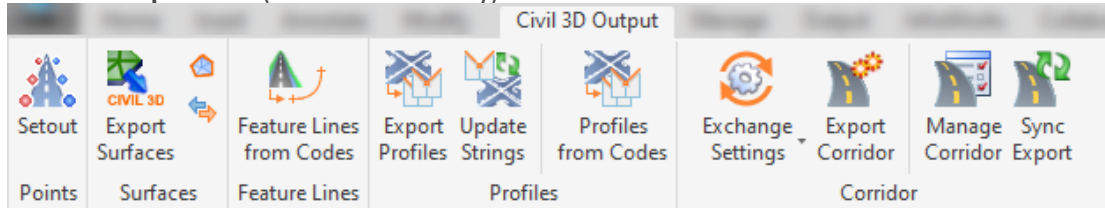
- **Model Viewer**










- A new 'Walk Mode' has been added. Click on the  button at the bottom of Model Viewer to be placed on the surface. Instructions are provide for walk navigation (mouse for direction and w,s,a,d to move. Press Space to jump)
- Added an  Orthographic/Perspective toggle.
- The **Import Object** command now supports the import of .IFC files.
 - Add .IFC files as Objects in Model Viewer
- Drawing File Import



- Added a new tab called CAD to enable loading of drawing files (.dwg/.dxf) into Model Viewer
 - **Import CAD** includes new drawing files in the Model Viewer display
 - **Load CAD** is used to redisplay imported drawing files
 - **Manage CAD** is used to remove or unload drawings from Model Viewer
 - **Unload CAD** removes display of drawing files from Model Viewer
- The **OBJ Export** command has been renamed **Export**. The **Export** command now outputs to the following file formats:
 - Wavefront .obj
 - Stereolithography .stl
 - Lidar .las
(this is suitable for exporting Point Cloud data)
 - WebGL .html
(natively view the model using Microsoft Edge, Google Chrome or similar web browser)
 - 3D .pdf.
 - CAD drawing .dwg
 - Drawing Exchange Format .dxf

- **Civil 3D Outputs Tab (Civil 3d Users Only)**



- From this tab users can run commands that exchange data with Civil 3D.
- Users can now export a fully functional Corridor from the selected Civil Site Design model. The output corridor process includes creation of assemblies, regions, baselines, target mapping and parameter overrides. The corridor is able to be shared completely independently of Civil Site Design as part of the .dwg file and can be edited by the user once output.
- Existing commands such as Multi Setout, Civil 3D Surfaces have been included
- **Renamed Commands**
 -  **Export Profiles** (prev. Create/Update Civil 3D Profiles)
 -  **Update Strings** (prev. Apply Intersection Match-in)
- **New Commands**
 -  **Feature Lines from Codes**
 - Creates feature lines for every code from the selected Model - user types in the name of the Site for the feature lines
 -  **Profiles from Codes**
 - Creates Profile/s from a selected Code in a model.
 -  **Exchange Settings (Civil 3D 2018 and later)**
 - Establishes the translation between Civil Site Design sections and Civil 3D subassemblies. Users can assign Civil Site Design properties to match up with Civil 3D subassembly inputs.
 - When properties are assigned, the corridor will have parameter overrides and target mapping applied to match the Civil Site Design model
 -  **Corridor Settings (Civil 3D 2018 and later)**
 - Establishes whether to apply target mapping and also sets up the column and row spacing of assemblies in the drawing
 -  **Export Corridor (Civil 3D 2018 and later)**
 - Creates a corridor, including all assemblies, target mapping and parameter overrides.
 -  **Manage Corridor (Civil 3D 2018 and later)**
 - Turn corridors off/on for synchronisation and delete corridors
 -  **Sync Export (Civil 3D 2018 and later)**
 - Click to rebuild corridors previously created using the **Export Corridor** command.

Improvements V20.30

- **Model Viewer**
 - Point cloud import is faster and streamlined for larger models
 - Editing of point clouds is now simpler and more reliable
- **Knuckles**
 - Messaging on the knuckle form regarding resampling has been improved
- **Alignment Edits**
 - After editing an alignment the software will update vertical IP positions to account for the geometry changes. The software stores the old and new alignment geometry. Measurements are made perpendicular to the new geometry to locate the position of the current vertical IP's. The calculated chainage is then applied to the new alignment geometry.
- **Alignment XML Import**
 - When importing alignments via XML, vertical IP's move along the length of the alignment to accommodate changes to alignment geometry. The software stores the old and new alignment geometry. Measurements are made perpendicular to the new geometry to locate the position of the current vertical IP's. The calculated chainage is then applied to the new alignment geometry.

Fixes V20.30

- **Surface Manager**
 - A CSD Notification about 'maximum height' being exceeded no longer displays. This notification was displaying incorrectly and typically impacted Imperial unit projects.
- **Batter/Daylight Overrides**
 - Assigning a maximum offset batter override on the right hand side could cause irregular triangulation to occur at certain chainages along the design (the breakline of the left batter would move across to the right hand side and cut off other breaklines).

Known Issues

- **Export Corridor**
 - Corridor sections will be assigned to the corridor using the sampled sections in Civil Site Design, not including the 'mesh refinement' applied for vertical curves. Customers will need to increase sampling over these regions to have tighter sampling assigned to the corridor
 - Regions are created to support changes in default widths on the template - this is deliberate to help speed up the corridor (by reducing the number of parameter overrides)
- **Exchange Settings**
 - If Subassembly Composer was used to create the desired subassembly, it is recommended to use the Import **PKT option** when selecting the subassembly, and not selecting it from the Tool Palette it may have been added to. If the subassembly doesn't live in a Catalog (even though it may be in a tool palette) it will not work in the corridor.
 - It is likely that a message will display when using Select Subassembly, about providing read/write access to certain folders. The software is trying to access all folders that contain subassembly catalogs and finding issue - follow the instructions in the message to resolve the issue. This does not stop you from exporting corridors, but may limit the list of subassemblies you can use

Fixes V20.15

- **Surface Manager**
 - A CSD Notification about 'maximum height' being exceeded no longer displays. This notification was displaying incorrectly and typically impacted Imperial unit projects.
- **Pipes**
 - **Long Sections - Plot to File**
 - There was a problem with the 'Plot to File' option for pipe networks that is now fixed
- **Roads**
 - **Create Cul-de-sac**
 - If an alignment was selected for the cul-de-sac, then clicking on Create/Update Alignment did not activate the String controls for the cul-de-sac - the user had to close and reopen the cul-de-sac form by clicking on the alignment. This is now fixed
 - **Vertical Grading Editor - Redesign Flag**
 - For 'Network Strings' (kerb returns, cul-de-sacs, knuckles) the software initially sets to 'auto redesign'. When a user edits the vertical design if changes the status to 'keep internal design'. Previously when users reset the control to 'auto redesign' they would have to exit the VGE and reopen it to see the changes. Now the changes are applied immediately.

Improvements V20.15

- **Pipes**
 - Pit (Structure) Rotation command
 - 'Flip' options have been added to the pit rotation form to allow the block to be 'mirrored' across it's X or Y axis. This is very useful for asymmetric blocks when the software doesn't correctly mirror it for upstream/downstream flow
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Fixes V20.14

- **User Design for Kerb Returns, Cul-de-sacs and Knuckles**
 - User edits were being removed by the software (all edited IP's removed). This problem has been corrected.

Improvements V20.14

- **Point Import**
 - There is a new tick box to globally turn off surface creation on all Point Groups.
 - **Add Extra Sections**
 - Add extra sections now includes an option to delete multiple entries
 - **Model Viewer**
 - Fixed a bug output AVI files from Model Viewer
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Improvements V20.13

- **Support for BricsCAD V20 (64 bit)**
 - Civil Site Design can now be installed on BricsCAD V20
- **Line/Curve Table**
 - The Line/Curve table tool now adds a label on the plan that refers back to the table
 - Added a segment label option
 - Support for Quadrant Bearings added

Fixes V20.13

- **Intersection Controls**
 - Automatic Intersection Connection when Auto VC set to Never
 - A bug on the automated cross road intersection match in has been fixed. Previously, if the Auto VC rules for the side road were set to Never then the IP's/PVI's on the Vertical Grading Editor representing the elevations and positions of the main road cross section were not protected (customers could move these and they did not update when the main road elevations/sections were edited).
- **Vertical Grading Editor**
 - Using Auto Profile > Reference Surface option would fail if the user ticked on Fitting and set a height adjustment.
 - When a Road is first created and an automated design applied, vertical curve lengths were previously not rounded to the closest whole value (eg: 19.999 instead of 20.0).
- **Kerb Returns**
 - After creating kerb returns and omitting/editing Batter(Daylight) Overrides, running Update All Road Objects would reapply/create the default Batter(Daylight) override entry for each kerb return.
- **Create Road String**

- When creating a Road String, applying a Template that contained a Batter(Daylight) on only one side would result in a Batter(Daylight) Override being automatically added to the Design Data form for that Road String.
 - **Extend Long Section Plot**
 - If this was applied to a kerb string, a crash would result when users attempted to plot a long section of the kerb string.
 - **Surface Volumes**
 - A problem with the Surface volumes form not saving properly upon exit has been addressed
 - **Civil Points**
 - Importing Civil Points from a file was slow if a points file was provided that did not include a Point Number in the file. This has been resolved.
 - **Paste Surfaces**
 - The 'Stacked Surface' option is automatically disabled if there are 6 or more surfaces involved in the paste. This improves performance.
 - **Cross Section Plotting - Section Labels**
 - The text for some section label styles would not display (if the text Item was set to 'Blank'. This has been resolved.
 - **Welcome Screen (BricsCAD only)**
 - To address stability issues in BricsCAD with the Welcome Screen it is now Modal (meaning that it must be closed before the next form/s open.
 - **Unable to Access Files**
 - When doing operations and the data is stored on a cloud service such as Dropbox, users could receive a message about being unable to access files. We have made changes to the 'save back' controls to limit this issue.
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Fixes V20.12

- **Model Creation Codes for Model Viewer**
 - Civil Site Design V20.1 re-introduced XXL Codes into Grading String surfaces. These have now been removed, so previous code assignments deliver the same material rendering result.
- **Cross Section Plots**
 - After adding a Surface band and then editing the design, re-running the Cross Section Plot command did not update the Surface information on the sections
- **Apply Intersection Match In Command**
 - After using the Apply Intersection Match In command (http://www.civilsurveysolutions.com.au/downloads/CSD/HelpSystem/CSD_for_Civil_3D_-_USA/#t=Commands%2FApplyIntersectionMatch-In%2FApplyIntersectionMatch-In.htm) IPs/PVIs created at the intersections become disconnected from the main road offsets and elevations. This problem has been rectified.

Improvements V20.12

- **Model Viewer - Animation**
 - Users can now apply animation to objects attached to a grading string - previously only road strings allowed for animation of objects along the string.

Fixes V20.11

- **Long Section Plot Errors**
 - Some projects experience an error on long section plotting. This is fixed.
- **Cross Section Plots**
 - After adding a Surface band and then editing the design, re-running the Cross Section Plot command did not update the Surface information on the sections
- **Surface Paste Issue**
 - A customer reported an issue with pasting for their surface configuration. Enhancements were made to the algorithm to handle more odd pasting cases.

Improvements V20.10

- **CSD Civil Points**
 - New tools to create dynamic civil points using blocks within the drawing
 - Points can be grouped for tabular output and used to create CSD surfaces
- **New keyboard shortcuts / functions:**
 - Vertical Grading Editor
 - Zoom Extents: Double click mouse wheel
 - Minimise / maximise Ribbon: CTRL + D
 - Cross Section Window
 - Minimise / maximise Ribbon: CTRL + H
 - Cycle through cross sections: Scroll over form ribbon
 - Model Viewer
 - Minimise / maximise Ribbon: CTRL + H
- **Kerb Returns**
 - The Kerb Return form has been revamped with hover over images and expanded functionality
 - Assign template at the time of creation
 - If Template is set to 'Auto', assign cut and fill batter/daylight slopes at time of creation
- **Cul-de-sacs**
 - The Cul-de-sac form has been revamped with hover over images and expanded functionality
 - The associated road string can be picked from the drawing in addition to the pulldown
 - The centreline end position can be adjusted within the cul-de-sac shape and the DUM codes removed to have a constant fall from one side to the other.
- **Knuckles**
 - The Knuckle form has been revamped with hover over images and expanded functionality
 - The associated road string can be picked from the drawing in addition to the pulldown
 - Option to add fitted curves between the automatic design
- **Cross Section Design Window**
 - Added an option to control the crossfall % to trigger display of 1: instead of %. Previously if the crossfall went past 10% it would show as 1:.
- **Model Viewer**
 - Improve line-marking performance

- New 'Lead-in' Distance added to 'Barrier Length Rules'
- 'Assign String Prefix' toggle in Design Style for more flexible material assignment
- Improved speed when adding multiple surfaces to Model Viewer
- Model Viewer will search in -DATA folder if aerial imagery not found

- **Pasted Surfaces**
 - New 'Stacked Surfaces' to create a surface with surfaces placed on top of each other.
 - Option to honour codes on triangles when pasting. This allows rendered materials to be applied to the surface triangles.

- **Model Builder**
 - New startup form to assist users with creating the correct starting model

- **Cross Section Plotting**
 - Cross section labels through Surface models improved to pick up model codes for clean offsets and display crossfalls at every grade break. Note: For existing projects you will first need to run the command Roads > Modelling > Rebuild All Models.
 - The Sections Manager list (used for alignments and cross section plotting) now has copy options to easily copy to global and to other strings in the current project.

- **Threads**
 - New action added to update CSD Civil Points
 - New action added to update a selected Model Builder model, not all models.

- **Volume Reports**
 - New 'Curve Correction' option in the sectional Volume reports (on by default) to more accurately calculate section volumes through strings, where there are curves.

- **Surface Volume Reports**
 - Surface-to-surface volume outputs now automatically switch to Cubic Yards when the Country Settings in the Active Drawing Settings form is set to U.S.A.

Fixes V20.10

- **Switching Drawings with the Vertical Grading Editor Open**
 - Previously, switching between drawings with the Vertical Grading Editor open could result in loss of data for all edits the currently opened Vertical Grading Editor windows. Now all data is saved before drawing switching occurs.

- **Knuckles**
 - Previously using the parametric options to create a knuckle on the right side of the road could result in the curves going in the wrong direction (curving inwards when they should curve outside, and vice versa). This has been fixed
 - Setting No on the vertical control options (related to obtaining elevations from the adjacent road) now creates a vertical design for the knuckle from start to end which can be fully edited.

- **Vertical Grading Editor**
 - Previously, changing the Out Grade of a selected IP via the IP Editor tab would keep the elevation of the selected IP and edit the elevation of the next IP to obtain the desired grade. This behaviour now matches the IP Edit command form behaviour. If it is desired to work from an IP and change the next IP, either pick the next IP or use the Grid Editor and set the Forward Grade.

- **General**

- Fixed a crash that occurred when loading some jobs, related to viewports in layout space.
- If using Width to Surface in Intelligent sections the maximum width from CL is 100m
- Having Point Monitor on affected selection of alignments in the drawing
- Chainage and level fields have been made larger in the Pipe VGE
- Fixing an issue where TotalModel would remove REB/LEB codes, if a Built Model was also created
- Editing road widths in the intersection left the original 'protected' IP in place
- A new command Delete Duplicate Labels has been added to allow for removal of duplicate labels. These could occur through a data share

Known Issues

- Alignment - turning Dynamic Labelling Off
- If users enable Dynamic Labelling, create the alignment, then edit the alignment and untick Dynamic Labelling, the dynamic labelling will still display (as well as the alignment annotation labelling). If this occurs then run the Labels > Synchronise command to update the display. The 'dynamic labels' will disappear.

Readme for Civil Site Design for Civil 3D, AutoCAD & BricsCAD

V20.00

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A backup copy of the -Data folder is not made when converting to V19.20 format.

Installation Instructions

All customers running Civil Site Design V19 or earlier will be required to input a V20 license to use this version beyond the 30 day evaluation period. All current substriction customers will automatically be eligible to install and license Civil Site Design V20.

You do not need to uninstall any previous versions of Civil Site Design. This installation will install over the top of any previous CSD installation.

If you have currently licensed a previous version of Civil Site Design (eg: Civil Site Design V19) this version of the software will require an update to your license to a V20 license.

Subscription customers can obtain their V20 license keys, and obtain Home Use Licenses, directly from the CSS Subscription Portal:

<http://www.civilsurveyolutions.com.au/index.php/support-and-services/subscription/civil-survey-solutions-subscription>

Improvements

- Model Viewer
 - Added an option to copy an Object Group. This makes setting up multiple Object Groups for a road (or other road with a common offset location) far quicker.

Fixes

- Model Viewer
 - An issue with object rotation in animations has been addressed
 - A problem with turning object groups on/off has been resolved
 - Fixed a bug with deleting objects from Model Viewer
- Labels
 - A label containing a 'Blank' text item would not display. The 'Blank' text item is there for customers to set up a line of static text (using the prefix or suffix field to add in static text information) or to have a blank line that could be edited using the Edit User Text command.
 - Renaming a String would cause an error when adding String Code labels to the renamed string.
- Surface Manager
 - Having Surface Manager open while running the Rebuild All Models command would corrupt the current surface displayed in the Surface Manager at the time
- General
 - Fixed a crash that occurred when loading some jobs, related to viewports in layout space.
- Vertical Grading Editor
 - Previously, changing the Out Grade of a selected IP via the IP Editor tab would keep the elevation of the selected IP and edit the elevation of the next IP to obtain the desired grade. This behaviour now matches the IP Edit command form behaviour. If it is desired to work from an IP and change the next IP, either pick the next IP or use the Grid Editor and set the Forward Grade.

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Readme for Civil Site Design for Civil 3D, AutoCAD & BricsCAD

V19.24

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Installation Instructions

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Subscription customers can obtain your V19 license keys, and obtain Home Use Licenses, directly from the CSS Subscription Portal:

<http://www.civilsurveysolutions.com.au/index.php/support-and-services/subscription/civil-survey-solutions-subscription>

Improvements

- Create Grading
 - The Grading form has been rearranged to streamline inputs and simplify the form.
 - When users set the following the inputs will be 'remembered' next time they open the form
 - 'No Surface' tick box on or off
 - The selected sampled surface
 - The previous elevation

Previously, these reset to default values each time the Create Grading command was run.

- Threads
 - Added a thread to convert Civil 3D surface to CSD
 - Added a thread to run Auto Plot
 - Added a thread to LandXML output the surfaces
 - Added a thread to LandXML output the alignments
- Model Viewer
 - Turned off the Level of Detail control, so small objects in the distance are always displayed
 - Added animation to Object Groups. Set a speed to apply. Play and pause buttons added to start/stop animation of objects.

Fixes

- Kerb Return VGE
 - Disabled the button to auto create vertical curves between IP's as this is not functional for kerb returns
- Model Viewer
 - Improved 3DS file import in Model Viewer
- Threads
 - Fixed an issue with Threads not working for build models
 - Fixed an issue with Model Viewer CAD Output Thread
- Section Design Data form
 - Now supports display inclusion of 'Auto' templates for network strings
 - Fixed 'Insert Section' Plot Flag setting
 - In some cases, setting the chainage option to Alignment Extents could result in the last section not being applied. This has been addressed.
- Vertical Grading Editor
 - Strings less than 2m assumed they matched elevations start and end.
 - When the Vertical Grading Editor window is maximised, adding Add Extra Sampling could make the ribbon controls disappear. Closing and reopening the VGE would resolve the issue

Known Issues

- Alignment - turning Dynamic Labelling Off
 - If users enable Dynamic Labelling, create the alignment, then edit the alignment and untick Dynamic Labelling, the dynamic labelling will still display (as well as the alignment annotation labelling). If this occurs then run the Labels > Synchronise command to update the display. The 'dynamic labels' will disappear.

Readme for Civil Site Design for Civil 3D, AutoCAD & BricsCAD

V19.23

This readme contains important information regarding the installation and use of Civil Site Design versions as described above.

Civil Site Design is available for:

- AutoCAD Civil 3D 2015 to AutoCAD Civil 3D 2019
- AutoCAD 2015 to AutoCAD 2019 including all AutoCAD derivatives
- BricsCAD V19 (64bit install) and V18 (64bit install)

CRITICAL INFORMATION FOR ALL CUSTOMERS - BACKWARDS COMPATIBILITY

After updating to V19.20 or later, running a command on a project will automatically update the CSD data structures to V19 format, which is incompatible with previous versions. This does not impact the drawing (.dwg) file.

If you try opening a V19 format database in Civil Site Design V19.01, V18.211 or earlier the a message will display advising that the 'Road Data has been created by a later version of the software. Please update your software'. Installing Civil Site Design V19.20 or later will resolve this issue.

A backup copy of the -Data folder is not made when converting to V19.20 format.

Installation Instructions

You do not need to uninstall any previous versions of Civil Site Design. This installation will install over the top of any previous CSD installation.

If you have currently licensed a previous version of Civil Site Design (eg: Civil Site Design V18) this version of the software will require an update to your license to a V19 license.

Subscription customers can obtain your V19 license keys, and obtain Home Use Licenses, directly from the CSS Subscription Portal:

<http://www.civilsurveysolutions.com.au/index.php/support-and-services/subscription/civil-survey-solutions-subscription>

Fixes

- Road Design - Vertical Curve Ease at intersections
 - When the Vertical Curve Ease was set to Never, the software could disconnect main and side roads, such that side road elevations forming tee intersections do not update to reflect changes to the main road cross sections through the intersection. This problem is now fixed.
- Pipe Labels (USA)
 - Pipe labels can now display the Assigned Flow for the minor return period (the minor return period is set in the Active Network Settings form)
- Linemarking
 - Deleting a lane linemarking group could impact on other linemarking groups.
- Create/Edit Alignment Form
 - When running the Move IP command, selecting an IP to move and then pressing the Esc button would result in a crash message. After the crash, the software would flag that the alignment form was still open. Closing and reopening the CAD application would resolve this. This issue has been resolved.

Known Issues

- Alignment - turning Dynamic Labelling Off
 - If users enable Dynamic Labelling, create the alignment, then edit the alignment and untick Dynamic Labelling, the dynamic labelling will still display (as well as the alignment annotation labelling). If this occurs then run the Labels > Synchronise command to update the display. The 'dynamic labels' will disappear.

Readme for Civil Site Design for Civil 3D, AutoCAD and BricsCAD

V19.22

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- AutoCAD 2015 to AutoCAD 2019 including all AutoCAD derivatives
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CRITICAL INFORMATION FOR ALL CUSTOMERS - BACKWARDS COMPATIBILITY

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If you try opening a V19 format database in Civil Site Design V19.01, V18.211 or earlier the a message will display advising that the 'Road Data has been created by a later version of the software. Please update your software'. Installing Civil Site Design V19.20 or later will resolve this issue.

A backup copy of the -Data folder is not made when converting to V19.20 format.

Installation Instructions

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Improvements

- Cross Section Window Defaults
 - Users can now globally set the cross section window default size, vertical exaggeration and background colour

Fixes

- Pipe Labels
 - Issues with missing pipe labels (where 'blank' was assigned as the text item) have been resolved
- Linemarking by Alignment
 - Previously, making edits to linemarking on one alignment and then picking a different alignment, without first clicking the Accept button, would not fully apply the changes to the first alignment linemarking. Edits are now fully saved when a different alignment is selected.
- Vertical Grading Editor for Strings
 - Left click IP selection in the Vertical Grading Editor has been improved to find IP's within a vertical curve. Previously this was selectable only within a certain distance of IP's
- Imperial Civil 3D Ribbon Interface
 - Errors with the Civil 3D ribbon interface

Readme for Civil Site Design for Civil 3D, AutoCAD and BricsCAD

V19.21

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Civil Site Design is available for:

- AutoCAD Civil 3D 2015 to AutoCAD Civil 3D 2019
- AutoCAD 2015 to AutoCAD 2019. This includes all AutoCAD derivatives (eg: AutoCAD Map 3D)
- BricsCAD V18 (64bit install)
- BricsCAD V19 (64bit install)

CRITICAL INFORMATION FOR ALL CUSTOMERS - BACKWARDS COMPATIBILITY

After updating to V19.20 or later, running a command on a project will automatically update the CSD data structures to V19 format, which is incompatible with previous versions. This does not impact the drawing (.dwg) file.

If you try opening a V19 format database in Civil Site Design V19.01, V18.211 or earlier the a message will display advising that the 'Road Data has been created by a later version of the software. Please update your software'. Clicking OK will return to the command line.

Installing Civil Site Design V19.20 or later will resolve the above issue.

A backup copy of the -Data folder is not made when converting to V19.20 format.

Installation Instructions

You do not need to uninstall any previous versions of Civil Site Design. This installation will install over the top of any previous CSD installation.

If you have currently licensed a previous version of Civil Site Design (eg: Civil Site Design V18) this version of the software will require an update to your license to a V19 license.

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<http://www.civilsurveyolutions.com.au/index.php/support-and-services/subscription/civil-survey-solutions-subscription>

The licensing system has been updated with some minor bug fixes for network licensed customers. See the subscription portal for the latest network license download.

Fixes

- Auto Vertical Curve Ease - Setting to Never
 - When the Vertical Curve Ease was set to Never, the software removes any IP's within the Cut/Fill VC Length distance from the edge of the road. The issue is that it was actively ensuring that no IP's could ever be created or edited in this zone. This problem is now fixed. When set to Never you can create and edit IP's immediately outside the Main Road edge IP's.

Readme for Civil Site Design for Civil 3D, AutoCAD and BricsCAD

V19.20

This readme contains important information regarding the installation and use of Civil Site Design versions as described above.

Civil Site Design is available for:

- AutoCAD Civil 3D 2015 to AutoCAD Civil 3D 2019
- AutoCAD 2015 to AutoCAD 2019. This includes all AutoCAD derivatives (eg: AutoCAD Map 3D)
- BricsCAD V18 (64bit install)
- BricsCAD V19 (64bit install)

CRITICAL INFORMATION FOR ALL CUSTOMERS - BACKWARDS COMPATIBILITY

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If you try opening a V19 format database in Civil Site Design V19.01, V18.211 or earlier the a message will display advising that the 'Road Data has been created by a later version of the software. Please update your software'. Clicking OK will return to the command line.

Installing Civil Site Design V19.20 or later will resolve the above issue.

A backup copy of the -Data folder is not made when converting to V19.20 format.

New Labels

This release introduces updated tools for creating, editing and managing plan labels, section labels and (USA only) profile labels. Existing labels will still work in the drawing and the tools for editing these labels is available from the General Ribbon Tab > Legacy Labels panel. A message will display about legacy labels if they exist in the drawing and users attempt to use the new labels. This is informational only, advising users of the relocation of the superseded label tools.

Critical Information for BricsCAD V19 Users

During testing some instability issues were detected in BricsCAD when the BricsCAD BIM tools were enabled. Turning these off immediately resolved the instabilities.

Internal testing was based on BricsCAD version V19.1.11-3. If you are experiencing regular closing of BricsCAD without error messaging (with exception of a form saying that BricsCAD needs to close) we recommend the following:

1. Open BricsCAD V19
2. Type SETTINGS at the command line.
3. Expand Program options > System
4. Change the following setting
 - a. **Use BIM** – set to **[0] Not using BIM**
5. Close and reopen BricsCAD V19

Installation Instructions

You do not need to uninstall any previous versions of Civil Site Design. This installation will install over the top of any previous CSD installation.

If you have currently licensed a previous version of Civil Site Design (eg: Civil Site Design V18) this version of the software will require an update to your license to a V19 license.

Subscription customers can obtain your V19 license keys, and obtain Home Use Licenses, directly from the CSS Subscription Portal:

<http://www.civilsurveysolutions.com.au/index.php/support-and-services/subscription/civil-survey-solutions-subscription>

The licensing system has been updated with some minor bug fixes for network licensed customers. See the subscription portal for the latest network license download.

New Features and Enhancements

- Design
 - Vertical Grading Editor Revamp – IP edit mode, group IP edits, design constraints
 - Cross Section Viewer Revamp – Direct Section Editing
 - New Section Design Editor window – analyse variations/overrides per section
 - New superelevation tables for Australia – updated for 2016 Austroads
 - Auto create alignments enhanced - create alignments using a layer
- Surfaces
 - Pasting surfaces
 - Simplify & extend surfaces
 - Convert Civil 3D surfaces to Civil Site Design surfaces
- Outputs
 - Plan labels have been revamped to improve performance, make it easier to edit and reset labels and simplify the process of adding text edits to applied labels
 - Model Viewer video outputs have been improved for better management of speed between views
- Analysis
 - Sight tables included for design compliance of vertical curves and horizontal curves
 - Enhancements to sight distance creation, analysis and rendering in Model Viewer
 - Planar sight check for area sight distance analysis
 - Road Safety report summary of design compliance (vertical, horizontal and planar sight distance)

- Line Marking
 - Automated lane line-marking based on sight distance (overtaking both directions, one direction or neither direction)
 - Line-marking overrides – remove or replace linemarking where required
- Model Viewer
 - Surface engine has been rewritten to significantly improve speed and performance
 - Improved management of boundaries between surfaces
 - Support for multiple overlapping surfaces (paste)
 - Large surface support
 - Add Object Groups – rapid creation of repeated items along a road such as road signs, light poles, bollards, guide posts, reflective pavement markers and more
 - Create extrusions using polylines in the drawing to represent features such as buildings and fences
 - Display pipe networks including labelling of design information
 - Support for importing 3DS files.
 - Point Cloud Enhancements
 - Point cloud import supports LAS files
 - Surface creation from point cloud data
 - Hide point cloud data where CSD Surface exists
- Visualisation Packs
 - Comprehensive object catalogue of signs, including both 3D object for Model viewer and blocks for drawing representation
- Set Data Path
 - This command has been enhanced with more data path options. Issues with copying data into a set path have also been addressed.
- USA customers
 - Profile View enhancements
 - Revamp of the Profile View output process with improvements to performance and an improved interface for labelling profiles.
 - Full station range controls for output of profile views. Edit the datum and height of each profile view
 - Profile Views are created in Model space with more options to generate layout sheets
 - Pipe enhancements
 - Assign flows by spreadsheet
 - Add pipes and structures to the profile views, with full label support and user control of the structure display in profile
 - Plan labelling for alignments has been improved
 - A new BETA command has been included to create 3D polylines representing side lot grading (BricsCAD only). This tool enables selection of a string for establishing elevations at the property edge and functionality to grade to a low point and a rear elevation. There is currently no technical data on

Interface

General / Interface

- Road String objects (kerb returns (inc Auto), cul-de-sacs, knuckles and roundabouts have been moved into a Network Strings pulldown on the Design Panel.
- Superelevation has been moved under Road Strings and is also found on the Edit Panel.
- Automatic Ease Properties and Kerb Design Controls have been combined into a single pulldown on the Edit Panel
- References to the term 'String' has been used to replace 'Roads' on CSD forms
- References to the 'Public Library' have been removed and replace with 'Global Library'

Behaviour Changes

Auto Create Roads

- Road String objects (kerb returns (inc Auto), cul-de-sacs, knuckles and roundabouts have been moved into a Network Strings pulldown on the Design Panel.

All Sampled Sections are Used in Modelling and Design Data form actions

- In previous versions, the Design Data form applied changes to cross sections based on all sampling except for sampling from arc-to-chord controls and mesh spacing through vertical curves. Now, all sampling is used for cross section control in the design data form. This may result in some designs having a more abrupt change between sections, because the sections are closer in that range because of a horizontal or vertical curve.

Fixes

General

- Many forms have been reviewed to prevent display of the unique ID number of objects (GUID) instead of the user named object

Alignments

- After importing an alignment via LandXML file transfer, updating the LandXML file and re-importing did not update the alignment geometry

Surfaces / Models

- Surfaces that had the original point files removed would not respond to rebuilding when boundaries were applied
- Clicking twice on Build Surface in Surface Manager for a Grading String would generate an error message
- ARDUV7WRITEXML would generate an error if Totalmodel didn't exist in the project
- Built models created with 'linked to automodel' would generate errors when the road strings & kerbs were deleted leaving just the cul-de-sac behind
- Toggle Display -> Automodel Edits tab has been removed from the form. Existing projects with Automodel Edits applied will have the tab available.
- Fixed an issue with deleted surfaces redisplaying in the Surface Manager. Deleting the last surface used did not update the list of deleted surfaces, causing it to return to the list as created.

VGE

- When the Auto VC Ease is set to Never, the software now removes the IP from the string design
- Compute VC renamed to Auto Profile
- By default, the text file outputs from the Compute VC -> VC Options form (now Auto Profile) are disabled with a tick box.
- VC Options -> Reference point. When using the table within this tool would not generate design where required.
- VC Options -> Reference point. Only road strings were displayed in the Design String pulldown.

- Opening model viewer then the VGE for a cul-de-sac string would generate errors when attempting to delete protected IP's
- Using the VC Options through Automatic Ease IP's would generate an error
- The undo button would ignore any entries made in the VC Options form and undo any edits prior to the form entries

Road / Profile Strings

- Resample Sections would generate an error when picking an alignment only with no string
- Use Other Road Chainages button would generate an error if user picked an alignment only with no string
- Triangulation for profile strings was not adjusted when extra sampling was added

Grading Strings

- Grading string GUID (Globally Unique Identifier) names were being displayed instead of the given string name within certain forms and plotting
- Breaklines tab has been removed. Existing projects with breaklines already added will have the tab available.
- References to Totalmodel within the form have been removed. Users will use model builder to join grading strings with road strings.
- Any polylines assigned to grading strings were deleted, the Select Grading command would generate an error
- Use a Grading string for Roundabouts would generate an error

Network Strings (Kerb Returns, Cul-de-sacs, knuckles and roundabouts)

- When changing a kerb return from a default radius to specifying an alignment, the user would get error notifications and have two kerb alignments created
- If the vertical geometry was removed from a road string at an intersection, the software would message the user 16+ times requiring a click for every message. There will be two error messages and remaining notifications will be stored in the notification box.
- Using the undelete tool with a cul-de-sac string would result in the cul-de-sac not connecting back to the associated road string
- During cul-de-sac creation, clicking the Display Vertical Grading would generate an error message but still create the cul-de-sac. Now the Vertical grading editor window displays and Auto Model updates
- In some instances, the software would see a renamed cul-de-sac string as a road string and generate an intersection
- Generating kerb returns overlapping a cul-de-sac would generate error messages
- Entering very small or excessive values within the horizontal design cells for the cul-de-sac shape would generate errors when the user created the alignment
- Within the cul-de-sac vertical design controls, the 'extend CL' is no longer used by the software
- Temporary Civil 3D alignment ZZTempCDS will no longer be generated by the cul-de-sac tool when the user partially completes the cul-de-sac form. The alignment will be deleted if generated.

Design Data Form

- Using Civil 3D Alignment Super where no Civil 3D alignments were assigned would generate error messages

Model Viewer

- Toggle display now handles model based settings such as 'fast draw' on the surface which were previously managed at a 'global' level. On/off object display can also be changed in Toggle Display. Toggle Display can be opened independent of the viewer, to address settings/setup issues
- There is a log at the bottom of the viewer to identify any issues displaying requested information (such as surface images missing)
- When the base surface image is missing, the surface now displays.

Selected Sampled Sections

- In Selected Sampled Sections, the term 'Unknown' was often being displayed at certain sections. Where this relates to the mesh refinement of the model, these will no longer be flagged as 'unknown'

Cross Section Plots

- Using a CSD generates surface or built model will now plot the codes of the associated surface not the string being used to plot
- Civil 3D surfaces assigned to the cross sections would not update in the display if changes were made to the surface
- Adding the Height Difference band would generate error messages

Pipes

- Historical projects with drainage would use the GUID (Globally Unique Identifier) for the network name during plotting
- User were not able to delete a pit inflow specified on a pit. A button has been added to the pit inflow form to delete an entry
- When labelling a drainage network, the service pits and pipes would also be labelled
- Deleted pipe libraries assigned to pipes within a project would generate warning messages for every pipe. Messages will be stored in the notification form.

Long Section Plotting

- If a string was renamed, the user would be prompted to plot the string from the original name, this has been fixed.
- Displaying other strings, where the string chainages started at a different chainage to the source string being plotted, would result in the extra string being placed on the wrong chainages with respect to the main string being plotted.
- Setting the decimal places on the Superelevation band would not be adopted,

Multi Setout

- Previously, if users had two Setout Groups, creating setout in one of the groups would delete the setout output of the other group/s.

Reporting / Output

- Renaming a string whilst the volume report form was open would generate an error
- Cleanup form has been tidied and only typical output entries are ticked ON by default

Drains Import

- Importing data from Drains would result in multiple messages relating to stored fields in the transfer file added by Drains and not accounted for by Civil Site Design. Now users will receive a message once only that there is/are field/s that cannot be imported.

Known Issues

BricsCAD V19

- If you are experiencing stability issues in BricsCAD V19 it is highly recommended you do the following:
 - a. Type SETTINGS at the command line.
 - b. Expand Program options > System
 - c. Change the following setting
 - **Use BIM** – set to **[0] Not using BIM**
 - d. Close and reopen BricsCAD V19

Viewports and Labels

- Editing a label from inside a Viewport in a layout tab will disable all dynamics for the label. Grip editing labels must be done in Model Viewer only. Viewport labels, if displayed, can be moved and edited directly in the Layout tab and have their rotation defined based on the viewport rotation

Label Styles

- Many modal forms (such as Label Plan) allow users to edit Label Styles - the Label Style form is being opened as a 'sub form' of the initial form. In these cases, clicking the 'Add Preview' button will result in an error when the system attempts to close the forms to allow selection of a preview location in the drawing.

Named Section Lists

- There will be many cases where the same chainage/station is used for multiple geometry types (eg: standard section, start of curve). In this case the first 'type' listed in the section manager will be used for assigning labels (this applies particularly to alignment labels and profile labels in profile views). If possible, editing chainage/station values by .0001 or more will result in separated geometry entries and both labels will apply.

Alignment

- Running Edit Alignment and graphically selecting the alignment can result in the alignment not being selected. If this occurs, run the command again and select closer to a geometry point (in a curve or near curve start/end, close to an IP).
- New Dynamic drawing labels
 - a. Editing the Sections List while in the Create/Edit Alignments form will result in the labels disappearing from the drawing. Clicking on the Refresh button in the form, editing the alignment geometry or clicking OK to exit the form will make the labels redisplay.
 - b. Running Auto Create Alignments will add the alignment to the Label Plan > Alignments form, but will not tick the labels on for display. Users need to run Roads tab > Labels panel > Label Plan, edit the 'Alignment Annotation Plots' group and tick on to display the labels, or else run the Edit Alignment command and tick to display.

Profile Views (USA)

- Profile View labels can be edited in Model Space only. As part of the automatic publishing output, users can create viewports of the profile views. Editing the model through a viewport, when in a layout tab, will not allow grip editing of the labels. Grip editing of the labels can only be done in Model Space.

Vertical Grading Editor for Strings

- Some commands in the VGE update only the current string. In the case of a Road string, this can result in other open VGE windows with Strings that are dependent on that Road string (such as intersections, kerb returns, cul-de-sacs and knuckles) not updating elevations. The following edits will behave in this way:

- a. Home Tab > Design > Grid Editor

Any of the below actions will force dependent strings in currently open VGE windows to update

- b. Clicking on Model tab > Auto Update > Update Model
- c. Closing the Road VGE window
- d. Using any of the Home Tab > Editing tools
- e. Clicking on Home tab > Editing panel > Redo (or Undo). This may have unintended results

Paste Surfaces

- When pasting surfaces, pasting in surfaces that have exactly the same triangle points will result in an unsuccessful paste. It is required that triangle points are not exactly on top of each other where the paste area occurs.

Stop Software

- After running the General Tab > Utilities Panel > Stop Software command, running a subsequent command results in the following message: CSD Piping. Error in making alignment list. This error message is a byproduct of the re-reading of the CSD data and does not reflect any real data error. Clicking OK will proceed with a successful restart of Civil Site Design and reload of the data. The message will not re-display unless Stop Software is run again.

Readme for Civil Site Design V19.00

Changes

This is predominantly an update release to support the Autodesk 2019 product release.

Roads

- Automatically removing zero length alignments created using the Create/Edit Cul-de-sac command, to reduce errors about zero length alignments
- Cleaned up the cul-de-sac form by removing an unnecessary tab
- Fixed error message if you arrange the sections windows when there aren't any
- Fixed issues with the Reference Point command
 - You can now pick any alignment for the reference point when Sampled Surface is selected
 - Fixed the crossfall table – it was only using the first entry in the table
 - Form changes