

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

After updating to V19.20, 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.

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 This is informational only, advising users of the relocation of the superseded label tools.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.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.

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