

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

V18.211

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

Civil Site Design V18.211 matches functionality enhancements of Civil Site Design V18.21.

This installation addresses an issue in Version 18.21 relating to editing text when a Civil Site Design –Data folder was not present. In the event of the –Data folder not being created and single line text being edited, the CAD platform would close with a Fatal Error.

This problem has been addressed. Please see below V18.21 for the new features introduced in this update.

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

V18.21

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

Civil Site Design for Civil 3D is available for:

- Multiple AutoCAD Civil 3D based releases:
 - AutoCAD Civil 3D 2013 to AutoCAD Civil 3D 2018

Civil Site Design for AutoCAD is available for:

- Multiple AutoCAD based releases:
 - AutoCAD 2013 to AutoCAD 2018
 - All AutoCAD derivatives (eg: AutoCAD Civil 3D, AutoCAD Map 3D) release versions 2013 to 2018

Civil Site Design for BricsCAD is available for:

- BricsCAD V16 (64bit install)
- BricsCAD V17 (64bit install)
- **BricsCAD V18 (64bit install) - NEW**

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 installing from Civil Site Design V17 or earlier, this version of the software will require an update to your license.

If moving from V17 or earlier to V18, download the installation guide and software, and obtain your V18 license keys directly from the CSS Subscription Portal:

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

If moving from V18.00 (or later) to V18.21, there is no licensing change.

New and Improved Features

This build includes all new and improved features from V18.20 and earlier versions.








Roads

- 1)  **Surface Boundary** command added
 - a) Extract closed polylines of any Civil Site Design surface, ready to apply as a Boundary to any surface. This helps speed up creation of models where the boundary of another surface could be applied
- 2) **Vertical Design – Grid Editor**



Grading

Vertical Grading


Distance	Level	Elevation Change	Back Grade %	Forward Grade %	VC Length
0.000	637.024	0.57838		4.44910	0.001
13.000	637.602	1.49848	-4.44910	5.16719	12.999
26.000	639.100	0.0946	-5.16719	4.44910	0.001
39.000	644.422	0.13769	-1.04825	0.45145	20.000
59.000	644.559	-0.10303	-0.45145	-1.03026	10.000

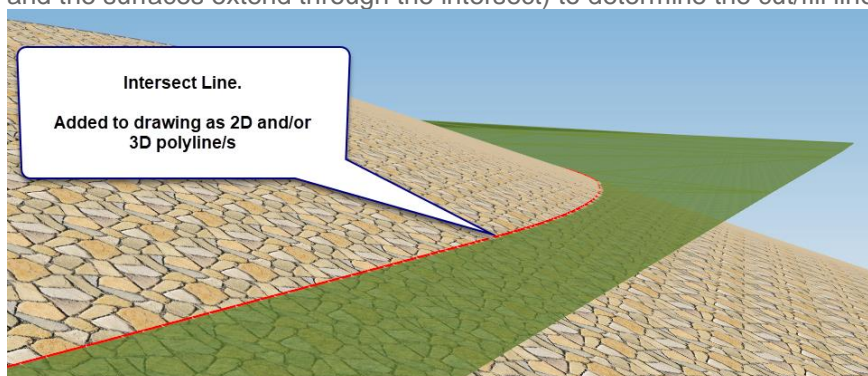








☒ Auto Update Models

- a)  **Add IP (PVI) by Reference**
 - i) Add an IP (PVI) to the string design by selecting a location in plan and using the elevations at that location to set the elevation applied to the string. Pick a location in the drawing, select an elevation at that location (or type one in), pick the location of the new IP along the string and then set a Grade/Slope from the reference point to the selected String location.
- b)  **Edit IP (PVI) by Reference**
 - i) Pick any IP (PVI) in the grid view and edit the elevation by picking a plan location, obtaining an elevation at that location and then applying a grade/slope to determine the new IP elevation

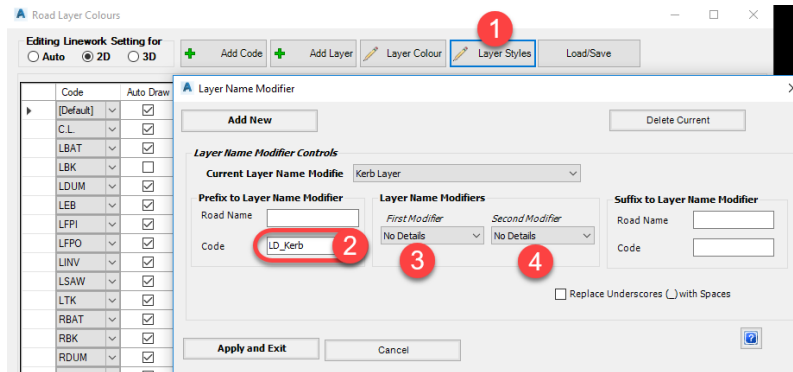
3) Model Viewer

- a)  **Mesh Intercept**
 - i) Draws the intercept of all surfaces displayed in Model Viewer and as 2D and/or 3D polyline/s in the drawing. Useful when surfaces intersect each other (trimming is turned off in Model Viewer and the surfaces extend through the intersect) to determine the cut/fill line.



4) CAD Output > Assign Layers

- a) In this form, the user can set up a Layer Style to manage the layer that 2D or 3D linework is output on. Previously users could not type in a layer name and not include the Code or other parameter. Now users can. Example input below will output the codes containing this Layer Style to the single layer LD_Kerb:



Resolved Issues

Surfaces

5) Create/Edit Surface

- a) Boundaries > Add Surface
- i) This command has been improved to handle more looping conditions in the batters.

Roads

6) Roads tab > Plan Production panel pulldown > **Typical Templates Section Plot**

- a) This command was run on a String, users were not advised that the end result is that the Templates would be edited on the String (one Template per section, going through all the Local Templates). Now, a warning displays when users try to run this command on a string – users then confirm they are happy to overwrite the templates or cancel.

7) Cross Section Plotting

- a) If crossfalls were ticked on for an added Surface band, crossfall labels would not display on the added surface. This is resolved.
- b) When using the **Add Symbols from Code** form, the available Label Styles referred to label styles for bands, instead of plotting annotation label styles. This has been fixed.

8) Create Grading

- a) It was possible to cause an error if the Template Editor icon was selected in the Grading form, before making a Grading.

9) Intelligent Sections

- a) In certain conditions add a Bench would not intercept on the bench entry even if the user sets the bench code to stop if it intersects the surface. This has been fixed.

10) Kerb Returns

- a) If a Kerb Extension was specified, the main and side roads were not trimming back to the start/end of the kerb extents.

11) Surface Manager

- a) Boundaries > Add Surface button
 - i) This command has been improved to handle more looping conditions in the batters.

12) Long Section Plotting

- a) In BricsCAD, a crash could occur when plotting the long section of roads after picking the sampled sections option. This was caused by a required font, ISOCP.SHX, not being created in the drawing. This has been fixed.

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

V18.20

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

Civil Site Design for Civil 3D is available for:

- Multiple AutoCAD Civil 3D based releases:
 - AutoCAD Civil 3D 2013 to AutoCAD Civil 3D 2018

Civil Site Design for AutoCAD is available for:

- Multiple AutoCAD based releases:
 - AutoCAD 2013 to AutoCAD 2018
 - All AutoCAD derivatives (eg: AutoCAD Civil 3D, AutoCAD Map 3D) release versions 2013 to 2018
- BricsCAD V16 (64bit install)
- BricsCAD V17 (64bit install)

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 installing from Civil Site Design V17 or earlier, this version of the software will require an update to your license.

If moving from V17 or earlier to V18, download the installation guide and software, and obtain your V18 license keys directly from the CSS Subscription Portal:

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

If moving from V18.00 (or later) to V18.20, there is no licensing change.

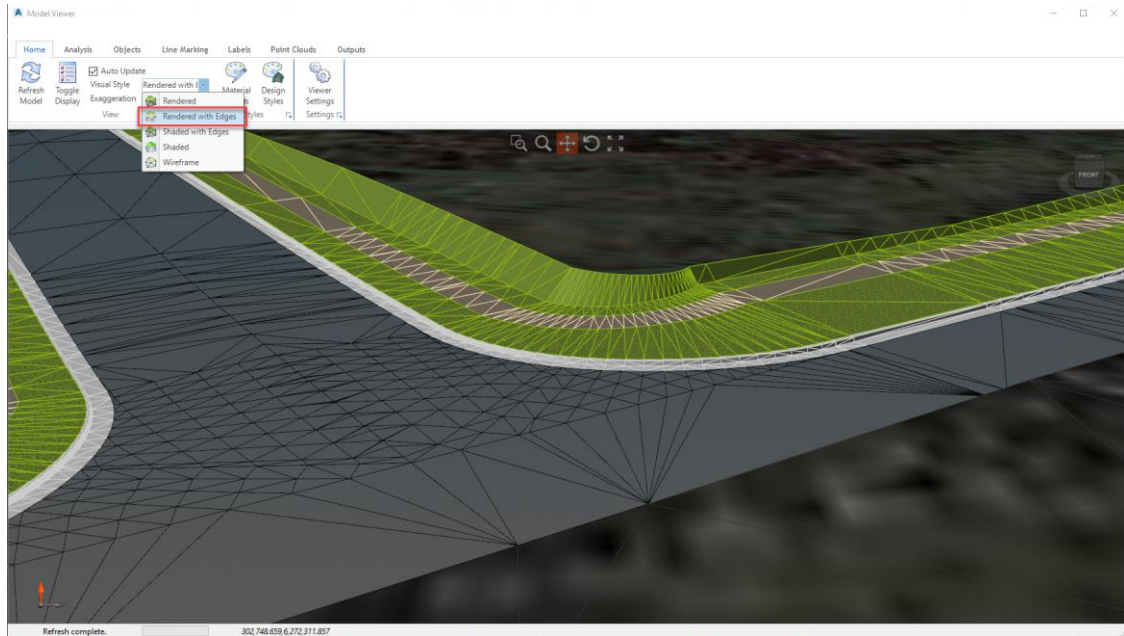
New and Improved Features

This build includes all new and improved features from V18.01 and earlier versions.

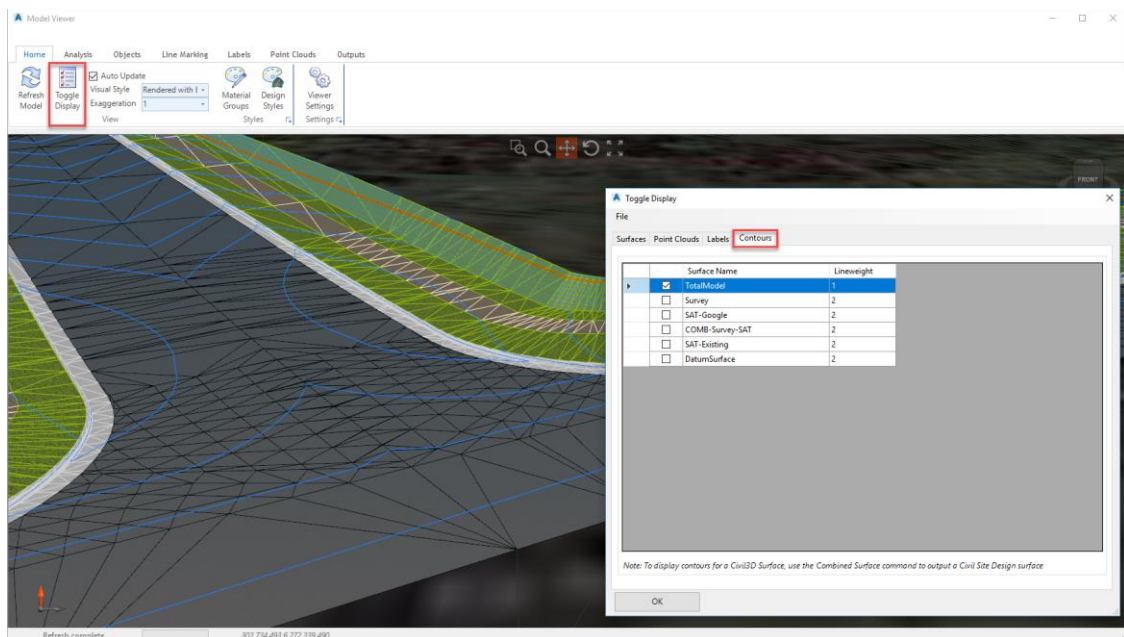
Model Viewer and Combined Surfaces

13) In **Model Viewer**, new visualisation outputs are included:

- a) **Rendered with Edges**. Full render and including the triangulation of the surface:

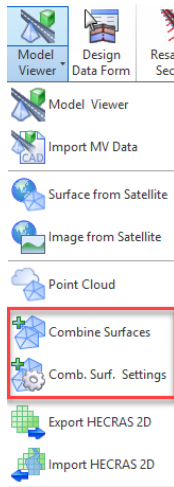


- b) **Contours**. Contour display need to be turned on in the drawing to be displayed in Model Viewer. Display interval & colouring is as per **Surface Manager**:



14) **Model Viewer** now includes **Boundaries** defined in **Surface Manager**

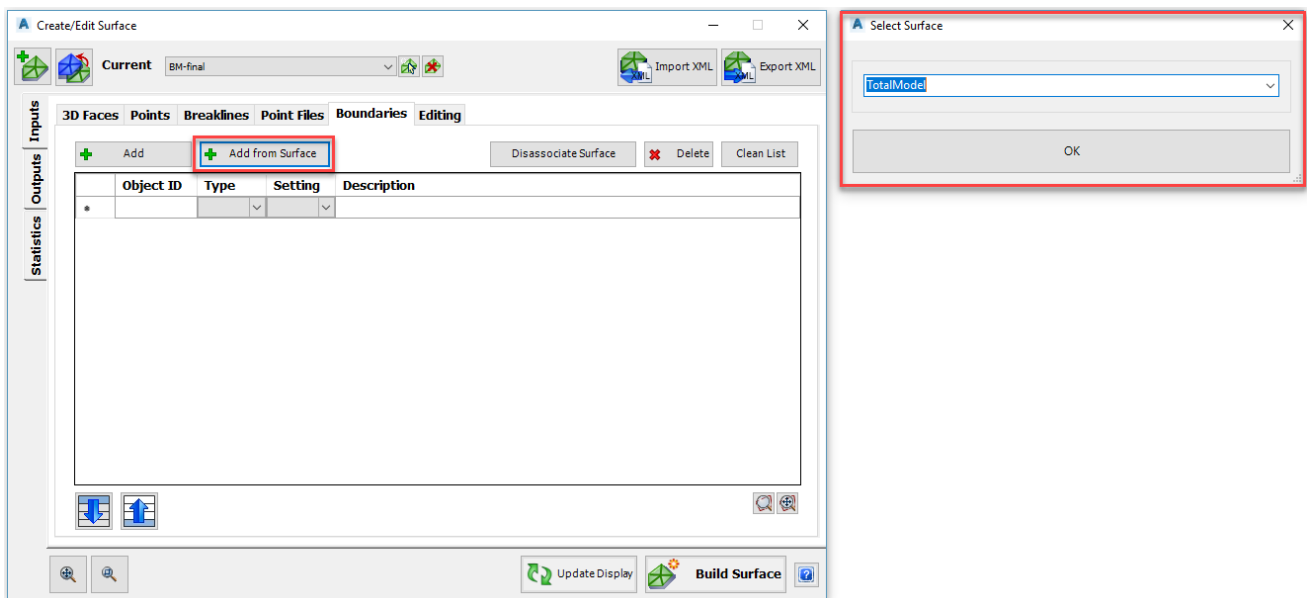
15) **Combined Surfaces** & **Settings** commands added to combine surfaces currently viewed within Model Viewer.



Surfaces

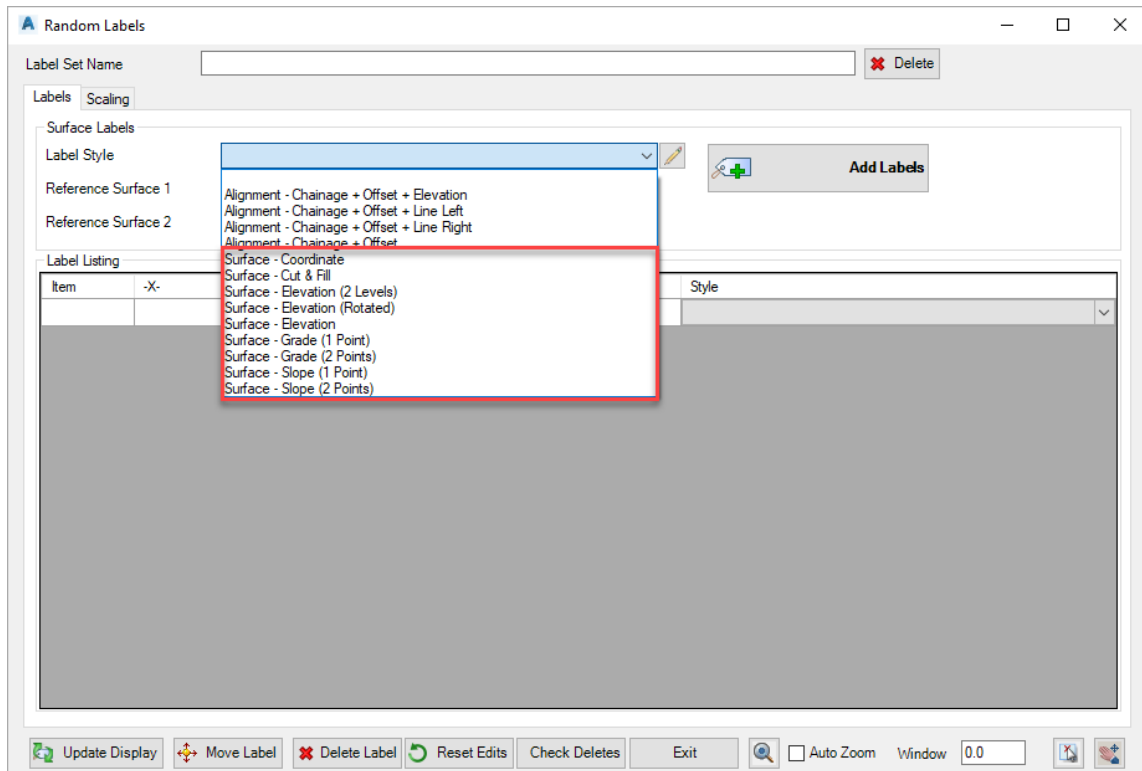
16) The **Surface Manager** now includes buttons in the **Boundaries** tab to allow assignment of **Boundaries from another Surface**. This can be very useful with Model Builder models – using the Totalmodel boundary.

- The software collects the boundaries from the referred surface and adds them as ‘fuzzy’ boundaries to the current surface, with a small offset from the calculated boundary extents of the selected surface. A Description is added to automate the boundary usage. Removing the description will Disassociate the Surface boundary.



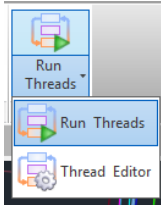
Labels

17) **Surface Labels styles** have been renamed to for simplicity & added to the common folder:

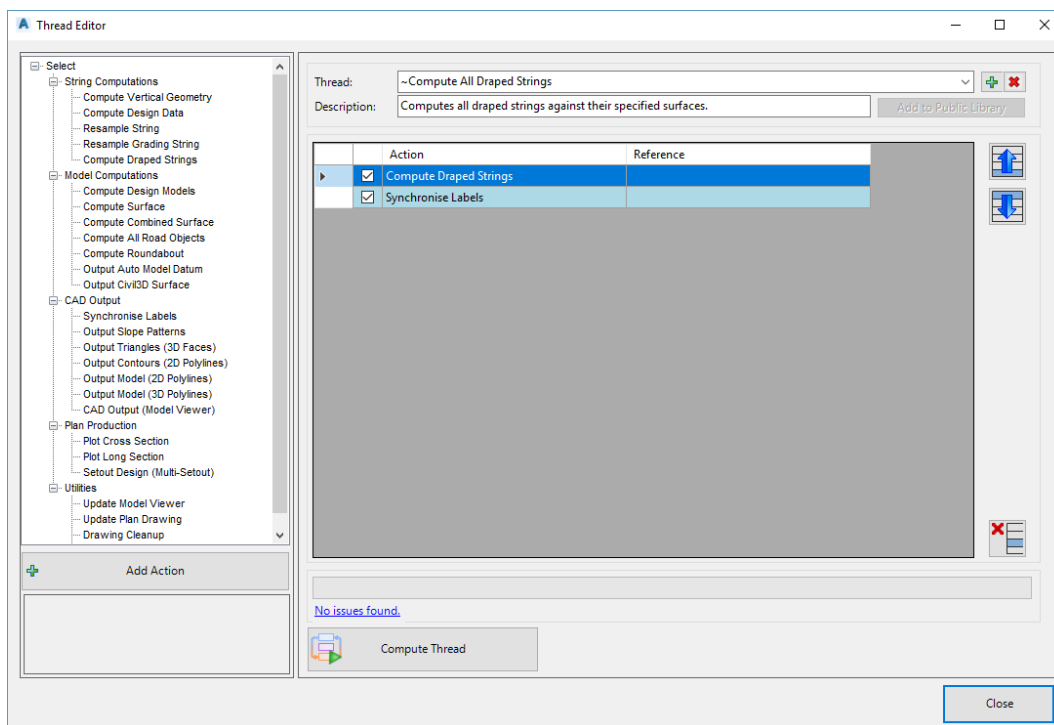


Roads

18) Threads command added

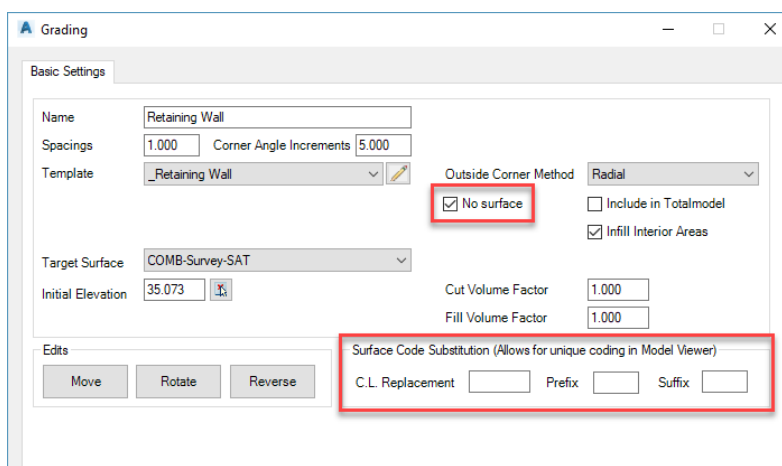


- a) Command allows users to form and process a computational workflow.



19) Grading Strings

- a) Users have the option to **not create a surface** when the grading is created (to simplify surface management)
- b) Users can **reassign the C.L. code**. When rendering with **Model Viewer**, this will allow the users to have complete custom rendering between object codes. For example, a basin could have C.L., C.L., C.L., - this code combination could occur on other grading objects. You can now replace C.L. with BSN (Basin) for custom rendering.

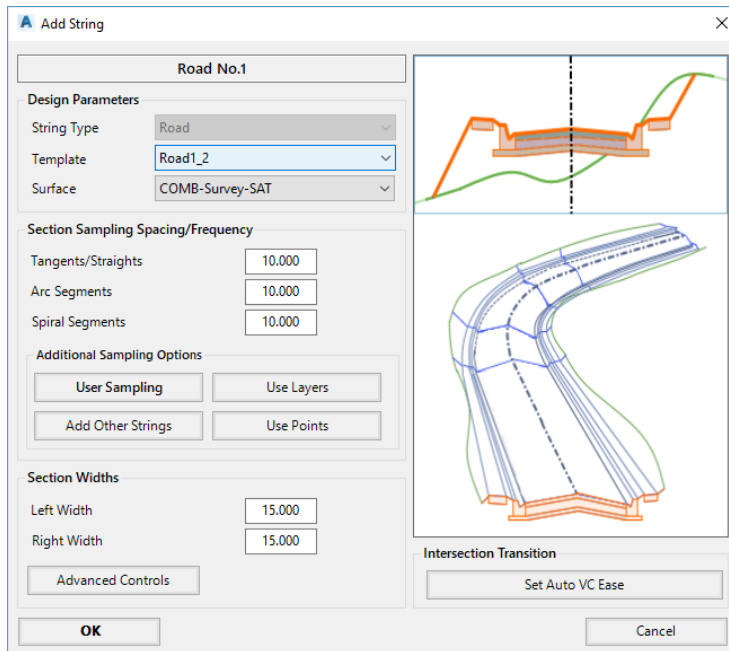


20) GENIO Exchange+

- Added a toggle to **remove MOSS** from the heading of the file
- Added a control for the zero entries that define the end of a string in the GENIO file

21) Create Road / Profile Strings and Resample Sections.

- New forms with **Hover Graphics**. Section widths can be edited on the main form.

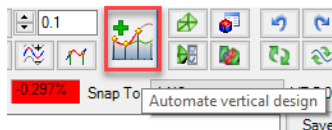


22) Civil 3D Surfaces Output – Assigning Boundaries

- The boundary assigned via the Civil 3D Surfaces command has been enhanced. It will now better manage loops in the boundary (previously looping boundaries would not be added to Civil 3D and the surface output could fail).

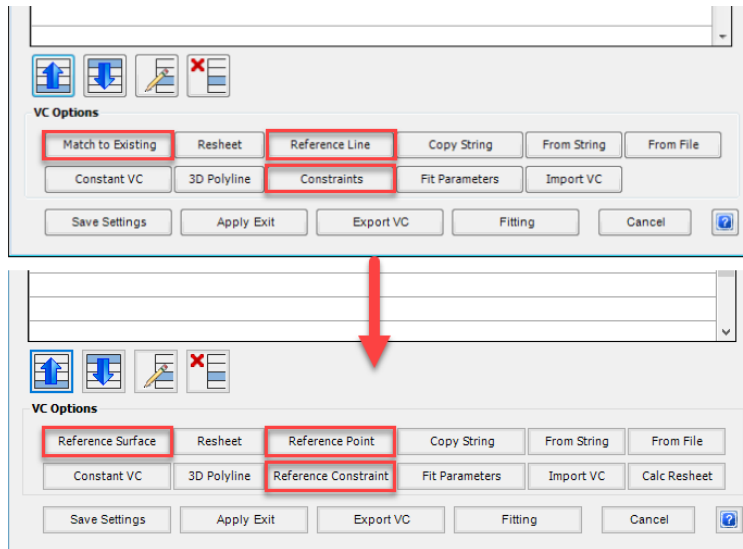
23) Vertical Grading Editor

- Compute VC** has been renamed to **Automate Vertical Design**

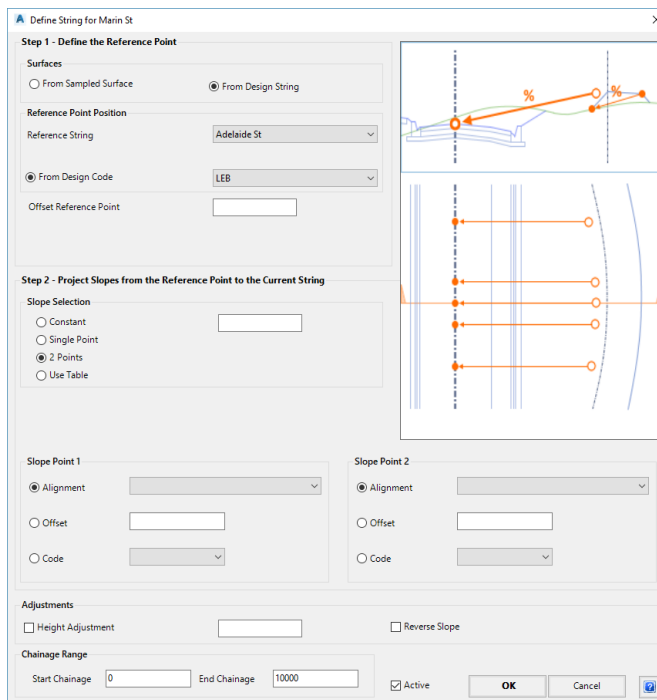


b) **Automate Vertical Design** (formerly *Compute VC*) commands renamed:

- i) **Match to Existing** renamed to **Reference Surface**
- ii) **Reference Line** renamed to **Reference Point**
- iii) **Constraints** renamed to **Reference Constraints**



c) **Reference Point** (formerly *Reference Line*) command updated with **Hover Graphics**:



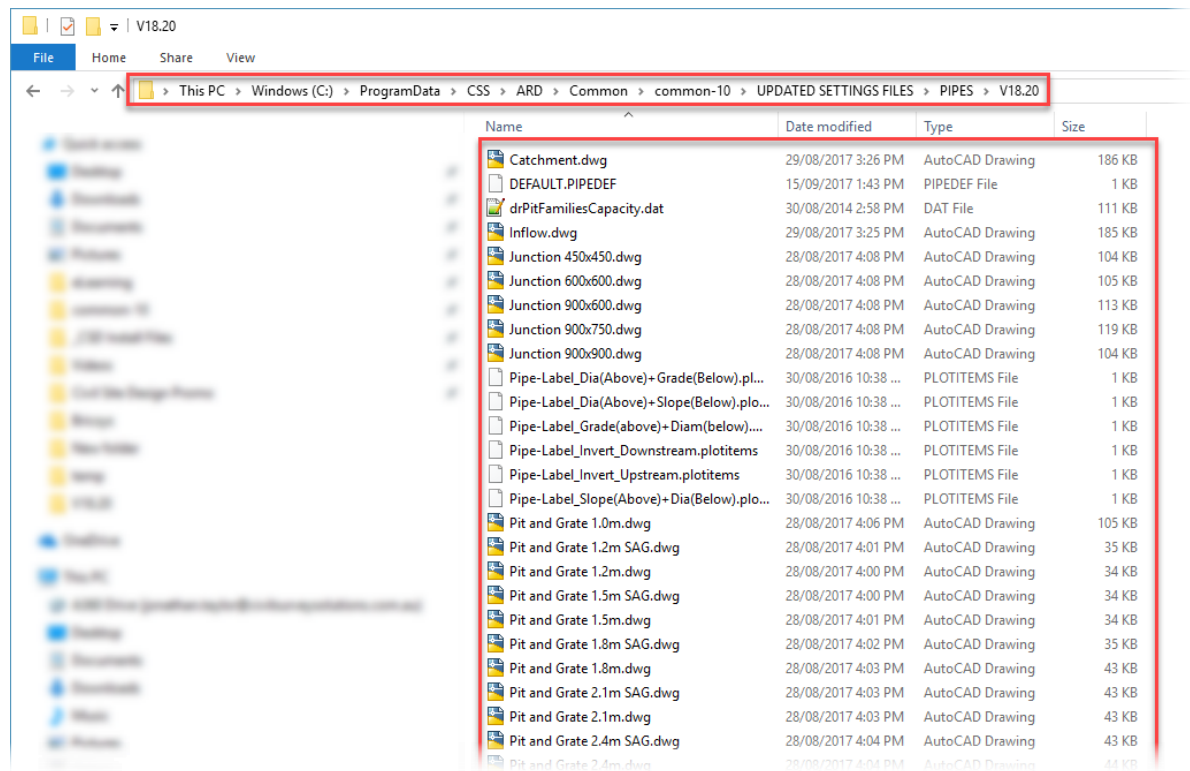
Pipes

24) New Drainage Pit Library

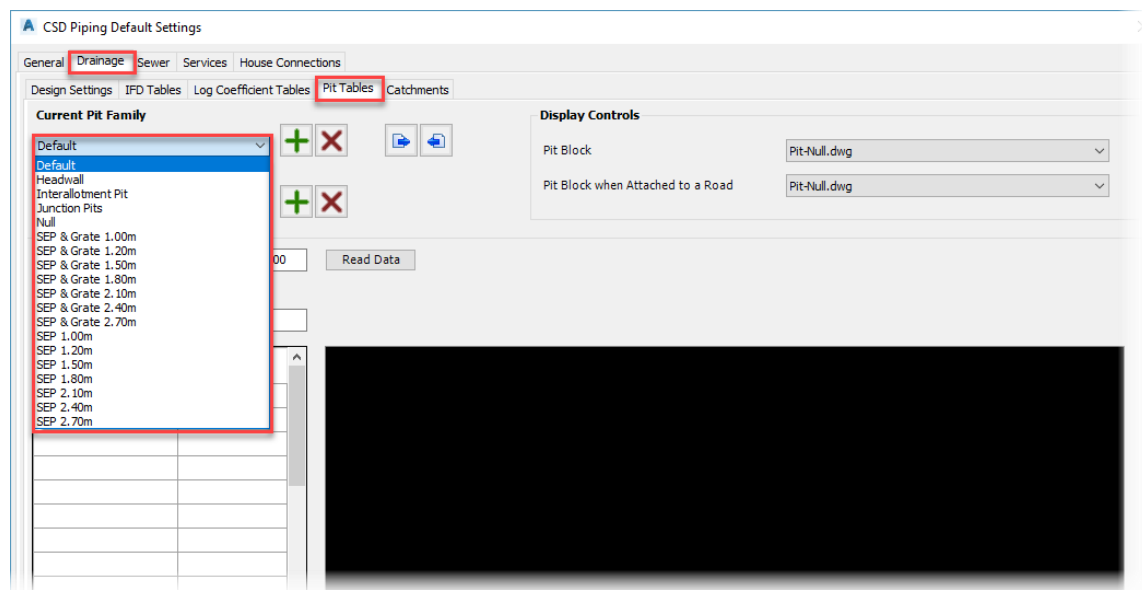
- a) A new pit library has been added to this installation but **NOT** applied to prevent overwriting of users customer pit types.

New Drainage Pit, catchment & inflow icon blocks have been created in the common folder:

...../Common-10 / UPDATED SETTINGS FILES / PIPES / V18.20



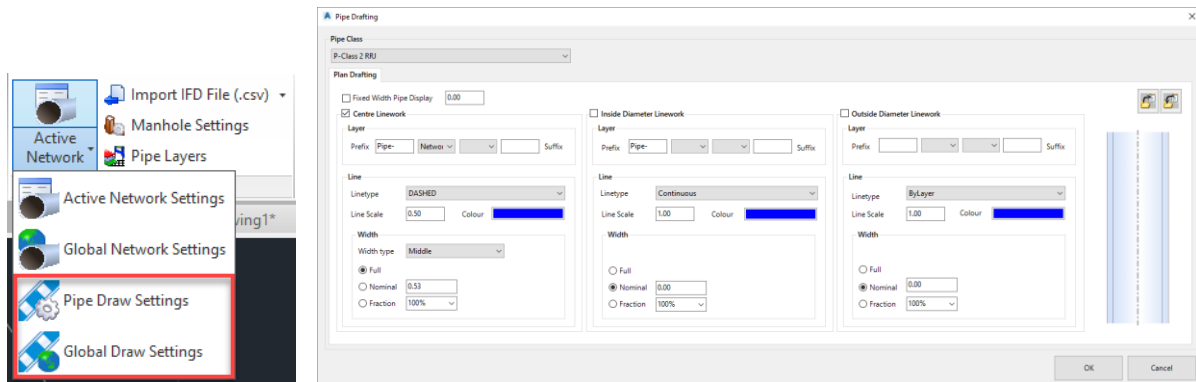
- b) Installing the new **Pit Table & Pit Blocks** ****THIS WILL OVERWRITE YOUR EXISTING PIT TABLE****
- i) Copy / paste the **drPitFamiliesCapacity.dat** and **ALL** the .dwg files to your **Common-10** folder and (if required) to the **Advroads-10** folder on your project -data folder.



25) Pipe Draw Settings & Global Draw Settings commands added

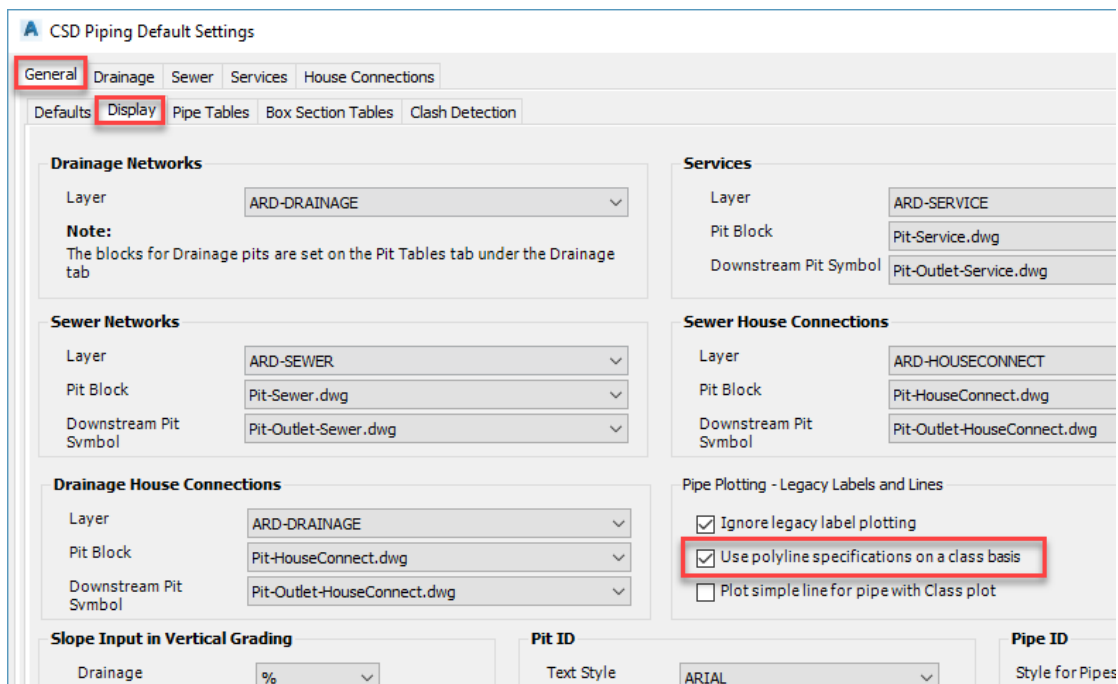
- Delivers enhanced drafting control to display outer diameter, inner diameter and centreline linework for pipes. Users can set pipe widths and linetypes on the pipe, to set polylines that match the pipe width

Global Drawing Settings Allows users to pre-set the automated pipe drafting to apply to pipes in new projects

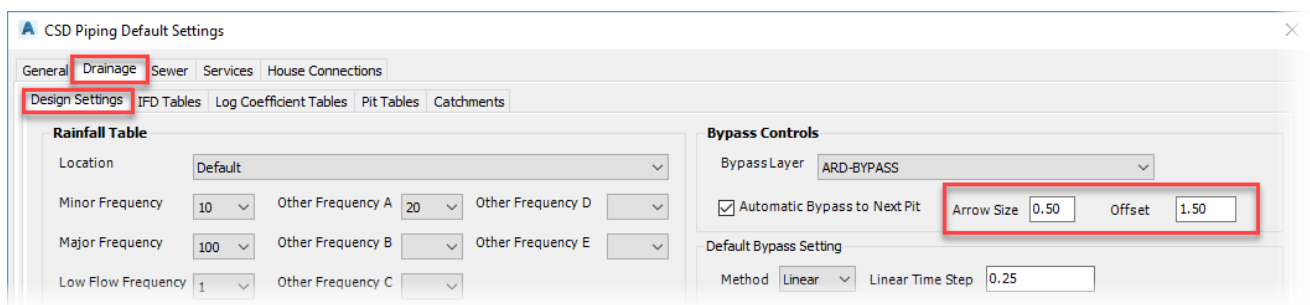


26) Active Network Settings

- Users can toggle on / off the new **Pipe Draw**



- Bypass Arrows** and **Pipe Direction Arrows** sizes are user controlled



CSD Piping Default Settings

General **Drainage** Sewer Services House Connections

Defaults **Display** Pipe Tables Box Section Tables Clash Detection

Drainage Networks

Layer: ARD-DRAINAGE

Note:
The blocks for Drainage pits are set on the Pit Tables tab under the Drainage tab

Sewer Networks

Layer: ARD-SEWER
Pit Block: Pit-Sewer.dwg
Downstream Pit Symbol: Pit-Outlet-Sewer.dwg

Drainage House Connections

Layer: ARD-DRAINAGE
Pit Block: Pit-HouseConnect.dwg
Downstream Pit Symbol: Pit-Outlet-HouseConnect.dwg

Slope Input in Vertical Grading

Drainage: %
Sewer: 1 in
House Connections: %
Services: %

Object Highlight

Pit Highlight Width: 60
Pit Highlight Radius: 2.000
Pipe Highlight Width: .600

Services

Layer: ARD-SERVICE
Pit Block: Pit-Service.dwg
Downstream Pit Symbol: Pit-Outlet-Service.dwg

Sewer House Connections

Layer: ARD-HOUSECONNECT
Pit Block: Pit-HouseConnect.dwg
Downstream Pit Symbol: Pit-Outlet-HouseConnect.dwg

Pipe Plotting - Legacy Labels and Lines

☒ Ignore legacy label plotting
☐ Use polyline specifications on a class basis
☐ Plot simple line for pipe with Class plot

Pit ID

Text Style: Arial
Text Height: 1.000
X offset: 1.000
Y Offset: 1.000

Pipe ID

Style for Pipes: Arial
Height for Pipes: 1.000
Offset: .750

Pipe Direction Arrows

Length: 1.500
Width: .500

27) Network Labels

- a) The **Network Labels** command has been enhanced to allow users to configure the Structure Label Style to apply for different incoming/outgoing pipe configurations. This enables users to include pipe invert elevation information on the pit labels:

Pipe Networks

Labels **Scaling**

Description: Pipe Labels ✖ Delete ☐ Show structure styles for pipe in/out

Network Type	Pipe Style	DS Style	US Style	End Structure
Drainage	Pipe-Label_Dia(Above)+Slope(Below)			Pit-Label_ID+Circle

Reset Edits Edit Style

Add/Update Labels Exit Cancel

Pipe Networks

Labels **Scaling**

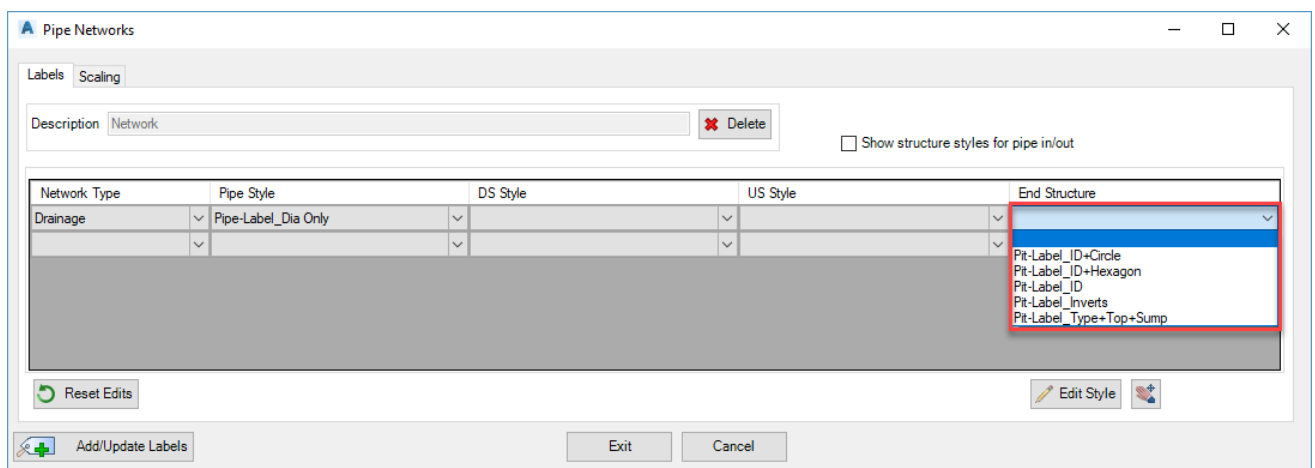
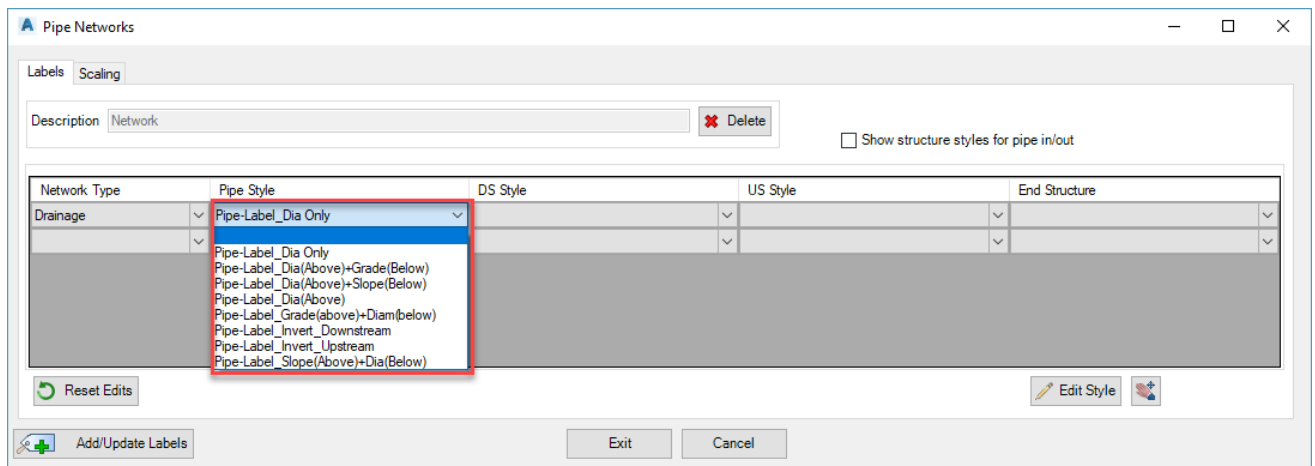
Description: Pipe Labels ✖ Delete ☒ Show structure styles for pipe in/out

Network Type	Pipe Style	DS Style	US Style	End Structure	1 Out Structure	1 in 1 Out Structure	2 in 1 out Structure	3 in 1 out Structure
Drainage	Pipe-Label_Dia(...)			Pit-Label_ID+Circle				

Reset Edits Edit Style

Add/Update Labels Exit Cancel

- b) **Pit & Pipe Network Label Style** have been renamed for simplicity & added to the common folder:

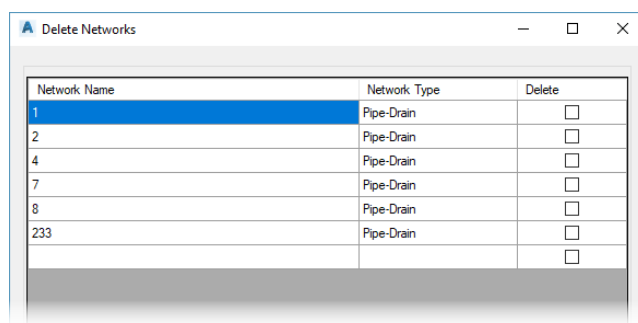


28) DRAINS Exchange

- a) When a network is first exported, the pit loss factors (Ku) are assigned from Civil Site Design network analysis methods. Following this, re-export to DRAINS will not change the (Ku) – it will re-use the DRAINS import values for re-export.

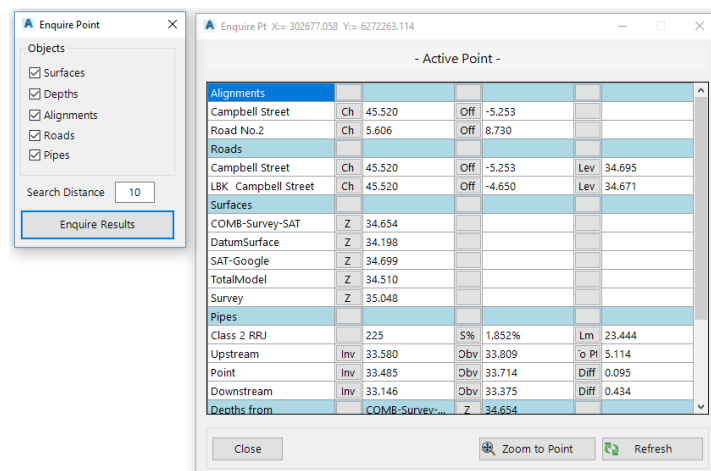
29) Pipe Network Deletion command added: ARDUV7DRAINDELETENETWORKFORM.

- a) Allows quick Pipe Network deletion via a form instead of selection in drawing. **Command line only.**



Enquiry Tool

30) The interface of the enquiry tool has been updated.



System Changes

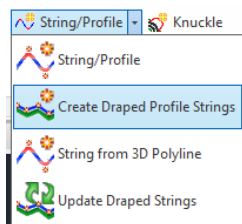
Roads

31) Renamed Commands:

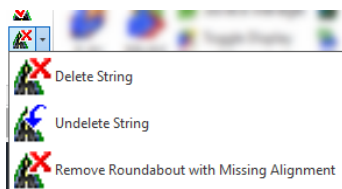
- Create Road to **Road String**



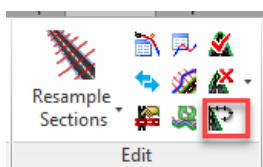
- Draped Profiles to **Draped Profile Strings**



- Delete Roads to **Delete Strings** & Undelete Roads to **Undelete Strings**



32) **Rename String** command moved to Roads tab -> Edit Panel



Resolved Issues

Model Viewer

- 33) When Combined Surface or Satellite surface is created, the Surface Manager can now be used to create boundaries, add breaklines, etc and rebuild these surfaces. Previously, pressing Rebuild in Surface Manager for a Combined Surface or Satellite Surface would remove the source surface data
- 34) Outer boundaries defined in Surface Manager are now included in Model Viewer for the Base Surface
- 35) Fixed an issue with 'unassigned' codes being assigned to triangles through bends where no curve was included (this adversely impacted on the ability to assign materials)

Roads

36) GENIO Exchange+

- a) Addressed an issue with the curve radii being incorrectly applied in the GENIO export

Labels

- 37) Label styles that use a text style containing Obliquing will now show the obliquing of the text
- 38) Surface slope labels were incorrectly reporting the surface slope.

Pipes

- 39) Turning off the **Legacy Labels** in Active Network Settings did not clear all labels from the drawing

40) DRAINS Catchments

- a) If a **DRAINS** catchment was added after a network was created, the CSD flows were not added to the network automatically – Create/Update Network had to be run. These flows are now automatically included in the flow calculations for the network

41) DRAINS Exchange

- a) Overflow route data was not being removed when pits were deleted or bypasses edited. This has been addressed.
- b) The Switch pits option for DRAINS catchments could result in unexpected reassignment of catchments. This has been addressed
- c) An issue with overflow routes not updating when pits are added or deleted has been addressed.
- d) After a DRAINS network was imported, the user was not prompted to adopt the DRAINS values for plotting outputs
- e) Multiple Networks were not being handled during export/import
- f) Multiple bypasses assigned to a pit were not exchanged. This issue is resolved.

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

V18.01

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

Civil Site Design for Civil 3D is available for:

- Multiple AutoCAD Civil 3D based releases:
 - AutoCAD Civil 3D 2013 to AutoCAD Civil 3D 2018

Civil Site Design for AutoCAD is available for:

- Multiple AutoCAD based releases:
 - AutoCAD 2013 to AutoCAD 2018
 - All AutoCAD derivatives (eg: AutoCAD Civil 3D, AutoCAD Map 3D) release versions 2013 to 2018
- BricsCAD V16 (64bit install)
- BricsCAD V17 (64bit install)

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 installing from Civil Site Design V17 or earlier, this version of the software will require an update to your license.

If moving from V17 or earlier to V18, download the installation guide and software, and obtain your V18 license keys directly from the CSS Subscription Portal:

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

If moving from V18.00 to V18.01, there is no licensing change.

New and Improved Features

This build includes all new and improved features from V18.00..

Supported platforms now also include BricsCAD V17. It is CRITICAL that users first download and install V17.1.19 or later version of BricsCAD before installing Civil Site Design.

Utilisation of Hardware Acceleration

- 42) By default, the software now applies hardware acceleration and the full performance of the graphics card for graphical windows (Model Viewer, Vertical Grading Editor, Cross Section, etc).
- 43) This is controlled in the file ARDInitialise.ini (search in the C:\ProgramData\CSS\ directory and sub-directories). The following entries are added:
 - Accel=1 (this uses the graphics card for rendering)
 - Antialiasing=1 (this improves text display on the VGE and other graphical windows)
 When they are set to 1, they are applied.

Model Viewer and Combined Surfaces

- 44) The graphics engine has been updated to reduce graphics degradation, improve image rendering, and increase speed and performance.
- 45) A new command has been added (currently it available by typing `arduv7AJEBCombinedSurfaceSettings` at the command line only). This command speeds up the computation of multiple inter-related combined surfaces, with users being able to establish the order of computation of combined surfaces

Roads

- 46) Text on the Vertical Grading Editor now applies anti-aliasing and utilises hardware acceleration via your graphics card, so redraw performance is improved.
- 47) Shared Strings now come with the Templates from the source drawing
 - a) When a String is shared via the Civil Site Design Data Share command, the share folder now includes the local Templates used by the shared String. When the String is read into another drawing, it contains its own list of Templates inherited from the Source drawing.
 - b) This means that users no longer need to ensure that matching Templates are available in all source and receiving drawings when a Share is performed.
- 48) If a Shared path is missing (so data was read from a folder that no longer exists) the user will be prompted to select the new data share location. This enables folder changes post sharing.
- 49) When Build Models is used and a model is created that is linked to Auto Model, only Road, Kerb, Cul-de-sac, Knuckle and Roundabout Strings are automatically included in the built model. As new roads are created or kerb returns adjusted, the Built Model will update. Any grading strings or general strings (including draped strings) will not be automatically included in the built model. Previously a form would display for the user to repeatedly assign strings to the built models.

Resolved Issues

Model Viewer

- 50) When Combined Surface or Satellite surface is created, the Surface Manager can now be used to create boundaries, add breaklines, etc and rebuild these surfaces. Previously, pressing Rebuild in Surface Manager for a Combined Surface or Satellite Surface would remove the source surface data

Roads

- 51) Grading models will now render more consistently in Model Viewer. Previously, external bends were modelled using a generic code (XXL) making it difficult to apply rendering.

Pipes

- 52) Fixed a critical issue with the Pipe Flows for Civil Site Design pipe networks. Pipe flows were being added twice (duplicating the flow values). This build addresses that fault and restores calculations to match the V17 results.
- 53) DRAINS Catchments
 - a) If a DRAINS catchment was added after a network was created, the CSD flows were not added to the network automatically – Create/Update Network had to be run. These flows are now automatically included in the flow calculations for the network
- 54) DRAINS Exchange
 - a) An issue could occur where the first-time import of the Civil Site Design file into DRAINS would result in one or more pipes not being imported. Simply redoing the import would resolve this, however this bug has been fixed and on first import all pipes will be included.
 - b) Adjusted overflow routes so that, on first creation, the Velocity in drains is toggled to be 'Set by DRAINS' and the safe depths are set to the default values in DRAINS. Additionally, the velocity and safe depth/velocity fields will be exported back to DRAINS without change, once DRAINS has assigned the value and exported back to Civil Site Design
Note: A DRAINS software update may be required in order to ensure that overflow routes don't initially report ???? on them (if that happens, you can edit the data and put a space at the end of one of the invert level fields and click OK to update DRAINS so it is satisfied with the data)
- 55) DRAINS Overflows
 - a) There was a problem assigning DRAINS overflow templates when multiple pit bypasses were assigned to a pit. This issue is resolved.

- 56) An issue with pits 'forgetting' their pit rotations (and setting to horizontal) upon running Create/Update Network has been addressed. Default pit rotation will be to the next pipe leading to the outlet.

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

V18.00

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

Civil Site Design for Civil 3D is available for:

- Multiple AutoCAD Civil 3D based releases:
 - AutoCAD Civil 3D 2013 to AutoCAD Civil 3D 2018

Civil Site Design for AutoCAD is available for:

- Multiple AutoCAD based releases:
 - AutoCAD 2013 to AutoCAD 2018
 - All AutoCAD derivatives (eg: AutoCAD Civil 3D, AutoCAD Map 3D) release versions 2013 to 2018
- BricsCAD V16 (64bit install)
- BricsCAD V17 (64bit install)

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.

This version of the software will require an update to your license – from a V17 license to a V18 license.

You can obtain your V18 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.

Network installs require install of an UPDATED LICENSE MANAGER on the server to administer the V18 license. Refer to the Installation Guide for instructions on installing and administering the new licensing

Licensing Changes

A new licensing form has been implemented for end users with the following enhancements:

- Display of your license status (Evaluation, Permanent, Rental)
- Display of your license type (Standalone, Network)
- Display of the platform for install
- Ability to Return a License (Standalone customers). This will return the license back to our servers and enable re-issue of that license on another computer

The **License Activation** command in General > Utilities > License Activation will display the current license status.

This form allows users to activate licenses, deactivate (return) licenses, and connect to a network server license.

New and Improved Features

This build includes all new and improved features from V17.014.

Supported platforms now also include BricsCAD V17. It is CRITICAL that users first download and install V17.1.19 or later version of BricsCAD before installing Civil Site Design V17.015.

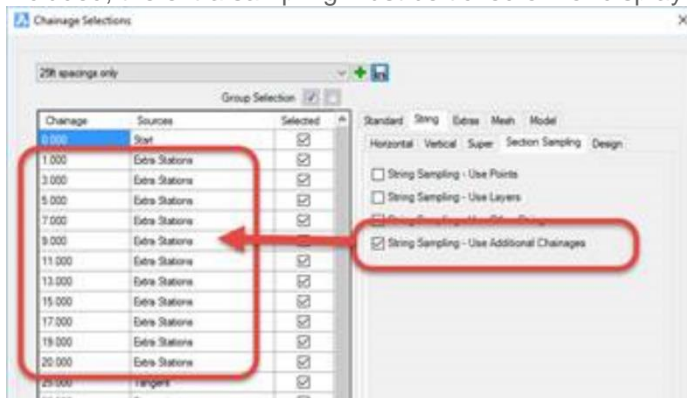
Model Viewer

- 57) A projection list has been added as an option to use instead of the PRJ files (these have different transformation methods pending the coordinate system selected). It is recommended that the new projection lists are used when specifying a coordinate system. Use the PRJ option if the coordinate system does not exist.

- 58) Cache base surface option added in the Viewer Settings. This triangulates the base surface once only, to enhance speed. Base surface trimming is disabled in this mode.
- 59) Users now have the option to save/open in the 'Toggle Display' form. This allows users to save a display state (different surface models turned on/off) and load the display in at any time. This option will have a lot of benefits when using the 'Combined Surface' command and it is required to update one of these surfaces.

Roads

- 60) The Section Manager list now included Add Extra Sampling sections added to the road (string). To be included, the extra sampling must be ticked on for display in the VGE



Labels

- 61) You can now copy text elements in a label style



- 62) A new Chainage (Station)/Offset label can be applied to CSD alignments. This label gets its bearing from the alignment and can report chainage (station), offset and surface elevations
 a) Station/Offset labels can have a Text1 and Text2 field added – these are direct user input fields in the Offset Labels form.



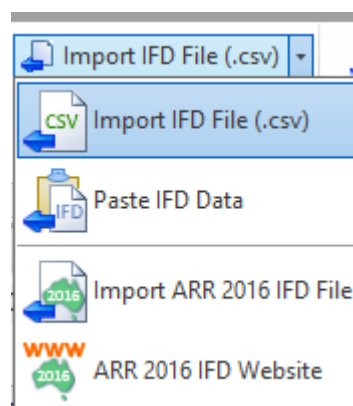
- 63) Labels can now support 10 user editable fields – a new command Edit User Input Fields will populate a form to enable user type in for all edit fields



- 64) A 2 point surface label function has been added. Users can now pick two points to report average slope. A default style named Surface – Slope 2 Point... has been included as a starting point.

Pipes

- 65) ARR 2016 rainfall data can now be imported into the project using the *Import ARR 2016 IFD* command. We have also supplied users with a direct link to the ARR 2016 IFD Website to attain this data.
 66) All international users can now import IFD data (via a CSV file) using the *new Import IFD (.csv)* command.



- 67) DRAINS Exchange Improvements

- a) The software will locate the DRAINS Default Database and use the available pipes, pits and overflow routes to improve efficiency of mapping data between Civil Site Design and DRAINS
- b) A new Export form has been developed:
 - i) Lookup Tables tab

- (1) Pits tab. Lists the Civil Site Design pits and allows picklist assignment of DRAINS pits (using the DRAINS Default Database). You can also set a Default for any pits that aren't mapped. This auto populates the DrainPits.txt file
 - (2) Pipes tab. Lists the Civil Site Design pipes and allows picklist assignment of DRAINS pipes (using the DRAINS Default Database). You can also set a Default for any pipes that aren't mapped. This auto populates the DrainPipes.txt file
 - (3) Overflow tab. This lists all Pit Bypasses and allows assignment of DRAINS overflow routes, as well as assigning a percentage of catchment flow to the route
- ii) Settings Tab. This allows some default settings

CSD Family	CSD Type	Drains Family	Drains Size/Desc
SEP & Grate 1.80m	SEP & Grate 1.0% Longitudi...	NSW RTA SA Inlet, 3% crossfall, 1% grade	SA1
SEP & Grate 1.80m	SEP & Grate 10.0% Longitudi...	NSW RTA SA Inlet, 3% crossfall, 7% grade	SA1
SEP & Grate 1.80m	SEP & Grate 15.0% Longitudi...	NSW RTA SA Inlet, 3% crossfall, 9% grade	SA1
SEP & Grate 1.80m	SEP & Grate 2.0% Longitudi...	NSW RTA SA Inlet, 3% crossfall, 1% grade	SA1
SEP & Grate 1.80m	SEP & Grate 3.0% Longitudi...	NSW RTA SA Inlet, 3% crossfall, 3% grade	SA1
SEP & Grate 1.80m	SEP & Grate 5.0% Longitudi...	NSW RTA SA Inlet, 3% crossfall, 5% grade	SA1
SEP & Grate 2.10m	Default	NSW RTA SA Inlet, 3% crossfall, 1% grade	SA2
SEP & Grate 2.10m	Null	NSW RTA SA Inlet, 3% crossfall, 1% grade	SA2
SEP & Grate 2.10m	SAG SEP & Grate 2.10m	NSW RTA SA Inlet, 3% crossfall, 1% grade	SA1
SEP & Grate 2.10m	SEP & Grate 0.5% Longitudi...	NSW RTA SA Inlet, 3% crossfall, 1% grade	SA2
SEP & Grate 2.10m	SEP & Grate 1.0% Longitudi...	NSW RTA SA Inlet, 3% crossfall, 1% grade	SA2

Default DRAINS Family: NSW RTA SA Inlet, 3% crossfall, 1% grade Default DRAINS Size/Desc: SA1

Buttons: Export to DRAINS, Save Table, Cancel

- c) A dedicated DRAINS catchment can now be created and allows direct input matching the ILSAX inputs for catchments. The new continuing-loss/initial-loss inputs will be included as soon as the import is supported by DRAINS.

Pit ID: 1

Sub Catchment Name: New Catchment

Area (ha): 1

Catchment Calculation Method: ☐ Abbreviated ☒ Detailed

Note: The additional times you specify will be added to the times calculated from flow path length, slope and roughness to get the total times of concentration.

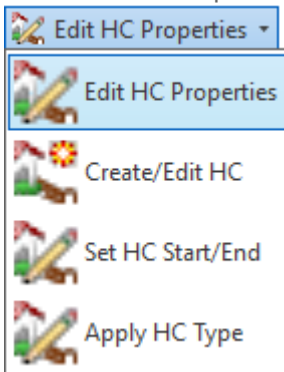
	Paved	Supplementary	Grassed
Percentage of Area (%)	50	30	20
CSD C Factor	9	6	6
Additional Time (mins)	0	0	0
Flow Path Length (m)	25.2	23.5	10.3
Flow Path Slope (%)	1.5	2.35	1.34
Retardance Coefficient n*	.013	.02	.15

Buttons: OK, Cancel

- d) A new DRAINS Overflows command has been added to allow users to assign DRAINS information to be transferred as overflow routes:
- i) Overflow route template
 - ii) Overflow route length using a polyline in the drawing
 - iii) Percentage of catchment flow to the route and using a polyline in the drawing for the length of overflow

From Pit No	(From Pit ID)	To Pit No	(To Pit ID)	Drains Section	CSD Section	Polyline	DS Area %
4	2A	5	1A	10 m roadway with 3% crossfall and barrier kerb	A from location	8031	50
3	4A.1	4	2A	Channel section 600 mm wide	Batter 1:2 right (Grading)		50
2	4A	3	4A.1	Channel section 900 mm wide			75
1	5A	2	4A	10 m roadway with 3% crossfall and barrier kerb			20
6	1B	2	4A	10 m roadway with 3% crossfall and roll top kerb			75
14	3A	4	2A	Swale with 1:4 sideslopes			20

- e) During Import, new DRAINS pits and pipes can be included in Civil Site Design – new pipes and pits can be created upon reading in the DRAINS data. A form will display for selecting to include the pit - pipes connected to two pits will be included. Following this process, run the Redraw Networks command to update display. Use Create/Update Network command to include these in the Civil Site Design pipe network.
- 68) A new command has been added that allows users to arrange the plot order of networks.
- 69) Create/Edit house connection command has been added that allows user to create and update house connections.
- 70) A new command has been added that allows user to edit the lot number, area, offset and connection type of the house connection.
- 71) Users now have the option to override the start/end elevations of a house connection.



- 72) The new Set Pit Rotation command allows users to define a rotation for any specified pit.

USA Profile Plotting

USA Profile Plotting has been revamped to enhance how labelling is applied to the design profile in profile views. Improvements:


- Created a dedicated form for adding random station/elevation labels
- Enhanced the profile annotation form
 - o You can now add different geometry types and choose the Label Style to apply
 - o You can omit any label geometry via user selection of a Section List (not including vertical curve labels)
- Added a viewport option to show a model viewport above or below the profile view

Resolved Issues

Model Viewer

- 73) When line-marking ranges are added, they are now automatically sorted in the line-marking regions list based on the starting chainage/station. The form size has been increased to assist with selection of line-marking files.

Roads

- 74) If the Multi Setout command was run, and following this a String was deleted, it would still display in the Multi Setout command when next run. This has been corrected.
- 75) Particular formatting in the GENIO file format would result in the updated GENIO Export tool failing – this issue has been addressed.
- 76) The new GENIO export command expected the designer to first update the Model being used in the output, resulting in only partial code information being transferred to the output – the referred model is now updated as part of the command.
- 77) Updating elevations in the Grid View form (from the Vertical Grading Editor, this button , or the Vertical Grading tab on the Create/Edit Grading form) did not update the surface in the drawing. Edits made in this form now update the surface/s automatically.
- 78) Simplified the Create Draped Strings command – single button click to create all draped strings
- 79) Added an auto update button on the Create/Edit Grading form > Vertical Grading tab. Previously editing the items in the grid view did not update the model in the drawing as changes were made. This can be switched off by the user and use a manual surface update
- 80) Grading form now has a Volumes tab (useful for AutoCAD and BricsCAD platform users) with a streamlined output

Pipes

- 81) House Connections
- Internal Drop controls have been reinstated – these were non-functional in the previous release
 - If the minimum slope defined for the House connection is greater than the minimum slope specified for the pipe used by the House Connection, the House Connection will adopt the minimum slope specification for the house connection by setting pipe invert levels on each pipe ('locking' the levels).
- 82) Particular formatting in the GENIO file format would result in the updated GENIO Export tool failing – this issue has been addressed.
- 83) The new GENIO export command expected the designer to first update the Model being used in the output, resulting in only partial code information being transferred to the output – the referred model is now updated as part of the command.
- 84) Renamed the Civil 3D XML Conversion command to 'Edit Conversion Tables' to better reflect the command outcome – users pick the conversion file to edit from a radio button list.
- 85) Retired the dedicated Watercom DRAINS conversion files (pit and pipe) as they can be accessed from the above command and have less importance with the changes to the DRAINS export command.

Surfaces (AutoCAD and BricsCAD users)

- 86) Volume Surfaces form has been revamped to streamline output of volume information to file (on-screen volume output view able to be copied across to any text based editor) and quickly update.

Profile View Plotting (USA)

- 87) Fixed issue with the VC labelling for side roads, where a PVI was close to the start/end of a Vertical Curve
- 88) Fixed issue with detecting and changing presentation for reverse curve locations
- 89) Created dedicated command for adding random station/elevation labels
- 90) Enhanced the profile annotation form to allow for override of label geometry (via user selection of a section list)
- 91) Fixed some issues with dynamics for the labels (grip edits)

Known Issues

Surfaces

92) Volume Surface Output (AutoCAD and BricsCAD only)

- i) Using the Create/Update button in the Surface Manager on a surface created via the Volume Report command will result in the elevation data being removed. If this occurs, simply redo the Volume surface output – it will then build using all the data you've added in Surface Manager


93) Combined Surface Output command

- i) Using the Create/Update button in the Surface Manager on a surface created via the Combined Surface command will result in the elevation data being removed. If this occurs, simply redo the Combined Surface output – it will then build using all the data you've added in Surface Manager

Roads

94) Cross Section Plots

- a) Update when VGE Closes

- i) You need to click on the Update Intersection Match Ins  button to refresh the output plots – close does not auto refresh output plots

95) Grading

- a) You must apply a template to the grading if you expect boundaries to be applied
- b) Boundaries (and trimming) is not correctly applied if you include curve/s in your source grading CL polyline, and the offsets to codes extend beyond the radial point of the curve/s
- c) Grading is designed to do overlap correction between adjoining lines – it will not resolve overlap where intermediate lines/curves would need to be ignored in order to find an intercept point.

96) Intelligent Sections

- a) Ticking on the box to emulate the batter conditions for both cut and fill situations will not work for fill situations, except where the user has set a negative value for the minimum value on any conditional elements. This is 'as designed' however the toggle name is misleading. If the toggle is on, only the one conditional table is applied for both cut and fill situations.

97) Renaming Roads

- a) When renaming a Road or other string, Model Builder must be closed in order to register the change.

Pipes

98) Add Catchment – Compute Tc

- a) When compute Tc is ticked on and the user selects a polyline from the drawing (or draws one) the slope value will report NaN instead of a value if the drawn polyline goes outside the Design surface. This affects AutoCAD and BricsCAD customers only – user type in off slope is required

99) Create Services - Polyline outside the Existing and Design surfaces

- a) If polylines are snapped onto or outside the surface and used to create services, expect errors with the elevations assigned to any pipes/pits outside the surface.

Pipes+ Menu Removed

The Pipes+ beta menu has been removed for this release – recent changes have disabled many previously working aspects (such as water supply functionality). We hope to return the Pipes+ menu into the beta environment with the next software update.