

Import Points CE 2.0

Import Points CE is an open source mVBA applet which runs in MicroStation CONNECT Edition. The applet enables users to import point data from text files of various formats. Upon execution of the applet's *Place* command, the source (point) file's location data and accompanying fields are transferred to the dgn file with user-specified data mappings and graphics.

Installation

The applet may be installed anywhere the user has read access. Typical locations include:

```
C:\ProgramData\Bentley\MicroStation CONNECT Edition\Configuration\Organization\Macros
```

```
C:\ProgramData\Bentley\MicroStation CONNECT  
Edition\Configuration\WorkSpaces\WorkspaceName\Standards\Macros
```

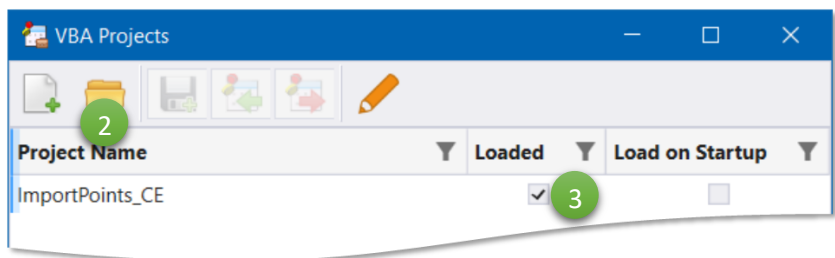
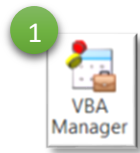
```
C:\ProgramData\Bentley\MicroStation CONNECT Edition\Configuration\WorkSpaces\  
WorkspaceName\WorkSets\WorkSetName\Standards\Macros
```

To install, unzip the contents of the distribution file to a folder of your choice. It is important both **Import Points CE.mvba** and **Point Templates.dgnlib** reside in the same directory.

Startup

The applet may be started via the VBA Projects dialog:

- 1) From the Utilities tab of MicroStation's Ribbon select the VBA Manager.
- 2) Select *Open VBA Project from Disk* and navigate to the installation location. Choose *Import Points CE.mvba* and then select done. The applet will automatically run.
- 3) Unchecking and rechecking "Loaded" will re-launch the applet after it has been terminated.



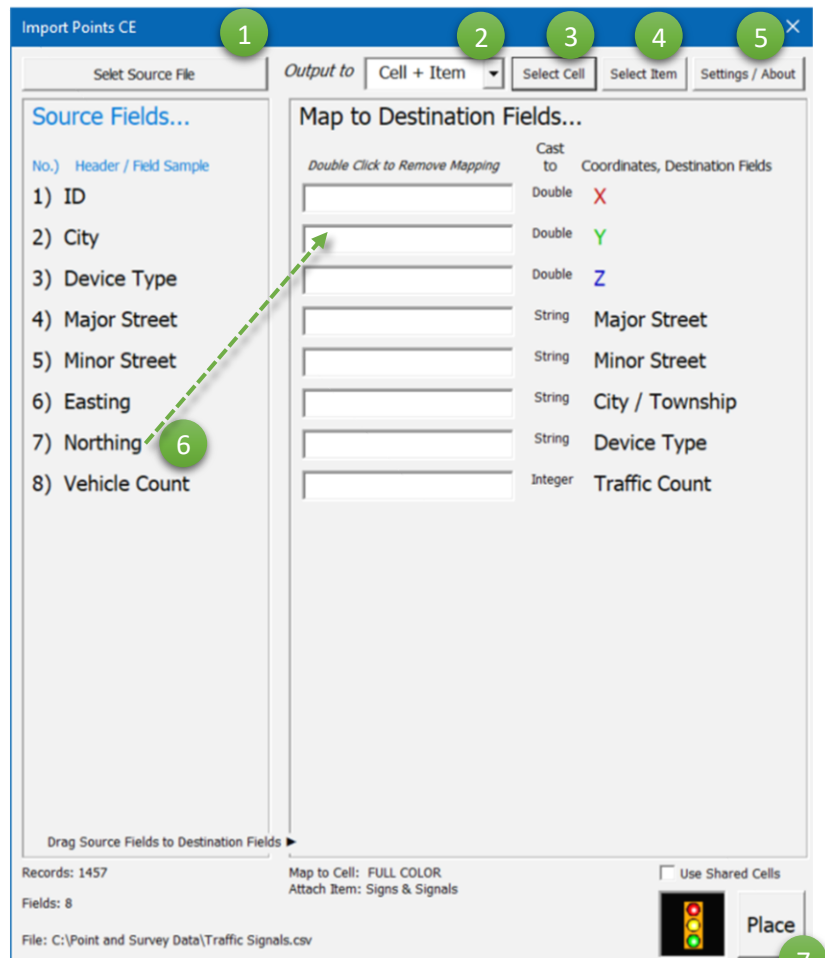
A key-in may also be used to launch the applet:

```
vba run [D:\PathToFile\Import Points CE.mvba]Main.StartImportPoints
```

General Workflow

Workflow within the primary form, *Import Points*, generally moves from left to right and top to bottom:

- 1) Select the Source File.
- 2) Define the Output.
- 3) Select a cell (if required).
- 4) Select an Item (if required).
- 5) Ensure Settings are properly adjusted.
- 6) Map ordinates and data by dragging items from the Source Fields and dropping them on the Destination Fields.
- 7) Select **Place**.



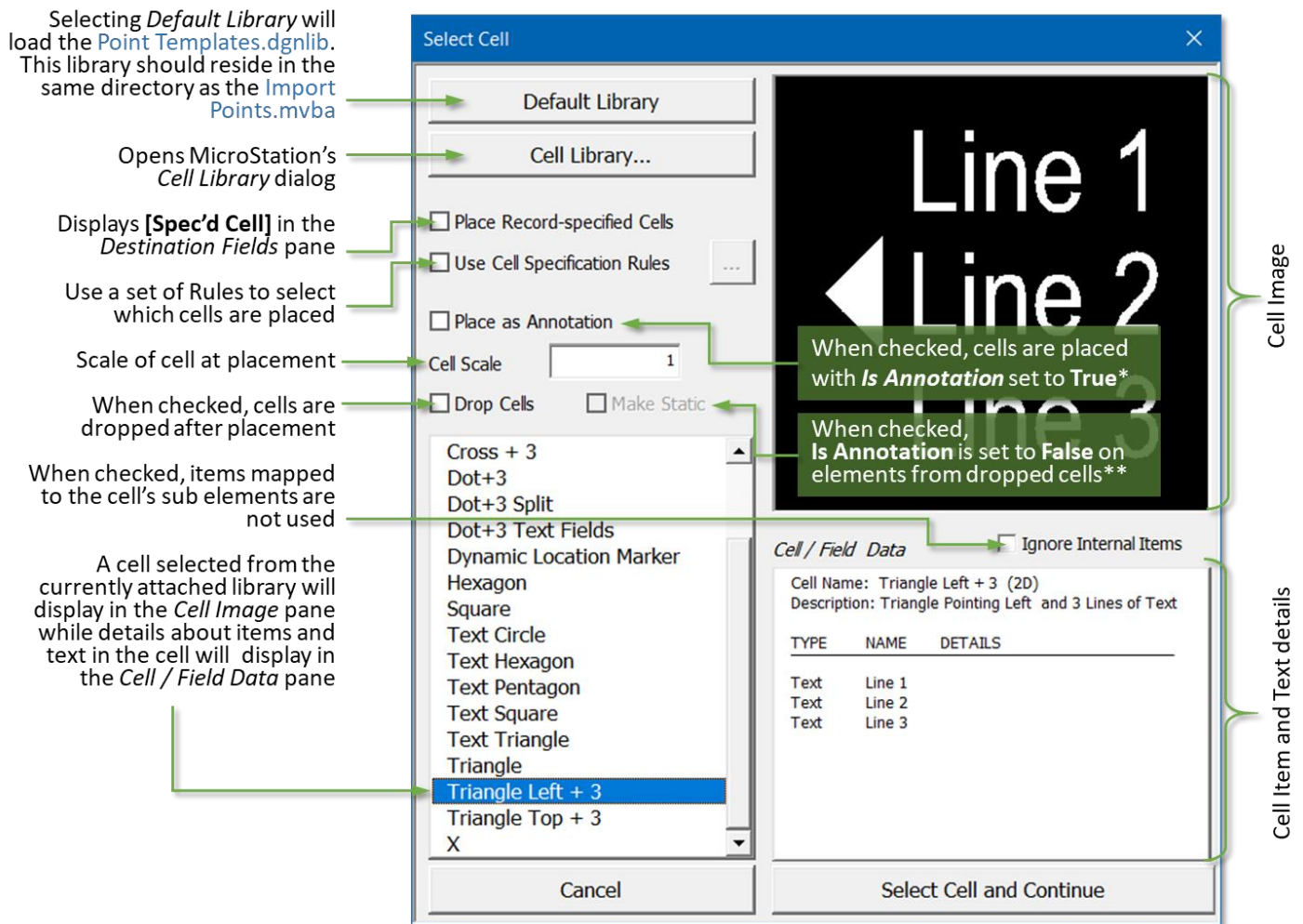
OPERATION NOTES:

- The Source Fields pane accommodates up to 16 source fields. Files containing a greater number of fields may be used, but only 16 will be loaded, consequently it may be necessary to “pre-process” the source file in order to remove unnecessary fields (columns).
- There is no requirement that all the source or destination fields be used, though the X and Y fields along with the **[Spec’d Cell]** and **[Rule Spec’d Cell]** fields (when present) are mandatory.
- The **[Spec’d Cell]** and **[Rule Spec’d Cell]** fields are enabled from the *Select Cell* form.
 - The **[Spec’d Cell]** field is enabled by checking “Place Record-specified Cells.” It is used to place a cell named in a record at the location specified by the record. If the cell cannot be located, a user-defined default cell will be placed instead.
 - The **[Rule Spec’d Cell]** field is enabled by checking “Use Cell Specification Rules.” When selected the contents of a field and application of a rule (e.g. if the *value of the field* is > X place cell “Y” or if the field contains the text “ABC” place the cell named “Z”) determine the cell placed at the location specified by the record. If the cell cannot be located, a user-defined default cell will be placed instead.
- The “Output to” drop-down includes the following options:
 - **Cell** – Places cell graphics, drivable text, and items attached to the cell’s internal objects and the cell instance (model in the cell library)
 - **Cell + Item** – The same as above with the addition of item data from the active design file

- **Point** – Places point elements (zero length lines)
- **Point + Item** – Places point elements and item data from the active design file
- **Text Node** – Places multi-line text (type 7 text nodes)
- **Cell + Fields** – The same as **Cell**, with the addition of text fields driven by items attached to internal cell geometry
- **Line String** – Places a line string from points in the source file in the order encountered

Select Cell

From the *Select Cell* form, users may browse cells and examine the “mappable” items and text content.



* Only cells that are “annotative” (where **Annotation Purpose** is set to true) may have the **Is Annotation** property set to true. This setting does not affect the **Is Annotation** properties of the cell's component elements.

** When **Make Static** is selected, setting the active model's annotation scale to 1 and using **Cell Scale** to size the geometry will prevent shifting of annotative text when the cell is dropped.

Select Item

Two of the “*Output to*” options, *Cell + Item* and *Point + Item*, allow the user to attach item data from libraries accessible via the active file. The *Select Item* form is used to browse libraries and examine the properties of items.

After placement, items attached to cells and points are assessible via the *Properties* dialog along with standard element properties.

Properties in item types may be used in reporting, or to change the apparent symbology of elements via display rules.

Supported item property datatypes:

- Boolean
- DateTime
- Double
- Integer
- String

Note: *Property arrays* and the item datatype *point* are not currently supported.

NAME	TYPE	DEFAULT VALUE
A	String	
B	String	
C	String	
D	String	
E	String	
F	String	

Settings/About

When checked, the first row in the source file is considered a header and is not processed as a point

When checked, treats point data as Latitude, Longitude and Elevation and converts it to the current GCS

Field delimiter in source records

Determines how empty and unmapped text and numeric fields are handled

Restores the applet's default settings

Important Information about the software

Settings/About

☒ Input File has Header Row

☒ Coordinates are in Latitude, Longitude and Elevation

Angular Format: DDD.dddddd

Delimiter Character: Comma

Blank/Undefined Fields Substitutions

☒ Text: (Undefined)

☒ Number: 0

Default Z: 500

☐ Remove Empty Text Objects

Restore Default Settings

Settings About Done

Supported Angular formats:

DDD.dddddd – Decimal degrees

DDD.MM.SSsssss – Degrees, minutes and seconds delimited by a decimal point, where the seconds have an implied decimal between the second and third numerals

DDD°MM' .SS.ss"N – Degrees, minutes, seconds and direction (N, S, E, W)

Removes empty text objects from cells as well as blank lines from text nodes

Cell Selection Rules

Specific cells may be placed based on field values that are evaluated against user-defined rules. The general syntax is as follows:

If the **expression** is True, then use **CELL NAME**

Where the expression consists of:

A **field value** (string), **operator** and **comparator** (string) that evaluates to either **True** or **False**.

For example, if field *x* contains string *y* then place cell *z* or if field *a* is greater than the value of string *b* then use cell *c*. The following table contains example expressions and corresponding results:

Field Value	Operator	Comparator	Result
rw-4	Contains	w	True
rw-4	=	w	False
rw-4	=	rw-4	True
rw-4	Left =	rw	True
rw-4	Right =	rw	False
125-76-2281	Right =	2281	True
ABC 123	>	122	True
123.75	<	124.35	True
rw-4	<	-3	True ¹
XYZ-056	>	55	False ²
XYZ-056	<	ABC	False ³
123 75B-22	>	500	True ⁴
(space)	<	500	True ⁵
(space)	=	0	False ⁶
(space)	Is Empty	(ignored)	True ⁷

1. The > and < operators use the first number found in the *Field Value* string. Valid numbers may include a decimal point and negation symbol.
2. "XYZ-056" yields **-56** when using either the > or < operators.
3. "ABC" yields **0** when using either the > or < operators.
4. "123 75B-22" yields **12375** when using either the > or < operators.
5. An empty Field Value or a non-printing character (e.g. space) will return **0** when using either the >, <, >= or <= operators.
6. The = operator uses string comparison and therefore non-printing characters will not return 0.
7. **Is Empty** returns **True** when encountering an empty field or a field containing only non-printing characters.

The rule list is processed from top to bottom. When data mapped from a record to the [Rule Spec'd Cell] field meets the rule's criterion, the corresponding cell is placed, and rule processing terminates. If no rule can be applied to the mapped data, then the user-specified default cell is used.

The screenshot shows the 'Cell Specification Rules' dialog box. It has a title bar with a close button. Below the title bar are 'Load Rules ...' and 'Save Rules ...' buttons. The main area is divided into two sections: 'If field mapped to' and 'Then use'. The 'If field mapped to' section has a dropdown menu showing '[Rule Spec'd Cell]'. The 'Then use' section has three dropdown menus: 'Contains', 'TP', and 'Utility Pole'. Below these are three columns: 'OPERATOR', 'COMPARATOR', and 'CELL NAME'. The 'OPERATOR' column has 'Contains', 'Contains', and 'Contains'. The 'COMPARATOR' column has 'MH', 'PP', and 'TP'. The 'CELL NAME' column has 'Man Hole', 'Utility Pole', and 'Utility Pole'. The third row is selected. To the right of the table are three buttons: a '+' button (labeled 'Add Rule'), a pencil icon (labeled 'Apply changes to selected rule'), and up/down arrow buttons (labeled 'Adjust Rule Priority'). At the bottom left is a red 'X' button (labeled 'Remove selected rules'). At the bottom right are 'Cancel' and 'Done' buttons.

Remove selected rules

Add Rule

Apply changes to selected rule

Adjust Rule Priority

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