

POINT AND GRAPHIC CELLS

Cell libraries contain cells which represent symbols, patterns, details and terminators that are available to all users. Cells eliminate the need for each user to redraw frequently used information over and over.

MicroStation has two different kinds of cells, point cells and graphic cells. The major differences between the two types of cells are as follows: the symbology (level, color, style and weight), the behavior of the cell when the view is rotated, snap points on the cells and flexibility of external system resource files.

Point Cells

- Point cells take on the current symbology settings when placed into a DGN file.
- Point cells do not rotate when the view is rotated.
- Point cells are only snappable at their origin point.

Graphic Cells

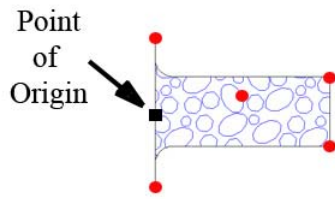
- When the cell is placed it retains its symbology. In other words, if the elements in the cell were drawn in color=3, style=1 and weight =2, the same symbology will be used when the cell is placed in the file.
- Graphic cells rotate with respect to the view.
- All elements of the cell are snappable.
- They are not 'tied' to system resource files. Attribute and database linkages can be attached to them.

Shared Cells

A cell can be placed as a "Shared Cell". A shared cell is stored in the DGN file. To place the same cell in the future, the cell library does not need to be attached.

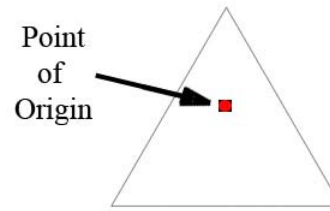
Cell Differences

- Snapping to a point cell, the cursor will snap to the cell origin. Snapping to a Graphic cell, the cursor will snap anywhere on the cell.



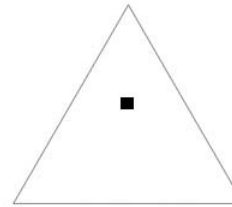
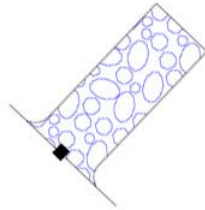
Graphic Cell

- Snap Point - any key point



Point Cell

- Snap Point - cell origin



Graphic Cell rotates with view. Point Cell does not rotate with view

Note: When placing a cell in MicroStation, the only way a user can tell if the cell is a Graphic Cell or a Point Cell is by looking at the Point Type column in the cell library listing.

Point Cells can be changed to Graphic Cells by using the PCell2GCell MDL application which can be found on the CDOT Menu under the Add On's pull down.

| Cell Library: [...\Cell\CDOT-Design Cells.cel] | | | |
|--|-----------------------|---------------|-------|
| File | | | |
| <input type="checkbox"/> Use Shared Cells | | Cells In Path | |
| Name | Description | Type | Where |
| INR_PLUS | CDOT Design Cells ... | Pnt | Lbry |
| TS_Topsoil-Left | CDOT Design Cells ... | Grph | Lbry |
| TS_Topsoil-Right | CDOT Design Cells ... | Grph | Lbry |
| XS_Bridgerail | CDOT Design Cells ... | Pnt | Lbry |
| XS_Culvert | CDOT Design Cells ... | Pnt | Lbry |
| XS_Edge-of-Oil | CDOT Design Cells ... | Pnt | Lbry |

Pros and Cons

Graphic Cell

- A cell has to be created for every situation. For example, if there are levels for Storm Drains and Electric Lines and you need a manhole. A manhole cell must be created using the symbology of that level. If a point cell is used, the user can use one cell taking on the active symbology of the needed level.
- All elements of a graphic cell are snappable. Graphic cells should not be used in situations where the cell is placed and the coordinates of that cell are need in the future. Mistakes are bound to happen due to the whole cell being snappable.
- Each time a graphic cell is placed in the dgn file, the library definition is stored in the design file resulting in an increase in file size.

Point Cell

- Only one cell needs to be created for many situations.
- Point cells are only snappable at their origin. Control points, elevation spots, etc should be created using point cells.
- Point cells do not rotate when the MicroStation view is rotated.

Summary

CDOT's cell libraries should have both graphic and point cells available. The key is to determine when the cell is going to be used and how that cell will be viewed in the plan set drawings.