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# 1. INTRODUCTION

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.

## ***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.
- Graphic cells can be very complex and include data fields.

## ***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.

## ***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.

## ***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

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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.
  - BHI created a MDL called Pcell2Gcell.ma that can be used to change Point cells to graphic cells if the cell needs to be rotated in the view.

### ***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.