

2.9 CALTRANS Cell Libraries

A. Introduction

A Cell Library contains Cells which represent symbols, details and borders that are available to all users, which conform to Caltrans design specifications and drafting standards. Cells eliminate the need for each designer/delineator to redraw frequently used standard symbols, details and borders.

There are two types of cells that are utilized by Caltrans, point and graphic. The symbology (level, color, style & weight) of a point cell is determined at the time the cell is placed (takes on the active settings). The symbology of a graphic cell is determined when the cell was created, and is independent of the active settings. Most Caltrans cells are graphic cells, which means that the functional unit that created the cell has predetermined the level, color, style & weight.

Another difference between a point and graphic cell is if the cell rotates when a rotated view is applied. A graphic cell will rotate (with respect to the window) while a point cell will not rotate (with respect to the window).

There are three Cell Libraries that are issued for statewide use.

Discipline	Name
Highway Projects	MTCELLIB.cel
Structure Projects	stcelm.cel
Right of Way (mapping products)	RWMetric.cel

Each cell in all three Cell Libraries are shown in the Appendix of this manual. Districts, and some functional units within various districts, may have their own cell libraries. This usually occurs because of local agency standards or standards unique to a certain functional unit. Districts or individuals should not recreate or copy cells that are already in one of the three statewide issued cell libraries.

Within the Caltrans Metric Cell Library (mtcellib.cel) there are cells for seven different functional units. The table below lists the seven units.

Project Plans
Roadway Design
Landscape Architecture
Traffic Electrical
Right of Way
Photogrammetry
Surveys

Note: The cells in “mtcellib.cel” for Right of Way are used by design to depict right of way features in a design project. Right of Way Engineering created a cell library (RWMetric.cel) for producing Right of Way mapping products and is not used for designing highway projects.

B. Definitions

The following is a list of definitions concerning cells and cell libraries.

Cell	A grouping of graphical elements identified by name which can be placed an unlimited number of times to an unlimited number of graphics files.
Cell Library	A file that contains cells. This file can be simultaneously shared by any number of design files. Only one Cell Library can be attached to a MicroStation file at a time.
Cell Selector	A feature in MicroStation that allows a user to view and place cells which were pre-selected. A Cell Selector can contain cells from more than just one Cell Library.
Nested Cell	A cell that contains another cell. (This sometimes leads to the corruption of the cell).
Cell Origin	The Cell Origin is the handle point of the cell. The exact placement of a cell is determined by its origin. Each cell must have an origin before it can be created as a cell.
Drop Status	The operation of disassociating the graphical elements from their grouping as a cell.
Cell Uses	
Terminator Cell	A cell used at the beginning or end of a linear element such as a line or arc.
Pattern Cell	There are two types of pattern cells. A cell used in a repeated application along a linear element is a linear pattern cell. A cell used in a repeated application to pattern a closed area (shape) is an area pattern cell.
Cell Types	
Graphic Cell	A cell that retains the symbology (level, color, style & weight) of when it was created.
Point Cell	A cell that takes on the symbology (level, color, style & weight) of the active settings.

Cell features that Caltrans does not utilize	
Relative	If the active cell is a graphic cell and Relative is turned on, the lowest level in the cell is placed on the active level and higher levels in the cell are placed relative to the active level.
Interactive	Allows a cell to be interactively scaled to any size.
Shared cells	Are associated with other elements. The cell origin is associated with a point on the other element.