**Question:**

When using the median curbing criteria "MCC01 CONCRETE ISLAND AUTOSWITCH", my cross sections have duplicate concrete island covers drawn. This appears to be the result of autoswitch being used and the criteria using the cross slopes of the shapes. Is there anything that can help or prevent from having to hand modify these cross sections?

Answer:

Currently, the concrete island is drawn in twice when it spans across the Centerline. This is due to three factors.

1) Criteria considers the left and right sides independently.
2) Criteria counted only one plan view concrete island line per side.
3) The Centerline is not always a valid location to tie the left and right side of the concrete island because the concrete island width may be different on each side (asymmetrical).

Naturally it knows the other end of the concrete island is on the other side of the Centerline. So an attempt to draw the whole island on the left side is initiated. A second attempt is also made to draw the whole island from the right side. This resulted in a duplication of the same concrete island with the only difference between the two is the concrete island surface slope.
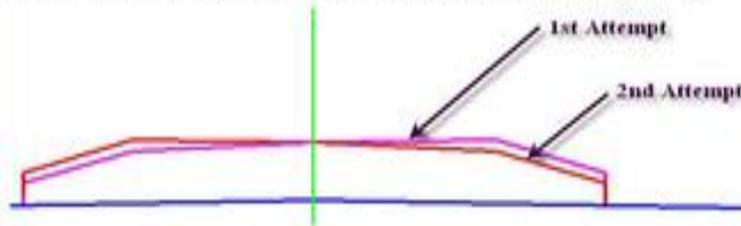

The main purpose of the Autoswitch feature is to maintain a divided superelevation shape configuration for medians and in the areas where there are median crossovers, Designers do not need to create shapes at these locations. Criteria will automatically extend the proposed pavement surface to the grade point. This portion of Criteria is activated when a graphical plan view element representing the concrete island crosses the cross section pattern line (or station).

Cross Section with Median
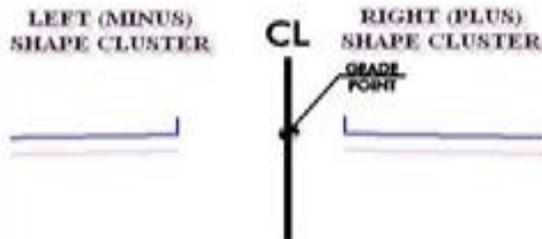
Cross Section with Autoswitch
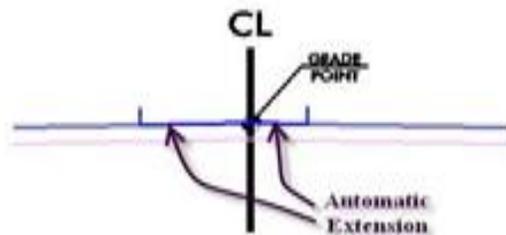
Without going through the same involved algorithm as the "TM01 DRAW MCI" Criteria for no median (non-divided) Geopak shape configuration, which still works and not part of this discussion, all proposed median concrete islands can been drawn *after* the proposed template has been processed and the blue finished pavement surface line has been drawn in the XSC file.

Define the following 2 variables.

```
/* >>> Define this XSC file. If XSC file is located  <<< */
/* >>> in a different folder, then include the path. <<< */

DEFINE "XS DGN" TIP_rdy_xsc_y4.dgn

DEFINE_DGN "CONCRETE ISLAND"\
    DGN = R:\ROADWAY\TIP_RDY_DSN.DGN\
    LVNAME = PROP CONC 5IN MONOLITHIC SURFACE MOUNT ISLAND
```

Include the following Criteria file on the left (minus) shape cluster on the right side slope side ONLY.

```
CRITERIA FOR SHAPE CLUSTER
SHAPE CLUSTER BASELINE = Y4
SHAPE CLUSTER PROFILE = Y4PRO
SHAPE CLUSTER TIE = 0
SHAPE CLUSTER OFFSET MINUS

SIDE SLOPE RT
  include L:\cri_FinishedConcIsland.x

CRITERIA FOR SHAPE CLUSTER
SHAPE CLUSTER BASELINE = Y4
SHAPE CLUSTER PROFILE = Y4PRO
SHAPE CLUSTER TIE = 0
SHAPE CLUSTER OFFSET PLUS
```

See the sample Median Finished Concrete Island Criteria input file link for a complete variable definition and sample input file.

Briefly, *cri_FinishedConcIsland.x* will scan for blue finished pavement surface line in the XSC file 15' right of the Centerline. Then it traces toward the left side of the cross section, the same blue finished pavement surface line to the intersection point of plan view graphical concrete island element. Marks the first point of the concrete island. Trace the same blue line again until it finds the other side of the island and mark this as the second point. With both ends marked, *cri_FinishedConcIsland.x* will then draw in the concrete island. Note by design, the minimum slope of 0.02 ft/ft + super rate is set to the side with the longer width. This is chosen over aesthetics because of possible drainage issues and also taken account of the finished pavement is already superelevated. Below is a sketch of what is discussed.
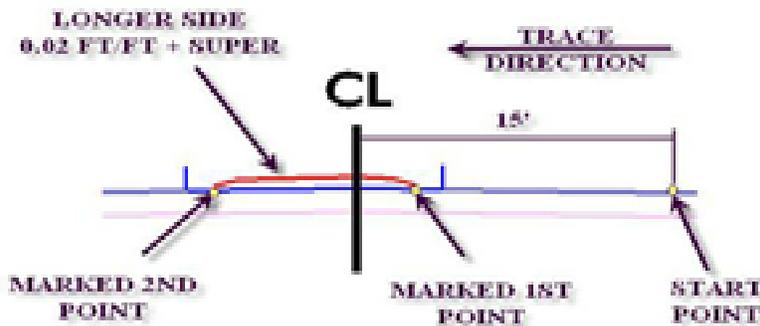
Video - cri_FinishedConcIsland.x Demo