

14_11 Geopak Graphical Criteria - Shear Lines Intersection

From a Criteria meeting with a Roadway PE Group, some concerns were expressed pertaining to the additional pattern lines and cross sections being generated. Three areas of concerns were:

- 1) In the vicinity of at-grade intersections, a lot of man hours are spent deleting and hand modifying the proposed template to shear at the outside edge of the proposed pavement.
- 2) In the vicinity of median crossovers, a lot of man hours are spent creating multiple shapes to cover the median and the left turning lanes. Sometimes these shapes will not work properly because of the number and because of dependent and independent shapes conflicts when processing Criteria.
- 3) In the vicinity of bulb type U-turns, a lot of man hours are spent creating Geopak independent shapes at these locations. Most of the time these Geopak independent shapes do not work properly because of the nature of the shape's oblique geometry and minimal filler line distance when processing Criteria.

Question:

With our current Criteria practice, can our Criteria Library be modified to minimize the man hours spent hand modifying the proposed cross section templates? If so, can our Criteria Library also be modified to adapt to the new Geopak Criteria methods and capabilities, which is more graphical in nature?

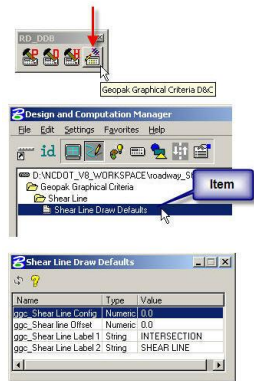
Answer:

Roadway CADD Support will introduce a new concept, Roadway internally designated as Geopak Graphical Criteria (GGC), into our current Criteria practice to aid in these problem areas and wasted man hour instances. Briefly and basically, after creating a plan view DGN file (new GGC file type under NCDOT Design File Generator) draw a graphical line element in this file to where it intersects the cross section pattern line. When Criteria encounters this graphical element, **Geopak Adhoc Attributes** stored in the element as data are extracted from the element. The Adhoc values or Criteria definitions direct Criteria on how to process the proposed templates.

The success of Geopak Graphical Criteria depends heavily on one's grasp of Geopak Adhoc Attributes and how to manipulate their values for Criteria. It is recommended that before starting a GGC project, read the new chapter, Geopak Graphical Criteria (below link), in the online Criteria 2000 manual. This chapter gives an overview on implementation objectives and the direction of GGC. About 80% of GGC involves Adhoc Attributes. Adhoc Attribute is the "engine" of the new Geopak Criteria and future versions of Geopak Criteria are graphical base, e.g. Geopak Project Manager.

Part I - GGC Shear Lines at Intersections

After creating a [TIP#]_rdy_ggc.dgn file and placed in the XSC folder, place the shear line graphical line element at the intersection with GGC D&C Manager.



Write your Criteria input text file as usual, with all the include statements (tmpl01.cri, shld01.cri, kdss01.cri). Define this one additional variable in your input.

"GEOPAK GRAPHICAL CRITERIA FILE"

EXAMPLE:

DEFINE "GEOPAK GRAPHICAL CRITERIA FILE" R2812_RDY_GGC.DGN

Below is a table demonstrating how GGC automatically shears the proposed template depending on the Adhoc values used.

	Name	Type	Value	Name	Type	Value	Name	Type	Value
Definitions	ggc_Shear Line Config	Numeric	0.00000	ggc_Shear Line Config	Numeric	1.00000	ggc_Shear Line Config	Numeric	2.00000
	ggc_Shear Line Offset	Numeric	0.00000	ggc_Shear Line Offset	Numeric	20.00000	ggc_Shear Line Offset	Numeric	20.00000
	ggc_Shear Line Label 1	String	INTERSECTION	ggc_Shear Line Label 1	String	INTERSECTION @ -Y13	ggc_Shear Line Label 1	String	SHEAR LINE
	ggc_Shear Line Label 2	String	SHEAR LINE	ggc_Shear Line Label 2	String	SHEAR LINE	ggc_Shear Line Label 2	String	OFFSET DGN
Plan View	GGC Line Element			GGC Line Element			GGC Line Element		
	Geopak Shape			Geopak Shape			Geopak Shape		
	XS Pattern Line			XS Pattern Line			XS Pattern Line		
X-section	INTERSECTION SHEAR LINE			INTERSECTION @ -Y13 SHEAR LINE			SHEAR LINE OFFSET DGN		
	@ EOP			Label 1 @ GGC Line Element			Edge of Geopak Shape		
	0.030 0.03			0.028			20' 0.07		

Note GGC does not conflict with existing Criteria files. It is just an additional Criteria enhancement and feature. Older Criteria input text files still work like normal.