CURB.X – version 07.04.10

Description

This criteria file is used to draw a Type 6 or Type 7 curb adjacent to the proposed pavement or shoulder. The dimensions of the curb are drawn according to Standard Drawing BP-5.1.
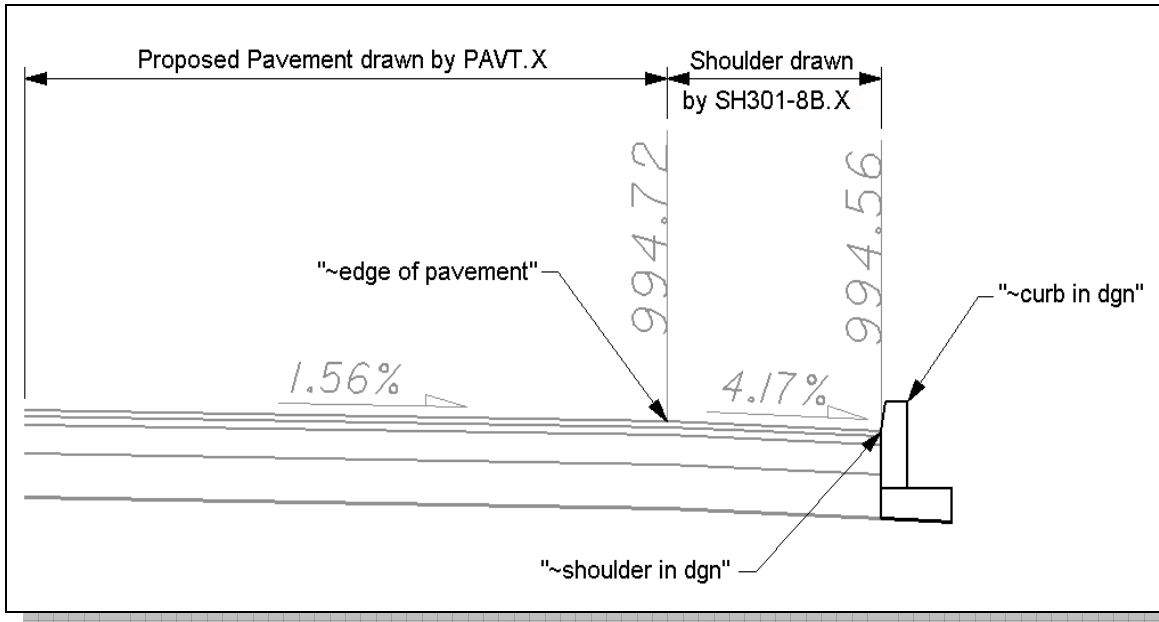

Figure 1

Inclusion Sequence

The ODOT Standard criteria file `DEFINE.X` contains default definitions for some of the Define Variables used by ODOT's criteria files. `DEFINE.X` must always be included first in any criteria run.

`CURB.X` can be included after the following ODOT standard criteria files:

Pavement Criteria:	Shoulder Criteria:
PAVT.X	**SH301-8.X**
PAVT_EXIST.X	**SH301-8B.X**
PAVT_OVERLAY1.X	**SH301-9.X**
PAVT_SHAPELESS.X	
PAVT_WIDEN.X	

The following marked points must be previously defined by the pavement criteria in order for **CURB.X** to process correctly:

Bottom of pavement layer 1	x101 y101
Bottom of pavement layer 2	x201 y201
Bottom of pavement layer 3	x301 y301
Bottom of pavement layer 4	x401 y401
Bottom of pavement layer 5	x501 y501
Bottom of pavement layer 6	x601 y601

CURB.X – version 07.04.10

Define Variables

A summary of the variables defined in `CURB.X` is included below. Each variable has been assigned a default value within the criteria. The user should review the variables below to ensure that the default values are acceptable for the project. The value of each variable can be changed by the user before processing the criteria, as needed. See the **ODOT GEOPAK Road Training Guide, Part 2**, Chapter 5 for more information on modifying the default value of the variables.

"PROPOSED DGN FILE NAME"
This variable is used by the DEFINE_DGN variables to identify the base map MicroStation design file that contains the proposed plan view graphics. The default value for the variable has been defined using a relative path as follows:

```
define "PROPOSED DGN FILE NAME" ..\roadway\basemaps\nnnnnBP###.dgn
```

By default GEOPAK will look for design files in the Working Directory assigned for the project. Using the directory structure defined in the **ODOT CADD Engineering Standards Manual**, Section 302, Project Directory Structure, the GEOPAK Working Directory should be defined as the `geopak` folder.

The "`..`" syntax will instruct GEOPAK to look for the proposed design file by starting in the Working Directory, and then go up the project folder path one directory. From there, go into the `\roadway\basemaps` folder to find the file.

The name of the design file, `nnnnnBP###.dgn`, must be edited to reflect the name of the plan view design file for your project. See the **ODOT CADD Engineering Standards Manual**, Section 304 File Naming Conventions for design file names.

The name and path of the "`PROPOSED DGN FILE NAME`" variable can be edited in the GEOPAK *Proposed Cross Sections* dialog as shown below.
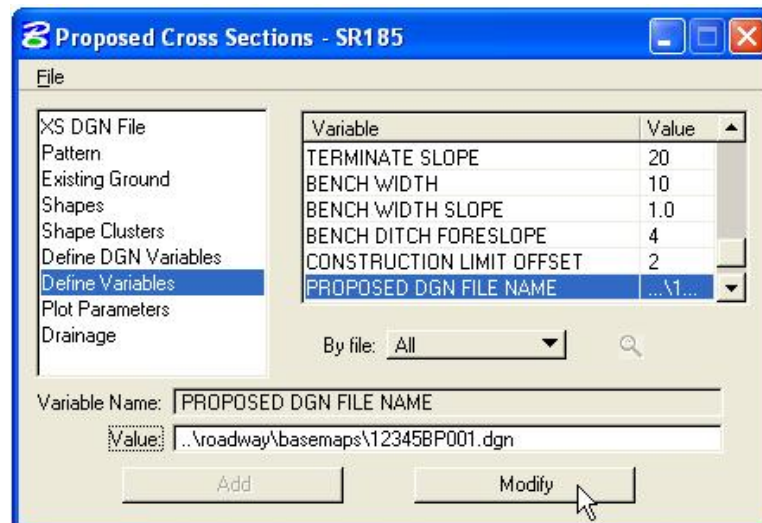
CURB.X – version 07.04.10

"curb type"
The criteria can place a Type 6 or Type 7 curb adjacent to either the proposed pavement or shoulder. Set the value to 6 for a Type 6 curb. Set the value to 7 for a Type 7 curb. The default value is 6.

"step behind curb"
Width of material (base or subbase) placed behind curb. The default value is set to 0.83 which is the smallest minimum width of an underdrain.

"underdrain on high side of super"
This variable is used to control whether an underdrain is placed on the high side of superelevated sections. Set the variable equal to 0 or 1 as follows:

0 - No underdrain, ends base or subbase at back of curb. The default value is 0.

1 - Underdrain, extends base or subbase behind curb for a distance of set by **"step behind curb"**.
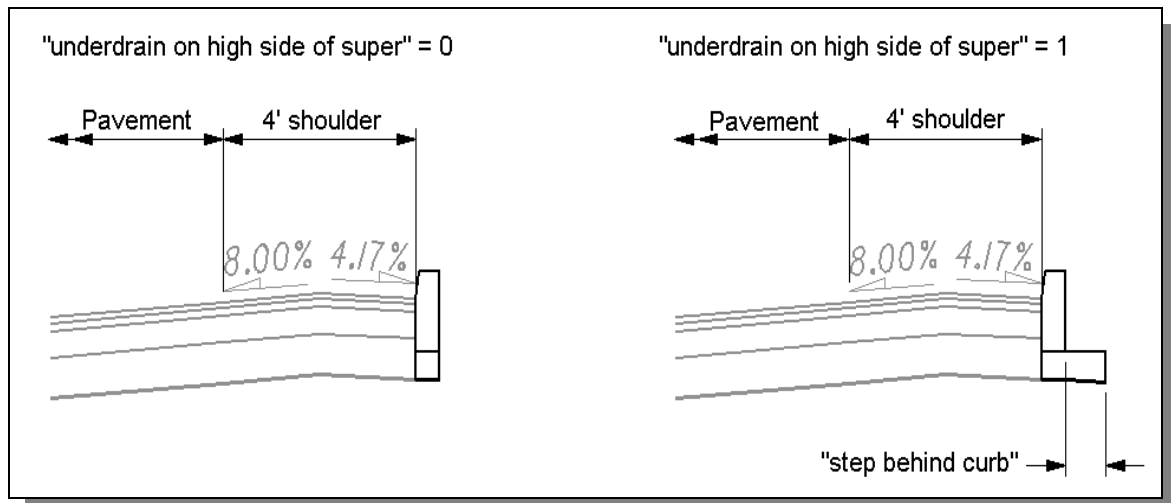

Figure 2

"number of layers"
The total number of pavement layers, including base courses. This variable is initially defined by the pavement criteria. The default value is 4.

CURB.X – version 07.04.10

Define DGN Variables

The following DEFINE_DGN variables are used by the criteria to locate the MicroStation elements that CURB.X will search for in order to draw the curb.

These variables have been defined with the values listed below in accordance with ODOT standards and should never be redefined by the user.

Additionally, these variables have been defined as "hidden" variables and will not show up in the DEFINE_DGN Variables portion of the Proposed Cross Sections dialog box when preparing a criteria run.

"~curb in dgn"
This variable is used to define the symbology for the proposed back of curb. The following values have been assigned by **"~curb in dgn"** according to ODOT standards:

```
define_dgn "~curb in dgn" \
        dgn = "proposed dgn file name" \
        lvname = PV_P_Curb \
        co = 10, ByLevel
```

"~guardrail in dgn"
This variable is used to define the symbology for proposed guardrail. If a guardrail is encountered, the **"step behind curb"** value will be ignored and the material will be drawn to the back of curb. The following values for this variable is assigned according to ODOT standards:

```
define_dgn "~guardrail in dgn" \
        dgn = "proposed dgn file name" \
        lvname = RD_P_GR \
        co = 9
```

"~back of commercial driveway"
"~back of residential driveway"
"~back of industrial driveway"
These variables are used to define the symbology for driveways. If the criteria encounters one of these driveway lines, a dropped curb will be drawn as show in Figure 5. See Additional Processing Notes on page 4 of this documentation for more information. The value of these three variables has been assigned as shown below:

```
define_dgn "~back of commercial driveway" \
        dgn = "proposed dgn file name" \
        lvname = PV_P_Driveway  \
        co = 3

define_dgn "~back of residential driveway" \
        dgn = "proposed dgn file name" \
        lvname = PV_P_Driveway \
        co = 4

define_dgn "~back of industrial driveway" \
        dgn = "proposed dgn file name" \
        lvname = PV_P_Driveway \
        co = 5
```

Additional Processing Notes

The criteria provides the capability to draw a dropped curb in the event that a driveway is encountered in the plan view graphics. The pattern line must cross the back of the driveway in order for the criteria to draw a dropped curb. Consider the plan view graphics below:
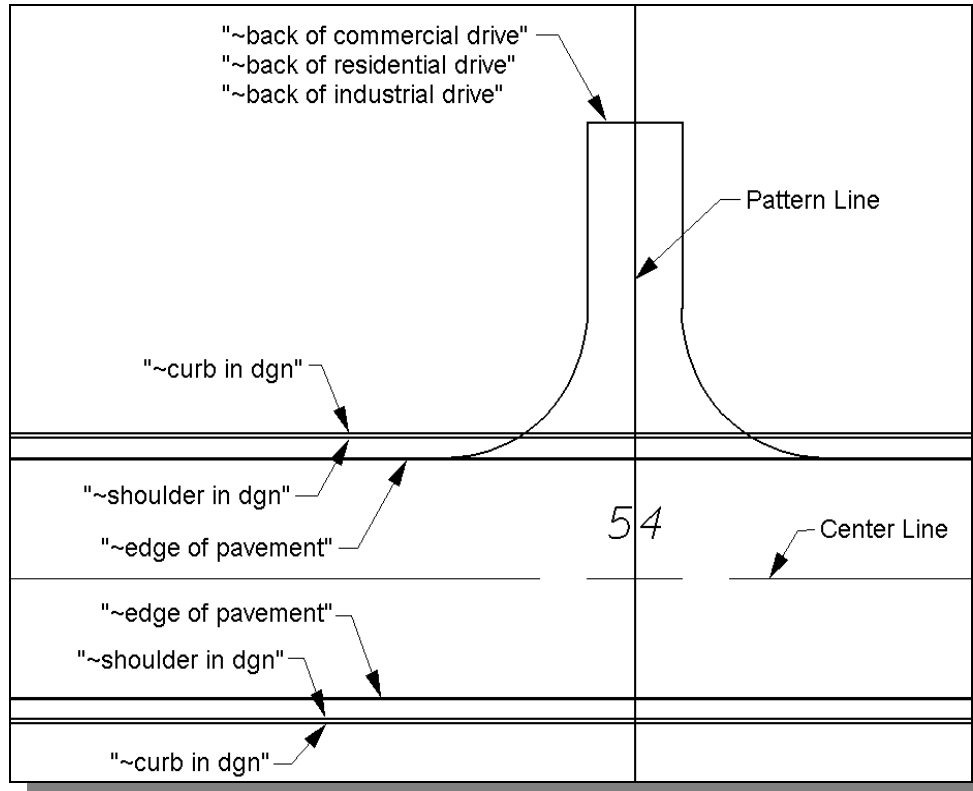

Figure 3

CURB.X – version 07.04.10

Since the pattern line crosses one of the back of driveway elements, a dropped curb is drawn on the left side of the cross section as shown in Figure 5 below:
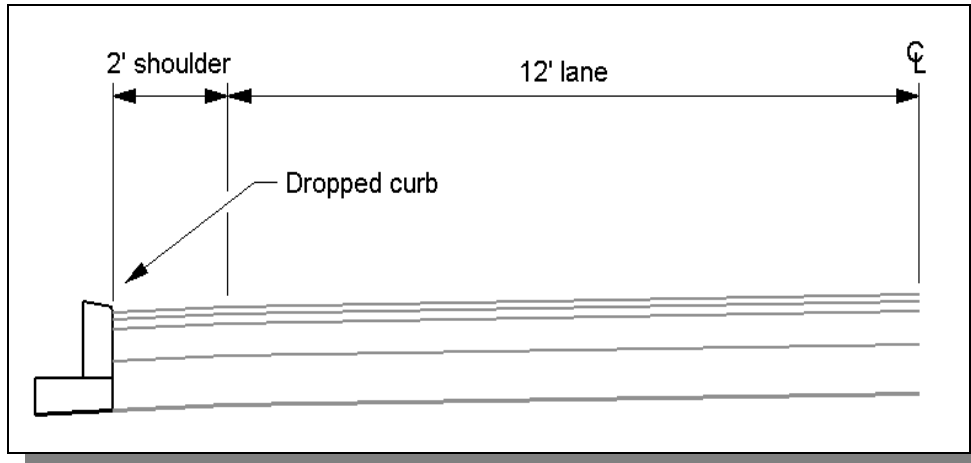

Figure 4

Marked Points

GEOPAK has a simple, yet very important way of "remembering " where the location of various points are during the drawing process. This is accomplished with marked points.

Some marked points are stored during the criteria processing that are only used temporarily and do not need to be "remembered" as processing continues. These points can be subsequently redefined by another criteria file. There are, however, certain key locations that must be referred to by multiple criteria files. **CURB.X** will store the following marked points during processing that should never be redefined by another criteria file:
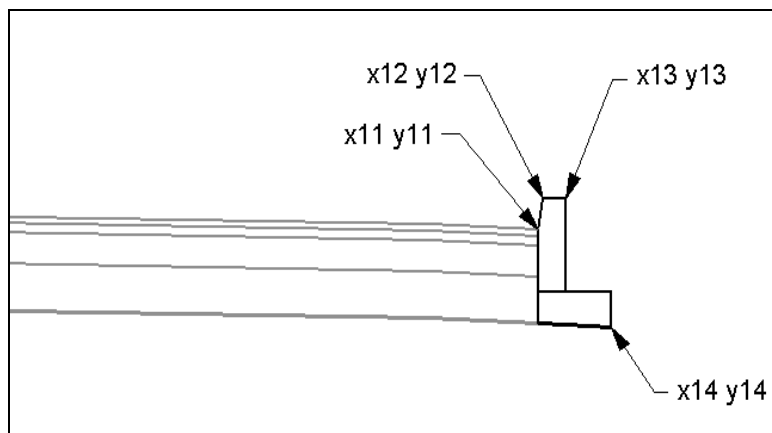

Figure 5