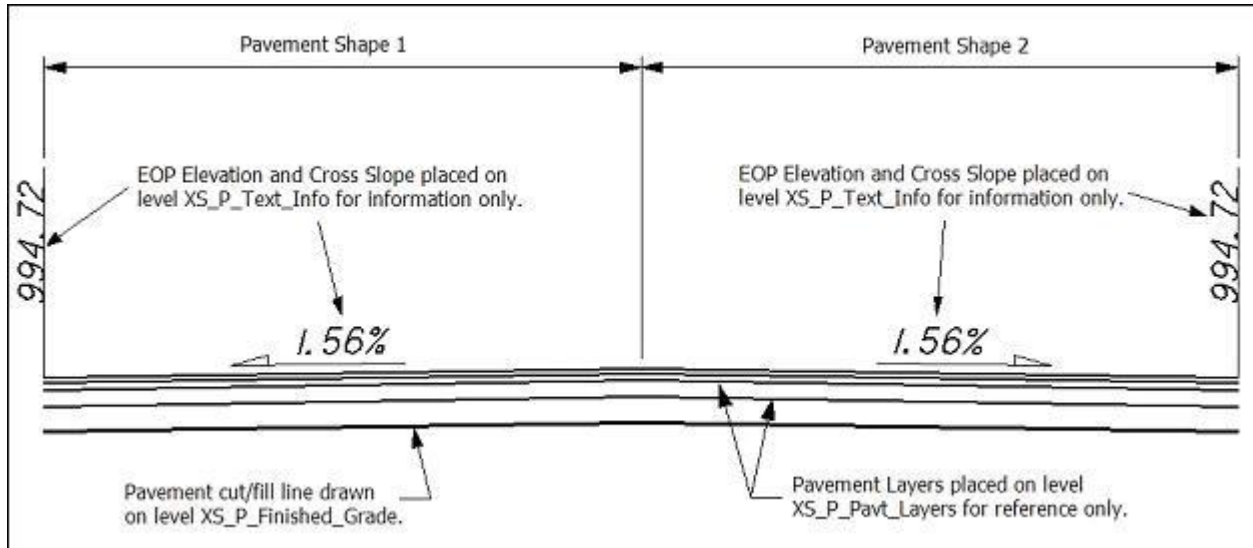


## PAVT\_SHAPELESS.X – version 10.07.16

### Description

**PAVT\_SHAPELESS.X** is used to draw up to six proposed pavement layers at a fixed cross slope, without the use of GEOPAK pavement shapes. The pavement layers are drawn at a user defined slope as shown in Figure 1 below.



### 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.

**PAVT\_SHAPELESS.X** should always be the first file included for processing after **DEFINE.X**.

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### Define Variables

A summary of the variables defined in **PAVT\_SHAPELESS.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.

#### “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:

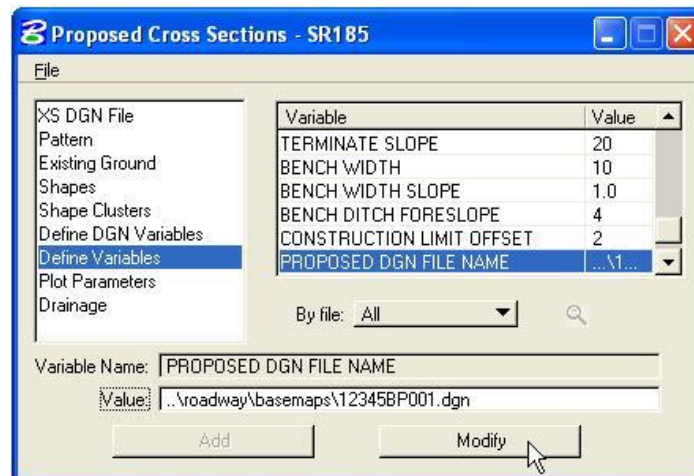
```
define "PROPOSED DGN FILE NAME" ..\roadway\basemaps\nnnnnBP###.dgn
```

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.



#### “EXISTING DGN FILE NAME”

This variable is used by the DEFINE\_DGN variables to identify the base map MicroStation design file that contains the existing plan view graphics. The default value for the variable has been defined using a relative path as follows:

```
define "EXISTING DGN FILE NAME" ..\survey\basemaps\nnnnnBE###.dgn
```

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### “fixed pavement slope”

This variable is used to define the pavement slope, in percent. The default value is -1.6. If the variable is set to a value of 0, the criteria will match the existing pavement slope. In this case, it is assumed that the proposed centerline falls between the existing edges of pavement at approximately the crown point of the pavement.

### “number of layers”

The total number of pavement layers to be drawn. Up to six layers can be defined. The default value is 4.

### “layer 1 thickness”

The pavement thickness for layer 1 in Master Units. The default value has been defined as 0.1042 (1¼“)

### “layer 2 thickness”

The pavement thickness for layer 2 in Master Units. The default value has been defined as 0.1458 (1¾“)

### “layer 3 thickness”

The pavement thickness for layer 3 in Master Units. The default value has been defined as 0.3333 (4“)

### “layer 4 thickness”

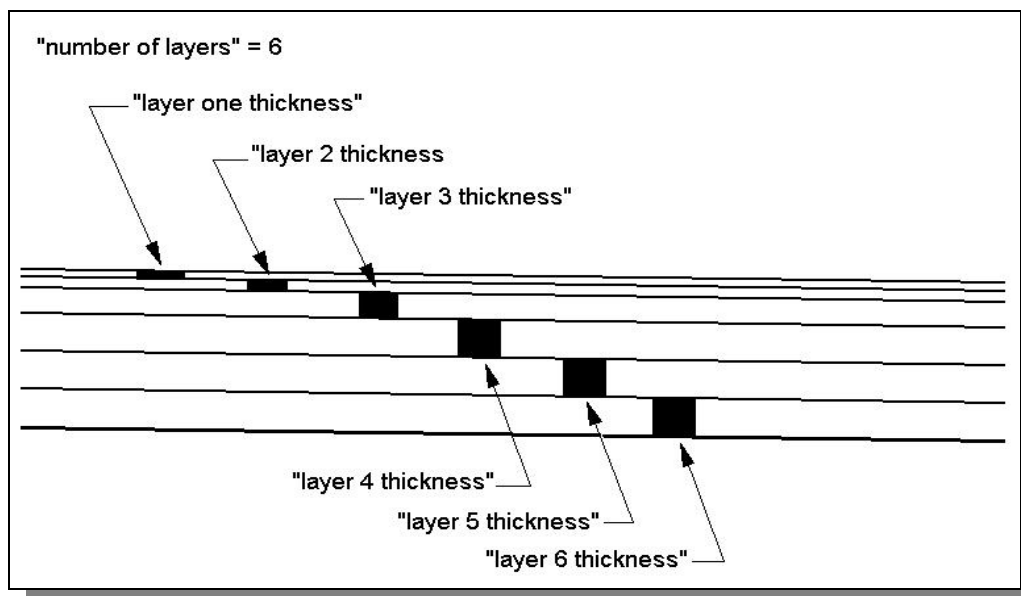
The pavement thickness for layer 4 in Master Units. The default value has been defined as 0.500 (6“)

### “layer 5 thickness”

The pavement thickness for layer 5 in Master Units. The default value has been defined as 0.500 (6“)

### “layer 6 thickness”

The pavement thickness for layer 6 in Master Units. The default value has been defined as 0.500 (6“)



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### Define DGN Variables

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The following DEFINE\_DGN variables are used by the criteria to locate the MicroStation elements that `pavt_shapeless.X` will search for in order to draw the proposed pavement.

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.

#### “~Edge of Pavement PR”

This variable is used to define the symbology of the proposed edge of pavement lines. The variable has been defined as follows:

```
define_dgn “~EDGE OF PAVEMENT PR” \  
dgn = “PROPOSED DGN FILE NAME” \  
lname = PV_P_EOP \  
wt = 2, ByLevel \  
co = 0, ByLevel \  
lc = 0, ByLevel
```

#### “~Edge of Pavement EX”

This variable is used to define the symbology of the existing edge of pavement lines. The variable has been defined as follows:

```
define_dgn “~EDGE OF PAVEMENT EX” \  
dgn = “EXISTING DGN FILE NAME” \  
lname = PV_X_EOP \  
wt = 0, ByLevel \  
co = 0, ByLevel \  
lc = 3, ByLevel
```

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### Labels and Symbology

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#### PROPOSED GRADING

The final cross section cut and fill lines representing the proposed grading are drawn on levels `XS_P_Finished_Grade`. This level should always be shown on the final cross sections.

#### PAVEMENT LAYERS

The pavement layers are drawn on level `XS_P_Pavt_Layers` for reference only. The top pavement layer is drawn level `XS_P_Pavt_Surface`. These two levels are not normally shown on the final cross sections.

#### TEXT LABELS

The criteria will place labels and direction arrows annotating the pavement slope. The criteria will also place labels for the elevation at the edge of the pavement. These labels are all placed on level `XS_P_Text_Info` for the designer’s reference and are not normally shown on the final cross sections.

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## Marked Points

GEOPAK has a simple, yet very important way of "remembering" the location of various points 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. **PAVT .X** will store the following marked points during processing that should never be redefined by another criteria file:

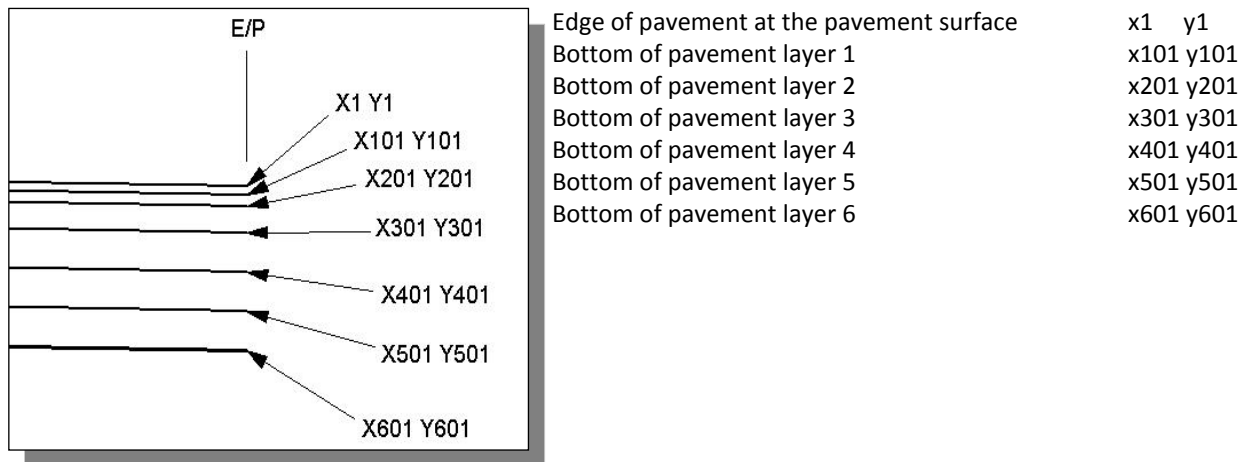


Figure 7

On divided highways the criteria will mark some additional points on the median side of the pavement shapes. The following points are marked as shown in Figure 8 below:

Inside edge of pavement, median to the right	x18 y18
Inside edge of pavement, median to the left	x19 y19

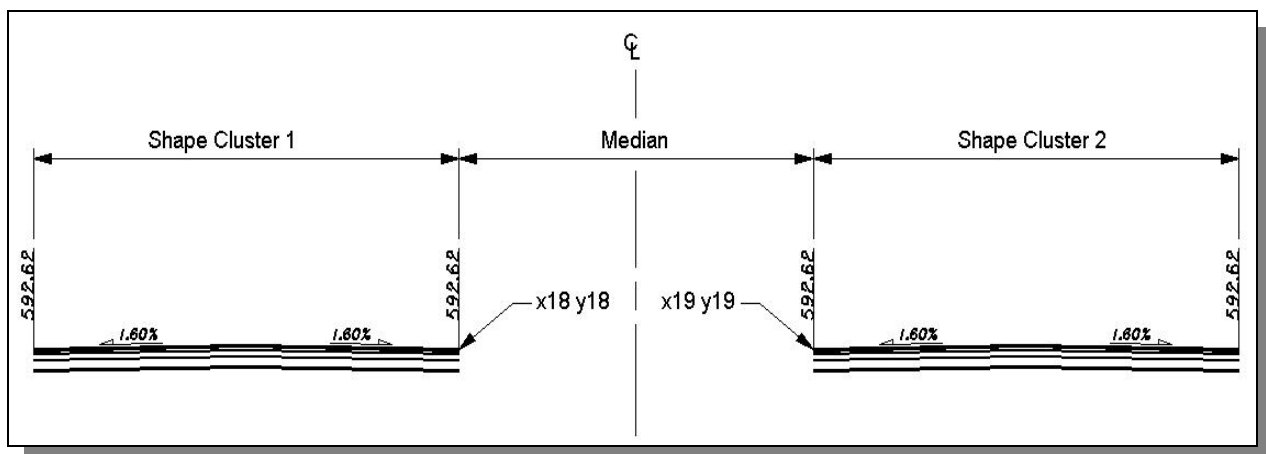


Figure 8