## Land Use DGN Creation

The shapes created in the land use DGN file are used to delineate sub-areas within your drainage areas, which specify run-off coefficients (C value). These are used to calculate the composite run-off coefficient. This value is used in conjunction with rainfall data in the rational formula to calculate the Q discharge for the drainage area. This composite run-off coefficient can be manually calculated and entered as a value but by creating these shapes this can be done automatically for any drainage area specified on your project.

- 1. Create a new DGN file, LandUse.dgn, for placement of land use shape elements from DGN seed file Seed2D.dgn and open it.
- 2. Reference your **proposed file**, which contains prop. edges of pavement and slope lines. Also reference your **survey topo file**.
- 3. Access D & C Manager from the MicroStation menu bar drop down location Applications>GEOPAK Road>Design & Computation Manager or from the GEOPAK Road tool box it is the second icon down on the left.
- In D & C Manager go to the land use category under
  Drafting Standards\ Exist. Drainage\ Land Use.
  There you will see the three categories of land use items used by T.D.O.T.

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Roadway Linework	
Exist. Drainage	
C Land Use	
Rural-Flat/Permeable	
Rural-Steep/Impermeable	
🗋 Urban	-

- 5. Open the desired category and click on the land use item you wish to define on the project. Click on **Place Influence** in the D & C Manager control strip.
  - 🔁 Design and Computation Manager Edit Settings Favorites Help File id 苘 🗁 Land Use \* Bural-Flat/Permeable Pavement-FP concrete or asphalt pavements 🖹 Macadem-FP asphalt macadem pavement Gravel-FP gravel roadways or shoulders Earth-FP bare earth Steep Grass-FP steep grassed area (2:1) Meadow-FP turf meadows Forest-FP forested areas, woods Fields-FP cultivated fields Rural-Steep/Impermeable Pavement-SI concrete or asphalt pavements Macadem-SI asphalt macadem pavement Gravel-SI gravel roadways or shoulders Earth-SI bare earth Steep Grass-SI steep grassed area (2:1) Meadow-SI turf meadows Forest-SI forested areas, woods Fields-SI cultivated fields C Urban Residential-F30 flat residential, 30% impervious Residential-F60 flat residential, 60% impervious Residential-S50 moderately steep residential, 50% impervious Commercial-S70 moderately steep built up area, 70% impervious Commercial-F90 flat commercial, 90% impervious
- 6. Use any MicroStation shape command to draw shapes around the areas. You may wish to copy graphics from the reference files to create complex shapes. This could be the proposed edge of pavement lines from the proposed file to shape the pavement area or perhaps the edge lines from a parking lot or woods area from the survey topo file. Anytime you wish to change to a different land use type just click on it in D & C Manager. If you have shapes already defined simply use the MicroStation Change Element Attributes command to change their symbology.

**Fill Type for all land use shapes should set to None.** Geopak Drainage will ignore shapes that are filled.

It is not necessary to place shapes to cover all areas absolutely. Any areas not delineated by a land use shape will use the **Base C value** entered in the **Drainage Area Definition** dialog.

7. Once shapes have been set up, simply reference the DGN file to your proposed DGN file and they will be read when you use **Delineate Subareas** in the **Drainage Area Definition** dialog of **Geopak Drainage**.