

## **Module 6**

### **Open Channel Design and Stream Classifications/Stability Assignment**

#### Creek stability:

Select a convenient natural channel (can be in a developed watershed, but not lined or straightened) and perform the stability classifications from near its origin to its confluence (about 3 to 5 locations). Use Rosgen's classification system, but also discuss the roll of large woody debris in channel forming. Make sure you discuss what will happen if increased discharges are made to this creek.

#### Channel design:

For at least 2 channel locations on your creek, design an artificial channel. Calculate the current bank-full channel capacity (using Manning's equation) and assume that the calculated flow would be doubled with increased development. Design a channel considering the various objectives discussed in Module 6 (conveyance capacity and stability, at least). For each location, design at least 2 alternatives, one with a natural liner (using the natural soils at the site) and another alternative using an artificial liner (soft or hard). Again, make sure you completely document all assumptions and fully discuss your choices and suggestions.