CEE3430 Engineering Hydrology

Homework 6. Infiltration

Objective.
- Be able to calculate infiltration, cumulative infiltration and time to ponding using the Green-Ampt method as given in Mays Section 7.4

1. Mays 7.4.1

2. Mays 7.4.4

3. Mays 7.4.6. Hint: You will need to first determine the time of ponding, then after ponding occurs use a more general form of equation 7.4.22 that accounts for the cumulative infiltration at the time of ponding

$$F - F_p - \psi\Delta\theta \ln\left(\frac{F + \psi\Delta\theta}{F_p + \psi\Delta\theta}\right) = K(t - t_p)$$

4. Mays 7.4.14