CEE3430 Engineering Hydrology

Homework 2.   Groundwater properties

Date: 1/13/14
Due: 1/22/14

Objective.   Gain experience quantifying the properties of water in the soil/subsurface.

1. Mays 2.5.1

2. Mays 2.5.2

3. Mays 2.5.3

4. Mays 2.8.1

5. Mays 2.8.2

6. Previous year test question

Consider an unconfined aquifer overlying impermeable bedrock with the following properties

- Porosity   27%
- Specific retention 12%
- Thickness 15 m
- Hydraulic conductivity 12 m/day

Assume that there is 2 cm of precipitation that all infiltrates and percolates to the water table, calculate the water level rise (m).

How much water can be produced by lowering the water table by 2 m over an area of 1 km^2.   Report you your result in m^3.