

BAE 590-601: DRAINMOD Spring 2011

Homework 1

Due by 5PM EST on Friday, January 21, 2011

FILE TO SUBMIT

- Scanned in problems and use the following file name. Replace LastName with your last name.
 - ✓ **LastName.590.2011.HW1.pdf**

HW INFORMATION

- Total possible points: **20**.
- Problem set from “Theory of Drainage” book and listed below.
- Solve these problems by hand. Do not use the report format. Scan in your work, convert to PDF, and submit on the course website by the above due date.

Follow these guidelines:

- Writing needs to be legible, neat, and not cursive
- Box final solutions where appropriate
- The flow of your solution should follow some logical linear format, work from the top of the page to bottom, not left to right
- Start a new problem on a new page
- Use more paper if needed, don't write so small or squash your work - But be reasonable
- Write on the front side of paper only a)my ink may bleed through b)it gets difficult to follow your work c)I may write comments on the backside of pages
- State assumptions where appropriate
- It is a good idea to sometimes reference equations and page numbers from course book for future reference
- Use a straight edge when constructing lines
- Sketch problems (to scale if possible) and label properly
- Those sketches should be neat
- Watch rounding early on in problems
- Watch units as some problems mix English and Metric

PROBLEM SET

1. Problem 1.10 – Parts A and B as written in book. Parts C, D, and E as written below.
 - C. How much water drains out when the water table is lowered from surface, $z = 150$ to $z = 100$? $z = 50$? $z = 0$?
 - D. Plot volume drained vs. water table depth.
 - E. What is the drainable porosity when the water table is 50 cm deep? 100 cm deep?
2. Problem 1.11 - As written in book.