Exercise – Engineering – To be completed by each student

From the given grassed waterway spreadsheet "EAST WATERWAY", survey notes and peak discharge (included in spreadsheet):

1. Utilizing the "Seeding" button on the "Design" tab, enter a seeding mixture appropriate for the grassed waterway you are designing. Also select the seeding period appropriate for the waterway location. (Hint: reference the Critical Area Seeding standard)
2. Select a grade or multiple grades for the waterway centerline. Make sure centerline cuts are reasonable. Make sure waterway outlets at the existing culvert elevation of El. 419.4.
3. Utilizing "B" retardance for capacity and "D" retardance for stability, provide a top width guess, and have the spreadsheet solve for the waterway depth. Check to ensure that velocity and crossability are within limits, otherwise revise the top width and try again.
4. Plot the waterway profile showing the original ground, low bank, and planned profile on the Profile tab.
5. Fill in the blanks on the O&M tab that show what the required vegetation heights are (min and max). Fill in any additional mowing instructions at the bottom for range of heights.
6. What is a cost estimate for this practice?
7. Would you recommend a subsurface drain (underground outlet) as a subsidiary practice to this waterway? Why or why not (explain your thought process)?

Reminders:

Save the spreadsheet as you go to avoid problems if the spreadsheet gets an error or crashes. It's not likely, but it can happen.

Remember that the W/W ID column needs to contain the same number for each reach so that the entire waterway plots on the profile for "planned grade".

When you are finished, save a copy of both the spreadsheet and this document with the answers filled out to the shared drive. Rename the files with your last name when you save them.