**Directions:** Work individually, although discussion with neighbors is permitted. Each student is required to complete and submit his or her own in-class report.

**Part 1. Enter Input Information for CME Building Case Study (20 minutes)**

Using the same case study as previously, this exercise will explore more generally green infrastructure options for controlling storm water runoff from the site. The instructor will guide you through the basic inputs for the calculator.

Step 1. Enter the **LOCATION** info needed for NSC simulation

* Enter 84112 for zip code
* Adjust background as you wish (to aerial image, or other)
* Further zoom to location of CME building

Step 2. Enter the **SOIL TYPE** info for the site

* Select “view soil survey data” check box to see the color-coded imagery
* May need to zoom out to see nearest soil survey data
* Identify site soil type based on color-coding; for CME building it is D, high runoff potential

Step 3. Enter the **SOIL DRAINAGE** info for the site

* Select “view soil survey data” check box to see the color-coded imagery
* Identify site soil type based on color-coding; for CME building it is between 0.01 and 0.1, use 0.05

Step 4. Enter the **TOPOGRAPHY** info for the site

* Select “view soil survey data” check box to see the color-coded imagery
* Google Earth or knowledge of the site slope may also help to characterize conditions
* The site has high and moderate slope areas, but it is mostly moderate.

Step 5. Enter the **Precipitation** info for the site

* When the user selects the Precipitation tab, available weather stations with precipitation appear
* For the CME building site the best site to select is the E Bench site – it is near to site and at the correct elevation

Step 6. Enter the **Evaporation** info for the site

* When the user selects the Evaporation tab, available weather stations with precipitation appear
* For the CME building site the best site to select is the E Bench site again – it is near to site and at the correct elevation

Step 7. Enter the **Land Cover** info for the site

* The input is asking for percent of five possible land covers, but the user only enters information for four of the land covers with the fifth (impervious) being calculated based on user input
* Enter in 20% for percent lawn, then return to set impervious at 80% of land area

Step 8. Enter info under the **Results** tab

* Use all 16 years of data
* Set the event threshold to 0.1 inches (this is the amount of precipitation depth that defines a precipitation event, used for post-results analysis by the calculator)
* Press the “Refresh Results” link to execute the simulation with your entered inputs; the pie chart and other information will be updated
* Explore the various options under Reports

**Part 2. Analyze Low-Impact Development Control Plans**

Save the case as the Baseline Scenario. After setting this (on the Results tab) you can explore the effect of changing input options, the impact of climate change, or explore the storm water management benefits of low-impact development practices. For this exercise, the focus will be low-impact development practices.

Step 9. Save the current case as the Baseline Scenario

* Select link “Use as Baseline Scenario”
* The user will see the scenario created, indicating that the “current” scenario can be changed to investigate effect

Step 10. Enter **LID Controls** info

* Select link “Use as Baseline Scenario”
* Explore individually an LID control plan
  + - Set under LID Controls
    - Refresh Results
    - Check impact
    - Repeat

**Part 3. Summarize Results in Memo and Submit to Instructor**

Summarize your LID Control Plan and the benefits in a one-page memo. Compile the results into document, include screen captures or other results from the EPA NCS tool. State in the memo the LID control plan and the amount of runoff reduction that could be achieved. Additional pages of results can be included as attachments to the one-page memo. Include a table that includes the results listed on the next page. Begin assignment in class and complete for homework as needed.

|  |  |  |
| --- | --- | --- |
|  | **Baseline** | **Current Scenario including LID** |
| Avg Annual Rainfall (in) |  |  |
| Avg Annual Runoff (in) |  |  |
| % of rainfall that becomes **runoff** |  |  |
| % of rainfall that **infiltrates** |  |  |
| % of rainfall that **evaporates** |  |  |