

King Abdulaziz University in Jeddah

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Updated Project Objective:

Group 3 will be focusing on King Abdulaziz University in Jeddah, Saudi Arabia where we propose to determine the design storm precipitation for the university. The Jeddah Stormwater Design Manual has been supplied to us by Ben Fah and will be used for determining the rainfall-runoff determination. Using ArcGIS, we will use aerial photographs to determine the impervious and pervious area within our region of interest to approximate the rainfall-runoff determination. Using DEM data, we will estimate the lowest elevation on the perimeter of the university and will assume that all runoff flows to this point. At the lowest elevation, a retention basin will be designed to help manage stormwater runoff. A storm drain pipe will then be designed with the upstream location being at the detention pond and the downstream will be a junction into the currently existing Southern Channel.

A simple HEC-HMS model will be developed to model the runoff and streamflow from the university to the junction of the newly proposed pipe and the Southern Channel.

Currently, Group 3 has built a basemap (Figure 1) for our region of interest, the university, and we plan on further developing the basemap to determine the direction of flow, time of concentration, drainage divide lines, etc.

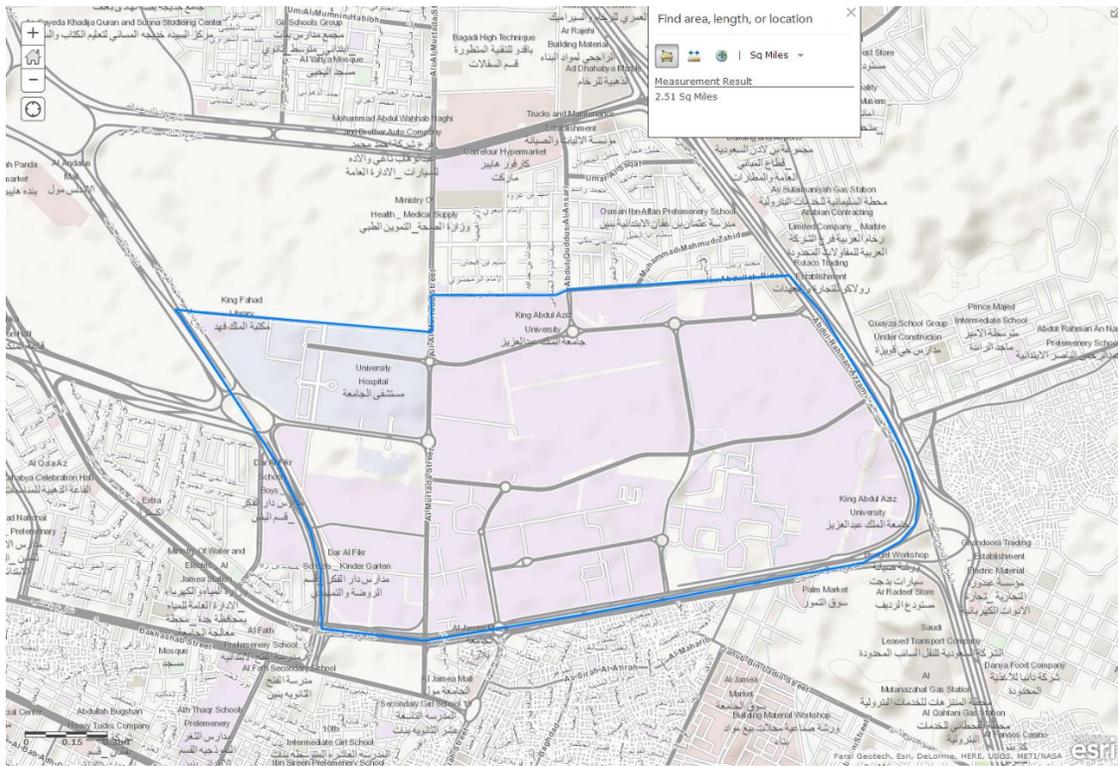


Figure 1: Basemap of King Abdulaziz University



Figure 2: DEM Basemap of King Abdulaziz University