Hydraulic Engineering Design - Project Proposal

Lindsay Wandall, Valerie Sorge, Emily Poston and Dacy Thomas
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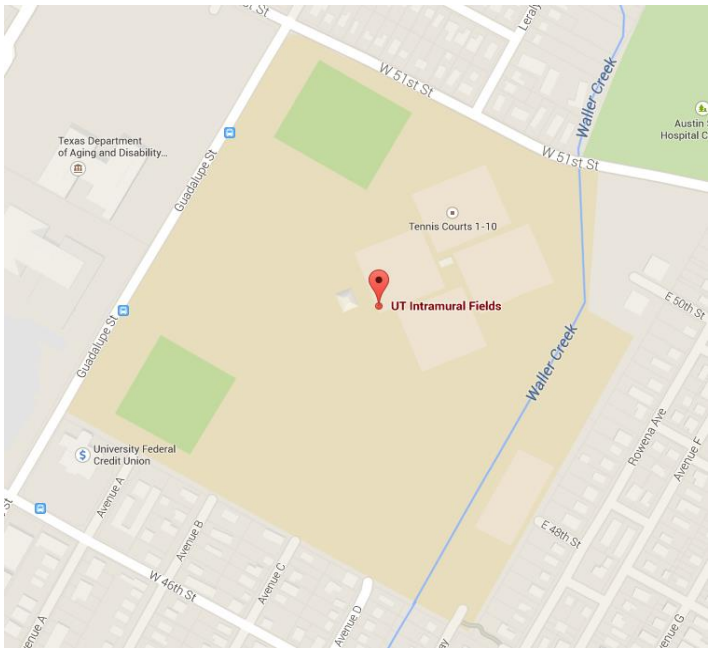

The study area of our project consists of the Intramural Fields and the surrounding area, defined by the beige polygon in figure. The University intends to construct new tennis courts here. However, there is not a plan in place to address stormwater management. Construction of the tennis courts will increase the imperviousness of the area, increasing runoff, decreasing water quality, and potentially degrading Waller Creek. It is expected that study area will not operate well if the tennis courts are constructed without stormwater management development. Our project will focus on addressing this issue.

One possible way to address this issue would be to create a stormwater detention pond to slow runoff and increase water quality. Our group will also look into other low-impact development solutions that would be suitable for this area, such as bioretention or swales.

Our preliminary investigation will involve making a site visit to study area. We will then interview stakeholders involved in the construction of the tennis courts in order to fully understand how they will change the landscape.

To describe the study area, our first step would be to observe the area in ArcGIS. This will allow us to gather information regarding existing infrastructure, elevations, and water flow paths. We would then use the software to predict how the changes will affect the area. Once we understand how the study area operates and how it will change, we can propose a solution. Depending on our chosen design, we will use software such as AutoCAD or CulvertMaster to create a representation of our solution.