

Proposal - UT Austin

The scope of the project is to transform the ECJ parking lot into a more useful space. The objective is to ease the pollutants entering Waller Creek, as well as decrease the amount of erosion between the ECJ parking lot and Waller Creek currently. The project will utilize porous pavement, as well as the introduction of a rain garden. Along with these Low Impact Developments, we will transform this area into a study space.

The project data needed for the completion of the design will be the following:

- Ground elevations
- Floodplain maps
- Annual rainfall data
- Areas of the surrounding areas
- Any necessary University of Texas building codes

The simulation models our group plans to use are ArcGIS, LIDAR data, AutoCAD, and a simulation model used to show the hydraulic function of our area (HEC-HMS, HEC-RAS, StormCAD, etc).

We anticipate the key project element of our project to be the porous pavement utilized in the ECJ parking lot to absorb the polluted water running off ECJ and the surrounding buildings. This will hopefully eliminate any flooding that occurs in this area. A dimensioned design will be produced in AutoCAD detailing the design and specific locations of the porous pavement within the parking lot location.

Within our group, the following details who will be responsible for which deliverables. All three of the group members will research the necessary information needed to complete the design. Each group member will contribute to the final report as well as giving the final presentation for this project.

- Andrew will produce the AutoCAD drawings of the porous pavement design
- Benjamin will produce the simulation model showing the impact on hydraulic function of the area chosen
- Rose will produce the initial and final GIS database describing how the area looked initially and after the plan is implemented

Following the HydroDesign process, the study area can be described as the current ECJ parking lot adjacent to Waller Creek. The rainwater in this location is currently drained from the building across the parking lot into the creek with no filtration system present through a series of outlets located in the wall. In our opinion, the current study area is not working well in regards to an effective storm management system. There is a lot of flooding that occurs and there is no treatment of the water before entering Waller Creek. The study area can be altered as previously described, by implementing porous pavement as well as the use of rain gardens. The impact of these changes would help improve the water quality and decrease the amount of water entering Waller Creek at this location. It would also provide an additional study area for the students.