Background

Subway of Clarksville approached DBS Engineering in Clarksville, TN about doing a project. The project is an actual project for a client. However, during the process, the project was put on hold. The project has been finished and it is ready for them if they decide to build it. The project included survey review, site layout, grading, detention basin, drainage, and utility layout.

Survey Review

A topographic survey of the current conditions of the site was produced. It was necessary to go to the site and verify that the topographic survey was correct. This is important because there are many possible conditions that need to be located correctly for the design to be done.

Site Layout

The client has requested a 5,000 square foot building, to be sectioned off into 5 equal sections for rent. The end spot will be a Subway Restaurant. The other four spots are to be designed to meet code requirements for restaurant or retail units. The site layout will show the location of the building, sidewalks, parking spaces, curb islands, traffic flow, etc. The site layout needs to be aesthetically pleasing and based upon sound engineering principles.

Grading

The grading of this site is a very important and meticulous part of the design. It is important to make sure that there are known areas on the site that are too steep, but also make sure to encourage proper drainage. There needs to be no ponding of water on the site. It is important to make sure not to reroute any water onto neighboring properties, risking flooding them. This process takes many hours and many iterations to make sure to get the best lay of the site possible.

Detention Basin

The amount of water flowing off site before the start of development, also known as pre-development runoff, must be higher than the amount of water flowing off site after the development, which is the post-development runoff. A detention basin is an effective way to do this. It is necessary to design an outlet structure for this basin that will release the correct amount of water for each storm event.

Utility Layout

The utilities that are to be supplied to this building have been designed. Gas, Sewer, and Water utilities have all been designed to tie in to the building. From the building, any necessary additions such as cleanouts, manholes, meters, or joints have been designed. Each utility has been tied back into the existing utilities.