Allen Road Park Improvements

Sponsor: City of Sandy Springs / KCI

Hannah Grace Gaston, Drayton McJunkins, Hannah Meise, Nada Osman

Mentor: Stephan Durham, Ph.D., P.E., David Gattie Ph.D.

Description
The Allen Road Park project included design solutions that addressed current erosion and flooding near the front of the park. Additionally, the project team developed a conceptual master plan for the park’s usage that proposes to use two adjacent land plots.

Abstract
Allen Road Park is a 3-acre park located in Sandy Springs, GA. Our design team at Impact Solutions partnered with the City of Sandy Springs and KCI Technologies on a two phase project with the aim of improving the park, through the development of drainage and erosion control solutions for existing land area within the park, as well as creating an overall master plan for the development of an additional two parcels of land that are currently unused.

The temporary solutions that the city has installed in an attempt to mitigate the erosion damage are currently failing. Impact Solutions’ permanent designs include green infrastructure elements such as terracing, perforated underground pipes, and a rain garden. Along two sides of the basketball court and one side of the multipurpose court, an 8-inch perforated polyethylene annular perforated pipe will be laid at a 1% slope. Georgia Department of Transportation (GDOT) 1019A Standard Drop Inlets will be placed at the beginning and end of these pipes to increase run-off water collection. This French drain system will be covered by gravel and double as a walking path for the park. The 8-inch pipes will be connected via 24 X 24 inch Standard Brick Manholes (1011A) to an 18 inch PVC pipe that will carry the water to the rain garden. In an effort to reduce sedimentation and provide more paths to walk, a 48-inch GDOT Standard Gravity type A Retaining (9031L) will be input west of the multipurpose court replacing the previous retaining wall. The bottom thickness of the retaining wall will be 24 inches, reaching the top at a 1:2 slope.

Upon construction of these new systems, run-off water will be re-routed, collected, and treated prior to flowing into the active stream that runs through the park. The team’s design results in a permanent and pre-established route for rainfall runoff that ultimately solves the erosion and flooding issues within the park and enhances the park’s aesthetic value and functionality. Codes from the Georgia Department of Transportation, Georgia Stormwater Management Manual, and the Georgia Soil and Water Conservation Commission Manual were all used within the design process.

Due to the park’s steep and uneven topography, its space is currently under-utilized, and its amenities are limited. Parking spaces are minimal, with less than 15 spaces available across two small parking lots. Impact Solutions’ master plan design addresses these limitations and proposes the addition of two additional land plots to the current park’s area. The additional development to the park has been designed to include a walking loop, a community garden, a dog park, a redesigned playground, a pavilion, grill area, and an expanded parking lot. The park additions were all designed to meet ADA standards. The Allen Road Park improvements will serve its local community by providing an improved space for families to visit, feel safe, and enjoy.