**Capstone Senior Design Project Abstract**

**Project Title:** Hart County Jail Feasibility Study

**Sponsor:** Hart County Government  
**Team Members:** Stephan Jean, Taylor Stein, Youhan Qiu  
**Faculty Mentor:** Dr. Stephan Durham

**Project Description:** The project’s goal is to alleviate Hart County’s current jail capacity and its financial burden which is caused by the limited space within the current jail. The project consisted of developing design drawings for a new Hart County Jail that included both site design and building footprint plans.

**Abstract:** Hart County’s Sheriff’s Department revealed the need for a new jail. The county tasked CAD-Astrophic Engineering to develop a site plan for a new jail that houses between 150-250 inmates, while considering future expansion as a possibility. Initially this project include a site feasibility analysis whereby CAD-Astrophic Engineering visited three properties between 6-8 acres in size and currently owned by the county. CAD-Astrophic Engineering selected two sites based on topography an proximity to adjacent county facilities and developed conceptual designs that were presented at the December 2019 Board of Commissioners meeting. Ultimately, the site adjacent to the Whitworth’s Women’s Correctional Facility was selected for development and a complete set of engineering drawings were developed. This 6 acre site has access to both the county’s water distribution system and the sanitary sewer system. Once the site was selected, the team provided an in-depth cost estimate as well as site, grading, stormwater, erosion control and utility plans. The codes that were utilized for design include the Hart County Code of Ordinances, Georgia Stormwater Management Manual, and the Manual for Erosion and Settlement Control. CAD-Astrophic Engineering designed a one-story support building along with a two-story inmate housing to accommodate 168 inmates, leaving space for future expansion as well as an outdoor area. Barbed wire fencing was placed around the perimeter of the building as a security measure.

**Figure 1. Site Plan**