

## **Executive Summary**

The DEA Clandestine Laboratory Training Center is located on the Quantico Marine Corps Base in Quantico, VA. It is a one-story building with a Mechanical Mezzanine Level that encompasses approximately 34,000 sq ft. The building spaces include multiple function types such as laboratories, classrooms, office space, and physical training areas.

The purpose of this document is to propose a redesign of certain aspects of the Training Center. The main focus of this article is on the redesign of mechanical systems. More specifically, it centers on the analysis of new heat recovery equipment that will salvage waste heat from offices, classrooms, and laboratory spaces. However, two other breadth areas involving the integration of the newly specified equipment into the electrical and structural disciplines will also be discussed. Other alternatives that have been considered for the redesign are covered, as well as the reasons for not selecting those options. The final proposed selections have been analyzed in detail, and the new design is compared and contrasted with the one presently in place. The methods and calculations that were employed in the redesign process are described, and the expected benefits of the proposed changes are discussed.