



Executive Summary

Plans for the New York Police Academy were drafted to allow the five current facilities used to train law enforcement for the New York Police Department to be performed in one central facility. This project consists of the new construction of a 720,000 SF facility in College Point, New York, equipped with space for academics, administrations, physical training, and a central utility plant; with plans for renovations in the future. At the moment there are no major challenges that await the project team due to size and location of the site.

Analysis #1 focuses around the implantation of a cellular beam design for the roof and floor systems of the Physical Plant of the project; originally the roof design involves additional work to allow the cellular beams to support the 180ft span which can cause schedule delays if not monitored. Tasks involved with this analysis involved the implementation of a structural truss system in place of the current roof system and a replacement wide flange beam system for the floor. Overall the system change will save **\$4 Million** but would increase the schedule by **45 Days**.

Analysis #2 focuses around the potential safety threat of the original trade sequencing within the fuel tank rooms inside the Central Utility Plant. During the early stages of scheduling, an active concrete pit was planned to be placed while steel erection occurred overhead. Tasks involved within this analysis involved a cost analysis of contracting the concrete subcontractor to perform work during the second shift, causing the workers to be accommodated with a time and a half pay rate. By allowing the concrete work to be performed after regular work hours with overtime pay will increase work within the area by **\$8,000**.

Analysis #3 focuses on the addition of a photovoltaic system to the southern façade of the Administration / Academics Building to help reduce overall consumption from the city's power grid. After performing the research related to a typical photovoltaic panel design, panel selection, inverter selection, etc., the overall cost of implementing a system to benefit from the architectural features will cost **\$497,000**, save **\$4,500 annually**, and take approximately **108 Years** to pay the original investment back.

Analysis #4 focuses on the idea of schedule and cost savings from repetitive work by exchanging the current precast concrete panel façade along the shorter ends with insulated metal panel façade. After consulting with industry professionals holding experience with New York City construction, it was determined that changing the systems will increase the cost by approximately **\$2,000,000** and increasing the project schedule by **59 Days**.

This report details the New York Police Academy Project as well as each Analysis summarized above.