



CASE STUDY

Dorothy Hamm Middle School

Arlington, Virginia

CHALLENGE

When Arlington Public Schools was approved for the renovation/addition of the existing Stratford/H-B Woodlawn site for a new neighborhood middle school, they began the process of determining the boundaries, improving access and mobility for students, and expanding capacity and program offerings such as technology education, chorus, and media communications. The original building was completed in 1950. Then, in 1959, Stratford Junior High School became the first desegregated public school within the Commonwealth of Virginia. It has since undergone several modifications, including additions in 1995 and 2005, and a major HVAC renovation in the last several years. Later, the Arlington Public Schools board went on to change its name to Dorothy Hamm, a local civil rights leader who fought to integrate the school. The building can be found listed on the National Register of Historic Places as “Stratford Junior High School” and is registered as a local historic district.

The new construction consisted of approximately 40,000 square feet of space in a multi-level configuration to include classrooms, offices, a library, MEP/IT/AV

infrastructure rooms, auxiliary gym and supporting health education classrooms, and other support facilities that were necessary to provide educational services for an additional 300 students and an accompanying complement of teachers and administrators. Sitework included a new drop-off lane to divert student and bus drop-offs from the neighborhood street with direct access to Old Dominion Highway. Various other safety improvements to neighboring streets included enhanced crosswalks, additional sidewalks, removing overhead power lines to underground conduits, new streetlights, and other ADA improvements to modify bus and vehicular circulation around and/or through the site as well as to meet outdoor educational space requirements and stormwater management regulations.

Some of the challenges faced for the new middle school included maintaining safe access to the existing building for the students and faculty as well as maintaining open lines of communication regarding updates on construction with the Owner.

MBP was brought on to provide Construction Manager Advisor (CMA) services for the \$32 million addition and renovation of the project site for Dorothy Hamm Middle School at the Stratford Junior High School site location. This included overall construction management oversight of the project, teaming with and advising Arlington Public Schools on the progress of the project, scheduling, project management, estimating services, and supervising third-party inspection services required by Arlington County during the design and construction phases of the project.

SOLUTION

The existing building was an active school and remained fully operational throughout the construction duration, except for summer break which occurs from the end of June through August each year.

MBP's proposed solution to this challenge involved three key factors. First, to minimize the impact of the existing conditions on the project, the MBP team enforced the project requirement of pre-construction meetings. We focused on ensuring that the Construction Manager at-Risk (CMaR) team had all the required surveys, submittals, testing, and even contracts in place to begin a specific scope of work. Second, the MBP team developed a Critical Item Tracking Report which captured all critical path and near critical path activities. This report was updated daily. It utilized static images and colored-coded cells to track daily construction progress. This tool was shared with the CMaR and highlighted areas where work should be progressing but was not. Finally, MBP was able to implement HoloBuilder on the project. HoloBuilder is an internet-based project photo platform which utilizes 360-degree images to capture progress

on the construction site in an organized fashion. Using this software, we were able to show the same location three months apart in time and could also capture daily progress photos in all areas of the project site. The software replaced the critical items report and provided real-time information that all owner team stakeholders were able to take advantage of daily.

Another challenge was that the site work impacted an existing Resource Protection Area. The renovations were necessary to upgrade existing MEP services for tie-ins and any other required building connections to provide unified facility continuity for occupants and MEP services. As part of the Joint Use Agreement with Arlington County, an additional elevator was placed in the existing structure and a restroom attached to the new auxiliary gym for Arlington County Parks and Recreation usage was also constructed. Every solution was beneficial to the overall flow of the project. Each of these improvements was spread throughout the project and required MBP to facilitate changes to design assumptions that maintained the overall intent, stakeholder safety, and constructibility concerns to ensure the owner received a quality product.

The implementation of HoloBuilder also helped to create project efficiencies with respect to activities such as as-built schedule reviews, Potential Change Order (PCO) reviews, report creation, and daily log creation. By streamlining these processes, MBP team members were able to spend more time facilitating both project quality and owner engagement.





RESULT

All these tools helped to create a substantial project record that provided the Owner's team with a firm, documented foundation for any potential claims and allowed MBP to collaborate with Arlington Public Schools in a substantial way. By implementing regular reporting and eventually HoloBuilder, MBP helped to strengthen the Owner's connection to the specific school as well as the surrounding neighborhood, which encouraged the exchange of the communication between all parties. The benefit of open communication was also seen with County inspectors, who could not come to the project site, as they were now able to see the entire space clearly, rather than a grainy video.

These tools also allowed for MBP to focus on key performance indicators for the project including project quality and end user satisfaction. By implementing the Critical Items Reports, MBP was able to allow the owner

to visual the project progress in a format that encouraged discussions on progressing the project and facilitated solution focused conversations. The implementation of HoloBuilder also helped to create project efficiencies with respect to activities such as as-built schedule reviews, PCO reviews, report creation, and daily log creation. By streamlining these processes, MBP team members were able to spend more time facilitating both project quality and owner engagement. All told, these strategies allowed MBP to spend, on average, four more man hours per week engaged with value creating activities for the owner. In addition, the project team was able to realize \$342,500 in savings on PCO negotiations.

At the end of the day, Arlington Public Schools was happy with their new middle school as well as with their relationship with MBP. The new construction portion was designed to achieve LEED Silver level certification.

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