



Office Building

Washington, D.C

Thesis Conclusion

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Final Report

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In this thesis project, several techniques and modifications were proposed and analyzed for the design and construction of the Office Building in Washington, D.C.

The first analysis was a re-design of the M Street Ramp's structure, from steel to cast in place concrete, by using this material, it would allow for the building to be uniformly constructed. Changing the structure to CIP concrete would save 28 days on the original structural schedule and deduct \$204,700 from the price of the initial steel structure. Plus the increase in plenum space provided by the CIP structure will contribute to a smoother coordination between the MEP trades in this section of the building along with more efficient duct sizes. When comparing the two materials with LEED standards they are comparable, each with their pros and cons. However, comparing the constructability challenges of the two materials it seems like the steel would be a little less hassling than the CIP concrete structure. The CIP concrete shows challenges with the reshoring and compensation for ramp closure even though the site is better planned out for concrete construction than steel. But the steel structure allows for the ramp to remain open throughout its construction, therefore not having to deal with road closure. The CIP concrete structure would have been a viable option for the Office Building's M Street Ramp, but that does not necessarily mean it would be best the structure for the ramp.

By utilizing a matrix schedule in the second analysis the Office Building's CIP concrete structure would allow for the project team to gain 1.5 weeks back from the current structural schedule. The matrix schedule would allow for the team to more effectively track the work done on the structure, along with creating a consistent work pattern in constructing the cast-in-place structure. Though this amount of time saved may not seem to be a huge gain in reducing the schedule, however it allows for time to be allotted if any unforeseen work stoppages or delays that may occur while construction the building structure. Thus the currently accelerated schedule is quit efficient, nevertheless the matrix schedule would allow for a little cushion in the schedule.

The final analysis deals with implementing a technique that exercises the integration of both a building's design and its team members to produce a more balanced community and project. In my view, the office building has exceed the criteria of GSA and has become more than just a LEED Silver certified core and shell building; it has achieved both components of Whole Building Design (WBD). The team members involved with this project were able produce a high-performance office building that could not only met the needs of the community surround it and GSA's standards, but it helped to strengthen the building's surroundings and environment, creating an integrated society for all the people within it.