

McWong Teams with THA Consulting for Energy-Efficient, Future-proof Parking Facilities

Parking garages are integral to city planning, providing safe, dependable facilities for commuters as well as contributing to vibrant neighborhoods that offer residents options for mass transit, shopping, and dining. These structures require sophisticated lighting and control systems to provide appropriate illumination levels during the day and night while remaining as energy efficient as possible. When THA Consulting, a respected design and engineering firm in the mid-Atlantic region, was seeking control solutions for new projects, McWong's TruBlu Bluetooth mesh system proved to be the best fit.



Background

A recent project in New Jersey highlights the flexibility of TruBlu in tackling the unique control requirements of parking garages. The Hudson Street Parking Garage, located in the Village of Ridgewood, New Jersey, provides 252 parking spaces distributed across four tiers, with architectural design elements intended to complement the unique character of the downtown area.

This project required occupant-responsive and daylight responsive control to comply with energy codes. The project teams selected McWong's TruBlu Bluetooth mesh control system due to the ease of designing, installing, and commissioning the systems. "By eliminating a substantial amount of wiring, we were able to keep labor and materials costs down without sacrificing any control functionality. In fact, we are positioning the facility to implement future beyond lighting capabilities if and as desired," notes Jim Edmonds, Project Manager, Luminosity Lighting Associates, the lighting and controls designer for the projects.

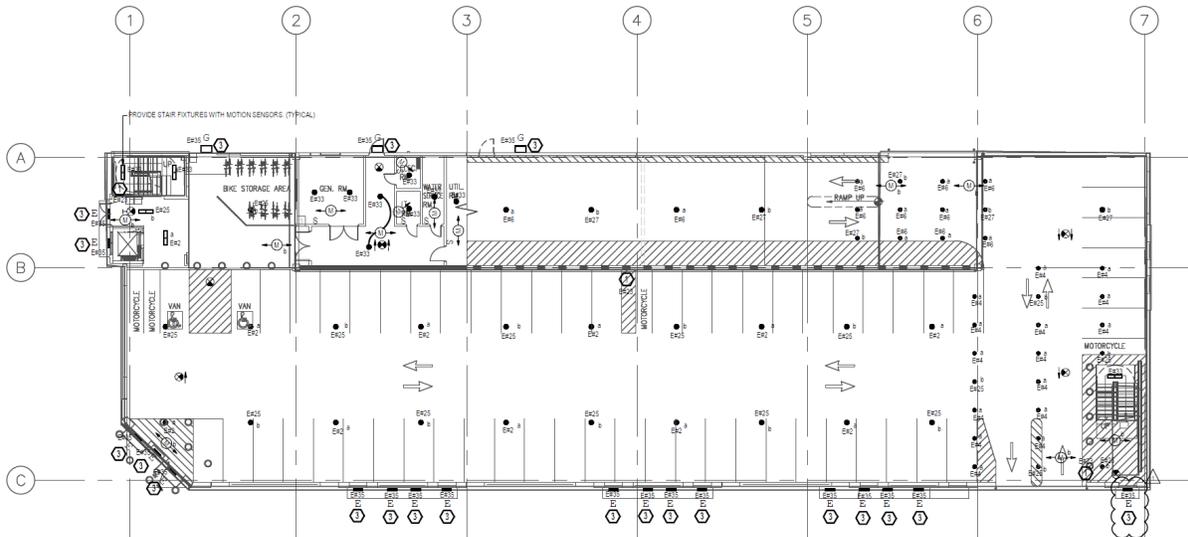
A Detailed Look at the Hudson Street Project Garage

The garage is a precast concrete parking structure, with the façade incorporating an ashlar stone pattern, and precast headers and sills at windows. Metal awnings at the windows recall the outdoor seating provided at the many local restaurants. Located at the downtown Ridgewood train station and adjacent to retail, restaurants and churches, and the New Jersey Transit bus station, the structure is 80,000 square feet.

The lighting and controls consist of three distinct areas:

- 93 Eclipse Denali 75w LED fixtures with embedded TruBlu controls in the garage
- 33 Eclipse HBA3 75 w LED fixtures with embedded TruBlu controls installed at the garage entrances
- 19 Eclipse 574 100w LED fixtures with TruBlu microwave motion sensors installed in the stairwells and elevator lobbies

There are four main sequences of operation throughout



the facility. At the main entrance, lighting is controlled by a “reverse photosensor” that provides 80% light levels during daytime and 20% output during evening hours. Fixtures on all parking tiers and ramps are set to 20% output, increasing to 80% when motion is detected. In the stairwells and elevator lobbies, the fixtures are set to 20% output, increasing to full output when occupancy is detected.

Installation and commissioning were completed during the summer of 2020. While the Village of Ridgewood recognized encouraging increases in traffic and activity, the Covid lock-down restrictions impacted use of the facility.

Conclusion

The Hudson Street parking facility has been in active use for several months. While occupancy was substantially reduced due to Covid restrictions, the location is seeing an increase in usage with the lessening of these restrictions.

While detailed energy usage data is not yet available, the project teams estimate the addition of networked controls provided an energy savings of 40-50% , depending on occupancy rate, compared to a conventional wired control network. They recognized significant labor savings during the installation and commissioning process

“Using TruBlu wireless networked control system just made sense for this project,” Mike App, THA Associates, “We know the system in our new facility is ideal for code compliance today and poised for future expansion of capabilities in the future.”

Project Participants

Epic Management, Piscataway, NJ

(Construction Manager)

Mike Tartaglia - Project Executive

Julian Salazar - Project Manager

THA Consulting, Inc., New Brunswick, NJ

(Architect)

Jim Zullo - President

Mike App - Director of Architecture

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AMA Consulting Engineers, PC

(MEP Engineers)

James Brandt, PE - Managing Principal

BW Electrical Services

(Electrical Contractor)

Ed Higher - Project Manager

Luminosity Lighting Associates

(Lighting & Controls Designer)

Jim Edmonds - Project Manager

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