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Edwards facility earns DBIA award - Dacon Corp. provides design/build services

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Haverhill, MA The recently opened Edwards' Haverhill facility, which Dacon Corp. provided design/build services for, has won first place at the DBIA New England Awards for vertical construction. A division of Atlas Copco, Edwards is a designer and manufacturer of advanced

technology parts. Their product portfolio entails parts for vacuum and abatement; this location is dedicated to cryopump manufacturing for semiconductor and technical industries.

Historically, the city's economic lineage stemmed from hat, shoe and comb manufacturing. Thus the design directive contained inferences of mill elements and the surrounding woodlands – maple ceilings, exposed structures, and plans for representational graphics of manufacturing past. To invoke culture, transparency was a foremost consideration throughout the facility. As a welcoming focal point, sunlight enters through a two-story curtain wall at the lobby. Illuminated by linear recessed light fixtures, the lobby is transversed by a second-floor bridge joining the atrium with executive offices. It was decided that functional areas were not to be isolated, thus overlooking the production floor is an observation lookout area educating visitors on Edwards' manufacturing process. The resulting effect is overall organizational continuity between managerial, research and production functions.

As an asset in facility longevity, the ability to create flexible solutions was foremost in the office and production area layouts. Furniture configuration and floor cores were positioned for mobility - the entire second floor can be easily refitted for cubicles without invasive drilling for electrical wiring. To modify the production floor, utility fences were customized by trade function with powerlines suspended from the ceiling. Amenity areas, a fitness room, multi-function cubes and access to walking trails with viewing stations create areas for innovation, camaraderie, and a chance to recharge.

The design and construction of facilities is often characterized by challenges necessitating avant-garde solutions. Atlas Copco requires noncombustible materials in facility construction. Thus in lieu of polystyrene insulation, Metl-Span's ThermalSafe, a mineral wool insulation, was installed with an extra thickness to meet the fire rating requirement. A substantial environmental challenge was the presence of excess water on the site. Perched water and run off from properties above - combined with record autumn rainfall - necessitated 14 2-inch pumps circumventing the foundation which operated 24 hours a day during the excavation and pouring of foundations. Excess water remained throughout the first 9 months of construction, therefore these pumps operated for 75% of the project.

Additionally, an under-slab drainage system laid in 10 inches of crushed stone was positioned below an 8-inch concrete slab on grade along with a perimeter foundation drain on the exterior of the building. Cultec roof drains were tied into stormwater infiltration systems under the parking lot. Sequencing the layers of the building was challenging as 32 miles of pvc piping were necessary under the interior slab for utilities.

Edwards is committed to environmental stewardship. In consideration of renewable energies, some of the location's LEED initiatives include provisions for a future solar setup, reduced water usage, high efficiency cooling systems, EV parking / charging stations and dark sky compliant lighting. The creative use of design build, as well as sensitive considerations for interaction between humans and the environment, resulted in this award.