CRST INTERNATIONAL HEADQUARTERS

Cedar Rapids, Iowa

Cost

Construction: $37,000,000
MEP Cost: $4,700,000

Owner

Cedar Real Estate Group III, LLC
Cedar Rapids, Iowa

Team

Principal in Charge
Dwight Schumm, PE, LEED AP

Project Manager
Dwight Schumm, PE, LEED AP

Mechanical
Jared Ramthun, PE, LEED AP

Electrical
Jon Schrobilgen

Architect
OPN Architects
Cedar Rapids, Iowa
Daniel Thies, AIA
319.363.6018
dthies@opnarchitects.com

Project History

CRST International, one of the largest privately-held transportation companies in the US, is constructing their all-new 117,000 square foot headquarters on the Cedar River in downtown Cedar Rapids.

This multi-tenant building contains 8 stories of column-free office space on a 3-story parking ramp with 2 street-level storefronts. The outdoor terrace on the 4th floor takes advantage of extraordinary river views. The project's flood wall and integrated pump station pioneered a public/private partnership to further the city's flood-mitigation plans.

Plans forecast energy cost saving of 21% compared to code.

Mechanical Design

The architect-designed mechanical penthouse aligned with other building elements, limited space. Design Engineers specified a 52° F supply air temperature to maximize the equipment capacity and reduce airflow.

A custom-design curb and roof access platform system facilitates roof and equipment access. This closely coordinated, space efficient, and maintainable layout achieves project goals for the architect, owners, and future maintenance.

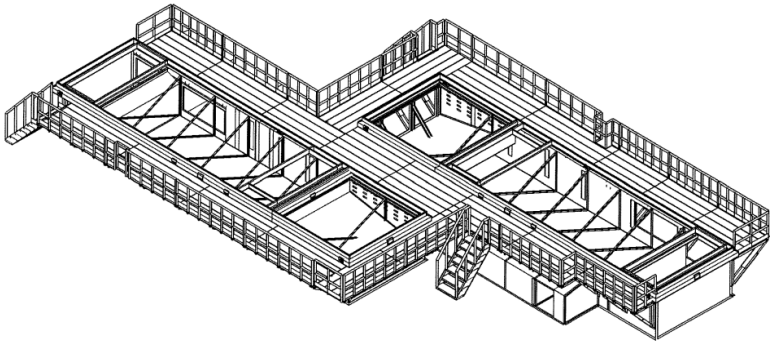
Electrical Design

The building's innovative electrical features include above-ground double utility transformers and a 500KW emergency power generator built into the parking structure. Individual metering for each tenant and all-LED light fixtures with daylighting controls and occupancy sensors promote building-wide energy savings while empowering tenant-level environmental control.

DESIGN ENGINEERS™
MECHANICAL & ELECTRICAL CONSULTANTS

CRST INTERNATIONAL HEADQUARTERS

Cedar Rapids, Iowa



Roof Top Unit Custom access platform

HVAC System Details:

- Two 150-ton, rooftop units supply air to a series of VAVs in the office levels of the building.
- Space heating is provided by a 5,000 MBH cascading boiler plant containing 3 boilers, which maximizes energy efficiency by using a condensing boiler at low and medium load conditions (i.e. most of the time), but also saves initial cost by using non-condensing boilers for peak heating loads.
- Variable refrigerant flow (VRF) systems provide 24-hour cooling to electrical and telecom rooms.
- A VRF system with reheat provides heating and cooling to the storefront tenants on Level 1.

Electrical System Details:

- 500KW Emergency power diesel generator located on the 2nd floor of the parking ramp
- Individual electrical metering for each tenant. One tenant occupies a storefront on Level 1 and office space on Levels 10 and 11, but was able to be metered by one meter so they will only get one bill.
- LED fixtures with daylighting controls
- Above ground double utility transformer, the 2nd time this arrangement has been done in Cedar Rapids