

ENTRY FORM



DVASE 2020 Excellence in Structural Engineering Awards Program

PROJECT CATEGORY (check one):

Buildings under \$5M		Buildings Over \$100M	
Buildings \$5M - \$15M		Other Structures Under \$1M	
Buildings \$15M - \$40M		Other Structures Over \$1M	
Buildings \$40M - \$100M	X	Single Family Home	

Approximate construction cost of facility submitted:	\$75 M (Office Building Only)
Name of Project:	HDR Global Headquarters
Location of Project:	Omaha, Nebraska
Date construction was completed (M/Y):	November, 2018
Structural Design Firm:	HDR Inc.
Affiliation:	All entries must be submitted by DVASE member firms or members.
Architect:	HDR Inc.
General Contractor:	Kiewit Building Group, Omaha

Company Logo (insert .jpg in box below)



Important Notes:

- Please .pdf your completed entry form and email to bsagusti@barrhorstman.com.
- Please also email separately 2-3 of the best .jpg images of your project, for the slide presentation at the annual dinner and for the DVASE website. Include a brief (approx. 4 sentences) summary of the project for the DVASE Awards Presentation with this separate email.

- Provide a concise project description in the following box (one page maximum). Include the significant aspects of the project and their relationship to the judging criteria.

The HDR Global Headquarters project consists of a 264,000 square foot, ten-story office building and a 1,000 stall parking garage. One unique design feature of the project is that there is no, “back door,” to the building in order to activate engagement with the surrounding mixed-use neighborhood. Retail space is provided on all four sides of the tower. In addition, the parking garage is placed 50 feet away from the office tower, creating a plaza between the building and the garage that is lined with retail on both sides. The ten-story office building portion of the project has been submitted for consideration.

The project included a number of unique challenges and opportunities for the design team, the first of which being the building chamfers. To encourage pedestrian flow around the building and into the retail spaces in the plaza area, the architects carved out the northwest and southeast corners of the building, creating tapered chamfers at the base of the building.

Above the chamfered corners, the upper floors cantilever 30 feet beyond the base of the building, supported by sloping columns placed on both sides of the chamfer. These sloping columns converge at a common point to support the corner column above the chamfer. Where the floor framing meets the sloping columns, a horizontal force is generated from the vertical gravity reaction acting on the sloped columns. The structural team located the lateral system along the exterior faces of the building in line with the sloping column to resist these forces. In addition to resisting the horizontal forces from the gravity load reactions, the selected system would need to provide stability to the columns during erection, eliminating the need for temporary shoring during construction.

HDR selected SidePlate’s all-bolted moment connection, because bracing or shear walls located adjacent to the exterior walls were considered objectionable both functionally and aesthetically. Six moment frames resist forces on the long faces of the building, and two moment frames resist forces on the short faces of the building. This is the first time a SidePlate system has been used in Nebraska, so PVS, the project’s steel fabricator, built a mockup of a SidePlate connection to review constructability with the general contractor, erector, engineer, and owner prior to construction.

The SidePlate moment frames saved an estimated 70 tons of steel compared to a conventional moment frame due to the increased stiffness of the moment connection. In addition, the all-bolted connections accelerated the erection of the steel frame and reduced inspection costs.

One of the building’s unique interior design features are communicating stairs between floors. Starting at level four, every other set of floors is connected by a communicating staircase that fosters employee collaboration between floors. The stairs feature exposed HSS stringers and plate treads topped with wood.

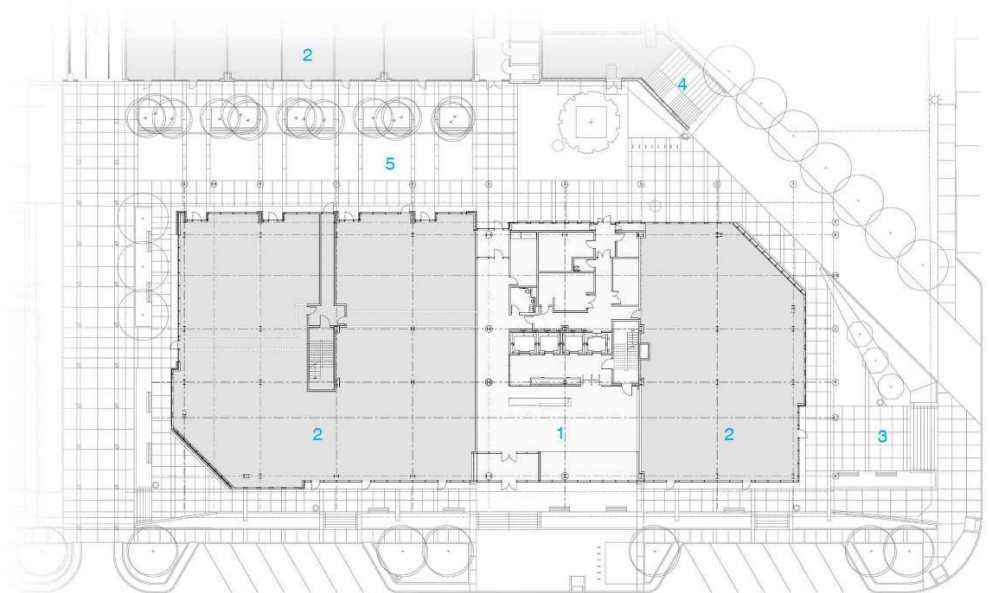
This project was delivered as a phased, fast-track project with an early foundation and mill order package, followed by a structural steel frame package, and finally a core and shell package. With so much of the steel exposed as part of the architecture, close coordination between the architects and structural engineers was required to make sure the steel designed in the early structural packages worked with the final architectural design.

The end result is a beautiful piece of architecture in which structural steel plays a significant role. Despite the technical complexities created by the chamfered building corners, the structural solution provided a building constructed using an economical 12.4 pounds of steel per square foot.

- The following 5 pages (maximum) can be used to portray your project to the awards committee through photos, renderings, sketches, plans, etc...

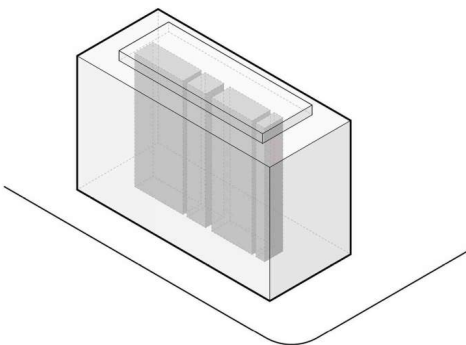


LEVEL 6 (TYPICAL LAYOUT)

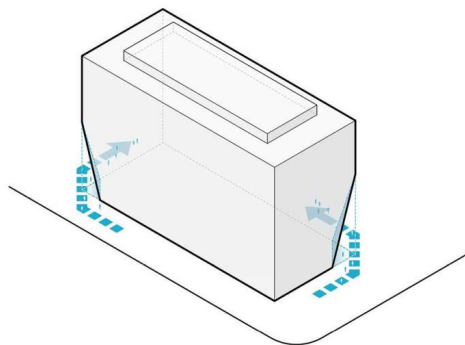


LEVEL 1

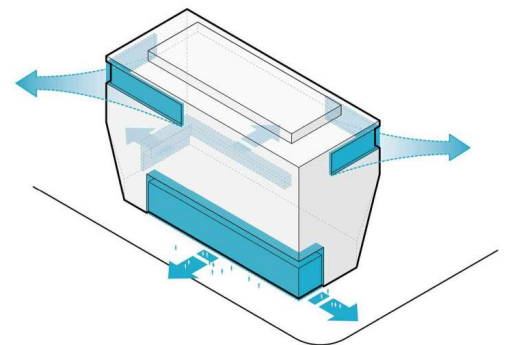
- 1 LOBBY
- 2 RETAIL
- 3 PLAZA
- 4 SOCIAL STAIR
- 5 RETAIL ALLEY
- 6 CONFERENCE
- 7 KITCHEN
- 8 COLLABORATION STAIR
- 9 LIBRARY
- 10 OFFICE POD



1 OPTIMIZED OFFICE BLOCK

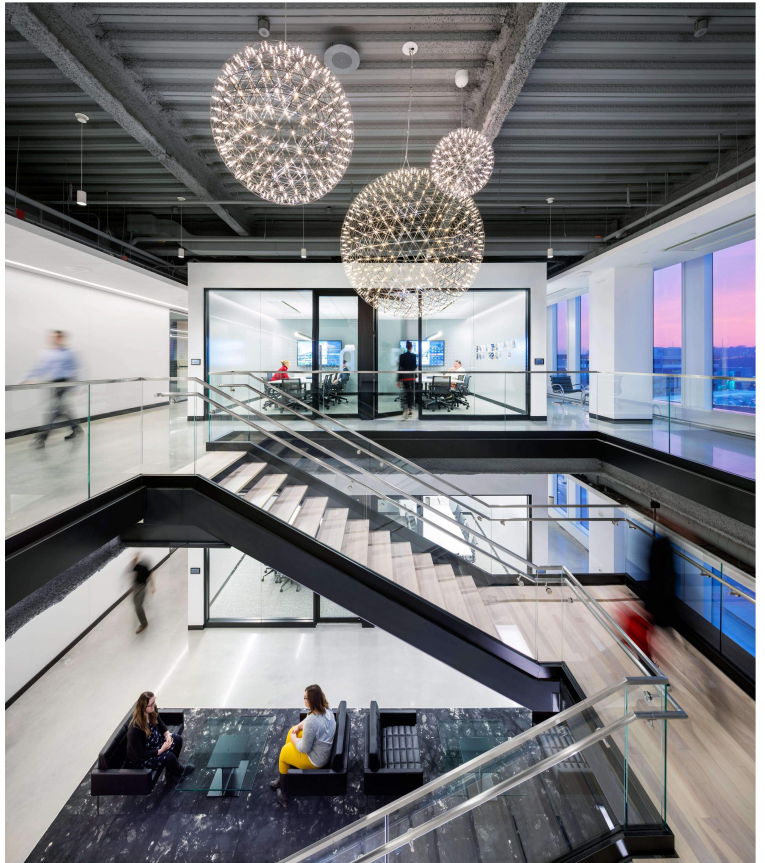


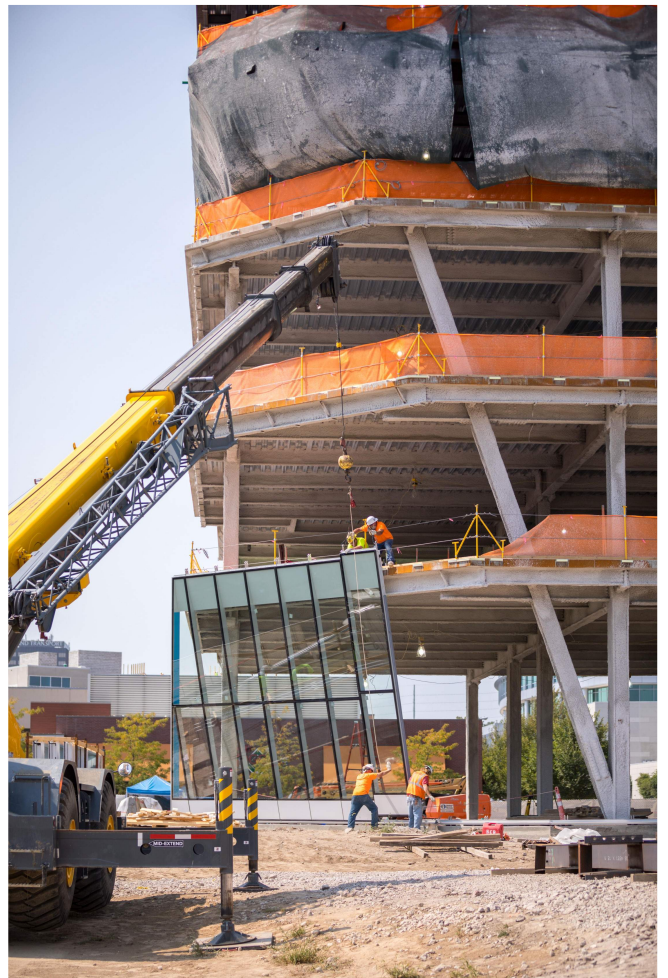
2 SLICE CORNERS FOR PEDESTRIAN MOVEMENT

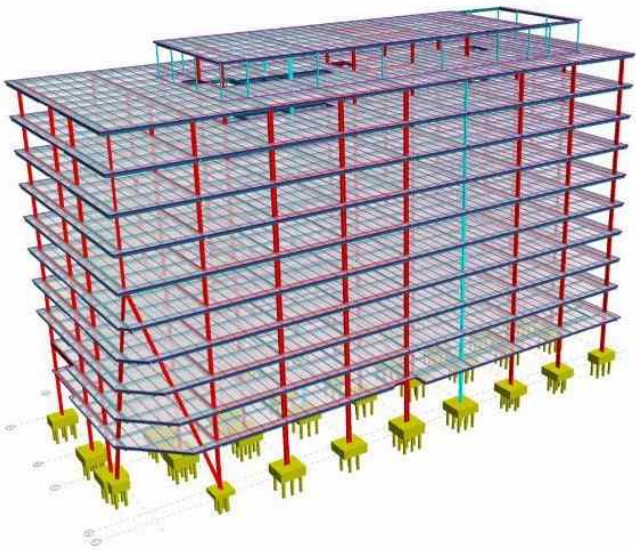


3 CREATE CUTOUTS TO PROMOTE INTERACTION










By signing, signatory agrees to the following and represents that he or she is authorized to sign for the structural design firm of record.

All entries become the property of DVASE and will not be returned. By entering, the entrant grants a royalty-free license to DVASE to use any copyrighted material submitted.

If selected as an award winner, you may be offered the opportunity to present your project at a DVASE breakfast seminar. Would you be willing to present to your colleagues? ☒ **YES** ☐ **NO**

Submitted by:

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