



2019 CFSEI CREATIVE DETAIL AWARD WINNER

ADTEK ENGINEERS, INC. – DC WATER HEADQUARTERS, WASHINGTON, DC

DC Water Headquarters
125 O Street SE
Washington, DC 20003

Completed: December 2018/January 2019
Construction Cost: \$55 million

Owner: District of Columbia Water and Sewer Authority

Architect of Record: Sven Shockey, AIA, Dayton Schroeter, AIA, SmithGroup JJR – Washington, DC

Engineer of Record for Structural Work:

Scott Stewart, P.E., S.E., SK&A Structural Engineers, PLLC

Cold-Formed Steel Specialty Engineer: Sumit Shah, P.E., ADTEK Engineers, Inc.

Cold-Formed Steel Specialty Contractor: Paul Gallagher, C.J. Coakley Company

Award Entry Submitted by: Sumit Shah, P.E., ADTEK Engineers, Inc.



Front elevation of DC Water Headquarters

Project Background

DC Water Headquarters is designed over an existing pump station along the Anacostia River. The new building features innovations in sustainable design never before seen in the United States. The building achieved LEED Platinum certification from the U.S. Green Building Council and employs many advanced strategies that surpass LEED Platinum certification. It is built over the existing 150,000-square-foot, six-story headquarters facility for the District of Columbia Water and Sewer Authority (DC Water).

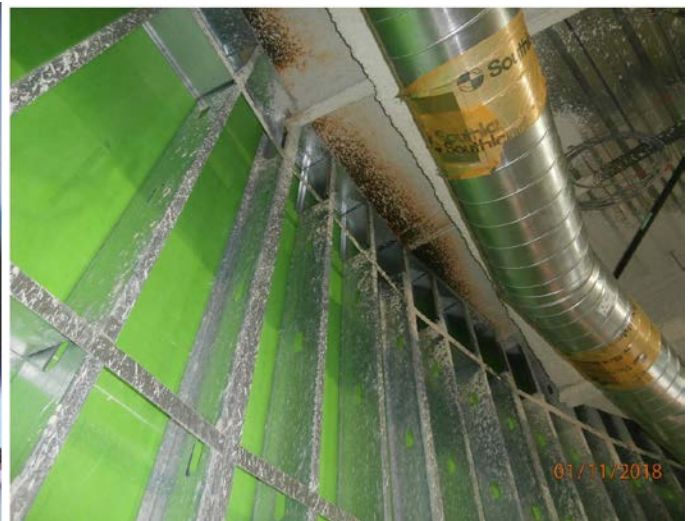
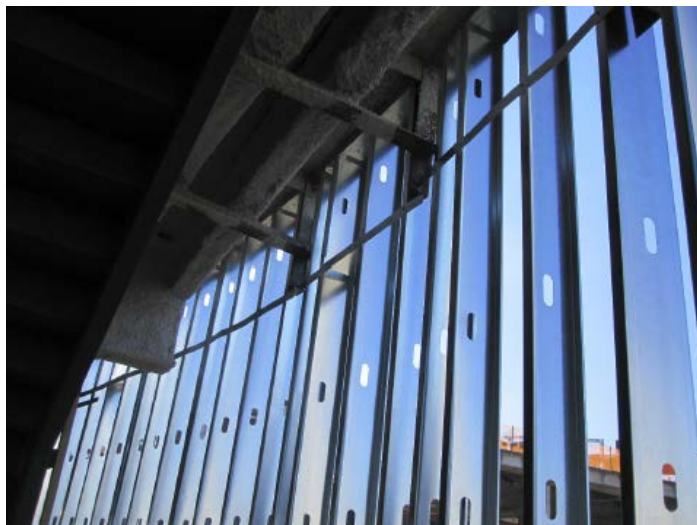
Design Challenges and Solutions

There were numerous challenges faced during the design of cold-formed steel framing, such as the curved profile of the building and the coordination of metal panel veneer installation with cold-formed steel framing.

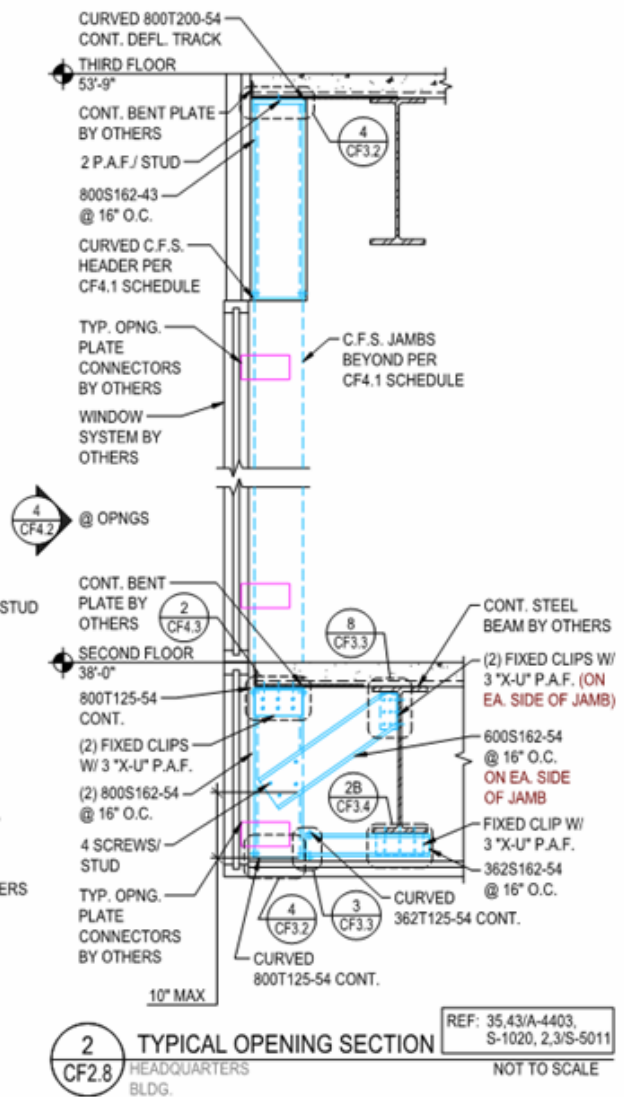
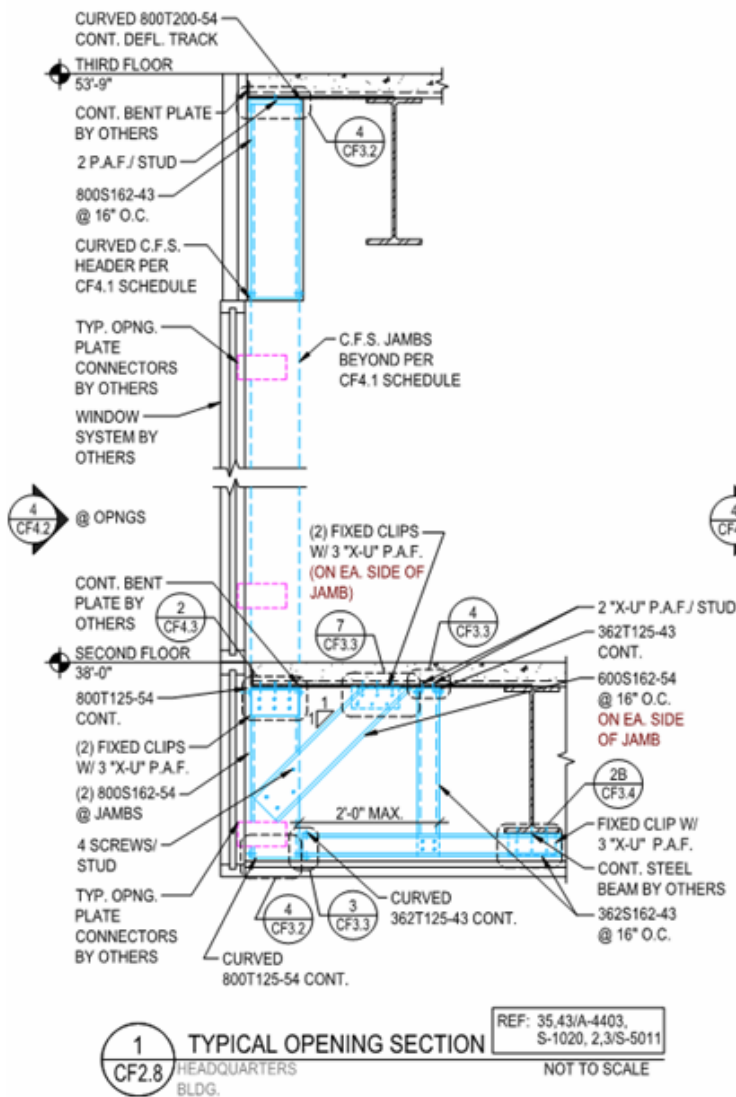
At the curved walls, 4'-0"-long straight wall segments were installed and designed to support the eccentric loading using flat plate connections. Flat plates were provided by others to transfer veneer/opening loads to the panels. Studs were then designed to support the eccentric loading and transfer loading to the connections. At soffit locations, rigid connections were designed to support the eccentrically loaded veneer/openings.



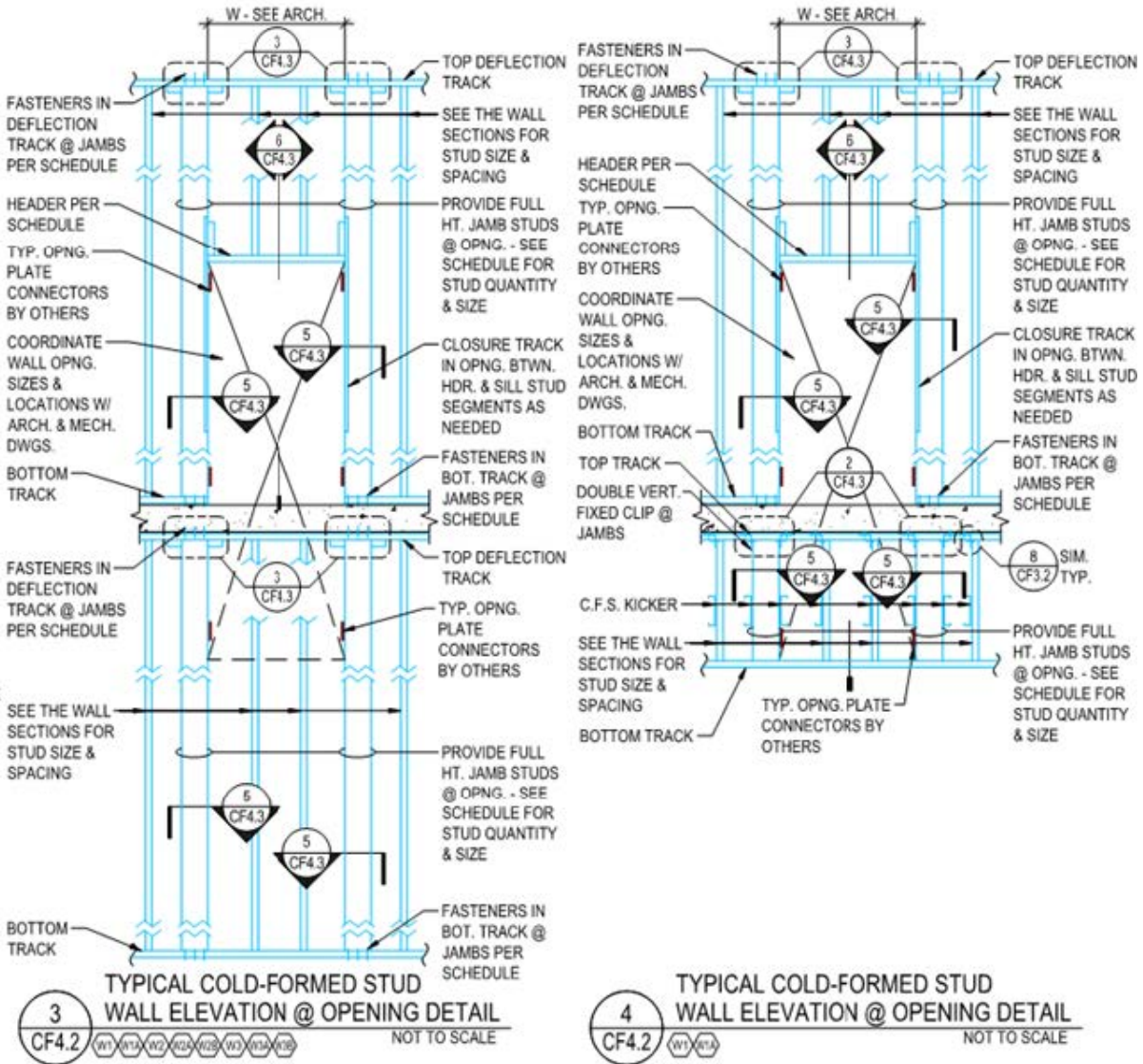
Interior - Curved punched opening to support eccentric window system



Interior - Curved full-height wall studs installed with 4'-0" segments



Typical sections at eccentrically installed punched opening connection to jamb studs



Typical elevations at eccentrically installed punched opening connection to jamb studs

Read more about this project at <https://www.smithgroup.com/news/2016/smithgroup-and-skanska-announce-design-build-project-for-new-dc-water-headquarters>.

###