

# FRAUNHOFER CSE

## 5 Channel Center Street, Boston, MA

### Building Info

- Size: 42150 SF
- Level: 6 stories above grade
- Dates of Construction: Jan, 2012--Apr, 2013
- Occupancy type: Group B, Group A-3
- Project Delivery Method: Base building--Tenant Fit-up

### Project Teams

- Owner: Fraunhofer CSE
- GC/CM: Gilbane Building Co.
- Architect: DiMella Shaffer
- Lighting Consultant: Lam Partners
- MEP/FP: BR+A Consulting Engineers
- Plumbing/HVAC Services: Northeastern Mechanical
- Structural Engineer: McNamara/Salvia, Inc.



Fraunhofer CSE building technology showcase: <http://cse.fraunhofer.org/5cc/>

## Architecture

The project is a renovation for a 100-year old historical building of six-story brick structure with classical revival-style detailing. Fraunhofer Building, one of the buildings in the Fort Point Channel area, is a loft structure built in 1913 by the Boston Wharf Company, and represent a well-preserved collection of late 19th and early 20th century lofts. The exterior is generally masonry, with simple volumes and flat roofs. The structure is left unchanged in this project to conserve the significant continuity throughout the District in terms of massing, scale, and style.

## Lighting/Electrical

- 480Y/277 V, 1600A, 3 phase building system voltage
- 350KW, diesel filled, 480/277V, 3phase, 4W standby emergency generator provides 50% rated integral in-line load bank, three unit mounted circuit breakers serving ats-700, fire pump, and load bank, and with 120V emergency power for lighting and receptacles
- Photovoltaic panels are mounted on roof and building facade for alternate power

## Mechanical

- 2 Boilers to reheat/preheat how water
- 4 Pumps for roof hot water service and basement fuel oil supply
- 2 AHU for building ventilation buiding exhaust locate on the roof
- 11 Water pumps for chilled water, condenser water and chilled beam water on different levels in the building

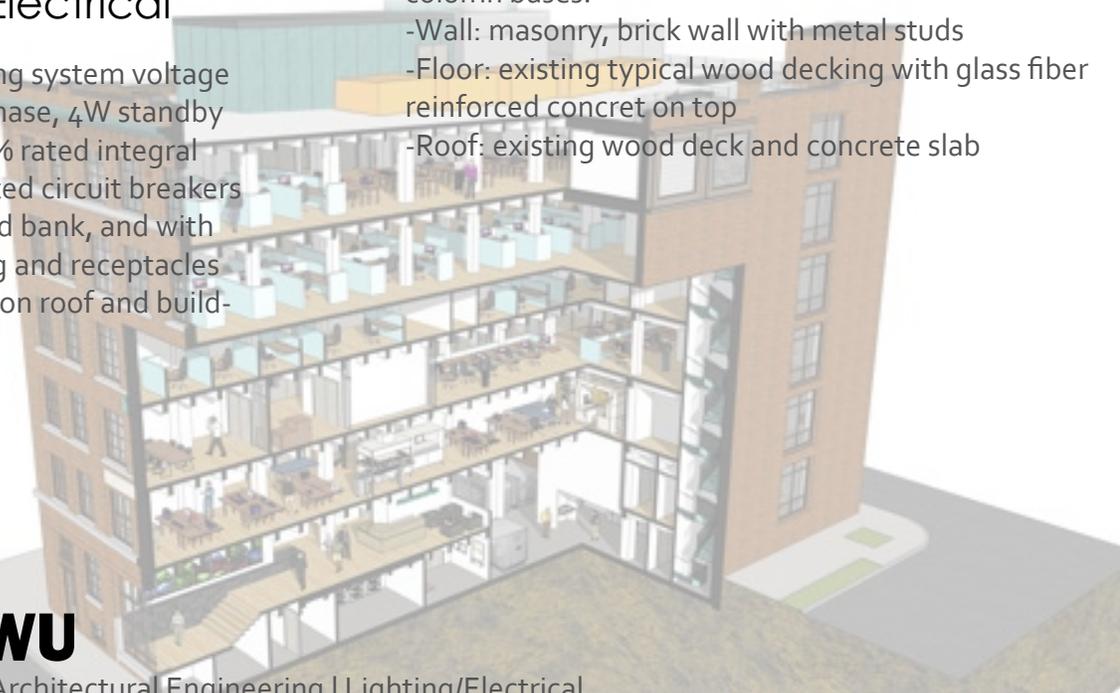
## Structure

- Three-bay loft steel frame structure. All columns are the existing steel columns with existing concrete column bases.
- Wall: masonry, brick wall with metal studs
- Floor: existing typical wood decking with glass fiber reinforced concret on top
- Roof: existing wood deck and concrete slab

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the Pennsylvania State University | Architectural Engineering | Lighting/Electrical  
<http://www.engr.psu.edu/ae/thesis/portfolios/2014/xqw5042/index.html>



Building section demonstration: <http://cse.fraunhofer.org/5cc/>