

# ENTRY FORM



## DVASE 2016 Excellence in Structural Engineering Awards Program

### PROJECT CATEGORY (check one):

Buildings under \$2M		Buildings Over \$100M	
Buildings \$2M-\$10M	x	Other Structures Under \$5M	
Buildings \$10M - \$30M		Other Structures Over \$5M	
Buildings \$30M - \$100M		Single Family Home	

Approximate construction cost of facility submitted:	<b>\$3 million</b>
Entry Fee:	<b>FREE</b>
Name of Project:	<b>Lincoln Ballroom Renovation, Union League of Philadelphia</b>
Location of Project:	<b>Philadelphia, PA</b>
Date construction was completed (M/Y):	<b>May 2014</b>
Structural Design Firm:	<b>Keast &amp; Hood Philadelphia, PA</b>
Affiliation:	<b>All entries must be submitted by DVASE member firms or members.</b>
Architect/ Interior Designer:	<b>Bower Lewis Thrower Architects   Eberlein Design Consultants, Ltd.</b>
General Contractor:	<b>Daniel J. Keating Company</b>

Company Logo (insert .jpg in box below)



### Important Notes:

- Please .pdf your completed entry form and email to [bkoroncai@barrpino.com](mailto:bkoroncai@barrpino.com).
- Please also email separately 2-3 of the best .jpg images of your project, for the slide presentation at the May 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.

### **Lincoln Ballroom Renovation | Union League of Philadelphia**

Philadelphia, PA

Keast & Hood provided structural engineering for the award-winning renovation of Lincoln Ballroom, one of several phases of interior improvements completed for the historic club.

The Union League was founded as a patriotic society in 1862; its National Register-listed brick and brownstone League House building was built in 1865. In 1915, Horace Trumbauer designed the 15th Street annex and renovations to the League House, including the Lincoln Ballroom.

An elaborately decorated coffered plaster ceiling was part of Trumbauer's original vision but was not built. As part of the 21<sup>st</sup> Century phased renovations, the Union League recreated the ceiling, which sits 34 feet above the floor. The design team followed black and white drawings from the early 20th Century to match Trumbauer's historic details.

Structural design challenges included:

- Working closely with BLTA to perform a careful analysis of the 20' deep concrete encased early steel trusses for the new ceiling. Computer modeling showed that the four custom trusses were near capacity and would not be able to support the plaster details that were originally intended.
- Selecting a ceiling system to meet the new load constraints that would resemble plaster. The structural analysis and reinforcement enabled installation of a new glass fiber-reinforced gypsum ceiling.
- Developing options for attaching new ceiling supports to the existing structure using post-installed anchors, Unistrut components, and other structural steel members. Although the original hangers were considered, they had been fatigued over the years and could not support the new ceiling.
- Re-supporting the original main chandelier, used in the World's Fair in 1876, which was taken down, restored, and cleaned, and four smaller chandeliers along the perimeter. Structural steel framing was installed to support the platforms for the chandeliers.
- Catwalks and mechanical units were hung from the mezzanine framing above the ballroom.

Additional components of the renovation included upgraded HVAC, improved acoustical systems, and wood and upholstered wall paneling.

The project was honored with a 2014 AIA Philadelphia Award for Design Excellence, a 2014 Preservation Achievement Award from the Preservation Alliance for Greater Philadelphia, and a 2014 Preservation Pennsylvania Historic Preservation Construction Project Award.

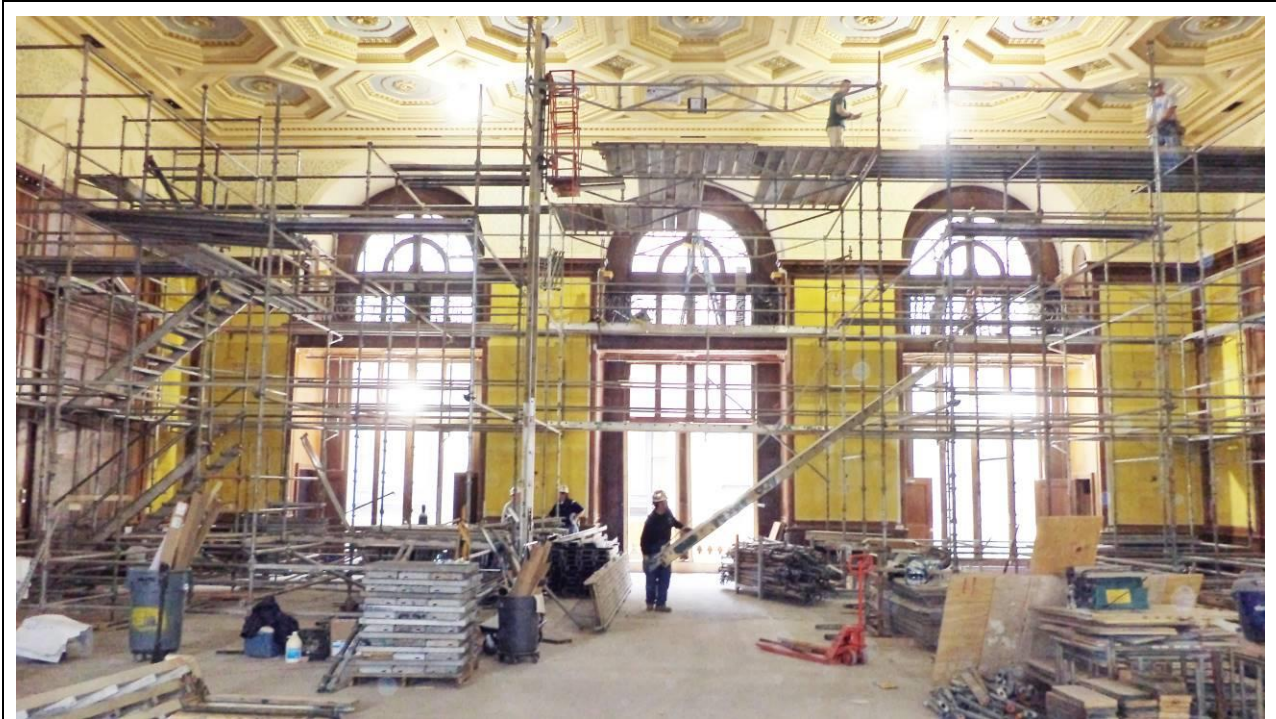
- The following 5 pages (maximum) can be used to portray your project to the awards committee through photos, renderings, sketches, plans, etc...



The Union League Lincoln Ballroom (photo © Jeffrey Totaro)



The Union League (photo © Jeffrey Totaro)




Construction and ceiling detail (photos © Keast & Hood)

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.*

Submitted by:

<b>Print name:</b> Constantine G. Doukakis, PE	<b>Signature:</b> 	<b>Date:</b> Apr 14 2016
<b>Submitting Firm:</b>	Keast & Hood	
<b>Mailing address:</b>	400 Market Street Suite 1250 Philadelphia, PA 19106	
<b>Telephone:</b> (215) 625-0099	<b>Fax:</b> (215) 625-9408	<b>Email:</b> dean@keasthood.com