ENTRY FORM

DVASE 2018 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		Single Family Home	X

Approximate construction cost of facility submitted:	Undisclosed
Name of Project:	Private Residence
Location of Project:	Ambler, PA
Date construction was completed (M/Y):	12/17
Structural Design Firm:	Mulhern and Kulp Residential Structural Engineering
Affiliation:	**All entries must be submitted by DVASE member firms or members.**
Architect:	Asher Associates Architects, LLC
General Contractor:	Spire Builders, LLC

Company Logo (insert .jpg in box below)

MULHERN+KULP
residential structural engineering

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 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.

Mulhern+Kulp served as the structural engineer for this 6,500 sf home during all phases of engineering, from design development through construction. Open and modern, yet comfortable and inviting, the design of this custom home in Ambler, PA, incorporates elements of exposed concrete, steel, and wood into the finished space.

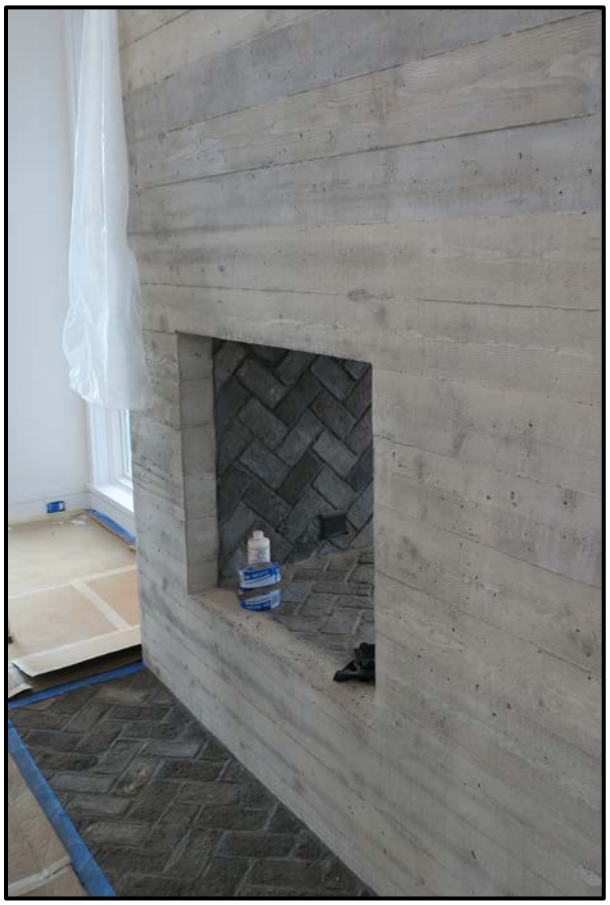
Asher Associates Architects has created a beautifully crafted home that is perfectly integrated with its surroundings. Natural building elements are on full display here. Exposed board-formed concrete walls are prevalent throughout the interior and exterior. A steel wide-flange rim joist winds its way around the entire perimeter of the home, while Ipe-clad wall panels add a touch of warmth. From the glass-enclosed foyer to the floor-to-ceiling windows in the vaulted living room, fantastic views abound.

The home is divided into three two-story masses with links in between. The center hub contains the kitchen, dining room, and living room. To allow for ample natural light, the architect used cathedral ceilings and clerestory windows along the entire perimeter of this space which presented a challenge for the lateral design of this space. Several uniquely shaped steel moment frames were fabricated to fit within the roof profile. At one end of this room a large two-sided fireplace extending the full height of the room and through the roof. The core of the fireplace was constructed of CMU with a board-formed concrete veneer finish.

Mulhern+Kulp was actively involved in the construction phase of the home. As the board-formed concrete walls were an important visual feature, the integrity of their construction was paramount. During construction M+K gave special attention to every detail, including rebar placement, control joint locations, concrete mixes, and formwork designs. Even the design of formwork ties was part of the scope; the fiberglass ties were intended to be part of the finished look. Prior to construction, several formwork mock-ups had been tested to see which wood species left the best grain imprint in the concrete: A Douglas Fir species was chosen as it yielded the best results. The construction of the formwork was a labor-intensive process in and of itself – it consisted of ripping 2x6 rough sawn boards in half to create the forms. From start to finish, the formwork construction through concrete pours and stripping lasted approximately three months.

In addition to the concrete structure, this home also employs a large amount of steel. Complex steel moment frames required a lengthy shop drawing review process, including over 40 pages of fabrication and erection drawings [many times more than required for a typical house]. Clearances in many locations were very tight and steel dimensions had to be spot on. Extensive upfront design time, planning, and coordination yielded a seamless and smooth erection process.

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



Above: Architectural rendering of great room with sliding glass doors and clerestory windows

Left: Photo of interior board-formed concrete fireplace finish

Construction photos of great room steel frames

Construction photo of board-formed wall at great-room

Photo of cantilevered second floor corner at guest wing

Photo of front of home: Two story kitchen/dining room/living room space on left, guest wing on right

Photo of rear of home: Guest wing on left, two story kitchen/dining room/living room space center, master bedroom wing on right

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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