

ENTRY FORM



DVASE 2019 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:	Orchard Lake, Michigan
Date construction was completed (M/Y):	January 2019
Structural Design Firm:	Mulhern + Kulp Structural Engineering
Affiliation:	All entries must be submitted by DVASE member firms or members.
Architect:	Cranbrook Custom Homes
General Contractor:	Cranbrook Custom Homes

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 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 provided complete structural engineering services for this new +/-12,000 square foot, 2-story single family residence with walkout basement foundation located on a large lake in the town of Orchard Lake Michigan. The design of this home took full advantage of the lake at the rear with large cathedral ceilings and rounded turret walls to provide natural light and views of the lake from many focal points within the home. A large, rear 2-story concrete terrace supported by steel beams and columns also provided a large outdoor living space at the rear of the home.

The layout of the main living space, with large windows, stepped plate heights/vaulted spaces and angled/rounded walls presented challenges with the lateral design.

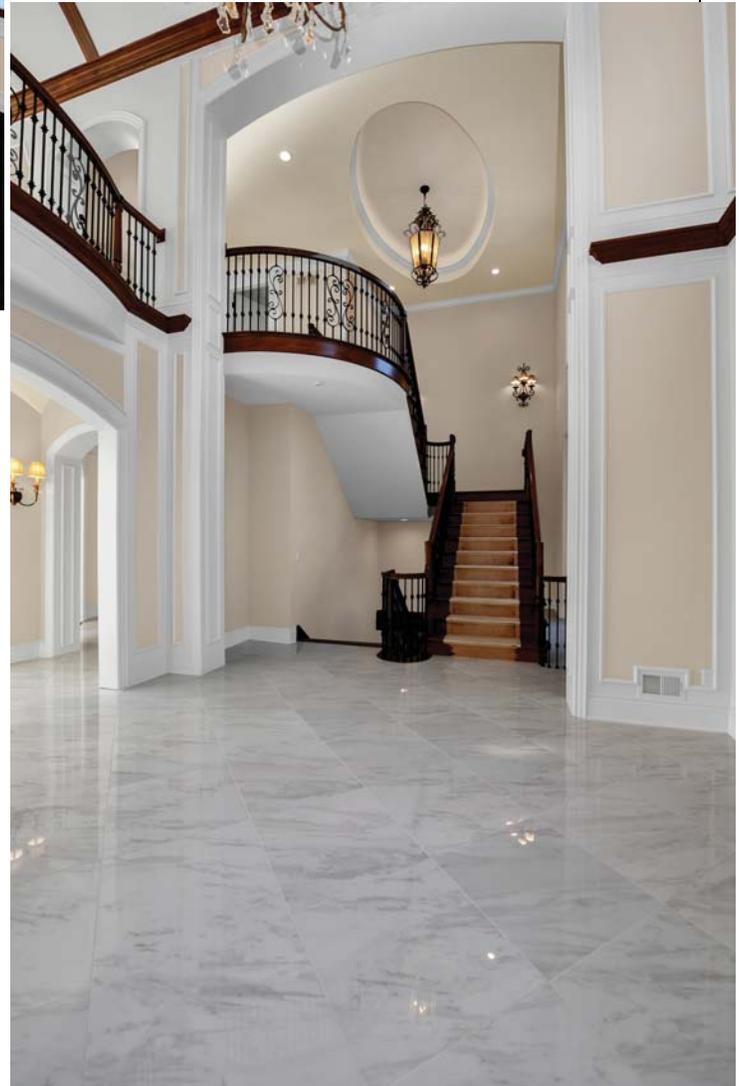
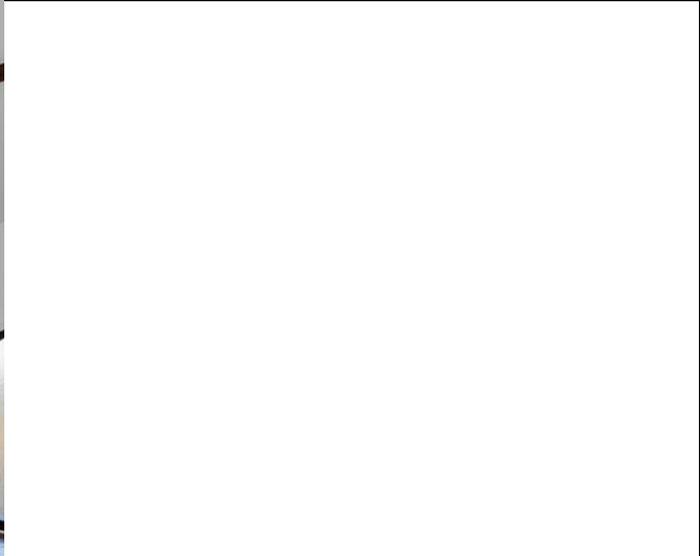
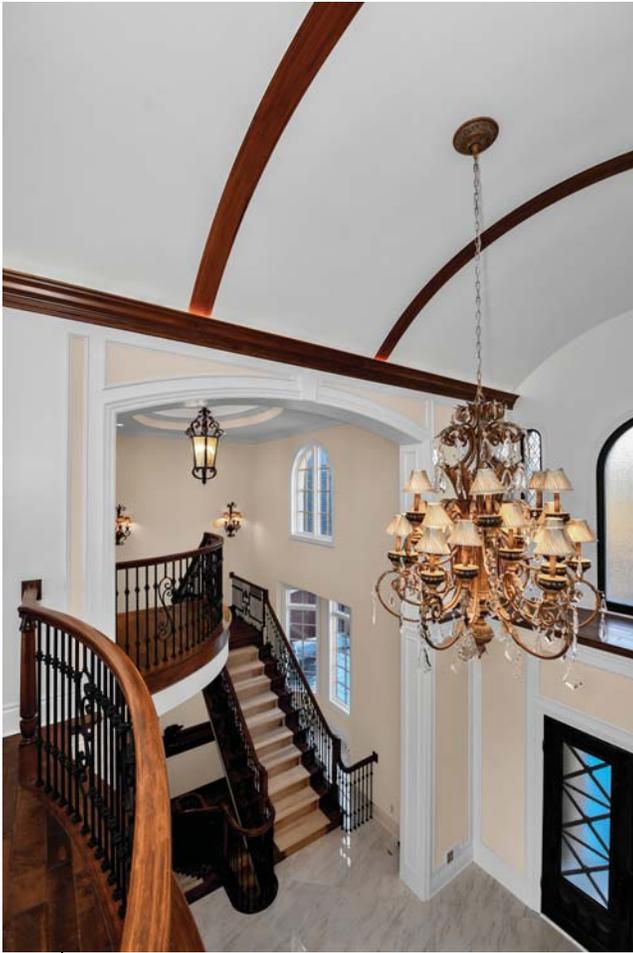
The challenge was compounded by the exposure category, determined to be D due to the proximity to the large lake. Interior shear walls were provided in several locations to ensure stiffness and diaphragm boundary elements, specifically at the two large flanking garages offset at the front of the home, and approximately 55' long by only 24' wide.

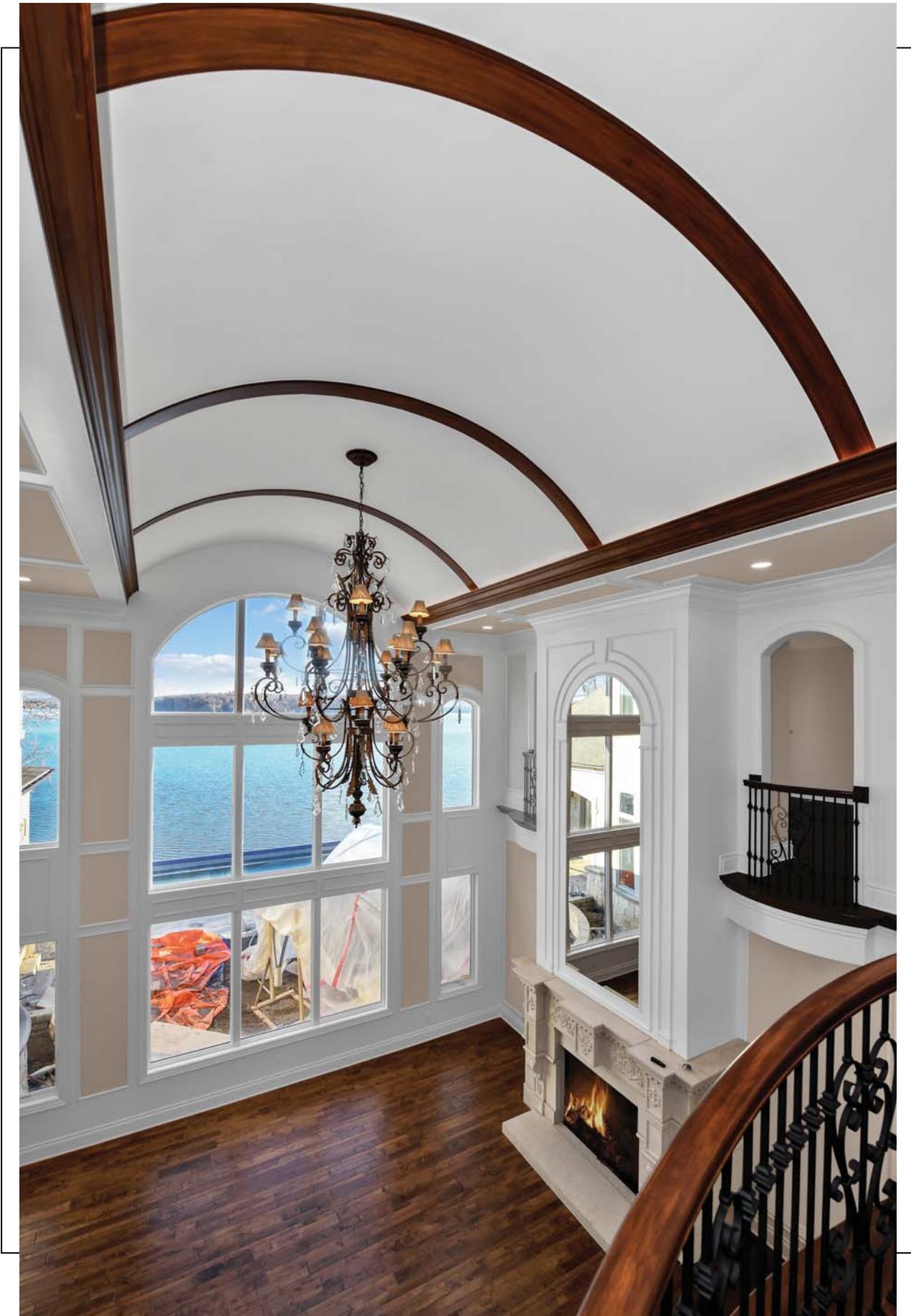
Many high-end finishes, extremely sensitive to deflection, were integral to the design of this home. A travertine range hood in the kitchen, with an approximate weight of 2500 pounds was hung from the ceiling and interior kitchen wall. With few connection points for the hood, steel angles and WT sections were utilized to cantilever off the interior wall and provide bearing and a surface for fasten the stone. Steel angles were also lapped with the framing in the ceiling above to provide additional support for this large custom feature.

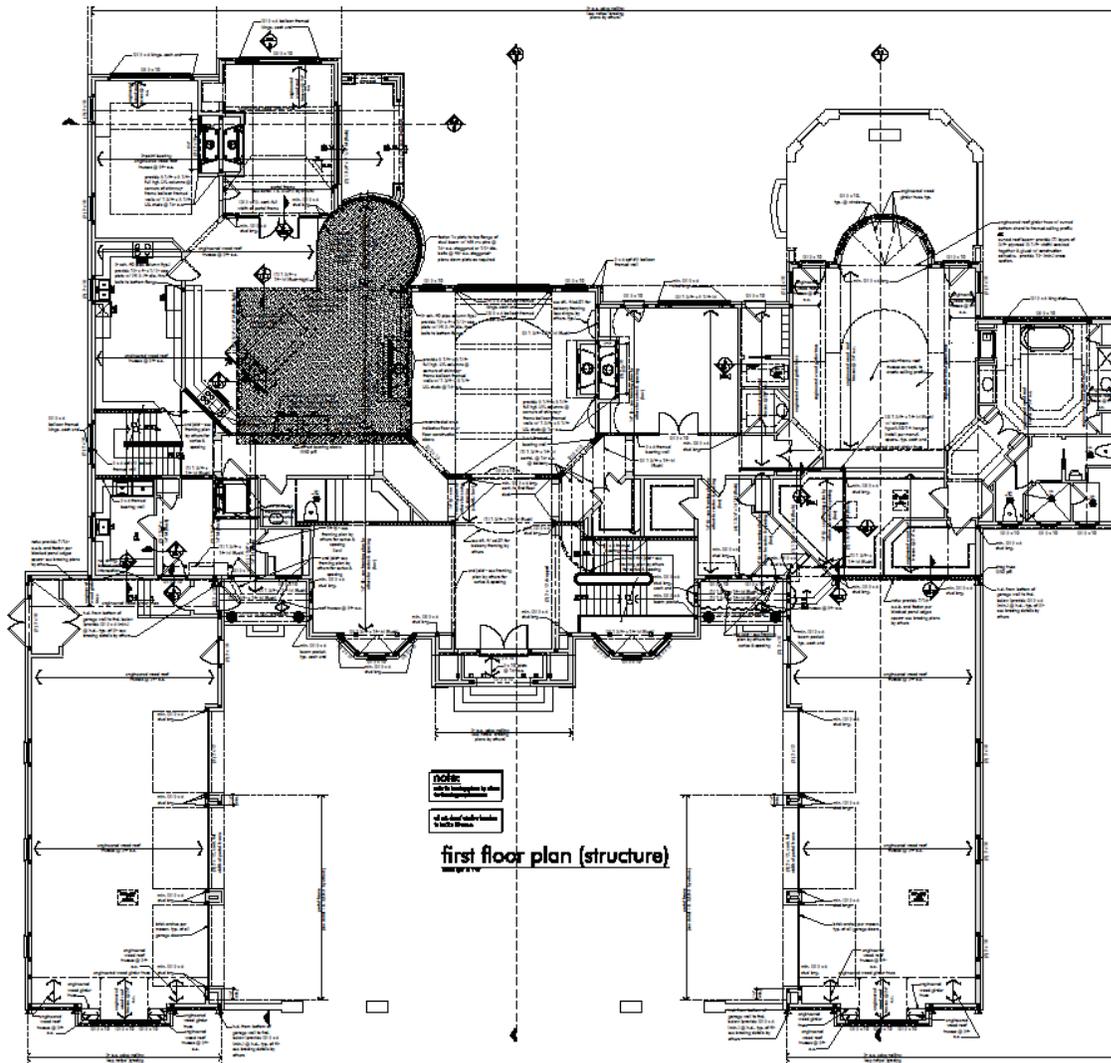
A large cantilever at the top of the stairs at the grand foyer with a curved finish was another aspect of this project that was of great importance during the design process. As this was to be a focal point of the home, it was designed with more stringent deflection and floor performance criteria to mitigate any bounce or vibration from the stair framing.

This home was completed in the middle of January 2019, and is now occupied.

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







CRANBROOK
MUSTEK KOSER

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DATE: 10/10/17
PROJECT: 16-135
CLIENT: [REDACTED]
ARCHITECT: [REDACTED]
SCALE: 1/8" = 1'-0"

NO.	DESCRIPTION	DATE
1	ISSUED FOR PERMITS	10/10/17
2	ISSUED FOR CONSTRUCTION	10/10/17
3	ISSUED FOR RECORD	10/10/17
4	ISSUED FOR ARCHIVE	10/10/17
5	ISSUED FOR AS-BUILT	10/10/17
6	ISSUED FOR FINAL REVIEW	10/10/17
7	ISSUED FOR CLOSURE	10/10/17
8	ISSUED FOR ARCHIVE	10/10/17
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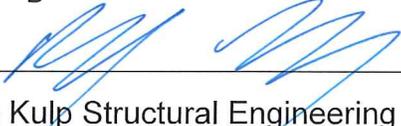


By signing, signatory agrees to the following and represents that he or she is authorized to sign for the structural design firm of record.

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:

Print name: Richard Zabel	Signature: 	Date: 3/20/2019
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