ENTRY FORM



DVASE 2020 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	Х	Other Structures Over \$1M	
Buildings \$40M - \$100M		Single Family Home	

Approximate construction cost of facility submitted:	\$39 million
Name of Project:	United Therapeautics - Dinutuximab-Dedicated Oncology Medical and Analytical Laboratory "DDOMAL"
Location of Project:	Silver Spring, Maryland
Date construction was completed (M/Y):	April 2019
Structural Design Firm:	Ewing Cole
Affiliation:	All entries must be submitted by DVASE member firms or members.
Architect:	Ewing Cole
General Contractor:	Whiting Turner

Company Logo (insert .jpg in box below)



Important Notes:

- Please .pdf your completed entry form and email to <u>bsagusti@barrhorstman.com</u>.
- Please also email separately 2-3 of the best .jpg images of your project, for the slide presentation at the annual 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.

In 2017, Ewing Cole was honored with the ability to participate in the construction of a design/ build project with Whiting Turner of the United Therapeutics Dinutuximab-Dedicated Oncology Medical and Analytical Laboratory "DDOMAL". Now complete this building is home to UT's laboratory space used to produce Unituxin, a treatment for high-risk pediatric neuroblastoma. With this facility, UT's production of this treatment is greatly increased and will allow for more clinical trials for other rare diseases.

This project was not only unique for it's purpose but also for the challenges presented by the tight lot layout and elliptical building footprint. The building foot print was approximately 8,800sf, with an overall square footage of 32,000sf. The structure is approximately 88' above grade with an 18' basement below grade. The above grade portion of the building consists of "three" stories with two mechanical mezzanines between the primary lab floors. Extending above the roof is a fully screened mechanical space housing a boiler room, emergency generator and chillers. Since the roof is completely visible from the main UT offices across the street, a removable dome was used to hide the roof supported equipment, which allows for future equipment replacement.

The building was designed as a three to four story building with interstitial mezzanine floors to provide a full mechanical level between occupied floors. This mechanical space was used to introduce floor height trusses (14' tall) in order to span the 64'-0" building width. The resulting layout column layout essentially consisted of four steel columns supporting the primary structural steel wide flange members framing. The use of these trusses enabled the maximum use of the elliptical shape building interior space layout, with minimal structural hindrance. This allowed for a column free space in the lab areas to allow full flexibility in the layout and utilize an orthogonal square grid system in the unique elliptical layout.

The trusses were also used as part of the primary structural lateral force resisting system in the east-west direction. A combination of full height braced frames and knee brace moment frames were used in the north-south direction.

The steel floor framing members along with the floor height trusses provided a stiff structure to support the sensitive lab equipment from disturbance due to building occupants along with the vibrations due to roof supported equipment. A vibration study was performed to confirm building vibration performance for the two excitations, building occupants and equipment. The roof mounted generator was supported on steel dunnage along with an inertia pad to isolate the vibrations.

The project site was also challenging at the foundation/ basement level. Foundations were directly adjacent to two story row homes to the west and other residential construction to the north. The row homes to the west presented issues due to existing shallow foundations. These foundations were underpinned. The remainder of the site was surrounded by support of excavation consisting of soldier pile and lagging with tie-backs.

In conclusion by utilizing a simplified grid system and working with the building geometry, Ewing Cole was able to provide successful project within the very compact site. • The following 5 pages (maximum) can be used to portray your project to the awards committee through photos, renderings, sketches, plans, etc...







View of Construction Progress up through the Second Floor



View of structure without exterior cladding





View of basement walls with tie-backs and walers

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 XNO**

Submitted by:					
Print name:		Signature:		Date:	
Colleen Blackwell, P.E.		Colleen	Dacharell	05/26/20	
Submitting Firm:	Ewing Cole				
Mailing address:	100 North 6th Street Philadelphia, PA 19106				
Telephone: (215)625-4449	Fax:		Email: cblackwell@ewingcole	e.com	