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	X	Single Family Home	

Approximate construction cost of facility submitted:	$70 Million (Phase 1)
Name of Project:	Paul VI Catholic High School
Location of Project:	Ashburn, Virginia
Date construction was completed (M/Y):	In Progress
Structural Design Firm:	Pennoni
Affiliation:	**All entries must be submitted by DVASE member firms or members.**
Architect:	VMDO Architects
General Contractor:	N/A

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.

Pennoni was selected as the structural, electrical, plumbing and fire protection engineers to design the new Paul VI High School West Campus on Old Braddock Road in Ashburn, VA. The proposed $70-million first phase of the new high school will include 235,000 SF of new classrooms, library, auditorium, kitchen, cafeteria, offices, gymnasium, chapel and other spaces to serve a student population of approximately 1200.

Future expansion of the high school will serve an anticipated student population of 2000. Pennoni designed the structural steel frame consisting of a composite concrete slab on metal deck, composite wide flange beams and girders, and wide flange steel columns. The lateral load resisting system for the buildings was designed using a combination of vertically braced steel frames and moment frames. The design criteria for the buildings was based on the International Building Code and the Virginia Construction Code (VA Uniform State Building Code).

The design loads for the various buildings were carefully selected per the intended use of the spaces. The pedestrian bridge, library stack, grandstands and corridors were designed with a higher design live load as compared to the classrooms, assembly area and reading rooms. This ensured an optimized and economical design for the structure. Other design loads are per the Minimum Design Loads for Buildings and Other Structures, ASCE 7-05.

The Pennoni structural team designed foundations using standard spread footings using criteria developed by the project geotechnical engineer. In addition, Pennoni developed special criteria for the over excavation of rock in certain areas of the project site to prevent differential settlement of foundations based on anticipated dissimilar bearing strata. The other special features of the school campus include a Chapel building, a pedestrian bridge connecting the auditorium building and the gymnasium building and grandstands at the main athletic field. Special details were developed for the support of masonry facades throughout the campus, and for large openings in the façade for windows and other special features.

The Chapel roof is supported by a series of hip trusses using steel channel top chords, HSS posts and high strength tension rod bottom chords. The trusses are exposed and are a featured part of the Chapel aesthetic. The structural team worked closely with the architect to address finishes and architectural requirements of the building. A custom structural design accommodated the aesthetics and appeal of the school campus.

The Pennoni MEP team designed the electrical, plumbing and fire protection systems which included power to lighting, receptacles, kilns and other specialty equipment as well as the design of two independent electrical services. We provided a 4000-amp service for the academic building and a 1200-amp service for the athletic building, each at 480/277, 3-phase, 4 wires. Additionally, we designed power for all exterior sporting facilities and landscaping. Our plumbing engineers designed the domestic water, sanitary and storm systems for the facility. Our electrical team designed the fire alarm system while our fire protection engineers designed the fire suppression (sprinkler) system for the facility which included a 20 HP fire-pump.

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

Pennoni prepared construction and permitting documents for the Paul VI Catholic High School including classrooms, library, cafeteria, auditorium, chapel and gymnasium building. The rendering above depicts the high school's front entrance and below is a Revit rendering of the site.

Renderings courtesy of VMDO Architecture.

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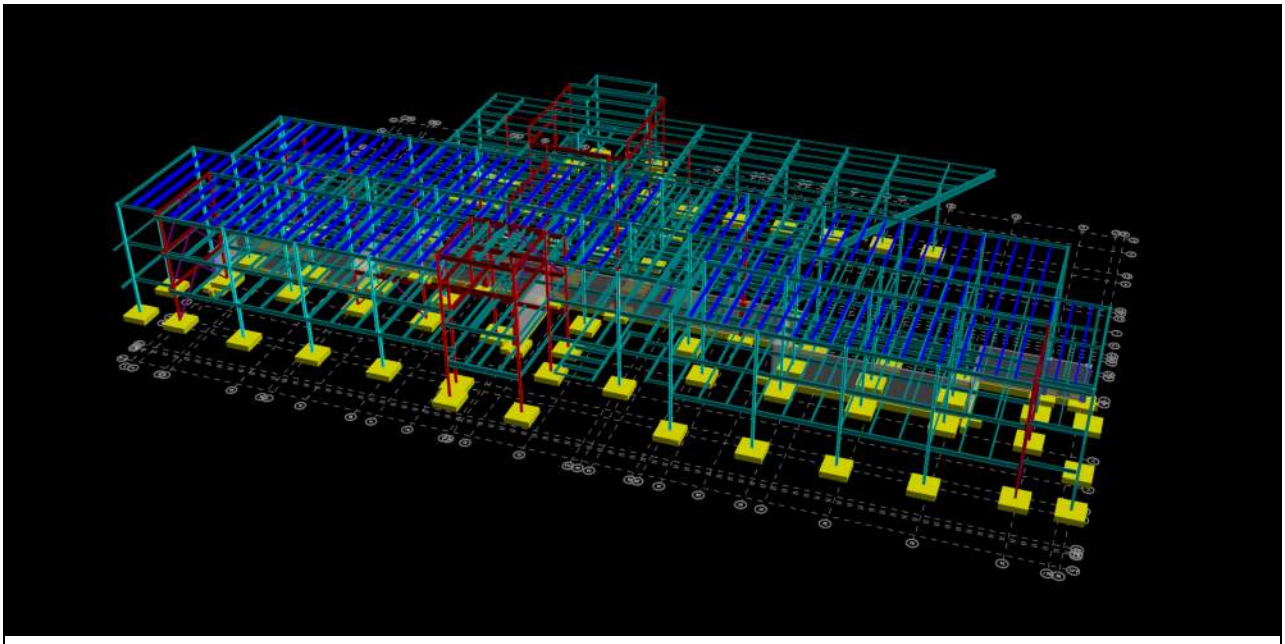
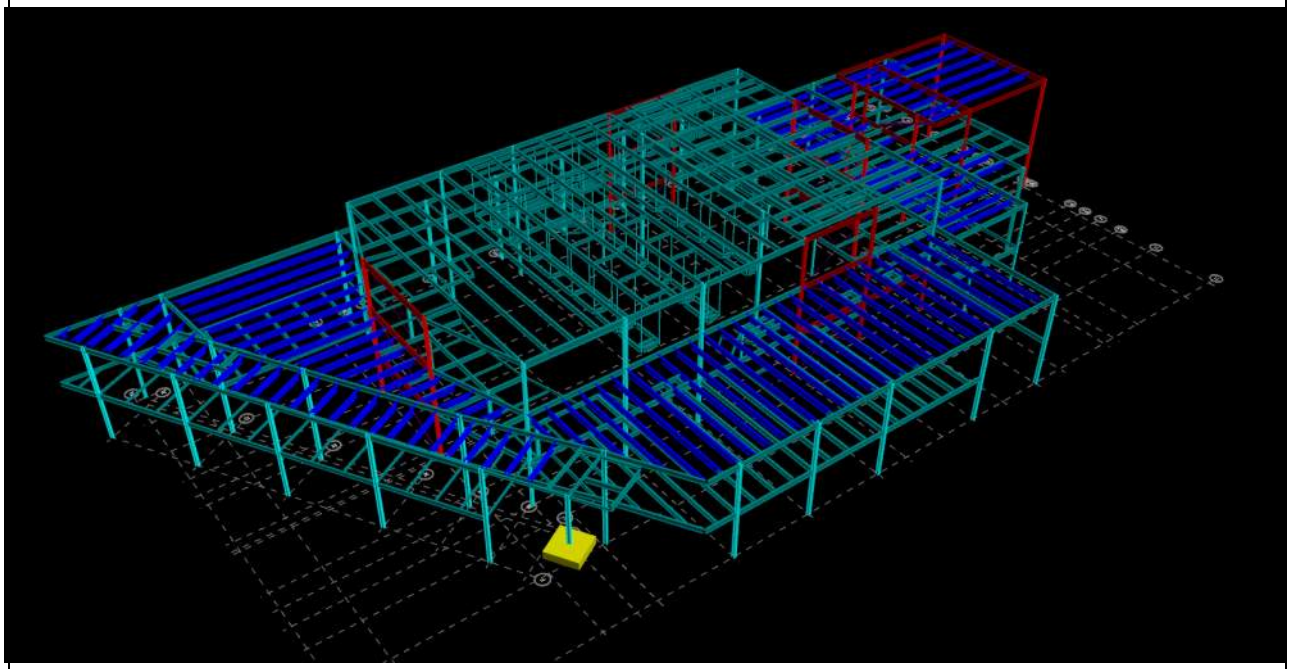


5 separate RAM Structural Systems models were used to aid in the structural design of the project. The above view shows the RAM SS model of the front entrance, while below shows the right wing, which the left point fits into the pointed void that can be seen above.



Above image: Drone photo of site taken while working on foundations.
Below image: Forms being installed for cast in place concrete wall.

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:	**Signature:**	**Date:**

Submitting Firm:		
Mailing address:		
Telephone:	**Fax:**	**Email:**