ENTRY FORM

DVASE
2018 Excellence in Structural Engineering Awards Program

PROJECT CATEGORY (check one):

Buildings under $5M		Buildings Over $100M	
Buildings $5M - $15M	X	Other Structures Under $1M	
Buildings $15M - $40M		Other Structures Over $1M	
Buildings $40M - $100M		Single Family Home	

Approximate construction cost of facility submitted:	# 6.6 MILLION
Name of Project:	WHITTIER HALL
Location of Project:	SWARTHMORE COLLEGE
Date construction was completed (M/Y):	3/2017
Structural Design Firm:	Ann Rothmann Structural Engineering LLC
Affiliation:	**All entries must be submitted by DVASE member firms or members.**
Architect:	Jacobs Wyper Architects
General Contractor:	L.F. DRISCOLL CO., LLC

Company Logo (insert .jpg in box below)

ANN ROTHMANN
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.

WHITTIER HALL ACADEMIC BUILDING
at Swarthmore College, Swarthmore, PA

ARCHITECT- Jacobs Wyper Associates

COMPLETED - 2017

PROJECT DESCRIPTION

Whittier Hall is a new 20,000-square-foot academic building nestled into a densely constrained campus site. The building will initially house the psychology department and the engineering shop, until the new science center is built on campus. And will later be reconfigured for use by the art department with studios for sculpture, ceramics, painting, and drawing. Overhead skylights provide much of the lighting for the studios.

A focus on sustainability is evident throughout the design of Whittier. An existing heritage oak tree was preserved by splitting the layout into two wings, connected by a pedestrian bridge that spans over the trees root system. The proximity of tree roots necessitated a slurry tieback retaining wall to allow for basement excavation at the south wing.

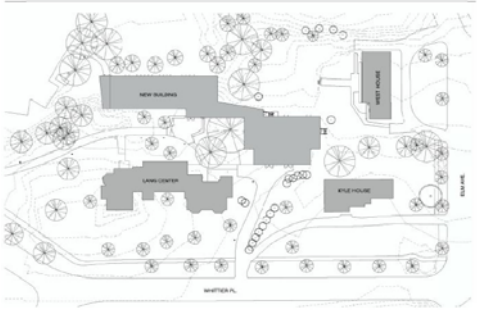
Other sustainable features requiring structural design attention included:

- large vertical custom detailed sunshades along the west elevation, and architecturally exposed steel spandrels, connected back to the interior structure incorporating thermal isolation pads.
- An accessible green roof terrace
- roof top photovoltaic array and screening.
- a large geothermal well field for heating and cooling.

STRUCTURAL SYSTEMS

Steel moment frame structure on concrete Foundations. Tieback slurry retaining walls allowed the new basement to be built in close proximity to a large oak specimen tree. The two story connector bridge required expansion joints at the north bearing end. The western façade incorporates sunshades cantilevering off the spandrel structure with thermal isolation pads, and the rooftop screens also required thermal isolation from the interior steel.

Site Plan

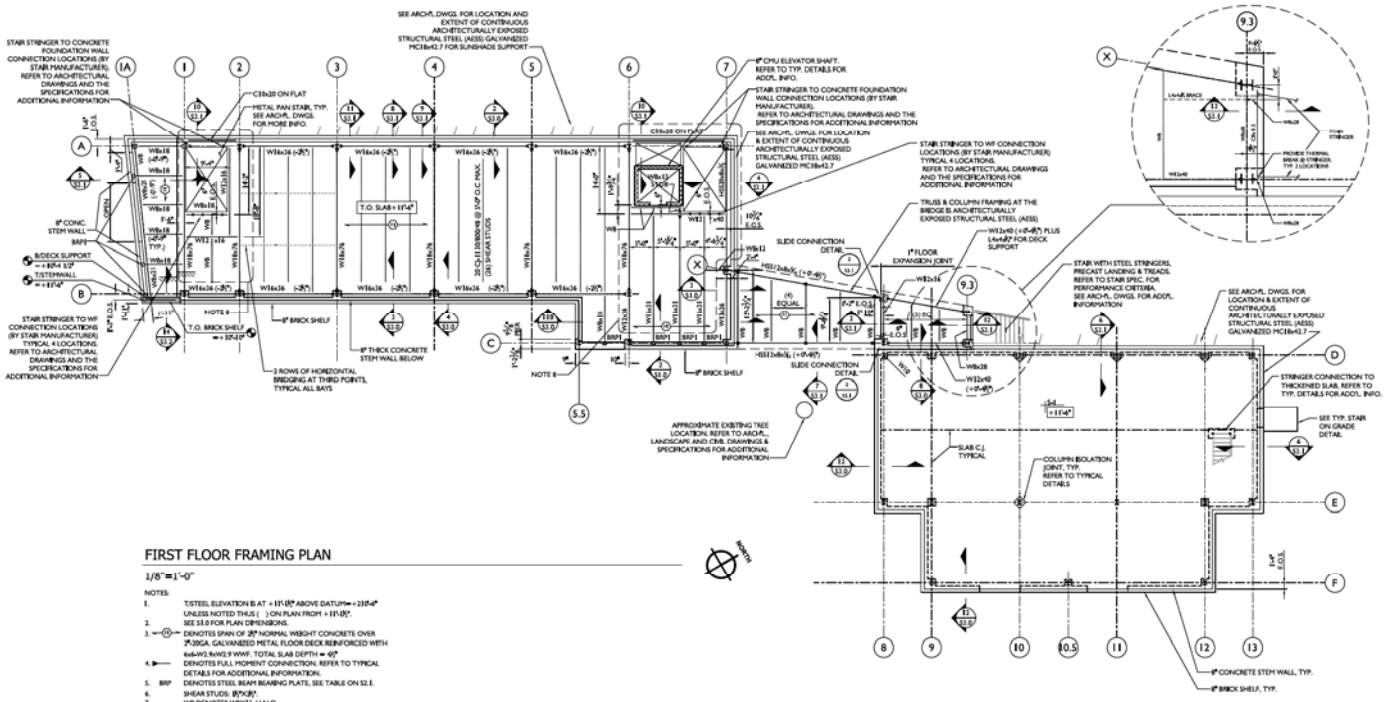


WHITTIER HALL WEST ELEVATION

WHITTIER HALL EAST ELEVATION

WHITTIER HALL CONNECTOR BRIDGE FACING NORTH – PASSING SPECIMEN OAK TREE ON RIGHT SIDE, AND SPECIMEN PINE ON LEFT SIDE.

WHITTIER HALL NORTH ELEVATION WITH GREEN ROOF TERRACE



FIRST FLOOR FRAMING PLAN

1/8"=1'-0"

NOTES:

1. T/STEEL ELEVATION IS AT +11'-1⅝" ABOVE DATUM=+210'-4" UNLESS NOTED THUS ( ) ON PLAN FROM +11'-1⅝".
2. SEE S1.0 FOR PLAN DIMENSIONS.
3. —(W)— DENOTES SPAN OF 3½" NORMAL WEIGHT CONCRETE OVER 3"-20GA. GALVANIZED METAL FLOOR DECK REINFORCED WITH 6x6-W2.9-W2.9 WWF. TOTAL SLAB DEPTH = 6½"
4. ►— DENOTES FULL MOMENT CONNECTION. REFER TO TYPICAL DETAILS FOR ADDITIONAL INFORMATION.
5. BRP DENOTES STEEL BEAM BEARING PLATE, SEE TABLE ON S2.1.
6. SHEAR STUDS: Ø3/4"x8".
7. W8 DENOTES W8X31, U.N.O. W12 DENOTES W12X14, U.N.O.
8. FRAMING AT, AND ATTACHED TO, FIRE RATED STAIR REQUIRES INTUMESCENT PAINT. SEE ARCHITECTURAL SPECIFICATIONS FOR MORE INFORMATION.

NOTES:

1. DATUM ELEVATION 0'-0" IS REFERENCED AS = 210'-4".
2. T/SLAB ELEVATION IS AT DATUM UNLESS NOTED THUS ( )
3. ON PLAN FROM DATUM.
4. 3 DENOTES 3" THICK SLAB ON GRADE REINFORCED WITH 6x6-W1.4xW1.4 WWM ATOP 4" OF CRUSHED STONE BASE COURSE.
5. REFER TO THE COLUMN SCHEDULE ON S2.1 FOR ADDITIONAL INFORMATION.
6. REFER TO GENERAL STRUCTURAL NOTES ON S0.0 AND SUBSURFACE INVESTIGATION REPORT FOR UNDERCUTTING AND STRUCTURAL FILL REQUIREMENTS.

jacobswyper
ARCHITECTS
1232 Chancellor Street
Philadelphia, PA 19107
tel: 215.985.0400
www.jacobswyper.com

PROJECT TEAM

Structural:
Ann Rothmann
Structural Engineering LLC
arothmann@aol.com
610 688 2566

Civil:
Gus Houtman
GD Houtman & Son Inc.
gdh@gdhoutman.com
610 565 6363

MEP:
Aaron Jia
Urban Technology Inc
ajia@utengineers.com
215 536 0808

Landscape Architect:
Sara Pevaroff Schuh
SALT Design Studio
sps@saltdesigns.com
610 667 5048

SWARTHMORE COLLEGE

WHITTIER SPACE

Email

No.	Date	Comments
1	02.25.16	ISSUED FOR PERMIT ADDENDUM 1
0	01.26.16	ISSUED FOR BID

FIRST FLOOR FRAMING PLAN

S1.1

Date: 01.23.2016 | Proj.No: 1514A

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:**
Ann Rothmann	Ann Rothmann	4/7/2018

Submitting Firm:	Ann Rothmann Structural Engineering LLC	
Mailing address:	100 E Lancaster Ave, Suite 203 Wayne, PA 19087	
Telephone: 610-688-2566	**Fax:**	**Email:** arpe19912@gmail.com