BUILDING STATISICS – PART ONE

Maggie Golden | L / E | R.Mistrick | The Winsor School | Boston, Massachusetts | September 15th, 2014

General Building Data

BUILDING NAME

The Winsor School | Centers for Performing Arts and Wellness Academic Wing

LOCATION AND SITE

103 Pilgrim Road | Boston Massachusetts

BUILDING OCCUPANT NAME

The Winsor School

OCCUPANCY OR FUNCTION TYPE

Theater (A-1), Exercise Spaces (A-3), Offices (B), Parking Garage (S-2)

The new wing is the performing arts and athletic wing connected to the academic portion of an all-girl preparatory school for young women in grades 5-12.

SIZE [TOTAL SQUARE FEET]

79,000 sf

NUMBER OF STORIES ABOVE GRADE | TOTAL LEVELS

Three Stories above grade | Five Total Levels

PRIMARY PROJECT TEAM

Owner: The Winsor School | http://www.winsor.edu/

Architect: William Rawn Associates, Architects, Inc. | http://www.rawnarch.com

Construction Manager: Lee Kennedy Co Inc. | http://www.leekennedy.com/

Structural Engineer: LeMessurier Consultants | http://www.lemessurier.com

M / E / P / FP Engineer: Rist-Frost-Shumway Engineering, P.C. | http://www.rfsengineering.com

Civil Engineer: Nitsch Engineer | http://www.nitscheng.com

Geotechnical Engineer: McPhail Associates, Inc. | http://www.mcphailgeo.com

Landscape Architect: Landworks Studio Inc. | http://www.landworks-studio.com

Theatre Consultant: Theatre Projects Consultants | http://www.theatreprojects.com

Acoustic / AV Consultant: Threshold Acoustics | http://www.thresholdacoustics.com

Sports Consultant: Brailsford & Dunlavey | http://www.programmanagers.com

Code Consultant: Sullivan Code Group | http://www.rwsullivan.com/services/code-consulting

Lighting Consultant: Horton Lees Brogden Lighting Design | http://www.hlblighting.com

Sustainability Consultant: The Green Engineer | http://www.greenengineer.com/

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DATES OF CONSTRUCTION

May 2013 – September 2015

ACTUAL COST INFORMATION

Total Construction - $71,000,000

Electrical - $7,200,000

HVAC - $6,000,000

Plumbing - $2,000,000

PROJECT DELIVERY METHOD

Design - Bid - Build

RENDERINGS [COURTESY OF WILLIAM RAWN ASSOCIATES]

Figure 1 - Street View of Winsor School New Wing Addition

Figure 2 - View from the Dining Hall of the Winsor School New Wing Addition

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Architecture

ARCHITECTURE

The new wing of The Winsor School is a juxtaposition to the 100-year-old classical building that inhabits most of the schools classrooms. This new wing, housing mostly sporting, rehearsal and performance facilities, will add a modern feel to the classic campus. The building's exterior, with no brick except the repairs to the existing structure, will mostly incorporate aluminum cladding and an extensive amount of glazing. To see these details, please see Figure 1 and 2 on the previous page. On other locations on the façade, limestone and calcium silicate units will be used for a warm and light atmosphere. The warmth will be exemplified with every overhang, which will incorporate wood ceilings. The linear expansion of the building shapes creates a geometrical aspect that allows the architecture to seemingly float on air next to the heavier appearance of the neighboring academic wing.

MAJOR NATIONAL MODEL CODES

2009 International Building Code / Massachusetts State Building Code, 8th Edition

2011 National Electrical Code

2009 International Mechanical Code

2009 International Energy Conservation Code & Stretch Energy Code

Massachusetts Architectural Access Board Regulations

Massachusetts Fire Prevention Regulations

Massachusetts Plumbing Code

Massachusetts Elevator Code

ZONING

The Campus is located within the H-1 District of the "Brookline" neighborhood or "Boston Proper" section of Boston. This is mostly a residential apartment district stated by Section 3-1 of Boston Zoning Code. It is also located within the Groundwater Conservation Overlay District, per Article 32 of the Zoning Code.

Furthermore, according to Article 13, the restrictions for the H-1 district are as follows: a maximum floor area ratio of 1.0, lot size of 5,000 sf, a minimum lot frontage of 25 feet, a minimum side yard between 12.5 ft and 20 ft. Building height is not restricted in the H-1 District.

Building Enclosure

BUILDING FACADES

The building façade features many different materials, none of which relate back to the classical academic building of which it is attached. The Southwest façade of the building largely consists of heavily glazed curtain walls and metal panels. The metal panels, which are featured on all sides of the building, are preformed aluminum but vary between a smooth or corrugated kynar finish. Furthermore, the spacing of the corrugation also varies by location. The glazing mentioned above is primarily used on the southwest and northwest facades on multiple expansive curtain walls consisting of steel frames for fire-rated assembly or aluminum framing. The types of glazing incorporates mostly high visible light transmission glass of around 40-65% but on the southwest façade of the building there are portions of highly fritted glass allowing a visible light transmission of around 5-10%. The sparse amount of glazing on the Southeast and Northeast sides of the building follow the same type of glazing as above.

Where there is not glazing or metal panels, a variety of stone is used. The majority of the stone façade is Calcium Silicate Masonry Units of varying sizes. The manufacturer suggest is Renaissance Masonry Units by Arriscraft International. These units are finished with a "sandrift" or tan coloring. Similar to that of the other stone masonry heavily used on the building, limestone of type Jura Buff Dolomite, with varying degrees of light to dark coloring.

The least used materials on the façade include granite and wood. The granite stone of type Quarra Black is used along the base of the building where the exterior walls meet the ground plane. The manufacturer for the limestone and granite is suggested to be Quarra Stone, Company. The wood, used on the underside of all canopies and overhangs is specified to be FSC-Certified local Douglas Fir planks with a smooth face.

ROOFING

The roof, mostly unseen, will hold a large amount of the mechanical equipment which will be mostly disguised as a person may approach the building, though if far enough away not completely, by a half wall. The roof is planned to be in most cases, a low slope roof comprised of a typical insulating system.

The surface roofing material will be mostly a white EPDM (ethylene propylene diene terpolymer or rubber) membrane. The white color of the membrane allows the roof to be US DOE EnergyStar Complaint. In some locations a black EPDM membrane is also used though mostly when it will be covered by another material. The other material is precast concrete pavers located on rubber supports. These will be situated in areas along walking paths or around mechanical equipment.

Sustainability Features

The goal of the building process was to create and obtain a LEED certification through the United States Green Building Council of LEED Silver. This was hoping to be obtained through use of regionally obtained and manufactured materials, low emitting materials, recycled content, high performance building systems, such as the MEP systems, and construction waste management.