



[BUILDING STATISTICS – PART I]

River Vue Apartments is a unique project due to its distinctive location at the “point” in downtown Pittsburgh, Pennsylvania as well as its curved-cornered facade. Formerly known as the Old State Office Building of Pittsburgh, this renovation project is expected to produce some of the city’s most desired apartment and condominium spaces with views of Mount Washington, Heinz Stadium, PNC Park, and all three rivers.

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Senior Thesis Program – Department of Architectural Engineering
Fall 2011

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General Building Data

Building Name: River Vue Apartments

Location and Site: This renovation project is located at 300 Liberty Avenue, Pittsburgh, PA 15222, which is commonly referred to as the “Golden Triangle” by native Pittsburgh residents. The site faces west, toward Point State Park and the intersection of the Monongahela, Allegheny and Ohio rivers, and offers views of Heinz Field, PNC Park and Mount Washington. Only small amounts of pedestrian traffic can pass through the building site, however, two levels of valet parking will be available to future residents through the rear entrance. A courtyard with seating areas hugs the east end of the site near Gateway Center Parking garage.

Building Occupant Name: River Vue Associates, LP, a group associated with Millcraft Industries, owns the building and plans to rent individual apartment units to future residents.

Occupancy type: River Vue Apartments is intended to be residential housing for downtown Pittsburgh and can be classified as IBC Occupancy Class R-2 (Residential Apartment houses).

Size: 295,000 square feet

Number of stories above grade: 16

Primary project team

Owner: River Vue Associates, LP

General Contractor: Turner

Construction Management: Turner

Architects: Design 4 Studio, Inc. / IDG LLP

Structural Engineer: Whitney Bailey Cox & Magnani, Inc.

MEP Engineer: Claitman Engineering Associates Inc.

<http://millcraftindustries.com/>

<http://turnerconstruction.com/>

<http://turnerconstruction.com/>

<http://design4studio.com/>

<http://idgllp.com>

<http://wbcm.com/>

<http://www.claitman.com/>

Dates of Construction: June 2011 – April 2012

Actual Cost Information: Guaranteed Maximum Price of \$19,225,808

Project Delivery Method: Although the facility was at one time the State Office Building for downtown Pittsburgh, the building remained vacant for approximately two years before its new developer was able to fund a Design-Bid-Build renovation.



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Introduction to Building & Architecture



Figure 1: Exterior View West

Modern, high-profile apartment living is the goal for the renovation of Pittsburgh's Old State Office Building. Two new levels of valet parking will welcome residents to enjoy multiple bedrooms, a kitchen, bathroom, and living space within their unit. Upper levels of the building feature two-story apartments with exceptional views of the city. Café and retail spaces are featured on the ground floor to attract business and provide convenient food service for tenants. The building currently has two curtain wall systems that create its dark, modern appearance along the shoreline, similar to the style of buildings popularized by Mies van der Rohe. The outer dark glass and aluminum panels were installed at the time of initial construction in 1955, and the inner curtain wall system, was added during a renovation project in the 1980's. There is a steel frame supporting the building's sixteen floors, two stairwells and six existing elevator shafts.

Building Codes and Zoning

Since the building was originally constructed in the 1950's, there are many aspects of construction that do not meet today's current building codes. Most of the construction work occurring throughout the summer of 2011 is asbestos abatement and testing of interior building surfaces for lead paint levels. Although most interior surfaces are being completely demolished, the interior stairwells, which are lined with tile, are under review to determine if the existing materials conform to IBC section 800 requirements for interior finishes.

The few pieces of existing mechanical equipment will be replaced to meet ASHRAE 62.1 and 90.1 code standards for ventilation and indoor air quality while additional boilers, pumps, and cooling towers will also be added during new construction.

The building's original electrical equipment and panel boards are still in use for temporary power to the site; however, new equipment listed in the renovation plans will be installed to meet the current National Electric Code. As of August 2011, the only existing functioning equipment in the building are elevator gears and several electrical panels.

All of the services for the building, including gas, sanitary, storm, and fire protection piping are to be replaced in the renovation process to meet the national Plumbing Code, International building Code



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Chapters 9 and 29, the City of Pittsburgh Code of Ordinances, and the National Fire Protection Code. Each floor of the building will be fully sprinkled in the new design.

Pittsburgh zoning requires an occupancy permit for all structures other than single family dwellings. This building is located in section C5, the Golden Triangle District, of the Pittsburgh Urban Zoning code and since the project is a renovation of the existing structure with no major architectural or height changes, there is no conflict with its current zoning status.

River Vue Apartments is located across Commonwealth Place from the historical Point State Park, where Fort Pitt and Fort Duquesne were constructed in the mid 1700's. Although it is not directly located on this historical site, it must respect the landscape and will be noticed in all views from the park as seen here.

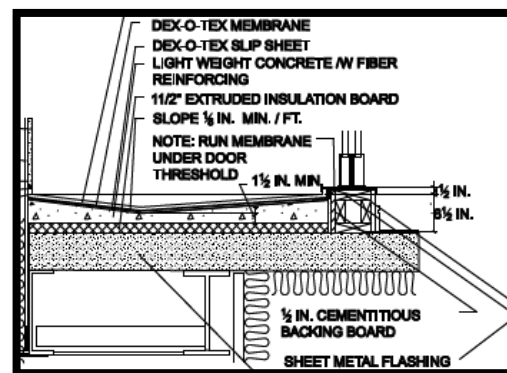


Photo courtesy www.wikipedia.com

Building Enclosure & Roof

As previously mentioned, the existing structure consists of a steel frame with existing bays of about 20' x 25' using mostly W14x34 beams for spans within bays. The two curtain wall systems are hung parallel to each other, 1 1/2' apart. The outer curtain wall consists of 6'x4' gray aluminum panels and dark gray glass with interior bearing walls comprised of concrete masonry units. The outer gray glass is to be replaced with new bronze-colored window panes. The interior aluminum panel curtain wall acts as an insulator by maintaining an air gap between it and the outer layer.

Current roofing materials are being replaced in the proposed renovation plans to include a sealant, flashing, 1/2" cementitious back board and a laytex plaster finish along the vertical edges. The horizontal plane of the roof is comprised of several layers, including a Dex-o-Tex traffic surface, single ply sheet membrane, slip sheet, 6 1/2" light weight concrete layer (3500 psi) with fiber reinforcement and a 1 1/2" extruded insulation board. The roof deck is galvanized 20 gauge, 1 1/2" thick steel with wide rib configurations.



Detail from Contract Drawing



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Sustainability Features

LEED Certification of the new building is the goal of this renovation project. This certification will be achieved through using regional materials, recycled content, low emitting materials, and weather proofing materials. Each apartment unit within the building will have individual temperature controls, electric panels, and a heat pump to promote energy conscious living. The glazing on the exterior façade will also be replaced to change the current building loads that are influenced by sunlight.

Sources

- River Vue Apartments Construction Documentation Package, Bulletin 1, Specifications and Contract Drawing set, courtesy of Kevin Ludwick, Project Engineer for Turner
- http://www.city.pittsburgh.pa.us/cp/html/land_use_control_and_zoning.html
- Color photos taken by Laura Pica, August 2011

Thank You

- Kevin Ludwick, Turner Construction Company
- Chad Wheatley, River Vue Associates Owner Representative

