



Introduction

Building Information

'Erie on the Park' is a 25 story, 290' condominium complex in the River North neighborhood of Chicago, IL. These condos, owned and maintained by Smithfield Properties, LLC, were designed by Lucien Lagrange, an Architecture firm native to Chicago. Lucien Lagrange then enlisted Thornton-Tomasetti to design the structural system and Wooton Construction to be the general contractors.

These condominiums are considered mid to high end real estate. They are located less than a mile northwest of downtown Chicago providing an easy commute for those tenants who work near the Loop. The building has such amenities as an on-site covered parking garage, fitness center, and a 24 hour doorman. The individual units come equipped with granite counter tops and handmade European cabinets. Most of the units have their own terraces and the floor to ceiling windows provide exceptional views of the city.

Project Team:

Owner/Developer: Smithfield Properties LLC
 Property Manager: Draper and Kramer, Incorporated
 Architect: Lucien Lagrange Architects
 General Contractor: Wooton Construction, Ltd.
 Shell Construction: Area Erectors, Inc.
 Structural Engineer: Thornton-Tomasetti Engineers
 Electrical Engineer: Innovative Building Concepts, Inc.
 Elevator Engineer: Jenkins & Huntington, Inc.
 Geotechnical Engineer: STS Consultants, Ltd.
 Lighting Consultant: Schuler & Shook, Inc.
 Mechanical Systems Installation: Advance Mechanical Systems, Inc.
 Fire Protection: Global Fire Protection Company
 Steel Supplier: Zalk Josephs Fabricators LLC
 Window Supplier: Trainor Glass Company

Architecture

This 25 story condominium complex was constructed using a steel frame structure which is contrary to the typical concrete structures used in residential high rises. The parallelogram shape that this building has assumed was dictated by the intersection of the two streets adjacent to the property, W. Erie St. and N. Kingsbury St. The unique shape and steel structure have allowed for very innovative and flexible floor plans. This structure also provides unobstructed floor to ceiling views of the great



Chicago cityscape and the stepping back of the upper floors allow for expansive terraces. The architecture is focused on images and views. The steel and glass façade with the large chevrons provide an image of modernity and make the structure seem light and graceful. The 30' lobby gives the image of the grand entrance. Even the interior décor of stainless steel appliances, granite counter tops, and European cabinets give a modern feeling to the individual units while the floor to ceiling windows and the steel braces frame spectacular views of the surrounding areas.

Foundation

The foundation is made-up of hardpan caissons and grade-beams. The caissons are drilled up to a depth of 85'. This depth is required to find soil with a net bearing pressure of 30 KSF. The caisson shaft diameters range from 30" to 54" and the bell diameters range from 4' to 11'. The grade beams average about 36"x60" with the largest width being 72" and the greatest depth being 100". The grade beams frame into the caisson caps which have a minimum width of 6" larger than their respective caisson and a depth of 3'. These sizes are increased to the width and/or depth of the largest grade beam framing in to them. These three structural elements have concrete with a 28 day compressive strength of 6000 PSI, and use epoxy coated, deformed rebar in accordance with ASTM A615.

Electrical

The electricity for 'Erie on the Park' enters the building through four conduits from the city's power grid. One of the conduits goes through a metered switchboard that distributes power to the buildings common areas. This power is distributed through four separate panels to (1) the mechanical penthouse, (2) the two elevators, (3) the emergency lighting, and (4) the receptacles and lighting of the corridors and common areas. The second conduit enters an unmetered switchboard that distributes power to the different floors and through a 1600Amp busduct. At each of the floors this power is split and metered before it ultimately reaches each of the tenant units. The third of the four supply conduits is dedicated to the emergency lighting for the entire building, and the fourth supply is dedicated to the fire pump and its controller. There is also a 450kW gas powered generator that in the event of a power outage would service the elevators, the emergency lighting, and the fire pump and controller.

Lighting

The typical lighting scheme in 'Erie on the Park' is 6" recessed downlights in the public and private corridors on the tenant levels. The living rooms, kitchens and dining rooms of the tenant units have track lighting that range in length from 4' to 20', in increments of 4', depending on the size and layout of the condominium. The service areas and parking levels typically use 8' fluorescent strip lights. The lighting in the lobby and around the entrance incorporates more artistic lighting in the form of directional, accent and floor recessed lighting. The entrance to the building has recessed pathway lights that light your way into the lobby. There are also a number of accent lights that illuminate the shear wall that lines the entrance to the building. In the lobby there are directional and accent lights that add to the grandeur of the 30' ceiling.



Mechanical

The mechanical system supply air is brought in at the 25th floor through two 4'x6' louvers to a pair of Carrier air handling units. Each AHU is capable of supplying 9,000 CFM each to the lower floors. Vertical fan coils to move conditioned air vertically between the 25 floors of this building. The air is distributed to each of the tenant rooms through 12 inch circular ducts. These ducts are suspended in the ceiling cavity by running through the openings in the open-web steel joists that support the floor slab. The ducts terminate at three foot linear distributors that are capable of 300 CFM.