

Project Name: Country Club Towers II & III

Category: 11 – Best Building Project – GC (Over \$70 Million)

Contractor: Swinerton

Country Club Towers II & III reaches new heights in Denver’s West Washington Park neighborhood. A vision of Broe Real Estate Group for more than 20 years, the luxury apartment community delivers a legacy asset perched above the Denver Country Club golf course. The challenges of this skyline-changing project measuring just over one million square feet were many, and overcame by the herculean efforts of a dedicated Swinerton team and many of Denver’s best subcontractors in arguably the tightest labor market in recent time.

Building the twin 32-story towers among a well-established residential neighborhood required expert communication and execution to overcome logistical challenges including building within mere feet of a historic condominium building. The demanding schedule saw one million square feet on 7.55 acres ready for occupancy in 26 months. The design and construction team were tasked with discovering how to ensure all 552 apartments offered greater than 180-degree views.

The structure also provides a seven-level shared podium with 985 structured parking spaces and an interior amenity level with yoga and fitness rooms, dog spa, bike repair station, and two common kitchen areas. A 17,000-square-foot exterior amenity area on the podium includes a 6,600-gallon saltwater pool, bocci court, landscaping and lounge areas.

In Denver’s competitive multifamily market, speed to market is an absolute. The entire team’s unwavering dedication to the client’s vision maximized market value at an optional cost with schedule certainty.

Providing Views

Broe envisioned every apartment to offer unobstructed views. To achieve this vision, architect SCB designed the towers with a sawtooth exterior configuration that places floor-to-ceiling bay windows in every apartment, doubling the view plane in the middle units.

Swinerton, SCB and structural engineer S.A. Miro worked diligently during preconstruction to precisely plan the layout of the buildings’ floorplates to achieve this greater than 180-degree

sawtooth pattern through a slab-to-slab window wall system which provides amazing views from every vantage point.

To ensure the design vision and constructability of the prefabricated systems that followed, concrete slab and core wall placement required intense focus on means and methods and verification. Swinerton used laser scanning during the concrete frame construction, making necessary adjustments as work went vertical to ensure that the following trades could complete their work within specified tolerances.

Metal wall panels, installed from the buildings' roof on swing stages, accent the towers' facades. Their modern appearance contrasts with the structure's bottom five levels which are designed to be reminiscent of the 1940's-era Country Club Gardens buildings that surround the new towers.

Because the 7,000 metal panels were fabricated from guaranteed dimensions instead of field measurements or prefabrication efforts, it was important that the concrete structure be placed within strict tolerances to ensure the quality installation of 87,000 sf of metal panels.

Landmark Preservation

Country Club Towers II & III (CCT) is located in a Denver historic district, and as a condition to the Building Permit, the Landmark Preservation Commission requested the existing 1940's Garden Apartments to be preserved and incorporated into the design.

One of these buildings became the central utility plant after initial design called for the CUP to be located on the new towers' roof. This option required the entire structure to be topped out before we could begin to build the "heart and brain" of the building. Swinerton proposed moving CUP to an adjacent Gardens Apartment building where we could begin preparing the CUP much sooner and while the towers were under construction.

Surgical demolition of a Garden Apartment building removed all but three sides of the historic façade. To secure the three walls until a future steel structure was erected and anchored to the existing, Swinerton worked with a structural engineer to develop a temporary bracing

plan. This plan consisted of nine vertical strongbacks anchored to the façade at four different elevations, then supported laterally by diagonal tube steel bracing. Months later, the three-sided façade was anchored to the permanent steel structure and the temporary bracing was removed.

The central plant relocation enabled Swinerton to turn over 274 of the 552 units six months early to begin rent generation.

Building a legacy landmark

Swinerton broke ground on the one-million-square-foot project in May 2015, and topped out 22 months later when the structure reached its height of 328 feet. The first renters moved in August 2017.

To accomplish this remarkable achievement, Swinerton staffed the project with 20 construction professionals dedicated to project management and supervision of more than 40 subcontractor, supplier and design partners. Nearly 2,000 tradespeople worked on site during its 28-month construction duration.

Excavation activities included the removal of 80,000 cy of dirt over the course of four months to a depth of 33 feet below grade. Near the bottom of the hole we encountered Denver's notorious blue bedrock, which required a mighty 385 Caterpillar excavator and Watson caisson rigs to break through the rock to drill 7,775 linear feet of drilled piers, ranging in length between 50 and 60 feet.

Through pull planning we accelerated the structural concrete schedule to reduce concrete truck traffic in the residential neighborhood surrounding the site. Each tower had a floor poured every week, resulting in:

- Approximately 2.5 million pounds of concrete added every seven days
- Our superintendent team poured both towers in 288 days (that's 9 months 12 days)
- On average a slab was poured every 3.8 working days
- 84 slabs total

Solutions for Success

Building Information Modeling (BIM) provided the team with a deeper level of understanding for constructability reviews. BIM made an especially handy tool when it came time to install final finishes on Levels 1 and 5 which house the lobby, indoor amenity space and outdoor pool deck. When we were placing the concrete structure, the design had not yet been finalized for these high-impact areas. To prevent re-work and coring post-tension decks when design for those areas finalized, as a team we determined where to place penetrations in these levels to maximize flexibility for the future build-out and documented locations through the model.

The Denver Fire Department required the mechanical and life safety systems for all of the 552 units and common areas to be complete before early turnover of the 274 units in the west tower to receive Temporary Certificate of Occupancy (TCO). To achieve TCO, Swinerton prioritized key areas to bring all life safety systems online (both towers and all common areas) ahead of schedule. This approach, in turn, enabled Swinerton to complete the east tower apartments two months early.

Protecting workers and neighbors

Approximately 800 tradespeople worked on site daily at the height of construction. Swinerton formed a safety taskforce to address the needs of the workers, adjacent homeowners, renters and neighborhood pedestrian and vehicular traffic. A dedicated site safety manager led a team of four Swinerton field professionals to promote safety. This taskforce installed safety precautions that all workers would need, such as leading-edge safety barriers. With this approach, tradespeople could focus on their work, knowing that safety professionals had created the best environment possible.

Despite everyone's best efforts through safety orientations, training and the attention of designated safety professionals for every firm with more than 30 workers on site, the project did sustain one lost time incidents over 2.1 million manhours.

Within feet of the new towers is The Norman, a 1924-built, six story, brick condominium building with a full basement and listed as a historical landmark by both the City and County of Denver and the National Registry of Historic Places. Out of an overabundance of concern for the stability of the structure, and due to a 35-foot deep excavation within feet of The Norman basement, Swinerton implemented vibration monitoring and vertical settlement surveying throughout the course of demolition, shoring, and excavation work. In addition to these precautions Swinerton used third-party engineers to document and catalog the existing condition of The Norman which sustained no damage due to Swinerton's activities.

Preserving landmarks, improving the neighborhood

The entire team worked with the Landmark Preservation Commission to ensure the best project for the city, the neighborhood and residents. As a result, several acres of the development were left as park spaces to ensure the property maintains its character.

Working in this incredibly dense neighborhood required special attention to mitigate construction activity disturbances to nearby residential neighbors. Swinerton coordinated catalytic utility upgrade works for water and electrical service to the site, including replacement of 100-year-old underground water lines. Outages were inevitable but properly timed late in the evening to lessen impacts to the public, and were proceeded with direct communication about the disruption.

Specifically, for the CCT community, residents enjoy renting in a property with high-quality finishes and amenities, energy-efficient systems, bike parking, LED lighting, seven car charging stations and plenty of parking options within the 985-stall garage.

“The development of Country Club Towers II and III has been a model for teamwork and creative solutions between the owner, architect and the general contractor. We are proud to have achieved this milestone so quickly and are looking forward to delivering a best-in-class new residential community for Denver,” said Doug Wells, CEO of Broe Real Estate Group.









