

## ACE Award Entry

### **Category 3: Meeting the Challenge of a Difficult Job—General Contractor**

**Company: Fransen Pittman Construction Company, Inc. – John Pittman, President**

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#### **Project Name: DTC 5**

Owner: Shea Properties

General Contractor: Fransen Pittman General Contractors

Architect: Davis Partnership Architects

Structural/Civil Engineer: S. A. Miro

MEP Engineer: M-E Engineers

Asbestos Abatement Contractor: NorthStar Demolition and Remediation, Inc.

Glazier: EAP Glass, Inc.

Construction Start Date: 3/31/14

Project Completion: 6/26/2015

Total Construction Cost: \$9,068,029

#### **Overview**

Fransen Pittman performed a surgically precise addition with selective demolition to the iconic DTC 5 Office Complex in Greenwood Village, Colorado. This was an exercise in persistence, ingenuity, and collaborative efforts of a tightly knit team. Beset by difficult challenges, our team demonstrated exemplary, spontaneous problem solving and a “can-do” attitude. The Fransen Pittman team completed the stunning circular three-story Core Tower for DTC 5 and its three remaining office pods within budget and with minimal delays. In a summer marked by labor shortages and a jobsite that refused to accommodate the equipment needed to build a 57 foot tall radial curtain wall, the resulting DTC 5 renovation is nothing less than a spectacular accomplishment.

## **DTC 5 Comes Full Circle**

The Kodak Building, now known as DTC 5, was built in 1969 and was the first office building in the Denver Tech Center. In its day, the building's architecture was state-of-the-art. It is comprised of clean lines and a soft, organic feel that was inspired by the ancient Anasazi Pueblo Indians. Creating a sustainable, high-tech building that would last forever, architect Carl Worthington used precast concrete covered with red soil and aggregate façade to recreate the essence of Native American architecture.

In 2013, owner Shea Properties determined the need to bring the now outdated building up to current standards however; paramount was their desire to stay true to its rich origins. Multiple rounds of value engineering discussions were necessary to deliver the project within budget, and major subcontractors were included during the design stages in order to evaluate costs and expectations before proceeding forward. After a full year of designing, the plan emerged to remove the central office pod and replace it with a grand entrance which invites new tenants and provides convenient circulation to the remaining office pods.

The defining characteristic of DTC 5 today is its glowing circular Core Tower. The Tower is constructed of a 57 foot tall circular curtain wall that provides a stunning view, and crucial circulation. Only 120 feet from the heavy traffic of the I-25 corridor, occupants of the Tower enjoy a wide view of the Front Range without interruption from highway noise. Fransen Pittman worked closely with Davis Partnership to create a sound-reducing glass system that stayed within budget.

Directly behind the curtain wall is the winding stairway which allows access from ground level to the second and third floors. The interior side of the radius stairway is a custom maple wall panel system that extends from ground level to the ceiling, offering a warm and inviting experience.

The Tech Center Master Plan created an underground garage that completely circumscribed the old central office pod. This posed significant challenges because the ceiling clearance was only eight foot two inches, not enough to accommodate the necessary equipment for earthwork and erection of the Tower. Thoughtful and persistent collaboration, along with perpetual re-evaluation and responsive action, proved a winning combination for this one-of-a-kind project.

### **In the beginning there was asbestos...**

Built in 1969, the building's exterior panels contained six percent asbestos. This was the long, hot summer of 2014, a summer flooded with construction activity and beset with a statewide labor shortage. Calling upon their long-term relationships with subcontractors, Fransen Pittman assembled the largest asbestos mitigation crew operating in the state at that time. Thirty people worked eleven hours a day, six days a week, because of the amount of abatement required, which pushed the schedule back by twenty-two weeks. By continuing the six day workweek for other trades, and through quick decision making by all team members, Fransen Pittman was able to reduce the abatement delay to two weeks.

### **No room for equipment...**

Fransen Pittman was faced with a great challenge when there was no access for a crane of any size into the core area. A 500-ton hydraulic crane located 250 feet away was used to remove the corner sections of precast "sandwich" panels, which weighed 23,000 pounds each. To reach the interior core area, ingenuity had its way. Fransen Pittman devised a plan to use 54 foot telescoping forklifts with a jib to construct the curtain wall. A winch with suction cups was attached to the jib to raise and lower the glazing into place.

### **Digging in...**

The Core Tower at DTC 5 houses an elevator pit that provides shear for the core itself as well as the three adjacent pods. The structural engineer had specified drilled piers, but the drilling rig could not fit into the space. The Fransen Pittman team brain-stormed several different options, from digging a trench through the garage to switching to micropiles.

There were no earthwork contractors available that could access the site with their equipment, so the project manager, superintendent, and foreman rolled up their sleeves and dug in with a skid steer and mini-excavator to install sixty micro piles.

### **Shoring up...**

The three office pods in the DTC 5 complex have elevation variances. Lining up the individual floors at the Core Tower so that pedestrians would not notice required subtly sloping all the floors that connect to the Tower.

### **Winding 'round...**

A polished concrete staircase graces the Tower's interior. The helically-rolled, precast stair members required templating prior to being placed. When the structure was in place, the precast stair members, already polished to a smooth shine, dropped in perfectly. This staircase acts as the visual focal point for the complex, and its construction is just as astounding as its aesthetic.

### **Ramping down...**

The original DTC 5 did not have an ADA-compliant pathway and the footprint of the building was a mere 100 feet from the street curb to the east side of the parking garage structure. It was necessary to cut an entrance through the east parking garage wall and install a radius retaining wall at the edge of the sidewalk to hold the old parking garage wall in place. With only a margin of one-fifth inch to achieve the required slope, Fransen Pittman was able to build an S-shaped ramp that would satisfy ADA compliance.

### **Staying safe...**

The Fransen Pittman team intensified its safety effort to ensure the occupants using the Colorado Athletic Club, as well as all crew members, were safe throughout the project. Careful planning with the health club ensured that disruptive construction activities would take place during the club's non-peak hours. Fransen Pittman also coordinated with South Metro Fire to ensure the project was always in compliance with fire codes. In

the end, there were no lost-time accidents on this tight site with a schedule that required working six to seven days a week throughout the span of the project.

**Changes, changes, and more changes...**

For the Fransen Pittman team, the DTC 5 renovation was an example of continuous planning, changing, and responding with creativity and panache. The astounding collaboration of the team truly demonstrates state-of-the-art construction practices, and the DTC 5 office complex is physical evidence of this extraordinary effort.









