

## **Where the Magic Happens**

*at the U.S. Olympic Museum complexity, collaboration, craftsmanship, and commitment compel excellence*

## **The Specialness of Place**

Regardless of pursuit, the pinnacle of achievement is leaving a legacy. Building the new U.S. Olympic and Paralympic Museum was a once in a lifetime opportunity for everyone involved. Concepts in Millwork put our craftsmanship and commitment to excellence to the test on a commission whose complex, visionary aesthetic approaches overwhelming.

***“This project demanded the very best of everyone involved. Concepts in Millwork created highly visible, work-of-art pieces that make a spectacular first impression. The creativity, craftsmanship, and collaboration required to pull this off couldn’t be higher.”***

John McCorkle, Construction Executive  
GE Johnson Construction Company

The primary challenge was to create custom functional accessories and millwork to complement spectacular architecture. We worked with Diller Scofidio + Renfro, GE Johnson Construction Company, and specialty contractors to craft the lobby’s reception desk and bench-style seating. Custom baseboards trim every wall of this perpetually sloped, helical structure where no dimension maintains plane for long.

**Stealth Desk** – this svelte first impression is a work of art of which there will only ever be one. A dynamic aesthetic antecedent, the desk is made of cold-rolled, blackened steel and glulam fir. It was conceived and realized through collaborative iteration.

**Floating Benches** – as long as 35-feet and deftly recessed, the lobby’s bench seating floats above the terrazzo floor; virtually disappearing into the design. Boldly cantilevered, glulam fir benches perch over blackened steel stanchions to frame the gathering hall with elegantly unobtrusive fixed seating.

**Recessed Baseboards** – four-inch recessed baseboards offer a subtle nod to the relentless attention to detail and the never-ending quest for perfection in every action of an Olympian.

Custom-fit, segment-by-segment, the baseboards bridge the gap between floor and drywall with a quarter-inch reveal requiring exactitude in circumstances that seemingly defy congruity.

Ancillary Components – from fabricating custom blackened steel handrails for elevators to installing quartz countertops in bathrooms, nothing was simple.

### **Approach to Excellence:**

With every angle a mathematical conundrum, from estimating to installation, no project task was routine. In pricing material and labor, the challenge began with quantifying the undrawn details of a design that lacks any true distinction between one floor and the next. The museum's circulation unfurls organically, spiraling down gradually from the top floor in a series of folding planes passing through interactive galleries. Simply pinpointing a precise position within the BIM model was a challenge; creating trustworthy material quantity surveys was mind-scrambling.

Preplanning installation was even more complex. More than shop drawings, fabrication, configuration, and placement of the recessed baseboards required engineered, working drawings to guide the installation team in black and white, rather than theory. Among the labyrinth of twisting, sloping forms, detailing had to account for both fire-rated and non-fire-rated wall assemblies, making coordination with Schummer Drywall and others a location-by-location occurrence. Ultimately, four different mock-ups of interior wall assemblies involving the drywaller, framer, contractor, and designer were required to cover the various configurations.

Designing the reception desk in the lobby was a multi-year process. Working collaboratively with Diller Scofidio + Renfro, and steel manufacturer, Component Equipment Manufacturing, Inc., multiple iterations slimmed, shaped, and twisted the form, while concurrently considering functional necessities like cabinetry, ergonomics, concealed wiring, and buildability. The team evaluated nine different versions of blackened steel before coming to consensus on the one-of-a-kind finish chosen. Ironically, despite the complexity of the finished form, from a value engineering perspective, the desk actually became larger than originally planned yet less expensive to build as the sleek, angled edges of the stealth structure came to life.

Ultimately, the finished products had to balance the designer's unbridled imagination, the steel fabricator's ability to shape metal, and Concepts in Millwork's ability to complete the work to expectations for cost, schedule, and quality. Our proximity to the jobsite allowed our project manager to be on-site to review concerns and make decisions quickly. Through continual communication, relentless attention to detail, and a lot of long, hard hours, our scope was completed on-budget, and, frankly, beyond belief.

***“Concepts in Millwork has been a first-choice specialty contractor trusted by GE Johnson for many, many years. We rely on subcontractors to deliver and among them all, Concepts in Millwork rises to any challenge and exceeds expectations.”***

John McCorkle, Construction Executive  
GE Johnson Construction Company

### **Innovation Abounds**

Advanced technology played a critical role from start to finish. GE Johnson incorporated a 3D point cloud to provide a digital record of every tangible space. Subcontractors were required to use the point cloud to develop shop drawings. The point cloud was integrated with the BIM model to produce integrated work plans detailing how each component was assembled, verified, and validated.

Building the lobby's accessories could not be accounted for by technology alone, however. Craftsmanship in wood and metal relies on generations of hands-on experience that cannot be replicated in virtual reality. Buildability and long-term durability had to include consideration of the natural warpage of wood that happens in Colorado's arid climate as it dries. Special attachments were devised to join the wood and metal elements together while allowing for material movement and discrepancies. Several different welding techniques were required to assemble the desk so that welds on outward surfaces could be completely concealed beneath the blackening process. During more than a year of preconstruction, the team painstakingly worked and reworked the unseen components of this hyper-tech point of service to cleverly conceal more than a mile of wiring within the framing. Mounting the variable steel structure of the desk

required creating a hidden wooden substructure that joins the richly artistic exterior panels to equally complex interior cabinetry that even employees will never notice.

Despite their aesthetically elegant simplicity, building the lobby benches also required significant skill and collaboration. The metal legs of each bench taper from top to bottom so that the point of contact on the floor is only half of the width of the bench itself. Furthermore, the legs connect to the seats at a 56-degree angle, cantilevering six to eight feet beyond stations. Concepts in Millwork worked closely with Component Equipment Manufacturing and GE Johnson to engineer a special bracket for each leg that fits into the rear of bench providing artistic structural stabilization to each member.

### **Safety 360:**

Construction Manager, GE Johnson, deserves well-earned appreciation and respect for a routinely robust commitment to jobsite and labor safety on this and every project. Subcontractors were required to provide a project-specific safety plan covering all aspects of their scope of work that outlined potential hazards and prevention strategies, communications protocols, and included the subcontractor's safety handbook.

Additionally, Concepts in Millwork has a dedicated Safety Manager who regularly visits job sites, conducts toolbox talks with our team and other subcontractors affiliated with our scopes. Upcoming work and potential hazards are reviewed before starting any new task and all crew members are empowered to be aware of and report any unsafe condition they observe on the site regardless of applicability to our work.

In response to the COVID-19 pandemic, on April 9th, 2020, Associated General Contractors conducted a National Safety Stand-Down. Concepts in Millwork participated in the Stand-Down at the USOM and many other job sites we were on at the time. At the USOM, the Stand-Down entailed a 90-minute presentation that went well beyond the typical toolbox talk, covering everything then known about COVID-19 and the safety protocols being taken to prevent transmission. As of this submission, to our knowledge no one associated with the USOM job site from any firm has tested positive.

Beyond the USOM project, Concepts in Millwork also conducted an in-house Stand-Down at our manufacturing facility and operations office. Concepts in Millwork has closely monitored and followed Associated General Contractors' Jobsite Protocol & Best Practices for Construction throughout our work environments and workforce. Our employees have strictly followed Colorado's Safer at Home Guidelines and we continue to mitigate all person-to-person contact within our firm. As of this writing, no Concepts in Millwork employee has tested positive for COVID. We continue to closely monitor workplace conditions and employee interactions to help ensure it stays that way.

**A Lasting Impression:**

Be it in athletics, architecture, or specialty construction, leaving a legacy is not achieved easily or often. Concepts in Millwork is proud to have played a vital role in the articulation of this magnificent museum and landmark point of pride in Colorado Springs. Defined as millwork, in truth our scope of work defies categorization. The new U.S. Olympic and Paralympic Museum embodies the best of creative capacity, craftsmanship, collaboration, and commitment and it was a genuine honor to be a part of this once-in-a-lifetime project.

***“The lobby desk and benches reflect an intense collaboration between design and construction that draws on vast skill and expertise. Despite an amorphous vision and the most demanding expectations of any project I have ever built, Concepts in Millwork produced one-of-a-kind work that stands out even in architecture of this caliber.”***

John McCorkle, Construction Executive  
GE Johnson Construction Company











