

Aurora Central Recreation Center

Adolfson & Peterson Construction

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9. Best Building Project – General Contractor (\$10-\$40 Million)

Why this project should win an ACE Award and why this project is unique

Aurora's Central Recreation Center delivered the community a new building paid for completely by marijuana tax revenue, uniting community members regardless of how they voted on the very controversial Colorado Amendment 64 in 2012. What was a struggle to raise funds for a new recreation center – one 40 years in the waiting – the City was able to build an extraordinary new facility, breaking into a market of the latest and greatest entertainment, stretching the definition of recreation far beyond the usual with integrated art and unique amenities such as an interactive waterslide.

Excellence in Project Execution and Management/Team Approach:

Since it had been 40 years since the City had built a new recreation center, the team worked hand-in-hand with the City throughout design and construction to ensure the design progression met budgetary and schedule requirements.

Over 40 years, and with a large community since Aurora is the third most populous in Colorado, there were big dreams. The result is a 61,250-sf facility that is art in and of itself. Instead of traditional egress stairways, the center's concrete grandstand functions as egress, seating and aerobic exercise to stair-climb. The exceptional 38' floating staircase required utmost concrete-expertise to build and it serves as a unique and functional art piece.

Unique amenities such as a wave pool (the first for a municipality in Colorado) and an interactive slide (the first of its kind in North America) have made the place an entertainment mecca. The City dedicated almost half a million dollars to custom art, integrated into the

building itself, requiring strategic construction planning for proper integration. The facility supports new program opportunities with an escape room, a fitness grandstand, an outdoor fitness balcony and a teaching kitchen.

Solutions of Special Projects:

The large natatorium posed construction difficulties because overhead work had to be done after closing in the building. The traditional cost of using scaffolding was estimated at \$40k; however, the team decided to leave a boom lift inside the pool to use for the work instead. The boom was later lifted out of the facility's roof with a crane.

Because of bad soils, the entire facility is fully structured being slab-on-void or on piers. A total of 359 caissons (over 3.25 miles of them) were installed. This created challenges with water entering into each of them when it rained. It also created barriers to move equipment around.

Because of the suspended piping, 31 pipes needed to be structurally supported coming into the pool, making it nearly impossible to support all that off the slab. The team created a new structural "light-rail" track underground with 8 piers underneath to support the pipes, saving the project \$75k.

Requiring immense coordination and craftsmanship, piping was stacked to limit trenching. A main artery was created to not limit earthwork activity. It was coordinated around two high pressurized gas pipelines that ran through the site and couldn't be moved. Safety protocols regarding the pipelines included added utility crossings, using smooth-tip buckets, barricading/locking-down the area, having a full-time supervisor from Phillips 66 present when activity neared the pipes and documenting all work.

The construction area was further limited by needing to protect a native regional pond from runoff and protect certain trees with rare raptor birds who return to nest on specific trees annually.

Construction Innovations/State-of-the-Art Advancement:

The rare Swiss-designed waterslide in Wasserparadies Hildesheim, Germany, made its first appearance in North America at Aurora Central Rec. Costing twice as much of a traditional

water slide of its size, the slide would be expected to be found at a more high-end water theme park than a community pool. The technical features of the slide allow users to select their own theme before entering, time their run and experience false drops and fake turns with the use of video screens and LED neon lights.

The filtration system for the aquatics is top-of-the-line, using an UV-sterilization method for cleaning the water, resulting in less chlorine while making it more sanitary than traditional pool water.

The natatorium has a unique building envelope system so drone thermal imaging was used for quality control, showing hot and cold spots to verify there was no heat loss through penetrations. Doing the thermal scans while subcontractors were still on the site allowed the team an ability to communicate real-time information and immediately mitigate potential quality and cost implications.

After a particularly damaging rainstorm resulting in water infiltration, it was thought the entire roof needed to be replaced. However, using drone thermal scan, the team was able to verify and remove spots of moisture – replacing small spots and avoiding the entire roof repair (a \$5,800 savings).

Art integration was at the project forefront. The integrated art pieces are interwoven with the architecture and had to be precisely installed during construction. The exterior features hand-painted imported German glass. In the showers, locker rooms and restrooms, the walls are lined with imported Italian tile. In the gym, the windows are stained-glass requiring the masonry work coordination to leave the necessary space in the 80% block-structure walls. The floating staircase is an eye-popping integrated piece in the natatorium, one of the many poured-in-place structures. Welcoming guests is an art piece of the Colorado mountains – the same mountain range which can be seen from the second-story balcony. As people enter, large steel brightly painted tubes fill the lobby entrance overhead, representing energy and movement the Center makes people want to feel.

Several modifications were integrated into the architectural character of the building to best site this artwork. For example, the running track wall was extended outward to allow for the vertical

glass to span through both floors in the gymnasium. For the three large glass works from artists in Germany, the glass designs were scaled to 100% drawings and rendered by hand with airbrush, vitreous enamel paint, and acid-etching through multiple kiln firings. The artist team collaborated with the build team to ensure the glass would meet all safety requirements and could be integrated into the building's exterior shell.

To support the integrated art, all concrete was digitized. A millworker was brought on to review reliefs. Forms had to be formed horizontally and verified by the design team, then flown in place by crane.

Environmental/Safety:

Surrounded by neighborhoods and with an elementary school next door, safety was at the forefront of the project. Specific safety training included addressing open trenches, excavating, fall protection and scaffolding.

Drones were used to increase safety for reviewing the site, stormwater management, grading/earthwork and roof activity. For the roof, the drone was used before construction began to identify hazards, then used during construction activities to monitor safety and aid in shell inspections.

Heights and fall protection was a project concern since the structure has odd-shaped, tall and large areas for walking on and navigating through. Pre-task planning and fall protection training was essential.

Because of the numerous piers, large amount of machinery and personnel on site, safe travel routes were strategically planned so equipment and personnel had specific safe zones and routes to travel on.

Excellence in Client Service and/or Contribution to Community:

The Center was designed with the community in mind. Directly influenced by resident feedback and a thorough public input process, the center reflects the unique Colorado Lifestyle. Three public meetings were held, allowing community members to express their opinions and give feedback on the design and programming. This input served as the basis of design resulting in

the unique aquatic amenities and one of the most prominent displays of integrated art in a U.S. recreation center.

This initial community planning revealed members wanted programming focused on aquatic amenities. As a result, the natatorium has water features which hold 184,223 gallons of water – a lazy river, a lap pool, a kiddie pool area, warm water spa, an indoor wave pool and North America’s first interactive water slide.

The Center is more than impressive aquatics, however. With two aerobics rooms, a full gym with the ability to be split in half, party rooms, a childcare area, indoor and outdoor fitness spaces and a state-of-the-art kitchen, which includes Viking ranges, a full walk-in cooler and walk-in freezer. The running track meanders throughout the entire facility, breaking from the traditional oval formation commonly found in centers.

The project highlights the ways in which the public can serve as a partner in the design process and how the design and construction industries can have a transformative effect, not just on the built environment, but on the community as a whole.

“The community was at the heart of this project,” said Gudmundur Jonsson, Populous Principal-in-Charge on the project. “We designed the building with the goal of cross-promoting activities, making them visible throughout the center. This design allows visitors to customize their own experience, and increases user involvement across the facility.”









