

**Category:** 9 – Best Building Project – GC (\$10 - \$40M)

**Contractor:** Saunders Construction

**Project Name:** Fossil Ridge Public Safety Center, Thornton, Colorado

There's no doubt that construction projects can significantly impact lives. But can a construction project change how we look at history? Just ask the City of Thornton and the Denver Museum of Nature and Science (DMNS). These organizations have a firsthand understanding of the potential impact of a single decision by a construction crew.

When the design-build team of Saunders Construction and Roth Sheppard Architects embarked on the Thornton Public Safety Facility, they knew it was an important one to the community, especially for the first responders using the facility on a daily basis. Just as they do at the start of every project, Saunders and the team met to discuss plans to overcome any potential project challenges. At the onset, their biggest challenges were related to meeting the project schedule and needs of two distinct departments — each requiring vastly different operational needs while sharing one highly secure and sustainable 35,000-square-foot facility.

The police portion of the facility includes office space, detective stations, field training and interview rooms and a holding area. The fire station scope includes a kitchen, day room, sleep rooms, showers and tool rooms. This area also includes a decontamination room that houses specialty equipment to clean firefighter gear after each emergency response. The two departments also share spaces such as a workout area, locker rooms and community room. The publicly-funded facility is critical to each of these departments' ability to effectively serve their growing number of constituents.

The project began as a relatively straightforward one — build a new home for first responders in Thornton's police and fire departments. It quickly became a once-in-a-lifetime experience for the owner, the project team and the area's greater scientific community when a sharp-eyed

geotechnical engineer noticed something out of place in the soil and spoke up. The events that followed turned a typical project on a typical site into a hotbed of scientific discovery.

It was a hot August Friday afternoon in 2017 and crews were wrapping up the last caisson pour of the day. Terracon geotechnical engineering technician Dan Wagner was onsite inspecting soils and the concrete pour when he noticed something out of place. Using his boot to dislodge sandy soil attached to what looked like an out-of-place, quarter-sized, rock or stick, he grabbed a shovel and started digging. That's when he heard a loud "clank" in what was until then a consistent soil. He quickly called to the Saunders crew self-performing the concrete. After hearing what Wagner thought he might have found, Saunders concrete superintendent Justin Cooper called for an immediate halt to the work.

Anyone who works in the industry knows how intense the pressure can be to work as quickly and cost-effectively as possible, so a decision to call a halt to work onsite is not made lightly. After conferring with the team at work with the caissons, Saunders Project Manager Aaron Pollick knew it was the right thing to do.

"There was never any hesitation for our crews about whether to say anything," Pollick recalled. "If this turned out to be what we thought it might be, its impact could be enormous. If we were wrong, we would figure out how to make up a day. We wanted to make sure we weren't about to cover something important up forever."

Crews finished up the caisson pour, filling the drilled pier as intended, ensuring site conditions were safe. They then fenced off the surrounding area and got on the phone with appropriate city representatives to make sure they were doing all the right things the right way. The team met a local paleontologist that Sunday who described the find as pre-historic. On Monday, Dr. Joe Sertich, curator of dinosaurs at the Denver Museum of Nature and Science, confirmed that construction crews had indeed unearthed a dinosaur!

This discovery changed everything for the construction project management team and crews. The most important questions became, "How do we transform the construction site into an

archeological dig site compliant with scientific standards? How can we adjust our construction sequence to ensure the safety of all paleontologists, scientists and volunteers excavating, while keeping pace on the project to meet its original goals?”

The fossil location was essentially in the worst spot possible, at inside corner of the “L” shape of the building, a corner shared by both police and fire departments. The Saunders team developed a safety plan to accommodate the DMNS team by providing a fenced in work area, shade structures, tables and chairs, portable toilets, and clear paths of travel so they could work safely and self-sufficiently without significant impact to the surrounding construction.

Caisson drilling was re-directed to the opposite side of the foundation and concrete forming crews shifted sequence, placing concrete clockwise around the perimeter and ending at the intersection of the “L”. This approach allowed nearly five weeks of fossil excavation and extraction without impacting the overall project schedule.

During excavation, that shovel clank Wagner heard was originally believed to be the shoulder blade of a Triceratops. After extraction was complete and fossils cleaned, DMNS was able to determine that it was actually a Torosaurus, a close-but much rarer-relative to the Triceratops, and the first of its kind ever to be found in Colorado. When all was said and done, the find included 95 percent of the Torosaurus’s skull along with 20-25 percent of its body, making it the most complete Cretaceous period fossil ever discovered in Colorado.

The city, the project team and the staff at DMNS are quick to express their pride in the project and its surprising and historic discovery. In a televised special aired on CBS4 last December, Sertich and DMNS President and CEO both expressed their gratitude to the teams from Saunders and Terracon.

“I totally imagine that there are dinosaurs that are being dug up and plowed over all around the Denver area... weekly,” said Dr. Sertich. “There are so many fossils that are just below the surface, and there’s so much active construction going on in the Denver Metro Area, that I’m sure dinosaurs are being hit constantly,” he added.

“When you’re working construction and your boss is saying ‘Let’s get this thing done’ and you’re under time pressure and cost pressure, when you find something like this it’s really easy to just keep grinding away and just avert your eyes,” said DMNS President and CEO George Sparks. He calls the construction crews “heroes” for doing the right thing, resulting in a once-in-a-66-million-year opportunity.

The city is incorporating its gratitude of this find by transforming part of the Thornton Public Safety Facility’s lobby to include exhibits and signage about the discovery and its impact on the city of Thornton and the field of paleontology as a whole. Realizing the impacts of those crews decisions that Friday afternoon, Thornton city council provided a resolution honoring the foresight and actions of the construction crews that historic day.

**CBS 4 Documentary Special on Fossil Find:** <https://youtu.be/qMFjqXegfYU\>



Photo: DMNS Staff and Volunteers as well as Saunders Staff help with Fossil Excavation

Photo by: DMNS



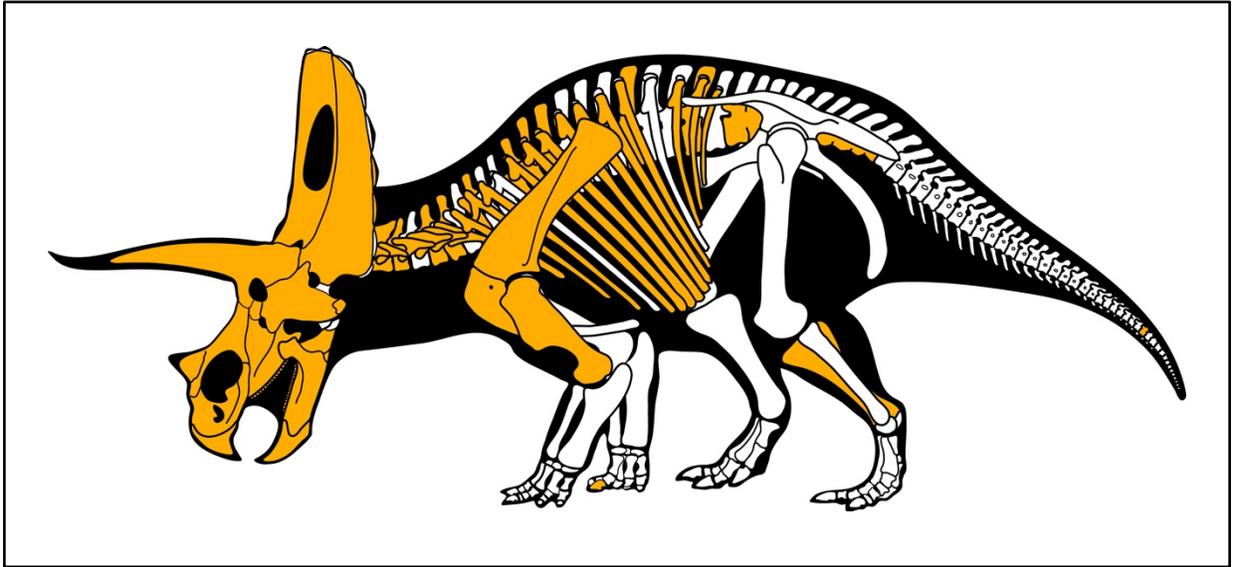
Photo: Fossil Excavation Containment Area | Photo by: Saunders Construction



Photo: Dr. Joe Sertich and Saunders Superintendent Just Cooper with Fossil | Photo by: DMNS



Photo: Close Up of Fossil | Photo by: DMNS



Graphic: Bones Discovered at Site | Graphic by: DMNS



Photo: Exterior of Fossil Ridge Public Safety Center | Photo by: Saunders Construction



Photo: Fire Engine Bays of Fossil Ridge Public Safety Center | Photo by: Saunders Construction



Photo: Police Sally Port of Fossil Ridge Public Safety Center | Photo by: Saunders Construction



Photo: Holding Cells of Fossil Ridge Public Safety Center | Photo by: Saunders Construction



Photo: Evidence Processing of Fossil Ridge Public Safety Center | Photo by: Saunders Construction