



KHS&S CASE STUDY

THEMED ROCKWORK AND CONSTRUCTION TRANSPORTS GUESTS INTO REALMS OF STORY AND EXPLORATION

OVERVIEW

Meow Wolf believes in the power of creativity to change the world. Forty KHS&S artisans and craftsman helped fulfill this mission transforming the five-story, 90,000 square foot Downtown Denver Meow Wolf into an immersive experience. A collection of three main portals made up of the Swamp, City Street and Ice World showcases interactive art from more than 110 Denver-based and Meow Wolf artists. Work extended over eight months with multiple hurdles to overcome. Designed as a massive psychedelic swamp, the rockwork's fluid shapes transform into organic vines that look alive and moving through lighting and sound. The exhibit interconnects with passageways, caves and portals telling vibrant stories through non-traditional art.

From the partially completed scale model, KHS&S artisans completed the model to approval status. The model was scanned inhouse and 3D photos were sent to the site as a guide for installation. From the scale model, rockwork and other artistic elements were broken into a grid pattern and completed in sections starting from the ceiling on down.

Rebar was shaped and prefabricated by KHS&S Archetype master artisans, measuring and bending the rebar to fit the intent. In this case digitized and manipulated by hand. For the 6,000 square foot ceiling, KHS&S fabricated the rebar and rockwork to meander around light boxes, chrome and mirror ACT pools and the HVAC system that required a certain percentage of gaps for necessary air flow.

Materials management was critical as on-site storage was limited. Partnering with Denver-based Dutch's Masonry to supply the plaster pump and related manpower allowed the

KHS&S artisans to focus on their craft. A large outside pump fed two smaller pumps that could be maneuvered around the tight catwalks and limited floor space. Five texture techniques including gun texture, molding cloth, paint on drywall, direct apply plaster and 3D plaster were required to create the desired look. Molding Cloth was adapted into gigantic mushrooms to become its own art element adding to the ceiling to wall transitions.

The KHS&S team worked closely with Denver and Meow Wolf artists during the placement of their imaginative art elements. During installation in one of the offshoot caves, panels with gems, mirrors and marbles of various sizes, shapes and colors were delicately transported by KHS&S to the jobsite from the artist's studio. The panels were set in place with plaster to form a seamless transition. Working six feet apart following COVID-19 protocol, the artist followed the plaster team to add elements, but was concerned the plaster was drying too fast. The KHS&S team quickly assisted the artist to set the mirrors, gems and marbles into place.



KHS&S became the driving force at maintaining the schedule and managing the workforce using Lean Construction practices of Schedule Planning and Pull Planning. Eight Stand-Up Boards identified work sequences and timelines. KHS&S initially conducted weekly meetings with the Meow Wolf project team and soon the general contractor Turner Construction and Tower Electric joined the meetings as they saw the value of working collectively. These Lean tools helped the team analyze and determine new completion dates quickly, organize work crews and identify any anticipated added costs, up to three months in advance to ensure deadlines were met.

PROJECT SCOPE

- 3D Rockwork Plaster
- Molding Cloth
- Perforated Wall Panels
- Scenic Paint
- Direct Apply Plaster
- Wall and Ceiling Mirrors
- Unistrut Grid at Ceiling
- Framing/Fabric for Light Boxes at Ceiling
- Reflective Film
- Fabricate and Install Artwork in Swamp
- GFRC and FRP for Select Artwork in Building
- Polygem Sculpting and Scenic Paint
- Acoustical Carpet

No time was lost due to work-related injury, which is significant on a project of this magnitude. Workers were given the tools and knowledge to remain safe, including understanding the inherent risks of working at great heights and in a confined space.

BY THE NUMBERS

- 30,000 square feet of interior rockwork
- 24,000 square feet plaster
- 71,960 linear feet rebar
- 5 plaster finishes
- 18 themed paint colors
- 36,000 manhours to complete

Environmental procedures were also developed to contain toxins created from plaster pumps and additional site practices ensured there was no stormwater runoff into nearby South Platte River. Adding to these extraordinary project challenges, this major undertaking took place during the pandemic. In an already tight work environment, a strict COVID-19 policy with testing, sanitization and distancing was adhered to. As Meow Wolf Denver guests experience a surreal journey of the senses through light, music and art, the rockwork and theme finishes created by KHS&S artisans are also on display adding to this immersive non-traditional art installation.

