KANSAS CITY CAMPUS FOR ANIMAL CARE
KANSAS CITY, MISSOURI
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Grand Construction Builds State-of-the-Art Campus for Animal Welfare

HNTB DELIVERS EFFICIENT, WELCOMING DESIGN FOR PEOPLE AND PETS

On January 1, 2020, the Kansas City Campus for Animal Care (KCCAC) will open its doors in Swope Park. The opening comes on the eight-year anniversary of Kansas City Pet Project taking over management of the former main shelter and adoption center at 4400 Raytown Road. The former address was on the west side of Raytown Road, across from Arrowhead and Kauffman Stadiums. The old facility will no longer service animals after the first of the year.

The new campus is located at the northeast corner of East Gregory Boulevard and Elmwood Avenue, on an 18-acre site. This places it at the center of an animal corridor stretching from Swope Park Zoo on the north to Lakeside Nature Center on the south.

The main building is a slab-on-grade, steel frame structure containing 54,397 square feet. The facility includes a full-service veterinary clinic, an education pavilion, a retail pet supplies store, a café, patios, and walking paths. A separate out building on the northeast contains an additional 2,000 square feet. The campus will provide services annually to over 10,000 animals and 25,000 families throughout Kansas City.

KC Pet Project is a 501(c)(3) nonprofit charitable organization and the third largest no-kill, open admission animal shelter in the United States. Open admission animal shelters take in abandoned, owner-surrendered, and stray animals.

In addition to the new main shelter and adoption center at Swope Park, KC Pet Project operates the Zona Rosa Adoptions Center at 8721 North Stoddard Avenue in KC MO and the Petco Adoption Center at 11620 West 95th Street in Overland Park, as well as nine Petco locations for the adoption of cats.

The new facility will be a boon not only to the animals, but to the staff and volunteers caring for them. As then-Mayor Sly James stated at the KCCAC groundbreaking on June 26, 2018, “This is going to be a truly magnificent project not only for our four-legged family members but our two-legged family members as well.”

The old main shelter and adoption center was located in a 14,000 square foot, converted construction storage building. The shelter’s vet clinic was located in a mobile trailer at the site.

In the new facility, nine administrative staff members worked in cramped quarters. In the new facility, five of them have office windows (on the west). Other staff have partially enclosed offices illuminated with borrowed sunlight. The new office area also has a dedicated conference room. There was only one toilet in the former facility for men, women, staff, volunteers, and adopters. The new building has two large restrooms and three single restrooms. The staff now have their own restroom, which has an additional practical advantage: “When the staff come in during the morning, they won’t need to leave their area. This will help eliminate the occurrence of cross contamination,” said Chad Ackerman, Owner’s Representative for Kansas City Pet Project.

The project was completed on time. “Construction of this building literally started and continued through the toughest winter and the wettest spring in memory, yet the project stayed on its original schedule,” said Chris Doyle, Senior Project Manager, Grand Construction Company LLC. “That is in great part a credit to the subcontractors.” There were no injury accidents.

FINANCING

On April 4, 2017, voters approved an $800 million capital improvements program to use revenue from the issuance of general obligation bonds (called “GO” bonds) for infrastructure improvements across Kansas City. On March 6, 2018, the Parks Board approved a cooperative (continued on next page)
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agreement in which the City would contribute $18 million in GO funding for the KCCAC. With the City Council’s unanimous approval of the agreement on April 5, 2018, the KCCAC was authorized to enter into contracts for professional services as well as the design and construction of the project.

In addition to the City’s $18 million contribution, the private sector has made over $5 million in cash commitments and almost $5 million in pro bono services toward construction of the campus. The total construction cost is $26 million.

The construction project adheres to prevailing wage law, minority hiring requirements, and workforce development programs. Grand Construction’s workforce on the project was represented by 13% minority workers and 13% women workers, significantly exceeding the original goals of 12% and 7% respectively.

**PROJECT TEAM**

In accordance with KCMO’s requirement that City projects be publicly bid, KCCAC was posted and bid at the Kansas City Plan Room at http://www.kcmoplanroom.org/. The KCMP Plan Room website is hosted by The Builders’ Association.

Grand Construction Company LLC was the Construction Manager at Risk for KCCAC. Grand Construction was represented by Chris Doyle; Justin Talken, Project Manager; David Wille, Superintendent; and Silas Garcia, Superintendent.

HNTB Corp. was the Design Architect and Architect of Record. The HNTB team was represented by Katie Moorman, IIDA, Associate Vice President/Practice Leader – Interior Architecture, and David Bagot, Project Architect.

The initial design concept was completed by HNTB’s Director of Design, Mathew Hallett, RA. HNTB Corp. issued its certificate of substantial completion on November 25, 2019.

Both Grand Construction and HNTB are members of The Builders’ Association.

The Owners are the City of Kansas City, Missouri, and the Kansas City Campus for Animal Care (KCCAC).

Grand Construction also built the nearby Swope Soccer Village at 6310 Lewis Road. The soccer complex was first dedicated in 2007, with further renovations completed by Grand Construction in 2014. The facility is a public-private partnership between the KCMO Parks Department and Sporting Club, the parent organization of Sporting Kansas City.

**BENCHMARKING**

During preconstruction, Chad, HNTB, and the owners and their representatives researched best practices in animal sheltering by traveling across the United States. “They looked at existing facilities and shelters and vet clinics for the best ideas, and they brought them all back here,” commented Chris.

“One concern in the Midwest is our extreme temperature swings, so we targeted a variety of climates. We started out in the San Diego area. We visited the Denver Animal Shelter and the Humane Society’s Pikes Peak Region. We also visited Texas, Louisiana and Florida – over a dozen facilities,” said Chad.

“We wanted to learn about the climate control needs of the new facility and how certain materials would hold up here. We decided to use CMU [concrete masonry unit] block extensively due to its durability. The animal spaces are primarily CMU,” he added.

“Drywall is used in some of the back of the house, people-only areas,” noted Chris. “We could’ve used more drywall inside the building, but given the programing needs, CMU was the right choice.”

“The exterior of the building is all metal panel,” commented Kacie. “Different kinds of metal panel were used for visual interest, texture, and durability. The faux wood panel siding is an extruded, rather than bent, aluminum plank, so it’s very rigid, even though it’s aluminum. The charcoal panel, which is a sheet of aluminum, is much thinner than the extruded product, but gains strength from being bent.”

“During the preconstruction process, we looked at metal siding, wood siding, and faux wood siding to see how these materials responded to the heat and UV light in different locales,” commented Chad. “Then we cross-checked various materials with the City’s budget planning team. The desire to build with long-lasting materials drove a lot of the benchmarking,” he added.

“During preconstruction every part of the building was deliberated – how to build it, what to make it out of, and how to lay it out,” said Chris. “The floor plan took a long time to be fully established because every activity and every job needed to be considered. The visitor experience from when they hit the parking lot to how they move through the building and how they get back out was thought through in painstaking detail.”

**SMART BUILDING PROGRAM**

The project team followed KCMO’s Smart Building Program. The program achieved almost all of the same goals at a lesser cost to the facility than if it had been submitted for a LEED rating or certification, noted Katie.

“The City has taken the spirit of LEED but edited requirements to project-specific needs. The building, given that it’s an animal shelter, wasn’t designed to meet a number of base LEED requirements such as pertaining to the use of water needed for sanitation. The City set forth a list of 14 requirements, all of which we incorporated in the design.”

The building has a flat white TPO roof. The exterior walls are heavily insulated and meet current energy code and air barrier requirements. High-performance, energy efficient glass is used throughout. There is also an electric vehicle charging station on the south lot.

**SITEWORK**

Grand Construction was involved in the preconstruction process for more than a year prior to signing the prime contract, which was dated December 25, 2017. They began site construction, including the initial rough grading and placement of an overburden of dirt, on July 9, 2018.

The campus was built on a lightly-wooded, rocky site. The land originally fell off about 10 feet below Elmwood. The original site had crests on the north and south and required more than 20-foot deep fills in the middle,” explained Chris.

“We built the entire fill and elected to put a 10-foot burden of dirt on a good portion of the site to deep-consolidate the earth,” he stated.

“You have to let it set for several months and monitor it with settlement plates. Once the dirt stopped settling, we could remove the overburden and build the pad. The alternative would have been [continued on next page]
**KCCAC (continued from page 3)**

been to build deep foundations,” he added.

The site has a steep slope down to Crest Drive and Blue River on the east. The canine play yards on the east side are built on an elevated, mechanically stabilized earth (MSE) retaining wall due to the steep grade.

“We went through many concepts for this site given the grading challenges,” said Katie. “In one concept, the animals would come in on a lower level. The client and end user, KC Pet Project, felt this would be stressful for the animals given that they are moving about the building all the time. By keeping the facility on one level, we were also able to avoid the cost of an elevator.”

The project team took care to protect the site. “Significantly more trees were planted than removed in accordance with Kansas City Parks & Recreation requirements,” commented David.

Grand Construction built the retention pond on the southeast for storm water runoff. A walking trail around the perimeter of the pond is ADA-compliant and provides an easy path for dog walkers. Vegetation around the water line is used for water purification. The water will catch on the west (silt) side and any overflow water will run to the east.

**BUILDING INFORMATION MODELING**

Grand Construction’s subcontractors populated a single BIM model. “The mechanical contractor served as the lead coordinator for the BIM model,” said Chris. “The structural, electrical, plumbing and fire protection contractors fed their changes into the mechanical contractor’s model, which HNTB worked off of as well.”

**SOUTH AND NORTH ENTRANCES**

The south entrance is the public entry for events, adoptions, and volunteers. The main lobby has a standing seam sheet metal roof and clerestory windows.

Glulam beams in the lobby help recreate the feel of a park shelter. The columns feature the same native Kansas limestone used on the south entrance exterior, north entrance to the vet clinic, and throughout the park. The stone is dimensional and not a veneer; it was stacked rather than glued onto the façade.

The lobby has perforated acoustical decking with sound-absorbing insulation inside. “The lobby could potentially be very noisy because of the animals, so it was important to dampen the sound. Since this is a shelter, we also wanted to minimize the use of soft materials that absorb fluids or smells,” explained David.

A selfie wall is located on the north side of the lobby. When people adopt a pet, they can stop and take their pictures underneath a banner that says “We ♥ KC Pet Project!” and post them on social media.

On the east side of the lobby is a video wall which will provide educational content for the public. The video wall is comprised of nine large TVs grouped together with a bezel for seamless viewing.

Planks of Douglas fir frame the open retail enclosure on the west side of the lobby and return down to the concrete knee wall. There are 750 square feet of retail space for pet products. The windows on the east side of the lobby look out to a 2,000 square foot patio overlooking the parkland and river. The event patio has a large fire pit with cast stone bench seating and is fenced in so animals can also enjoy the space.

The distance from the floor to the ridgeline in the lobby is 30’ 2”. A cable structure on the beams includes the bottom chord of the truss. The center fins extend from the ridgeline down to this chord. The absence of large exposed ductwork enhances the feeling of openness. (There is some ductwork along the perimeter for air conditioning.)

The walls on the north of the lobby separate the public from the private space. On the northeast end of the lobby is the entrance to the dog adoption corridor, which runs the length of the building.

Glass is used extensively on the south, east and west side of the lobby. Clerestory windows beneath the pitched roof bring additional sunlight into the space.

There is over 35,000 square feet of epoxy resinous flooring in the facility; the rest is polished concrete. “The use of polished concrete in the lobby is very intentional since it will be cleaned extensively,” said Chris. A hydronic radiant floor system heats the lobby space.

The north entrance is used for the admission of sick and injured animals, the retrieval of found or seized animals, the drop off of stray animals, and access to the vet clinic.

A garage extends outward to the north. One door is for deliveries and donations. Two doors open to animal services sally ports. When an animal services truck arrives it will enter the garage, the door will shut so that everything is secure, and the animals will be retrieved from the truck compartments. There are separate holding rooms for dogs and cats. After they are vaccinated they will be processed on through the shelter for adoption.

**VET CLINIC**

The vet clinic at the old facility had one surgery bed and contained 1,000 square feet. There are now four surgery beds in a 16,000 square foot area.

Solar tubes bring sunlight into the interior clinic and hospital spaces. The solar tubes have a polished sheet metal interior that captures daylight from an entrance point above the roof and delivers it inside the space. “Even animals that are confined indoors for medical care will have access to natural light,” noted Chad.

“Just about every kind of modern HVAC system has been used in this building,” said Chris. “There are large roof top unit packages. Many areas of the building have 8-10 air change-outs per hour for animal health and air quality.

“In other parts of the building, like the surgery suite, different building pressurizations are required, just as there would be with a human surgery suite. Some rooms are negatively pressurized and others are positively pressurized. Quarantine wards for canine parvovirus and feline ringworm are negatively pressurized for infection control,” he added.

“We ultimately built a hospital in the center of this building with human grade hospital air exchanges,” commented Chad. “During the first six months of their lives, dogs are very... (continued on next page)
susceptible to illness and canine parvovirus."

**OUT BUILDING**

“The operations agreement with KCMO requires that the Kansas City Pet Project take a variety of animals that aren’t what you would consider domestic pets, such as peacocks, reptiles, chickens, pigs and goats,” said Chad. “They are temporarily housed in the stand-alone building on the northeast. A wild animal like a raccoon or squirrel will be taken to Lakeside Nature Center.”

The east side of the out building has fenced-in enclosures which provide outdoor space for the animals within a protected environment.

**FEAR FREE CERTIFIED**

“Whenever we give tours to donors, we talk about how this is a next generation facility,” said Chad. “First and foremost this facility will seek to be fear free certified by the American Veterinary Medical Association. No species within the walls of this facility will ever meet face to face with another species. The cats are on the southwest portion of the building and the dogs, which require a larger footprint, are on the east. Keeping the cats and dogs separate reduces stress, especially in the cat population.”

**DOGGIE DISTRICTS AND PLAY YARDS**

“In the old facility there were 200 dogs in one room, so when one dog barked, 199 others heard it and they barked,” said Chad. “In the new facility there are nine different doggie districts where building materials will help contain the sound so that the dogs are more calm and relaxed. We will hope to see fewer behavior issues, which will in turn increase their adoptability.” Each doggie district is 70’ (east-west) by 22’ (north-south).

“Early on during the benchmark trips we learned that at most shelters, everything is encased in CMU. It felt very enclosed. The fact that we could integrate some glass to open up the space was very important,” said Chad.

On the east side of the shelter are 14,000 square feet of canine play yards. Every adoptable dog is walked twice a day. Dogs that are not able to leave their cages are housed in the northernmost dog district (or bay), which has operable windows so they can still have plenty of light and fresh air.

The play yards are sub-sectioned off into 14 yards so that multiple dogs can be out at a time. The play yards have artificial turf (with a drainage system) and large solar shade structures.

“It is a Department of Agriculture requirement that a certain percentage of artificial turf has to be shaded so the turf won’t get too hot,” commented David. “The shade structure has uplighting which creates a very cool accent at night,” noted Chris.

The play yards are set up in a variety of sizes for different play groups,” stated Chad. “When the dogs arrive, they are tested with other dogs to see how they behave. Some dogs like to play with only one dog, while others can be put in a large pack.

The doggie districts are just 12 feet west of the play yards. Prospective adopters can meet the dogs in a play yard or in one of the interior meet and greet rooms located on the west side of the districts.

Each district is contiguous to the other, and each of the interiors walls has a window allowing sunlight to illuminate the space. The windows are set high enough off the ground so that the dogs cannot see one another through the glass.

There is a separate play yard on the west side of the building. Dogs that have been hospitalized or are in isolation have direct exterior access to this play yard so they won’t be exposed to the general population.

**CATIOS**

Catios are located just west of the main entrance. Porcelain tile cat shelves provide an ideal place to relax, especially when warmed by the southern exposure. The catios are enclosed with wire mesh similar to a screened-in porch. To the north are five cat roaming rooms and several cat condos where prospective adopters can meet and greet the cats.

“The catios will have their own video camera so the cats can be viewed live on the Internet by people who just enjoy watching them,” noted Chris.

The space on the southwest corner will house cats which have feline leukemia (referred to as FeLV cats), the second leading cause of death in cats after trauma. The FeLV cats will be physically separated by glass from the other cats but still have access to a catio.

**COMMUNITY EDUCATION PAVILION**

A large, 1,500 square foot community education pavilion on the south side of the building extends east from the lobby and overlooks the patio and pond. A warming kitchen and coffee shop are located on the west side of the pavilion. The coffee shop faces the entrance vestibule and has a walk-up window so patrons can purchase coffee without going inside.

The north and south education rooms are divided by an operable partition wall and are equipped with sophisticated audio/video systems.

“Groups can have a professional development event in the morning, cater lunch, enjoy lunch on the patio, and then finish their day in a fun way by having animals brought in,” said Chris. “This gives KC Pet Project added revenue-generating ability. The space will accommodate all kinds of events,” he added.

**NEXT GENERATION**

“We call the KCCAC a next generation shelter with technology,” said Chad. A former director of Institutional Research and Predictive Analytics at Park University, he continues to be involved in projects such as the development of data-driven visualization tools forstrays. “KC Pet Project wants to be able to figure out and target specific zip codes around the city where animals are always getting out. With this information we can provide the educational tools for change and reduce the number of strays.”

KCCAC has 29 wireless access points. “It was built to be tablet-oriented,” said Chad. “There is a huge ammount of data running in cable trays and numerous port locations.”

Of the more than 200 doors, about 125 are lockable, and about 56 have card swipe access control,” stated Chris. “A lot of the card swipes are designed to control cross contamination. You want to make sure that someone who has ringworm on their shoes isn’t inadvertently tracking it through the clinic.”

**MUSIC**

Speakers are located throughout the interior. There are also outside speakers along the south entrance canopy. “Music will help enhance the visitor experience, whether they’re here to adopt a pet, walk the dogs, or donate their time,” said Chris.

“The audio system is able to distribute different sounds to seven different areas,” he continued. “Specific styles of music have been found to be therapeutic, so we can play one type of music that has been shown to have a calming effect on dogs, and another type of music that can have a calming effect on cats. KC Pet Project has music down to an art to calm the dogs and keep the peace.”

**A FACILITY OF THE HIGHEST QUALITY**

The official grand opening of the Kansas City Campus for Animal Care will be on Friday, January 24, 2020. The lifesaving new shelter is a source of pride and a cause for celebration.

“One of the things I’m proudest of is how open and clean the space is, how much daylight comes in, and how you naturally know, as a member of the public, where to go once you arrive onsite. For the staff it is likewise clear what the natural flow through the spaces is,” commented Katie.

“We are grateful to Kansas City voters for saying yes to this project. We’ve endeavored to provide them with everything they wanted and deserved,” added Chad. “Every effort has been made so that the animals can be cared for in a facility of the very highest quality.”

KCCAC (continued from page 4)