

Elephant / Giraffe Pavilion Building and Yard Renovations 2004-2007

Project Goal

In 2004, the zoo began a planning process to expand its current Elephant / Giraffe Barn and Outdoor Yard. Working closely with the Animal Care Division, Project Management and our outside consultant Yoder Tidwell Ltd., we met weekly with the General Curator, Vet Department, and the Area Lead to develop a plan that addressed spatial, husbandry, animal health, safety, and enrichment needs for both our elephants and giraffes.

Interior Giraffe

The first phase of the project included the addition of an 800 square foot giraffe holding room, new safer/stronger barrier material in our existing giraffe holding area, a new chute with a built-in at-grade scale, and a transport chute to make shipments safer for staff and animals.

The new chute and transportation chute were equipped with operable panels which provide access to all key points on the animal. The chute has a moveable wall, which minimizes animal movement while in the chute. The chute is also equipped with a 4000# hoist system which allows keepers to support/lift an animal when in the chute for a veterinary procedure.

The holding space was equipped with radiant heating in the new concrete floor. The radiant heat will act as a primary heat source. A new forced hot air supplemental heat source was added as well to keep the building warm during colder days and evenings. The combination of the two heating systems will ensure a uniform heat supply (both high and low) for our giraffe collection.

A goal of Animal Care was to provide multiple substrates for our giraffes. To accomplish this, we selected two areas in the building that were treated with a rubberized floor coating product. The product, SRI, was used to rubberize our front display room (1,100 square feet), and Stall #3 (800 square feet). The areas rubberized represent approximately 80% of the interior space dedicated for giraffes. The remaining surfaces within giraffe holding are concrete.

Other items worth mentioning that were installed as part of the project include a 4'X6' access hole located between back holding and front display. The opening was created to allow neck contact between the male and females when separated. We installed new feeders that can be mechanically raised and lowered by the keepers when they are loading them with feed or when they need to adjust heights depending on the size of the animal (male, female, calf) in the holding.

Exterior Giraffe Yard

The former giraffe yard provided approximately 17,230 square feet of useable space for our two female giraffes and one male giraffe. The yard was surrounded by a moat on three sides. The moat was protected by a natural log barrier.

Working with Yoder Tidwell Ltd. and Fred Holman, our contracted Landscape Architect, the yard was redesigned to eliminate the moat and all chain link fence products. Instead, we created a natural rock barrier using large boulders. The newly expanded yard provides 26,280 square feet of useable space for our collection (an increase of 9,050 square feet).

Prior to renovations, our off-exhibit giraffe yard totaled approximately 1,200 square feet. Adjacent to the off exhibit yard, we had a transfer chute that was used to move animals in and out of the larger exhibit yard. The old transfer chute was problematic for both the keepers and our giraffe collection. The keepers had no safe way to open/close the shift gate when moving the animals and the grade within the chute was difficult for the giraffes to navigate given the grade and gate configuration.

After renovations, our new off-exhibit yard was expanded to include 3,500 square feet of holding, an increase of 2,300 square feet, and the transfer chute was eliminated by adding a motor driven giraffe door from our interior exhibit into the outdoor yard.

To accommodate the Animal Care Staff's wishes to provide multiple substrates, a decision was made to create areas in the yard for grass, soft stone dust, and stabilized stone dust (solid surface). We used the stabilized product in areas where we felt washout would occur, and grass and soft stone dust on flatter surfaces.

Elephant Interior Holding

The zoo is currently in design phase for renovations to both the interior Elephant Holding and Yard. Renovations will include three (3) additions to our existing building, yard expansion, and a new pool.

The first addition will be to our existing sand room. The current room is approximately 1,300 square feet. The new addition will add 800 square feet bringing the usable animal space to 2,100 square feet.

The second addition will add a 900 square foot hay storage facility on the west side of the existing structure. Hay is currently stored in stand-alone trailers with minimal climate control. The new building will allow the Animal Care Staff to store more feed product in a computer controlled environment. The computer will ensure that proper temperature and humidity settings are being maintained.

The third addition will add a 700 square foot pump and filtration room which will be used to maintain water quality in the outdoor pool. Above the pump and filtration room, we

will be adding a 720 square foot keeper office. The office will be equipped with surveillance equipment that will be used to monitor animal activity both indoors and out giving the keepers 24/7 surveillance capability. The office will have see-through panels which will allow keepers to view into the elephant sand room maximizing visibility for the keepers. The office will also provide accommodations for keepers performing night watches when animals are ill or when babies are expected.

Project design calls for the creation of multiple substrates within the building. The indoor display room (totaling 1,400 square feet) which had a concrete floor surface has now been rubberized using SRI. Our first off-exhibit stall (totaling 1,000 square feet) will remain concrete, and our large sand room (totaling 2,100 square feet) will have 12" of fine sand over coarse gravel for floor surface.

The project will also include improvements to the building's mechanical systems. The new system will include a forced hot air heat system for the indoor display, radiant floor heat (primary) and forced hot air (supplementary) for the first off-exhibit stall and radiant convection heating for the sand room.

The building will be fitted with a new elephant restraint hallway totaling 170 square feet. The restraint hallway will allow Animal Care and the Vet Department Staff to perform medical procedures in a safe and controlled environment minimizing risk to both our staff and our elephants.

We are working closely with Animal Care to add enrichment opportunities to the indoor holding and exhibit space. A new log mounting system has been installed in the front display. The same design will be used in the off-exhibit holding areas. We will be adding cargo netting and a pulley system to allow keepers easy access when feeding the elephant indoors. The netting will be used to hold hay and alfalfa for the elephants. We have also installed an 'I' beam and trolley system in the front display room which can be used to hang objects that the elephants can move along the beam. We are still exploring the possibility of adding an animal activated misting system in the sand room.

Elephant Yard Improvements

Our current elephant yard is 44,100 square feet. The yard is surrounded by a moat. The 8' deep moat is approximately 20 feet wide which reduces the usable area to 31,400 square feet.

Work will begin in late September 2005 to eliminate the moat and expand the yard. When completed, the new yard will provide 58,400 square feet of usable space for our three elephants.

Our existing elephant pool will be removed to make way for a new pool which will provide easier access for the elephants. The existing pool is accessed using a series of

steps. The steps make it difficult for the elephants to navigate down into the water. The current pool provides 3,025 square feet of surface water with a max depth of 12 feet. Our new pool will provide 3,010 square feet of surface water at a depth of 10 feet. All steps will be eliminated and replaced with a 1:4 slope which will provide easier access. A new filtration system will be added along with a new waterfall feature accessible to the elephants.

The project also calls for the installation of a new mud wallow, sand wallow, and three feeder poles that will be used to dispense hay and alfalfa. We will also add two large 700 square foot shade structures.

Lastly to provide maximum flexibility for the staff and to maximize the amount of time the animals can spend outside, we will be adding 3,200 square feet of outdoor holding. The outdoor holding yards will be located between the holding facility and the exhibit yard.