

The making of “Stream of Life”

by ROSETTA for City Creek Reserve Inc, Salt Lake City, UT



* The first step in the process was submitting examples of past large Rosetta sculptures through Public Art & Practice in Missouri, in response to City Creek Reserve Inc.'s Request for Qualifications (RFQ).



- ❖ Once the three finalists were selected, site information and the theme “Nature, Animals and Creek” were distributed to the finalists with a Request for Proposals (RFP).

KEYPLAN

CITY CREEK

**City Creek:
Art Program:
Ox Bow Area**

**SELECTED
PARKING
DESIGN**

**select parkins design
collaborative inc.**

432 silver lake road
palo alto, ca 94303
t 650.822.5223
f 650.822.5223

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The University of California, Berkeley
Department of Urban and Environmental Engineering
Landscape Architecture Collaborative, Inc.

sheet title:

ILLUSTRATION

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date 24 August, 2009
scale as noted

sheet no. **2**

A LOOKING NORTH AT OXBOW AREA

BID SET NOT FOR CONSTRUCTION

- * Once selected as the sculptor for the project, Rosetta created a small (13" long) model of the proposed design, incorporating a waterfall, flowing water and animals of a riparian habitat.



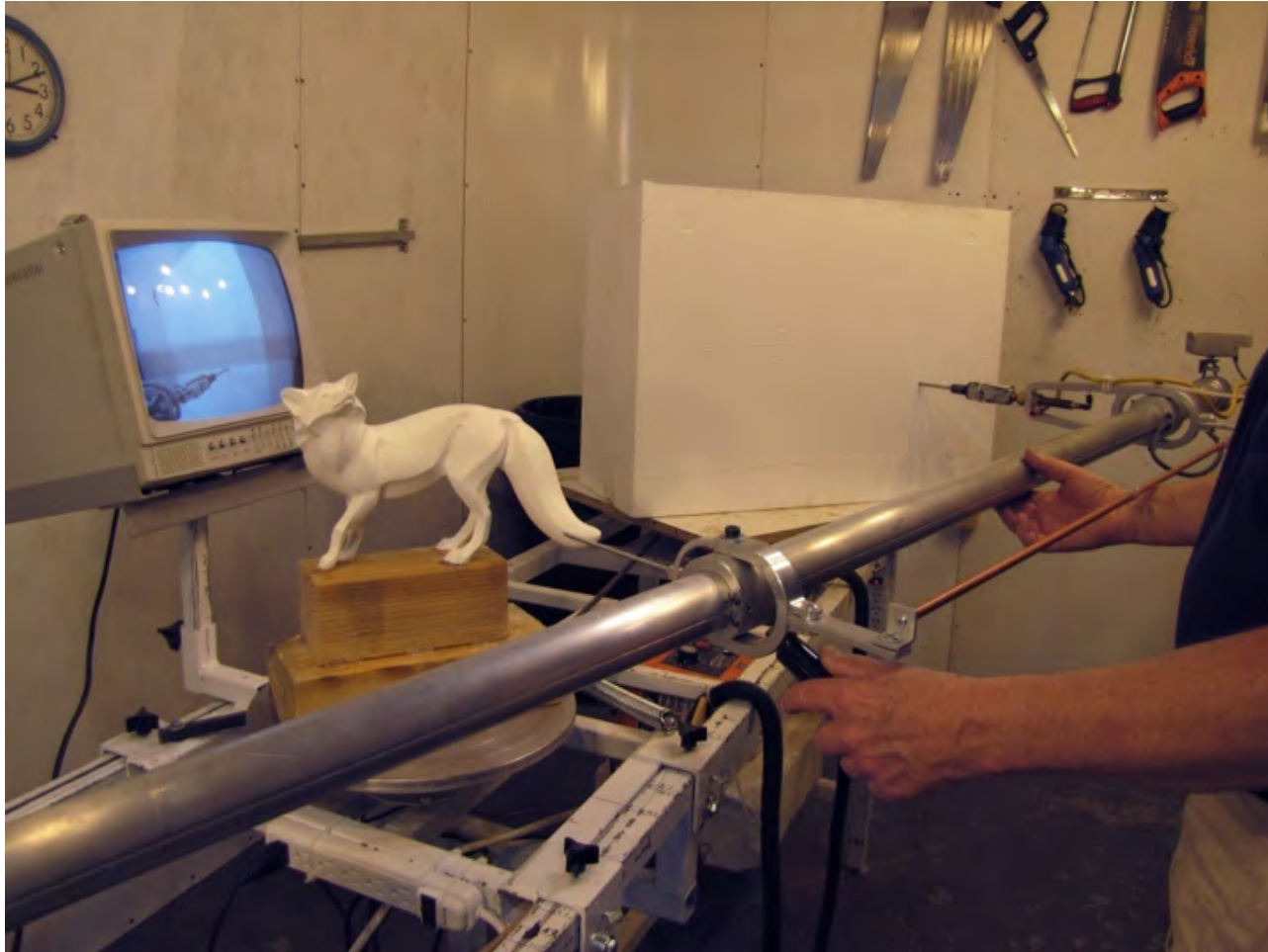
✿ After an eagle was substituted for the pelican at the request of City Creek Reserve, a rubber and plaster mold was made of the clay model and a resin model was cast in it to use for enlargement.



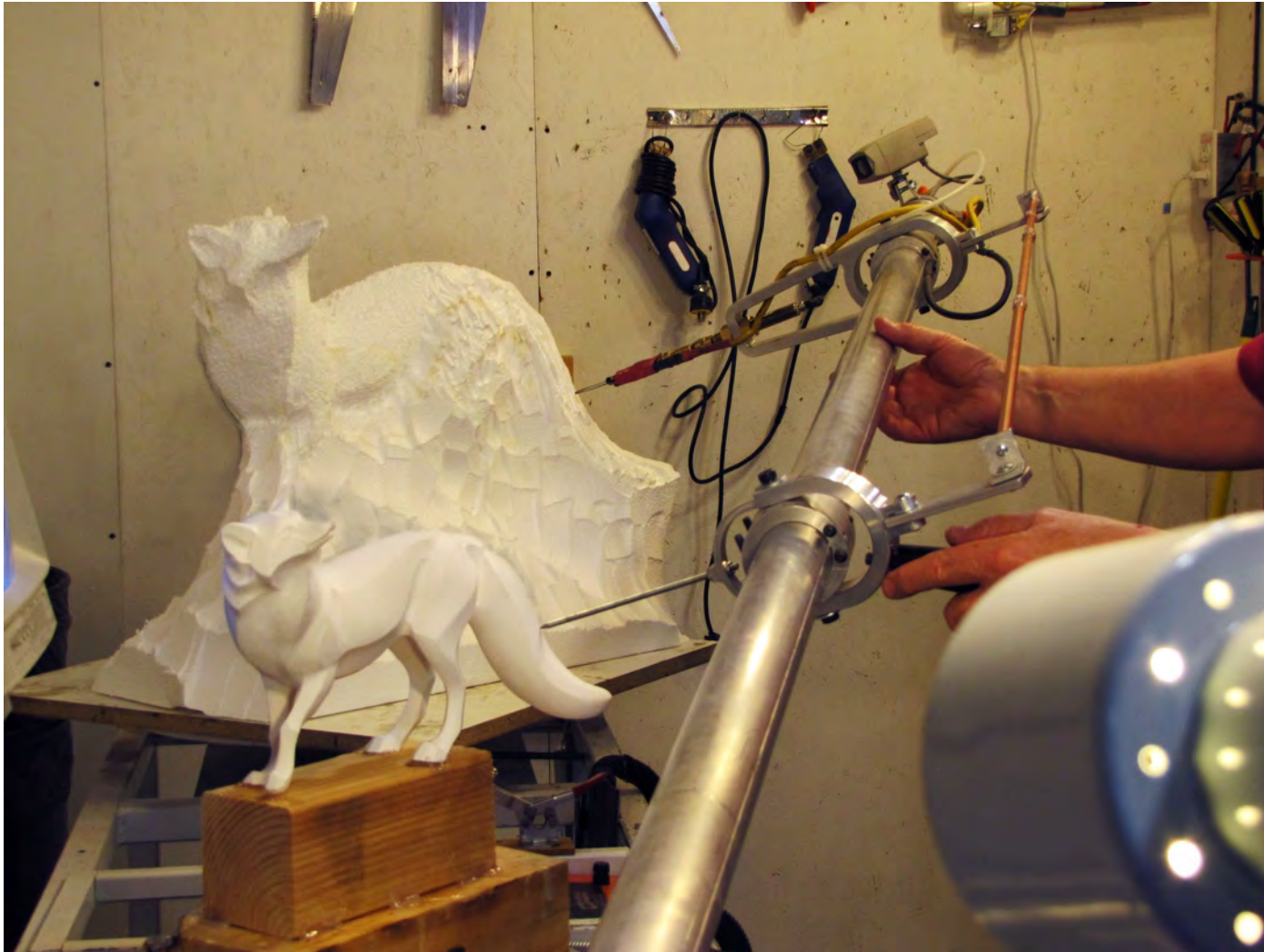
* The small model was then enlarged to four feet long.
The following steps in the enlargement process are shown using another
Rosetta sculpture.



- The enlargement was executed to about 80% finished by Gary DuChateau, of DuChateau Sculpture, using a 3-D pantograph of his own design. After calibrating the machine for percentage of enlargement, the pointer follows the small model and guides the burner on a large block of foam.



- The burner point carves out the enlarged duplicate of the model, slightly smaller than the desired end result to allow room for an added layer of clay.



- A layer of clay is added to the carved foam and points on the small model are transferred to the clay enlargement.



- The heads of white nails locate the points transferred from the small model so that clay can be added to fill out the forms the rest of the way.



- A clay-on-foam enlargement has been created to approximately 80% finish.



- * A four foot long clay-on-foam model of ‘Stream of Life’ was created by this enlargement method and then finished by Rosetta.
- The more nuanced sculpting and refinement of the original rough forms were accomplished at this stage.



* A rubber and plaster mold was made of the four foot long finished clay.



* Two resin models were pulled from this mold: one for the enlarger to cut up and use for enlargement to the final fourteen foot long size and one for Rosetta to use as reference while refining the final large clay.



- ❖ The same enlargement method described earlier was used to enlarge the four foot long model to fourteen feet long in foam covered by clay, delivered to Rosetta's studio in two pieces.



- Refinement of the clay surface was done on the two halves separately until the sections were moved together to finish along the seam.



- Once the final clay was refined, representatives from City Creek Reserve Inc. visited Rosetta's studio for final approval of the sculpture.



* Cut in half again for transport, the large sculpture was loaded into a truck by Shippers Supply Custom Pack to be delivered to the mold-maker.



- * Mold Maker, Dan Ochs, positions the large sculpture in his studio prior to beginning the mold making process.



- Parts of the sculpture that project out the farthest were cut off and prepared for individual molds.



- The remaining larger portion of the sculpture was divided into sections the proper size for casting individually. The dividers used here are actually playing cards which are the perfect size and flexibility for the job.



- A rubber compound was carefully measured and thoroughly mixed and every batch of rubber tested by heating and drying it quickly to be sure that it has been mixed properly to set up correctly.



- The small batch of rubber was painted onto the clay, one panel at a time, working quickly before the rubber started to set up, at which point another batch was mixed and applied to more sections.



- All panels and individual pieces were covered in an even coat of rubber and numbered for future reference.



- Once the rubber had set up, individual batches of plaster were mixed to be applied as backing, or “mother mold,” to support the rubber panels when removed from the clay.



- Hemp fiber was dipped into the plaster to add strength to the mother mold.



- Once a panel was covered with the hemp / plaster mixture, plain plaster was spread over it to create a smoother surface.



- Eventually the entire sculpture was covered in plaster.



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- Once the plaster was dry it could be removed and the rubber peeled off of the clay so that it could be replaced into its mother mold, holding its shape perfectly.



- There were 58 pieces to the “Stream of Life” mold.



* Each mold section was used to create a wax panel for casting in bronze.

- In preparation for wax pouring, Dan Ochs applies a coating of Vaseline to help the rubber adhere to the plaster mother mold, mold release is sprayed on the rubber to make removing the cooled wax easier and the two halves of individual molds are put together and held firmly in place with straps.



- Wax is kept in liquid form in vats at the ideal temperature for pouring.



- Wax is carefully poured into and then out of the mold several times. A thin first coat free of air bubbles catches the fine detail and subsequent coats are added to form a thickness of about 1/8".



- Individual panels require that the wax be brushed on while heating the rubber at the same time. Several coats are applied as with the poured molds.



* The surface of each wax panel was gone over with a soft disclosing wax to fill air bubbles, and heat or sculpting tools were used to fix any rough spots. This process, performed by Kathy Page of Page Inc, is called "wax chasing."



* At the foundry, the wax was transformed into bronze.
The foundry that cast “Stream of Life” is Dragon Castings in Eaton, CO.

- Wax rods called sprues and gates and cups for accepting the bronze were attached to each wax piece with an understanding of how the bronze would flow into the shape and how air would escape.



- Each panel, with its network of sprues and gates, was dipped into a vat of ceramic slurry.



- After the slurry, each panel was dipped into a vat of silica sand which is injected with air, enabling the panel to be easily immersed and coated with the sand.



- This process was repeated many times to build up the shell mold on all sides of the panels (and both inside and outside of hollow pieces). Each panel was air dried between each coat of slurry and sand and after the final coat.



- In preparation for the bronze pour, ingots of bronze are put into a crucible.



- The crucible is lowered into the furnace and the bronze heated to 1800° to 2200°F.



- After the shell molds have been fired in the kiln to harden and melt the wax out, they are heated again just before the bronze pour.



- The hot shells are placed open end up in a sand box.





- When the proper temperature is reached, the glowing hot crucible is removed from the furnace and carried to the sand box full of molds for pouring.





- Each mold is carefully filled with molten bronze until the crucible is empty.



- Cool air is blown onto areas of each mold where bronze will collect the thickest to help all parts of the bronze to cool evenly.



- Once the bronze has cooled, the shell mold is broken off and the cast bronze cleaned to reveal the results of this complex process.



❖ Assembly of the bronze pieces is like putting a puzzle together, expertly achieved by Eric Mesplé of Mesplé Metal.

- Individual panels are welded together and any warpage from the casting process is manipulated back into shape with various hydraulic and manual tools.



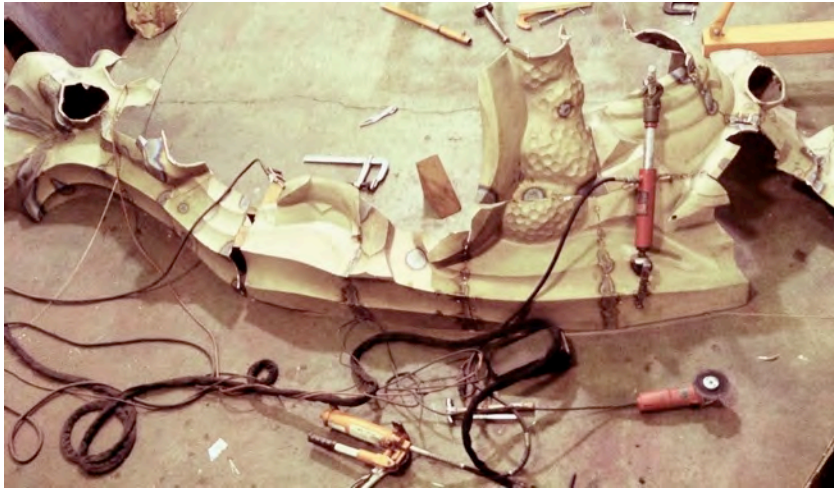
- Ill-fitting pieces are forced into shape and welded into place.



- Once the panels are tacked in place, the welds are completed and feathered out to create a level surface when finished.



- Gradually, pieces are added and the sculpture grows.



- Parts of the surface are “chased”, or smoothed and somewhat polished, before the projecting parts are attached so that all areas can be easily accessed.



- Heads and other projections are expertly welded into place and chased to uniformly finish off the surfaces of the entire sculpture.





- When the last of the welds is chased out, the piece is ready to deliver for patina.



- * The assembled and chased sculpture was delivered by Eric Mesplé to the Patina Studio of Patrick Kipper.





- The sculpture was lifted off the trailer with gantries and lowered onto heavy paper to make a template for locating the sculpture and the mounting holes on the base during installation.

Patric is assisted here by Bryan Wright who will be delivering and installing the sculpture in Salt Lake City.



- It was then transferred to a cart and sandblasted for a visually uniform surface.



- After buffing the sandblasted surface, patina artist Patrick Kipper heated the bronze with a torch and applied chemicals with a brush to give the sculpture its coloring (the patina.)



- The finished patina was treated with a protective lacquer especially formulated for bronze (1). The very shiny surface was then toned down in the next step when wax was applied over the lacquer (2) for further protection of the patina.



- Details from some different angles, the first being from one happy sculptor, Rosetta, pleased at the excellent job that all of her colleagues have done to bring the sculpture to such a successful completion.



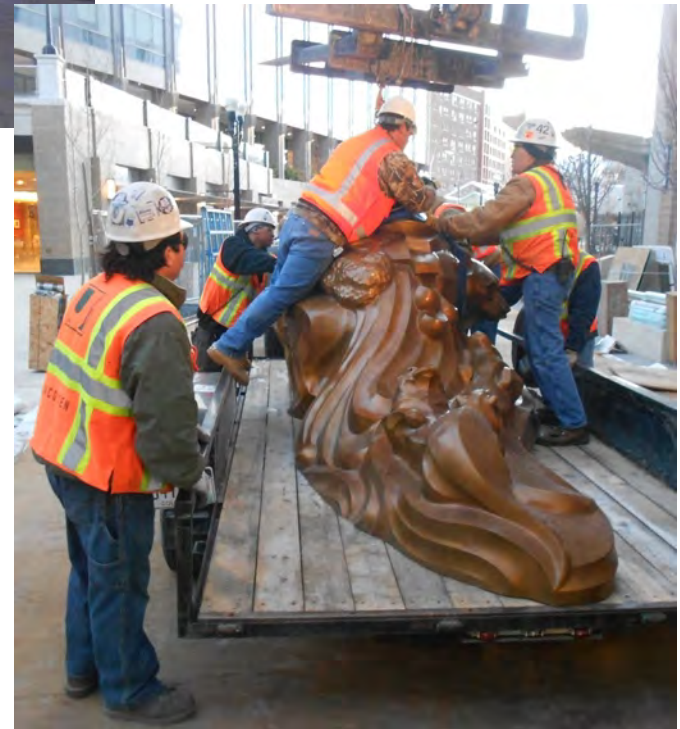
- When completed, the sculpture was lifted off the cart with the gantry and lowered onto Bryan Wright's trailer which was backed in under it. Once on the trailer it was strapped down for the trip to its new home.





* The sculpture was installed
February 24, 2012.

- The granite base awaits the sculpture's arrival in the new City Creek, Salt Lake City development as the fork lift removes the sculpture from the delivery trailer.



- Up and over the creek to rest beside the base.





- A gantry takes over to move the sculpture onto the base where its location is marked so that it can be moved aside again.



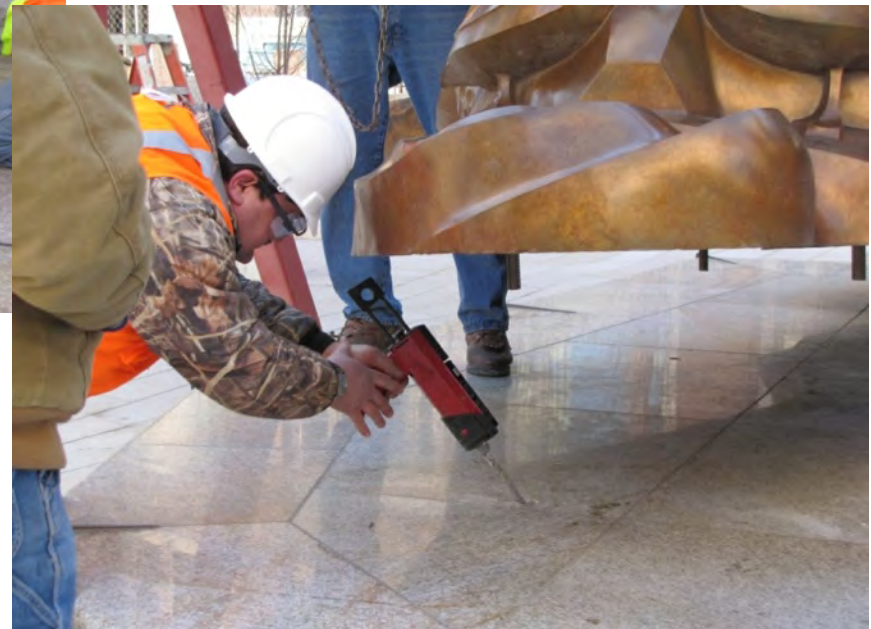
- A template, prepared earlier, is set in place and the locations of the mounting holes are transferred to the granite base.



- A core drill is used for the four mounting holes while the sculpture awaits.



- With the sculpture suspended over the base and the mounting pegs inserted, the holes are dried of the water used as coolant during the drilling and epoxy is then inserted into the holes.



- The sculpture is set and the installation is complete.



❁ The finished sculpture in its lovely City Creek setting.



* Two + years' efforts well rewarded.

