



## ABOUT THE THEME



This year's canoe, *Willamette*, is a tribute to the rich indigenous history and sustainability of the Willamette Valley and River. Oregon State University is located in Corvallis, Oregon, in the "Heart of the Valley" as Corvallis literally translates to. Indigenous tribes of the Willamette Valley have been effectively managing their environments for generations, with one of the most notable practices being controlled fires. Controlled fires renewed and fertilized the earth, decreased risks of large wildfires, and contributed to the overall health of the valley's ecosystem. Each color and design on the canoe represents a different piece of our theme.

### Red Represents Fire

Annual controlled fires had numerous benefits to Native Americans, including restoring the ecosystem health and food supply.

### Black Represents Destruction and Resiliency

Designed to reflect charred vegetation after a burn, black symbolizes how destruction can facilitate growth and renewal.

### Tan Represents Oak Savannas

These were part of the result of controlled fires, which opened up expansive valley floors and left a few unyielding oak trees.

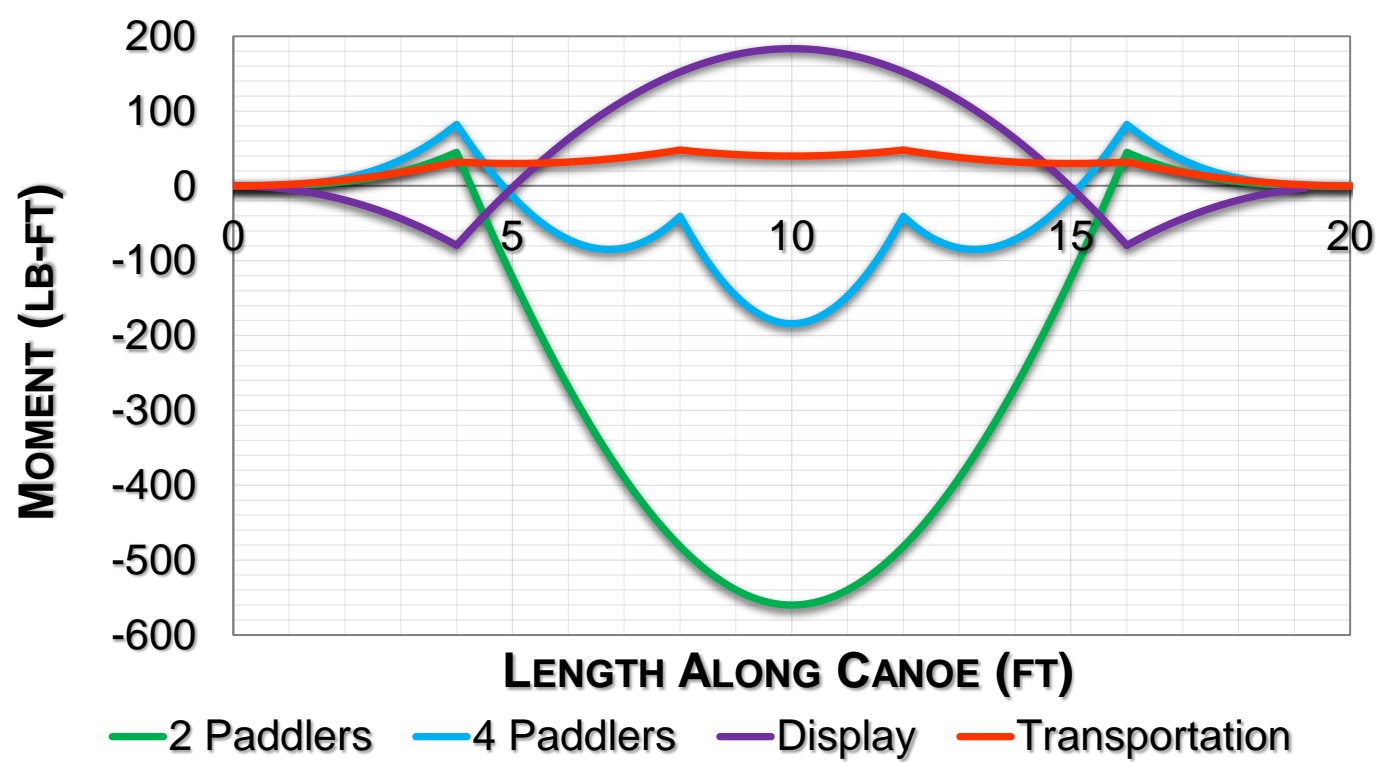
### Colored Bands Represent a Continuous Cycle

Similar to the rings on a tree, these bands symbolize the annual cycle the Willamette Valley experienced, of fire and destruction, verdant landscapes, and oak savannas.

## CANOE SPECIFICATIONS

Name	<i>Willamette</i>
Length	19 ft. - 9 in.
Max. Width	25 in.
Max. Depth	13.5 in.
Avg. Hull Thickness	0.5 in.
Est. Weight	235 lb.
Colors	Red, Black, Tan, White
Primary Reinforcement	Fiber Glass Mesh
Secondary Reinforcement	Prestress Wires

## MOMENT ENVELOPE



## MIXTURE DEVELOPMENT



Concrete Mixture Constituents



Compression Testing Cylinder

## MOLD CONSTRUCTION



Cutting out ribs using CNC machine



Aligning Cross Sectional Ribs



Shaping Foam to Ribs

## CASTING OF WILLAMETTE



Placing Concrete



Troweling Concrete





# CANOE FINISHING



Patching



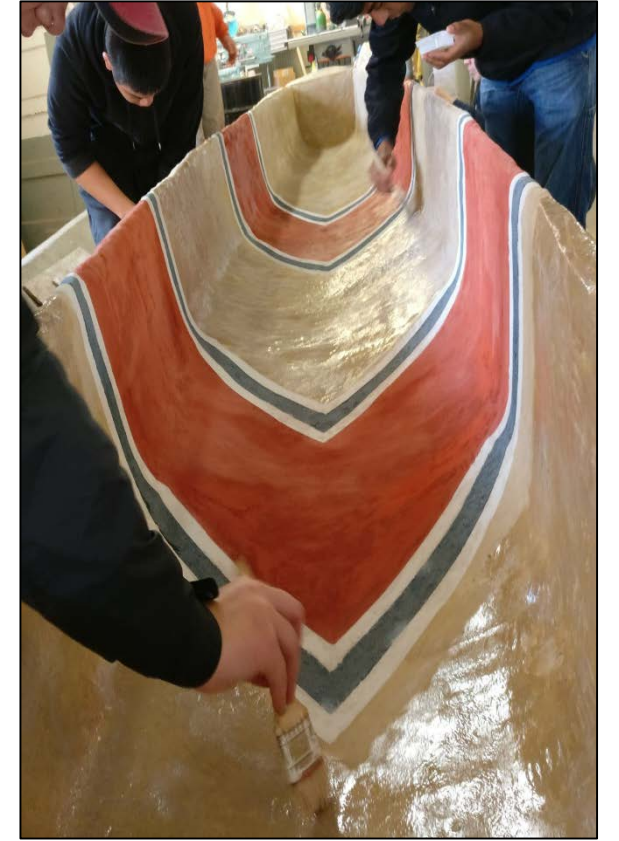
Sanding



Sack Coloring



Vinyl Applique



Sealing

## FINAL PRODUCT

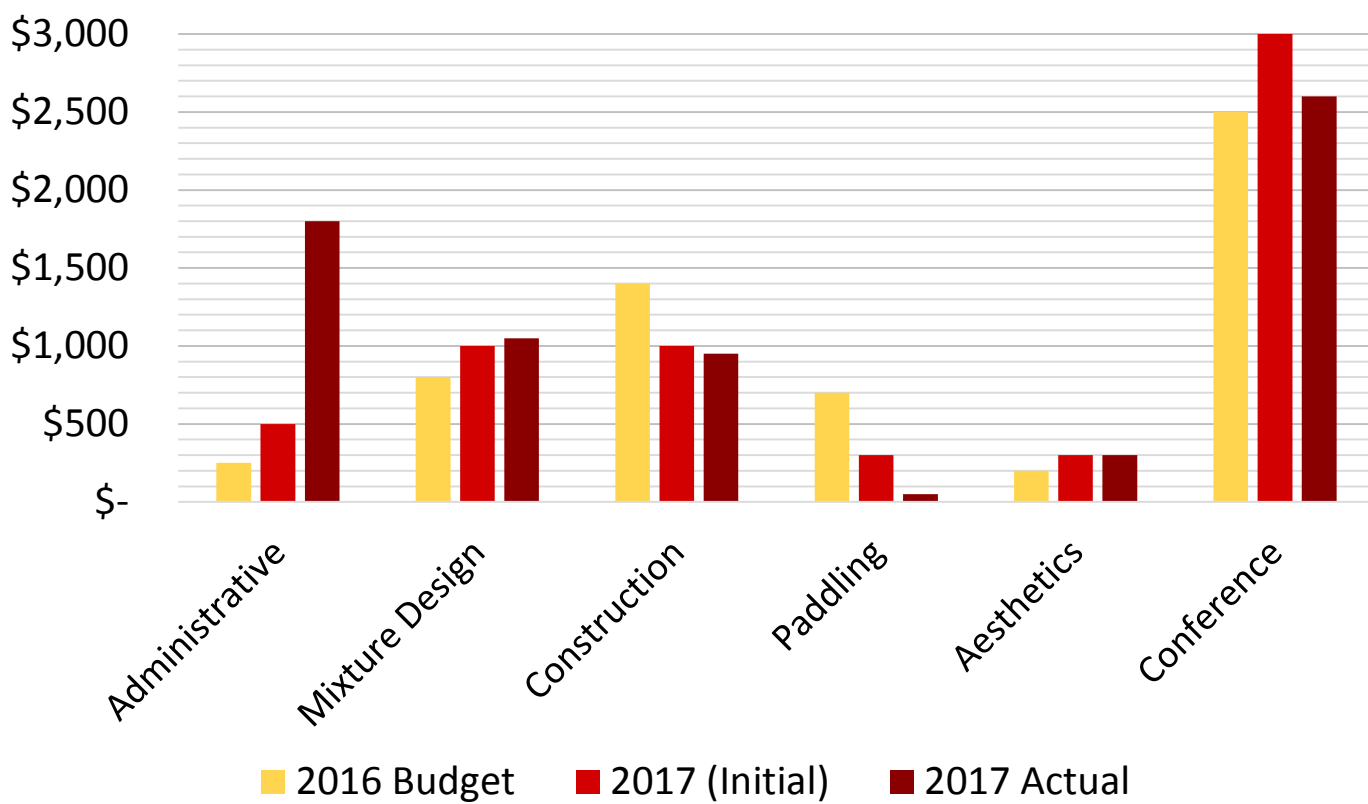


## BILL OF MATERIALS

MATERIAL	QUANTITY	UNITS	UNIT COST	TOTAL PRICE
<b>CEMENTATIOUS MATERIALS</b>				
Portland Cement, Type I	104.6	lbs.	\$ 0.20	\$ 20.92
Fly Ash, Class F	47.22	lbs.	\$ 0.20	\$ 9.44
Glass Powder	5.51	lbs.	\$ 1.00	\$ 5.51
<b>AGGREGATES</b>				
Expanded Glass Aggregate	18.25	lbs.	\$ 1.25	\$ 22.81
Pumice		lbs.		\$ -
Polymeric Spheres		lbs.		\$ -
<b>ADMIXTURES</b>				
Superplasticizer	0.88	fl. oz.	\$ 0.10	\$ 0.09
Set Retarder	0.11	fl. oz.	\$ 0.27	\$ 0.03
Air Entrainer	0.26	fl. oz.	\$ 0.10	\$ 0.03
Latex	3.09	gal.	\$ 11.87	\$ 36.68
<b>PIGMENTS</b>				
Color Pigment 1	0.22	lbs.	\$ 14.95	\$ 3.29
Color Pigment 2	0.11	lbs.	\$ 13.95	\$ 1.53
Color Pigment 3	0.22	lbs.	\$ 14.95	\$ 3.29
<b>REINFORCEMENT</b>				
Fiberglass Mesh	80	sq. ft.	\$ 1.00	\$ 80.00
Braided Steel Wire	161	ft.	\$ 0.06	\$ 9.66
<b>CONSTRUCTION</b>				
Plastic Sheeting	500	sq. ft.	\$ 0.06	\$ 30.00
Prestress Bed Assembly	-	Lump Sum	\$ 80.00	\$ 80.00
Wood/Foam Mold	-	Lump Sum	\$ 250.00	\$ 250.00
<b>FINISHING</b>				
Sandpaper	15	ea.	\$ 3.97	\$ 59.55
Sealer	1.25	gal.	\$ 15.38	\$ 19.23
Vinyl Lettering	-	Lump Sum	\$ 17.95	\$ 17.95
<b>TOTAL PRODUCTION COST</b>				<b>\$ 650.01</b>

## BUDGET ALLOCATION

PROJECT BUDGET ALLOCATION & COMPARISON



## RESOURCE ALLOCATION

PROJECT PERSON HOUR BREAKDOWN W/OUT PADDLING  
2240 TOTAL HOURS

PROJECT PERSON HOUR BREAKDOWN W/ PADDLING  
2470 TOTAL HOURS

