



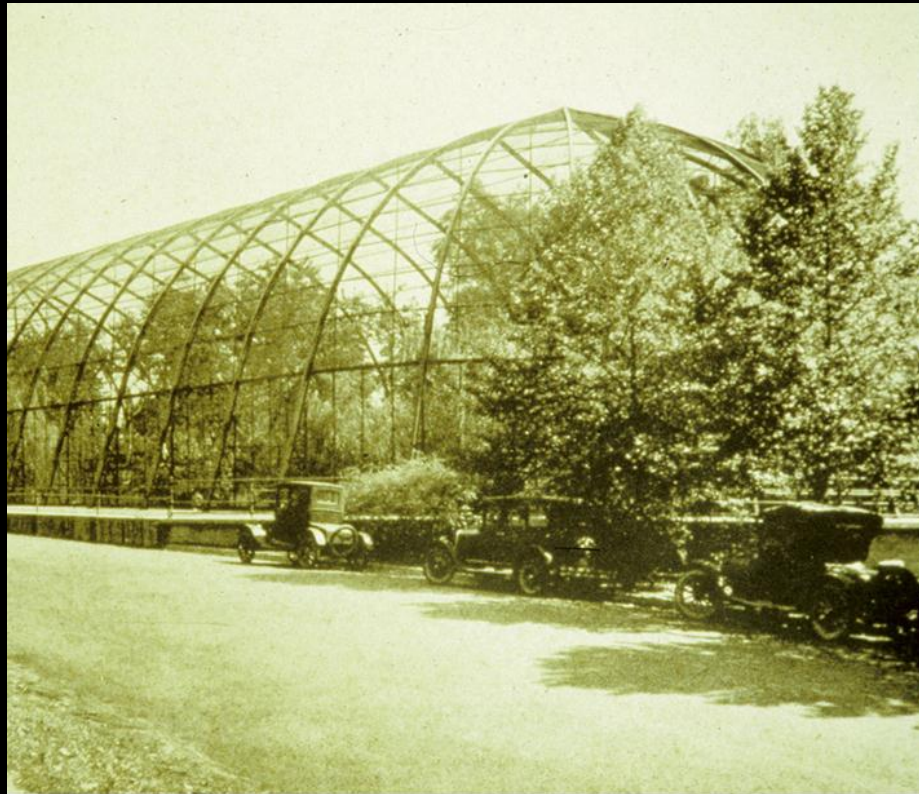
# Sea Lion Sound Exhibit Project Management

# Exhibit Project Management

- **The Saint Louis Zoo – One of Our Regions Greatest Treasures**
- **Planning a Major New Exhibit**
- **Team Composition**
- **Phases of Design and Construction**
- **Successful Launch**

# A Quick History of the Saint Louis Zoo

- **1904 Flight Cage**



# A Quick History of the Saint Louis Zoo

- **Early Years**



# A Quick History of the Saint Louis Zoo

- Shows



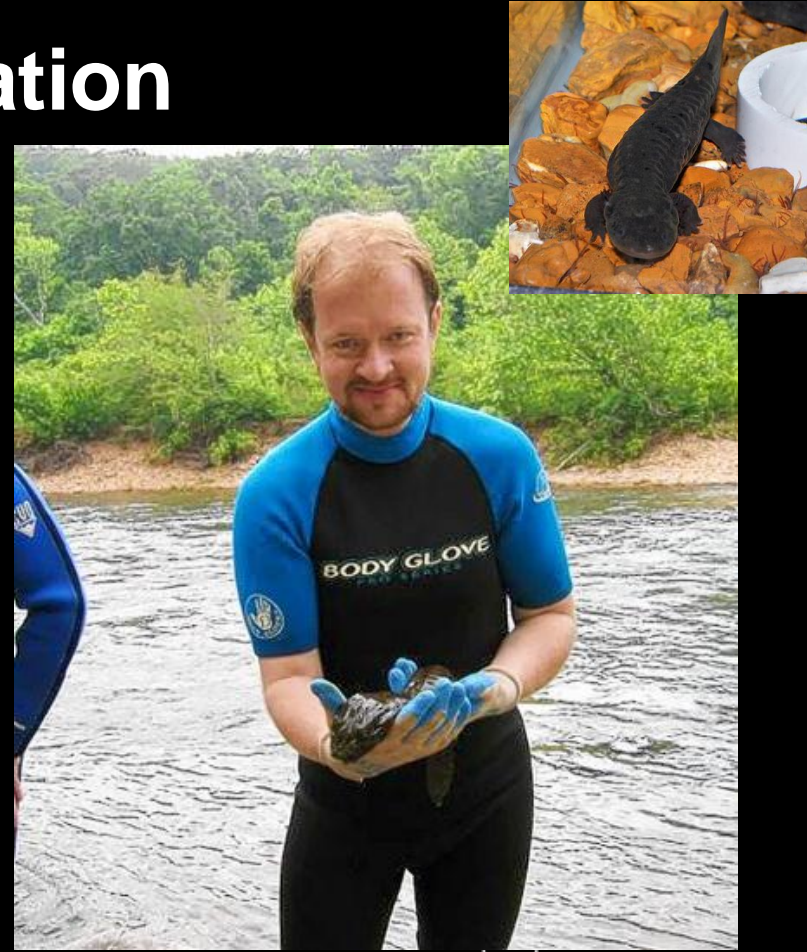
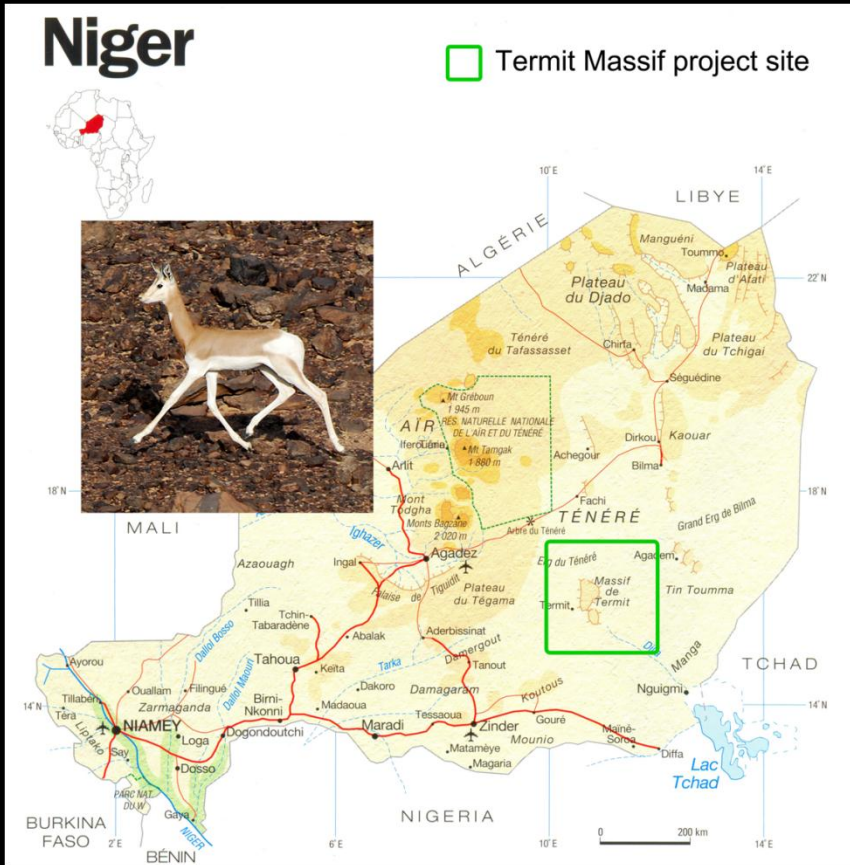
# A Quick History of the Saint Louis Zoo

- **Conservation/Education**



# A Quick History of the Saint Louis Zoo

## ■ Conservation/Education



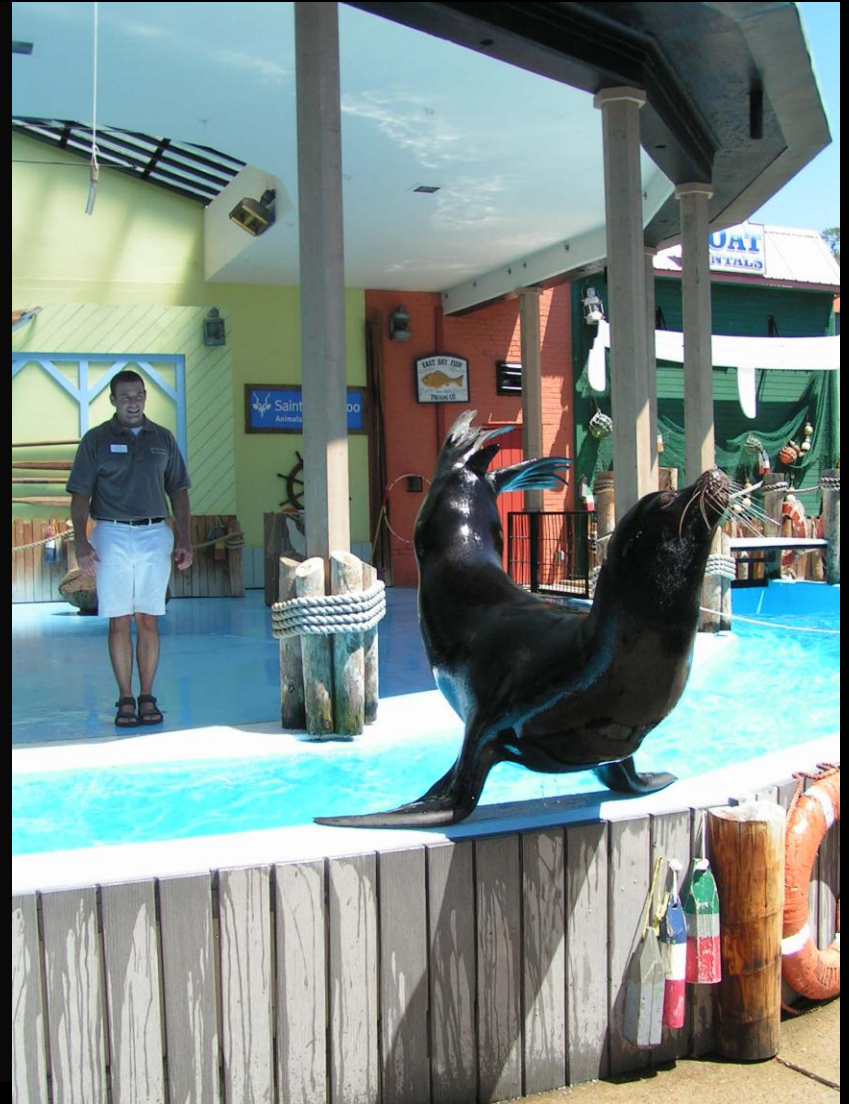
# The Original Sea Lion Habitat

Circa 1918





# The Original Sea Lion Arena



# 2007 Strategic Plan

- **The need for a new pinniped habitat recognized the need to:**
  - Conserve water
  - Improve appearance
  - Bring show venue and naturalistic habitat together

# 2007 Master Plan



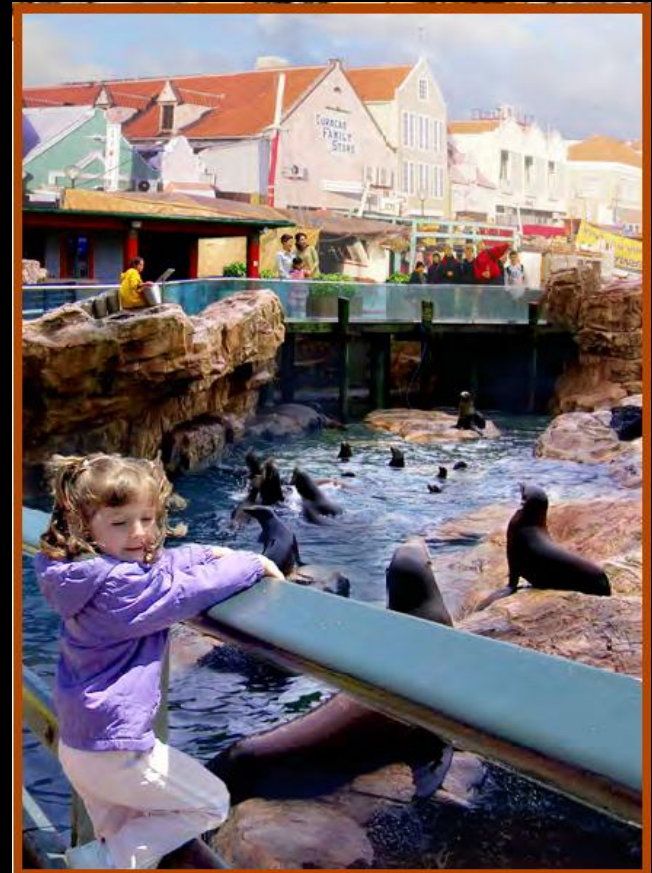
# Master Plan

- **Central location**
- **Abandon old show venue**

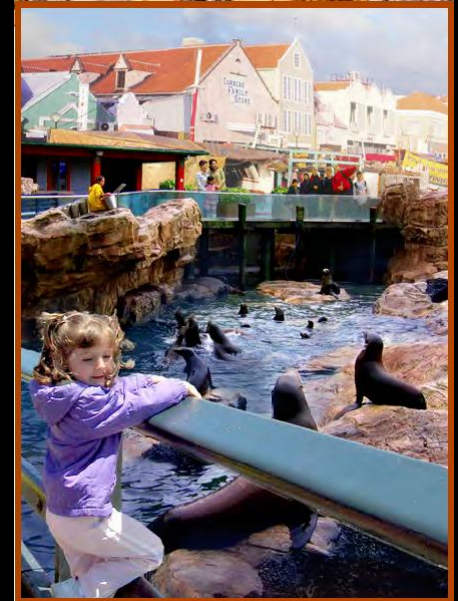


# Master Plan

- **San Francisco Pier Theme**
- **Tie architectural elements on surrounding existing buildings to expand theming**



# Master Plan

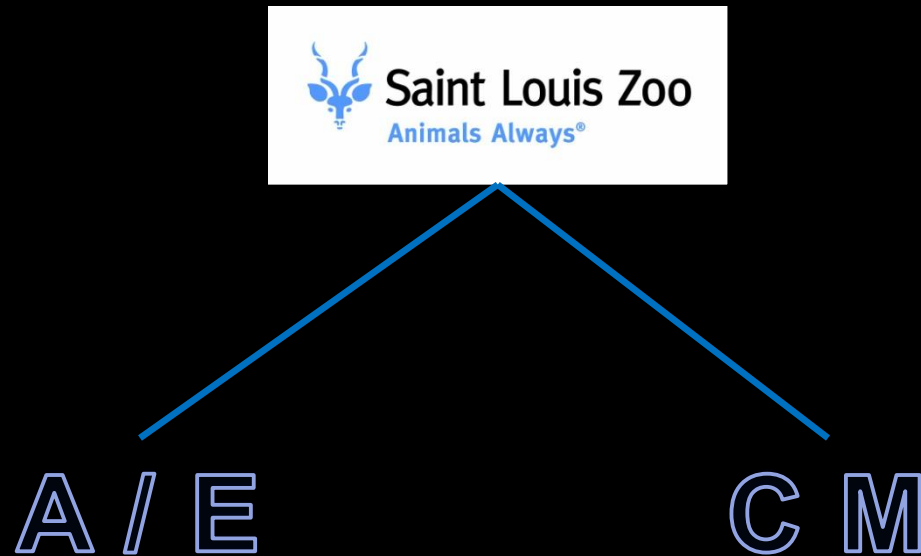


# Building the Team



# Building the Team

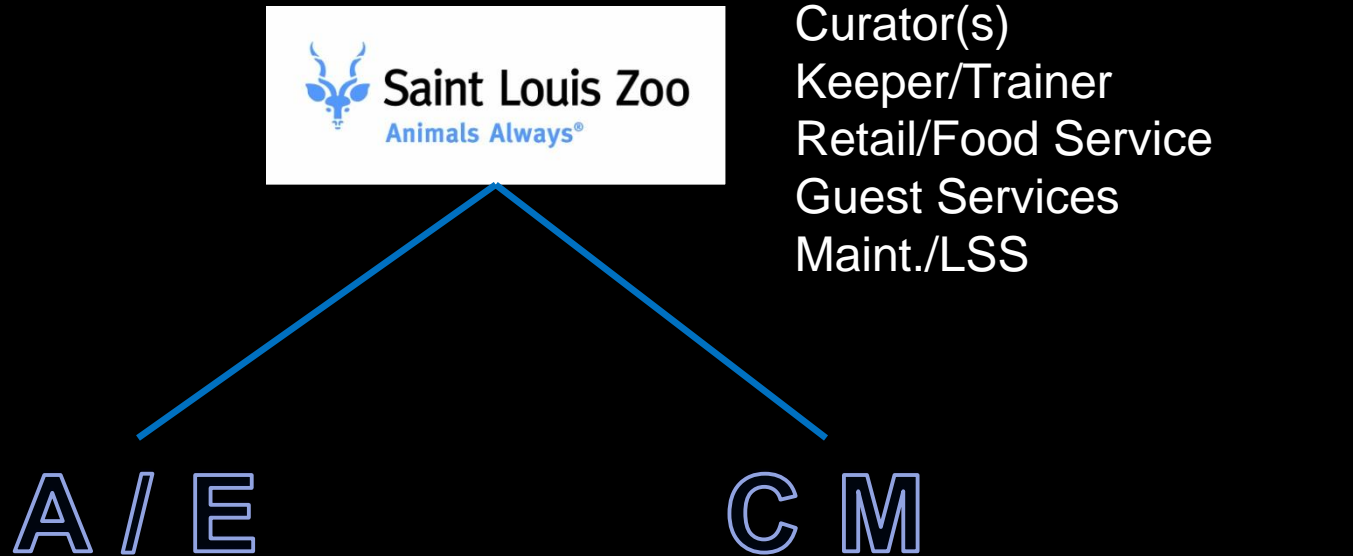
## Design Phase





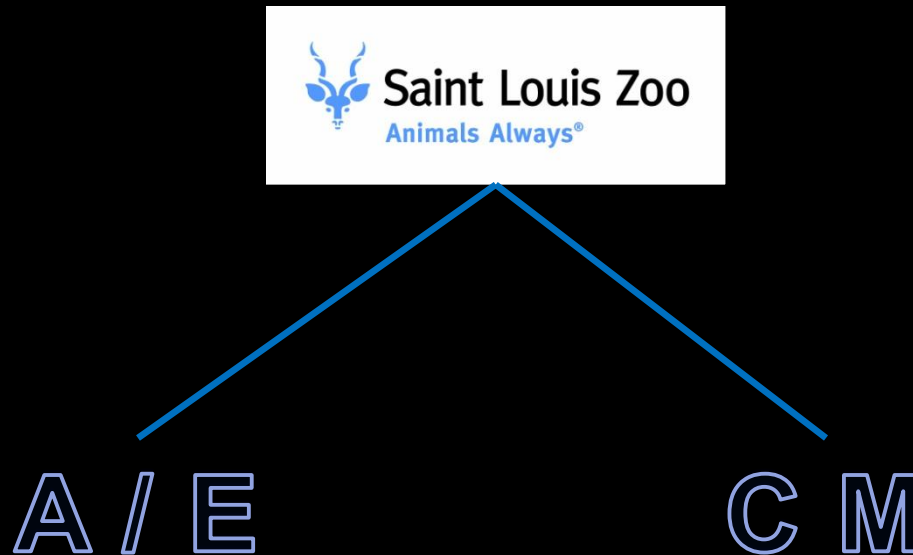
# Building the Team

## Design Phase



# Building the Team

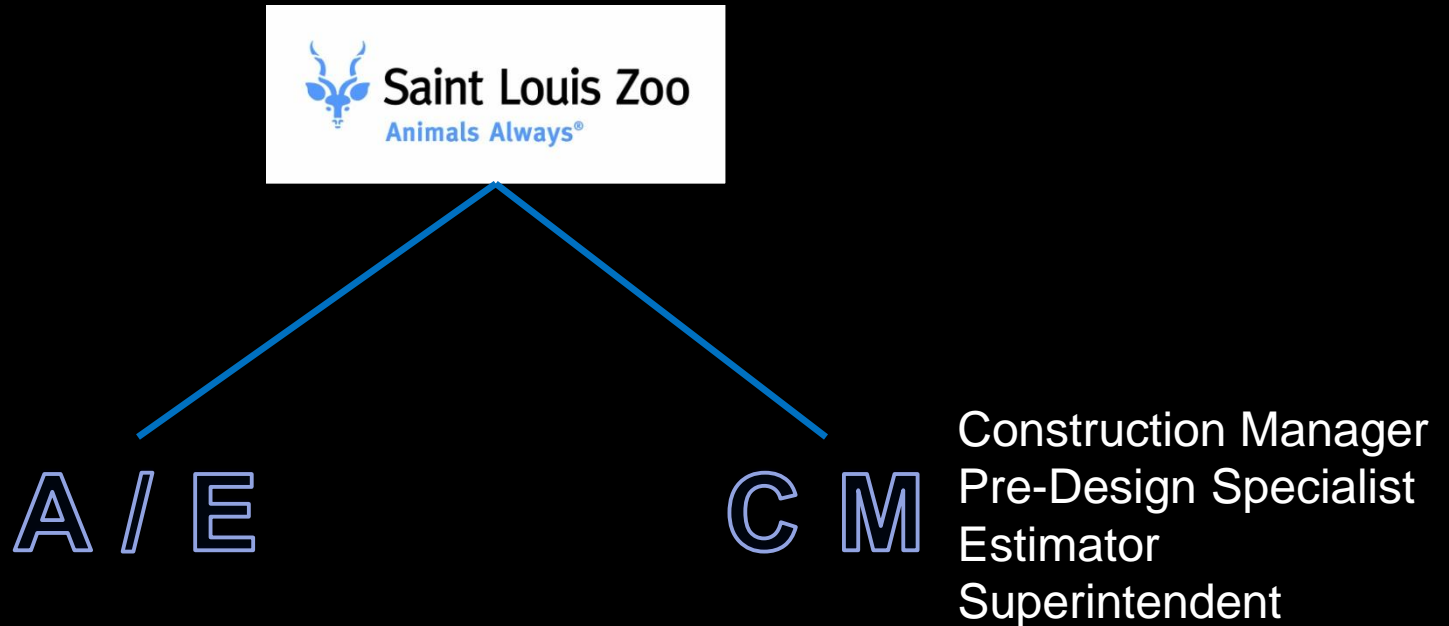
## Design Phase



Architect  
Landscape Architect  
Civil Engineer  
Structural Engineer  
Mech., Electr., Plumbing Engineers  
LSS Engineer  
Interpretive Designer

# Building the Team

## Design Phase



# Building the Team

## ■ Construction Manager

- Pre-construction services
- Estimating
- Bidding
- Jobsite Supervision
- Financial
- Close-out

# Building the Team

## ■ Design Team

- Architect
- Landscape Architect
- Civil Engineer
- Electrical, Mechanical, Plumbing Engineers
- Life Support System Engineer
- Interpretation
- Specialties

# Building the Team

## ■ Owner's Team

- Project Manager and Chief Architect
- Curator
- Trainers
- Keepers
- Life Support System Operator
- Education
- Retail and Food Service

# Building the Team

- **Oversight**
  - Zoo Commission + Association Board
  - Implementation Committee
  - Facilities and Grounds Committee

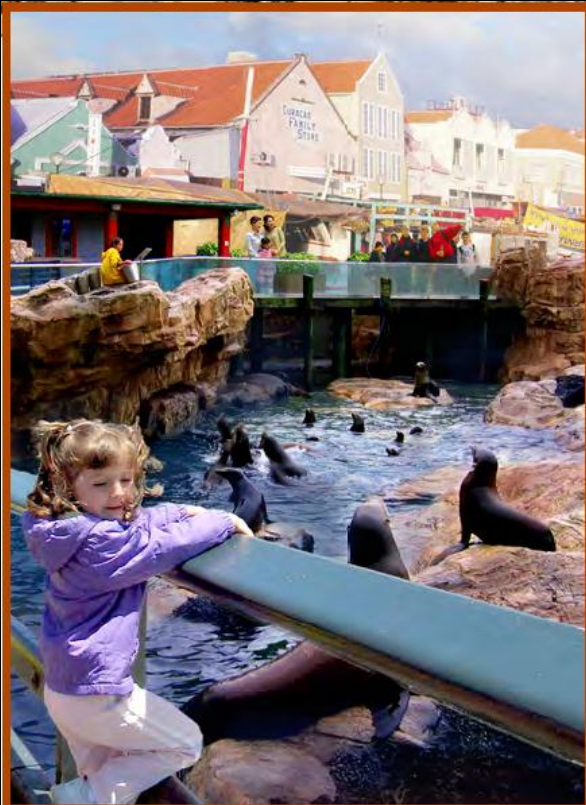
# Design Phase

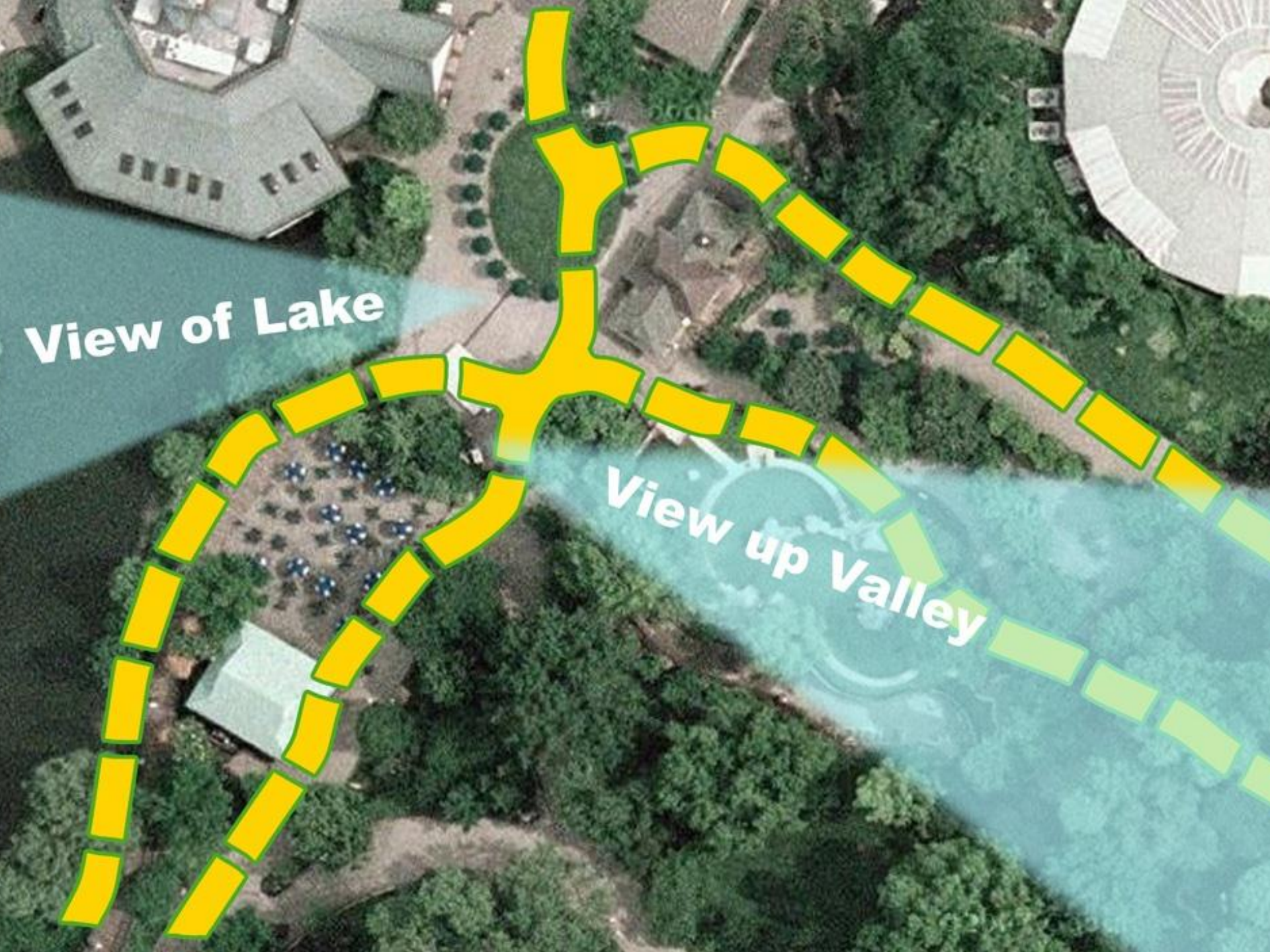
- **Concept**
- **Schematic**
- **Design Development**
- **Construction Documentation**



# Design Phase

- **Concept**





**View of Lake**

**View up Valley**

# Design Phase



# Design Phase





# Design Phase



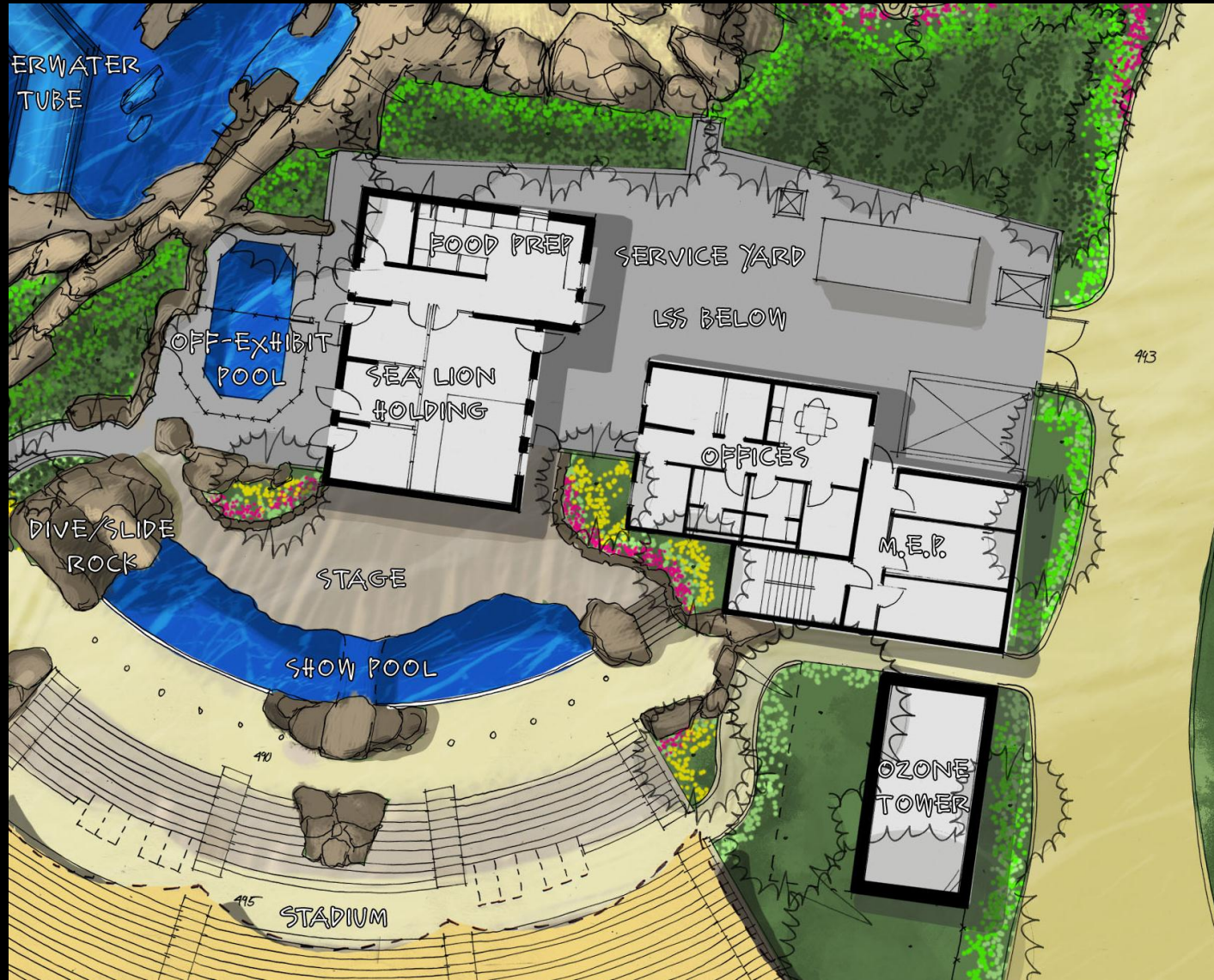
# Design Phase

## ■ Concept



# Design Phase

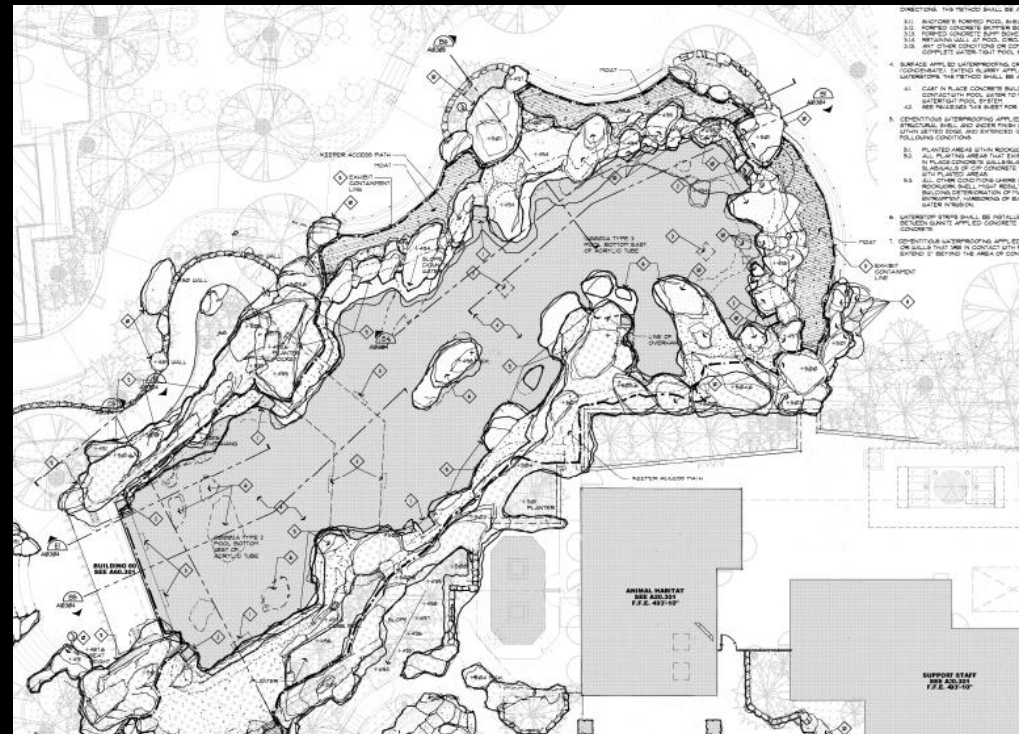
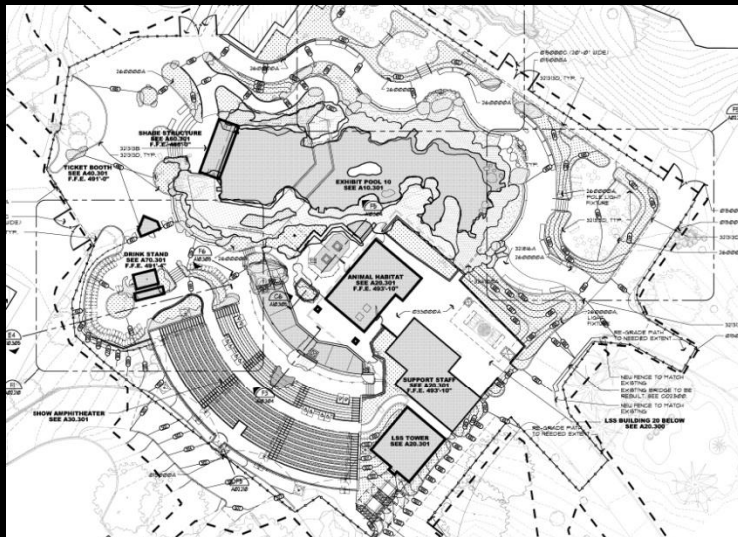
- Concept





# Design Phase

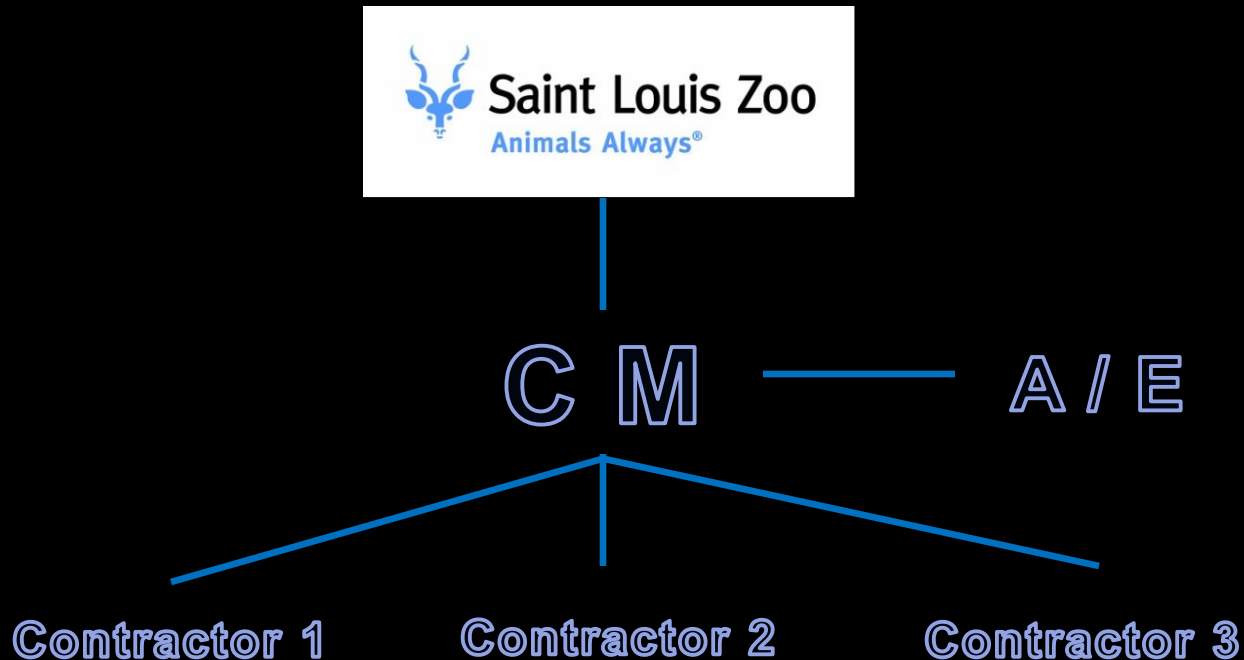
- Schematic
- Design Development
- Construction Documentation





# Building the Team

## Construction Phase



# Bidding and Selection

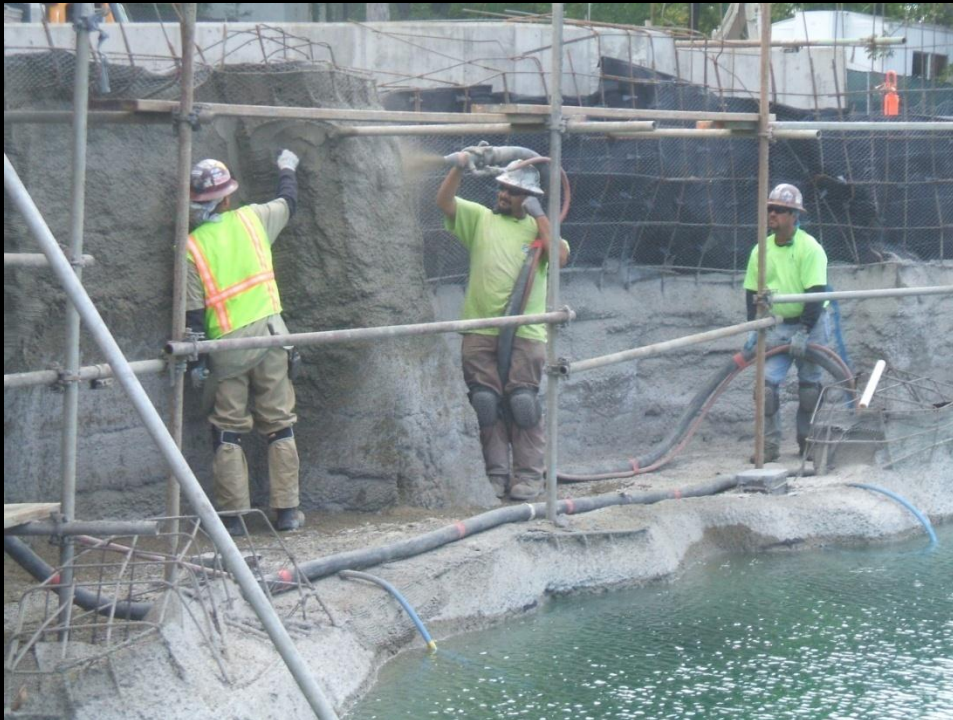
- **Three Major Packages**

- Base Construction – Rhodney+Castle \$12,986,000



# Bidding and Selection

- **Three Major Packages**
  - Artificial Rockwork and Theming – Cemrock  
\$2,000,000



# Bidding and Selection

- **Three Major Packages**
  - Rain/Shade Canopy – Laurence Fabric \$440,000



# Refining the Look

- **Model Building**
- **Field Work**
- **Model Refinement**
- **Test Panels**
- **Sample Panels**

# Refining the Look

- **Model Building**





# Refining the Look

- **Field Work**



# Refining the Look

- Field Work



# Refining the Look

- **Model Refinement**



# Refining the Look

- Test Panels
- Sample Panels



# Refining the Look



# Life Support

- Salt Water
- Water Purification
- Closed System
- Automation



# Acrylic Elements

- Design
- Fabrication
- Installation



# Acrylic Elements





# Construction Sequence

- **Underground Utilities**
- **Foundations**
- **Pool**
- **Structures**
- **Stage**
- **Arena**
- **Landscaping**
- **Interpretation**

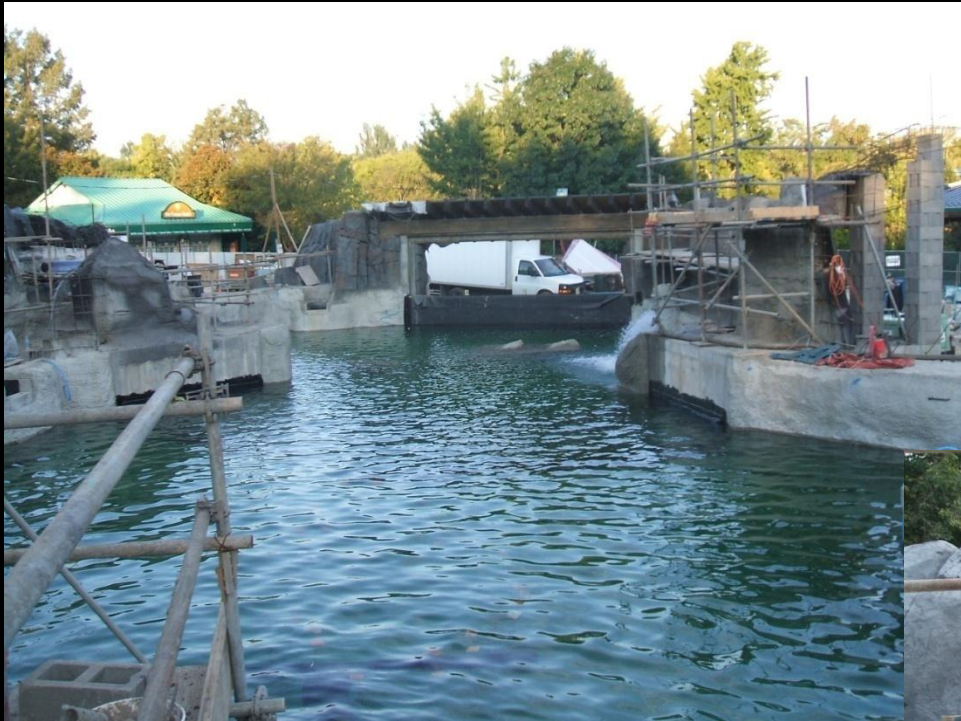




























# Commissioning

- **Equipment Start-up**
- **Leak Testing**
- **LSS Automation**
- **Animal Acclimation - Training**
- **Ticketing – Crowd Control**

# Completion





# Budget Summary

|  |                    |
|--|--------------------|
| ■ Construction Management (Alberici)     | \$ 430,000         |
| ■ Base Construction (Rhodey+Castle)      | \$12,986,000       |
| ■ Themed Concrete (Cemrock)              | \$2,000,000        |
| ■ Rain/Shade Structure (Laurence Fabric) | \$ 440,000         |
| ■ Interpretative Fabrication (Engraphix) | \$ 344,000         |
| ■ <u>Design (PGAV + SWT)</u>             | <u>\$1,800,000</u> |
| ■ Total                                  | \$18,000,000       |



















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# Thank You!



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