

# LORING PARK FOUNTAIN ENCLOSURE & SCULPTURAL DESIGNS

DUNWOODY COLLEGE OF TECHNOLOGY  
Architectural Studio

2018

# Berger Fountain

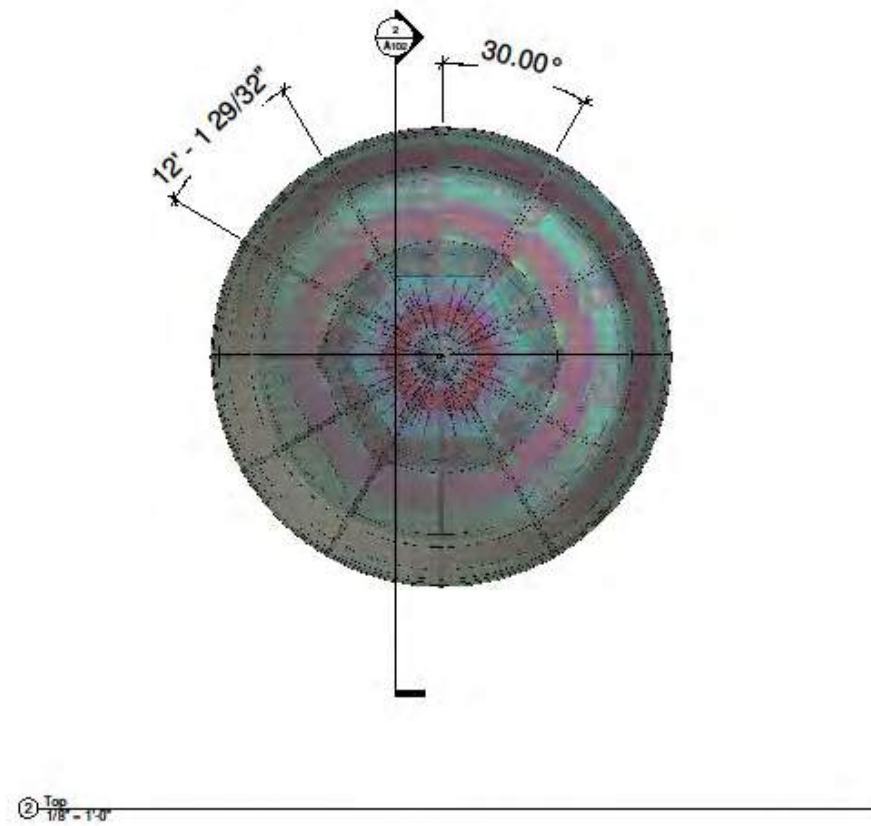
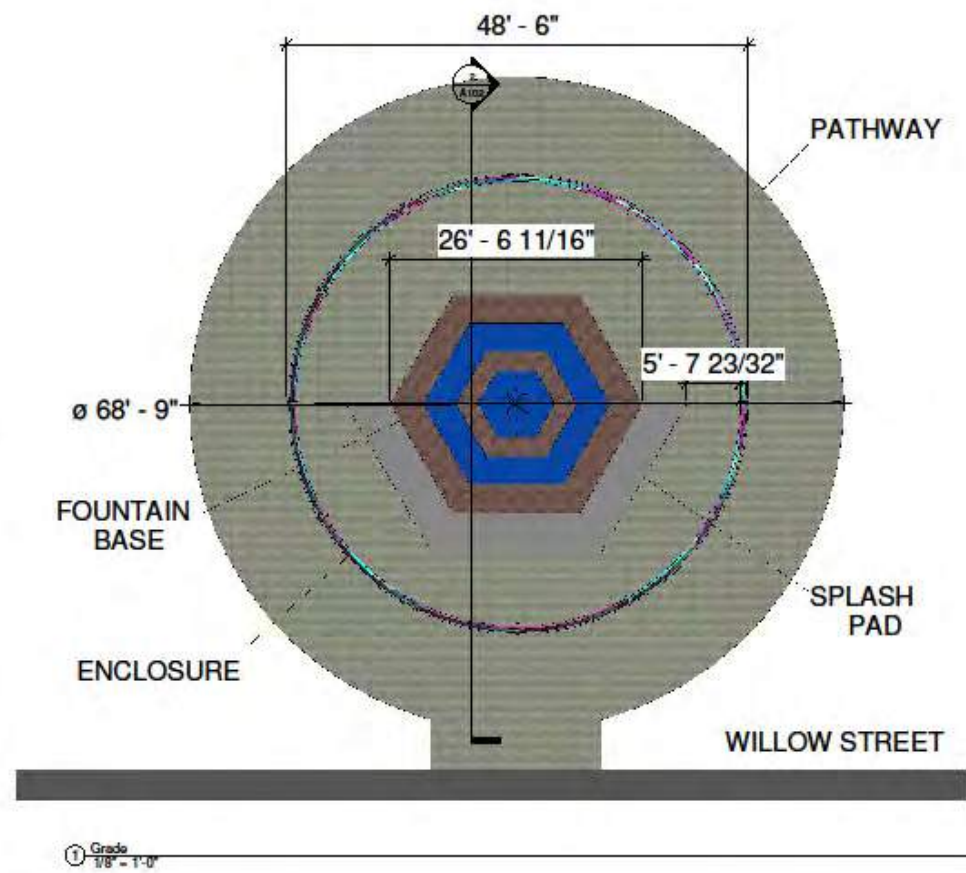




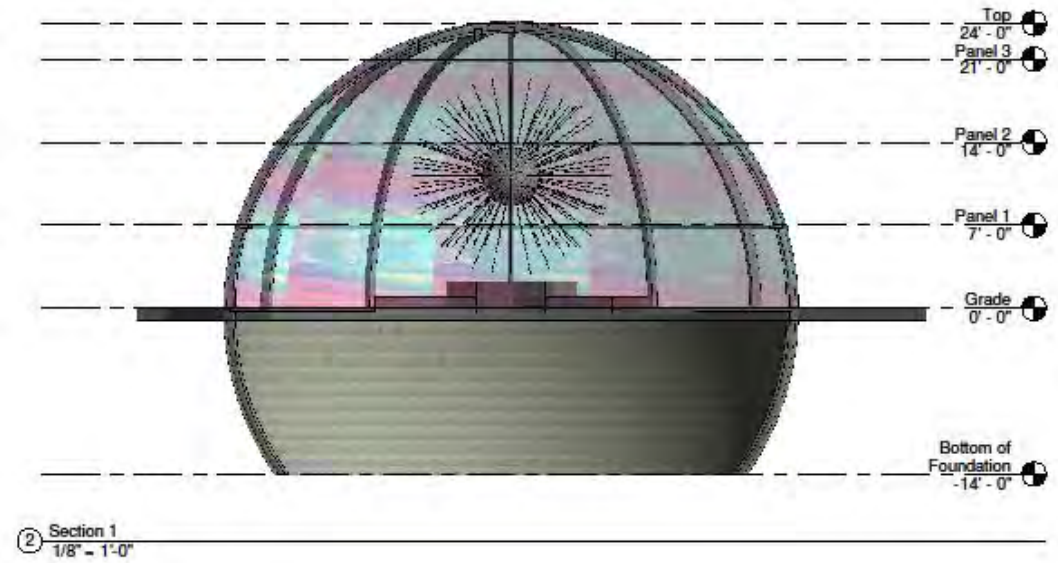
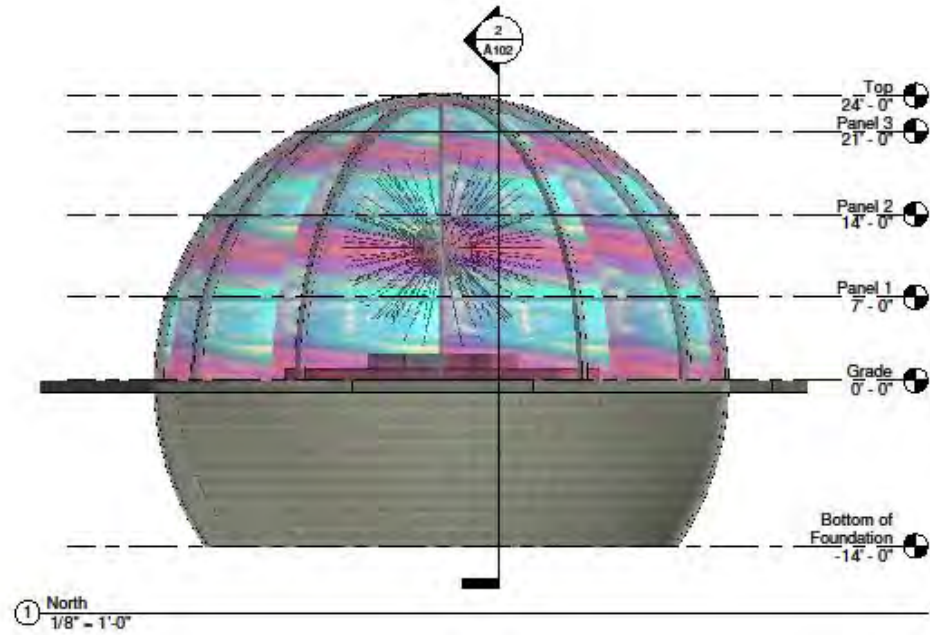
# Berger Fountain Enclosure



Crispin Vang







# Materials and Potential Sponsors

## Materials

- Aluminum Structure
- Precast Concrete Foundation
- Dichroic Film Acrylic Panels

## Potential Sponsors

- 3M
- Landwehr Construction
- Ryerson
- Vista Air
- Mortenson

The 3M logo, consisting of the letters "3M" in a bold, red, sans-serif font.The Ryerson logo, with the word "RYERSON" in a bold, blue, sans-serif font.

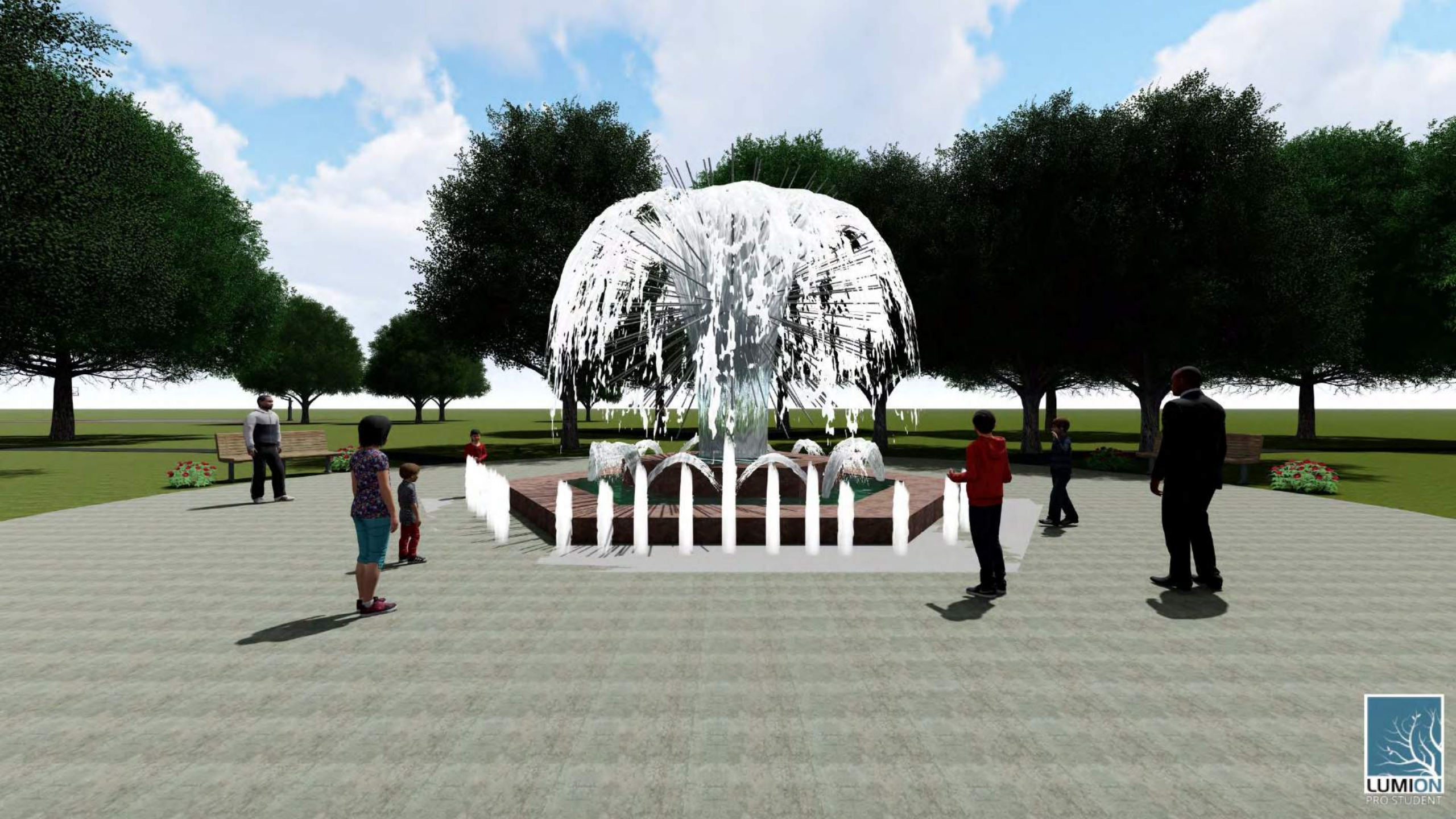


# Examples

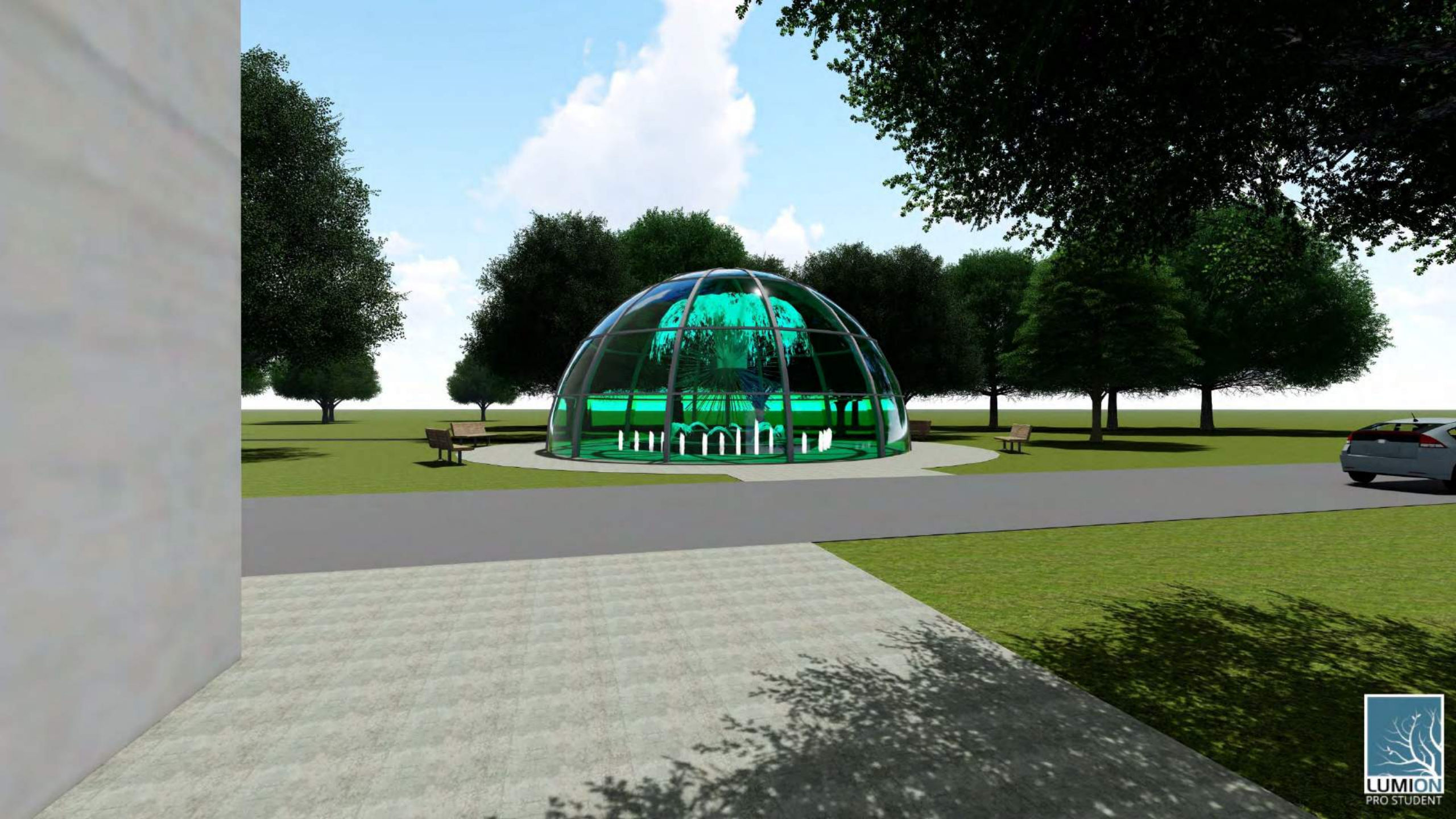


Crispin Vang

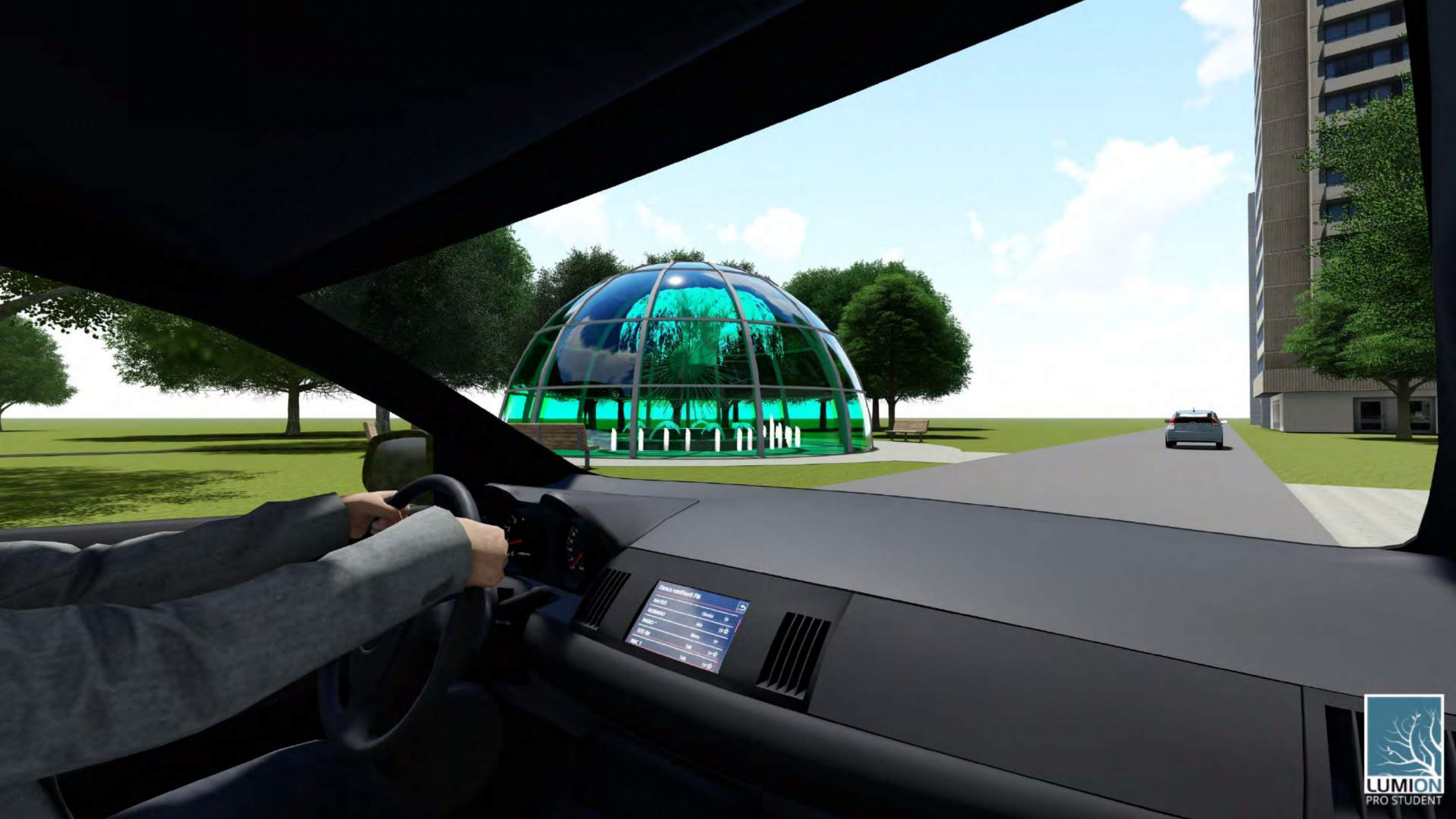














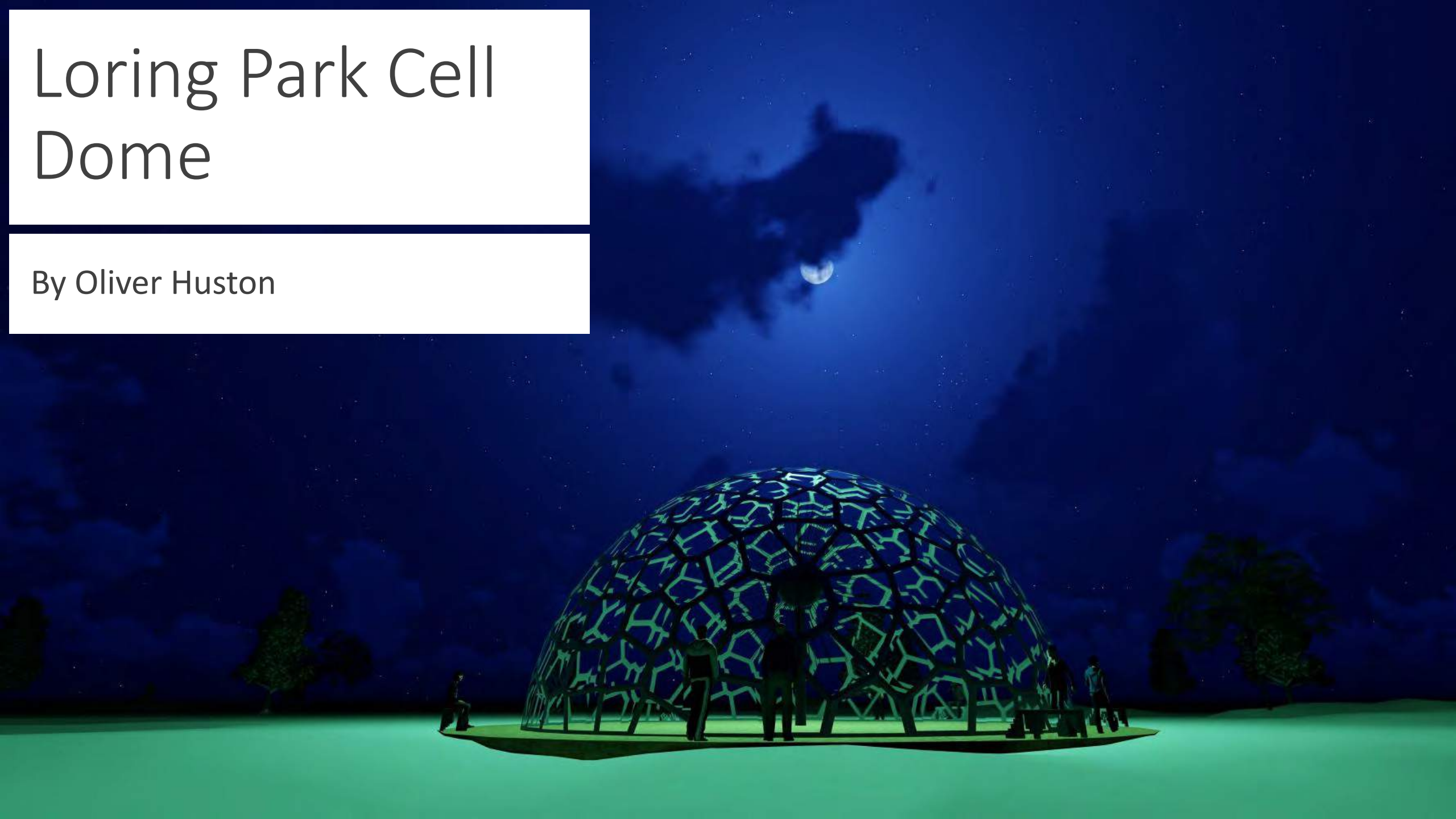


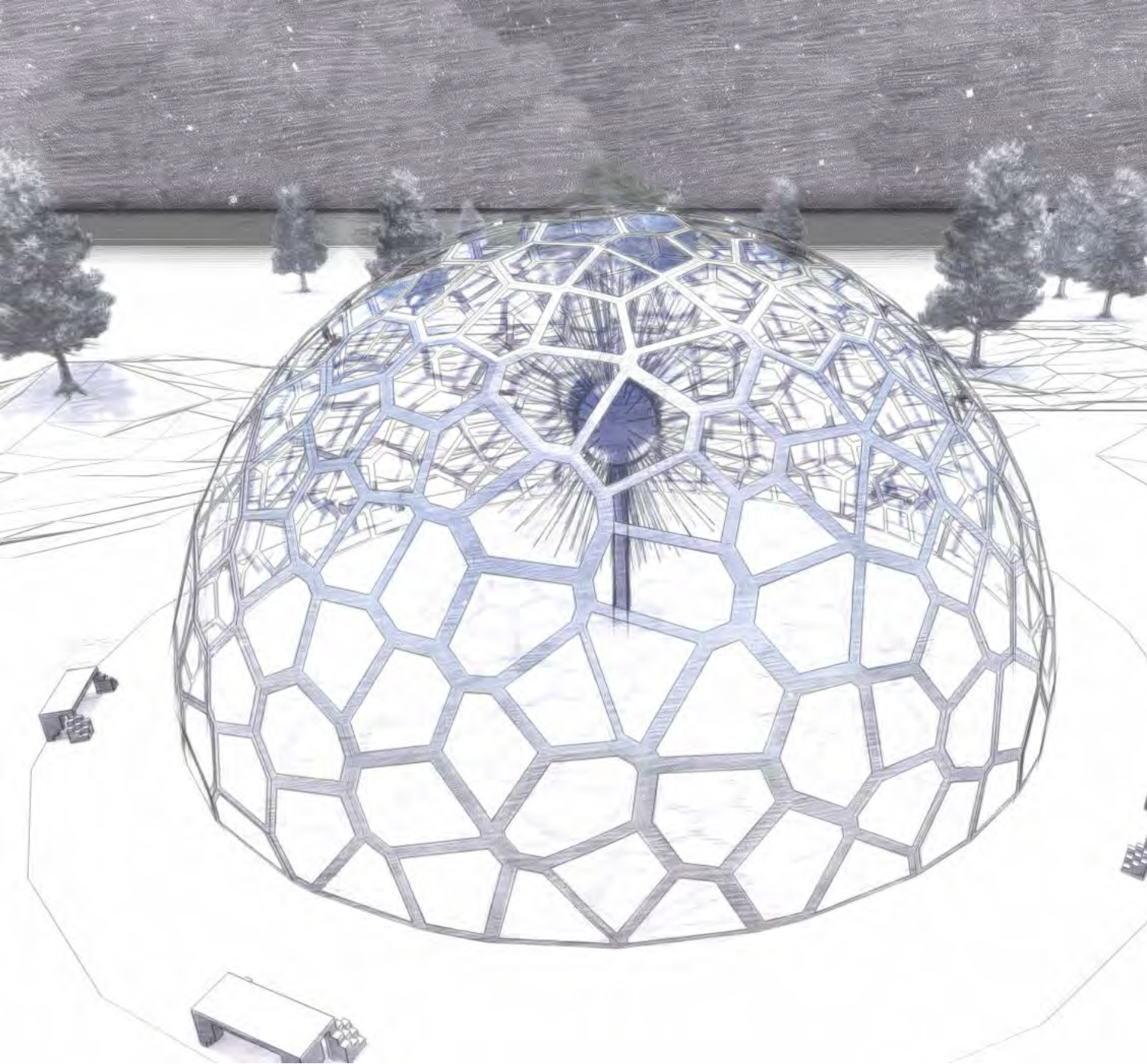




# Loring Park Cell Dome

By Oliver Huston





# Inspiration

Plant cells

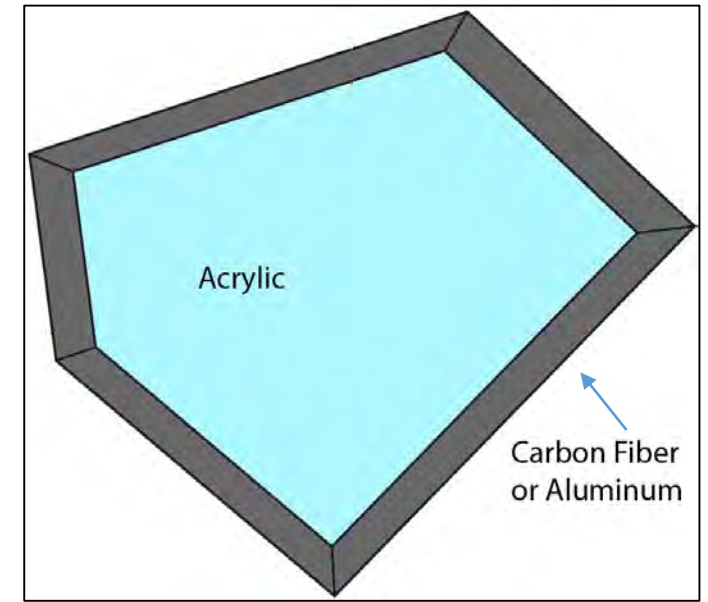




# Special Features

Colored lighting for night.  
Potential for greenhouse effect to keep surface free of snow.

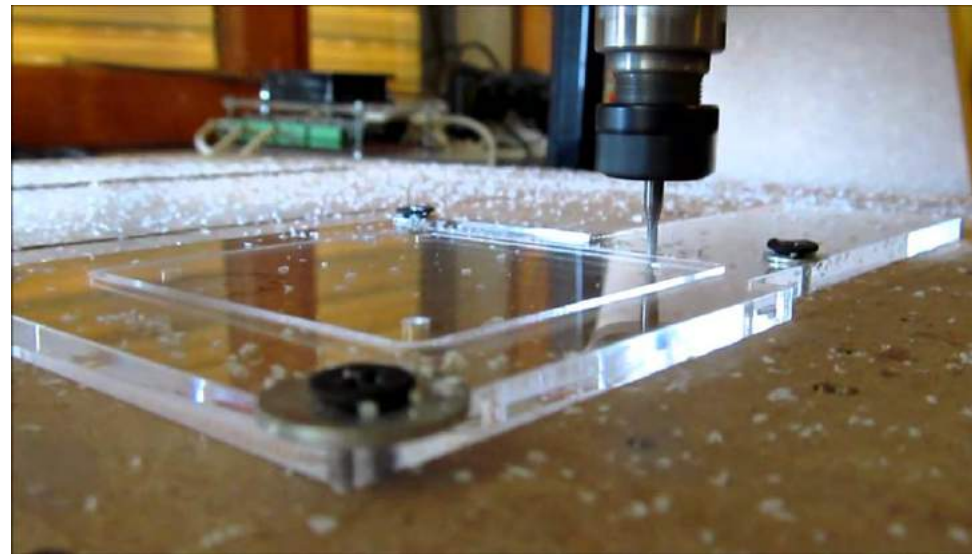




# Structure & Materials

Option 1: Carbon fiber & acrylic panels

Option 2: Recycled aluminum & acrylic panels



# Fabrication

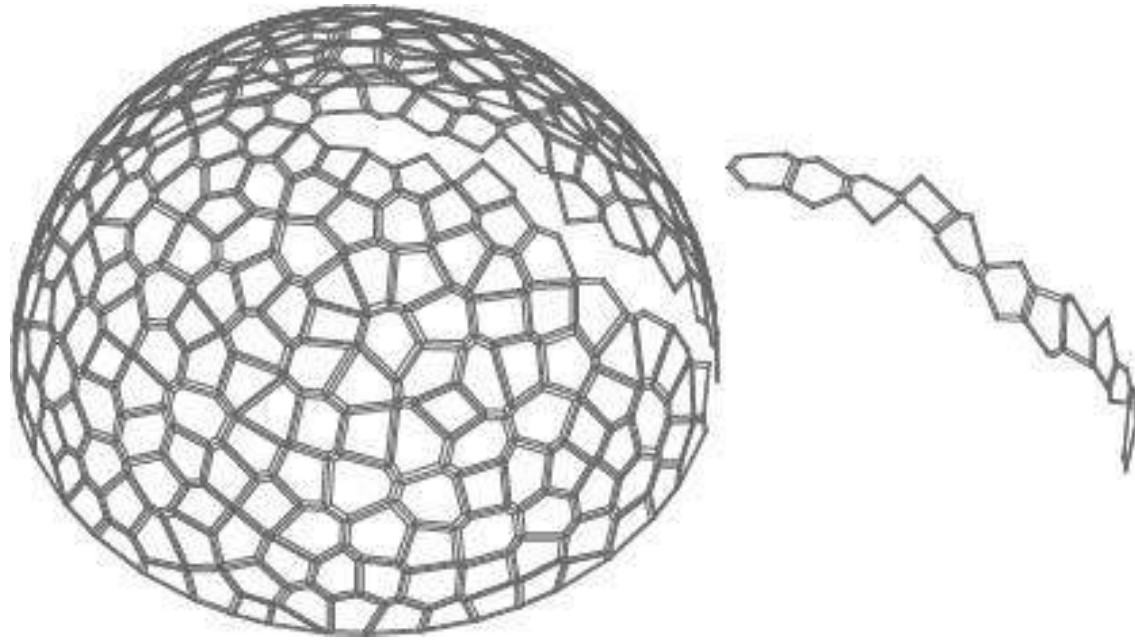
CNC machining or equivalent precision fabrication.





# Mobility

Possibility to be moved via crane to another part of the park during the summer.

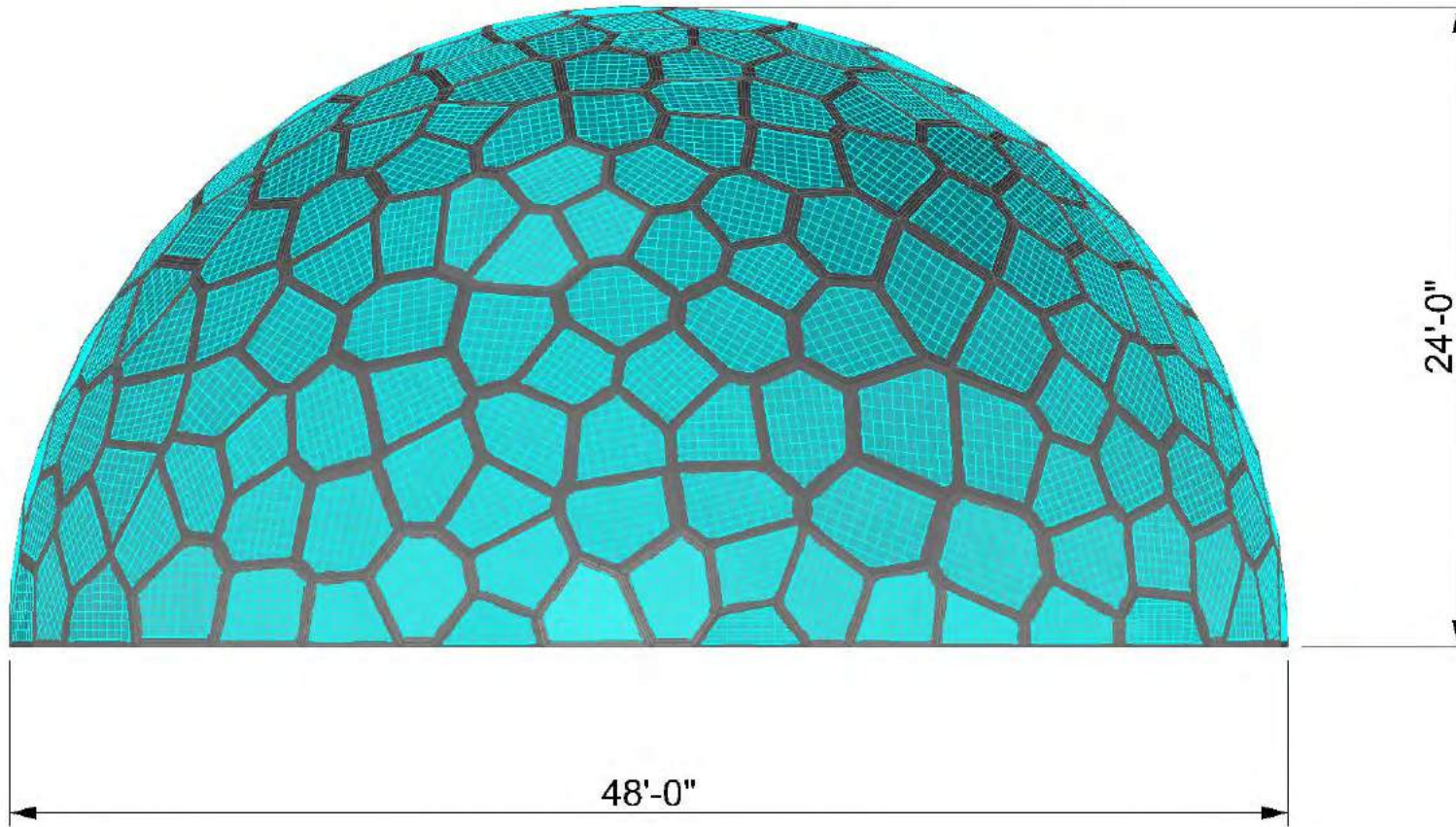


# Portability & Storage

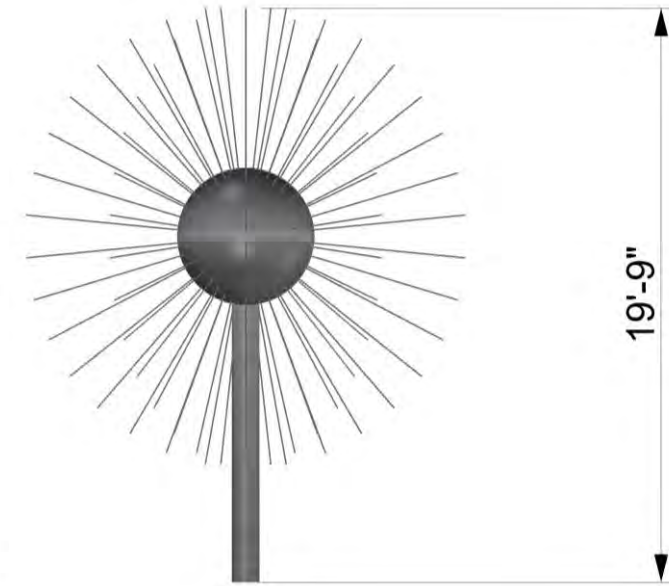
Option 1: Disassembled into sections for storage.

Option 2: Disassembled into individual panels for storage.



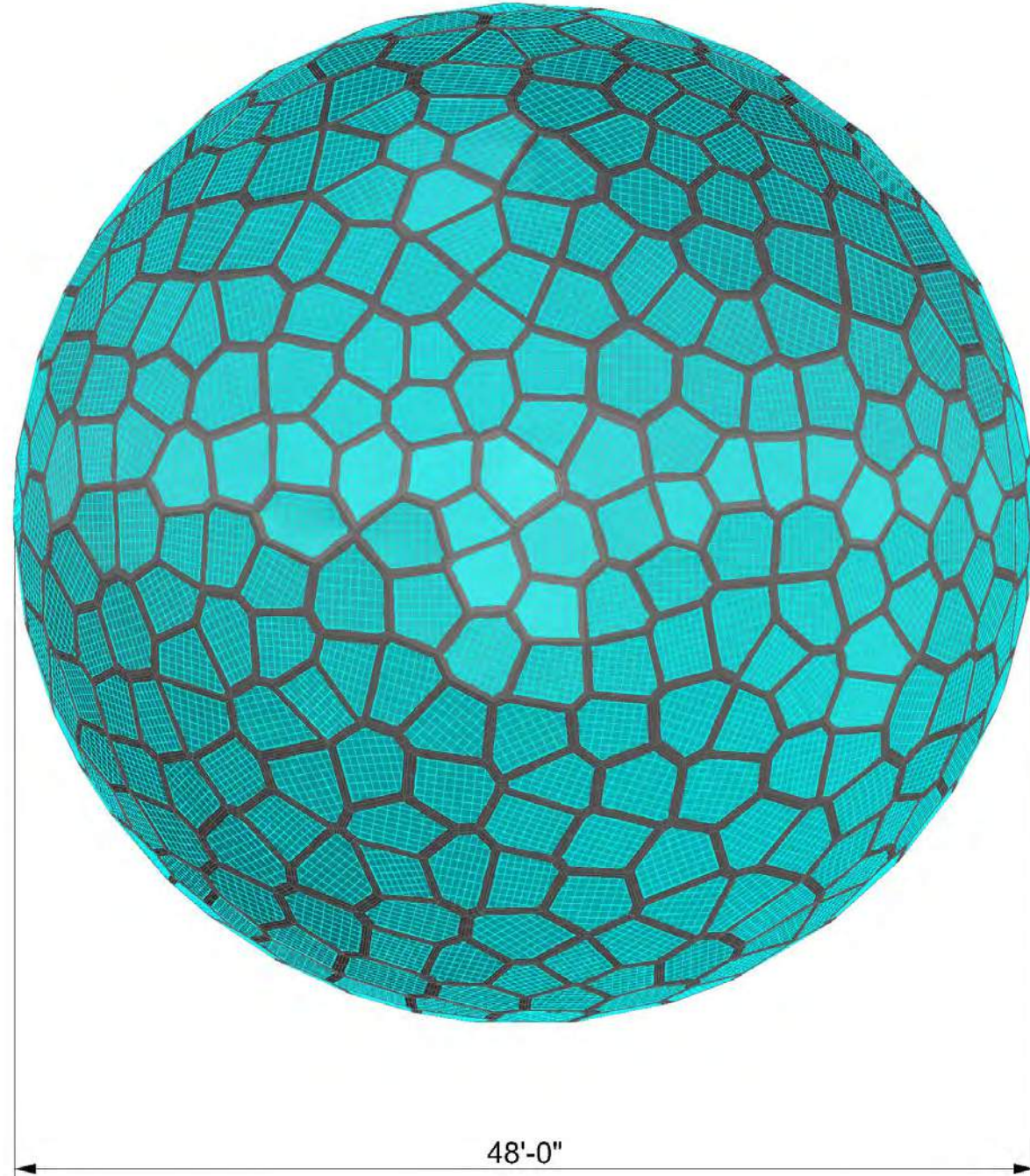


Not to scale



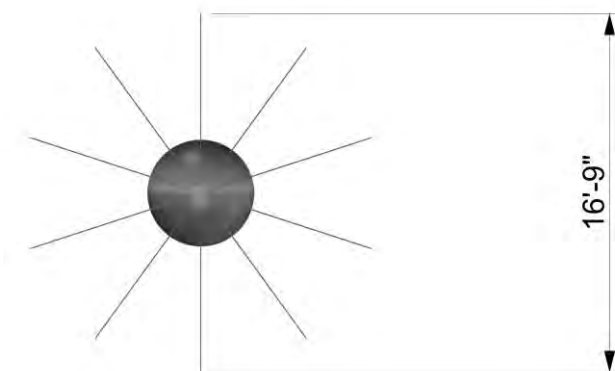
Not to scale

# Elevation



Not to scale

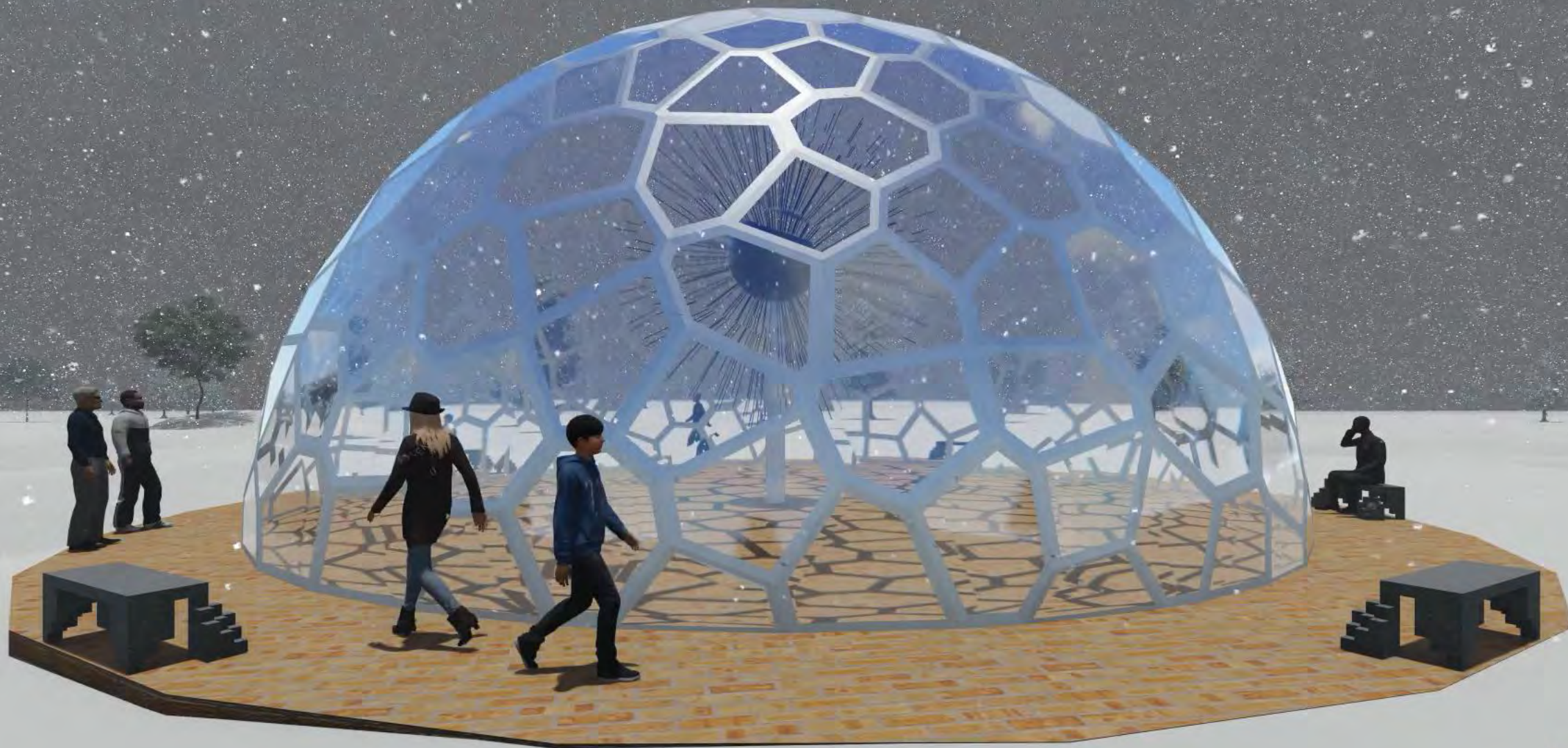
48'-0"



Not to scale

Plan





# Potential Sponsors



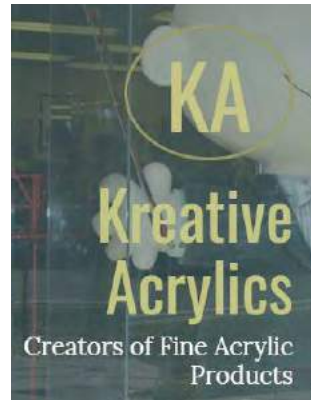
Morrissey Inc

Minnesota precision machining, stamping & complex metal fabrication company.



Clearwater Composite, LLC

Minnesota company that specializes in manufacturing carbon fiber tubes, plates and other parts.



Kreative Acrylics

Minnesota company that specializes in custom acrylic fabrication.



3M Company

3M Company is known for their innovation, manufacturing, & engineering.



Cargill

Cargill specializes in food, agricultural, financial and industrial products.

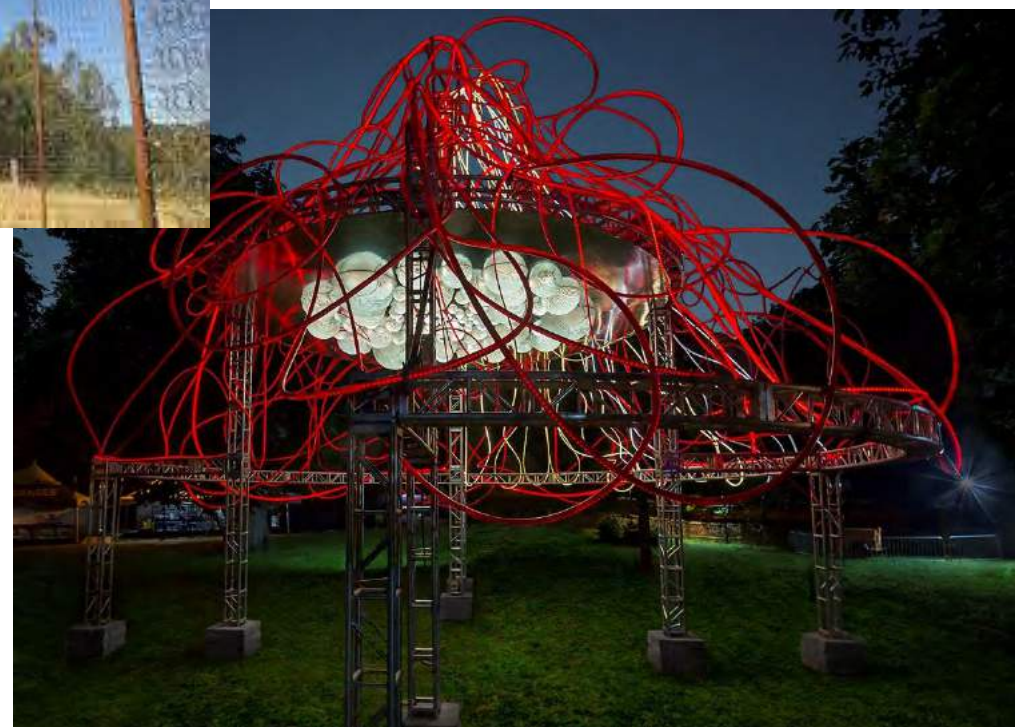




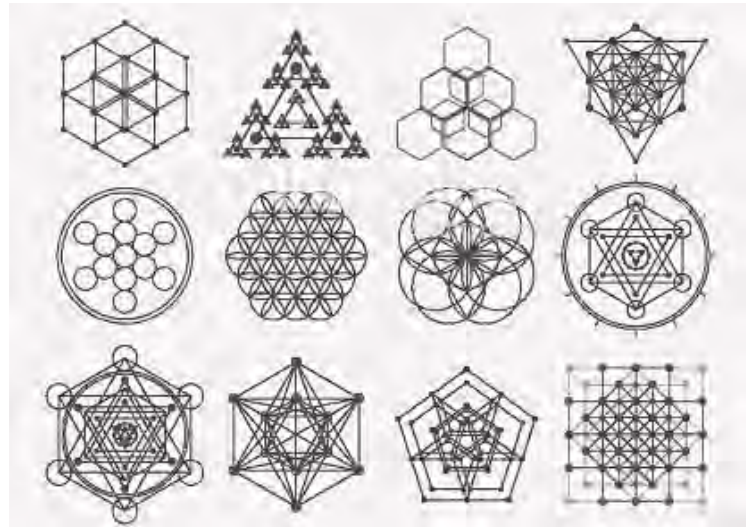
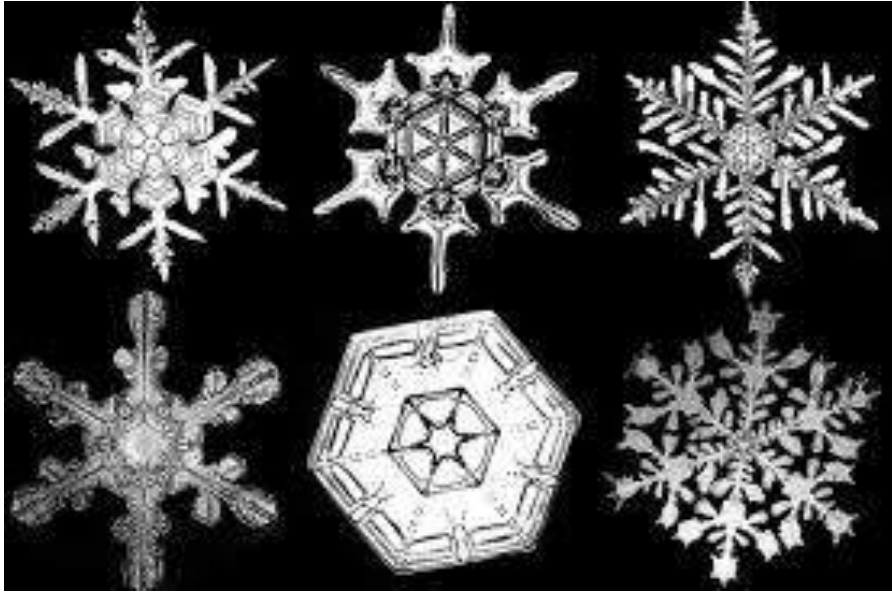
# Berger fountain enclosure

Karla Schmitt Oct 8, 2018 Site and Precedent









# INSPIRATION

Dandelions

Hexagons

Snow flakes

Six-petaled flowers

Existing plaza geometry



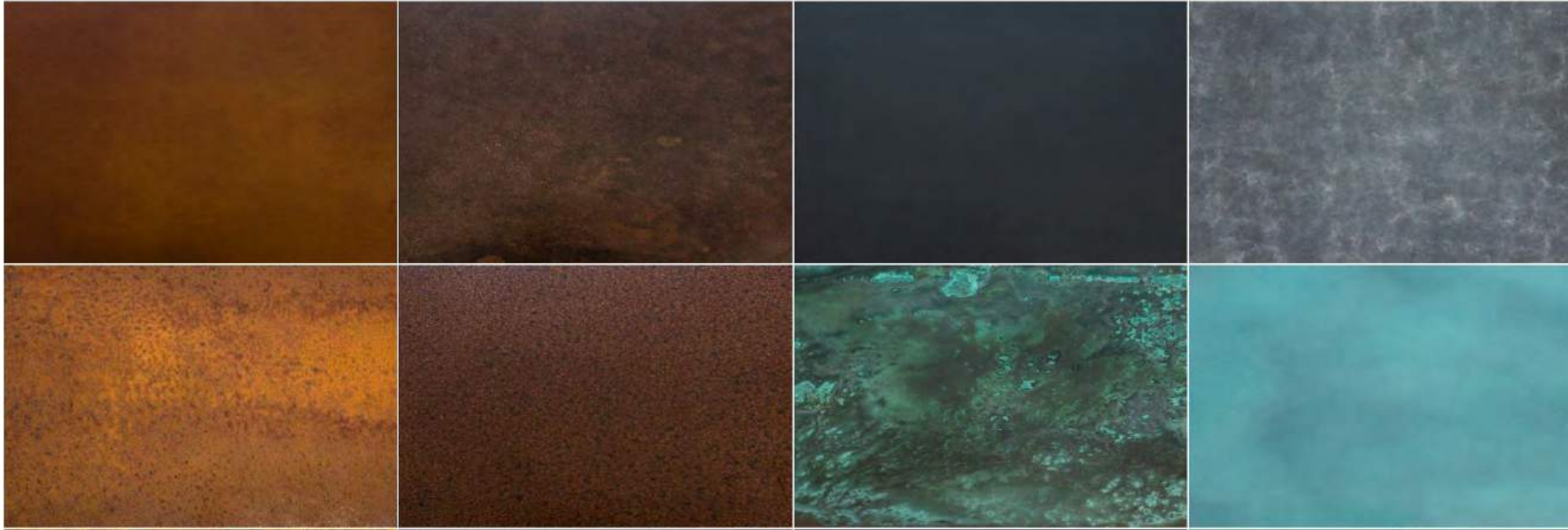


# materials

Fiberglass, recycled steel, custom metal



# Custom Metal Finish



POSSIBLE  
SPONSOR



**MG McGrath**  
GREAT PEOPLE. AMAZING RESULTS.

OPTIONS:

- Aged copper
- Blackened steel
- Bronze
- Copper
- Weathered steel
- Zinc

Durable in MN Weather

# Snowflake Center

## FIBERGLASS

Low embodied energy

No deformation

Withstands extreme temps

- (-40 F to 350 F)

Safe to handle

TOARTS





# Structural support



## RECYCLED STEEL

World's Most Recycled Material

Strong as new steel

Endlessly recyclable

Reusable waste



# LIGHTING

Color-changing

- Pride Festival
- Fall Colors
- Halloween
- Holidazzle
- Special Events





## NIGHT VIEW

Foam ball represents fountain mass

Structural supports fit inside footprint of existing fountain



# LEDS

LIGHT EMITTING DIODES  
EFFICIENT-40,000 HRS\*  
95% ENERGY CONVERSION  
RECYCLABLE

\*[www.greentechsolutionsgroup.com](http://www.greentechsolutionsgroup.com)



# STORAGE

- Fountain cover is two separate pieces
- Can be placed one on each side at Loring Greenway entry
- Kinetic sculpture rest of the year
- Bolted down
- Assembly/disassembly can be done by unskilled labor
- Replaceable simple construction
- Low possibility of mechanical issues
- Landscaped on either side



## AS SCULPTURES

Each half can be dismantled and moved to frame the entry at Loring Greenway.

Anywhere is possible

Bolted down

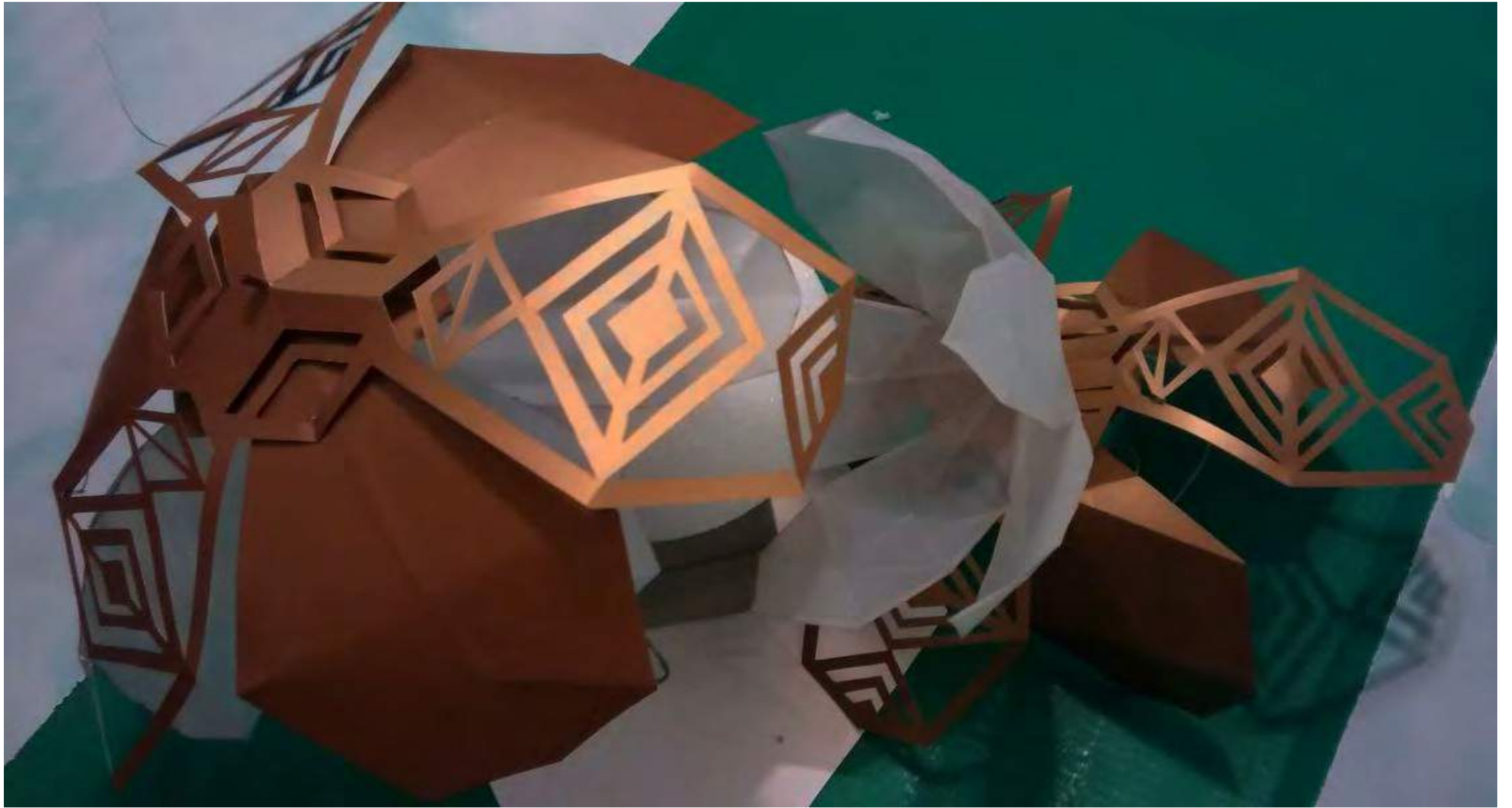
Taller one is about 24' high



# POSSIBLE PARTNER: DUNWOODY

## DISCIPLINES CONTRIBUTING:

- METAL FABRICATION
- MECHANICAL ENGINEERING AND DESIGN
- ARCHITECTURE
- PROJECT MGMT
- DONATED TIME BY STUDENTS AND FACULTY







# BERGER FOUNTAIN LORING PARK MINNEAPOLIS, MN



PRESENTED BY MARINA FOOKS

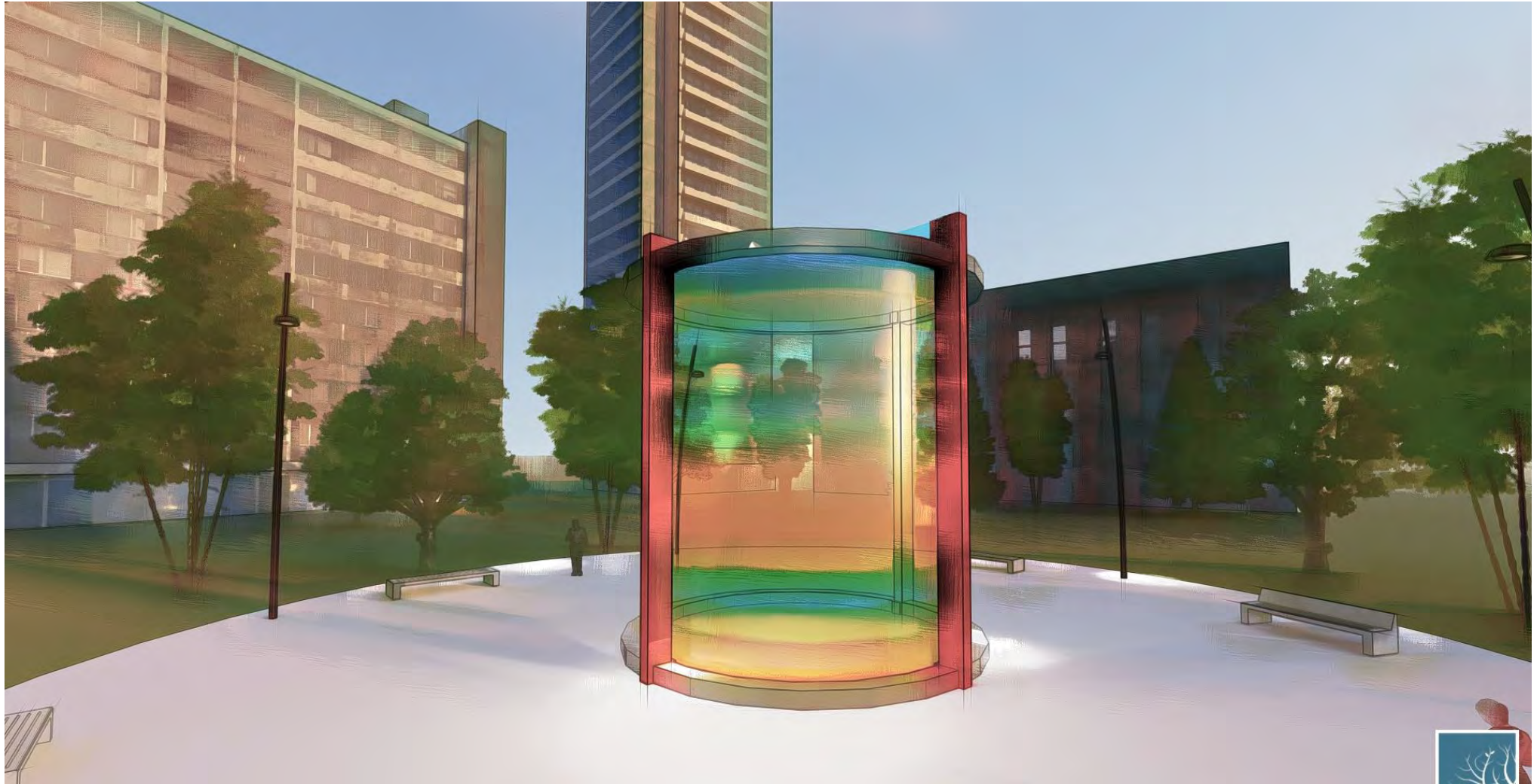


# PRECEDENTS



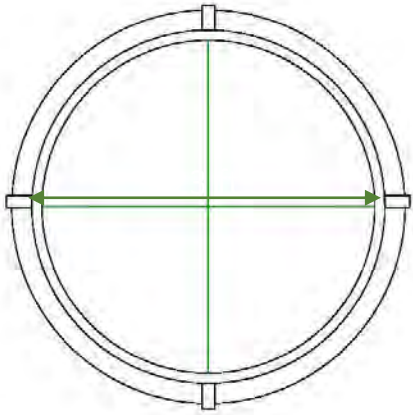


# PROPOSED ENCLOSURE

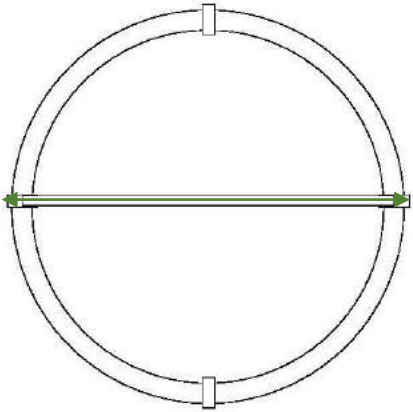




# PLANS AND ELEVATIONS

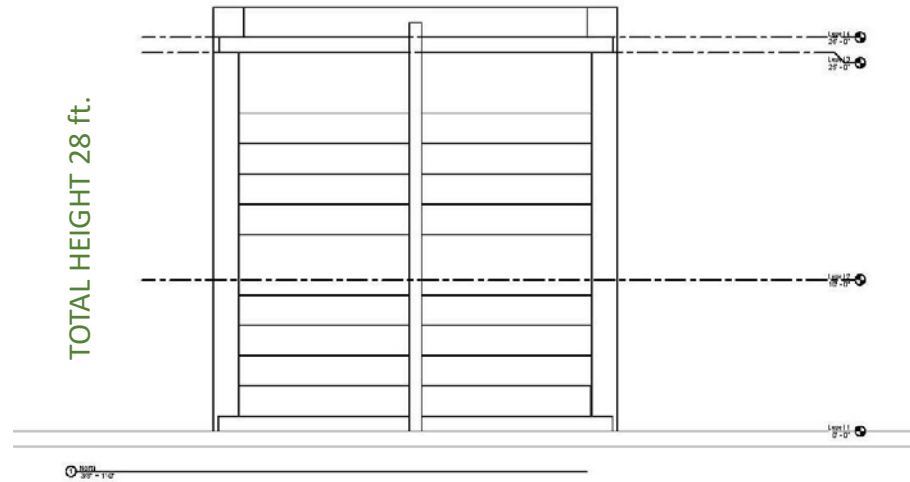


PLAN VIEW

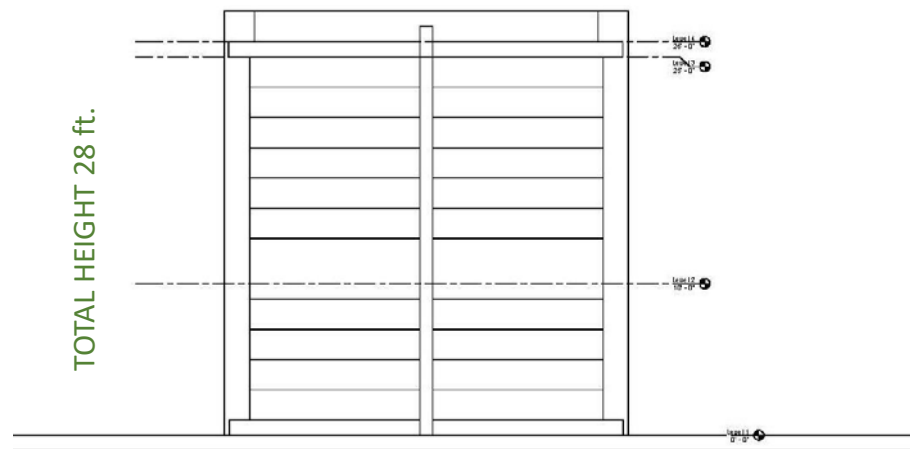


TOP VIEW

PLANS

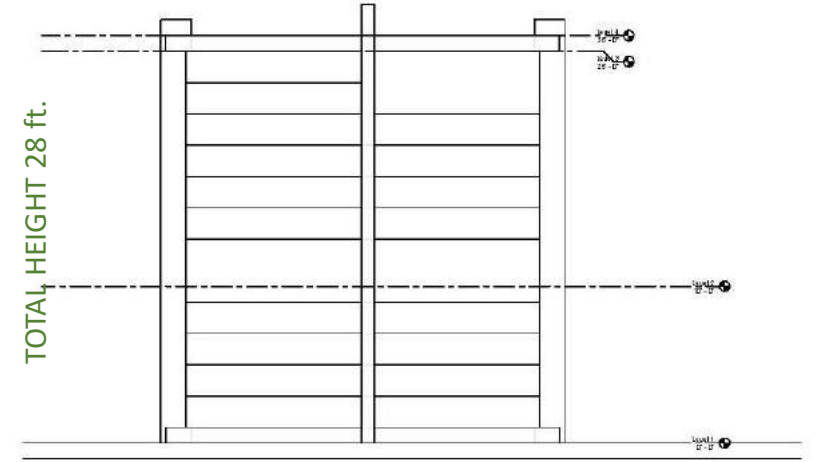


TOTAL HEIGHT 28 ft.

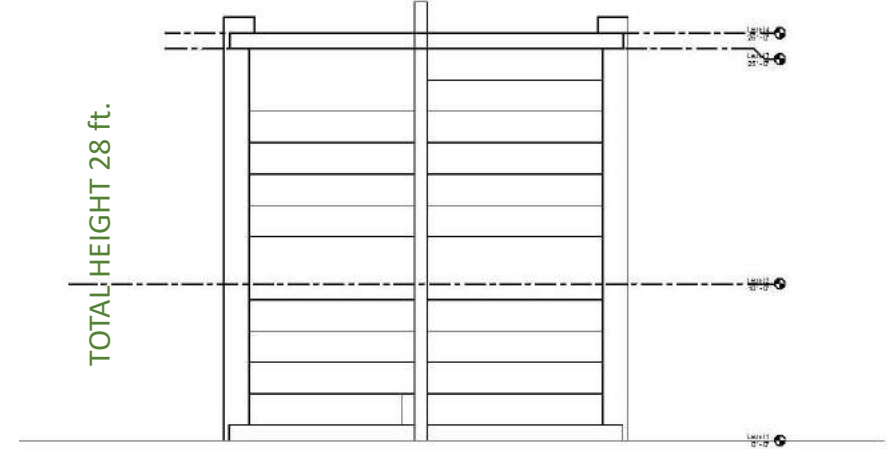


TOTAL HEIGHT 28 ft.

NORTH AND SOUTH ELEVATIONS



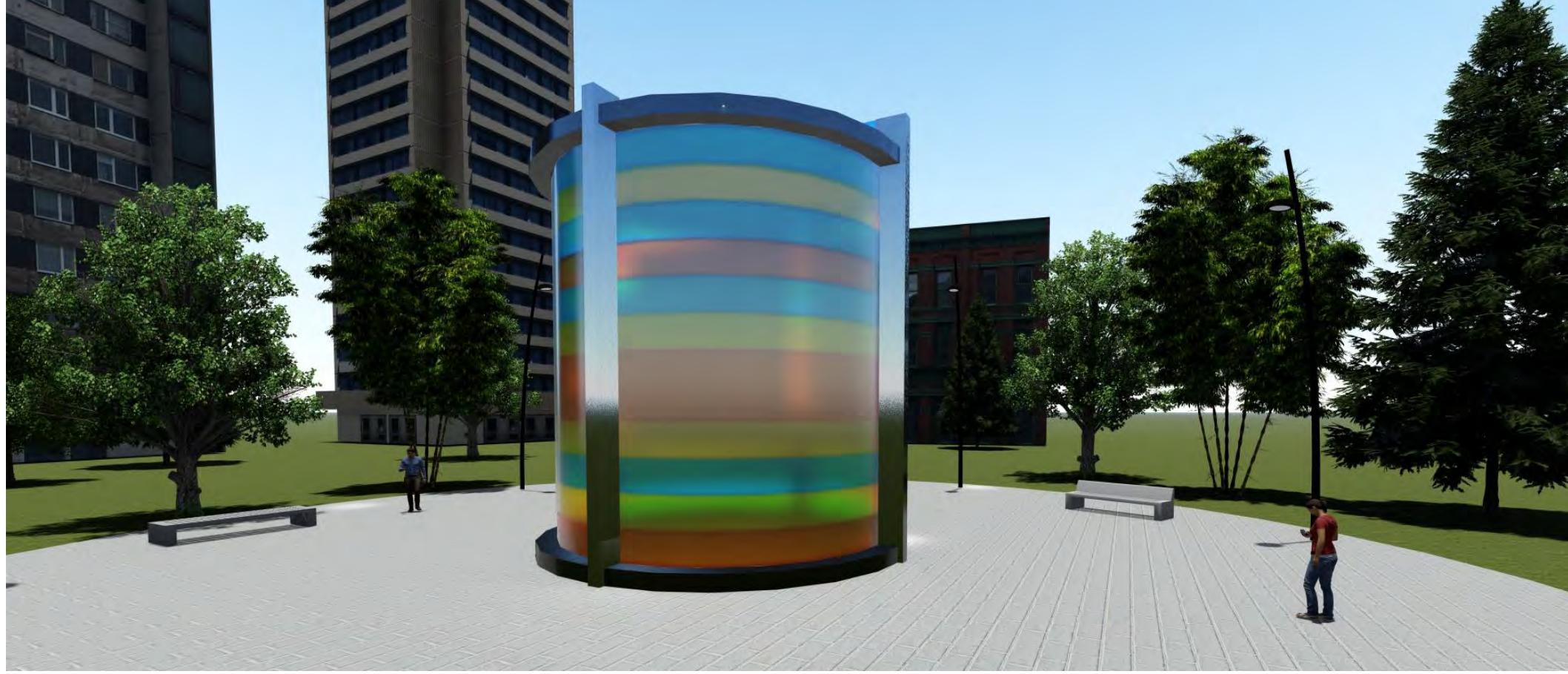
TOTAL HEIGHT 28 ft.



TOTAL HEIGHT 28 ft.

EAST AND WEST ELEVATIONS

DAY TIME



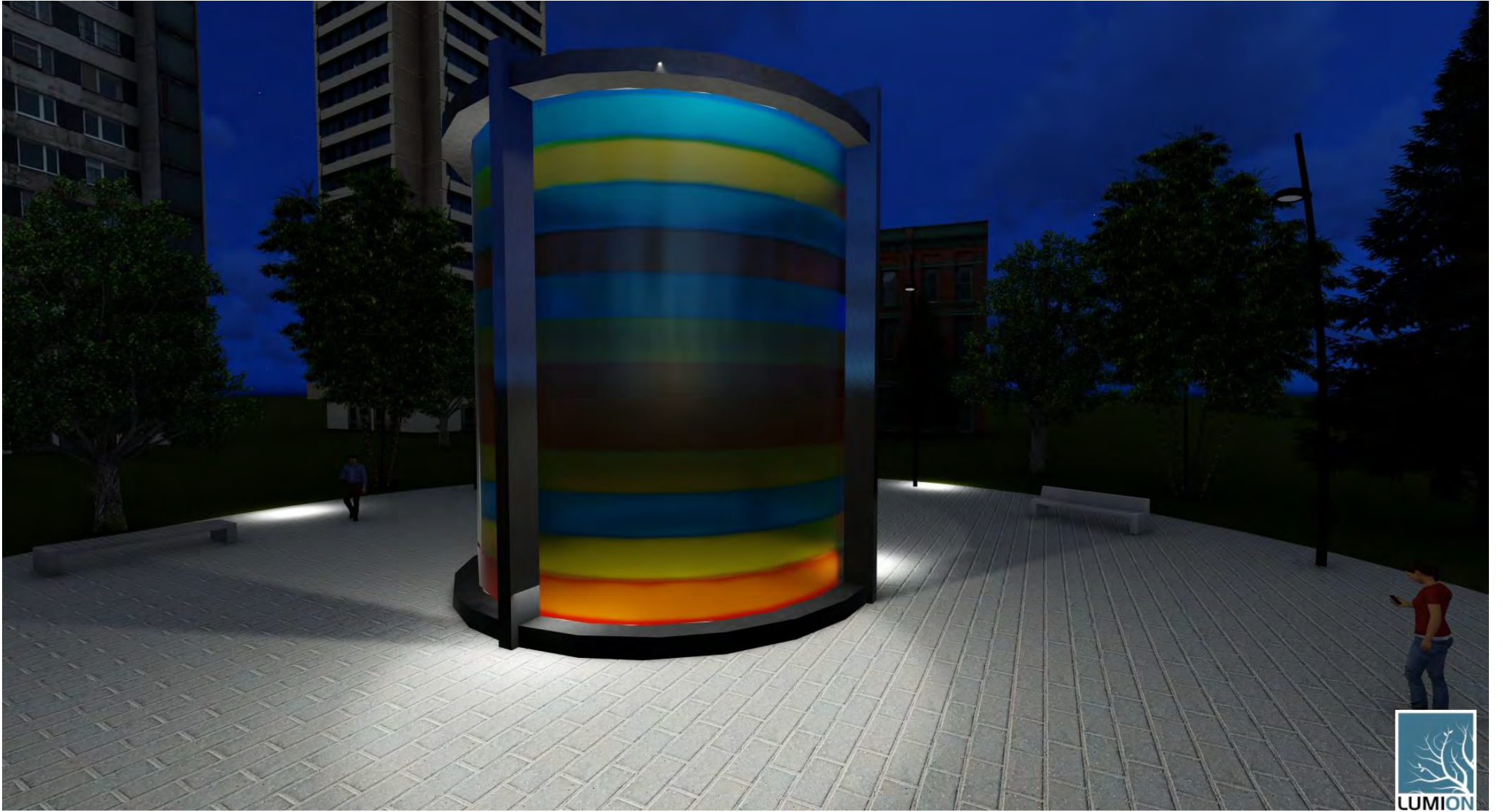


# AT DAWN





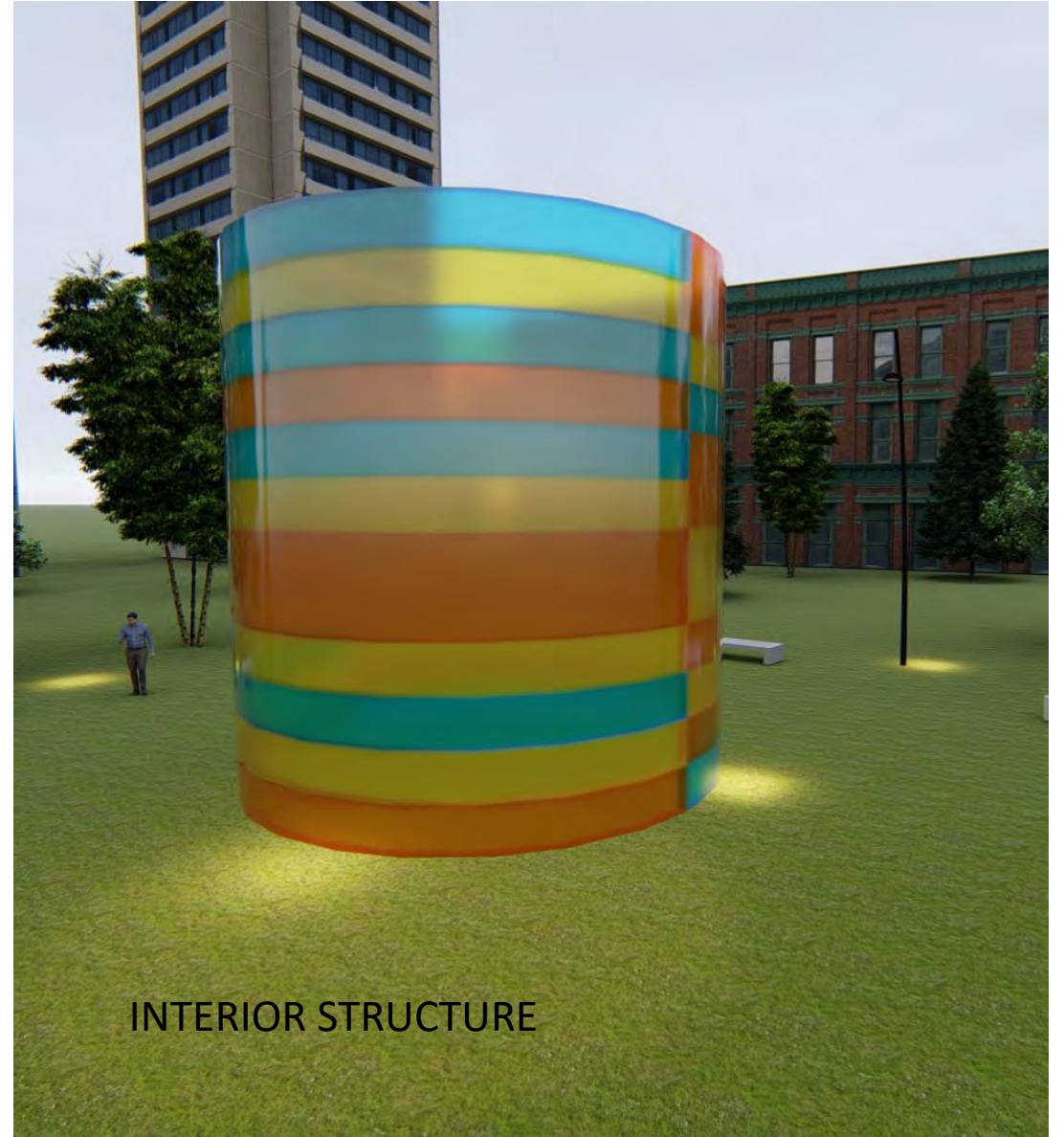
# NIGHT TIME







OUTSIDE STRUCTURE



INTERIOR STRUCTURE

# MATERIALS

INTERIOR:  
ACRYLIC, POLYCARBONATE, PLAXIGLASS

STRUCTURE:  
POLISHED STEEL OR ALUMINUM



<https://perspex.com/inspire-me/>



<https://www.regal-plastics.com/standard-acrylic-colors/>



<https://jiji.ng/ikeja/building-materials/polycarbonate-sheets-acrylic-perspex-aluco-boards-and-awning-6598512.html>

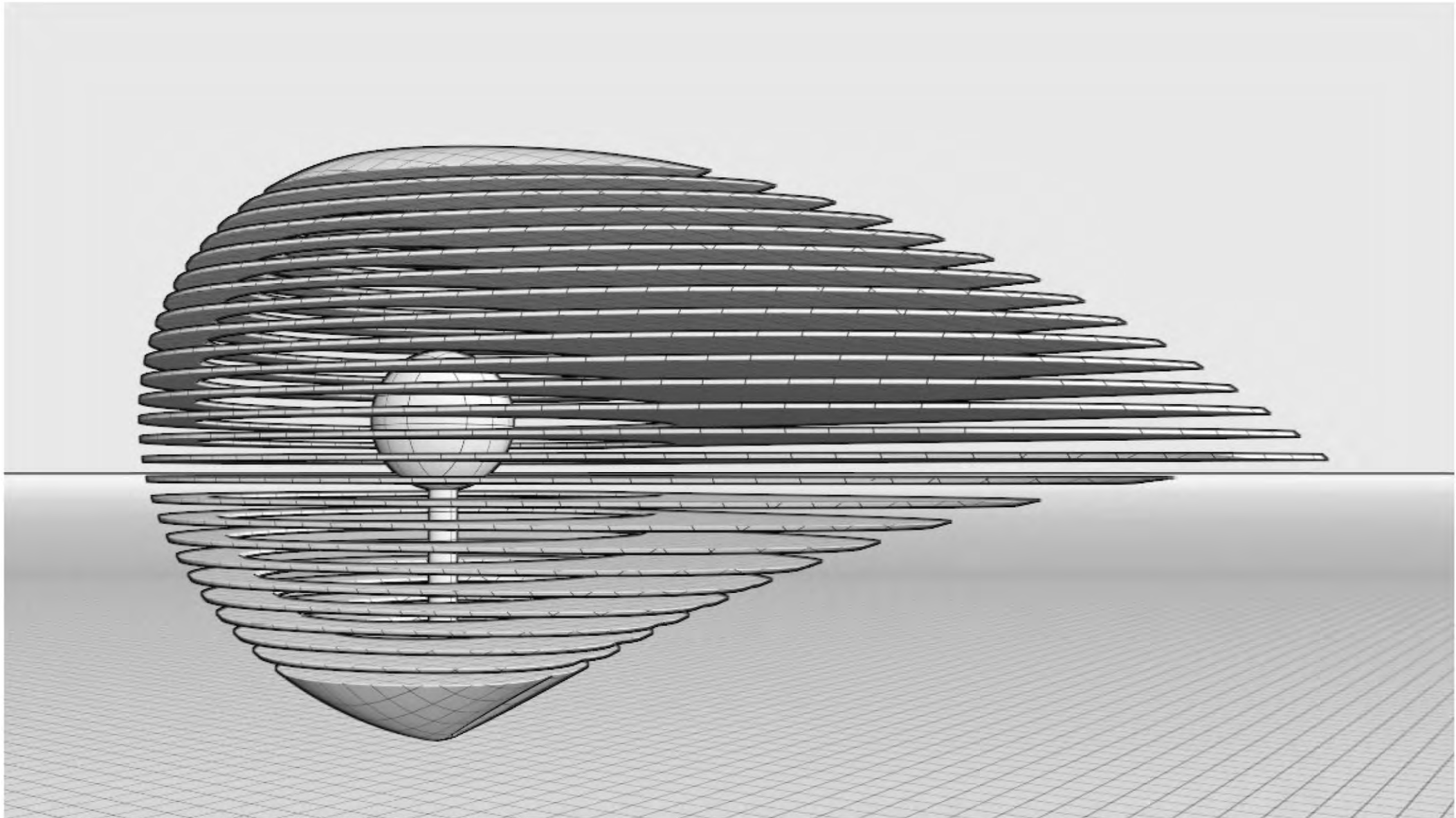


# POSSIBLE SPONSORS

TARGET 3M WELLS FARGO MORTENSON ADOLSON & PETERSON

CAPITAL PLASTICS U OF M DUNWOODY COLLEGE OF TECHNOLOGY

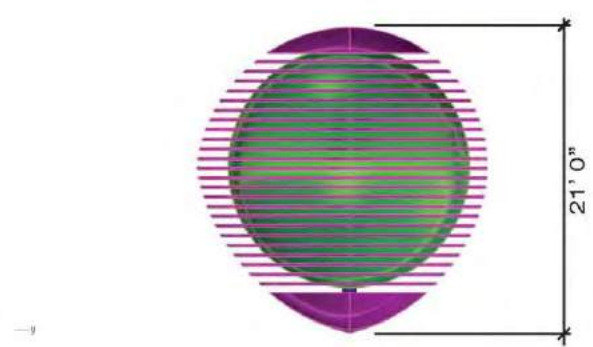
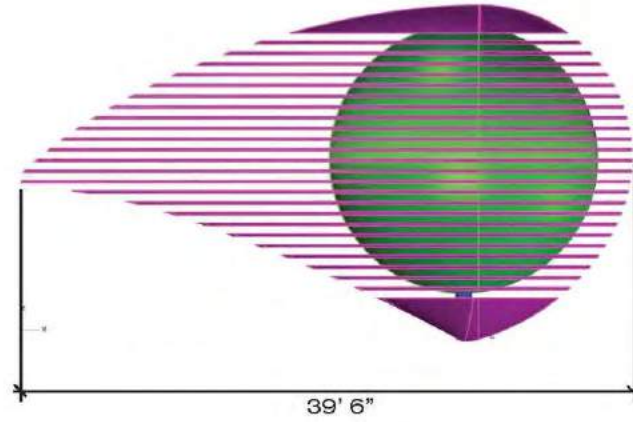
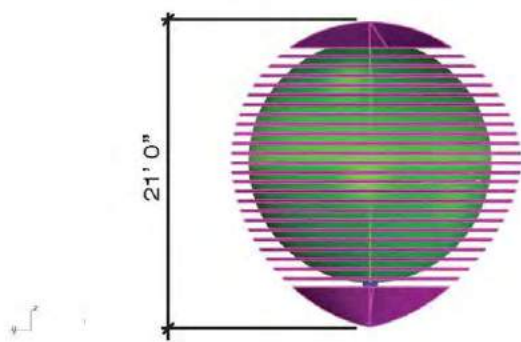
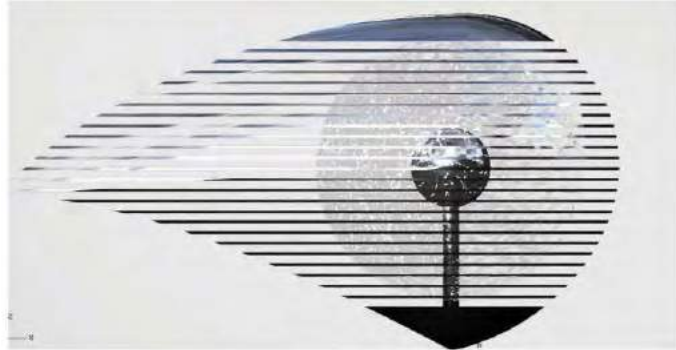
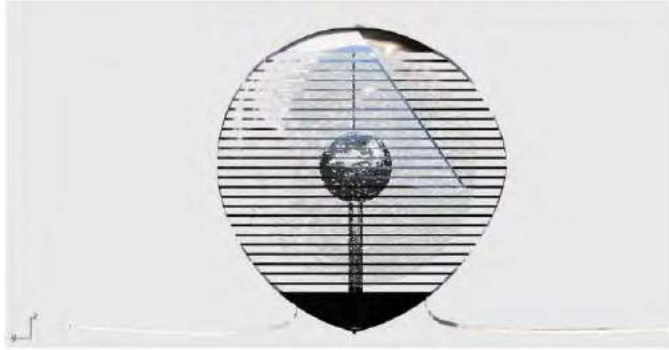
XCEL ENERGY EXPLORE MINNESOTA

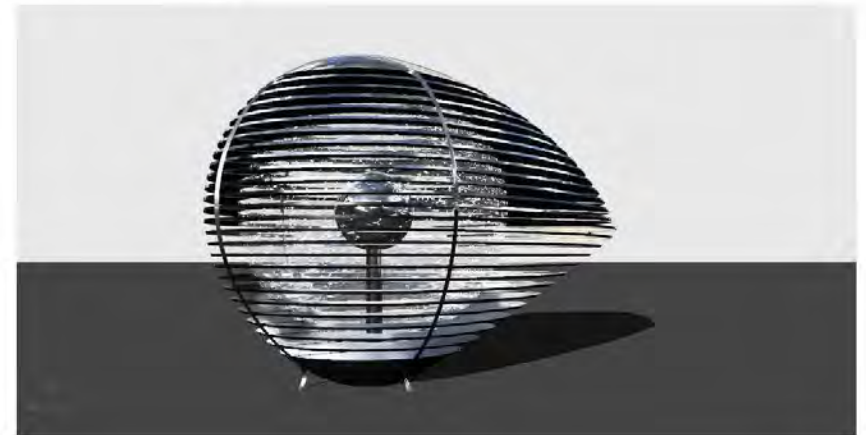
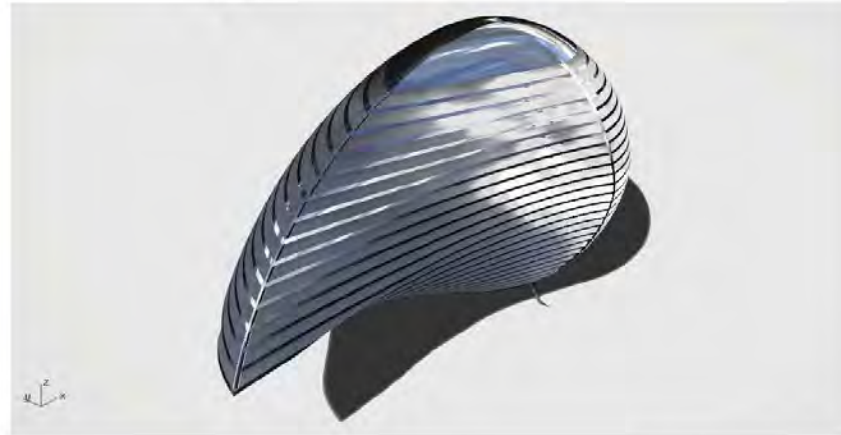
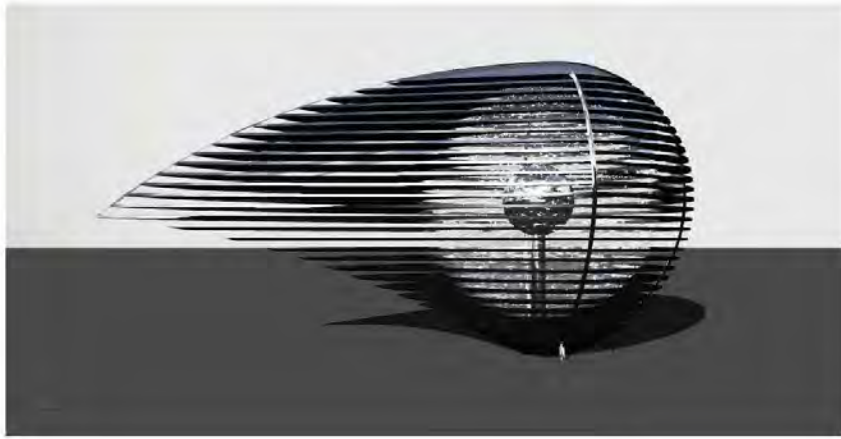


**BERGER FOUNTAIN ENCLOSURE**  
LORING PARK, MINNEAPOLIS, MN

ERIK M. HALL  
DUNWOODY COLLEGE OF TECHNOLOGY

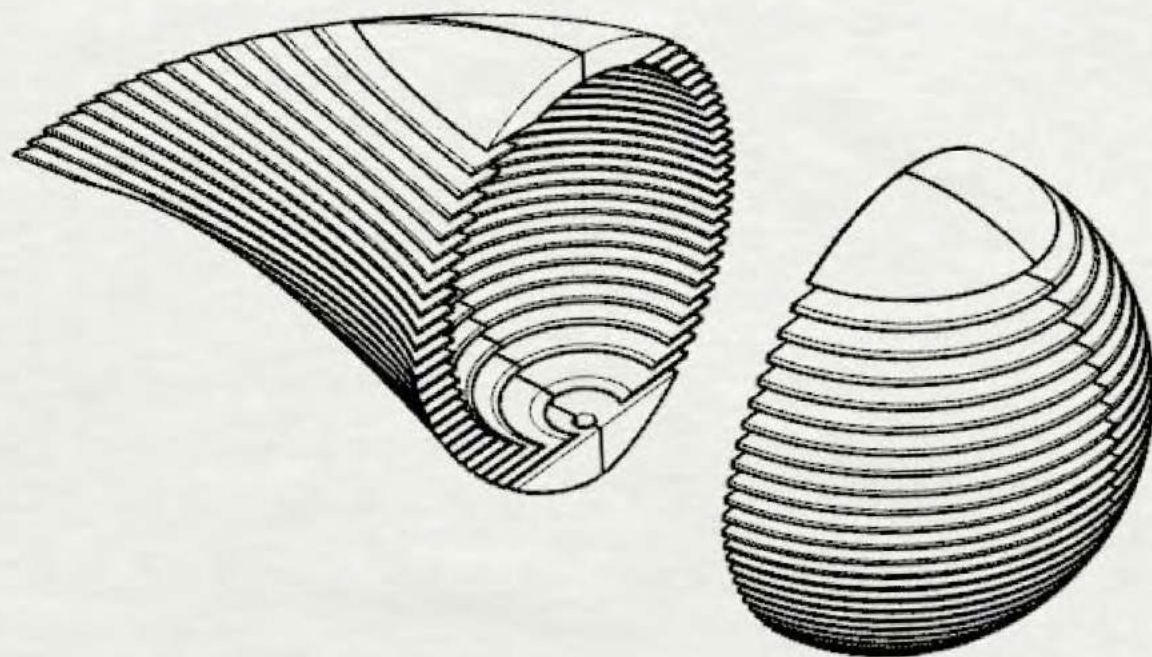




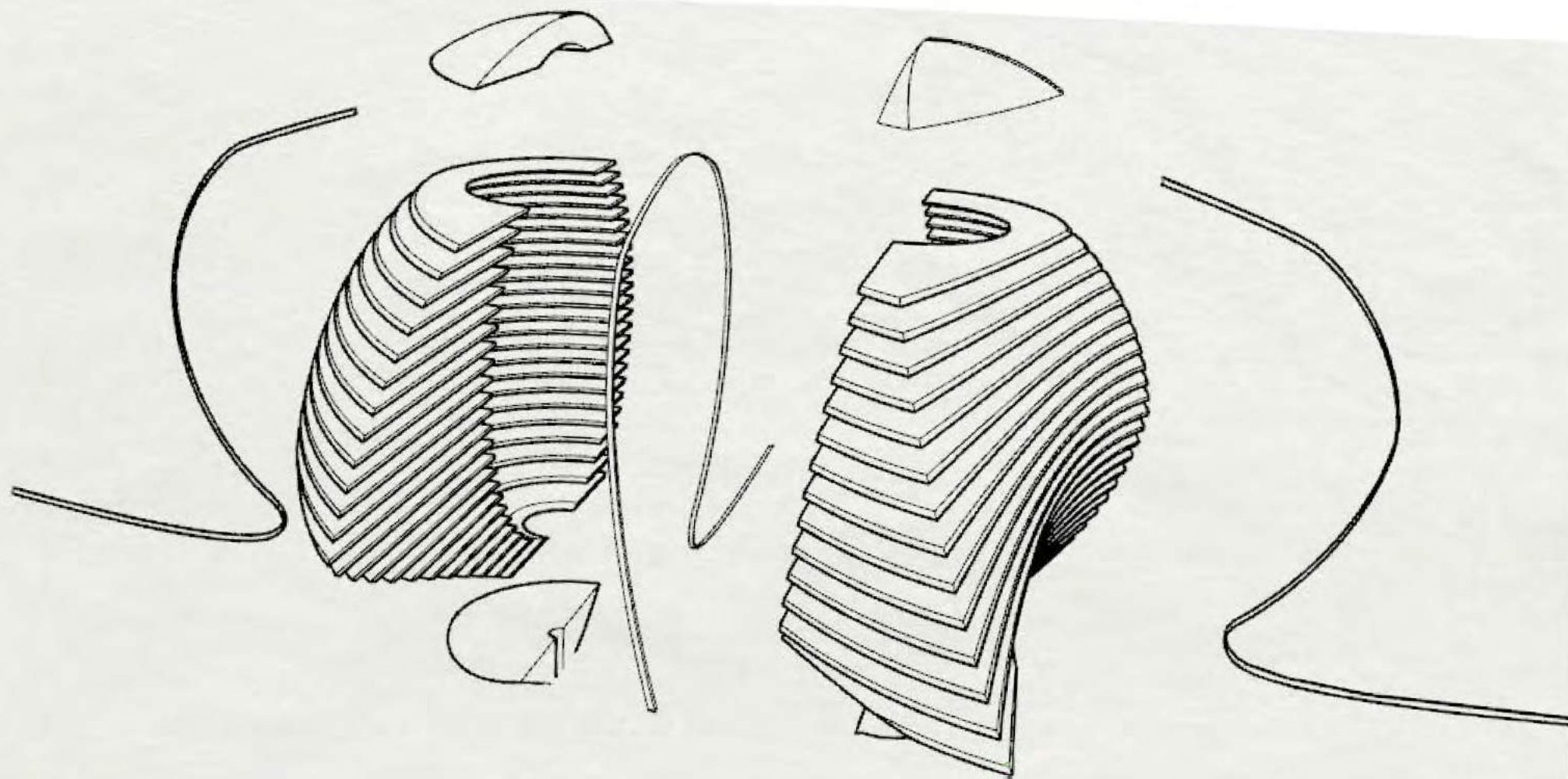


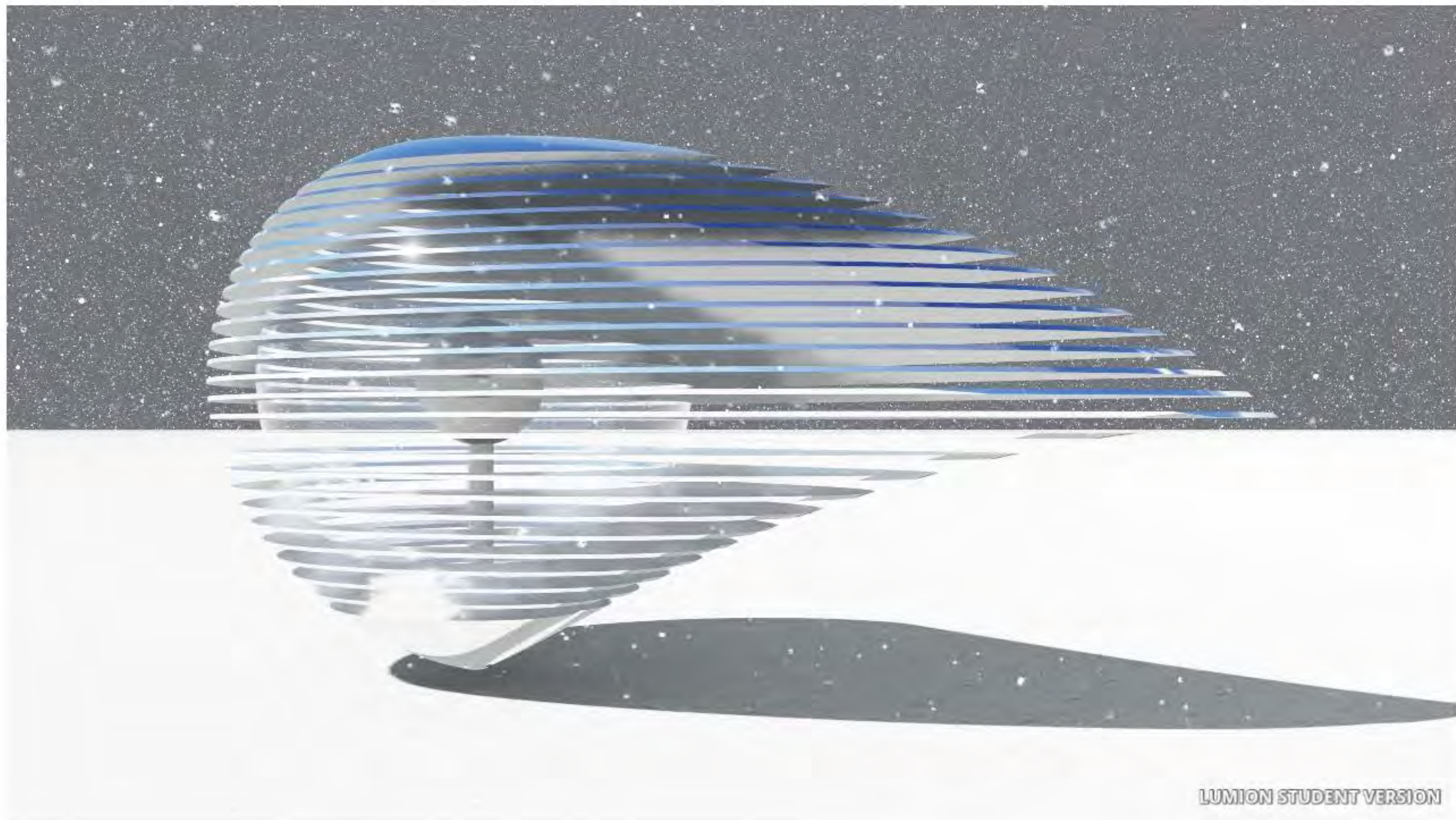












LUMION STUDENT VERSION









# Berger Dandelion Fountain Enclosure

By Mitchell Olson

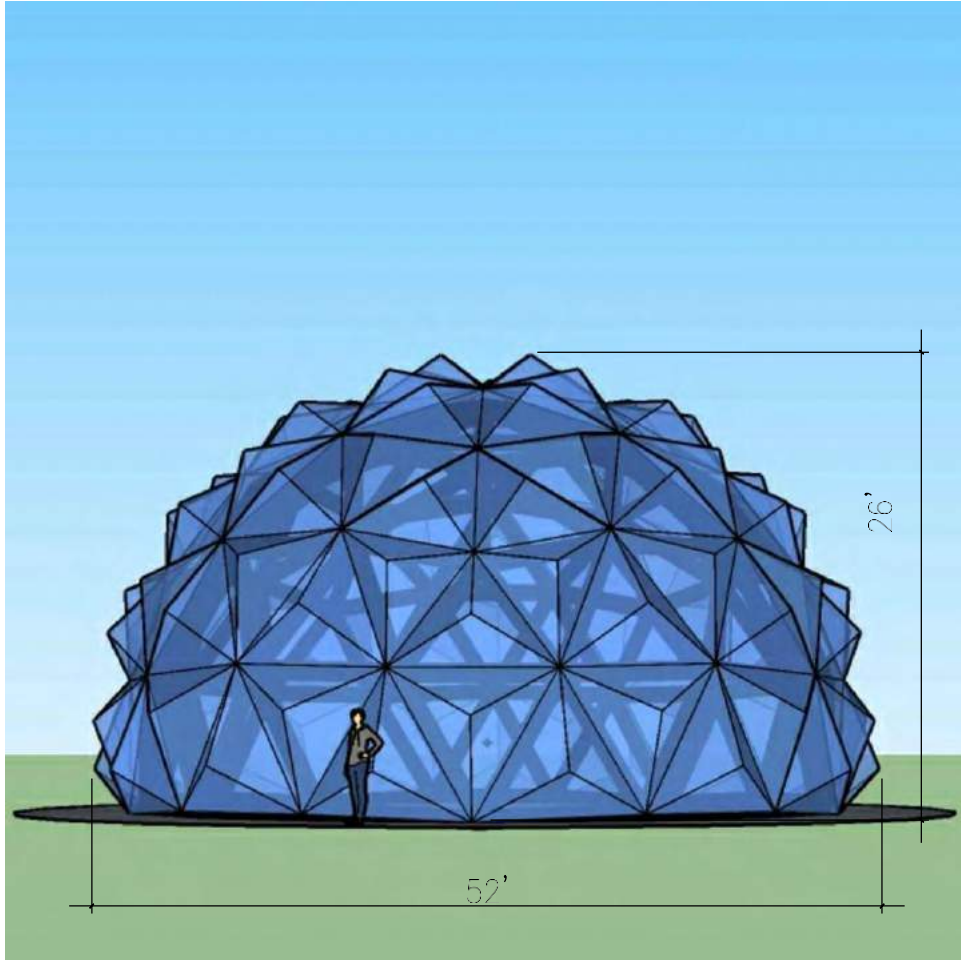


# Preceden ce

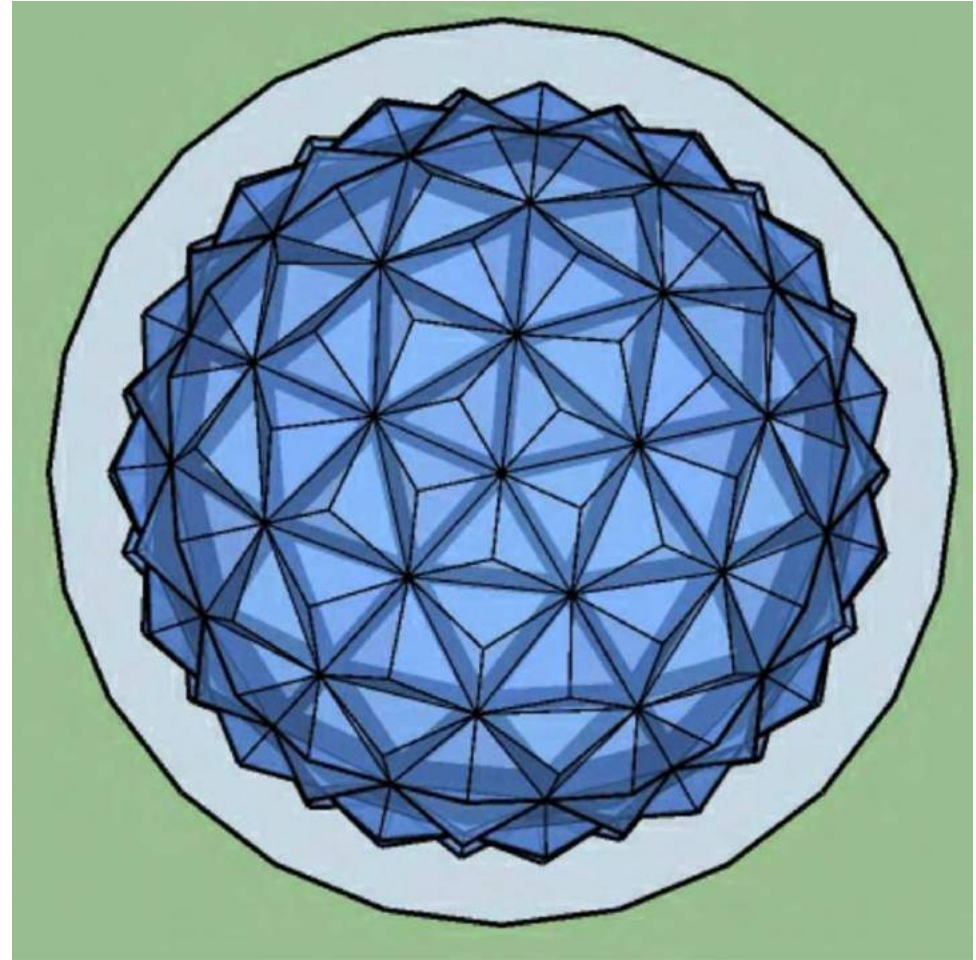




# Conceptual Design



Elevation View



Plan View

# Structural - Materials - Features



## **Lexan**

**Works in a wide temperature range.  
Excellent UV resistance.  
High, long-term color stability.  
Lightweight.  
Excellent formability..**

## **Aluminum**

**Recyclable  
Light Weight and strong  
Corrosion Resistance**

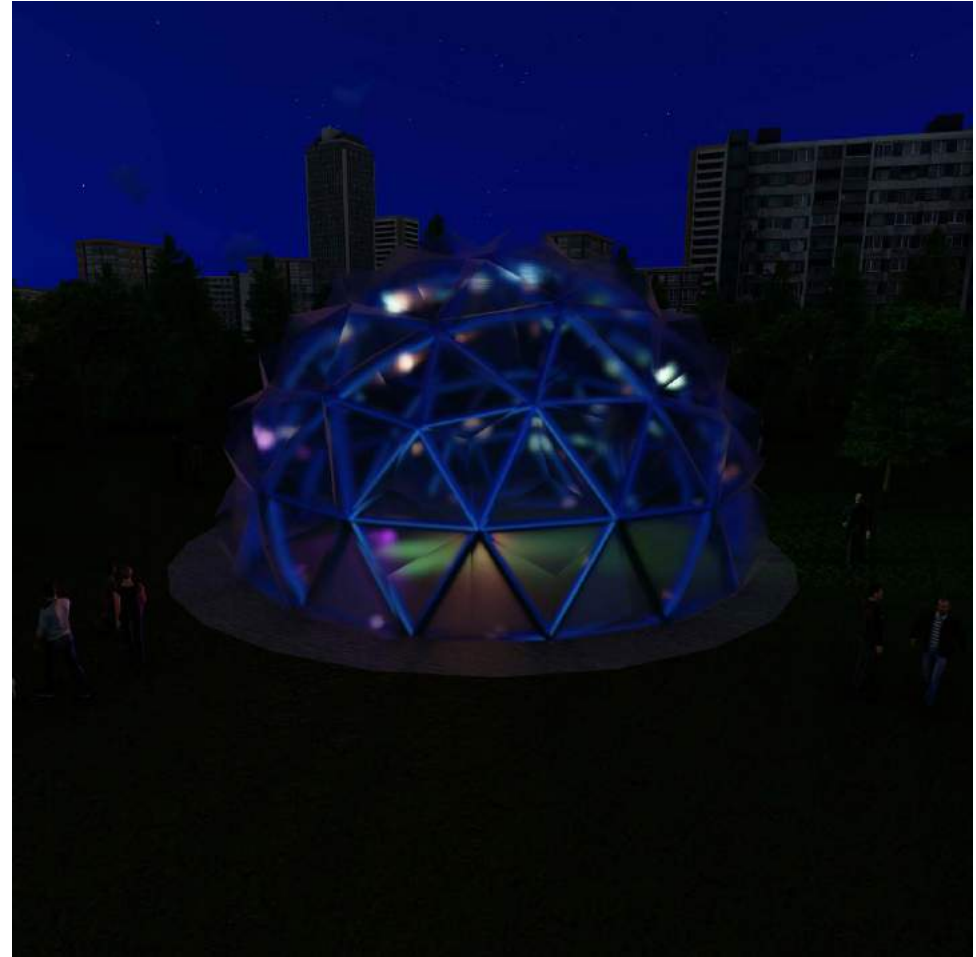
## **Features**

**Lighting  
Greenhouse Effect**





# Architectural Renderings



# Architectural Renderings





# Potential Manufacturers and Sponsors



**Envision Plastic and Design**

Minnesota based company that specializes in custom plastic and lexan fabrication.



**Century Tool Inc.**

Minnesota company that offers custom fabrication, CNC machining and turning capabilities, welding, assemblies, and more.



**Mortenson Construction**

Minnesota builder, developer, and provider of energy & engineering services.

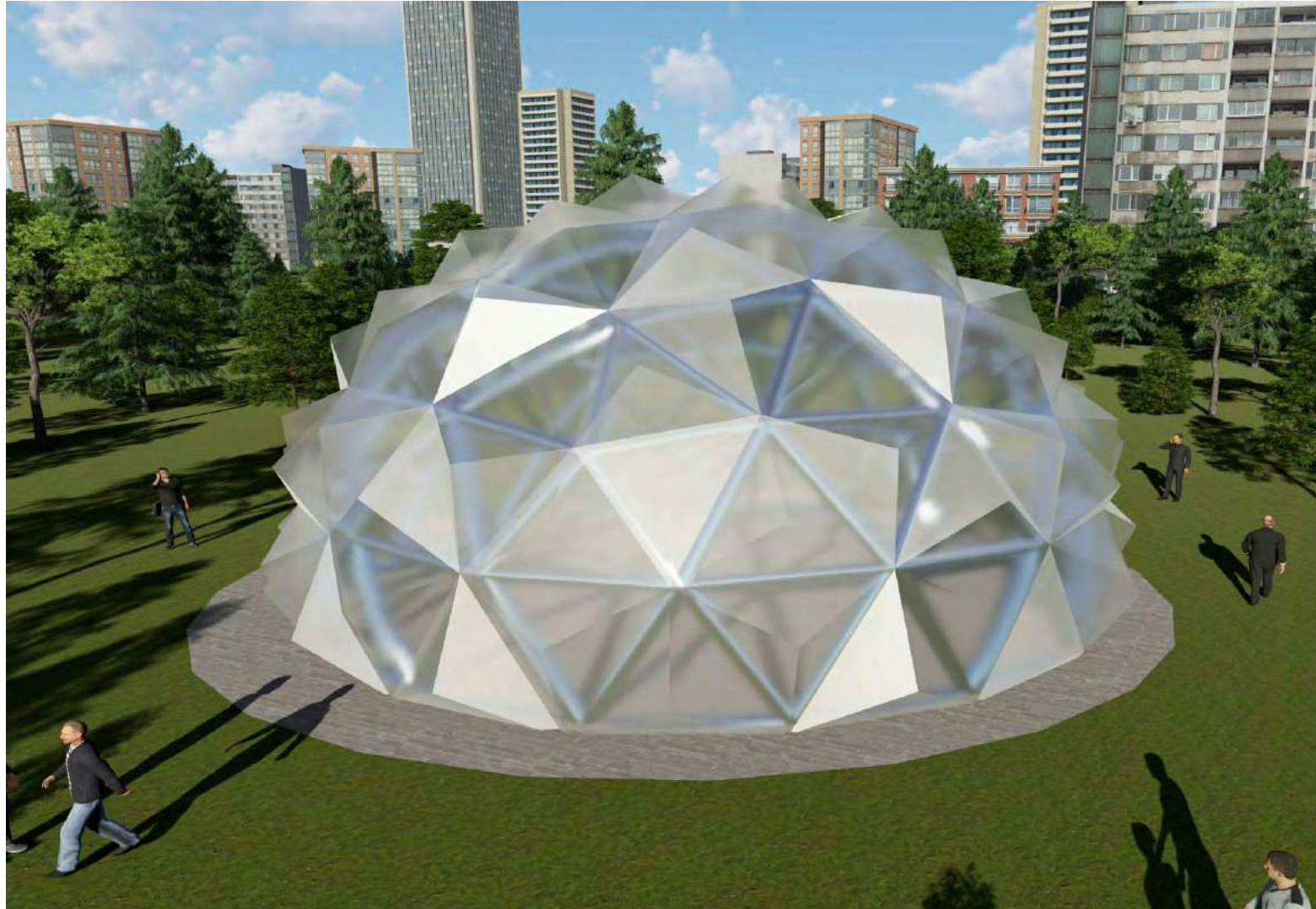


**3M**

Minnesota based company known for their innovation, manufacturing, and engineering.

# Berger Dandelion Fountain Enclosure

By Mitchell Olson







# BERGER FOUNTAIN ENCLOSURE



MICHAEL LENZ

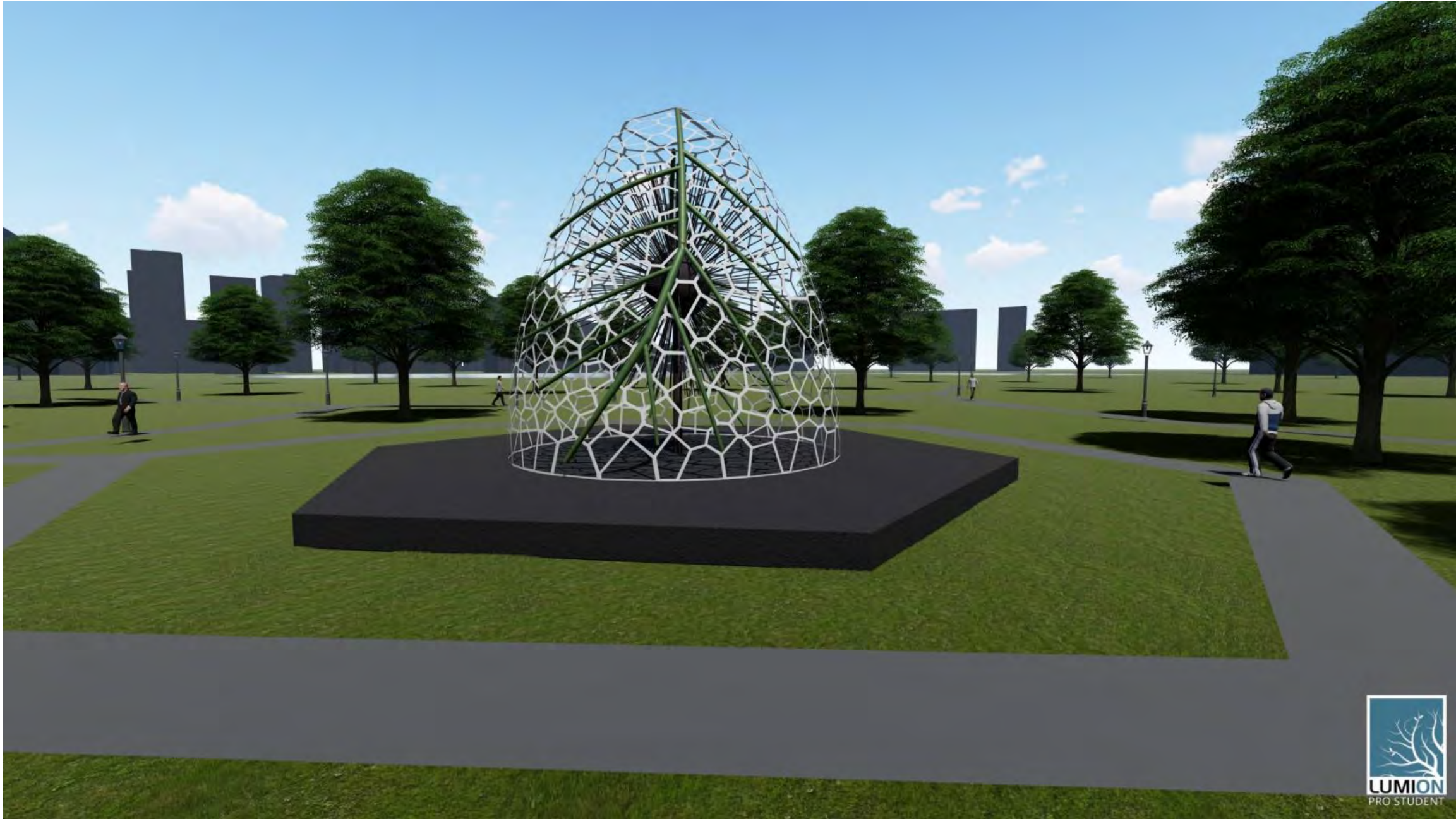




# INSPIRATION









# MATERIALS AND POTENTIAL SPONSORS

## MATERIALS

- ACRYLIC
- RECYCLED ALUMINUM
- STEEL

## SPONSORS

- 3M
- AMERICAN ALUMINUM EXTRUSION
- MORTENSON
- KREATIVE ACRYLICS



AMERICAN ALUMINUM EXTRUSION  
COMPANY, LLC



**Kreative Acrylics**  
creators of fine acrylic products

# FABRICATION

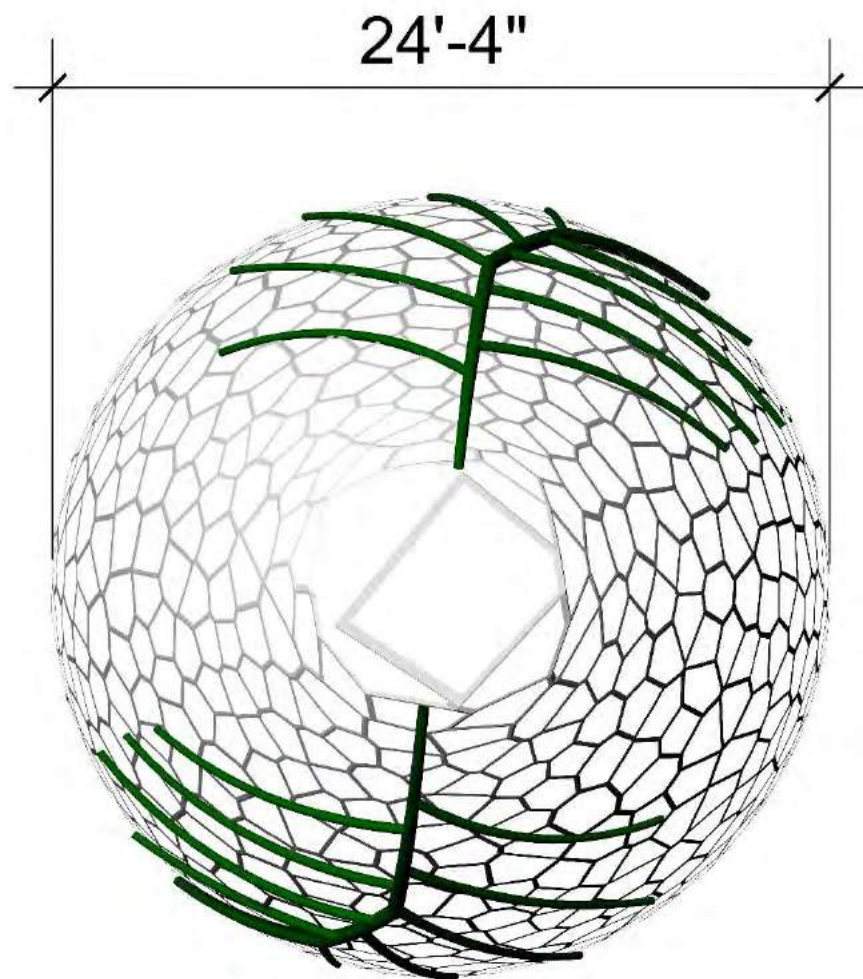
- CNC MACHINED ALUMINUM
- CUSTOM ACRYLIC SHAPING
  - POSSIBLY CNC MACHINED AS WELL



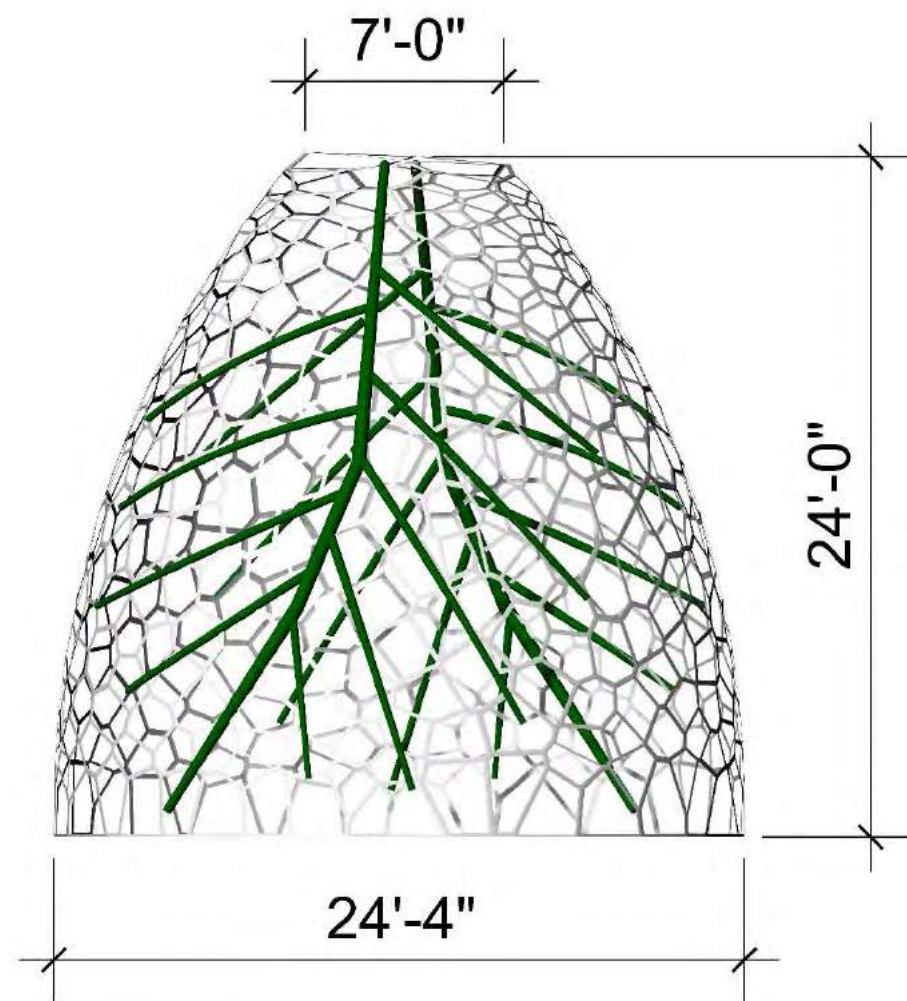
\* STRUCTURE WOULD BE CRANED OVER THE FOUNTAIN

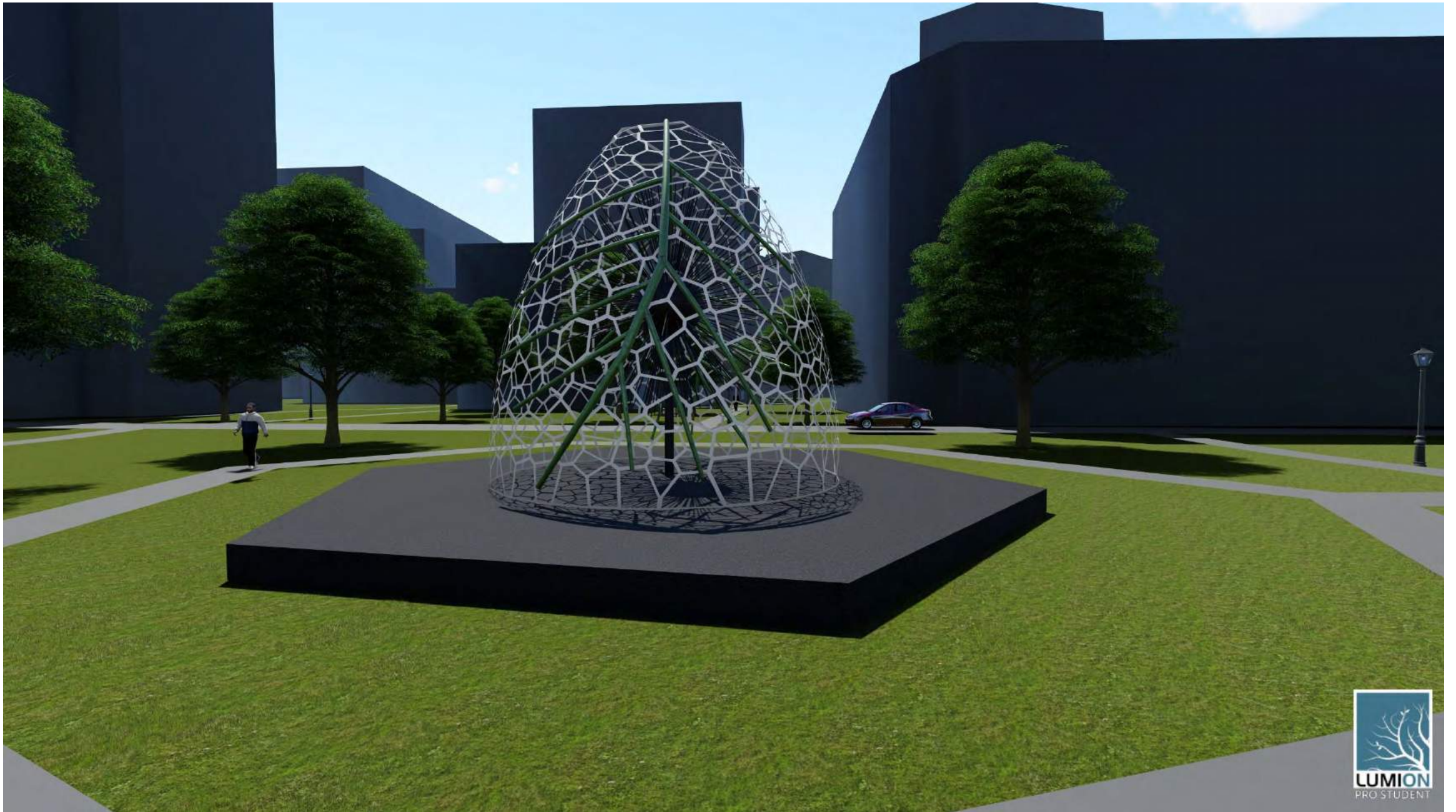


## PLAN

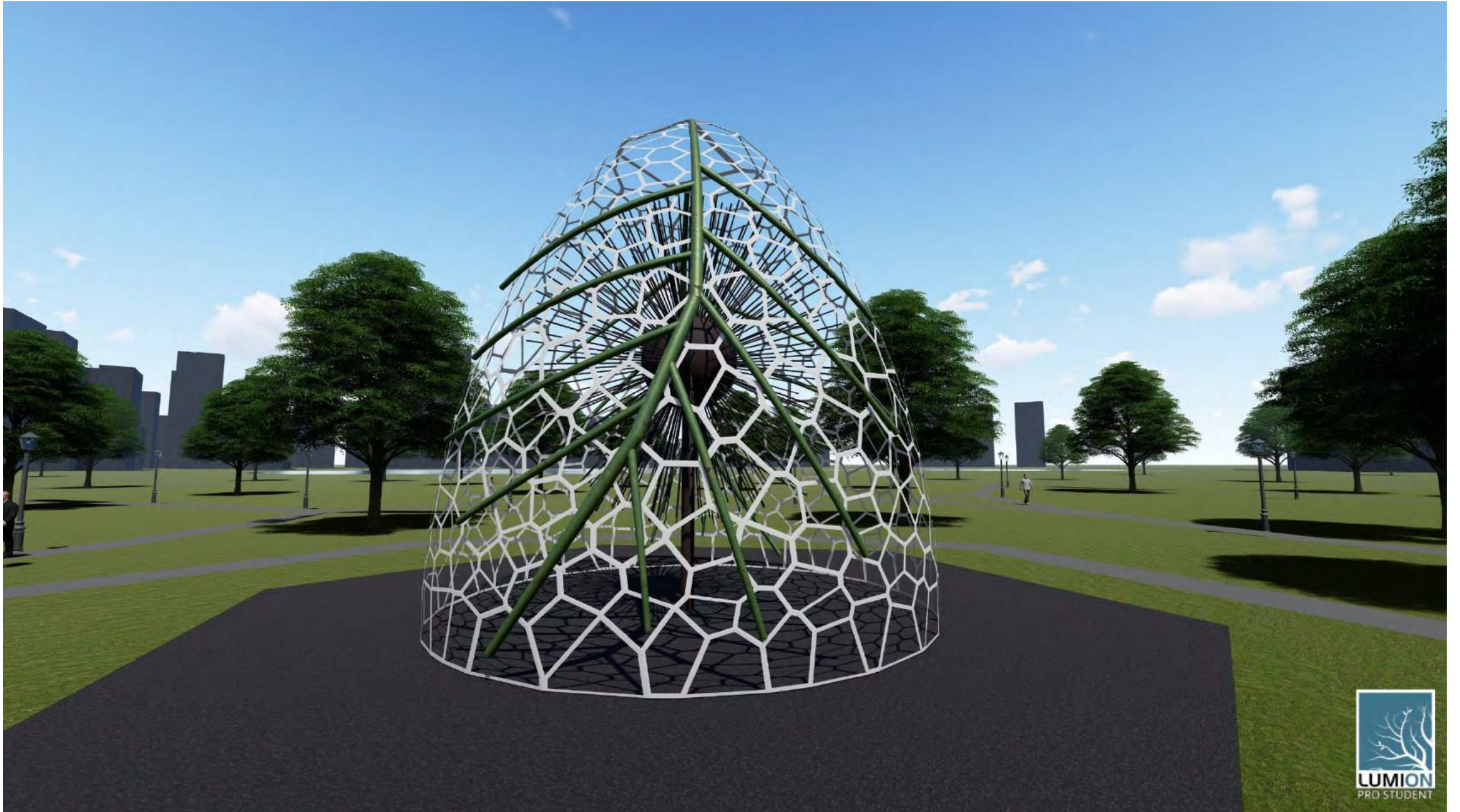


## ELEVATION





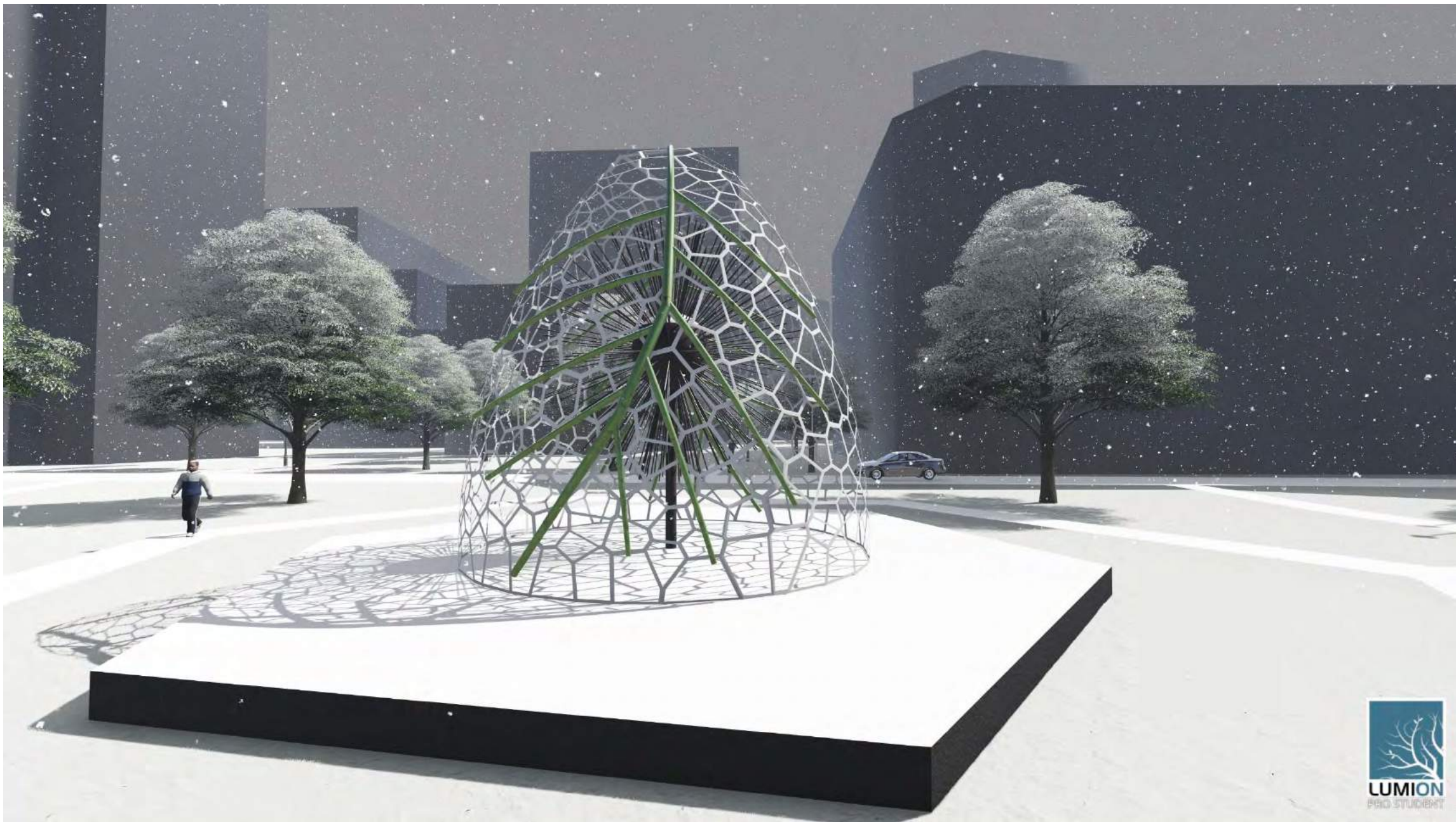








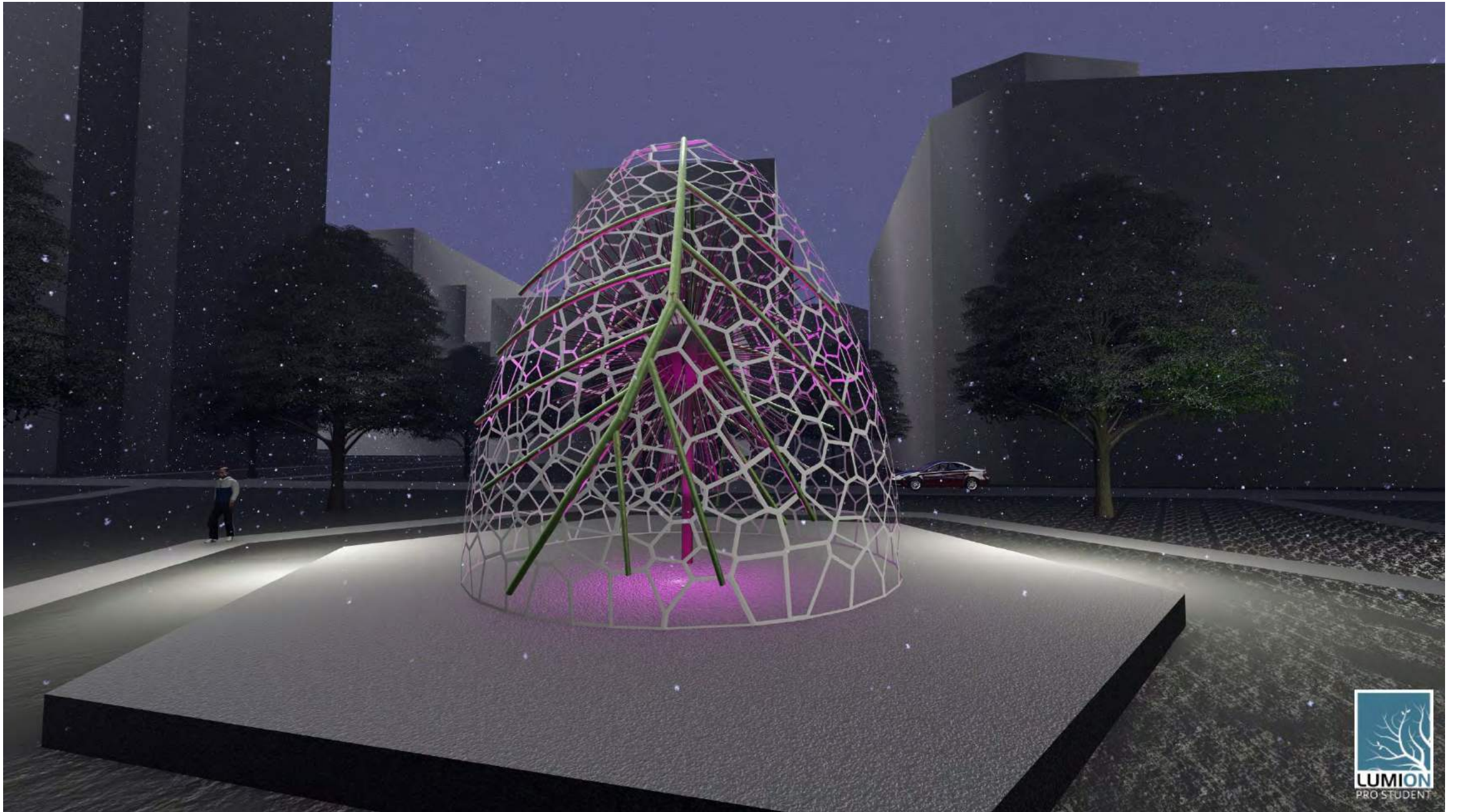










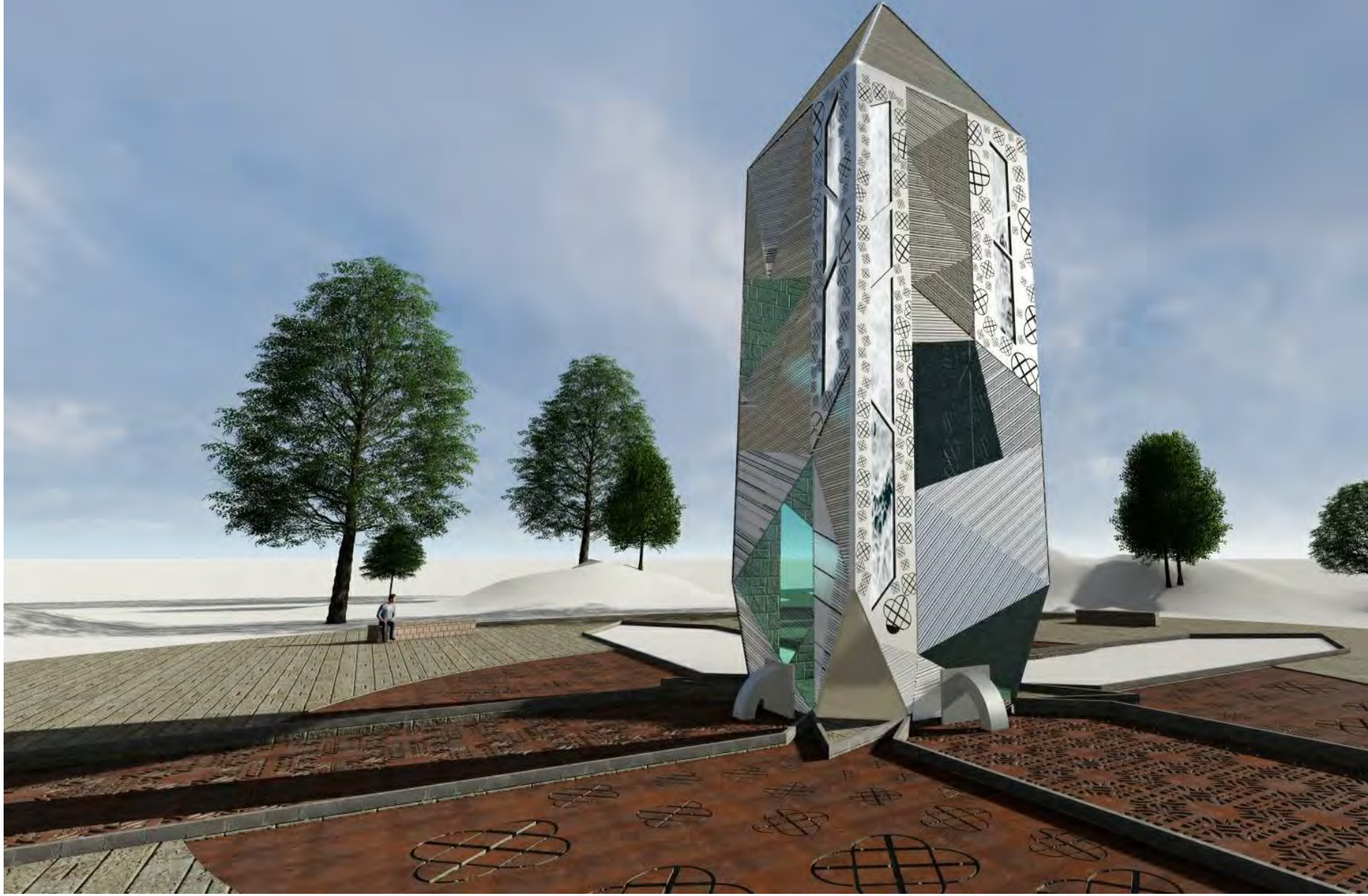












Fountain Enclosure

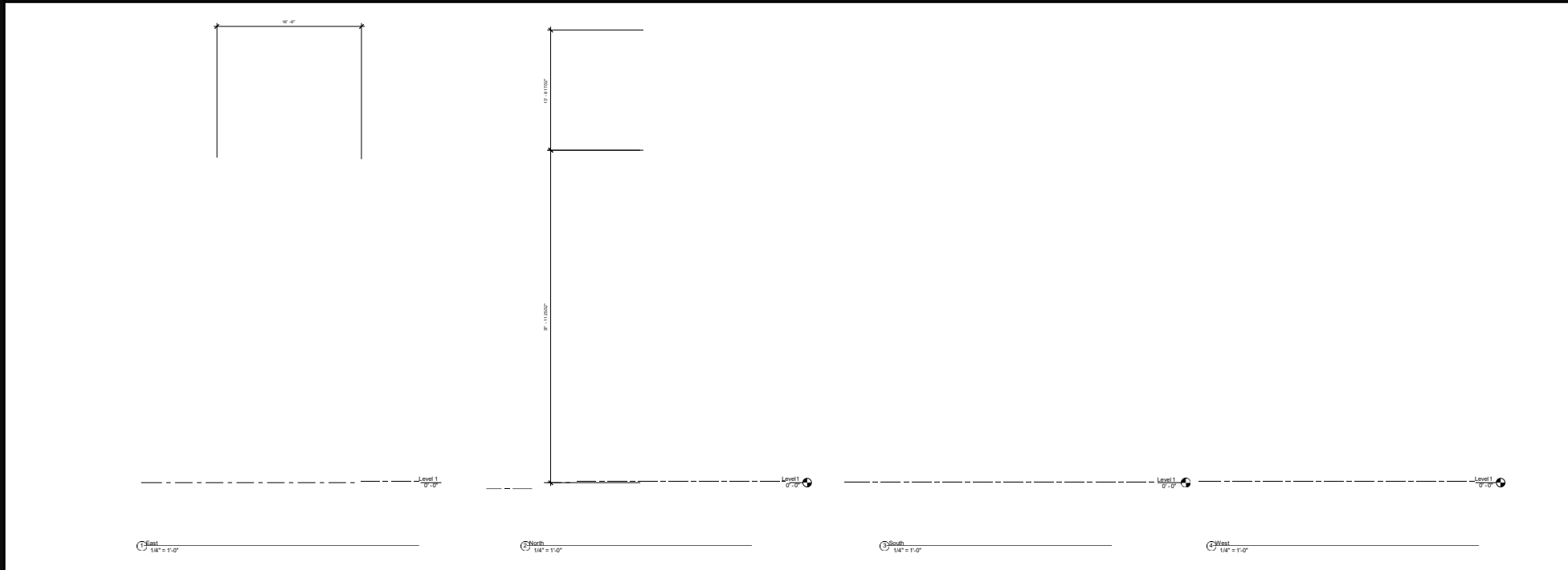












# LED Colors

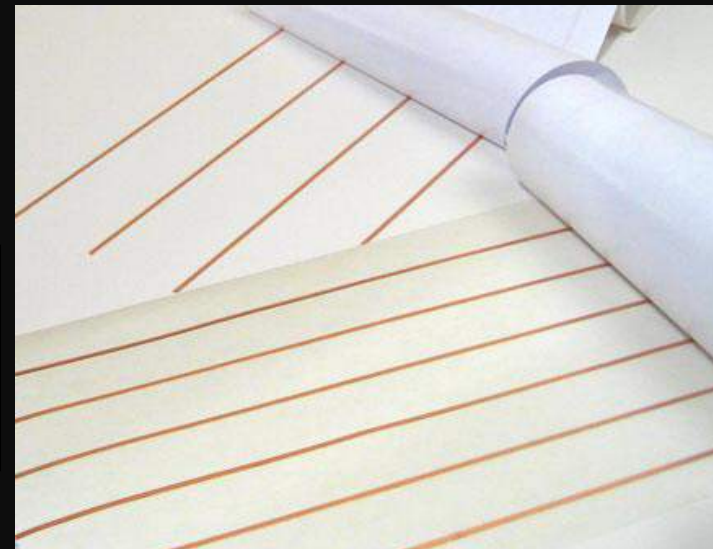
**Fall: Orange with Yellow**

**Around Christmas: Silver and Gold**

**Winter Till Spring: Purple with Blue**

**Spring: Pink with Green**

**Last Day Before Opening: Gold and Red**

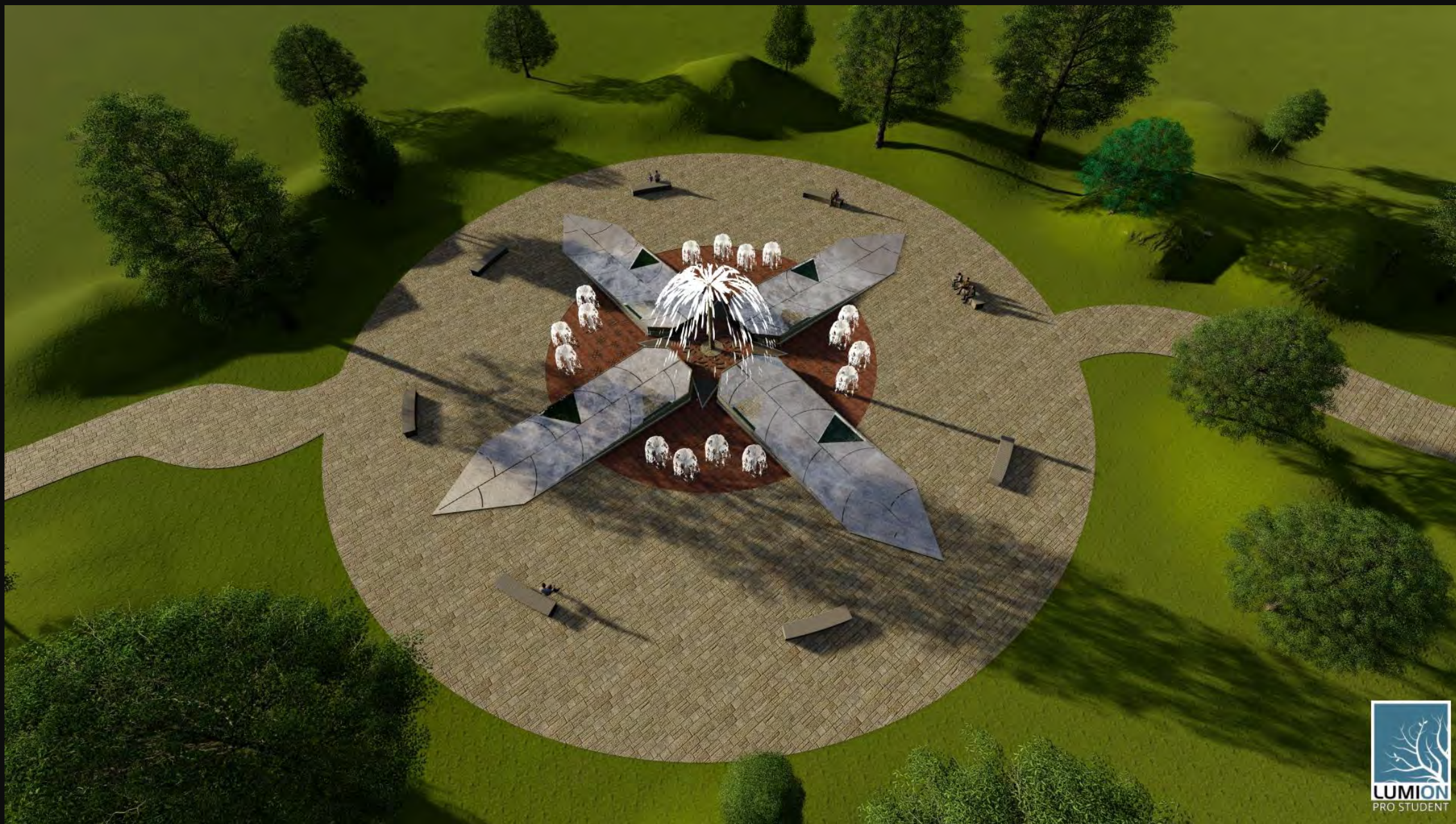


















# Trench Drain Supply

Sponser for Trench  
Drains



# Southgate Process Equipment

Sponser for LED lighting



# Creative Lighting

Sponser for LED lighting



# Kreative Acrylics

Sponser for Acrylic Paneling



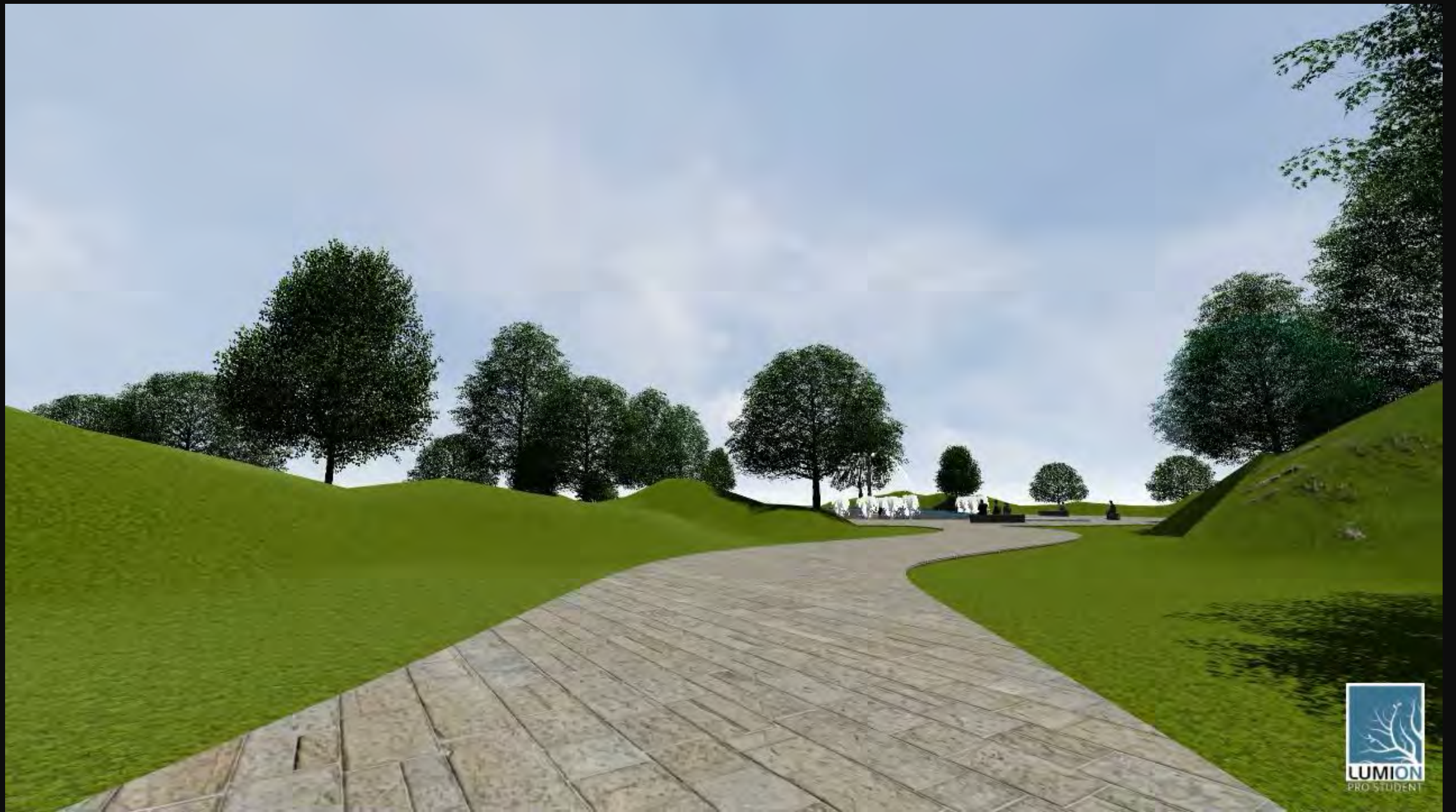


## Southgate Process Equipment

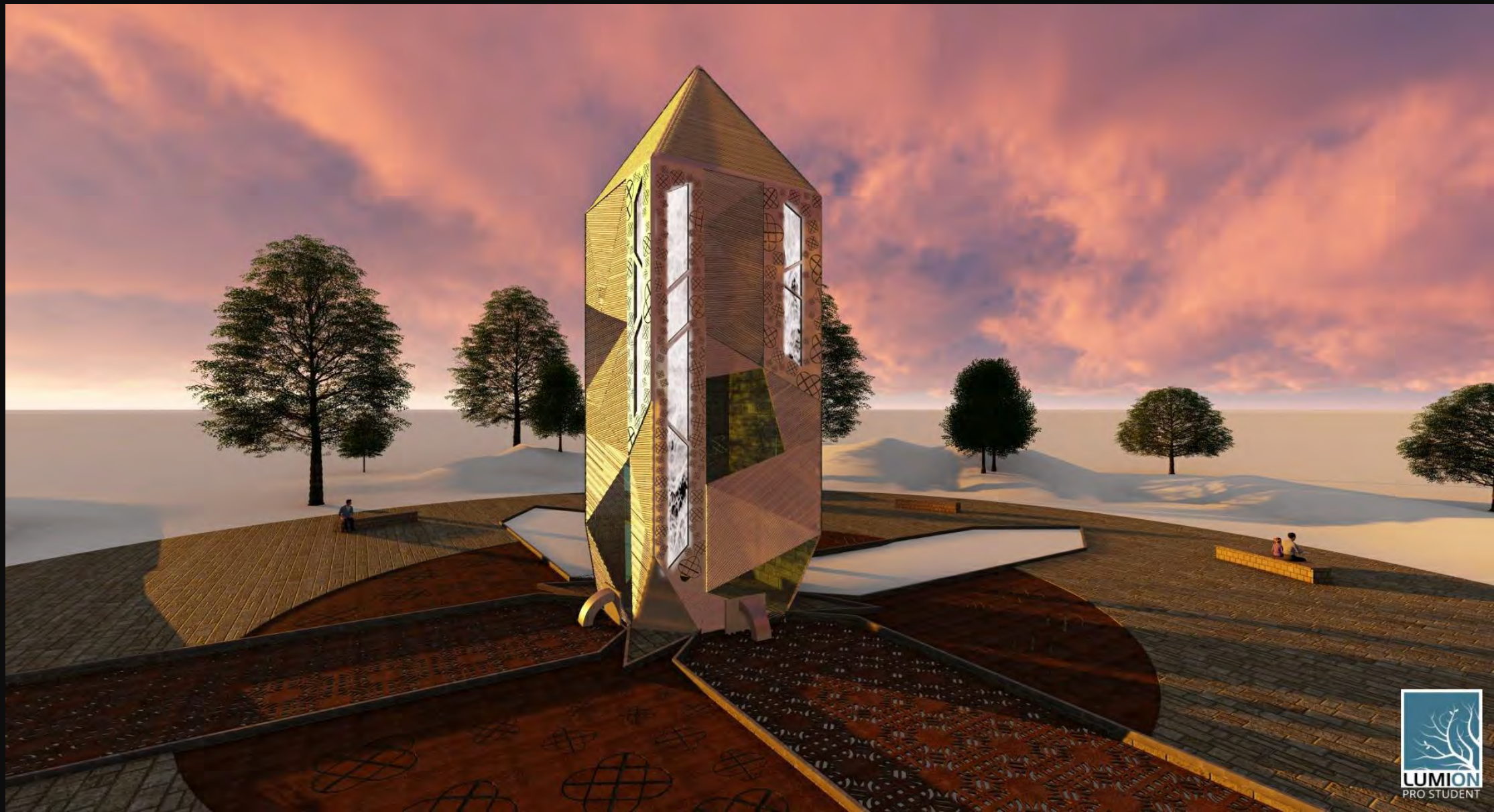
Sponser for structures moving gears















A photograph of the Berger Fountain in a park setting. The fountain features a large, circular, radial sculpture in the background and a multi-tiered waterfall in the foreground. A white schematic diagram of a winter cover is overlaid on the central part of the fountain. The background includes green trees and a brick building with a vertical garden.

# Berger Fountain

Winter Cover Schematic



# Is there precedent?



KPI's





# KPI's


- **Deter vandalism**
  - Barrier
  - Lighting
  - People





# KPI's

- **Deter vandalism**

- Barrier
- Lighting
- People 

- **Attract Visitors**

- Interest
- Warmth





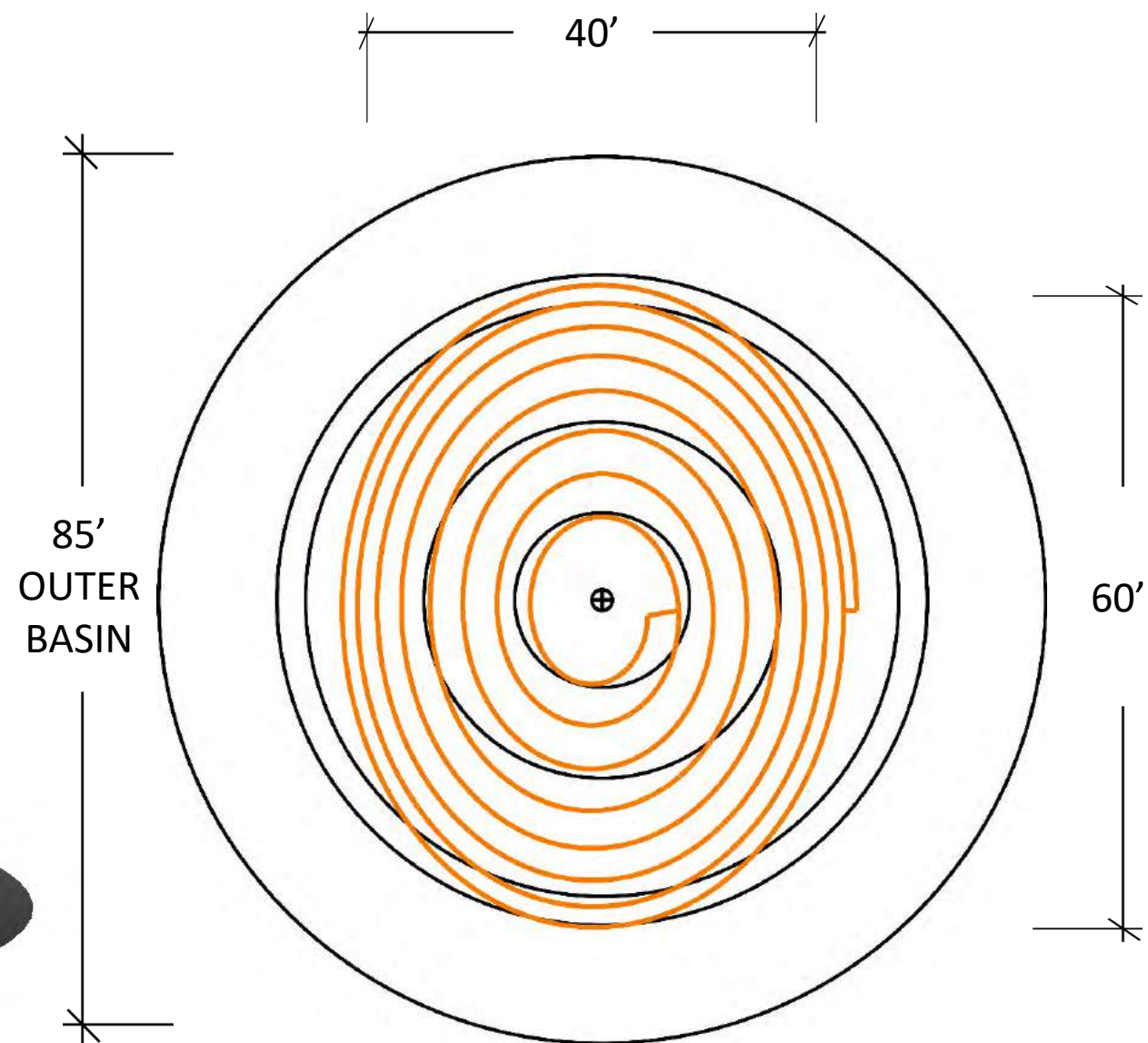
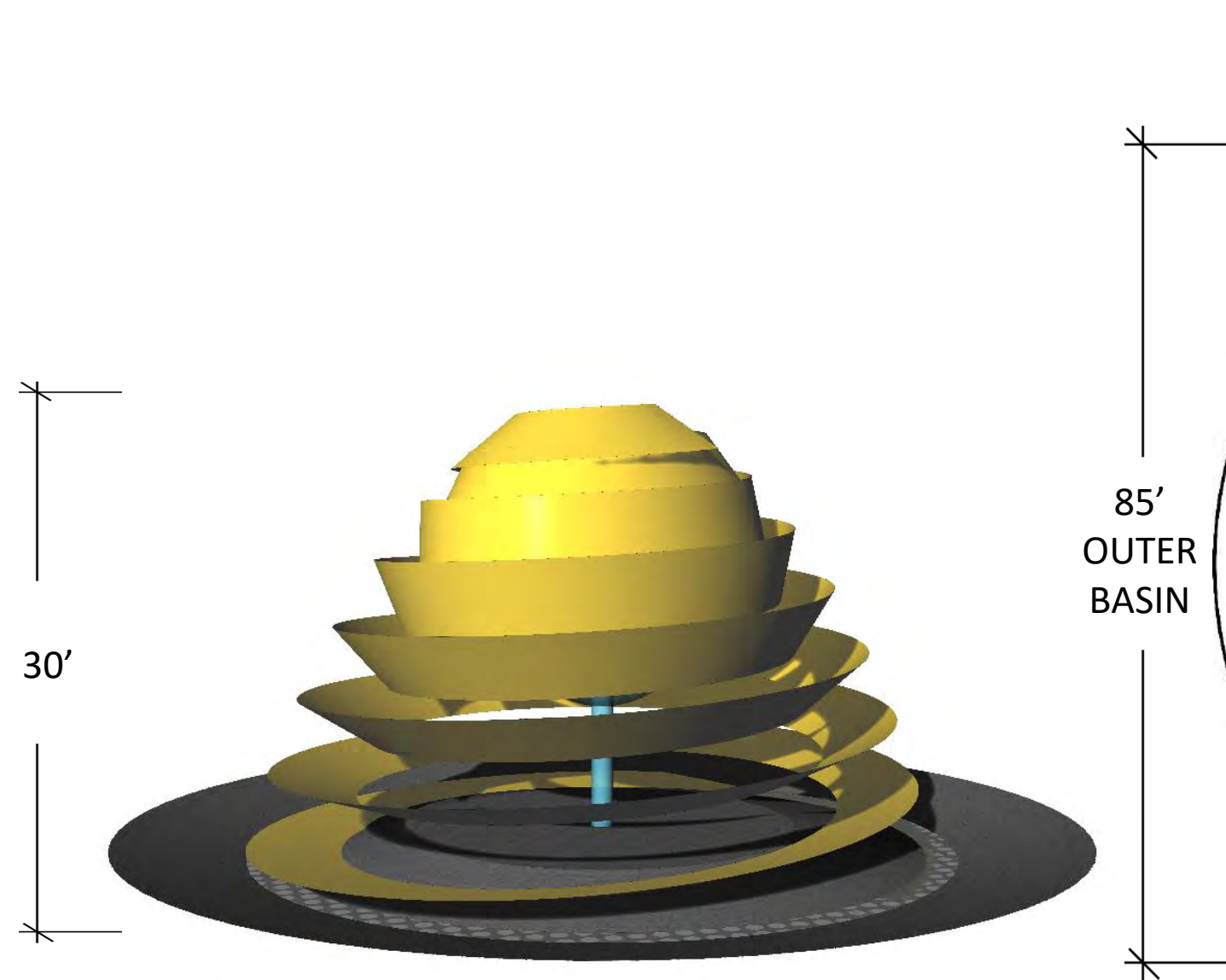
# Design Inspiration

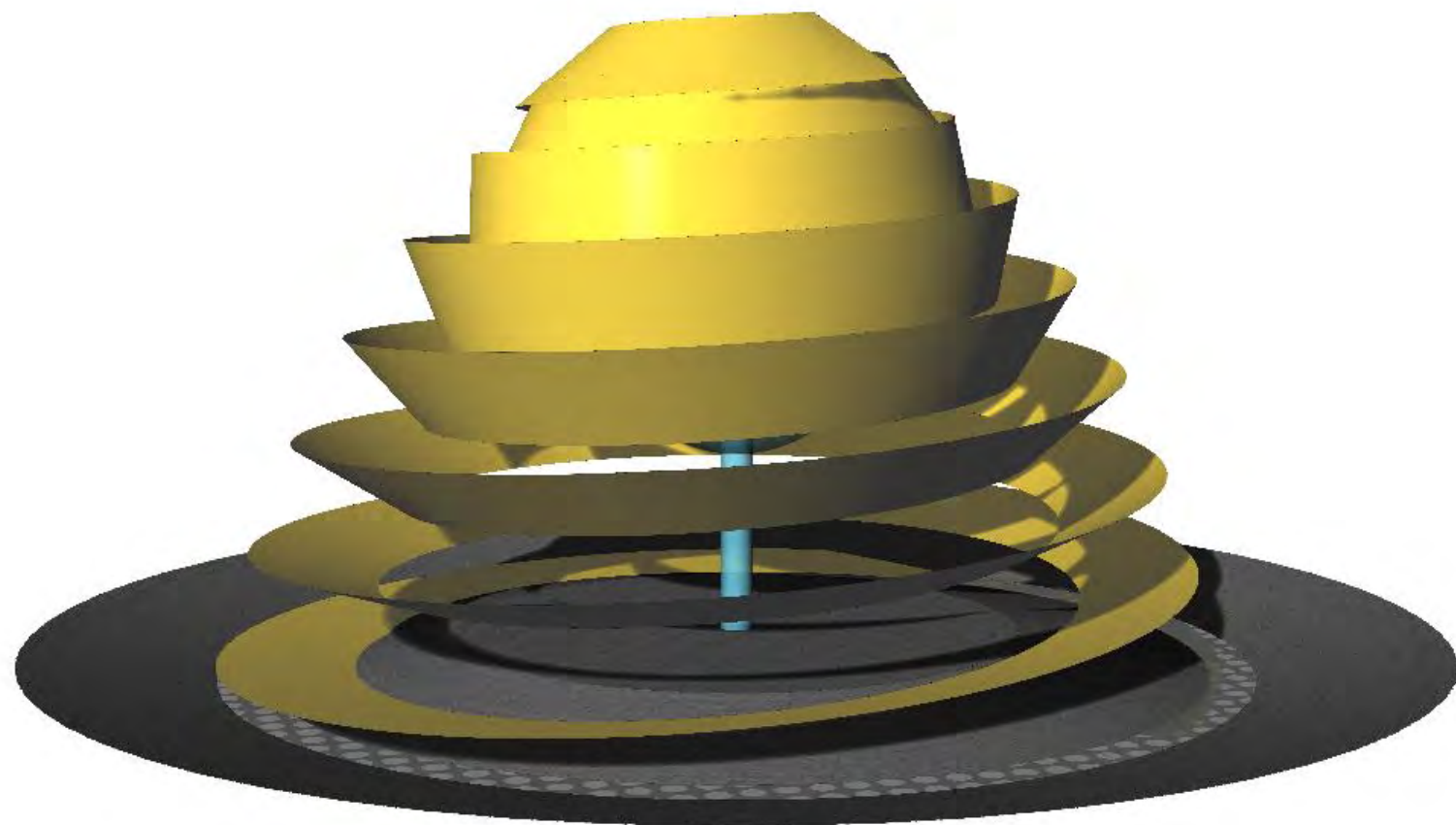




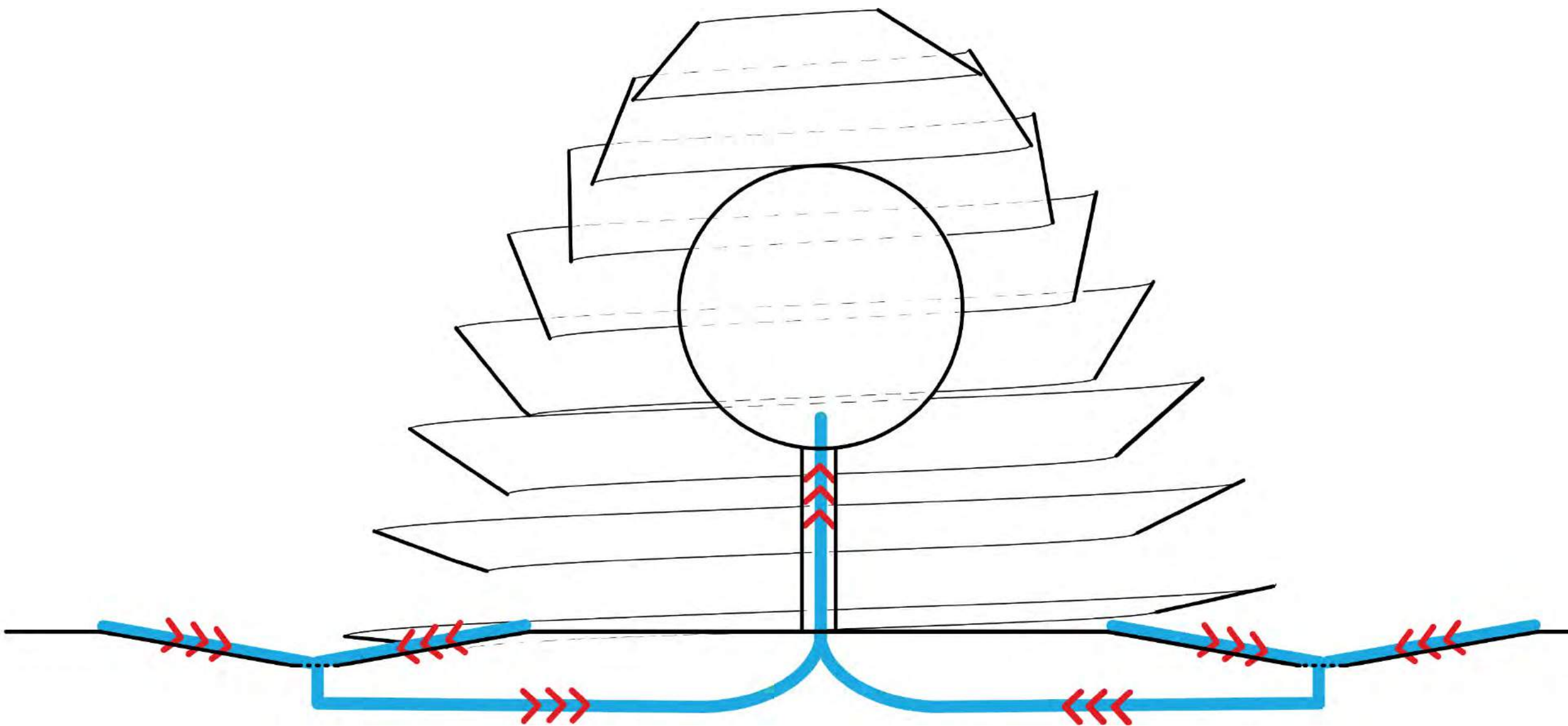


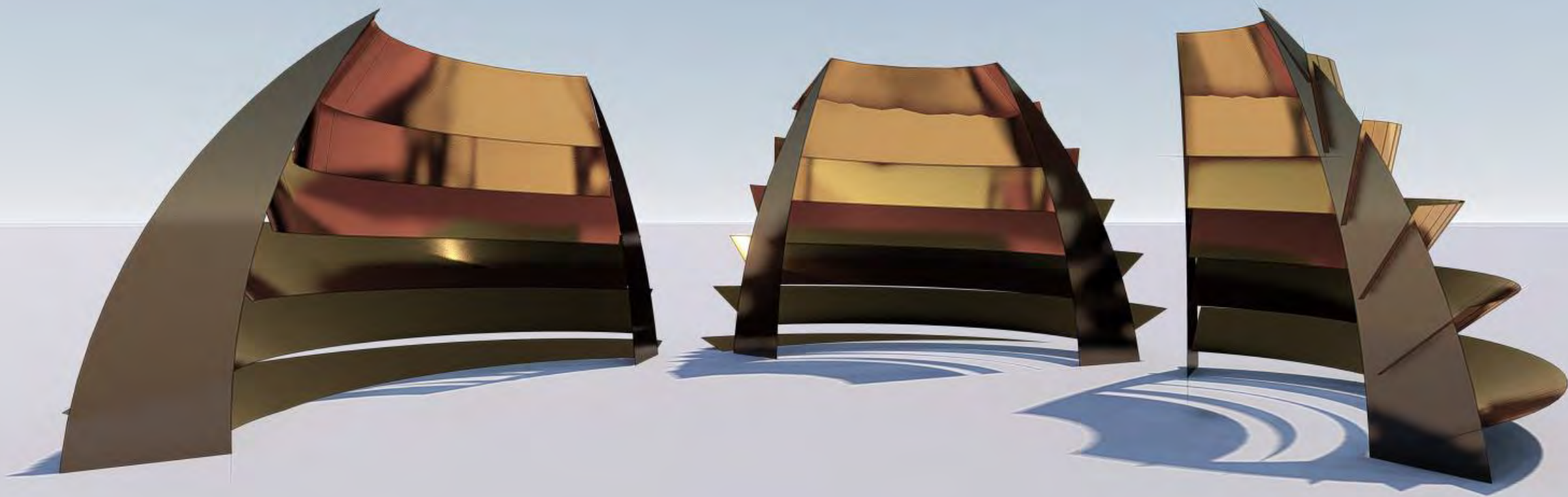
















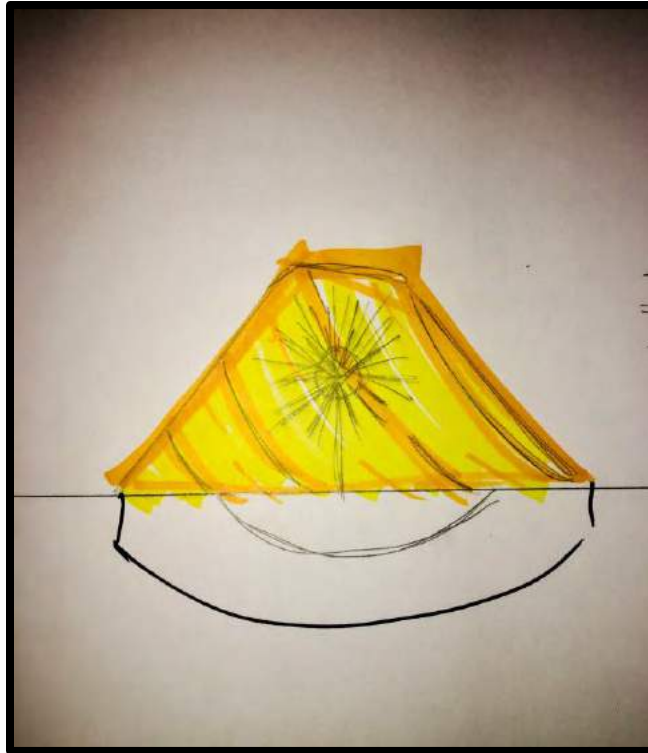
**Loring Park:**  
*Berger Fountain Cover*

Jake Beaudet



# Concept:

- Lightweight
- Inexpensive
- Easy Assembly
- Durable
- Relate to the Area



- Tensile With a Twisting Motion
- Fountain Shadow  
— (slightly transparent)
- Bright
- Changeable Lights
- Remain Key Feature at Loring

# Precedents:



**Denver Airport**



**Zenith by  
Massimiliano Fuksas**



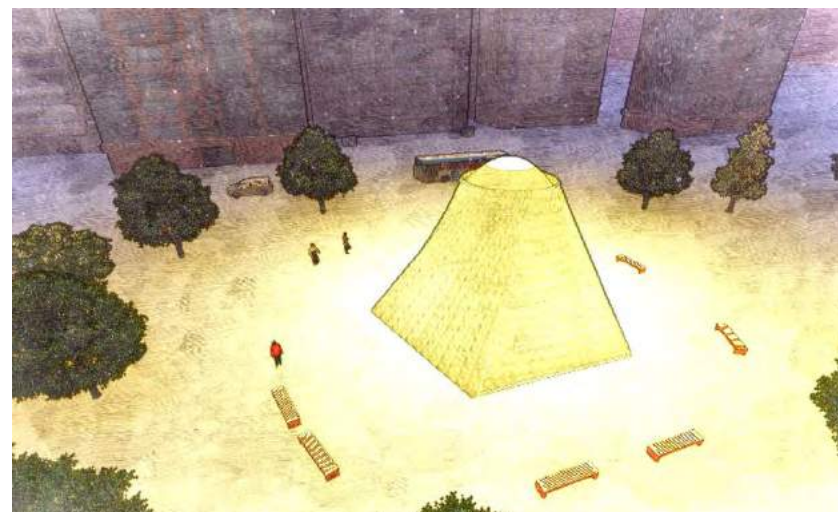
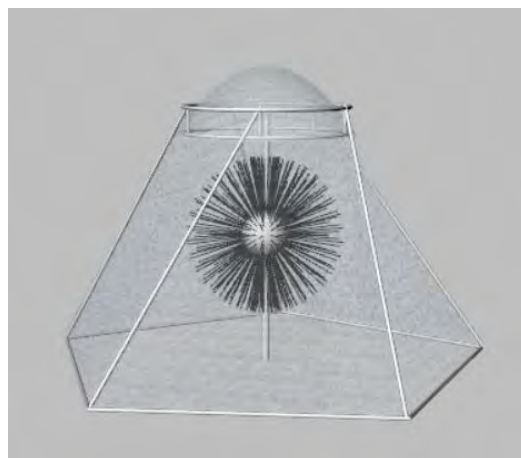
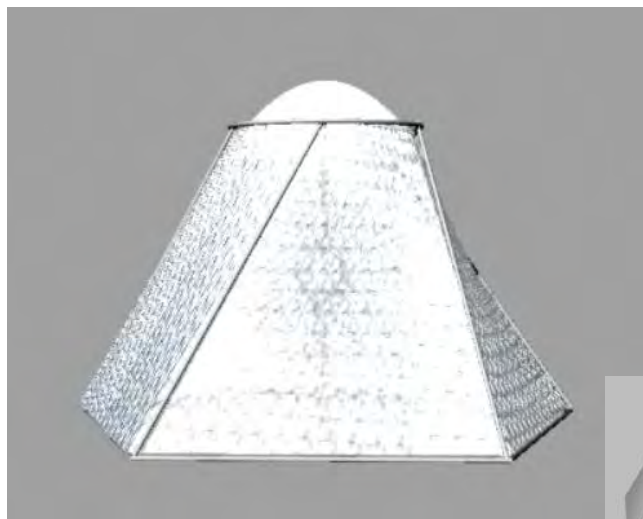
**Brazil World Cup**

<https://www.creativebloq.com/video/projection-mapping-912849>



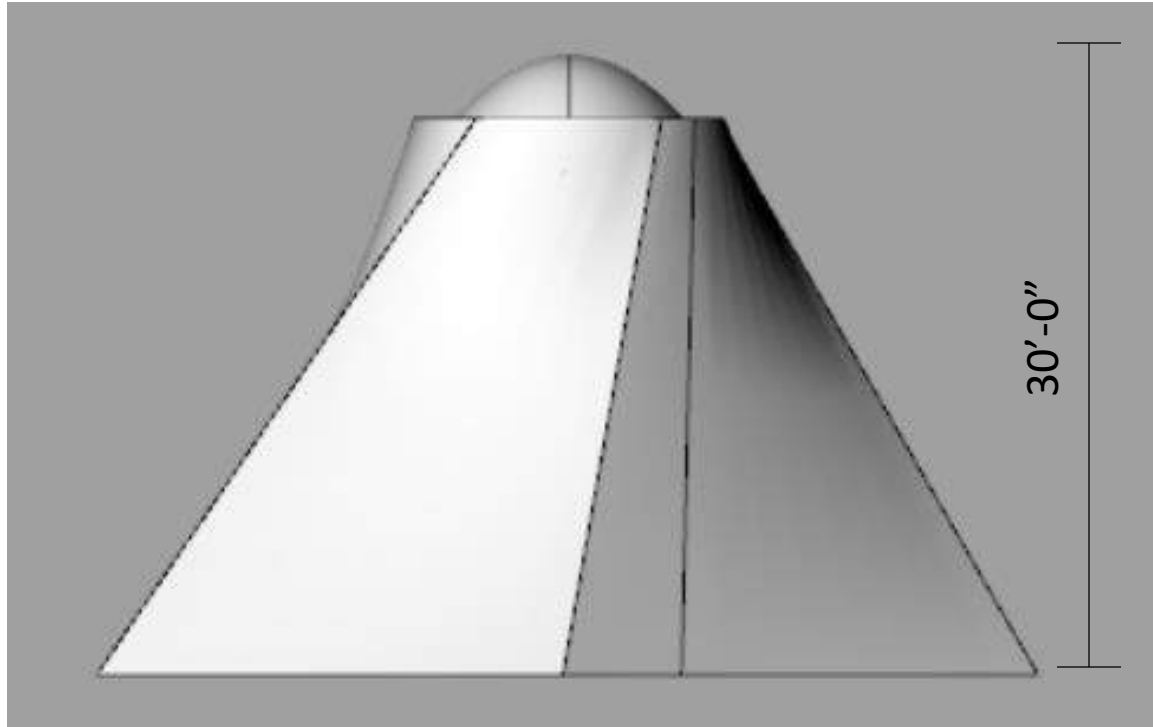
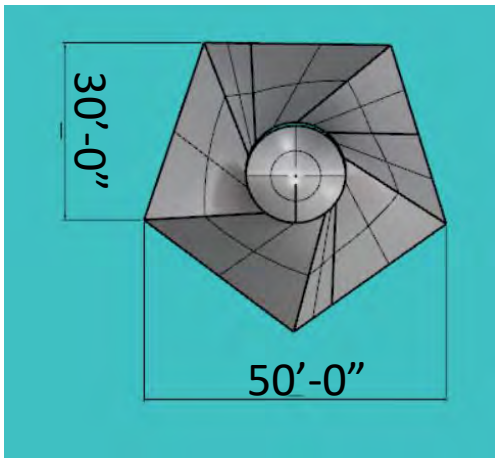
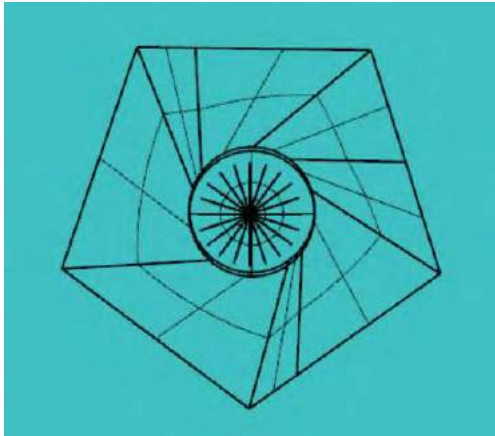


# *Renderings*





# Plans & Elevation

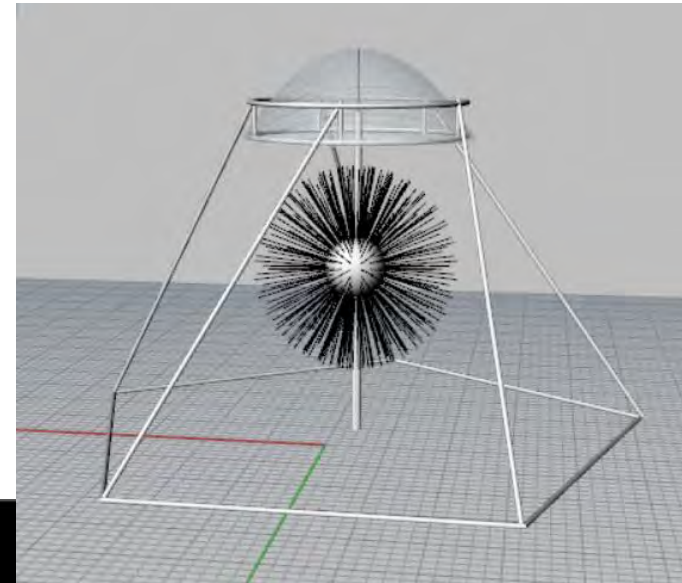
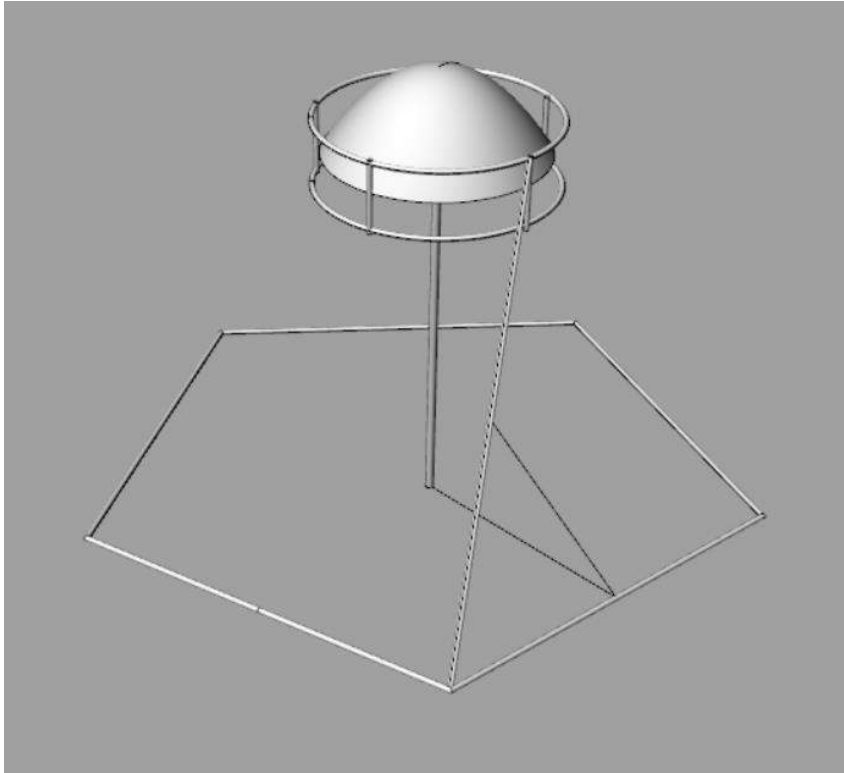


# Materials:

- *Aluminum Piping*
- *Tension Cables*
- *Membrane*
  - *PVC Membrane*
    - Plastic well known for its **affordability** along with its **durability**, easily **recycled**
  - *ETFE Film*
    - **Durable**, highly **transparent** and very **lightweight** in comparison to glass structures
  - *PTFE High Translucency Fiberglass membrane*
    - **Immune** to UV degradation, incredibly **strong** using Teflon, lifespan exceeding **30 years**.



# Fabrication:



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