



Through the Looking Glass

(Primary Point of Contact) **Nikki Nolan**

Year in Schooling: 1st Year

Major: Pre-Architecture;

(incoming) Master of Architecture

Affiliated University: Arapahoe Community College;

(incoming) University of Colorado Denver

Andrew Emerson

Year in Schooling: 3rd Year

Major: A.A.S. Construction Management

Affiliated University: Arapahoe Community College



Nikki Nolan

A Denver-based conceptual artist and interdisciplinary designer whose work bridges art, spatial thinking, and the built environment. With over 15 years of experience in software and systems design, she brings a strong foundation in research, complexity, and human-centered thinking, with a focus on sustainability, adaptive reuse, and designing environments that support long-term human and ecological wellbeing. She is currently studying pre-architecture at Arapahoe Community College and preparing to begin graduate studies in architecture at the CU Denver.

Select Resume Roles

Staff Product Designer, Descript (2024–2026)

Directed design for complex systems and tools, integrating research, multi-step workflows, and customer behavior analysis

Team Lead Product Designer, Slack (2019–2023)

Led large-scale design initiatives in systems thinking and information architecture, growing Help & Education from 800K to 4M monthly active users

Senior Product Designer, Patreon (2018–2019)

Owned end-to-end design for Payments and Fraud, reducing payment support tickets by 80%

Manager of Digital Experience, California Academy of Sciences (2014–2017)

Oversaw the design of interactive and spatial experiences for museum environments serving 1M+ visitors annually



Andrew Emerson

A civil infrastructure professional and construction management specialist focused on the intersection of public works, urban mobility, and sustainable development. With a robust background in municipal project coordination and management, he brings a practical approach to capital improvement, emphasizing material efficiency, cost-optimization, and the long-term durability of the built environment. He is currently completing his final semester in Construction Management at Arapahoe Community College.

Select Resume Roles

Capital Improvement Senior Project Manager, City of Aurora (2026–Present)

Oversees multi million dollar capital roadway rehabilitation projects. Emphasis on cost and quality control

Capital Improvement Project Manager, City of Aurora (2022–2026)

Managed large scale concrete and roadway improvement projects. Emphasis on contract procurement and execution

Project Coordinator, Sturgeon Electrical Inc. (2019–2022)

Assisted Project Management with project documents, contract bidding, and project closeout

Lead Worker/Heavy Equipment Operator, Martin Marietta (2017–2019)

Operated various heavy equipment on large scale heavy civil infrastructure projects

Site Selection

What about the site inspired your design?

The plaque outside the park entrance describes Marjorie Putt Madden as a painter, a designer, and a collector of the fine arts, someone with an eye for beauty and an affinity for nature. That comes through in the site she and John created. When we looked at Marjorie Park from above, we noticed it is made up of circles and curves. The mandala paving pattern, the curved boardwalk tracing the inner rim of the wetland basin, the sweeping arc of the retaining walls. These felt like a design intention already embedded in the landscape. Our response was to continue that language rather than introduce anything that would feel out of place.

The circular stage mirrors the mandala. The whole design grows from geometry that was already there, as if it had always been part of the site.

The wetland basin also has a natural, inward bowl like quality that felt immediately theatrical. A space that already wanted to hold an audience. And Harry Marinsky's seven black oiled bronze sculptures with gold accenting along the wood boardwalk gave us our material cue. We wanted the structure to feel like it had emerged from that same family of objects, not arrived from somewhere else.

What artistic or cultural references informed your decision?

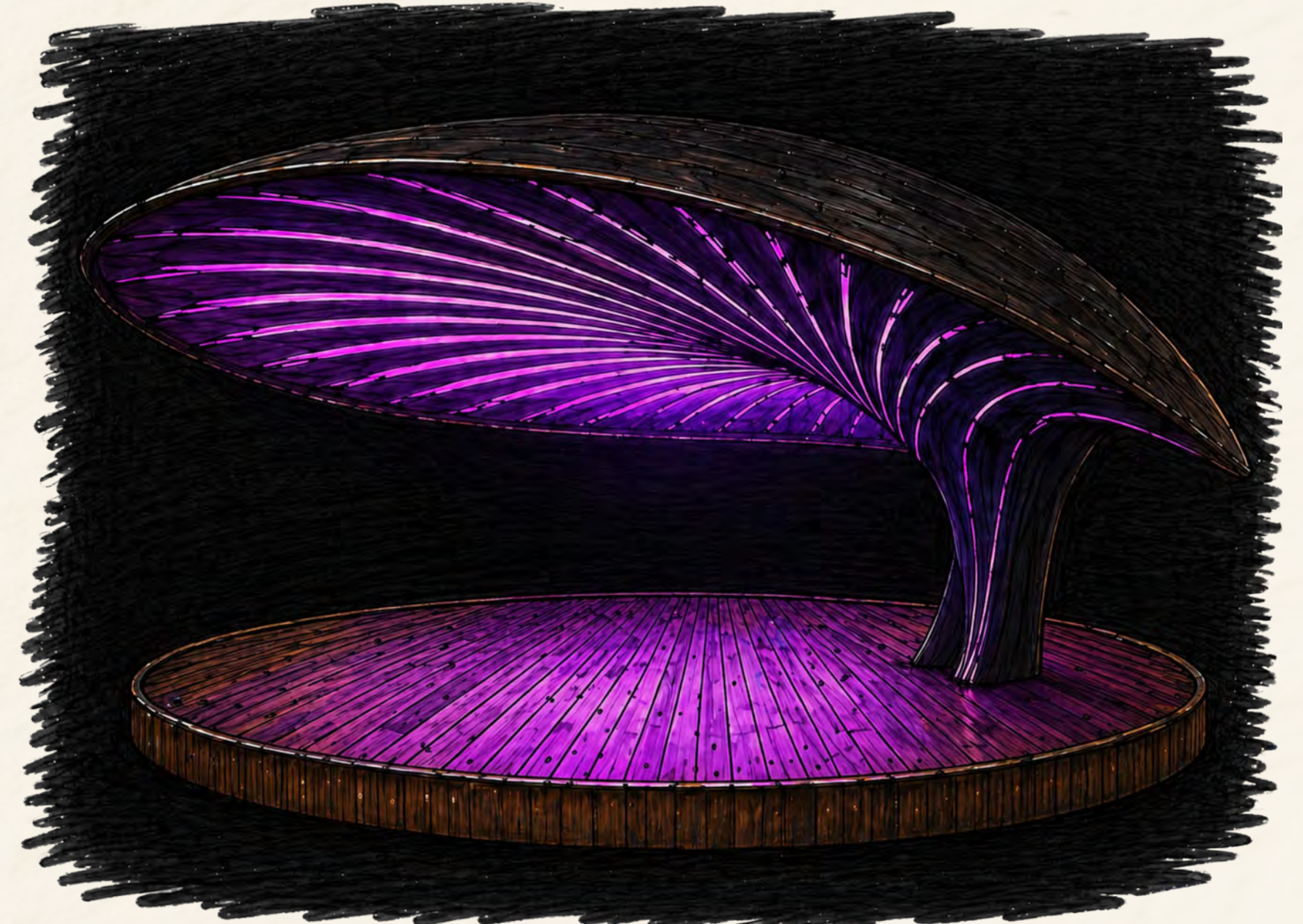
Marjorie Madden had an appreciation for the magic in fairy tales and fantasies. She commissioned Marinsky specifically to bring Alice in Wonderland to life in this park. That was already here. We did not bring the reference, we answered it.

Our design uses Alice in Wonderland not as decoration but as a spatial and experiential framework. Performers enter the stage by passing through the two legs of the stem, a narrow tunnel-like passage that functions as the rabbit hole. A deliberate threshold between the ordinary world and the performance space. When they emerge on the other side, the scale of the mushroom canopy overhead, creates a shift. The feeling of having shrunk, of suddenly being small inside a much larger world. We are playing with Alice's transformations not as imagery but as architecture. The journey through the structure is the story.

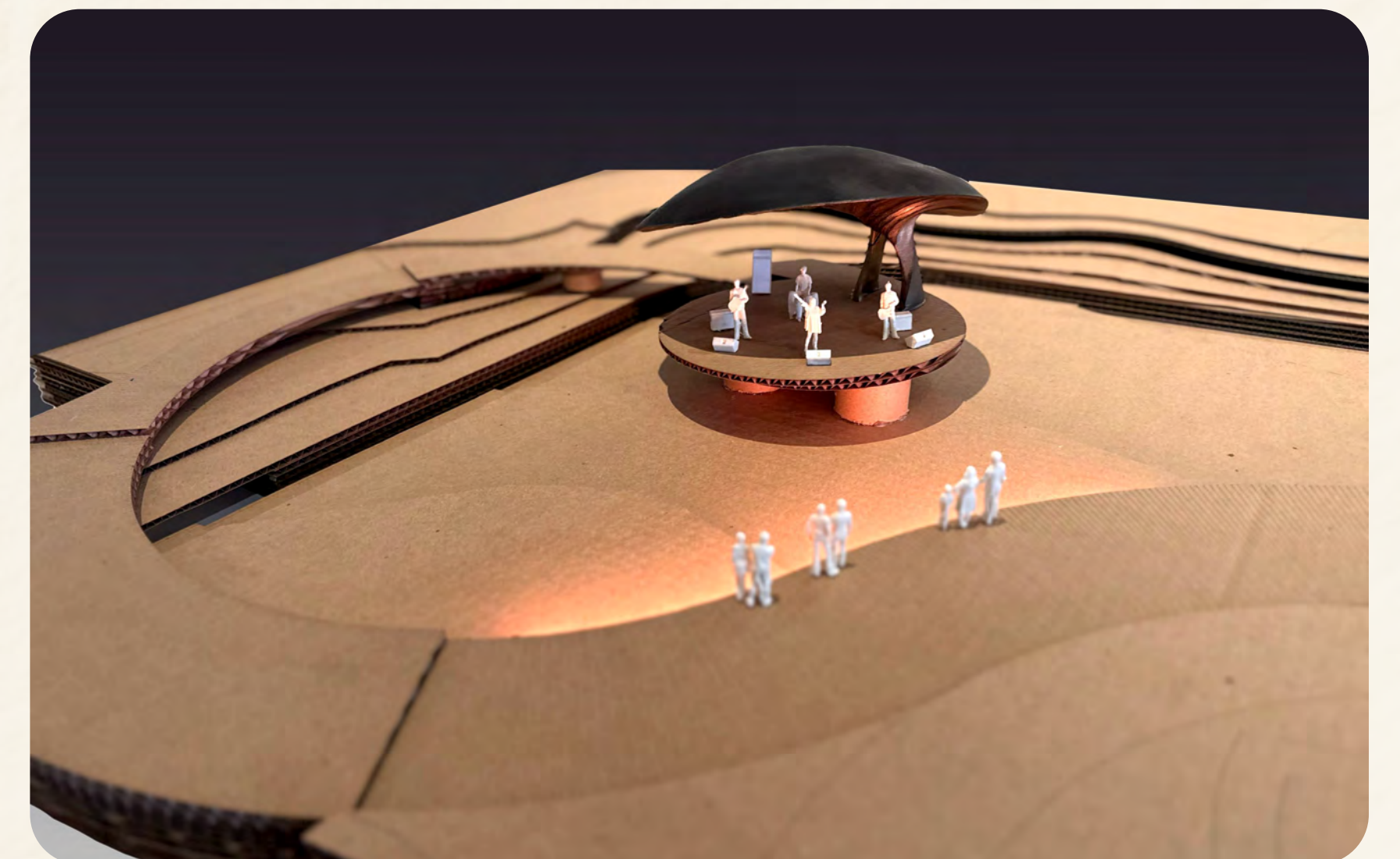
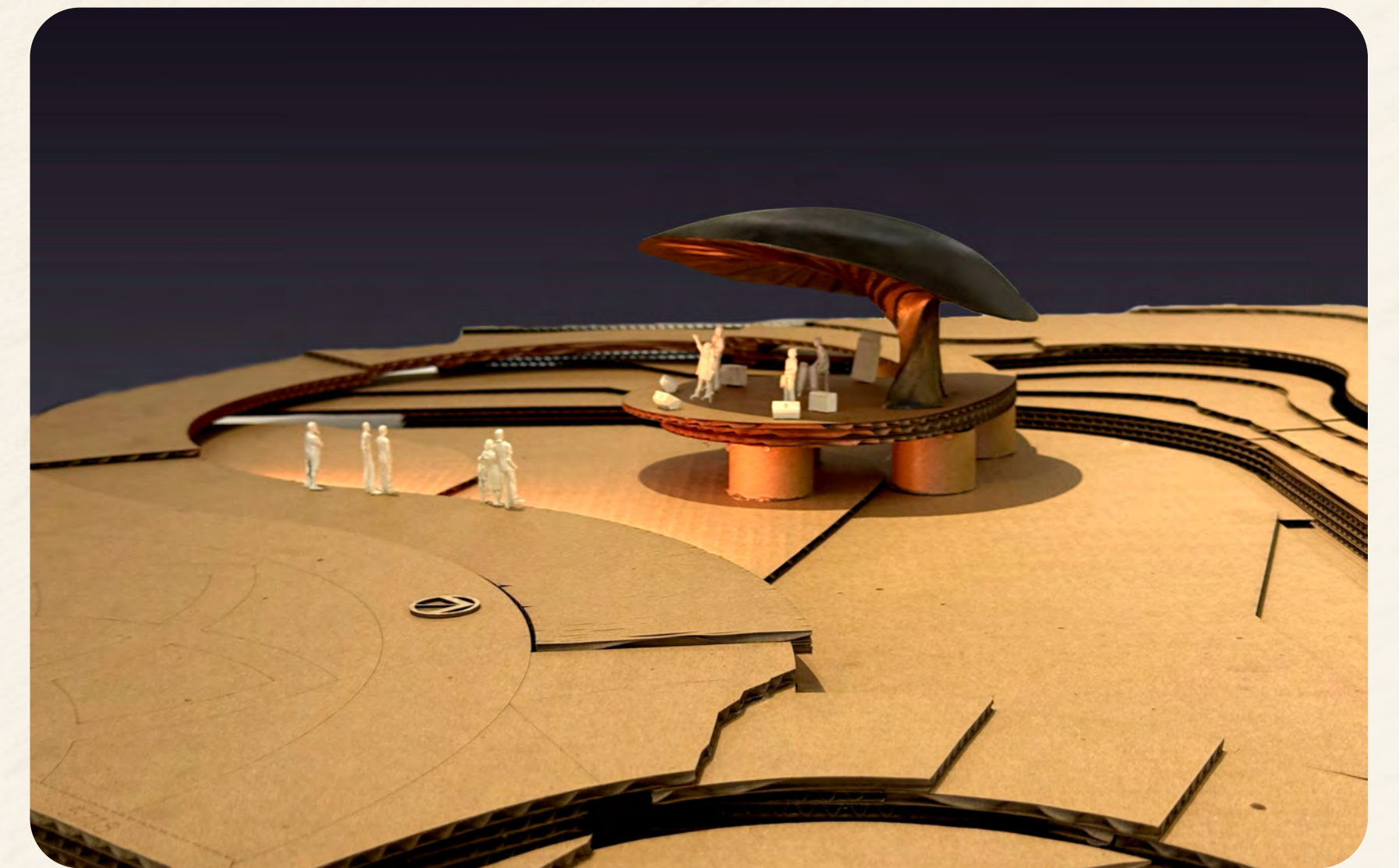


DRAWING CREDIT: PARK MAP FROM MOAONLINE.ORG/MARJORIE-PARK

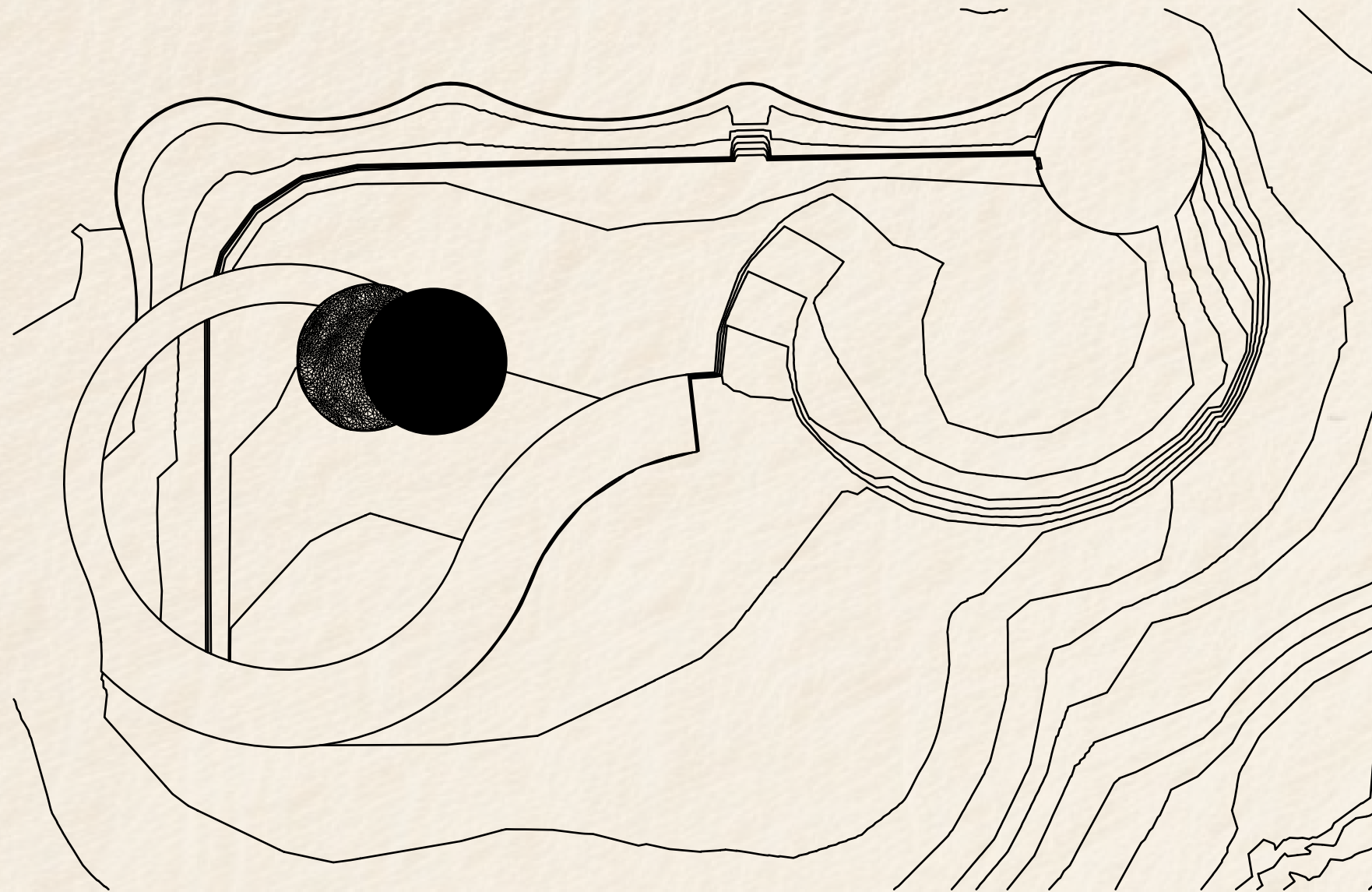
Drawings



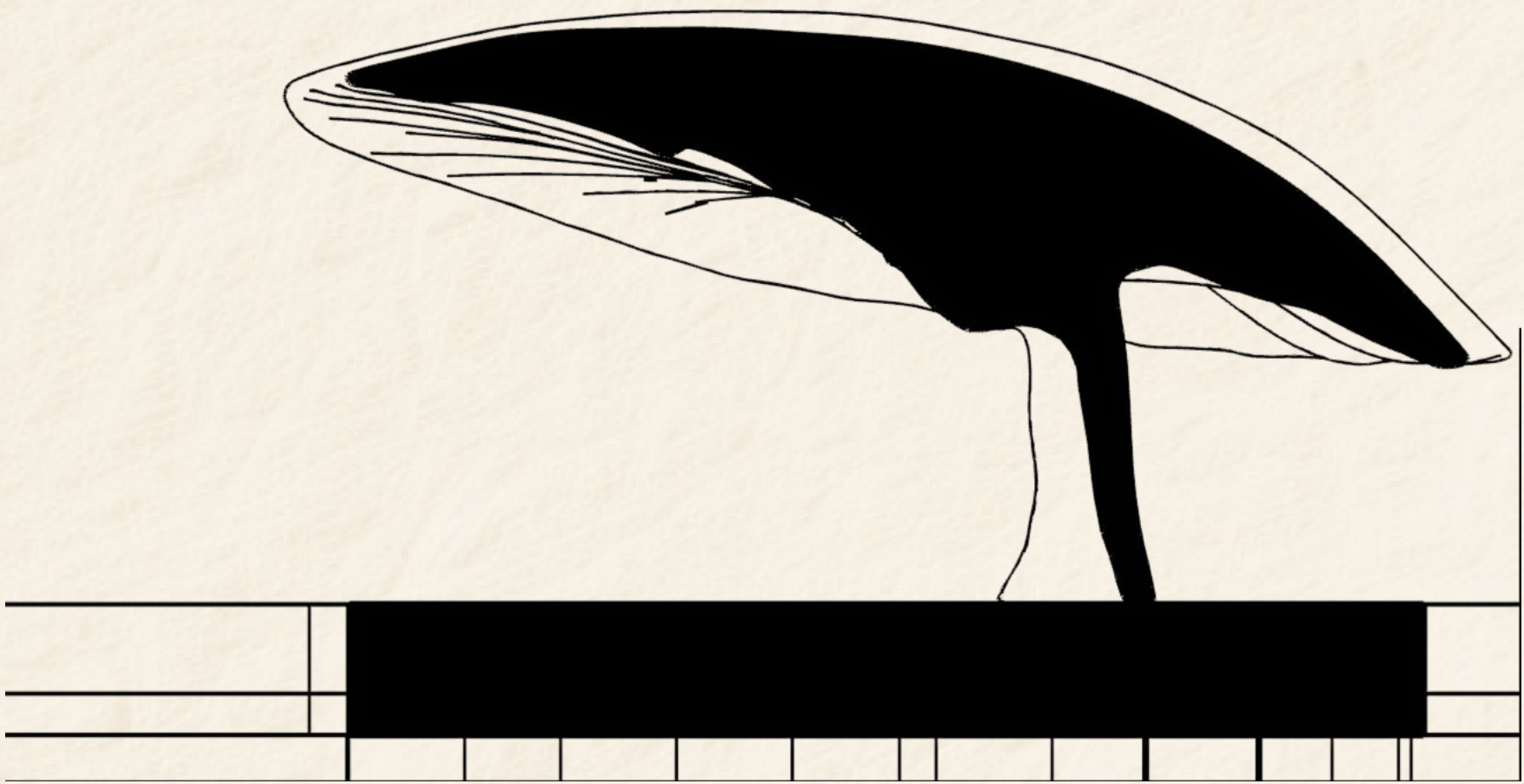
Physical Model



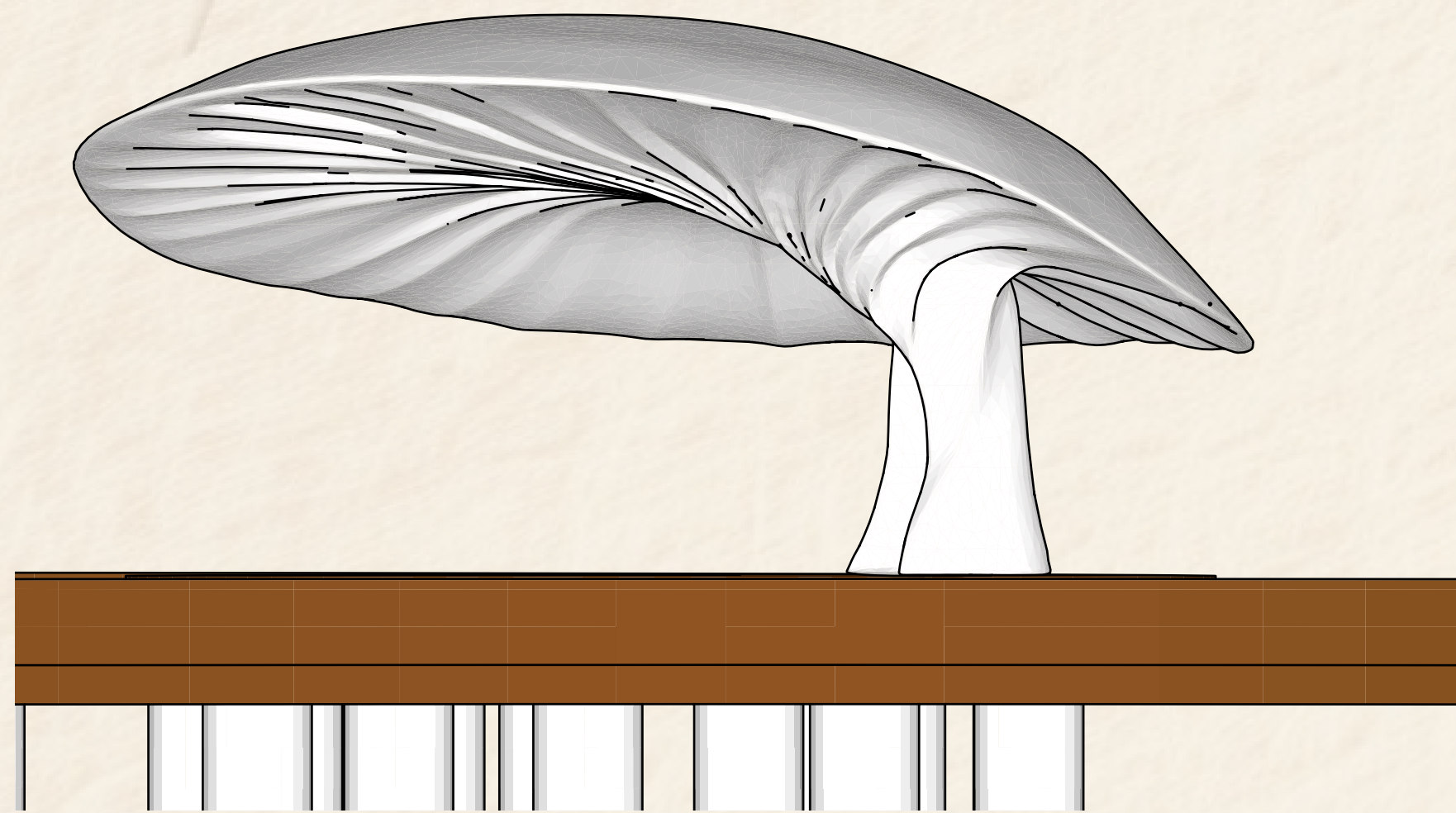
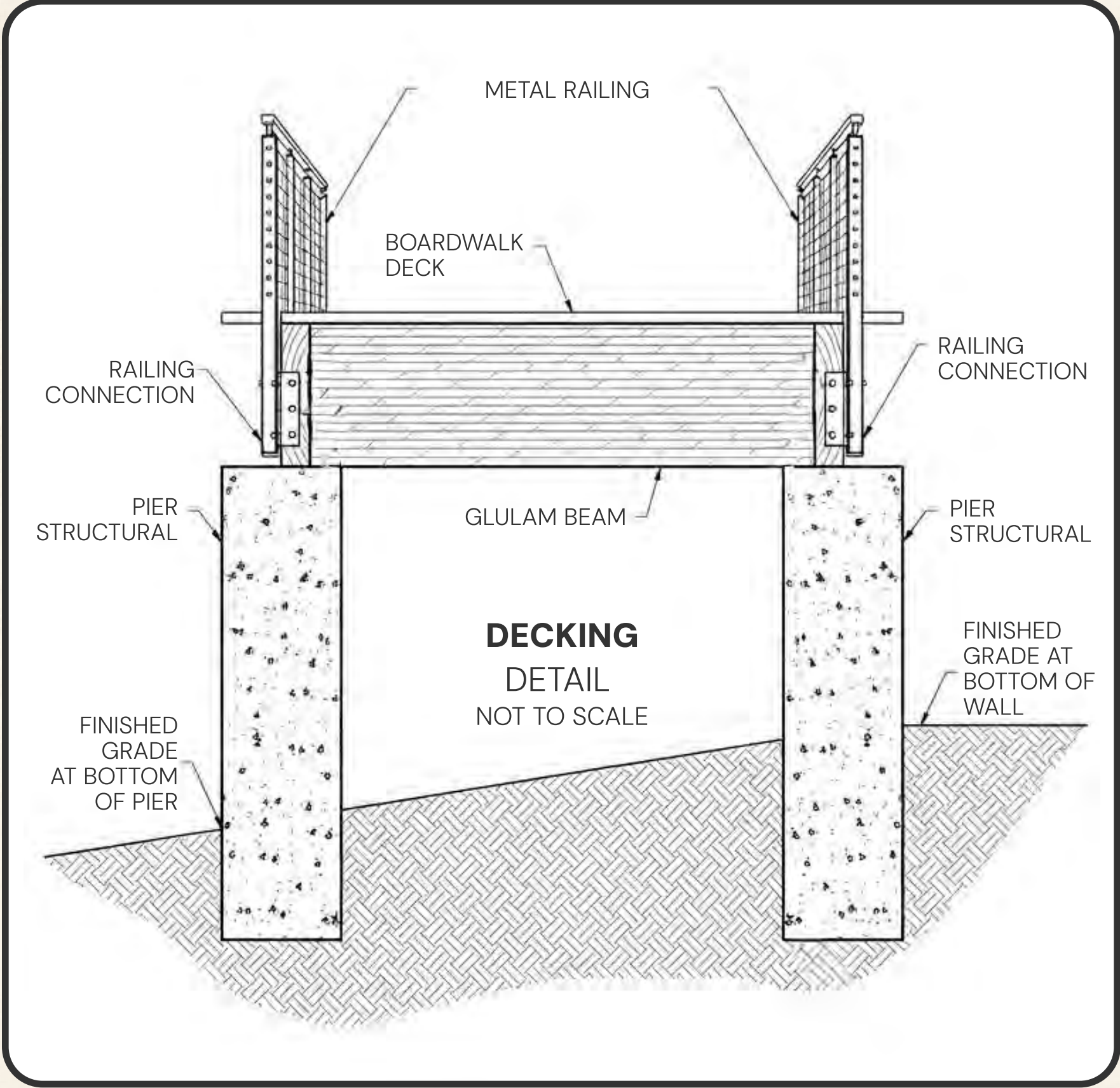
Plan Views & Details



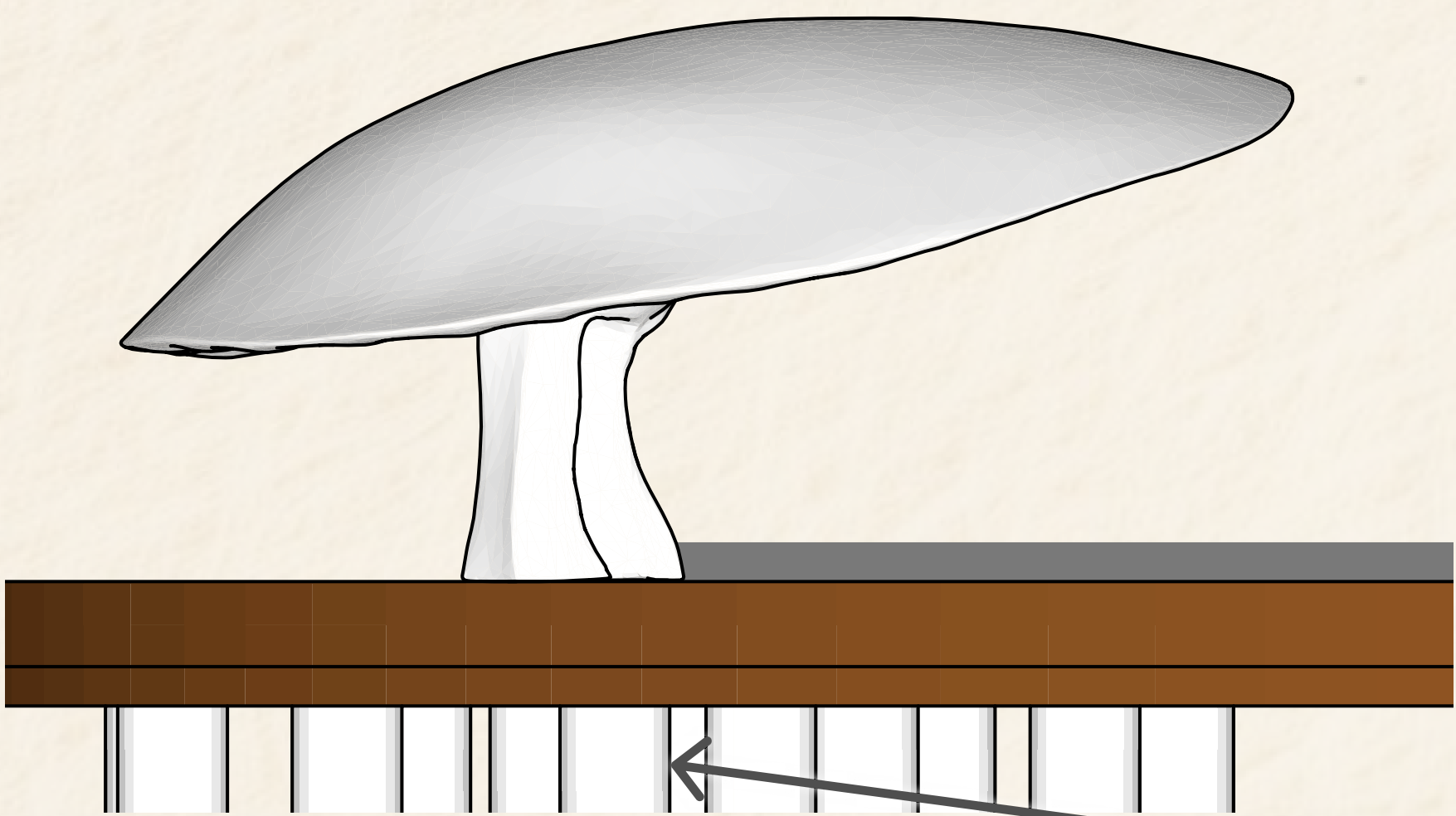
1 SITE PLAN
1" = 60'



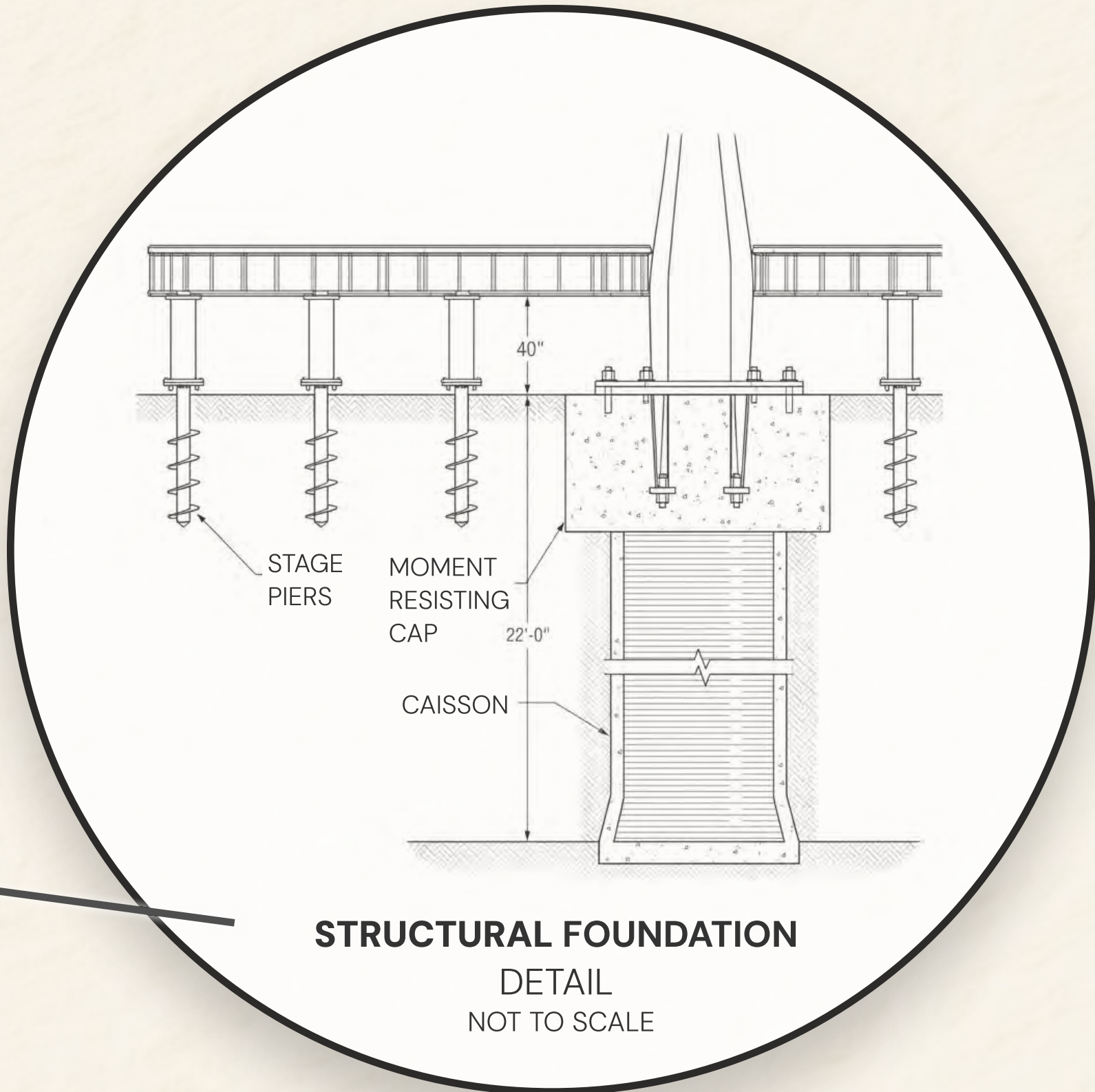
2 SECTION
1/8" = 1'-0"



3 FRONT
1/8" = 1'-0"



4 BACK
1/8" = 1'-0"



MUSEUM OF OUTDOOR ART
DESIGN AND BUILD COMPETITION
SOUNDSCAPES IN STRUCTURE

**PROJECT: MOA DESIGN-BUILD
MARJORIE PARK
6301 S. FIDDLERS GREEN CIR
GREENWOOD VILLAGE, CO 80011**

**DESIGN: NIKKI N & ANDREW E
SCALE: AS NOTED
DATE: 4.26.2026**

SCHEMATIC DESIGN DWGS

A-100

2026 SPRING

Project Narrative

1. How does your design relate to the theme of Soundscapes in Structure?

Marjorie Park was built as an act of imagination. The Alice in Wonderland sculptures were commissioned by Marjorie Madden herself, a woman with an appreciation for the magic in fairy tales and fantasies. The mandala paving, the theatrical bowl of the wetland basin, the boardwalk. The site already had a story. Our job was to give it a stage.

A performer who walks the boardwalk enters through the tunnel formed by the split stem and emerges beneath the mushroom canopy. The scale shifts immediately. The cap overhead is enormous, the gold ceiling glows, and the structure asks you to stop and look up longer than you planned. For a moment, you are Alice, small, wide-eyed, in a world that does not follow ordinary rules.

The broad curved underside functions as an acoustic shell, projecting music and speech outward toward the lawn and stepped seating. The radial gills work as diffusion fins, breaking up harsh reflections and scattering sound more evenly below. The open-air form lets sound move forward into the park while still giving performers a sense of enclosure on stage.

Integrated electronic sound supports larger events, but the form itself is doing part of the work first. It carries sound, shapes atmosphere, and turns listening into something physical. The structure's first job is to make you feel different beneath it. Its second is to make you hear differently. That feeling is the soundscape.

2. Describe the proposed materials, including required locally available materials, and methods used to build/install your structure/artwork/installation.

The material selection bridges the gap between industrial resilience and organic sustainability, prioritizing the Colorado bio-region:

- Structural Steel Frame: 100% recycled architectural exposed structural steel from Front Range suppliers carries the cantilever.
- Mesh Substrate: Expanded metal mesh welded to the frame allows the hempcrete to key into the structure.
- Hempcrete Core: Hemp hurd from the Colorado eastern plains combined with a local lime binder forms a lightweight, thermally stable shell.
- Sculpted Lime Plaster: Hand-sculpted over the hempcrete to define the gill profiles and tune the acoustic surfaces.
- Dark Oiled Bronze Exterior: Applied to the cap and gill ridges, connecting the structure visually to the existing bronze sculpture collection at Marjorie Park.
- Titanium-Gold PVD Interior: Cold-spray coating on the underside of the cap. Hard, specular, and warm, built for acoustic reflection and the looking-glass effect it creates beneath the canopy.

3. Describe how your concept will be constructed. How long would construction take?

Construction uses a hybrid assembly method designed to minimize site impact. The steel skeleton is prefabricated off-site in three sections, craned into position, and anchored to a reinforced concrete pad. Hempcrete is applied in a monolithic pour-and-spray process, eliminating cold joints in the acoustic core. The oiled bronze exterior and gold PVD interior are both applied within a shrouded on-site enclosure to protect the existing sculpture collection from overspray.

Estimated Timeline: 16 to 26 Weeks

Phase 1: Deep Foundations & Civil Prep (Weeks 1–8)

- On-site: Groundwork, utility trenching, and drilling of the four 30-inch diameter concrete caissons (22' deep). Installation of the 38 helical piles for the decking.
- Off-site: Heavy-duty fabrication of the steel stem and tapered cantilever gills.
- The Cap: Installation of the gravity-mat rebar and the 24-bolt anchor template, followed by the monolithic pour of the foundation cap.

Phase 2: Heavy Steel Erection & Tech Integration (Weeks 9–14)

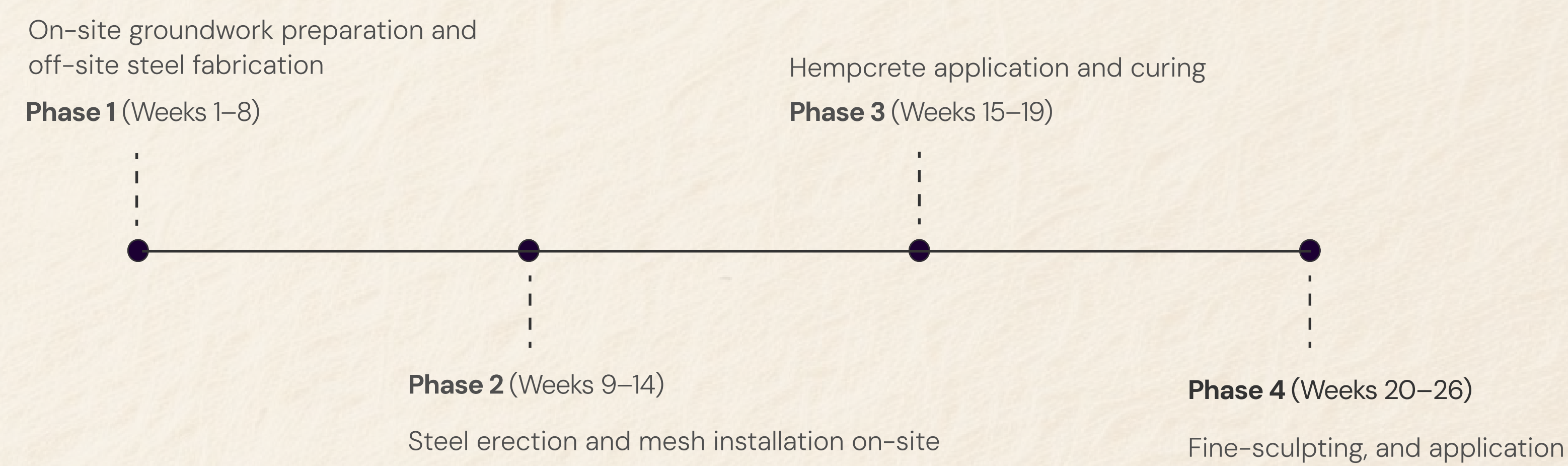
- The Stem: Craning and leveling of the 17' built-up steel stem, followed by high-strength grouting.
- The Canopy: Sequential erection of the 34' diameter canopy "petals" using A490 slip-critical bolts.
- Integration: Mapping and installation of the 2,800-pixel RGBW Mesh LED system and expanded metal lathe. Installation of the galvanized "wagon wheel" steel framing for the 30' stage and 78' walkway.

Phase 3: Acoustic Envelope & Hardwood Carpentry (Weeks 15–19)

- The Core: Pneumatic hempcrete spray application across the canopy in controlled lifts to ensure structural homogeneity.
- The Deck: Parallel installation of radius-cut Ipe (Brazilian Walnut) decking for the 30' stage and 78' ramp, utilizing hidden stainless steel fasteners and weathering steel safety guardrails.

Phase 4: Artisanal Finishing & Immersive Programming (Weeks 20–26)

- Sculpting: Hand-application and fine-tuning of the lime-plaster acoustic gills to their final parametric profiles.
- Bronze Finish: On-site shrouded application of the oiled bronze coating to the exterior cap and gill ridges.
- Gilding: On-site shrouded cold-spray application of the titanium-gold PVD finish to the underside of the cap.
- Final Sync: DMX lighting programming of the canopy pixels, syncing of the walkway recessed safety lighting, and full restoration of the park's natural topography and landscaping.
- Safety Hand Rails: Installation of permanent handrails along the boardwalk leading to the stage, as well as removable safety railings around the perimeter of the stage decking.



See next page for details →

Construction: Through The Looking Glass (34' canopy Scale)

Phase 1: Deep Foundations & Civil Prep

Off-site heavy-duty fabrication:
24" load bearing stem and
tapered cantilever gills

Small 60
ton crane

Moment resisting
connection

Plate Girders and
Structural Steel
skeleton

Temporary
Shoring towers

Moment-
Resisting Stem

Slip-Critical
A490 Bolting

Helical Piles

Phase 2: Heavy Steel Erection & Tech Integration

Stitch-welding and
hand-binding galvanized
metal mesh lathe

Stitch-welding and hand-
binding galvanized
expanded metal mesh lathe

Integrated
Fiber Optics

Mesh LED Pixel Nodes
clipped and pre-wired
before being encased

Phase 3: Acoustic Envelope & Hardwood Carpentry

Cured concrete
moment cap
Professional
pneumatic spray

DMX lighting
programable

"pour and spray"
across the expanded
1,156 sq. ft surface

Acoustic Mass
Thermal Mass
Fire Resistance
(Class A)

Helical Piles

Hempcrete (CO
Eastern Plains hurd)
in monolithic core

Phase 4: Artisanal Finishing & Immersive Programming

Oiled Rubbed
Bronze finish

Specular Acoustic
Reflection
High Polished
Titanium Gold PVD

Oiled Rubbed
Bronze finish

Specialized PVD
technician applies a cold-
spray titanium-gold PVD
coating to specific gills

Removable railing

Shrouded
protection
for liquid spray
applications

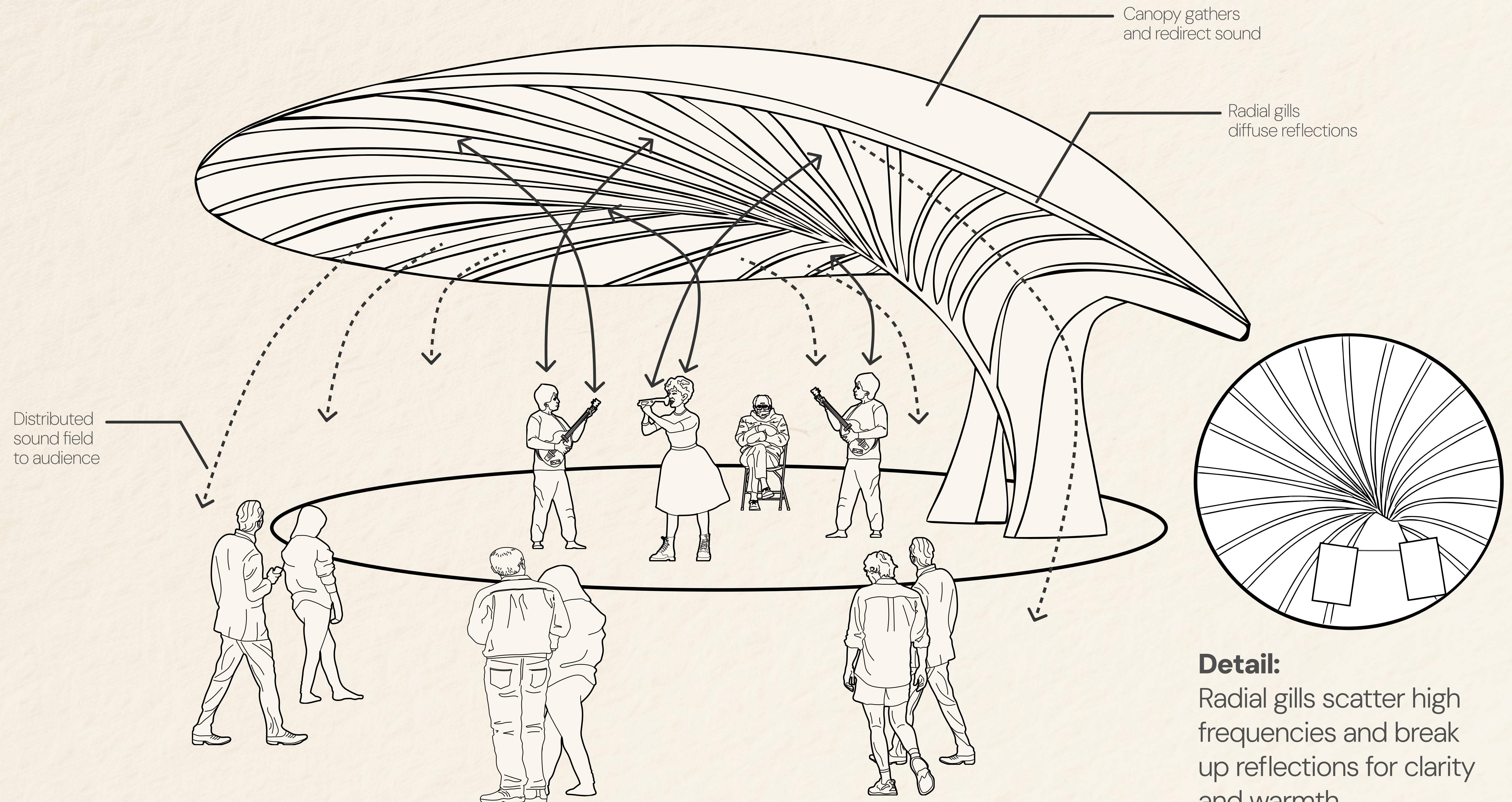
Finished Ipe radius deck
with weathering steel
support structure

Oiled Rubbed
Bronze finish

Site Restoration:
Full restoration of parks
natural topography and
landscaping

Acoustic: Performance

Sound reflection and audience coverage



4. How was collaboration utilized in realizing the design?

Nikki Nolan led the design concept. She developed the Alice in Wonderland framework and made sure it stayed present in every decision, from the shape of the canopy to the procession through the space. Her focus was always on how the structure would feel, not just how it would look.

Andrew Emerson kept the design buildable. His background in construction project management meant he could take an ambitious idea and figure out how to actually make it happen, including leading the material research, construction sequencing, and cost estimation.

5. How will your structure/installation be used by the public? How was safety addressed?

Public Use: While primarily a high-performance soundstage, the "under-cap" area is an ideal space for park visitors. Its 360-degree accessibility makes it an ideal venue for boutique weddings, community ceremonies, or yoga sessions. When not in use for performances, the reflective gold ceiling creates a "looking glass" effect, distorting the landscape and encouraging play.

Safety:

- Structural Integrity: The cantilever is engineered for Colorado's high wind loads and heavy snow accumulation.
- Fire Resistance: Hempcrete is naturally fire-resistant (Class A rating), providing a safe environment for public gatherings.
- Accessibility: The stage is designed for full ADA compliance via a low-profile ramp sculpted into the park's natural topography.
- Stage Handrail: A modular handrail system is designed to secure the environment during non-performance use.

6. How does the structure/artwork/installation address the climate in which it would reside?

Greenwood Village experiences intense UV exposure, rapid temperature swings, and hard freeze-thaw cycles. The hempcrete core acts as thermal mass, keeping the space cooler during summer events. The lime plaster breathes, allowing moisture to migrate through the structure rather than accumulating and cracking over winter. The titanium-gold PVD interior resists UV degradation significantly better than traditional metal finishes. The oiled bronze exterior weathers naturally, deepening in tone over time and connecting the structure to the existing sculpture collection without chemical maintenance.

7. What type of technology is implemented in your design, if any?

Beyond the PVD (Physical Vapor Deposition) metal technology, the design incorporates parametric acoustic modeling. We used computational algorithms to determine the exact angle and depth of the "gills" to eliminate standing waves. Additionally, the structure features integrated LED fiber-optics embedded within the plaster, allowing the installation to glow with a soft, bioluminescent pulse during evening events.

8. What makes the design environmentally friendly / sustainable

Through the Looking Glass aims to be carbon-neutral:

- Carbon Sink: Hempcrete sequesters more carbon during its growth and curing than is produced during manufacturing
- Recycled Content: 100% recycled local steel reduces embodied energy.
- Breathability: Lime-based finishes are non-toxic and VOC-free.
- Longevity: This mineral-based pavilion is pest-resistant and will not rot, extending its lifecycle by decades.

9. Open question: Is there anything else you would like to tell us about your proposal?

We did not start with a mushroom. We started with the park, and with the question of what it was already asking for. The geometry was already there. The Alice in Wonderland inspiration was already present. We were not inventing a concept so much as reading one that had been embedded in the site and had not yet found an expression for this particular need.

That felt important to us. There are competition entries that could live anywhere. This one could only live here. The tunnel through the split stem only makes sense because performers approach along that specific curved boardwalk. The scale shift only lands the way it does because the wetland basin already creates a sense of descent, of moving into something. The bronze and gold palette only feels correct because it was already present in the sculpture collection. We responded to what was here.

The Alice in Wonderland framework lives entirely in the spatial experience. You feel it by moving through the structure. The threshold, the shift in scale, the gold canopy overhead. There is no illustration. There is no explanation. You just arrive somewhere that does not follow ordinary rules, and that is enough.

10. Provide an estimated budget. (Conceptual Budget)

Category	Description	Estimated Cost
Specialized Steel Fabrication	AESS mushroom skeleton plus galvanized steel substructure for stage and walkway.	\$85,000
Independent Foundations	Deep-drilled moment piers for sculpture; 24 helical piles for "floating" decking.	\$50,000
Artisanal Hempcrete & Plaster	Specialized spray application and hand-sculpting of the acoustic gills.	\$40,000
Ipe Decking & Carpentry	Class A Fire-Rated Brazilian Walnut for 1,450 SF of stage and ADA compliant walkway surfaces.	\$95,000
PVD Titanium-Gold Coating	High-end specular finish on underside gills with on-site technical application.	\$50,000
Oiled Rubbed Bronze Finish	Oiled rubbed bronze applied to the canopy exterior and the ridge lines of the underlying gills.	\$30,000
Integrated Mesh LED & Tech	2,800 programmable pixels, DMX mapping, and safety lighting for walkway/stage.	\$35,000
Safety Hand Rails	Removable, 90 linear foot handrail on stage. Permanent 156' handrail on 78 linear foot walkway.	\$20,000
Logistics, Crane, & Rigging	Multi-day 60-ton crane mobilization, tight-access park safety, and site restoration.	\$25,000
CONTINGENCY (15%)	Buffer for specialized material fluctuations (Ipe/Steel) and site unknowns.	\$64,500
TOTAL:		\$494,500

Summary: The conceptual budget for Through the Looking Glass accounts for a full-scale performance environment, integrating the 17-foot tall acoustic sculpture with a 30' diameter circular stage and a 78' long ADA-compliant walkway. With an estimated total investment of \$494,500, the plan utilizes an independent foundation strategy: a massive moment resisting concrete "root" for the 34' cantilevered mushroom and a series of 24 helical piles to support the "floating" timber structures. The material palette bridges industrial strength and organic warmth, featuring Architectural Exposed Structural Steel (AESS) and Ipe (Brazilian Walnut) decking to match existing site boardwalk at Marjorie Park while ensuring a decades-long, low-maintenance life cycle. Beyond the physical build, the budget incorporates high-fidelity Mesh LED lighting for bioluminescent evening effects and a titanium-gold PVD finish for precise acoustic reflection. This comprehensive figure reflects Denver prevailing wage standards, complex park logistics, and the specialized artisanal labor required to realize this first-of-its-kind, carbon-neutral soundscape.

**This estimate assumes prefabricated modular steel fabrication with phased on-site assembly, and is scoped in accordance with competition-defined construction exclusions per the project brief.*

Thank you

