



MEMORANDUM

Date: April 26, 2018

To: The Honorable Chairman and Members
Pima County Board of Supervisors

From: C.H. Huckelberry
County Administrator

A handwritten signature in black ink, appearing to read "C.H. Huckelberry", is written over the printed name of the County Administrator.

Re: **Pre-Concept Report: Southern Arizona Heritage and Visitor Center**

Enclosed is a first draft, pre-concept report for the University of Arizona (UA) Gem and Mineral Museum and the Heritage and Visitors Center that will occupy the 1st Floor of the Pima County Historic Courthouse.

This draft is under detailed review by County staff, including Chief Deputy County Administrator Jan Leshner, Executive Assistant Nicole Fyffe, Facilities Management Director Lisa Josker, Attractions and Tourism Director Diane Frisch and Office of Sustainability and Conservation Director Linda Mayro.

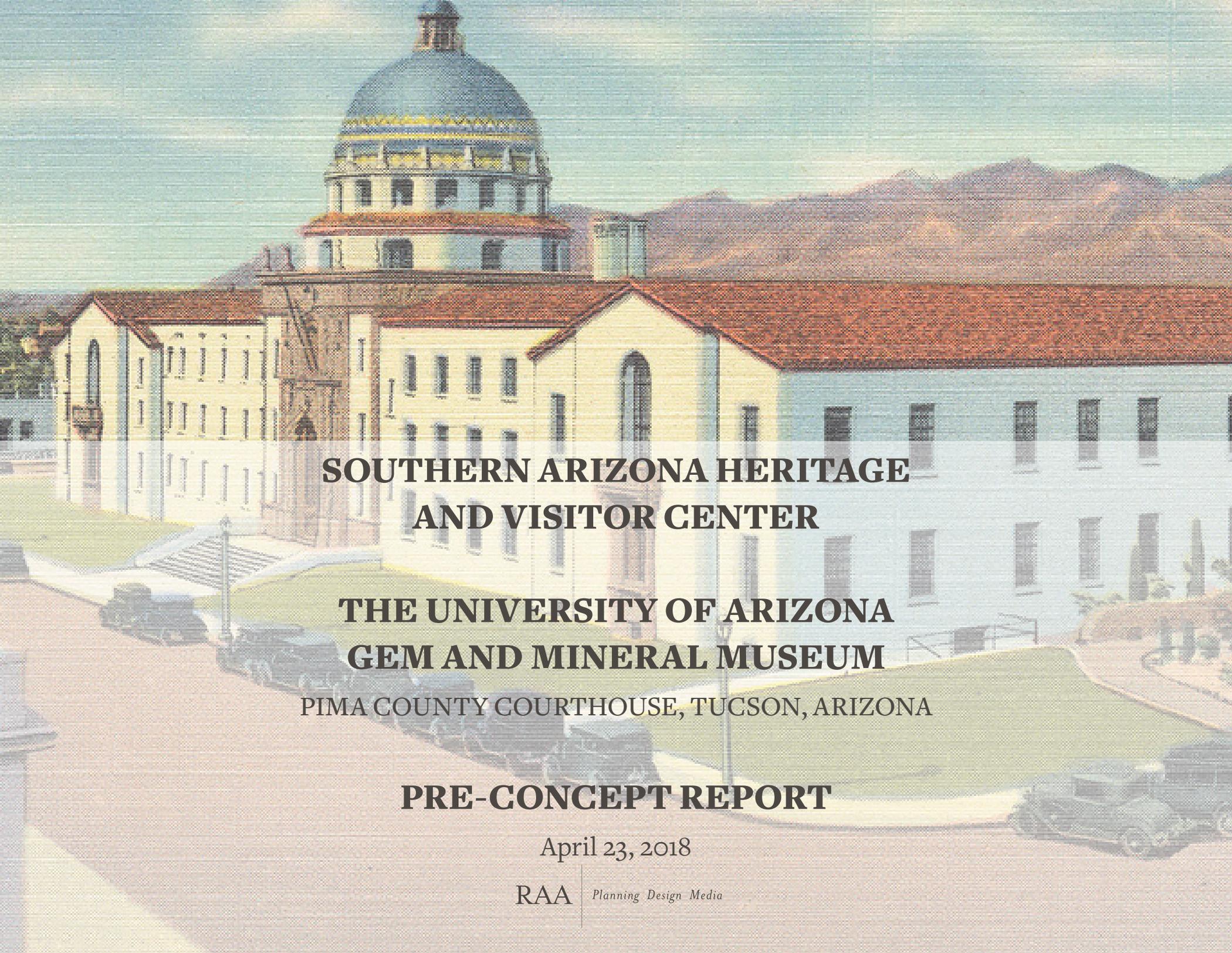
There are a number of relevant concepts missing from this draft, but the report should provide a clear understanding of the general layout and purpose of the Southern Arizona Heritage and Visitors Center as well as the UA Mineral Museum.

A number of modifications will be made, including control of the theater in the Gem and Mineral Center. This portion of the facility is not under lease by the University and it is designed to be a multi-purpose room as well as a theater appropriately designed to allow flexible programming for its continual use.

CHH/anc

Attachment

c: Jan Leshner, Chief Deputy County Administrator
Nicole Fyffe, Executive Assistant to the County Administrator
Lisa Josker, Director, Facilities Management
Diane Frisch, Director, Attractions and Tourism
Linda Mayro, Director, Office of Sustainability and Conservation



**SOUTHERN ARIZONA HERITAGE
AND VISITOR CENTER**

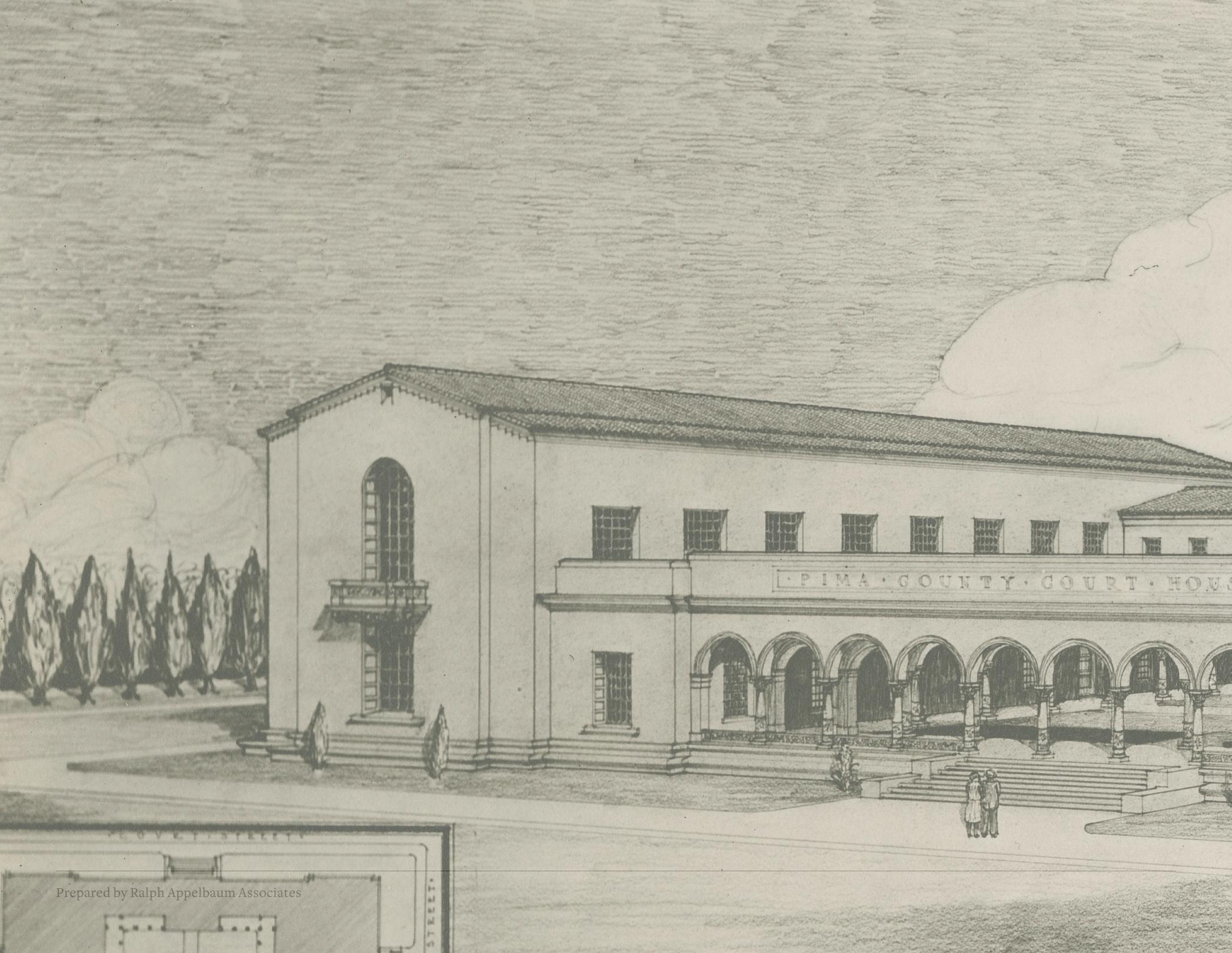
**THE UNIVERSITY OF ARIZONA
GEM AND MINERAL MUSEUM**

PIMA COUNTY COURTHOUSE, TUCSON, ARIZONA

PRE-CONCEPT REPORT

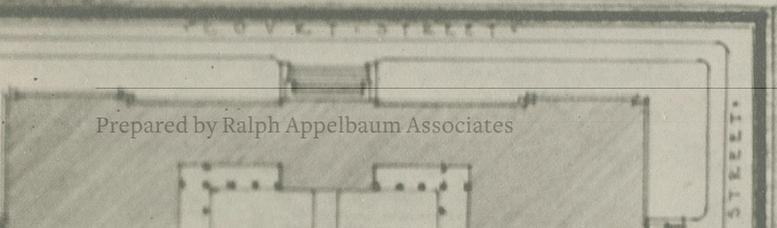
April 23, 2018

RAA | *Planning Design Media*



PIMA COUNTY COURT HOUSE

Prepared by Ralph Appelbaum Associates



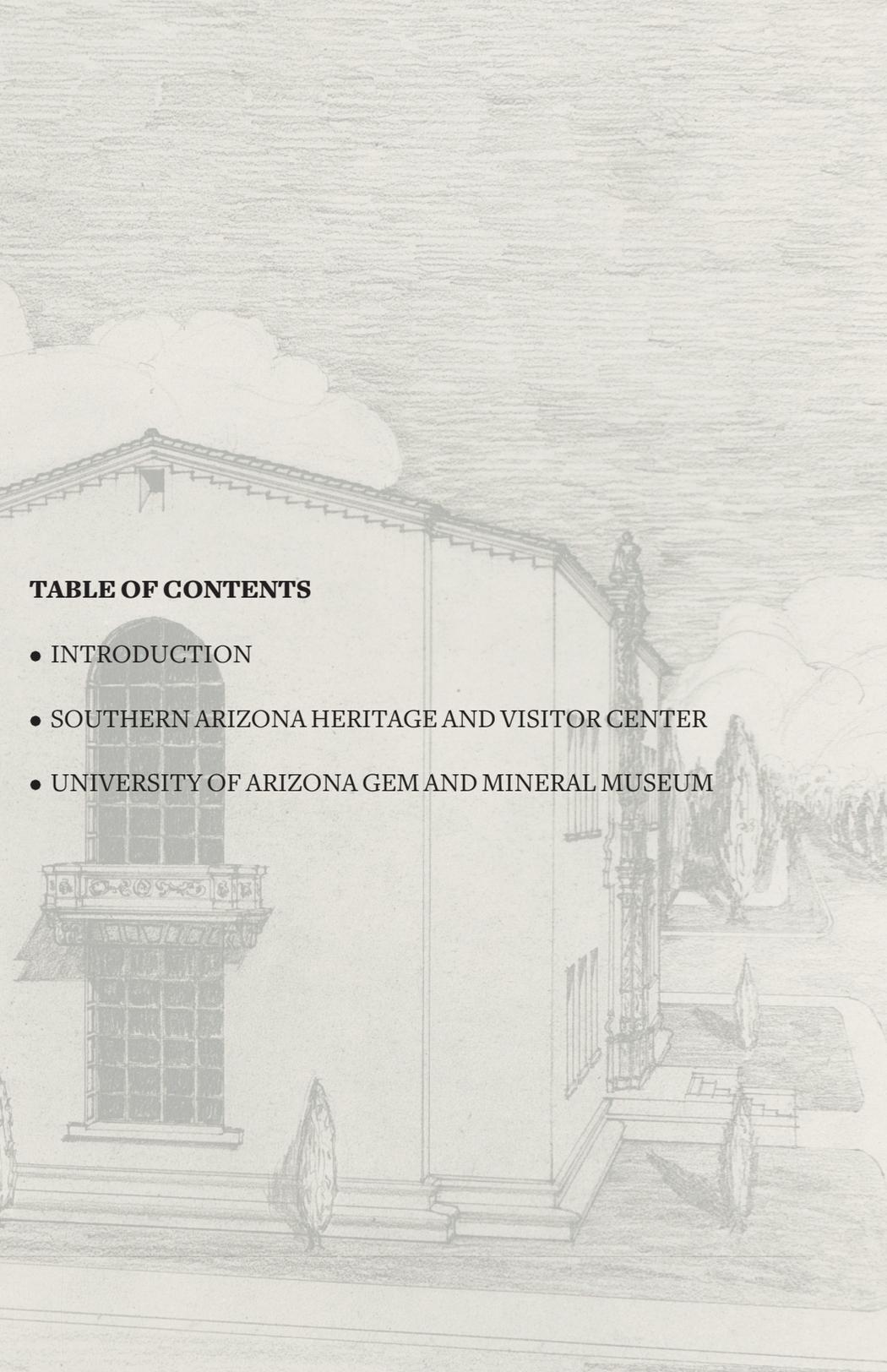
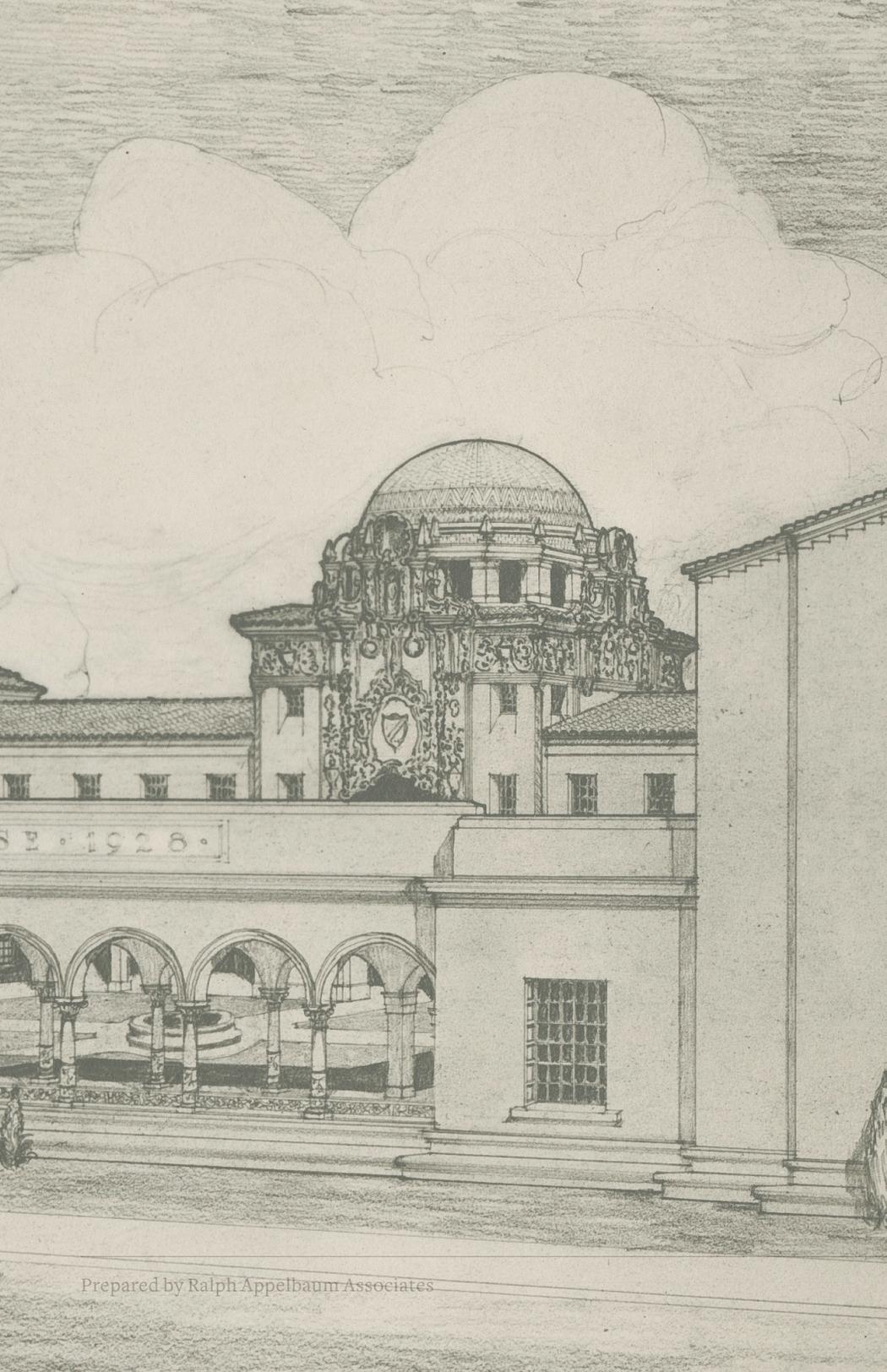


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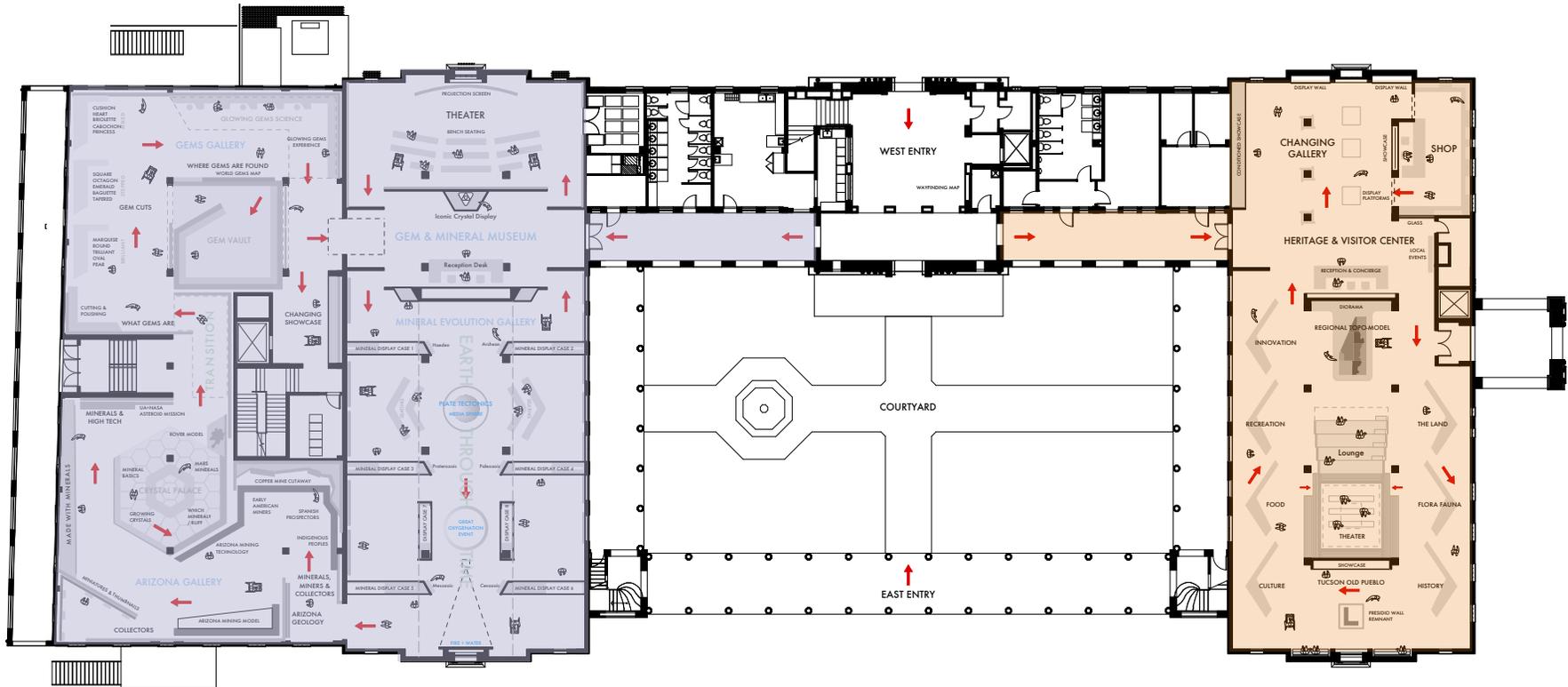
- INTRODUCTION
- SOUTHERN ARIZONA HERITAGE AND VISITOR CENTER
- UNIVERSITY OF ARIZONA GEM AND MINERAL MUSEUM

INTRODUCTION

Ralph Appelbaum Associates (RAA) is pleased to submit its pre-concept report for the Southern Arizona Heritage and Visitor Center and the University of Arizona Gem and Mineral Museum. Both institutions will be housed in Tucson's iconic and historic Pima County Courthouse, which has been recently restored. The Gem and Mineral Museum will be in the building's south wing, and the Heritage and Visitor Center will be in the north wing.

This pre-concept report provides a preliminary vision for each of the two institutions, including floor plans, renderings, and written descriptions of the content organization, experiential flow, and preliminary exhibits. The work represents a collaborative effort, over several months, with the University of Arizona, Pima County, and Poster Frost Mirto Architects.

We appreciate the contributions of our collaborators and look forward to their continued input as we move into the next stages of the exhibition design process.



Pima County Courthouse Overall Layout

Prepared by Ralph Appelbaum Associates

SOUTHERN ARIZONA HERITAGE AND VISITOR CENTER

CONTENT ORGANIZATION AND EXPERIENTIAL FLOW

At the new Southern Arizona Heritage and Visitor Center, tourists and residents discover a wide range of experiences that stimulate them to **explore Southern Arizona’s stunning landscapes, diverse peoples, rich culture, and a wealth of recreational activities and attractions.**

The Center consists of the following:

Reception/Concierge Desk—a prominently located desk with welcoming, knowledgeable staff who answer visitors’ questions about what the Center and the region have to offer.

Local Events Bulletin Board—a large, programmable monitor that the Center updates to highlight events taking place in the Tucson region.

Storytelling Portals—seven thematic areas that entice visitors to explore the region’s unique features, each using a distinctive storytelling technique.

Interactive Guidebook—a trip-planning database filled with compelling stories about Southern Arizona that are cross-referenced with vivid descriptions of places to visit.

Southern Arizona Topo Model and Diorama—a topographical model of the region that orients visitors to Pima, Cochise, and Santa Cruz counties. In concert with the Guidebook (see above), the model enables visitors to visualize and create customized itineraries for touring Southern Arizona. A diorama, set across from the model, offers an intriguing glimpse of the region’s flora and fauna.

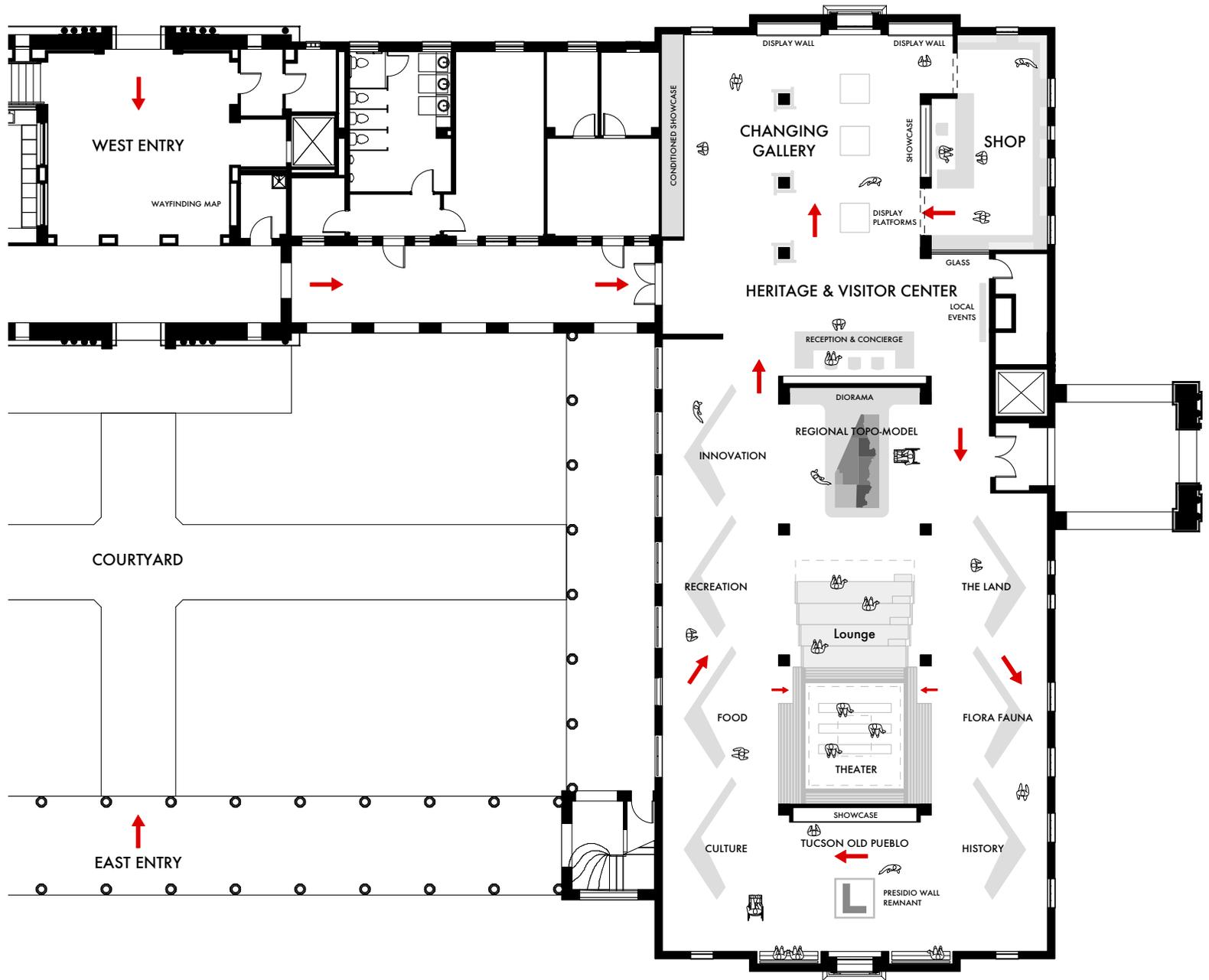
“Diversity” Theater—a semienclosed space where visitors watch a signature film that immerses them in a historical narrative about the diverse waves of people who have settled the region and created its culturally rich community.

Lounge—comfortable seating platforms, adjacent to the theater, that encourage visitors to sit, relax, and share what they have seen and their plans for visiting Southern Arizona. Listening devices allow visitors to hear firsthand accounts and reviews from people who have toured the region.

Tucson/Old Pueblo—historic objects related to the city’s storied past are set in a large case across from an authentic section of the Tucson Presidio.

Changing Gallery—temporary exhibit space, curated by the Center’s staff or guest curators, with inventive shows that keep the Center in the news and encourage repeat visitation.

Gift Shop—an on-site retail space that offers shoppers regionally themed souvenirs and books and generates revenue for the Center.



Southern Arizona Heritage and Visitor Center Concept Layout

STORYTELLING PORTALS/GUIDEBOOK/DIORAMA

The Storytelling Portals, Interactive Guidebook, and Southern Arizona Topo Model work together to enrich visitors' knowledge of Southern Arizona, inspire them to "get out" and see the region, and help them plan customized itineraries.

Each of the seven Storytelling Portals is defined by a **memorable, well-crafted feature story** that has been chosen because of its **power to attract tourists as well as residents**. Feature stories are assigned to one of seven themes (see below) and are rich enough to weave in one or more of the other themes. For example, a story about birdwatching in the Recreation theme could weave in narratives about the Santa Cruz River, the region's waterways, and the Sky Islands. All the Storytelling Portals have a modular design that allows the Center to easily change their content.

The seven themes are History, Culture, Food, Flora and Fauna, Land, Recreation, and Innovation. The Innovation theme is an exhibit that the Center can update as needed. The theme of "people" is implicit in all the themes.

Each Storytelling Portal also contains additional stories that are included in the **Interactive Guidebook**, which visitors can peruse according to their own interests to learn more about the region's offerings. The stories are keyed to the **Southern Arizona Topo Model**. Visitors can also download a **mobile app** version of the guidebook. Various storytelling techniques are employed to offer visitors a range of interpretive experiences.

Below are seven proposed themes, general descriptions of the feature stories they could contain, and the proposed primary storytelling techniques. Also included are relevant story entries and a sampling of places to visit, culled from the Center's "Stories and Places" matrix, that could fall under these themes.

Land

Feature Story—a **travelogue** about a recognizable geographic feature, such as Baboquivari Peak or Tumamoc Hill, including its natural history, historic relationship with the people, and role in contemporary culture.

Storytelling Technique: first-person travel accounts; photography

Entries from "Stories and Place" Matrix

- Mountain-Desert and Habitat/Wildlife
- Rivers Run Through Here
- First People/Native People
- Spanish Colony/Mexican Sovereignty
- Westward Ho
- Homesteads/Ranches

Places to Visit from "Stories and Place" Matrix

- Santa Cruz River
- Baboquivari Peak
- Mt. Lemmon
- Colossal Cave
- Davidson Canyon
- Coronado National Forest

Flora and Fauna

Feature Story—a **stunning portrayal** of a Southern Arizona animal or plant, such as the saguaro cactus, that speaks to the distinctive natural history of the Southern Arizona desert.

Storytelling Technique: nature photography

Entries from “Stories and Place” Matrix

- Mountain-Desert and Habitat/Wildlife
- Rivers Run Through Here

Places to Visit from “Stories and Place” Matrix

- Arizona Sonora Desert Museum
- Colossal Cave
- Ironwood National Monument
- Arivaca Creek
- Desert Botanical Lab
- Davidson Canyon

History

Feature Story—a **compelling back-in-time trip** to a notable historical event (such as the arrival of the railroad) or location (for example, a fort or mission) that is linked to sites tourists and residents can visit. The focus could also be on an important historical figure.

Storytelling Technique: oral history, first-person accounts

Entries from “Stories and Place” Matrix

- First People/Native People
- Spanish Colony
- Striking It Rich
- Westward Ho
- Military on the Frontier
- Mexican Sovereignty

Places to Visit from “Stories and Place” Matrix

- Coronado National Monument
- San Xavier Mission
- Tucson Presidio
- Queen Mine, Bisbee
- Tucson Railroad Station
- Canoa Ranch

Culture

Feature Story—an **immersion** into Southern Arizona music, art, and architecture, revealing the influences of Native people and Spanish, Mexican, American, and present-day global immigrants. The story should be linked to sites and events that tourists can visit, for example, the Sosa-Carillo-Fremont House.

Storytelling Technique: media

Entries from “Stories and Place” Matrix

- Borderland Communities/Traditions
- Tucson/Old Pueblo

Places to Visit from “Stories and Place” Matrix

- Tumamoc Hill
- Tohono O’odham
- Sells Rodeo
- Mission Garden
- Mormon Settlement
- Los Barrios de Tucson

Food

Feature Story—a **gastronomic journey** to the origins of a traditional local cuisine, such as the Sonoran hotdog, which showcases the diverse peoples of Southern Arizona and their relationship with the land, agriculture, and food sources.

Storytelling Technique: sensory interactive

Entries from “Stories and Place” Matrix

- First People/Native People
- Spanish Colony/Mexican Sovereignty
- Homesteads/Ranches
- Borderland Communities/Traditions

Places to Visit from “Stories and Place” Matrix

- City of Gastronomy Feasts and Ceremonies
- Buckelew Farms
- Honey Bee Village
- Mission Garden
- San Xavier District Farm

Recreation

Feature Story—an **unforgettable adventure** showcasing a popular outdoor recreational activity, such as hiking, bicycling, or birdwatching, that both tourists and residents can enjoy in Southern Arizona.

Storytelling Technique: kinesthetic interactive

Entries from “Stories and Place” Matrix

- Mountain-Desert and Habitat/Wildlife
- Rivers Run Through Here
- First People/Native People
- Spanish Colony/Mexican Sovereignty
- Westward Ho
- Borderland Communities/Traditions
- Tucson/ Old Pueblo

Places to Visit from “Stories and Place” Matrix

- Regional Ranches
- The LOOP Trail
- Tucson Mountain Park
- Wetlands
- Paseo de las Iglesias
- Anza National Historic Trail

Innovation

Feature Story—an **updatable news brief** about cutting-edge public or private research being conducted in the region. The stories should be linked to places to visit, for example, Biosphere 2 and Kitt Peak National Observatory, or to events such as the Arizona Science and Astronomy Expo.

Storytelling Technique: changing media

Places to Visit from “Stories and Place” Matrix

- UA Air and Space Museum
- Titan Missile Museum
- Regional Observatories
- Flandreau
- Biosphere
- 21st-Century High Tech



Entrance/Gift Shop/Changing Gallery/Info Desk



Regional Topo Model and Diorama



Regional Topo Model/Theater/Lounge/Storytelling Portals



THE UNIVERSITY OF ARIZONA GEM AND MINERAL MUSEUM

CONTENT ORGANIZATION AND EXPERIENTIAL FLOW

The new University of Arizona Gem and Mineral Museum is a **must-see destination** for residents and tourists as well as earth scientists, collectors, and industry professionals. At its new location, the institution features an **unsurpassed, world-class display of gems and minerals. Media experiences, hands-on activities, and artifacts** provide scientific and cultural context, interpreting the origins of minerals, the history of mining and collecting in the region, and the critical role that the minerals have played and will continue to play—in our everyday lives.

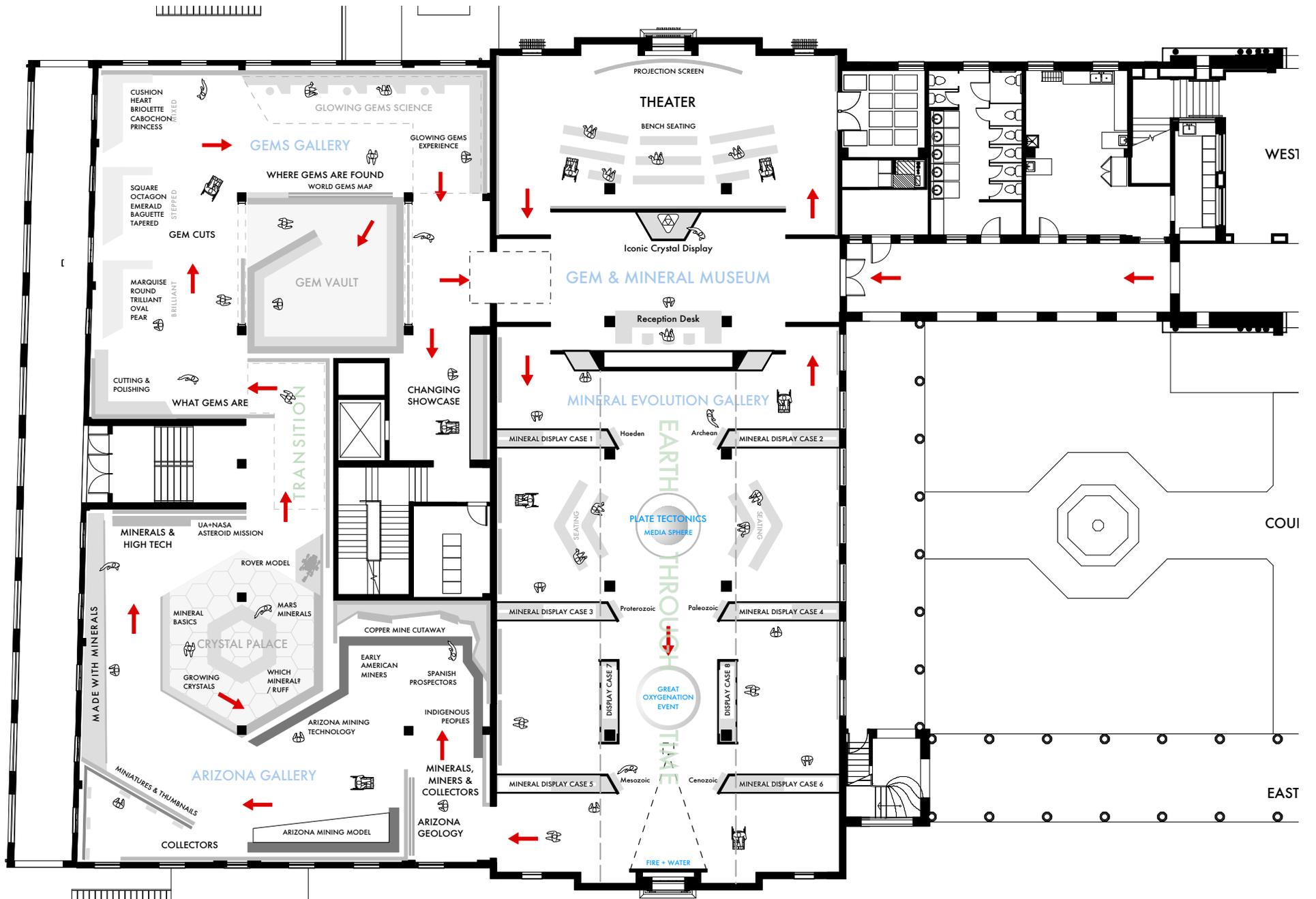
The components of the Gem and Mineral Museum are as follows:

LOBBY

Reception Desk—upon entering the museum, visitors are greeted by friendly staff who assist them in buying tickets and answer their questions.

Iconic Quartz Crystal—an eye-catching, beautifully illuminated, large quartz crystal set in a display case entices visitors to enter the museum to see its collection of mineral treasures.

Theater—from the Lobby, visitors can enter a theater equipped with a large-format curved projection screen and bench seating.



University of Arizona Gem and Mineral Museum Concept Layout

MINERAL EVOLUTION GALLERY

Mineral Display Cases—filled with beautiful minerals of all sizes, shapes, and colors, six tall cases jut out from the walls on both sides of the gallery. Two low cases provide additional display space. Museum staff can easily change the minerals, using a flexible system of horizontal and vertical supports to create custom arrangements.

Earth Through Time—A sequence of interpretive graphics on the edge of the cases depict six stages in Earth's history from 4.6 bya to today as defined by mineralogist/astrobiologist Robert Hazen of the Carnegie Institution. Together, the graphics tell the story of the birth of the planet and evolution and diversification of its minerals. The images are arranged chronologically, from the Hadean to the Cenozoic Era. The Mesozoic and Cenozoic sections highlight critical tectonic events that resulted in the volcanism that led to the formation of many of Arizona's minerals. An audioscape evokes the sound of erupting volcanoes and uplifting mountains.

Plate Tectonics Globe—prominently placed in the center of the gallery, this spherical media projection surface depicts a dynamic Earth. Animation projected onto the globe shows the movement of Earth's tectonic plates, highlighting the journey and topological transformation of the land that eventually became Arizona. The animation is based on paleomaps created by Ron Blakey of Northern Arizona University.

Great Oxygenation Event—a gust of air and a lighting effect mark the moment in Earth's history when an increase in atmospheric oxygen, created by photosynthetic organisms, resulted in an explosion of mineral diversity.

Fire and Water—a dramatic video projection shows images of volcanoes spewing fiery hot lava. On-screen graphics explain that many of Arizona's (and the Earth's) minerals form as magma rises up through a volcano, cooling and crystalizing. Other minerals form when water containing dissolved substances evaporates. Visitors learn that more than 4000 minerals have been found on earth today.

ARIZONA GALLERY

Arizona Geology—three, colorful large-scale maps (physiographic provinces, geologic, and known mineral deposits) printed on glass and overlain on one another.

Minerals, Miners, and Collectors—a timeline that weaves together the story of minerals in Arizona and the people who have sought and used them. A story about changing mining technology occurs as a theme throughout. The timeline is physically expressed in the materiality of the minerals that are being interpreted. Chapters along the timeline include:

- **Indigenous Peoples**—the Apaches, Tonhono O’odham, and other Native peoples who used cinnabar for body paint and fashioned jewelry from turquoise and copper. Other minerals used by Native peoples include hematite, quartz, and obsidian.

- **Spanish Prospectors**—the explorers who came looking for gold and silver and the missionaries (including Father Kino) who followed.

- **American Miners**—settlers pushing west in pursuit of gold, silver, and copper. A reproduction of a copper vein coursing through a rock serves as an anchor for a story about copper mining and the increasing demand for copper after the discovery of electricity.

- **Collectors**—the story of the rise of collecting in Arizona told by collectors themselves via quotes and on-screen interviews. The collectors offer personal insights into what captivates them about minerals and recount stories of their greatest finds. Nearby there is a display of fascinating miniatures and thumbnails. Visitors use magnifying glasses and microscopes to study some of the specimens up close.

Made with Minerals—a display of the myriad materials and products made from minerals set against an amazing statistic: “Each American uses more than 45,000 pounds of newly mined minerals annually!” (Arizona Geological Survey).

Minerals and High Tech—hands-on activities introduce visitors to the properties of minerals (hardness, optical, magnetic, electrical, etc.). A display of familiar and not-so-familiar high-tech objects reveals how we exploit the properties of minerals to improve many aspects of our life, from communication and computation to transportation and health.

UA +NASA: Asteroid Mission—a media program that highlights the effort of the University of Arizona and NASA to bring home a piece of the Bennu asteroid.

Crystal Palace—a hands-on laboratory housed in a semienclosed space that takes its inspiration from the six sides of a quartz crystal. Exhibits include:

- **Mineral Basics**—infographics that convey what a mineral and a crystal are and explain the relationship between rocks and minerals. Light microscopes allow visitors to look at thin sections of rocks to see the minerals that make them up.

- **Growing Crystals**—an interactive media program invites visitors to make their own crystals by experimenting with variables, such as growth rate and the presence of specific chemical elements, to discover how they affect a crystal’s shape, size, and color.

- **Which Mineral Is That?**—an interactive media program that introduces visitors to the RUFF project. Visitors are invited to try their hand at identifying minerals by analyzing their physical and chemical makeup via simulated Raman analysis, X-ray diffraction, and microprobe analysis.

- **Minerals on Mars/NASA**—a scale model of a Mars Rover sets the stage for interpretation about the work that University of Arizona is doing with NASA to search for minerals on Mars. Nearby exhibits explore other UA-NASA projects aimed at learning more about minerals.

TRANSITION SPACE

The transition area features an environmental installation that bridges the Arizona Gallery and Gems Gallery. The installation could take the form of white light being dispersed into a rainbow of color, signaling the critical role that light refraction plays in generating a gem's characteristic hue.

GEMS GALLERY

What Gems Are—infographics that explain what gems are and how they naturally form. An accompanying display case juxtaposes inorganic gems (in rough and cut states), organic gems, and synthetic gems. Visitor participate in hands-on activities at an optical bench to learn about refraction, reflection, and absorption and discover the role they play in generating a gem's color. Other activities show how facet number and angle affect gem color and brilliance.

Cutting and Polishing—a time-lapse program shows a lapidary transforming a “diamond-in-the-rough” into a beautiful, faceted gemstone. Infographics detail each step in the process of making a brilliant-cut diamond, from choosing the raw crystal to creating multiple facets.

Gem Cuts—a plethora of remarkable gems, organized by type of gem cut and displayed in a set of flexible cases.

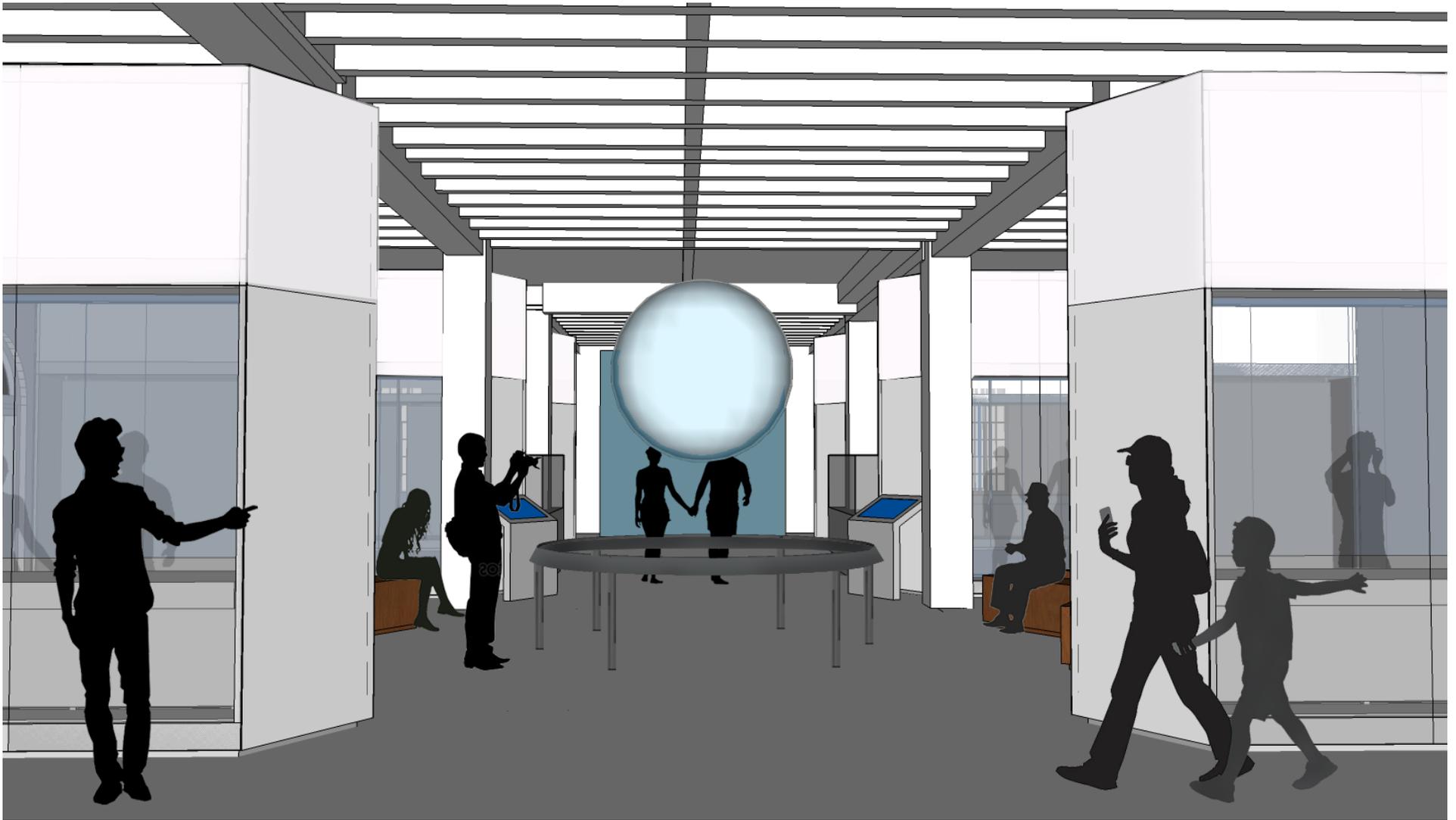
Where Gems Are Found—a large colorful map showing the location of the main gem localities around the world by gem type.

Gem Vault—a secure display area for showcasing the most rare and precious gems.

Glowing Gems Science—an introduction to fluorescent gems and the physics behind fluorescence conveyed via infographics.

Glowing Gems Experience—a dark space that visitors enter to experience a dazzling display of gems that fluoresce when exposed to UV light.

Changing Showcase—a flexible case for displaying gems on a rotating basis. The case could be used, for example, to feature the “birthday” gemstone that is associated with each month of the year.



Mineral Evolution Gallery



Gem Vault Interior

