Boulder Herbarium

Archives for Public Engagement

Adam, Luke, Mieko, Stephen

ENVD3100	2024

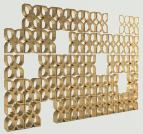
PROCESS

1. OBSERVING NATURE

Observe site features and illustrate local plant life to examine common design elements for ecological / cultural requirements

2. BIOMIMETIC DESIGN

Abstract key design principles to develop repeatable units, and explore these forms at different scales and functions



3. MODULAR TRANSLATIONS

Translate design concepts into practical, modular, concrete units that educate herbarium guests while preserving specimen

01

Observing Nature

Observe site features and illustrate local plant life to examine common design elements for ecological / cultural requirements

PLANT INVENTORY STUDIES

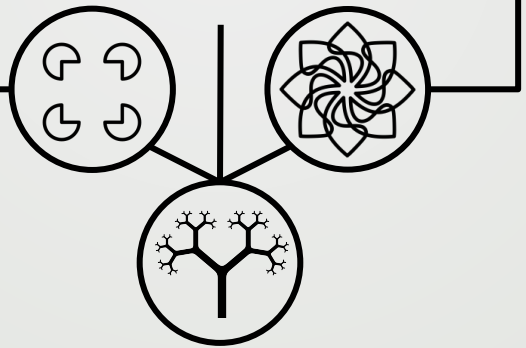
KEY TAKEAWAYS COMMON THEMES

ORGANIC FRACTALS

Repeating patterns appear at different scales to create complexity

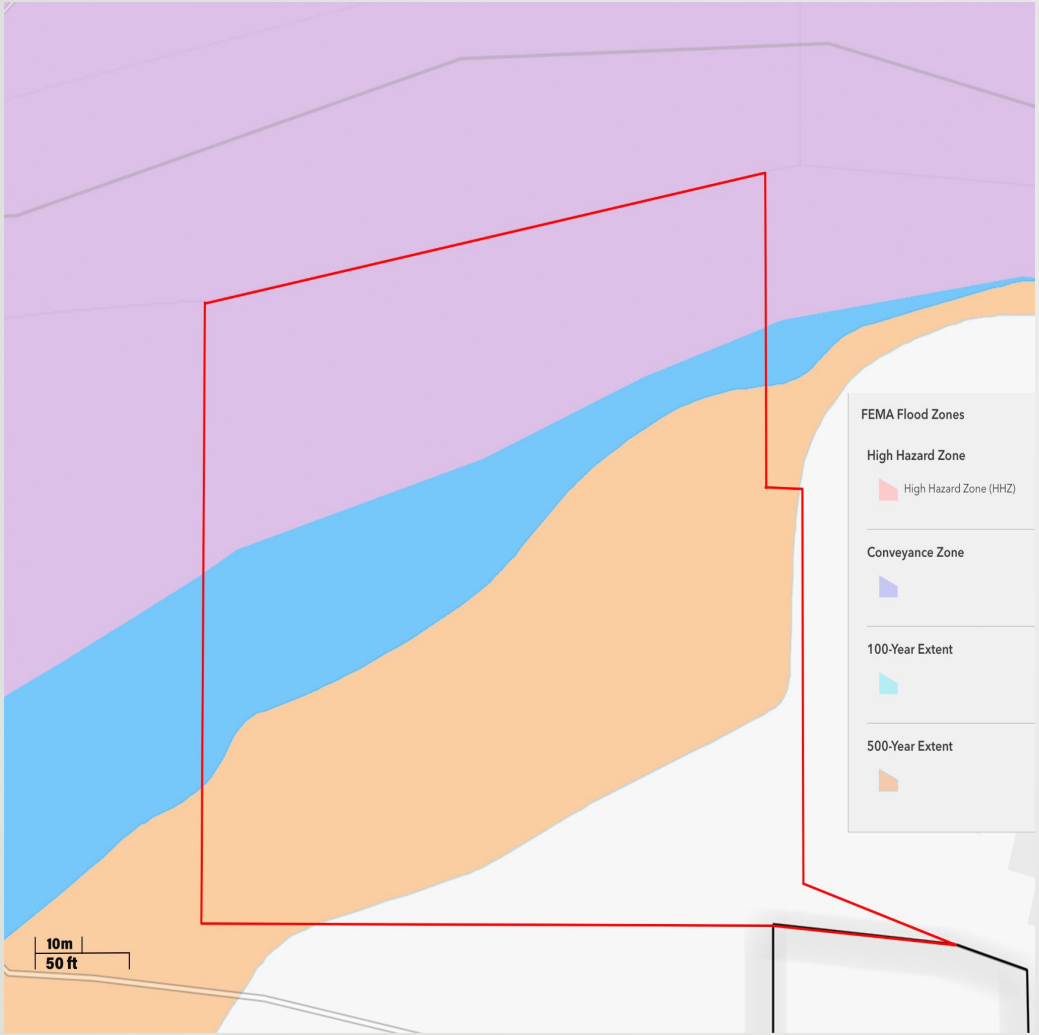
NEGATIVE SPACE

Spaces between flowers and branches determine how the form is read as a whole



CENTRIPETAL HIERARCHY

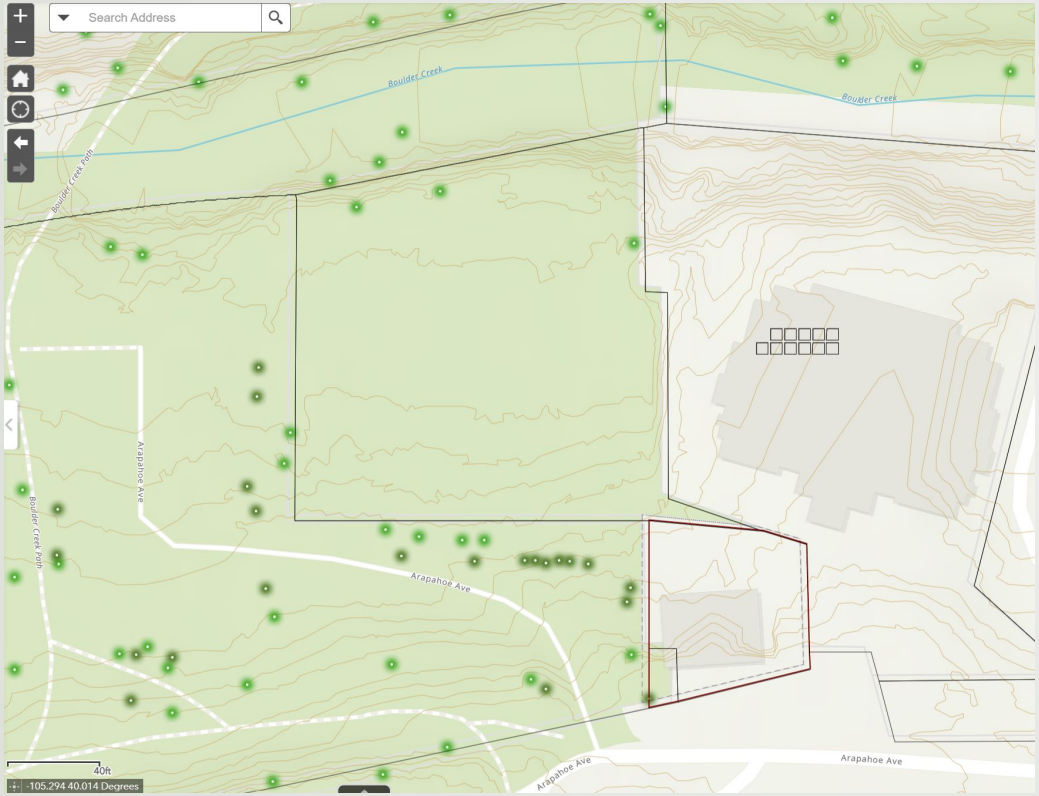
Divergent growth results in stronger materials near the base and core of the form



FLOODPLAINS

The floodplain map indicates several FEMA flood zones located on the site. The Northernmost part of site is the high hazard zone, followed by the 100 year extent and the 500 year extent. Most of the site is susceptible to flooding making it imperative to plan for these events.

TOPOGRAPHY + VEGETATION



The topography of the site is varied with steep and gradual slopes. Boulder Creek flows through the North end of the site and Arapahoe Avenue runs along the Southern Edge. There is dense tree cover scattered in and surrounding the site.

BOULDER CREEK INHABITANTS

Campostoma anomalum

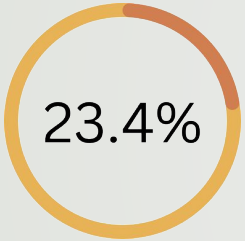
Bufo cognatus

Ambystoma tigrinum

Myotis evotis

Native inhabitants of the creek inform **plant selection, spatial layout, and exhibit material** to ensure a thriving and diverse environment. Observing local species' behaviors and interactions ensure our design supports and enhances the existing ecosystem.

BOULDER COUNTY INDUSTRY



Educational services, health care, and social assistance

Professional, scientific, and administrative / management

Arts, entertainment, recreation, and food

PROJECT GOALS OVERVIEW

Community Engagement

Cater to diverse users blending both indoor and outdoor uses of space

Integration + Impact

Connect with existing public amenities to promote the herbarium as a cultural and economic asset.

Interactive Design

Interactive archives and intuitive displays to educate the public while protecting local species

Sustainability

Use eco-friendly materials and native plantings to support local wildlife

Accessibility

Ensure ADA-compliant pathways and signage. Create an inviting and inclusive space.

Climate Adaptation

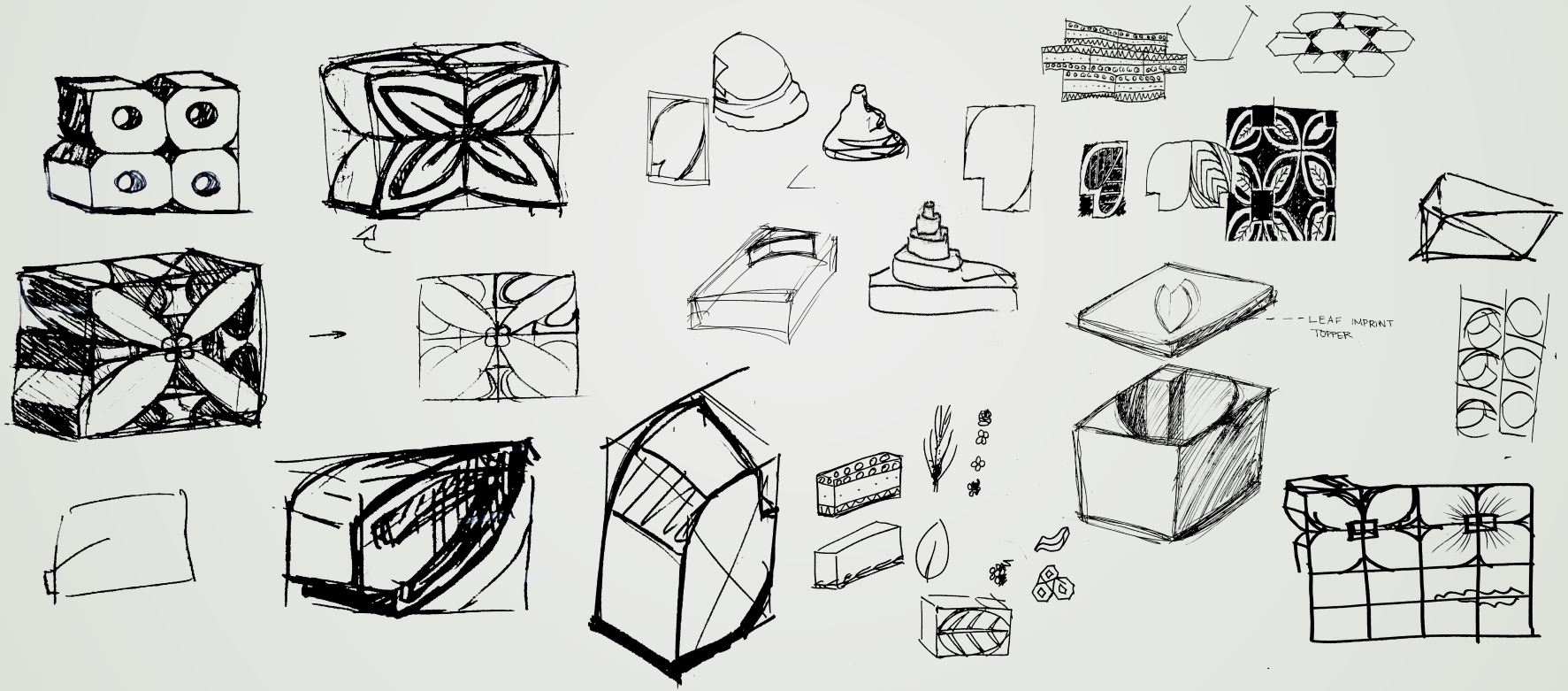
Ensure energy-efficient and climate-appropriate structures.

02

Biomimetic Design

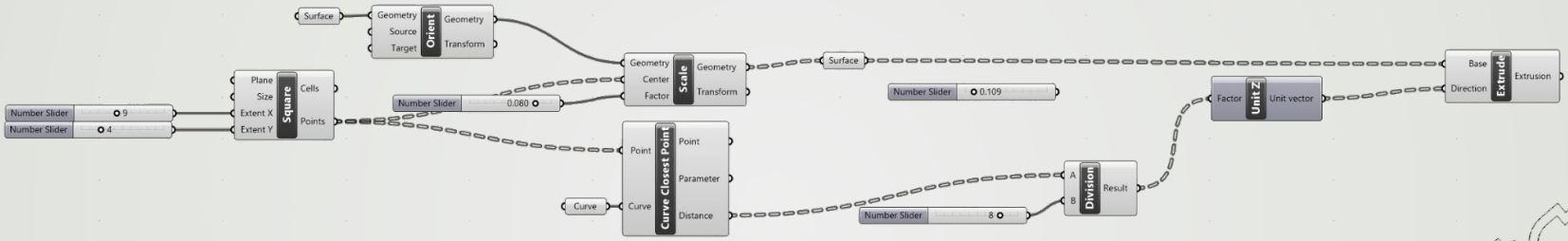
Abstract key design principles to develop repeatable units, and explore these forms at different scales and functions

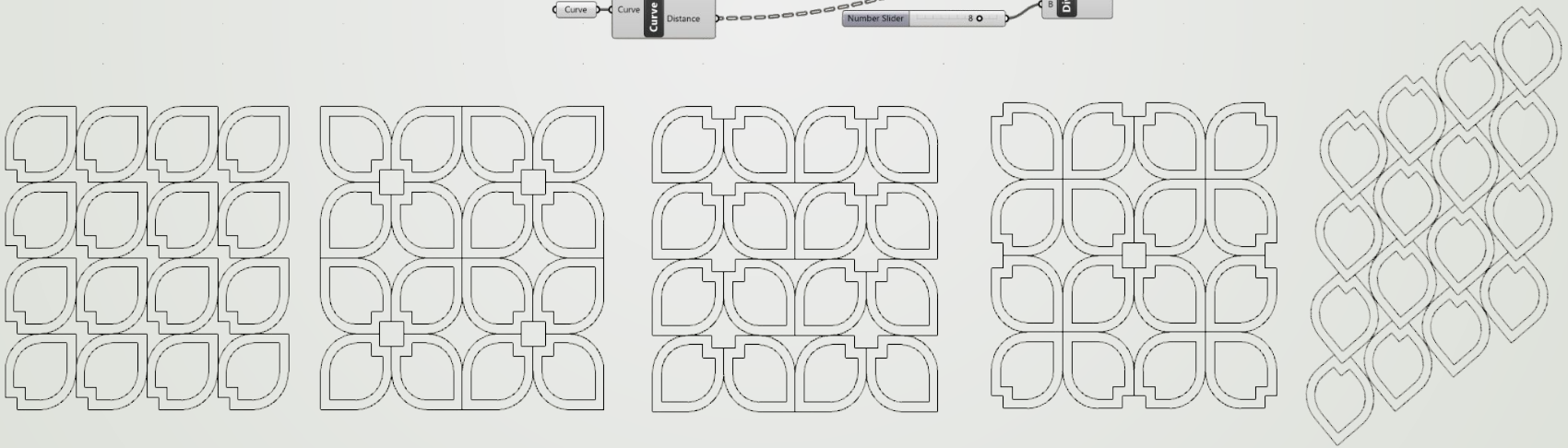
MODULE DEVELOPMENT



//////

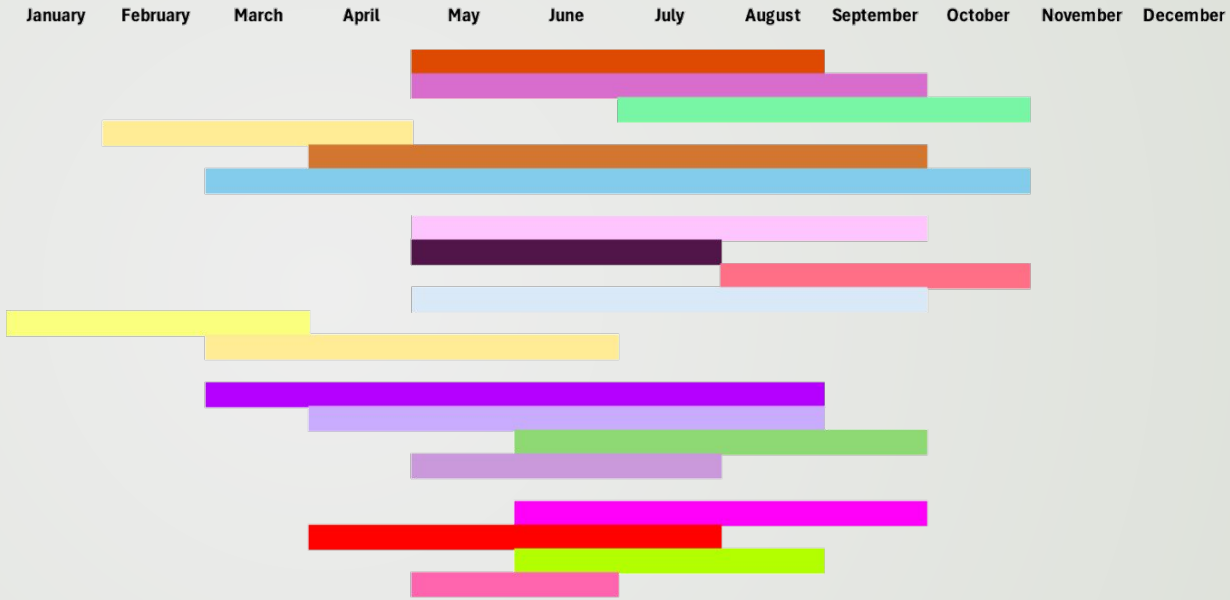
MODULE VARIATIONS





BLOOM CHART PLANTS FOR SITE USERS

Program	Common Name	Scientific Name
Butterfly Garden		
	Butterfly Weed	Asclepias Tuberosa
	Rabbitbrush	Chrysothamnus
	Prarie Sage	Ratibida Columnifera
	Winter Aconite	Eranthis Hyemalis
	Blanket Flower	Gaillardia
	California Lilacs	Ceanothus
Bee Garden		
	Showy Milkweed	Alsclepias Speciosa
	Rocky Mountain Penstemon	Penstemon Strictus
	Sunset Hyssop	Agastache Rupestris
	Garden Sage	Salvia Officinalis
	Winter Jasmine	Jasminum Nudiflorum
	Golden Currant	Ribes Aureum
Sensory Garden		
	Lavender	Lavandula Angustifolia
	Lambs Ear	Stachys Byzantina
	Mint	Mentha
	Lupine	
Terraced Garden		
	Creeping Thyme	Thymus Serpyllum
	Prarie Smoke	Geum Triflorum
	Sedum	Genus Sedum
	Bearberry	Arctostaphylos

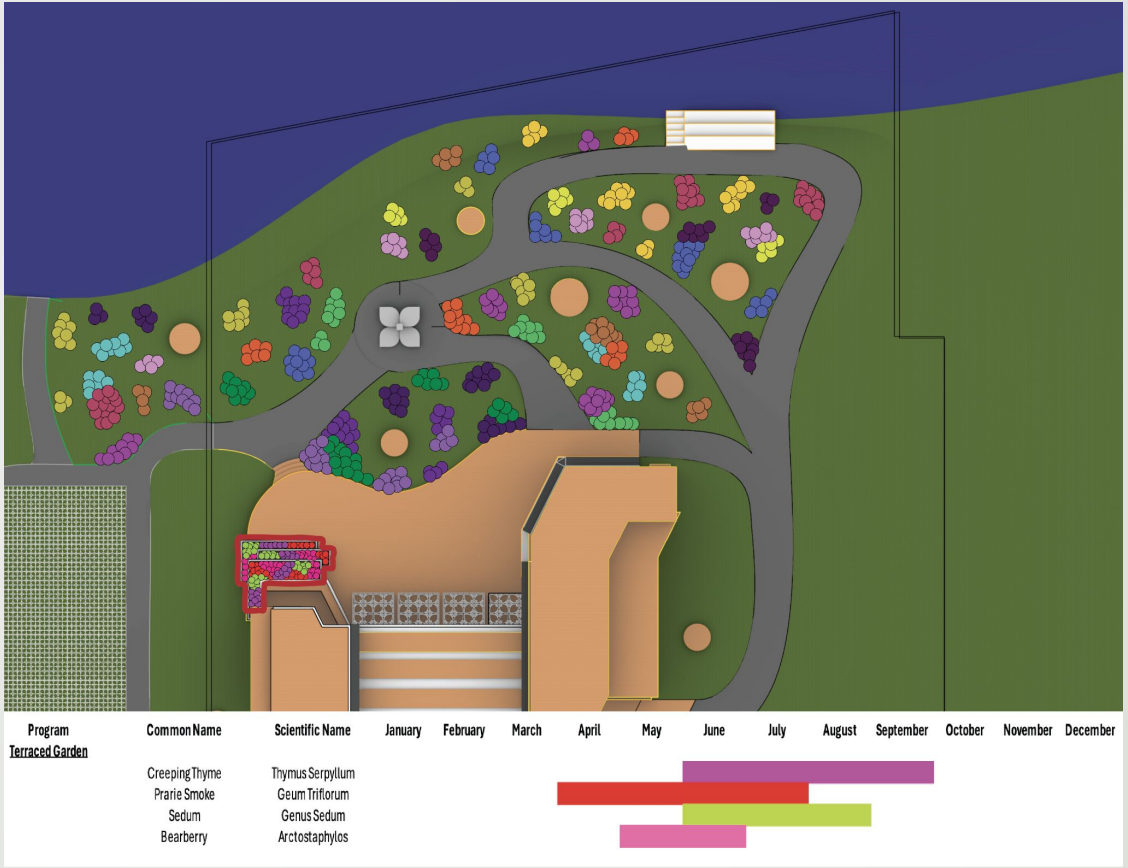


////// **PLANTING PLAN -** BOTANICAL GARDEN

The plants selected for the botanical garden are a mix of native and non native species, all of which work well in Boulder's climate. One of the main considerations for each plant was its ability to help manage water throughout the site.

////// **PLANTING PLAN -** TERRACED GARDEN

The terraced garden contains four low growing plants. All of which require low maintenance and are adaptable to various environmental conditions making them a great addition for the botanical garden.

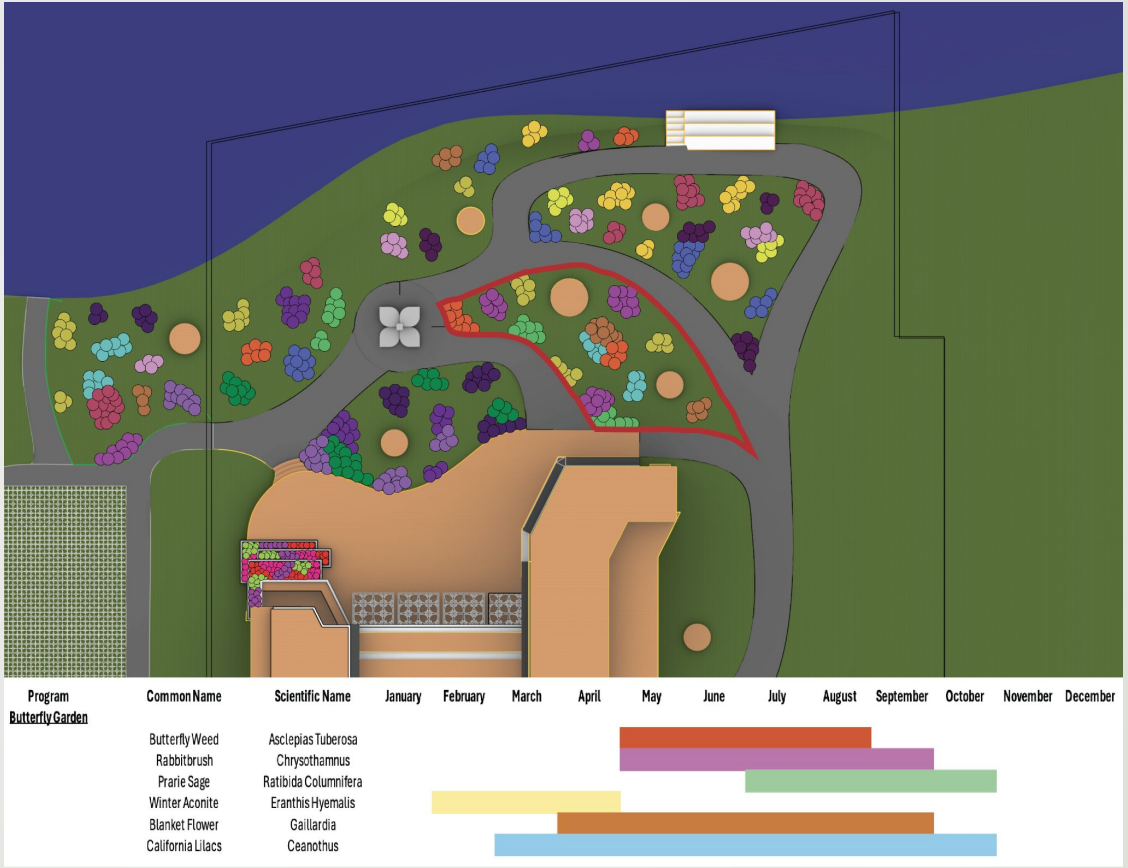


////// **PLANTING PLAN -** SENSORY GARDEN

The sensory garden contains four types of medium sized plants all of which are meant to stimulate the users senses as they move through and interact with the space. Each of these plants are able to thrive in diverse environments.

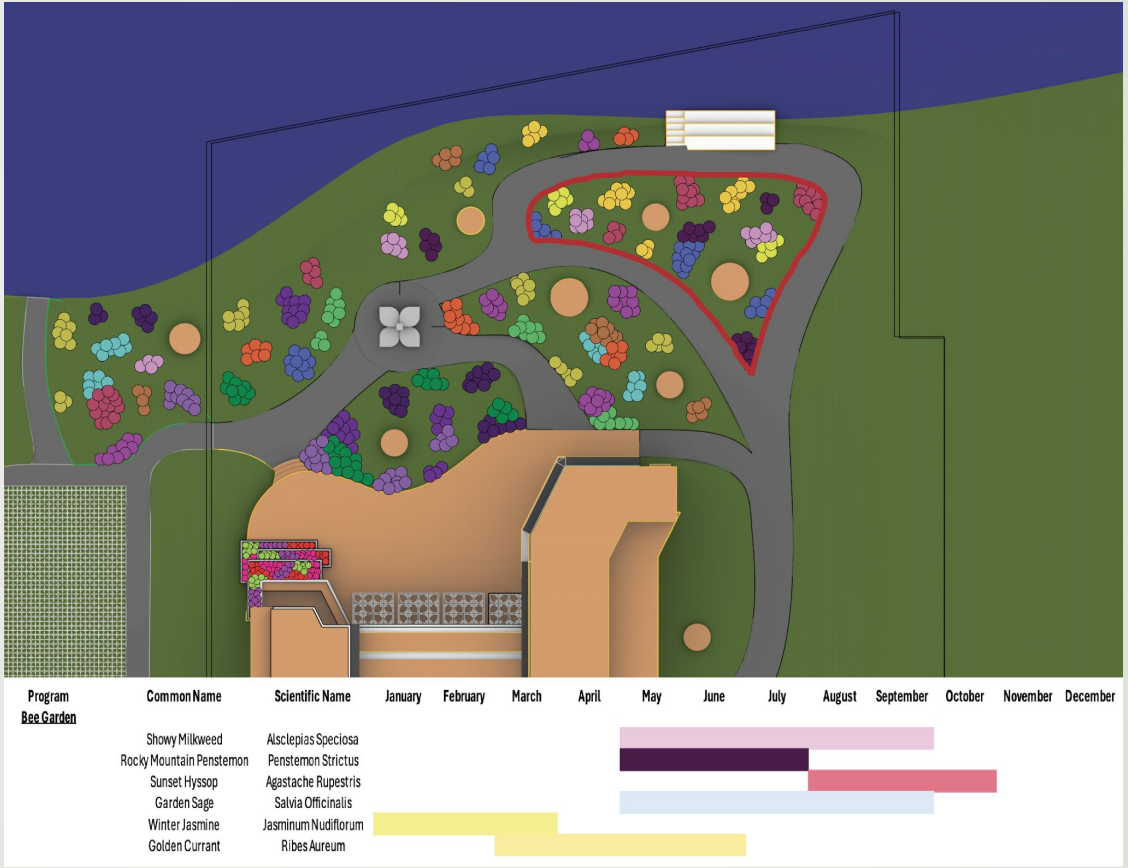
////// **PLANTING PLAN -** BUTTERFLY GARDEN

The butterfly garden contains six different plants with the main goal being to bring in pollinators specifically butterflies. Additional benefits of these plants are low maintenance, aesthetic appeal and water management.



////// **PLANTING PLAN -** BEE GARDEN

The bee garden contains six plants all selected to attract a variety of pollinators but specifically queued to bees. These plants are resilient and easy to grow plants that range from small to medium with unique foliage.

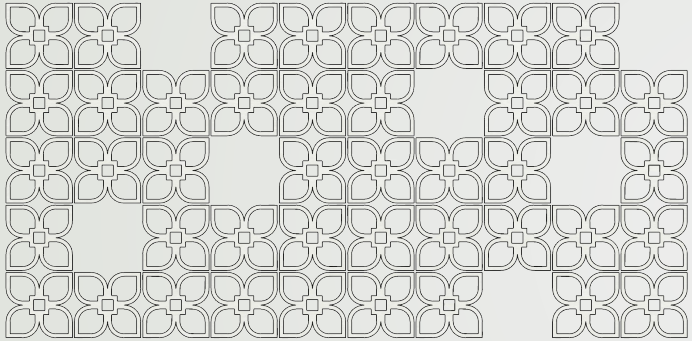


03

Modular Translation

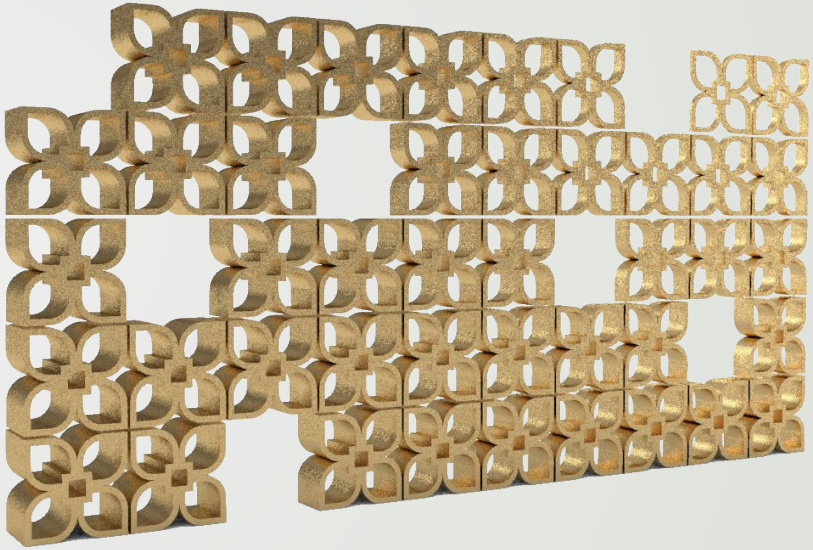
Translate design concepts into practical, modular units that educate herbarium guests while preserving local specimens

HABITAT WALL DESIGN PLANS



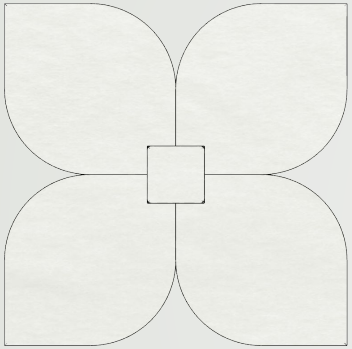
ELEVATION

PLAN

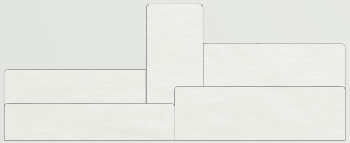


PERSPECTIVE

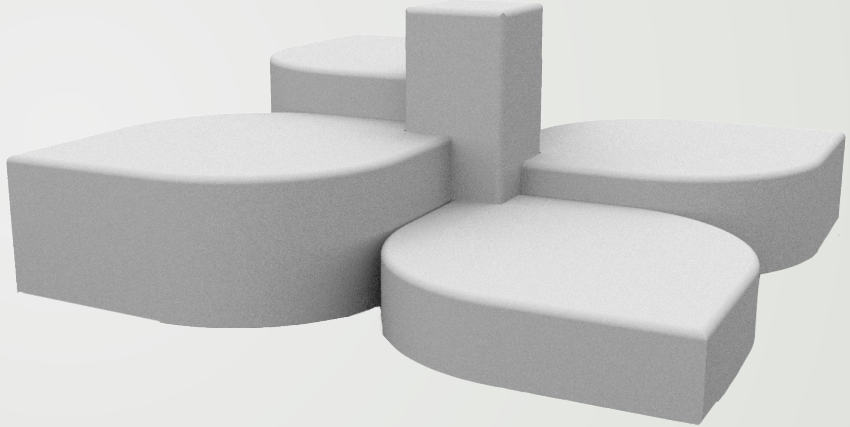
SEATING STRUCTURE DESIGN PLANS



PLAN

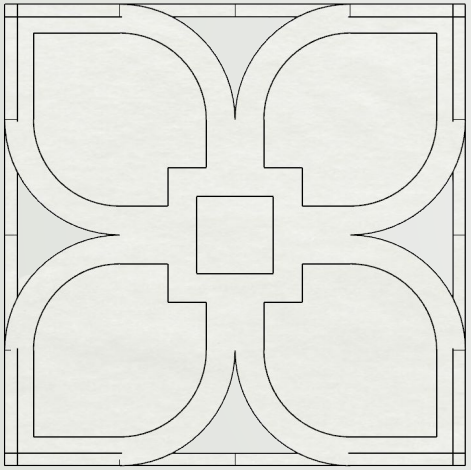


ELEVATION

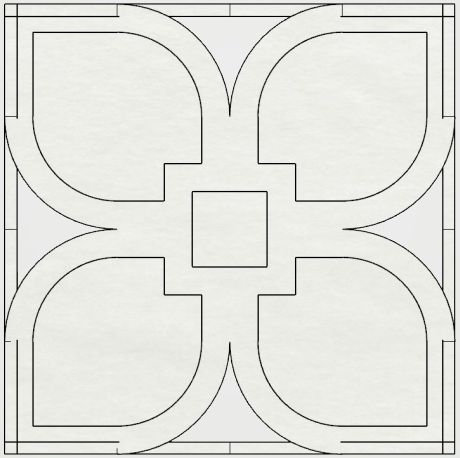


PERSPECTIVE

INTERACTIVE EXHIBIT DESIGN PLANS



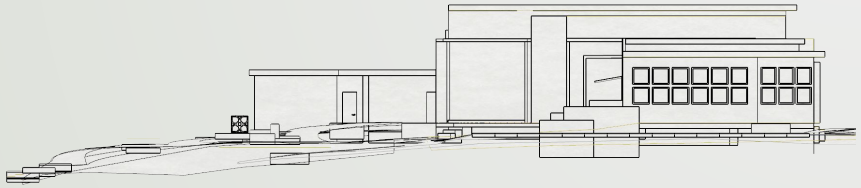
PLAN



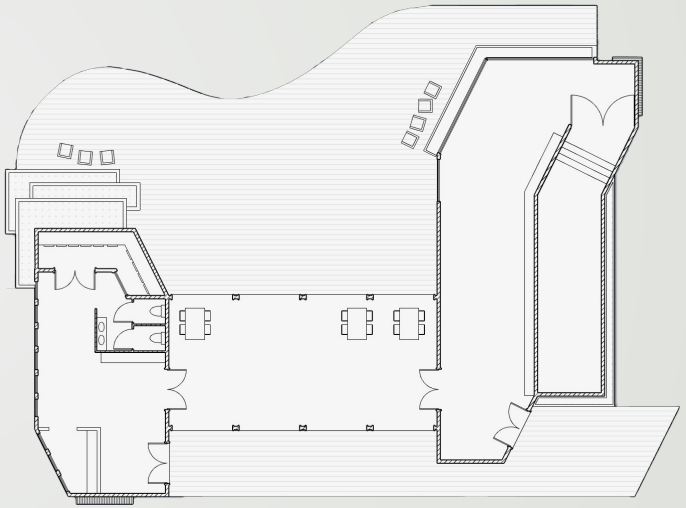
ELEVATION

PERSPECTIVE

HERBARIUM DESIGN PLANS



ELEVATION



PLAN

SITE RENDER
OVERVIEW

GARDENS SENSORY ENGAGEMENT

CREEK ACCESS

PATIO SEATING

PATIO ACCESS

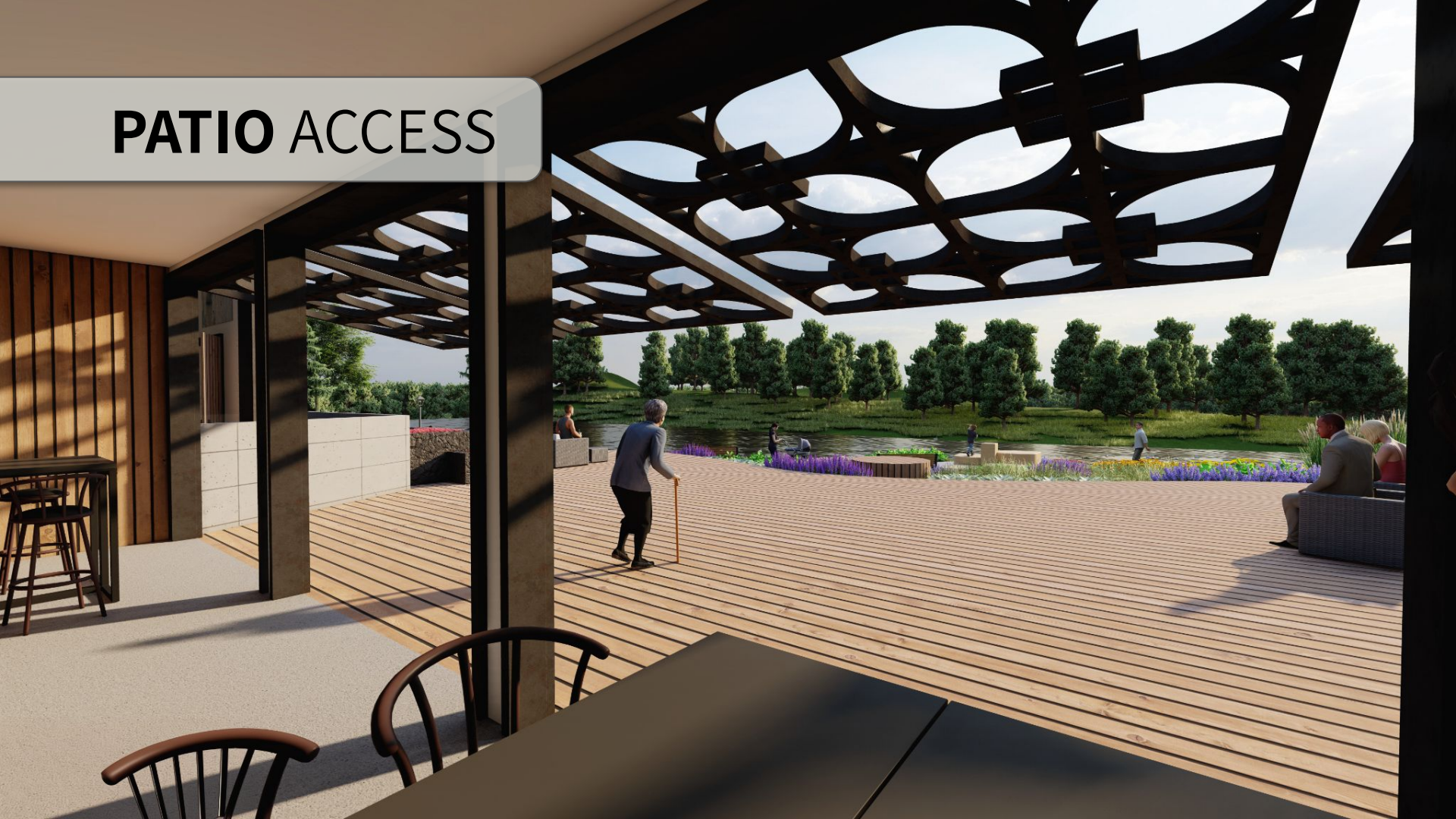
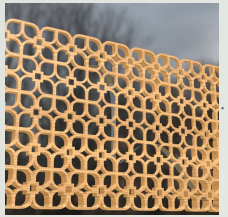



EXHIBIT SPACE
MODERN GARDEN

FRONT DESK

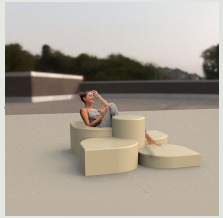
MODULES REPEATING THEMES



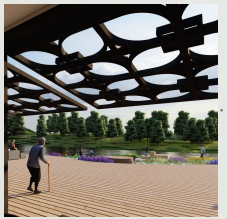
PLANTING WALLS

RECEPTION DESK

INTERACTIVE DISPLAYS



SEATING



PATIO DOORS

WATER ACCESS

PERMEABLE PAVEMENT

DESIGN APPLICATIONS
BOULDER HERBARIUM