

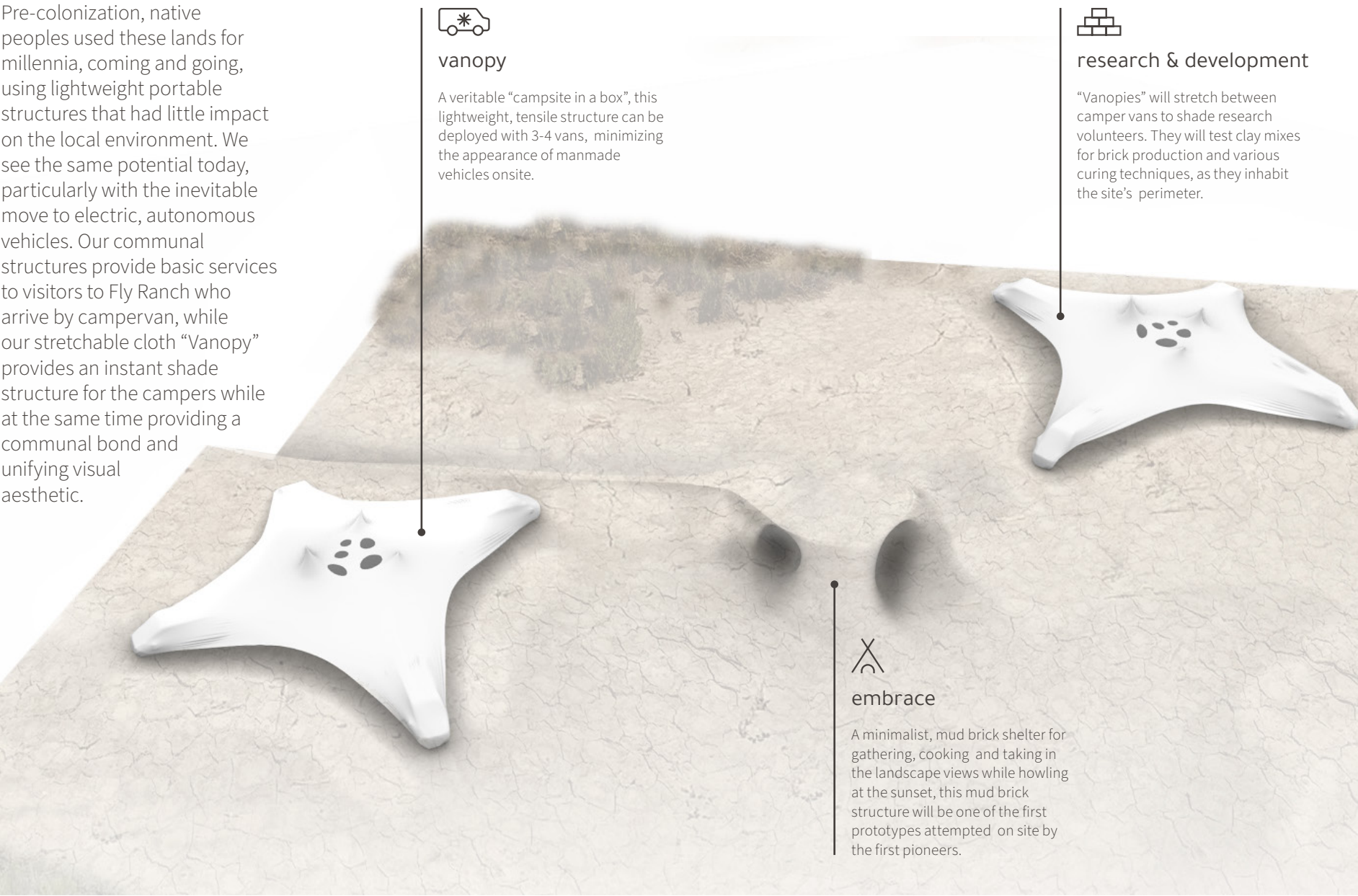
ephemeral systems

Pre-colonization, native peoples used these lands for millennia, coming and going, using lightweight portable structures that had little impact on the local environment. We see the same potential today, particularly with the inevitable move to electric, autonomous vehicles. Our communal structures provide basic services to visitors to Fly Ranch who arrive by campervan, while our stretchable cloth "Vanopy" provides an instant shade structure for the campers while at the same time providing a communal bond and unifying visual aesthetic.

**vanopy**  
A veritable "campsite in a box", this lightweight, tensile structure can be deployed with 3-4 vans, minimizing the appearance of manmade vehicles onsite.

**research & development**  
"Vanopies" will stretch between camper vans to shade research volunteers. They will test clay mixes for brick production and various curing techniques, as they inhabit the site's perimeter.

**embrace**  
A minimalist, mud brick shelter for gathering, cooking and taking in the landscape views while howling at the sunset, this mud brick structure will be one of the first prototypes attempted on site by the first pioneers.



active systems

Water and nutrients will be cycled and kept on site through the use of biodigesters, reed beds and bioswales. Biogas produced by the digesters will power communal kitchens, and filtered greywater will irrigate food forests and edible landscaping. Greenhouses will provide space for local cut-throat trout powered aquaponics and other intensive growing systems.

**aquaponics**  
Greenhouses provide space for intensive growing systems such as aquaponics.

**living roof**  
Native species filter greywater and provide passive cooling.

**grapevine**  
Bicycle paths shaded by solar panels and trees form a transportation network.

**biodigester**

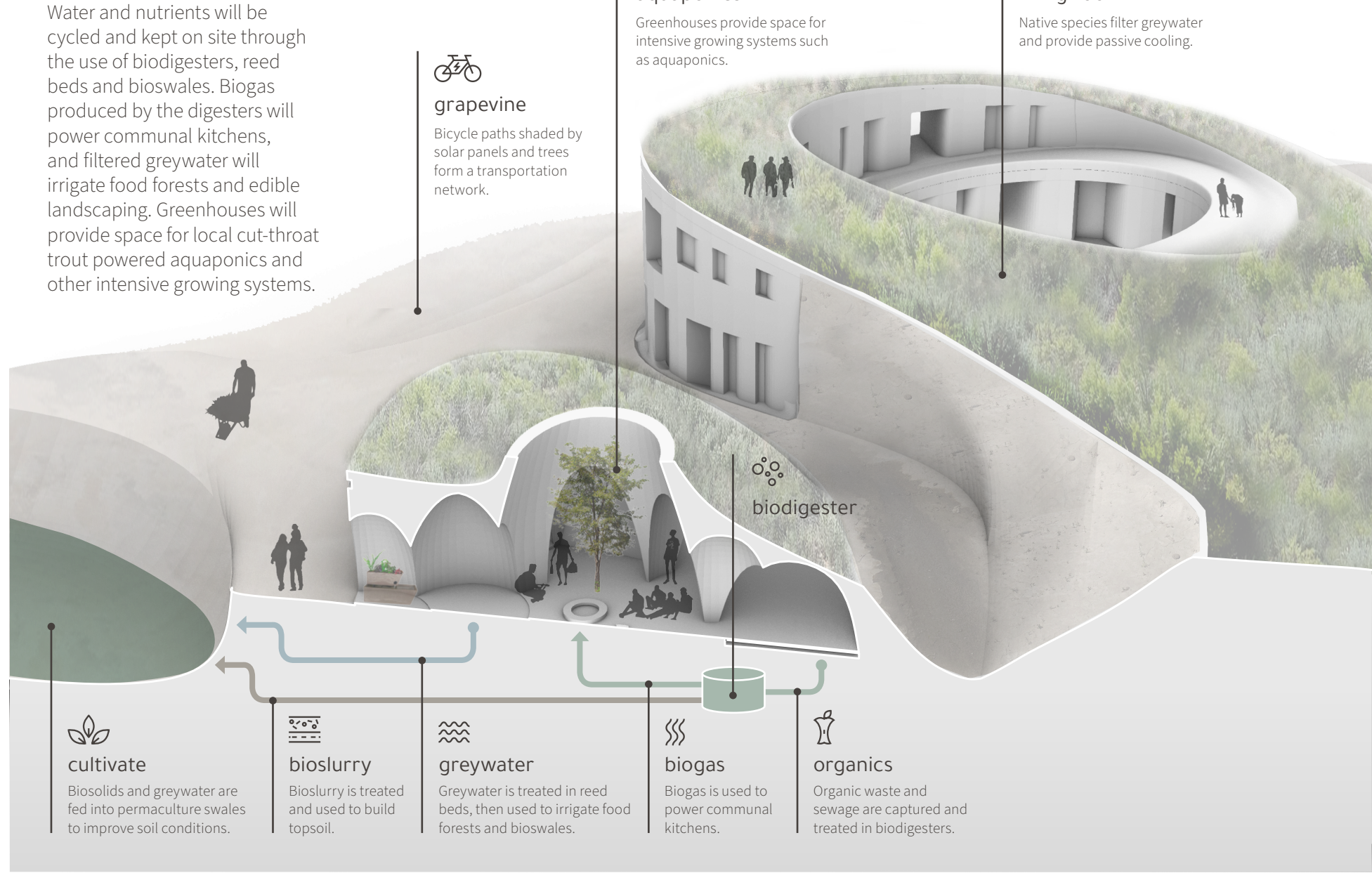
**cultivate**  
Biosolids and greywater are fed into permaculture swales to improve soil conditions.

**bioslurry**  
Bioslurry is treated and used to build topsoil.

**greywater**  
Greywater is treated in reed beds, then used to irrigate food forests and bioswales.

**biogas**  
Biogas is used to power communal kitchens.

**organics**  
Organic waste and sewage are captured and treated in biodigesters.



civic systems

Connecting everything on Fly Ranch is Grapevine, a micromobility network. Sunken slightly in the ground and with embankments on either side, it will create a microclimate shielded from the wind. Compost, biosolids, and graywater incorporated into the median will create ideal conditions for trees and shrubs providing shade and fruit. In places, covered by solar panels Grapevine creates both electricity and shade.

**solar chimney**  
The geometry of the SEED is designed to increase airflow through the stack effect, acting as a solar chimney.

**layer**  
Mechanically stabilized bioswales provide shelter for perennial crops and soil building systems.

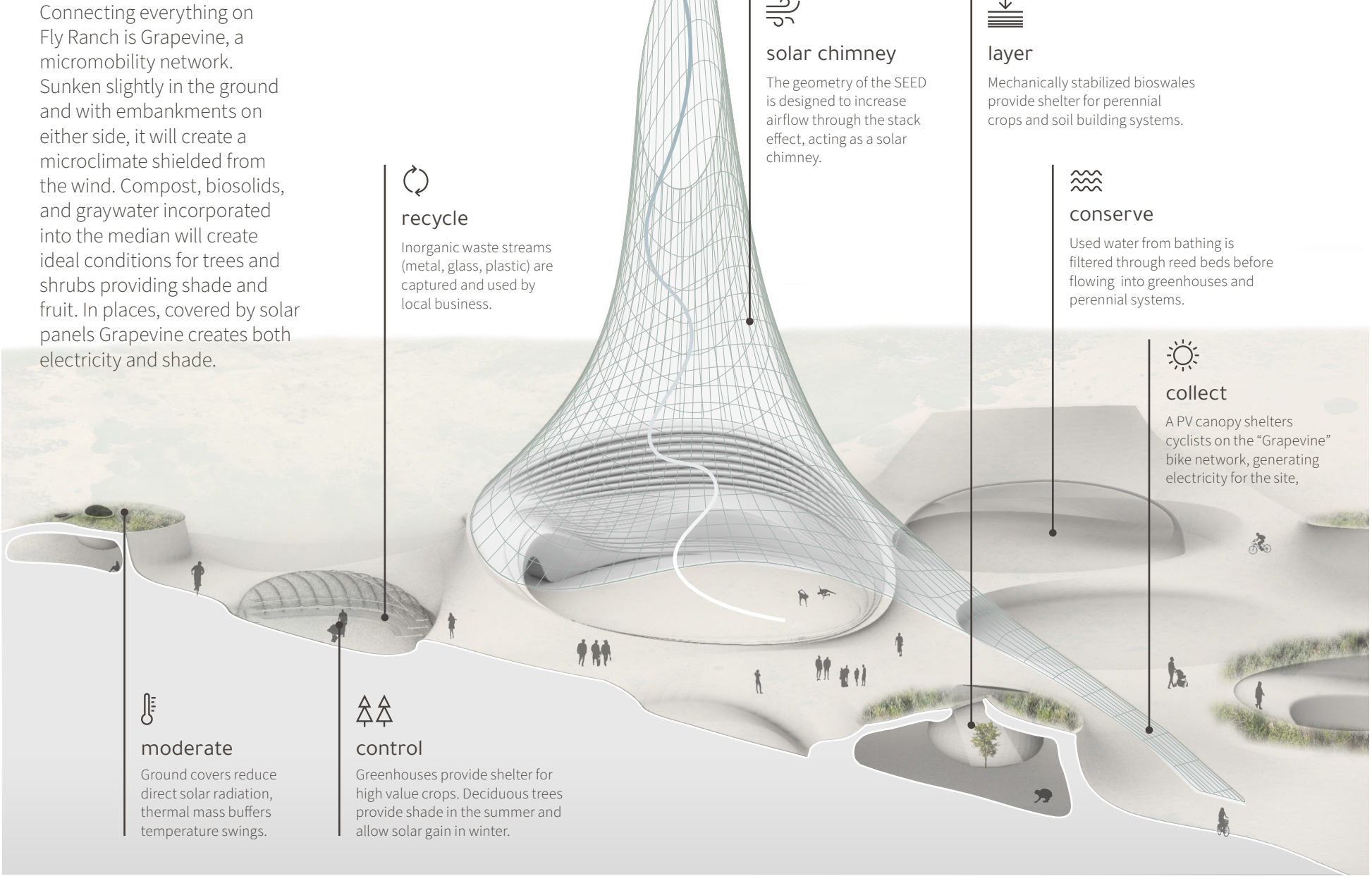
**recycle**  
Inorganic waste streams (metal, glass, plastic) are captured and used by local business.

**conserve**  
Used water from bathing is filtered through reed beds before flowing into greenhouses and perennial systems.

**collect**  
A PV canopy shelters cyclists on the "Grapevine" bike network, generating electricity for the site.

**moderate**  
Ground covers reduce direct solar radiation, thermal mass buffers temperature swings.

**control**  
Greenhouses provide shelter for high value crops. Deciduous trees provide shade in the summer and allow solar gain in winter.



passive systems

Nature is generous at Fly Ranch. Sun shines, wind blows, and hot water percolates through the earth. We know it is possible to implement modern technologies to make use of all three. But each successive generation of these systems will fade into technological obsolescence as the state of the art marches on. In response to this inevitable senescence, this project proposes a set of interlinked passive systems to solve for the most basic needs of the inhabitants of Fly Ranch well into the future.

**summer sun**

**winter sun**

**air flow**

**solar optimization**  
Overhangs are optimized for high summer sun, low winter sun.

**cross ventilation**  
Occurs by orienting openings to take advantage of prevailing winds and the stack effect.

**rainwater**  
Buildings collect and divert rainwater to bioswales and perennial plantings.

**living roof**  
Native species filter greywater and provide passive cooling.

**geothermal**  
Thermal springs are used for communal bathing, heat exchangers are used to heat residential space in winter.

**cooling tube**  
Passive ventilation draws air through geothermal cooling tubes in summer.



native materials

40% of greenhouse gas comes from construction. By using minimally-processed, natural, local materials we virtually eliminate this carbon production, and the resulting structures feel like they are part of the landscape. Our buildings are made of earth – rammed, compressed, mechanically stabilized, and formed onsite into mud brick and adobe.

We use the latest parametric modeling technology to bring this ancient building technology up to date, creating beautiful, functional, comfortable buildings. The qualities of earth construction are calming, sound absorbing, and temperature and humidity stabilizing. There are no volatile organic compounds, oil, gas, or other toxic chemicals, leaving SEED the cleanest, most natural development ever envisioned.



in dust we trust

The playa itself is our most basic material element. The dusty DNA that unites Burners everywhere will gracefully settle into solid form, housing the global community. The energetic footprints of traditional construction materials and their transport are immense. We sidestep this high cost by developing structurally sound building materials onsite.

We will assemble artists, engineers and researchers to blend cutting edge forms with timeless materials and craftsmanship. Building together, our prototypes will be open-sourced in order to share this knowledge with the world. Mud brick. Adobe. Rammed earth.

In Dust We Trust.

