

# Ribs: A community oriented living space for Burning Man

Fall - 2010  
Adam Miller  
Xandy Peters

# What is Burning Man ?

Burning Man is an eight day event which happens every August's end on the unforgiving Black Rock Playa in Nevada. Each year, a temporary city of 50 thousand people stands in the middle of the desert. At this event, there are no spectators, only participants. Everyone is encouraged to be an active part of this unique community in their own way.

But art is not the only focus of Burning Man. The desert is a harsh living environment known for extreme conditions and safety and survival are a big concern. Temperatures range from 40-110°F with winds which can reach over 50 MPH. The only facilities provided are medical centers and bathrooms.

Black Rock City has a gifting economy. The idea of "radical self reliance" is encouraged. Everyone must bring what they need in order to live, and when the event is over, they must leave no trace that they were there. This means that all trash, including gray water, must be recycled or disposed of responsibly.

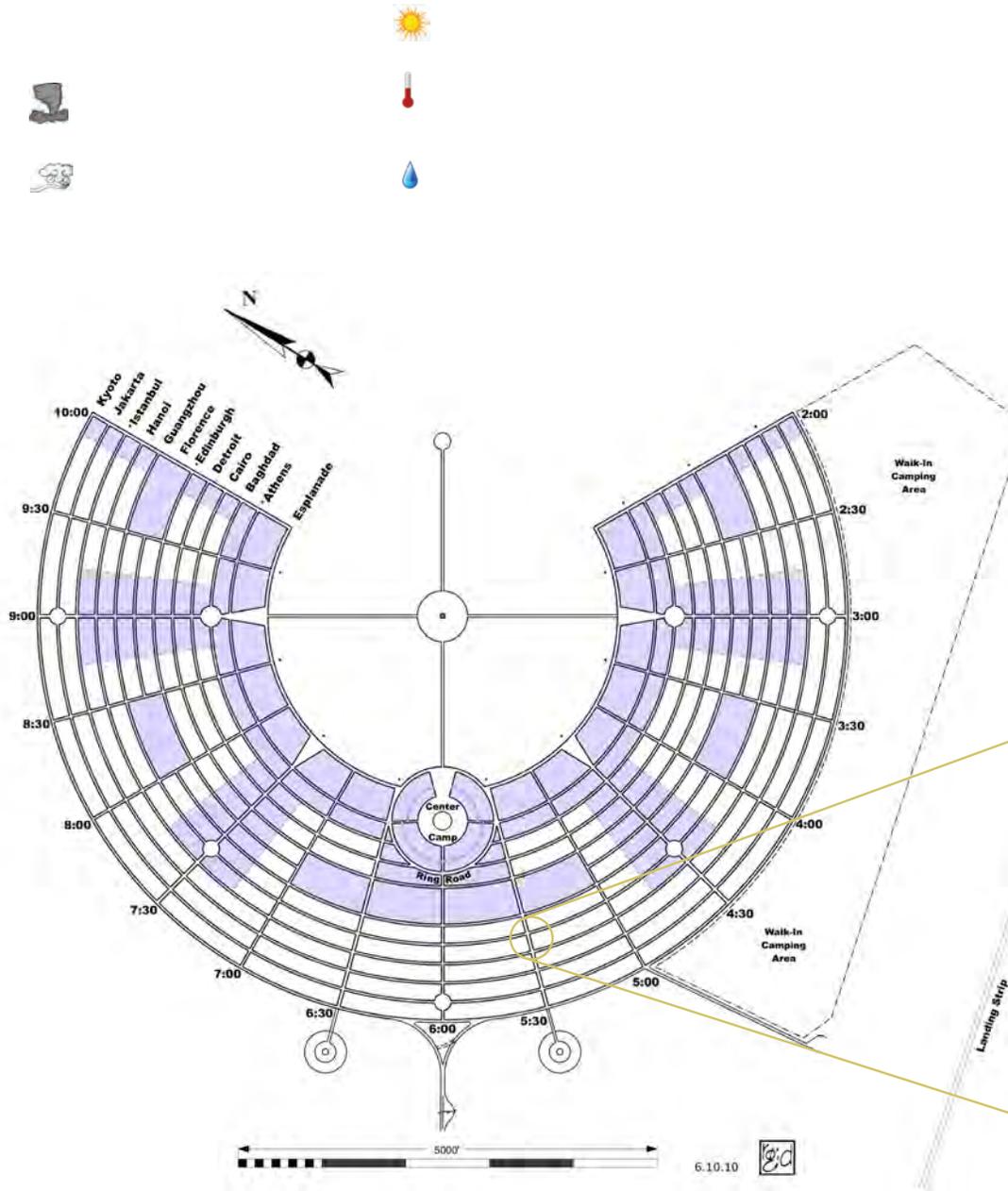


# Black Rock City

in the Black Rock Desert, NV

+40° 48' 10.42", -119° 12' 28.22"

The burning man event lasts for 8 days, beginning the last week of August, into the beginning of September. This map shows the layout of Burning man 2010, with the concentric roads named A-K, and the radial streets names derived from the clock-like layout for the city.



-Centralized address (near 6:00 and center camp) for greater traffic

-Awning Facing towards intersection, and towards prevailing SW wind to maximize cooling

-Broadside turned to sun providing most shade near entrance



“Whether you make a cup of coffee for the folks camped next door or help someone you hardly know unzip the back of their costume in preparation to use the port-a-potty, you can be a participant of Burning Man. If you reach inside yourself and figure out that part of you that can be shared with others around you, chances are you will enjoy Burning Man. The only way to avoid having fun is to bring nothing of yourself to the event. If you just try to take everything in, you won’t ‘get’ anything.”



# Bicycle Culture



Since vehicles, barring motorized art, are not allowed on the Playa, walking and cycling are the primary modes of transportation. This creates a very strong bicycle culture. Each bicycle can be decorated, transforming it into a form of personal expression. Of the 50 thousand participants, most have at least one bicycle. Due to the harsh environment, bikes are prone to breaking down, and often require maintenance.

Cyclists are encouraged to bring a basic repair kit for minor incidents, but there are many who are unprepared for broken parts and popped tires. Sometimes there is a bicycle repair shop run by Black Rock City, but it does not have the capacity to service the entire city. Each year there are a few theme camps which dedicate themselves to fixing bikes and running educational events. These camps are what many people rely on for bike repairs.

Phil Miller, who commissioned this project, has been interested in going to the Burning Man event, and would like to bring his skills as a bicycle mechanic to assist those in need in the Black Rock Desert.



# Criteria Overview

## [Weather]

High winds and gusts-generally from SW  
Strong desert sun  
Near-freezing nights  
Occasional heavy rain storms  
Unpredictable weather patterns

## [Environment]

Abrasive alkali dust + wind  
No water or shade- desert plateau  
BRC provides bathroom and medical services only  
Grey water may not touch the playa;  
Leave No Trace  
Playa density is inconsistent; from sand to concrete in 4ft<sup>2</sup>  
Wet playa surface results in thick pasty mud

## [Extreme Self Reliance]

Must take care of water and food needs for one week  
Water for drinking, preparing food, and showers  
Sun shelter and protected sleeping quarters  
Transportation and construction of shelter

## [Culture]

Highly supportive community  
Friendly Neighbors, Loud all night  
Gift economy; no sale or bartering allowed  
Highly Creative and free environment  
City laid out in concentric rings  
50,000+ residents  
Prominent bicycle culture; cars disallowed

## [Structure requirements]

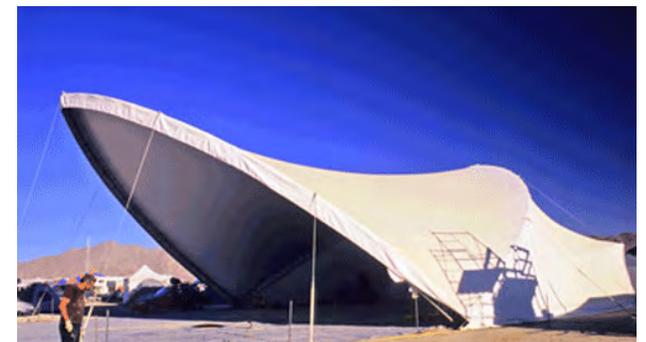
Sufficient overhead/standing room  
Mobile; not too heavy, and easily erectable  
Immune to wind storms  
Openings for air-cooling; vents, large doors, apex roof, etc  
Sleeping quarters blocked from dust  
Shower and wash basin  
Seating/room to work and move in main area  
Storage for clothes, tools, food, drink etc.



# Project Statement

We are working with a client (and his family) to make a sleeping, working and living space on the Playa. It must include sleeping quarters for 4 as well as storage for their supplies for a week. There must also be a public space which serves as a bicycle repair workshop and a recreation area.

It is most important that this shelter be an active part of the community. Visual impact is an integral part of the identity of the structure. It must communicate the function of this bike repair station and its openness to the community. It must have an entrance which is inviting when it is open, yet can be closed off when privacy is desired. Within the public space, there is a private space for sleeping which must be visually separate from community space.



# Support Team

Burners	Freya Gereke	Burning Man community, Packing and preparation, weather
	Colin Lorentzen	Preparation, construction of geodesic dome at event
	Ben Weber	Community and Culture, Participation and Black Rock Foundation Grants, contacts of other camps
Technical	Tip Sempliner	Materials, corrosion and strength, and construction methods
	Kevin Crowley	Construction techniques and parts resources
	Richard Leigh	Nomadic Tents and natural cooling and aspiration
	Phil Miller	User/client, requirements for bicycle repair and upkeep
Online	<a href="http://www.burningman.com">www.burningman.com</a>	General event information, preparation, maps
	<a href="http://www.eplaya.com">www.eplaya.com</a>	Online burning man community, Information on organized "Theme Camps", past structures
	<a href="http://www.appliednn.com/">www.appliednn.com/</a>	Load bearing truss information

# Research

Good for a shop!  
26' x 18'

Frypa etc.

Wind from S

City allowed NW, N/E, SW, S/E  
from 5:30/6:00  
plug-in food  
Disposables etc.

Frypa - 16' dia dome for 2 w. full bed

non-powered  
Carpet cleaner/  
vacuum thing

frank

Do it

Poleclaw 90  
clear joint band

Structure  
Sleeping space  
size & layout  
weight?

curtain, sheets over bed  
to keep people off bed.

lots of ventilation

cleaning beating fabric - hose to wipe

has fast aluminum connects?

Graywater: solar still, each...  
too much

10:1 water to vinegar  
shower

olive oil  
screen

Water did you?

sleep  
12m mattress

cots breathe light & heavy blankets

Shower?

Shower clothing

colours cold food Insulated food plastic food bins  
column stove & table Grease on players  
Camp chairs Stairs!  
Le'Straps

Side & hang out

Ground cloth

Shower?

open trough - collect water & dust

Seen from fabric?

Wind - unreliable

Structure - use batteries

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Structure - use batteries

Tarps rolled sheet - Kardiganer Carpet on everything  
grey water  
Container to pump up grey water  
DUST EVERYWHERE

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To Do:

Call Frypa  
Call Ben Weber & friend

Aluminum cost/strength \$8500/plz.  
\$2600/mtbl.

Continue sketching, start establishing needed storage, tables, etc. (from interview info)

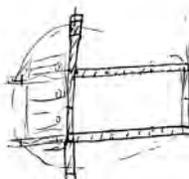
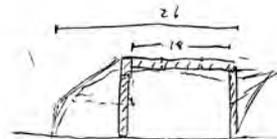
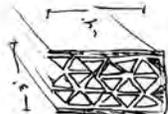
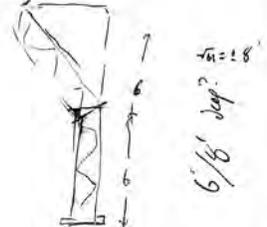
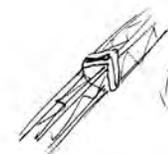
Ice free refrigerators?

cheap wheel Trainers - sizes?

Learn to weld aluminum  
Bring subsidy!

MIDTERM  
- H2O Plans  
- Working Floor Plan

- 3-4 sketches
- clear context where its going, whats around.
- client needs



hang 6' sections: 18

- 28
- 18
- 14
- 12
- 10
- 8
- 6
- 4
- 2
- 1
- 12.25

10' section x 23.10' x 12.30' = 27.12  
2.26  
2.26  
4.52

18(0)

54' x 50' = 162

hang table

hang table

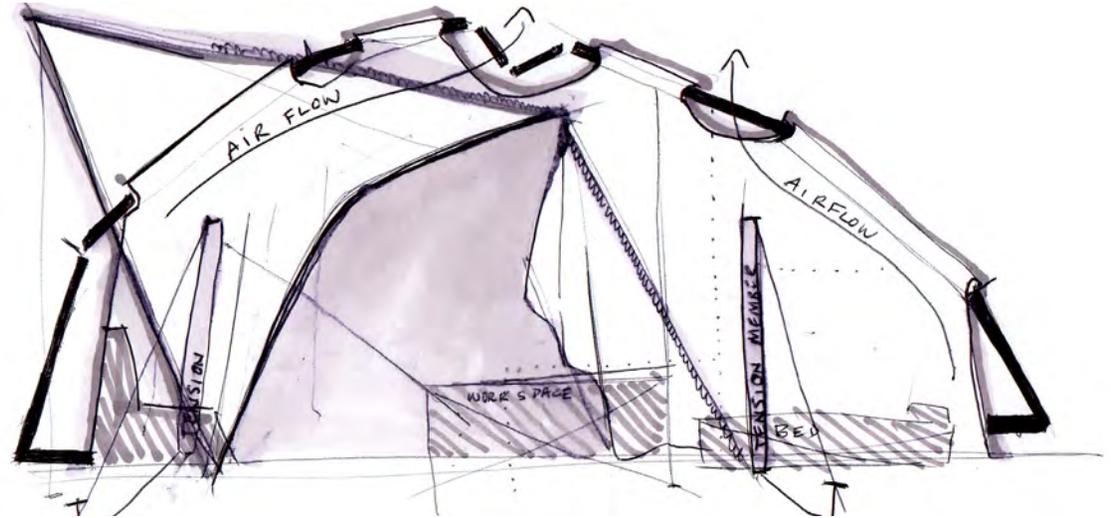
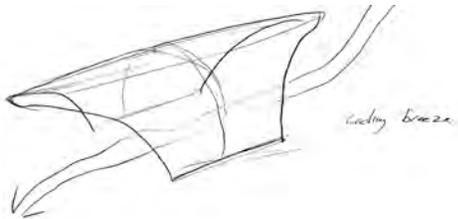
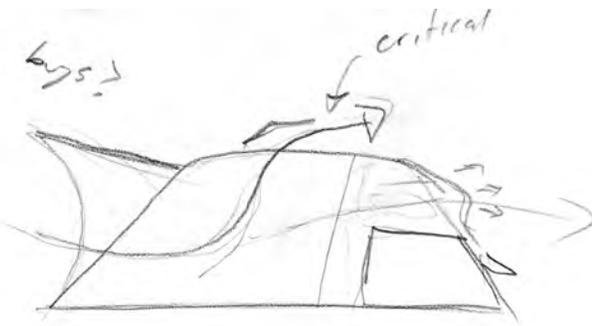
hang table

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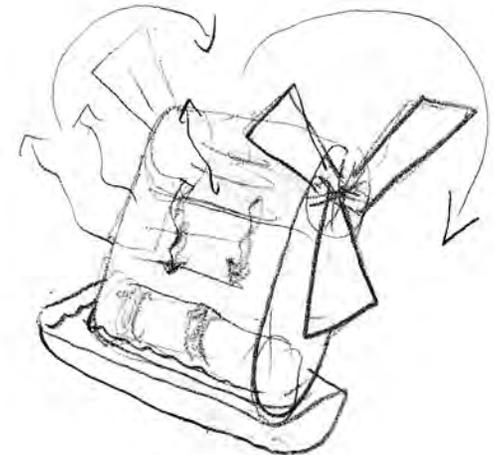
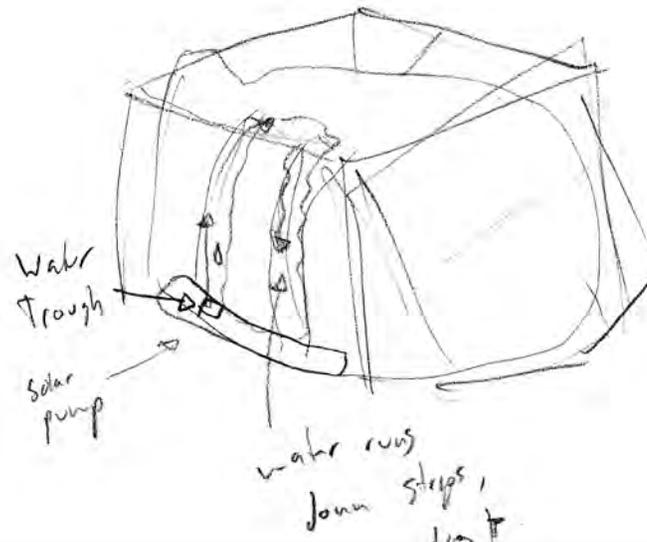
hang table

# Ideation

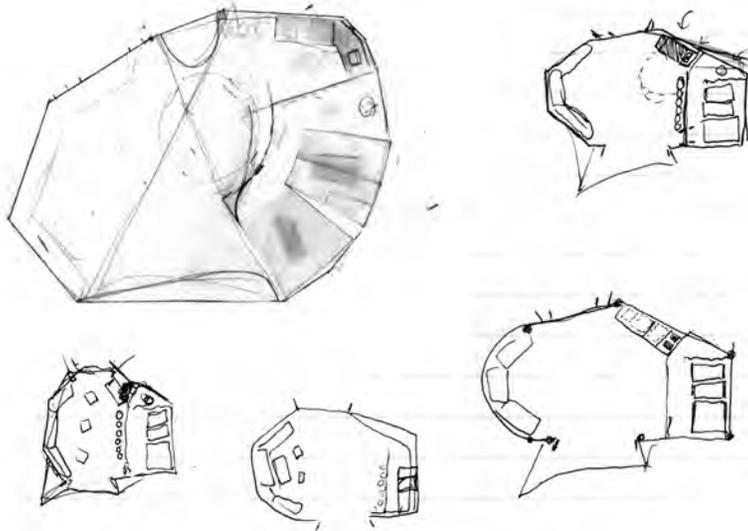
## Airflow



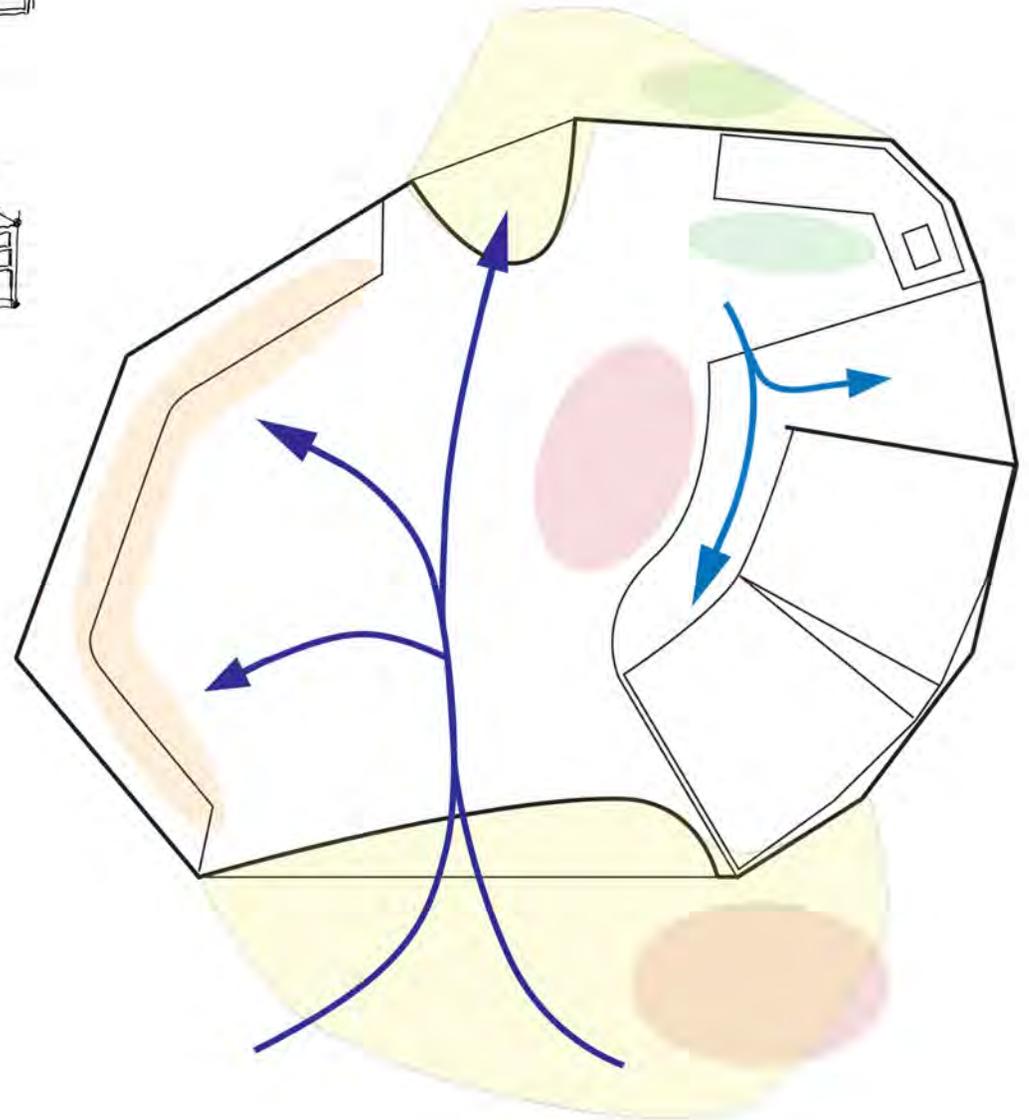
## Components



# Floor plans

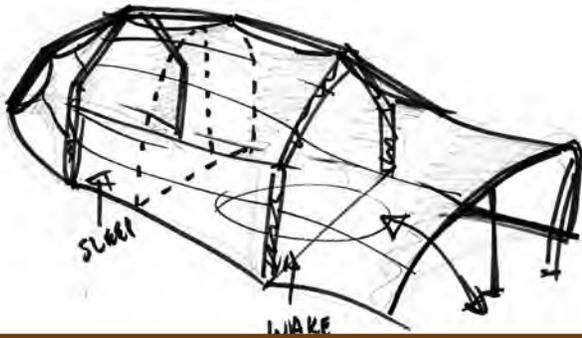


-  Prospective awnings/shade
-  Indoor/outdoor workspace
-  Food Preparation and outdoor cooking
-  Fixed bench seating, folding chairs as added, modular seats
-  Movement Into/through shower and sleeping quarters
-  Movement Into/through Main space

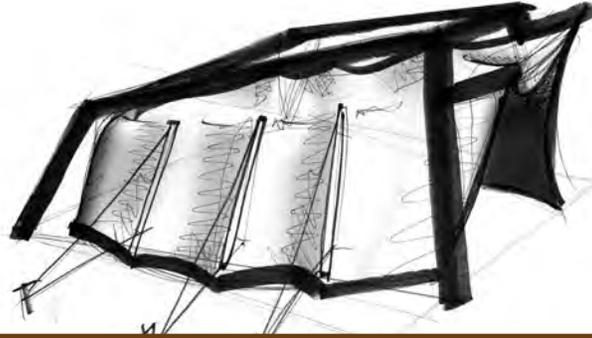


# 2D Sketching

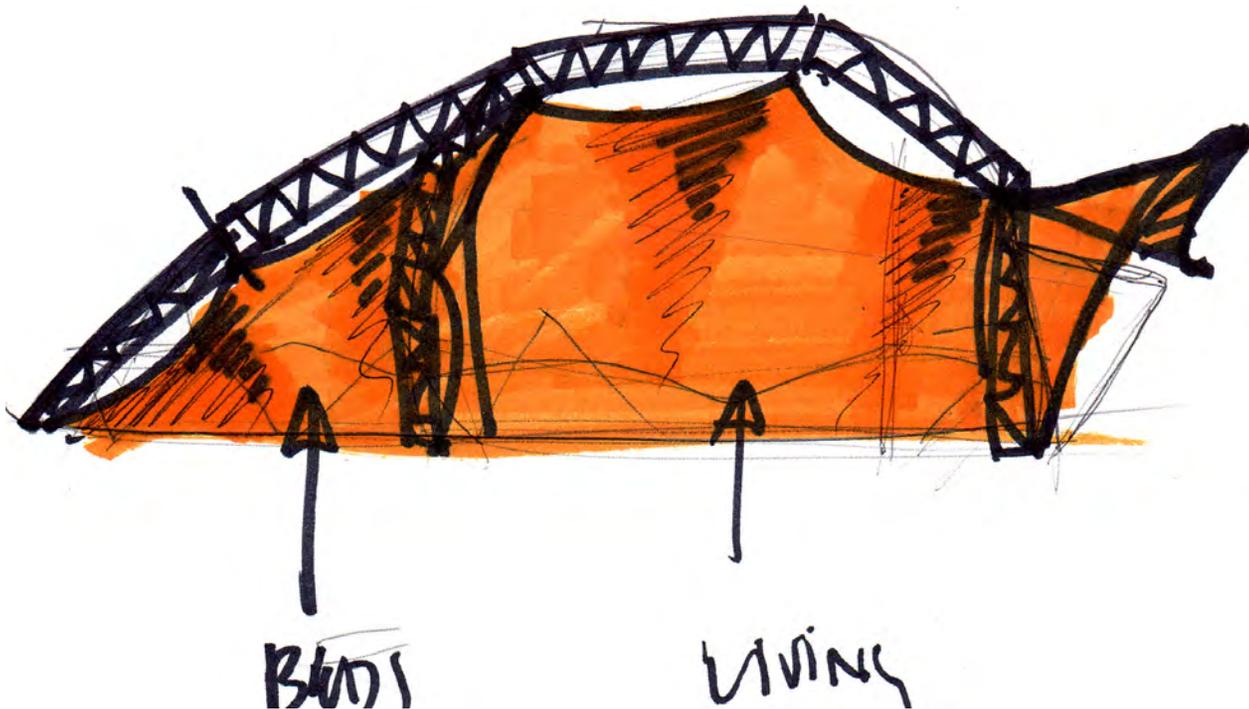
Truss



Hybrid

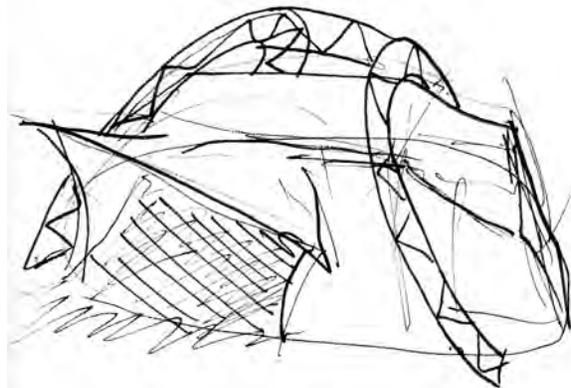
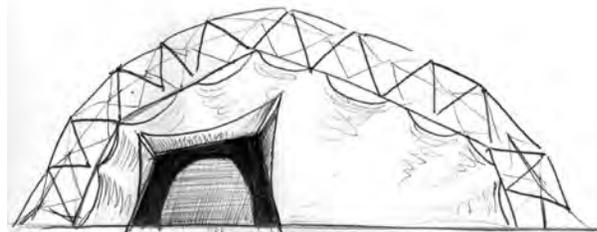
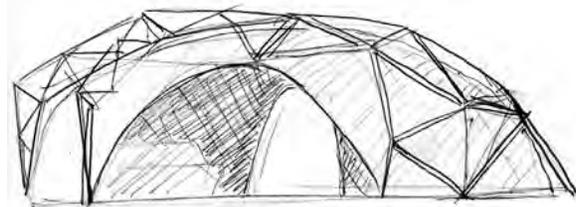
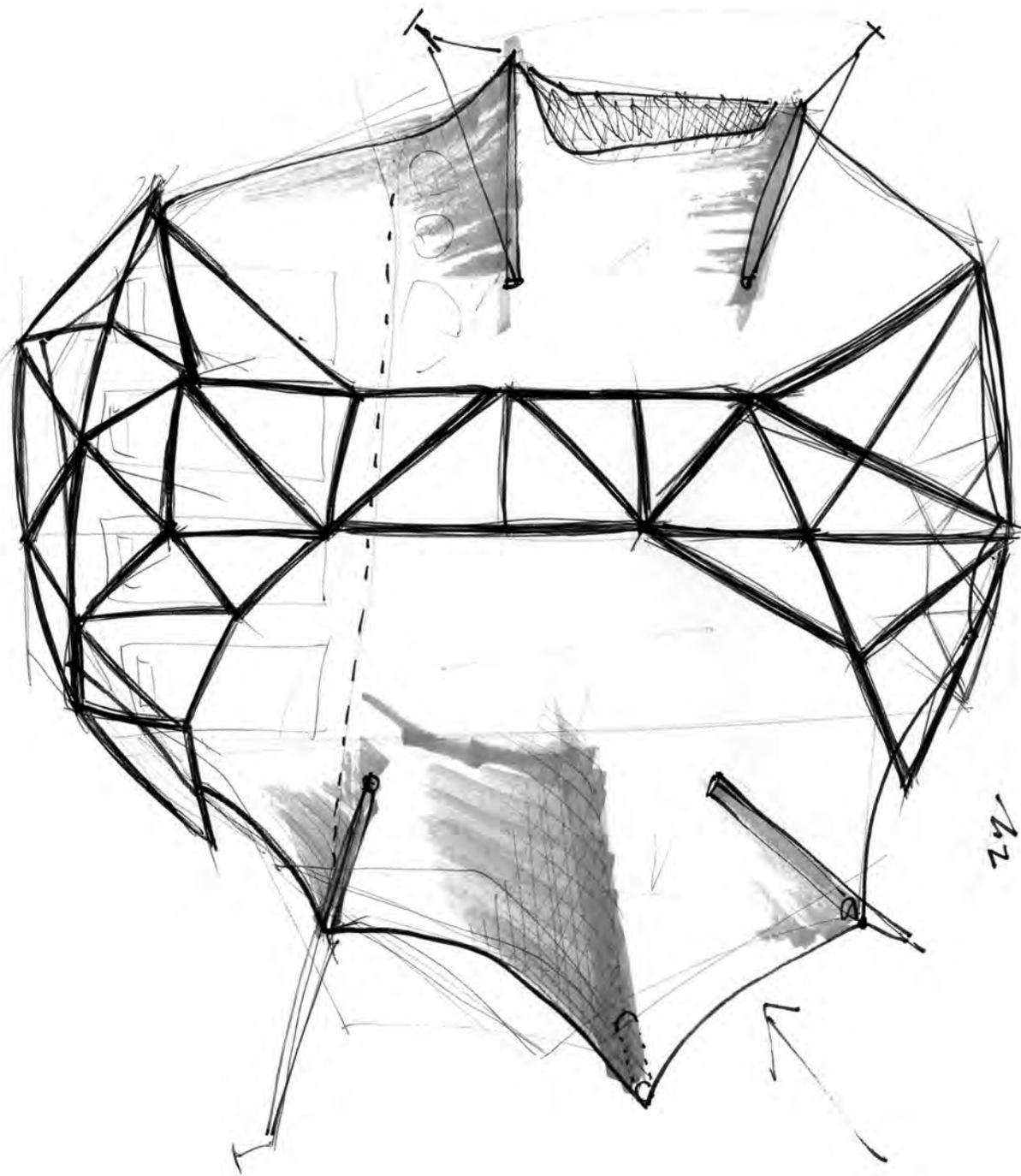


Tension



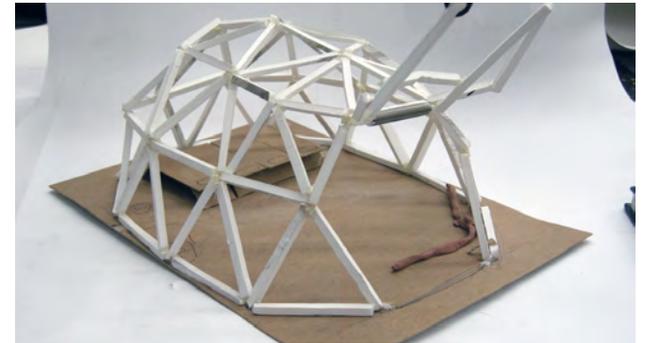
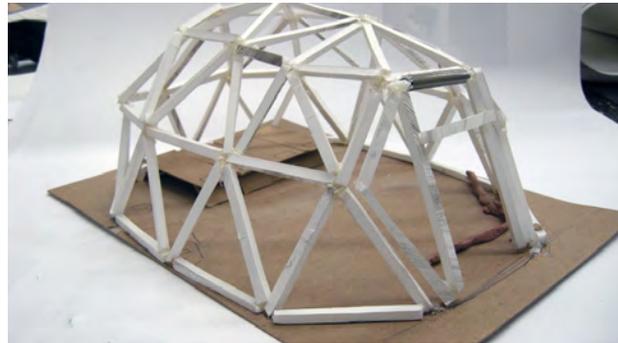
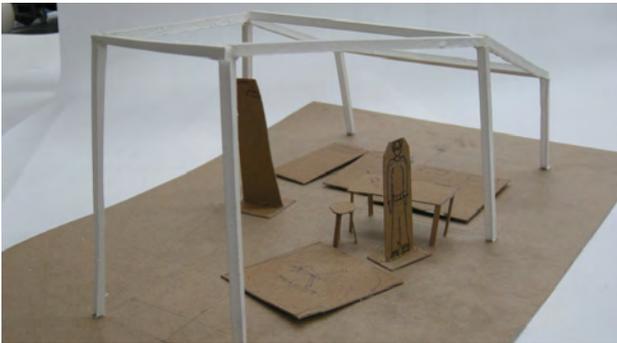
Sketching on paper has given us a place to record research visually. As we move furniture around in our 3D models, the better arrangements are preserved in floor plan sketches. We have also started to work out different components which will later be housed by the structure.

2D sketching has helped us explore different visual symbolism quickly and helped us move away from more traditional structures which are easy to build.

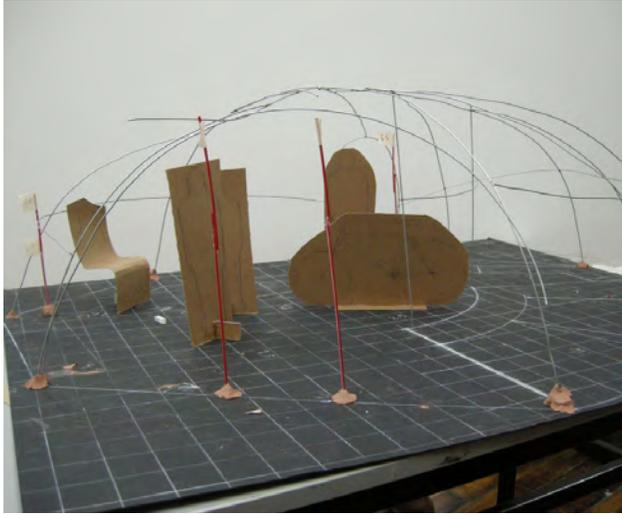


1.2

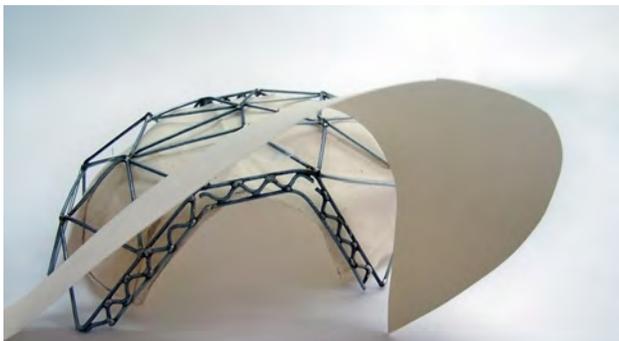
# 3D Sketching



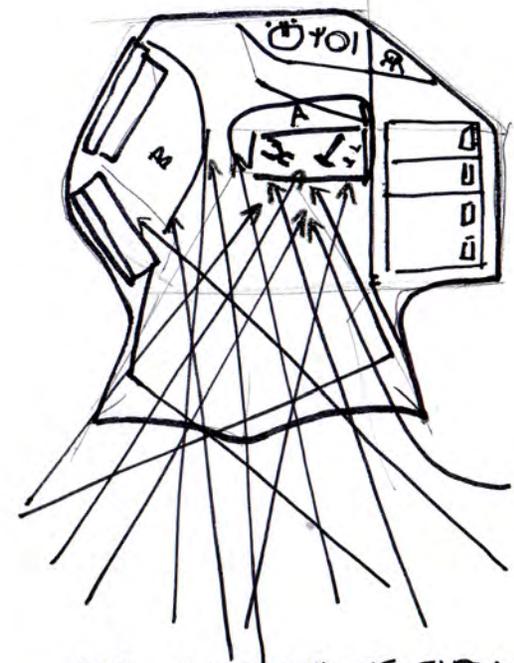
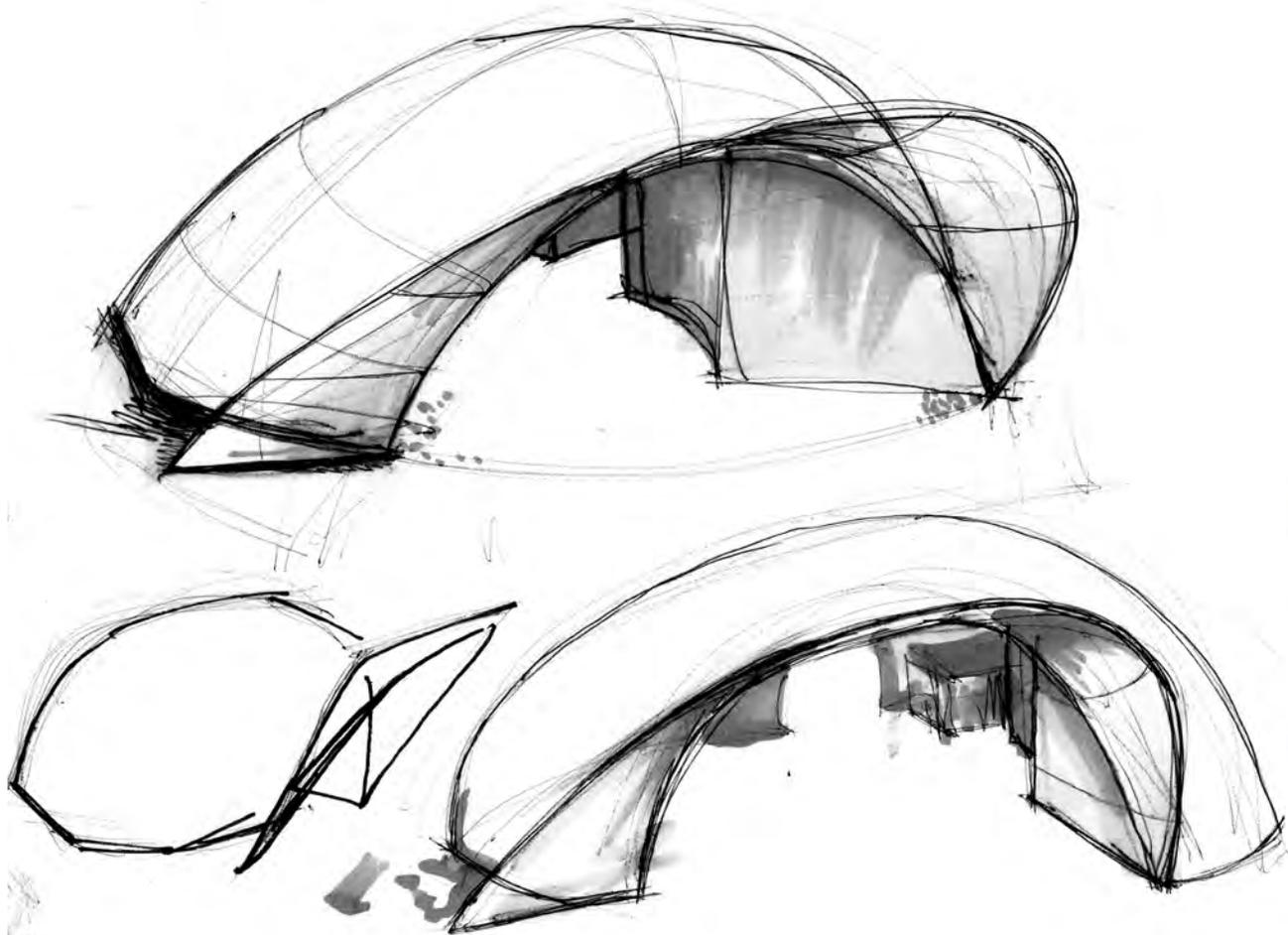
Quick 3D models have helped us understand the space which we are creating. Moving parts allow us to compare the open and closed spaces and different mechanisms. We made scale furniture which we can rearrange in the models to provide a sense of scale and usability. Many of our models have already started to collapse, helping us to rework our structural ideas before we invest too much time in them.



# Entrance Ways



# Entrance Ways



ALL APPROACH THE ENTRANCE  
AND SEE A: BIKE REPAIR  
B: SEAT

