Flexible Housing Components

*Focusing on flexibility to create
a user defined space*

Over the past several years the housing industry in the United States has suffered through one of the worst economic recessions in US history. Housing sales and new home construction is down; 50% of mortgaged households are effectively underwater; and foreclosure rates continue to climb. Now economists predict that the housing industry will eventually recover, however, I believe that in the wake of this housing crisis lies an opportunity to rethink and redesign housing for the average citizen.

My approach to this problem is spatial flexibility. My goal is to generate a system that focuses on flexibility in order to create space that is defined by the user. By letting the user define how the space within the home will be used will lead to a more attractive and effective housing model.

I began by consolidating all the "Hard Space" (space that is fixed due to plumbing systems, mechanical systems, etc.) into a single entity, which would then open up the rest of the area for the "Soft Space" (spatial functions that don't require hard elements to operate).
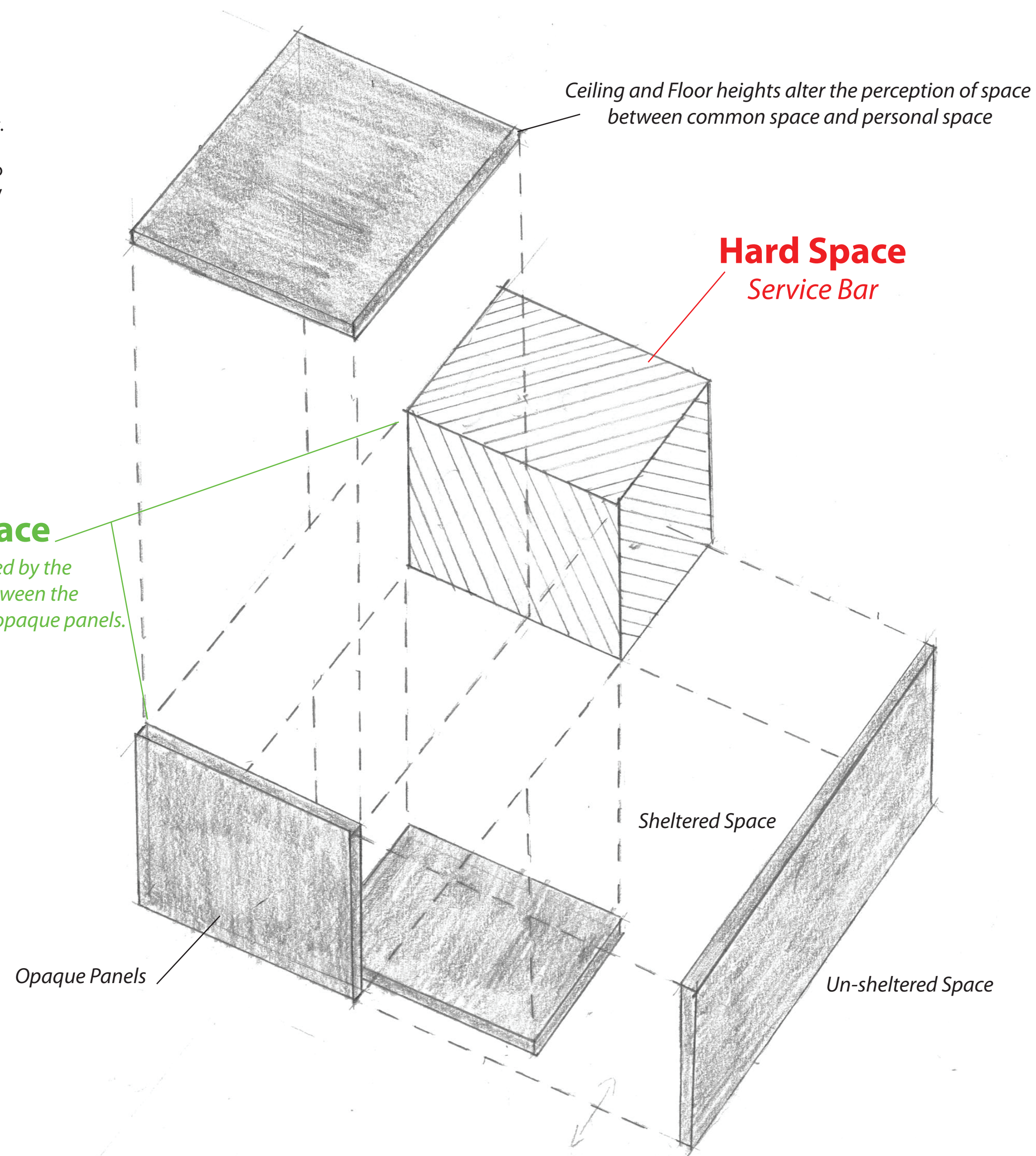
Program

Hard Space
Bathrooms
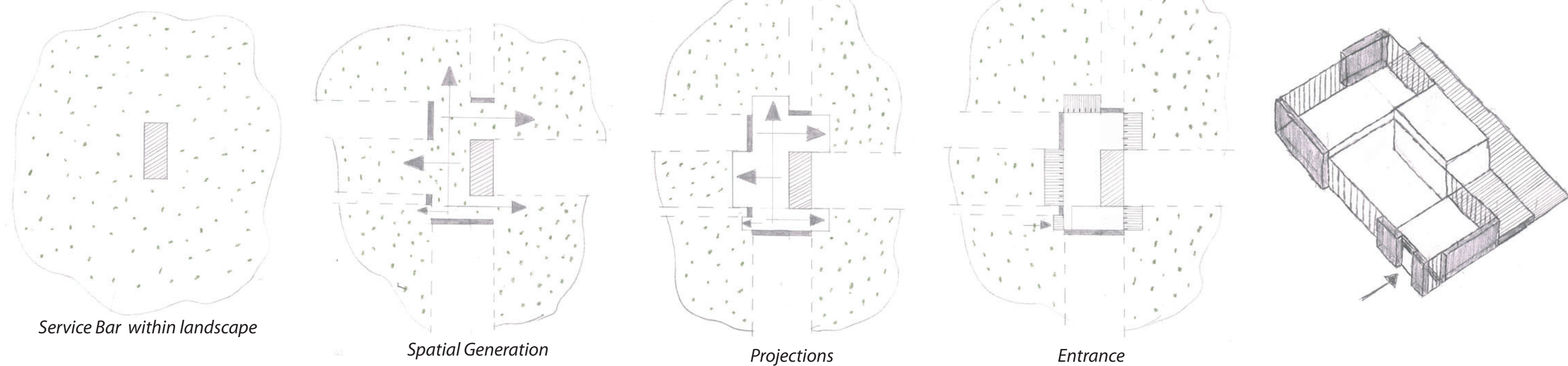Kitchen
Building Systems
Vertical Circulation

Soft Space
Dining Area
Living Area
Sleeping Area
Study Area

Ceiling and Floor heights alter the perception of space between common space and personal space

Hard Space
Service Bar

Soft Space
Space generated by the relationship between the Hard Space and the opaque panels.

Sheltered Space

Un-sheltered Space

Opaque Panels

Spatial Exercises

Loaded Service Bar

Service Bar within landscape
Spatial Generation
Projections
Entrance

Loaded Service Bar

Service Bar within landscape
Spatial Generation
Projections
Entrance

Loaded Service Bar

Service Bar within landscape
Spatial Generation
Projections
Entrance
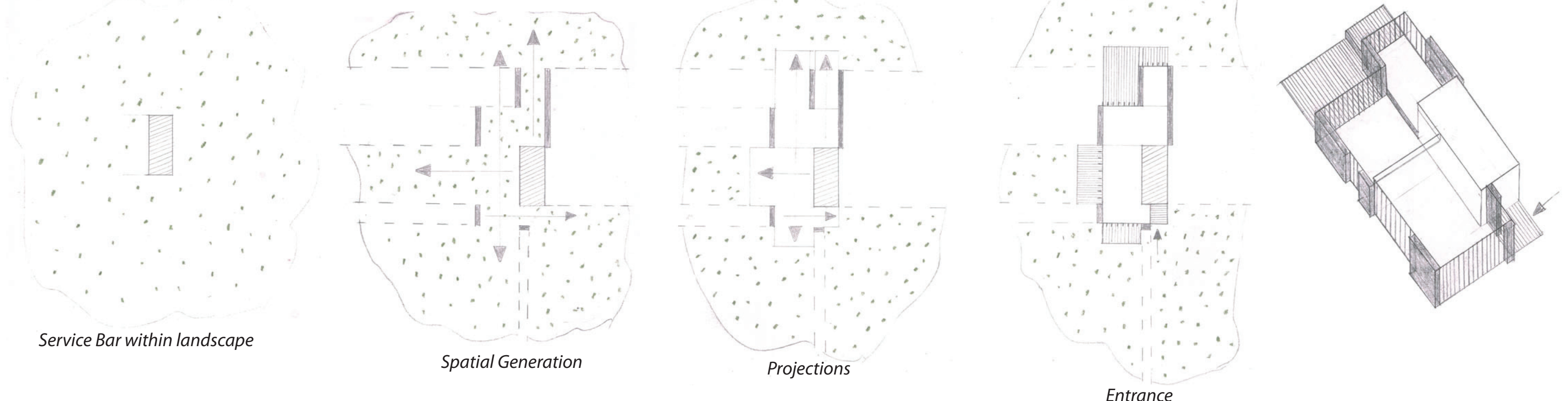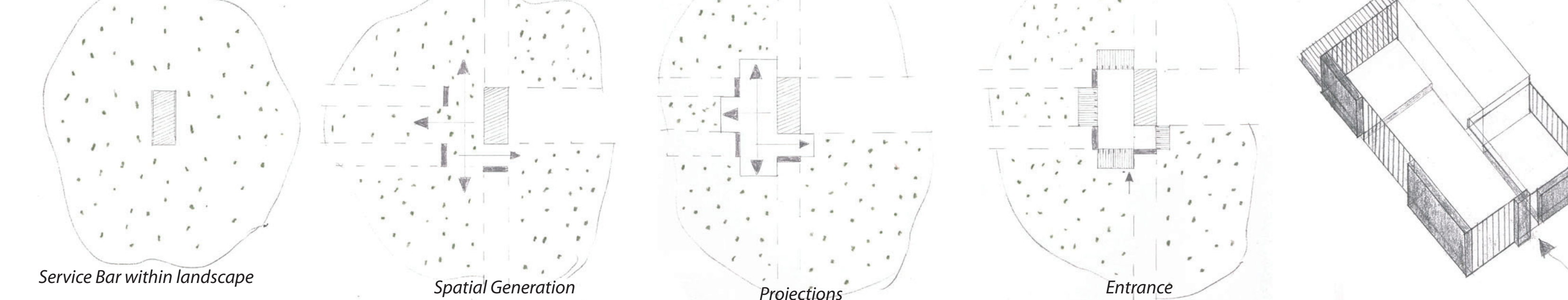
Possible Site Conditions

Perpendicular Site Condition

Entry/Exit
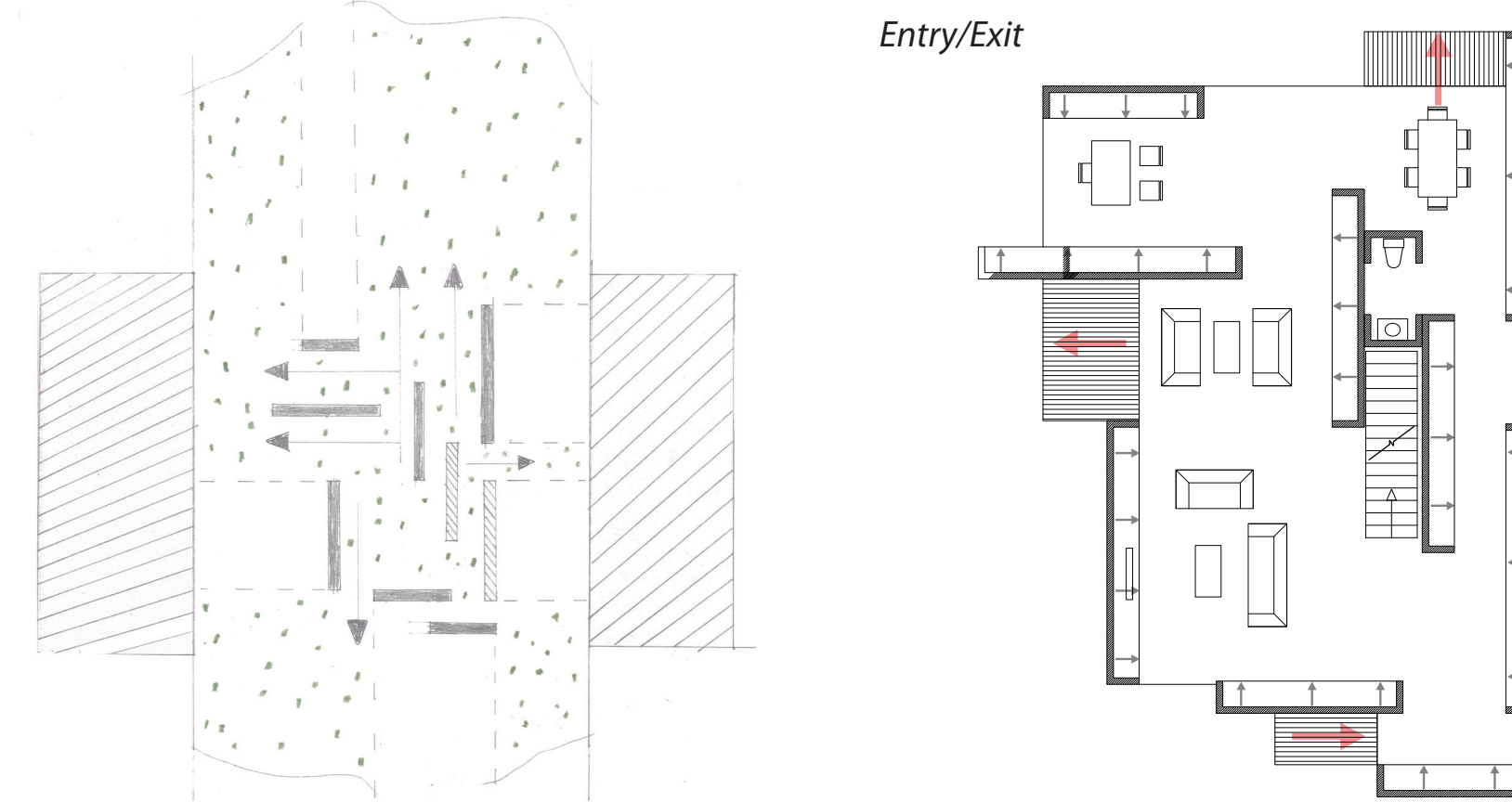
Horizontal Site Condition

Entry/Exit

Corner Site Condition

Entry/Exit

Corner Site Condition

Removing Components that aren't needed

Material Search

Corner Site Condition

Spatial Transition (inside/outside)
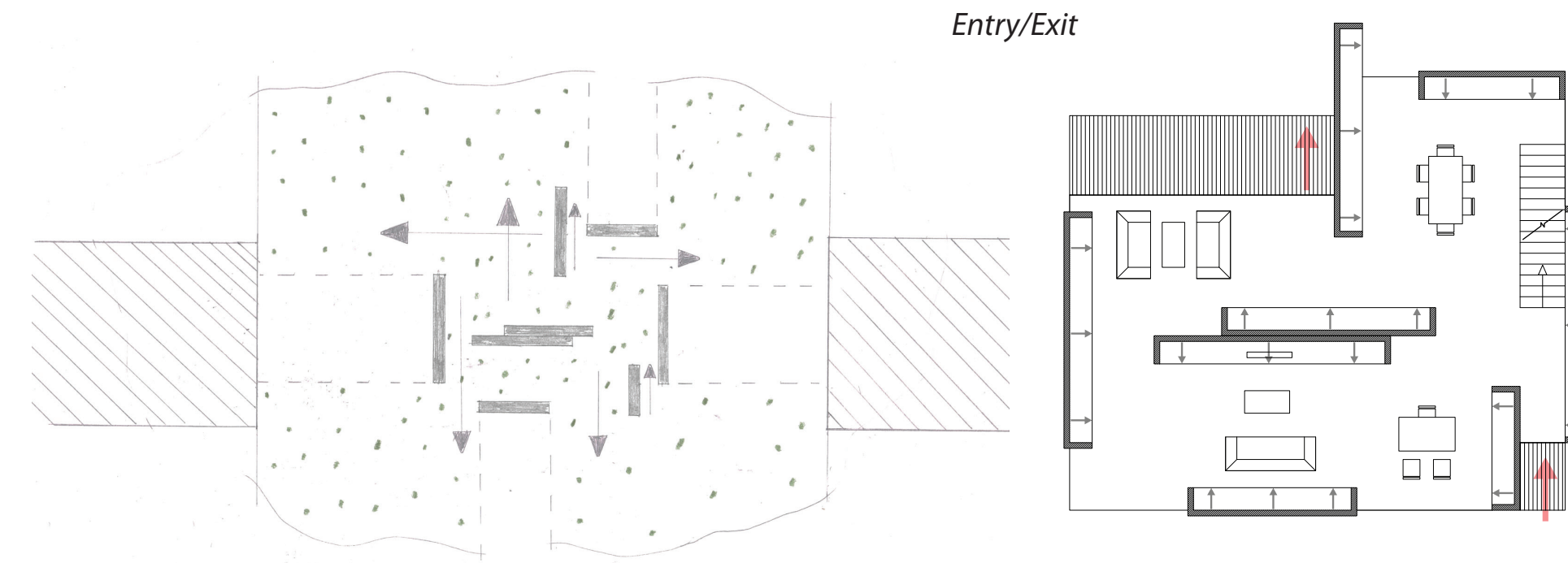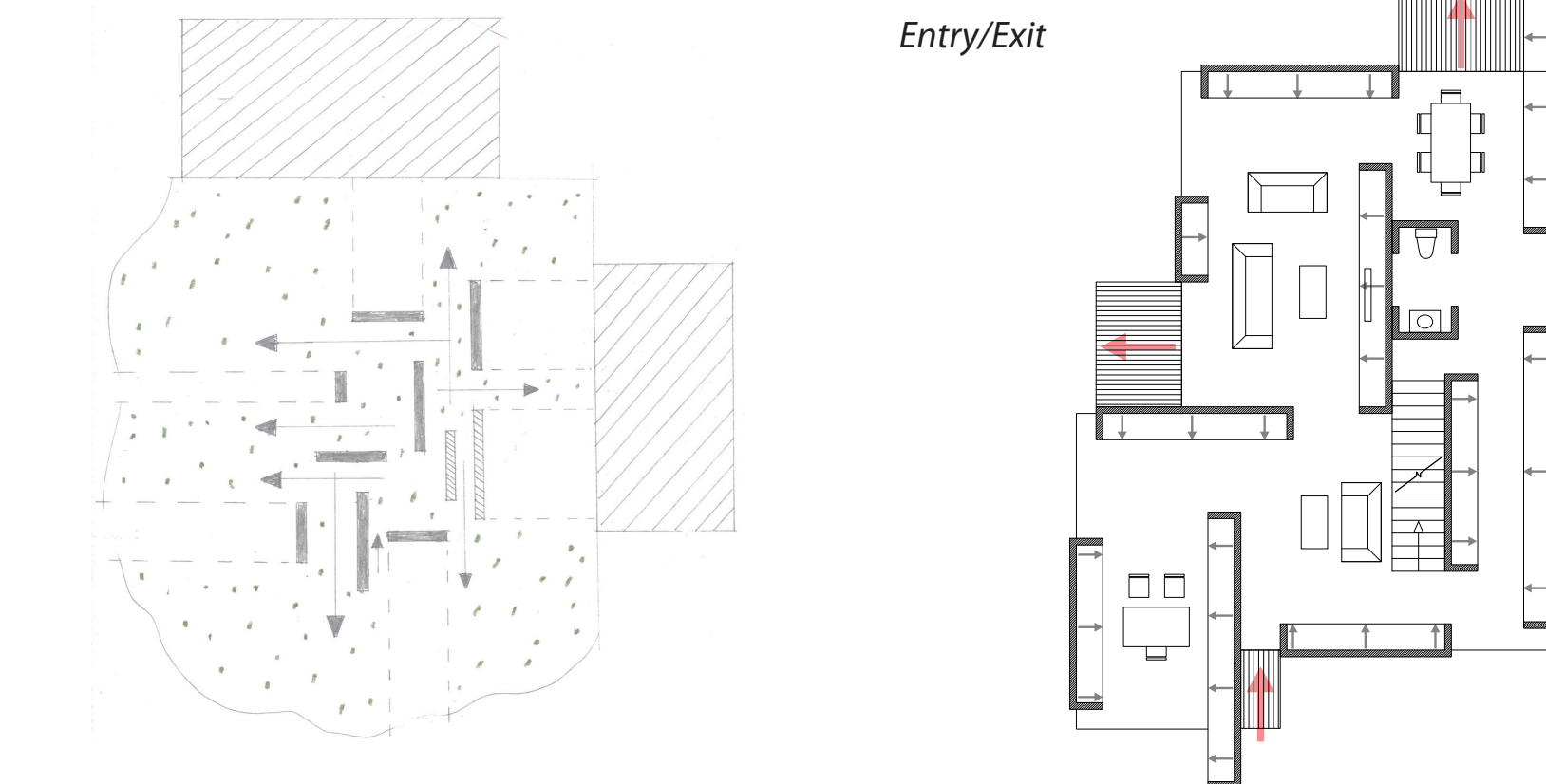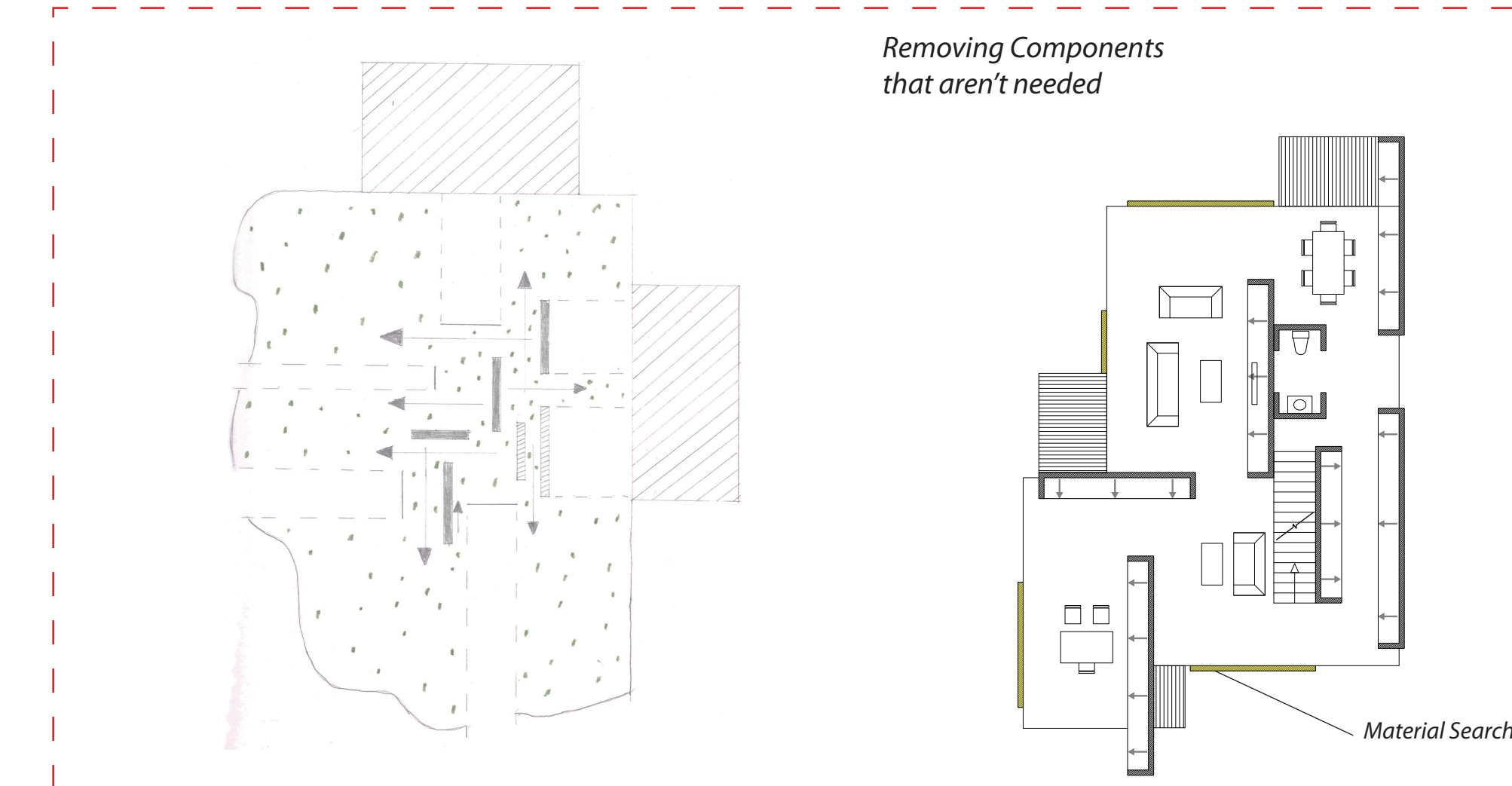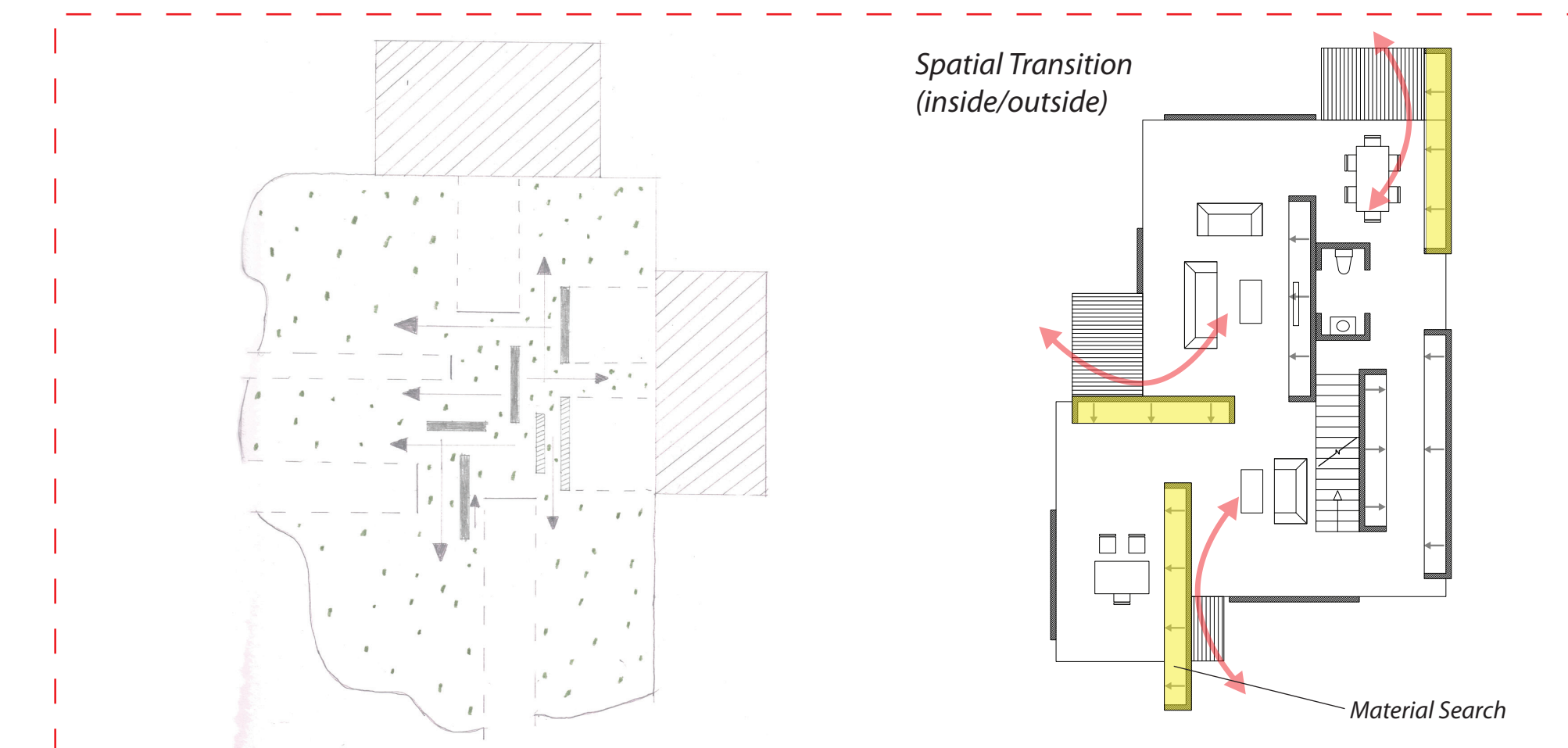
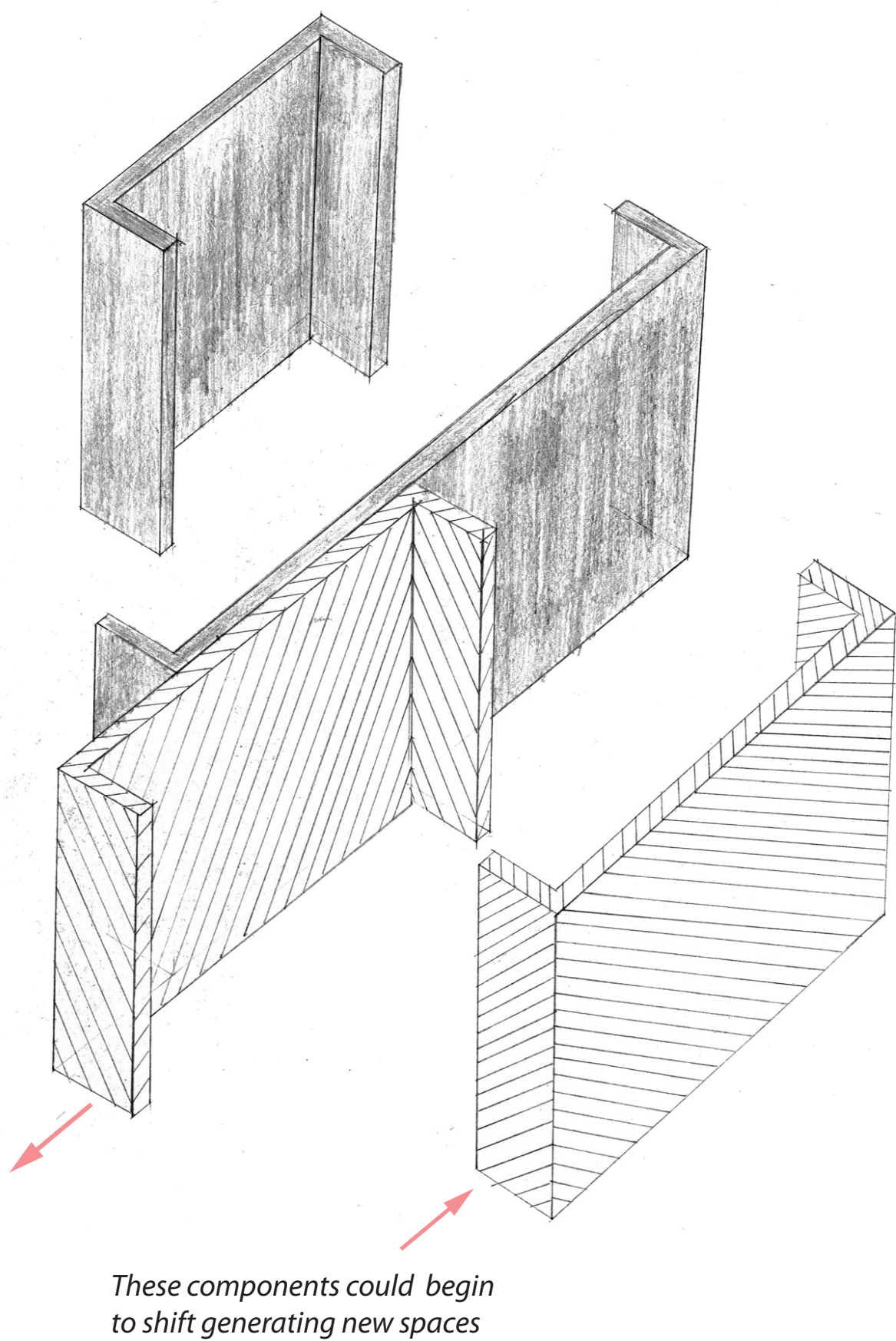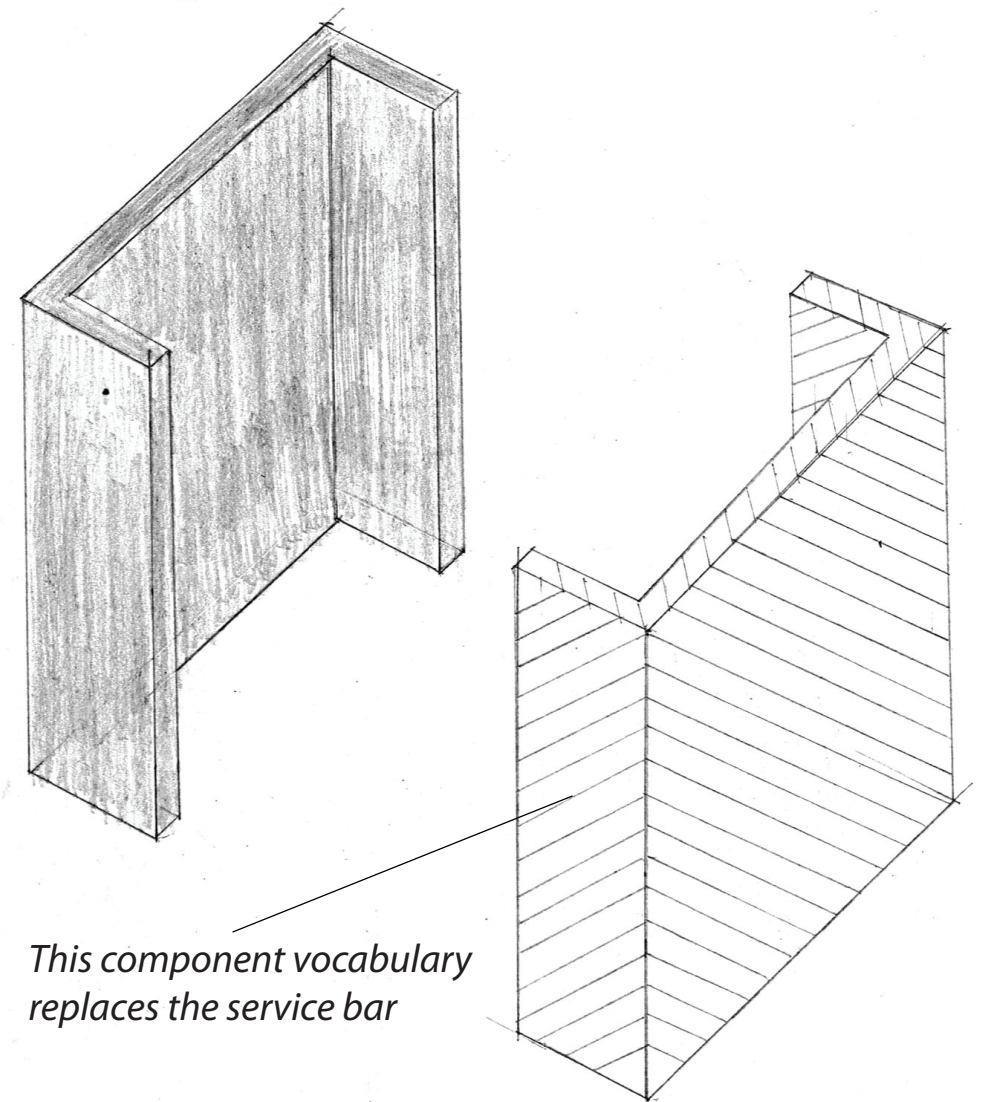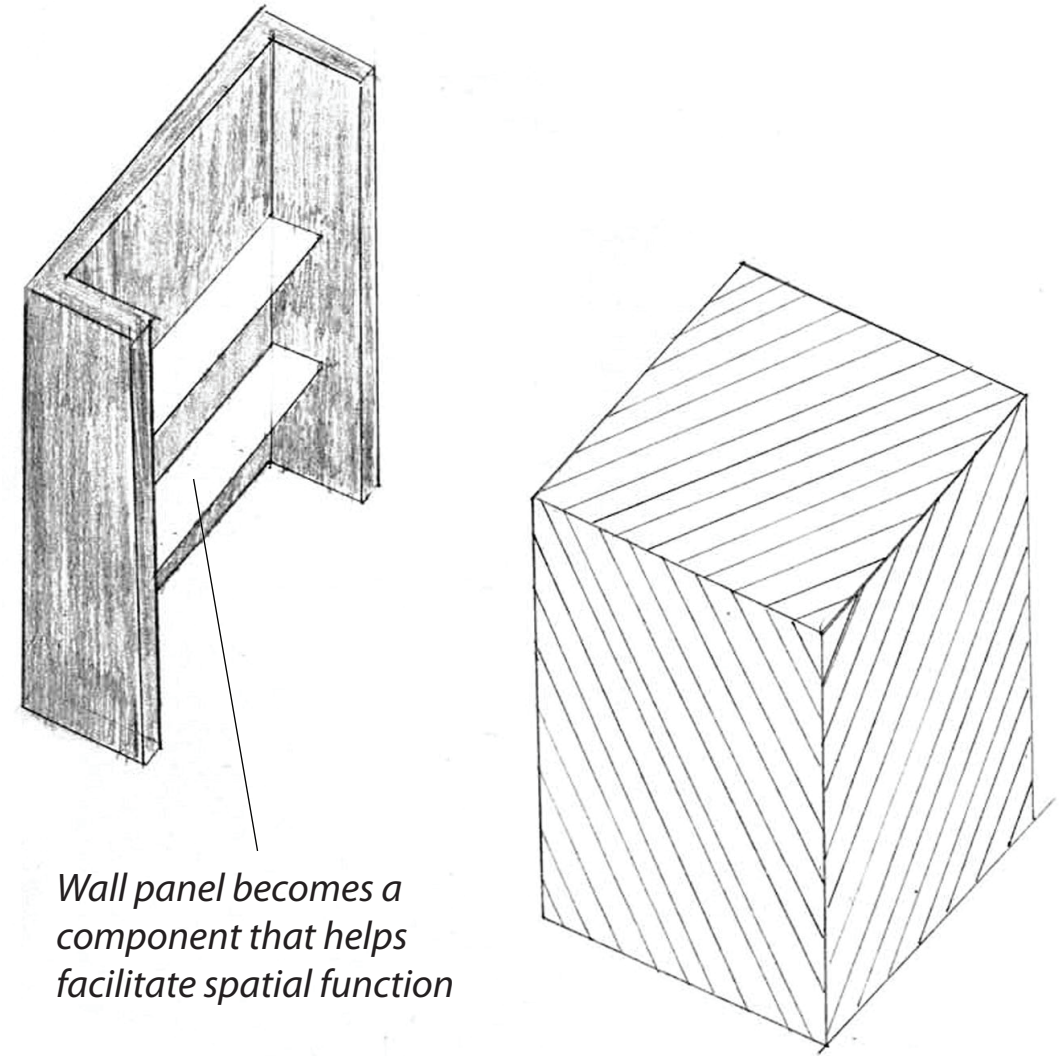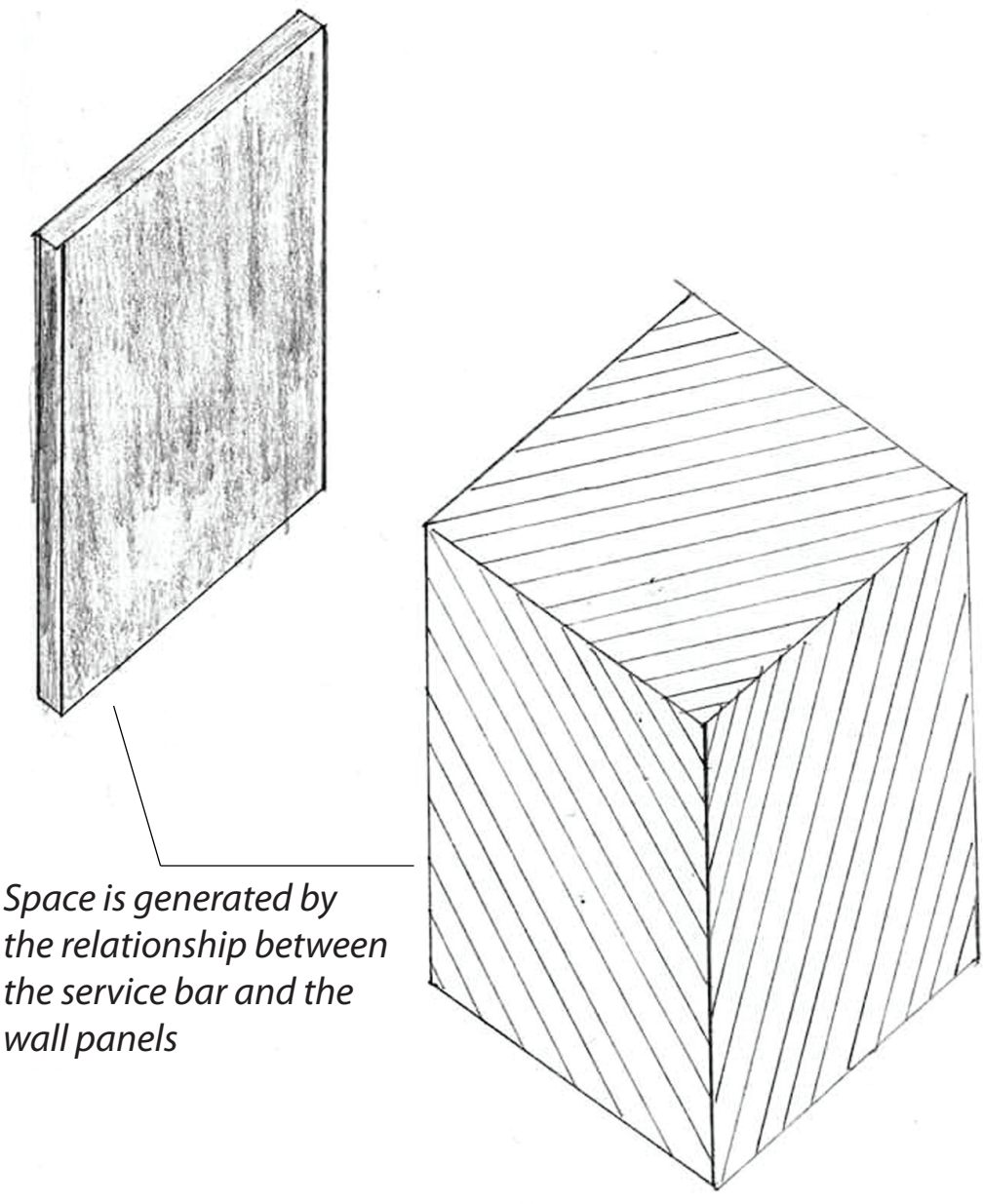Material Search

Study Models
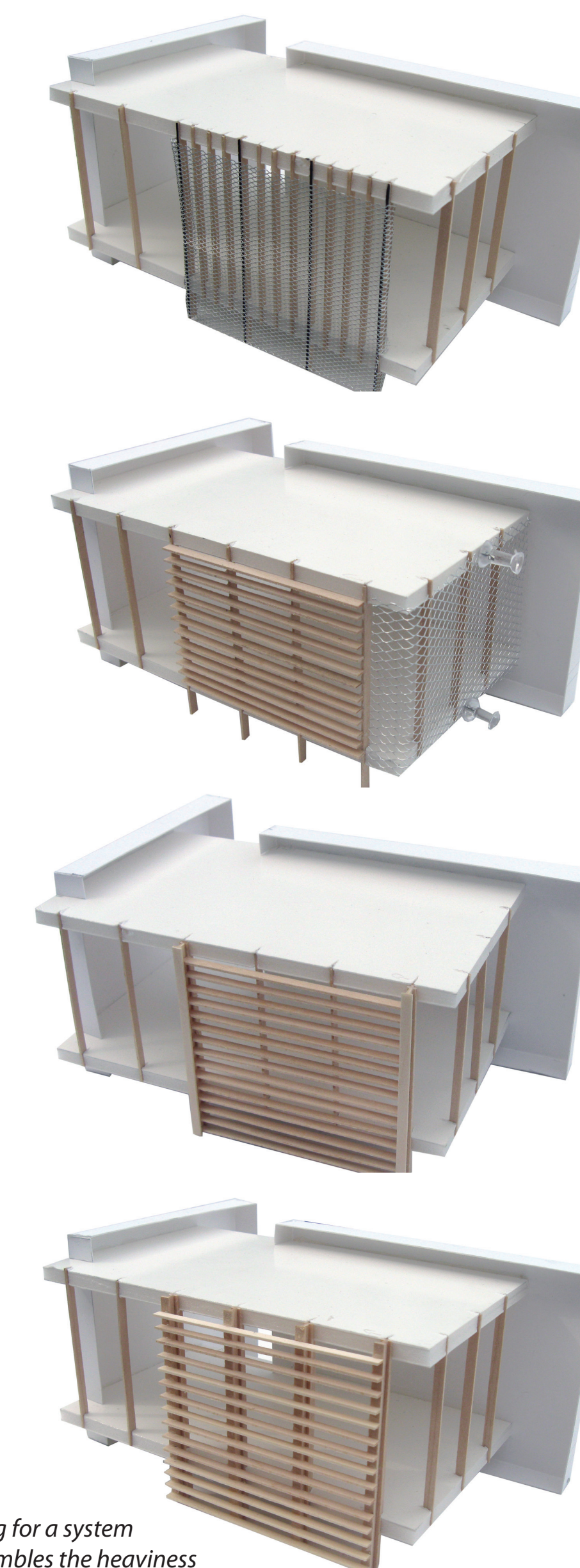
Searching for a system that resembles the heaviness of the removed components while maintaining its structural integrity
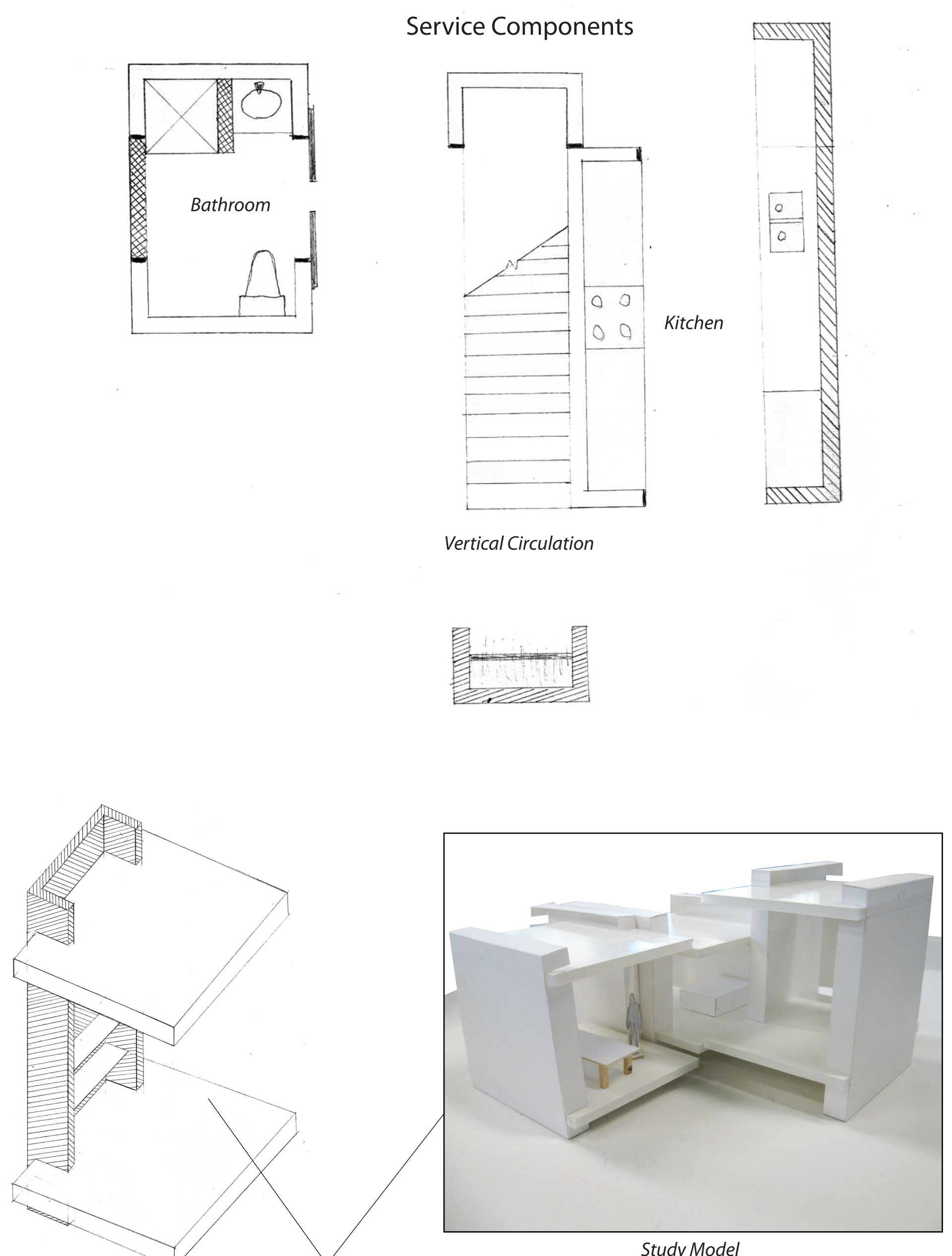
Material Study

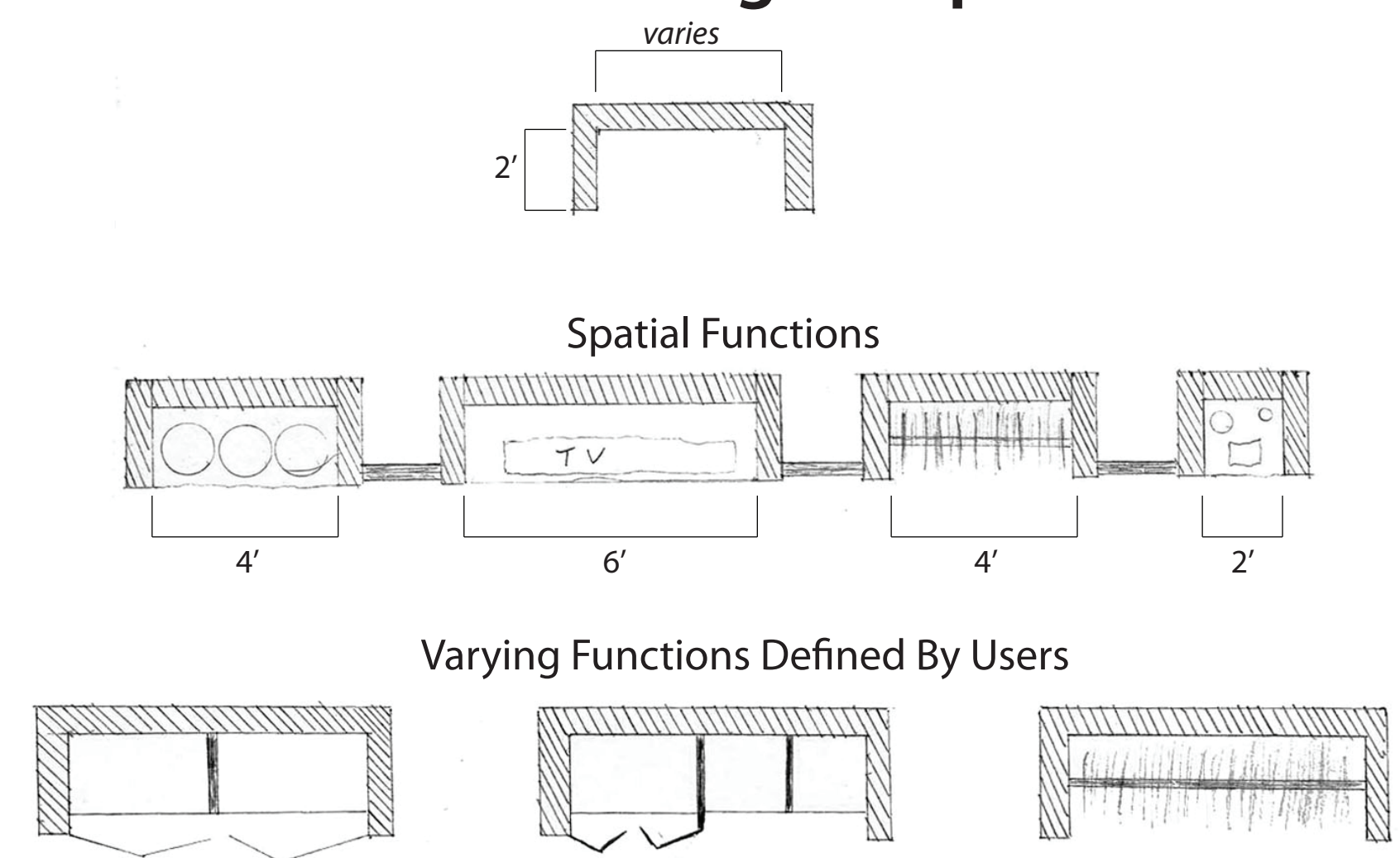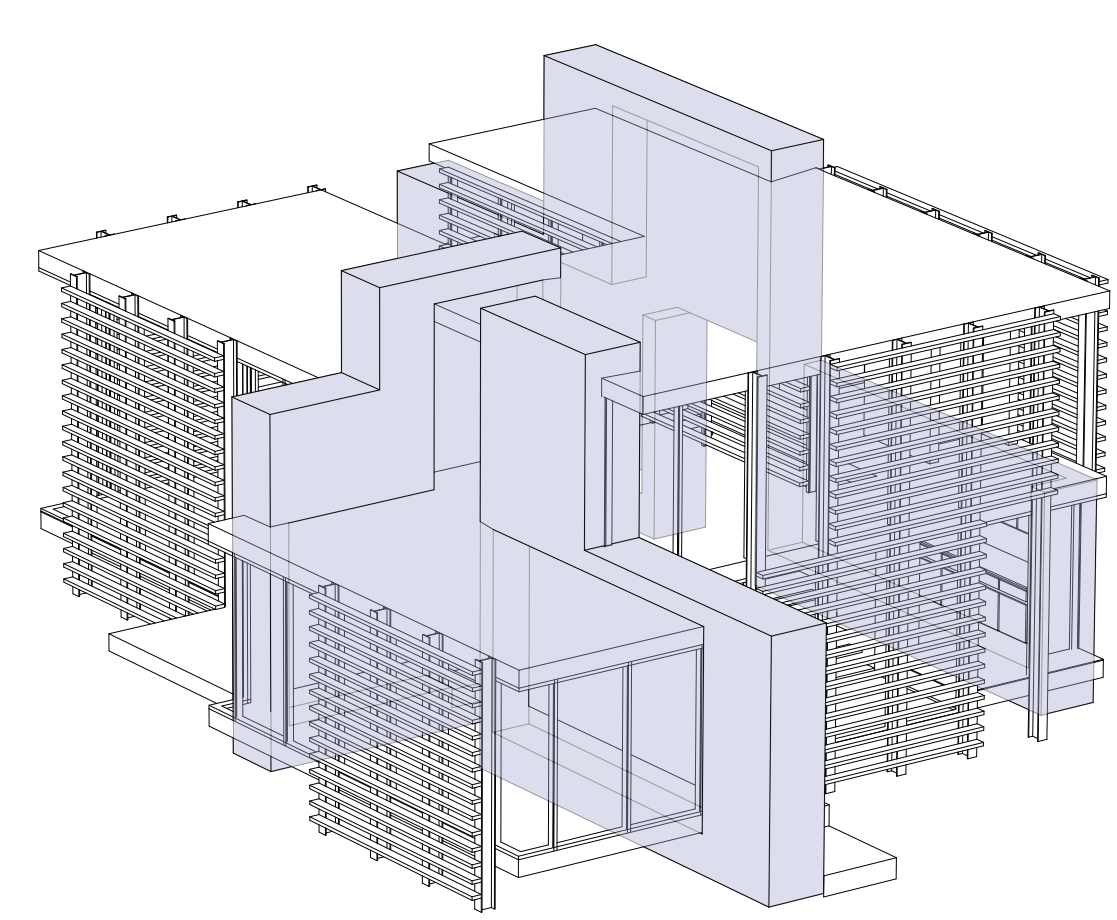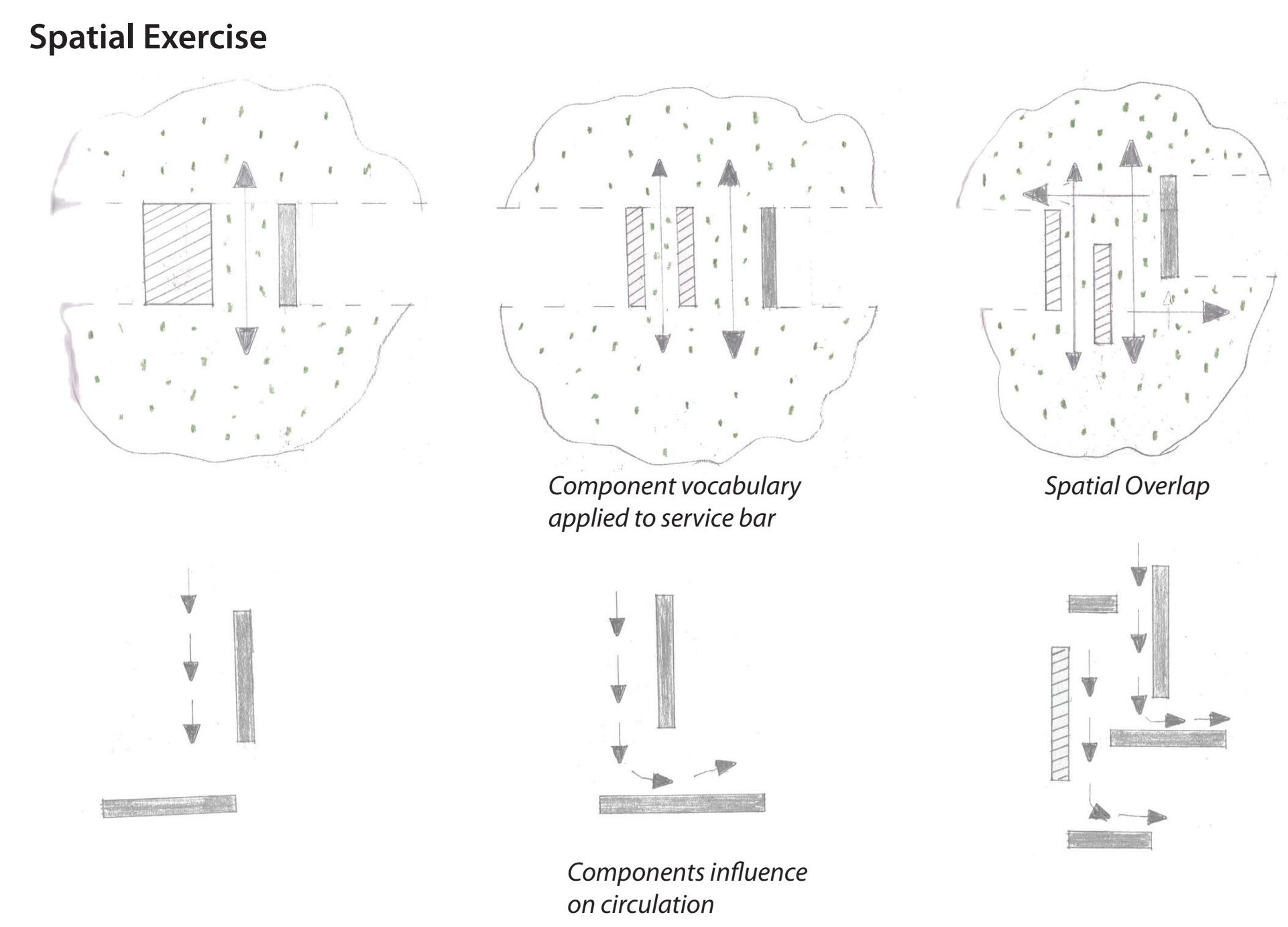*Blending the transition between inside and outside*

Wood Siding
Corr. Metal
Standard Brick
Concrete
Irregular Brick
Irregular Brick

Vocabulary

Space is generated by the relationship between the service bar and the wall panels

Wall panel becomes a component that helps facilitate spatial function

This component vocabulary replaces the service bar

These components could begin to shift generating new spaces

Flexible Housing Component

varies

2'

Spatial Functions

TV

4'   6'   4'   2'

Varying Functions Defined By Users

Service Components

Bathroom

Vertical Circulation

Kitchen
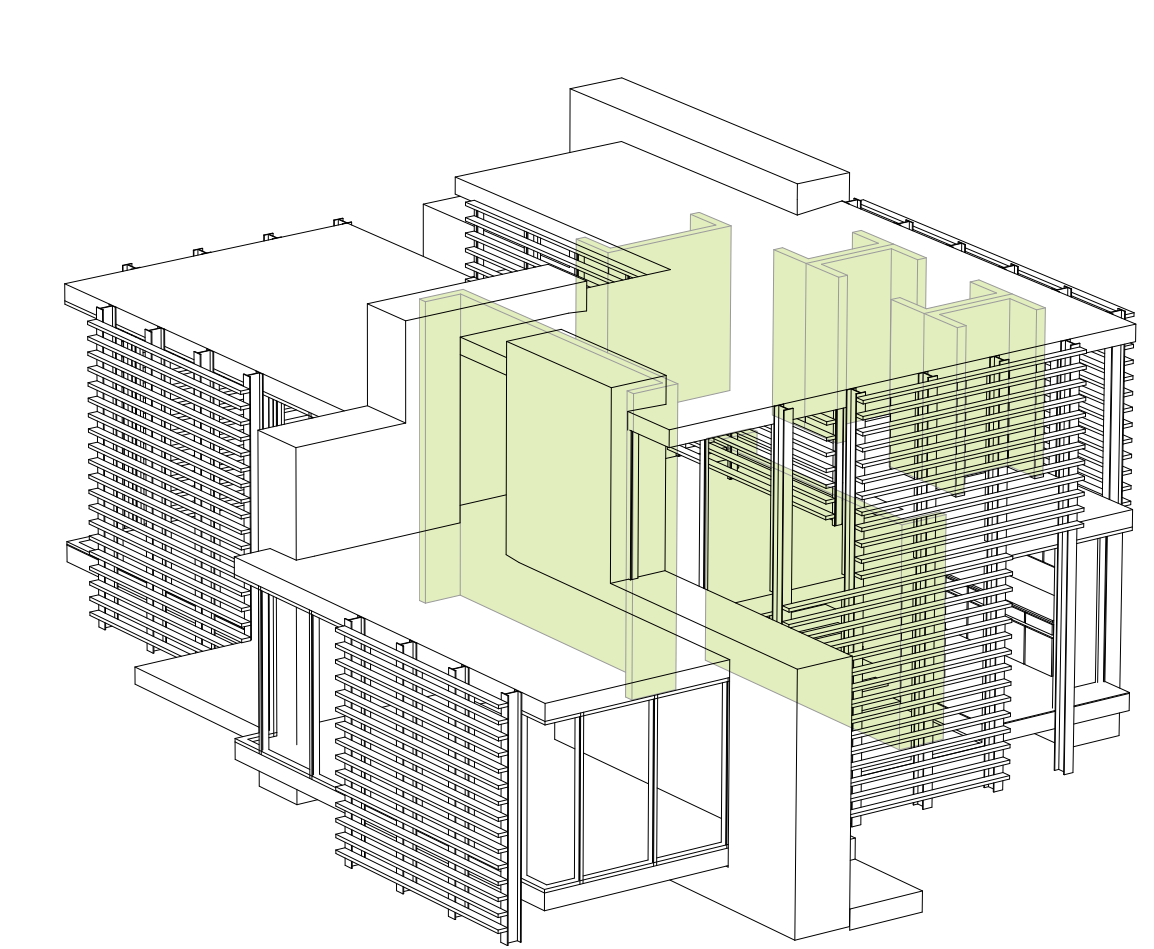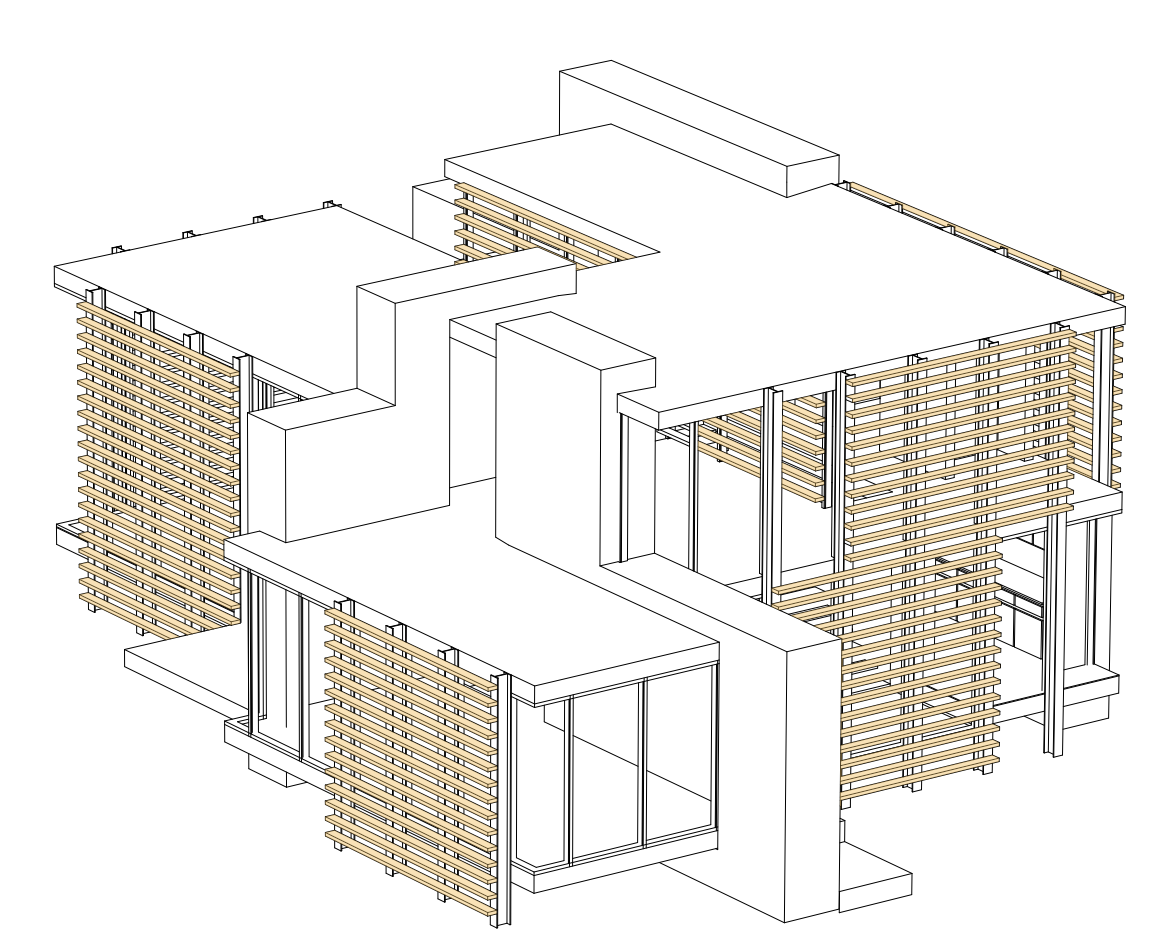

Components begin to hold the horizontal planes; varying the heights and altering the perception of space.

Study Model

Spatial Exercise

Component vocabulary applied to service bar

Spatial Overlap
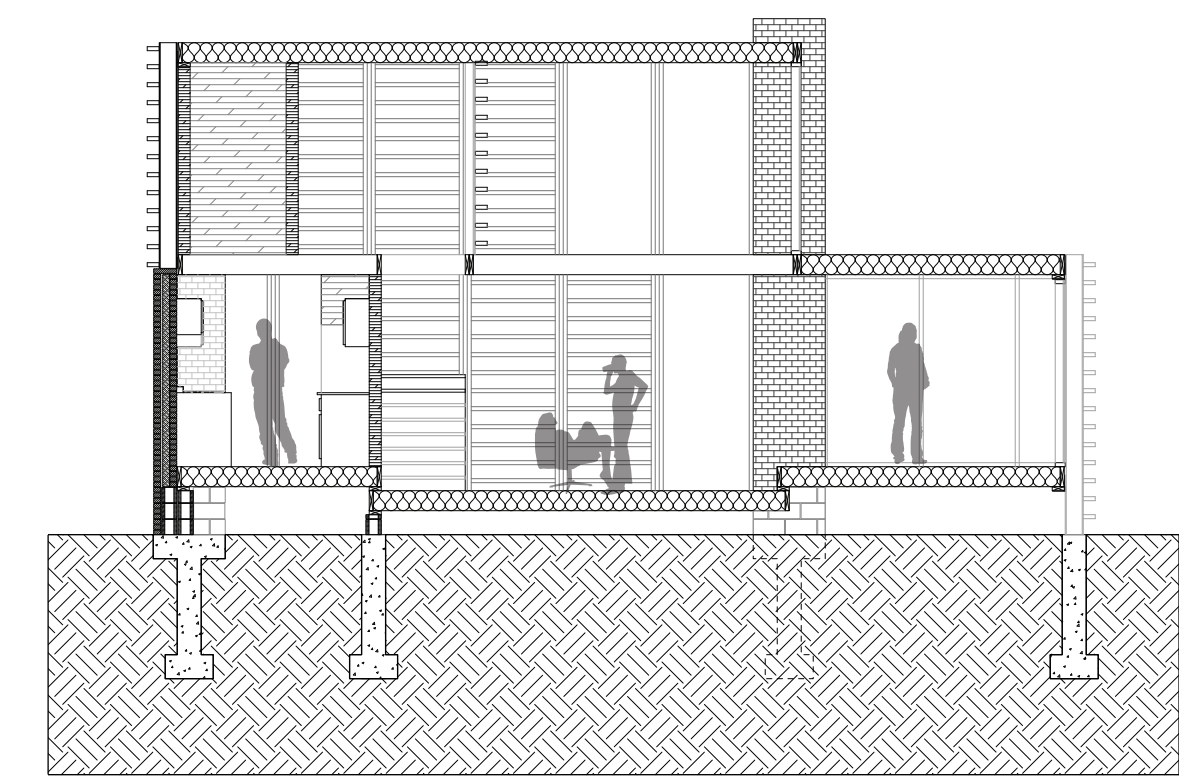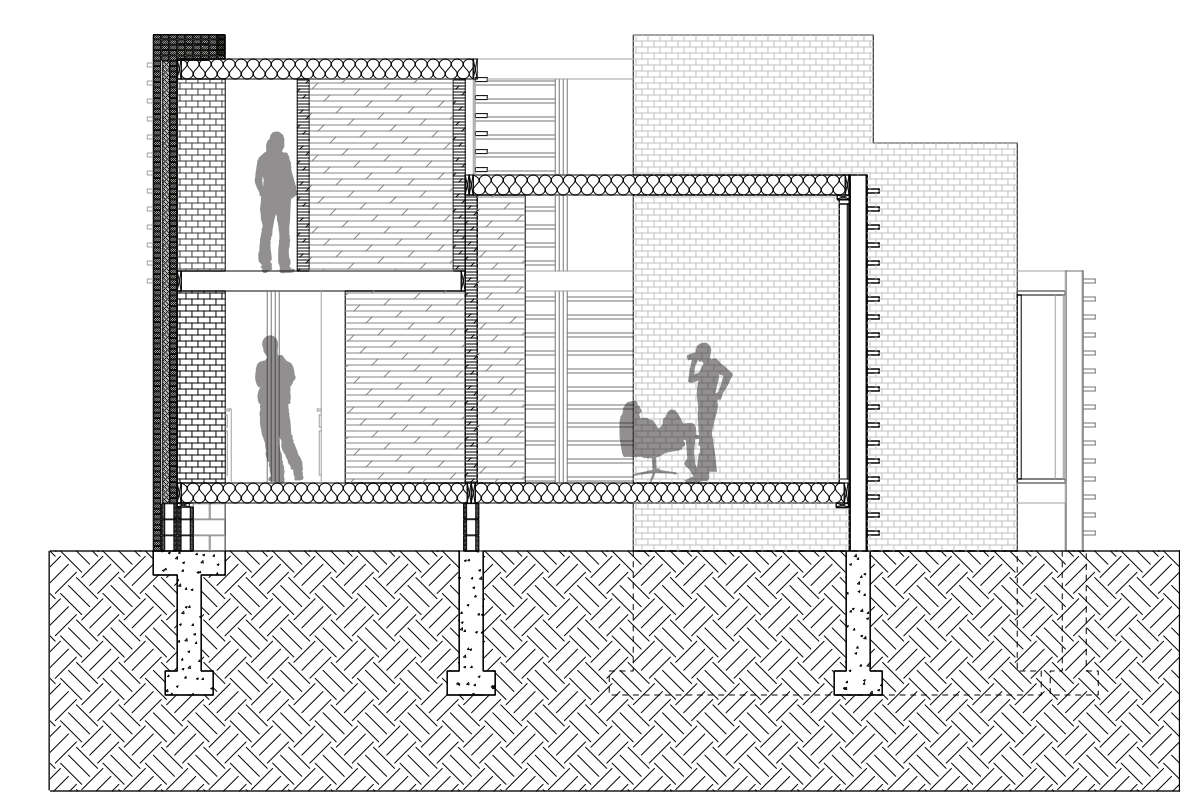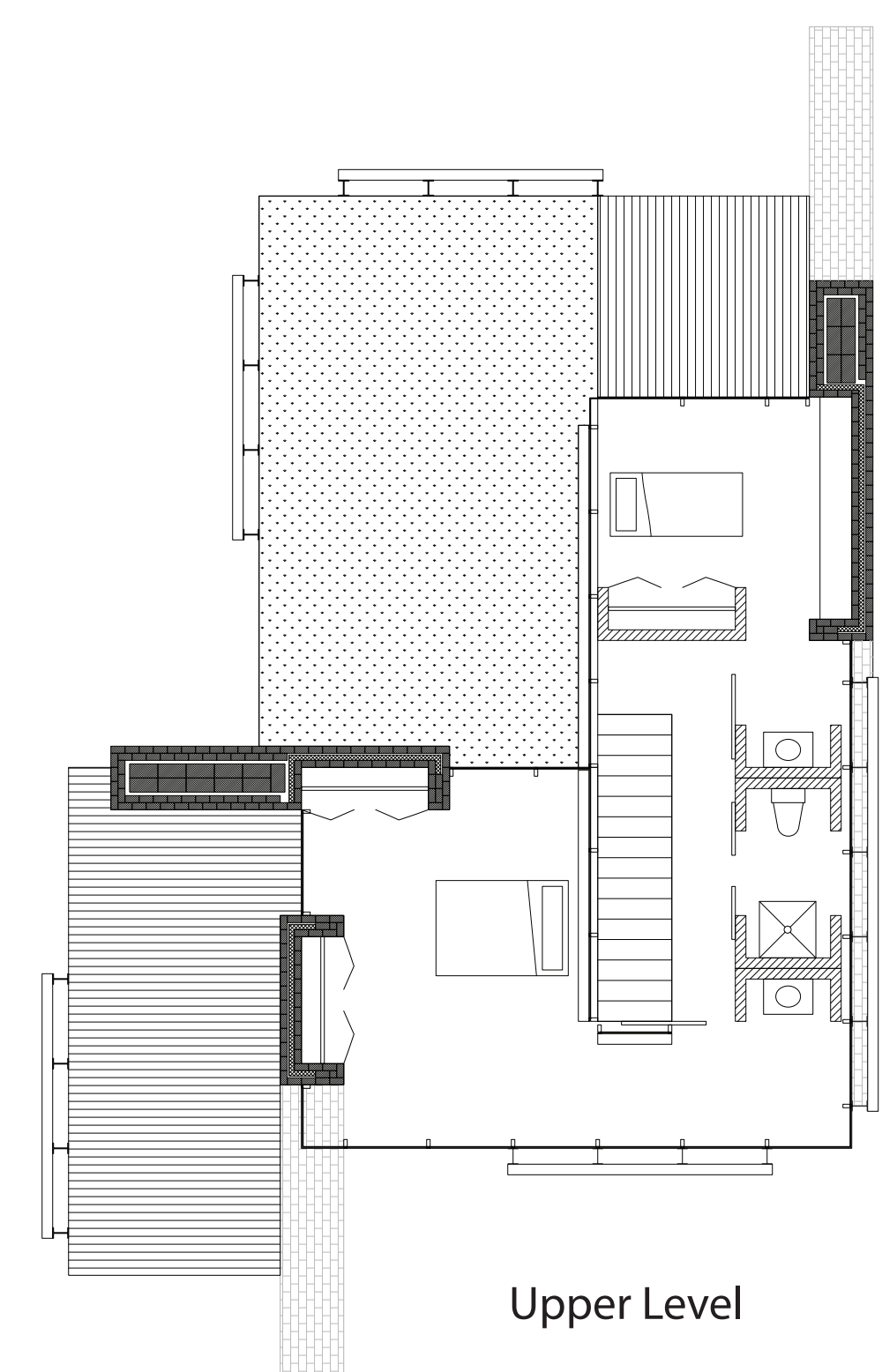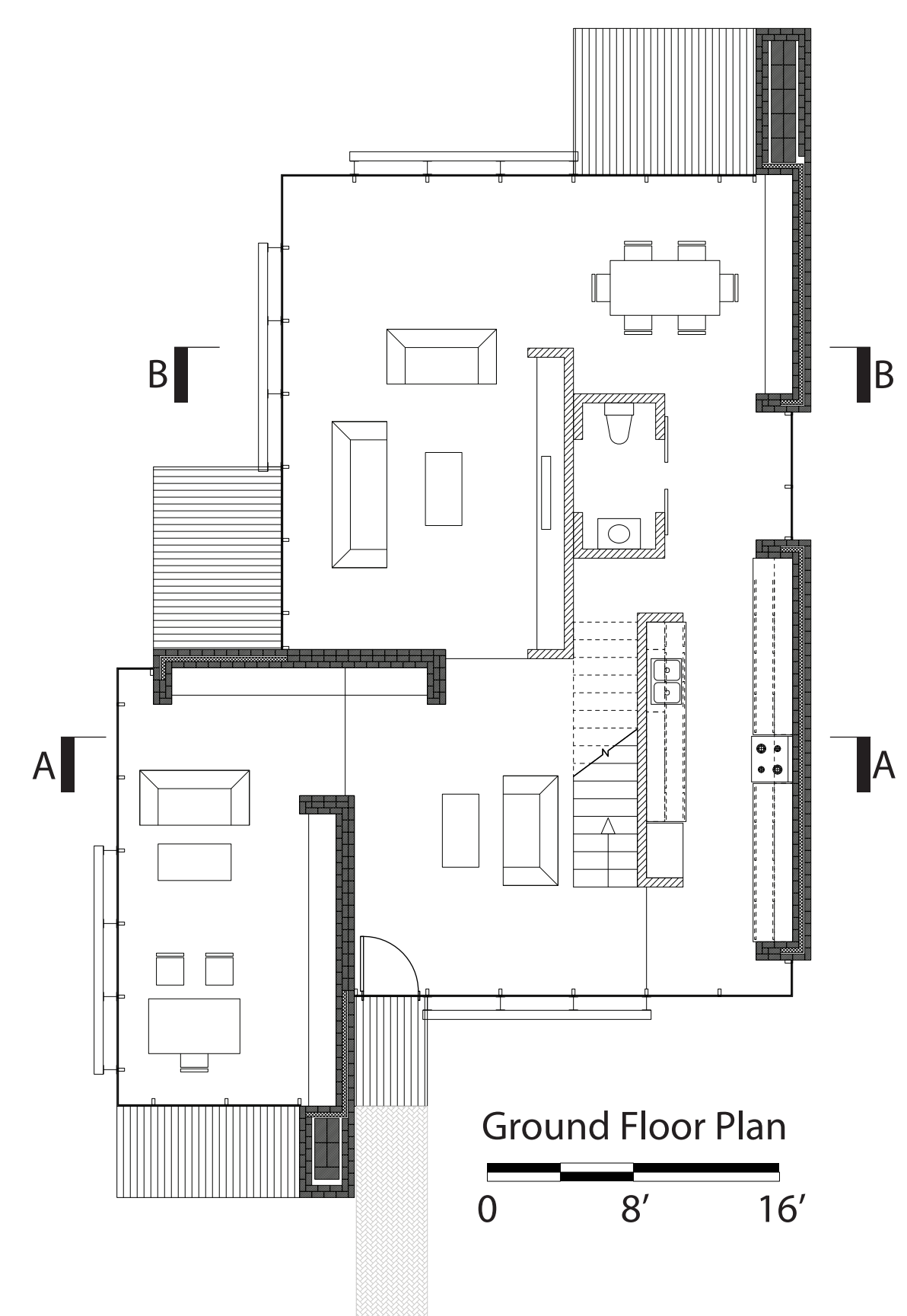
Components influence on circulation

Solid Brick Construction

Mill Work Interior Panels with Mechanical Systems

Steel Column and Wooden Louver System

Ground Floor Plan
0   8'   16'

Upper Level

Section A

Section B

Corner Site Condition

North

Study/Office

South

Living