14 Lines Interfaith Meditation Chapel

Bryce Canyon National Park, Utah USA
Community College Design Project

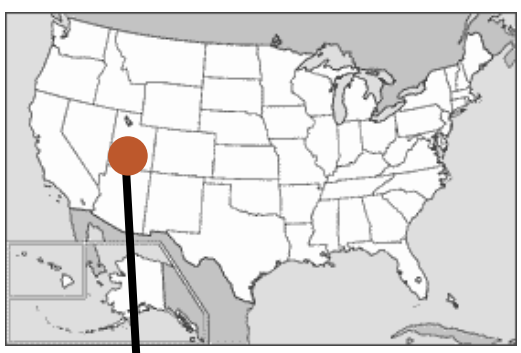
The project is a non-denominational worship chapel set in a natural park. The goal is to develop a space that is universal and encourages a connection to the unique features of the site. The program is required to create a sense of spirituality, peace, and contemplation through light, scale, form, and nature.

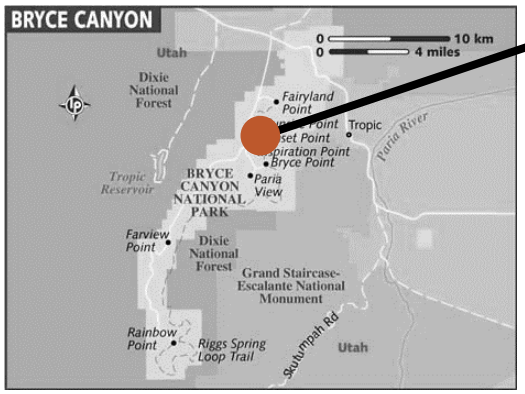
Bryce Canyon is home to a vast array of odd-shaped pillars of rock dubbed HOODOOS. Through the process of differential erosion, hoodoos are formed from one solid mass, a plateau, with negative space between them. The formal procession to the chapel starts with a portal, composed of platforms that step down and around the hoodoos. This starts the feeling of constriction, as visitors are led into the negative space of the Chapel. While in procession to the chapel, one feels solitude while observing the hoodoos. *14 Lines Chapel* acts as a representation of the mass of hoodoos, transforming from a "plateau" into unique, repetitive shapes. Horizontal banding from the different layers of rock is incorporated into the design by using various horizontal elements and architectural details. The concept of intersecting vertical and horizontal lines is represented in the parti diagram. Likewise, this is applied to the building itself, with vertical masses juxtaposed against horizontal planes.

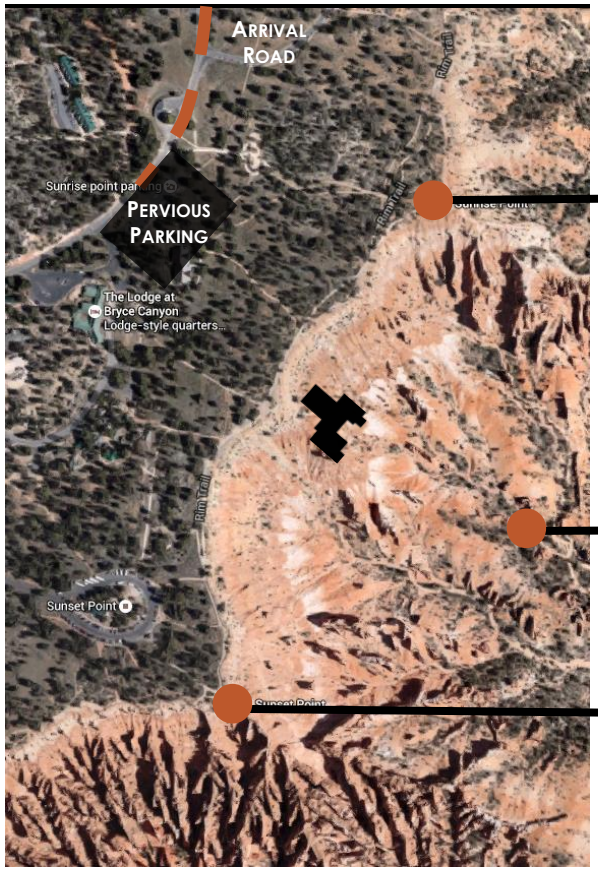
The landscape of Bryce Canyon National Park suggests a rectilinear building. This regular form contrasts with the negative spaces formed by the fault lines of the hoodoos. Artificial masses are located between organic forms, resulting in elements of varying sizes and heights. Furthermore, the natural forms dictate a pathway leading to *14 Lines Chapel*. Designed with a goal for a LEED platinum rating, the program implements daylighting, solar energy production, and rainwater harvesting.

Proposed Site

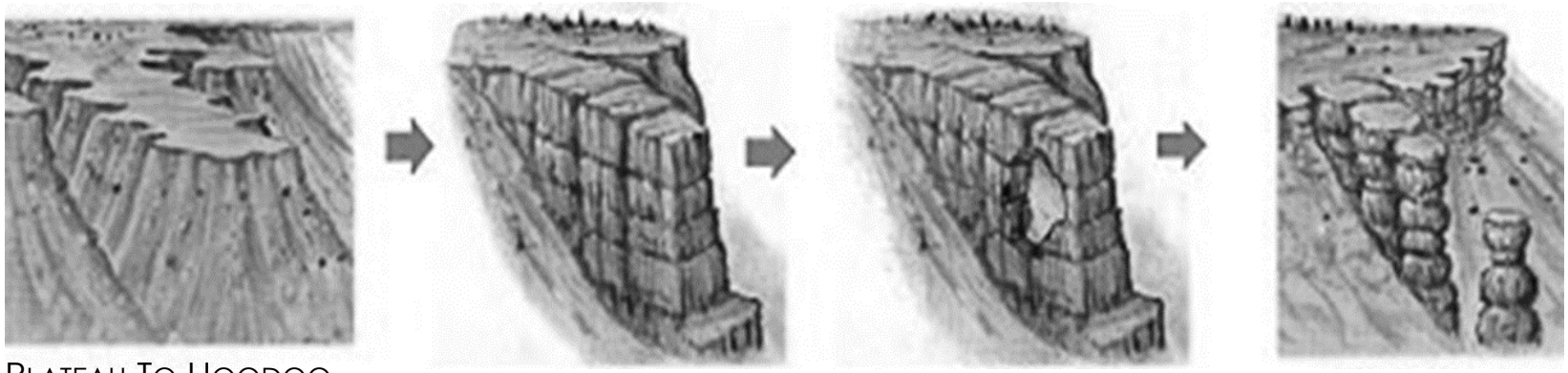
Located in South central Utah, Bryce Canyon National Park is nestled between Dixie National Forest & The "Grand Staircase." More specifically, **14 Lines Chapel** is located between three main attractions of the park, Sunrise Point, Queens Garden, & Sunset point; thus being a prime location for visitors of the park.



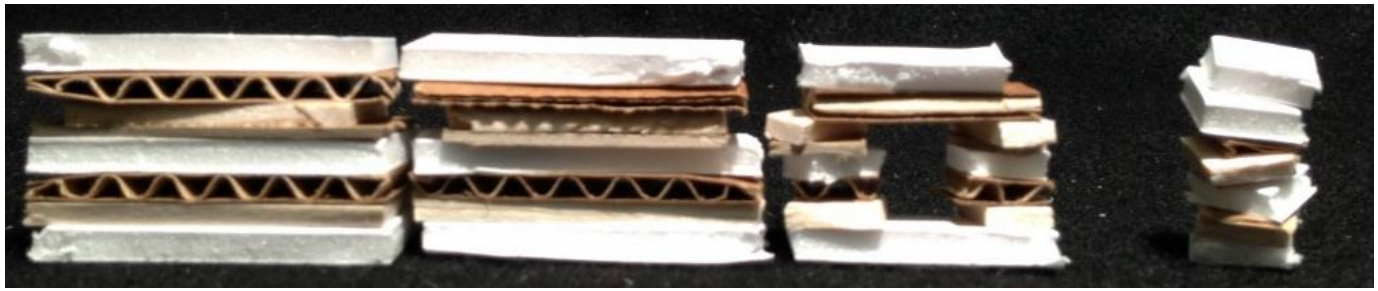


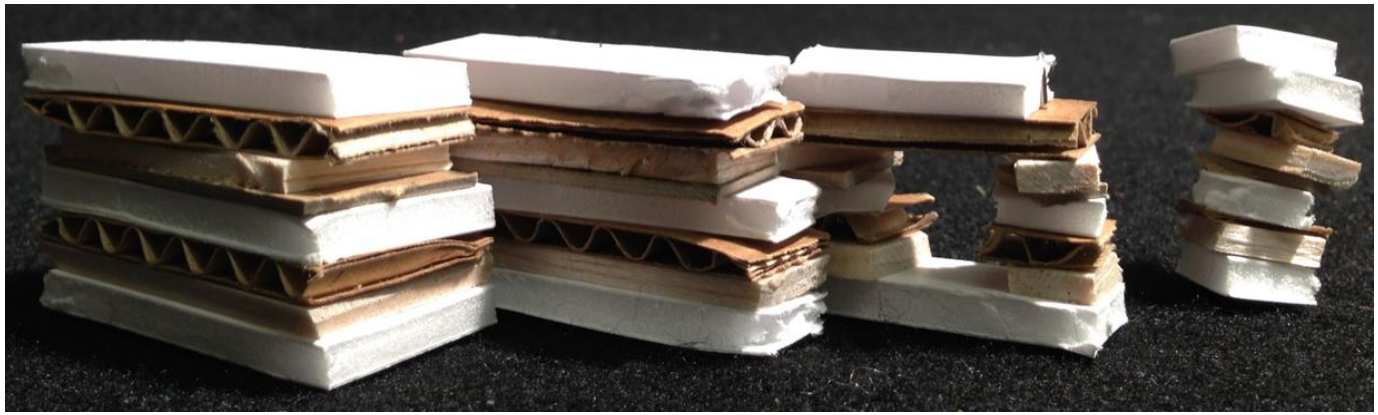


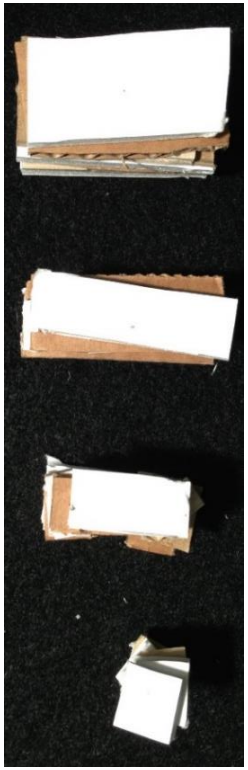
Differential Erosion Process



Plateau To Hoodoo





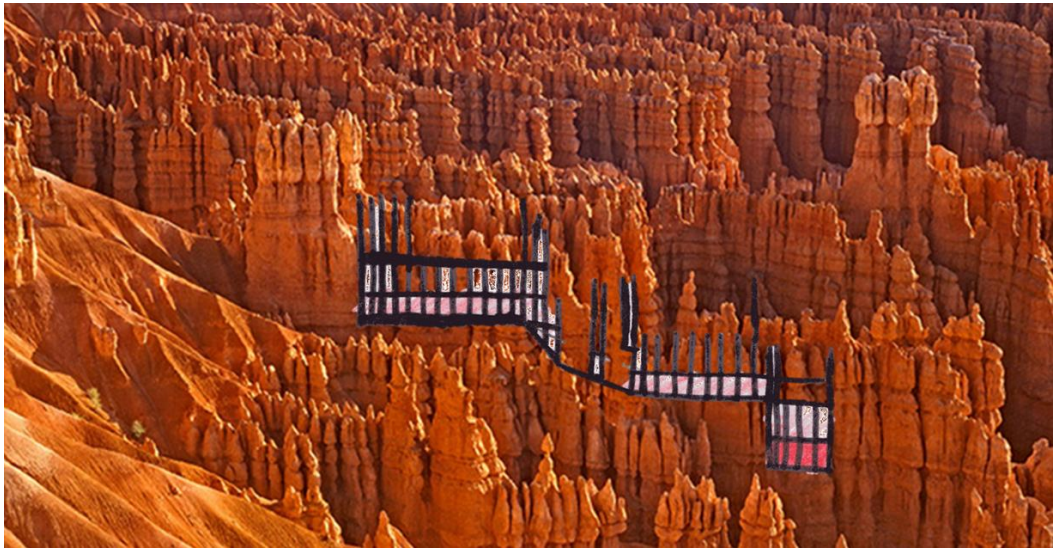


Erosion Process Studies

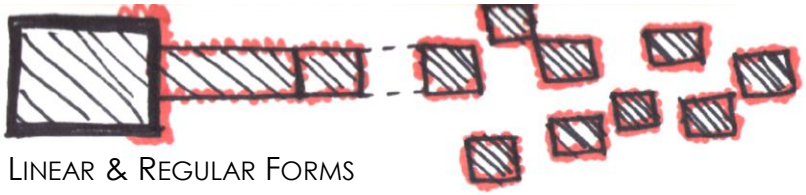
Natural Inspiration & Analysis

Horizontal Striations
act as caps for columns

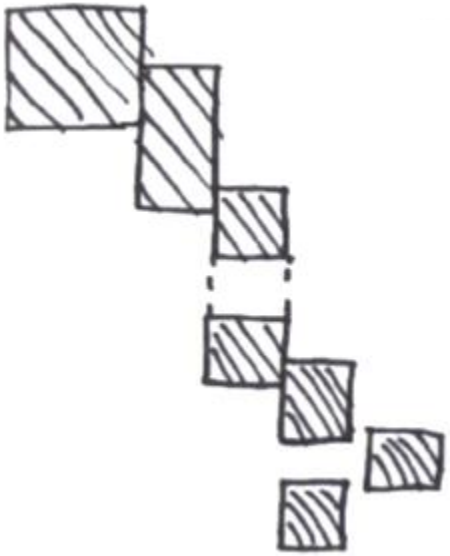
Exploring elevation changes and the juxtaposition between vertical and horizontal forms



Parti Diagram & Sketches

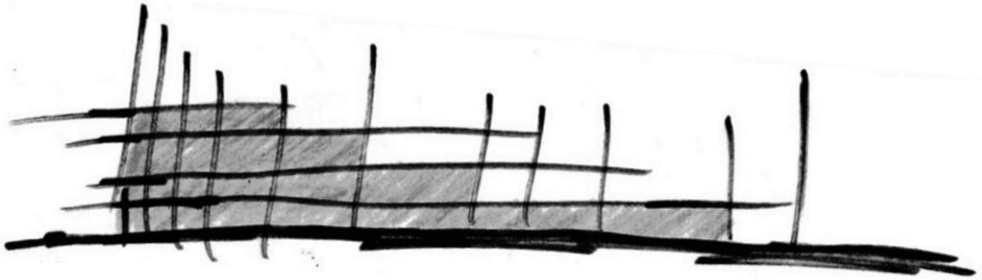


Linear & Regular Forms

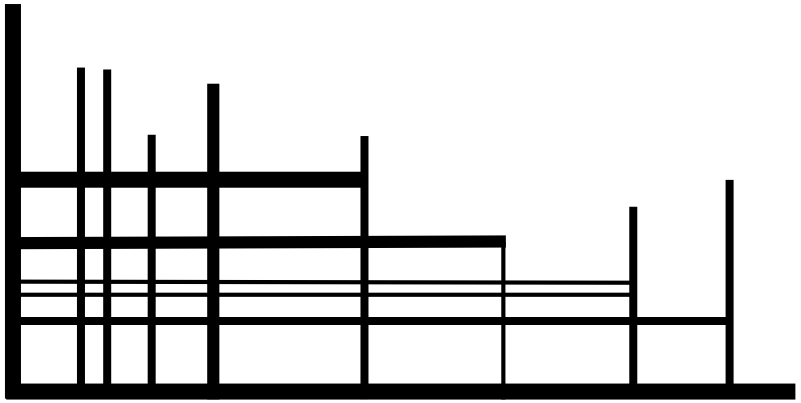


Diagonal Orientation of Regular Forms

Regular -> Irregular Forms



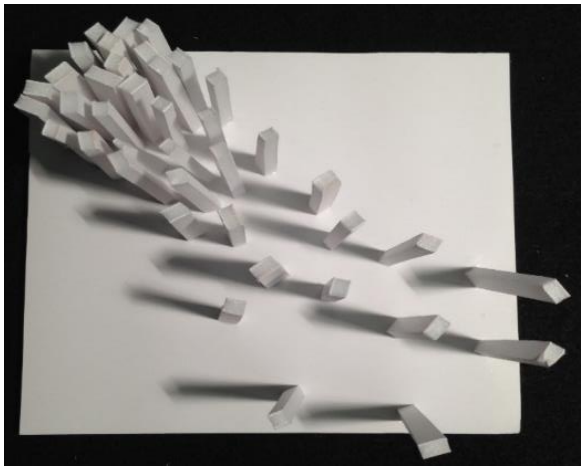
Schematic Parti Diagram

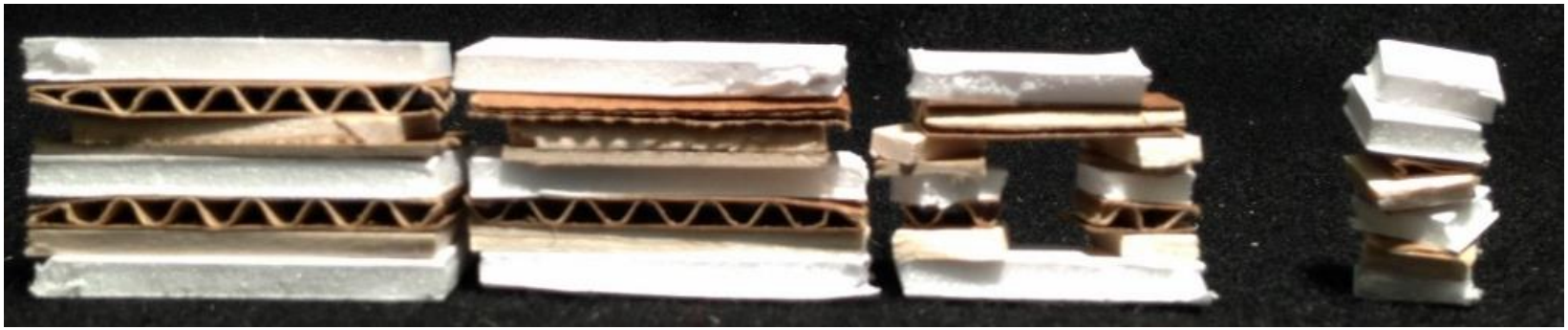


Final parti diagram depicting the relationship between the vertical forms and the horizontal banding

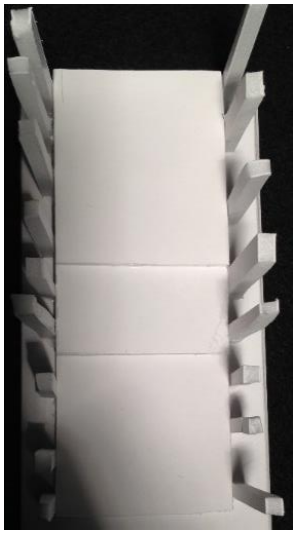
Principles Dictating Design

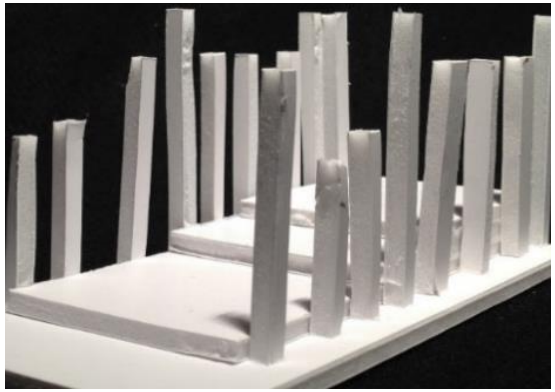
- Vertical Elements on a Grid Organization
- Horizontal Banding
- Clustered to Singular
- Regular to Irregular
- Structural Proportion



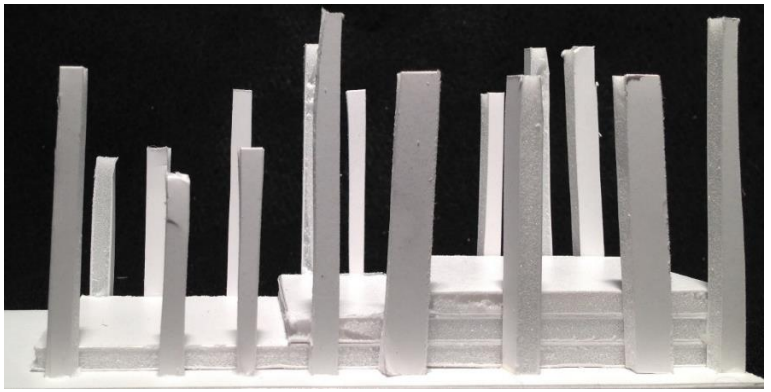


Preliminary Study Models

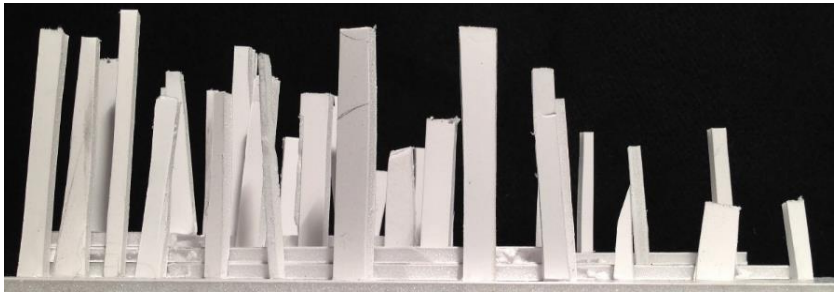


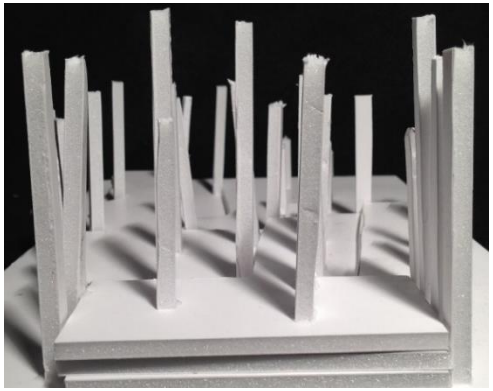


Study Model exploring verticality with a single linear space acting as the "pathway."



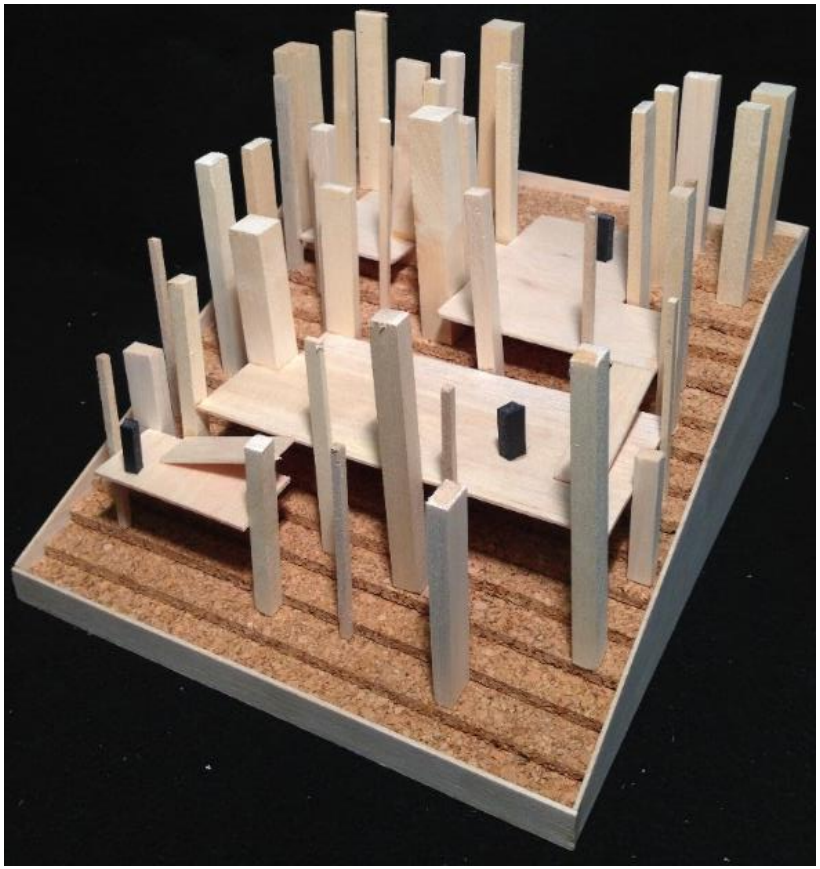
Study Model exploring verticality with multiple pathways allowing the visitor to create their own journey to the chapel



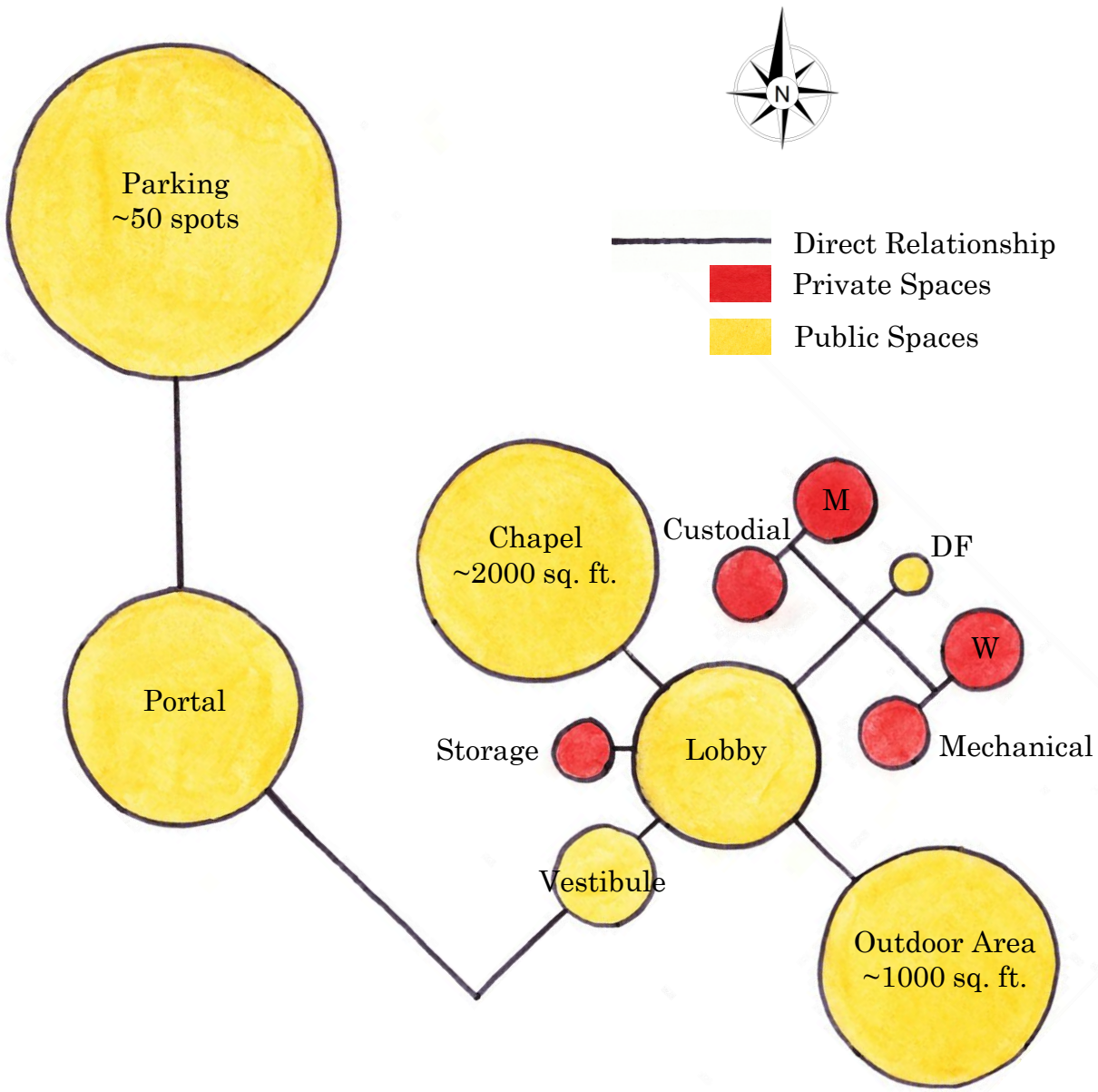


Final Portal Study Model

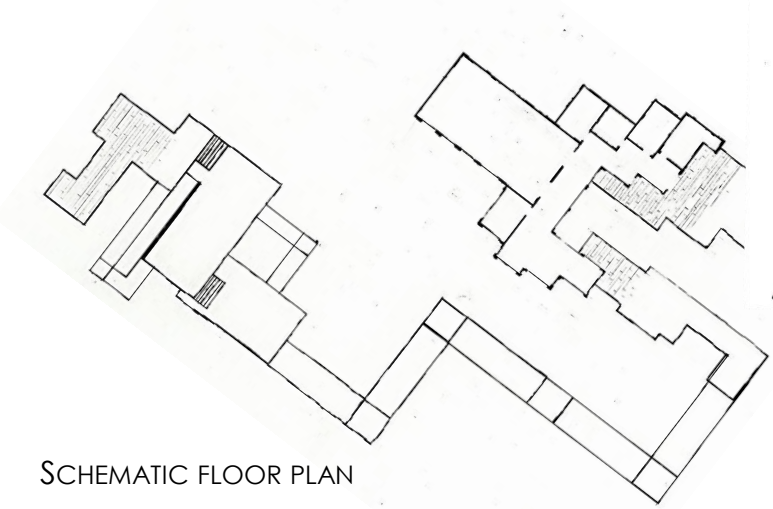
Final portal model showing vertical forms in the form of abstract hoodoos with platforms acting as the horizontal banding and as the negative space between the hoodoos.



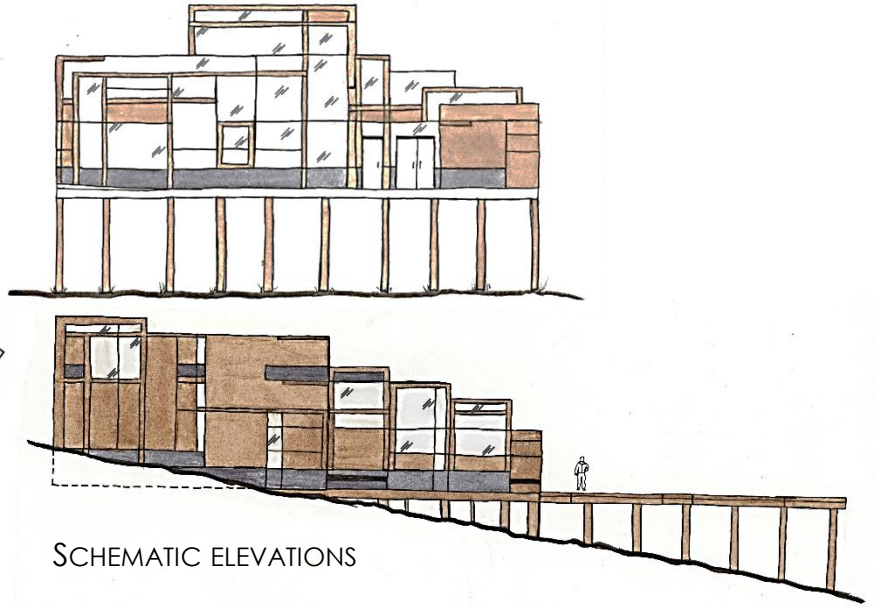
Chapel Bubble Diagram



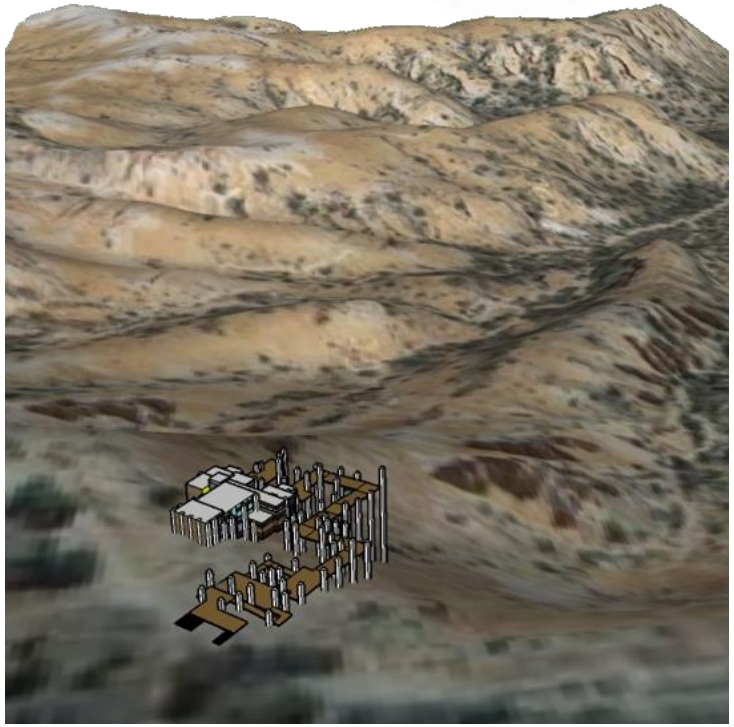
Schematic Studies

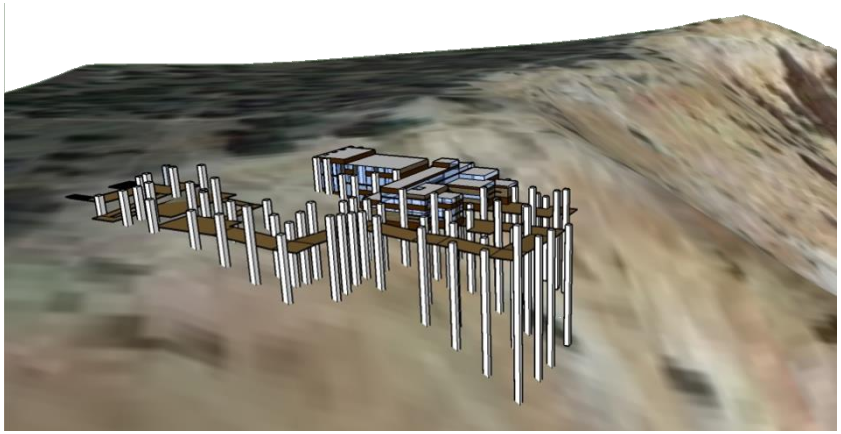


Schematic floor plan



Schematic elevations

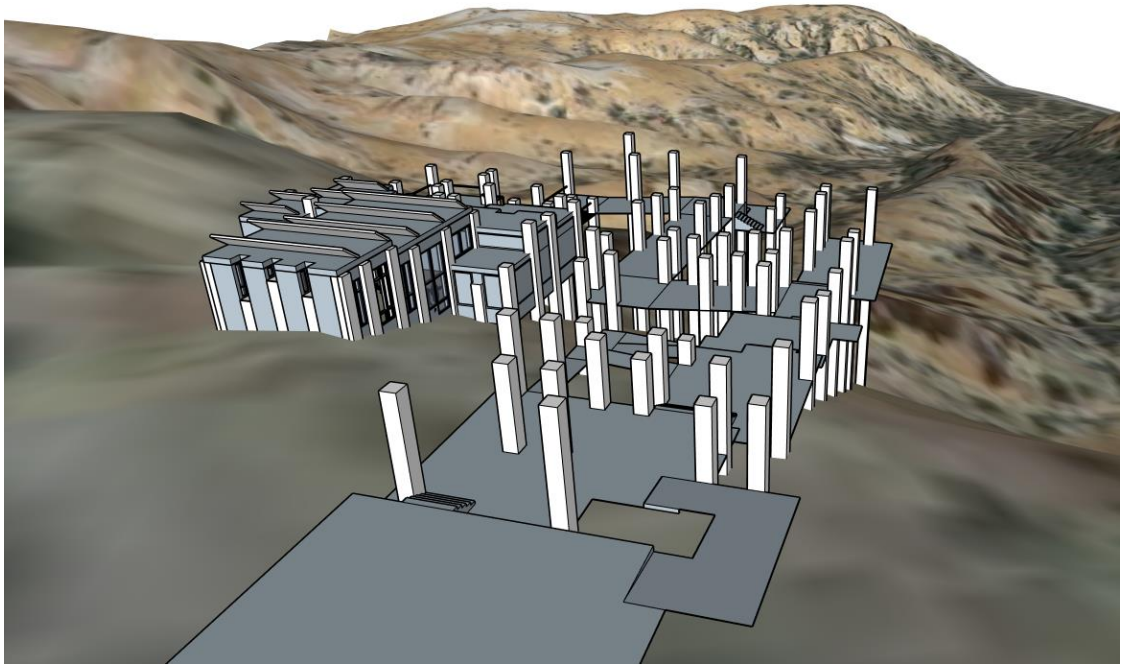


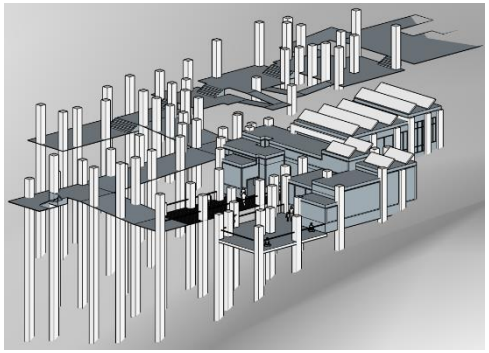


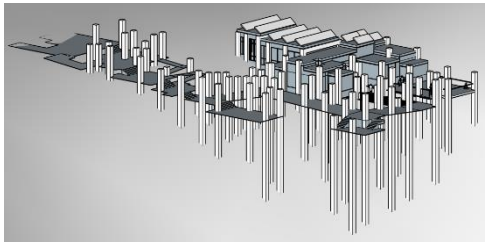
Schematic 3D Exterior Studies

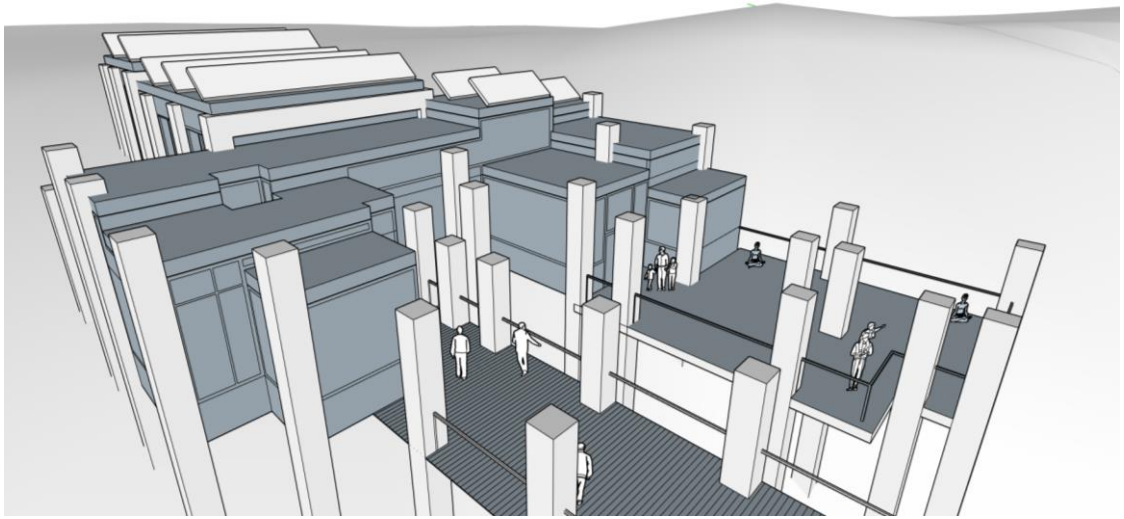
These studies led to the development of the horizontal banding with window muntins and further into a 3D model

3D Model



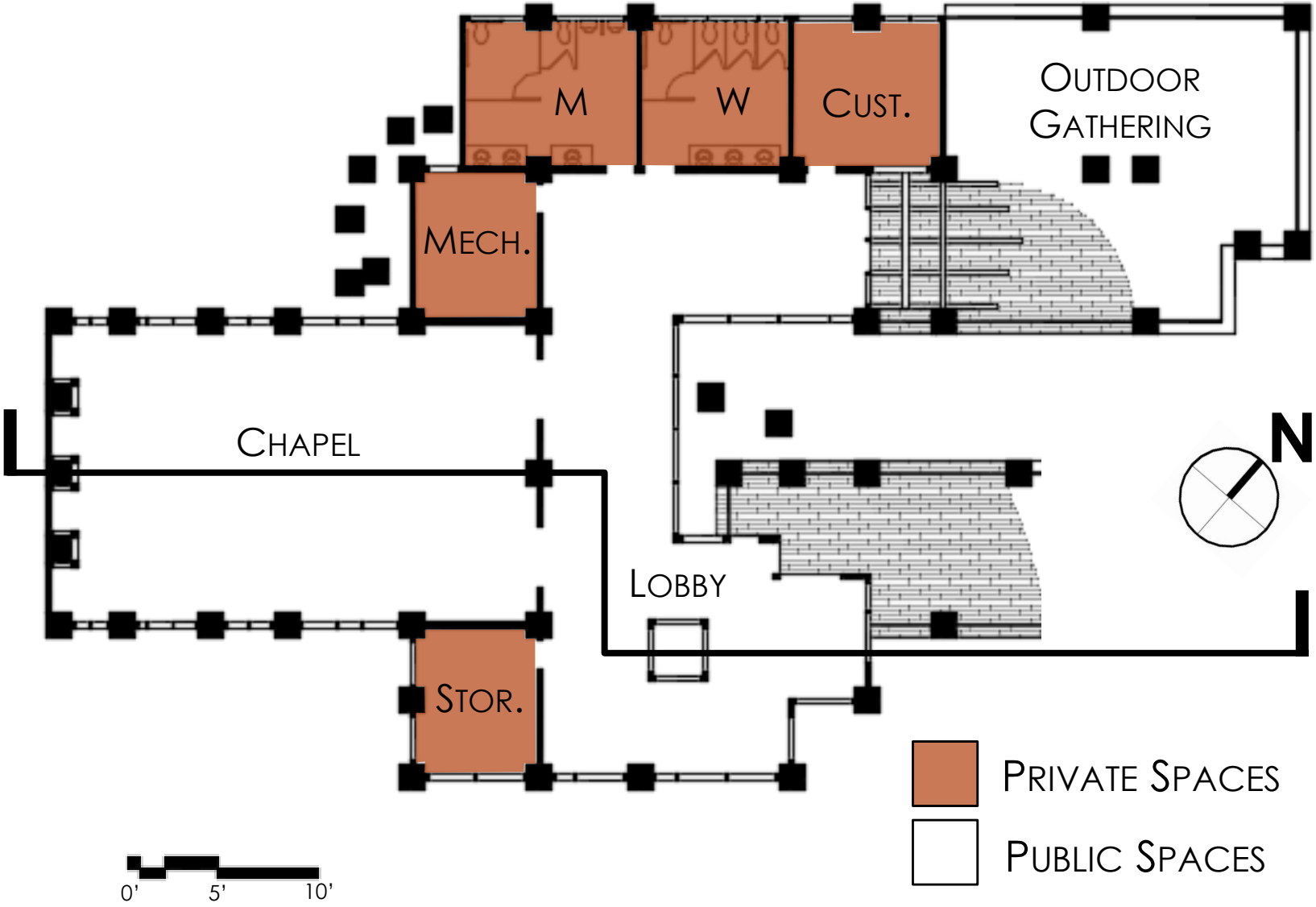




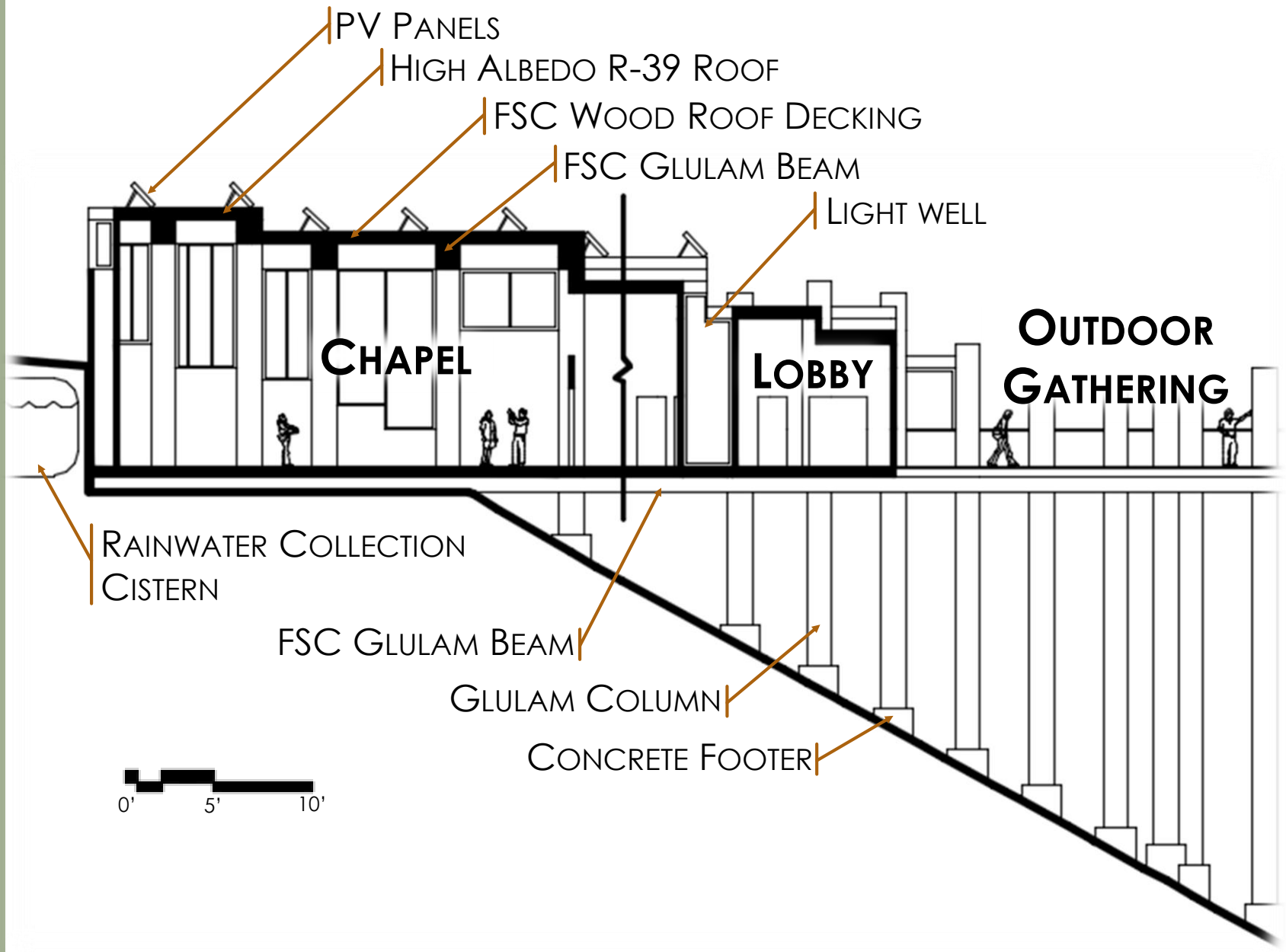


More developed 3D model showing the relationship of portal to chapel. Including solar panels to show effect on interior lighting.

Chapel Floor Plan

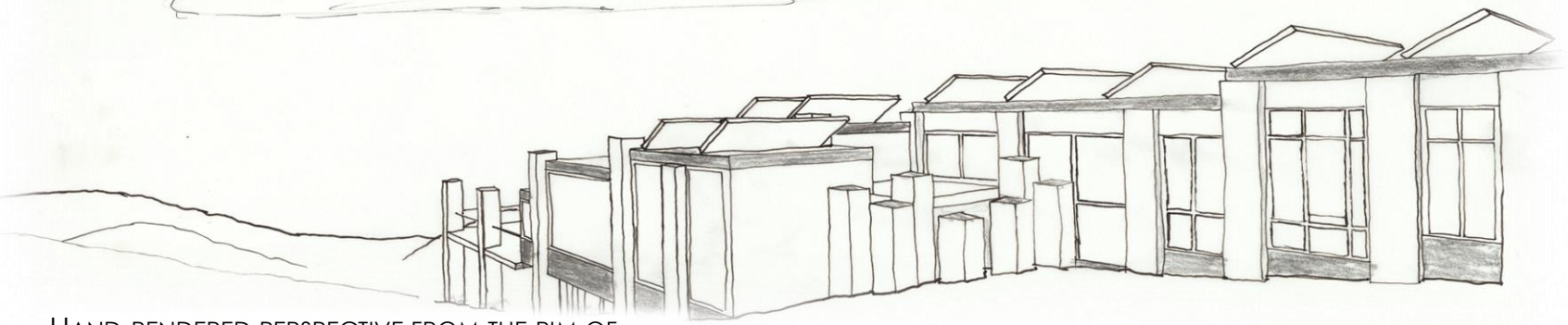


Chapel Section



Chapel Perspectives

Hand rendered perspective showing entrance to chapel as well as outdoor area to the right



Hand rendered perspective from the rim of Bryce Canyon looking beyond to the south

Chapel Interior

Focused Sustainable Initiatives

Sustainable Sites: The use of rainwater management system, a high albedo roof, & reduced light pollution

Water Efficiency: No irrigation required, Waterless urinals and low flow plumbing

Energy & Atmosphere: supporting energy management by tracking building-level energy use. Self-sufficient through the use of photovoltaic panels.

Materials & Resources: Use of reclaimed & F.S.C. as the principle material of construction & method of assembly as well as the use of environmentally friendly products & materials

Indoor Environmental Quality: Naturally ventilated spaces & promoting occupants' well being by providing high-quality lighting, views, and acoustical performance

LEED v4 Rating: Platinum. Main features are natural daylighting, high-quality views, and renewable energy production