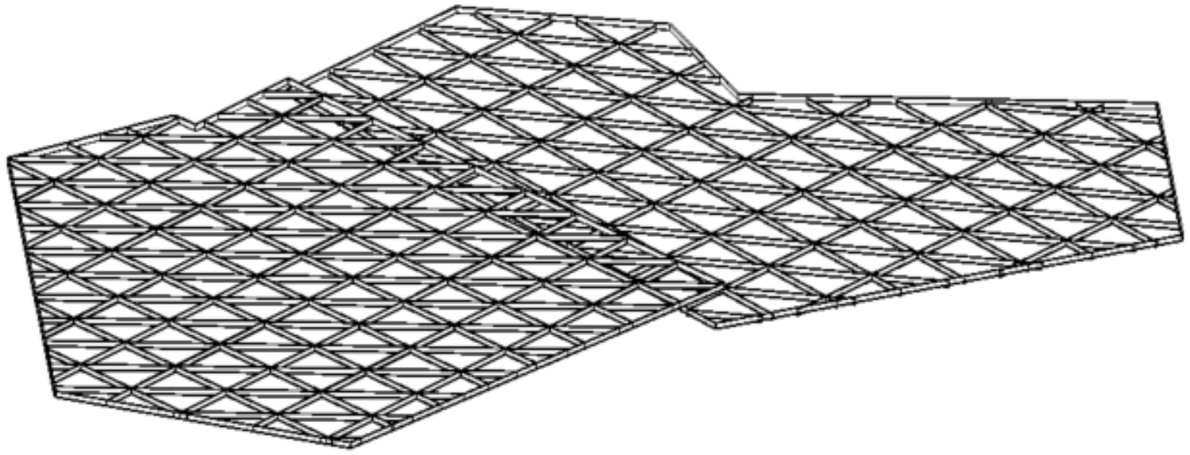
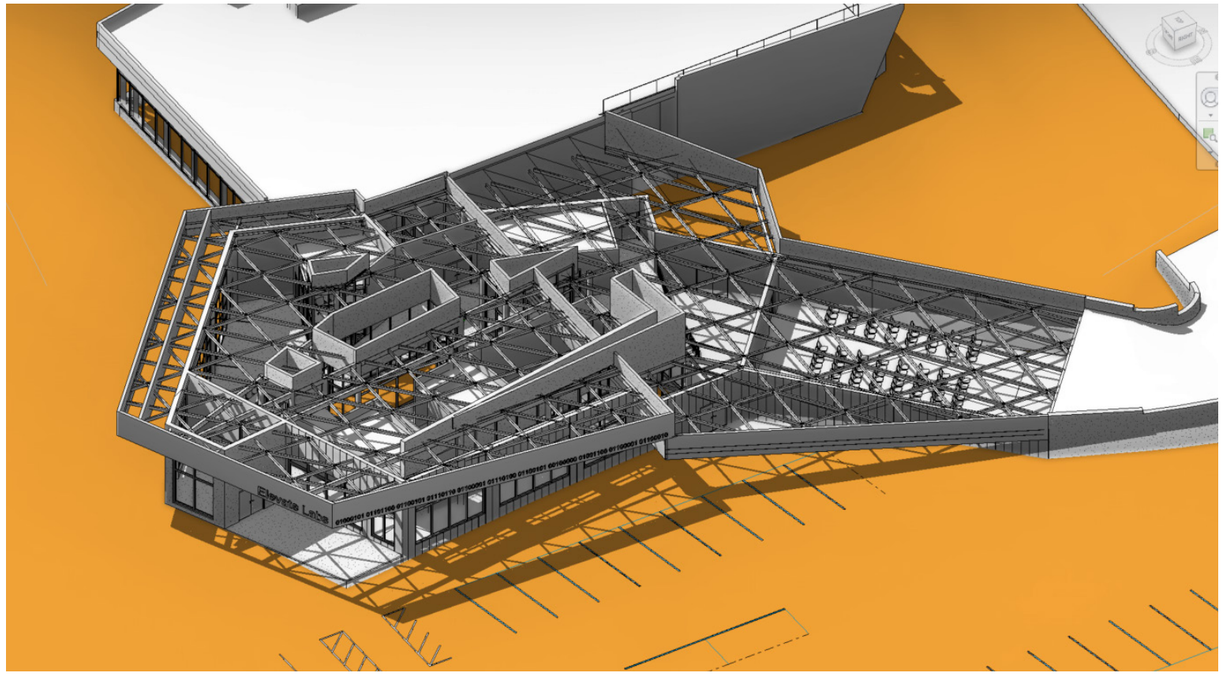
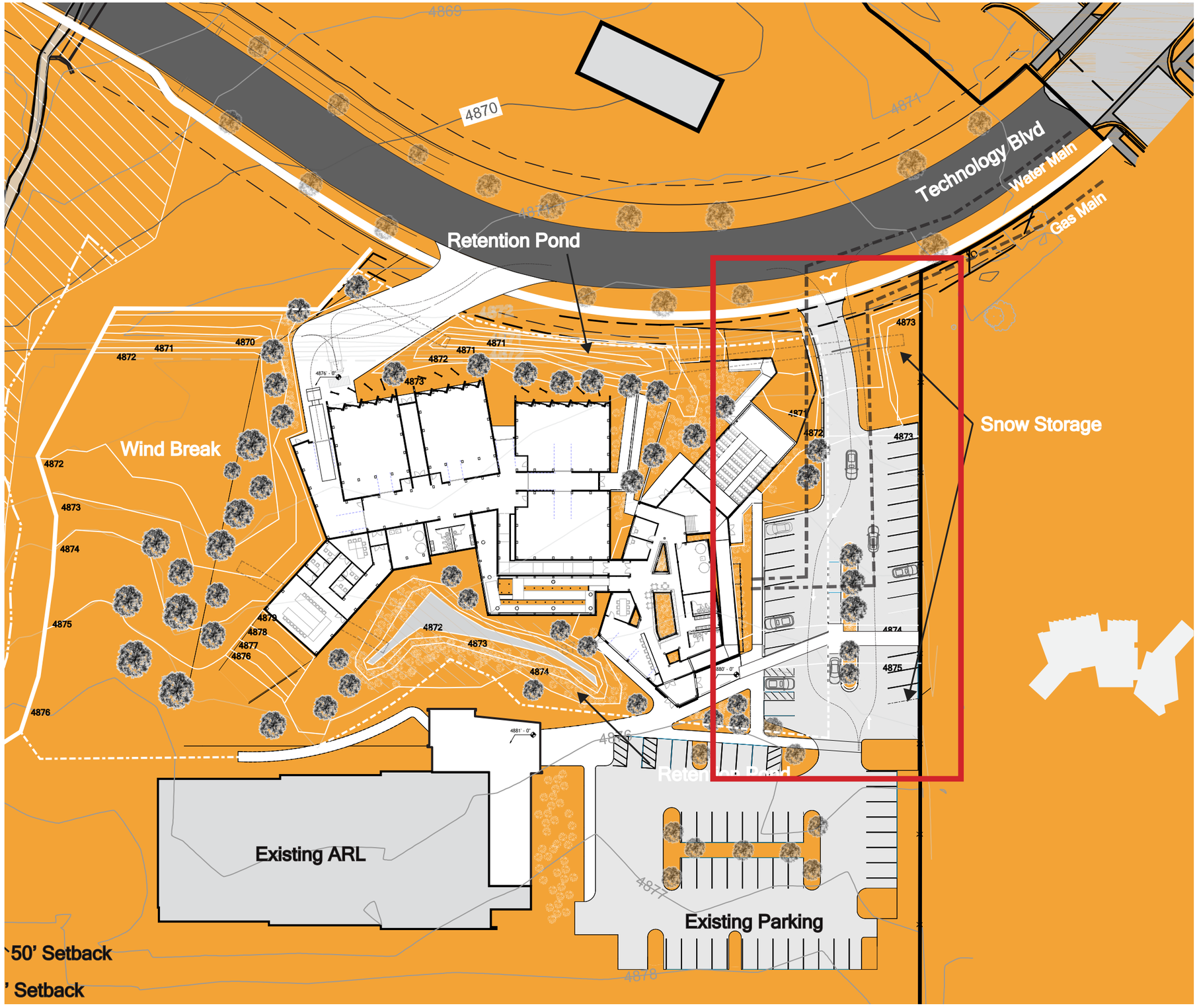
Initial Ideas

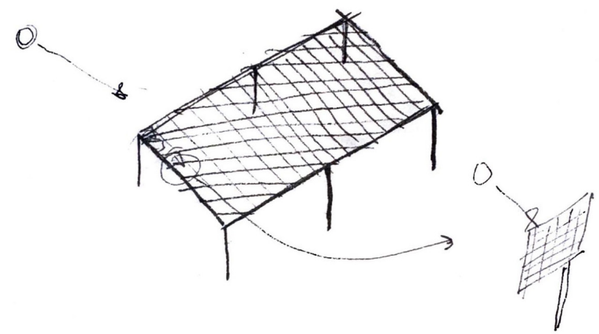
Assignment 3
Bennett Walden





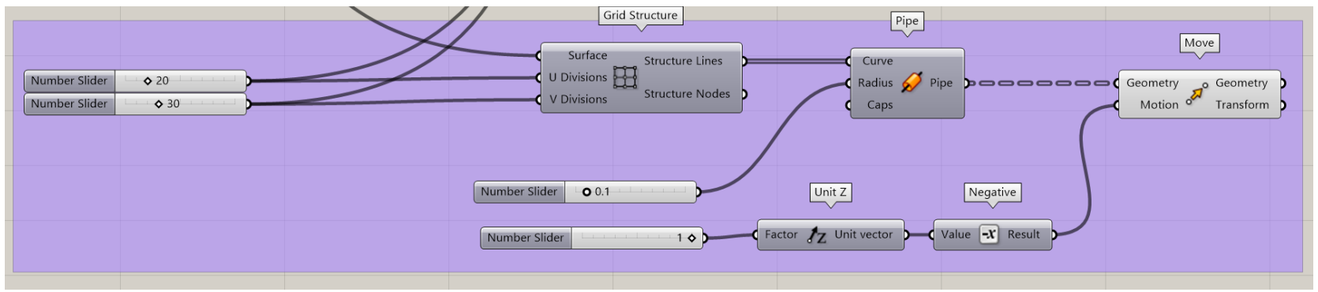
I wanted to emulate the existing structure of my project and extend its architectural language to another element on the site, creating continuity across the design. To achieve this, I decided to design a parking cover that not only provides a functional, sheltered space for visitors but also reflects the aesthetic and structural principles of the main building. By incorporating similar forms, materials, and patterns, the parking cover becomes an integrated part of the site rather than a separate, utilitarian addition. This approach allows the cover to serve multiple purposes: protecting cars and pedestrians from the elements, enhancing the overall visual cohesion of the project, and creating opportunities for sustainable features such as solar panel integration.



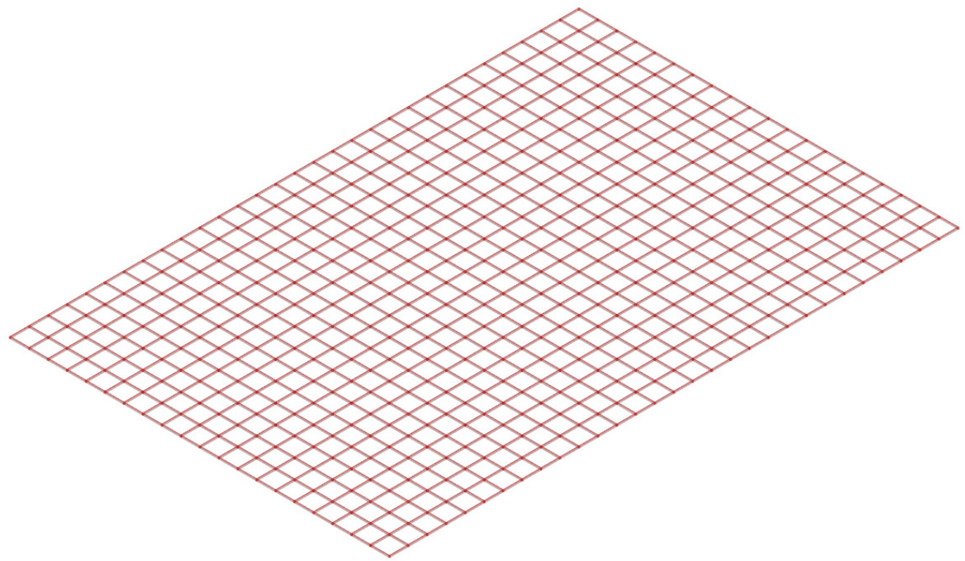


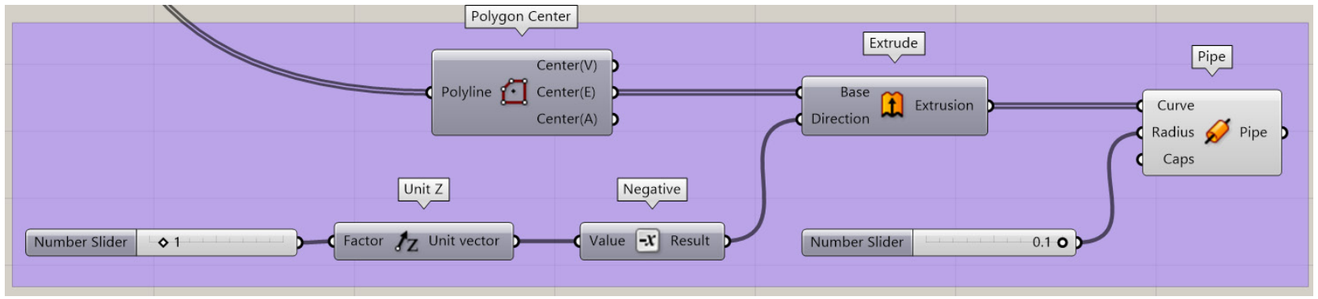
I'm adding a cover over the parking lot to make the space more practical, sustainable, and visually connected to the rest of the project. It provides shade and protection from weather for both cars and people, while also serving as a solar panel collector that generates renewable energy and supports the project's environmental goals.

Rhino Parametric Design

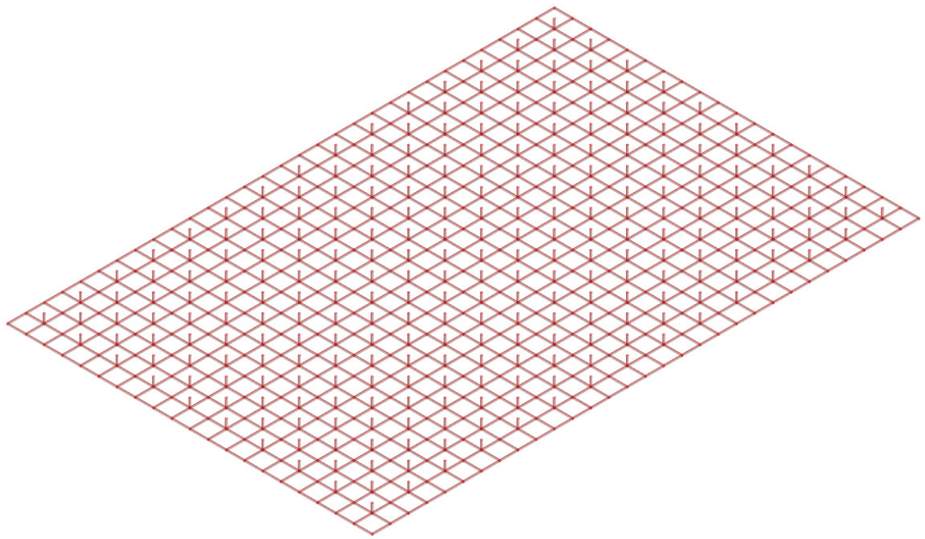


I began by developing the base structure of the system to better understand the overall space requirements and proportions for this addition to my project. To achieve this, I used a simple grid system as a foundation for organizing and defining the layout.

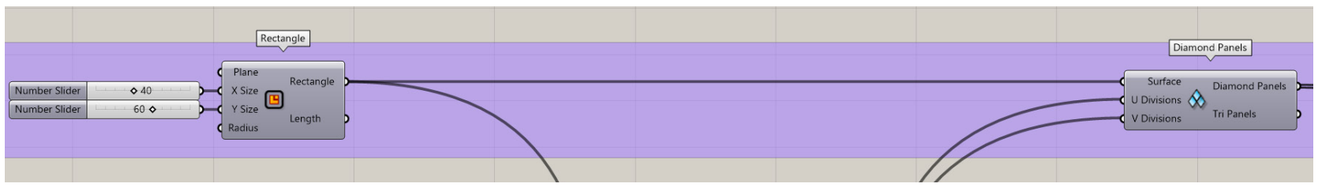




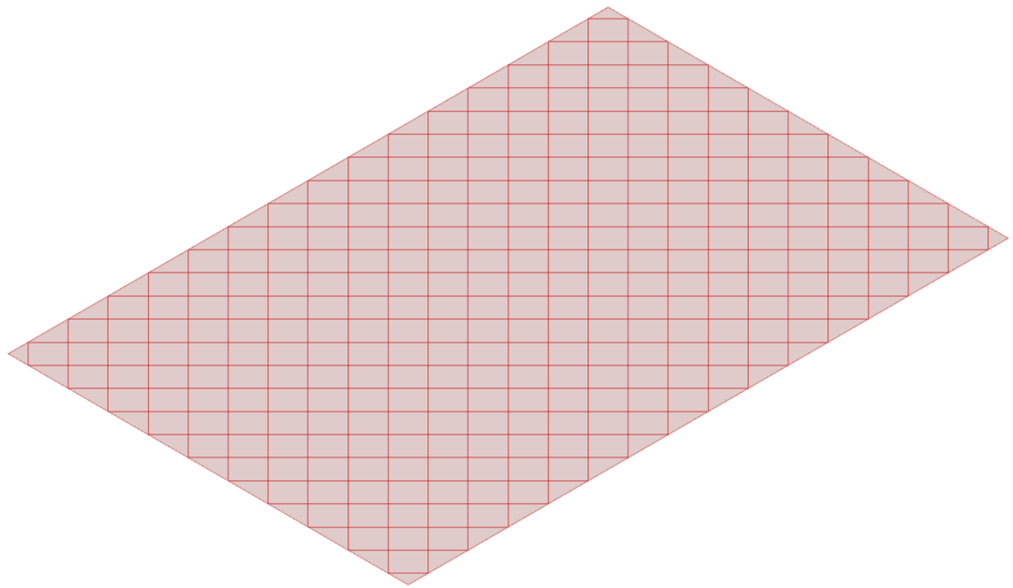
In addition to the base structural grid, I added posts to support the panel system. These posts are designed to be tall enough to allow the panels to move freely without any restrictions.

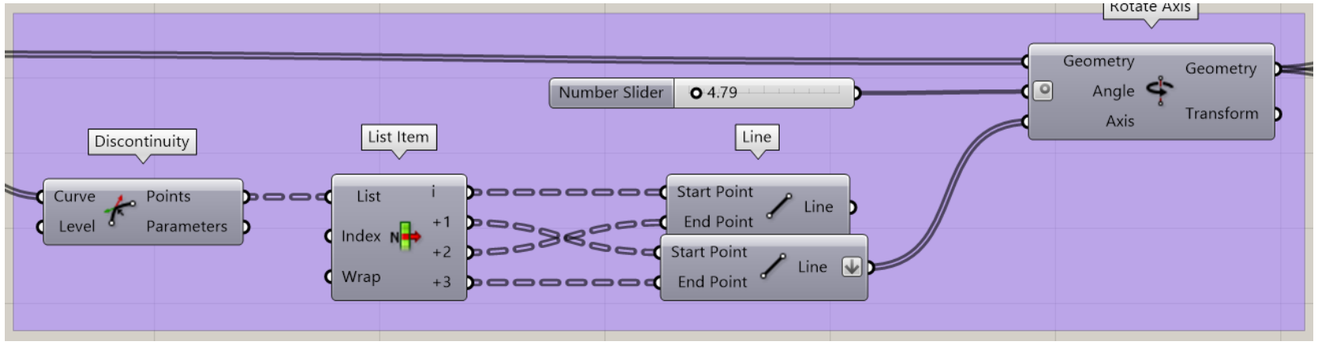


Rhino Parametric Design

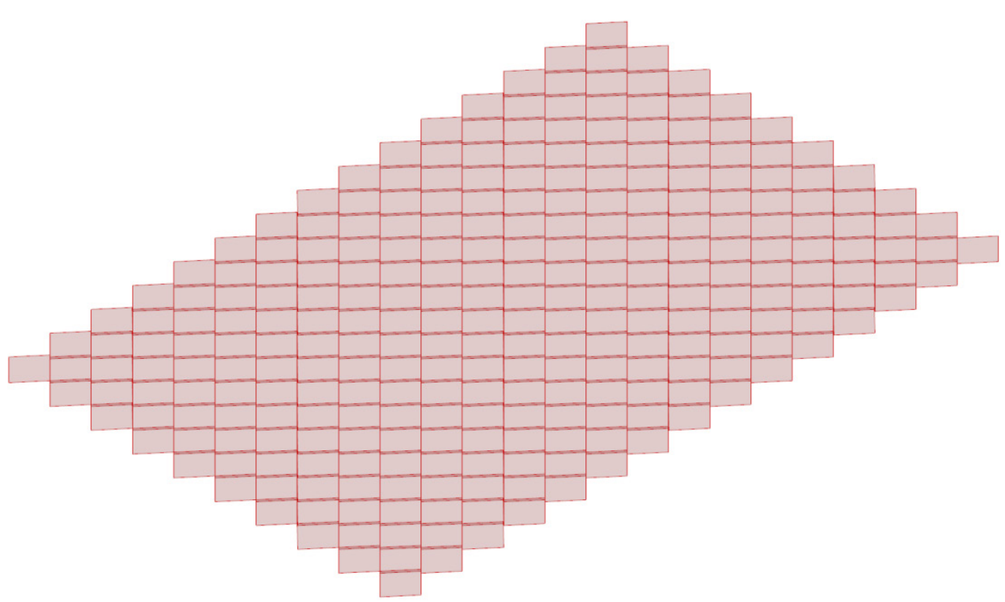


I then focused on developing the diagrid system to mimic the structural design of my building. Using the LunchBox plugin, I applied the Diagrid Panel System to generate and organize these panels.

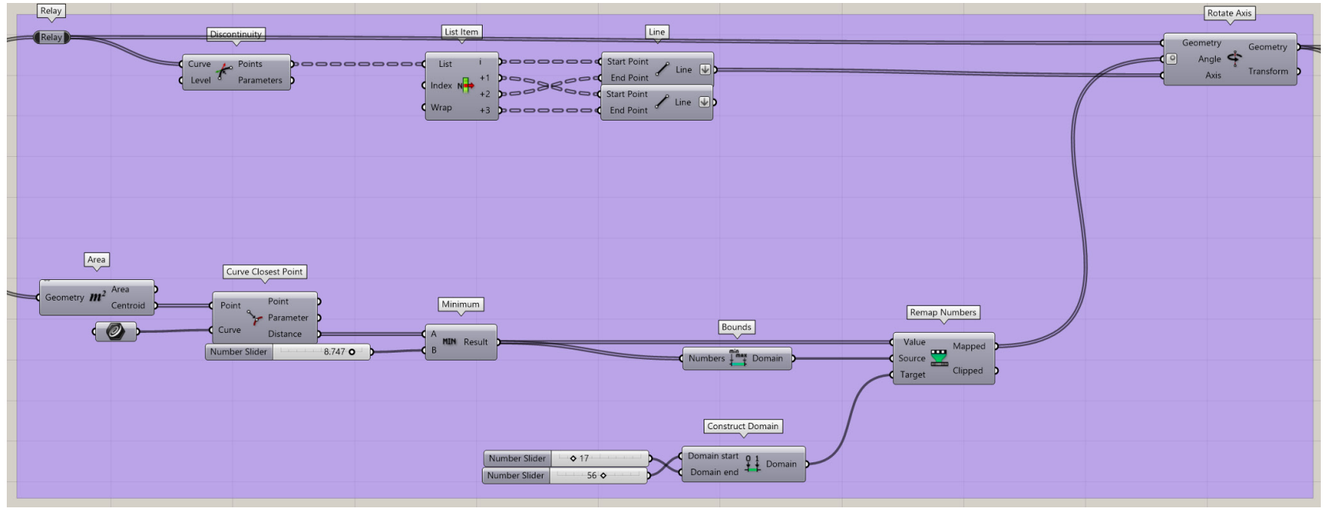




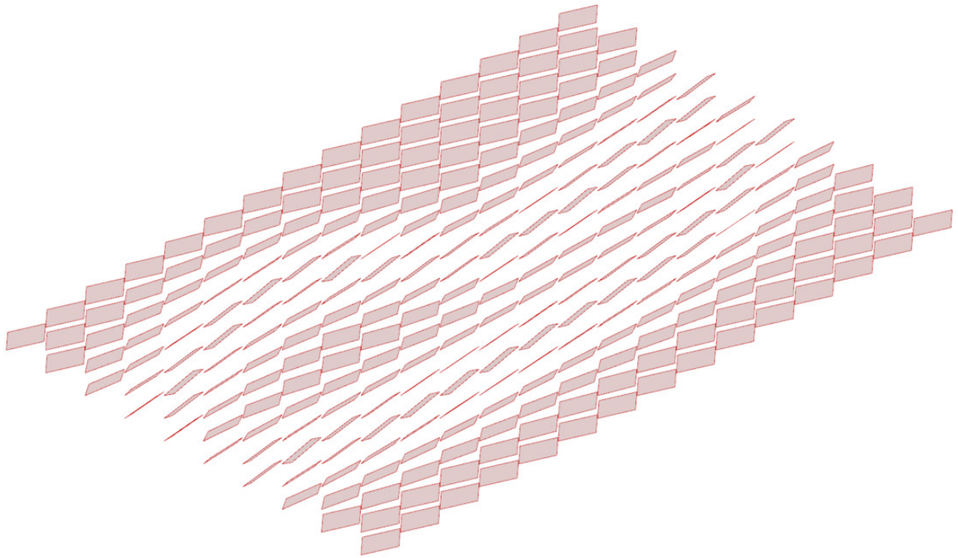
I isolated the diagrid structure from the rectangular base to allow for easier adjustments later in the process.

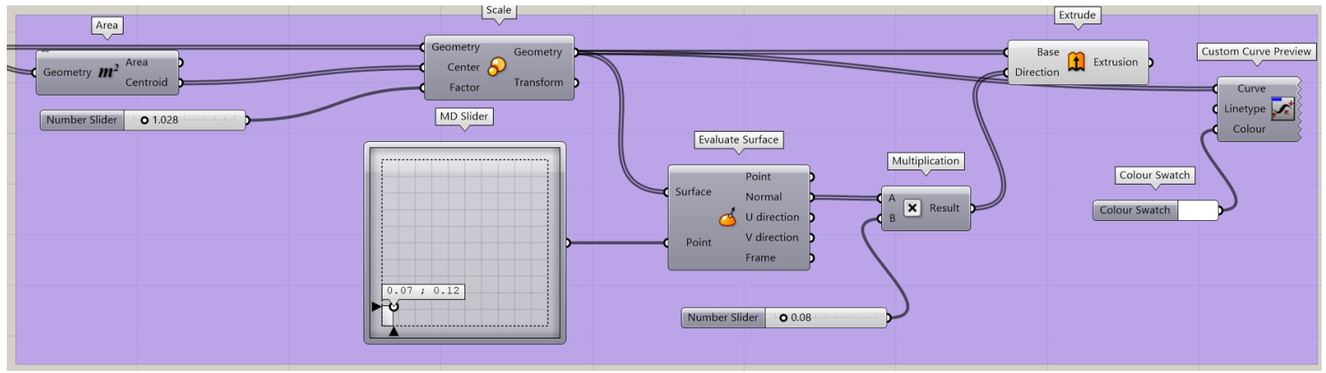


Rhino Parametric Design

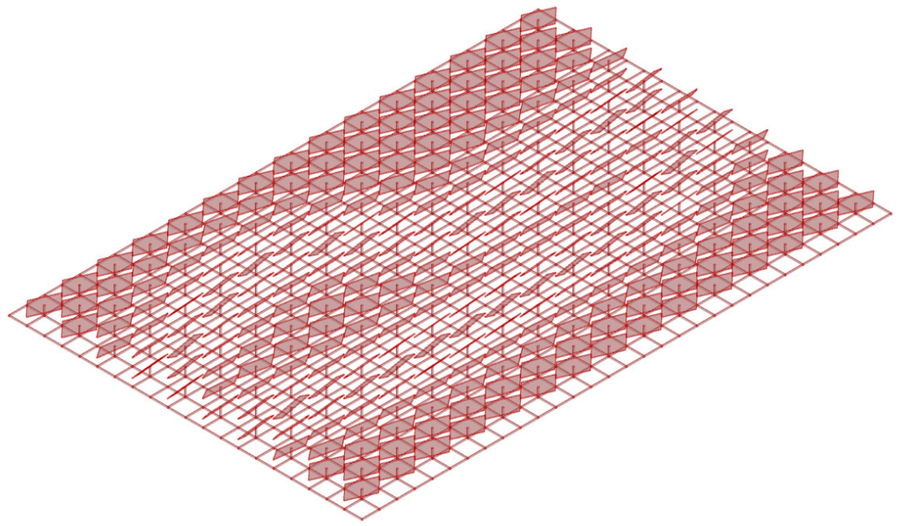


I then focused on rotating these objects to reflect the paths of movement through the parking lot. Areas with stationary cars or pedestrians are covered, while zones of movement are left open. This approach allows natural light to guide users through the space toward the building.

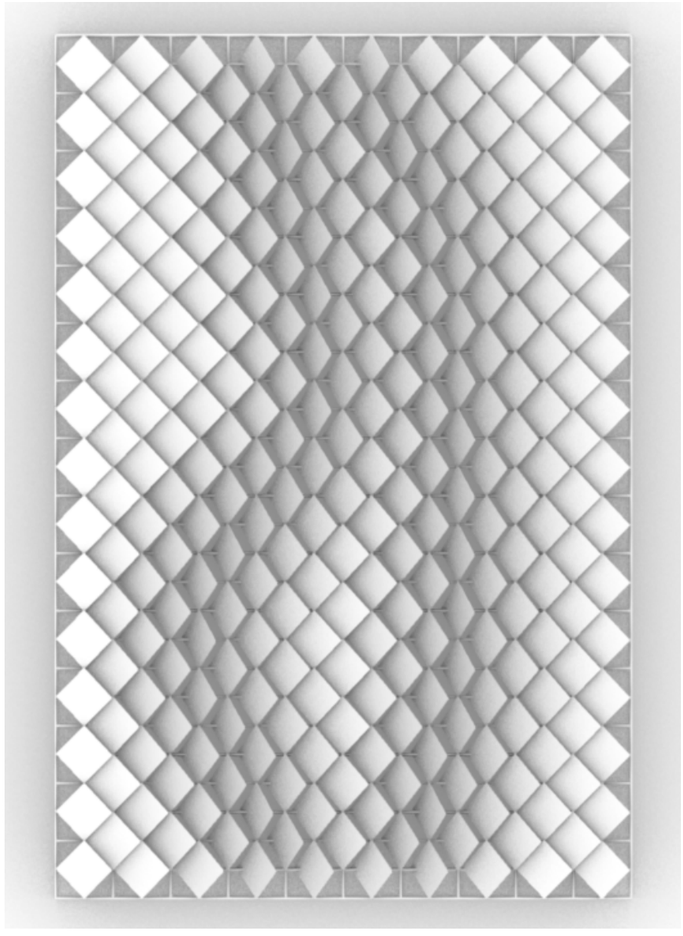


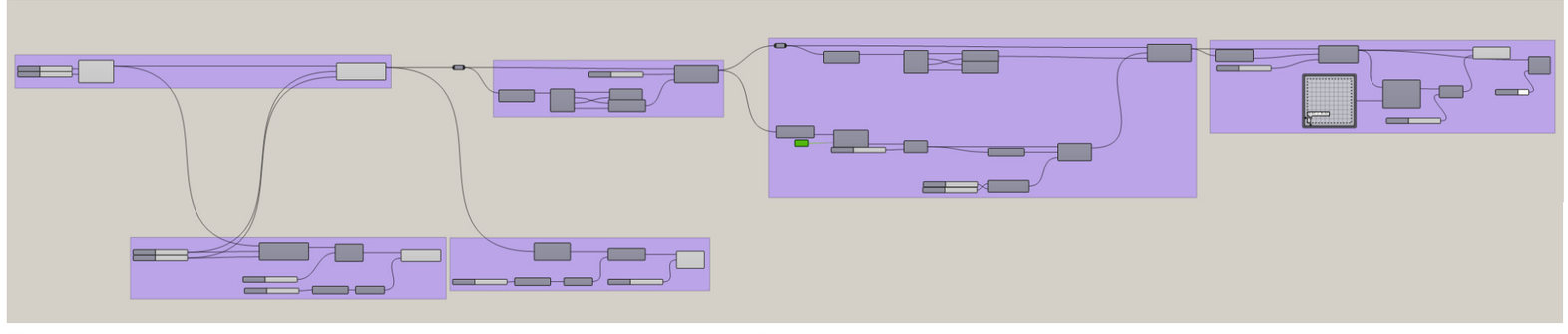


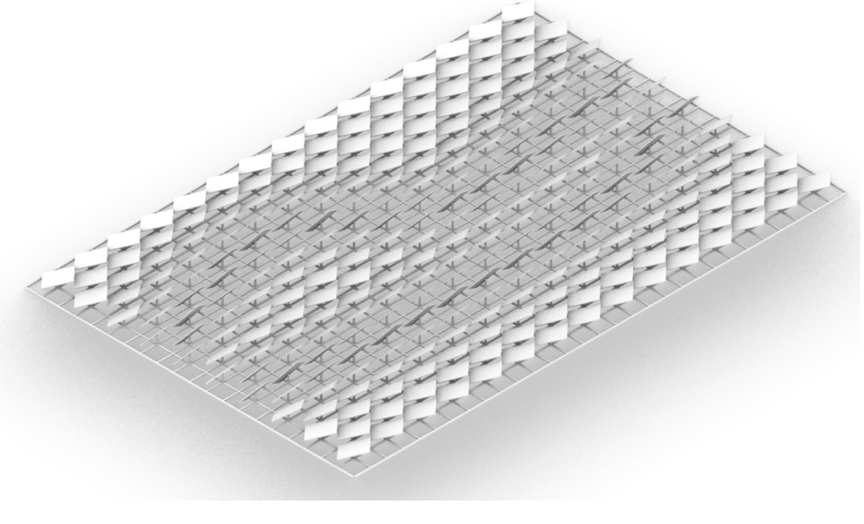
I then added depth to the panels, matching the actual dimensions of PV panels. This ensures accuracy when importing the model into Revit and maintains precision throughout the design process.



Output







The parking lot cover successfully combines functionality, sustainability, and design. Starting with a base grid to establish space and proportions, posts were added to support the panel system, allowing full movement of the panels. A diagrid system, developed with the LunchBox plugin, reflects the structural language of the building, while rotation and positioning of the panels respond to movement patterns–covering areas of stationary activity and leaving openings where circulation occurs. Depth was added to match real PV panels, ensuring accuracy for Revit modeling. The final design creates a space where people are both protected from the elements and guided intuitively by light, while also offering the potential for renewable energy generation through solar integration.