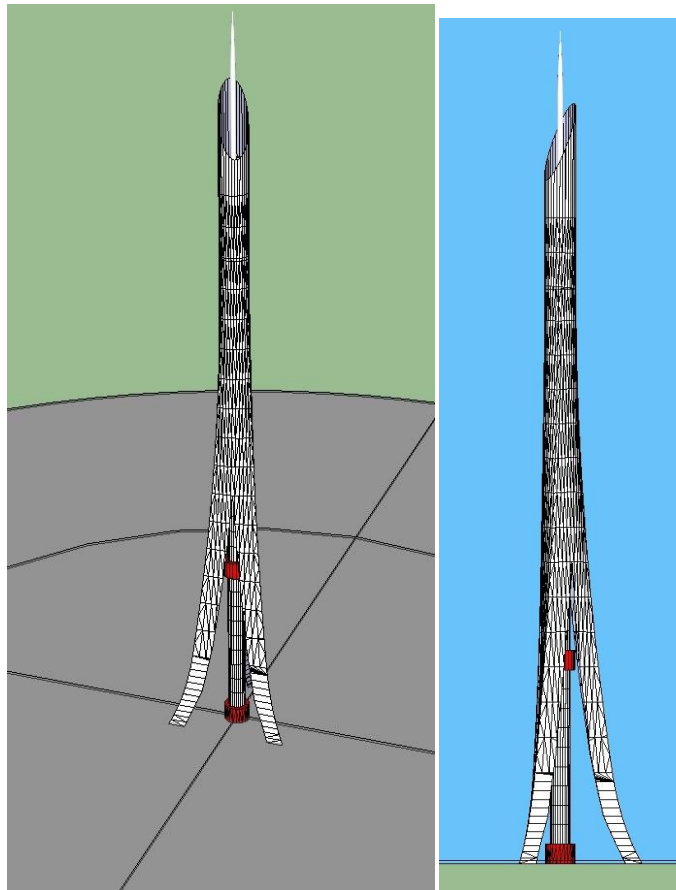
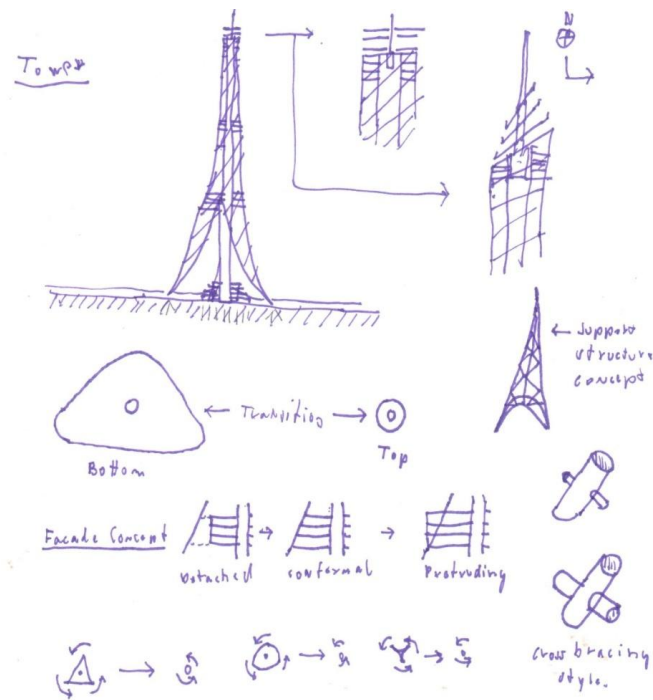
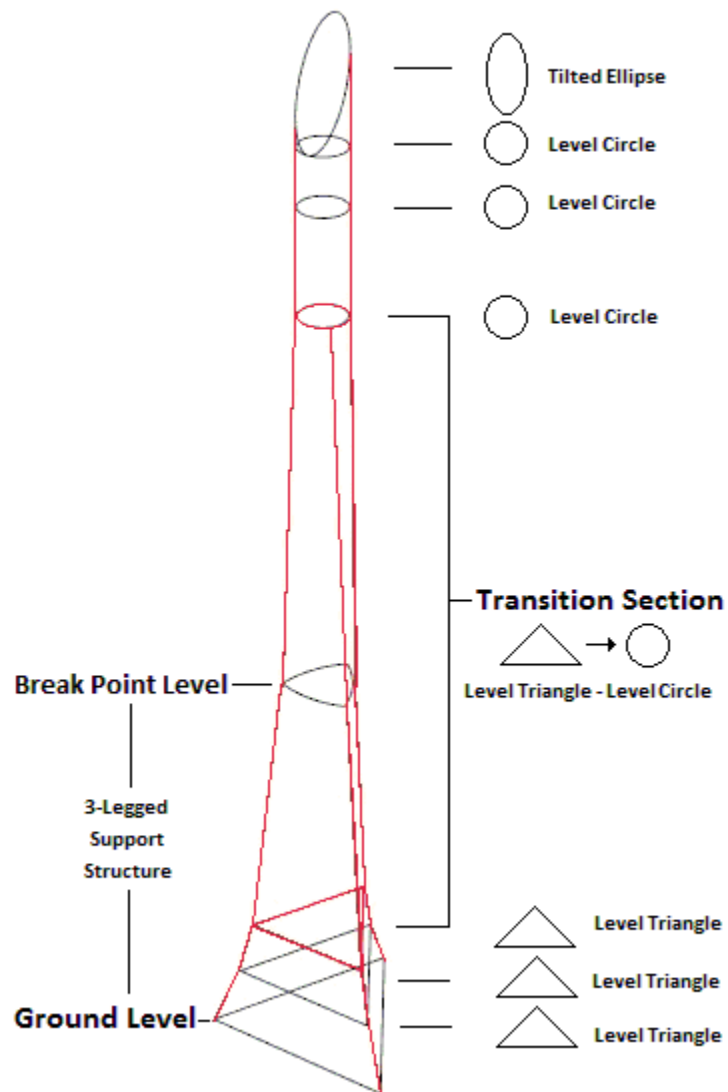
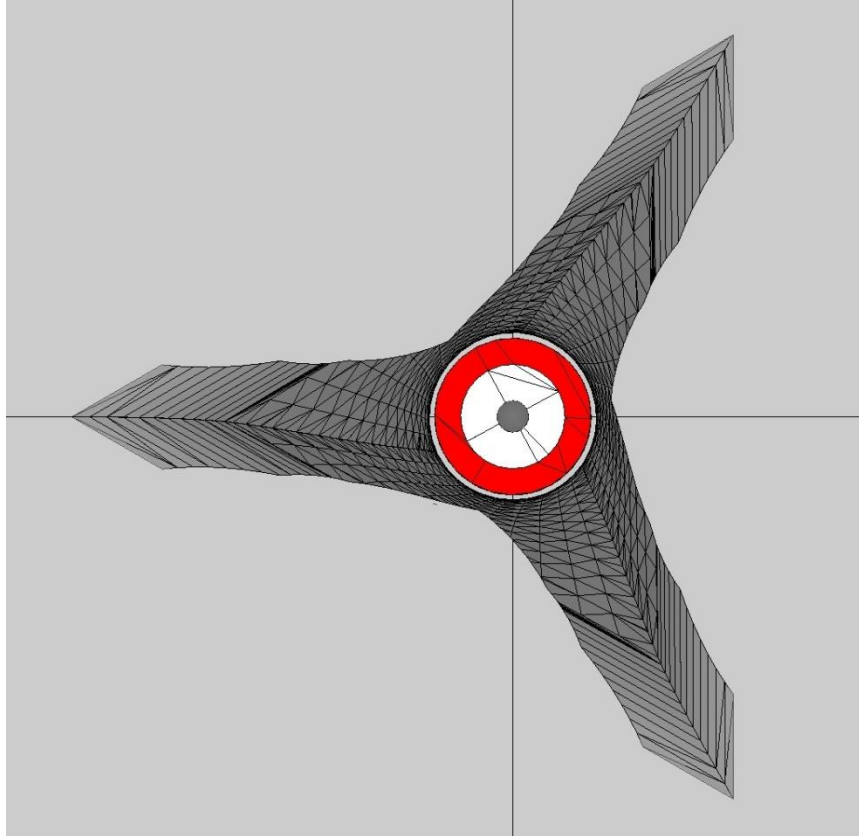


## Concept Design:

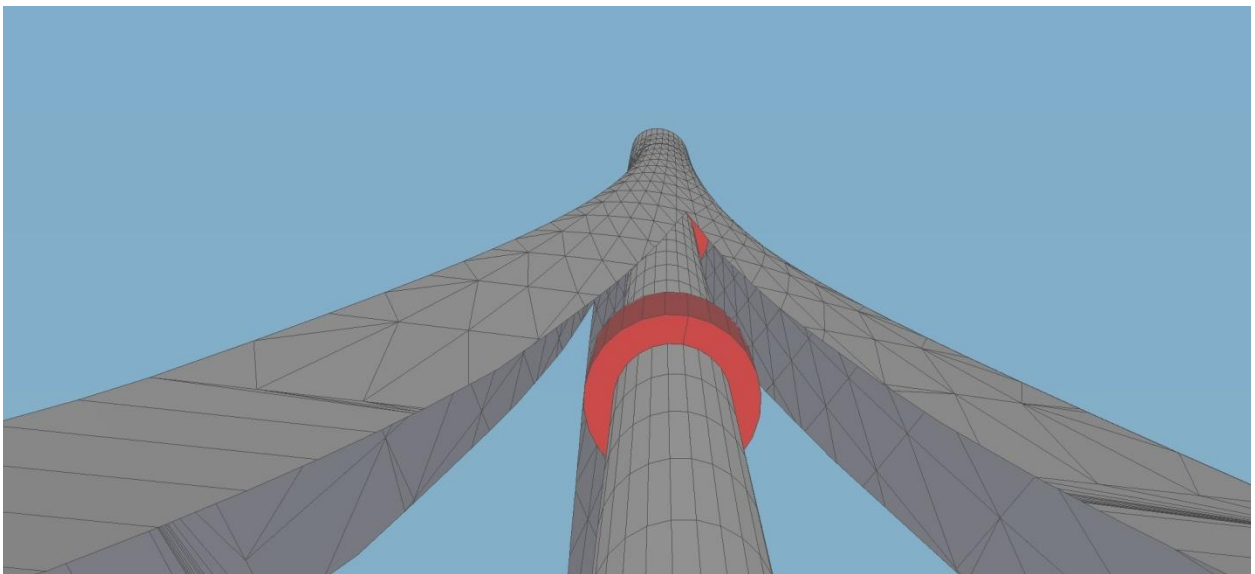


## CR Concept - Basic Design Form





A lattice structure made out of diagrids and some crossbracings.



## Description:

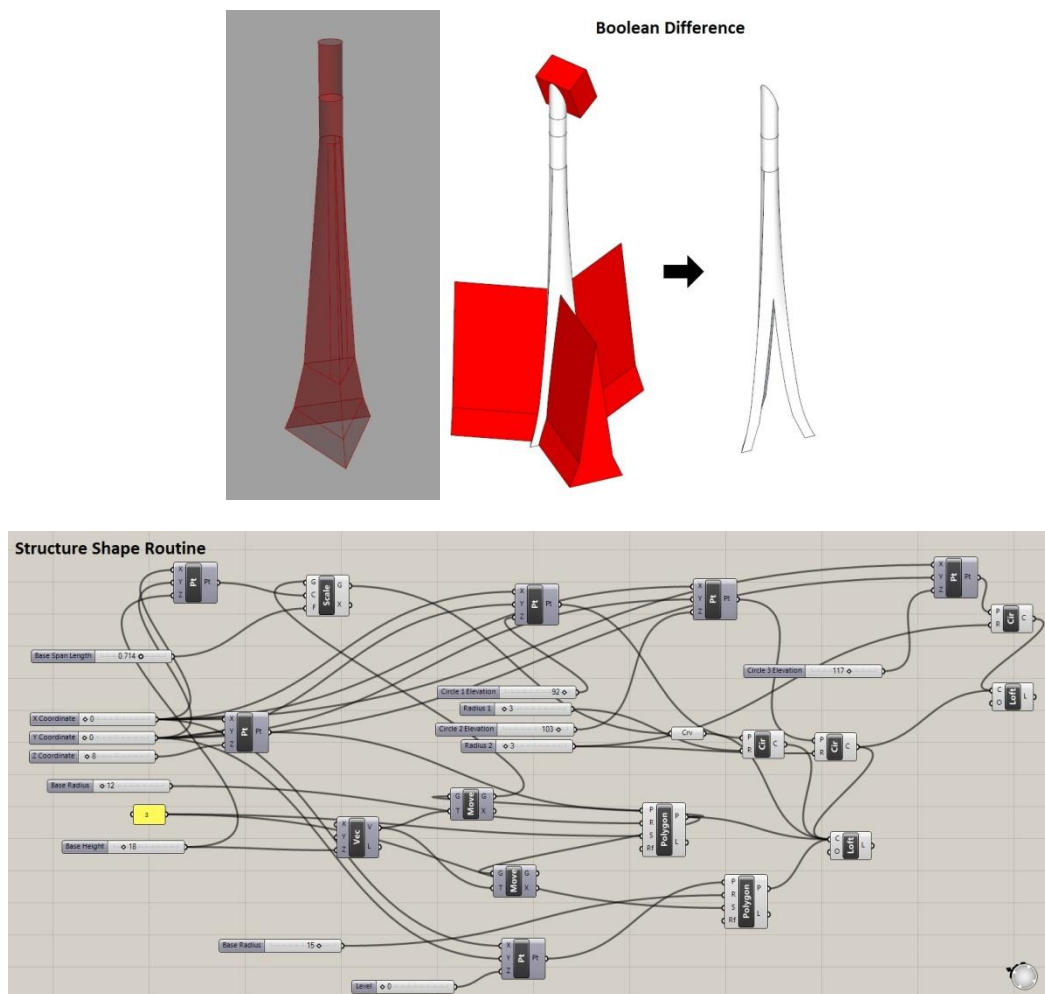
### Shape:

The Study Concept Model was created in Rhino and Sketchup. Rhino was used to create the transition piece that connected the triangular base with the circular base. Sketchup was used for everything else. The transition section takes up most the height of the structure. About halfway up/down the center piece, the three legs of the structure start to form.

The base of the structure consists of two truncated three-sided pyramids stacked on top of each other. The base connects to the transition piece described above.

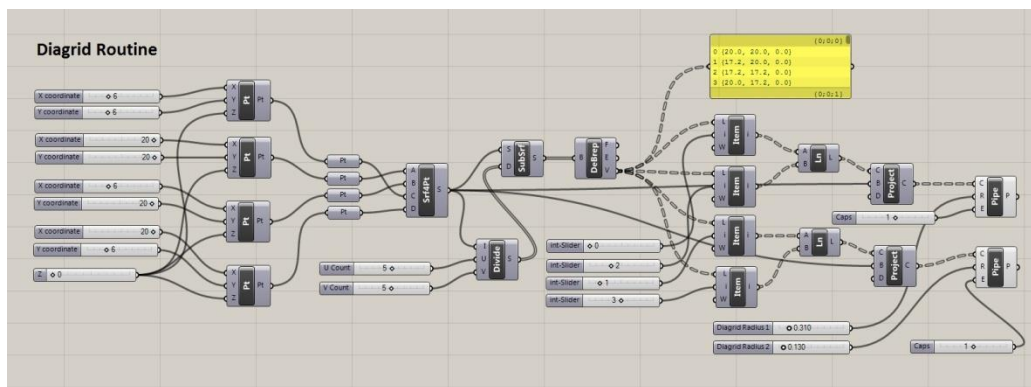
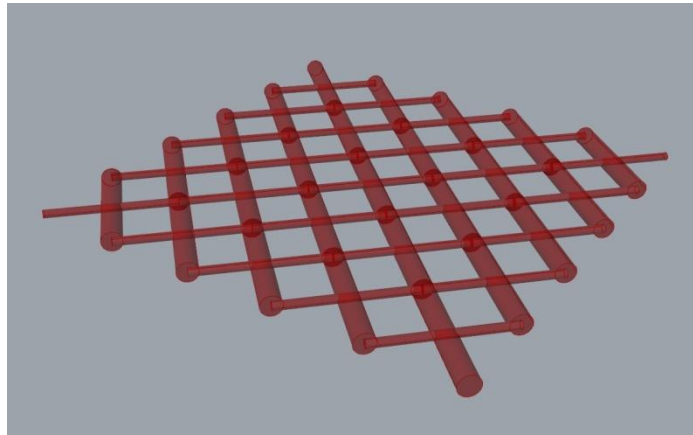
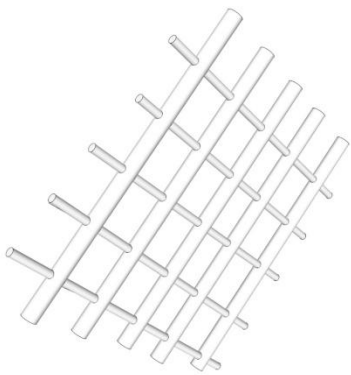
The upper section of the structure consists of a cylinder and a sliced cylinder.

After the basic shape has been established the structure twist by about 15 degrees counter clockwise.



### Structure:

Thick tubes connected to smaller tubes is desired.



## Goals:

The goal is to create a grasshopper routine that recreates a modifiable design concept as shown in the concept images. The following parameters should be modifiable

- 1) The size and elevation of all the basic triangles, circles and the ellipse.
- 2) The elevation and shape of the opening and the shape and size of the three legs.
- 3) The shape of the crown. The angle of the tilted ellipse.
- 4) The loft shape between the edges.
- 5) The grid size (U,V) of the diagrid.
- 6) The size of the 2 pipes used for the structure.

## Rhino Grasshopper Workflow:

- 1) Create Edges of the basic shape of the structure at the appropriate elevations.
- 2) Loft or sweep the edges to create a surface between the edges. Do this for the entire height of the Structure. The surfaces should flow into each other gracefully.
- 3) Take the boolean difference of the surface and the solids to create the split in the surface and the sliced cylinder at the top of the structure. (See Image)
- 4) Divide the surface and create a diagrid on the surface.
- 5) Twist the structure along the Z axis for a given degree counterclockwise or clockwise.
- 6) Create the tubing given 2 radii for the entire lattice structure.