ARCHITECTURAL BREADTH

The solar shades will add a dramatic impact to the buildings exterior walls. The architectural breadth will study the impact of the solar shades as well as study the optimum placement of solar shades on the building.

METHODOLOGY

The HSS River Building will be built with one side connected to the existing Caspary Building and 30 feet across from the existing Hospital for Special Surgery. With such a tight fit, the building will only require solar shades on the western exposure and minimally on the southern exposure due to its proximity to the hospital. In order to know where the sun will hit the building, sun locations from the azimuth and altitude tables were used. The maximum and minimum height location of the sun will be during June and December respectively. **Figure 13** shows the locations and sunlight spreads during those extremes at noon.

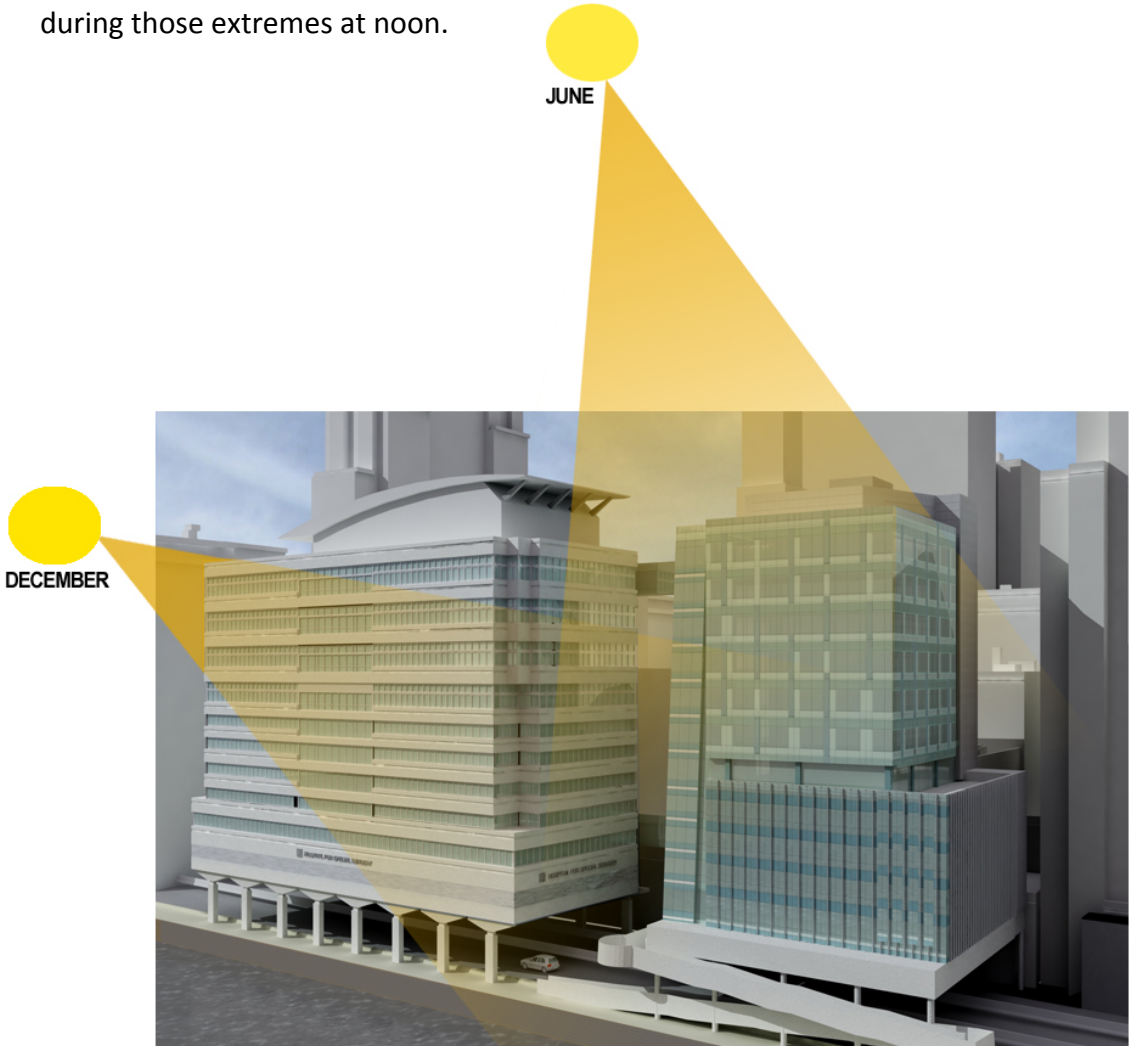

Figure 13. Sun Locations for June and December.

The solar shades will project three feet out, and have a total linear footage of 1,100 feet. The whole western exposure will contain solar shades while only the upper five floors of the southern exposure will have them. This is because the southern exposure will only be exposed to strong sun lighting during the summer months with the sun directly above. The southern exposure will never have direct sun lighting due to its proximity to the Hospital for Special Surgery next door, therefore, eliminating the need for solar shades below a certain height down from the top.

The renderings to show the solar shades were done by Adobe Photoshop. Cannon Design developed the actual renderings through Autodesk Viz for the building and background, while for this thesis; Photoshop was used to create the visual aspects of the shades and shadows.

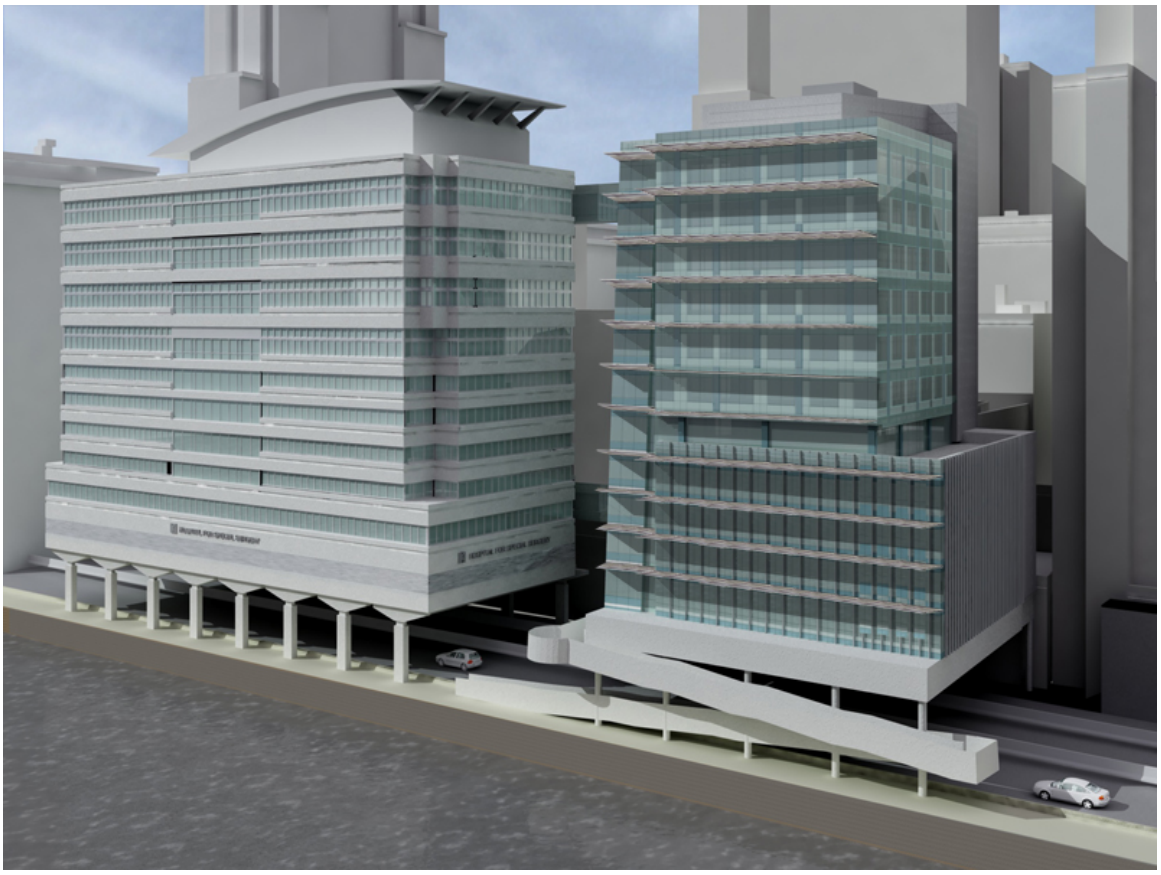

Figure 14. Western exposure solar shading system.

Figure 15. Southern exposure with solar shading system.

Figure 16. Southern exposure looking west to East River.

CONCLUSION

Not only does the solar shading system provide substantial cooling load savings and energy savings, the solar shades also adds a strong visual aspect to the building. The idea of adding solar shades to places where it only needs it provides the people on the street with a visually "smart" solar shading design. It also promotes visually the idea of sustainability and being attentive to the surrounding environment, which many buildings in New York lacks.