

## **Conclusion & Final Remarks**

The past year's work on the Art & Visual Technology Building has taught me as much as it has challenged me. While in many instances only the final design or solution is shown, it was a learning process including much iteration to come to the point I have. This building and thesis have taught me a great deal about the relationship between systems and how to approach design.

The lighting depth portion of the report focused on four major spaces; the main entrance façade, main entry lobby, exhibit gallery and typical painting studio. For each space I ended up having much different design criteria. Through much iteration I was able to come to a design solution for each that met the design criteria I had set out to meet. Through the use of the wall-washing LEDs I was able to create a dynamic and creative solution to give the building and department a sense of place and identity. The use of the slot downlighting and continuous wall sconce in the main lobby emphasizes the dimensions of the space while creating a unique feel. The painting studio provides a flexible and workable condition for painting students that is both effective and energy efficient. Finally, the use of the recessed channels in the exhibit gallery allows the design to have the low profile I desired, while still meeting the needs of the space.

The electrical distribution including branch circuits, feeders and panelboards for each space were adequately redesigned to handle the new lighting loads. Additionally, it was found that the extremely low utility rate coupled with George Mason University not being eligible for federal tax incentives led to a photovoltaic array not being financially viable for this project. Meanwhile, it was found that the use of energy efficient transformers would also not be recommended due to the extremely low electrical utility rate.

The redesign of the roof framing system was done to structurally accommodate the newly designed skylights. While providing a better distribution of natural daylight into the painting studio, it will cost less in the amount of structural steel needed as well as decrease the number and complexity of connections in the system.

Finally, an acoustical study was performed to evaluate and improve the existing acoustical conditions for the wood shop in the lower level of the building. Through the initial design it was found that no practical method could be employed to decrease noise levels in the shop to recommended levels. However, a redesign of the wall framing assembly for the adjacent crit room prevented the transmission of noise from the wood shop to penetrate this space.