

Benjamin Hagan

Lighting/Electrical Option

James J. Whalen Center for Music, Ithaca, NY

Primary Faculty Consultant: Mistrick



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Photo courtesy of HOLT Architects, P.C.

Executive Summary

The James J. Whalen Center for Music is an all-in-one home for the school of music at Ithaca College in Ithaca, NY. The Whalen Center is a 69,000 sf addition to the existing Ford Hall, a large performance hall constructed in 1964. The new facility contains 30 new faculty studios, a 250-seat recital hall, choral and jazz rehearsal rooms, a professionally equipped recording studio, an electroacoustic music suite, a music education resource center, a music technology classroom and laboratory, a user-friendly library for the ensemble music collection, and a covered walkway to the upper parking area.

During the Spring 2004 semester, the comments on my schematic design will be incorporated in the redesign of five separate lighting systems. The aesthetic and functional performance of the systems will be analyzed using lighting analysis software such as Lightscape. Daylight studies will be performed in AGI32, or Radiance, or both, depending on the specific situation. All designs will be checked for compliance with IESNA guidelines as well as ASHRAE/IESNA Standard 90.1-1999. Lighting plans, schedules, and specifications will be developed in order clearly convey the final lighting system designs.

The existing electrical system, designed by M/E Engineering, will be analyzed and any appropriate changes to the design will be suggested and supported. Building loads, distribution equipment, protective devices, and feeders will be redesigned if affected by the proposed changes to the system. A motor control center which feeds a significant mechanical load will be redesigned and appropriate feeders and protective devices will be resized. All calculations for the redesign of the electrical systems will be documented and will be accompanied by brief narratives describing the design procedure. All equipment selected for use in the redesign will be noted and manufacturer's technical information will be made available.

The addition of a daylighting system will disrupt the existing wall structure or roof framing, or possibly both. Adding a daylighting system will change the building weight due to material changes and framing will be resized appropriately. Roof framing will be redesigned, and members will be checked for satisfactory conditions under lateral loading. If necessary, a RAMSteel model will be incorporated.

The current acoustic conditions of the rehearsal space and the recital hall will be analyzed, and compared with the deleted acoustic treatments to see if the cost savings was worth the overall acoustic effect. Architectural features, material selection, and HVAC systems in both of these spaces will be analyzed and suggestions will be made on how to increase the acoustic quality while adding little or no cost to the existing design. Also, the acoustic impact of the addition of a daylighting system to the rehearsal space will be analyzed and, if necessary, compensating acoustic treatments will be suggested.