

Villanova University: School of Law
Villanova, PA

100%-Technical Report 2

November 2, 2007

Executive Summary

The following Electrical System Existing Conditions and Building Load Summary Report analyzes the current conditions regarding the electrical system of the Villanova University: School of Law. This report analyzes all components of the electrical system as well as studies the sizing of the service entrance equipment. The systems that were analyzed are but are not limited to the service entrance, equipment size, the fire alarm system, the security system, the lighting systems, the mechanical equipment sizes and the telecommunication system. A single line diagram was produced to help better understand the power distribution system of the law school.

Upon completion of the report, it was shown that the switchgear was sized correctly for this particular building. The 3000A switchboard will protect the load that was calculated in all three of the sizing methods. The transformer is undersized but as was discussed in class, this is a practice that is often used. A transformer can withstand short term overloads as the heat in the transformer is the issue unlike tripping in most other equipment. Further downstream, it was also discovered that all busses and over-current devices were sized correctly as well.

Any relevant information that is not located in the body of this report can be found in the appendices that follow. The information located in the appendices include the switchgear detail and schedule, the motor control center and schedule, the luminaire schedule, the mechanical equipment schedule, all service entrance calculations and the single line diagram.