EXECUTIVE SUMMARY

The purpose of this report is to perform a detailed analysis of the existing mechanical systems in the new student housing project at the Mount St. Mary's University. In order to accomplish this examination of the building's mechanical equipment selection and design, the objectives and requirements of the design are first described and evaluated.

To gain a better understanding of how the building actually functions, ventilation requirements, heating and cooling load estimates, and energy and cost analyses preformed in the previous two technical reports have been reexamined and resubmitted. In this way, one may be better capable of grasping the way that all of the building's systems work together and affect one another.

The building's actual mechanical systems are then evaluated and explained in depth, using schematic drawings to better illustrate the way the systems work. The geothermal heat pump system, the ventilation system utilizing energy recovery, and the domestic service water system are all broken down here in an attempt to better understand the building's systems as a whole.

Finally, the building is critiqued and found to be very well designed for a university as conscious about sustainable design as the Mount St. Mary's has proven to be. It is suggested here that while the chosen system may well be the best choice for a dormitory with an environmental conscience, it may not have been the most cost effective solution, and several alternatives are put forth for potential evaluation.