

EXECUTIVE SUMMARY

The purpose of this report is to study and summarize the existing mechanical systems of The Waverly on Lake Eola in Orlando, Florida. The Waverly on Lake Eola is a 23 story, 371,000 square foot luxury condominium high-rise. The design objectives and requirements for The Waverly were first studied. The main objectives were to provide superior air quality by supplying all spaces with 100% outdoor air, while keeping the first cost of the system relatively low.

Energy sources and rates must be taken into account during mechanical systems design. The electricity to The Waverly is provided by the Orlando Utilities Commission. Cost of electricity was not an overbearing issue to the contractor considering tenants would eventually be paying the bills. The primary factor of the site that creates difficulties is the hot and humid climate of Orlando. The experience the mechanical design firm, GRG consulting engineers, has with the area made them a good candidate for design.

Outdoor and Indoor design conditions were found in the AESHRAE Fundamentals handbook. Calculations for design ventilation requirements were done in order to see if the air quality is up to code. Since The Waverly utilizes 100% outdoor air in all spaces, these requirements were easily met. Design heating and cooling load calculations are not yet complete, but will be added to the report upon completion.

Basic schematic drawings of the system were created in order to better describe, and understand the existing system. Equipment schedules are also found in the report. A conceptual description of the mechanical system utilizes the schematic drawings to describe the system in a manner that could be understood easily. Lastly, the building is critiqued according to all information gathered in the report.

