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AE 481/897G  
Mechanical Option  
Morton Hospital Expansion  
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#### Senior Thesis Final Presentation Outline

- I. Introduction (1 slide)
- II. Building Overview (1 slide)
- III. Current System Overview
  - a. Heating (1 slide)
  - b. Cooling (1 slide)
  - c. Airside(1 slide)
  - d. Energy Consumption (2 slides)
  - e. Operating Cost (1 slide)
  - f. ASHRAE 90.1 Analysis (1 slide)
- IV. Mechanical Depth
  - a. Alternative 1 – Water-Cooled Chiller & Air-to-Air Heat Recovery
    - i. Heating (1 slide)
    - ii. Chilled Water and Condenser Water Loop (2 slides)
    - iii. Air-to-Air Heat Recovery (2 slides)
    - iv. Energy Consumption (3 slides)
    - v. Operating Cost (1 slides)
  - b. Alternative 2 – Variable Refrigerant Flow
    - i. Refrigerant Loop (2 slides)
    - ii. DOAS Heating (1 slide)
    - iii. DOAS Cooling (2 slides)
    - iv. VRF Sizing Overview (2 slides)
    - v. ASHRAE 15 Analysis (2 slides)
    - vi. Energy Consumption (3 slides)
  - c. Overall Comparison
    - i. Energy Consumption Summary (2 slide)
    - ii. Life Cycle Cost (1 slide)
- V. Structural Breadth
  - a. Roof Plan (1 slide)
  - b. Calculations (1 slide)
- VI. Electrical Breadth
  - a. VRF Electrical Consumption Overview (1 slide)
  - b. Calculations (1 slide)
  - c. Roof Plan (1 slide)
  - d. Pay Back (1 slide)
- VII. Computational Fluid Dynamics Analysis
  - a. Isolation Room Model (1 slide)
  - b. Residuals (1 slide)
  - c. Results (2 slides)
- VIII. Conclusion (3 slides)
  - a. Recommendations
  - b. Acknowledgements