Preface

The summary below provides a quick understanding of how well your HVAC systems balanced in respect to the design criteria. The summary concludes with a quick understanding of your building environment and possible suggestions for each of your systems after testing has been performed. Our focus is to work with the trades to remedy any issues or deficiencies during the actual field balancing and not after the balancing has occurred. Our focus is to achieve a positive environment and outcome. The level of success is determined by the availability of the trades, possible parts needed, or time constraints. Also, enclosed are pictures of building assets and items listed below that will provide your team with more insight.

Facility Identification and TAB Requirements

The mechanical equipment to be tested, adjusted, and balanced includes: All Roof Top Units (RTU), All Exhaust Fans (EF), All Kitchen Hoods, and all associated air devices.

RTU's (Roof Top Units)

Before balancing, the RTU's are commanded to high fan speed through the BMS. Each of the RTU's were measured at their terminal devices or via traverse to establish a total flow for that unit. Each RTU was adjusted to within +/- 10% of the engineer's design flow. Any equipment that fell outside of that tolerance is noted throughout the report.

RTU's (Roof Top Units) with Terminal Devices

Before balancing, the RTU's are commanded to high fan speed through the BMS. Each of the RTU's were measured at their terminal devices utilizing a flow hood. The sum of these readings is equal to the total flow for that particular unit. Each RTU was adjusted to within +/- 10% of the engineer's design flow. Each terminal diffuser was balanced to within +/-10% of the engineer's design volume utilizing the provided hand damper located at the takeoff of the main & branch trunk line(s). Any equipment or air devices that fell outside of these tolerances are noted throughout the report.

Miscellaneous Diffusers

There were some diffusers specified with airflow on the mechanical drawings that did not include a balance of the unit they serve. These air devices were measured with a flow hood and balanced to within +/-10% of the engineer's design. Any air devices that could not be balanced within this tolerance are noted throughout the report.

Kitchen Exhaust Hood & Associated Fans

The kitchen exhaust fan was measured at the main hood filter bay utilizing a velocity matrix and a manufacturer's correction factor. Each filter velocity is multiplied by the manufacturer's corrected area. The sum of these readings equals the total flow of the exhaust fans. The total flow of the exhaust was then adjusted to +/-10% of the engineer's design flow.

Total flow for the MUA unit has been determined by readings taken at the discharge of the hood's perforated supply plenum. Readings taken with a velocity matrix were averaged and multiplied by a manufacturer's corrected area. Adjustments to the fan speed were made in order to bring the unit to within +/-10% of design criteria.

Bakery Exhaust Fans

The bakery exhaust fans were measured by traversing the B-vent ductwork. The average velocity of these readings was multiplied by the cross-sectional area of the duct to calculate airflow. Adjustments were made to the fan speed so that the airflow is within +/-10% of design criteria.

General Exhaust Fans

The remaining building EF's were measured by reading each air device with a flow hood. The total airflow is equivalent to the sum of these readings. The fan speed for each EF was then adjusted when necessary, so that the airflow was within +/-10% of design. Each terminal device was balanced to within +/-10% of the design volume using the installed volume dampers. Any equipment that falls outside of this tolerance is noted throughout the report.

Final Building Tests

After completing the test and balance, the final building pressure was recorded at [X.XXX]" W.C. average with all fans running. The building is designed for a net positive pressure and this measurement coincides with that requirement.

A smoke containment test was performed on each hood by using a smoke emitter. The test was performed at the hood perimeter and the cook top level with the equipment heat "on" and ___% capture was observed.