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To: JoAnn Michaels

From: Viking Construction Inc.

Summary: HVAC inspection report of the Davenport - Elementary School in Stamford CT.

**Davenport** – 1300 Newfield Ave.

During our HVAC Investigation at the School, we tested the operations of all of the equipment, to check for deficiencies and possible causes, for the past moisture issues. We did not find any signs of mold in or around the accessible areas of the unit's curbed plenum. We did however find multiple penetrations into the curbs that are subject to water infiltration that could cause excessive moisture into the Ventilation system. All of these curbed plenum's are lined with a fiberglass duct liner that has heavily deteriorated over the past 17 years since the equipment has been installed. Most of the duct liner used in the HVAC systems are treated with an anti-microbiologic property that is resistant to moisture and is designed to be installed in conditions with small amounts of moisture. However, if it gets soaked it can potentially create an environment for mold spores to grow. Due to the design of the curb we are only able to acquire access to certain sections of the plenum. Past the Zone Dampers we are unable to inspect the conditions of the duct and liner. In the immediate access door location of the plenum the Duct liner has been severely damaged and is falling apart, allowing these pieces debris to drift downstream into the system and causing possible air flow blockages in the smaller supply feeds. We recommend when the RTU's are sent out to Bid for replacement that the curbs be evaluated for replacement along with the RTU's.

We found that some of the zone and bypass dampers are not responding to the BMS commands. Most of the Economizer's are set to low minimum positions or fully closed. We found 3 cracked heat exchangers and 1 bad compressor, 1 failing supply fan motor. Almost every compressor contactor is pitted and worn and should all be replaced. There are a few condenser fan motors that have noisy motor bearing and will soon fail. Overall, the equipment is in fair to good condition with the typical expected problems to be found. The life expectancy of these RTU's is less than 5-years, and should be considered in the budget for replacement within the next few years.

The Exhaust fans are in the worst condition with only 10 out of the 25 fans being operational. Most of them should be replaced vs. repaired due to age and condition. Six of the fans were being commanded by the BMS system but there was no power to the fans local service switch. Recommend investigating further the cause for loss of power to the equipment.

Air Quality and Air changes in and out of the buildings seem to be the main issue with the past moisture problems