

## **Winsted Hinsdale Mechanical Observations & Recommendations**

### **Existing**

- Steam boiler is serving the original portion of the school
- The rooms are served are served with a combination of unit ventilators with baseboard radiation
- No steam boiler chemical treatment was seen in this boiler room. The school has 2 boiler rooms.
- Boiler room #2 is a hot water boiler that delivers hot water to the combination of unit ventilators with baseboard radiation.
- No boiler water chemical treatment was seen in this boiler room as well.
- The heating in the rooms, that are hot water, are controlled by individual thermostats that are mounted on the wall.
- The roof mounted exhaust fans, as well as the existing fan room fans on the roof, are past their service life and need to be replaced.
- Some toilet rooms do not have transfer air ducts.
- No central Building Management Control System. Control system is the pneumatic control type. System is old, antiquated and very difficult to get parts and not supported by anyone.

### **Proposed System**

- Remove all the existing mechanical systems in its entirety.
- Provide new Rooftop units that are gas fired with DX cooling and hot gas re-heat, 100% economizer, VFD drives. Hot gas re-heat is used for humidity control.
- Provide shut-off VAV boxes with dedicated controls in all interior spaces.
- Provide fan power VAV boxes with electric re-heat for all rooms that have an outside exposure including the roof.
- Provide dedicated units for the cafeteria areas that will see various usage.
- Provide an Energy Management System (EMS) provides a building owner with the ability to monitor, control, and adjust all HVAC (along with plumbing and electrical if desired) systems from a central location. An operator workstation consisting of a personal computer and printer can be located in the building, and this station can be accessed remotely via the internet. The building owner can set occupancy schedules, adjust setpoints, and monitor trouble/alarm conditions in an efficient manner with this tool. Features such as night setback, holiday scheduling and weekend scheduling will be included to allow the system to minimize energy expenditure during unoccupied periods. An alarm feature will be added which can remotely notify facilities staff of any pre-determined, alarm conditions.