

## North Drive Middle School

### *HVAC Replacement*

**Owner:** Christian County Board of Education

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**Building Area:** 77,860 SF

**Construction Cost:** \$ 2,650,000

**Project Status:** 100% Design



**Project Description:** This project included complete replacement of existing 77,860 SF school's HVAC system including ductwork, piping, controls and all equipment. Project was performed as an energy savings performance contract with Trane Corp.

#### Engineering Highlights:

##### HVAC:

The existing boiler/chiller two pipe system was completely replaced with a new hydronic heat pump system consisting of a gas boiler, evaporative cooler, and individual room heat pumps. Individual classroom units incorporated integral energy recovery wheels to temper outside air. A computer based web accessible energy management controls system was provided that allows 100% monitoring and control of all spaces. Individual high efficiency gas fired rooftop units were installed for the kitchen and gym areas.

Variable Refrigerant Flow (VRF) heat pump systems were installed in administration suites and small individual office areas.

##### Electrical:

A new electrical power subsystem was created that is fed from existing circuit breakers as they are being abandoned by the removal of existing HVAC equipment. This approach minimizes disruption to existing power systems, serving classroom needs and allows work to continue without outages or instructional disruptions.