



Perth Amboy High School NJSDA Engineer of Record

PROJECT INFORMATION

CONCORD DIVISION

Commercial

PROJECT LOCATION

Perth Amboy, NJ

MARKET

K-12 Schools

SERVICES

Engineer of Record

CONSTRUCTION COST

\$230 Million

ABOUT THE CLIENT

The New Jersey Schools Development Authority (NJSDA) is the State agency responsible for fully funding and managing the new construction, modernization and renovation of school facilities projects in 31 New Jersey school districts known as the "SDA Districts".

REFERENCE

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PROJECT SUMMARY

The new Perth Amboy High School is one of the largest Design-Build projects undertaken by the New Jersey School Development Authority. Concord Engineering is Engineer of Record providing the mechanical, electrical, plumbing and fire protection engineering services in support of the Design Build Contractor (Terminal Construction Corporation) and Architect (RSC Architects). The new Perth Amboy High School will be situated on an 11.6 acre site. The new 576,000 square-foot facility will educate 2,800 students in grades 9 through 12.

PROJECT HIGHLIGHTS

- The building is heated and cooled by a central boiler plant and central chilled water plant. The 24MMBTU boiler plant makes use of modular high efficiency condensing natural gas fired boilers. The chilled water plant includes two high efficiency air cooled chillers and a thermal energy storage system designed to minimize peak load demand. The thermal energy storage system consists of 31 ice storage tanks that are "charged" when the building is un-occupied and then used to reduce the demand on the chillers during occupied hours. Hot and chilled water are distributed from the plants to air handling equipment throughout the building.
- Electrical infrastructure includes a 13.2kV 1200-amp utility service stepped down at three exterior pad mounted transformers. Emergency power is provided by two 600kW generators. Metering for major end users such as lighting, outlets, general HVAC, and the chilled water plant is provided to meet LEED requirements.
- Domestic water is provided to the school via a 6" underground service. Domestic water booster pumps boost the pressure to meet the building requirements. Domestic hot water for six independent zones will be generated by high efficiency condensing water heaters. Natural gas is distributed at low pressure within the building to all gas burning appliances and as required for science labs. Generators and rooftop gas fired equipment are served by a medium pressure line.
- Fire Protection infrastructure includes a 40,000 gallon storage tank and an electric, vertical turbine fire pump to provide adequate pressure for the building requirements. The fire protection system will be replenished via connection to the low-pressure domestic water service to the building.
- LEED Silver certification is expected to be achieved. Measures included to meet this goal include optimizing energy efficiency, advanced energy metering, improving indoor air quality, and increasing water efficiency.