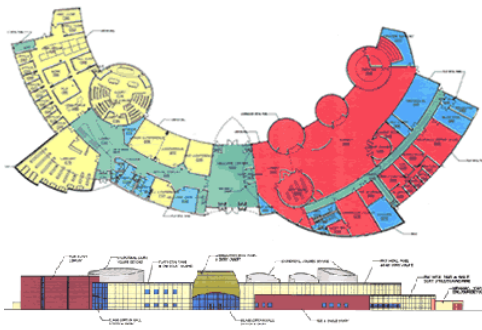


Wakpa Sica Reconciliation Place



Currently under design, this 84,000 SF center will be built on land that has been returned in trust to the Tribes of the Sioux Nation by Congress to build a place where all people can gather to work for better cultural understanding and improved justice. This breakthrough project has been in development for 14 years.

Engineering challenges for the facility include stringent humidity requirements for the museum exhibit areas (+/- 3% control) and acoustical requirements of NC30 or less. Phased construction of the facility required additional planning of central systems.

Project Data

Location

Fort Pierre, South Dakota

Building Type

Cultural and Judicial Center

Building Area

84,000 square feet

Mechanical Systems / Features

4,000 MBH Boiler Plant
250 Ton Chiller Plant
Energy Recovery

Electrical Systems / Features

Two 3,000 Amp Electrical Services
Interior/Exterior Lighting
Security System

Completion Date

Scheduled for Fall 2006

Architect

AmerINDIAN Architecture
www.amerindian.com

Mechanical Engineering

The design includes a dedicated outside air preconditioning unit to control humidity and supply outside air to the space. This air-handling unit will use a total energy heat recovery wheel between the exhaust air stream and the outside air intake. A cooling coil inside the unit will cool the outside air to required space dew point before passing conditioned air through a supply fan to the primary air handling unit. HVAC systems are designed to a NC rating of 30, with more stringent acoustical requirements in some areas.

Perimeter fin tube radiation will be utilized throughout the facility. Airside systems include variable frequency drives, variable air volume with reheat and constant volume reheat systems.

Electrical Engineering

The electrical design features two independent 3000 Amp, 208-Volt services located at opposite ends of the facility to accommodate construction phasing, a life-safety generator, lightning protection, and no interior transformers to maintain a high facility electrical efficiency.

Lighting design included exhibit display lighting, exterior powwow lighting, controlled/dimmed theater and stage lighting, exterior building illumination, and roadway/parking lighting.

Electrical systems include intrusion detection and closed-circuit television security systems, full-coverage fire detection, and an intercom system.