

## Arrowhead Country Club Renovation



### Project Data

#### Owner

Arrowhead Country Club

#### Location

Rapid City, SD

#### Building Type

Hospitality

#### Building Area

30,000 square feet

#### Mechanical Systems / Features

New domestic water system  
VAV Air Handling / Rooftop Units  
75 ton Air Cooled Chiller  
Ductless Split System AC Units  
Gas Fired High Efficient Boilers  
Fire Suppression system

#### Electrical Systems / Features

120/208v, 1600 amp Power Service  
Lighting with Smart Controls  
Programmable Intermatic Controls  
Unitary Battery Backup Lighting  
Data/Telcom, Wireless Infrastructure  
Addressable Fire Alarm

#### Construction Cost

\$4,650,000

#### Completion Date

October 2009

The Renovation of this 30,000 SF Country Club features a new Entry, Banquet Addition, Kitchen and Mechanical / Electrical Room. The project also includes renovation of the Pro Shop, Administration, Locker Rooms, Dining and Lounge areas. The Banquet room will be used to hold meetings and other gatherings. The banquet will utilize partitions to separate this area into three distinct spaces. The dining area will be divided into two spaces that can accommodate both member and private dining arrangements.

#### Mechanical Engineering

A new domestic water service will enter the building in the lower level mechanical room. New plumbing fixtures will be installed throughout the facility. The majority of the plumbing piping will be new. A new domestic water heating and softening system will be provided.

The HVAC systems consist of a VAV Air Handling Unit in the mechanical room to serve the lower level and three VAV Rooftop Units to serve the kitchen, dining and lounge areas. The units will serve VAV Boxes located throughout the building. The Kitchen will incorporate an evaporative cooling make-up air unit to provide air to the new kitchen hood system. A new air-cooled chiller will provide cooling to the building. Gas fired high-efficiency boilers will provide heating hot water to the facility.

A new wet type fire protection system will be installed in the building with the service being located in the basement mechanical room.

The facility is equipped with a full web based DDC control system for monitoring and optimization of systems. A new head end control will reside with a computer in the new mechanical room.

#### Electrical Engineering

The new lighting required a mixture of premium architectural fixtures mixed with track and commercial-grade fluorescent fixtures. The restaurant design resulted in a dimming system.

The power system design replaced the old 1200 amp entrance with a new 1600 amp service located in a new electrical room. The system supported new kitchen and restaurant power connections.

Systems included addressable fire alarm, wireless and data/tele communications wiring, and TV distribution signals.

