

IDAHO DEPARTMENT OF VETERANS SERVICES



BOISE, ID, USA

GOVERNMENT

RADIANT HEATING VIA GEOTHERMAL SUPPLY

The Idaho Department of Veterans Services is a 511 m² (5,500 ft²) administration facility, which required the use of low temperature, radiant floor heating coupled to the city of Boise's geothermal supply system.

PROJECT DETAILS

Reliable Controls Authorized Dealer, Control Sentries of Idaho LLC, completed this new construction project for the Idaho Department of Veterans Services.

The networked hardware includes a MACH-ProWebSys™ tied to the facility's V-LAN, in addition to two MACH-ProPoint™ devices, a MACH-Stat™, and six SMART-Space LCD™ I/O devices. The installed mechanical equipment includes the city's multi-VRV head pump system, which was integrated into the MACH-Pro-WebSys through the BACnet® protocol.

The use of the low temperature, radiant floor coupled to the city of Boise's geothermal supply system made this project unique, and enabled the ability to offer customers higher savings than electrical or gas utilities.

Challenges included maintaining a 50 °F temperature difference across the geothermal supply and return in order to maintain a lower cost of operation as compared with natural gas. The system achieved this by using a primary loop and cascaded secondary heating loops. Additionally, a snow-melt system was incorporated to utilize the remaining heat in the geothermal supply. This provided heat well over 100 °F.

Radiant heating provides a higher level of comfort and by using a natural, geothermal supply, the system has lower carbon emissions and higher efficiency than other types of systems. A 70% reduction in monthly HVAC-related utility costs was realized.

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**PROJECT TYPE:****New Construction****TOTAL AREA:****511 m² (5,500 ft²)****INSTALLATION TYPE:****Geothermal, VRV Heatpump System****EQUIPMENT INSTALLED:**

1 MACH-ProWebSys™
2 MACH-ProPoint™
1 MACH-Stat™
6 SMART-Space LCD™ I/O

NETWORK:

EIA-485
Ethernet
LAN

INTEGRATION:

BACnet®
Proprietary Gateway

TOTAL SYSTEM POINTS:**74 points****RELIABLE CONTROLS® DEALER:****Control Sentries of Idaho LLC**

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