Charlotte Hawkins Brown Museum Cooled by a Hybrid Geothermal Water Source Heat Pump System

The Charlotte Hawkins Brown Museum in Sedalia, North Carolina, is an historical campus with buildings dating back to the early 1900s. The museum is funded and run by the state of North Carolina, so when it was time to determine a new cooling system for the site, it was important that energy efficiency and future expansion were taken into consideration.

At design, only two buildings needed cooling, however, it was determined another building would probably be built and added in the coming years. Sound levels were another concern, with visitors coming in and out of the museum buildings close to where the system needed to be located.

The Museum sits in an open area, surrounded by green fields. The consulting engineers, SUD Associates, saw these open fields as an opportunity to provide the Museum with a green, energy efficient, hybrid geothermal water source heat pump system. Lead engineer on the project, Ms. Dixie Davis, commented, "It was important to have an energy efficient solution that also provided us with an oversizing option for future projects." Following ASHRAE guidelines for oversizing the cooling tower, Ms. Davis was able to plan for the future Museum building while also providing extra capacity for load fluctuations and slower fan speeds. Nine bore holes were drilled into the open field, supplying supplement cooling to a BAC VTL Low Profile Cooling Tower. By making the geothermal site a hybrid one with the cooling tower, it provided an initial lower cost, while providing an easier way to add capacity quickly and economically in the future. Ms. Davis then chose the Series V Low Profile Cooling Tower for its capacity options, low sound qualities, and low height.

Charlotte Hawkins Brown Museum and Series V Low Profile Cooling Tower

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