

**Geo Source One Inc.**  
**Willett Project**  
**Radiant Panel Association 2005 Showcase Award**



The Willett project located near Hilliard, Ohio comprises 8915 sq. ft. of finished floor space. The space heating and cooling loads for this residence are accommodated using four WaterFurnace geothermal systems. Three forced air geothermal “E” series with zone controls for two stages of heating and air-conditioning and one hydronic “EW” series reverse cycle WaterFurnace hydronic geothermal unit for radiant floors and as a chilled water source for two, 2-ton Multi-Aqua wall fan-coil units in the Conservatory. Radiant heat is applied in concrete for approximately 1,900 sq ft. of finished basement. A tiled Master Bath utilizes 238 sq. ft. of under floor radiant heat using thermo-fin aluminum reflector plates and ½ inch PEX tube set on 8 inch centers between the floor joists.



Paul Richardson Of Geo Source One inc. trims pull-ties on the radiant heat tubing for the Willett's conservatory. Tube spacing for the thin-pour is 6 inches

The Conservatory with 182 sq. ft. utilizes 3/8ths inch Pex on 6 inch centers in a thin-pour, radiant heat application. Due to increased heat loss from conservatory windows, additional heat is provided through the use of two Multiaqua Fan Coils. The fan coils are supplied with hot

fluid from the geothermal hydronic system in the winter and chilled 45 degree fluid in the summer for air-conditioning. They maintain perfect comfort in the warmest and coldest weather.



Completed Conservatory with radiant heated floor

Unique to this application is the use of a reverse cycle WaterFurnace 4 Ton hydronic “EW” series geothermal unit coupled to a Heat Transfer Products stainless steel hot/chilled water storage tank. A primary – Secondary pumping system between the geothermal unit and the storage tank maintains the tank at 115 degrees when heat is required and at 45 degrees when there is a cooling demand from the Conservatory. The secondary pumps are dedicated to four zones: Basement recreation, theater, kitchen, and bath as one zone, Master Bath as a second, conservatory floor as a third and conservatory fan coils as a fourth zone. When there is a demand for air-conditioning in the conservatory, a heat / cool changeover switch signals the geothermal system to make chilled water. The A/C control signal locks out operation of the secondary hot water circuit pumps while allowing the fan-coil pump to deliver 45 degree propylene glycol solution to the fan-coils.



Conservatory with 2-ton Multi-Aqua chilled water fan-coils for air-conditioning.

WaterFurnace EW series hydronic geothermal system for radiant heat with insulated stainless steel storage tank for heating and cooling.

