CONSERVATORY • BUTTERFLY HOUSE • PRODUCTION GREENHOUSES

BUILDING:	**Reiman Gardens Conservatory**
OWNER:	Iowa State University Ames, IA, USA
CLIENT:	Architects Smith Metzger Des Moines, IA, USA Mr. Daryl Metzger, AIA
AREA:	13,500 sf
COMPLETION:	2002

This award winning building located in the largest public garden in Iowa features five supporting greenhouses totalizing 6,000 sf, a 5,000 sf indoor conservatory year-round plant displays and a 2,500 sf butterfly house.

Agritechnove was responsible for the facility programming, the complete design (drawing and specification) of the supportingg greenhouses and the control design aspects of the conservatory/butterfly house, bid documents, and non-resident construction supervision.

SPECIAL FEATURES - Natural ventilation is used in conjunction with automatic shading and fog system to minimize the use of forced air system. Fresh air is introduced through modulating north wall vents in each greenhouse compartment, as needed. Other features are: Special insect screening in natural ventilation openings and on positive pressure fans. Snow melt function with heat generated close to the roof to ensure structural integrity and snow melting to avoid long periods of time with light obstructed by snow on the roof.

TECHNICAL SYSTEMS - Commercial A-Frame glass structural system with over 180 points distributed DDC control system with greenhouse designed software tied to a weather station. All greenhouses, conservatory and butterfly house functions are tied to this system: HID lighting, automatic irrigation and misting system, high pressure fog system, modulating hot-water heating system with fin tube radiators, 2 speed forced ventilation systems, HAF recirculation fans, shade/energy curtains, electrical outlets in some zones. Rolling benches and manual water outlets. Electrical main power, electrical distribution and emergency power that feeds the horizontal shading, positive pressure ventilation and heating systems.

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