

**United States Department of the Interior
National Park Service**

For NPS use only

**National Register of Historic Places
Inventory—Nomination Form**

received FEB 14 1985

date entered

MAR 14 1985

See instructions in *How to Complete National Register Forms*
Type all entries—complete applicable sections

1. Name

historic Horticulture and Agricultural Physics, and Soil Science

and/or common King Hall and Soil Science

2. Location

street & number 1525 Observatory Drive; University of Wisconsin Campus— not for publication

city, town Madison _____ vicinity of

state Wisconsin code 55 county Dane code 025

3. Classification

Category	Ownership	Status	Present Use
<input type="checkbox"/> district	<input checked="" type="checkbox"/> public	<input checked="" type="checkbox"/> occupied	<input type="checkbox"/> agriculture
<input checked="" type="checkbox"/> building(s)	<input type="checkbox"/> private	<input type="checkbox"/> unoccupied	<input type="checkbox"/> commercial
<input type="checkbox"/> structure	<input type="checkbox"/> both	<input type="checkbox"/> work in progress	<input checked="" type="checkbox"/> educational
<input type="checkbox"/> site	Public Acquisition	Accessible	<input type="checkbox"/> entertainment
<input type="checkbox"/> object	<input type="checkbox"/> in process	<input type="checkbox"/> yes: restricted	<input type="checkbox"/> government
	<input type="checkbox"/> being considered	<input checked="" type="checkbox"/> yes: unrestricted	<input type="checkbox"/> industrial
	<input checked="" type="checkbox"/> N/A	<input type="checkbox"/> no	<input type="checkbox"/> military
			<input type="checkbox"/> museum
			<input type="checkbox"/> park
			<input type="checkbox"/> private residence
			<input type="checkbox"/> religious
			<input type="checkbox"/> scientific
			<input type="checkbox"/> transportation
			<input type="checkbox"/> other:

4. Owner of Property

name University of Wisconsin, Board of Regents

street & number 1860 Van Hise Hall

city, town Madison _____ vicinity of state Wisconsin

5. Location of Legal Description

courthouse, registry of deeds, etc. Register of Deeds, Dane County Courthouse

street & number 201 Monona Avenue

city, town Madison _____ vicinity of state Wisconsin

6. Representation in Existing Surveys

Madison Campus Architecture,
title Historical and Archaeological Survey has this property been determined eligible? yes no

date 1978 _____ federal state _____ county _____ local

depository for survey records Department of Planning Construction
University of Wisconsin

city, town Madison _____ vicinity of state Wisconsin

7. Description

Condition		Check one	Check one
<input checked="" type="checkbox"/> excellent	<input type="checkbox"/> deteriorated	<input type="checkbox"/> unaltered	<input checked="" type="checkbox"/> original site
<input type="checkbox"/> good	<input type="checkbox"/> ruins	<input checked="" type="checkbox"/> altered	<input type="checkbox"/> moved date _____
<input type="checkbox"/> fair	<input type="checkbox"/> unexposed		

Describe the present and original (if known) physical appearance

Located at 1525 Observatory Drive on the University of Wisconsin-Madison campus, the Horticulture and Agricultural Physics building is a three-&one-half story cream brick Richardsonian Romanesque structure with Queen Anne details measuring seventy-six feet along the north facade, sixty feet on the east and west facades, and set on a foundation of coursed, rock-faced sandstone. On the main (north) facade the symmetrical exterior is dominated by a three-story octagonal tower; recessed in each of the three exposed faces is a column of two double-hung sash windows alternating with panels of orange brick, surmounted by a lintel and keystone of the same material. The octagonal red shingle roof has wide eaves with small paired brackets. At the base of the tower is an enclosed entrance porch; a Richardsonian arch of orange brick frames the semi-circular sidelights and double doors of the main entrance. Above the arch is a stone panel inscribed "Horticulture and Agricultural Physics," and a stone parapet pierced with a lattice motif. On the west facade is a three-story gabled tower with two columns of windows, narrow triple-hung sash at the first and second floors, and small fixed windows at the third. Above, decorative brickwork forms dentils in red, and a raised diamond pattern in orange and red. The gable end is set with a tiny pair of double-hung sash windows, the muntins forming a geometrical design in the upper sash. A squat octagonal tower of cream brick straddles the tower's gabled roof, ornamented with decorative brickwork in a checkerboard pattern and surmounted by a stone parapet pierced in a lattice motif; this originally served as the base of a windmill.

The Horticulture and Agricultural Physics building has a hipped red shingle roof with wide eaves, simple brackets, a stylized bead and reel molding and several rows of orange brick simulating a cornice. A second squat octagonal tower straddles the hipped roof, ornamented with a checkerboard pattern in orange brick and capped with an octagonal roof and round smokestack of metal. A pair of cross gables flank the hipped roof, the gable ends infilled with orange brick and applied with half-timbering. An applied wood pediment with dentils unites sets of double-hung sash windows in the gable ends. Three wide-eaved, hipped roof dormers with red shingle cheeks appear on the east gable, two on the west. The remainder of the windows are grouped sets of three double-hung sash, with stone sills and orange brick lintels. Those at basement level are round-headed, beneath an arcade of intersecting orange brick voussoirs springing from a stone belt course.

Attached to the south facade of the Horticulture and Agricultural Physics building are five non-contributing one-story glass and metal greenhouses on a foundation of cream brick, built in 1907 and remodeled in 1954 and again in 1968.¹ The greenhouse section measures 125 feet east-to-west and seventy-five feet north-to-south, and is extended southward by the addition of a rectangular one-story brick section. On the west facade of the Horticulture and Agricultural Physics building a narrow rectangular section of brick joins the structure with the Soil Science building to the west.

The Horticulture and Agricultural Physics building currently houses the Soil Science Department. Apart from the entry hall, the entire building has been remodeled with dropped acoustical tile ceilings, fluorescent lighting, asphalt tile floor, and plasterboard walls. The plan consists of a central hall with corridors branching to the south and west; at the end of each is a poured concrete

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Representation in Existing Surveys

Wisconsin Inventory of Historic Places eligible? no

date 1984 state level survey

depository State Historical Society of Wisconsin
816 State Street
Madison, WI 53706

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staircase. The entrance porch has a ceiling of paneled wood; a paneled door jamb frames the double doors leading into the entry hall. The entry hall has a ceiling and wainscoting of paneled dark wood. Each doorway exiting the hall has a dark wood architrave with a cornice; two mark the corridors and a third frames the elevator on the hall's south wall.

The Soil Science building, forming a westward contributing addition to Horticulture and Agricultural Physics, is a three-story cream brick picturesque structure with applied half-timbering, on a poured concrete foundation. Built in 1915, it was designed by Arthur Peabody, with the architectural firm of Laird and Cret advising.² The symmetrical exterior measures 100 feet along the north and south facades, sixty feet along the east and west facades, and features a main entrance on the south facade with double doors framed in a quoined architrave and label hood mold, and sheltered with a shed roof of red Spanish tile. Wide projecting wall dormers, two on each of the north and south facades, echo the cross gables of Horticulture and Agricultural Physics, the northeastern with a straightsided flat roof, the remainder gabled with returning eaves. The red shingle roof of the Soil Science building is gabled; a large boxy ventilation stack roofed with red Spanish tile is perched on the ridge. There is a single door in each of the north and south facades of the rectangular section connecting Soil Science with Horticulture and Agricultural Physics. Additional doors appear at basement level, one on the south facade and another on the west facade. The fenestration pattern is regular; those windows at basement level are hinged to open upward, while the remainder are double-hung sash surmounted by a fixed pane. The exterior of the Soil Science building is essentially unaltered and provides an interesting addition to the Horticulture and Agricultural Physics building.

The Soil Science Department has occupied the Soil Science building since its completion in 1915. The building has been minimally modified, with the addition of dropped acoustical tile ceilings in the basement and on the first floor, and tile flooring throughout. An open newel staircase of iron divides the central east-west corridor. Classrooms, offices, and laboratories open onto the corridors. The interior doorways have architraves with multiple moldings, and the walls and ceilings have a plaster finish.

To the west of the buildings a lawn sweeps up to the crest of Observatory Hill. A parking lot is located to the south and a driveway runs along the west facade joining the lot with Observatory Drive to the north.

¹ Gordon D. Orr, ed., "Perspectives of a University" (Madison, WI: University of Wisconsin, 1978), p. 70.

² Ibid., p. 73.

8. Significance

Period	Areas of Significance—Check and justify below			
<input type="checkbox"/> prehistoric	<input type="checkbox"/> archeology-prehistoric	<input type="checkbox"/> community planning	<input type="checkbox"/> landscape architecture	<input type="checkbox"/> religion
<input type="checkbox"/> 1400-1499	<input type="checkbox"/> archeology-historic	<input type="checkbox"/> conservation	<input type="checkbox"/> law	<input checked="" type="checkbox"/> science
<input type="checkbox"/> 1500-1599	<input checked="" type="checkbox"/> agriculture	<input type="checkbox"/> economics	<input type="checkbox"/> literature	<input type="checkbox"/> sculpture
<input type="checkbox"/> 1600-1699	<input checked="" type="checkbox"/> architecture	<input type="checkbox"/> education	<input type="checkbox"/> military	<input type="checkbox"/> social/ humanitarian
<input type="checkbox"/> 1700-1799	<input type="checkbox"/> art	<input type="checkbox"/> engineering	<input type="checkbox"/> music	<input type="checkbox"/> theater
<input checked="" type="checkbox"/> 1800-1899	<input type="checkbox"/> commerce	<input type="checkbox"/> exploration/settlement	<input type="checkbox"/> philosophy	<input type="checkbox"/> transportation
<input checked="" type="checkbox"/> 1900-	<input type="checkbox"/> communications	<input type="checkbox"/> industry	<input type="checkbox"/> politics/government	<input type="checkbox"/> other (specify)
		<input type="checkbox"/> invention		

Specific dates 1893-1896²² **Builder/Architect** John T. W. Jennings²⁸

Statement of Significance (in one paragraph) Period of Significance: 1893-1935

The University of Wisconsin College of Agriculture was established in 1889,¹ and has earned an international reputation for excellence in many fields. The development of the College of Agriculture can be divided into two periods, the first associated with Dean William Arnon Henry, the second with Dean Harry Luman Russell. Henry was appointed first dean of the College of Agriculture in 1889.² His administration represents the pioneering era in the development of the college. During this era, research and extension were emphasized, and the college gained prominence in dairy science, agricultural physics, and horticulture. Research quickly became the basis of the university's contribution to agriculture, combining scientific investigations with practical applications in an effort to gain the confidence of the state's farmers. Extension served to disseminate the information gathered, through the Farmers' Institutes, highly popular two-day traveling workshops. Henry also initiated the Short Course in Agriculture (1886) and the Dairy Course (1890), each a twelve-week winter session, held during farming's slowest season to enable farmers to attend the university.³ Both courses were influential, attracting farm youth from all over the state, and were much imitated throughout the United States and abroad. The success of the courses demonstrated that in order to attract students, agricultural education needed to be practical, and geared toward the interests of farm youth. This experience led Dean Russell to reorganize the four-year Bachelor of Science course, which had suffered from a lack of students during Henry's tenure. Russell was appointed dean in 1907.⁴ Under his administration, the construction of buildings for the College of Agriculture diminished, while extension was enlarged, research diversified, and the teaching program grew steadily, with the addition of many new subjects and departments. New ground was broken in such fields as bacteriology, plant pathology, genetics, and the economic and social aspects of farming. Through Russell's efforts, the modern College of Agriculture was established.

Currently only one building associated with the College of Agriculture is listed on the National Register; the Agricultural Dean's Residence (1897). Eight others are in the process of being nominated; six from Henry's administration, and two from Russell's. These buildings are Hiram Smith Hall (1892), King Hall (1894), the Dairy Barn (1897), the Horse Barn (1899), the Agricultural Heating Station (1901, also known as the Agricultural Bulletin Building), Agriculture Hall (1903), the Stock Pavilion (1908), and Agricultural Chemistry (1912, also known as Biochemistry).

The Horticulture and Agricultural Physics building is of statewide significance with respect to contributions made to science and agriculture, particularly in association with Franklin Hiram King. King was the first professor of Agriculture Physics at the University of Wisconsin and in the United States, and helped establish the fields of agricultural physics, soil science, soil physics, and agricultural engineering. In addition, the building has local architectural significance. Designed by John T. W. Jennings, first professionally educated supervising architect of the University, the Horticulture and Agricultural Physics building is an interesting example of the Richardsonian Romanesque style.

9. Major Bibliographical References

Glover, Wilbur H. Farm and College. Madison, WI: University of Wisconsin Press, 1952.
 Curti, Merle and Vernon Carstensen. The University of Wisconsin: The History 1848-1925.
 Madison, WI: University of Wisconsin Press, 1949.
Madison Past and Present, 1852-1902. Madison, WI: Wisconsin State Journal, 1902.

10. Geographical Data

Acreage of nominated property less than one

Quadrangle name Madison West

Quadrangle scale 1:24000

UTM References

A

1	6	3	0	3	7	6	0	4	7	7	1	9	10	10
Zone		Easting						Northing						

B

Zone		Easting						Northing						

C

Zone		Easting						Northing						

D

Zone		Easting						Northing						

E

Zone		Easting						Northing						

F

Zone		Easting						Northing						

G

Zone		Easting						Northing						

H

Zone		Easting						Northing						

Verbal boundary description and justification Part of the SW $\frac{1}{4}$ of Section 15, Township 7N, Range 9E, City of Madison, Wisconsin. A parcel of land on Observatory Drive beginning at a point 315 feet east of the SE curb at the intersection of Babcock and Observatory drives, turn south 62 feet, then east 100 feet, then south 150 feet, east 175 feet, north 250 feet, and then west 263 feet along Observatory Drive back to point of origin.

List all states and counties for properties overlapping state or county boundaries

state _____ code _____ county _____ code _____

state _____ code _____ county _____ code _____

11. Form Prepared By

name/title E. L. Miller, Research Technician

organization State Historical Society of Wisconsin date October 1984

street & number 816 State Street telephone 608/262-1339

city or town Madison state Wisconsin

12. State Historic Preservation Officer Certification

The evaluated significance of this property within the state is:

national state local

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service.

State Historic Preservation Officer signature 

title DIRECTOR OF HISTORIC PRESERVATION date JAN. 29, 1985

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I hereby certify that this property is included in the National Register

Entered in the
National Register

date 3-14-85

for  Keeper of the National Register

Attest: _____ date _____

Chief of Registration

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Science and Agriculture

The Department of Horticulture was located in the Horticulture and Agricultural Physics building from 1894 until 1912.⁵ During this time, the department undertook a program of research that served to promote the cultivation of fruit and vegetables throughout the state. Under the direction of Emmet Stull Goff (1852-1902) and his successors, many varieties of fruits and vegetables were tested in order to determine those best suited to Wisconsin's climate.⁶ Experiments were conducted with insecticides and sprayers, and the economic aspects of fruit growing were surveyed.⁷ Investigations into the cultivation of strawberries, tobacco and cranberries proved of particular use in the development of agriculture in Wisconsin.⁸

The Department of Agricultural Physics, now known as Soil Science, has been in residence in the Horticulture and Agricultural Physics building since the east wing was completed in 1896.⁹ The department was established in 1888 by Franklin Hiram King (1848-1911), first professor of Agricultural Physics in the United States.¹⁰ King was born near Whitewater, Wisconsin, and educated at Cornell University.¹¹ He was employed as Professor of Science at the Wisconsin State Normal School in River Falls from 1878 until 1888, when he was appointed Professor of Agricultural Physics at the University of Wisconsin, the first chair of its kind in the United States.¹² King's efforts to apply physics to agricultural problems contributed to the establishment of the fields of soil science and agricultural engineering. From his office in the Horticultural and Agricultural Physics building, King developed the round silo, formulated improved methods for the construction and ventilation of farm buildings, and popularized the round barn.¹³ He investigated the use of wind as a source of energy, placing a windwheel atop the west wing of the Horticulture and Agricultural Physics building, yielding some of the earliest research on wind power.¹⁴ King formulated methods of wind erosion prevention, and constructed the first weighing lysimeters for water use studies.¹⁵ In addition, he studied irrigation and drainage, and developed a practical method for determining moisture content in soils, establishing the general principles of soil physics.¹⁶ A prolific writer, King authored the internationally influential text The Soil (1895), and the classic Farmers of Forty Centuries (1911), an account of the methods utilized to maintain soil fertility in China, Korea and Japan.¹⁷ King left the University in 1901 to become Chief of the Division of Soil Management at the United States Department of Agriculture.¹⁸ Following his departure, A. R. Whitson carried many of King's projects to completion. Under Whitson's direction, the Soil Science Department developed several tests to determine the chemical elements in soils, and a large-scale, statewide soil survey was planned.¹⁹ Begun in 1926 and administered by Whitson, the Wisconsin Soils Survey has been of considerable value for land use planning and crop selection.²⁰ In addition, the Soil Science Department has maintained a share of the responsibility for the State Soils Testing Laboratory since 1913, evaluating the soils of individual farms.²¹

Architecture

While the Horticulture and Agricultural Physics building is not a high style example of Richardsonian Romanesque, it is an interesting one with its brick polychromy, grouped windows set deeply in the wall, and large arched entry portal. Queen Anne details are

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in evidence in the ornamentation and window treatment of the west tower, as well as in the half-timbered gable ends, lending the building an eclectic appearance. The central tower and west wing were erected to house the Horticulture Department in 1893, while the east wing, for the Agricultural Physics Department, was built in 1896.²² Although the building was designed as a single unit, it was constructed in two stages due to lack of funds.²³ In 1910 the building was renamed King Hall, in honor of Franklin Hiram King.²⁴ The Horticulture and Agricultural Physics building is one of five buildings on campus in the Richardsonian Romanesque style, and one of half a dozen extant designed by John T. W. Jennings. Although additions encroach on the building's south and west facades, the solid Romanesque character is unimpaired.

John T. W. Jennings (1856-?) was born in Brooklyn, New York, and educated in civil engineering at New York University.²⁵ Upon graduation Jennings worked in the architect's office of the Astor Estate, subsequently acting as Chief Engineer of the New York Suburban Rapid Transit Road.²⁶ In 1883 he was hired as Assistant Engineer of the Chicago, Milwaukee and St. Paul railroad in Chicago, serving as Architect of the railroad from 1885 to 1893.²⁷ He then conducted a private practice in Chicago until 1899, when he moved to Madison to take up the position of Supervising Architect to the University of Wisconsin, the first professionally educated person to hold that post.²⁸ Jennings' initial employment with the university had been part-time, through the College of Agriculture. The buildings Jennings designed for the university include Horticulture and Agricultural Physics (1893-1896, now King Hall), the Dairy Barn (1897), the Engineering building (1901, now the School of Education), the Agricultural Heating Station (1901, now the Agricultural Bulletin building), and the Chemistry building (1905, now Chamberlin Hall).²⁹ In 1905 Jennings left the university and established an architectural partnership with Ferdinand Kronenberg of Madison.³⁰

¹ Merle Curti and Vernon Carstensen, The University of Wisconsin: The History 1848-1925, (Madison, WI: University of Wisconsin Press, 1949), II:376.

² Ibid.

³ Ibid., II:375

⁴ Ibid., II:400

⁵ Gordon D. Orr, ed., "Perspectives of a University," (Madison, WI: University of Wisconsin, 1978), p. 113.

⁶ Merle Curti and Vernon Carstensen, The University of Wisconsin: A History 1848-1925, (Madison, WI: University of Wisconsin Press, 1949), II:385.

⁷ Ibid.

⁸ Ibid., II:386.

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- ⁹ W.A. Henry, "A Brief History of the Agricultural College and the Agricultural Experiment Station of the University of Wisconsin," Wisconsin Agricultural Experiment Station, Report, 1904.
- ¹⁰ National Encyclopedia of American Biography, (NY: James T. White and Co., 1926), 19:292.
- ¹¹ Ibid.
- ¹² Ibid.
- ¹³ Ibid.
- ¹⁴ W. A. Henry, op.cit.
- ¹⁵ National Encyclopedia of American Biography, op.cit.
- ¹⁶ Ibid.
- ¹⁷ Ibid.
- ¹⁸ Ibid.
- ¹⁹ Merle Curti and Vernon Carstensen, op.cit., II:419.
- ²⁰ Ibid.
- ²¹ Wilbur H. Glover, Farm and College, (Madison, WI: University of Wisconsin Press, 1952), p. 322.
- ²² W.A. Henry, "A Brief History of the Agricultural College and the Agricultural Experiment Station of the University of Wisconsin," Wisconsin Agricultural Experiment Station, Report, 1904.
- ²³ Ibid.
- ²⁴ Ibid.
- ²⁵ Madison Past and Present, 1852-1902, (Madison, WI: Wisconsin State Journal, 1902, p. 139.
- ²⁶ Ibid.
- ²⁷ Ibid.
- ²⁸ Gordon D. Orr to Diane Filipowicz and Barbara Wyatt, 24 November 1981.
- ²⁹ Alden Aust, "A Tabular History of the Buildings of the University of Wisconsin," (Madison, WI: University of Wisconsin, 1937).
- ³⁰ Gordon D. Orr, op.cit.

UNIVERSITY OF WISCONSIN.
MADISON, WISCONSIN
SCALE: ONE INCH = 100 FEET

