NPS Form 10-900
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United States Department of the Interior
National Park Service

National Register of Historic Places Inventory—Nomination Form

For NPS use only
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 Washburn Observatory and ~~the~~ Observatory Director's Residence

and or common Washburn Observatory and the Observatory Office Building

2. Location

street & number 1401 and 1225 Observatory Drive (Univ. of Wis. Campus) ___ not for publication

city, town Madison ___ vicinity of

state Wisconsin code 55 county Dane code 025

3. Classification

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

4. Owner of Property

name University of Wisconsin, Board of Regents

street & number 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 state Wisconsin

6. Representation in Existing Surveys

title Madison Campus Architecture Historical and Archeological Survey has this property been determined eligible? ___ yes _X_ no

date 1978 ___ federal _X_ state ___ county ___ local

depository for survey records Dept. of Planning and Construction, University of Wisconsin

city, town Madison state Wisconsin

7. Description

Condition		Check one	Check one
X excellent	___ deteriorated	___ unaltered	X original site
___ good	___ ruins	X altered	___ moved date _____
___ fair	___ unexposed		

Describe the present and original (if known) physical appearance

The Washburn Observatory, located at 1401 Observatory Drive on the University of Wisconsin Madison campus, is set on the crest of Observatory Hill with a spectacular view of Lake Mendota.

Built in the Italianate style, the observatory is one tall story in height, constructed of coursed, smooth-faced sandstone blocks on a coursed, rock-faced sandstone block foundation. The building measures eighty feet along the east-west axis, forty-two feet north to south, and features rusticated quoins, an entablature of wood ornamented with scrolled brackets and dentils, a wooden dome rising forty-eight feet in height with a wrought iron balcony on its northern face, and a five-sided bay window on the south facade. A pedimented entrance pavilion with rusticated quoins appears on each of the east and south facades. The recessed, paneled double entrance doors of the east pavilion are sheltered by a red stone shed-roofed portico with simple columns and quarter-wheel brackets supporting a paneled porch frieze. On the south entrance pavilion, marking the main entrance to the observatory, a rectangular window flanks either side of the recessed paneled double entrance doors, above which a pair of consoles support a sandstone entablature surmounted by a white marble panel inscribed "Washburn Observatory." Above, the wooden pediment is broken to admit three windows in a Serlian motif. On the east end of the north facade is a red stone porch, now enclosed in vertical weatherboard, with quarter-wheel brackets and an inscribed frieze supporting a wooden cornice ornamented with scrolled brackets and dentils, and set on a coursed, rock-faced sandstone block foundation. The observatory has two sandstone chimney stacks, with rusticated quoins. The one on the west facade has a semi-circular, oven-shaped chimney pot, while the other, on the east end of the north facade, has a three-lobed chimney pot. Most of the windows are rectangular, double-hung sash with sandstone sills and cornice window heads set on a pair of corbels, spaced at regular intervals. The observatory has been well-maintained and its exterior has suffered little alteration.

In plan the building consists of two rectangular sections, set perpendicular to one another, joined by a narrow passageway. In the west section, to the west of the wide central vestibule, lies the transit room. To the east was the clock room, which originally housed three pendulum clocks. North of the vestibule is the rotunda; above the door is a marble plaque bearing the following inscription:

> "Erected and finished, A.D. 1878, by the munificence of Cadwallader C. Washburn, and by him presented to the University of Wisconsin - a tribute to general science. In recognition of this gift, this tablet is inserted by the Regents of the University."

A narrow dark wood open newel staircase with turned balusters ascends to a second-story anteroom, which opens into the dome, where the original telescope, in a 1933 mounting, is still in position. In the east section the central hall opens into what was the Woodman Astronomical Library to the south, and a student dormitory to the north. To the west is the enclosed porch, and the corridor leading to the west section. A straight maple staircase, constructed during the remodeling of the basement, circa 1960, dominates the hall and descends to a library and restrooms. The observatory has masonry load-bearing walls. Wood floors predominate, although the central hall and basement have asphalt tile flooring. Dropped acoustical tile

8. Significance

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

Specific dates 1882. Observatory[1] c1854 Residence[7] **Builder/Architect** David R. Jones[2]

Statement of Significance (in one paragraph) Period of Significance: 1866-1935

The Washburn Observatory and the Observatory Director's Residence are significant architecturally (local Level) and in association with contributions to education made by the individuals with which the buildings are identified (state level). The observatory was designed by Madison architect David R. Jones, and while the architect of the house is unknown, it is the second oldest building on the university campus. Each of the successive directors of the observatory made major contributions to science in the fledgling field of modern astronomy. In addition, the director's house served as the first official residence of the president of the university during the tenure of the first three presidents, and was the home of the first Chair of the Normal Department.

I. Architecture

Construction on the Washburn Observatory began in 1878 and was completed in 1882.[1] The observatory was designed by David R. Jones (1832-1915), who was born in Wales and emigrated to Wisconsin in 1845. Jones qualified as an architect in 1868 and practiced in Madison between 1872 and 1885, during which time he designed some sixty-one buildings in the Madison area, including Assembly Hall (now Music Hall) in 1878 and the Student Observatory (1879) on the university campus.[2]

The Washburn Observatory is a handsome building and a fine example of the Italianate style. As an observatory, it is an uncommon building type. The observatory's exterior is essentially unaltered, such that its architectural integrity has been retained.

The telescope at the Washburn Observatory was the third largest in the United States and one of the largest in the world at the time of its installation in 1879.[3] Constructed by Alvan Clark and Sons of Cambridge, Massachusetts, the refracting telescope has a 15.6-inch objective lens and a twenty foot focal length.[4] Additional equipment included three accurate pendulum clocks, used to determine the exact time for the Central Standard Time zone, a five-inch Repsold meridian circle, placed in the west wing of the observatory, and the first telephones in Madison, predating commercial phone service in the city by two years.[5] Alexander Graham Bell installed the telephones, linking Washburn Observatory with Science Hall, to enable his friend James Craig Watson, the first director of the observatory, to call his mechanic when necessary.[6] The telephones have long since been replaced, but the meridian circle and the telescope remain. While no longer employed for research purposes, the telescope is still utilized for stargazing, a service open to the public twice a month.

9. Major Bibliographical References

Carpenter, Stephen H. An Historical Sketch of the University of Wisconsin from 1849 to 1876. Madison, Wisconsin: Atwood & Culver, 1876.

Butterfield, Consul Wilshire History of the University of Wisconsin, Madison: University Press Co., 1879.

10. Geographical Data

Acreage of nominated property 2.2

Quadrangle name Madison West **Quadrangle scale** 1:24000

UTM References

	Zone	Easting	Northing		Zone	Easting	Northing
A	16	303900	4771870	B			
C				D			
E				F			
G				H			

Verbal boundary description and justification Part of the SW-1/4 of Section 15, Township 7N, Range 9E, City of Madison, Wis. A parcel of land on Observatory Drive beginning 300' West of the SW curb at the intersection of Observatory Dr. and N. Charter St. proceeding S 155' turning W for 700' to a point just west of the Chamberlin Boulder then North 155' (con't)

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	Historic Preservation Division, SHSW	**date**	September, 1984
street & number	816 State Street	**telephone**	(608) 262-2971
city or town	Madison	**state**	Wisconsin

12. State Historic Preservation Officer Certification

The evaluated significance of this property within the state is:

___ national ___x___ 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 [signature]

title DIRECTOR OF HISTORIC PRESERVATION **date** JAN. 29, 1985

For NPS use only

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

Entered in the National Register

[signature] **date** 3-14-85

Keeper of the National Register

Attest: **date**

Chief of Registration

U.S. GOVERNMENT PRINTING OFFICE : 1983 O - 419-311

ceilings are in evidence in the basement only. Interior features of note include the paneled wood jambs of the deep-set windows and doorways, and the tall, dark wood built-in bookcases lining the walls of the former Woodman Astronomical Library, fitted with special cabinets for maps and astronomical equipment. In addition, there is a shallow gray marble fireplace with a narrow mantel and a wrought iron grille in what was the student dormitory. A second, of white marble, was removed from the transit room and stored in the basement. The observatory was subdivided with short wooden partitions and modified into offices in 1959, for the Institute for Research in the Humanities, in residence since that time.

Two other related structures, the Student and Solar Observatories, were formerly located on the observatory grounds. The Student Observatory, a one-story frame structure designed by David R. Jones and built in 1880, was situated east of Washburn and contained a small transit instrument and a six-inch Clark refracting telescope.[1] The Solar Observatory, a one-story stone structure built in 1878 by architect G. P. Randall and located west of Washburn, housed an underground tube twelves inches in diameter, leading to a siderostat and a long focus objective lens by which the sky near the Sun could be examined visually.[2] The Solar Observatory was razed circa 1950, while the Student Observatory was given to the Madison Astronomical Society in 1960 and moved south of the city. Three memorials are also situated near the Washburn Observatory; the Chamberlin Boulder, the Class of 1897 Bench, and the Class of 1908 Sundial.

Located at 1225 Observatory Drive, the Observatory Director's Residence is situated on the crest of Observatory Hill some eighty-eight yards east of the Washburn Observatory, with an unobstructed view of Lake Mendota. A winding driveway leads up from Observatory Drive and terminates in a small parking lot west of the house.

The Observatory Director's Residence is an Italianate structure, and is constructed of brick in running stretcher bond, set on a coursed, rock-faced sandstone block foundation. The house gives the appearance of three staggered rectangular sections, dimishing in size. The main block runs three bays east-to-west and is two-and-one-half stories tall. To the west a smaller two-story dependency is set back, the original one-and-one-half brick stories augmented with a half-story frame addition. A narrow one-story frame addition, set on a wide underground, poured concrete garage, stands on the northwest corner. The exterior of the house features a simple entablature ornamented with paired scrolled brackets with pendants, and inset with frieze windows; a two-story window with a bracketed cornice on the east facade; a second bay, one-story in height, on the west facade; and two symmetrically-placed cream brick chimney stacks with semi-circular oven-shaped pots on each of the east and west sides of the main block. On the south facade, a wide-eaved, wood Italianate porch with simple columns, carved brackets, and an inscribed frieze shelters the main entrance to the main block, while a second, matching porch, shelters an entrance into the dependency. Across the main block on the north facade is another wood porch, now enclosed with weatherboard siding; a balustrade with square posts and balusters delineates a balcony at the second-story level. The metal roof of the underground garage forms a patio on the west facade. The house has a wide-eaved, hipped

aluminum roof, once decorated with wrought iron cresting, and is accented with a projecting gabled dormer on the south facade. Frieze windows appear on the main block. Those on the dependency were removed, and the cornice pierced to accommodate full-sized sash windows, when the frame addition was constructed in the early twentieth century. The enclosed porch has casement windows. The other windows are tall, double-hung sash with stone sills and simple neo-classical window heads, regularly spaced; those on the south facade run from the floor nearly to the ceiling.

Since 1949 the house has provided office space for various departments of the university. To better serve in this capacity, the interior has been subdivided and modified, although the building retains a residential atmosphere. The plan consists of a series of rooms opening onto a central north-south corridor. A wood, open newel staircase with turned balusters dominates the central hall; a narrow servant's stair is tucked behind. West of the entrance hall was the dining room, originally subdivided by an entablature set on fluted pilasters, since filled in. Apparently, there were never any fireplaces on this side of the main block; the western pair of chimney stacks may have served wood-burning stoves. The kitchen, north of the dining room , was most recently remodeled in the 1950's. The living room, east of the entrance hall, has a marble fireplace which has been boarded up. Both the living and dining room areas have egg and dart ceiling moldings. North of the living room was the music room, with a shallow fireplace of gray marble, still in working order. The upper stories contained bedrooms and baths; a door in the third floor ceiling gave access to the roof. The basement originally contained a laundry, a drying room, a work room, a store room, and a fruit cellar. West of the basement was an underground garage, converted to a conference room circa 1950. Exposed brick walls and brick flooring are in evidence in the basement, while in the rest of the house, plastered walls and wood flooring predominate. The rooms on the first floor are carpeted; in the entrance hall there is asphalt tile. A few areas have dropped acoustical tile ceilings. The windows and doors have architraves with multiple mouldings and the tall, paneled entrance door, probably original, is inset with an arched window.

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[1] "Washburn Observatory 1878-1978" (Madison, Wisconsin 1978), p.2.

[2] Ibid.

The architect of the residence of the observatory director is unknown. The house was built circa 1854 and is the second oldest building on campus.[7] It is typical of the Italianate residential style prevalent in Madison during the 1850's, a time in which the city experienced its first period of sustained explosive growth. Less distinguished architecturally than the observatory, its architectural significance lies in the fact that the house is representative of an era of paramount importance to Madison's development., and among the best preserved examples of its type.

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[1] J.F.A. Pyre Wisconsin (NY: Oxford University Press, 1920), p. 212.

[2] History of Dane County (Chicago: Western Historical Association, 1880), p.1005.

[3] "Washburn Observatory 1878-1978" (Madison, Wisconsin 1978), p.2.

[4] Ibid.

[5] Ibid.

[6] Ibid., p.3.

[7] Madison, Wisconsin Tax Records (1850-1860)

6. 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

II. Science and Education

The Washburn Observatory was conceived of as a research as well as an educational facility, and prominent scientists were sought to direct it. The observatory has significance in association with its successive directors, nationally reknowned astronomers, each of whom contributed much to science in the field of astronomy, as well as to the quality of education at the University of Wisconsin.

James Craig Watson (1838-1880) was the first elected to the directorship of the observatory, and to the chair of astronomy.[1] Watson, one of the most distinguished American astronomers of his time, set the tone of the observatory's early research in such areas as the measurement of double stars, observation and positioning of the stars and planets, the constant of aberration caused by the earth's rotation and the refractive powers of the earth's atmosphere, as well as establishing the Student and Solar Observatories. Watson graduated from the University of Michigan in 1857 and was director of the observatory at that institution from 1859 until 1879. Though his promising career was cut short by his untimely death at the age of forty-two, Watson discovered twenty-three asteroids; authored Theoretical Astronomy (1868), a complete compilation and digest of the theory and method of orbital determination; and in 1870, received the French Academy of Sciences Gold Medal.[2]

Research at the Washburn Observatory continued under the direction of Edward Singleton Holden (1846-1914), another nationally prominent astronomer. Holden was trained at West Point Naval Observatory and served as its assistant director from 1873 to 1881, at which time he became director of the Washburn Observatory. Under Holden's directorship, Washburn became a timekeeper for the Central Standard Time zone, determining the exact time for the northcentral states. Three pendulum clocks set local time by controlling clocks in various cities, as well as controlling the bells signaling the beginning and ending of class periods on the university campus. In addition, the observatory earned income by selling this accurate timekeeping service to the railroads. Holden resigned from the University of Wisconsin in 1885 to accept the presidency of the University of California and the directorship of Licks Observatory.[3]

The third director of the Washburn Observatory was George Cary Comstock (1855-1934), who had come to the university as James Craig Watson's assistant. Comstock served as director from 1889 until 1922, contributing many new findings, in the field of "astronomy of precision" in particular. Comstock studied the refraction of light in the earth's atmosphere, and his thirty years work observing the orbits of double stars established the generality of the law of gravitation. His investigation into the motion of faint stars eventually led to the concept of dwarf and giant stars. An important figure both at the University of Wisconsin and among astronomers, Comstock emphasized the application

of science to practical problems. He authored the text Field Astronomy for Engineers (1902), was elected to the National Academy of Sciences in 1899, and was a founding member of the American Astronomical Association, serving both as secretary and president of that organization.[4]

The most important research carried out at the Washburn Observatory was begun by the fourth director, Joel Stebbins (1878-?) in the 1920s, and continued by his successor, Albert Edward Whitford (1905-?), in the field of photo-electric photometry--the conversion of light into electric current for the measurement of its intensity and composition.[5] Washburn was the principal observatory in the western hemisphere in this field, contributing many advances including the first use by Stebbins in 1922, of photo cells as detectors, successive improvements in their use, and the invention of the first electronic amplifier for use in photometry by Whitford in 1932. This research created the field of astronomical photometry, one of the major branches of modern astronomy. Another major contribution leading from research conducted at the Washburn Observatory was the confirmation, in 1933, that space is filled with gas and dust, reducing the previously accepted size of the Milky Way Galaxy to half its formerly accepted value. Stebbins was director of the observatory at the University of Illinois from 1913 until 1922, and director at Washburn Observatory from 1922 until 1948. Whitford served as director from 1949 until 1959, at which time Washburn was abandoned by the astronomy department and the Pine Bluff research station west of Madison opened.[6] Since that time the observatory has been occupied by the Institute for Research in the Humanities.

The Washburn Observatory was named in honor of Cadwallader C. Washburn (1818-1882). In 1876 Washburn, a Major-General in the Civil War and six-term Congressman who had served as Governor of Wisconsin from 1871 to 1873, donated funds for the construction of a fully-equipped observatory and persuaded the State Legislature to endow the university with $3000 annually to create a chair of astronomy.[7] The Woodman Astonomical Library was named after Cyrus Woodman, a pioneer in Wisconsin's lead mining region and a business associate of Washburn's, who endowed the university with monies for the establishment and maintenance of the library.[8]

The Observatory Director's Residence has significance for three phases of its long association with the university. It was the home of Professor Daniel Read, first Chair of the Normal Department, served as the residence of the president of the university during the tenure of the first three presidents, and was the residence of the first four observatory directors.

The house was probably built as a private home circa 1854 for Loring Guild, a Madison merchant and proprietor of Guild's, a dry goods store in operation on the Capitol Square during the 1850's.[9] Professor Daniel Read (1805-1878) lived in the house from 1864 until 1866, initiating the building's long association with the University of Wisconsin. Daniel Read was educated at Ohio University (Athens), graduating in 1842 and subsequently teaching political economy and constitutional law at that institution. He taught ancient languages at Indiana University from 1843 to 1855, at which time he was appointed Chair of Mental Philosophy, Logic, Rhetoric, and English Literature at the University of Wisconsin. Upon his arrival in 1856, Read also received the appointment to the first Normal Chair, marking the birth of what was later known as the Department of Theory and Practice of Elementary Instruction, and is today the School of Education. Read acted as secretary of the university faculty from 1860 to 1864, and left the university in 1868 to become president of the University of Missouri, a post which he held for the remainder of his career.[10]

The university purchased the house from Read in 1866, making it the first official residence of the president of the university, a capacity in which it served from 1867 to 1878, during the tenure of the first three presidents, Paul Ansel Chadbourne, John Hanson Twombly, and John Bascom.

Paul Ansel Chadbourne (1823-1883) was elected first president of the University of Wisconsin in 1867, concurrently service as Chair of Mental and Moral Philosophy. Born in Maine, Chadbourne graduated from Williams College (Williamstown, Massachusetts) in 1848, acting as Chair of Chemistry and Botany at that institution from 1853 to 1867, and holding the same chair at Bowdoin from 1858 to 1867. Chadbourne hald concurrent appointments to Berkshire Medical College and to Mount Holyoke as well, and in addition, was a member of the Massachusetts Senate in 1865 and 1866. A vehement opponent of coeducation, Chadbourne served as University of Wisconsin President from 1867 to 1870, spearheading the reorganization of the university in 1867, which resulted in a complete turnover of the teaching staff.[11] Upon resignation, Chadbourne was elected president of Williams College.

The second president, John Hanson Twombly (1814-1893), served from 1871 until 1874. Born in New Hampshire, Twombly attended Dartmouth College and graduated from Wesleyan University (Connecticut) in 1843. Twombly was a strong proponent of coeducation and an Evangelical. Confrontation with certain denominational forces in the state resulted in his resignation, following which Twombly retired from academic life and became pastor of the Westfield (Massachusetts) Methodist Church.[12]

It was under the tenure of the third president, John Bascom (1827-1911), that the Washburn Observatory was built. Bascom was born in New York, graduated from Williams College in 1849 and from Andover Theological Seminary in 1855. He became Professor of Rhetoric at Williams College upon graduation from Andover, remaining in that post until his election to the University of Wisconsin Presidency and the Chair of Mental and Moral Philosophy in 1874. Bascom's thirteen-year administration was influential in the development of the university, and he is recognized as the pioneer of the "Wisconsin Idea." The "Wisconsin Idea" involved placing the knowledge and expertise of the university staff at the disposal of both state government, for the development of legislation for the advancement of the state, and the citizens of Wisconsin, to promote prosperity. In doctrine a philosophical progressive, in action a practical idealist, Bascom was highly regarded both as an author and a teacher. Bascom resigned from the presidency in 1887, returned to Williamstown, and became a professor of political science at Williams College in 1891, retiring in 1903.[13]

With the building of the Washburn Observatory in 1878, the house became the residence of the observatory director, retaining that function for seventy-one years, housing in turn James Craig Watson, Edward Singleton Holden, George Cary Comstock, and Joel Stebbins, whose significance in the field of science is discussed above. The university appropriated the house for office space in 1949. Between 1959 and 1972, the School of Social Work was located there, and, since that time, the offices of the graduate departments of Health Services Administration and Health Systems Engineering.

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[1] Merle Curti and Vernon Carstensen The University of Wisconsin: The History, 1848-1925, (Madison, Wisconsin: University of Wisconsin Press, 1949), 1:356.

[2] Concise Dictionary of American Biography, (New York: Scribner, 1980), p.1122.

[3] Ibid., p.443.

[4] Merle Curti and Vernon Carstensen, op.cit., 2:353.

[5] Gordon D. Orr, ed. "Perspectives of a University" (Madison, Wisconsin 1978), p.105.

[6] "Washburn Observatory 1878-1978" (Madison, Wisconsin 1978), p.4.

[7] Merle Curti and Vernon Carstensen, op.cit., 1:314.

[8] Ibid., 1:356.

[9] Madison, Wisconsin Tax Records (1850-1860)

[10] Stephen H. Carpenter An Historical Sketch of the University of Wisconsin From 1859-1876 (Madison, Wisconsin: Atwood and Culver, 1876), p.9.

[11] Consul Wilshire Butterfield History of the University of Wisconsin (Madison, Wisconsin: University Press Co., 1879), p.125.

[12] Ibid., p.50.

[13] Ibid., p.159.

to the South curb of Observatory Drive and East along Observatory Drive 700' to point-of-origin.

MADISON, DANE COUNTY
SCALE: 1 INCH = 100 FEET