NPS Form 10-900
(Oct. 1990)

OMB No. 10024-0018

United States Department of the Interior
National Park Service

9-19

OCT 09 2009

National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in *How to Complete the National Register of Historic Places registration Form* (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. If an item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. Place additional entries and narrative items on continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or computer, to complete all items.

1. Name of Property

historic name Brainerd Observatory

other names/site number Jones, Clarence T., Observatory (preferred)

2. Location

street & number 10 North Tuxedo Avenue NA☐ not for publication

city or town Chattanooga NA☐ vicinity

state Tennessee code TN county Hamilton code 065 zip code 37411

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended, I hereby certify that this ☒ nomination ☐ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set for in 36 CFR Part 60. In my opinion, the property ☒ meets ☐ does not meet the National Register criteria. I recommend that this property be considered significant ☐ nationally ☐ statewide ☒ locally. (See continuation sheet for additional comments.)

E. Patrick McIntyre, Jr. October 5, 2009

Signature of certifying official/Title Date

State Historic Preservation Officer, Tennessee Historical Commission

State or Federal agency and bureau

In my opinion, the property ☐ meets ☐ does not meet the National Register criteria. (☐ See Continuation sheet for additional comments.)

Signature of certifying official/Title Date

State or Federal agency and bureau

4. National Park Service Certification

I hereby certify that the property is:

☑ entered in the National Register.
☐ See continuation sheet
☐ determined eligible for the National Register.
☐ See continuation sheet
☐ determined not eligible for the National Register
☐ removed from the National Register.
☐ other (explain:) _____

for

Signature of the Keeper Date of Action

Edson H. Beall 11.20.09

5. Classification

Ownership of Property
(Check as many boxes as apply)

- ☐ private
- ☐ public-local
- ☒ public-State
- ☐ public-Federal

Category of Property
(Check only one box)

- ☒ building(s)
- ☐ district
- ☐ site
- ☐ structure
- ☐ object

Number of Resources within Property
(Do not include previously listed resources in count)

Contributing	Noncontributing	
1		buildings
		sites
1		structures
		objects
2	0	Total

Name of related multiple property listing
(Enter "N/A" if property is not part of a multiple property listing.)

N/A

Number of Contributing resources previously listed in the National Register

0

6. Function or Use

Historic Functions
(Enter categories from instructions)

EDUCATION/research facility

Current Functions
(Enter categories from instructions)

EDUCATION/research facility

7. Description

Architectural Classification
(Enter categories from instructions)

OTHER: PWA Modern

Materials
(Enter categories from instructions)

foundation BRICK
walls BRICK
roof OTHER: bituminous
other STONE, METAL

Narrative Description
(Describe the historic and current condition of the property on one or more continuation sheets.)

8. Statement of Significance

Applicable National Register Criteria
(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing.)

- ☒ **A** Property is associated with events that have made a significant contribution to the broad patterns of our history.
- ☐ **B** Property is associated with the lives of persons significant in our past.
- ☐ **C** Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- ☐ **D** Property has yielded, or is likely to yield, information important in prehistory or history.

Areas of Significance
(Enter categories from instructions)

EDUCATION

Period of Significance
1936-1959

Criteria Considerations N/A
(Mark "x" in all boxes that apply.)

Property is:

- ☐ **A** owned by a religious institution or used for religious purposes.
- ☐ **B** removed from its original location.
- ☐ **C** a birthplace or grave
- ☐ **D** a cemetery.
- ☐ **E** a reconstructed building, object, or structure.
- ☐ **F** a commemorative property
- ☐ **G** less than 50 years of age or achieved significance within the past 50 years.

Significant Dates
NA

Significant Person
(complete if Criterion B is marked)
NA

Cultural Affiliation
NA

Architect/Builder
Jones, Clarence T. and Bruce (architects); Warlick, L.A. (builder); Davis, O.B., Construction Company (planetarium builder); Standard Iron Works (dome builder)

Narrative Statement of Significance
(Explain the significance of the property on one or more continuation sheets.)

9. Major Bibliographical References

Bibliography
(Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets.)

Previous documentation on file (NPS): N/A

- ☐ preliminary determination of individual listing (36 CFR 67) has been requested
- ☐ previously listed in the National Register
- ☐ Previously determined eligible by the National Register
- ☐ designated a National Historic Landmark
- ☐ recorded by Historic American Buildings Survey # _____
- ☐ recorded by Historic American Engineering Record # _____

Primary location of additional data:

- ☒ State Historic Preservation Office
- ☐ Other State Agency
- ☐ Federal Agency
- ☐ Local Government
- ☐ University
- ☒ Other

Name of repository:
Chattanooga Bicentennial Library

10. Geographical Data

Acreage of Property 1.1 acres East Chattanooga 112 SW

UTM References
(place additional UTM references on a continuation sheet.)

	Zone	Easting	Northing		Zone	Easting	Northing
1	16	661042	3876425	3			
2				4			

☐ See continuation sheet

Verbal Boundary Description
(Describe the boundaries of the property on a continuation sheet.)

Boundary Justification
(Explain why the boundaries were selected on a continuation sheet.)

11. Form Prepared By

name/title Paul Archambault/Historic Preservation Planner & Claudette Stager/Historic Preservation Specialist
organization SETDD & THC date May 2009
street & number 535 Chestnut St. & 2941 Lebanon Rd. telephone 423/424-4266 & 615/532-1550
city or town Chattanooga & Nashville state TN zip code 37402 & 37214

Additional Documentation

submit the following items with the completed form:

Continuation Sheets

Maps

A **USGS map** (7.5 0r 15 minute series) indicating the property's location

A **Sketch map** for historic districts and properties having large acreage or numerous resources.

Photographs

Representative **black and white photographs** of the property.

Additional items
(Check with the SHPO) or FPO for any additional items

Property Owner

(Complete this item at the request of SHPO or FPO.)

name See continuation sheet
street & number _____ telephone _____
city or town _____ state TN zip code _____

United States Department of the Interior
National Park Service

National Register of Historic Places Continuation Sheet

University of Tennessee
c/o George Criss, Facilities Planning
5723 Middlebrook Pike
Suite 119
Knoxville, Tennessee 37921

Copies to:

University of Tennessee at Chattanooga
c/o Jack Pitkin
Senior Teaching Laboratory Specialist
Department of Physics, Geology and Astronomy
Dept. 2352
615 McCallie Avenue
Chattanooga, Tennessee 37403-4518

University of Tennessee
c/o Alvin Payne
Capital Projects Division
711C Andy Holt Tower
1331 Circle Park
Knoxville, Tennessee 37996

University of Tennessee at Chattanooga
c/o Richard Brown
Vice Chancellor
615 McCallie Avenue
Chattanooga, Tennessee 37403

Description

Constructed in 1936 with Federal Emergency Administration of Public Works funds, the Clarence T. Jones Observatory in Chattanooga was designed by Chattanooga architect and amateur astronomer Clarence T. Jones. L.A. Warlick Company was the builder and many other companies and individuals helped construct the building and telescope. The brick building consists of basement, office, and the observatory levels. Roughly T-shaped in plan, the flat-roofed building is embellished with geometric brick and stone detailing. Most windows are modern but there have been few other alterations and the observatory retains its architectural and historic integrity. In 1958 a planetarium was added to the observatory building. Historic stone steps (contributing structure) lead from a wooded area to the observatory, which is 750 feet above sea level. The observatory is the only building on the 1.1 acre parcel. (See Fig. 7.1 and Fig. 7.2)

The style of the building is best characterized as PWA Modern. This style, popular in the 1930s for federally funded projects, combined elements of Art Deco, Art Moderne, and classical styles. The stone imagery, angular brick work, and multiple light windows are characteristics of this style as seen in the Clarence T. Jones Observatory. The building faces west and the most prominent feature of the west façade is the central entrance. Set below the steel dome holding the telescope, the double-leaf paneled wood and eight-light glass doors are in a rounded section that projects from the plane of the façade. The entrance is flanked by brick pilasters capped with stone. A U.S. Geological Survey benchmark (750 feet above sea level) is set in the concrete floor before the entrance. Brick wing walls border the steps leading to the doors and there is a circa 2006 stone and concrete patio. Narrow one-over-one double-hung circa 2006 metal replacement windows are seen on the sides of the entrance. Above this entrance is a geometric stone embellishment, roughly in the shape of a T, which points to an incised stone panel with "THE CLARENCE T. JONES OBSERVATORY A.D. 1936." Flat roof extensions flank the façade entry. The extensions are one story with a raised basement. Each extension contains three one-over-one metal circa 2006 replacement windows. Original windows were eight-by-eight metal casement windows with four-light transoms. Windows are surrounded by soldier course brick and have a brick panel below them. A stringcourse of angled soldier course brick is located above the windows on the façade. Below each window is an original four-by-four casement window at the basement level. (See Fig. 7.3 and Fig. 7.4)

There is access to the roof through the observatory. The steel dome is approximately seventeen feet in diameter and rises approximately fifteen feet above the roof. In 2006 aluminum caps were placed on the parapet walls.

The main body of the south elevation contains three one-over-one double-hung replacement windows on the first story and original six-by-six casement windows at the basement level. The same brick detailing on the façade is seen on this elevation and the north elevation. The

remainder of this elevation is a solid brick wall. A metal railing leading to a basement door on the east elevation is visible in this view.

Due to the slope of the land, most of the east or rear elevation is two stories. The southeast corner has two original six-by-six casement windows on the second story and one original six-by-six casement window and a single leaf door on the first or basement level. Decorative brickwork around the windows and a decorative stringcourse are seen here. North of this section, there are two extensions, forming the T-plan. The first one has a single leaf modern door leading to the first floor. North of this a two story solid brick wall projecting further east. North of this part the elevation is back on the main body of the building. A one-over-one double-hung replacement window is found on the second story level. As on the rest of the main body, decorative brickwork surrounds the window.

The north elevation is comprised of a solid brick wall on the extension. West of this is the main body of the building with a one-over-one double-hung replacement window, a single leaf paneled wood door, and an opening in the basement level. (See fig. 7.4)

Inside on the main level there is a rotunda with original lighted wood display windows along the curved concrete block walls and a central concrete column that is the foundation for the telescope. There are two brass plaques on the column. One reads "THE CLARENCE T. JONES OBSERVATORY." The second plaque reads "FEDERAL EMERGENCY ADMINISTRATION OF PUBLIC WORKS PROJECT 1031-R" and below that "FOR THE INSPIRATION OF YOUTH AND THE ADVANCEMENT OF KNOWLEDGE; THROUGH THE VISION, WORK AND GIFTS OF MANY CITIZENS; BY THE CITY OF CHATTANOOGA AND THE FEDERAL GOVERNMENT; IN 1936 THIS PROJECT WAS ACCOMPLISHED. 'THE HEAVENS DECLARE HIS RIGHTEOUSNESS AND ALL THE PEOPLE SEE HIS GLORY' PS 97:6" Openings on the north and south provide access to hallways. The rotunda has tile flooring but most other flooring is wood. (See fig. 7.5)

North of the rotunda is a hallway that leads to a small bathroom, the basement, and the original library. Narrow paneled wood doors lead to the bathroom and basement and a glass and wood paneled door leads to the library. "LIBRARY" is stamped above the door. As in the rest of the building, walls are concrete block, the ceiling has been dropped, and there are modern ceiling lights. The library contains an original built-in book case in the southeast corner. The south wall contains a single leaf wood paneled door to a storage closet.

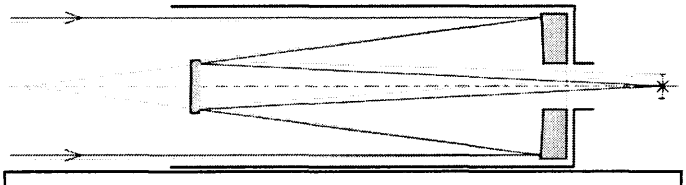
The hallway south of the rotunda provides access to the original lecture room, telescope room, closet, and the back of the building. Except for the door to the closet, which is solid wood paneled, doors are glass and wood paneled. "LECTURE ROOM" and "TELESCOPE ROOM" are stamped over the respective doors. The east end of the hall goes into a space that contains original wood display windows on the south wall, a door to the outside, and a door to the planetarium. Outside the planetarium is a plaque that states "PLANETARIUM OF THE CLARENCE T. JONES OBSERVATORY. THIS ROOM, THE GIFT OF GENEROUS FRIENDS, AND ITS PROJECTOR, THE GIFT OF THE BARNARD

ASTRONOMICAL SOCIETY, BY WHOSE FAITHFUL MEMBERS IT WAS BUILT, WAS PRESENTED TO THE UNIVERSITY OF CHATTANOOGA NOVEMBER 16, 1958." Clarence T. Jones and his son Bruce were responsible for the planetarium. They built the twelve-foot ribbed hemisphere for the planetarium in the library of the building. The walls of the planetarium are concrete block, the floor is concrete; the hemisphere is made of plaster with a steel framework. A dodecahedron projector for the planetarium was built at the Warner Park Hobby Shop by Jones. A backlit representation of the 1950s skyline of Chattanooga is on a narrow ledge where the concrete block wall and hemisphere meet. The planetarium is still operational and has not changed since it opened in 1958.

Enclosed concrete stairs follow the curve of the rotunda and lead to the telescope room. A plaque outside the door states

> APPRECIATION BY THE BARNARD ASTRONOMICAL SOCIETY TO B.S. ANNIS AND W.D. POWELL, FIRST PRESIDENT AND SECRETARY, FOR ORGANIZATION OF THE SOCIETY, AND VISION OF A TELESCOPE; CLARENCE T. JONES, PERMANENT PRESIDENT, FOR UNTIRING EFFORTS AND GENIUS IN PLANNING AND SUPERVISING CONSTRUCTION OF BOTH OBSERVATORY AND TELESCOPE AND SECURING COOPERATION OF OTHERS; THOMAS H. MCMILLAN, COMMISSIONER OF EDUCATION, FOR COOPERATION IN SECURING THIS PROJECT AS PART OF THE CHATTANOOGA SCHOOL SYSTEM; T.R. PRESTON AND THE HAMILTON NATIONAL BANK, FOR GIFT OF LAND; MARION P. WALL, FOR ASSISTANCE IN DESIGNING TELESCOPE MOUNTING; W.P. DELANEY FOR PROVIDING CASTINGS OF TELESCOPE MOUNTING; SMITH ELEVATOR & MANUFACTURING CO. AND STRICKLAND PATTERN WORKS FOR CONSTRUCTION OF THE TELESCOPE MOUNTING; LLOYD E. TAYLOR OF THE STANDARD IRON WORKS FOR CONSTRUCTION OF DOME; ALSO MANY OTHER INTERESTED FRIENDS.
>
> CLARENCE T. JONES, ARCHITECT — L.A. WARLICK CO., BUILDER

The primary mirror for the Cassegrain telescope is 20.5" and the secondary mirror is 5.5". Both mirrors were built by Arthur and Bruce Jones under the supervision of their father Clarence Jones during 1936-37. Clarence Jones and Marion Wall designed the mirrors. Both are built of Pyrex. The light path from the primary mirror to the secondary mirror is 74.6" and the return path from the secondary mirror to the focal point /eyepiece is 89.6". The telescope is mounted on a foundation that is separate from the building foundation. The dome over the telescope opens manually by a system of pulleys and can_rotate 360 degrees. The original telescope is still in use today although there have been changes such as the addition of electric fine controls to help aim the telescope.



Light path in a Cassegrain telescope.

In a Cassegrain telescope arrangement light is reflected off the primary mirror to the secondary mirror. The light is then reflected off the secondary mirror back down the telescope tube

and passes through a hole in the center of the primary mirror to an eyepiece for viewing. [1]

There is a plaque on the base of the telescope that reads

> THIS TELESCOPE BUILT UNDER THE DIRECTION OF CLARENCE T. JONES FROM DESIGNS PREPARED BY MR. JONES AND MARION P. WALL. ALL CASTINGS FOR TELESCOPE CONTRIBUTED BY W.P. DELANEY OF THE EUREKA FOUNDRY CO. ALL OPTICAL PARTS, INCLUDING THE 20 ½" PARABOLICAL MIRROR, THE 5 ½" SECONDARY MIRROR, ASTRO CAMERAS AND ALL EQUIPMENT FOR GRINDING, POLISHING AND FIGURING OF MIRRORS, WERE MADE BY ARTHUR H. JONES AND R. BRUCE JONES. MIRRORS ARE OF LOW EXPANSION PYREX GLASS POURED BY THE CORNING GLASS WORKS. ABOVE WORK PERFORMED DURING 1936 AND 1937.

Enclosed concrete stairs that follow the curve of the rotunda lead to the basement. The basement is now used for storage; originally it housed the optical shop. An opening adjacent to the stairs allows access to the telescope foundation. There are several rooms and basement doors are similar to those on the main level, wood panel and wood and glass panel.

[1] Drawing from "Arthur J. Dyer Observatory" National Register nomination.

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National Park Service

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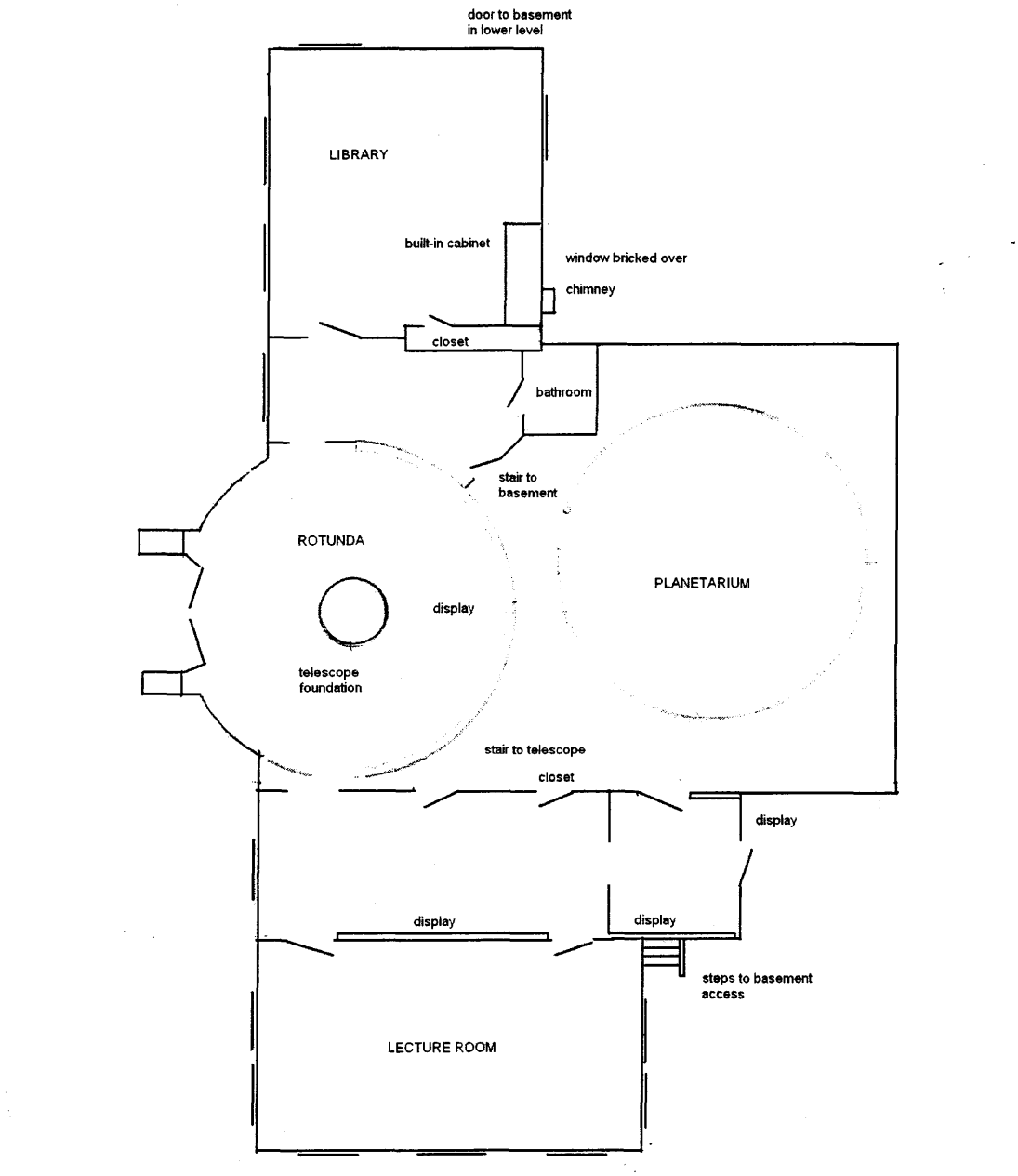
Section number 7 Page 6

Jones, Clarence T., Observatory
Hamilton County, Tennessee

Sketch plan of observatory Not to scale North



Statement of Significance

The Clarence T. Jones Observatory in Chattanooga is being nominated to the National Register of Historic Places under criterion A in the area of education. Designed by architect and amateur astronomer Clarence T. Jones in 1936, the observatory was built for the Chattanooga school system using federal funds. Jones, with much assistance from the Barnard Astronomical Society, promoted the construction and educational uses of the observatory. When completed, it was purported to be the first large public observatory in the south.[2] In 1944 it was turned over to the University of Chattanooga (now University of Tennessee at Chattanooga [UTC]), which then added astronomy to its curriculum. Jones helped build the telescope and, shortly before his death, Jones and his son Bruce began work on a planetarium that would be added to the building in 1958. Since its opening the observatory has been used by the public, the university, and the school system in Chattanooga to promote astronomy. The building has retained its overall integrity.

Although the building was not officially named the Clarence T. Jones Observatory until after Jones's death in 1957, the observatory was planned to be named after Jones. Jones's name has been on the building since it was constructed and only the guidelines for Public Works Administration (PWA) funds resulted in it being named the Brainerd Observatory. It has always been informally known as the Clarence T. Jones Observatory and formally known as such since 1958.

Background

The Barnard Astronomical Society, an organization of amateur and professional astronomers, was founded in Chattanooga in 1923 by Professor Burleigh S. Annis. John Bailey Nicklin, Jr. was the secretary. At the suggestion of member Annetta Trimble, of Chattanooga High School, the organization was named for Edward Emerson Barnard, a noted astronomer from Nashville, Tennessee. Annis chaired the first fifty-eight meetings of the organization until his death in 1930. The Barnard Astronomical Society's web pages notes that "The history of the society embodies the history of amateur telescope making in the south eastern United States."[3] Dr. J. Park McCallie was the interim chair of the organization. Oscar Langston, amateur astronomer, chaired the organization in the early 1930s. He helped establish Nashville's Barnard Astronomical Society (now the Barnard-Seyfert Astronomical Society) and in 1931 introduced Clarence T. Jones and his sons to the group.

[2] http://oneweb.utc.edu/~jonesobs. Accessed February 25, 2009.
[3] http://bas.chattanooga.net/html/history1.htm. Accessed February 24, 2009.

Clarence T. Jones and building the observatory

The fifty-five member Barnard Astronomical Society elected Jones chair in December 1932. While the idea of building an observatory had been discussed by the organization in the past, it was not until February 1935 when they "produced a funding petition to be brought before local philanthropic organizations and to be published in The *Chattanooga Times* Forum by Dr. J. Park McCallie."[4] A committee met with T.H. McMillan, the Commissioner of Education for the city, in April of that year and learned that $8,000 from the PWA would be allotted to build an observatory that the school system would use. The total building cost was expected to be $15,000, with the city paying for the part the PWA did not cover.[5] Jones agreed to design the observatory building. It was planned to have a telescope room, lecture hall, library, photo dark room, work rooms in the basement, and living quarters.

As an amateur astronomer, by the 1930s, Jones had constructed a six-inch Newtonian reflector mirror.[6] Jones and his sons Bruce and Arthur had built about thirty mirrors and had a twelve-inch telescope at their home.[7] Clarence Jones and Marion C. Wall of the Chattanooga Engineers Association collaborated in late 1934 to design a 20.5" Cassegrain mirror telescope. Jones had looked into buying a telescope for the proposed observatory but the least expensive one would cost $17,000. Jones and his sons had designed and built the grinding lap and purchased mirror glass before the observatory plans were approved and money allotted. This cost the family around $1000.[8] The Eureka Foundry of Chattanooga agreed to donate labor; casting for the mounting and base would cost $700. (See Fig. 8.6, Fig. 8.7, Fig. 8.8)

The site for the new observatory was donated by T.R. Preston and the Hamilton National Bank. Smith Elevator and Manufacturing and Strickland Pattern Works built the telescope mounting. Standard Iron Works and Lloyd Taylor built the dome. These services, including the design by Clarence Jones, were donated at an estimated worth of $8,000.[9] The new observatory was built adjacent to the city's McCallie School (Brainerd Junior High NR 9/15/80).

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[4] http://bas.chattanooga.net/html/history5.htm. Accessed February 24, 2009.
[5] "New Observatory open for inspection," *Chattanooga Times*, July 5,1937, Chattanooga Observatories File Clippings Folder, Bicentennial Library, Chattanooga, Hamilton County, Tennessee.
[6] Clarence Jones is shown in the September 1936 issue of *Popular Science Monthly* with a telescope he and his son built.
[7] "Building Telescope for Observatory," *Chattanooga Free Press*, January 1, 1937, Chattanooga Observatories File Clippings Folder, Bicentennial Library, Chattanooga, Hamilton County, Tennessee.
[8] Ibid. This article said that the total cost of the telescope was $2,000 and without the Jones' work it would have cost $10,000.
[9] "Wilson is Named Observatory Head," *Chattanooga Free Press*, October 8,1937, Chattanooga Observatories File Clippings Folder, Bicentennial Library, Chattanooga, Hamilton County, Tennessee.

The foundation was laid on May 16, 1936, although the telescope mirrors were not completed until 1937. The 20.5" mirrors were one of five test pourings for the 200" telescope at Palomar Observatory in California.[10] The first meeting of the Barnard Astronomical Society held in the new building was on June 25, 1936. Education Commissioner McMillan made a presentation to the seventy-five members attending. The first use of the telescope by the Barnard Astronomical Society was in May 1937 and the public opening of the building was in July 1937 (although the formal dedication was later).[11] The plan was for the telescope to be used three nights a week for high school and junior high school student classes. When it was finished, the telescope was considered to be the largest amateur built telescope in the country and the largest telescope in the southeast.[12] (See Fig. 8.9.)

The new observatory was called the Brainerd Observatory when it opened. The Barnard Society and Chattanooga Education Commissioner McMillan planned to name the observatory after Clarence Jones. However, Secretary of the Interior and PWA administrator, Harold Ickes noted that the PWA did not allow buildings to be named after living persons. The city council authorized McMillan to contact Tennessee's PWA director and to promote naming the observatory after Jones

> We consider our reasons for doing so sound indeed, for Mr. Jones has given us his architectural services absolutely free and has done an infinite amount of detail in connection with the equipment of this project without a cent of remuneration. In fact, he has been both the inspiration and the propelling force in putting this particular project across.[13]

Commissioner McMillan's protests were not successful.[14] Although the stone block with Jones's name was already on the building, it was officially named the Brainerd Observatory until after Jones's death in 1957.

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[10] Kathy Gilbert, "Star Search: Winter best time to scan heavens in the South," *Chattanooga Times-Free Press*, February 7, 2007. From Newsbank: America's Newspapers, http://infoweb.newsbank.com. Accessed February 25, 2009. See also Palomar Observatory Home Page (history) at http://www.astro.caltech.edu/palomar. Designed in the 1930s and completed in 1948, the 200" Hale Telescope, named after George Ellery Hale, operated as the world's largest telescope from 1948-1993. The mirrors for the telescope are composed of Pyrex glass, which was poured by the Corning Glass Works.

[11] "New Observatory open for inspection," *Chattanooga Times*, July 5,1937, and "Here's City's Biggest Telescope," *Chattanooga Free Press*, Chattanooga Observatories File Clippings Folder, Bicentennial Library, Chattanooga, Hamilton County, Tennessee.

[12] "City Nearer Stardom With Larger Planetarium," *Chattanooga Times*, November 9,1958, Chattanooga Observatories File Clipping Folder, Bicentennial Library, Chattanooga, Hamilton County, Tennessee.

[13] Shallett, Sidney. "If Ickes Says 'No Stone for Living,' Someone to be Quite Embarrassed," *Chattanooga Free Press* July 26,1936, Chattanooga Observatories File Clipping Folder, Bicentennial Library, Chattanooga, Hamilton County, Tennessee.

[14] Ibid.

Latimer J. Wilson was the first director of the observatory. When appointed he was described as a scientist, lecturer, and writer. He lived in Nashville, lectured at Watkins Institute, and wrote a column for the *Nashville Banner*. He was to be at the Chattanooga observatory three nights a week. Wilson told the *Chattanooga Times* that interest in astronomy had increased greatly in the last five or six years and he intended to focus on educating school children, although the observatory would be open to the public one night a week.[15]

Clarence Jones made movies of much of the building of the observatory.[16] The final cost of the planetarium was $1,700 over the $17,000 contributed by the city ($9,000) and the WPA ($8,000). This did not include the donated services by Jones and others. When opened, Commissioner McMillan noted that the city school system encouraged all schools, public and private, to use the observatory. On September 30, 1938, the observatory was formally dedicated. It was dedicated in honor of Clarence Jones's late son, Cornelius.

Less than ten years after it was completed, the city decided that the observatory was underused and was a liability. In May 1944, the Chattanooga Board of Education made a decision to lease the observatory to the University of Chattanooga for $1/year for ninety-nine years. Under the lease terms, the university would open the observatory for public use and city public school use at least once a week, assume responsibilities for building and equipment maintenance, and add an astronomy course to the university's curriculum.[17] Under the agreement, the Jones family would help maintain the telescope. Dr. Karel Hujer, an associate professor of astronomy at the university was put in charge of the observatory. Hujer (1902-1988) spent thirty years at the university teaching physics and astronomy. He lectured and presented papers at conferences throughout the world. Hujer had attended the universities of Prague and Chicago. In 2002, his native Czech Republic honored him with a postal card. [18] (See Fig. 8.10.)

By 1951 there were plans to add a planetarium to the observatory. As with the original building, Clarence Jones headed the efforts to build a planetarium. Bruce Jones was responsible for the final designs for the addition to the original building.[19] After an anonymous gift of $12,500, the O.B. Davis Construction Company eventually built the twenty-four foot planetarium. In July 1951 Bruce Jones and Llewellyn Evans, a TVA electrical engineer, built a twelve-foot hemisphere for the planetarium in the observatory library. This was a test or prototype for the projector being

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[15] "Wilson is Named Observatory Head," *Chattanooga Times* October 8, 1937, Chattanooga Observatories File Clipping Folder, Bicentennial Library, Chattanooga, Hamilton County, Tennessee.
[16] The fate of the movies is not known; they are not at the observatory.
[17] "Observatory Put Under UC Control," *Chattanooga Times*, May 1944, 24, Chattanooga Observatories File Clipping Folder, Bicentennial Library, Chattanooga, Hamilton County, Tennessee.
[18] http://www.chara.gsu.edu/CHARA/Hujer/KarelHujer.html. Accessed June 26, 2009.
[19] Some newspapers reported that Clarence Jones was the designer or that "Shepard and Smith" were the designers According to Jack Pitkin at the Jones Observatory, Bruce Jones was responsible for the final work of the planetarium, with the assistance of Armand Spitz, a well-known planetarium designer.

constructed at the Warner Park Hobby Shop in Chattanooga.[20] The planetarium projector is a dodecahedron, with each face having a portion of the sky on it. Barnard society member Clarence Gearhart, an instrument repairman for a surgical supply company, designed the control panel for the projector.

When dedicated in November 1958, the *Chattanooga Times* noted that "The planetarium, added to the observatory with its 20 ½" reflector telescope, now one of the three largest in the entire Southeast, places Chattanooga in a unique cultural and educational position."[21] An interesting feature of the planetarium is the skyline of Chattanooga painted on the walls by Barnard Society members. Brothers Arthur and Bruce Jones were involved in the painting and building of the addition; Arthur was president of the Barnard Astronomical Society at this time.

Clarence Jones died in 1957 before the planetarium was completed. He and his son Bruce were working on the completion of the Dyer Observatory (NR 3/6/09) at Vanderbilt University at the time of his death. A native of Kentucky, Clarence T. Jones came to Chattanooga in 1911. Although not formally trained as an architect, he attended the University of Cincinnati and worked in Ohio, South Carolina, and with various design partners in Chattanooga. He designed office buildings in Chattanooga and consulted on Bradley Observatory in Atlanta.[22]

By 1966, about 6,000 school children each year visited the observatory on the Friday nights it was opened to the public. The University of Chattanooga offered their physics and astronomy students more than just a basic course in a classroom setting. Usage of the high-powered telescope and planetarium gave students hands on experience and closer observation of celestial bodies. Dr. Karl Hujer, along with members of the Barnard Astronomical Society led Friday night programs. University students also had the opportunity to conduct lectures and operate the planetarium for school children and the general public every Friday night.[23]

Students from regional cities and counties in southeast Tennessee, northwest Georgia, and northeast Alabama, frequented the observatory on field trips on Friday nights. Most of the student visitors ranged from fifth graders to eighth graders. College students from Southern Missionary College (Southern Adventist University) in nearby Collegedale, Tennessee, and adults from the region took advantage of the Friday night open house, especially during the 1960s and 1970s after NASA's missions to the moon.[24] Dr. Hujer retired in 1972 and Morris C. Hetzler took over leadership of the observatory. Hetzler continued the observatory's focus on having the public learn

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[20] http://www.barnardstar.org/about/History/Page7.aspx. Accessed September 23, 2009.
[21] "City Nearer Stardom With Larger Planetarium." *Chattanooga Times*, November 9,1958, Chattanooga Observatories File Clipping Folder, Bicentennial Library, Chattanooga, Hamilton County, Tennessee.
[22] "Joseph Herndon, "Architects in Tennessee until 1930: A Dictionary" (master's thesis, Columbia University, 1975) 104.
[23] "Observatory Holds Interest of Students," *Chattanooga Free Press*, May 13,1966, Chattanooga Observatories File Clippings Folder, Bicentennial Library, Chattanooga, Hamilton County, Tennessee.
[24] Ibid.

more about astronomy.[25] In a 1976 newspaper article, Dr. Hetzler stated that while the Chattanooga observatory was not as elaborate as some of the state's other fourteen observatories, public interest in astronomy remained strong and steady.

During the 1980s, the Jones Observatory was in dire need of repair. Aside from maintenance work, the observatory suffered from a growing population in the Brainerd area where it is located. This caused light pollution and poor viewing conditions. The estimated cost for painting, electrical upgrades, and heating system repairs was $250,000.[26] Instead of repairing the observatory, the option of building a new observatory on Lookout Mountain in Georgia was considered. Chattanooga eye surgeon Dr. Bruce Dahrling III offered to donate land for a new observatory. However, the university elected to rehabilitate the older building. [27]

The Clarence T. Jones Observatory underwent a $280,000 remodeling in 2006-07. The dome was sandblasted and repainted, a new roof was put on, decorative brickwork was repaired, and new windows, walls, gutters, doors, and drop ceilings were installed. Today the observatory is open weekly on Sunday evenings from October through May, during UTC's fall and spring semesters. In addition, the Barnard Astronomical Society continues to meet at the observatory on the second Thursday of each month. At the present time, UTC physics and astronomy students are repairing the telescope and constructing a device to electronically open and close the observatory's dome.

[25] "Interest In Astronomy Soaring Here," *Chattanooga News Free Press*, November 17, 1976, Chattanooga Observatories File Clippings Folder, Bicentennial Library, Chattanooga, Hamilton County, Tennessee.
[26] "Walker Says UTC Observatory Inadequate: New Site Needed," *Chattanooga News-Free Press*, February 4,1988, Chattanooga Observatories File Clippings Folder, Bicentennial Library, Chattanooga, Hamilton County, Tennessee.
[27] Ibid.

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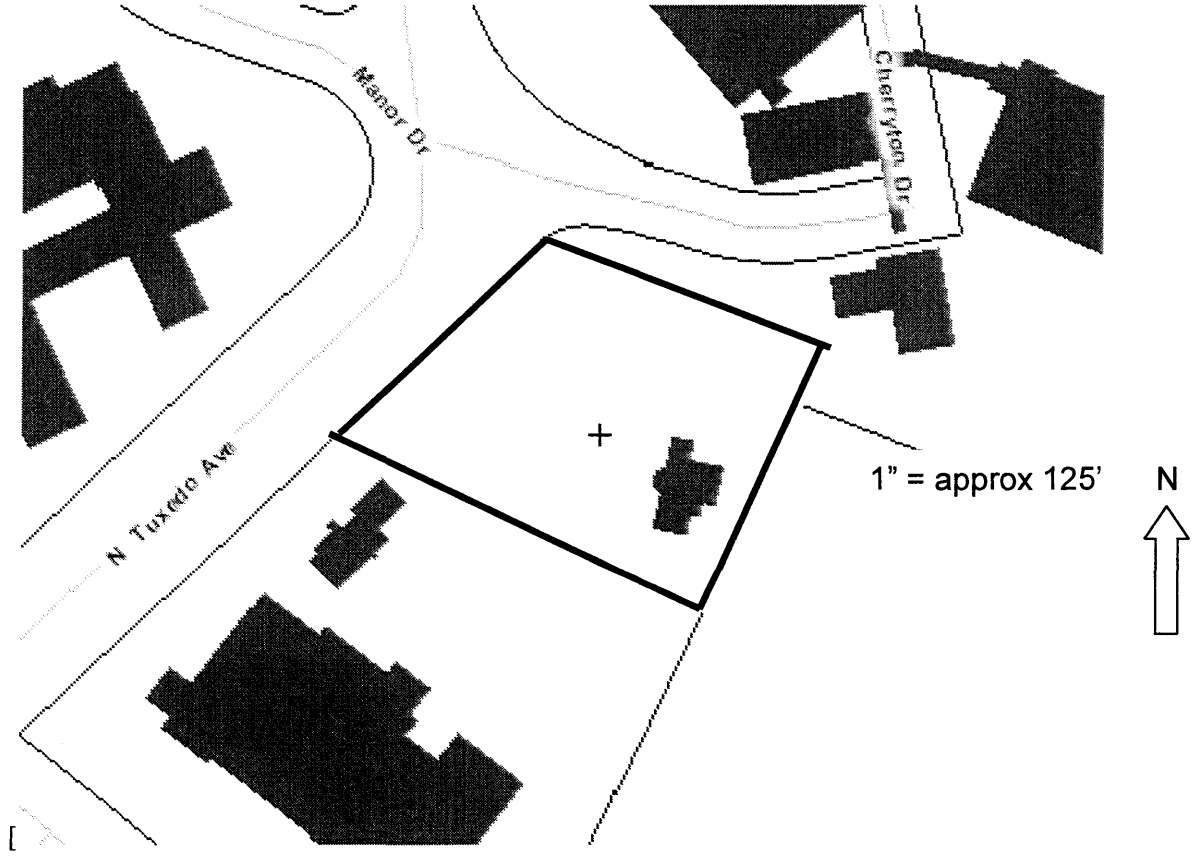
Verbal boundary description and justification

The nominated property is 1.1 acres. It is map and parcel 157G J011. This is all the property associated with the Clarence T. Jones Observatory. The north boundary is 222.06 feet, the east boundary is 192.7 feet, the south boundary is 294.39 feet, and the west boundary is 204.23 feet.



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Photographs

Photos by: Brian Beadles and Claudette Stager
Date: February 2009
Digital negatives: Tennessee Historical Commission

West façade, facing east
1 of 43

West façade and south elevation, facing northeast
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South elevation, facing east
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East elevation, facing northwest
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East elevation, facing southwest
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North elevation, facing south
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North elevation and west façade, facing southeast
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Detail of façade entry, facing east
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Telescope dome, facing southwest
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Entry doors, facing west
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Rotunda showing display cases and telescope base, facing southwest
11 of 43

Rotunda showing display cases and telescope base, facing north
12 of 43

Display case in rotunda
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Looking into library, facing north
14 of 43

Library showing built-in cabinet and closet door, facing south
15 of 43

Library, facing northwest
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Lecture room, facing southeast
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Lecture room, facing southwest
18 of 43

Hall outside of rotunda showing door to basement, facing east
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Hall showing door to telescope, closet, and entry to 1958 planetarium addition, facing east
20 of 43

Entry to planetarium
21 of 43

Planetarium showing dodecahedron projector and Chattanooga skyline
22 of 43

Planetarium showing Chattanooga skyline
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Hall showing display cases, facing west
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Hall showing entry to lecture room and entry to 1958 addition, facing southeast
25 of 43

Back hall, facing east
26 of 43

Stair to telescope room
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Stair to telescope room
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Telescope
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Telescope
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Telescope
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Telescope
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Telescope
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Track and pulleys used to open dome in telescope room
34 of 43

Top of dome in telescope room
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Looking from stair to telescope room into hall, facing south
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Stair to basement
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Basement
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Basement
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Basement
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Setting from roof of observatory showing school at bottom of hill
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Setting from roof of observatory showing school and parking lot at bottom of hill
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Steps leading to observatory
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Fig. 7.1. Below left: site in 1937. From Chattanooga-Hamilton County Bicentennial Library
http://www.lib.chattanooga.gov/localHist/photodatabase.html
Fig. 7.2. Below right: view today

Fig. 7.3. Observatory photo taken between 1944-61. From Chattanooga-Hamilton County Bicentennial Library
http://www.lib.chattanooga.gov/localHist/photodatabase.html

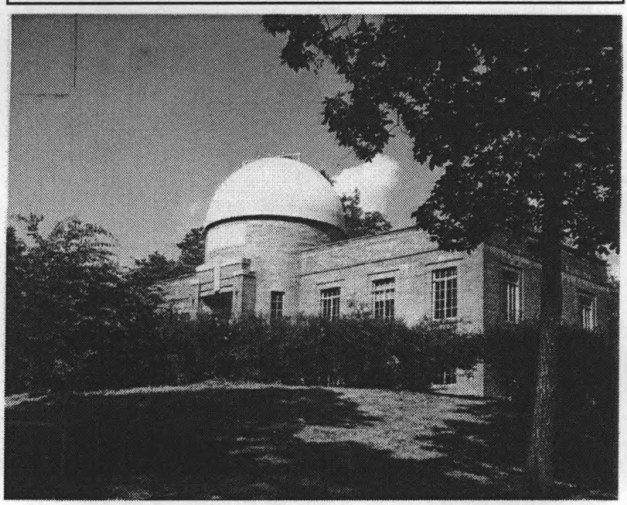

Fig. 7.4. Observatory photo taken 1937. From Chattanooga-Hamilton County Bicentennial Library
http://www.lib.chattanooga.gov/localHist/photodatabase.html

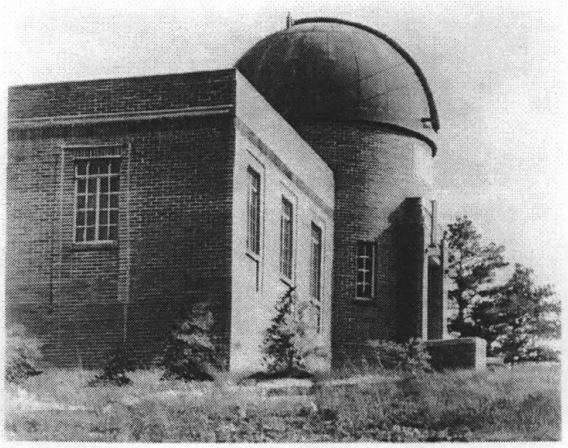

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Fig. 7.5. Clarence Jones showing display windows, 1937?
http://oneweb.utc.edu/~jonesobs/history.htm

Fig. 8.6. polishing lap stored in basement of the observatory, 2009.

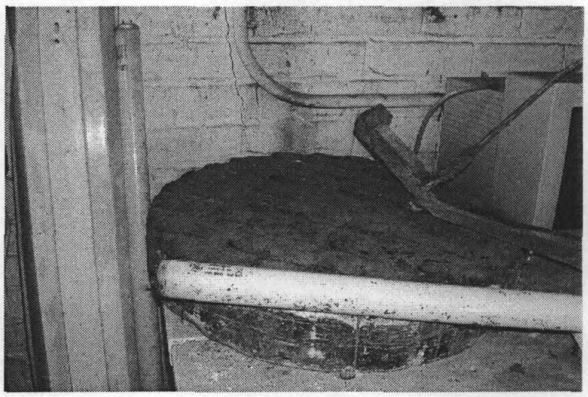

Fig. 8.7. Right: Arthur Jones and the polishing lap
http://oneweb.utc.edu/~jonesobs/history.htm

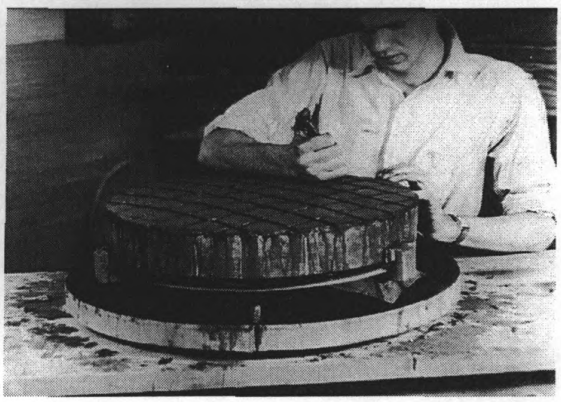

Fig. 8.8: grinding and polishing machine built by the Jones family. http://oneweb.utc.edu/~jonesobs/history.htm

Fig. 8.9. Photo of "Brainerd Observatory" from *Chattanooga Times* 5 July 1937.

NEW OBSERVATORY OPEN FOR INSPECTION

Fig. 8.10. Left: Karl Hujer and Hal MacAlister with observatory telescope in 1967. Right: Karl Hujer with telescope.