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

date entered

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

1. Name

historic Adler Planetarium

and or common Adler Planetarium and Astronomical Museum

2. Location

street & number 1300 S. Lake Shore Drive ___ not for publication

city, town Chicago ___ vicinity of

state Illinois code county Cook code

3. Classification

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

4. Owner of Property

name SEE CONTINUATION SHEET

street & number

city, town ___ vicinity of state

5. Location of Legal Description

courthouse, registry of deeds, etc. Chicago Park District

street & number 425 E. McFetridge Drive

city, town Chicago state Illinois 60605

6. Representation in Existing Surveys

title "Preliminary Summary of Information" has this property been determined eligible? ___ yes X no

date November 1, 1976 ___ federal ___ state ___ county X local

depository for survey records Commission on Chicago Historical and Architectural Landmarks

city, town Chicago state Illinois

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 Adler Planetarium is situated on the rounded northern and easternmost extension of Northerly Island, built up from shoals of the Lake Michigan shore.[1] The "island" is a peninsula linked to the mainland by a causeway. The planetarium's position is a commanding one, presenting a panorama of the downtown Chicago skyline to the west and northwest, the Lake Michigan shore to the south, and the seemingly endless horizon of the lake to the east and north.

The esplanade in front of the building, which now contains the main entrance, through steps down from a glass-enclosed cage-like structure into an underground addition, is surrounded by flower beds. Formerly it included a long narrow reflecting pool with stylized depictions in terrazzo of the twelve months. The pool was built in 1933 for the Century of Progress Exposition. When the addition was built, the pool had to be removed; now a small model of the pool's terrazzo base is affixed to the wall inside the old entrance.

The new approach to the museum also includes a statue of the 16th-century Polish astronomer Nicolaus Copernicus (Mikolaj Kopernik). This was given by the Copernicus Foundation and the Illinois Division of the Polish-American Congress in 1973.

A recent addition (1977) to the planetarium complex is the Doane Observatory, a low circular structure containing a 16-inch telescope. It is on the lakefront side of the planetarium site.

The building sits on a grassy terrace several feet above the circular drive that surrounds it on the ground level. A broad flight of steps leads to the bronze-covered entrance doors, which are set with bevelled glass. The exterior walls of the building, which are covered in polished rainbow granite of reddish hue with dark green veins, form three concentric 12-sided rings or prisms, the largest of which is 160 feet in diameter. The 12-sided form of the structure symbolizes the months of the year and the signs of the zodiac. The rings rise in receding tiers, with terraces atop them, originally designed for astronomical observation, to the base of the dome. The roof is of copper sheets, which cover a hemispheric form. The two geometric forms reflect the two basic internal functions of the building. The lower portion houses the astronomical museum, classrooms, and offices; the inside of the dome serves as the screen for the planetarium projector.

The smoothness of the flat-walled surface is relieved by narrow bands of fluting which run horizontally along the top of the lower level, and vertically at the 12 corners of each level. The upper corners of the lowest level are embellished with bronze plaques by the sculptor Alfonso Ianelli; they depict the signs of the zodiac in low relief. Stars are positioned on the plaques according to the constellation descriptions by Ptolemy, the Greek astronomer of the 2nd century A.D.

8. Significance

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

Specific dates 1929-30 **Builder Architect** Ernest Grunsfeld, Jr. (Planetarium)

Statement of Significance (in one paragraph)

Summary[1]

The Adler Planetarium, the first institution of its type in the Western Hemisphere, opened to the public in May 1930. With its neighbors, the Field Museum and the Shedd Aquarium, it forms a significant cultural complex that enriches its visitors' knowledge of the sky, the earth, and water, a connection enhanced by the spectacular lakefront setting of the complex, which evokes each of its components.

The structures that house these institutions offer eloquent testimony to the way in which recreation enhances and ultimately enriches knowledge. Furthermore, they are, along with Soldier Field, the prime remaining structures surviving on site from "A Century of Progress" (1933-34), the second great Chicago exposition. They all slightly predate the exposition, but, integrated into it, served as the northern anchor for the exposition, which stretched southward along the Chicago lakefront in Burnham Park. Thematically, they fit well with the exposition, which was dedicated to the grand concept of "a century of the growth of science, and the dependence of industry on scientific research."

The Adler Planetarium and Astronomical Museum was given to the people of Chicago in 1930 by Max Adler, a retired senior officer of Sears, Roebuck and Company, who had been deeply involved in philanthropic activities for many years. In addition to funding the building and the planetarium projector, Adler purchased and donated to the city an extensive collection of antique scientific instruments for display in it.

History

At the time of the planetarium's dedication in May 1930, Adler explained his reasons for building it. He hoped to further the progress of science and to enable people to "observe the action of the heavenly bodies as heretofore only astronomers could do." He also felt that if people realized the enormity of the universe and the smallness of their part in it, they would be humbled and come to see the interdependence of all mankind, and thus the futility of force as a means of solving problems. The use of the planetarium would "emphasize that all mankind rich and poor, powerful and weak as well as all nations here and abroad constitute part of one universe."

9. Major Bibliographical References

SEE CONTINUATION SHEET

10. Geographical Data

Acreage of nominated property 8 acres

Quadrangle name Jackson Park **Quadrangle scale** 1:24,000

UTM References

	Zone	Easting	Northing
A	16	449650	463480
B			
C			
D			
E			
F			
G			
H			

Verbal boundary description and justification

SEE CONTINUATION SHEET

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 James H. Charleton, Historian

organization National Park Service, History Division **date** October 1985

street & number 1100 L Street, NW **telephone** (202)343-8165

city or town Washington **state** DC 20013-7127

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 date

For NPS use only

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

date

Keeper of the National Register

Attest: date

Chief of Registration

GPO 894-765

Owners of Property

Dr. Joseph M. Chamberlain, Director, Adler Planetarium
1300 S. Lake Shore Drive
Chicago, Illinois 60605

Chicago Park District
425 E. McFetridge Drive
Chicago, Illinois 60605

(The Chicago Park District owns the land; the Adler Planetarium owns the building.)

The present entrance to the building is underground. A flight of steps just west of the original stairs leads down to the 280-foot underground extension of the museum, constructed in 1973. This addition, the Astro-Science Center, built below ground to avoid interrupting the character of the setting, more than doubled the floor space of the original building. This facility includes an area for space-age exhibits, a library, and the Kroc Universe Theatre, which augments the presentation of the planetarium in the Sky Theatre by seeming to transport the viewer to distant parts of the universe through projections from behind its translucent walls and ceiling.

Above the eastern portion of the new main floor are the two floors of the original building. These house astronomical displays and the rich instrument collection, containing around 1,000 instruments for astronomy, navigation, surveying, and time measurement; the items in this collection date from 1131 A.D. to the present.

Also on the upper floor, in the center of the building beneath the dome, is the Sky Theatre in which the planetarium projector is operated. The present planetarium, which gives the building its name, was installed in 1970. The projector can reproduce the night sky on the ceiling of the dome as the sky appears from any place on earth and at any time for thousands of years in the past and future. The appearance of almost 9,000 stars, the planets, the Milky Way, constellation outlines, and special phenomena such as eclipses, meteors, comets, and artificial satellites can be simulated. Orbits and changes in orbits over thousands of years can be shown.

Outside the doors of the planetarium chamber, in the original entrance foyer of the building opposite the doors, is a dedicatory panel of greenish-brown marble with white-metal symbols of eight planets in low relief. These were also executed by Ianelli. (Pluto, the ninth planet, was discovered in 1930, too late to be featured in this panel.) The planets encircle a statement of the purpose of Max Adler's gift:

> To further the progress of science -- to guide an understanding of the majesty of the heavens -- to emphasize that under the great celestial firmament there is order, interdependence and unity.

The building's interiors generally are a uniform dark cinnamon in color, and the ceilings of the exhibition areas are gold. Carl Condit has ably described the intricate interior construction of the planetarium, which contrasts with

the simplicity of its exterior design. This complex structure was necessary to meld the curved and straight-line geometric forms that compose the exterior. His description is quoted here in full:

> The simplicity and the purity of the Adler Planetarium are in one respect deceptive, since they hide a complex internal structure. The foundations rest on composite piles of wood and concrete that were driven through the fill and into the original lake bed to a depth of 44 feet below the bed level. The structural system is also composite: the walls of the prismatic volumes are supported by a concrete frame, whereas the floor, roof, and dome frames are steel. The horizontal slabs are carried by standard girders and joists, but the double dome required more elaborate curvilinear forms. The primary members in the frame of the outer dome are twenty-four meridional open-web ribs built up of steel plates, angles, and straps and curving on an outside radius of 40 feet 7 inches. Alternate ribs spring from twelve steel columns disposed in a ring around the planetarium chamber, and the intermediate ribs between them form I-beams joining successive pairs of columns, the entire group of twenty-four bearing on a steel compression ring at their upper ends. This ring, which is 10 feet in diameter, also serves as an opening for the smokestack. The ribs are stiffened laterally by circumferential struts, and the whole assembly is braced by double diagonals in all but the topmost ring of the spherical trapezoids formed by the primary framing members. The steelwork of the dome is covered by one-inch-thick cement tiles caulked with elastic cement, and these in turn are covered by copper sheathing. The inner dome is a lightweight duplication of the outer and its crown and spring line stand seven feet lower than those of the external covering. The inner ribs and rings, formed of steel angles, are suspended by steel hangers from a light horizontal framework fixed to the outer built-up ribs. Wooden ribs attached to their steel counterparts once formed the nailing base of the stretched and treated cotton fabric that originally constituted the planetarium screen, but this flimsy material was later replaced by anodized aluminum.[2]

FOOTNOTES

[1]This description is largely an adaptation of that contained in Commission on Chicago Historical and Architectural Landmarks, "The Adler Planetarium: Preliminary Summary of Information," November 1, 1976, pp. 1-4.

[2]Carl Condit, Chicago, 1910-29: Building, Planning, and Urban Technology (Chicago: University of Chicago Press, 1973), pp. 201, 204.

Max Adler was born in 1866 in Elgin, Illinois. He learned the violin as a child and studied at a music conservatory in Germany. He eventually moved to Chicago to open a string instruments store with a partner. In 1897 he married Sophie Rosenwald. That same year, Sophie's brother Julius invited him to join the staff of the young mail-order firm of Sears, Roebuck and Company of which he, Julius, was an officer and part-owner and later president. Julius retained Max as the buyer and manager of the musical instruments and related departments. As the company grew, so did Adler's position within it. By 1921, he was an officer, director, and substantial shareholder.

In 1928 he retired from business and devoted his life to philanthropic activities in Chicago. His primary interest was directed toward Jewish institutions and organizations, but he also supported musical organizations and music students.

Although he had no particular interest in astronomy, he was intrigued by a friend's report of a planetarium, a device which could reproduce the night sky on the ceiling of a domed room, that the friend had seen in Munich. Chicago already had a museum of fine arts and one of natural history, and plans for both an aquarium and a museum of science and technology were well under way. The latter was the inspiration of Adler's brother-in-law, Julius Rosenwald, who provided the funds to establish the museum. A planetarium, Adler began to feel, would complement those museums in which the earth and sea were studied.

Intrigued by the idea, Adler went to Germany to see the Munich planetarium and several others himself, accompanied by his wife and architect Ernest Grunsfeld, Jr. They found the planetarium to be not only exciting but also instructive. Adler decided to give Chicago the first planetarium in the Western Hemisphere, and Grunsfeld was retained to design the building in which the machine would be installed.

The South Park Commissioners, who had jurisdiction over the southside parks before the amalgamation of several park boards into the Chicago Park District in 1934, offered the site. Under the Lake Front Ordinance of 1919, which developed from Daniel Burnham's 1909 Plan of Chicago, a group of five recreation islands were to be built off the lakeshore between 12th Street and 51st Street, separated from the shore by water and joined to each other by bridges. Construction of what was known as Island #1 began in 1923 off 12th Street. By 1928, when Adler offered the planetarium to the Commissioners, the landfill for the island was almost complete, and the Board of the South Park Commissioners arranged for the building to be placed on the promontory at its north end. The other four islands were never built, and Island #1 became known as Northerly Island. The temporary bridge connecting the island to the mainland was converted into a permanent causeway soon after the building was completed.

The Adler Planetarium and Astronomical Museum opened on May 12, 1930, and later that year Ernest Grunsfeld, Jr., received a gold medal from the American Institute of Architects for his design. Given the spectacular setting on the lake, Grunsfeld's design is most striking by its deceptive simplicity, yet it is an impressive sight. He admirably solved the problem of the building's two special requirements: a domed room for the planetarium and space for museum displays and administrative and educational areas. The transition from the lower portion of the building to the dome is smoothly accomplished by the three nesting rings which decrease in size as they rise to the dome. Carl Condit has called the building a "lake-set jewel of geometry" and a "classic in the modern idiom." He has also praised its use of symbolism and its functional interior.[2]

More than 22,000,000 people have visited the Adler Planetarium since it opened in 1930, indicating the attraction many people feel to understand something of the universe. They can not only observe the "sky show," but can also attend a year-round schedule of classes in astronomy and navigation and even learn to grind their own precision telescopes. Through these activities the Adler Planetarium has carried out the scientific and educational aims of its founder.

[1]This statement is an edited version of that in Commission on Chicago Historical and Architectural Landmarks, "The Adler Planetarium: Preliminary Summary of Information," November 1, 1976, pp. 1-4.

[2]Carl Condit, Chicago, 1910-29: Building, Planning, and Urban Technology (Chicago: University of Chicago Press, 1973), p. 201.

Verbal Boundary

A perfect circular plot centered on the building so as to embrace the shoreline to its north and east and a small westward extension embracing the rectangular traffic island just west of the main building. The statue of Copernicus at the west end of this traffic island is just inside the western terminus of the boundary. This area includes the 1929-30 structure, its immediate setting, and its western underground addition. The latter, however, does not contribute to the national significance of the proposed National Historic Landmark.

Bibliography

Adler Planetarium. Guide to the Adler Planetarium. Chicago, 1985.

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Condit, Carl. Chicago, 1910-29: Building, Planning, and Urban Technology. Chicago: University of Chicago Press, 1973.

Dawes, Rufus C. Report of the Century of Progress Exposition. Chicago, 1936.

Grunsfeld, Ernest A., Jr. "The Construction and Equipment of Adler Planetarium," Architectural Forum, 54 (February 1931): 225-228.

North, A. T. "The Adler Planetarium, Chicago." Architectural Forum, 54 (February 1931): 140-150.