

U.S. Naval Academy, Isherwood Hall, Building 104
Parker Road
Annapolis
Anne Arundel County
Maryland

HABS No. MD-329

HABS
MD,
2-ANNA,
65/7-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Buildings Survey
National Park Service
Department of the Interior
Washington, D.C. 20240

HISTORIC AMERICAN BUILDINGS SURVEY HISTORICAL AND DESCRIPTIVE
NARRATIVE

Isherwood Hall, Building #104

HABS No. MD-329-7

U.S. Naval Academy
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I. Documentation for Buildings

A. Historic Name

The building has been known as Isherwood Hall or Building #104 since its construction. It was named after Commodore Benjamin Franklin Isherwood, USN, Chief of the Bureau of Steam Engineering and a pioneer in naval engineering.

B. Location

Isherwood Hall fronts on Parker Road; its monumental arched entrance faces the rear of Mahan Hall across the street and lies along one of the two major axes of the Flagg Academy. It is surrounded by Nimitz Hall to the northeast, Melville Hall to the southwest and the Isherwood Shop Building (Building 104A) to the Northwest. Isherwood Hall is located at the United States Naval Academy, Annapolis, Anne Arundel County, Maryland. 21402. The Universal Transverse Mercator Coordinates are: 18.371120.4315890.

C. Present Owner & Occupant

United States Government

D. Present Use

Isherwood Hall is now vacant and unused. Throughout most of its existence it has been used for classroom space for engineering and science courses. Isherwood Hall was the principal building of the Naval Academy's Department of Marine Engineering. The building is to be demolished in the autumn of 1981.

E. Significance

Isherwood Hall's significance derives from its architectural value as an element of the Ernest Flagg redevelopment of the Academy, its role in the development of military education, and its early use of the Hennebique structural system. Isherwood Hall is the only one of five structures to be demolished in 1981 which is part of Ernest Flagg's turn of the century redevelopment of the Naval Academy. It was not included, however, as were the principal buildings of the Academy, in Flagg's original 1895 sketch plan of his redevelopment scheme. Erected in 1905, Isherwood Hall was the home of the Department of Marine Engineering for almost its entire existence. Although no major technological breakthroughs or research of any significance is known to have taken place in Isherwood, the building was the site of the education of America's future naval officers in the changing technology of steam propulsion. The building itself was one of the earliest in the United States to make use of the Hennebique structural system, a prototype of reinforced concrete construction developed in France.

The structural system of Isherwood, the Hennebique system, was very advanced for its time. The design is based on the placement of concrete and reinforcement to coincide with the moment and shear diagrams for continuous frame action, something not generally done in the United States until the 1920's. James M. Cutts, P.E., a structural engineer employed by the Navy in 1980 to examine the structural soundness of Isherwood Hall consulted with the American Concrete Institute on the historic significance of Isherwood and commented, "The information that we have gathered to date indicate that there is no known structure still standing built with the Hennebique system. Also, there does not appear to be any known drawings of other structures built with the Hennebique system".

II. Historical Information

A. Physical History

1. Date: Isherwood Hall was constructed in 1905. This date is established by Naval Academy Public Works Department records and by a bronze plaque on the building.

2. Architect: Ernest Flagg, 25 Wall Street, New York City. Flagg was a leading American architect trained at the Ecole des Beaux Arts in Paris. Other notable works by Flagg include the Singer Building in New York and the Corcoran Gallery of Art in Washington, D.C. The Flagg plan for the Naval Academy was the predecessor for several other City Beautiful plans including the McMillan Commission Plan for Washington, D.C. and the Olmstead Plan for Chicago. Mardges Bacon, assistant professor of fine arts at Trinity College in Connecticut, has written her doctoral dissertation on Flagg. She has commented that, "While Isherwood Hall is neither the brightest nor the best of the Flagg Naval Academy structures it is inextricably linked to the entire ensemble which continues to remain intact."

3. Original and subsequent owners: United States Government

4. Building contractor, suppliers: Noel Construction Company, Baltimore, Maryland.

5. Original plans and drawings: Roll #440 in U.S. Naval Academy Public Works Archives contain numerous blueprints of Flagg drawings. See "Isherwood Complex Documentation Appendix C: General Bibliography."

6. Alterations and additions: In 1958 Harrison & Palmer, Inc. installed a wind tunnel in a courtyard of Isherwood. RTKL of Baltimore was the architect. This installation did not damage the basic configuration of the building.

B. Historical Context

Isherwood Hall, upon its demolition in 1981 will have served the U.S. Naval Academy for seventy six years. For all but the last decade of its existence, Isherwood Hall housed the Department of Marine Engineering and its successors. Griffin and Melville Halls built at later dates were always a part of the "Isherwood Complex", connected physically and in function to Isherwood. Therefore, the general historical context of Isherwood is the development of military education and of the technology of naval propulsion.

Drawings of Isherwood (referenced in IV. A.) illustrate the changing nature of the naval technology being taught in Isherwood through the functional identification of the various spaces over the years. Also, property record cards in real estate files record the expenditures of Academy funds for various new equipment in Isherwood. Examples of changes are:

1941	Shed for Seaplane Fuselage
1945	Foundation for Turbines and Condensers
1948	Installation of Test Labs
1949	New Damage Control Lab
1967	Student Computer Terminals

Such sophisticated uses may be compared to functions identified on 1913 in house floor plans as "recitation rooms, woodworking shop, model room, machine shop, and experimental laboratory."

III. Architectural Information

A. General Statement

1. Architectural Character: Isherwood Hall is a fairly straightforward rectangular block, 276' x 192', with two stories plus an attic story and two interior courtyards. It is fifteen bays by eleven bays. As one of the original Flagg buildings of the Naval Academy, it is executed in his Beaux Arts classical style but is not as ornamentally rich or as complex as most of his other Academy buildings. The imposing central entrance arch with its cartouche that extends above the facade of the building is the principal focus of attention in the composition. Projecting central bays with doorways and Naval Academy seals carved in relief in place of second story windows were designed for both the side elevations (northeastern and southwestern). This aspect of the southwestern elevation was obliterated by the later connection of Isherwood to Griffin, and it appears that the central bay was simply reused as the central projecting bay of the southwestern facade of Griffin. (Compare the photograph of Griffin, SW elevation to Flagg's drawing of the southwestern elevation of Isherwood - roll 440, no. 888). The rear or northwestern elevation of Isherwood had a central doorway at first floor level but was quite plain

otherwise. It was obscured early on by the construction of the Isherwood shop Building, #104C, on this side.

To the extent that Isherwood shares in the overall architectural character of the Academy, it is designed to project an image of power and order in keeping with the purpose of the institution. Flagg used ornament of a specifically naval or aquatic character throughout the Academy. The wavelike appearance of the cartouche and the curious pile like projections at the northern and eastern corners of the buildings are Isherwood's only use of these motifs.

2. Condition of the fabric: The basic masonry shell is in excellent condition except for minor cracking at each side of the first floor window sills. The interior of the building is in good shape and does not appear to be as popular a bird habitat as its neighbors in the complex (where droppings have caused some damage).

B. Description of Interior

1. Overall dimensions: 276' x 182'. Two stories with attic story.

2. Foundation: Wood piles. Five load capacity of 75 lbs. per square foot.

3. Walls: Granite foundation, molded granite water table, brick bearing wall construction. The walls are 1', 2', and 3' 2" thick gray glazed brick set in English bond. A granite belt course runs between the second story window sills. Rockfaced granite pilasters flank the northeast facade. Granite quoins are used at the corners.

4. Structural system, framing: Isherwood's structural system is a reinforced concrete structural frame supported by interior concrete columns and exterior and court masonry bearing walls. See I.E.

5. Porches, stoops, balconies, bulkheads: N/A.

6. Chimneys: N/A.

7. Openings:

a. Doorways and doors: The major arched central doorway projects above the roof line. This arch has modillioned intrados and a magnificent cartouche as a central motif. The trim above the double glass doors (not original) consists of a band of fretwork, a festoon, and fourteen light transom. Multi-light windows with decorative mullions fill in the tympanum above the doorways. At other entrances there are double wood doors with molded trim.

b. Windows and shutters: First story windows are pivotal multilight windows surmounted by stilted segmental brick arches with granite, keystones, and skewbacks. Second story windows are pivotal multi-light windows topped with flat brick arches with granite keystones and skewbacks.

8. Roof.

a. Shape covering: Hipped, slate roof with shed dormers. Over the projecting central arched entrance and the central hall to which it leads is a separate hipped roof using a cornice line slightly higher than the cornice line of the principal block of the building. This individual segment of the roof is surmounted by a monitor.

b. Cornice, eaves: There are overhanging eaves with bosses above and cast iron brackets or ancons below. The roofline breaks into a gable above the relief sculpture of the Academy seal at the central bay of the second story level of the northeastern facade.

Dormers, cupolas, towers: There are variously shed dormers, skylights, and a monitor above the central entrance hall.

C. Description of Interior

1. Floor Plans

Refer to plans referenced in IV. A. and detailed in "Isherwood Complex Documentation Appendix C: General Bibliography".

a. **First Floor:** Major features of the 276' x 192' rectangle at the first floor level are the T shaped central space flanking the principal southeastern facade and linking the entrance to the main stairway. This is known as the Model room. There is another long room extended along the northwestern side which was a machine shop in 1960. The two courtyards were filled in and housed classrooms and a wind tunnel in 1960.

b. **Second Story:** The second story reverses the plan of the first in that the central T shaped area is divided into classrooms. The northwestern sides of the building are flanked by large open drawing rooms with excellent natural light through skylights. Only the Griffin side courtyard of this level is enclosed. This is used for classrooms.

c. **Third Story:** Classrooms have been obtained at this level in the areas between the southeast facade and the courtyards only. The center of the T was used as a movie theater in 1960. All areas outside the T are continuations of the second story space. A review of the drawings of the floor plans in the Naval Academy files and referenced in IV. A. is far more revealing as to physical layout and changes in utilization than is possible in a verbal description.

2. **Stairways:** A handsome staircase with ornamental iron balusters and newels rises from the Model Room to a central landing from which two dog leg staircases rise at opposite sides of the central landing.

3. **Flooring:** The floor system is of two types depending upon whether or not a finished ceiling was required. Where ceilings were used the floor structure is poured in place waffle slab ribs and soffit with a precast top to the waffle. The areas of the building where no ceiling was used have a two-way flat slab ten feet square which frames between concrete beams. The flat slab panel is recessed as opposed to the waffle slab areas where the soffit is flush with the beams.

4. Wall and ceiling finish. Plaster on brick partitions; glazed tile walls; plaster ceilings.
5. Openings.
 - a. Doorways and doors: Some wood carved doors. Plain wood doors.
 - b. Windows: Polished wood window surrounds.
6. Decorative features and trim: N/A.
7. Hardware: Blockboards.
8. Mechanical equipment: See "Isherwood Complex Documentation Appendix A - Survey of Existing, Plumbing, Electrical, HVAC Systems by Shooshanian Associates, Consulting Engineers.

D. Site.

1. General setting and orientation: Isherwood Hall's main entrance is oriented to the southeast facing the rear of Mahan Hall. Isherwood is part of a grouping of later buildings which include Building #110 or Griffin Hall, an academic building; Building #104C, a Water Treatment Building; Building 104A or the Isherwood Shop Building, a one time foundry; and Building #116 or Melville Hall, another academic building. Isherwood Hall is along one of the principal axes of Flagg's Naval Academy.

It is peculiar that Isherwood's overscaled monumental arched entrance is so close to the rear of Mahan Hall that a viewer cannot get back enough from the entrance to appreciate it. It appears that Flagg was uncertain how to handle the requirement for the engineering building as a different configuration was used in his initial 1876 sketch of the Academy plan. Other more important Flagg buildings at the Academy did not vary in their realization from the 1896 scheme.

2. Historic landscape design: N/A.

3. Outbuildings: N/A.

IV. Sources of Information.

A. Original Architectural Drawings

Naval Academy Public Works Archives blueprints of Flagg drawings. Roll #440, Nos. 885, 886, 887, 888, 889, 891, 894, 895, 896, and 897. Cabinet #2, Packet D-19, Nos. 609, 706. Cabinet #2, Packet #D-20, Flagg No. 5634. Roll #442, No. #979B. See "Isherwood Complex Documentation Appendix C: General Bibliography".

B. Early Views: N/A.

C. Interviews: See "Isherwood Complex Documentation Appendix C: General Bibliography".

D. Bibliography: See "Isherwood Complex Documentation Appendix C: General Bibliography".

E. Likely Sources Not Yet Investigated: N/A.

F. Supplemental Material: Naval Academy Real Property Inventory Card 2-00124.

V. Project Information

Demolition to clear a site for a new multi-purpose assembly facility.

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