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REPORT BY THE
Comptroller General
OF THE UNITED STATES

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**The Library Of Congress' New
Madison Building: Reasons For,
And Effects Of, Delays And
Escalating Costs**

RELEASED

GAO reviewed the construction of the Library of Congress James Madison Memorial Building primarily to

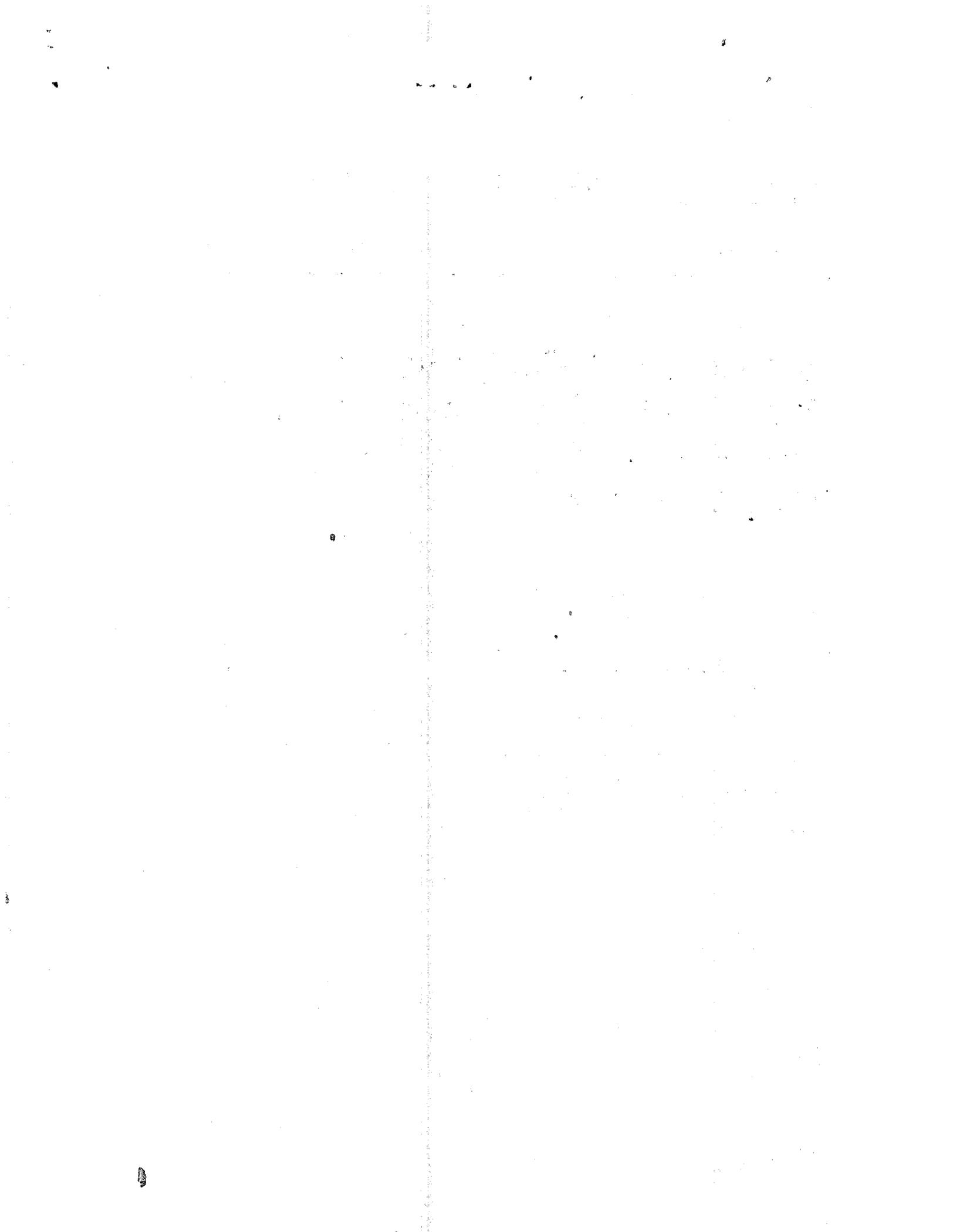
- determine the reasons for increases in the project's cost and for delays in completion and
- analyze space use in the building.

The Architect of the Capitol estimates that the project will be substantially completed by January 1980 at a cost of \$134 million. GAO believes that the Architect may not be able to meet the estimates.



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COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON, D.C. 20548

B-145899

The Honorable Adam Benjamin, Jr.
Chairman, Subcommittee on
Legislative Branch
Committee on Appropriations
House of Representatives

Dear Mr. Chairman:

In accordance with your March 15, 1979, request and subsequent agreements reached with your office, we have reviewed the construction of the Library of Congress James Madison Memorial Building.

A similar report is being sent to the Ranking Minority Member, Subcommittee on Public Buildings and Grounds, House Committee on Public Works and Transportation, pursuant to his April 17, 1979, request. Copies of the Ranking Minority Member's report are being sent to the Architect of the Capitol, the Librarian of Congress, and the associate architects who designed the Madison Memorial Building.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Thomas P. Atack".

Comptroller General
of the United States



REPORT BY THE
COMPTROLLER GENERAL
OF THE UNITED STATES

THE LIBRARY OF CONGRESS' NEW
MADISON BUILDING: REASONS FOR,
AND EFFECTS OF, DELAYS AND
ESCALATING COSTS

D I G E S T

When the Library of Congress James Madison Memorial Building was approved in 1965, it was to cost \$75 million. Currently, the Architect of the Capitol is requesting funds that will bring the cost to over \$134 million. The original completion date was January 1971. The Architect now estimates completion by January 1980. However, the contractor doing the interior finishing work estimates May 1981.

The building is the result of the need for more Library space and an effort to create a memorial to James Madison, the fourth President of the United States. The Congress combined both concepts into the project. (See pp. 3 and 4.)

Design and construction of the building was done in a "phased" process which meant construction on some phases could begin while others were still being designed. The final construction contract was about 96 percent complete as of July 31, 1979. (See pp. 16 and 17.) The overlapping of the design and construction phases of the project makes it difficult to ascertain the net effect on the overall project of a delay in one of the phases. (See pp. 24 to 28.) The major factor contributing to increased costs has been inflation resulting from delays in funding, design, and construction. (See pp. 20 and 21.)

The Architect is requesting an additional \$3.5 million, which will raise total authorizations to \$134,175,000. However, this additional amount may not be sufficient to complete the project because

--it is based on an estimated completion date that may not be met and

--potential claims from the phase 4 (interior finishing) contractor may exceed the available contingency allowance. (See p. 22.)

The \$134,175,000 estimate for the project represents construction costs and does not include such related costs as

--furniture and furnishings (\$27 million),

--land acquisition (\$5.7 million), and

--expansion of the Capitol Power Plant (\$5 to \$6 million). (See pp. 22 and 23.)

Originally, the Madison Building was to be used primarily for book collection activities. Over the years, however, it has evolved into a building mainly for office-type activities. The Madison Building will provide about 1.4 million net square feet of assignable space, about 300,000 square feet less than the Library's requirements. As a result, the building will not resolve all of the Library's long-term space needs. (See pp. 29 to 33.) Also, it now appears that the Library will have to retain at least half of its rental space after the building is occupied. (See pp. 37 and 38.)

Both the Architect and officials from the Library agreed that this report accurately described the circumstances surrounding the design and construction of the Madison Building. (See p. 38.)

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ABBREVIATIONS

AOC	Architect of the Capitol
A/E	architect/engineer or architectural/engineering
AIA	American Institute of Architects
GAO	General Accounting Office

CHAPTER 1

INTRODUCTION

Although the Library of Congress was established around 1800, it was not until 1897 that the Library's first building, the Main Building, was opened. Prior to that time, the Library was housed in various locations, including the Capitol Building.

Despite predictions that the Main Building would provide ample space to meet the Library's needs for 150 years, by 1910 it became necessary to enlarge the Main Building to accommodate the Library's expanding collections. In addition to continued enlargement of the Main Building over the years, in 1938 the Annex Building (Thomas Jefferson Building) was opened for occupancy.

The Main Building and the Annex are bounded by East Capitol Street, Independence Avenue, First Street, and Third Street, S.E. The two buildings have a combined net floor space of about 1,317,000 square feet, including about 360,000 square feet for office, work, and reading rooms; 830,000 square feet for storing the Library's book collections; and about 50,000 square feet for monument halls, exhibits, and other public facilities. Because of space needs, more than half of the monument halls and exhibit space is currently being used for work activities.

In the 20 years following the completion of the Annex, the Library's collections and staff more than doubled. In recognizing the need for more Library space, the Congress, in 1960, authorized the Architect of the Capitol (AOC) to conduct a preliminary study for an additional Library building. At about that same time, the James Madison Memorial Commission 1/ was looking for a site on Capitol Hill to build a memorial to the Nation's fourth President.

The initial proposal for the third Library building was developed by the architectural/engineering (A/E) firm of DeWitt, Poor, and Shelton, and submitted to the AOC on July 14, 1961. It envisioned a 13-story building--9 floors above ground and 4 floors below ground--on a site behind the Annex. However, because of building restrictions and the size of the site, the proposed building provided only about 75 percent of the Library's space requirements.

1/The Commission was established by Public Law 86-417, approved Apr. 8, 1960 (2 U.S.C. 141).

DeWitt, Poor, and Shelton was also the A/E firm involved with the James Madison Memorial Commission project. On July 17, 1961, 3 days after its submission on the third Library building, the A/E firm submitted plans and estimates to the AOC for the Memorial Building. The proposed building, to be located on a site south of the Main Building, consisted of a six-story building--three floors below ground to store the Library's collection of Presidential papers, a ground floor to contain a Memorial Room, and two additional floors for research purposes.

The staffing and services of the proposed Memorial Building were to be administered by the Library of Congress. Also, the building would have provided the balance of the Library's space needs.

On October 19, 1965, 1/ the Congress authorized the joining of the two projects on the site originally planned for the Memorial Building. In placing a \$75 million limitation on construction costs for the building, the Congress specified that the AOC would act under the joint direction of the House Office Building Commission, the Senate Office Building Commission, and the Joint Committee on the Library, after consultation with a committee designated by the American Institute of Architects (AIA). The project's Madison Memorial Hall was to be developed in consultation with the James Madison Memorial Commission.

SCOPE OF REVIEW

Our review was made at the Offices of the AOC, the Library of Congress, and the A/E firm commissioned to design the project (associate architects). We reviewed project records, spoke with appropriate officials, and examined the AOC's contracting techniques. Our review was primarily concerned with (1) increases in the project's cost, (2) delays in completion, and (3) space utilization in the building.

1/Public Law 89-260 (2 U.S.C. 141).

CHAPTER 2

THE LIBRARY OF CONGRESS JAMES

MADISON MEMORIAL BUILDING

The Library of Congress James Madison Memorial Building is the result of the need for more Library space and the effort to build a memorial to James Madison. Although the projects started out as separate concepts, they were eventually joined together through legislative action.

LEGISLATIVE HISTORY

As early as 1954, the Librarian and the AOC had discussed the need for additional Library space. By April 1958, the Librarian had requested that the Joint Committee on the Library consider a resolution authorizing the AOC to make plans for a third Library building. On August 13, 1958, the AOC notified the Joint Committee on the Library that the Library needed an additional 1.8 million net square feet of space for collections, staff, and work operations. 1/

The first legislative acts relating to the project occurred in 1960 with the passage of Public Law 86-469, approved May 14, 1960 (2 U.S.C. 141), which authorized the AOC to begin preliminary planning for a third building, and Public Law 86-628, approved July 12, 1960 (74 Stat. 446), which appropriated \$75,000 for that purpose. Previously, in April 1960, the James Madison Memorial Commission had been created to "* * * formulate plans for the design, construction, and location of a permanent memorial to James Madison in the City of Washington."

From 1961 to 1965, various resolutions seeking approval for a third Library building and/or a Madison Memorial were introduced in the Congress. The resolutions eventually resulted in Public Law 89-260, which authorized the construction of the Library of Congress James Madison Memorial Building, including a Madison Memorial Hall, at a total construction cost not to exceed \$75 million. The Supplemental Appropriations Act of 1966 2/ provided \$500,000 for preliminary planning.

1/Estimate was exclusive of space for public halls, corridors, etc.

2/Public Law 89-309, approved Oct. 31, 1965 (79 Stat. 1133).

In January 1966, a Coordinating Committee, consisting of representatives from the House and Senate Office Building Commissions, the Joint Committee on the Library, and the Madison Memorial Commission, was established to assist the AOC pursuant to the overview requirements of Public Law 89-260.

SITE SELECTION

The initial legislative action relating to the eventual selection of a site for a third Library building was the Supplemental Appropriations Act of 1961 ^{1/} which appropriated \$5 million for the acquisition of Square 732 North in the District of Columbia. The site, which is located across Independence Avenue from the Main Building, was acquired in December 1960 at a total cost of about \$5.7 million.

Prior to the hiring of the associate architects in April 1961, the AOC made in-house studies of various sites and plans for accommodating the Library's space needs. During this time, the AOC concluded that Square 732 was inappropriate for the third Library building because (1) it was too small to provide all the necessary space, (2) the architecture would have to meet the monumental criteria of other Capitol Hill structures, and (3) the site should be retained to meet the additional space needs of the House.

As a result of discussions in early 1961 between the AOC, the Speaker of the House, and representatives from the House Office Building Commission and the Joint Committee on the Library, a proposal was developed that provided for locating the Library's rare manuscripts, Presidential papers, etc., in underground vaults beneath the proposed James Madison Memorial on Square 732. The remainder of the Library's space requirements would be satisfied by a building located on a site (Squares 787 and 788) east of the Annex.

The July 14 and July 17, 1961, proposals developed by the associate architects conformed to the split building concept by proposing

- a third Library building on Squares 787 and 788 with a garage and pedestrian tunnels (estimated cost of \$65,791,000),
- underground vaults and tunnels on Square 732 (estimated cost of \$24 million), and

^{1/}Public Law 86-651, approved July 14, 1960 (74 Stat. 509).

--to build the James Madison Memorial above the vaults on Square 732 (estimated cost of \$15 million).

Finally, with the approval of Public Law 89-260, the Congress decided to combine both projects on Square 732.

ASSOCIATE ARCHITECTS

DeWitt, Poor, and Shelton, the A/E firm (associate architects) commissioned to design the Library of Congress James Madison Memorial Building, was a joint venture consisting of

--Roscoe DeWitt and Fred L. Hardison, architects, Dallas, Texas;

--Alfred Easton Poor and Albert Homer Swanke, architects, New York City; and

--Jesse M. Shelton, architect, and Alan G. Stanford, engineer, members of Robert and Company Associates, Atlanta, Georgia.

In 1960, the Congress authorized and appropriated \$75,000 to the AOC to proceed with the planning for a third Library building. On March 15, 1961, the Joint Committee on the Library, pursuant to the AOC's recommendation, approved DeWitt, Poor, and Shelton as the A/E firm for developing the preliminary plans. The joint venture had previously collaborated on the design of the East Front of the Capitol Building.

On April 12, 1961, the AOC awarded a \$65,000 contract to the joint venture for A/E services involving " * * * the preparation of preliminary plans and estimates of cost for an additional building for the Library of Congress." At about the same time, the joint venture volunteered its services, free of charge, to the James Madison Memorial Commission. In July 1961, the joint venture provided the AOC with its plans and estimates for a third Library building and a memorial to James Madison.

There was no further legislative authority for the project until the passage of Public Law 89-260 in October 1965 and the related appropriation of funds.

At the initial meeting of the Coordinating Committee on March 10, 1966, the AOC asked for direction in selecting the associate architects for the project. In noting that the 1961 plans and estimates had been prepared by DeWitt, Poor, and Shelton, the AOC suggested that the joint venture

be given careful consideration for retention as the associate architects for the design of the project. After representatives of the Memorial Commission and the Chairman of the Joint Committee on the Library agreed that they had been impressed with the work done by the joint venture, the Coordinating Committee unanimously adopted a motion recommending the joint venture as associate architects.

After the Coordinating Committee's recommendation was accepted by the Joint Committee on the Library and the House and Senate Office Building Commissions, the AOC was directed to enter into a contract with the joint venture. On June 10, 1966, the AOC awarded a \$435,000 contract ^{1/} for preliminary plans and estimates to DeWitt, Poor, and Shelton. On June 24, 1968, the AOC awarded a \$25,000 contract to the associate architects for supplements to the preliminary plans.

The contract for the final design of the building was awarded to DeWitt, Poor, and Shelton on April 21, 1970, in the estimated amount of \$3,050,000. The contract amount, which represented 5 percent of the project's estimated construction costs, was to be reduced by the amount of the payments under the previous three contracts. The contract was amended on December 14, 1972, to provide an additional \$159,466 to the associate architects due to increased design work resulting from constructing the project in four phases instead of three. (See p. 16.)

As of June 30, 1979, the associate architects had been paid a total of \$4,972,211 for their work on the project, including the preliminary work done under the 1961, 1966, and 1968 contract awards. The AOC estimates that by completion of the project the associate architects will receive an additional \$1,131,644, for an overall total of \$6,103,855.

DESIGN DEVELOPMENT

At its first meeting on March 10, 1966, the Coordinating Committee agreed that the associate architects should design a building that

--contained about 2.4 million gross square feet of space;

^{1/}The contract was reduced from \$500,000 to \$435,000 to offset the \$65,000 of preliminary work done by the joint venture in 1961.

- consisted of 11 floors, 7 above ground and 4 below ground;
- conformed in height to the Cannon House Office Building and Main Library Building;
- used 100 percent of below ground space and about 75 percent of above ground space on the site;
- included a Madison Memorial Hall of approximately 10,000 net square feet of space;
- provided underground parking for 350 cars;
- contained pedestrian tunnels connected to the Main Library and Cannon Buildings; and
- conformed architecturally to other Capitol Hill structures.

After approval by the Coordinating Committee's parent bodies, the criteria were furnished to the associate architects. The Library's building requirements, Preliminary Program Statement, Part I, developed by the Library and a nationally known consultant in the field of libraries, were furnished by the AOC to the associate architects on October 7, 1966, along with a notice to proceed.

On November 15, 1966, the associate architects met with representatives of the AOC, the Library, and the AIA. Although design plans had not yet been formulated, the associate architects' graphic presentation contemplated a building that was six floors above ground at the front (Independence Avenue).

At the January 19, 1967, meeting of the Coordinating Committee, the associate architects presented floor plans and sketches showing a building constructed of marble, 10 stories high (3 stories of which were below grade), about the height of the Cannon Building, and slightly lower than the Main Library Building. At the meeting it was also agreed that the interior of the building, rather than being designed on the basis of 50-percent office space and 50-percent book space as originally planned, should provide 100-percent flexibility for use as either office or book space. (See ch. 5.)

On February 23, 1967, the Library submitted Program Statement, Part II, to the AOC. Whereas Part I provided the general characteristics and square foot allocations of space

to the various departments and activities, Part II detailed the requirements for subdividing the interior space.

In March 1967, pursuant to the expressed concerns of the AIA representatives, the Coordinating Committee agreed to reduce the use of the above ground lot space from 74 percent to about 62 percent by placing as much of the building below grade as possible within lot lines and above the water table. Other AIA suggestions, such as open interior space and higher ceilings, could not be accommodated because of the Library's program requirements for 1.7 million net square feet of space.

In April 1967 the associate architects submitted their "Report And Recommendations For The Library of Congress James Madison Memorial Building" to the AOC. The report proposed a marble building having a sub-basement, basement, ground floor (C Street), six above-grade floors fronting on Independence Avenue, and a seventh floor mechanical penthouse. The building would total 2,133,470 gross square feet, contain 1,572,579 net square feet of assignable space, have a garage on the sub-basement level, and be connected by tunnels to the Cannon Building and to the Main Library and Annex Buildings.

On May 18, 1967, the AIA Committee filed its report. While recognizing that much of the building design was pre-determined by site, cost limitations, and functional requirements, the AIA expressed concern about the mass of the building relative to the site and other buildings on Capitol Hill, and the lack of open interior space and the low ceiling heights.

On August 4, 1967, the Coordinating Committee agreed to recommend that the preliminary plans, estimates, and models of the associate architects be accepted. The Committee disagreed with the criticisms voiced by the AIA and asked that its report be placed in the Committee's files.

The Committee, at its August 1967 meeting, also agreed that:

- The report and plans of the exhibits' consultants (Nelson and Chadwick) for the James Madison Memorial Hall should be accepted.
- The project, pursuant to the AOC's recommendation, should be constructed in phases (see p. 16).
- The AOC should request \$2.8 million in the next supplemental appropriations bill for the project.

--DeWitt, Poor, and Shelton should continue as the associate architects at a fee rate of 5 percent of construction costs.

--Continuation of Nelson and Chadwick as exhibits' consultants was warranted, and authorized the AOC to negotiate a contract for their further services.

All of the agreements of the Coordinating Committee were subsequently approved by the parent Committee and Commissions.

MADISON BUILDING

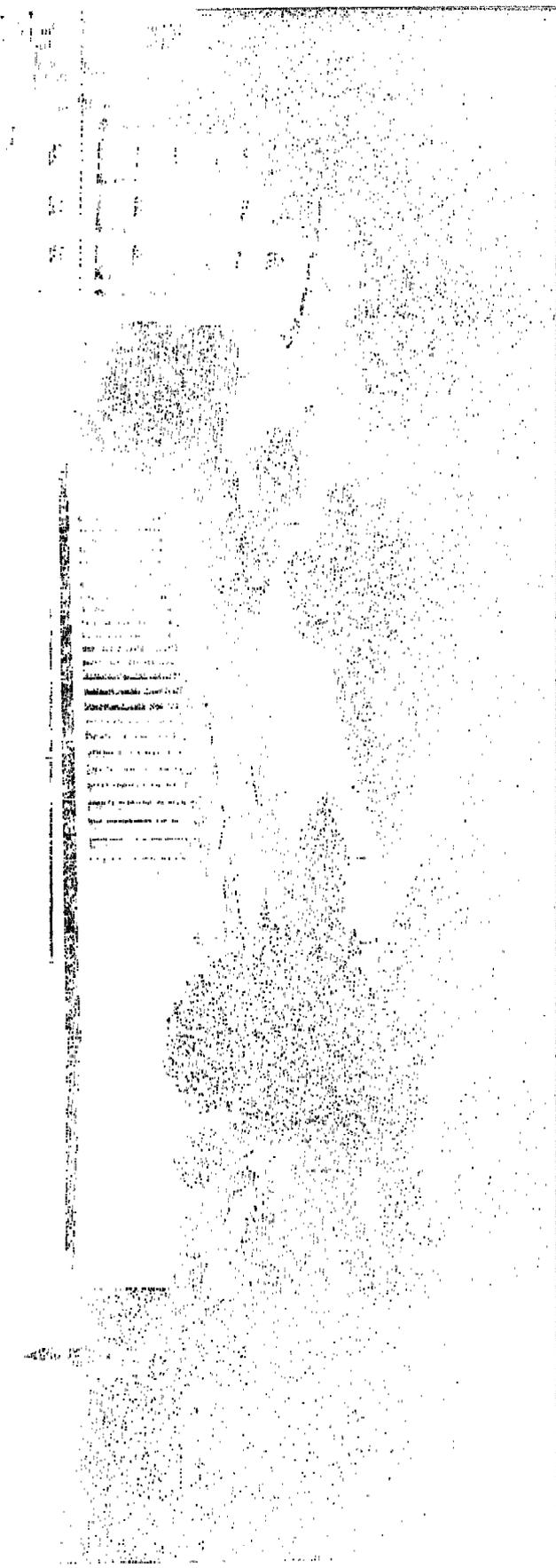
The following pages contain a picture of the exterior and renderings of the site plan and some of the major interior features of the Madison Building. As described by the associate architects, the building's exterior combines the classic design prevalent on Capitol Hill 1/ with the architecture of the mid-20th century.

The building's general characteristics include:

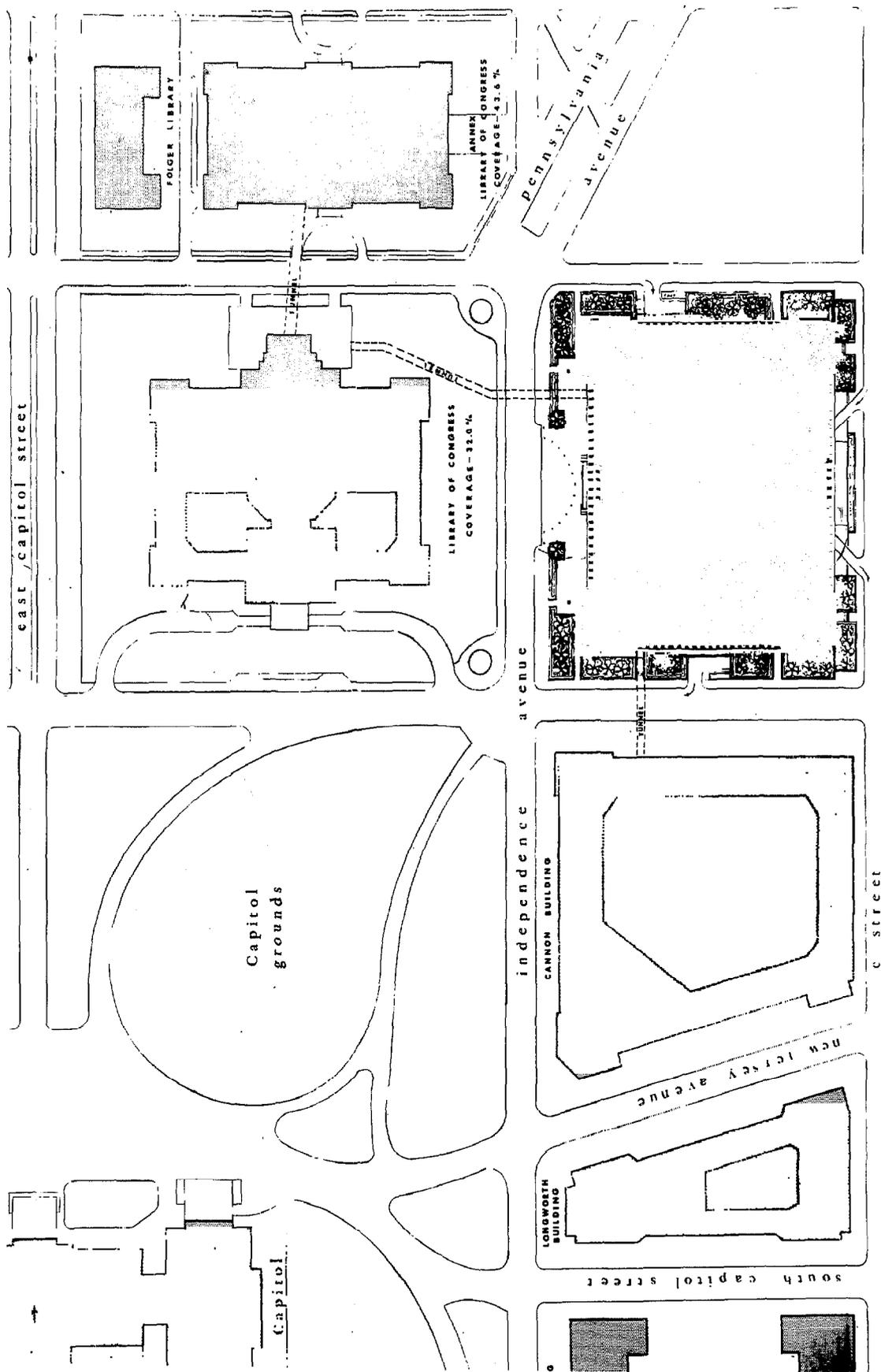
- A marble and/or granite exterior that covers about 60 percent of the gross area of the site.
- Connections to the Cannon, Main Library, and Annex Buildings by pedestrian and service tunnels.
- A main entrance on Independence Avenue opening onto a two-story public lobby that serves as an entrance to the James Madison Memorial Hall and to the reading rooms and service areas of the library.
- A continuation of the public lobby into the interior landscaped court that extends from the first through the third floors.
- Several reading rooms that overlook the interior court.
- The Memorial Hall, including exhibit areas for Madison documents and memorabilia.

1/Public Law 89-260, the act that authorized the project, required the design to conform to other Capitol Hill structures.

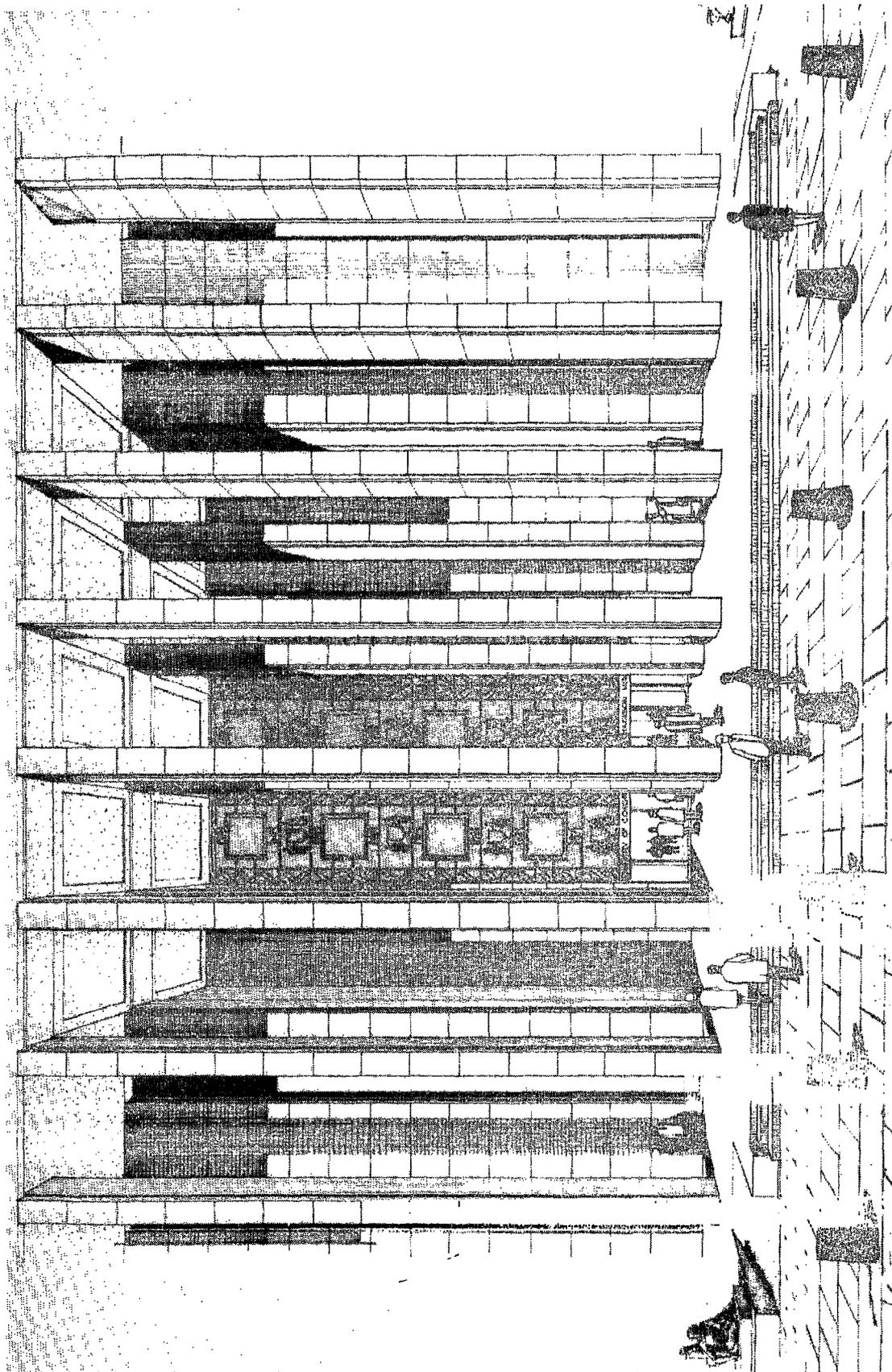
- A preservation laboratory for documents and rare books.
- Computer facilities for the Library's Information Systems Office.
- Four main service cores containing vertical transportation, conveyor stations, and various service facilities, plus a public core directly at the main entrance and a service core to the rear of the screened truck dock at C Street.
- Floors designed for use as either book or office space.
- A 332-car garage on the sub-basement level.
- Seventeen private bathrooms, assigned either to individuals or specific staff units. (See app. I.)
- A 900-seat cafeteria and 3-buffet dining rooms (188 seats) on the sixth floor. (See app. II.)
- Seven kitchenettes/pantries. (See app. III.)
- Four conference rooms, four dining areas that can be used for meeting purposes, and training rooms. (See app. IV.)
- Nine different types of assignable offices based on size and furnishings. (See app. V.)
- About 68,000 light fixtures (80 different types), approximately 4,000 desks, and 16,193 units (426,781 linear feet) of shelving.



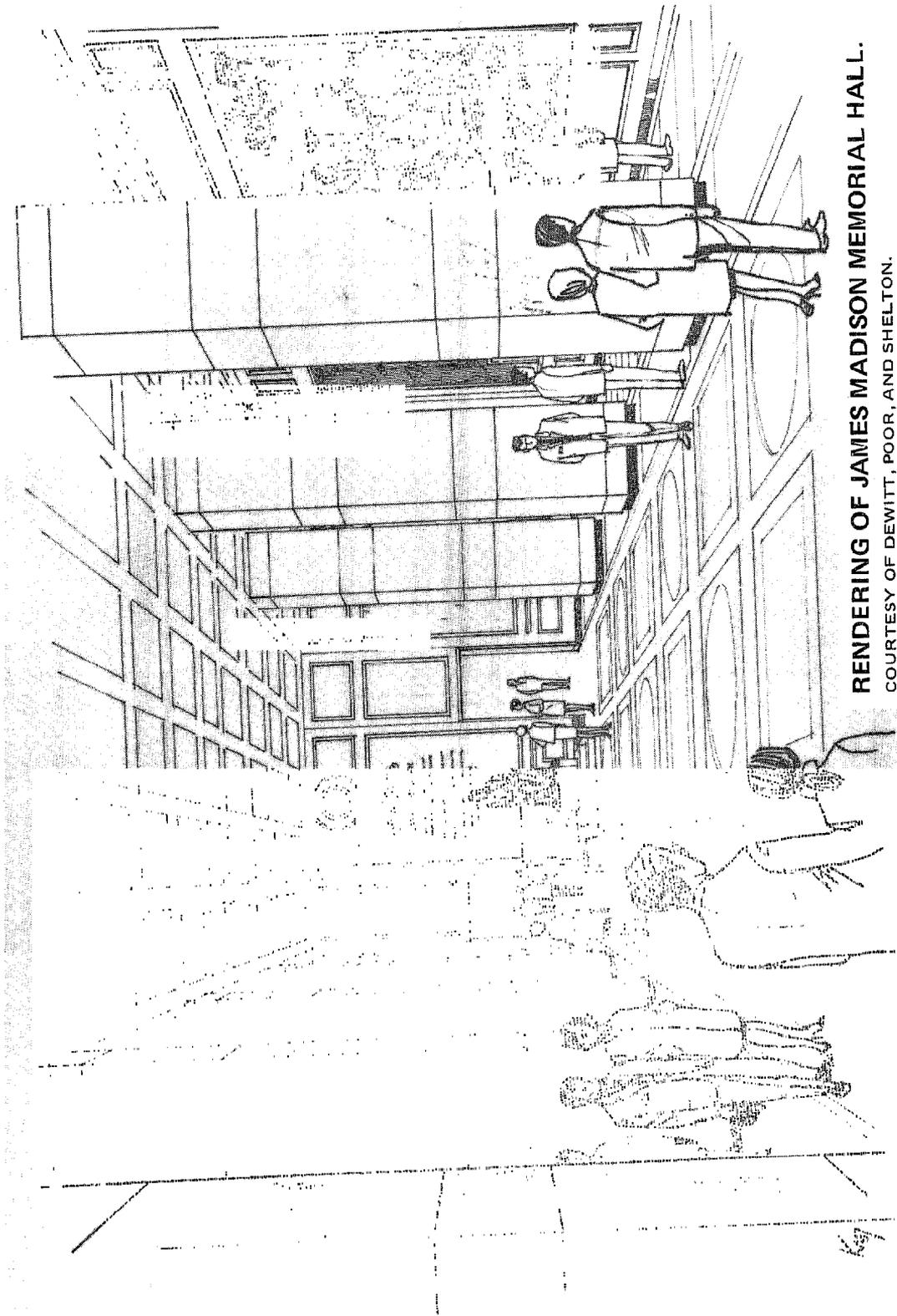
...ECT OF THE CAPITOL
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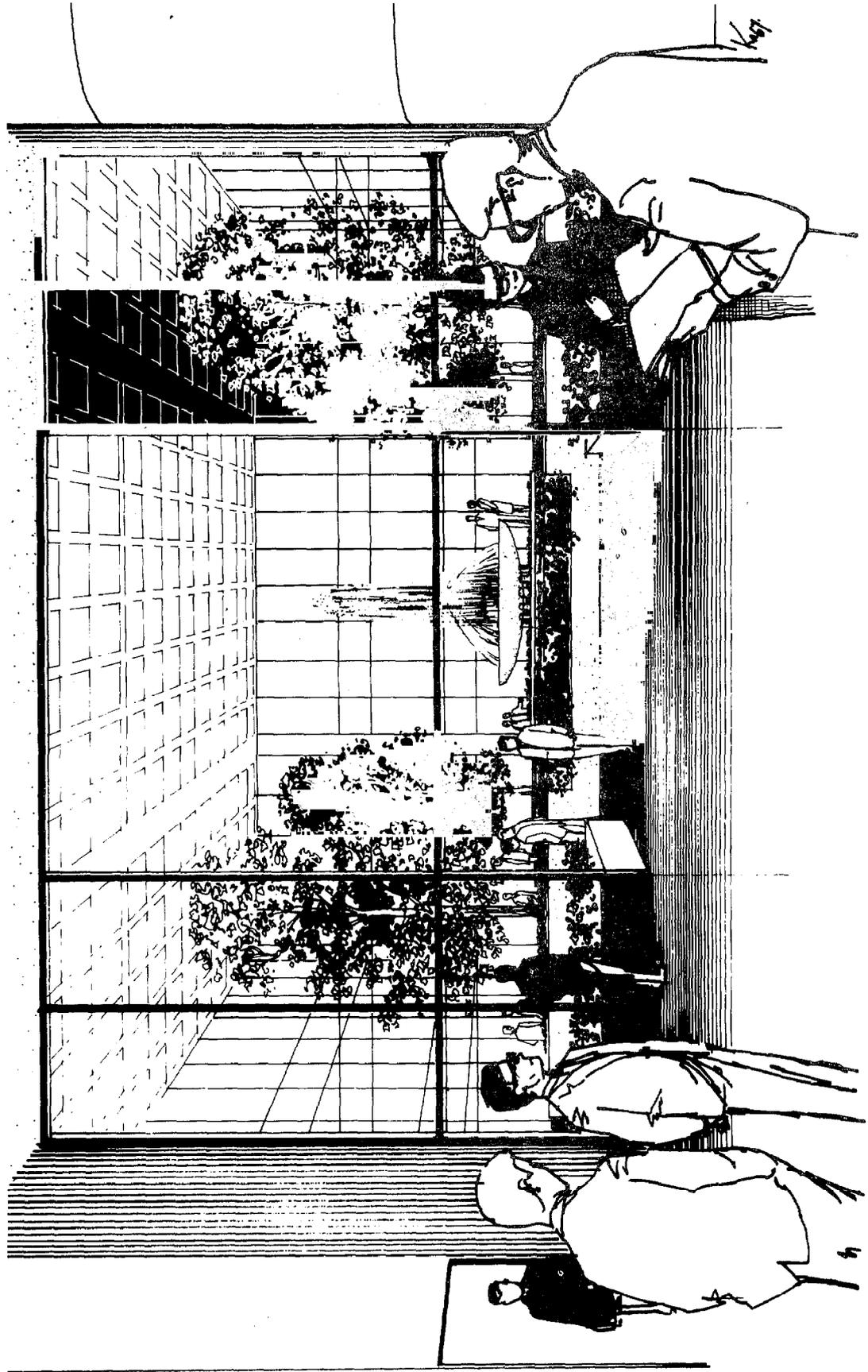
COURTESY OF DEWITT, POOR, AND SHELTON. PERSPECTIVE SHOWING RELATIONSHIP OF MADISON BUILDING TO OTHER CAPITOL HILL BUILDINGS.



RENDERING OF MAIN ENTRANCE ON INDEPENDENCE AVENUE.
COURTESY OF DEWITT, POOR, AND SHELTON.



RENDERING OF JAMES MADISON MEMORIAL HALL.
COURTESY OF DEWITT, POOR, AND SHELTON.



RENDERING OF INTERIOR COURT (NOTE: FOUNTAIN HAS BEEN ALTERED SINCE RENDERING WAS MADE)
COURTESY OF DEWITT , POOR, AND SHELTON.)

CONSTRUCTION CONTRACTING

The Madison Building was designed and constructed using the "phased" (fast-tracking) process. Conventional design and construction involves a sequential process, whereby the entire project is designed before construction begins. Under the phased process, the project is divided into phases so that construction begins on some phases while others are still being designed. When properly executed, this process, by overlapping the design and construction efforts, can significantly shorten the overall design/construction cycle of a project.

At the August 1967 meeting of the Coordinating Committee, the AOC suggested that the project be done in three phases: excavation and foundation, exterior stone, and superstructure and interior. The AOC's proposal was approved by the Coordinating Committee and its parent organizations.

By February 22, 1972, the AOC decided to split phase 3 into two separate contracts. The new phase 3 would be the superstructure shell, while phase 4 would be the interior finishing, exclusive of movable furniture and equipment. The AOC believed that using four phases would facilitate funding of the project and would provide more time for decisionmaking and preparation of the interior drawings.

The following chart describes the four phases of construction used on the Madison Building.

Nature of Contract

<u>Phase</u>	<u>Description</u>	<u>Status</u>
1	Excavation and foundation	Bids were invited on December 1, 1970. Award was suspended because of bid protest to the Comptroller General. Invitation cancelled after subsequent suspension of Davis-Bacon Act by Presidential Proclamation. New bids were invited on March 8, 1971. Contract was awarded to Henry A. Knott Company on April 23, 1971. Work was completed on January 17, 1973, and final payment was made on October 3, 1973.
2	Fabrication and delivery of exterior stone	Bids were invited on September 22, 1971. Contract was awarded to the Georgia Marble Company on December 16, 1971. Work was completed on October 2, 1974, and final payment was made on April 29, 1976.
3	Superstructure	Bids were invited on September 6, 1972. Contract was awarded to the George Hyman Construction Company on December 7, 1972. Construction was completed on July 5, 1977. Final payment had not been made as of July 31, 1979. (See ch. 4.)
4	Interior and related work	Bids were invited on January 30, 1975. Contract was awarded to J. W. Bateson Company on March 9, 1976. Contract was estimated to be 96 percent completed as of July 31, 1979.

CURRENT STATUS

The AOC's records showed that the phase 4 contract was about 96 percent completed as of July 31, 1979. The AOC is projecting that the phase 4 contractor will complete his work and leave the building by January 1980. However, as discussed in chapter 4, the latest time schedule from the phase 4 contractor shows a contract completion date of May 24, 1981.

As of July 31, 1979, the AOC had taken beneficial occupancy ^{1/} of the third (exclusive of the auditorium), fourth, and fifth floors. According to the AOC's July 31, 1979, schedule, the estimated dates of beneficial occupancy of the rest of the building are as follows:

<u>Area of building</u>	<u>Estimated date of beneficial occupancy</u>
2d floor	Aug. 13, 1979
7th floor	Aug. 24, 1979
1st floor	Sept. 24, 1979
3d floor auditorium	Sept. 28, 1979
Cafeteria	Oct. 12, 1979
6th floor	Oct. 15, 1979
Basement and sub-basement	Oct. 15, 1979
Main entrance and interior court	Nov. 2, 1979
Ground floor	Jan. 17, 1980

The AOC is projecting that the first occupants of the building, the Congressional Research Service, will move into the second, third, and fourth floors beginning November 1, 1979. The Library of Congress estimates that the entire building will be substantially occupied by the end of 1980.

^{1/}Beneficial occupancy allows the AOC's personnel to enter the area to do in-house work, but does not connote final acceptance of the contractor's work.

CHAPTER 3

PROJECT COSTS

Since the initial authorization of \$75 million in 1965, the project's cost has escalated. At the time of our review, the AOC was seeking additional funds that would increase the project's total authorizations to \$134,175,000, exclusive of the costs for land acquisition and furniture and furnishings. Also, as discussed later in this chapter, the \$134 million does not include certain indirect costs associated with the project.

APPROPRIATION HISTORY

To date, the Congress has appropriated \$130,675,000 for construction of the Madison Building. The AOC is seeking an additional \$3.5 million.

<u>Basis for appropriation</u>	<u>Appropriating legislation</u>	<u>Amount appropriated</u>	<u>Cumulative appropriations</u>
Preliminary planning	Public Law 89-309 (Oct. 31, 1965; 79 Stat. 1133)	\$ 500,000	\$ 500,000
Final plans and specifications	Public Law 91-145 (Dec. 12, 1969; 83 Stat. 338)	2,800,000	3,300,000
Excavation, foundation, and exterior stone	Public Law 91-382 (Aug. 18, 1970; 84 Stat. 807)	15,610,000	18,910,000
Completion of project under original three-phase concept	Public Law 92-51 (July 9, 1971; 85 Stat. 125)	71,090,000	90,000,000
Completion of interior, comprised of inflation (\$17 million), additional work (\$10 million), and increase in contingency allowance (\$6 million)	Public Law 94-226 (Mar. 9, 1976; 90 Stat. 203)	33,000,000	123,000,000
Expansion of Library functions and other changes	Public Law 95-355 (Sept. 8, 1978; 92 Stat. 537)	7,675,000	130,675,000

INCREASES IN COST

At the completion of the preliminary design in April 1967, the associate architects estimated that the project could be constructed in 42 months (by Jan. 1971) at a cost within the \$75 million limitation imposed by Public Law 89-260. As shown in the following table, the AOC is currently estimating total project costs at \$134 million, with a project completion date of January 1980.

AOC's Estimates of Project Costs

<u>Category of cost</u>	<u>Dec. 1966</u>	<u>Oct. 1969</u>	<u>Feb. 1976</u>	<u>Apr. 1978</u>	<u>May 1979</u>
Construction:					
Phase 1	-	\$ 9,610,000	\$ 7,301,224	\$ 7,301,224	\$ 7,301,224
Phase 2	-	6,000,000	5,304,802	5,353,418	5,353,418
Phase 3	-	68,007,000	25,273,828	25,687,176	25,713,452
Phase 4	-	N/A	67,035,300	77,394,852	81,196,351
Total	<u>\$66,500,000</u>	<u>83,617,000</u>	<u>104,915,154</u>	<u>115,736,670</u>	<u>119,564,445</u>
Site preparation and miscellaneous	-	-	289,342	332,305	365,622
Madison statue, art work, etc.	-	-	256,550	258,400	258,440
Contingencies	3,500,000	1,500,000	5,876,535	2,325,000	(a)
A/E fees	3,000,000	3,487,350	5,522,514	5,934,000	6,103,855
Administration and overhead	<u>2,000,000</u>	<u>1,395,650</u>	<u>6,139,905</u>	<u>8,413,625</u>	<u>7,882,638</u>
Total project estimates	<u>\$75,000,000</u>	<u>\$90,000,000</u>	<u>\$123,000,000</u>	<u>\$133,000,000</u>	<u>\$134,175,000</u>

a/Included in estimate for phase 4.

As discussed in chapter 4, several factors, including additions to the project, have contributed to the increases in the project's cost. The major factor, however, has been inflation resulting from delays in funding, designing, and constructing the project.

After completion of the preliminary design, the AOC, in fiscal years 1968 and 1969, requested \$2.8 million in appropriations for final plans and specifications. The Congress, primarily because of budgetary considerations, denied both requests. In January 1969, the associate architects' estimator, citing increased costs due to inflation, revised his 1967 estimate of \$75 million to \$90 million.

By 1976, the AOC estimated that \$123 million would be needed for construction, an increase of \$33 million over the 1969 estimate. In justifying the need for the additional funds, the AOC cited inflation (about \$17 million); additional construction work, including the extension of the automated book conveyor system into existing buildings, a more sophisticated security system, and an improved fire protection system (about \$10 million); and an increased contingency allowance to cover change orders, unforeseen job conditions, etc. (about \$6 million).

The \$10 million request in fiscal year 1978 was primarily to cover increased administrative expenses and actual and anticipated change orders resulting from job conditions and design errors and omissions. Public Law 95-355 appropriated 1/ \$7.675 million of the AOC's \$10 million request.

The latest AOC request for \$3.5 million, which would increase total project authorizations to \$134,175,000, is for

- costs relating to additional movable partitions the Library of Congress has requested (\$362,200),
- construction changes the Library has requested (\$148,400),
- increased A/E fees relating to the additional construction work (\$158,800), and
- claims settlements (\$2,830,600).

1/Increase in project's funds authorized by Public Law 95-548, approved Oct. 30, 1978 (2 U.S.C. 141).

CURRENT AOC REQUEST

The AOC is currently requesting \$3.5 million in additional funds to complete the project. Our analysis indicates that this amount may not be sufficient because (1) it is based on an estimated completion date (Jan. 1980) that may not be met and (2) potential claims from the phase 4 contractor may exceed the available contingency allowance provided for in the total project estimate of \$134,175,000.

As discussed in chapter 4, the latest information provided by the phase 4 contractor indicated that he will not meet the AOC's January 1980 estimated completion date. If completion is delayed beyond that date, project costs could increase because of inflation and/or change orders.

As of July 31, 1979, the AOC's calculations showed an unobligated balance of about \$8.5 million, based on the current authorization of \$130,675,000. If the AOC's \$3.5 million request is approved, available unobligated funds will total about \$12 million. The phase 4 contractor has already submitted claims far in excess of \$12 million, including one claim for about \$23.5 million based on time delays.

The AOC considers the \$23.5 million claim, which the Defense Contract Audit Agency is currently auditing, to be almost totally without merit. Until the project is finished and all the phase 4 contractor's claims are resolved, it is not feasible to determine whether the AOC's \$134,175,000 estimate contains sufficient contingency allowances.

TOTAL COSTS

The AOC's estimate of \$134,175,000 applies only to the costs of constructing the Madison Building. Certain other costs are associated with this project, including:

- The acquisition cost of Square 732 (\$5,698,000).
- Preliminary planning funds appropriated by Public Law 86-628 (\$75,000).

- Operating funds for the James Madison Memorial Commission (\$20,000 1/).
- Expansion of Capitol Power Plant to service the Madison Building. Of the estimated \$30,600,000 expansion project, AOC personnel estimate that \$5 to \$6 million is attributable to the Madison Building.
- Furniture and furnishings for the Madison Building (\$27,173,000), including about \$12,000 for design consultant fees. (See ch. 6.)
- Library of Congress personnel involved with the project (\$1.5 million 2/).
- Professional and consultant services hired by the Library of Congress for work on the Madison Building (\$175,000).
- Relocation of employees to the Madison Building (\$750,000 requested by Library).
- Overhead costs of the AOC's management and support staff involved with, but not specifically assigned to, the construction project.
- Certain costs of AOC operation and maintenance personnel performing finishing work during beneficial occupancy.
- Renovation work to Main Library and Annex Buildings as personnel and activities in those buildings are relocated to Madison Building.

1/Public Law 86-417 authorized \$10,000, and Public Law 89-260 also authorized \$10,000. Both amounts were subsequently appropriated.

2/Library of Congress officials have kept no records on these personnel costs. This is their estimate, although they acknowledge that the actual cost is probably higher.

CHAPTER 4

DELAYS IN FUNDING, DESIGNING, AND CONSTRUCTING THE PROJECT

Throughout its history, all aspects of the Madison Building project have experienced delays, including its funding, designing, and construction contracting. For example, although the preliminary plans and cost estimates for a third Library building and a Madison Memorial were completed in July 1961, legislation authorizing the Madison Memorial Building was not approved until October 1965. Since then, the project has experienced delays that have added about 9 years to the associate architects' original estimated completion date of January 1971.

As discussed in chapter 3, the AOC has equated much of his requests for increases in the project's funding authorizations to the need to compensate for cost increases resulting from inflation. There is a direct relationship between time delays and cost escalation due to inflation. Each day a project is delayed during an inflationary construction market, the cost of that project increases.

FUNDING DELAYS

In April 1967 the associate architects presented their report and recommendations to the AOC. At its August 1967 meeting, the Coordinating Committee approved the associate architects' preliminary design and agreed that the AOC should request \$2.8 million in the next supplemental appropriations bill for contract plans and specifications. However, the AOC's request was denied by the Congress, both in the 1968 Supplemental Appropriations Bill and the 1969 Legislative Branch Appropriations Bill, because of budgetary considerations.

The \$2.8 million request was finally included in the 1970 Legislative Branch Appropriations Act, approved December 12, 1969, contingent upon the project's total authorization being increased to \$90 million. Public Law 91-214, approved March 16, 1970 (2 U.S.C. 141), provided the necessary increase in the project's spending limit. The approximate 30-month delay in funding the project, from August 1967 to March 1970, negated the original \$75 million estimate for construction costs.

Another significant delay in funding occurred between July 1975 and March 1976. At that time, as discussed later

in this chapter, the AOC was in the process of trying to award the phase 4 contract for the interior. However, because of insufficient available funds, the actual award was dependent upon additional appropriations.

Congressional action on the AOC's request was delayed due to a controversy over whether part of the building should be used as additional House office space. The issue was resolved with the passage of Public Law 94-219, dated February 27, 1976 (2 U.S.C. 141), which increased the project's spending limit to \$123 million without amending the prohibition contained in Public Law 91-214 against using the building for general office purposes.

DESIGN AND CONSTRUCTION CONTRACTING DELAYS

Conventional design and construction involves a sequential process, whereby the entire project is designed before construction begins. The construction is then generally accomplished by one overall contractor (called a prime or general contractor) under one contract. If a delay occurs in either the design or construction, the effect on the completion date of the project will generally be readily identifiable. For example, if the A/E is delayed in completing his design by 100 days, then, generally, the award of the construction contract and completion of the project will also be delayed by 100 days.

With the phased design and construction that was used on the Madison Building, however, the overlapping of design and construction and the interrelationships between the phases makes it difficult to ascertain the net effect on the overall project resulting from a delay in one of the phases. Further, a delay in one phase could cause a ripple or domino-like effect on the rest of the phases. Therefore, our analysis of the design and construction contracting delays on the Madison Building is keyed to its four phases.

Phase 1

The phase 1 (excavation and foundation) drawings and specifications were originally scheduled for completion by October 1, 1970. Although the associate architects delivered them by that date, due to the review and corrections process the AOC did not approve the documents until November 20, 1970, 50 days later.

The award of the contract for phase 1 was delayed about 3 months, initially as a result of a bid protest at the time

of the original bid opening on January 15, 1971. Then, as a result of the suspension of the provisions of the Davis-Bacon Act by Presidential Proclamation, a revised Invitation for Bids had to be issued on March 8, 1971. The contract was awarded on April 23, 1971.

The phase 1 construction was completed on January 17, 1973, 257 days later than the original scheduled completion date of May 4, 1972. The delays were due to labor strikes (101 days), a shortage of welders (54 days), changes to the contract work (80 days), and weather conditions and other miscellaneous reasons (22 days).

Phase 2

For the phase 2 contract (fabrication and delivery of exterior stone), no delays occurred in either the completion of the contract documents (Sept. 22, 1971) or in the award of the contract (Dec. 16, 1971). The contract was divided into three sub-phases for procurement and delivery purposes. Sub-phase 1 was completed on the scheduled date, June 1, 1973. Sub-phase 2, which was scheduled for completion by November 1, 1973, was not completed until February 22, 1974 (114 days later) because of strikes (21 days), severe weather conditions (53 days), and contract changes (40 days). Due to additional Government time to approve certain shop drawings (91 days) and contract changes (63 days), sub-phase 3 was not completed until October 2, 1974, 154 days beyond the scheduled completion date of May 1, 1974.

Phase 3

Even though the contract documents for phase 3 (super-structure) were not completed until September 11, 1972 (13 days beyond the scheduled date of Aug. 29, 1972), the contract was awarded on December 7, 1972, somewhat ahead of the AOC's late December 1972 target date. Although the contract was not officially completed until July 5, 1977 (785 days beyond the scheduled completion date of May 12, 1975), the AOC took beneficial occupancy of the superstructure on October 19, 1976 (526 days beyond May 12, 1975).

The 526 days of delay until October 19, 1976, were due to strikes (195 days), contract changes (47 days), and the need for the contractor to replace failing caulking in the completed stonework (284 days). The caulking repair was also the basis for the additional 259 days to July 5, 1977, to complete work under the contract.

Phase 4

According to the AOC, during the development of the plans and specifications for the original phase 3, it became evident for various reasons, including the need for additional study by the Library of Congress, that the space and technical requirements of the Library could not be incorporated into the contract documents without causing a substantial delay in their preparation. By going to four phases, it was anticipated that the construction of the superstructure (phase 3) could proceed while permitting the Library and associate architects more time to develop the requirements and finalize the documents for phase 4 (interior).

The contract documents for phase 4, scheduled for completion by December 15, 1972, were not completed until October 15, 1974, 669 days later. Significant changes to some of the internal service systems of the building were the primary causes of the delays, including:

- Revising the air-conditioning system to accommodate special book collection storage.
- Enlarging and relocating the computer facilities of the Library's Data Processing Center from the sixth to the ground floor. The Center's scope of work increased due to the Legislative Reorganization Act of 1970.
- Increasing the sophistication of the building's monitoring, surveillance, and fire control system.

Once the contract documents were completed, the Invitations for Bids were issued on January 30, 1975, with a scheduled bid opening date of April 16, 1975. The actual bid opening date was delayed until July 23, 1975 (98 days later), because the AOC issued 11 addendums, primarily involving changes in the project's scope, to the contract.

At the bid opening, the AOC found that all the bids exceeded the available funds. The AOC was able to obtain agreement from some of the bidders, including the low bidder, to extend the acceptance date of their bids pending the authorization of additional funds. With the approval of Public Law 94-226 on March 9, 1976, which appropriated an additional \$33 million 1/ for the project, the phase 4

1/Increase in project limit authorized by Public Law 94-219.

funding problem was resolved. On March 9, 1976 (230 days after the bid opening on July 23, 1975), the AOC awarded the phase 4 contract to the low bidder.

Under the terms of the contract, phase 4 was to be completed by December 8, 1978. As of July 31, 1979, the AOC had granted time extensions of 174 days (extending the completion date to May 31, 1979) to the contractor for additional work resulting from change orders. As discussed below, the AOC is estimating complete beneficial occupancy by January 17, 1980, while the contractor is estimating completion by May 24, 1981.

The reasons for the time delays between May 31, 1979 (the new scheduled completion date), and the eventual final completion date of the phase 4 contract are being disputed by the AOC and the contractor. In this regard, the contractor has filed a claim of about \$23.5 million based on part of the time delays (see p. 22). Until the dispute is resolved, the causes of and responsibility for the time delays cannot be ascertained.

ESTIMATED COMPLETION DATE

The AOC's July 31, 1979, schedule estimates complete beneficial occupancy of the building by January 17, 1980. The Library of Congress estimates that the entire building will be substantially occupied by the end of 1980. Both estimates are predicated on the phase 4 contractor completing his construction work by January 1980.

As of July 10, 1979, the phase 4 contractor was estimating completion by May 24, 1981, more than 16 months beyond the AOC's estimate. AOC officials stated that, despite the phase 4 contractor's time estimate, they were still hopeful of taking complete beneficial occupancy of the building by January or February 1980. (See p. 18.) At the completion of our audit work, the differences between the AOC's and phase 4 contractor's completion estimates had not been resolved.

CHAPTER 5

BUILDING SIZE AND FUNCTIONS

In its efforts to obtain a third building, the Library of Congress sought a structure that would provide about 1.7 million net square feet of assignable space and be used primarily for book collection activities. However, the Madison Building will provide only about 1.4 million net square feet of assignable space and will serve primarily as work or office-type space.

BUILDING SIZE

Initially, back in 1960-61, the Library of Congress estimated that it would need an additional 2 million net square feet of space to house its expanding activities. This estimate formed the basis for planning for the third building until about 1965.

In its February 1967 Program Statement, Part II, however, the Library defined its needs as 1,739,000 net square feet of space, or about 250,000 square feet less than its 1960-65 requirements. The associate architects' 1967 preliminary design further reduced the potential net assignable space to about 1,561,000 square feet, primarily through the allocation of about 142,000 square feet for garage space.

With completion of the final design in 1975, the Library identified the net assignable space at about 1,471,000 square feet.

Net Assignable Square Feet

Total net square feet:	1,772,385
Less:	
Garage	132,545
Lobbies/corridors	148,040
Madison Hall	3,240
Interior court	<u>17,325</u>
Total reductions	<u>301,150</u>
Net assignable square feet	<u><u>1,471,235</u></u>

Since 1975, further refinements in the allocation of space have reduced the net assignable space to 1,437,030 square feet, less than 83 percent of the Library's 1967 defined needs of 1,739,000 net square feet and less than 72

percent of its 1960-65 estimated requirements of 2 million net square feet.

The number of employees to be housed in the Madison Building has also decreased, from an estimate of 5,735 in 1966 to the current estimate of 4,380. (See app. VI for current staff assignments to Madison Building.)

Estimates of Occupancy
of Madison Building

<u>Date of estimate</u>	<u>Number of employees</u>
1966	<u>a</u> /5,735
1969	<u>b</u> /5,004
1971	<u>c</u> /4,676
1975	<u>d</u> /4,849
current	<u>e</u> / <u>f</u> /4,380

a/Projection to 1986 per Preliminary Program Statement.

b/According to Library records, the projected 1986 figure decreased as decisions were made that some activities planned for the Madison Building could not be accommodated.

c/Staff projected to mid-1970s. Based on project being completed by that time.

d/Projected occupancy in late 1970s.

e/Based on 1980 projections.

f/See app. VI for details of staff assignments.

As early as 1966, Library officials were concerned that the Madison Building would not provide sufficient space to meet the Library's needs. By June 1975, Library officials were acknowledging that the building would not be adequate to accommodate the Library's staff needs through 1980.

Library officials agree that, although the Madison Building will provide short-term relief for the Library's space needs, the long-term requirements for space must be met by (1) crowding more staff into the existing structures, (2) using space designed for other functions as staff

space, or (3) acquiring additional space. Officials cited three major factors as contributing to this situation:

- The Madison Building took 10 years longer than anticipated.
- The Library's staff projections did not adequately foresee staff growth.
- The building provided substantially less square footage than the Library's defined needs.

BUILDING FUNCTIONS

In justifying its need for a third building to the Congress, the Library presented data showing that the building would be used primarily for book collection activities, as opposed to office/work functions. For example, in May 1959, Library officials testified that a third building should provide about 1.8 million net square feet of additional space; about 1 million square feet (56 percent) for book collection activities and about 800,000 square feet (44 percent) for work areas and other activities.

In its April 1961 "Statement of Requirements for a Third Building," the Library estimated that 1.2 million square feet (67 percent) would be for book collections and 600,000 square feet (33 percent) would be for work/office space. The concept of a building designed primarily for book collection activities continued through 1965.

In 1966, however, a revised plan by the Library estimated 52 percent for book collections and 48 percent for work space. By July 1966, the Librarian and the AOC were considering the ramifications of constructing a 100-percent flexible building that could be used for either book collection or office space. The AOC noted that 100-percent flexibility would increase construction costs since the floors would have to be (1) stronger to carry the additional weight of bookstacks and (2) finished in the more expensive manner required for office space. To compensate for the increased costs of 100-percent flexibility, the Library agreed to procure movable book shelving under the furniture and furnishings appropriations, rather than including fixed bookstacks in the construction project as originally planned.

In its 1967 Program Statement, Part II, the Library requested 1,739,000 net square feet of space; 1,045,900 square feet (60 percent) for work space and 693,100 square feet (40 percent) for book collections. As design work on the project progressed, the inclination towards more office

space at the expense of book space continued. By May 1971, the ratio was 74 percent for work space and 26 percent for book collections. Since 1971, there have been certain alterations in the ratio so that the current estimate shows 70 percent (1,011,770 square feet) for work/office space (see app. VI) and 30 percent (425,260 square feet) for book collection activities.

As a result of our discussing this issue with Library officials, they prepared the following table detailing the functional use of the building. Although there are slight variations in some of their estimates from previous information we obtained, the table reflects the evolution of the building from being predominately a book collection/storage facility to its current emphasis on space for work/office activities.

In explaining the change in the building's functional emphasis, Library officials stated that the original staff-oriented units assigned to the building, such as the Copyright Office and the Congressional Research Service, had grown substantially since 1961. Also, the additional units assigned to the building in recent years, such as the administrative offices, were also staff-oriented. As a result, these units had to absorb space for staff that was originally planned for book collection activities.

Functional Uses of James Madison Memorial Building

	1958		1961		1966		1967		1980 (Current)	
	Work/ public areas	Book collection/ storage								
Librarian's Office	-	-	-	-	30,000	-	27,200	-	32,530	-
Administrative and receiving dock	22,000	30,000	44,750	12,500	142,700	18,000	113,500	47,200	189,270	50,930
Copyright Office	65,000	-	58,000	40,000	110,000	50,000	132,300	27,700	142,875	7,000
Law Library	-	-	-	-	42,000	146,000	41,600	146,000	42,160	77,920
Congressional Research Service	-	-	-	-	112,000	-	102,600	9,400	207,860	12,700
Processing Department	134,800	94,022	170,600	23,000	442,000	-	405,800	30,000	187,230	26,085
Reference/ Research Service	295,465	1,131,113	252,025	1,165,025	91,800	431,200	91,300	432,800	131,430	250,625
Other Library units (note a)	42,200	-	34,100	-	50,800	-	53,300	-	62,850	-
Unallocated	-	-	-	-	72,500	-	78,300	-	3,995	-
Non-Library units (note b)	-	-	-	-	-	-	-	-	11,570	-
Square feet	<u>559,465</u>	<u>1,255,135</u>	<u>559,475</u>	<u>1,240,525</u>	<u>1,093,800</u>	<u>645,200</u>	<u>1,045,900</u>	<u>693,100</u>	<u>c/1,011,770</u>	<u>425,260</u>
Percentage ratio	<u>31</u>	<u>69</u>	<u>31</u>	<u>69</u>	<u>63</u>	<u>37</u>	<u>60</u>	<u>40</u>	<u>70</u>	<u>30</u>
Total net square feet	<u>1,814,600</u>		<u>1,800,000</u>		<u>1,739,000</u>		<u>1,739,000</u>		<u>1,437,030</u>	

a/Cafeteria, staff lounges, etc.

b/House Library and Document Room and Telephone Co. Room.

c/See app. VI.

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CHAPTER 6

OTHER ISSUES

FURNITURE AND FURNISHINGS

During the planning for the Madison Building in the 1960s, the Library of Congress estimated that it would cost \$8 to \$10 million for furniture and furnishings for the proposed building, including built-in bookstacks and professional services. At that time, authority for purchasing the furniture and furnishings was vested with the AOC. Public Law 91-280, approved June 12, 1970 (2 U.S.C. 141), transferred the purchasing authority to the Librarian.

By late 1970, Library officials had revised their estimate to \$15 million. In December 1971, Library officials raised the estimate to \$20 million. In September 1974, Library officials again raised the estimate to \$24.6 million, primarily as a result of the need for an additional \$4 million for office furniture.

As shown in the following table, the Library is currently estimating \$27,173,000, of which \$25,548,000 has already been appropriated. The remainder, \$1,625,000, is being requested by the Library for fiscal year 1980.

<u>Furniture and Furnishings for Madison Building</u>		
<u>Fiscal year appropriation</u>	<u>Items to be purchased (note a)</u>	<u>Amount appropriated</u>
1973	Compact bookshelves	\$3,850,000
1974	Conventional bookshelves	2,180,000
1975	Card catalogs	2,000,000
	Carpeting	386,000
	Interior partitions	160,000
1976	Reading room furniture	390,000
	Cafeteria furniture	150,000
	Conference and meeting room furniture	136,000
	Special purpose furniture	2,186,000
1977	Compact bookshelves (increase)	1,500,000
1978	Conventional bookshelves (increase)	1,400,000
	Carpeting (increase)	865,000
	Interior partitions (increase)	220,000
	Office furniture	3,500,000
1979	Compact bookshelves (increase)	1,500,000
	Carpeting (increase)	125,000
	Special purpose furniture (increase)	2,000,000
	Office furniture (increase)	3,000,000
	Total appropriated	<u>b/\$25,548,000</u>
<u>Request for fiscal year 1980</u>		
	Carpet (increase)	\$ 125,000
	Office furniture (increase)	1,000,000
	Contingency reserve	<u>500,000</u>
	Total requested	<u>\$ 1,625,000</u>
	Total furniture and furnishings (appropriated and requested)	<u><u>\$27,173,000</u></u>

a/This table only represents direct purchases for the building. It does not show what existing furniture and furnishings will be transferred from other Library buildings to the Madison Building.

b/Pursuant to section 311 of Public Law 95-391 (Legislative Branch Appropriation Act of 1979, Sept. 30, 1978; 92 Stat. 790), \$2.5 million of the total appropriated is being withheld.

To obtain furniture and furnishings, the Library is obligating funds (about \$12.5 million was obligated as of July 27, 1979) through competitive bids, purchase orders, and the General Services Administration's supply schedules. These sources offer the Library the opportunity to effect savings through time and quantity discounts at the time of payment. Although at the time of our review it was too soon for the Library to have made any payments involving substantial discount options, Library officials stated that they were intending to take full advantage of all discount opportunities.

Status of Furniture/Furnishings
Accounts as of July 27, 1979

<u>Account title</u>	<u>Allotments</u>	<u>Obligations</u>	<u>Payments</u>
Model furniture	\$ 30,759.66	\$ 24,594.16	\$ 22,643.26
Compact bookshelves	6,845,000.00	6,615,061.76	1,293,146.76
Standard bookshelves	3,346,717.49	658,236.66	105,753.66
Card catalogs	2,000,000.00	832,318.94	56,318.94
Carpeting	1,376,000.00	1,109,125.74	426,043.46
Interior partitions	378,110.00	-	-
Reading room furniture	390,000.00	30,115.00	-
Cafeteria and snack room furniture	150,000.00	39,208.00	-
Conference and meeting room furniture	136,000.00	20,712.45	-
Special purpose furniture and equipment	3,473,052.54	338,315.49	158,419.03
Office furniture	<u>3,938,756.55</u>	<u>2,513,332.30</u>	<u>137,636.75</u>
Subtotal	\$22,064,396.24	\$12,181,020.50	\$2,199,961.86
Other (note a)	544,824.24	296,071.07	247,000.07
Funds withheld pursuant to section 311 of Public Law 95-391	<u>2,500,000.00</u>	<u>-</u>	<u>-</u>
Total	<u>\$25,109,220.48</u>	<u>\$12,477,091.57</u>	<u>\$2,446,961.93</u>

a/Includes overhead, travel, miscellaneous costs, and \$11,962 for design consultants.

RENTAL COSTS

The Library began renting space about 15 years ago. By August 1978, the Library was renting about 820,000 square feet of space in nine locations around Washington, D.C. The nine facilities housed about 1,675 Library employees at a rental cost of about \$5,310,000 for fiscal year 1978. 1/

Concurrent with the initial planning for a third Library building, Library officials predicted that completion of the building would enable them to consolidate all activities on Capitol Hill and eliminate the need for rental space. However, because of changes in the Library's activities and the reduced size of the Madison Building (see ch. 5), Library officials now estimate only 50 percent of the rental space can be eliminated.

At least through fiscal year 1975, Library officials were still publicly stating that completion of the Madison Building would eliminate all rental costs for the Library (about \$3 million for fiscal year 1975). However, in February 1976 Library officials acknowledged for the first time that not all rental space could be released once the project was completed. In February 1979, in testifying before a congressional committee, Library officials stated:

"Although the original planning for the third Library building anticipated that all activities could be accommodated on Capitol Hill, it has not been possible to accomplish this objective since the intervening 20 years have brought new responsibilities to the Library and since the final design of the Madison Building did not provide sufficient space for all anticipated needs."

In January 1979, Library officials acknowledged that there would be relatively few changes in the Library's rental needs through fiscal year 1980 (estimated at \$6 million). Beyond 1980, Library officials were considering two rental plans, each one involving different combinations of rental buildings. Both plans envision renting about 430,000 to 440,000 square feet of space in fiscal year 1981 at a cost of about \$3.5 million. The plans showed that about 417,000

1/The Library also uses about 12,000 square feet of vault space for nitrate film storage, at an annual maintenance cost of \$14,000, at Wright-Patterson Air Force Base in Dayton, Ohio.

square feet of additional rental space would not be needed because of the availability of the Madison Building.

Although Library officials are projecting a one-half reduction in their rental space needs for fiscal years 1981 and 1982, they acknowledge that the precise savings "* * *" cannot be determined at this time since we do not know how soon space can be renovated in the two older Library buildings on Capitol Hill to permit the relocation of offices from the present leased space."

There is another aspect regarding the future rental of space by the Library that should be considered. As discussed in chapter 5, there is little, if any, space for expansion in the Madison Building. The current restoration plans and the Library's plans for future use of the Main and Annex Buildings will also eliminate any room for expansion of Library activities in those two structures. Accordingly, any future need for additional space to meet growth in the Library's activities apparently can only be met by renting additional space.

COMMENTS OF THE AOC AND
THE LIBRARY OF CONGRESS

In commenting on a draft of this report, the AOC and officials from the Library of Congress stated that it accurately depicted the circumstances surrounding the design and construction of the Library of Congress James Madison Memorial Building.

BATHROOMS UNAVAILABLE FOR
USE BY THE GENERAL PUBLIC (note a)

<u>Number of bathrooms</u>	<u>Location and/or assigned to</u>
<u>b/</u> 5	Librarians' suite
5	Department offices
1	Telephone Company
<u>c/</u> 1	AOC (maintenance staff)
2	Memorial Hall
2	Special Police
<u>1</u>	Cafeteria staff
<u>17</u>	

a/About 100 bathrooms in the building are available for use by the general public.

b/Three of the five bathrooms are specifically assigned to the Librarian, the Deputy Librarian, and the Associate Librarian.

c/There is also a bathroom on the 7th floor (mechanical penthouse) for use by the AOC's maintenance staff.

DINING ROOMS (note a)Number of seats

Cafeteria seating (sixth floor):

Dining Area East	350
East Dining Alcove	100
Dining Area West	350
West Dining Alcove	<u>100</u>
Total	<u>900</u>

Buffet dining rooms (sixth floor):

Dining Room A	104
Dining Room B	
(Conference Dining Room)	42
Dining Room C	<u>42</u>
Total	<u>188</u>

a/There is also a snack bar on the ground floor.

KITCHENETTES/PANTRIES

<u>Location</u>	<u>Number of</u>
Librarians' suite	1
Department offices	4
Memorial Hall	1
Group dining (cafeteria)	<u>1</u>
Total	<u>7</u>

Note: The equipment in these units varies, thereby affecting food preparation capabilities.

CONFERENCE ROOMS

<u>Room</u>	<u>Floor</u>	<u>Square feet</u>	<u>Seating</u>	<u>Notes</u>
Assembly	6th	a/2,650	210	Flexible arrangements; public address system; projection booth/screen; stage.
Oval conference	6th	800	20	Fixed conference furniture.
Conference/Dining Room B (note b)	6th	1,000	22	Not available from 11 a.m. to 2:30 p.m. daily.
Conference/Dining Room C (note b)	6th	1,000	22	Not available from 11 a.m. to 2:30 p.m. daily.
West Dining Alcove (note b)	6th	1,300	48	Not available from 11 a.m. to 2:30 p.m. daily.
East Dining Alcove (note b)	6th	1,300	48	Not available from 11 a.m. to 2:30 p.m. daily.
Training rooms	6th	various	15-30	Limited hours; projection facilities.
Auditorium	3d	a/1,100	64	Fixed seating; projection booth/screen; public address system.
Conference room	1st	700	40	Flexible arrangement; public address system; projection room/screen.

a/Lobbies, projection rooms, etc., are not included in these space figures.

b/See app. II.

<u>TYPES OF OFFICES</u>				
<u>Number of offices (note a)</u>	<u>Type</u>	<u>Approximate size (square feet)</u>	<u>Furniture grade/type of partitions</u>	<u>Assigned to</u>
5	A	15 x 25	Top grade wood/FTC partitions (note b)	Assistant and associate librarians.
18	B	15 x 20	Top grade wood/FTC partitions	Department directors.
67	C	15 x 15	Medium grade wood/FTC partitions	Assistant directors, division chiefs, and staff officers.
130	D	10 x 15	Medium grade wood/FTC partitions	Assistant division chiefs, departmental executive and administrative officers, and senior specialists.
259 (note c)	E	10 x 15	Medium grade steel/FTC partitions	Section heads, project heads, and administrative officers.
N/A (note c)	H	10 x 20	Medium grade steel/FTC partitions	Researchers and professional staff (Congressional Research Service only).
N/A (note c)	J	10 x 10	Medium grade steel/FTC partitions	Section heads, administrative assistants, and specialists (Congressional Research Staff only).
116	F	10 x 15	Medium grade steel/low partitions	Section heads, assistant section heads, and specialists.
<u>187</u>	G	10 x 10	Medium grade steel/low partitions	Assistant section heads and unit heads.
<u>782</u>				

a/As of 1975-76. The Library of Congress, at the time of our review, was in the process of updating its compilation of offices.

b/FTC indicates floor-to-ceiling partitions.

c/Prior to 1976, only type E office comprised the 259. In 1976, types H and J were derived from E type. However, no figures are currently available breaking down the 259 by E, H, and J types.

PROPOSED OCCUPANCY PLAN FORJAMES MADISON BUILDING

	Number of <u>staff</u>	Assigned square feet (note a)
Work/office assignments:		
Librarian's Office	89	27,460
Associate Librarian Management	835	168,005
National Programs	38	5,070
Congressional Research Service	1,084	207,860
Copyright Office	666	142,875
Law Library	123	42,160
Processing Department	1,075	187,230
Research Service	<u>470</u>	<u>131,430</u>
Total work/office assignments	<u>4,380</u>	<u>912,090</u>
Other space assignments:		
Loading dock	-	21,265
Other Library activities (note b)	-	62,850
Unassigned	-	3,995
Non-Library activities (note c)	<u>-</u>	<u>11,570</u>
Total	<u>4,380</u>	<u>1,011,770</u>

a/Figures include reading rooms in some instances.

b/Includes cafeteria, staff lounges, auditorium, etc.

c/House Library and Document Room, and Telephone Co. Room.

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