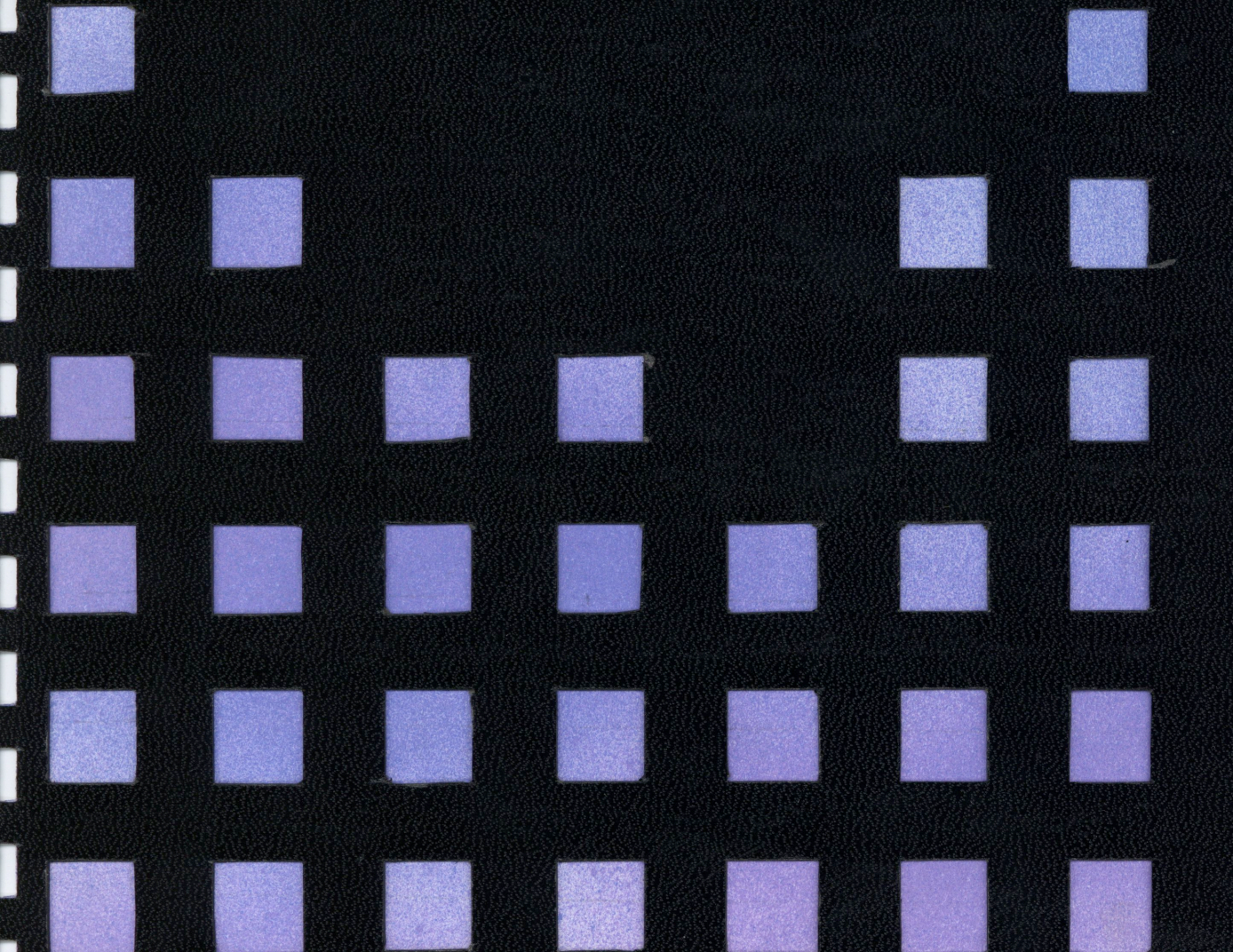


THE COUNTY
JAIL
A DINING AND
DRINKING FACILITY



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Montana State University Library, Bozeman

THE COUNTY JAIL
An Eatery and Drinking Establishment

HELENA, MONTANA

BY: ALICIA DELASHMUTT

SPRING OF 1988

Project documentation submitted in partial fulfillment of the
requirements for the degree of:

BACHELOR OF ARTS
in
INTERIOR DESIGN

APPROVED:

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Alicia D. Shultz

DATE:

6-3-88

DEDICATION:

I would like to dedicate this to my family who has been there whenever I needed them and to Rich who put up with me during my stressed-out times. Thank you and I love you!

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**PROJECT
BACKGROUND**

INTRODUCTION

The Lewis and Clark County Jail building is a historic landmark for the territorial, state and county governments, as well as a record of early craftsmanship, architecture and geologic events. The jail was built in 1887 and was utilized as a prison facility until the mid-1980's when a new jail was constructed.

Although the original battlements and towers (FIGURE 1) were destroyed by earthquakes in the early 1930's, the jail has retained much of it's original detailing, materials, and menacing appearance on the exterior (FIGURE 2).

The Lewis and Clark County Jail is historically and architecturally significant because of its Gilded Age architectural grandeur and its century-long association with territorial, state and county government. The interior, however, has undergone constant change due to changes in personnel, spacial needs, and architectural points of view. Because of this the jail interior has lost much of its original character.

CONCEPT

CONCEPT

The concept that I will be designing by for this project will be that of "overlay"(photo 6). This concept was derived by the fact that the plan of the existing building is primarily based on the grid system with a round turret overlaid onto that grid. In keeping with the integrity of the building I have chosen to maintain many of the original materials. In keeping with future technology and present available materials I have chosen to overlay new materials onto old. My concept can also be seen in the overlay of colored light onto wall material and the overlay of circular-rounded areas onto a grid pattern in plan and section.

PROJECT SCOPE

PROJECT SCOPE

The Lewis and Clark County Jail is listed in the National Register of Historic Places and is a handsome structure on a good site. For this project I will be rehabilitating this historic structure from an unused wasted building into an eatery and drinking establishment.

Rehabilitation is defined as the act or process of returning a property to a state of utility through repair or alteration which makes possible an efficient contemporary use while preserving those portions or features of the property which are significant to its historical, architectural and cultural values.

My primary areas of concern will be the space planning, furniture design, and lighting design. I also intend to keep the historic significance of the building by altering the exterior as little as possible and maintaining the jail theme. Due to time limitations, the public areas, i.e., reception, waiting area, dining area, lounge, will receive intense design attention whereas the restrooms, manager's office, storage, service area, and kitchen will just be planned and blocked out.

SITE AND
EXISTING
BUILDING
DESCRIPTION

SITE AND EXTERIOR BUILDING DESCRIPTION

The Lewis and Clark County Jail occupies a portion of a larger public site at the top of a knob hill four blocks to the east of Last Chance Gulch, the major north-south street, and Broadway Avenue, a major east-west street in Helena, Montana.

The buildings that surround the jail are the court house, public library, law library, fire house, and various other businesses, tenements, and dwellings.

The jail building exterior is a two-and-one-half story stone masonry building with a round half-engaged corner tower and a generally rectangular plan. Stylistically, the jail is an adaptation of Richardsonian Romanesque style. It is a "corner" building with two major facades; west and north. The west facade (FIGURES 3 and 4) sports two massive arched entrances and deeply set bared windows repeated from the south and north facades.

For the purpose of this project we will assume that the terrace and dentilled cornice have been restored as well as other structural and exterior "clean-up" implemented.

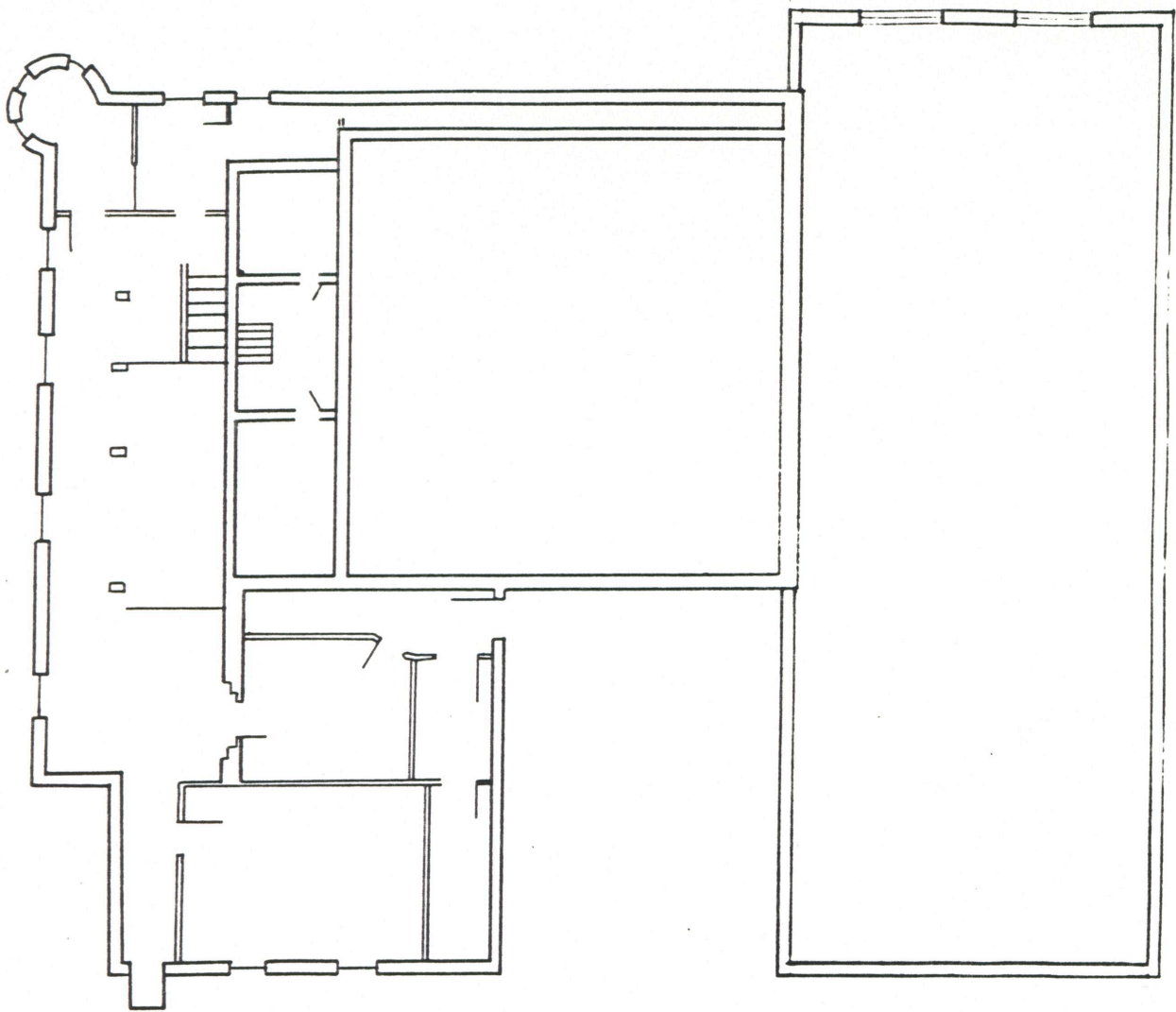
STRUCTURAL Report

STRUCTURAL REPORT

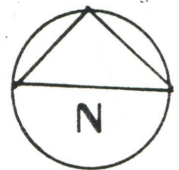
The Lewis and Clark County Jail is a stone and brick bearing wall building with a wood floor and roof system. It's a two-and-one-half story above-grade and one-half story below-grade building capped by a sloped hipped dutch roof. The below-grade section of the structure does not extend under the cell block area which is a form of slab-on-grade construction. Exterior bearing walls are cut stone as well as the foundation walls. The floor systems are rough-sawn wood joists with 1x subfloor sheathing perpendicular to the span of the joists. The cell block portion of the structure is a two-story high space with roof structure above and no intermediate floor.

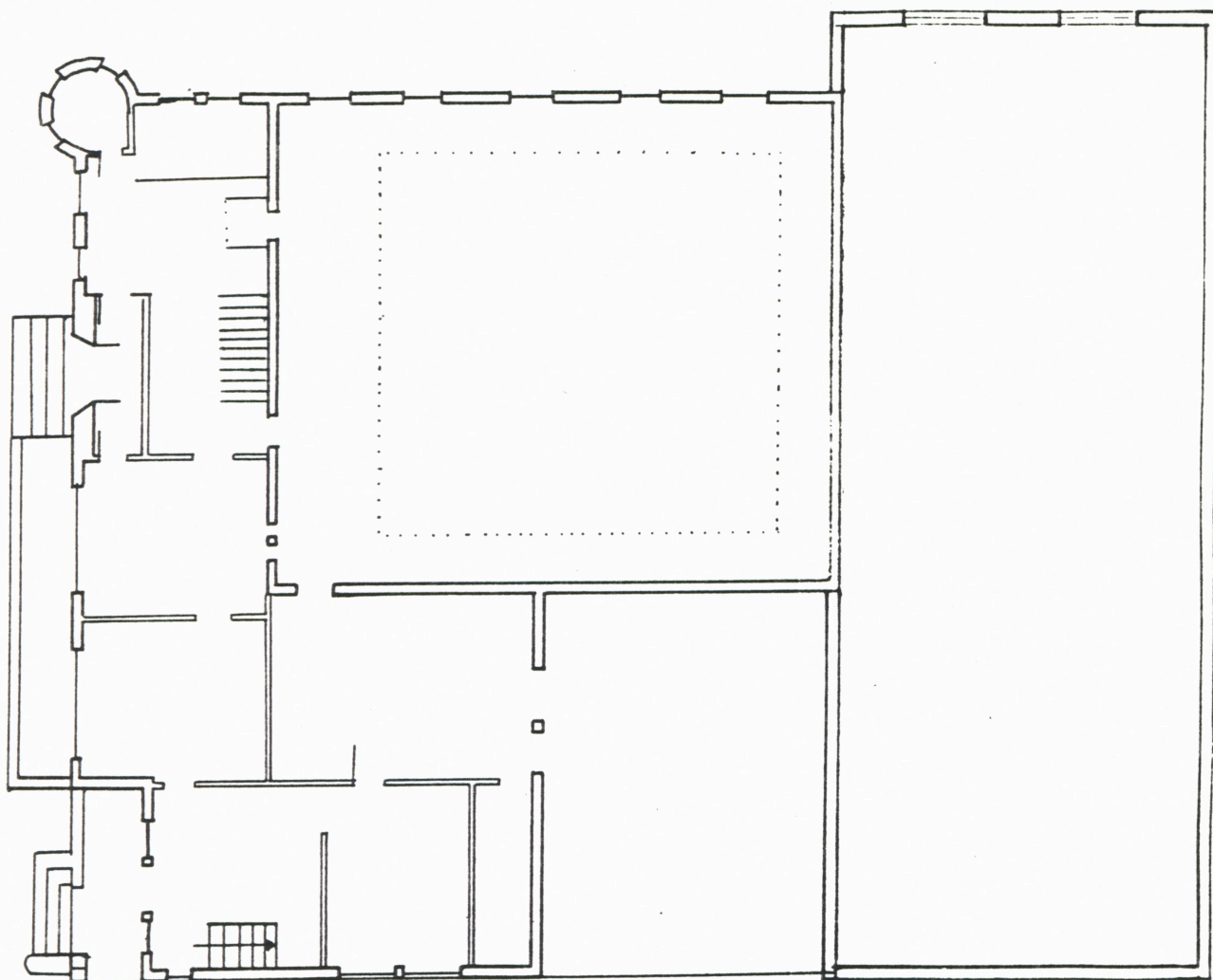
The roof structure is basically a system of wood stud cripple walls with 2x rafters above and surfaced over by 1x sheathing perpendicular to the rafters. The roof structure changes over the cell block area to long span massive wood trusses that also carry 2x rafters above. The roof structure has been modified along the edges and especially above the corner turret, presumably as a result of earthquake damage in 1935. Additional cripple walls were also added at this time to supplement support of some of the longer span rafters.

EXISTING
PLANS

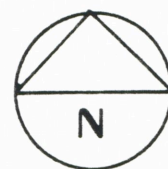


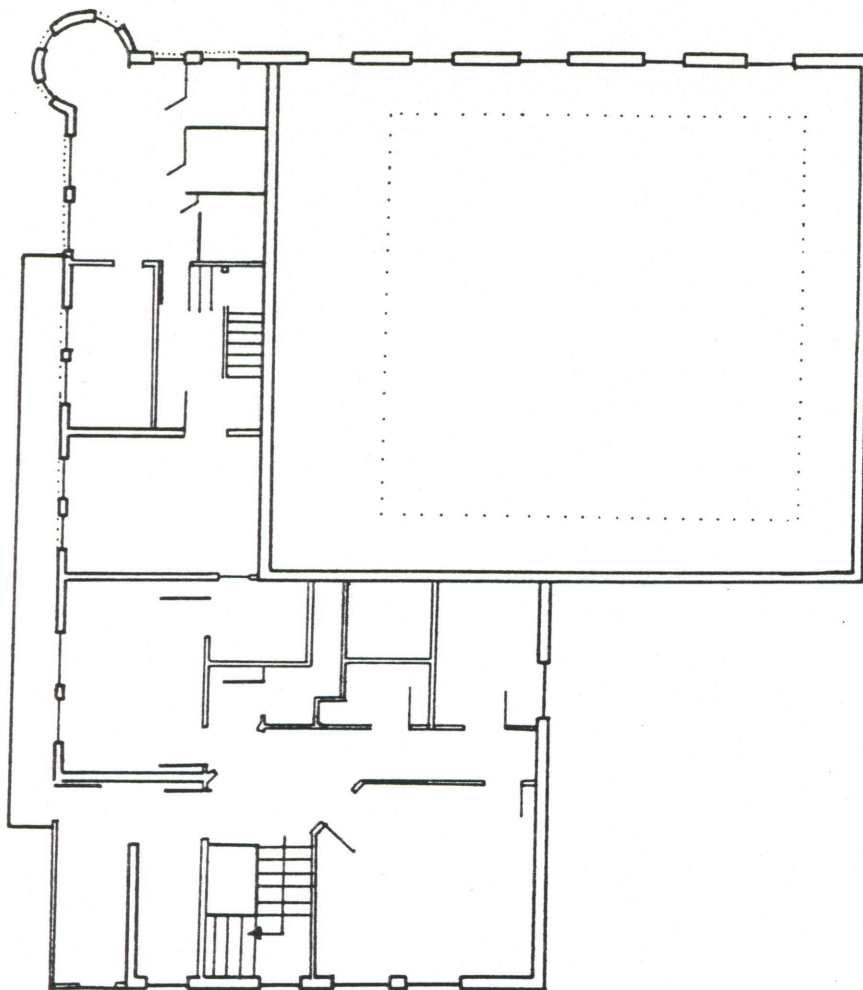
BASEMENT FLOOR PLAN





FIRST FLOOR PLAN





SECOND FLOOR PLAN



PHOTOGRAPHS

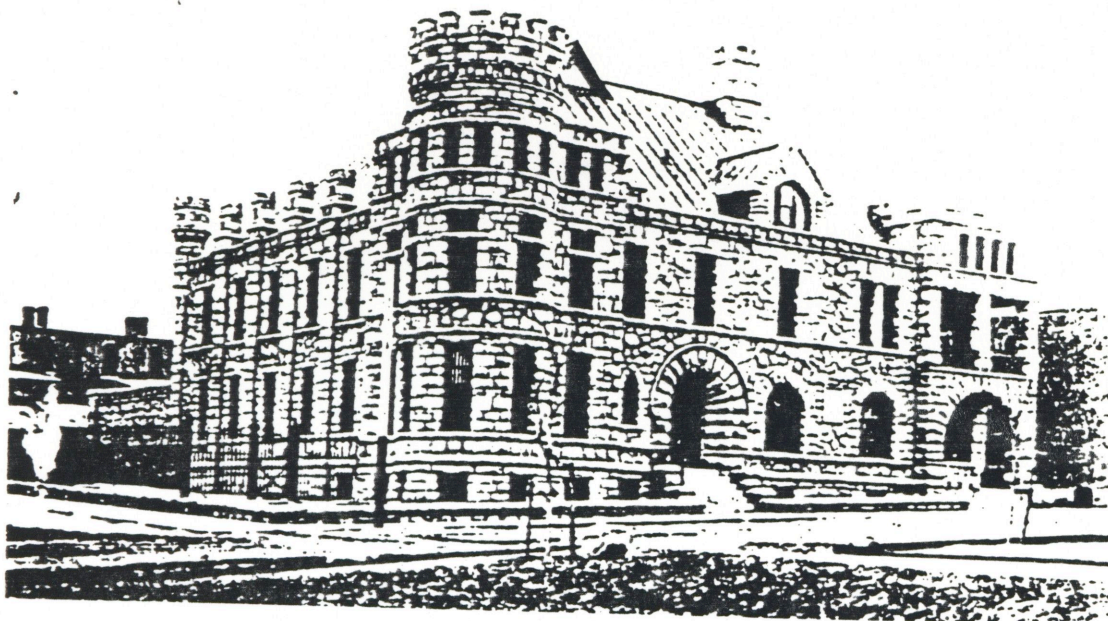


FIGURE 1: Turn of the century photograph.

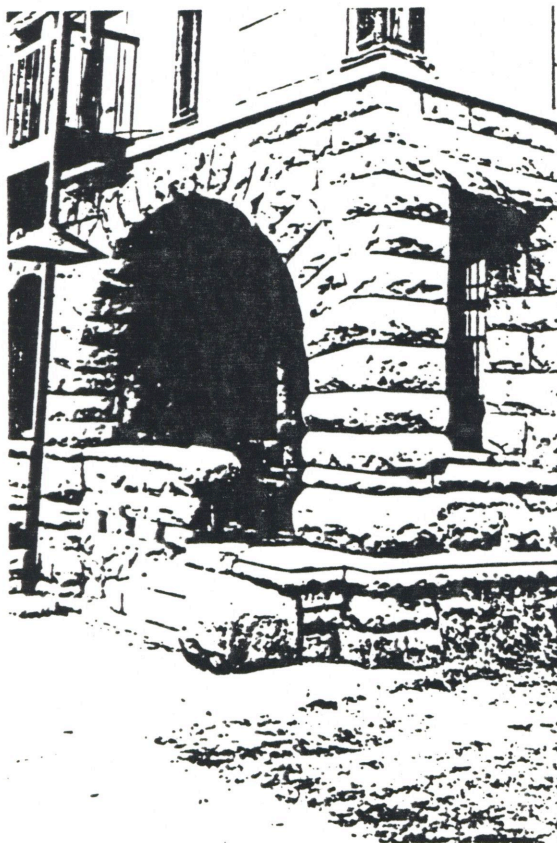


FIGURE 3: Entry showing masonry detail.

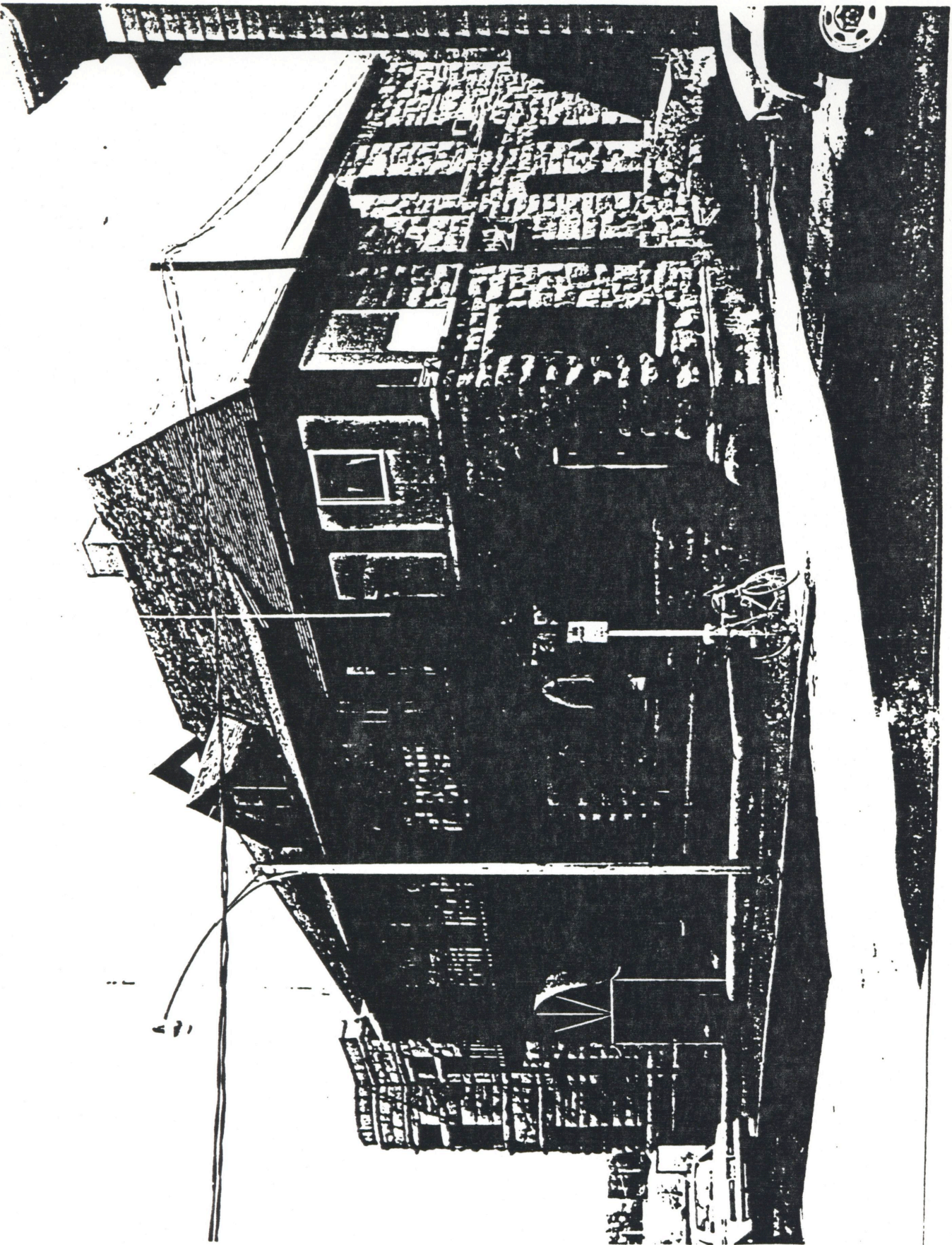


FIGURE 2: Lewis and Clark County Jail, view of west and south facade from southwest.

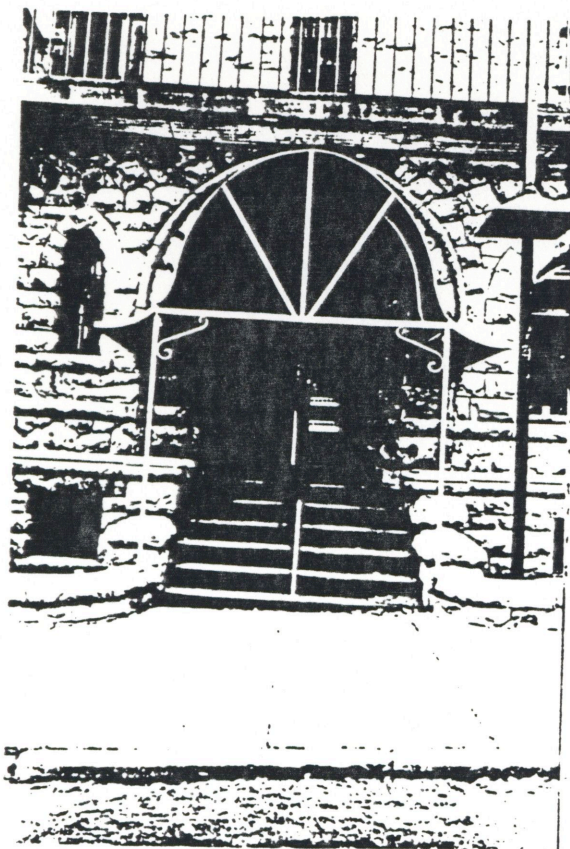


FIGURE 4: Jail main entry.

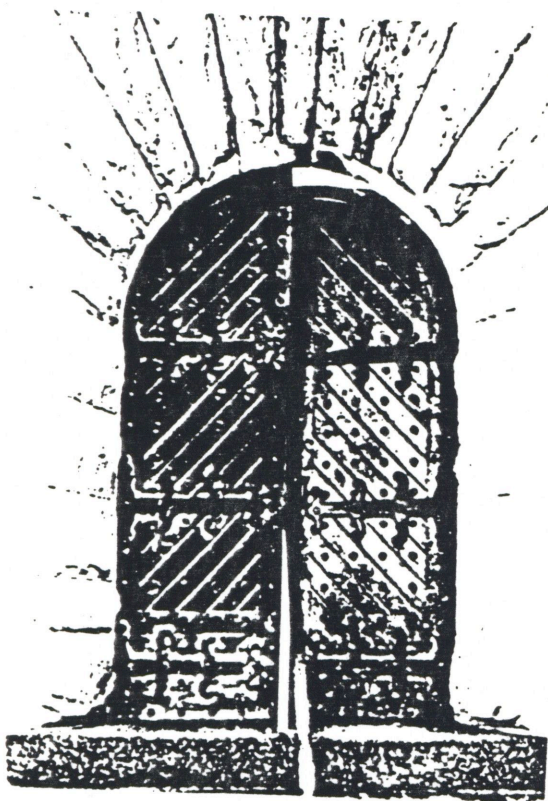


FIGURE 5: Jail entry door.

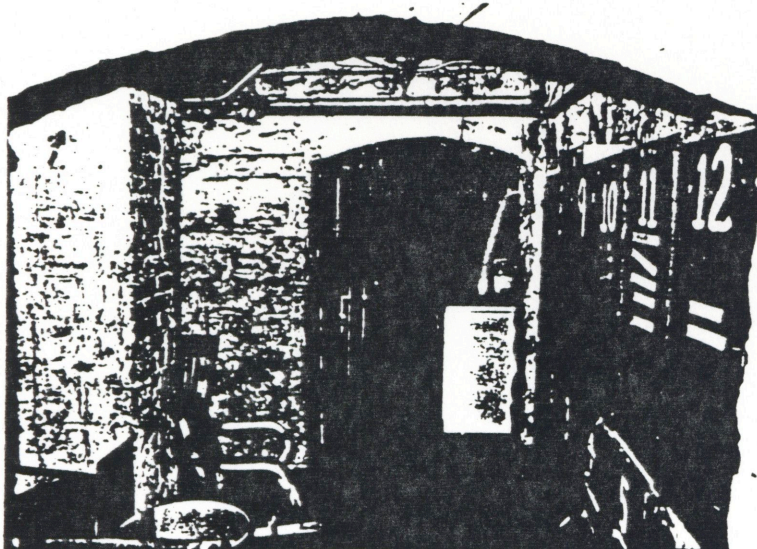


FIGURE 6: Looking south in the basement.

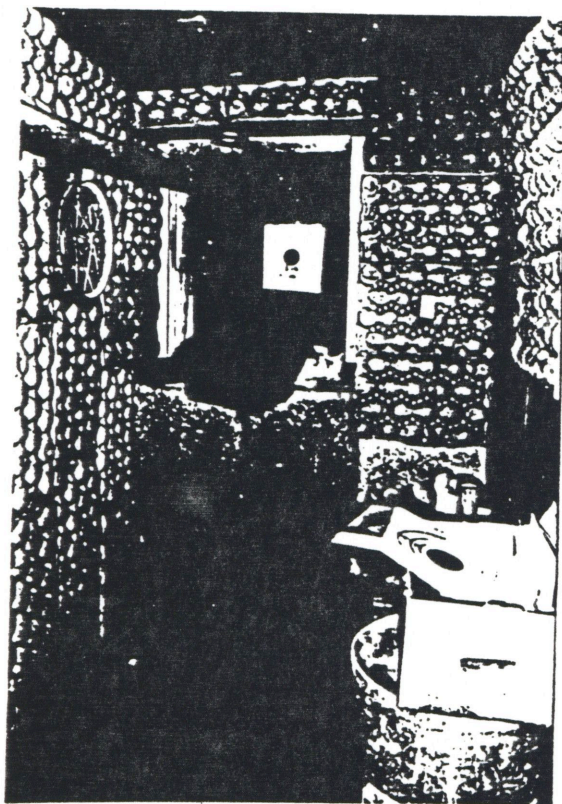


FIGURE 7: The pistol range.

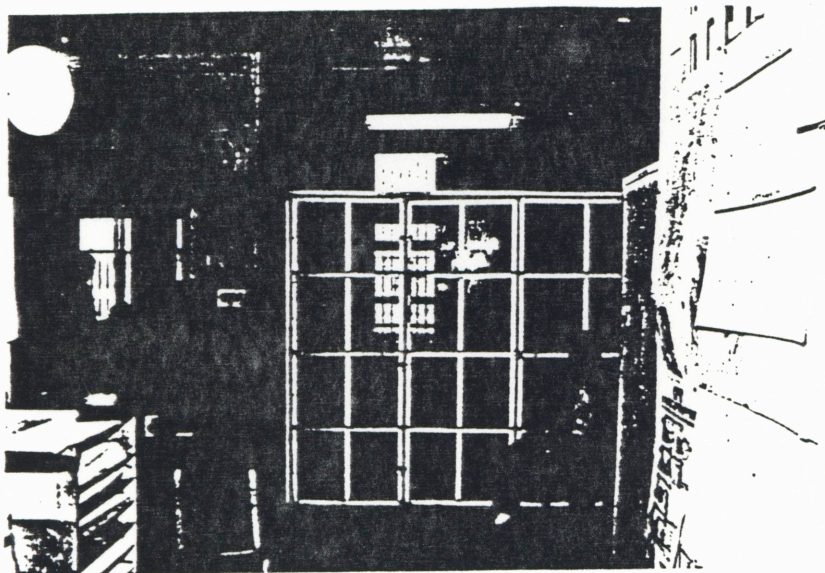


FIGURE 8: Control area with holding cell.

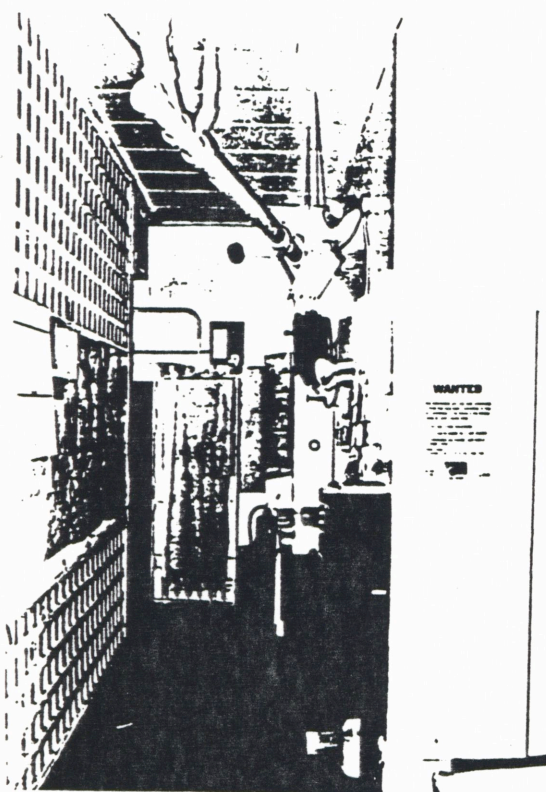


FIGURE 9: Fingerprint corridor.

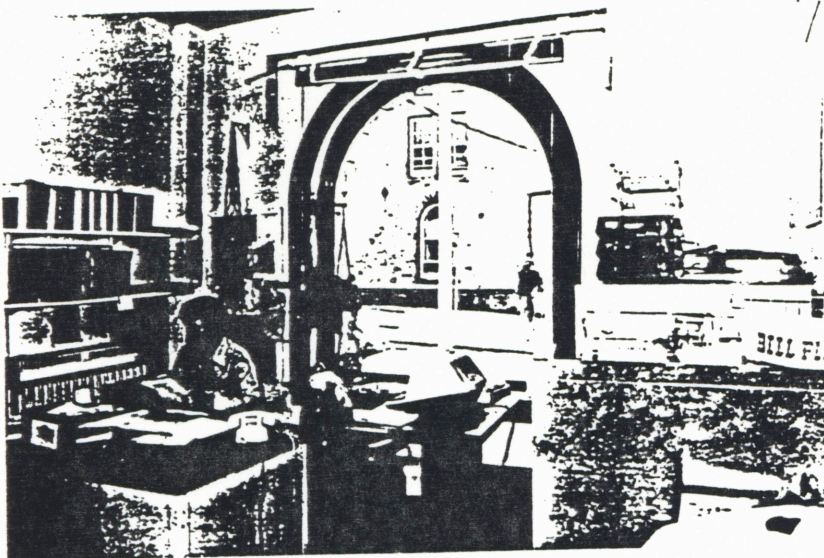


FIGURE 10: Office.

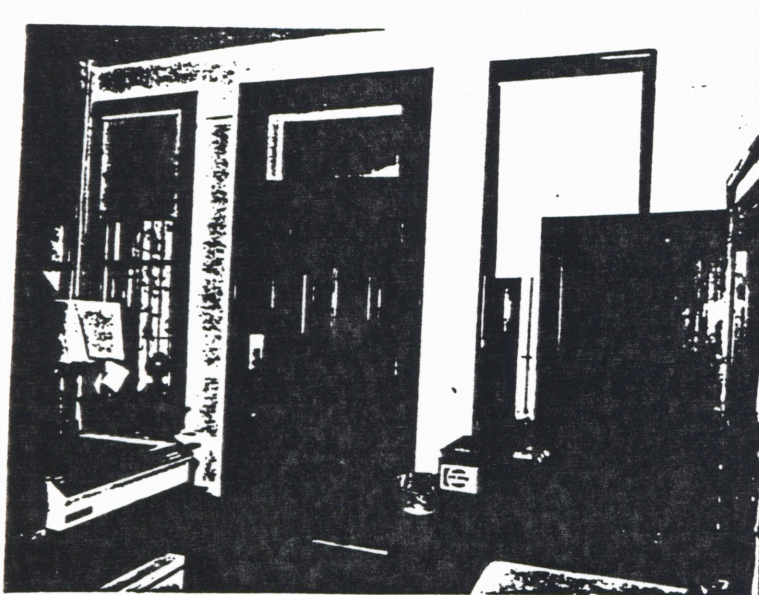


FIGURE 11: Entry.

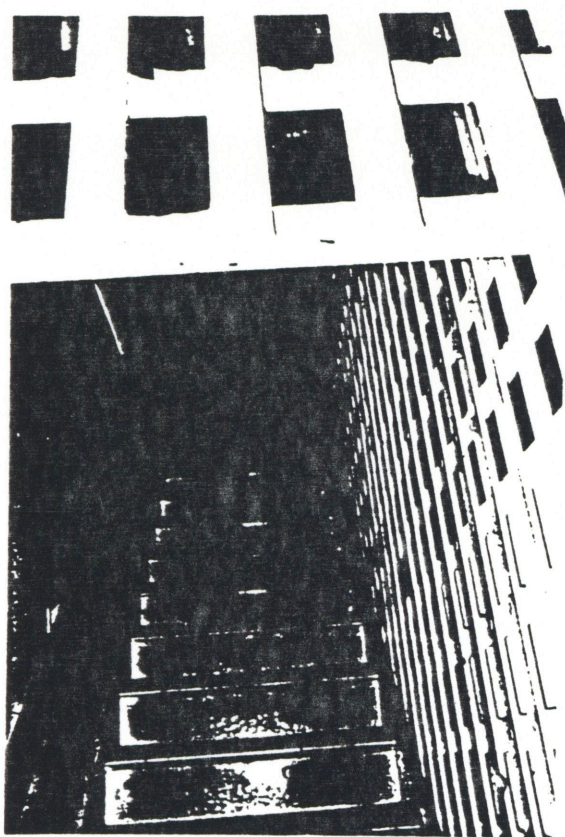


FIGURE 12: Stairway to second floor.

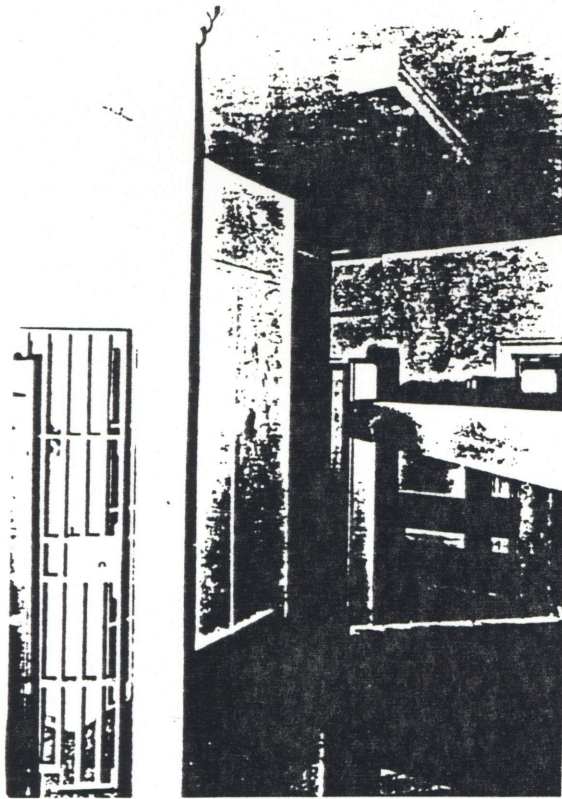


FIGURE 13: Jail room.

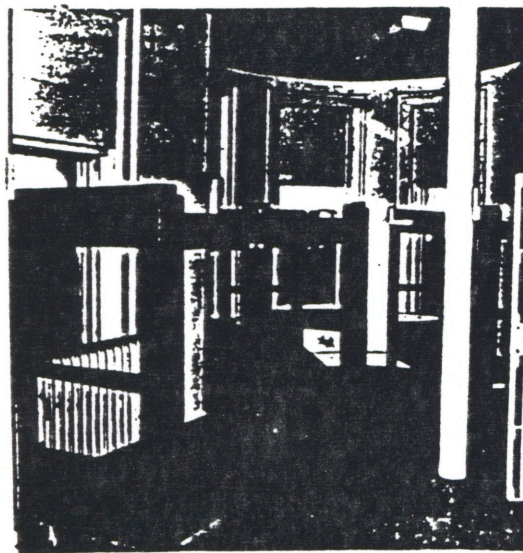


FIGURE 14: Jail room in turret.

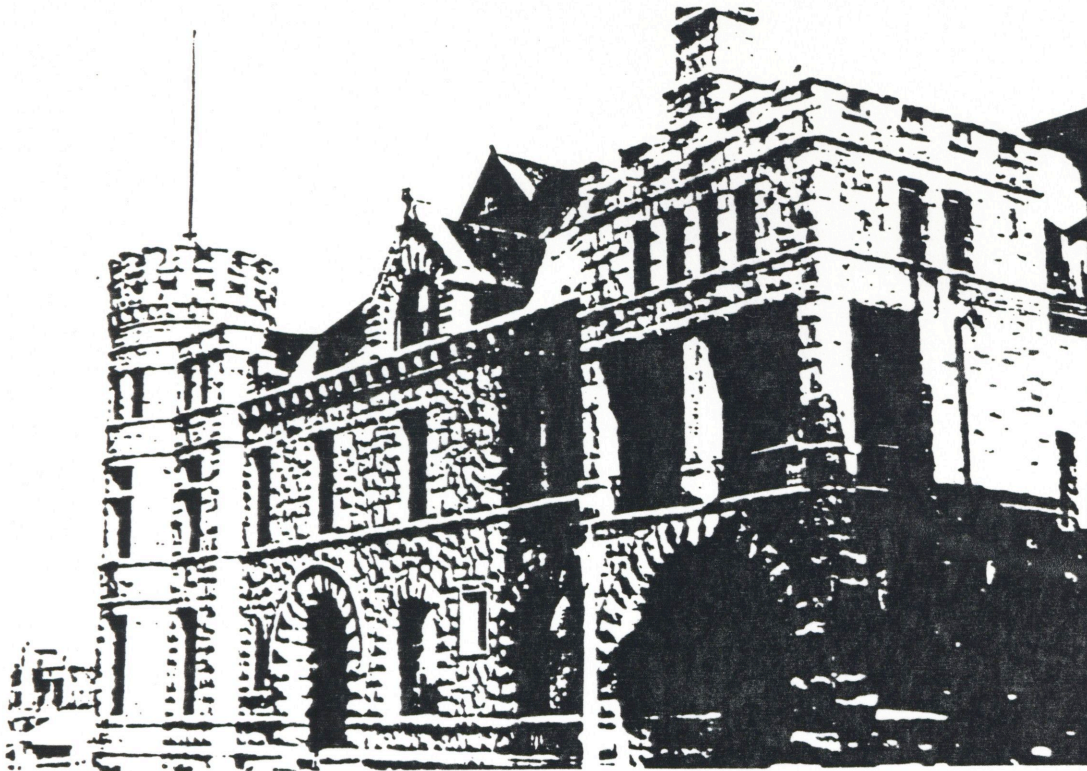


FIGURE 15: 1892 jail

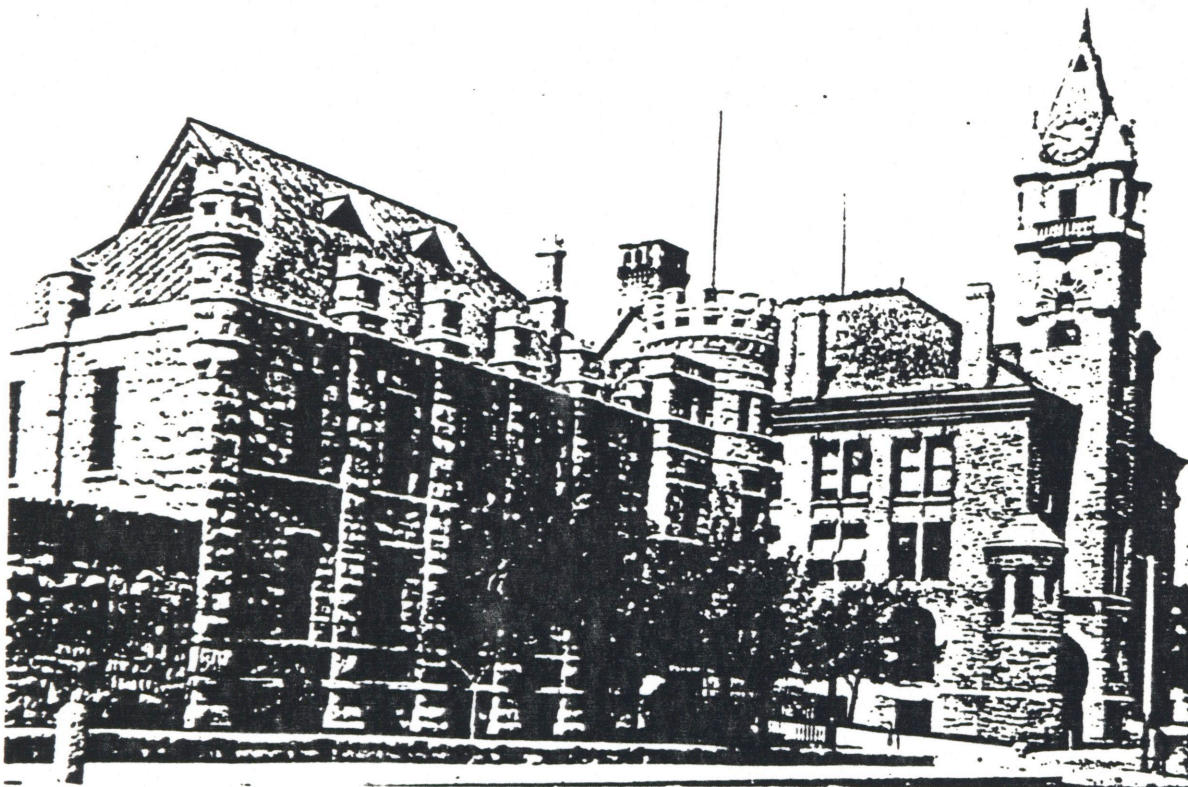


FIGURE 16: Lewis and Clark County jail and Court House in 1895.

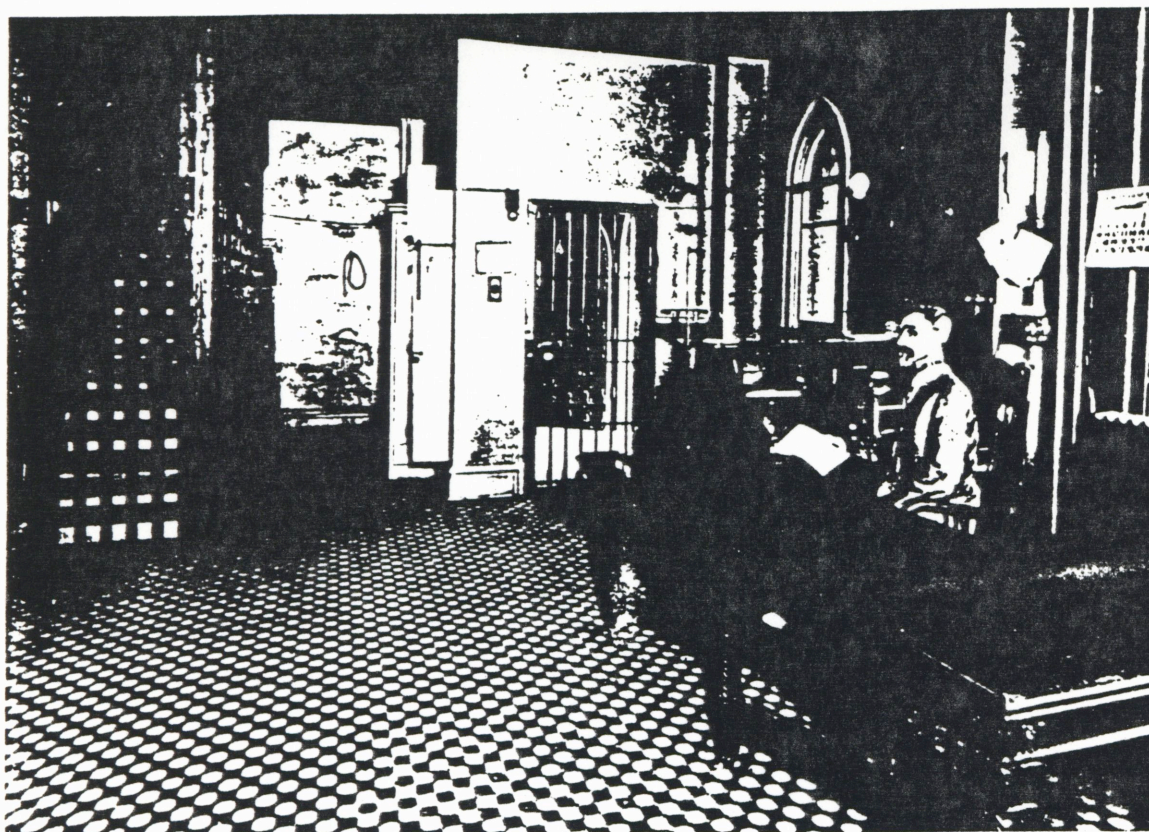


FIGURE 17: Interior of jail, showing Deputy Sheriff Duke McGregor at his desk in 1893.

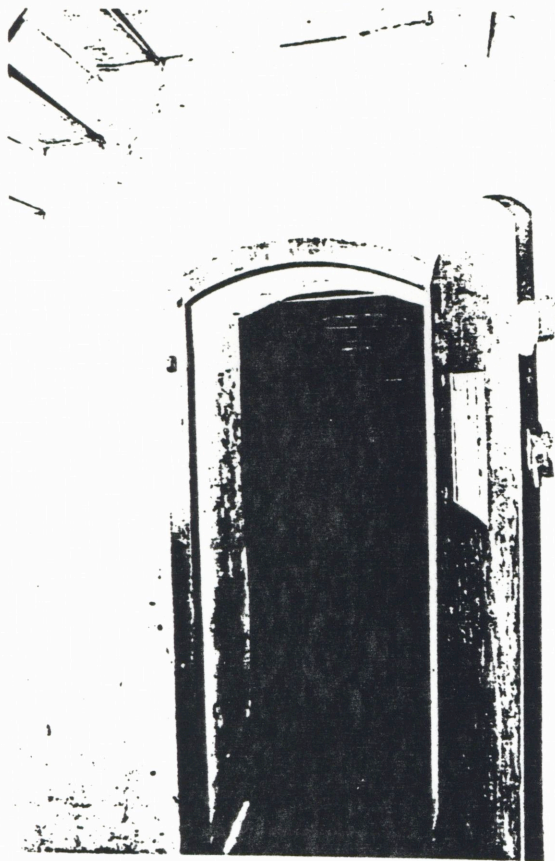


FIGURE 18: A basement room called "the hole".



FIGURE 19: A cell door in "the hole".

**TARGET
MARKET**

TARGET MARKET

The design of this establishment is geared towards the middle to upper-class citizens of Helena, Montana, and the surrounding areas. Helena is historically a rich area and I intend to bring back some of the grandeur of the past by the use of new materials available in this new age as well as use of old time materials.

Goals And CONCEPTS

GOALS AND CONCEPTS

GOALS

To portray a sense of past grandeur and new design technology.

Give the diners a feeling of privacy, yet help them to experience the over-all space.

Provide this essentially heavy building with a feeling of lightness and sparkle.

To create a sense of unity throughout the building.

CONCEPTS

Use existing rich materials in combination with existing materials.

Incorporate small task lights in the dining areas to increase privacy, but not to block overall view.

Incorporate colored lighting that will bounce off lustrous surfaces.

Carry the concept of "overlay" throughout the plan and section of the design.

INTERIOR
SPACE
ANALYSIS

ENTRY / WAITING

INTERIOR SPACE ANALYSIS:

ENTRY/WAITING: 1,452 SQ.FT.

SALLYPORT: 72 SQ.FT.

Visual image of jail cell. Aural sense stimulated by clank of electric metal door sliding open and shut. Reception desk seen through metal grid to lead the way.

RECEPTION: Light, color, texture, all interplay to make the reception area a main focal point.

WAITING: Waiting area accessible to dining area and to reception desk. Relaxed, comfortable atmosphere.

Office

INTERIOR SPACE ANALYSIS (cont.):

OFFICE: 208 SQ. FT.

MANAGER'S OFFICE: This space is reserved for the managers and their assistants. This area has access to the dining/ reception area, the upstairs lounge area, and to a separate entrance. This area will not be designed for this project.

Dining

INTERIOR SPACE ANALYSIS (cont.):

DINING: 1804 SQ.FT.

JAIL CELL: Reminiscent of original two-story jail cell area. Cells illuminated from above grid pattern. This in turn casts a grid-like shadow on tables below. Second-floor dining platform accessed by lighted stairs in between cell areas.

28 FOOT DINING: Several dining tables surround jail cell area. Privacy has been created for these tables by dropping task lighting from the ceiling to 8 feet above each table. As well as creating a personal space, these lights celebrate the vertical space.

INDOOR/OUTDOOR DINING: 1236 SQ. FT. This dining is unique in the fact that the roof plane is translucent and in nice weather, removable. The entire area will have the atmosphere of an outdoor courtyard.

1ST FLOOR
TOILETS

INTERIOR SPACE ANALYSIS (cont.):

FIRST FLOOR TOILETS: 386 SQ. FT.

TOILETS: Both the men's and women's toilets will be spacious. They will also be handicapped accessible.

KITCHEN / SERVICE

INTERIOR SPACE ANALYSIS (cont.):

KITCHEN/ SERVICE AREA:

KITCHEN: 2170 SQ.FT. The kitchen will not be designed at this time.

SERVICE AREA: 690 SQ. FT. This area would be for service personal eating, dressing, and toilet facilities. The scope of this project does not include the design of this area.

LOUNGE

INTERIOR SPACE ANALYSIS (cont.):

LOUNGE: 1,198 SQ. FT.

BAR: The bar consists of an island surrounded by both a standing and seating area. This area is eye catching because of the lighting effects around the edge of the bar-top. This will draw the clients to it and help to direct traffic.

OVERLOOK BAR: This area is a sit-down bar overlooking the dining below. This area was created to give a choice in seating areas to the client as well as celebrate the verticality of the dining space below. The ceiling is raised two feet in this area to re-enforce the separate area effect.

SEATING AREA: This is another small area created to give the client a choice of seating. This space is highlighted by two lighted walls that follow the overall concept of "overlay".

2nd Floor
Toilets

INTERIOR SPACE ANALYSIS (cont.):

SECOND FLOOR TOILETS: 264 SQ. FT.

TOILETS: As with the second floor, both the men's and women's toilets are spacious and handicapped accessible. Due to the focus of this project these areas will not be designed.

STORAGE

INTERIOR SPACE ANALYSIS (cont.):

STORAGE: 50 SQ. FT.

BAR STORAGE: This is a small area reserved for storage of lounge items. This space can also serve as an empty bottle storage area.

**SQUARE
FOOT
SUMMARY**

SQUARE FOOTAGE SUMMARY:

ENTRY: 1,452 SQ.FT.
DINING: 3,040
TOILETS(1st):386
MANAGER: 208
SERVICE: 690
KITCHEN: 2,170
LOUNGE: 1,198
TOILETS(2nd):264
STORAGE: 50
VARIOUS
CIRCULATION: 542

TOTAL: 10,000 SQ.FT.

Diagrams

BUBBLE DIAGRAMS

These diagrams are to show the space adjacency requirements.

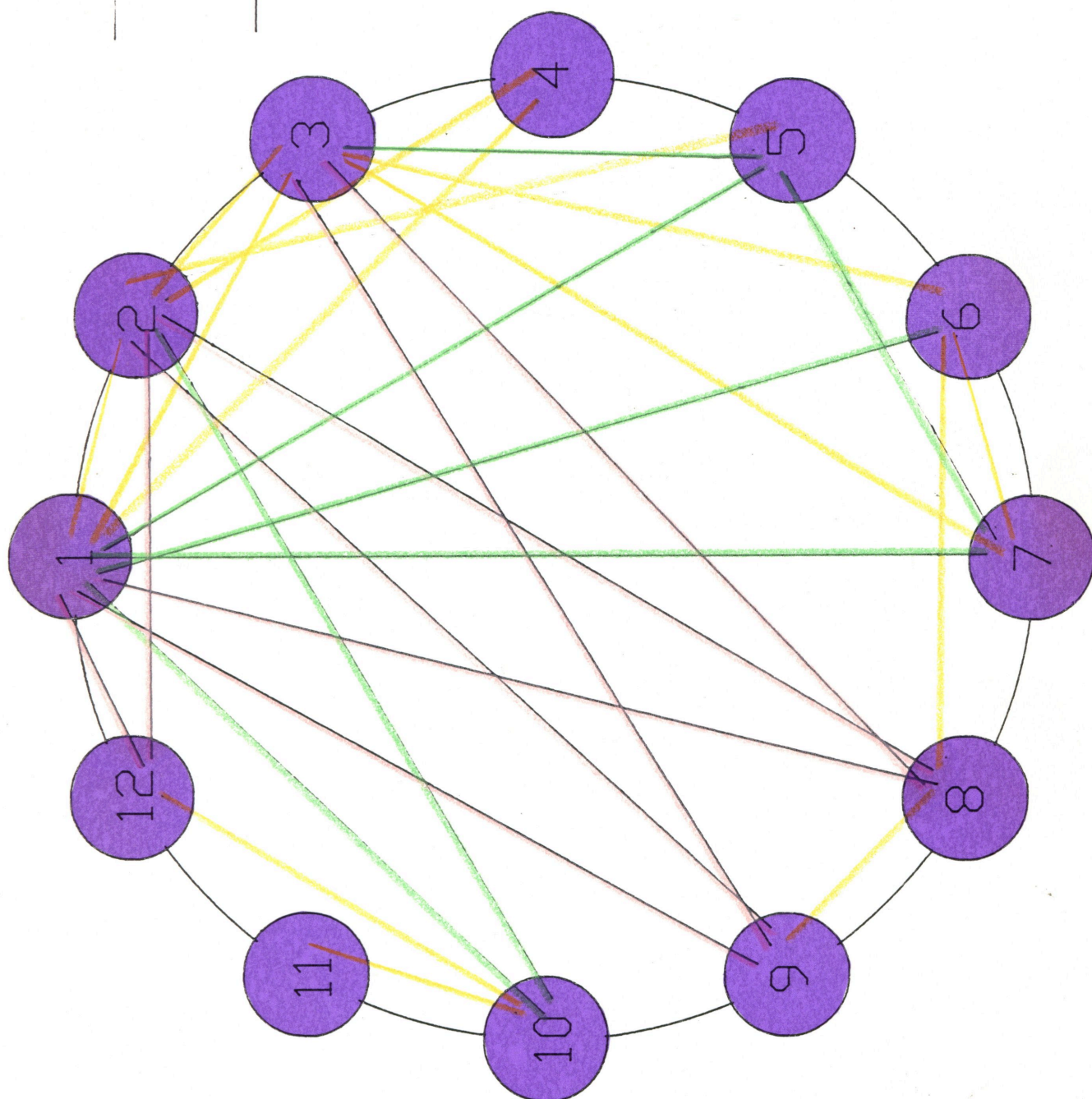
The spaces are as follows:

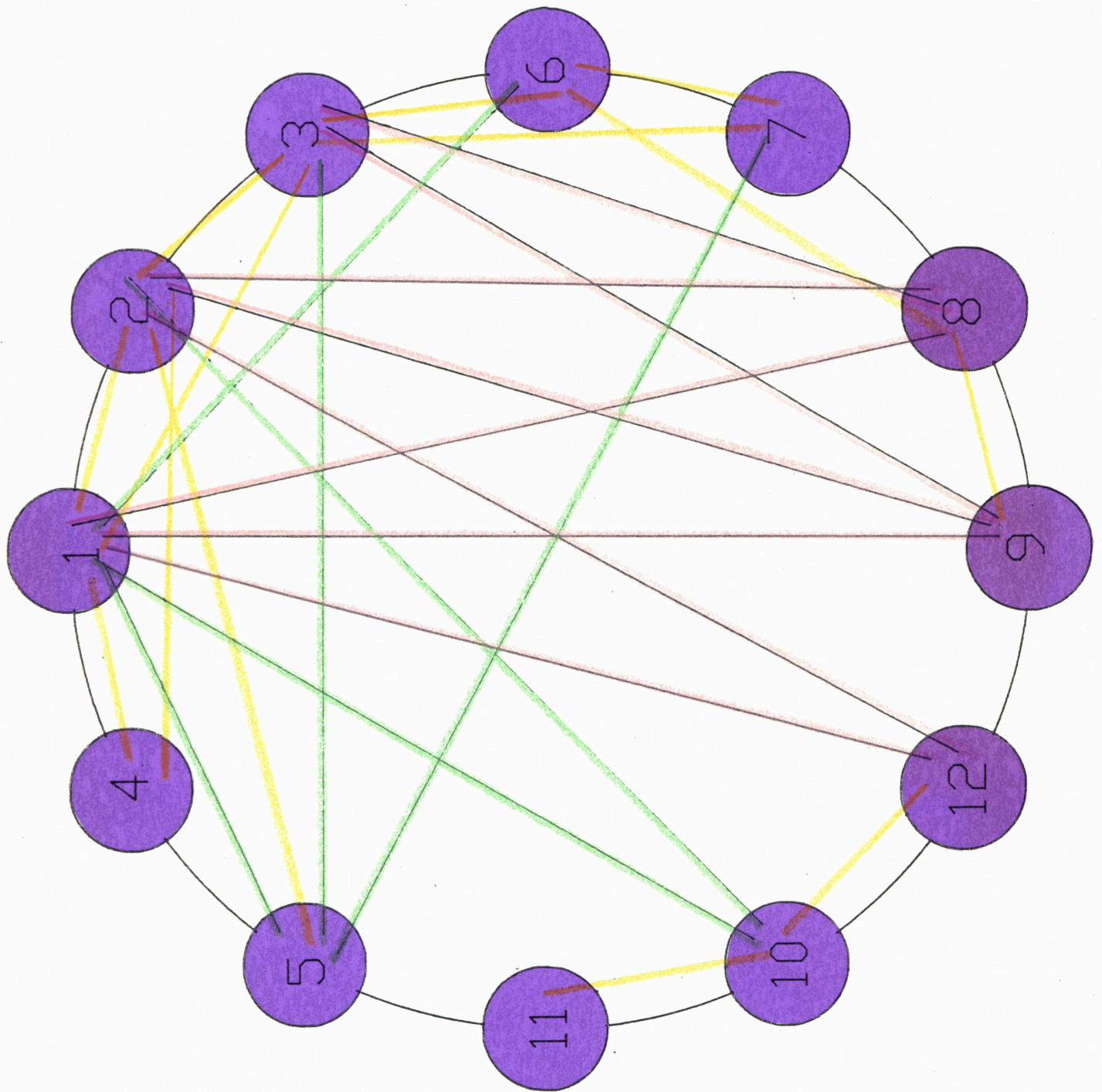
- 1) ENTRY
- 2) RECEPTION
- 3) WAITING
- 4) COAT STORAGE
- 5) OFFICE
- 6) DINING
- 7) TOILETS (1st floor)
- 8) KITCHEN
- 9) SERVICE
- 10) LOUNGE
- 11) TOILETS (2nd floor)
- 12) STORAGE

MOST DESIRABLE

DESIRABLE

NOT DESIRABLE

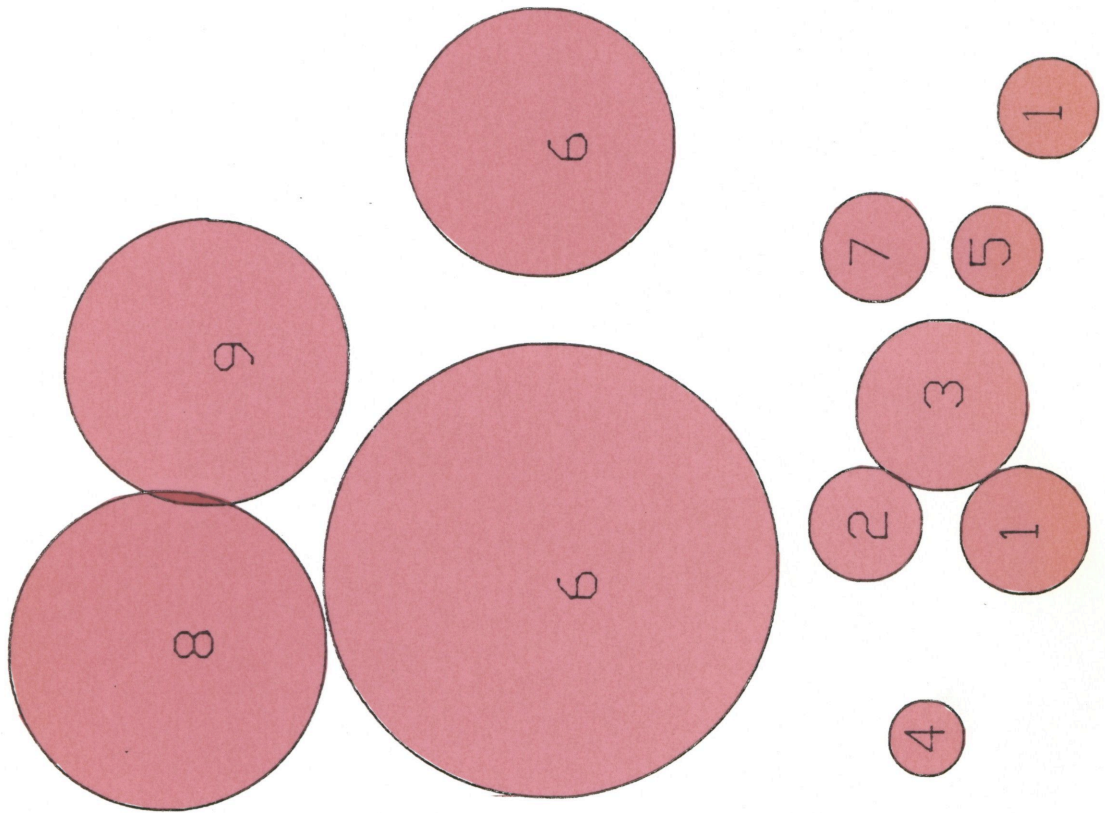




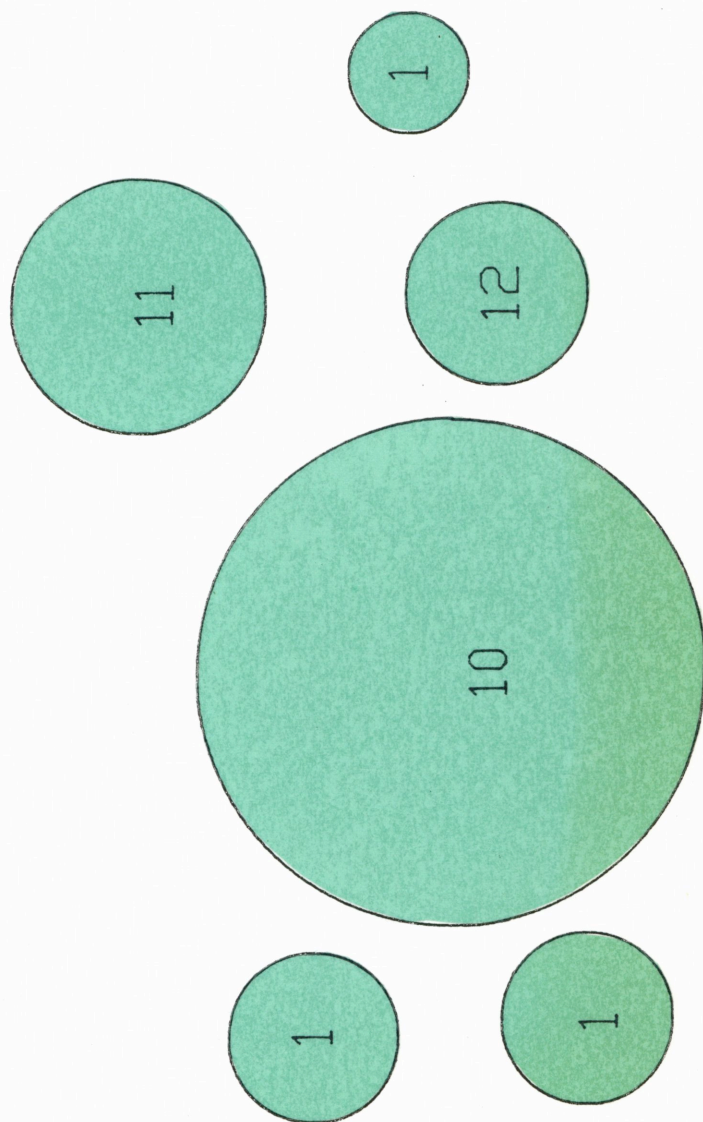
BUBBLE DIAGRAMS (cont.)

These diagrams represent the space adjacency requirements as well as the approximate size and location in the space. The first and second floors are shown seperately.

FIRST
FLOOR



SECOND FLOOR



Codes And Requirements

CODE REQUIREMENTS

BUILDING TYPE: A-3

STAIRWAYS:

WIDTH: Stairways serving an occupant load of 50 or more shall be not less than 44 inches in width.

RISE AND RUN: The rise of every step in a stairway shall be not less than 4 inches nor greater than 7 inches. The run shall be not less than 11 inches as measured horizontally between the vertical planes of the furthestmost projection of adjacent treads. The largest tread run within any flight of stairs shall not exceed the smallest by more than 3/8 of an inch.

LANDINGS: Every landing shall have a dimension measured in the direction of travel equal to the width of the stairway. Such dimension need not exceed 44 inches when the stair has a straight run.

RAMPS:

WIDTH: The width of ramps shall be as required for stairways.

SLOPE: The slope of ramps shall not be steeper than 1 vertical to 12 horizontal.

HANDRAILS:

STAIRWAYS AND RAMPS: Each shall have handrails on each side. Handrails shall be placed not less than 30 inches nor more than 34 inches above the nosing of treads. They shall be continuous the full length of the stairs and except for private stairways at least one handrail shall extend not less than 6 inches beyond the top and bottom risers. Ends shall be returned or shall terminate in posts of safety terminals.

The handgrip portion of handrails shall be not less than 1 and 1/2 inches nor more than 2 inches in cross-sectional dimension or the shape shall provide an equivalent gripping surface. The handgrip portion of handrails shall have a smooth surface with no sharp corners.

Handrails projecting from a wall shall have a space of not less than 1 and 1/2 inches between the wall and the handrail.

CODE REQUIREMENTS (cont.)

EXITS:

NUMBER OF EXITS: Every building or usable portion thereof shall have at least one exit. not less than two exits when necessary. This building according to the UBC is required to have two usable public exits.

The second story shall be provided with not less than two exits when the occupant load is 10 or more.

ARRANGEMENT OF EXITS: If only two exits are required, they shall be placed a distance apart equal to not less than one half of the length of the maximum overall diagonal dimension of the building or area to be served measured in a straight line between exits.

DISTANCE TO EXITS: The maximum distance of travel from any point to an exterior exit door, horizontal exit passageway or an enclosed stairway in a building not equipped with an automatic sprinkler system throughout shall not exceed 150 feet, or 200 feet in a building equipped with an automatic sprinkler device.

OCCUPANCY:

DINING: 130
LOUNGE: 80

AISLES:

AISLE WIDTH: Aisles shall not be less than 34 inches in clear width. When an aisle is divided by a portal, column or other obstruction, a minimum aisle clear width of 22 inches shall be provided on each side of such obstructions.

RESTROOMS:

RESTROOM OCCUPANCY: There must be one restroom stall for every 50 patrons in a lounge or restaurant area. Handicapped access must be provided for each sex.

ELEVATORS:

DOOR SIZE: Minimum clear width for elevator doors shall be 36 inches.

CAR INSIDE: The car inside shall allow for the turning of a wheelchair. The minimum clear distance between walls or between wall and door, excluding return panels, shall be not less than 68 inches by 54 inches. Minimum distance from wall to return panel shall be not less than 51 inches.

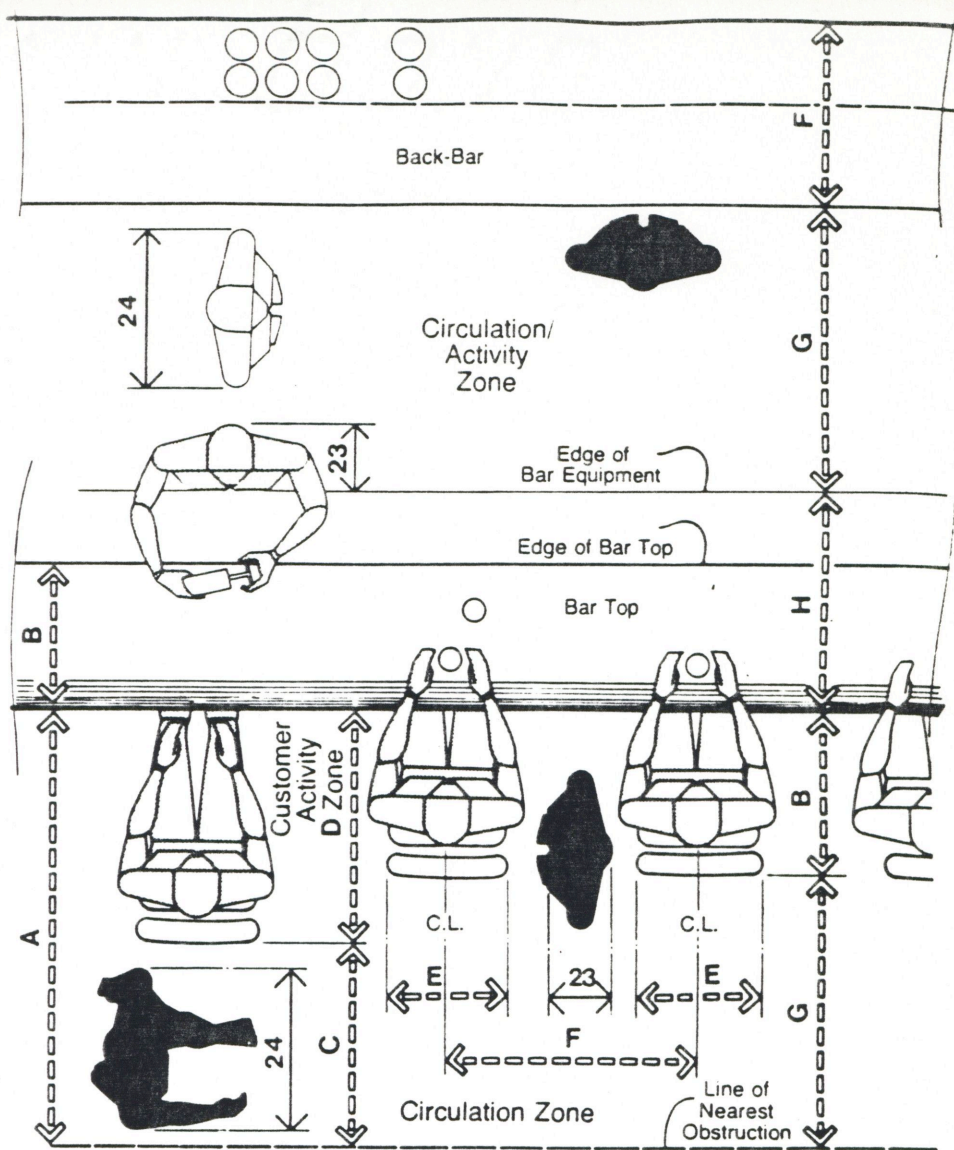
FLOOR COVERING: Floor covering shall have a non-slip hard surface which permits easy movement of wheelchairs.

HUMAN
DIMENSIONS

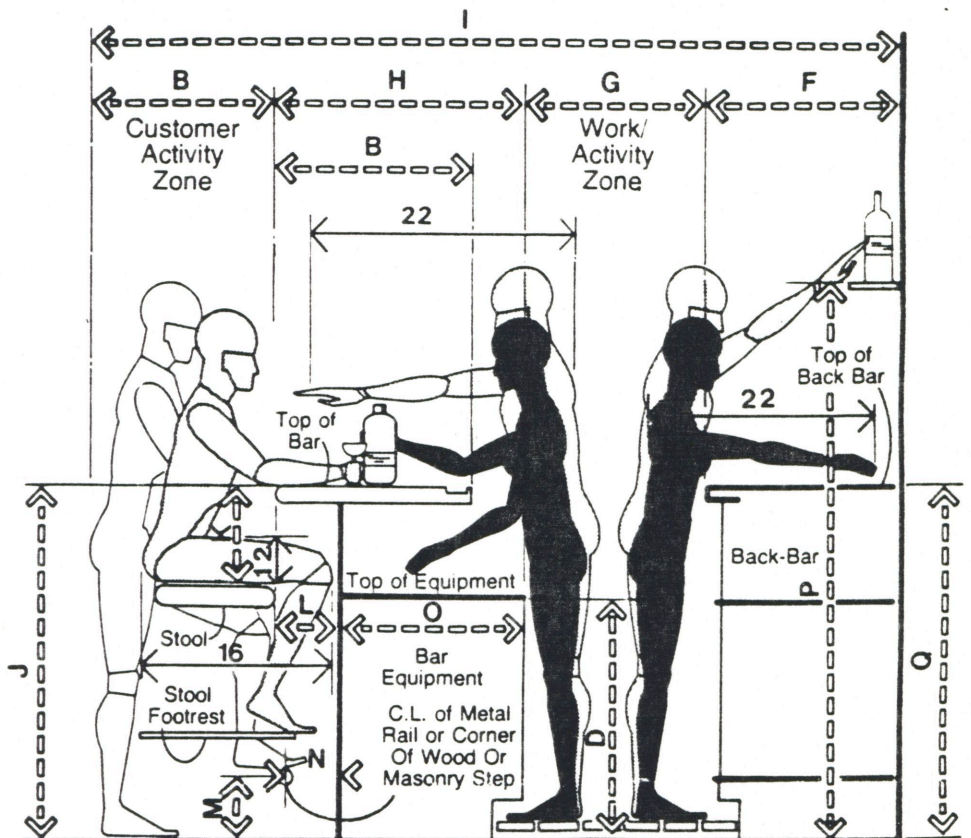
The distance between bar and back-bar should allow adequate workspace. A minimum of 36 in, or 90 cm, should provide space for one bartender to serve and another to circulate behind him. Maximum body depth and maximum body breadth are the primary anthropometric considerations in establishing clearance. A one-bartender operation would require a 30-in, or 75-cm, clearance.

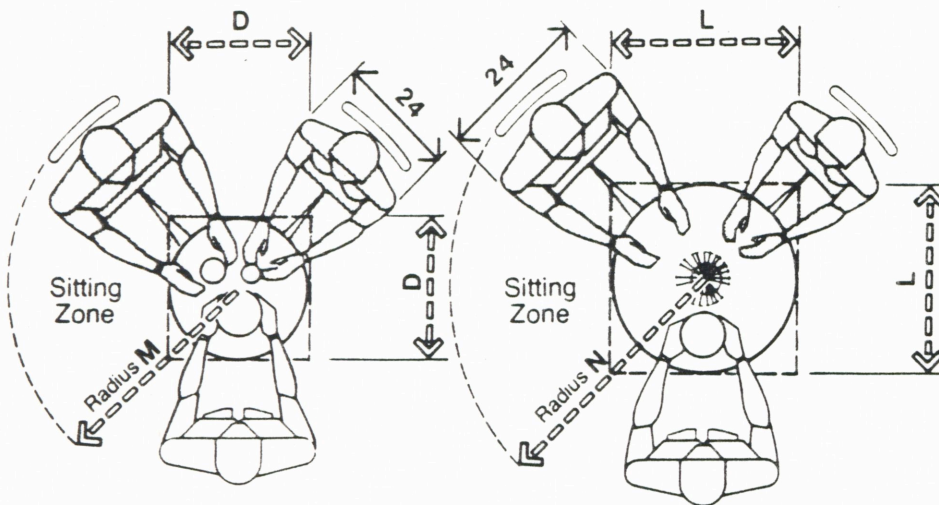
In regard to bar stools, clearance between the stool seats is more critical than center line spacing, and it should allow patrons of larger body size a comfortable side approach and departure from the stool without body contact with the next person. A 12-in, or 30-cm, wide stool on 24-in, or 61-cm, centers, which is quite common, will allow only less than 5 percent of male users access to the stool without disturbing the next patron, while a 30-in, or 75-cm, spacing will accommodate 95 percent of the users. The tradeoff, however, would be the loss of two seats for every 120 in, or 300 cm, of bar length. A spacing of 12-in stools on 28-in, or 70 cm, centers is suggested as a compromise. The ultimate decision is an individual one and must reconcile human factors with economic viability.

	in	cm
A	54	137.2
B	18-24	45.7-61.0
C	24	61.0
D	30	76.2
E	16-18	40.6-45.7
F	24-30	61.0-76.2
G	30-36	76.2-91.4
H	28-38	71.1-96.5
I	100-128	254.0-325.1
J	42-45	106.7-114.3
K	11-12	27.9-30.5
L	6-7	15.2-17.8
M	7-9	17.8-22.9
N	6-9	15.2-22.9
O	22-26	55.9-66.0
P	60-69	152.4-175.3
Q	36-42	91.4-106.7



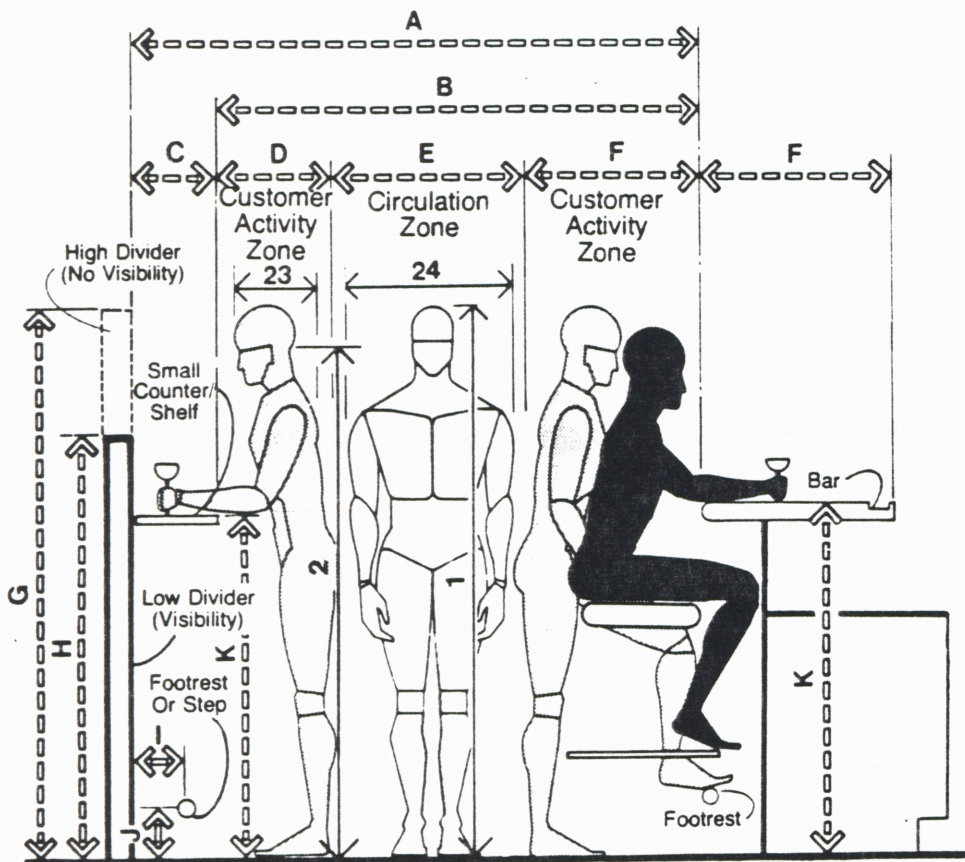
BAR AND BACK-BAR





COCKTAIL TABLES / SEATING FOR TWO

	in	cm
A	76-84	193.0-213.4
B	66-72	167.6-182.9
C	10-12	25.4-30.5
D	18	45.7
E	30	76.2
F	18-24	45.7-61.0
G	76	193.0
H	54-56	137.2-142.2
I	6-9	15.2-22.9
J	7-9	17.8-22.9
K	42-45	106.7-114.3
L	24	61.0
M	29-33	73.7-83.8
N	32-36	81.3-91.4



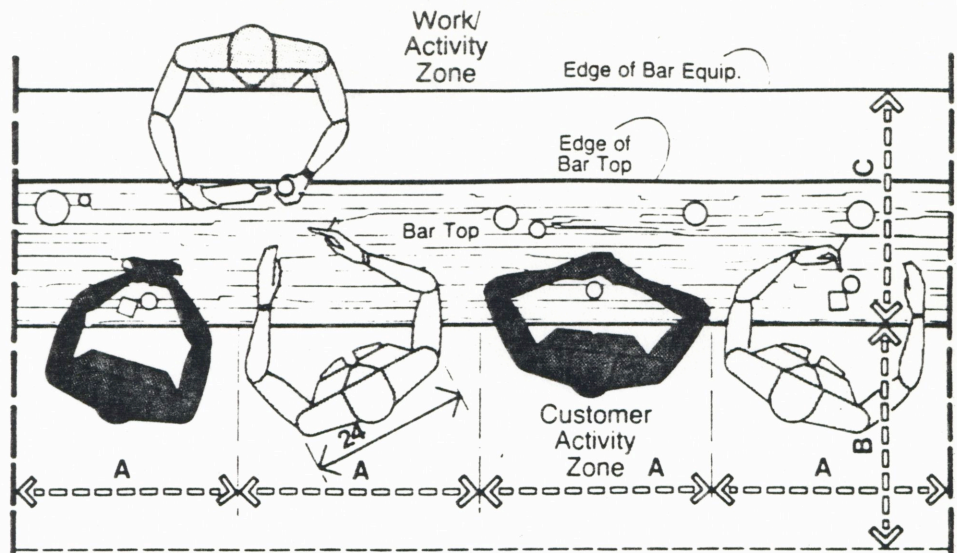
BAR / CLEARANCES PUBLIC SIDE

To ensure proper circulation and interface, adequate clearances in front of the bar are illustrated in the top drawing. A customer activity zone of 18 to 24 in, or 45.7 to 61.0 cm, should be provided to allow for seating, standing, and access, in addition to a general circulation zone of at least 30 in, or 76.2 cm. If a supplementary drinking surface or shelf is provided, a smaller activity zone of 18 in is suggested in front of the shelf. The shelf can be 10 to 12 in, or 25.4 to 30.5 cm, deep. The bottom drawing shows suggested clearances for 18 or 24 in cocktail tables.

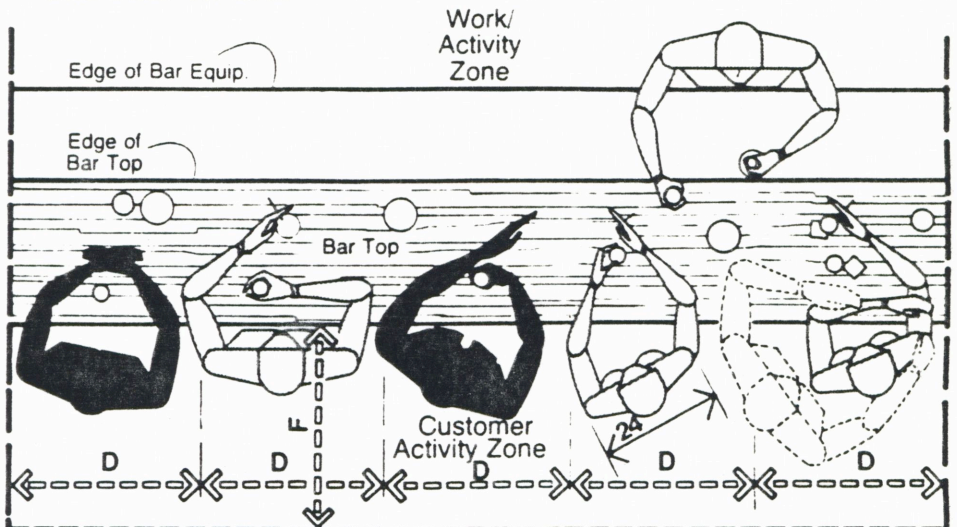
Bar seating is a classic example where hidden dimensions, as well as anthropometric factors, must be considered in determining seat spacing. Cultural differences, for example, may dictate proximity between patrons. In one instance closeness may cause discomfort for patrons, and in another case it may be desirable. The density of people and the spacing of seats also impact on social interaction; the greater the density, the greater the probability of such interaction. The drawings, however, deal essentially with the anthropometrics involved and the possible density models. The top drawing illustrates a low-density situation, based on one seated or standing patron per 30 in, or 76.2 cm, of bar length. Such a density model would preclude body contact, allow comfortable changes in body position, and ensure relative privacy.

The center drawing illustrates a medium density model, based on 24-in, or 61-cm, spacing; takes occasional pairing into account, as shown by the dotted figure; and allows for occasional body contact and territorial intrusion. The bottom drawing illustrates a high-density model, with patrons standing two to three deep and a density factor of over 1.5 patrons per 12 in, or 30 cm, of bar length.

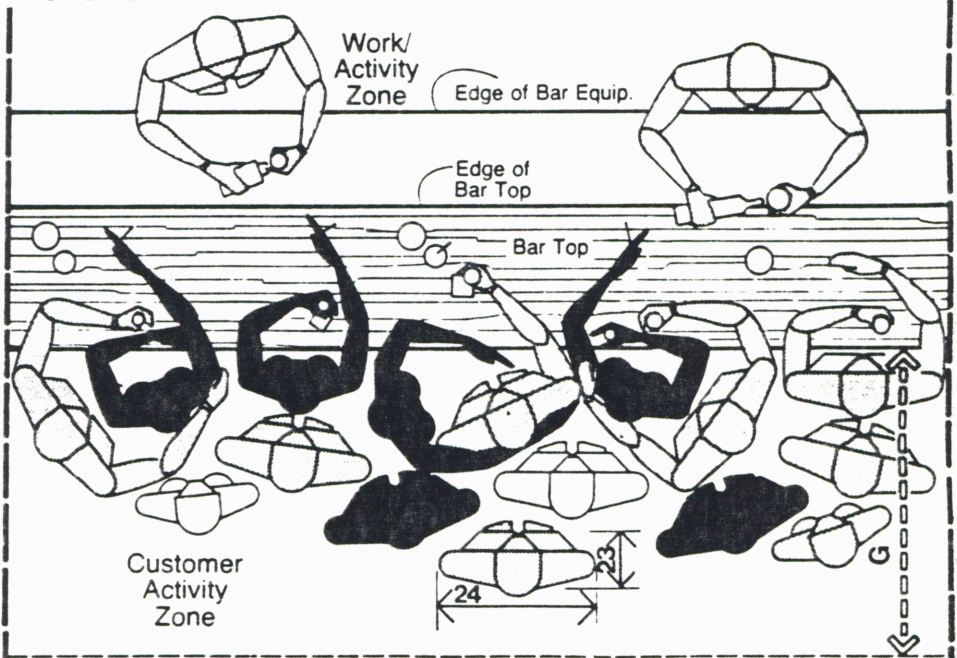
	in	cm
A	30	76-2
B	24-30	61.0-76.2
C	28-38	71.1-96.5
D	24	61.0
E	120	304.8
F	18-30	45.7-76.2
G	36-54	91.4-137.2



1. BAR DENSITY PLAN/0.4 PER 12 IN (30.5 CM) OF BAR LENGTH
ONE DEEP AT BAR



2. BAR DENSITY PLAN/0.5 TO 0.7 PER 12 IN (30.5 CM) OF BAR LENGTH
ONE DEEP AT BAR



3. BAR DENSITY PLAN/1.5 TO 2.0 PER 12 IN (30.5 CM) OF BAR LENGTH
TWO TO THREE DEEP AT BAR

The place setting is made up of a studied arrangement of dinnerware and related accessories. During the dining process, it is transformed into a state of disarray, covering a larger zone of the table than at the beginning. This expanded zone occupies a minimum area of 14 by 24 in, or 35.6 by 61 cm. The first group of drawings figuratively labeled shows these zones in relation to tables of varying depth, but of constant minimal width of 24 in, or 61 cm. The center strips represent the surface available for serving dishes, flowers, etc. If we allow for the intrusion of these elements into contiguous zones, a depth of only 40 in, or 101.6 cm, is adequate for their comfortable placement.

In the lower group of drawings these same zones are applied to a 30-in, or 76.2-cm, width. This is related to the maximum body movement involved in the dining activity. Etiquette aside, a 24-in width will allow the arms of the larger user to project beyond the table into circulation lanes. The authors contend that a 30 by 40 in, or 76.2 by 101.6 cm, table is the optimum size to comfortably accommodate two people. The 30-in dimension corresponds to human body breadth. The 40-in dimension allows sufficient room for place setting and accommodates horizontal reach.

	in	cm
A	66-78	167.6-198.1
B	18-24	45.7-61.0
C	30	76.2
D	14	35.6
E	2	5.1
F	24	61.0
G	72-84	182.9-213.4
H	36	91.4
I	16	40.6
J	4	10.2
K	76-88	193.0-223.5
L	40	101.6
M	8	20.3

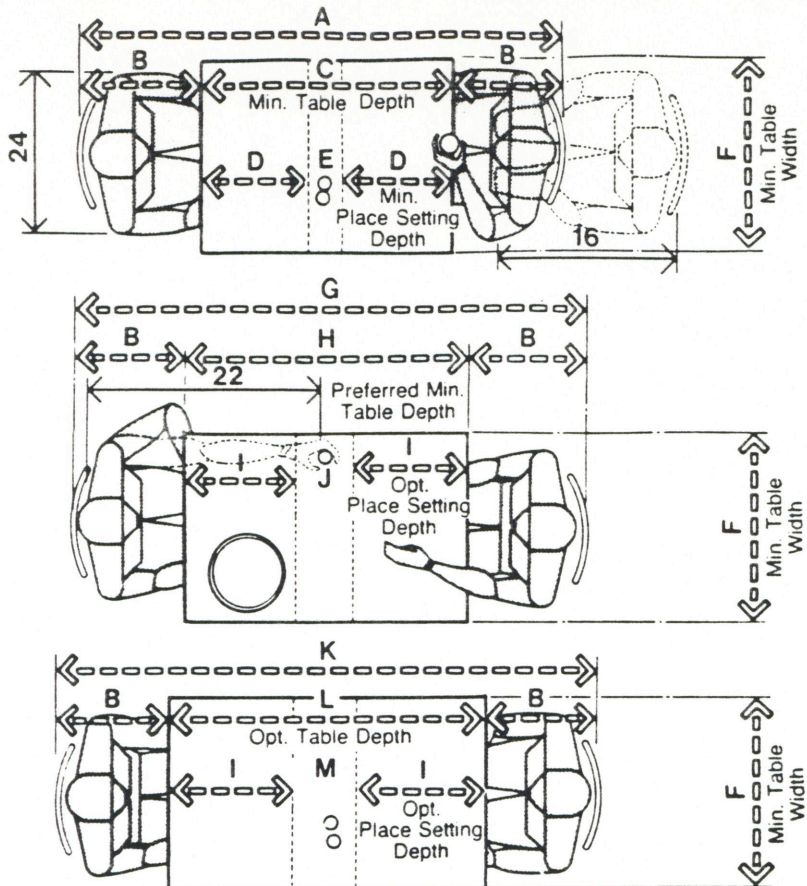
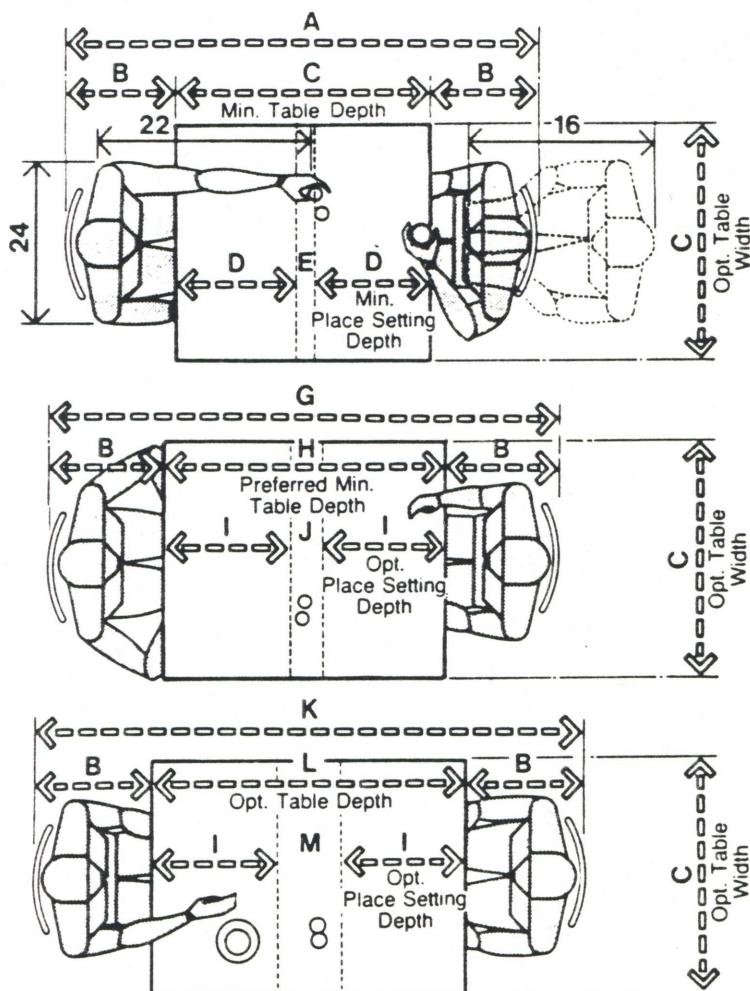
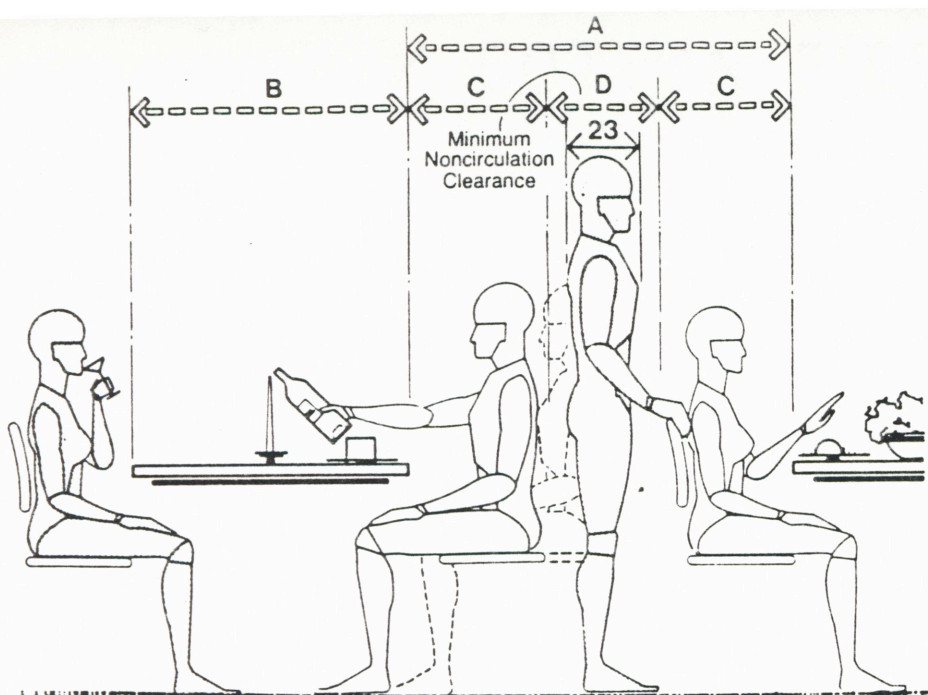


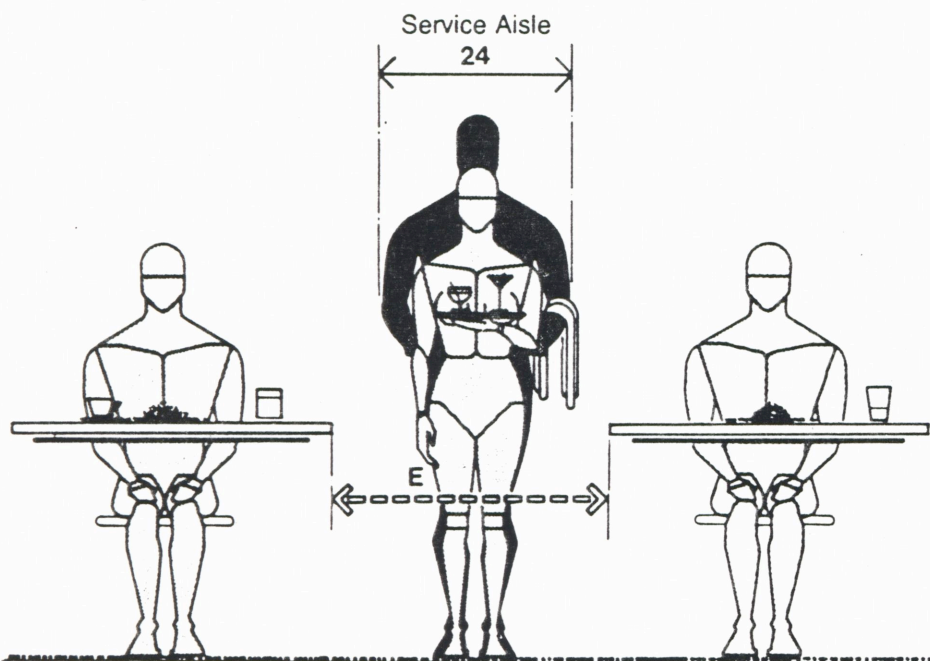
TABLE SIZES/MINIMUM TABLE WIDTH WITH MINIMUM, PREFERRED MINIMUM, AND OPTIMUM TABLE DEPTHS



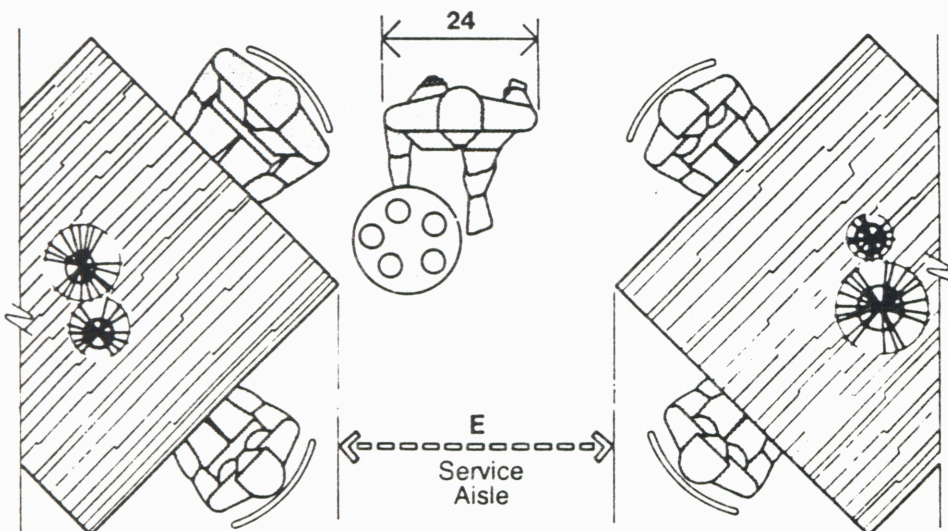
43 TABLE SIZES/OPTIMUM TABLE WIDTH WITH MINIMUM, PREFERRED MINIMUM, AND OPTIMUM TABLE DEPTHS



TABLES / MINIMUM CLEARANCE AND NONCIRCULATION ZONES



SERVICE AISLE / CLEARANCE BETWEEN TABLES

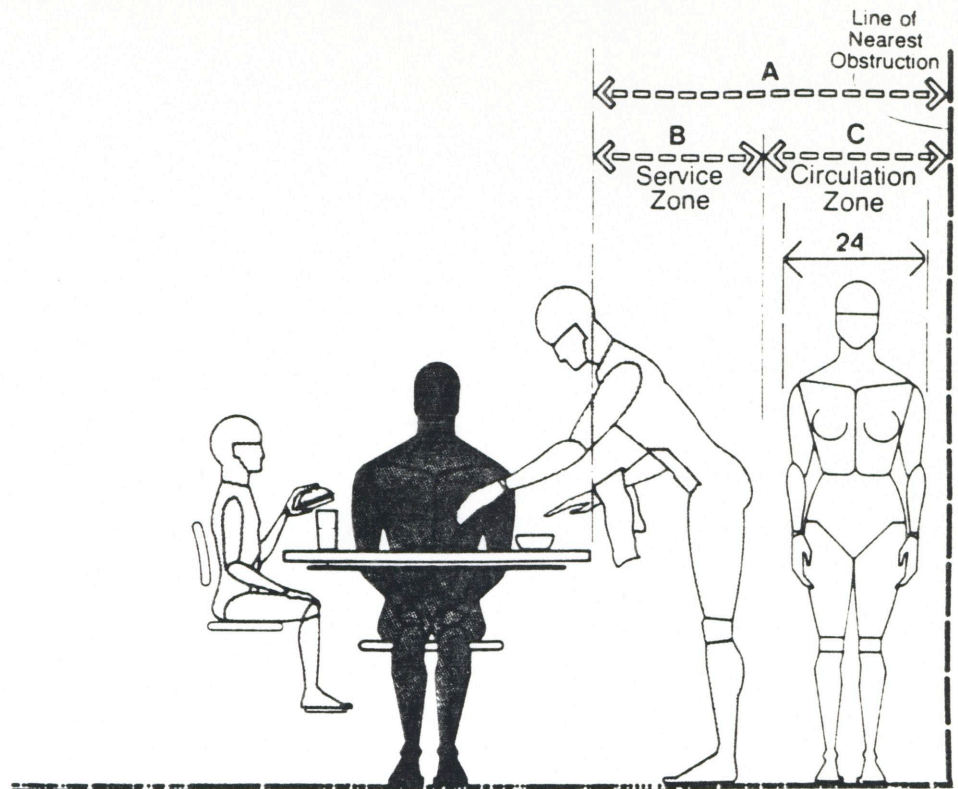


SERVICE AISLE / CLEARANCE BETWEEN TABLE CORNERS 44

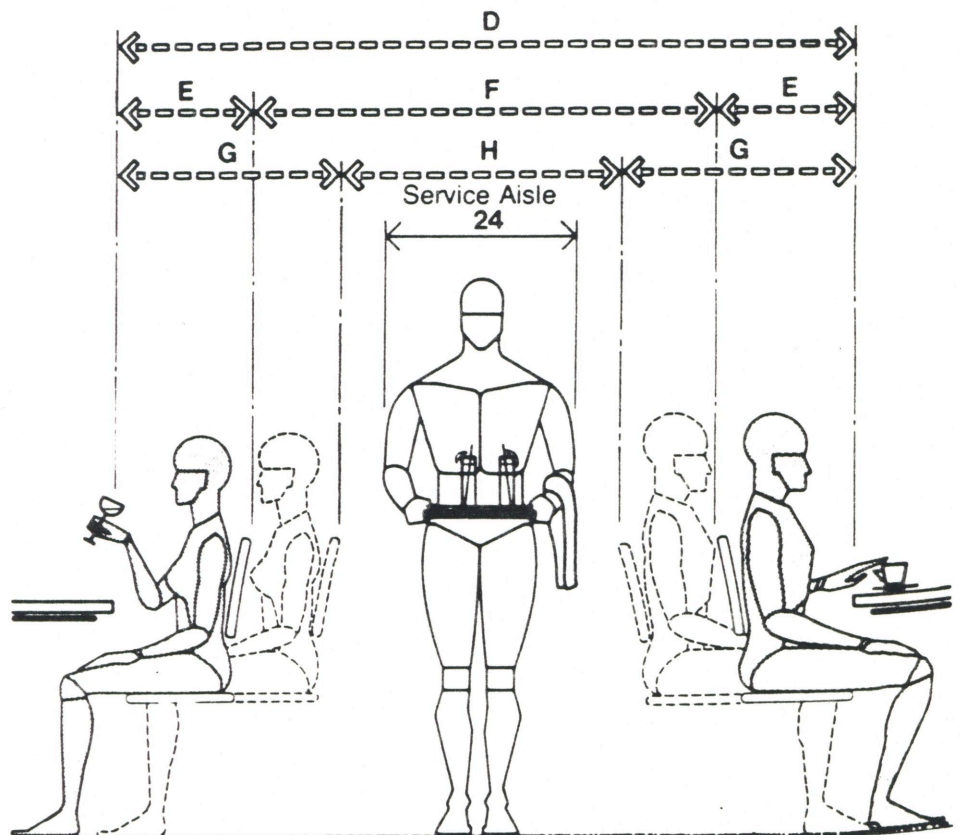
In certain table arrangements, chairs of two adjacent tables may be located back to back and some clearance between them must be provided. This clearance would not be for purposes of public circulation or service, but simply to allow access to the chair. A minimum clearance of 18 in, or 45 cm, from chair to chair, as indicated in the top drawing, or a minimum clearance of 54 in, or 137.2 cm, between tables would be adequate. A 66-in, or 167.7-cm, clearance between tables is preferred. The minimum recommended clearance for a service lane is 36 in, or 91.4 cm, as illustrated in the drawings at the center and bottom. Should the diagonal arrangement in the bottom drawing involve smaller tables, the chairs may project beyond the corners of the table. However, the integrity of the 36-in clearance should be maintained. If the chairs do project, the clearance should be measured between the chairs and not the table corners.

	in	cm
A	54-66	137.2-167.6
B	30-40	76.2-101.6
C	18-24	45.7-61.0
D	18	45.7
E	36	91.4

The top drawing shows minimal clearance for a combined service and circulation aisle in a low-volume operation. It should be noted that the width indicated will not accommodate two lanes. Either the waiter or customer would have to step aside to avoid body contact. In a high-volume operation, with long aisle lengths, such a clearance would be inadequate. The bottom drawing illustrates a situation where chairs abut a service aisle. The drawing is not intended to serve as a standard for aisle clearance, but merely to indicate all factors involved in establishing that clearance, including intrusions of the chairs into the aisle space. The chair may be relocated as many as four times during the course of the meal. At the beginning, it is much closer to the table. Near the end of the meal in an attempt to relax, one may move the chair away from the table about 24 in. or 61 cm. During intimate conversation it may be brought even closer to the table. Finally, in rising from the chair at the conclusion of the meal, its final location may be as much as 36 in. or 91.4 cm. away. If all intrusions are considered, the clearance between tables could total as much as 108 in. or 274.3 cm, which may prove uneconomical. Yet, to ignore the intrusions would be unrealistic. The authors suggest that, as a reasonable compromise, a clearance between tables of 84 in. or 213.4 cm, be used for preliminary design assumptions.

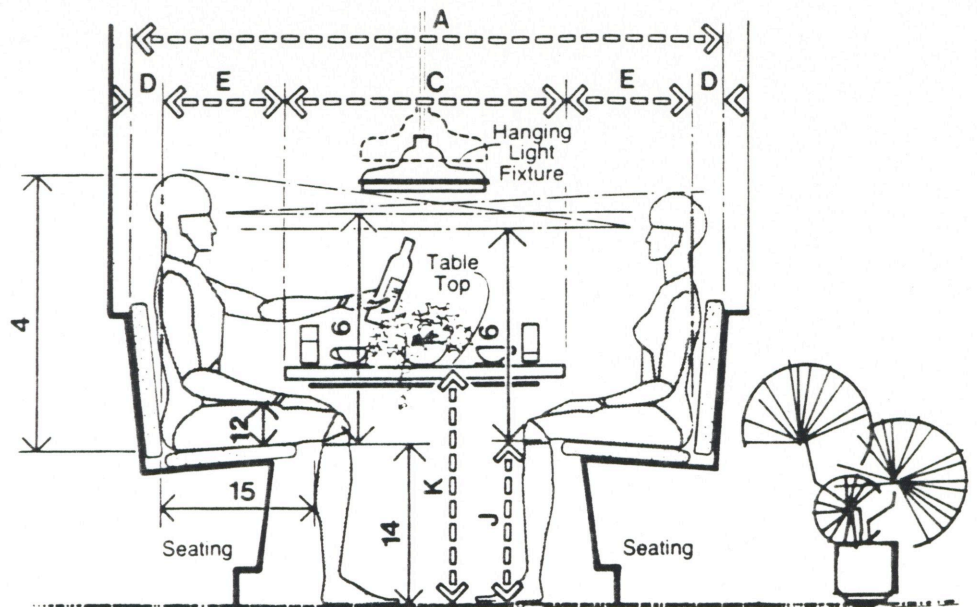


TABLES / CLEARANCE FOR WAITER SERVICE AND CIRCULATION



	in	cm
A	48	121.9
B	18	45.7
C	30	76.2
D	96-108	243.8-274.3
E	18-24	45.7-61.0
F	60	152.4
G	30-36	76.2-91.4
H	36	91.4

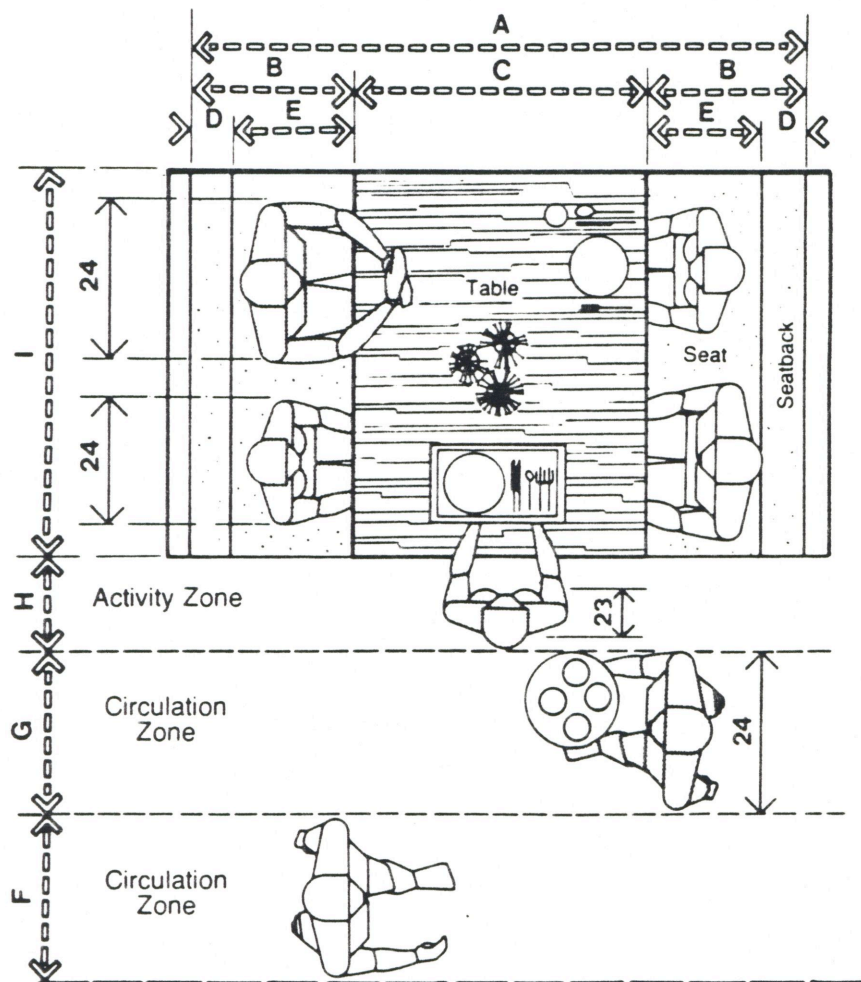
	in	cm
A	65-80	165.1-203.2
B	17.5-20	44.5-50.8
C	30-40	76.2-101.6
D	2-4	5.1-10.2
E	15.5-16	39.4-40.6
F	30	76.2
G	36	91.4
H	18	45.7
I	48-54	121.9-137.2
J	16-17	40.6-43.2
K	29-30	73.7-76.2



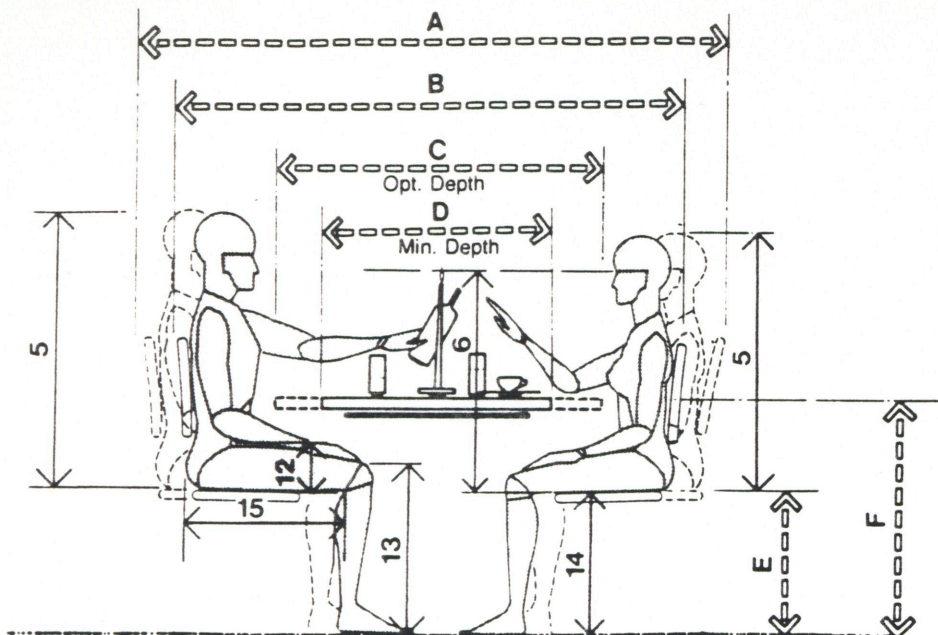
BOOTH SEATING

Booths, particularly in situations where both the seating and the table are fixed, provide no margin for individual adjustment. This lack of flexibility makes it essential that the anthropometric aspects of the design be considered closely. The height of the compressed seat should reflect popliteal height data; the depth of the seat, buttock-popliteal length data; the distance from the top of the seat to the underside of the table, thigh clearance data; the height of the booth or that of a hanging light fixture above the table top, eye-height sitting data; and the width of the seat, maximum body breadth data.

Equally important is the relation of human dimensions to the aisle for clearance of public and service circulation. The two drawings illustrate in both plan and section some of the basic anthropometric considerations involved.

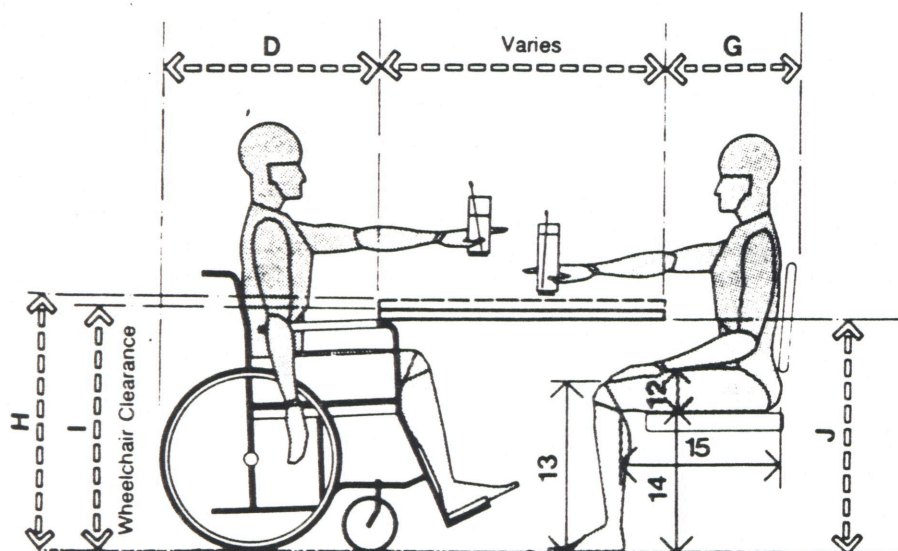


BOOTH SEATING AND CIRCULATION CLEARANCES



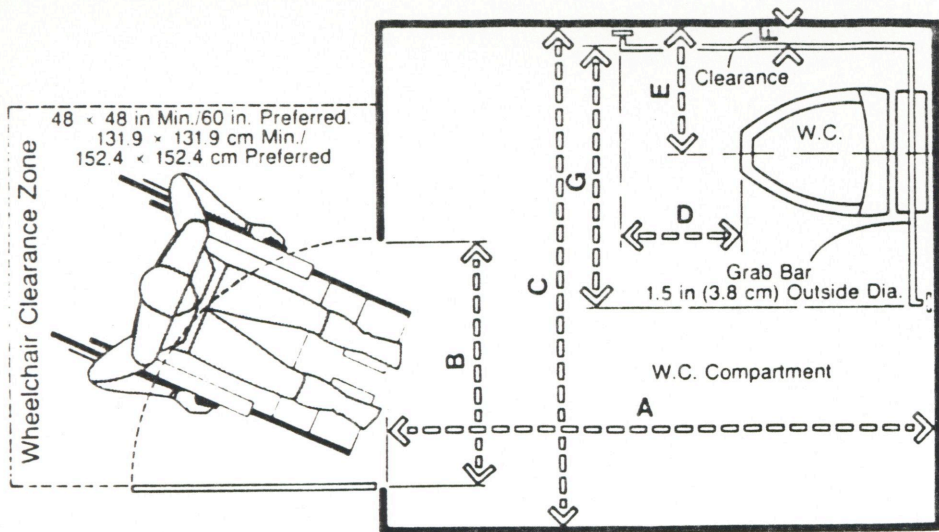
**TABLES/MINIMUM AND OPTIMUM DEPTHS/
VERTICAL CLEARANCES**

Both drawings deal with the height and clearance of dining tables. The top drawing relates to the plans on the preceding page and illustrates a 30- and a 40-in, or a 76.2- and a 101.6-cm, table. The portions of the drawing shown in dotted line reflect the 40-in table. The bottom drawing deals with wheelchair access to a dining table. Clearance from the floor to the underside of the table is critical if the wheelchair-bound diner is to be accommodated. Unfortunately, conflicting requirements, depending on the source consulted, show this dimension to be 29 or 30 in, or 72.5 or 75 cm. The American National Standards Institute (ANSI) indicates the required height of the armrest from the floor to be 29 in, or 72.5 cm. Some state legislation requires 30 in, or 75 cm, to the underside of the table. Unfortunately, a 30-in dimension would place the top of the table surface at about 31 in, or 78.7 cm. Such a height would not comfortably accommodate able-bodied diners of smaller size. To raise the seat height would cause the feet of the smaller user to dangle unsupported, and footrests would be somewhat impractical in a public space. Since armrest heights of many wheelchairs do not, in fact, exceed 29 in, or 72.5 cm, and since most models have removable or adjustable arms, the authors recommend a 29-in clearance, instead of 30 in. Such a dimension will accommodate both handicapped and able-bodied users.

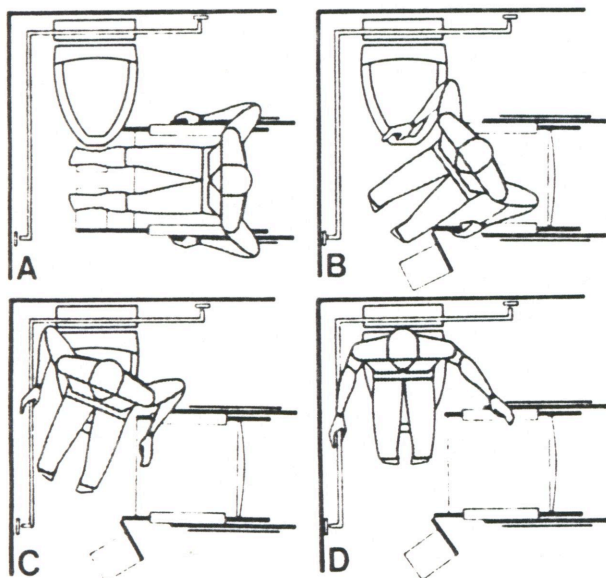


TABLES / WHEELCHAIR CLEARANCE

	in	cm
A	76-88	193.0-223.5
B	66-78	167.6-198.1
C	40	101.6
D	30	76.2
E	16-17	40.6-43.2
F	29-30	73.7-76.2
G	18-24	45.7-61.0
H	31	78.7
I	30 min.	76.2 min.
J	29 min.	73.7 min.

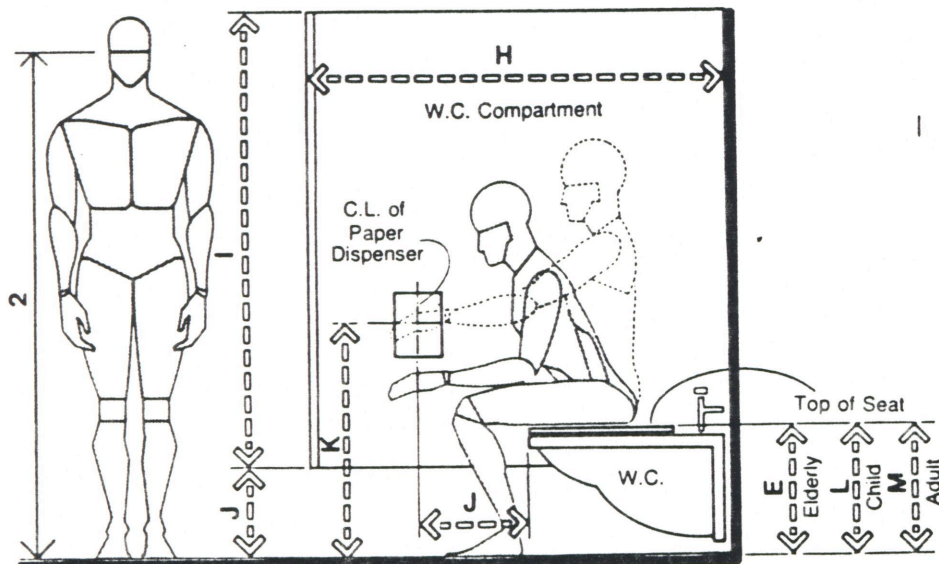


WATER CLOSET COMPARTMENT/ SIDE APPROACH TRANSFER



- A** User Approaches W.C. From the Side
- B** Chair Armrest Is Removed and Footrest Is Swung to Side for Clearance. For Stability and Leverage, One Hand Is Placed on W.C. Seat or Grab Bar and the Other on Chair. Transfer Movement Begins
- C** User Lifts, Slides, and Rotates onto W.C. Seat
- D** Transfer Is Complete. Body Stability Is Maintained by Grasping Grab Bar and Seat of Chair

TECHNIQUE FOR SIDE APPROACH TRANSFER

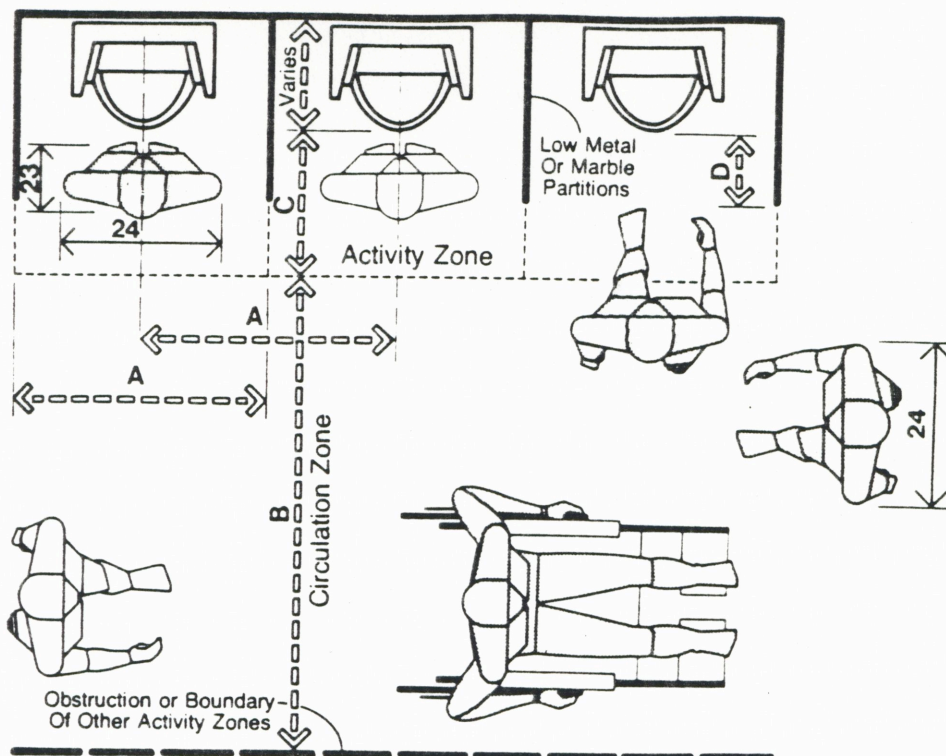


WATER CLOSET

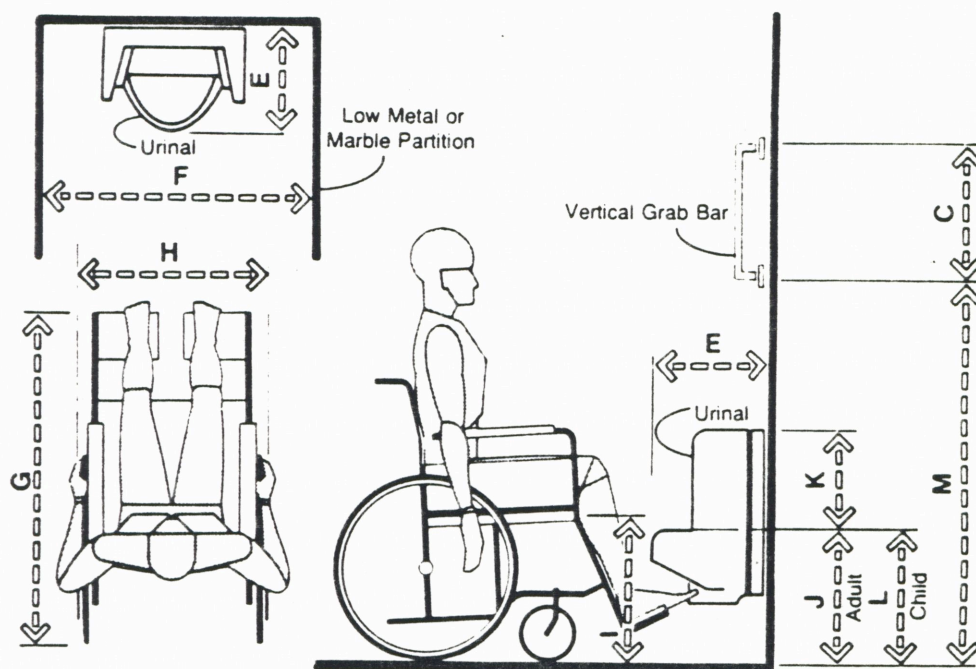
Rather than the front transfer approach discussed on the preceding page, a more comfortable access to the W.C. for the wheelchair user is the side approach transfer. The top drawing shows the minimum compartment dimensions for such a transfer: 66 by 72 in, or 167.6 by 182.9 cm. To appreciate the problems faced by those confined to a wheelchair in gaining access to rest room facilities, it is necessary to understand something of the transfer process. The center drawing attempts to break down that process into four basic movements; techniques will vary from user to user, but the process is essentially as illustrated. The bottom drawing shows some of the basic heights and clearances to be considered in a conventional W.C. compartment. Note that different heights for the W.C. are suggested in response to the anthropometric requirements of elderly people and children.

	in	cm
A	72 min.	182.9 min.
B	32	81.3
C	66 min.	167.6 min.
D	18 min.	45.7 min.
E	18	45.7
F	1.5 min.	3.8 min.
G	36	91.4
H	54 min.	137.2 min.
I	58	147.3
J	12	30.5
K	30 max.	76.2 max.
L	10	25.4
M	14-15	35.6-38.1

Stall urinals are available for battery installations on 21-in, or 53.3-cm, centers. The authors contend that such spacing will not properly accommodate the majority of users. The larger-sized person has a maximum clothed body breadth dimension of almost 26 in, or 66 cm. Postures assumed while urinating, in addition to the space taken up by partially opened garments, will increase this dimension even more. Given the anthropometric realities and consideration of personal space, a 32-in, or 81.3-cm, spacing is more responsive to human factors. The stall partition should extend 8 to 10 in, or 20.3 to 25.4 cm, beyond the face of the urinal, and an activity zone of 18 in, or 45.7 cm, in front of the fixture should be assumed. A circulation zone of 54 in, or 137.2 cm, will allow for pedestrian and wheelchair traffic. Urinal stalls for wheelchair users should be a minimum of 36 in, or 91.4 cm, wide for proper access. Minimum toilet stall dimensions required for a front transfer approach by the wheelchair user are 42 by 72 in, or 106.7 by 182.9 cm. A wheelchair clearance zone should be provided in front of the stall.



URINAL LAYOUT



URINAL LAYOUT / CHAIRBOUND USER

	in	cm
	32	81.3
B	54	137.2
C	18	45.7
	8-10	20.3-25.4
E	14 min.	35.6 min.
F	36 min.	91.4 min.
	42	106.7
	25	63.5
I	19	48.3
	17 max.	43.2 max.
	12 min.	30.5 min.
L	14 max.	35.6 max.
	48	121.9

CASE STUDIES

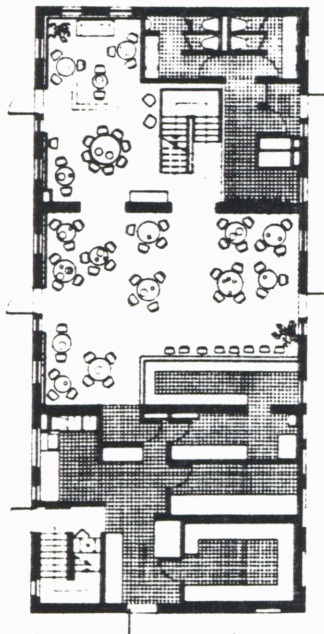
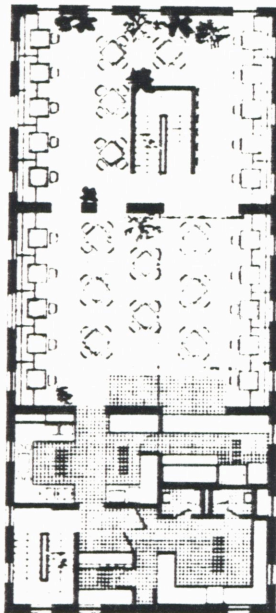
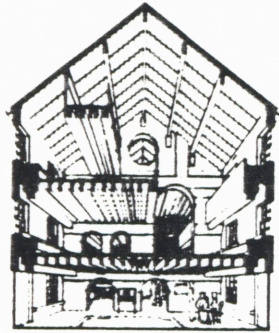
PROJECT: Charthouse
ARCHITECT: Anderson Notter Assoc.
LOCATION: Boston

INTRODUCTION: A warehouse in Boston was converted into a restaurant.

ANALYSIS: This building contains a three-story interior space. The exterior could not be altered due to it's historical significance. The interior is largely unchanged in it's essential character.

IMPLICATIONS: This interior relates to my project in that the designer reused materials from existing walls that were removed in their final design to maintain the historical integrity of the interior. The original use of the warehouse was also capitalized.

Chart House, 60 Long Wharf, Boston
Architects: Anderson Notter Associates

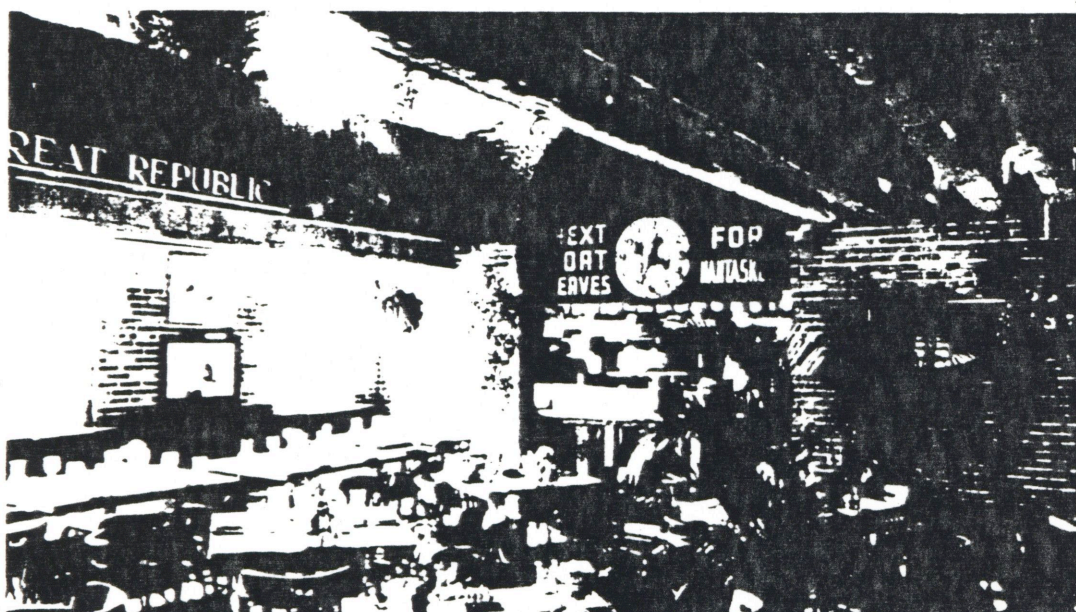
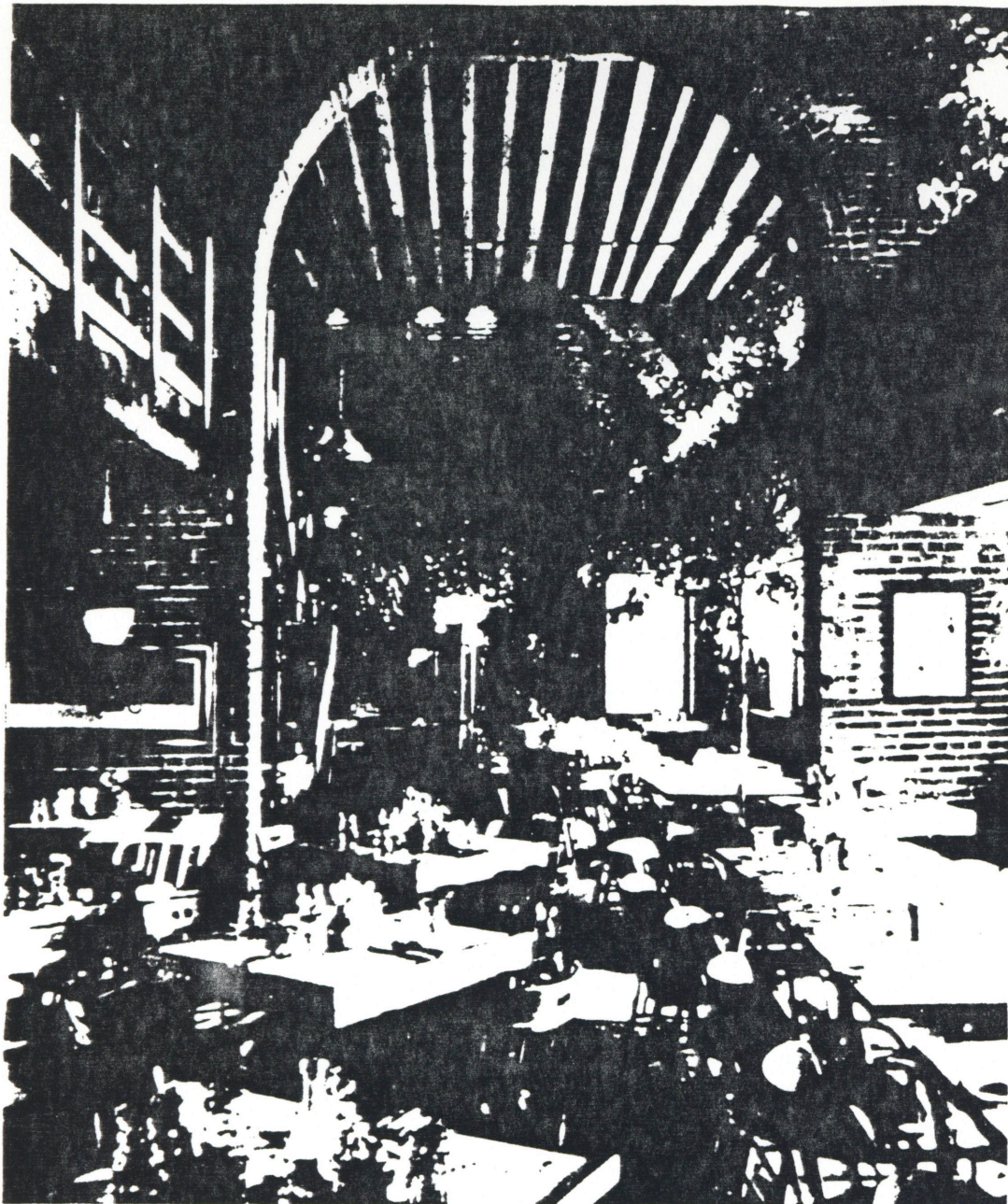


A major clearance and renovation programme carried out in the old harbour area of Boston made a number of buildings on the harbour and the pier available for re-utilisation, whereby the historical preservation authorities stipulated that the exterior must not be changed or that it must be restored following the old plans. The Chart House restaurant chain was given permission to convert a warehouse dating from the early 18th century and located directly on the water-front.

The building is three storeys high with internal walls dividing it into three sections. The walls are brick and the roof is a heavy wood structure. Differently shaped and sized openings were made in the internal walls to interlink the three rooms, and the waste material used to make brickwork arches. All the old pieces of wood and beam which were taken down were also re-utilised, so that the essential character of the interior has remained very largely unchanged.

The architects were requested to emphasise the specific nature of the warehouse and its location on the harbour. Captain's chairs and other accessories give a nautical air. Indirect lighting connected to the ventilation pipes along the outer walls plays on the brickwork, giving a soft, warm atmosphere. Small intimate areas contrast with the big two-storey dining area which connects them. The free-standing staircase leading to the mezzanine floor and gallery has also sub-divided the rear area into zones of different size. Lettering, plants and carpets add to the general atmosphere of comfort and relaxation.

1. Plans (ground floor, upper floor) and perspective section.



PROJECT: DaVinci's
ARCHITECT: Alan Phillips Assoc.
LOCATION: Scotland

INTRODUCTION: A wood-turning workshop was remade into a restaurant/lounge.

ANALYSIS: The use of interplay between old and new materials was used in this interior. The main substance of the building was preserved by the use of the original materials. The two-story space in the interior was linked to the upper floor by opening up the second-floor to enable a two-story view.

IMPLICATIONS: The County Jail is also a reuse of an older building and in my project I am also using a mix of old and new in order to preserve the historical sense of the interior as well as up-date this space. The two-story dining space in The County Jail is also tied into the lounge area by a penetration from the second floor to the first.

PROJECT: 41st Precinct
ARCHITECT: Hochheiser-Elias Design Group
LOCATION: New York

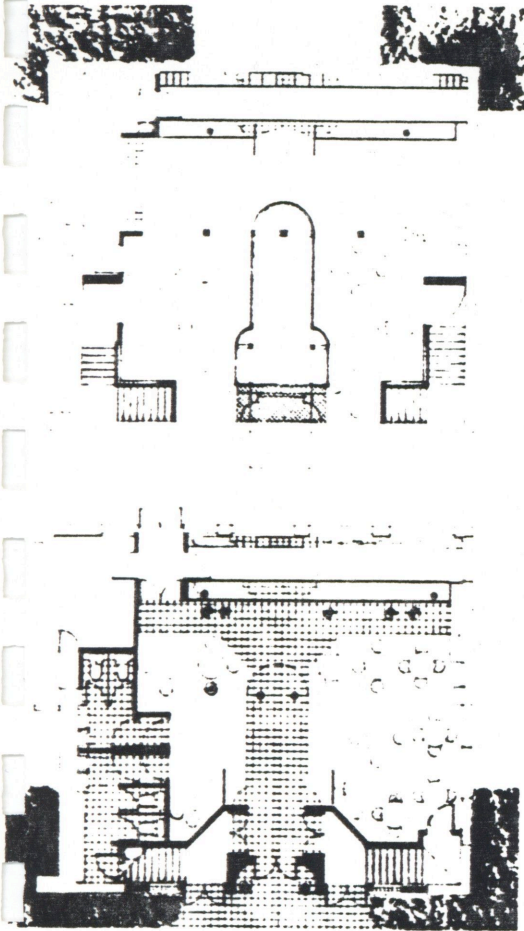
INTRODUCTION: A restaurant takes on the theme of a turn-of-the-century police station.

ANALYSIS: The jail logo is carried out through this restaurant by the use of bars to divide the spaces, a shield shaped exterior logo, and theme related prints on the walls.

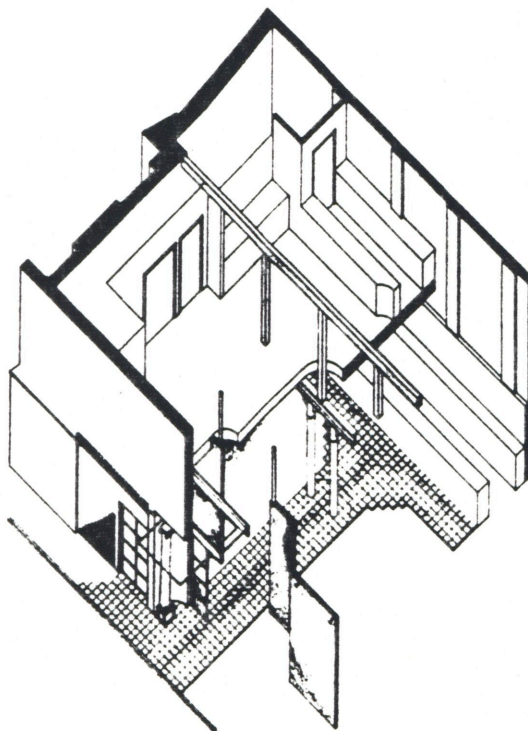
IMPLICATIONS: This case study was taken as a "what not to do" situation. I feel that the way the theme was carried throughout the restaurant was tacky and overly obvious. The theme was incorporated in these spaces by the use of surface decoration. No new architectural elements that would support this theme were introduced. I feel that this was an example of poor design.

**Da Vinci's, East Henderson's Wynd, Dundee,
Scotland**

Architects: Alan Phillips Associates



The building which houses Da Vinci's restaurant used to hold a wood-turning workshop. To achieve as effective as possible an interplay of old and new the substance of the building has largely been preserved. The ground floor is a bar with room for about 60, upstairs is a restaurant to seat the same number. The two stories are linked through an opening in the ceiling, on an axis with the entrance; light enters through three windows in the roof, is filtered by hanging plants and penetrates to the lower floor. Details such as the two decorative classical columns on each side of the centre door, a reference to the name of the restaurant and its Italian owner, the opening in the ceiling and the tiled area beneath, the triangular spaces filled with glass bricks near the stairs and last not least the lettering in bent neon tubular lighting all give the restaurant a "post-modern" touch and at the same time revive a British tradition which has been dormant for decades. The upper floor with its tubular steel chairs and glass tables is light and airy, but the lower floor with its black woodwork and brown tiles is darker and more intimate. The room is lit by round globes on the walls and ceiling lights with transparent shades and mirrored bulbs.



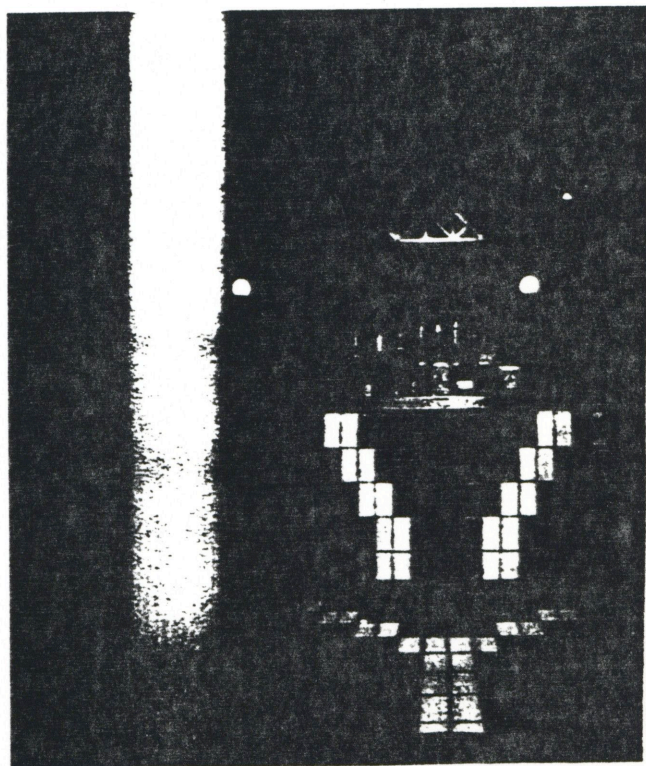
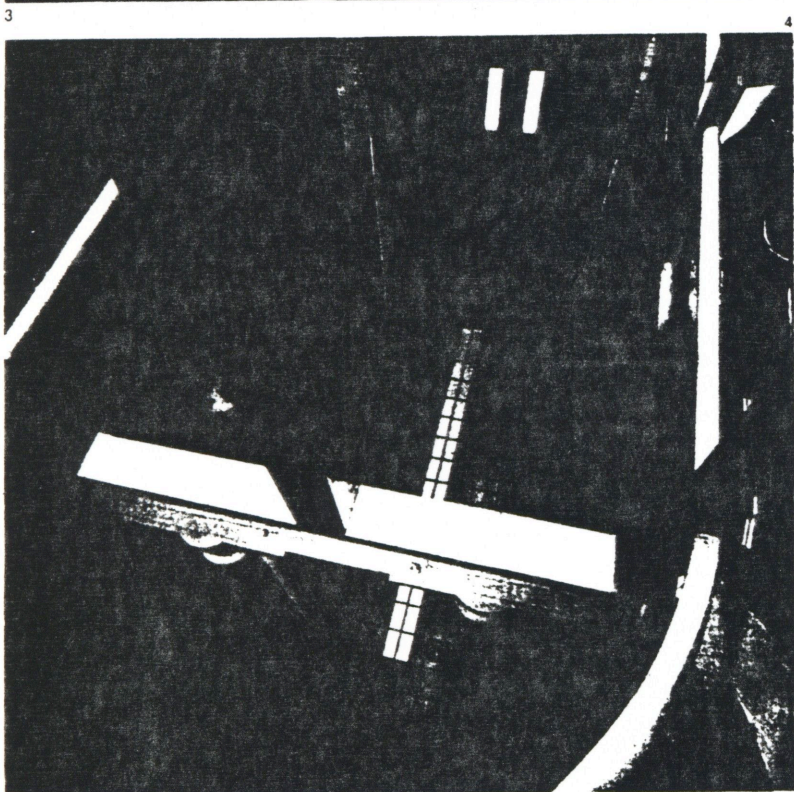
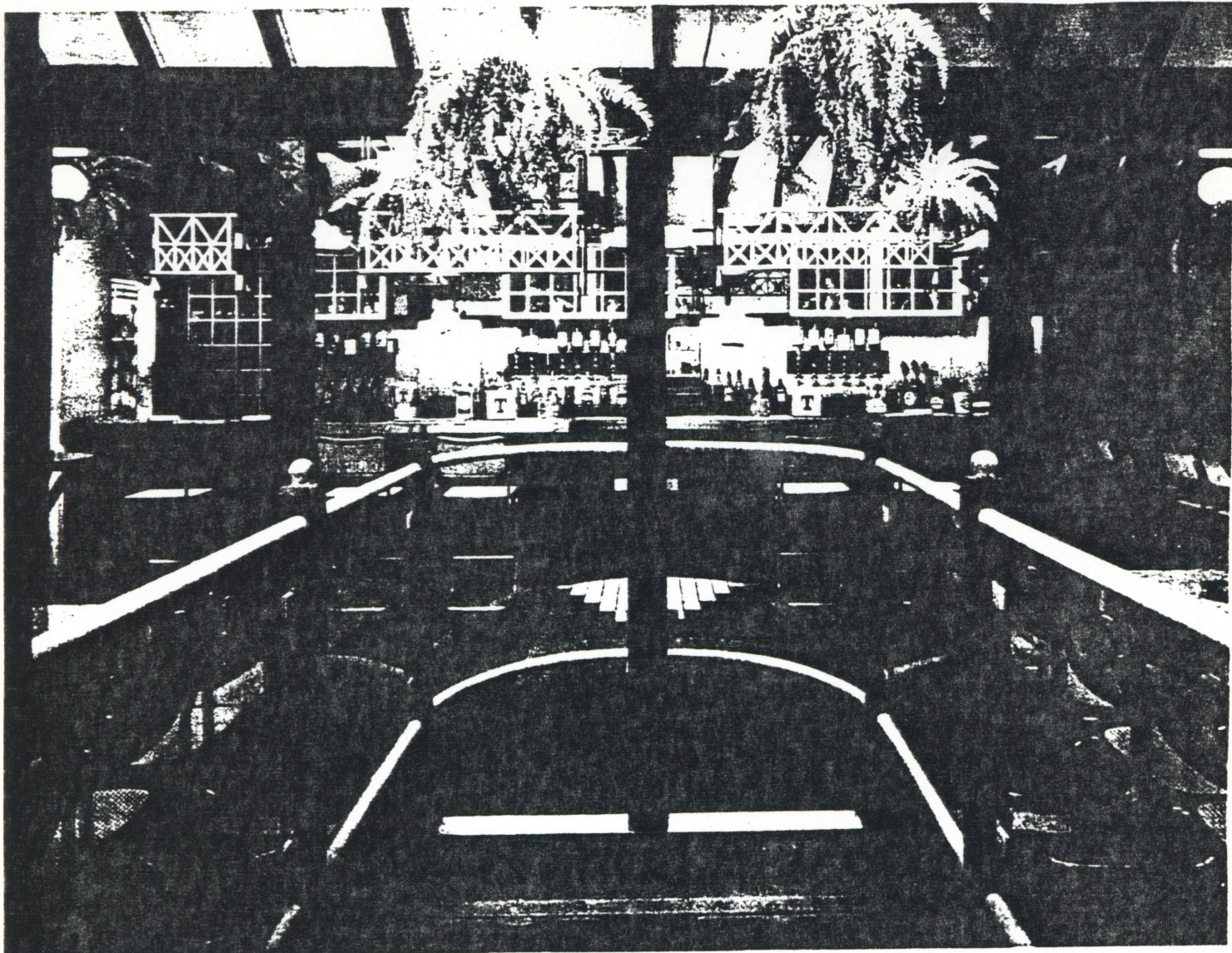
1 Plans (ground floor, first floor).

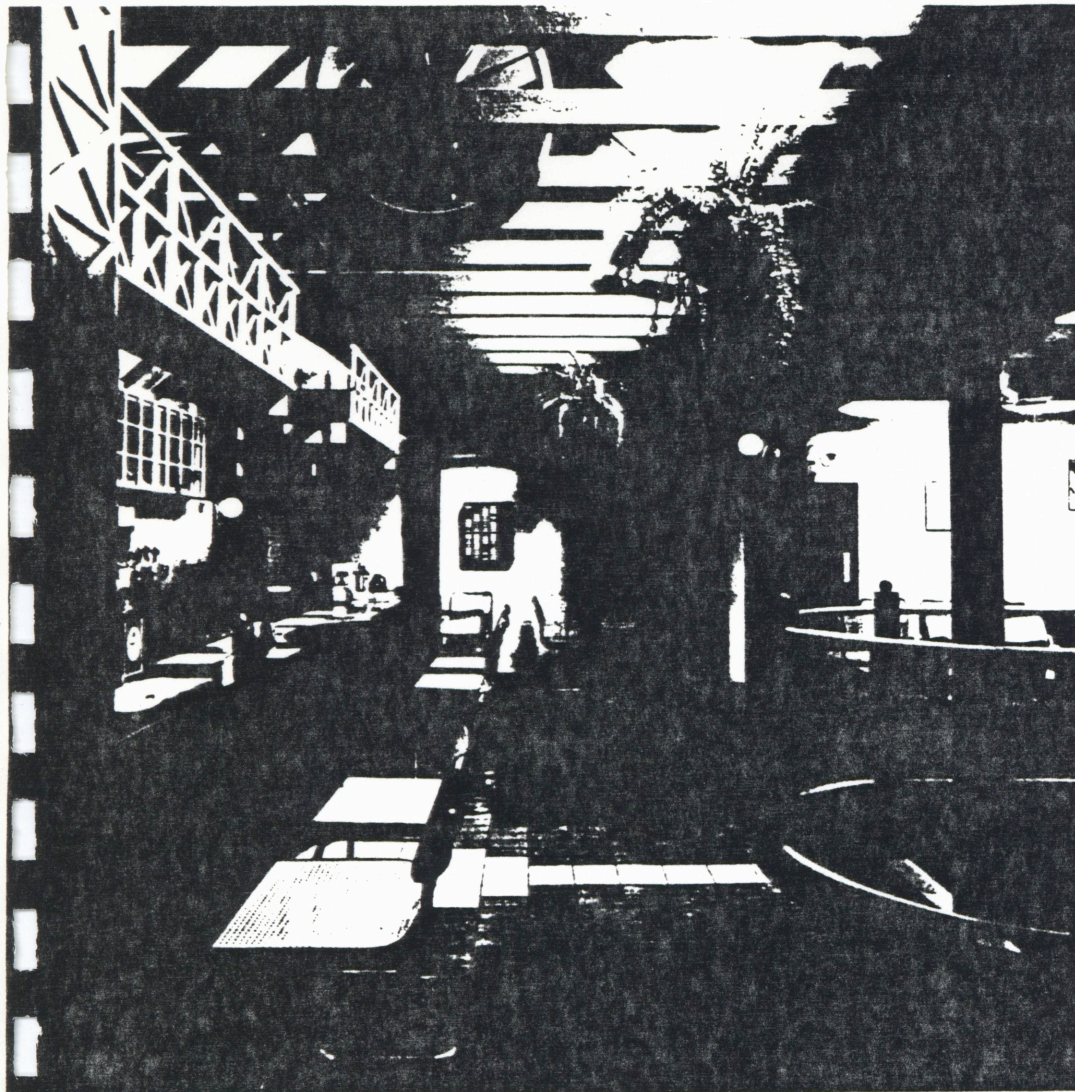
2 Axonometric view.

3. View across the opening in the ceiling to counter on the upper floor.

4. View through the ceiling opening to the counter on the ground floor.

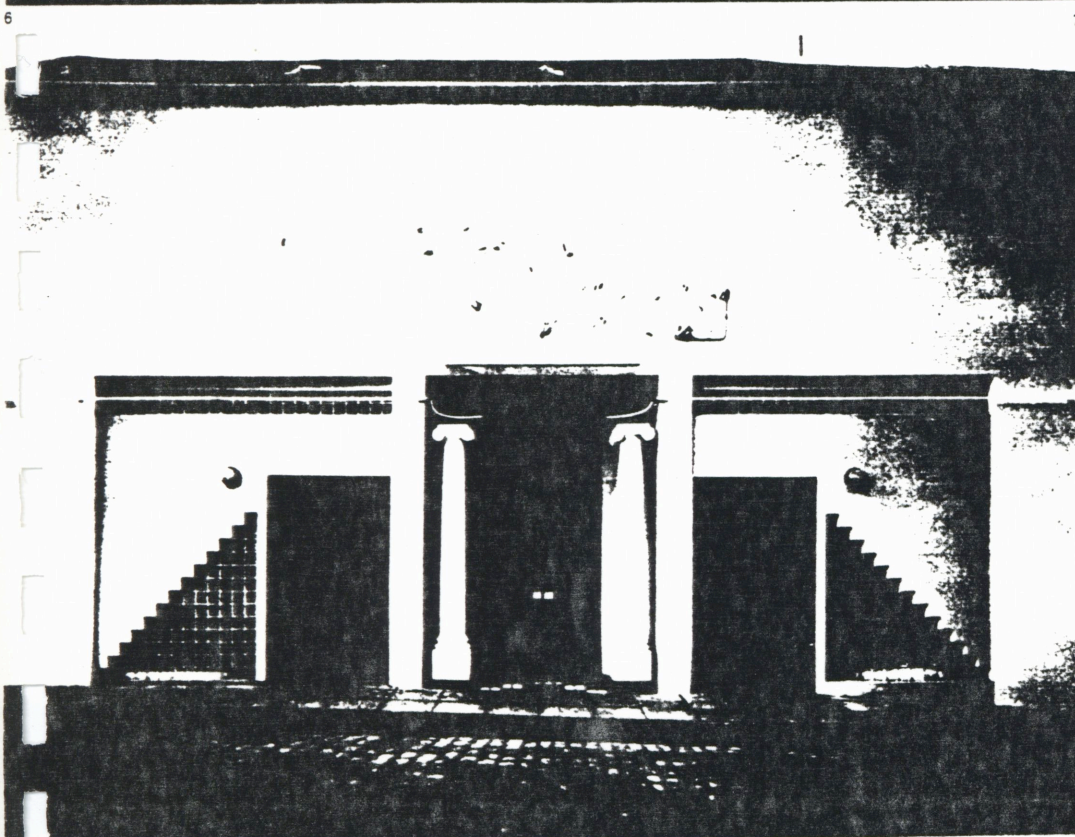
5. The counter in the bar on the ground floor.





6. The restaurant upstairs.

7, 8. Details such as the two classical columns flank the centre door, the areas filled with bricks near the stairs and the name in betubes give the restaurant a "post-modern" touch.



PROJECT: 41st Precinct

ARCHITECT: Hochheiser-Elias Design Group

LOCATION: New York

INTRODUCTION: A restaurant takes on the theme of a turn-of-the-century police station.

ANALYSIS: The jail logo is carried out through this restaurant by the use of bars to divide the spaces, a shield shaped exterior logo, and theme related prints on the walls.

IMPLICATIONS: This case study was taken as a "what not to do" situation. I feel that the way the theme was carried throughout the restaurant was tacky and overly obvious. The theme was incorporated in these spaces by the use of surface decoration. No new architectural elements that would support this theme were introduced. I feel that this was an example of poor design.

THE 41st PRECINCT

Location: New York, New York

Seating Capacity: 74 (dining areas); 28 (bar lounge)

Interior Designer: Hochheiser-Elias Design Group

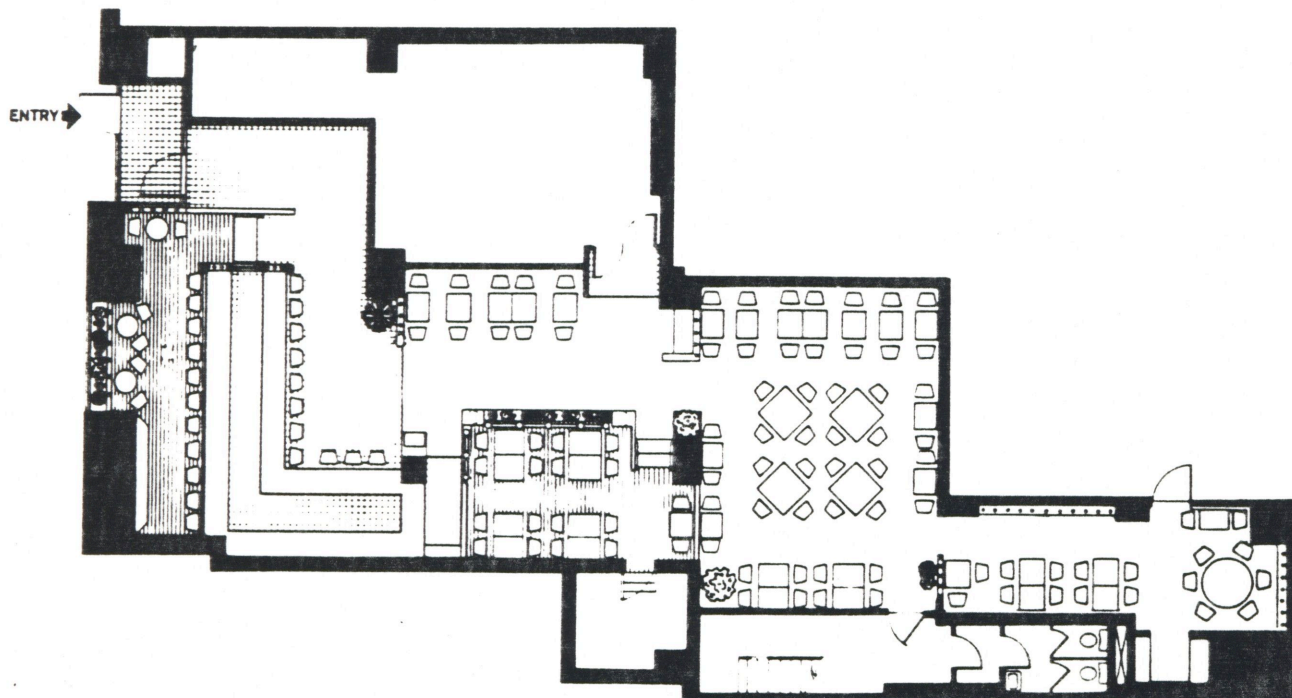
Photographer: Max Hilaire

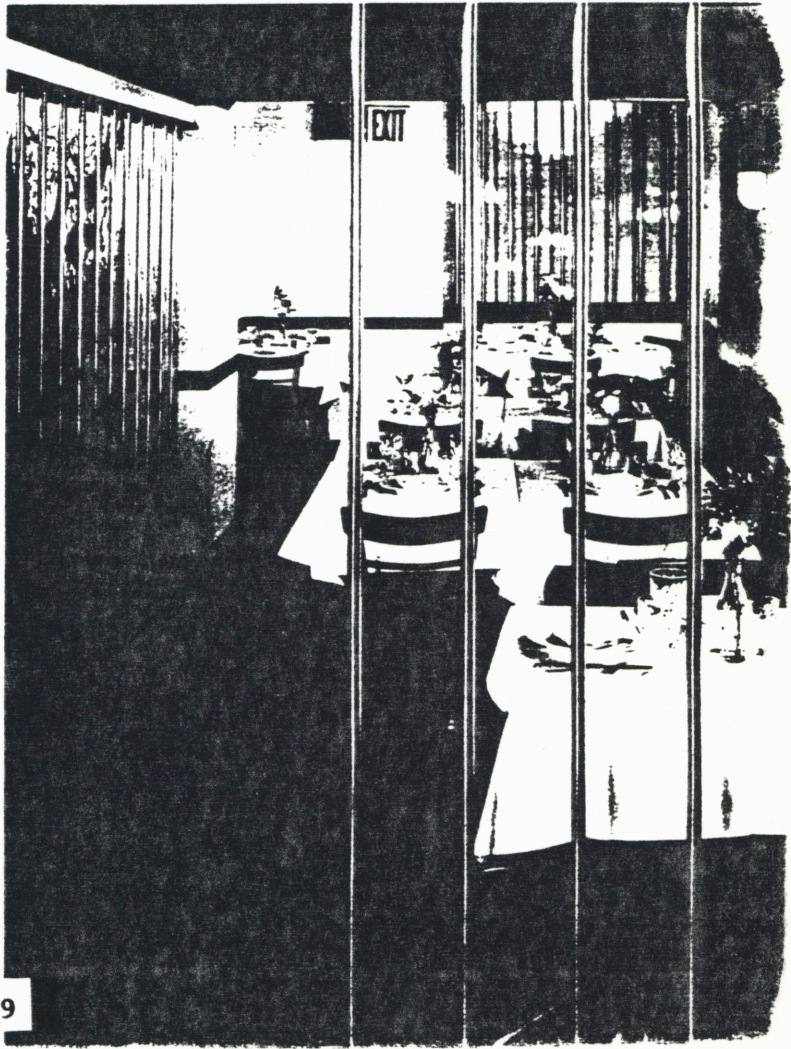
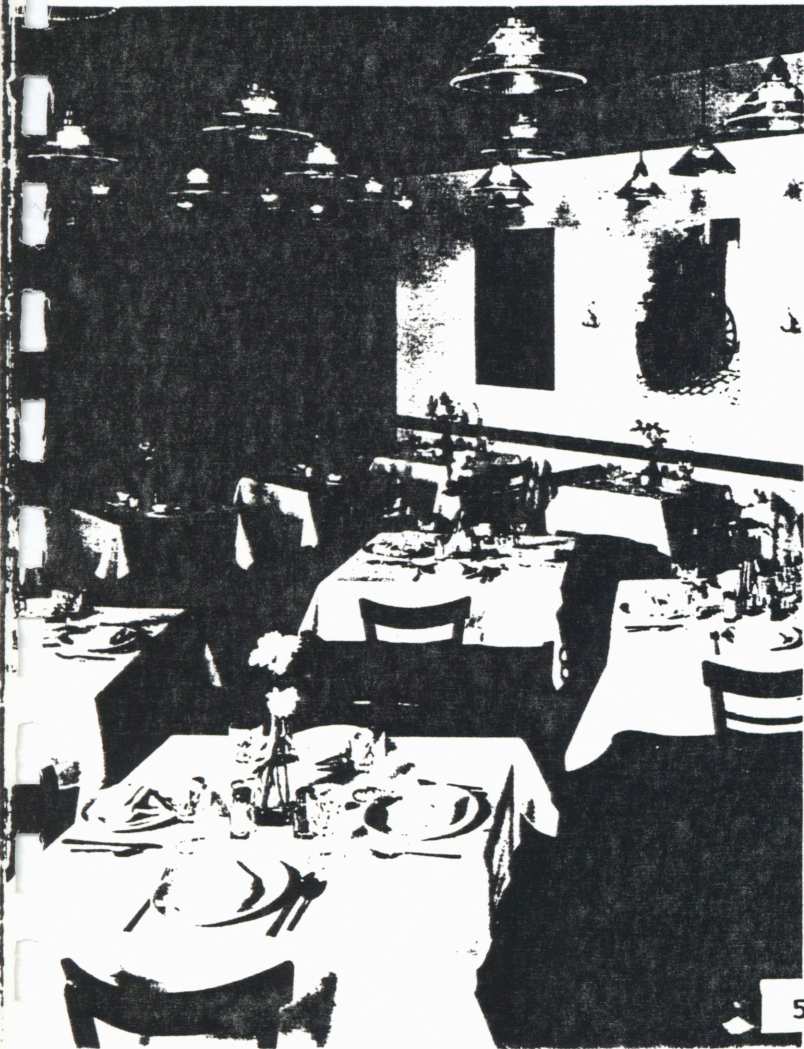
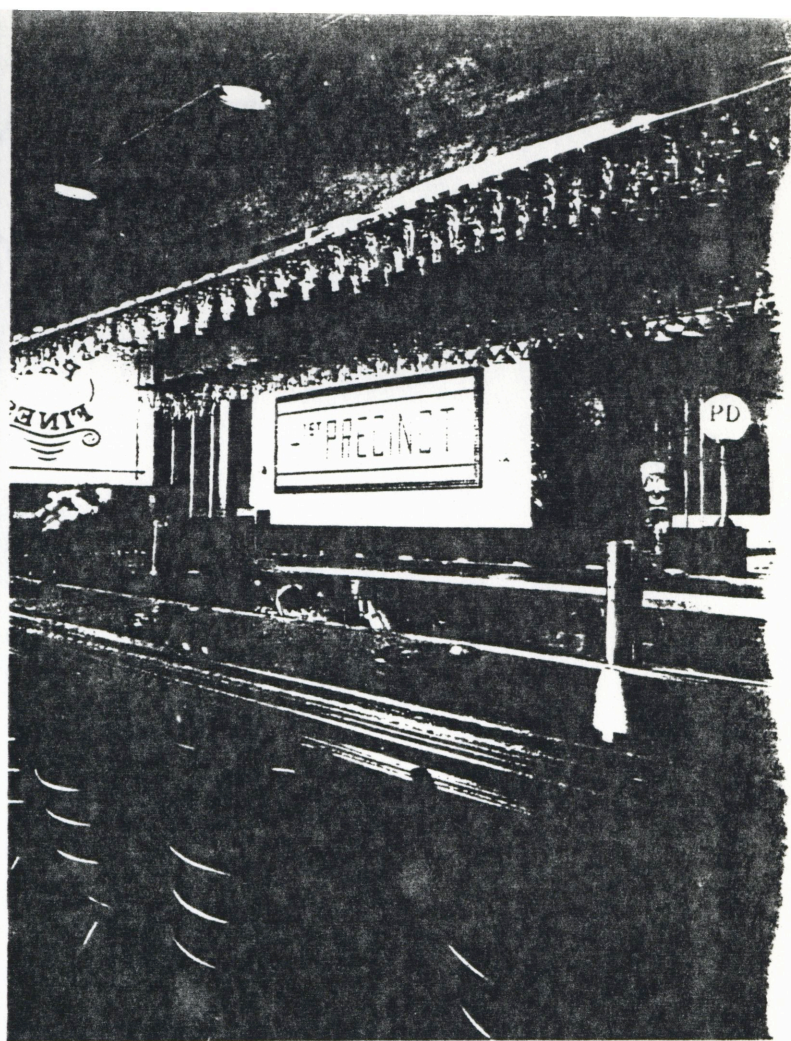
A turn-of-the-century police station is the theme of this restaurant on Manhattan's East 41st Street which is aimed at attracting young executives working in the area.

The designers faced two major problems: a modest budget, set at less than \$10 a square foot, which ruled out making any major structural changes; and a 25' X 120' tunnel-like space with a monotonous expanse of ceiling. By creating intimate dining islands at different heights (the central dining platform, for example, rises 18") the effect of being in a long, narrow space is greatly minimized. A lowered ceiling in another area with 40 holophane lights hung from cords relieves the monotony of the ceiling expanse.

The police precinct motif is handled with tongue-in-cheek starting with the exterior logo which is shaped to simulate a policeman's shield. Globe lights marked with the Police Department's initials or precinct number are stationed at corners or partitions. On the walls are theme-related 1890-1900 sepia prints, and bars, suggesting a prison, are used as a divisional device in several areas.

General Contractor: Wellbilt Equipment Corp. *Bar stools, chairs, tables:* L & B Products; *Track lighting:* Halo. *Pole lamps:* Custom Light Styles. *Floor tiles:* Nemo Tile. *Carpet:* Mainline Carpets.





Bibliography

DINING BY DESIGN

INTERIOR DESIGN'S HANDBOOK OF DINING AND RESTAURANT FACILITIES

By: Cohen and Emery

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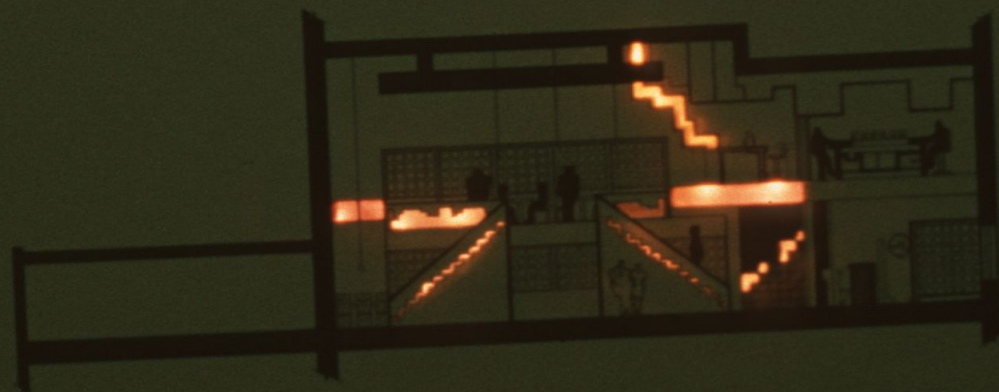
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Slides



Section: A

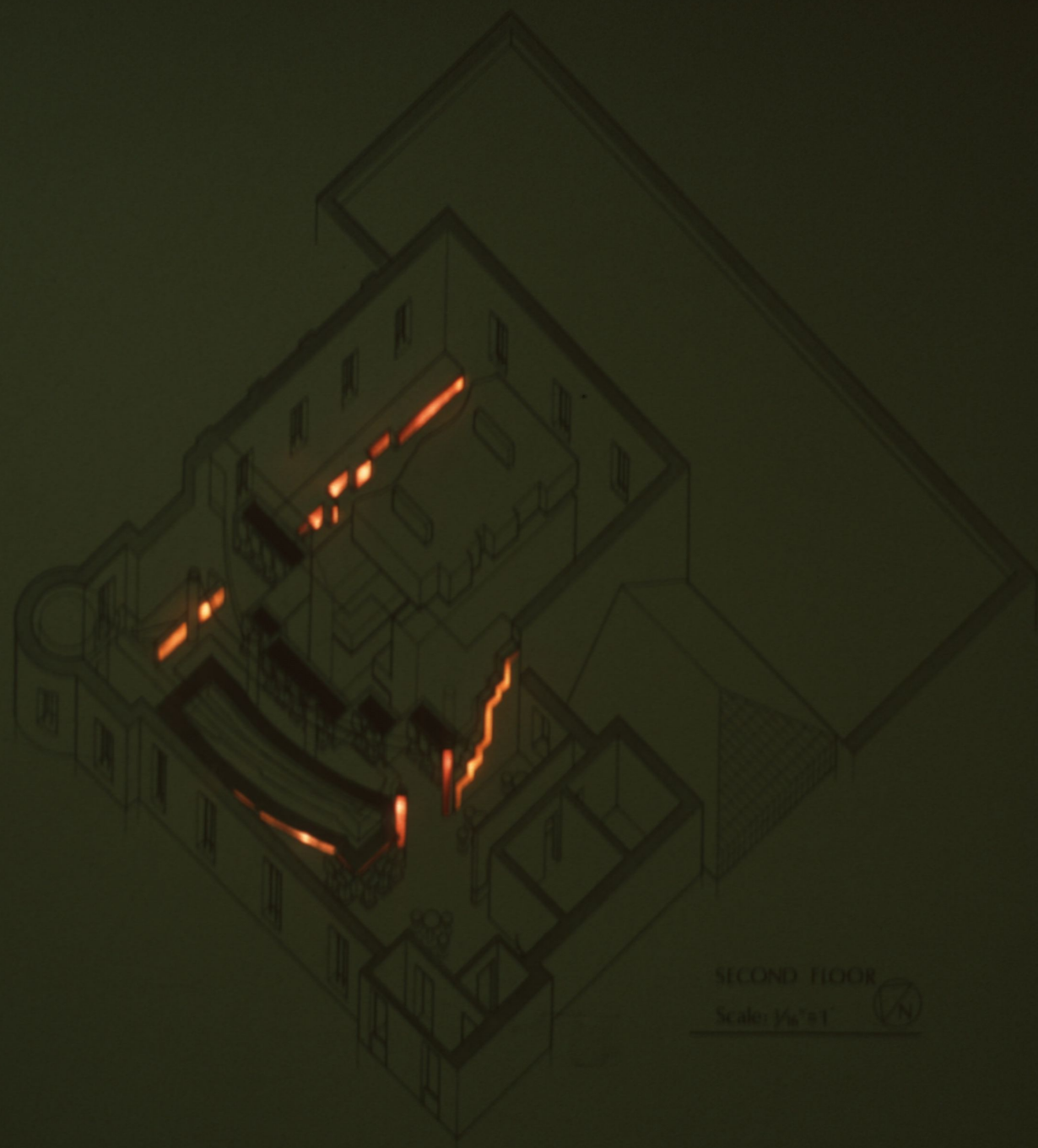
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Section: B

Scale: $\frac{1}{8}''=1'$





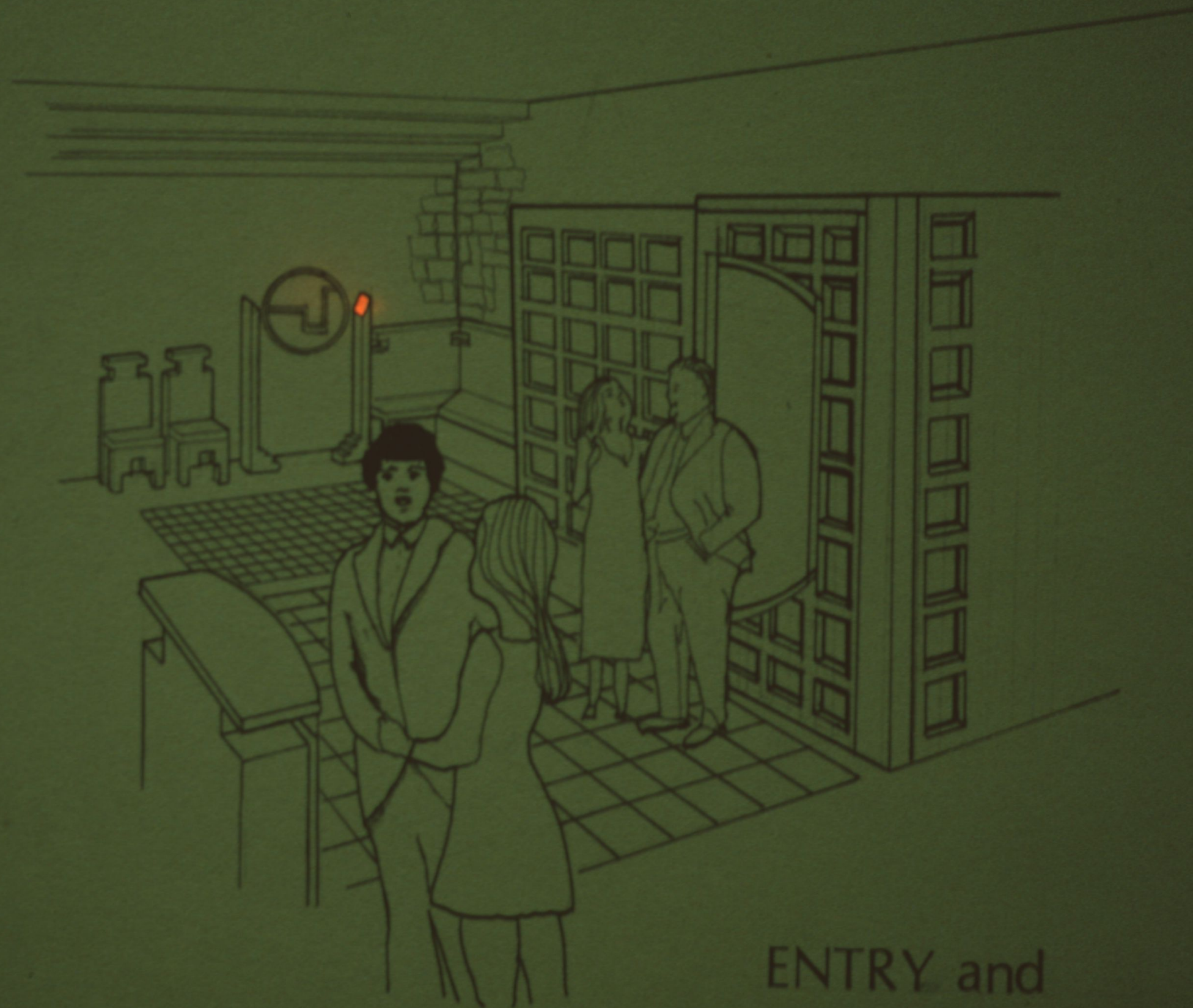
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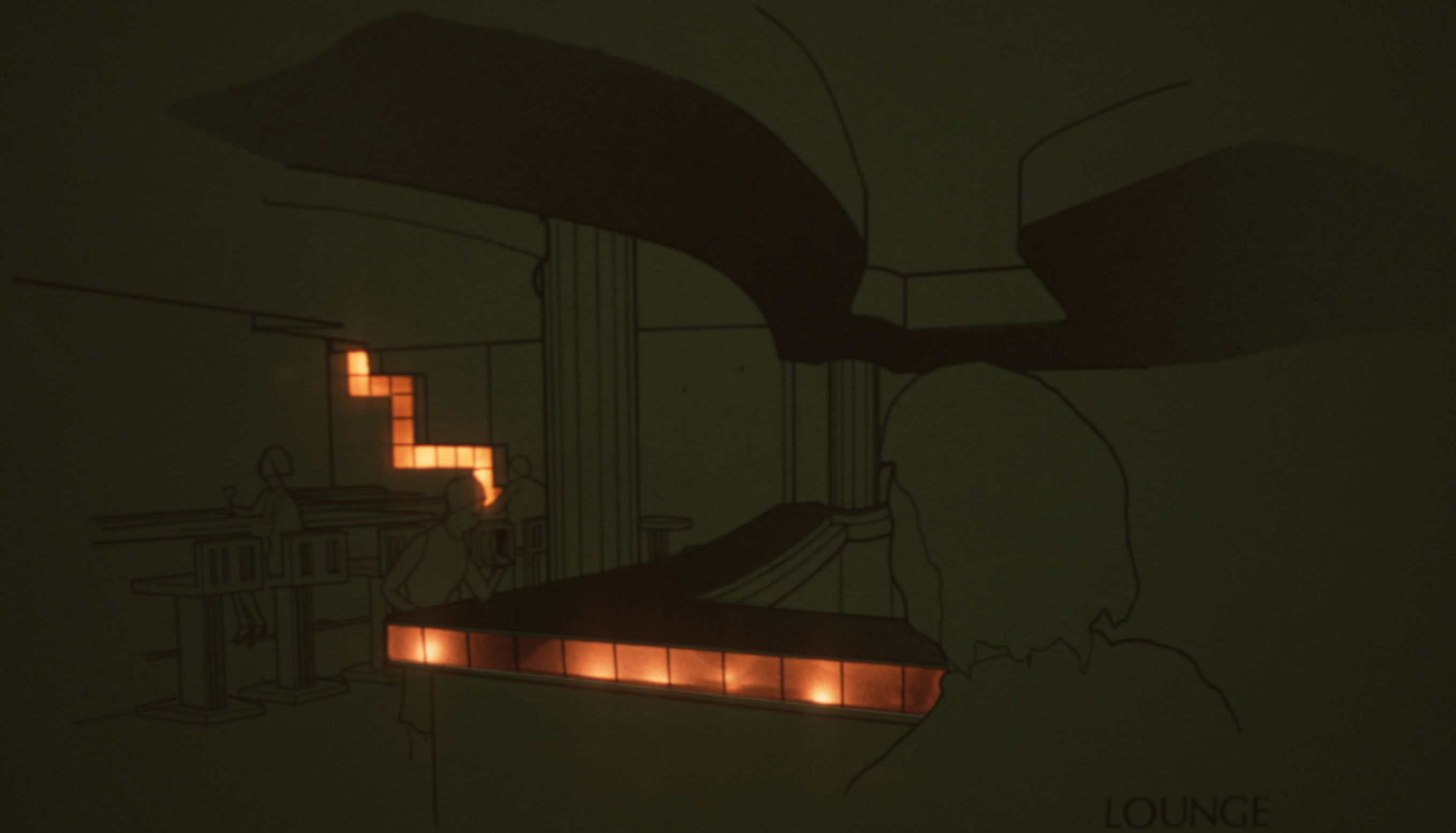


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