

Dining Fac

FAST FOOD CONCEPTUAL STUDY
FOR ENLISTED DINING FACILITIES

MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

DEPARTMENT OF THE NAVY

ATLANTIC DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL STATION, NORFOLK, VIRGINIA

WILBER, KENDRICK, WORKMAN & WARREN, INC.
ARCHITECTS/ENGINEERS/PLANNERS
CHARLOTTE, NORTH CAROLINA

FINAL SUBMITTAL

JUNE 3, 1985

1950

1951

1952

1953

1954

1955

1956

1957

1958

1959

1960

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1901
1902
1903
1904

INTRODUCTION

The following report is an evaluation of thirteen (13) existing mess halls and schematic design studies for fast food renovations. In addition, schematic design studies have been prepared for new 3600 man, 1600 man and 1000 man prototype mess halls. These facilities are located at the Marine Corps Base, Camp Lejeune, North Carolina.

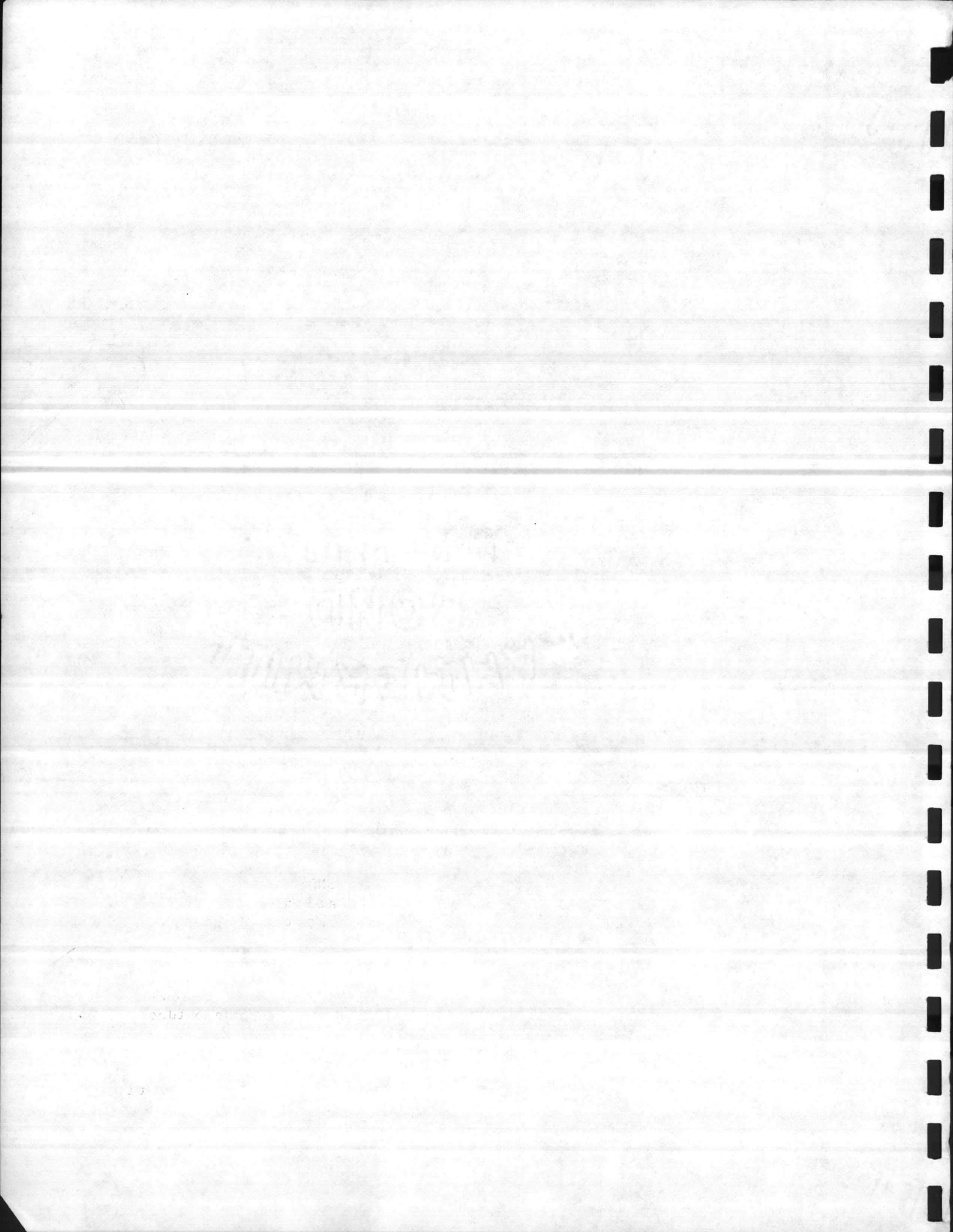
Six mess halls are evaluated for long term use with major interior renovations including capability for fast food/take out service. For comparative purposes, three (3) new 3600 man mess halls are designed to replace the existing facilities. Criteria for evaluation are as follows:

1. Advantages of consolidation
2. Existing facility conditions
3. HVAC requirements
4. Energy evaluation
5. Aesthetics
6. Civilian operation contracts
7. Food waste and garbage disposal.

Two other existing mess halls are also evaluated for long term use with major interior renovations including capability for fast food/take out service. For comparative purposes, two (2) new 1000 man mess halls are designed to replace the existing facilities. Criteria for evaluation is the same as listed above.

Five additional mess halls are studied for fast food/take out renovations and additions. The extent of required renovations will vary according to needs. Some facilities require additional consideration such as administrative areas, storage, refrigeration and ventilation.

This report also includes schematic design studies for a new 1600 man mess hall for the Montford Point area. This facility is to provide both conventional dining and fast food/take out service.



SUMMARY OF CONCLUSIONS

1. MESS HALLS 122, 211, 325, 411, 508 AND 521/
PROTOTYPE 3600 MAN MESS HALLS RECOMMENDATIONS

It is our recommendation that three (3) new prototype 3600 man mess halls, providing both conventional and fast food service, be constructed in the Hadnot Point area. Construction of these facilities will have a positive impact on the entire area and will provide facilities capable of implementing long range food service programs, including conventional serving lines, fast food eat-in, take-out and drive-thru service. Due to recent renovations, Mess Hall 508 should be considered for long range use. It could be limited to fast food eat-in and take-out service. Extended service could be provided during the day and evening hours.

2. MESS HALL G-640 RECOMMENDATIONS

It is our recommendation that renovations and additions be made to provide fast food eat-in and take-out service (with no drive-thru service). Also improvements should be made to the existing ventilation systems and a new waste handling system should be added.

3. MESS HALL AS-226 RECOMMENDATIONS

It is our recommendation that one of this facility's two conventional serving lines be renovated to provide fast food service while the other area be converted for use as administrative space.

4. MESS HALL M-424 RECOMMENDATIONS

It is our recommendation that the new 1600 man prototype design replace this existing facility.

5. MESS HALLS 9 AND BB-7 RECOMMENDATIONS

It is our recommendation that each of these existing mess halls be replaced with a new 1000 man prototype design facility.

6. MESS HALL FC-540 RECOMMENDATIONS

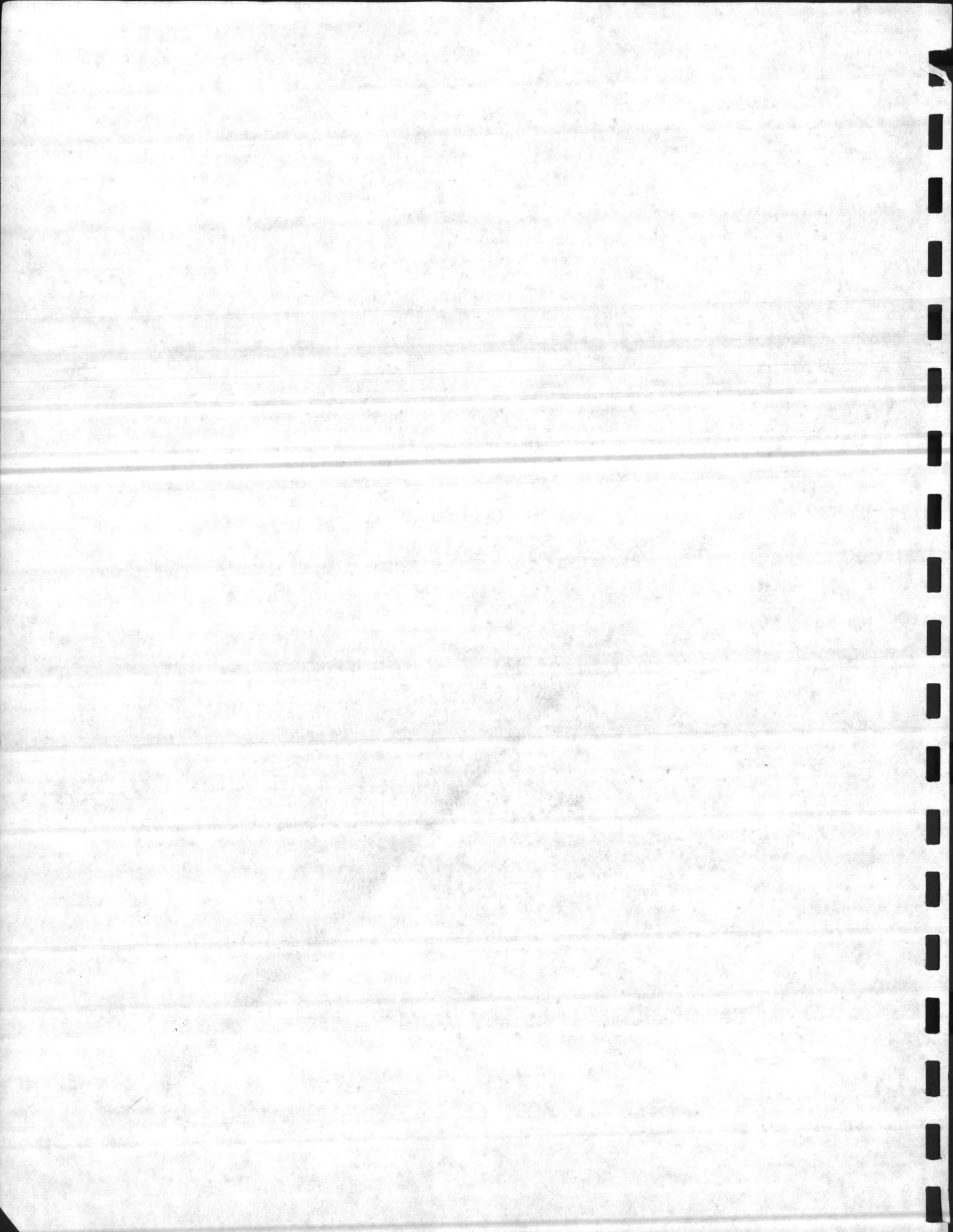
It is our recommendation that renovations and additions be made to provide fast food eat-in, take-out and drive-thru service.

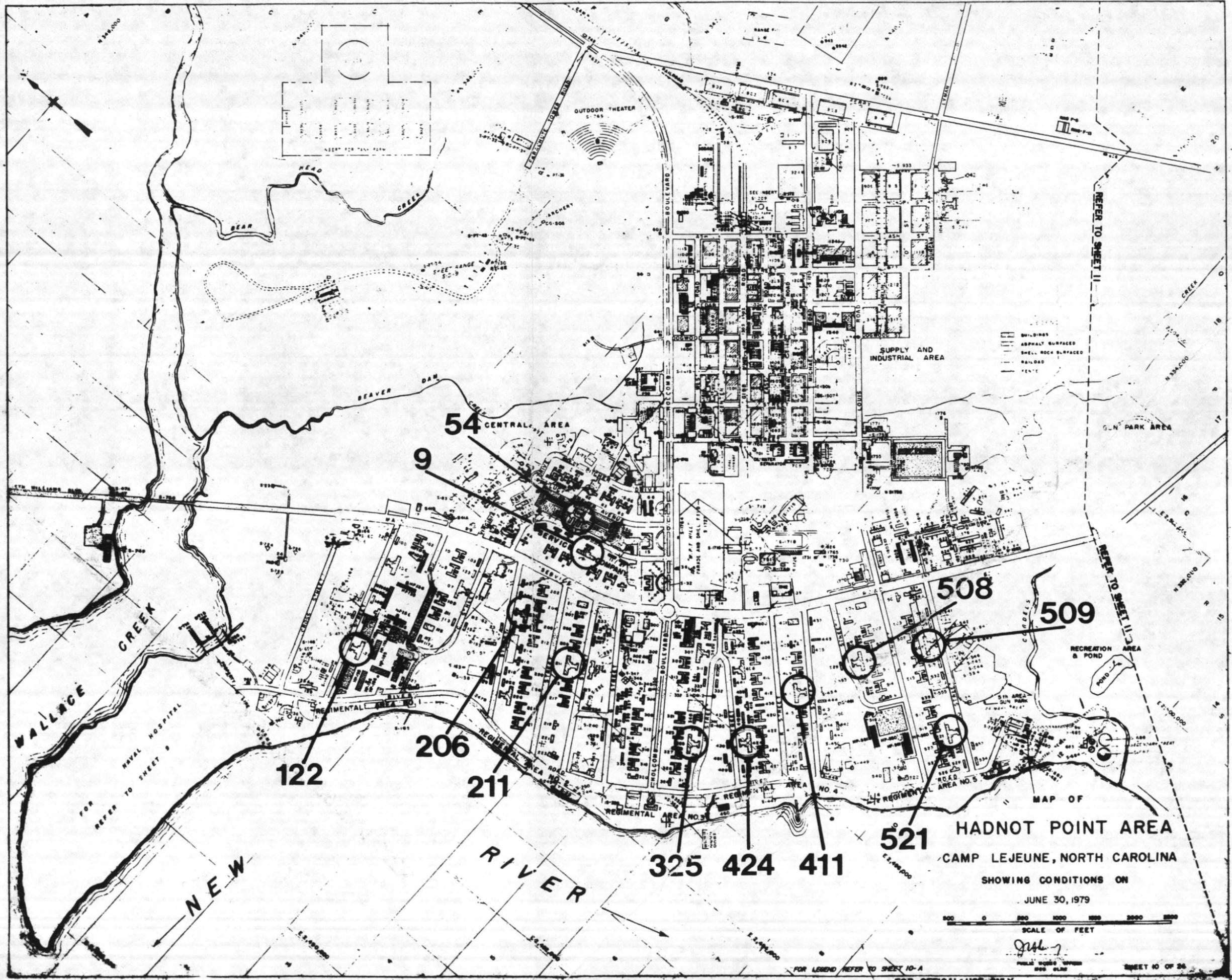
7. MESS HALL BA-103 RECOMMENDATIONS

It is our recommendation that renovations and additions be made to upgrade the outdoor, walk-up fast food service currently provided.

8. MESS HALL RR-3 RECOMMENDATIONS

It is our recommendation that renovations and additions be made to provide fast food eat-in and take-out service (with no drive-thru service).





BUILDING
 ASPHALT SURFACED
 SHELL ROCK SURFACED
 RAILROAD
 FENCE

0 500 1000 1500 2000 2500
 SCALE OF FEET

MAP OF
HADNOT POINT AREA
 CAMP LEJEUNE, NORTH CAROLINA
 SHOWING CONDITIONS ON
 JUNE 30, 1979

521

508

509

54 CENTRAL AREA

9

206

211

325

424

411

WALLACE CREEK

NEW RIVER

REGIMENTAL AREA NO 4

REGIMENTAL AREA NO 5

REGIMENTAL AREA NO 2

REGIMENTAL AREA NO 3

REGIMENTAL AREA NO 1

REGIMENTAL AREA NO 6

REGIMENTAL AREA NO 7

REGIMENTAL AREA NO 8

REGIMENTAL AREA NO 9

REGIMENTAL AREA NO 10

REGIMENTAL AREA NO 11

REGIMENTAL AREA NO 12

REGIMENTAL AREA NO 13

REGIMENTAL AREA NO 14

REGIMENTAL AREA NO 15

REGIMENTAL AREA NO 16

REGIMENTAL AREA NO 17

REGIMENTAL AREA NO 18

REGIMENTAL AREA NO 19

REGIMENTAL AREA NO 20

REFER TO SHEET 11

REFER TO SHEET 11

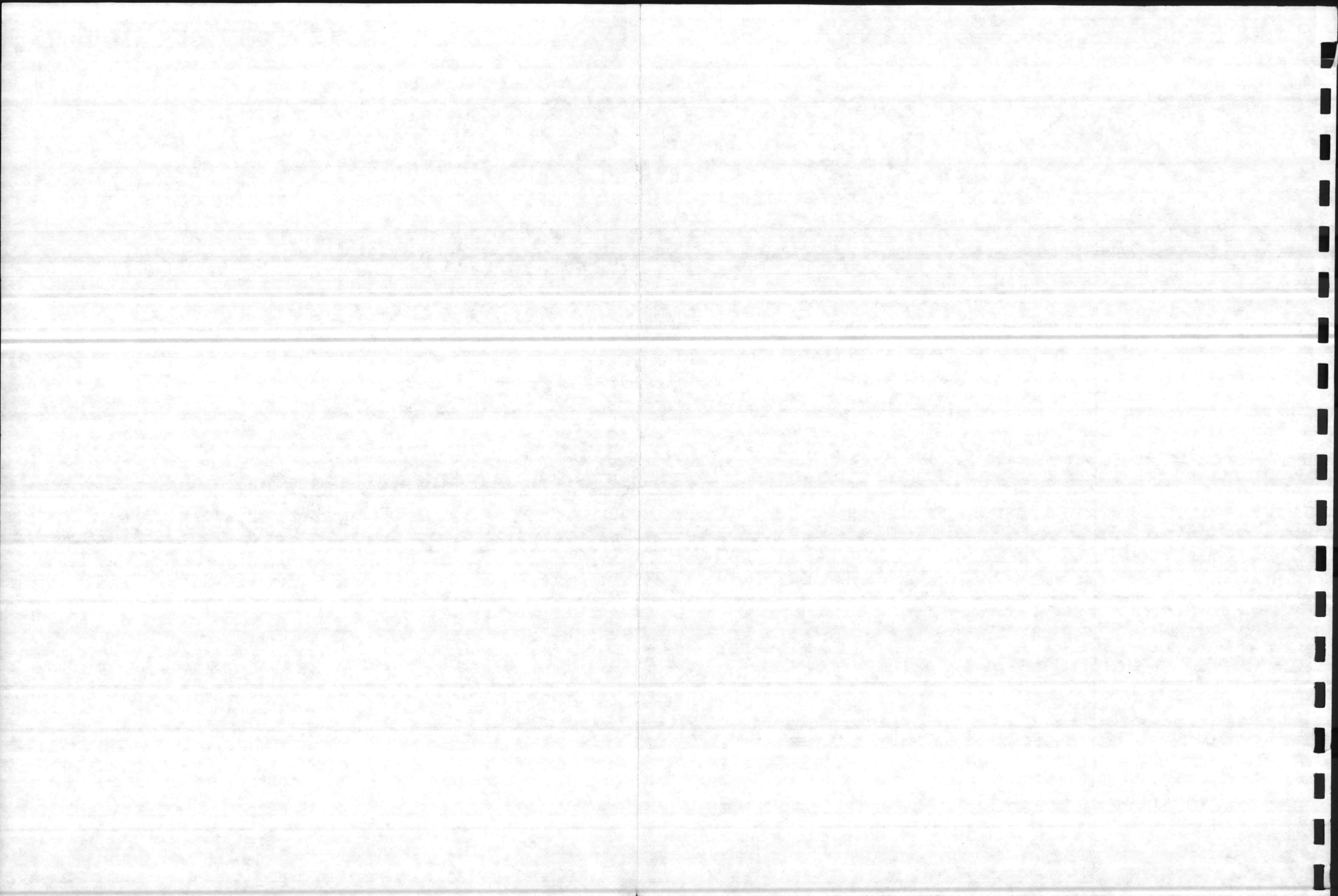
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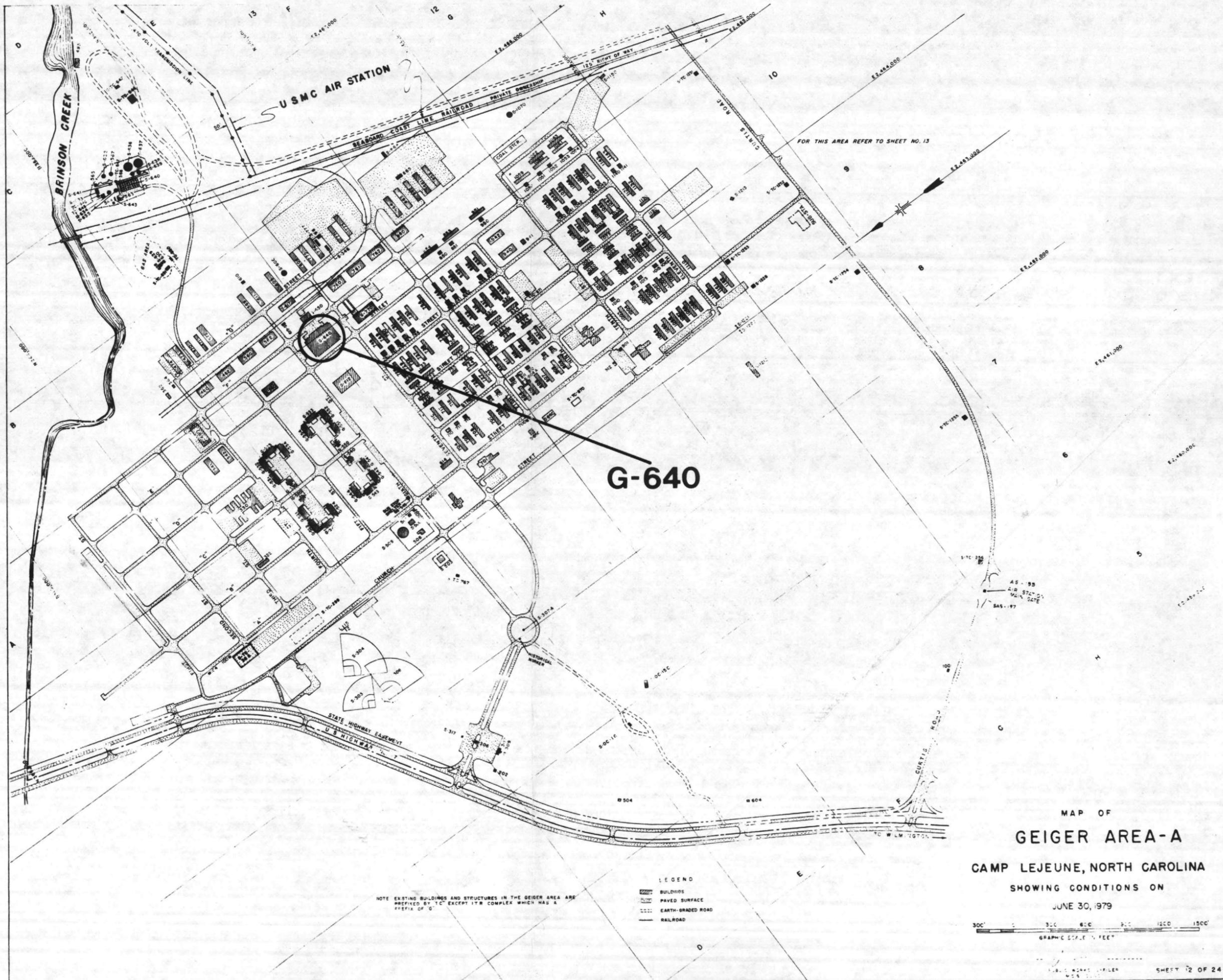
FOR LEGEND REFER TO SHEET 10-A

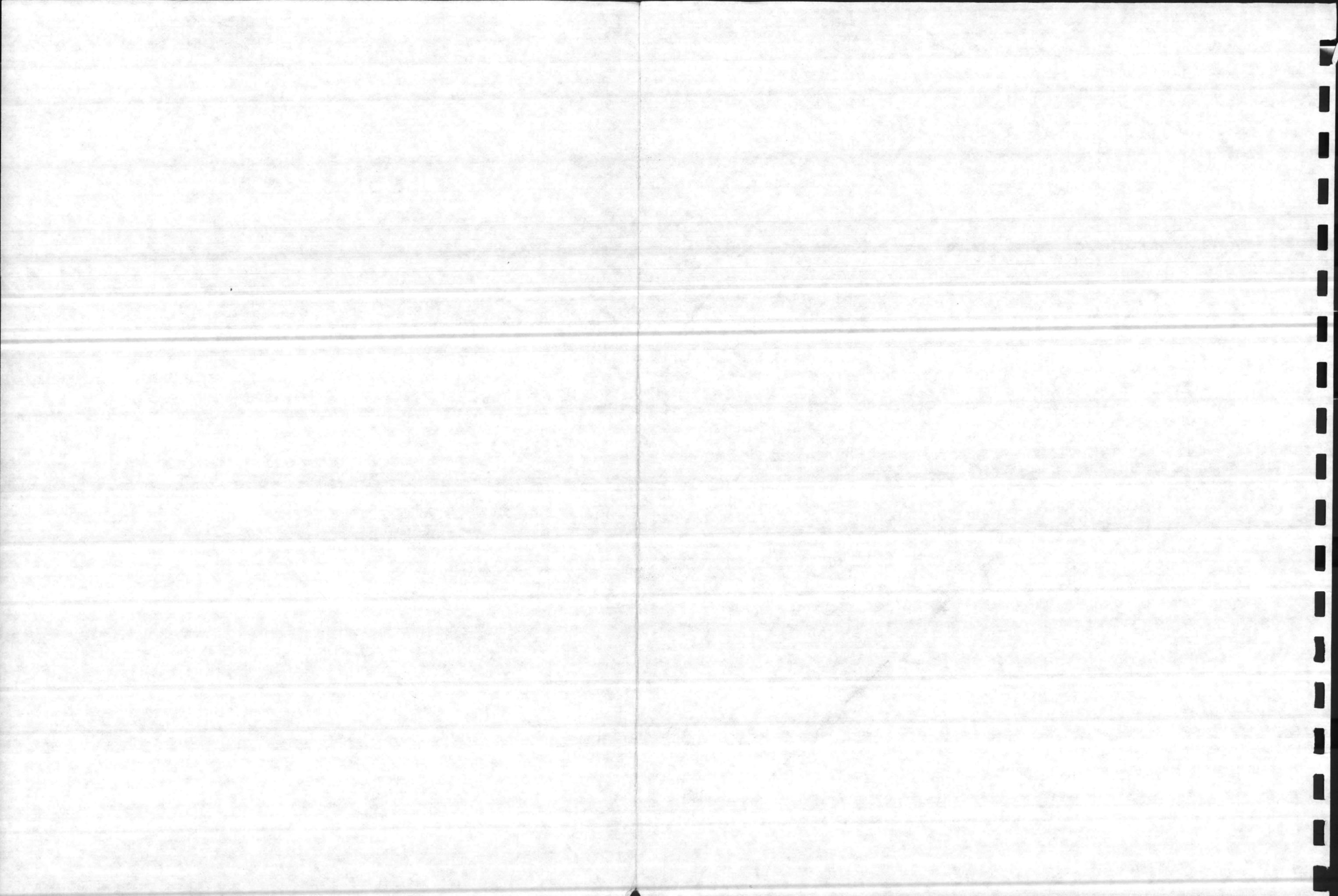
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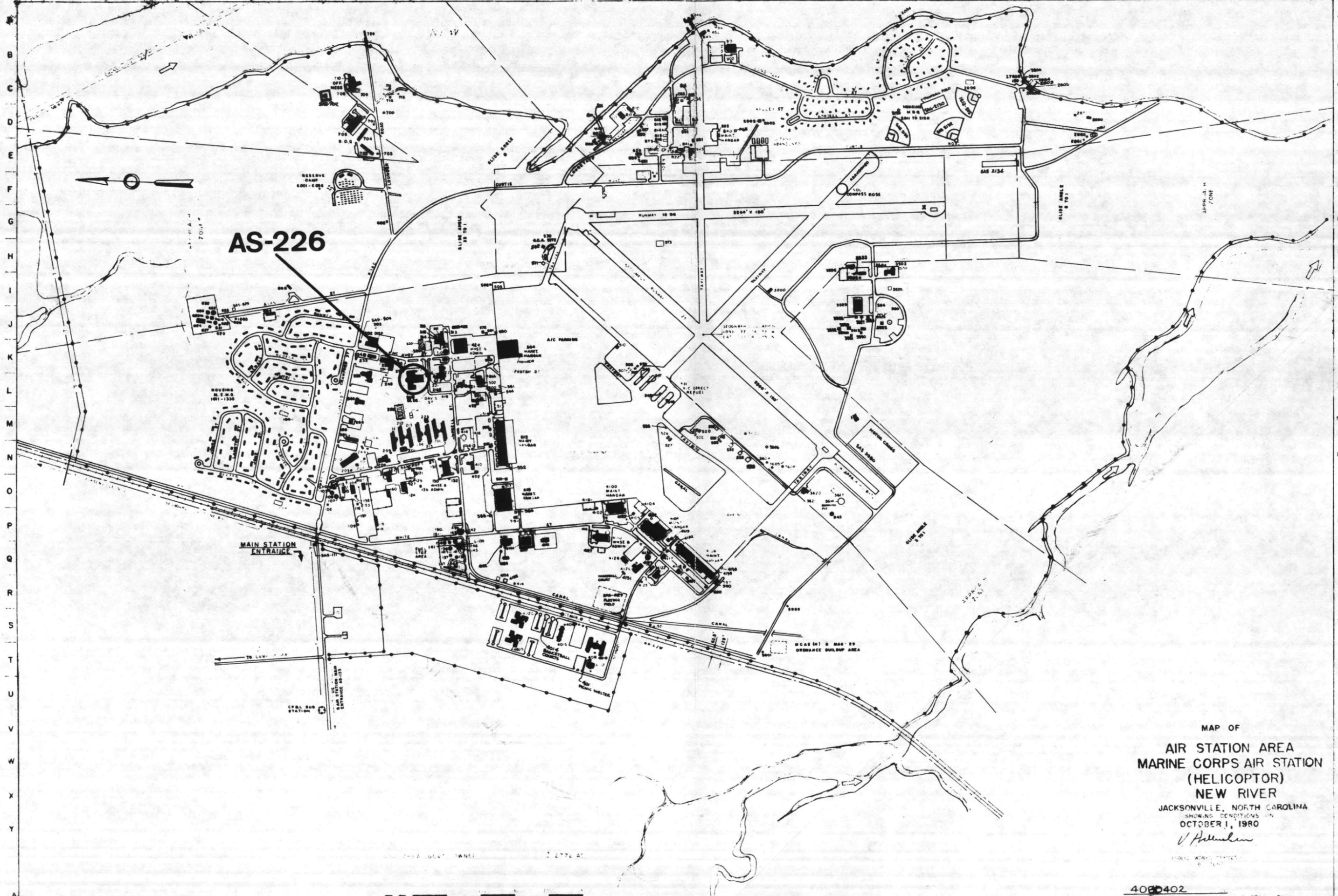
SHEET 10 OF 24

CAMP LEJEUNE, NC









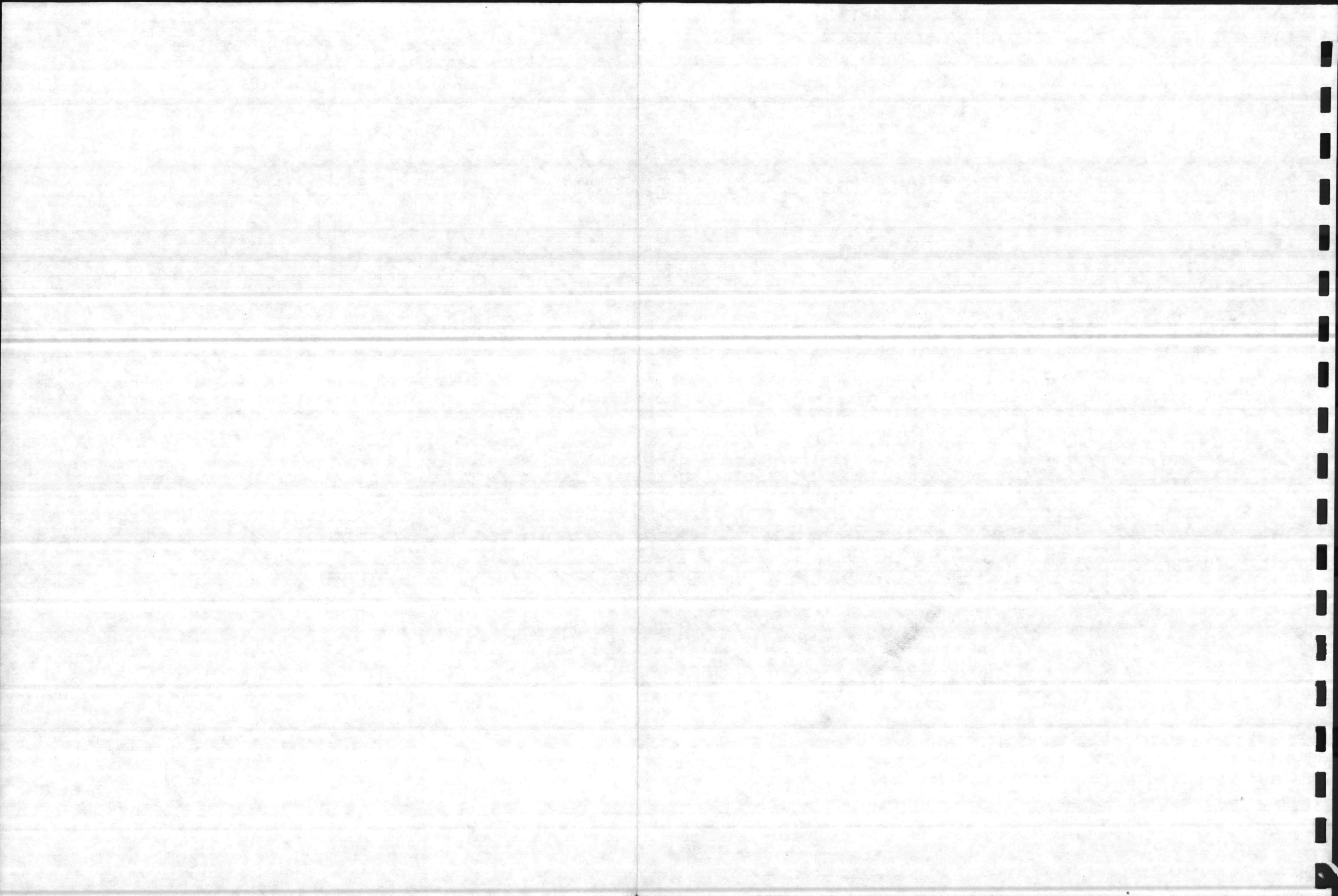
AS-226

MAP OF
 AIR STATION AREA
 MARINE CORPS AIR STATION
 (HELICOPTOR)
 NEW RIVER
 JACKSONVILLE, NORTH CAROLINA
 SHOWING CONDITIONS ON
 OCTOBER 1, 1980
V. P. ...

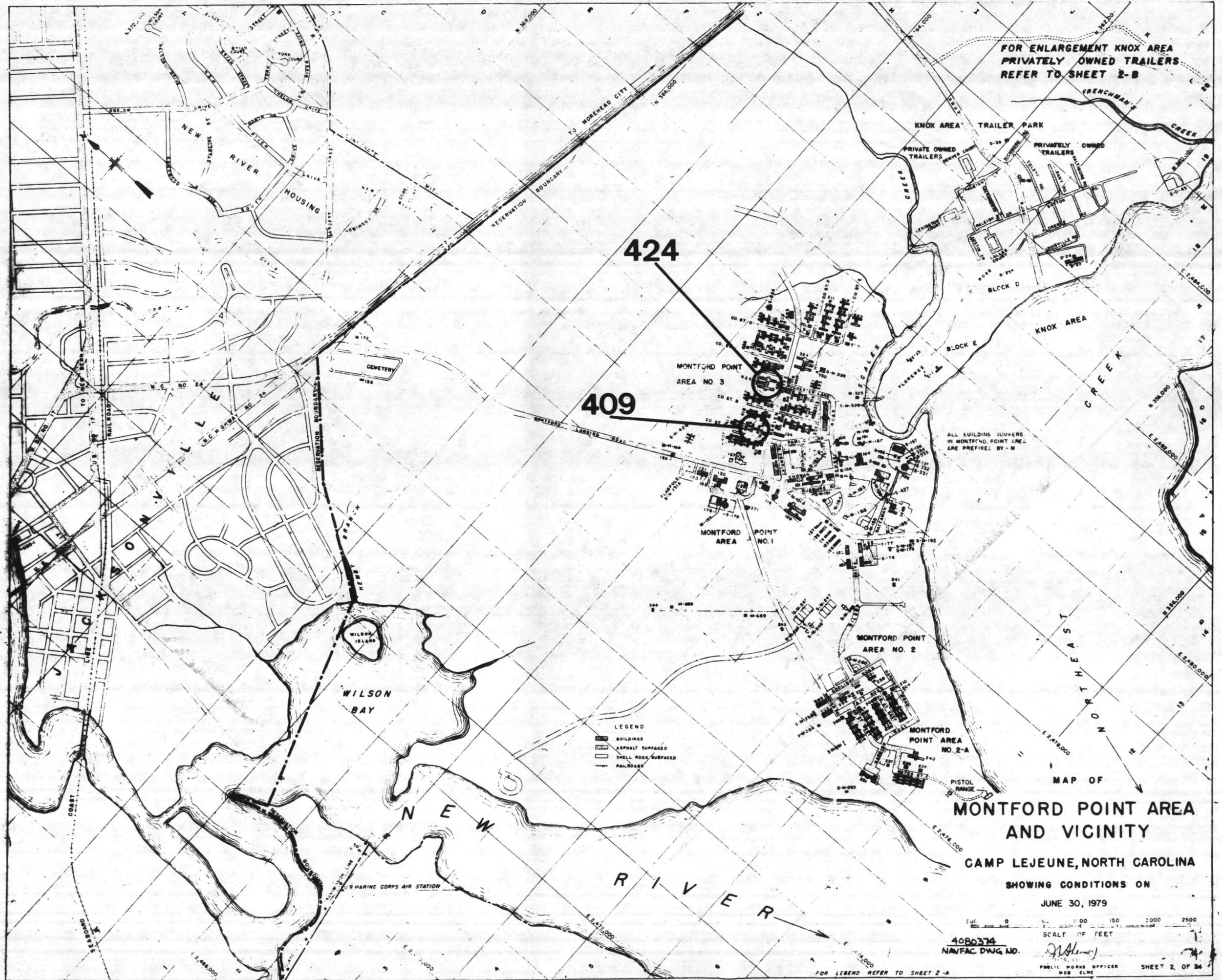
4080402
 NAVFAC DWG. NO.

FOR OFFICIAL USE ONLY





FOR ENLARGEMENT KNOX AREA
PRIVATELY OWNED TRAILERS
REFER TO SHEET 2-B



424

409

- LEGEND
- BUILDINGS
 - ASPHALT SURFACED
 - SHELL ROCK SURFACED
 - RAILROADS

MAP OF MONTFORD POINT AREA AND VICINITY

CAMP LEJEUNE, NORTH CAROLINA

SHOWING CONDITIONS ON
JUNE 30, 1979

SCALE OF FEET
0 100 150 2000 2500

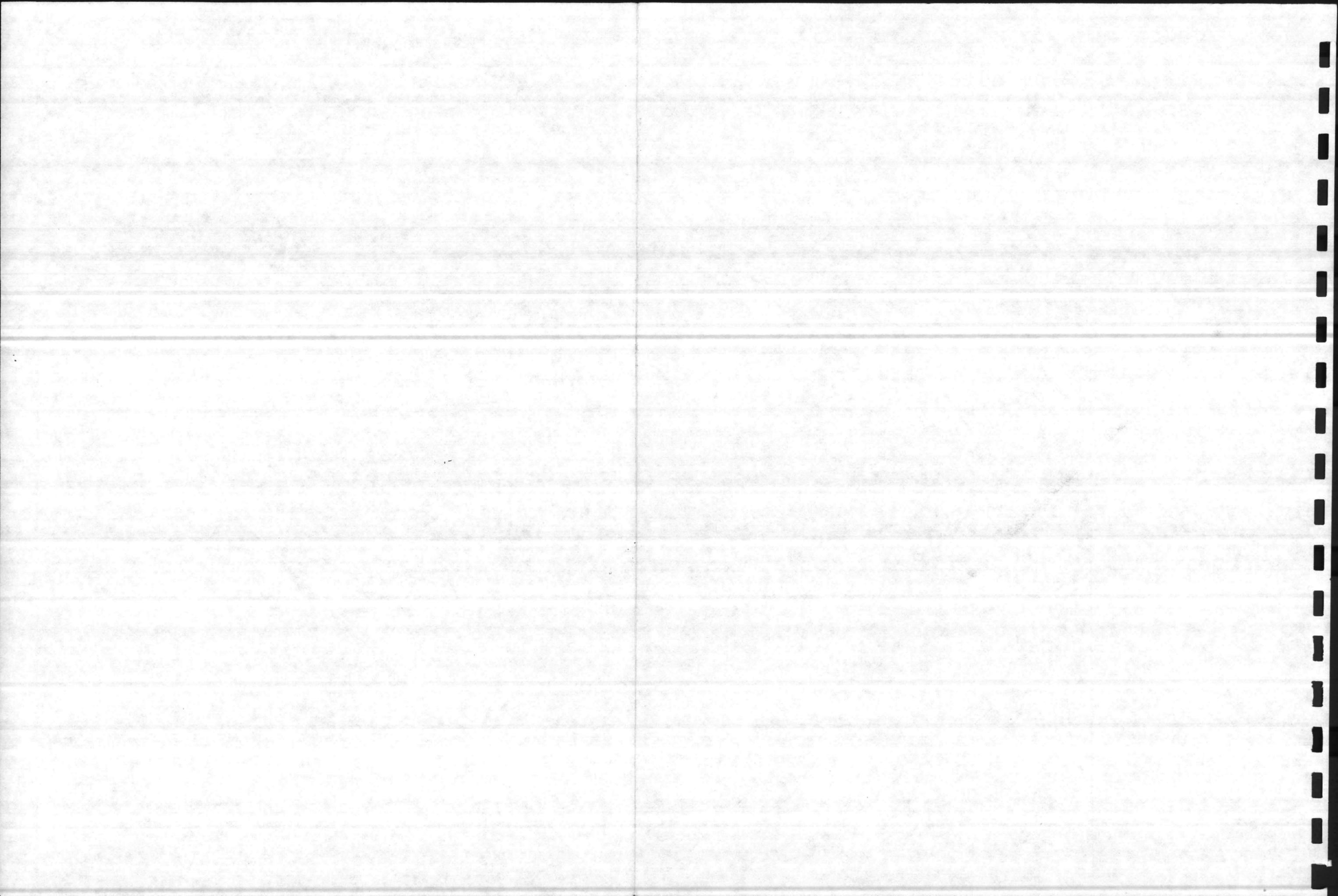
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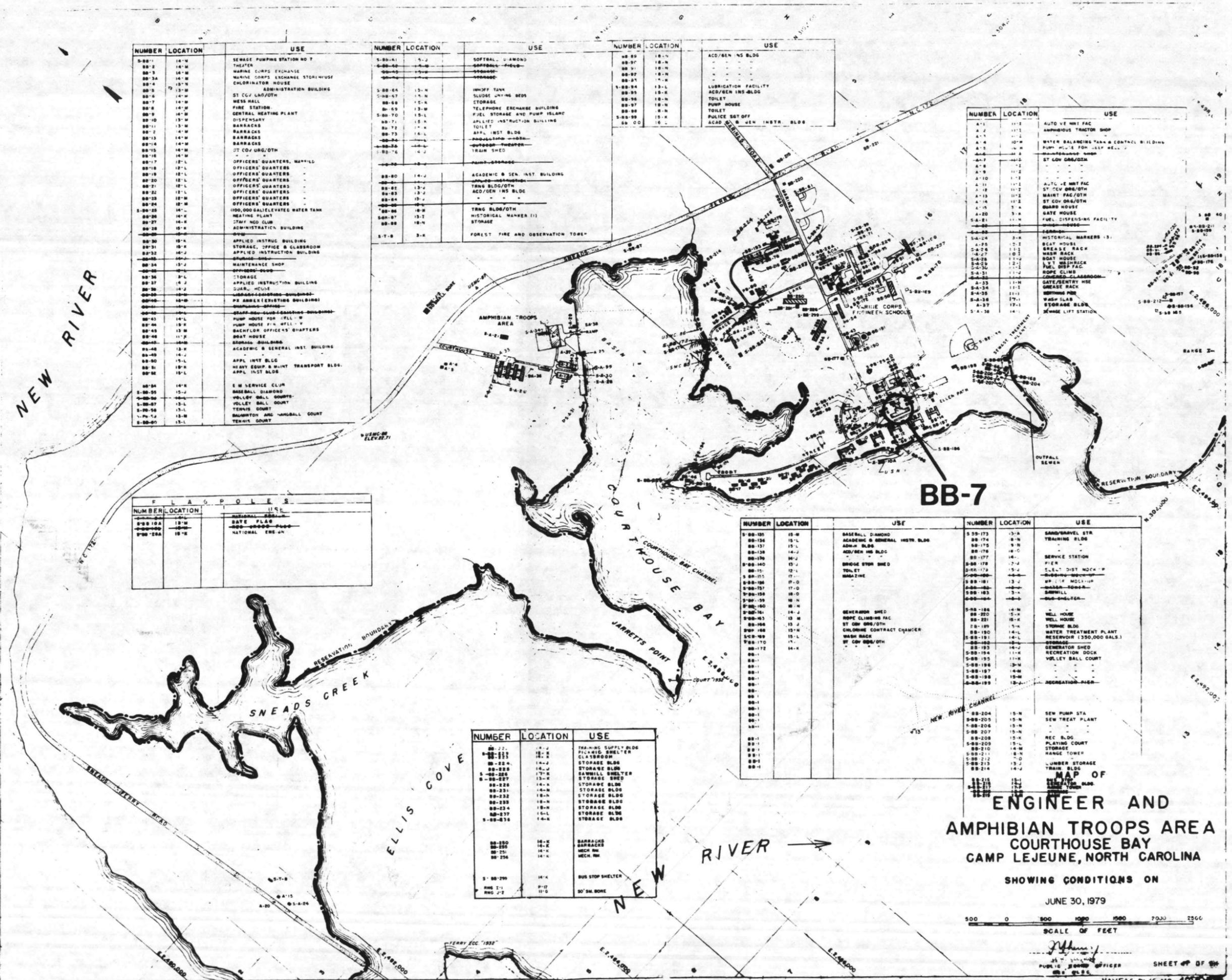
[Signature]
PUBLIC WORKS OFFICER
MCP CLNC

SHEET 2 OF 24

FOR LEGEND REFER TO SHEET 2-A

FOR OFFICIAL USE ONLY CAMP LEJEUNE, NC





NUMBER	LOCATION	USE
S-88-1	14-W	SEWAGE PUMP STATION NO 7
88-2	14-W	THEATER
88-3	14-W	MARINE CORPS EXCHANGE
88-3A	14-W	MARINE CORPS EXCHANGE STOREHOUSE
88-4	13-N	CHLORINATOR HOUSE
88-5	13-N	ADMINISTRATION BUILDING
88-6	14-W	ST CO/ ORG/ OTH
88-7	14-W	MESS HALL
88-8	14-W	FIRE STATION
88-9	14-W	CENTRAL HEATING PLANT
88-10	13-W	DISPENSARY
88-11	13-W	BARRACKS
88-12	14-W	BARRACKS
88-13	14-W	BARRACKS
88-14	14-W	BARRACKS
88-15	14-W	ST CO/ ORG/ OTH
88-16	14-W	ST CO/ ORG/ OTH
88-17	12-L	OFFICERS' QUARTERS, MARINE
88-18	12-L	OFFICERS' QUARTERS
88-19	12-L	OFFICERS' QUARTERS
88-20	12-L	OFFICERS' QUARTERS
88-21	12-L	OFFICERS' QUARTERS
88-22	12-L	OFFICERS' QUARTERS
88-23	12-W	OFFICERS' QUARTERS
88-24	12-W	OFFICERS' QUARTERS
S-88-25	14-W	1000,000 GALLON WATER TANK
88-26	14-W	HEATING PLANT
88-27	14-W	STAFF HOD CLUB
88-28	15-W	ADMINISTRATIVE BUILDING
88-29	15-W	STORAGE
88-30	15-W	APPLIED INSTRUCT. BUILDING
88-31	15-W	STORAGE, OFFICE & CLASSROOM
88-32	14-J	APPLIED INSTRUCTION BUILDING
88-33	14-J	STORAGE
88-34	15-J	MAINTENANCE SHOP
88-35	15-L	STORAGE
88-36	15-L	STORAGE
88-37	14-J	APPLIED INSTRUCTION BUILDING
88-38	14-J	GUARD HOUSE
88-39	14-J	STORAGE
88-40	14-J	STORAGE
88-41	14-J	STORAGE
88-42	14-J	STORAGE
88-43	14-L	PUMP HOUSE FOR WELL W
88-44	13-W	PUMP HOUSE FOR WELL Y
88-45	13-W	BACKFLOW OFFICERS' CHARTERS
88-46	11-W	BOAT HOUSE
88-47	14-W	SEWAGE BUILDING
88-48	13-W	ACADEMIC & GENERAL INST. BUILDING
88-49	14-W	ACADEMIC & GENERAL INST. BUILDING
88-50	15-L	APPL INST BLDG
88-51	15-W	HEAVY EQUIP & MINT TRANSPORT BLDG
88-52	15-L	APPL INST BLDG
88-53	14-W	E M SERVICE CLUB
S-88-54	15-W	BASEBALL DIAMOND
S-88-55	15-W	VOLLEY BALL COURT
S-88-56	15-L	VOLLEY BALL COURT
S-88-57	15-L	TENNIS COURT
S-88-58	15-W	BAWRTON AND HANDBALL COURT
S-88-59	15-L	TENNIS COURT

NUMBER	LOCATION	USE
S-88-61	15-J	SOFTBALL DIAMOND
S-88-62	15-W	STORAGE
S-88-63	15-W	STORAGE
S-88-64	15-N	WASH TANK
S-88-65	15-N	SLUDGE WASH BEDS
88-66	15-W	STORAGE
88-67	15-W	TELEPHONE EXCHANGE BUILDING
S-88-68	15-L	FUEL STORAGE AND PUMP ISLAND
88-69	15-W	APPLIED INSTRUCTION BUILDING
88-70	15-L	TOILET
88-71	15-W	APPL INST BLDG
88-72	15-L	APPL INST BLDG
88-73	15-L	APPL INST BLDG
88-74	15-L	APPL INST BLDG
88-75	15-L	APPL INST BLDG
88-76	15-L	APPL INST BLDG
88-77	15-L	APPL INST BLDG
88-78	15-L	APPL INST BLDG
88-79	15-L	APPL INST BLDG
88-80	14-J	ACADEMIC & GEN. INST. BUILDING
88-81	14-J	ACADEMIC & GEN. INST. BUILDING
88-82	13-J	TANG BLDG/ OTH
88-83	13-J	TANG BLDG/ OTH
88-84	13-J	TANG BLDG/ OTH
88-85	13-J	TANG BLDG/ OTH
88-86	13-J	TANG BLDG/ OTH
88-87	13-T	HISTORICAL MARKER (1)
88-88	13-W	STORAGE
88-89	13-W	STORAGE
S-T-9	3-W	FOREST FIRE AND OBSERVATION TOWER

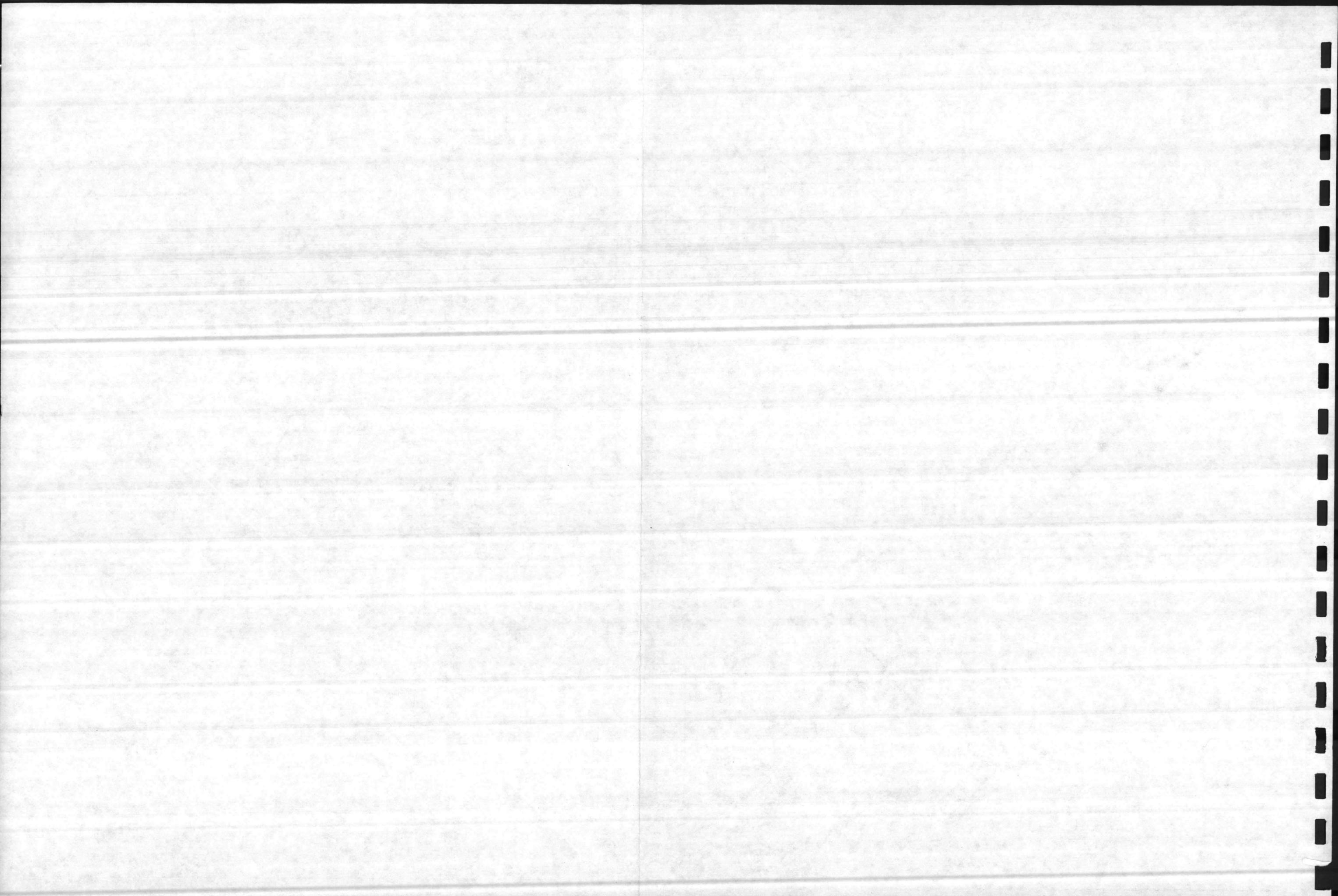
NUMBER	LOCATION	USE
88-89	18-N	ACD/ GEN INS BLDG
88-90	18-N	ACD/ GEN INS BLDG
88-91	18-N	ACD/ GEN INS BLDG
88-92	18-N	ACD/ GEN INS BLDG
88-93	18-N	ACD/ GEN INS BLDG
88-94	13-L	LUBRICATION FACILITY
88-95	13-L	ACD/ GEN INS BLDG
88-96	18-N	TOILET
88-97	18-N	PUMP HOUSE
88-98	18-N	TOILET
S-88-99	15-W	POLICE SET OFF
88-100	18-L	ACAD. GEN. INST. BLDG

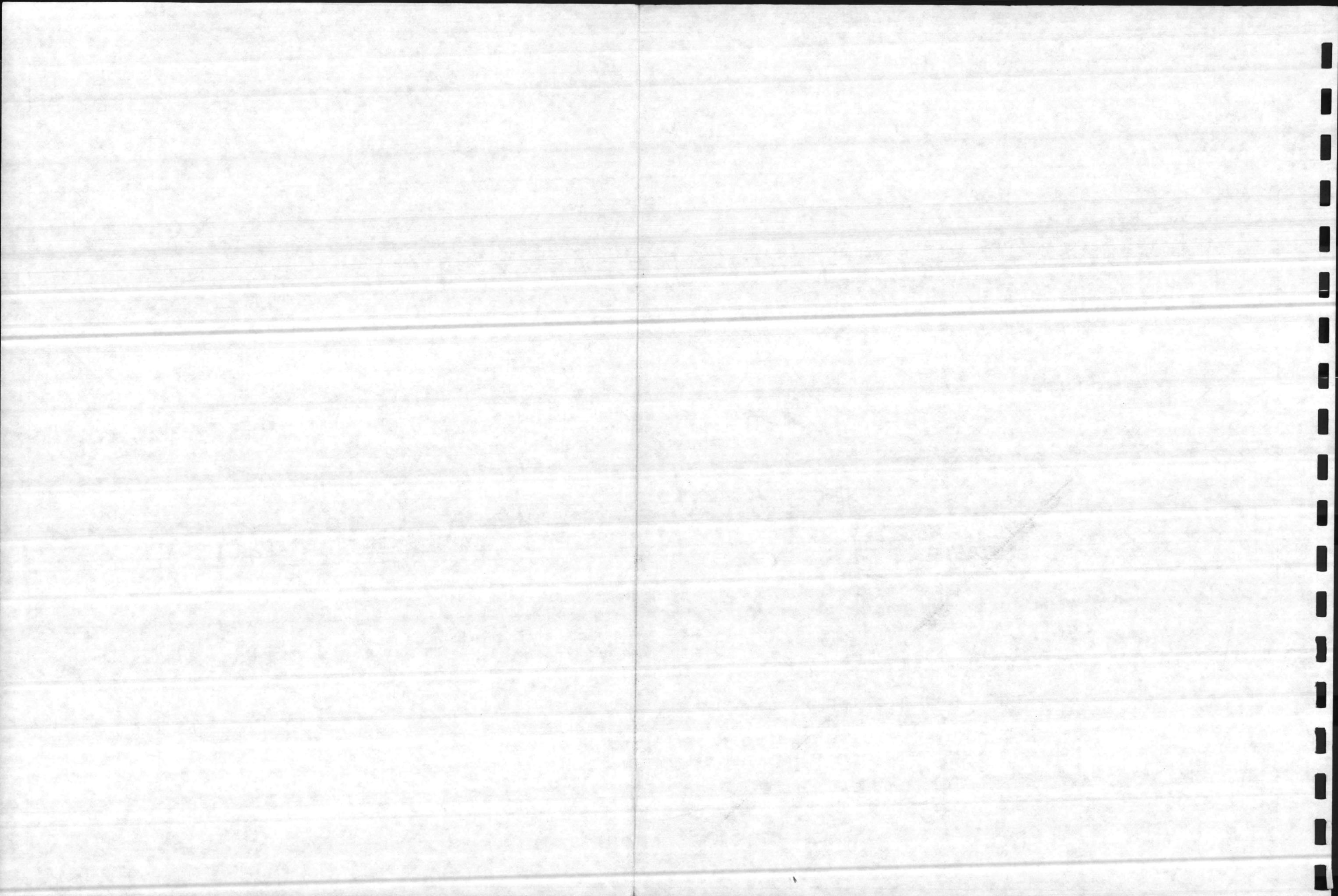
NUMBER	LOCATION	USE
A-1	11-L	AUTO VE MNT FAC
A-2	11-L	AMPHIBIOUS TRACTOR SHOP
A-3	11-L	WATER BALANCING TANK & CONTROL BUILDING
A-4	10-W	PUMP HOUSE FOR WELL W
A-5	10-W	PUMP HOUSE FOR WELL Y
A-6	10-W	PUMP HOUSE FOR WELL Z
A-7	10-W	ST COV ORG/ OTH
A-8	10-W	ST COV ORG/ OTH
A-9	10-W	ST COV ORG/ OTH
A-10	10-W	ST COV ORG/ OTH
A-11	10-W	ST COV ORG/ OTH
A-12	10-W	ST COV ORG/ OTH
A-13	10-W	ST COV ORG/ OTH
A-14	10-W	ST COV ORG/ OTH
A-15	10-W	ST COV ORG/ OTH
A-20	3-W	GATE HOUSE
S-A-21	11-W	FUEL DISPENSING FAC TTY
S-A-22	11-W	FUEL DISPENSING FAC TTY
S-A-23	11-W	FUEL DISPENSING FAC TTY
S-A-24	3-W	HISTORICAL MARKERS (3)
S-A-25	3-W	RECY HOUSE
S-A-26	10-J	GREASE RACK
S-A-27	10-J	WASH RACK
S-A-28	10-J	BOAT HOUSE
S-A-29	10-J	L V T MESH RACK
S-A-30	10-J	FUEL DISP FAC
S-A-31	11-J	ROPE CLIMB
S-A-32	11-J	ROPE CLIMB
S-A-33	11-J	ROPE CLIMB
S-A-34	11-J	ROPE CLIMB
S-A-35	11-J	ROPE CLIMB
S-A-36	11-J	ROPE CLIMB
S-A-37	11-J	ROPE CLIMB
S-A-38	11-J	ROPE CLIMB

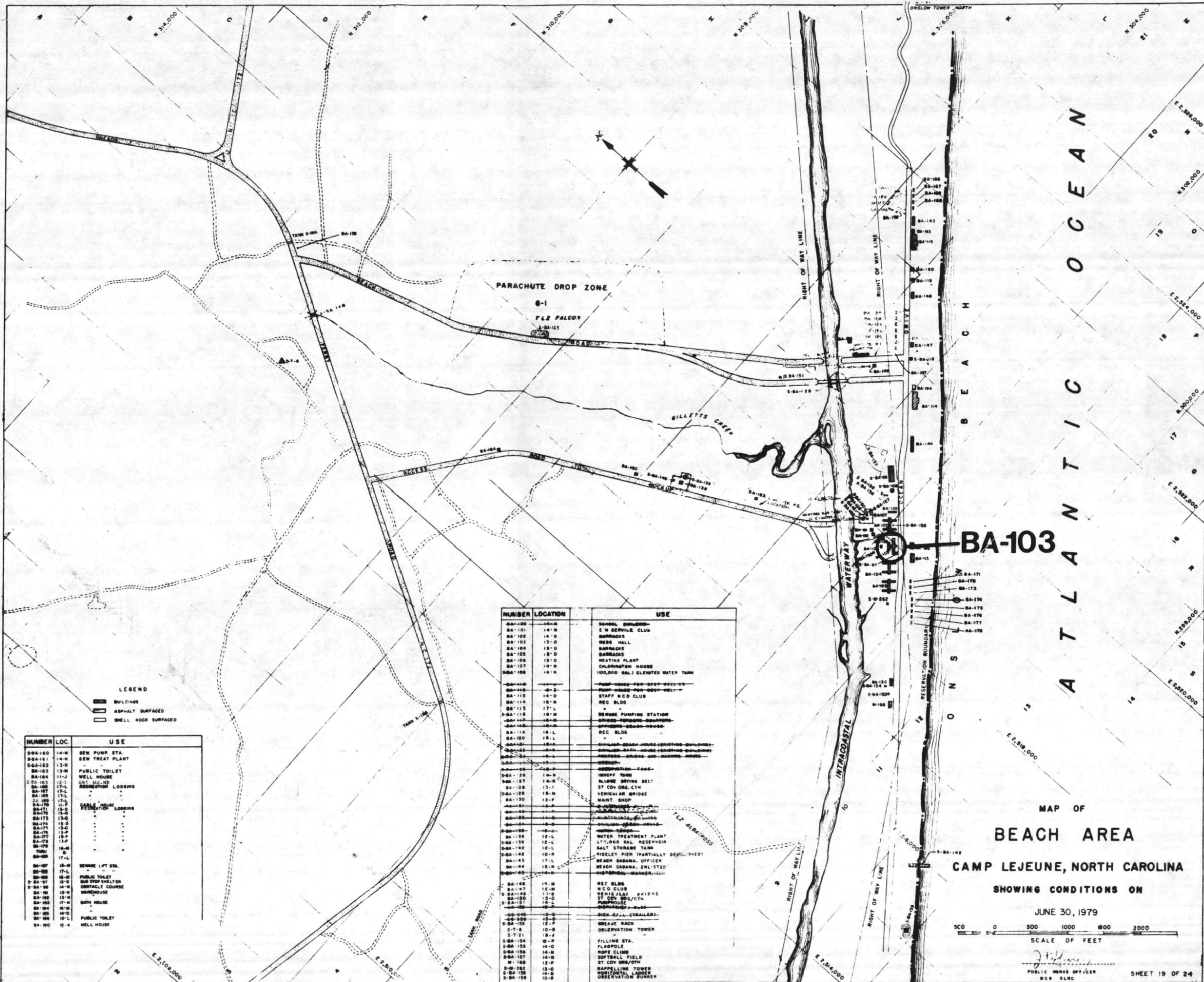
NUMBER	LOCATION	USE
S-88-10A	15-W	STATE FLAG
S-88-10B	15-W	NATIONAL FLAG

NUMBER	LOCATION	USE
88-221	14-J	TRAINING SUPPLY BLDG
88-222	14-J	PLUMBING SHELTER
88-223	14-J	CLASSROOM
88-224	14-J	STORAGE BLDG
S-88-225	14-J	STORAGE BLDG
S-88-226	14-J	STORAGE BLDG
S-88-227	14-J	STORAGE BLDG
88-228	14-W	STORAGE BLDG
88-229	14-W	STORAGE BLDG
88-230	14-W	STORAGE BLDG
88-231	14-W	STORAGE BLDG
88-232	14-W	STORAGE BLDG
88-233	14-W	STORAGE BLDG
88-234	14-W	STORAGE BLDG
S-88-235	14-W	STORAGE BLDG
88-236	14-W	STORAGE BLDG
88-237	14-W	STORAGE BLDG
88-238	14-W	STORAGE BLDG
88-239	14-W	STORAGE BLDG
88-240	14-W	STORAGE BLDG
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88-372	14-W	STORAGE BLDG
88-373	14-W	STORAGE BLDG
88-374	14-W	STORAGE BLDG
88-375	14-W	STORAGE BLDG
88-376	14-W	STORAGE BLDG
88-377	14-W	STORAGE BLDG
88-378	14-W	STORAGE BLDG
88-379	14-W	STORAGE BLDG
88-380	14-W	STORAGE BLDG
88-381	14-W	STORAGE BLDG
88-382	14-W	STORAGE BLDG
88-383	14-W	STORAGE BLDG
88-384	14-W	STORAGE BLDG
88-385	14-W	STORAGE BLDG
88-386	14-W	STORAGE BLDG
88-387	14-W	STORAGE BLDG
88-388	14-W	STORAGE BLDG
88-389	14-W	STORAGE BLDG
88-390	14-W	STORAGE BLDG
88-391	14-W	STORAGE BLDG
88-392	14-W	STORAGE BLDG
88-393	14-W	STORAGE BLDG
88-394	14-W	STORAGE BLDG
88-395	14-W	STORAGE BLDG
88-396	14-W	STORAGE BLDG
88-397	14-W	STORAGE BLDG
88-398	14-W	STORAGE BLDG
88-399	14-W	STORAGE BLDG
88-400	14-W	STORAGE BLDG

NUMBER	LOCATION	USE
S-88-135	15-W	BASEBALL DIAMOND
S-88-136	15-L	ACADEMIC & GENERAL INST. BLDG
S-88-137	15-L	ADMN BLDG
S-88-138	14-J	ACD/ GEN INS BLDG
S-88-139	14-J	ACD/ GEN INS BLDG
S-88-140	14-J	ACD/ GEN INS BLDG
S-88-141	14-J	ACD/ GEN INS BLDG
S-88-142	14-J	ACD/ GEN INS BLDG
S-88-143	14-J	ACD/ GEN INS BLDG
S-88-144	14-J	ACD/ GEN INS BLDG
S-88-145	14-J	ACD/ GEN INS BLDG
S-88-146	14-J	ACD/ GEN INS BLDG
S-88-147	14-J	ACD/ GEN INS BLDG
S-88-148	14-J	ACD/ GEN INS BLDG
S-88-149	14-J	ACD/ GEN INS BLDG
S-88-150	14-J	ACD/ GEN INS BLDG
S-88-151	14-J	ACD/ GEN INS BLDG
S-88-152	14-J	ACD/ GEN INS BLDG
S-88-153	14-J	ACD/ GEN INS BLDG
S-88-154	14-J	ACD/ GEN INS BLDG
S-88-155	14-J	ACD/ GEN INS BLDG
S-88-156	14-J	ACD/ GEN INS BLDG
S-88-157	14-J	ACD/ GEN INS BLDG
S-88-158	14-J	ACD/ GEN INS BLDG
S-88-159	14-J	ACD/ GEN INS BLDG
S-88-160	14-J	ACD/ GEN INS





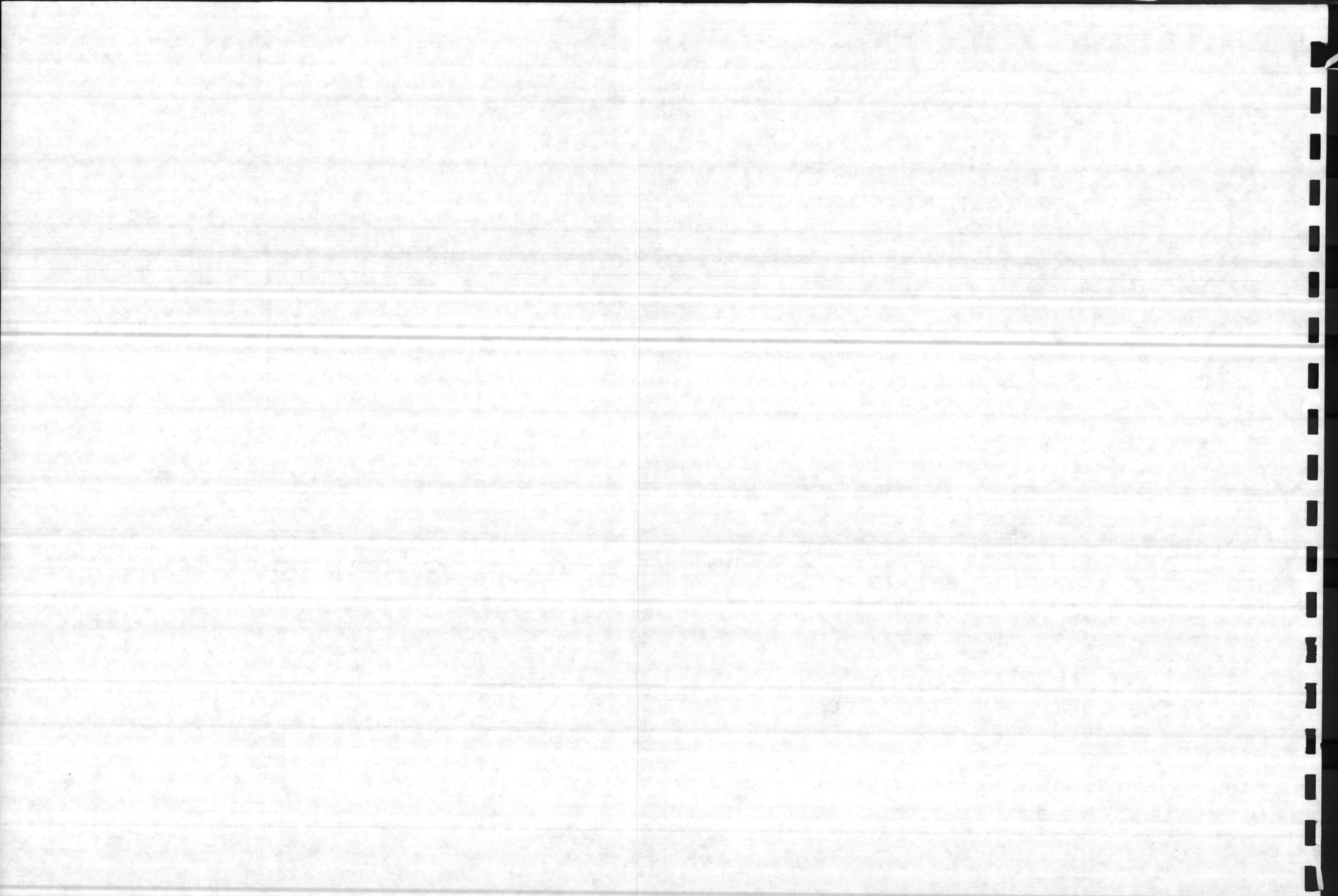


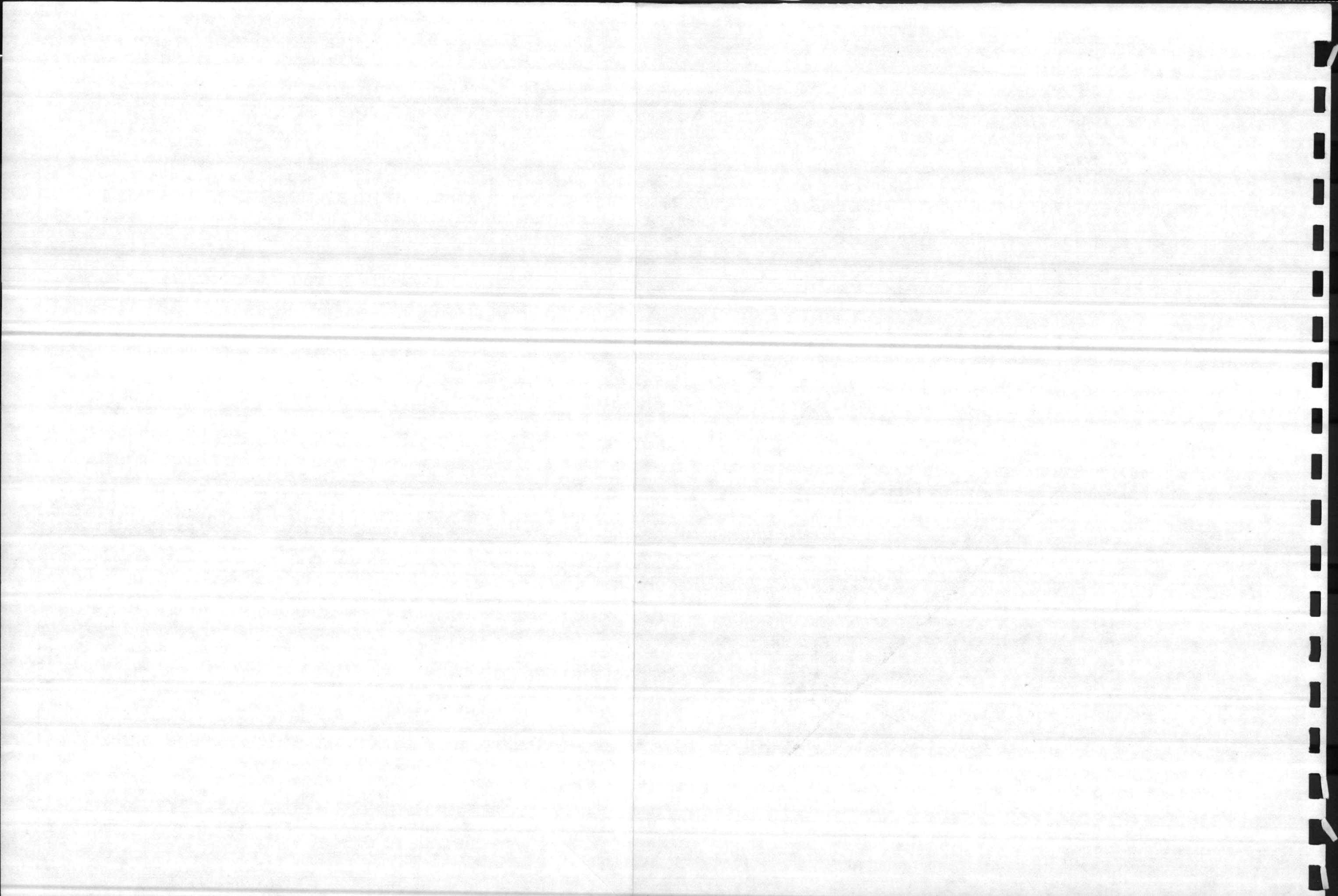
NUMBER	LOC.	USE
BA-160	14-N	SEW PUMP STA.
BA-161	14-N	SEW TREAT PLANT
BA-162	13-N	PUBLIC TOILET
BA-163	13-N	PUBLIC TOILET
BA-164	11-D	WELL HOUSE
BA-165	12-T	QRT. MOUNT
BA-166	17-L	RECREATION LODGING
BA-167	17-L	RECREATION LODGING
BA-168	17-L	RECREATION LODGING
BA-169	17-L	RECREATION LODGING
BA-170	17-L	RECREATION LODGING
BA-171	17-L	RECREATION LODGING
BA-172	17-L	RECREATION LODGING
BA-173	13-N	RECREATION LODGING
BA-174	13-N	RECREATION LODGING
BA-175	13-N	RECREATION LODGING
BA-176	13-N	RECREATION LODGING
BA-177	13-N	RECREATION LODGING
BA-178	13-N	RECREATION LODGING
BA-179	13-N	RECREATION LODGING
BA-180	13-N	RECREATION LODGING
BA-181	13-N	RECREATION LODGING
BA-182	13-N	RECREATION LODGING
BA-183	13-N	RECREATION LODGING
BA-184	13-N	RECREATION LODGING
BA-185	13-N	RECREATION LODGING
BA-186	13-N	RECREATION LODGING
BA-187	13-N	RECREATION LODGING
BA-188	13-N	RECREATION LODGING
BA-189	13-N	RECREATION LODGING
BA-190	13-N	RECREATION LODGING
BA-191	13-N	RECREATION LODGING
BA-192	13-N	RECREATION LODGING
BA-193	13-N	RECREATION LODGING
BA-194	13-N	RECREATION LODGING
BA-195	13-N	RECREATION LODGING
BA-196	13-N	RECREATION LODGING
BA-197	13-N	RECREATION LODGING
BA-198	13-N	RECREATION LODGING
BA-199	13-N	RECREATION LODGING
BA-200	13-N	RECREATION LODGING

NUMBER	LOCATION	USE
BA-100	14-N	SCHOOL BUILDING
BA-101	14-N	E N SERVICE CLUB
BA-102	14-N	BARRACKS
BA-103	13-N	MESS HALL
BA-104	13-N	BARRACKS
BA-105	13-N	BARRACKS
BA-106	13-N	HEATING PLANT
BA-107	14-N	CHILDREN HOUSE
BA-108	14-N	100,000 GAL ELEVATED WATER TANK
BA-109	14-N	100,000 GAL ELEVATED WATER TANK
BA-110	14-N	100,000 GAL ELEVATED WATER TANK
BA-111	14-N	100,000 GAL ELEVATED WATER TANK
BA-112	14-N	100,000 GAL ELEVATED WATER TANK
BA-113	14-N	100,000 GAL ELEVATED WATER TANK
BA-114	15-N	REC BLDG
BA-115	17-L	REC BLDG
BA-116	18-N	SEWAGE PUMPING STATION
BA-117	18-N	SEWAGE PUMPING STATION
BA-118	18-N	SEWAGE PUMPING STATION
BA-119	18-L	REC BLDG
BA-120	18-L	REC BLDG
BA-121	18-L	REC BLDG
BA-122	18-L	REC BLDG
BA-123	18-L	REC BLDG
BA-124	18-L	REC BLDG
BA-125	18-L	REC BLDG
BA-126	14-N	SHOW ROOM
BA-127	14-N	SHOW ROOM
BA-128	13-N	ST COV ORG. CTN
BA-129	13-N	ST COV ORG. CTN
BA-130	13-N	ST COV ORG. CTN
BA-131	13-N	ST COV ORG. CTN
BA-132	13-N	ST COV ORG. CTN
BA-133	13-N	ST COV ORG. CTN
BA-134	13-N	ST COV ORG. CTN
BA-135	13-N	ST COV ORG. CTN
BA-136	13-N	ST COV ORG. CTN
BA-137	13-N	ST COV ORG. CTN
BA-138	13-N	ST COV ORG. CTN
BA-139	13-N	ST COV ORG. CTN
BA-140	13-N	ST COV ORG. CTN
BA-141	13-N	ST COV ORG. CTN
BA-142	10-N	RISLEY PIER (PARTIALLY DEMOLISHED)
BA-143	17-L	BEACH CABANA OFFICER
BA-144	15-N	BEACH CABANA ENLISTED
BA-145	15-N	BEACH CABANA ENLISTED
BA-146	14-N	REC BLDG
BA-147	14-N	W.C. CLUB
BA-148	11-N	VENUE JLABI
BA-149	11-N	VENUE JLABI
BA-150	11-N	VENUE JLABI
BA-151	11-N	VENUE JLABI
BA-152	11-N	VENUE JLABI
BA-153	11-N	VENUE JLABI
BA-154	11-N	VENUE JLABI
BA-155	11-N	VENUE JLABI
BA-156	11-N	VENUE JLABI
BA-157	11-N	VENUE JLABI
BA-158	11-N	VENUE JLABI
BA-159	11-N	VENUE JLABI
BA-160	11-N	VENUE JLABI
BA-161	11-N	VENUE JLABI
BA-162	11-N	VENUE JLABI
BA-163	11-N	VENUE JLABI
BA-164	11-N	VENUE JLABI
BA-165	11-N	VENUE JLABI
BA-166	11-N	VENUE JLABI
BA-167	11-N	VENUE JLABI
BA-168	11-N	VENUE JLABI
BA-169	11-N	VENUE JLABI
BA-170	11-N	VENUE JLABI
BA-171	11-N	VENUE JLABI
BA-172	11-N	VENUE JLABI
BA-173	11-N	VENUE JLABI
BA-174	11-N	VENUE JLABI
BA-175	11-N	VENUE JLABI
BA-176	11-N	VENUE JLABI
BA-177	11-N	VENUE JLABI
BA-178	11-N	VENUE JLABI
BA-179	11-N	VENUE JLABI
BA-180	11-N	VENUE JLABI
BA-181	11-N	VENUE JLABI
BA-182	11-N	VENUE JLABI
BA-183	11-N	VENUE JLABI
BA-184	11-N	VENUE JLABI
BA-185	11-N	VENUE JLABI
BA-186	11-N	VENUE JLABI
BA-187	11-N	VENUE JLABI
BA-188	11-N	VENUE JLABI
BA-189	11-N	VENUE JLABI
BA-190	11-N	VENUE JLABI
BA-191	11-N	VENUE JLABI
BA-192	11-N	VENUE JLABI
BA-193	11-N	VENUE JLABI
BA-194	11-N	VENUE JLABI
BA-195	11-N	VENUE JLABI
BA-196	11-N	VENUE JLABI
BA-197	11-N	VENUE JLABI
BA-198	11-N	VENUE JLABI
BA-199	11-N	VENUE JLABI
BA-200	11-N	VENUE JLABI

BA-103

MAP OF
 BEACH AREA
 CAMP LEJEUNE, NORTH CAROLINA
 SHOWING CONDITIONS ON
 JUNE 30, 1979
 SCALE OF FEET
 0 500 1000 1500 2000
 PUBLIC WORKS OFFICER
 BCG CLMC
 SHEET 19 OF 24
 FOR OFFICIAL USE ONLY
 NAVAC DWG NO 4080348
 CAMP LEJEUNE, N.C.





MESS HALLS 122, 211, 325, 411, 508 AND 521
FAST FOOD RECOMMENDATIONS

The scope of this project is to evaluate major renovations to the existing mess halls as compared to the construction of three (3) new 3600 man facilities. Proposed locations for the consolidated facilities are at areas presently occupied by Buildings 206, 424 and 509. Base planning is to make final recommendations as to location of all new mess hall facilities.

Renovations shall include the addition of fast food service. Due to recent renovations, schematic studies will not be required for Mess Hall 508. The present mess halls were constructed in 1941. They are fully equipped food service facilities and designed to accommodate 1000 to 1200 men. Renovation studies are limited to interior space only.

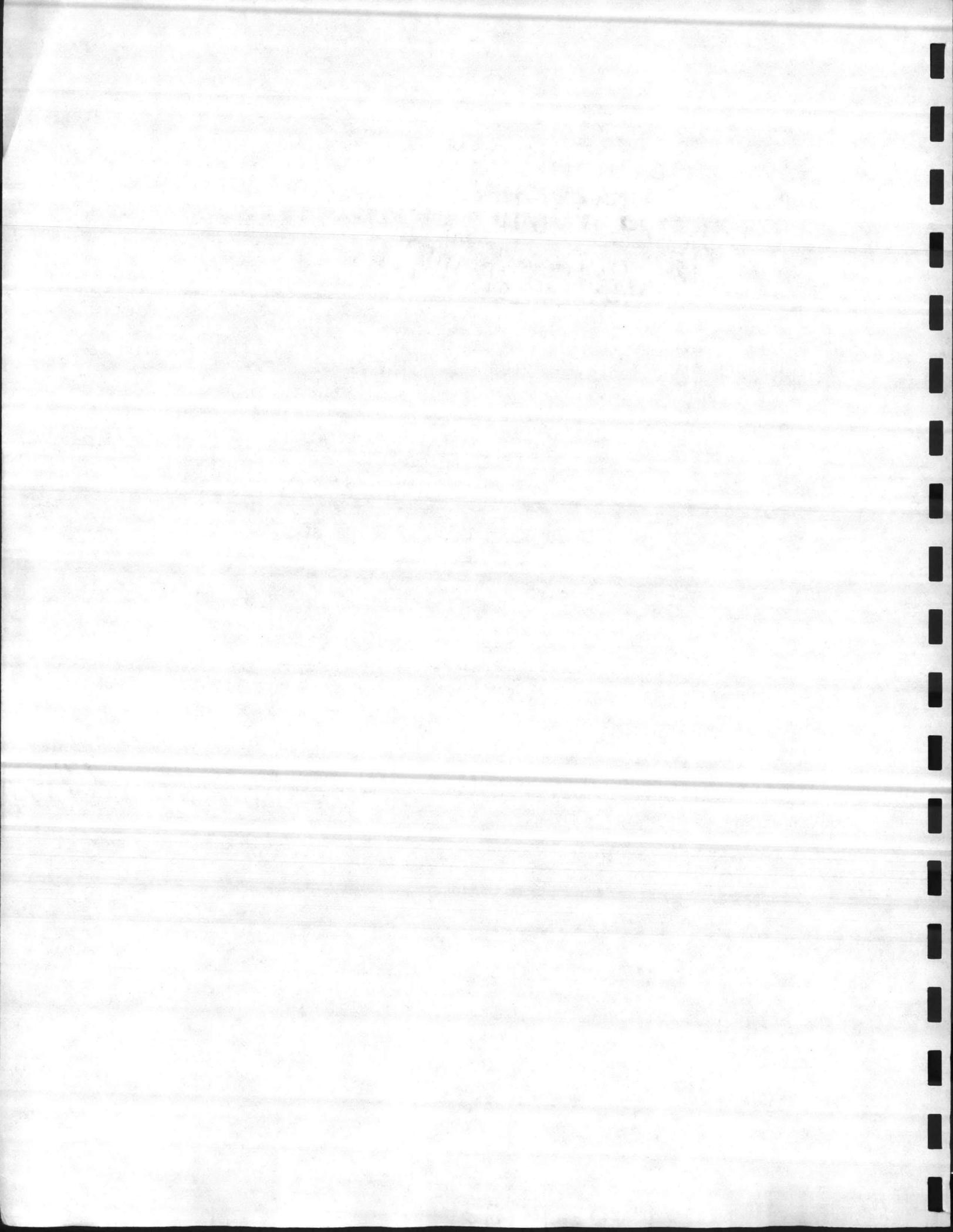
In order to make a valid comparison, architectural schematic studies of fast food renovation/additions and a new 3600 prototype were developed. The existing facilities have a number of major problems that are addressed in this study. Criteria for evaluation are as follows:

1. Advantages of consolidation
2. Existing facility conditions
3. HVAC requirements
4. Energy evaluation
5. Aesthetics
6. Civilian operation contracts
7. Food waste and garbage disposal

The fast food renovation concept separates conventional dining/serving from the fast food area. The scullery was relocated to the far end of the dining space. This relocation provides better patron circulation but requires the busing of clean dishes through dining areas. The fast food kitchen provides eat-in, take-out and drive-thru service. Reach-in refrigeration is provided because of the excessive distance to walk-in refrigeration. A new dry storage area is located adjacent to the utensil wash area.

Other modifications and additions to the existing facility include the following items:

1. The existing revolving ovens are to be removed.
2. New deck ovens are provided in a different location with an exhaust system.
3. Additional construction will be needed for a training room, subsistence office, manager's office, walk-in refrigeration and dry storage.



4. New hot and cold pass-through cabinets are added to provide better service to the existing serving lines.
5. The utensil wash area was developed in the old scullery space. New pot washing machine, dish tables and exhaust system were added.
6. The existing men's toilet was enlarged for shower, locker and dressing areas.
7. A new women's toilet was developed to also provide shower, locker and dressing areas.
8. A waste disposal system is located in the new scullery area and the GI Room.

As stated in the scope of this project, aesthetics and appearance of serving and dining are important elements of the overall project. Renovations to the entire facility would include the following items:

1. Special lighting systems
2. Mechanical systems
3. Acoustical tile ceiling
4. All floor finishes and materials
5. Vinyl wall covering/ceramic tile/painting
6. Wood trim and molding
7. Custom millwork
8. Art work and decor items
9. Custom seating units
10. Windows and insulation.

NOTE: These are typical items and finishes for this type of commercial fast food facility.

EVALUATION OF HADNOT POINT AREA MESS HALLS

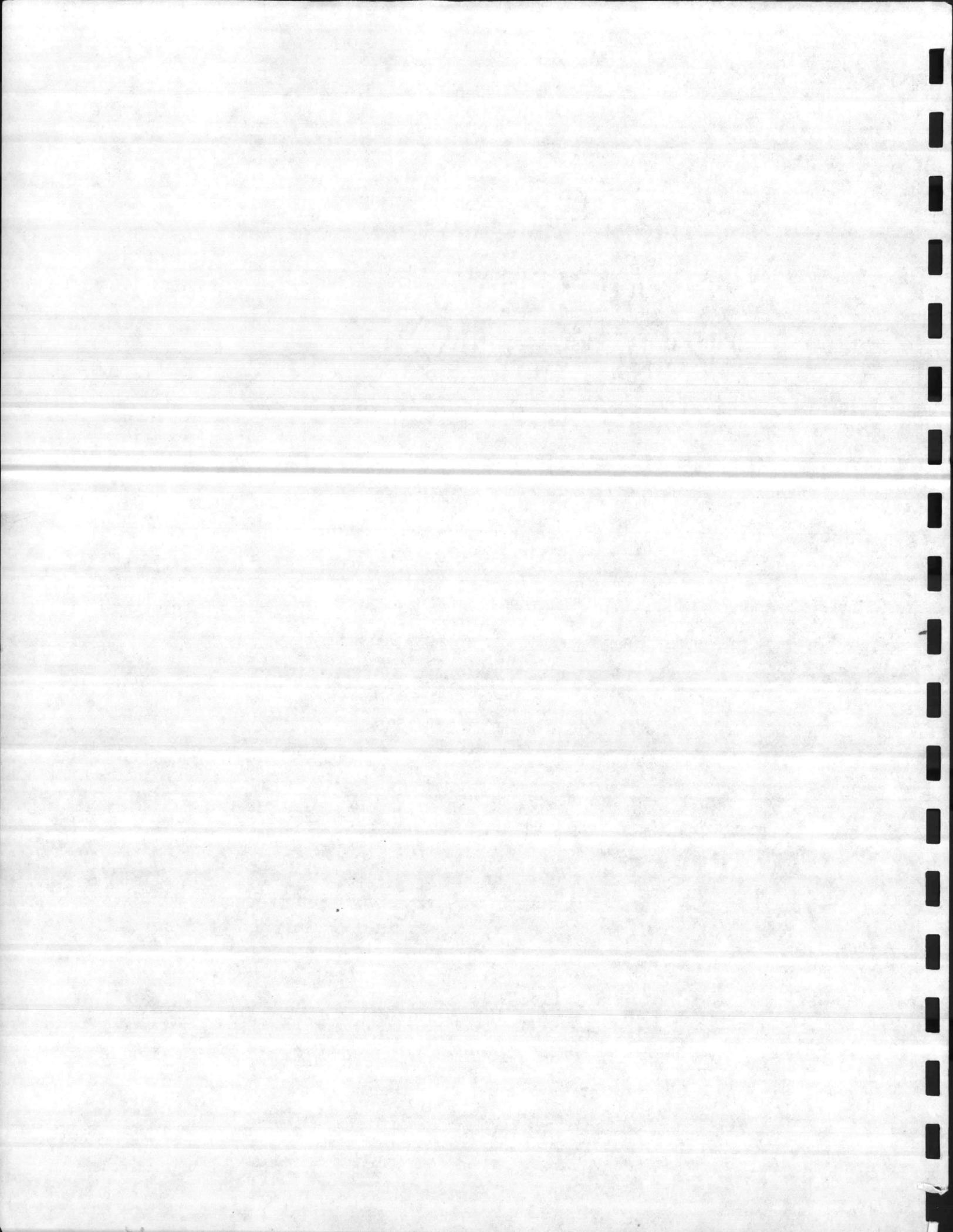
1. ADVANTAGES OF CONSOLIDATION

All comparative data that follows is based on seating capacities. The present six (6) facilities under evaluation are rated at 1200 seats per unit for a total capacity of 7200 seats. The three (3) prototype units are rated at 3600 seats per unit for a total capacity of 10,800 seats.

It is our understanding that present facilities are operating above capacity during certain times of the year due to summer reserve and other training programs. It is also anticipated that the addition of fast food service will significantly increase overall patron use.

A. Inventory Control:

Presently each mess hall operates as an individual facility. Food product deliveries and waste collections are required to each



facility. Consolidation would reduce the number of product deliveries and waste collections by 50%. We contend that properly designed consolidated facilities will increase staff efficiency and reduce food waste.

B. Energy Evaluation (Building Envelope):

612 BF/Tons
923 SF/ton
1237 SF/ton
Energy requirements for the existing mess hall facilities are estimated to be 19.6 BTU's per square foot. Renovations would include the following: additional wall insulation, additional attic insulation, insulated windows, new mechanical systems and new mechanical controls. After renovation, energy requirements are estimated to be 13.0 BTU's per square foot. The prototype 3600 energy requirements are estimated to be 9.7 BTU's per square foot. Using the above figures, we can make the following comparative calculations.

RENOVATED MESS HALLS

13.0 BTU's x 24,000 SF = 312,000 BTU's/facility

$$\begin{array}{r} \phantom{1,872,000 \text{ BTU's}} \\ \phantom{1,872,000 \text{ BTU's}} \times \phantom{6 \text{ units}} \\ \hline 1,872,000 \text{ BTU's} \end{array}$$

Est. Energy Use/Seat 1,872,000/7200 seats = 260

PROTOTYPE 3600 MAN MESS HALLS

9.7 BTU's x 47,000 SF = 455,900 BTU's/facility

$$\begin{array}{r} \phantom{1,367,700 \text{ BTU's}} \\ \phantom{1,367,700 \text{ BTU's}} \times \phantom{3 \text{ units}} \\ \hline 1,367,700 \text{ BTU's} \end{array}$$

Est. Energy Use/Seat 1,367,700/10800 seats = 126

Based on the above calculations, the prototype energy requirements per seat are approximately 50% as compared to the renovated mess hall facilities.

C. Staff Requirements:

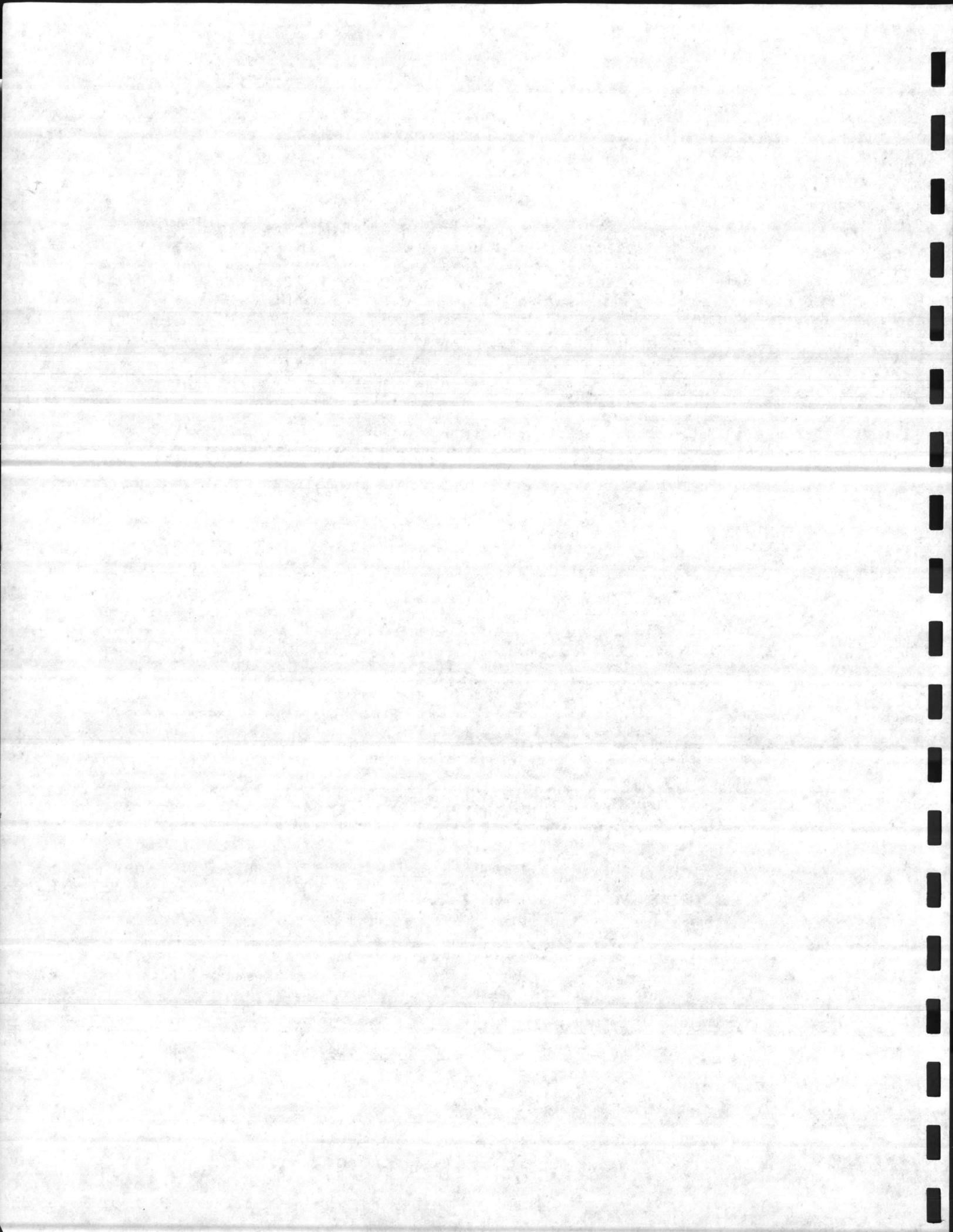
Present staff requirements for each existing mess hall is 78. Fast food service will require an additional 10 staff positions. Staff requirements for the prototype 3600 man facility is estimated to be 115. Using these figures, the following comparative calculations are possible:

RENOVATED MESS HALLS

$$\frac{7200 \text{ seating capacity}}{528 \text{ staff requirements}} = 13.64 \text{ seats/staff ratio}$$

PROTOTYPE 3600 MAN MESS HALLS

$$\frac{10800 \text{ seating capacity}}{345 \text{ staff requirements}} = 31.3 \text{ seats/staff ratio}$$



Based on the above calculations, the prototype is over twice as efficient in seating capacity to staff requirements as compared to the renovated mess hall facilities.

D. Cost Analysis:

Construction cost and collateral equipment cost for mess hall renovations are estimated to be \$1,695,800.00 per facility. Construction and collateral equipment costs for the prototype 3600 mess hall are estimated to be \$5,060,000.00 per facility. The following cost comparison is based on five (5) facilities due to recent renovations at Mess Hall 508. Using the above figures, the following comparative calculations are possible:

RENOVATED MESS HALLS	
Total estimated cost/facility	\$1,695,800.00
	x 5 units
Total estimated cost	\$8,479,000.00

\$8,479,000. = \$1,413.17 cost/seat
6000 total seating capacity

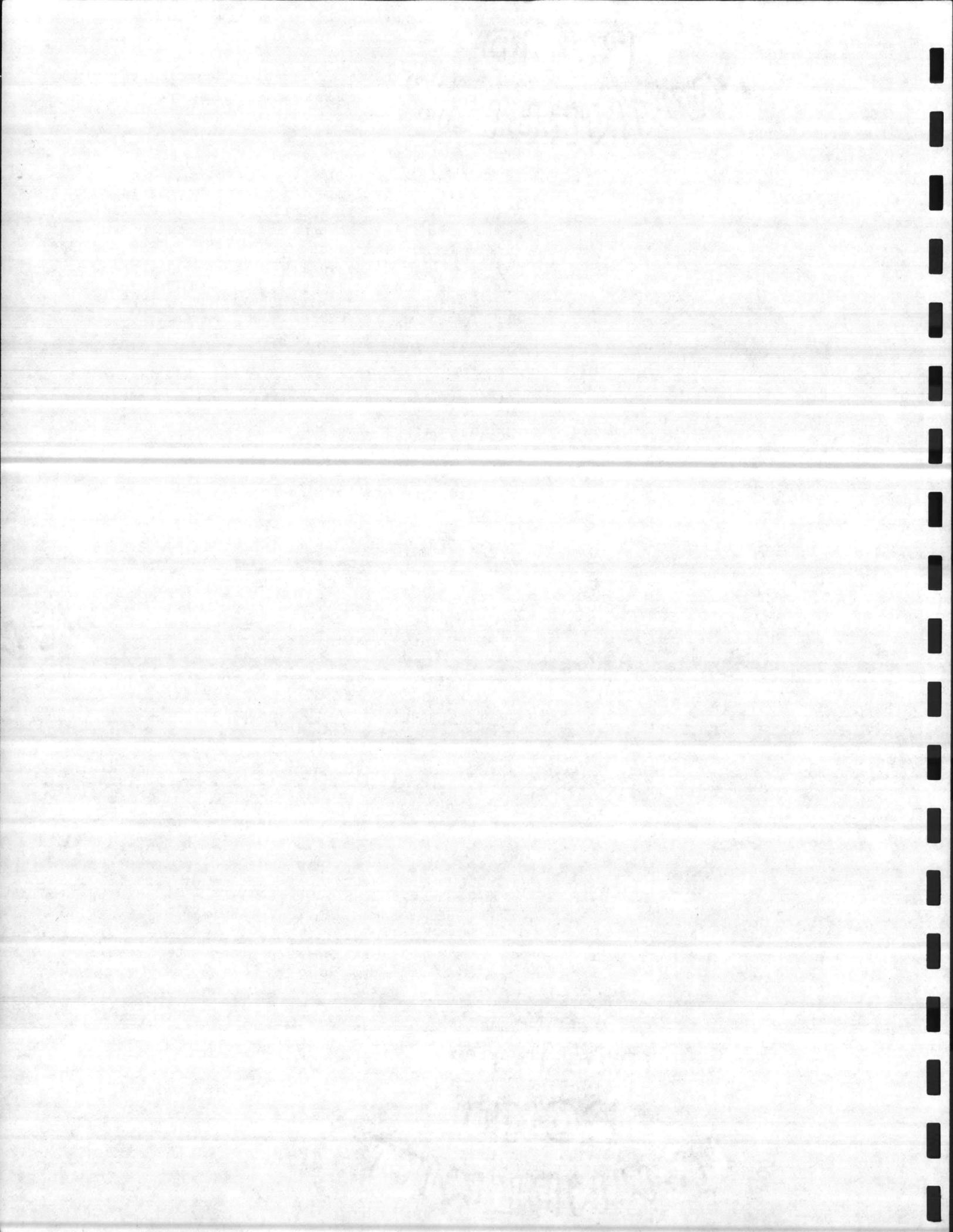
PROTOTYPE 3600 MAN MESS HALLS	
Total estimated cost/facility	\$5,060,800.00
	x 3 units
Total estimated cost	\$15,180,000.00

\$15,180,000. = \$1,405.56 cost/seat
10800 total seating capacity

Based on the above calculations, the prototype is more cost effective per seat as compared to the renovated mess hall facilities.

E. Future Contract Operation:

Long range projections indicate that dining facility operations may be contracted out to private food service management companies. Because of location and the number of facilities involved, managerial problems will be significant. Inventory control and seating to staff ratio requirements are major concerns for the private food service contractor. As noted previously, consolidation with increased seating capacity per facility has a significant effect on both of these areas of concern. Therefore, we contend that the private food service management company would look more favorably at the operation of consolidated new facilities and, in turn, the overall operation of the facilities would be more cost effective.



2. EXISTING FACILITY CONDITIONS (STRUCTURAL)

The structural system of the existing mess hall facilities is a combination of steel trusses, wood trusses, steel columns and load bearing stud walls. No excessive deflections or settlements were observed from the interior or exterior. The only problem observed was moderate cracking of brick veneer at extreme corners of the long front exterior wall. We contend that the main reason for this cracking is inadequate masonry control joints. In general, the mess halls appear to be structurally sound and capable of long term use.

3. HVAC REQUIREMENTS

The existing mess hall facilities have a number of HVAC related problems. The scullery area is the most obvious. Working conditions in the scullery are impaired by the excessive heat and steam generated by the dish machine. We would recommend the installation of new make-up air ventilation equipment utilizing primarily outside air.

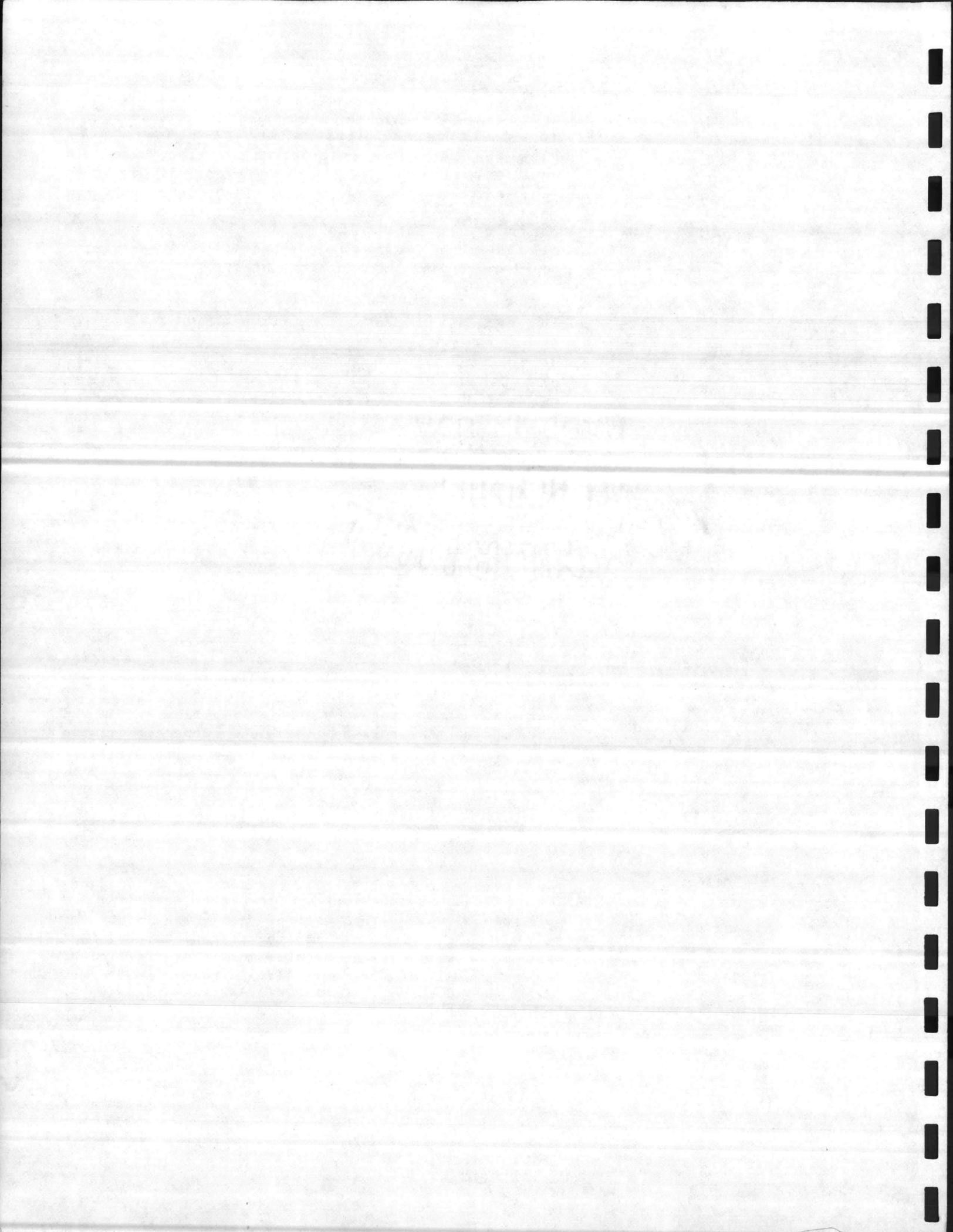
The existing general kitchen area is reasonably well ventilated except for the revolving ovens. It is our understanding that these ovens are scheduled to be replaced with stack deck ovens. It is our recommendation that new ventilation equipment be installed for the new stack deck ovens.

The cooling system for the dining area is presently inadequate. However, the existing equipment appears to be well maintained. The fast food schematic separates the dining areas and indicates that additional insulation be installed in the walls and above the ceiling. We also recommend that new mechanical equipment, air distribution system and mechanical controls be installed. Separating zones and providing additional capacity will have a positive effect on the existing dining area.

4. ENERGY EVALUATIONS

(See paragraph "B" under ADVANTAGES OF CONSOLIDATION.)

The comparison as noted above is made solely on the building envelope itself. This comparison indicates that the energy consumption per person seated in the prototype is less than half of that in the renovated mess halls. In addition, new mechanical equipment and food service equipment is more energy efficient than the existing systems. In all respects, the new prototype mess halls will yield considerable savings in energy usage.



5. AESTHETICS

The main purpose of this study is to give direction to a new concept in food service programs at the Marine Corps Base. This concept not only provides a variety of menu but more importantly addresses the perspective of the patron and how he or she perceives base food service programs as a military benefit. The new facilities are to provide services that are competitive and comparable to off-base dining facilities. Architecturally and aesthetically, the existing facilities do not provide the vehicle for implementation of these new food service concepts.

It should be noted that these renovation studies are limited to interior areas only. The exterior appearance and development of surrounding areas are contributing factors to the overall success of the project. If renovation is warranted in lieu of new construction, additional studies should be developed to architecturally address existing building facades and surrounding site development. Treatment of these areas should include raised planters and landscaping that would give direction and order to patron circulation.

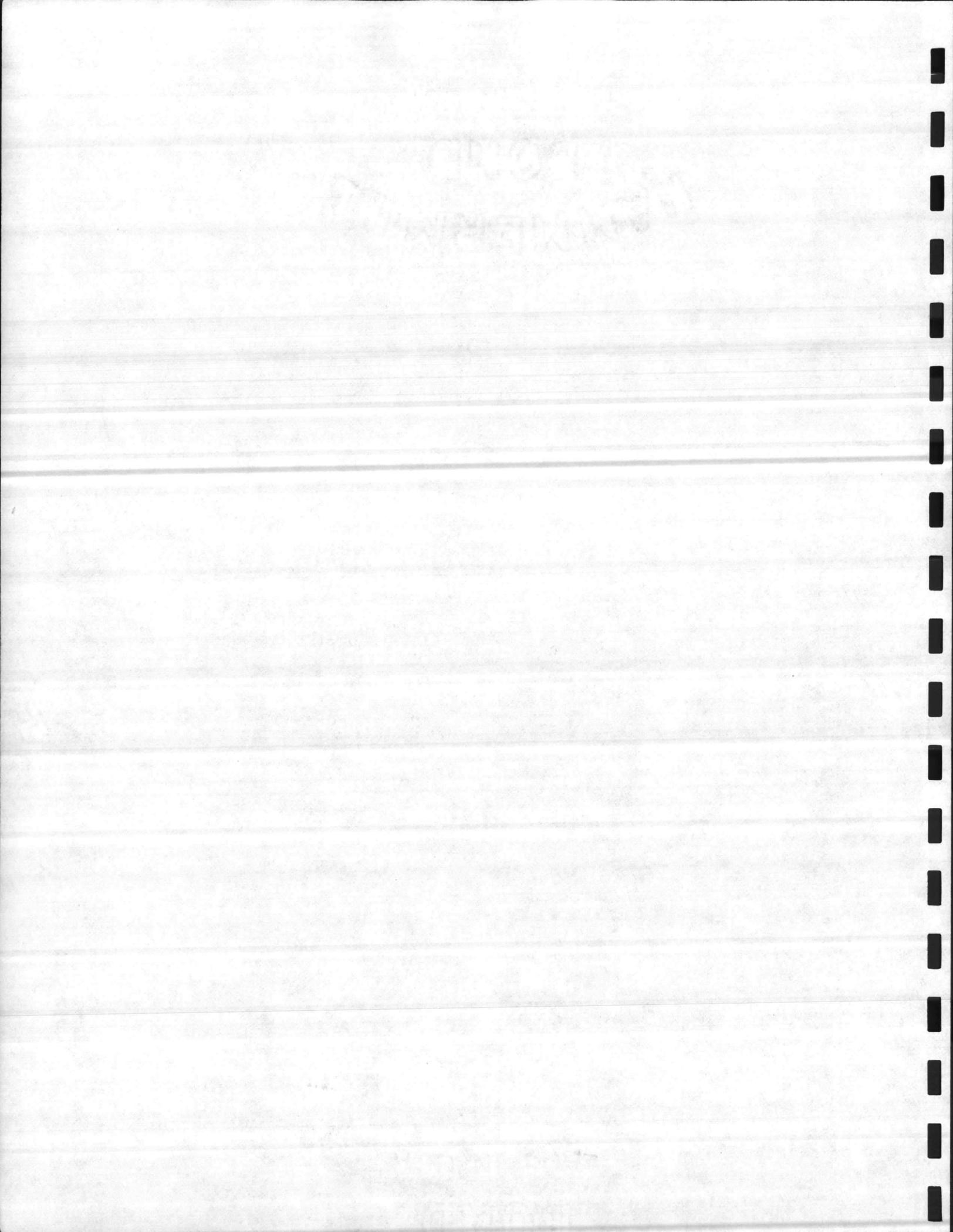
6. OUTSIDE CONTRACT FOOD SERVICE OPERATION
(See paragraph "E" under ADVANTAGES OF CONSOLIDATION)

7. FOOD WASTE AND GARBAGE DISPOSAL

The renovation concept is designed to incorporate an engineered waste disposal system. Presently all food and paper waste is separated. Paper waste is transported to dumpsters and food waste is stored and sold. The engineered waste disposal system would include two waste pulpers and one water press. The waste system produces a pulp mixture of food, paper and water. The pulp is then piped overhead to the water press in the GI Room. The second pulper will be located in the GI Room for miscellaneous waste items and cardboard boxes. Both pulpers are piped to the one water press. Separation of food and paper waste will not be required.

The engineered waste disposal system is a closed-loop design. Nearly 95% of the water that carries the pulp to the water press is recovered and returned to the pulper, keeping the unit continually flushed, and minimizing the introduction of fresh water. Bulk volume of waste should be reduced by 85%.

The disposal system as described above is an expensive but effective method of handling food service waste. We contend that it would be more cost effective to provide the more comprehensive waste disposal system at three prototype 3600 man mess halls than to install separate systems at the six mess halls under evaluation.



MESS HALLS 122, 211, 325, 411 AND 521
COLLATERAL EQUIPMENT LIST

GENERAL KITCHEN AREA

Quantity	Description
1	3 Door Hot Food Pass-thru Cabinet
1	3 Door Cold Food Pass-thru Cabinet
6	Pass-thru Carts
4	3-Section Deck Oven
✓1	Exhaust Hood

SCULLERY AREA

Quantity	Description
1	Flight type Dish machine
1	Silver soak sink
40'	Dish table
12'	Sloped overshelf
1	Utility sink
1	Waste pulper

UTENSIL WASH AREA

Quantity	Description
1	Pot wash machine
1	Dish table
1	3-Compartment Sink with drain board
✓1	Exhaust hood

DRY STORAGE AREA

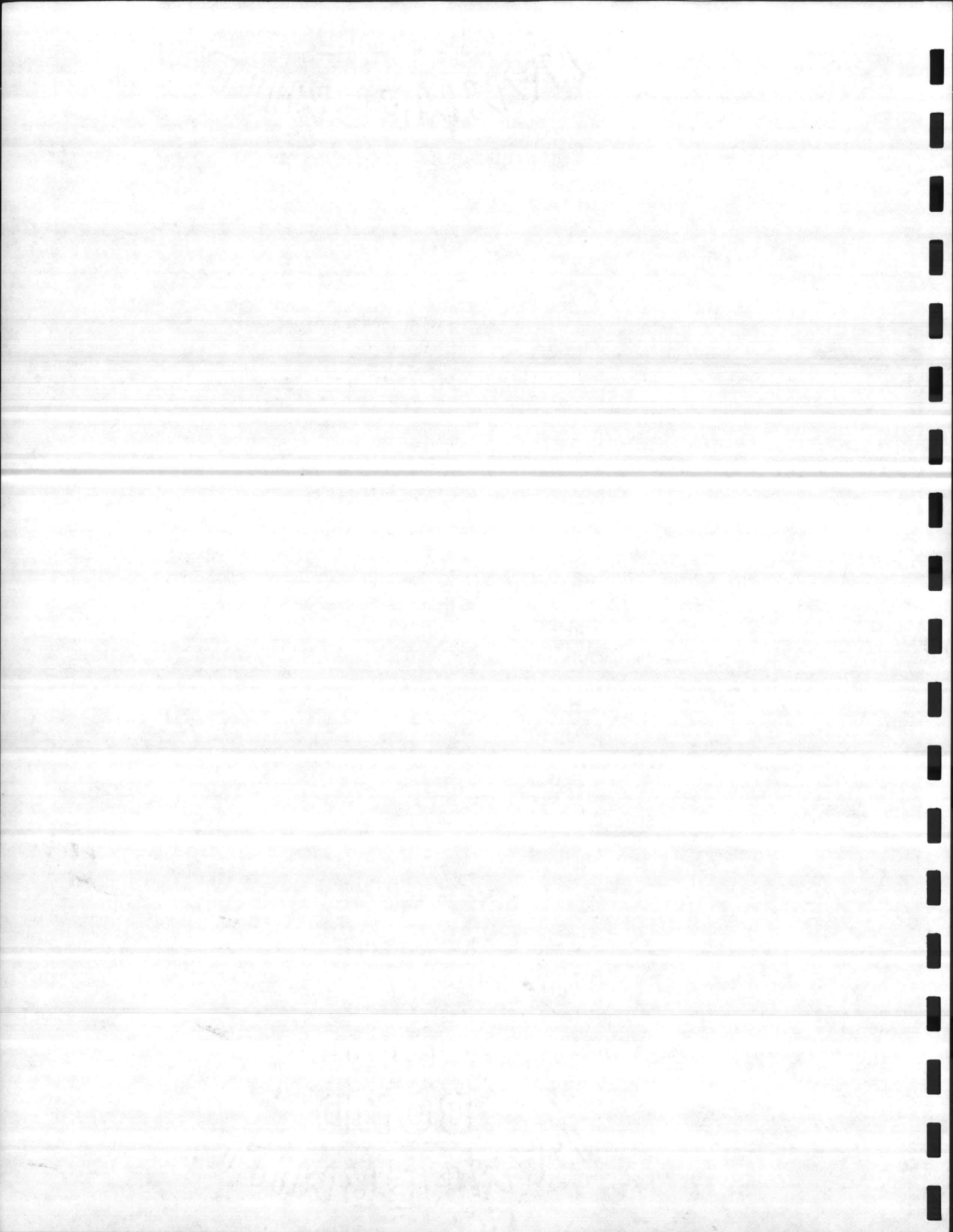
Quantity	Description
100'	Metal Shelving
24'	Dunnage Rack

MINOR PROPERTIES AREA

Quantity	Description
34'	Metal Shelving

COOLER ADDITION

Quantity	Description
56'	Metal Shelving



MESS HALLS 122, 211, 325, 411 AND 521
 COLLATERAL EQUIPMENT LIST

FAST FOOD KITCHEN

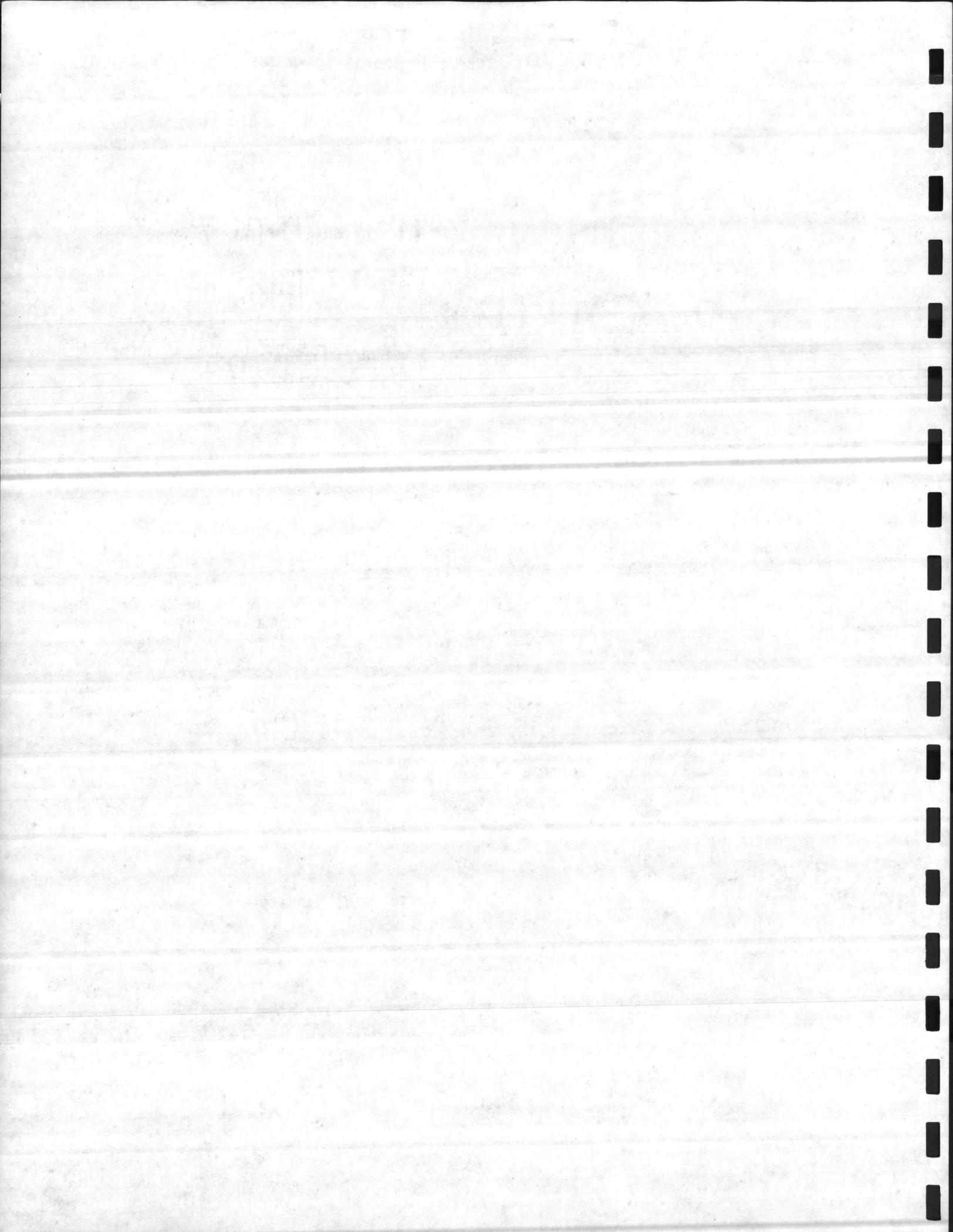
Quantity	Description
1	Hand Lavatory
6+	Bread Racks by Others
1	Fry Basket Rack
1	Auto Fry Filter System
5	Deep Fat Automatic Fry Kettles
1	Fry Dump Station
1	Heat Lamp Fry Holding Station
1	Auto Hamburger Broiler
1	Mobile Work table
2	Bun Toasters
1	Steam Holding Unit
4	Microwave Ovens
2	Chef's Tables
1	72" Griddle
1	Two Eye Hotplate
1	Equipment Stand
1	6'-0" x 2'-6" Work table
✓ 3	Exhaust Hoods
1	3'-0" x 2'-6" Work table
1	Potato Machine
1	Ice Machine, Cube Type, 400 lb. cap./ 550 lb. storage
1	Ice Cart
1	3 Compartment Sink with Drain Boards
1	TV Monitor for special sandwiches
1	Sandwich holding unit with refrigerated base

FAST FOOD SERVING AREA

Quantity	Description
1	Carbonated Drink Dispenser
1	Ice Storage Unit
1	Beverage Dispenser
1	Soft Serve/Milkshake Machine
4	Cup Dispensers
1	Microphone System
✓ 1	Drive-thru Microphone/Menu Display
1	Refrigerated Salad Bar
1	Beverage table
1	Menu display panel

BEVERAGE REFILL AREA

Quantity	Description
1	Ice Dispenser
1	Carbonated Drink Dispenser
2	Beverage Dispensers
1	Coffee Urn
1	Microwave Oven
5	Cup Dispensers
9	Trash Containers
20'	Tray Slide



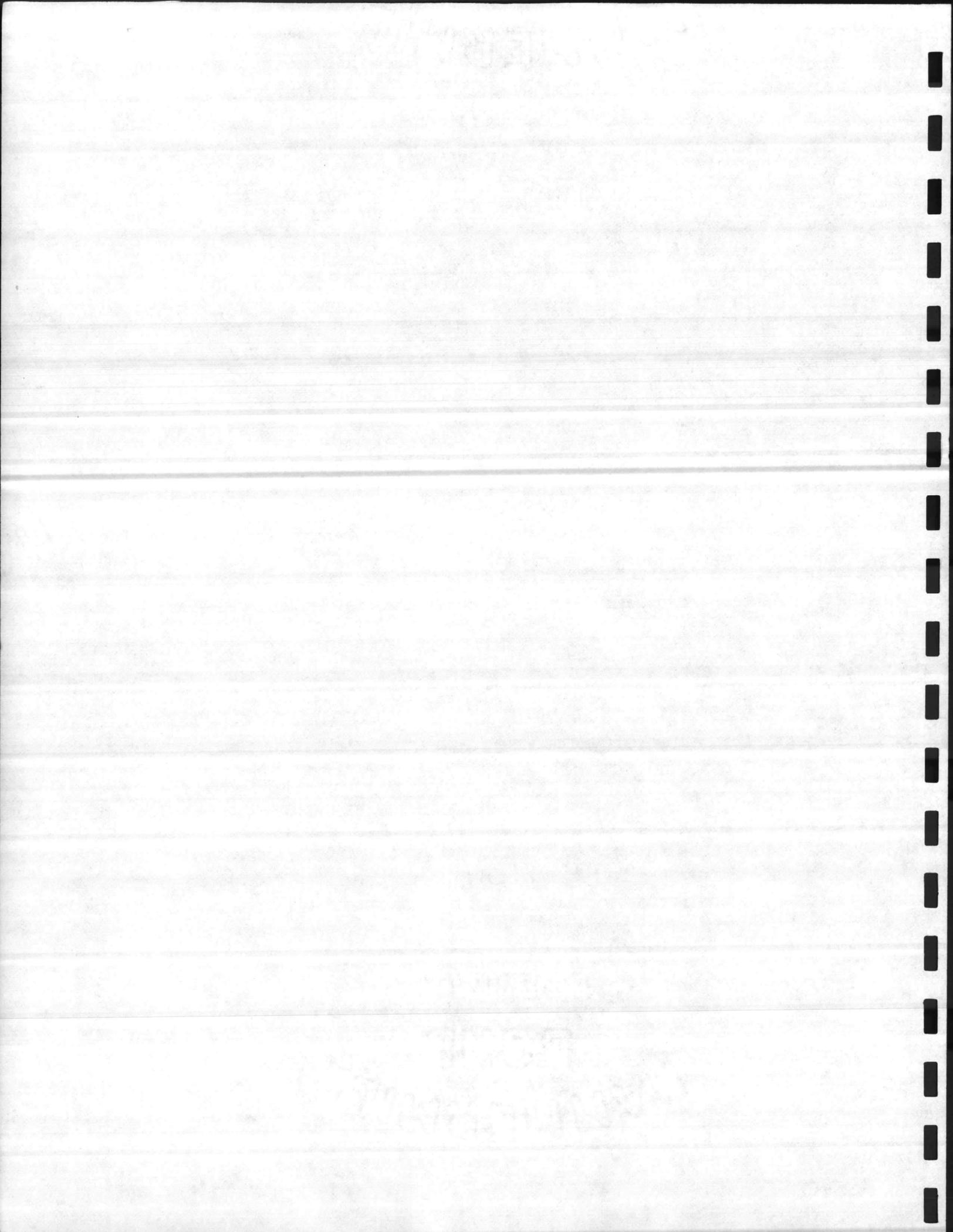
MESS HALLS 122, 211, 325, 411 AND 521
COLLATERAL EQUIPMENT LIST

FAST FOOD DINING

Quantity	Description
152	Fast Food Seats
38	Fast Food Tables
252	Regular Dining Seats
63	Regular Dining Tables

GI ROOM

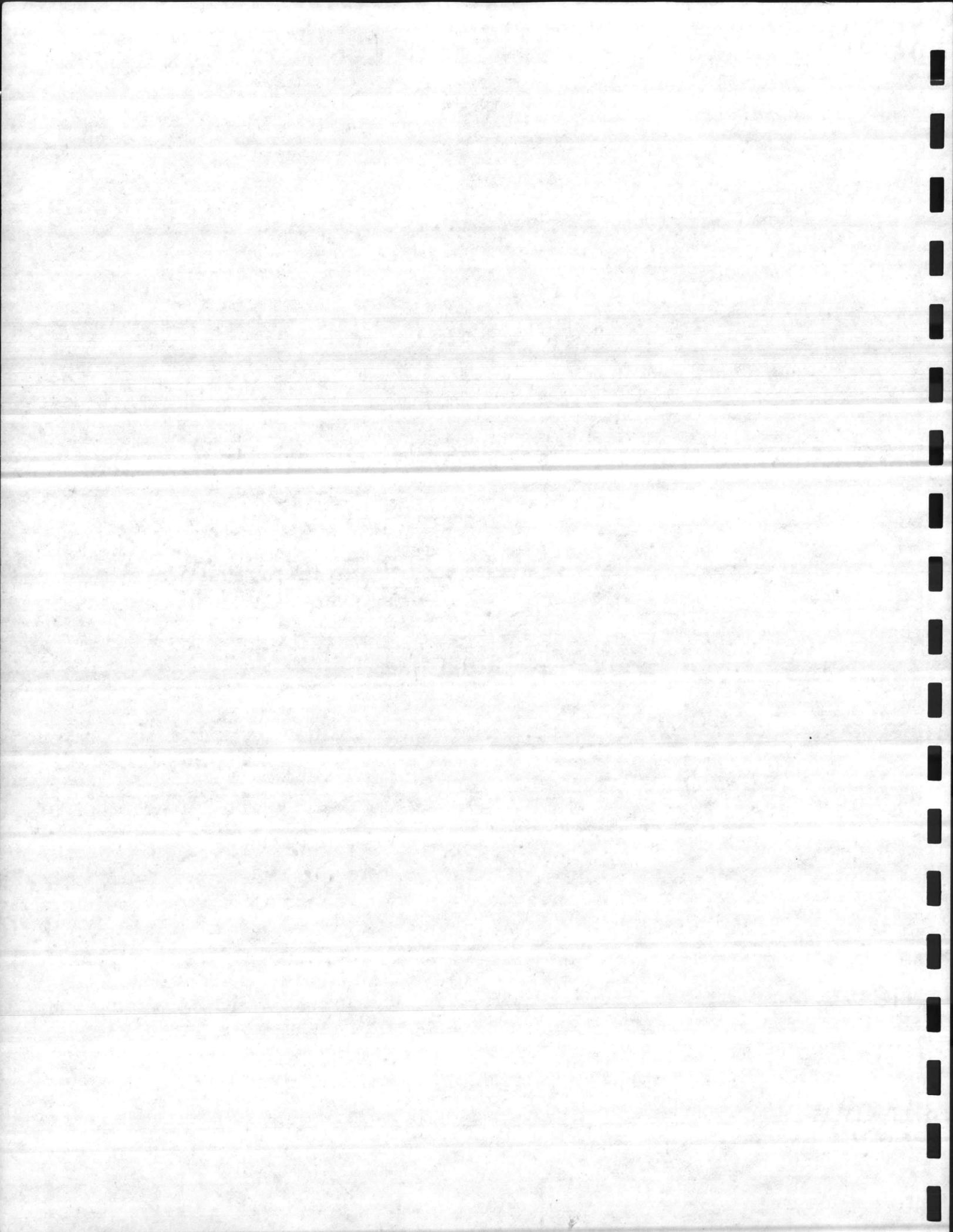
Quantity	Description
1	Waste Pulper
1	Water Press



MESS HALLS 122, 211, 325, 411 AND 521
COLLATERAL EQUIPMENT COST ESTIMATE

GENERAL KITCHEN AREA	\$ 41,180.00
SCULLERY AREA	\$37,965.00
UTENSIL WASH AREA	\$7,900.00
DRY STORAGE AREA	\$6,720.00
MINOR PROPERTIES AREA	\$2,040.00
COOLER ADDITION	\$3,360.00
FAST FOOD KITCHEN AREA	\$68,300.00
FAST FOOD SERVING AREA	\$26,200.00
BEVERAGE REFILL AREA	\$12,900.00
FAST FOOD DINING	\$66,300.00
GI ROOM (WASTE DISPOSAL SYSTEM)	\$61,518.00
VENTILATION EQUIPMENT	\$56,900.00

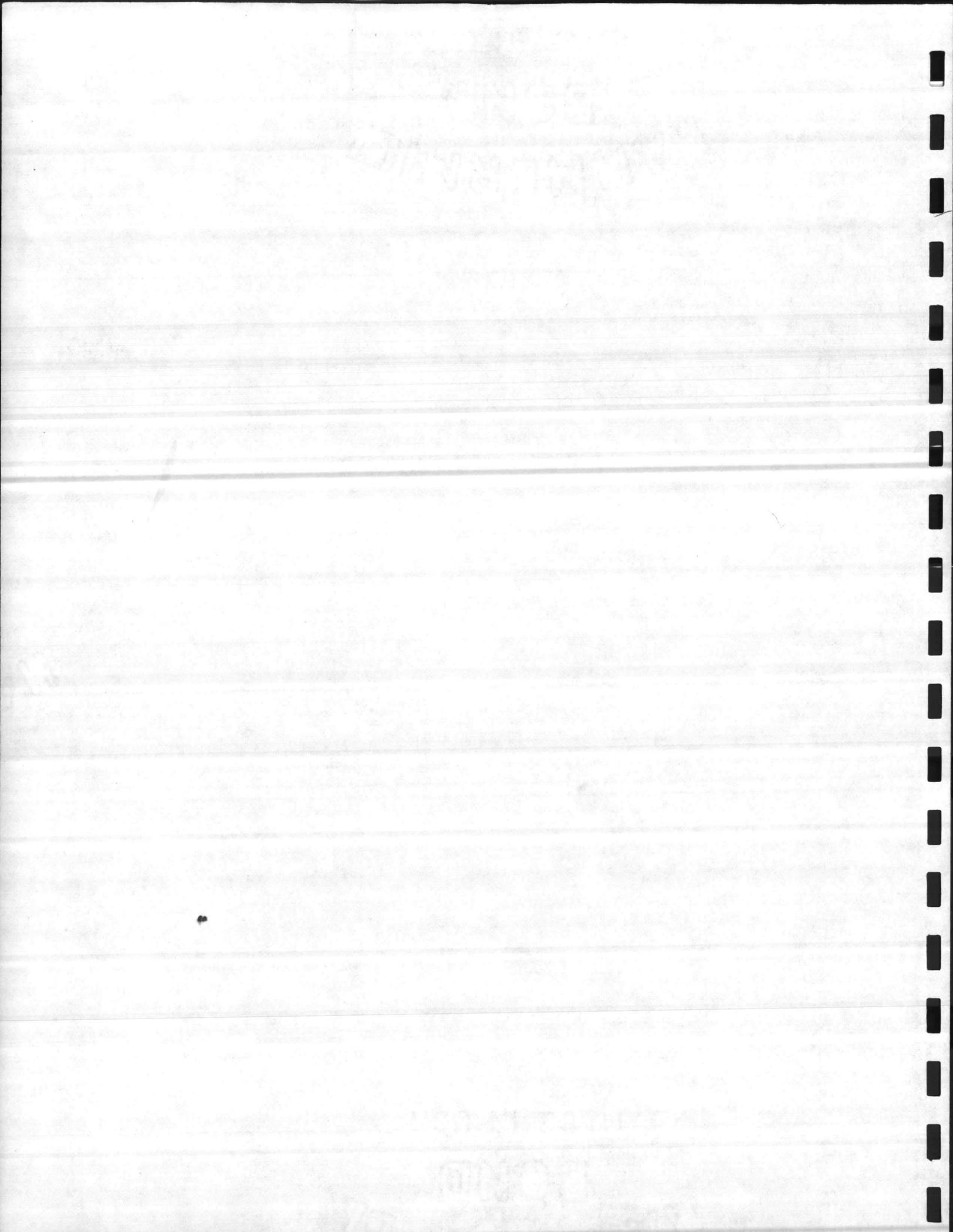
122, 211, 325, 411, 508 AND 521
TOTAL COST ESTIMATE FOR
COLLATERAL EQUIPMENT
(TYPICAL EACH BUILDING) \$391,283.00



MESS HALLS 122, 211, 325, 411 AND 521
ESTIMATED CONSTRUCTION COSTS

ADDITIONS AND RENOVATIONS TO EXISTING,
1200 CAPACITY, 40 YEAR OLD BUILDINGS
TYPICAL EACH BUILDING

1. New Construction (Bldg Additions)	
2,200 SF @ \$85/SF	\$187,000.00
2. Renovated Areas (Existing Bldg)	
A. Additional Serving & Preparation Spaces	
1,900 SF @ \$65/SF	\$123,500.00
B. Present Serving & Preparation Spaces	
10,400 SF @ \$45/SF	\$468,000.00
C. Present Dining Spaces	
9,900 SF @ \$40/SF	<u>\$396,000.00</u>
SUBTOTAL	\$1,174,500.00
3. Site Support	
A. Site Utility Changes	\$35,000.00
B. Demolition	\$20,000.00
C. Site Improvements	<u>\$75,000.00</u>
SUPPORT COST SUBTOTAL	\$130,000.00
4. Collateral Equipment	<u>\$391,300.00</u>
TOTAL ESTIMATED COST ADDITIONS, RENOVATIONS & EQUIPMENT (TYPICAL EACH BUILDING)	\$1,695,800.00



PROTOTYPE 3600 MAN MESS HALL
FAST FOOD RECOMMENDATIONS

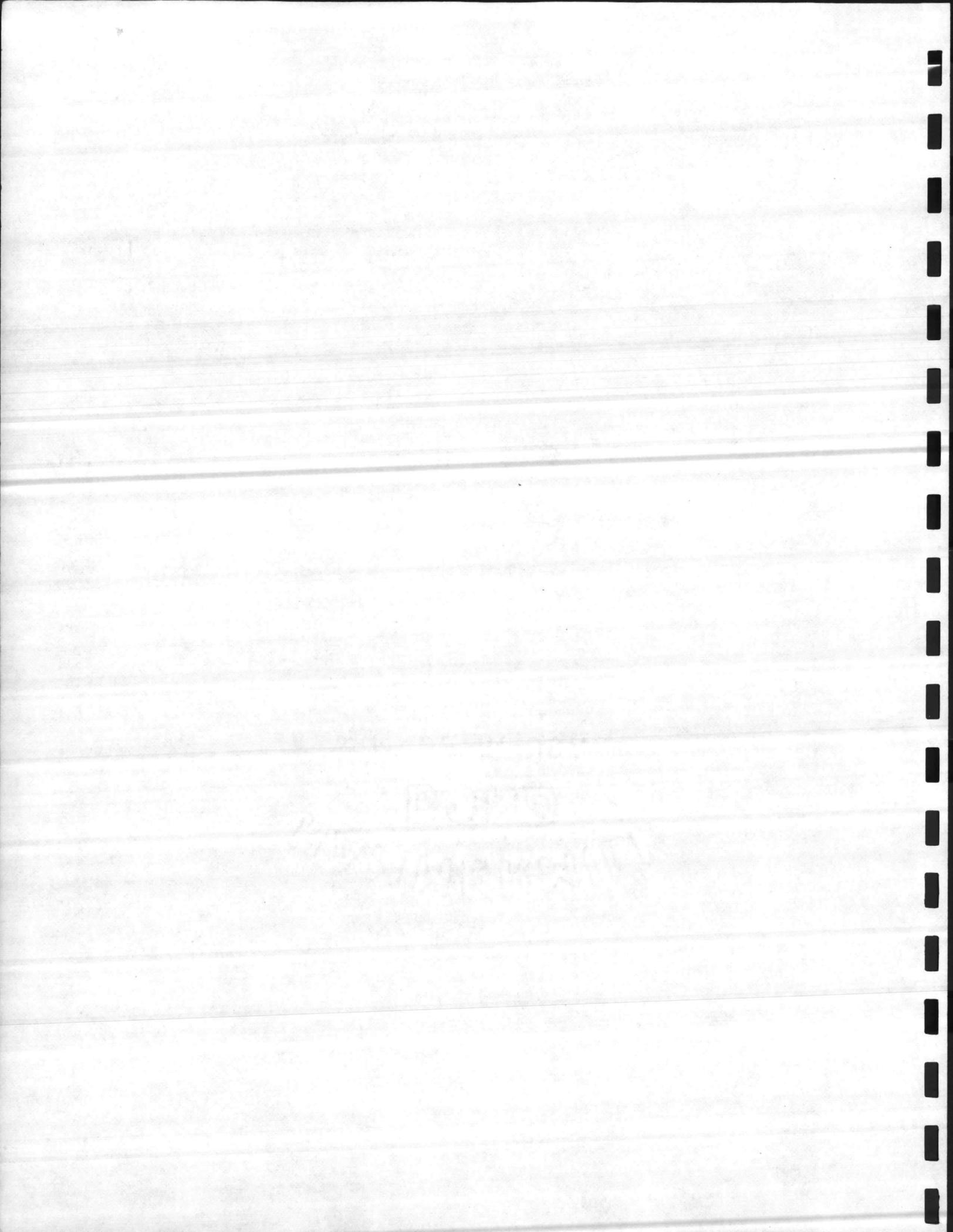
The prototype concept provides both conventional serving lines and fast food service. Dining is separated into four (4) major areas. This dining concept is in contrast to the traditional facility with one long mess deck. Scullery and beverage areas are situated to break up the dining spaces. The passageway behind the beverage areas provides access to the scullery without inconvenience to dining. This passageway also provides convenient access to beverage dispensing machines. Service windows at the scullery are positioned at exits for deposit of soiled dishes. Toilets for patrons are located at each entrance to the dining areas. Check-in counters are located for control of incoming patrons.

The general kitchen area is centrally located for ease of service to dining areas. All storage and refrigerated areas have direct access from the loading platform and the general kitchen area. Toilets for both men and women provide shower, locker and dressing areas. Cleaning gear rooms are located for access to both dining and food preparation areas. A manager's office, subsistence office and training room are also provided.

The fast food kitchen provides eat-in, take-out and drive-thru service. Walk-in refrigeration and dry storage are located for direct access from the loading platform and food preparation area.

The prototype concept is designed to accommodate an engineered waste disposal system. At the existing facilities, all food and paper waste is separated. Paper waste is transported to dumpsters and food waste is stored and sold. We recommend a system with four (4) waste pulpers and one (1) water press. The waste system produces a pulp mixture of food, paper and water. One pulper is located in each scullery area. Separation of waste will not be required. Food and paper waste is scraped from dishes into a water trough that feeds directly into the waste pulper. The pulp is pumped to the water press located in the GI Room. A pulper in the GI Room is to be used for miscellaneous waste items and cardboard boxes. Another pulper would be located in the cleaning gear area adjacent to the fast food dining area. All four pulpers are piped to one water press.

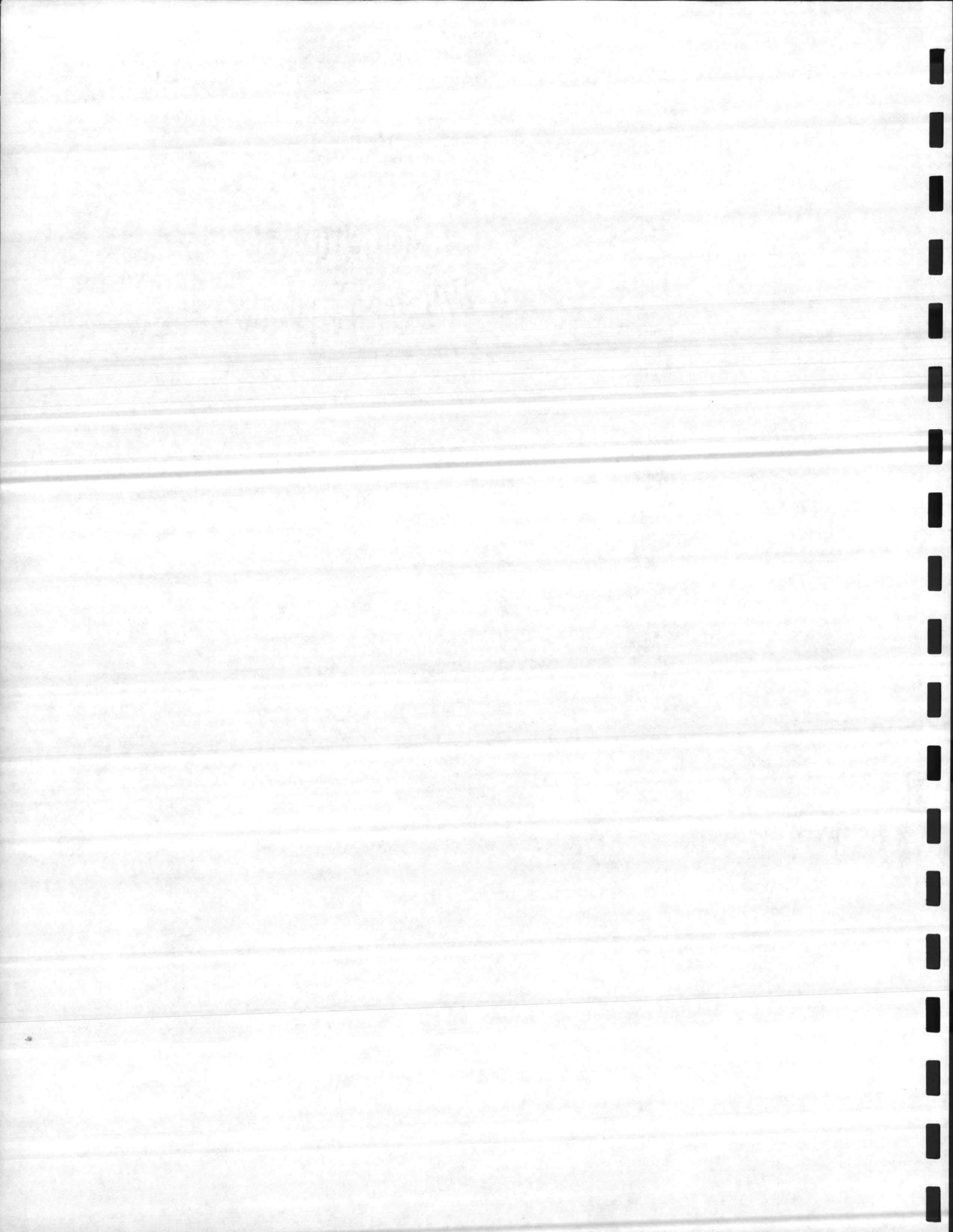
The engineered waste disposal system is a closed-loop design. Nearly 95% of the water that carries the pulp to the water press is recovered and returned to the pulper, keeping the unit continually flushed, and minimizing the introduction of fresh water. Bulk volume of waste should be reduced by 85%.



As stated in the scope of this project, aesthetics and appearance of serving and dining areas are important elements of the overall project. New construction would include the following items:

1. Special lighting systems
2. Acoustical tile ceiling
3. Vinyl wall covering/ceramic tile
4. Wood trim and molding
5. Quarry tile floor and base
6. Custom millwork
7. Artwork and decor items
8. Custom seating units

NOTE: These are typical items and finishes for this type of commercial fast food facility.



PROTOTYPE 3600 MAN MESS HALL
COLLATERAL EQUIPMENT LIST

GENERAL KITCHEN AREA

Quantity	Description
✓ 10	10'-0" x 2'-6" Work tables
✓ 1	10'-0" x 2'-6" Work table with Sink
✓ 4	Ingredient Bins
✓ 3	40 Gal. Tilting Skillets
✓ 5	60 Gal. Fry Kettles
✓ 12	60 Gal. Steam Kettles
✓ 4	40 Gal. Steam Kettles
✓ 4	Kettle Filler/Spray Stations
✓ 8	3 Section Deck Ovens
✓ 2	110 Qt. Mixer with Bowls
✓ 3	Ice Machines, Cube Type, 400 lb. Cap./ 550 lb. Storage
✓ 1	Ice Cart
✓ 2	Slicers
✓ 2	Hand Lavatories — <i>Bji</i>
✓ 2	Electric Water Coolers "
✓ 3	Exhaust Hoods "

VEGETABLE PREPARATION AREA

Quantity	Description
✓ 1	Produce Refrigerator
	22' x 16' = 352 sq.ft.
✓ 1	Cook's Refrigerator
	12' x 16' = 192 sq.ft.
✓ 70'	Metal Shelving
✓ 10'	Dunnage Rack
✓ 1	3 Compartment Sink w/ Drain Boards <i>Bji</i>
✓ 1	Sink Disposal "
✓ 1	Cutter Mixer
✓ 1	Scale
✓ 5	Utility Carts
✓ 4	8'-0" x 2'-6" Work tables
✓ 1	10'-0" x 2'-6" Work table
✓ 1	Slicer
✓ 2	Food Cutters

DRY STORAGE AREA

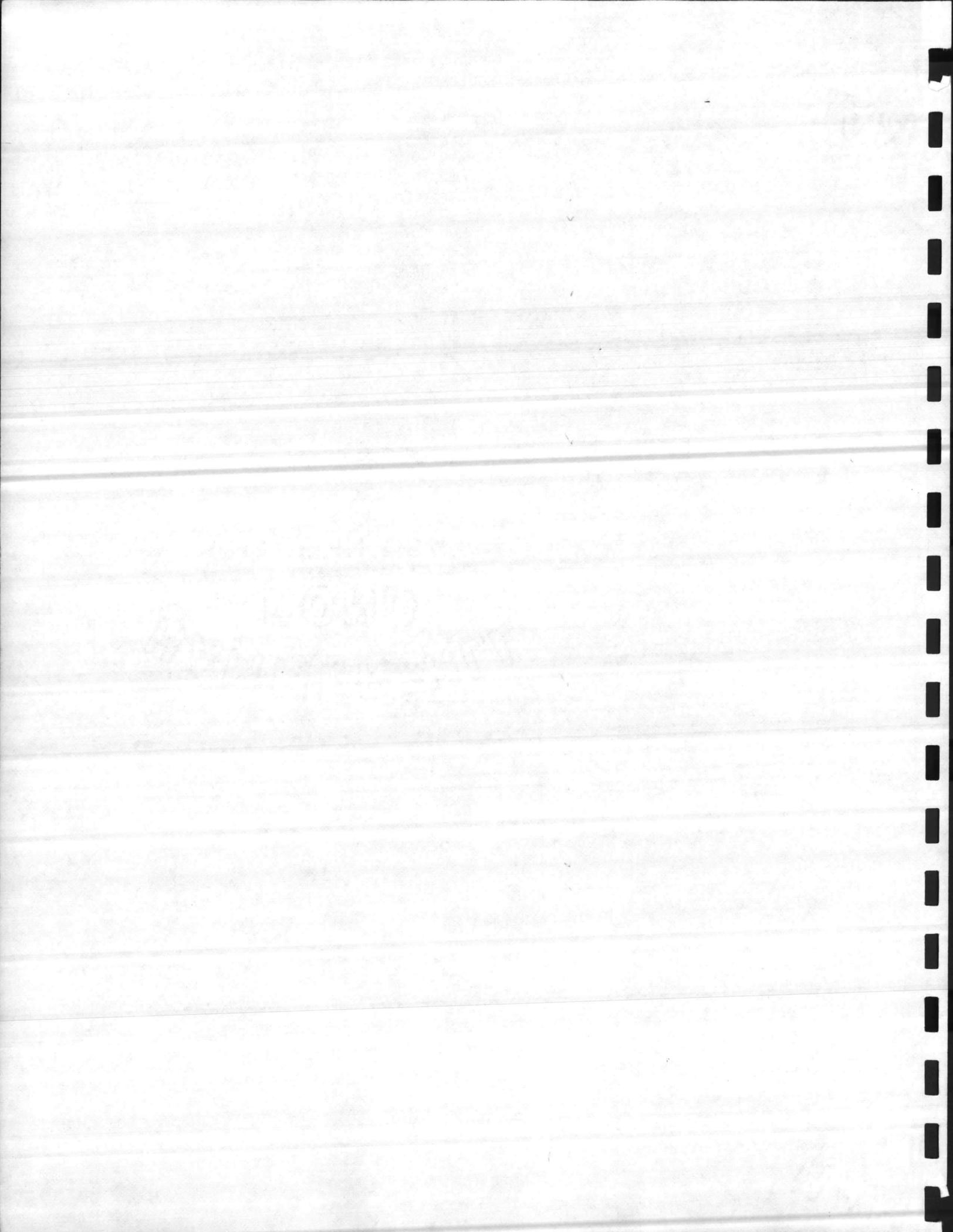
Quantity	Description
✓ 70'	Metal Shelving
✓ 20'	Dunnage Rack

MINOR PROPERTIES

Quantity	Description
✓ 58'	Metal Shelving

DAIRY REFRIGERATOR

Quantity	Description
✓ 1	Dairy Refrigerator
	12' x 34' = 408 sq.ft.
✓ 68'	Metal Shelving



PROTOTYPE 3600 MAN MESS HALL
COLLATERAL EQUIPMENT LIST

MEAT COOLER

Quantity	Description
✓1	Meat Cooler 12' x 22' = 264 sq.ft.
✓30'	Metal Shelving
✓6'	Dunnage Rack

MEAT FREEZER

Quantity	Description
✓1	Meat Freezer 12' x 22' - 264 sq.ft.
✓38'	Metal Shelving

MEAT BREAK-OUT

Quantity	Description
✓1	Break-out Freezer 12' x 24' - 288 sq.ft.
✓48'	Metal Shelving

UNTENSIL WASH AND UTENSIL STORAGE

Quantity	Description
✓1	Pot Wash Machine
✓1	Dish Table
✓1	Disposal with Pre-rinse
✓1	Scullery Sink with Drain Boards - <i>Bl</i>
✓6	Utensil Carts
✓1	Exhaust Hood - <i>Mi</i>

BAKERY AREA

Quantity	Description
✓1	Two Compartment Sink w/ Drain Boards <i>Bl</i>
✓4	Proofing Cabinets
✓2	3 Section Deck Ovens
✓2	Stack Convection Ovens
✓2	60 Gal. Steam Kettles
✓1	Trunnion Kettle
✓1	Scale
✓1	5 qt. Mixer
✓1	110 qt. Mixer
✓1	12' Baker's Table
✓2	8'-0" x 2'-6" Work tables
✓1	6'-0" x 2'-6" Work table
✓1	10'-0" x 2'-6" Work table
✓1	Slicer
✓1	3 Door Reach-in Refrigerator
✓4	Ingredient Bins
✓9	Utility Racks
✓1	Exhaust Hood

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PROTOTYPE 3600 MAN MESS HALL
COLLATERAL EQUIPMENT LIST

GI ROOM

Quantity	Description
✓44'	Low Metal Shelving
✓20	32 Gal. Metal Trash Cans
✓1	Can Rinser-sanitizer
✓1	Waste Pulper
✓1	Water Press

SERVING LINES

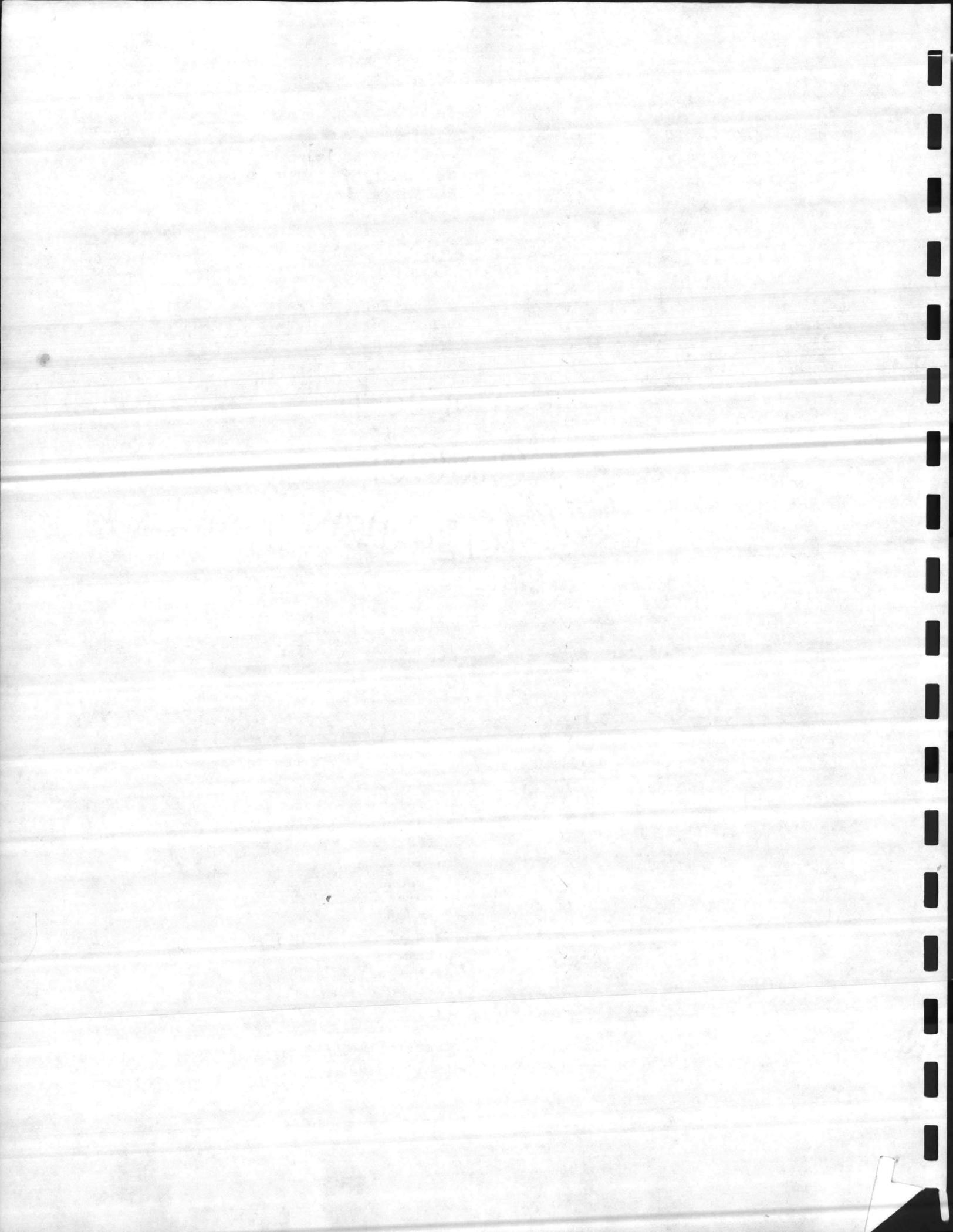
Quantity	Description
✓3	3 Door Hot Food Pass-thru Cabinets
✓3	3 Door Cold Food Pass-thru Cabinets
18	Pass Thru Carts
✓2	10' x-0" x 2'-6" Work tables
✓3	8'-0" x 2'-6" Work tables
✓1	6'-0" x 2'-6" Work table
✓6	Bun Toasters
✓3	Microwave Ovens
✓6	72" Griddles
✓6	2'-0" x 2'-6" Work tables
✓6	5 Pan Steam Tables
✓3	Dessert Servers
✓120'	Tray Slide
✓3	Refrigerated Salad Bars

BEVERAGE AREA

Quantity	Description
✓3	Coffee Urns
✓6	Beverage Dispensers
✓6	Ice Dispensers
✓3	Milk Dispensers
✓3	Carbonated Drink Dispensers
✓3	Water Fillers
✓90'	Tray Slide
✓3	Icecream Boxes

SCULLERY/DISH CARTS

Quantity	Description
✓2	Flight Type Dish Machines
✓3	Silver Soak Sink
✓90'	Dish Table
✓44'	Sloped Overshelf
✓1	Utility Sink
✓10	Cart, 9" Plates
✓13	Cart, 6-3/4" Dessert Dish
✓21	Cart, 5-1/2" Fruit Dish
✓41	Cart, Vegetable Dish
✓18	Cart, Coffee Cups
✓20	Cart, Soup and Salad
✓17	Cart, Glasses
✓18	Cart, Silverware and Trays
✓2	Waste Pulpers



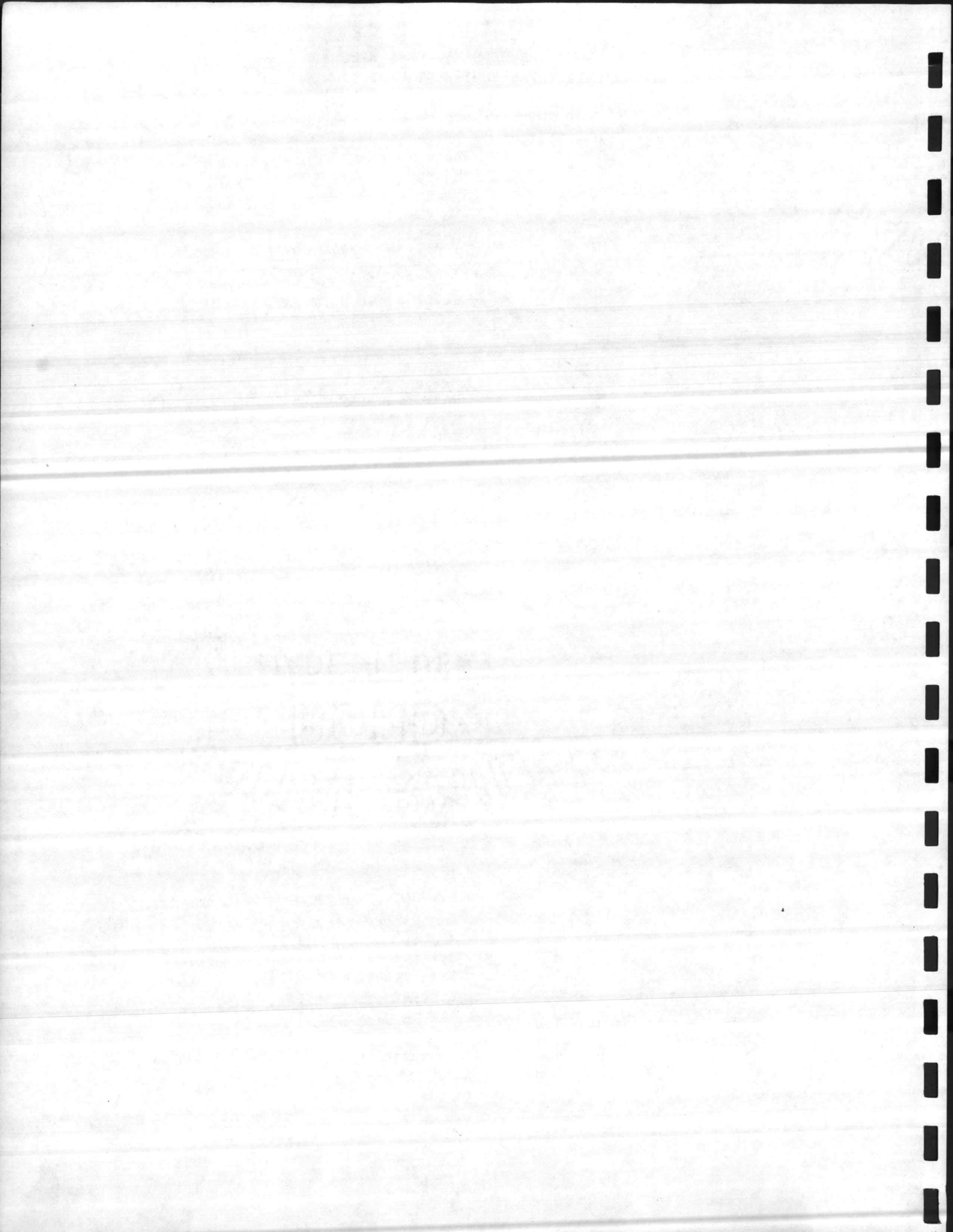
PROTOTYPE 3600 MAN MESS HALL
COLLATERAL EQUIPMENT LIST

FAST FOOD KITCHEN

QUANTITY	DESCRIPTION
✓1	Hand Lavatory <i>Bi</i>
✓1	Electric Water Cooler <i>Bi</i>
✓1	Walk-in Cooler 10' x 20' = 200 sq.ft.
✓1	Walk-in Freezer 10' x 34' = 340 sq.ft.
✓100'	Metal Shelving
✓80'	Storage Room Metal Shelving
✓15+	Bread Racks By Others
✓2	Fry Basket Racks
✓2	Auto Fry Filter Systems
✓10	Deep Fat Automatic Fry Kettles
✓2	Fry Dump Stations
✓2	Heat Lamp Fry Holding Stations
✓2	Auto Hamburger Broilers
✓2	Mobile Work tables
✓3	Bun Toasters
✓2	Steam Holding Units
✓8	Microwave Ovens
1	Chef's Table
✓1	72" Griddle
✓1	Two Eye Hotplate
✓1	Equipment Stand
✓1	6'-0" x 2'-6" Work table
✓5	Exhaust Hoods
✓2	3'-0" x 2'-6" Work tables
✓2	Potato Machines
✓2	Ice Machines, Cube Type, 400 lb. cap. /550 lb. storage
✓1	Ice Cart
✓1	3 Compartment Sink with Drain Boards <i>Bi</i>
✓1	TV Monitor for special sandwiches
✓2	Sandwich holding units with refrigerated base

FAST FOOD SERVING AREA

Quantity	Description
✓2	Carbonated Drink Dispensers
✓2	Ice Storage Units
✓2	Beverage Dispensers
✓2	Soft Serve/Milkshake Machines
✓8	Cup Dispensers
✓1	Microphone System <i>Bi</i>
✓1	Drive-thru Microphone System <i>Bi</i>
✓1	Refrigerated Salad Bar
✓2	Beverage tables
✓1	Menu display panel



PROTOTYPE 3600 MAN MESS HALL
COLLATERAL EQUIPMENT LIST

BEVERAGE REFILL AREA

Quantity	Description
✓2	Ice Dispensers
✓2	Carbonated Drink Dispensers
✓2	Beverage Dispensers
✓1	Coffee Urn
✓1	Microwave Oven
✓5	Cup Dispensers
✓10	Trash Containers
✓20'	Tray Slide

CLEANING GEAR

Quantity	Description
✓2	Utility Mop Sink <i>27'</i>
✓15'	Shelving
✓1	Waste Pulper

DINING AREAS

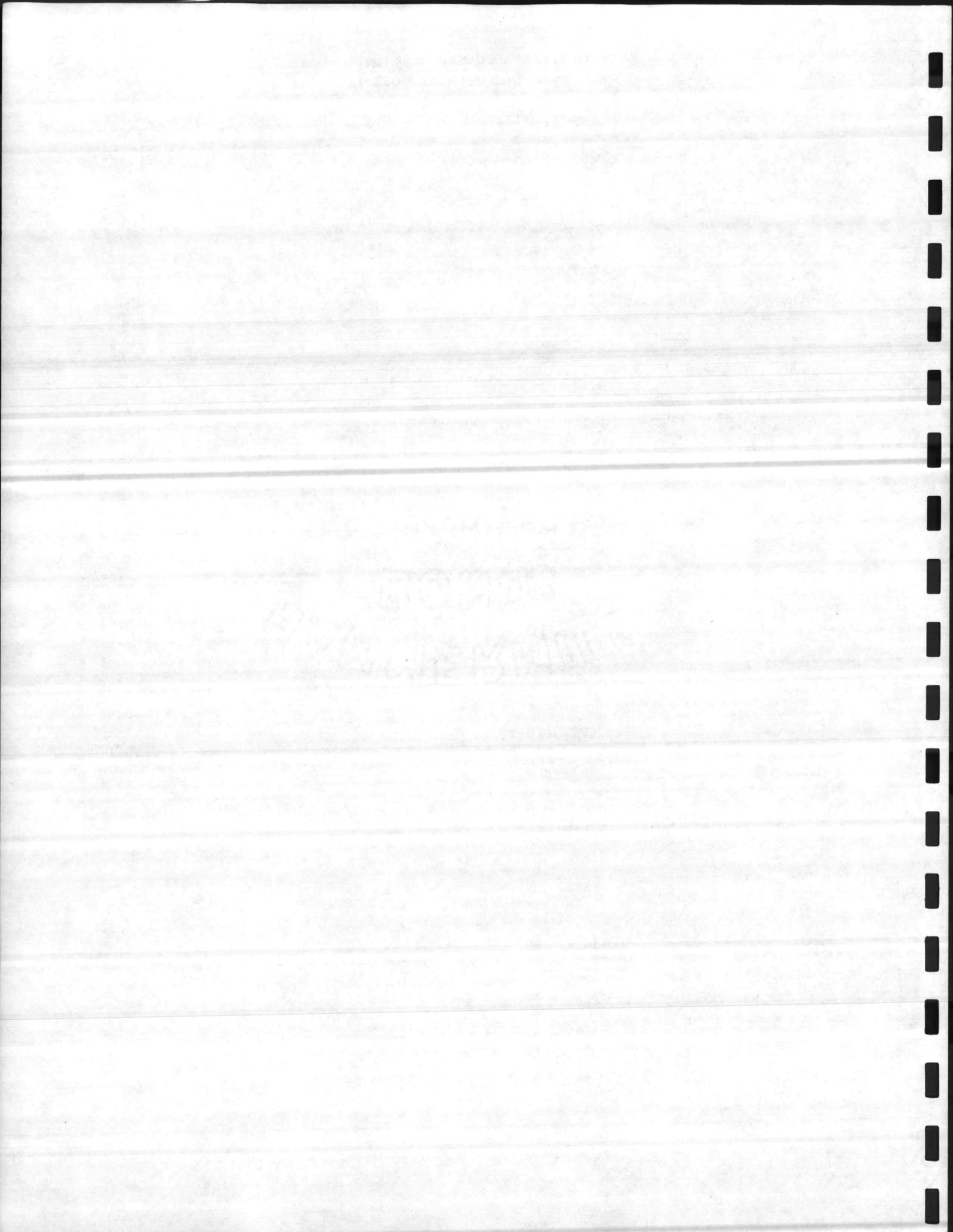
Quantity	Description
✓276	Fast Food Seats
✓69	Fast Food Tables
✓720	Regular Dining Seats
180	Regular Dining Tables

1940

1940

PROTOTYPE 3600 MAN MESS HALL
COLLATERAL EQUIPMENT COST ESTIMATE

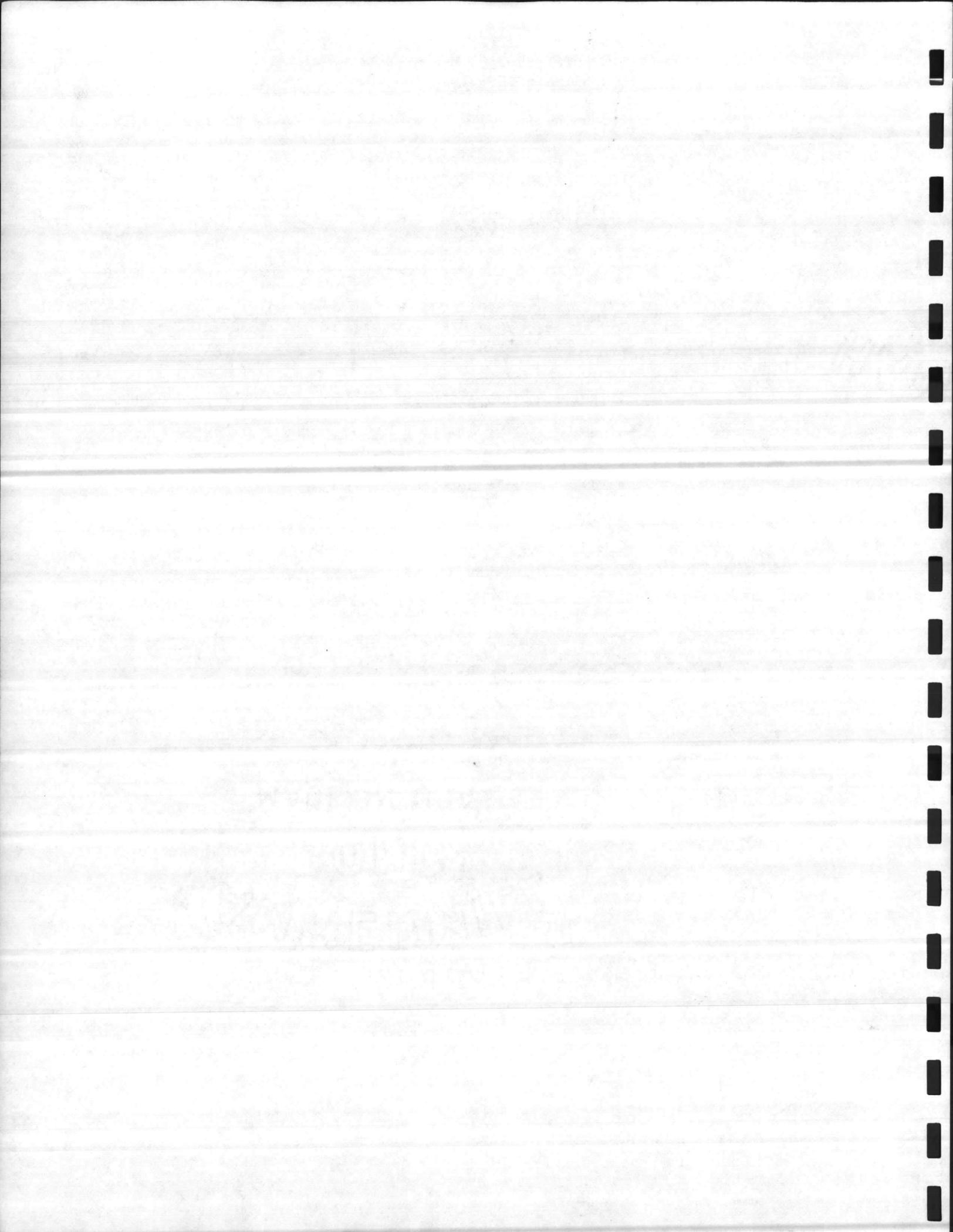
GENERAL KITCHEN AREA	\$200,360.00
VEGETABLE PREPARATION AREA	\$72,870.00
DRY STORAGE AREA	\$4,800.00
MINOR PROPERTIES AREA	\$3,480.00
DAIRY REFRIGERATOR	\$34,680.00
MEAT COOLER	\$23,100.00
MEAT FREEZER	\$24,720.00
MEAT BREAK-OUT	\$27,360.00
UTENSIL WASH AND UTENSIL STORAGE	\$15,100.00
BAKERY AREA	\$80,060.00
GI ROOM	\$124,567.00
SERVING LINES	\$130,300.00
BEVERAGE AREA	\$53,400.00
SCULLERY/DISH CARTS	\$367,520.00
FAST FOOD KITCHEN	\$165,450.00
FAST FOOD SERVING AREA	\$39,900.00
BEVERAGE REFILL AREA	\$16,400.00
CLEANING GEAR	\$950.00
DINING AREAS	\$157,680.00
VENTILATION EQUIPMENT	\$232,400.00
3600 MAN MESS HALL TOTAL COST ESTIMATE FOR COLLATERAL EQUIPMENT	\$1,775,097.00



PROTOTYPE 3600 MAN MESS HALL
ESTIMATED CONSTRUCTION COSTS

NEW BUILDING TO REPLACE EXISTING MESS HALL

1. New Construction (Building)	
47,000 SF @ \$65/SF	\$3,055,000.00
2. Site Support	
A. Site Utilities	\$80,000.00
B. Site Improvements	<u>\$150,000.00</u>
SUPPORT COST SUBTOTAL	\$230,000.00
3. Collateral Equipment	<u>\$1,775,000.00</u>
TOTAL ESTIMATED COST	
NEW BUILDING & EQUIPMENT	\$5,060,000.00

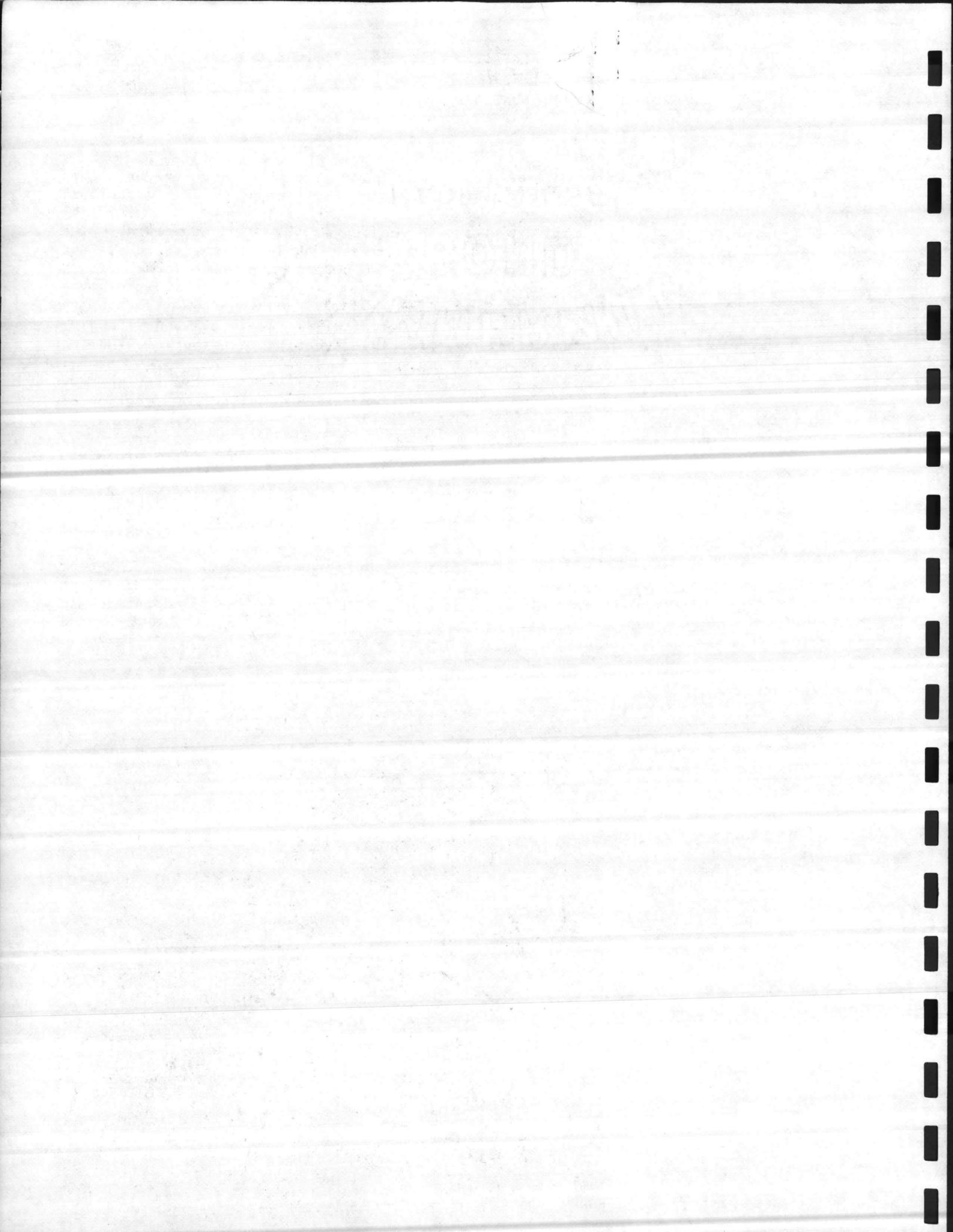


MESS HALLS 122, 211, 325, 411, 508 AND 521/
PROTOTYPE 3600 MAN MESS HALLS

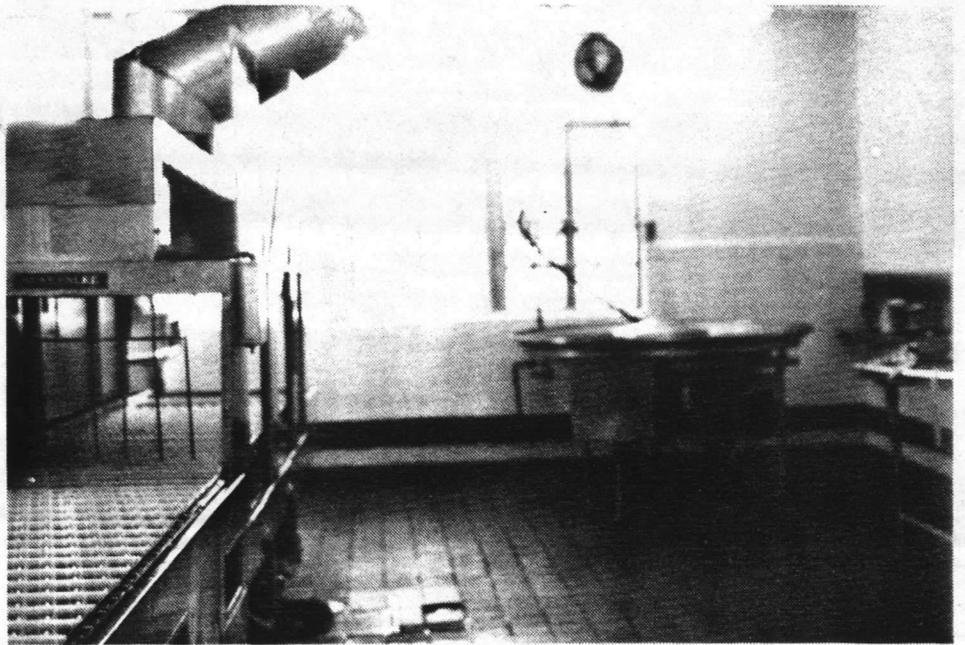
RECOMMENDATIONS

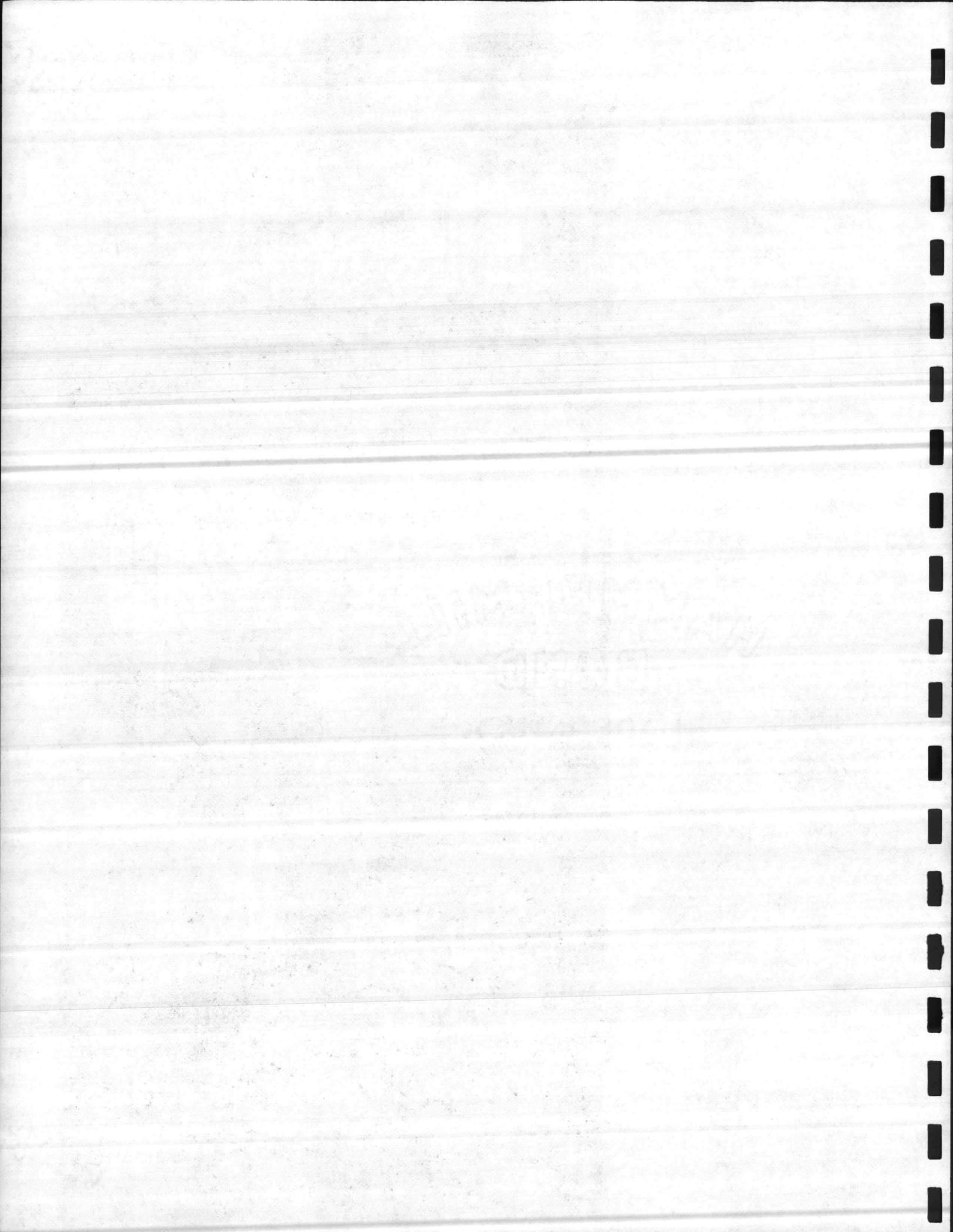
The evaluation criteria of the Hadnot Point area mess halls, as listed on pages 10 through 14, clearly indicate that construction of three (3) new prototype 3600 man facilities is more efficient, energy conscious, cost effective and aesthetically compatible with long range food service concepts. However, structurally the existing buildings are capable of long range use and could be converted to usages other than food service. It should also be noted that the three (3) prototype facilities provide 50% more seating capacity than the existing six (6) facilities. It is our understanding that additional seating is desirable, especially during certain training programs during the year. Another advantage to new construction is that existing mess halls can remain 100% operational during construction of the new prototype facilities.

It is our recommendation that three (3) new prototype 3600 man mess halls be constructed in the Hadnot Point area. Construction of these facilities will have a positive impact on the entire area and will provide facilities capable of implementing long range food service programs. Base planning should make recommendations as to their location. Due to recent renovations, Mess Hall 508 should be considered for long range use. It could be limited to fast food eat-in and take-out service. Extended service could be provided during the day and evening hours.

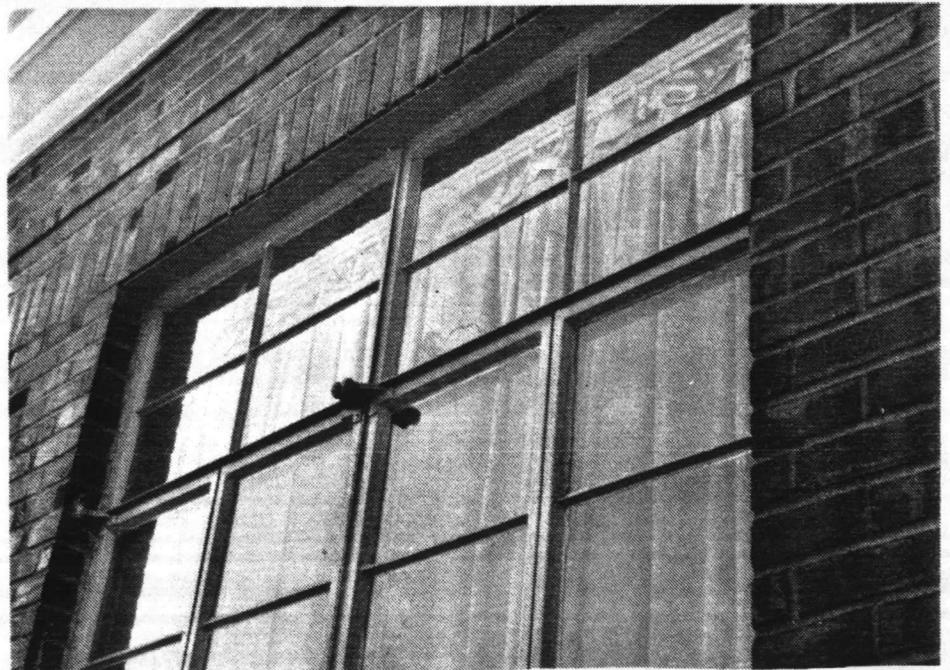
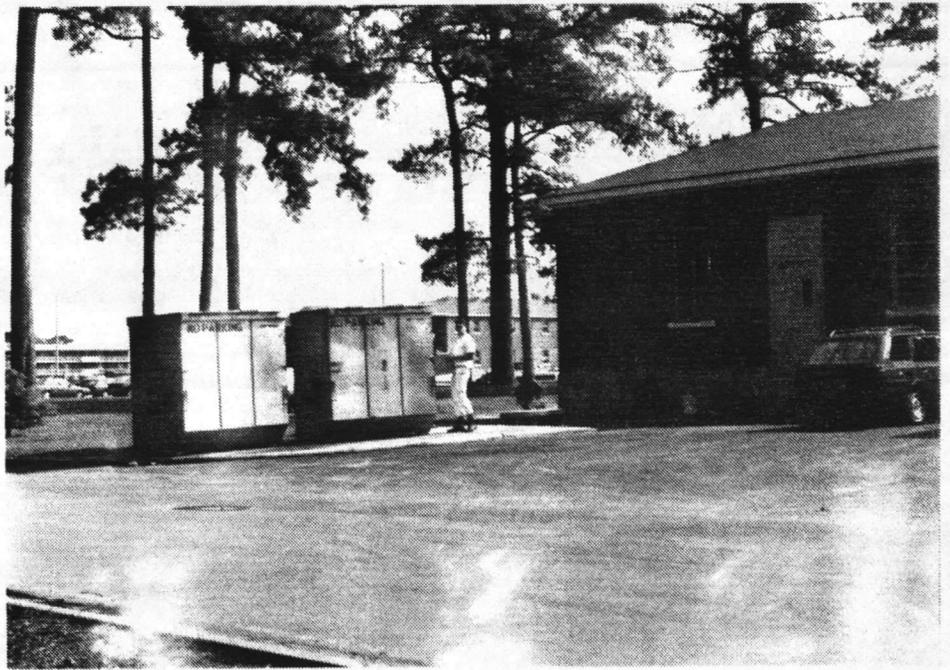
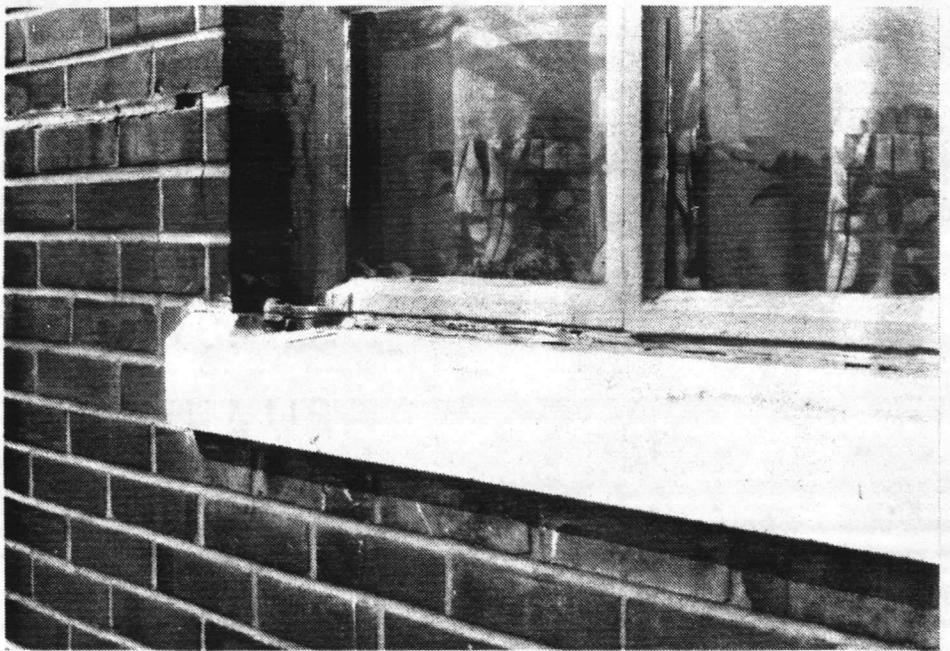


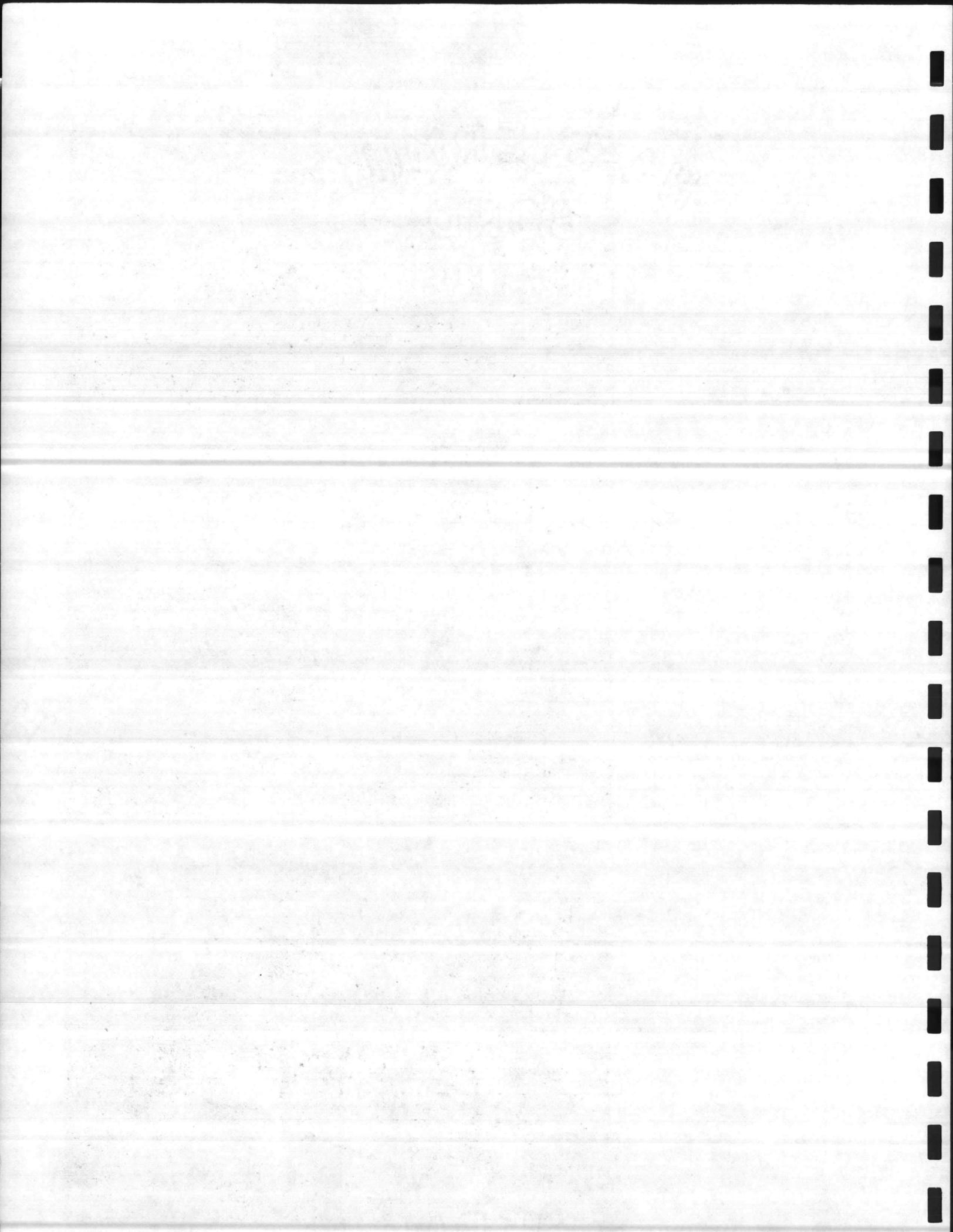
Mess Hall 122



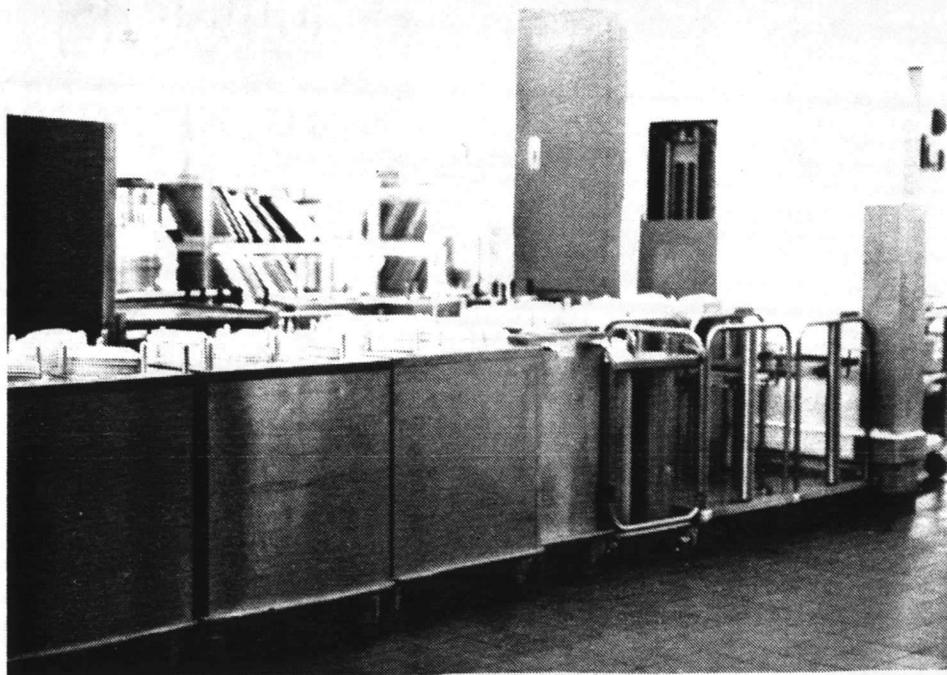
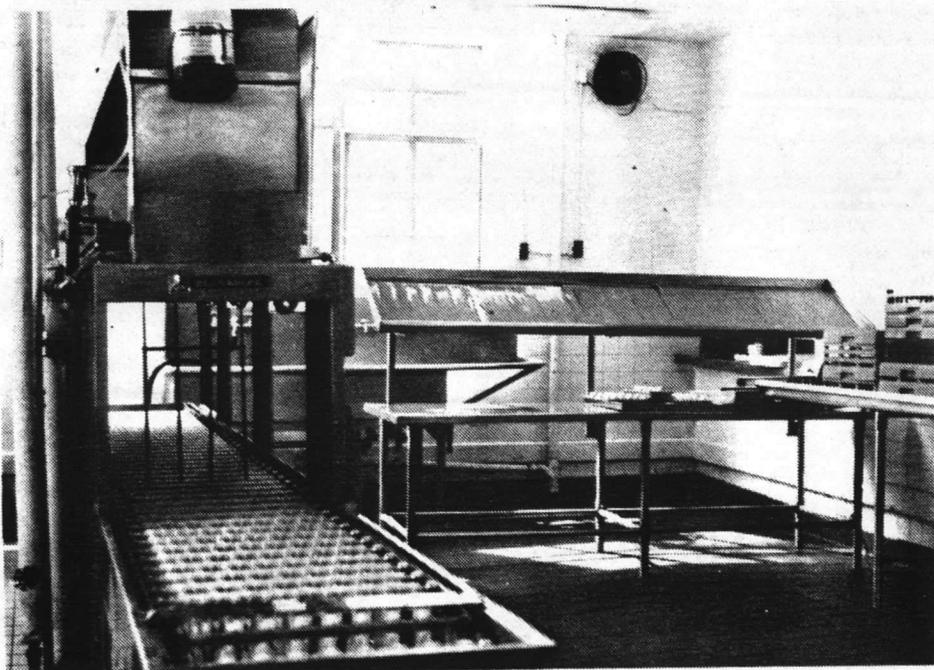


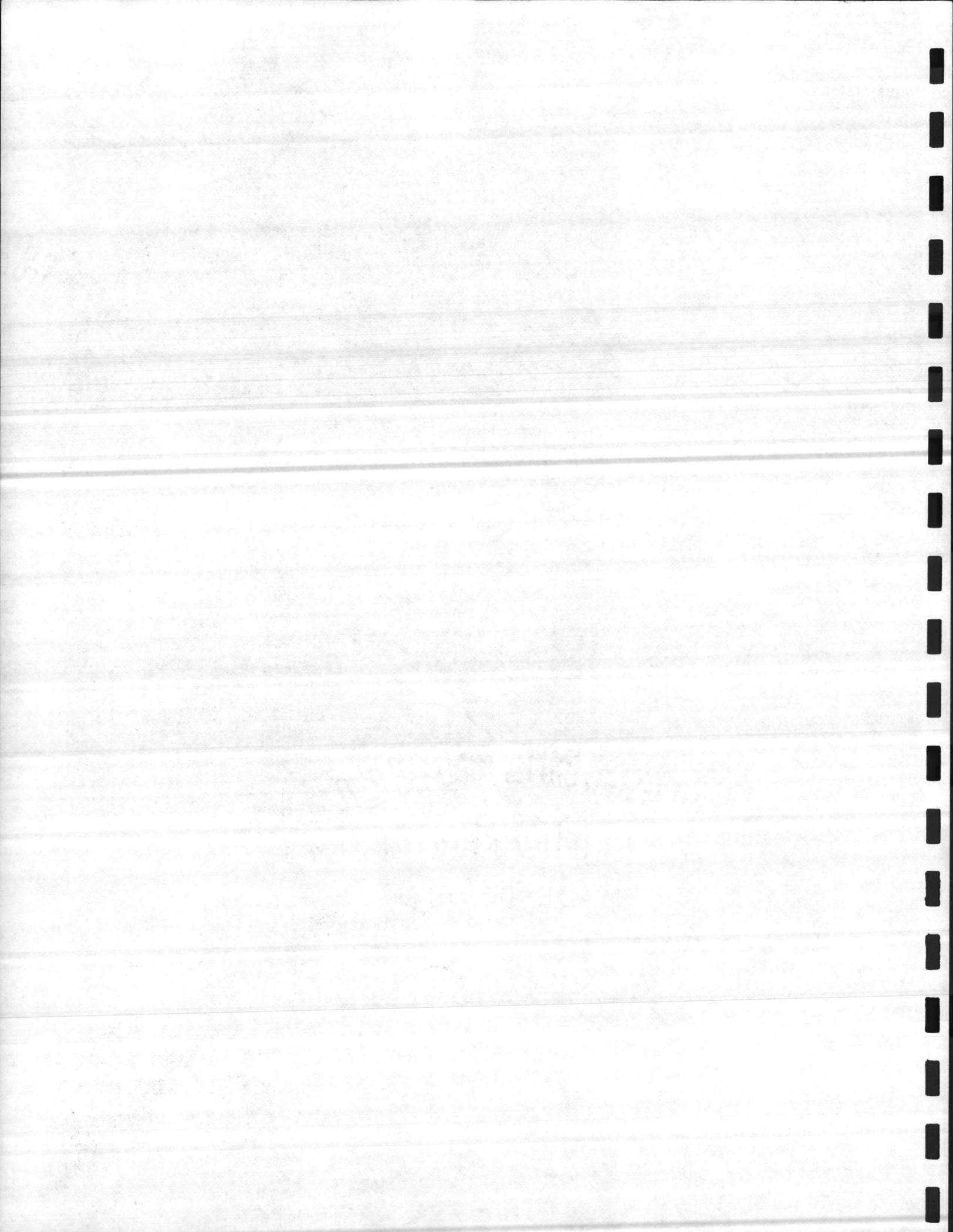
Mess Hall 122





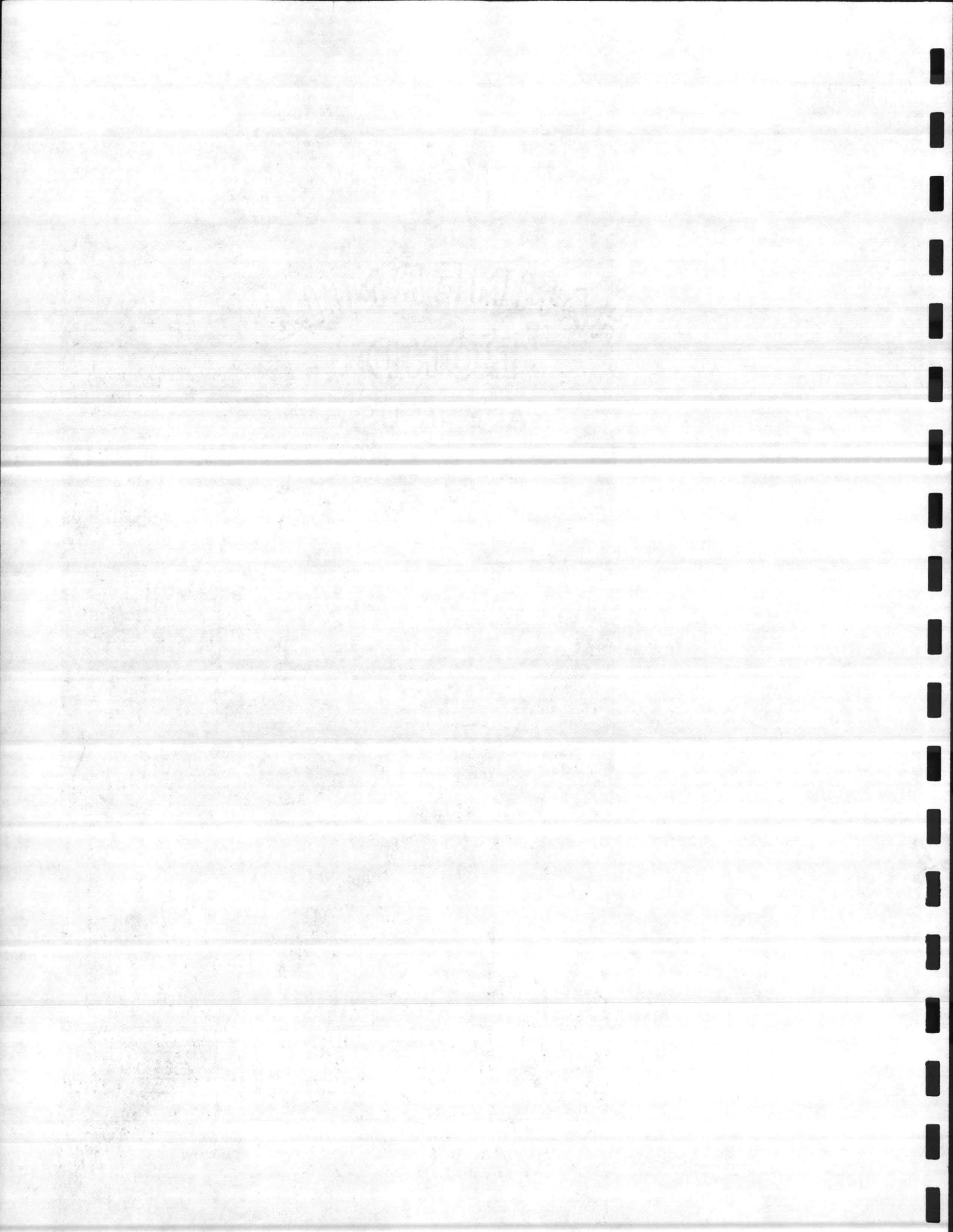
Mess Hall 211





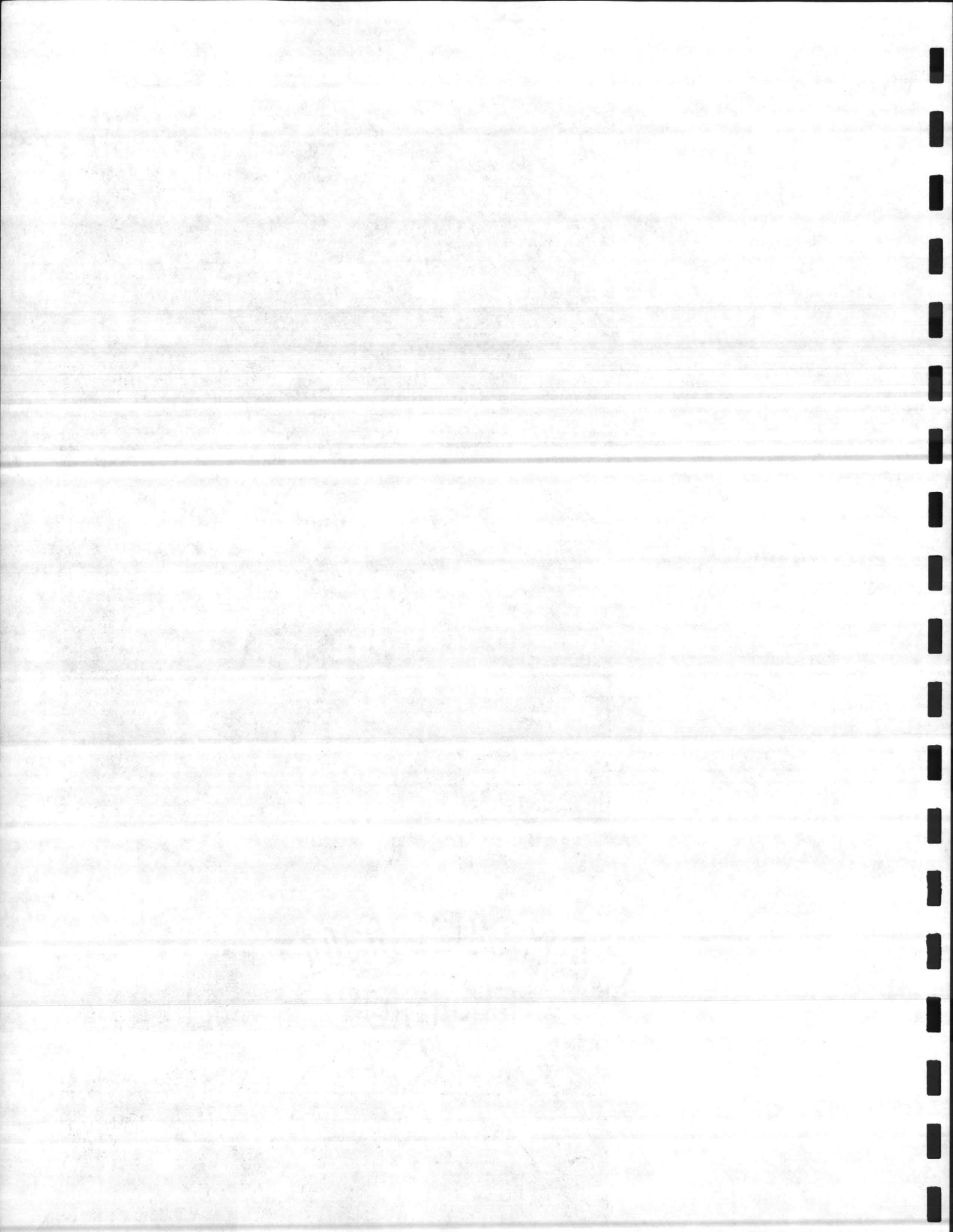
Mess Hall 211



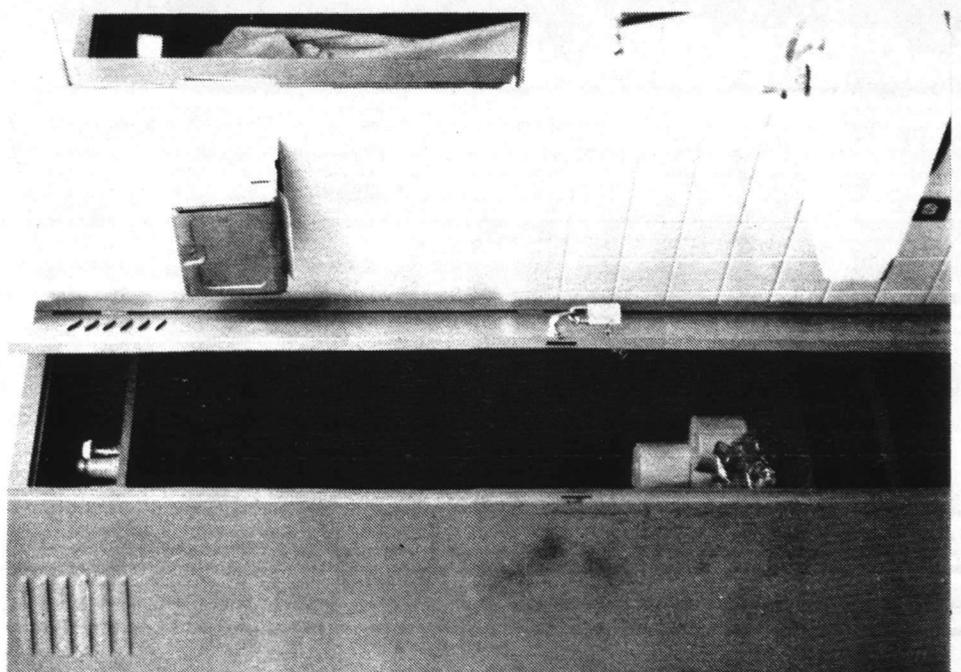
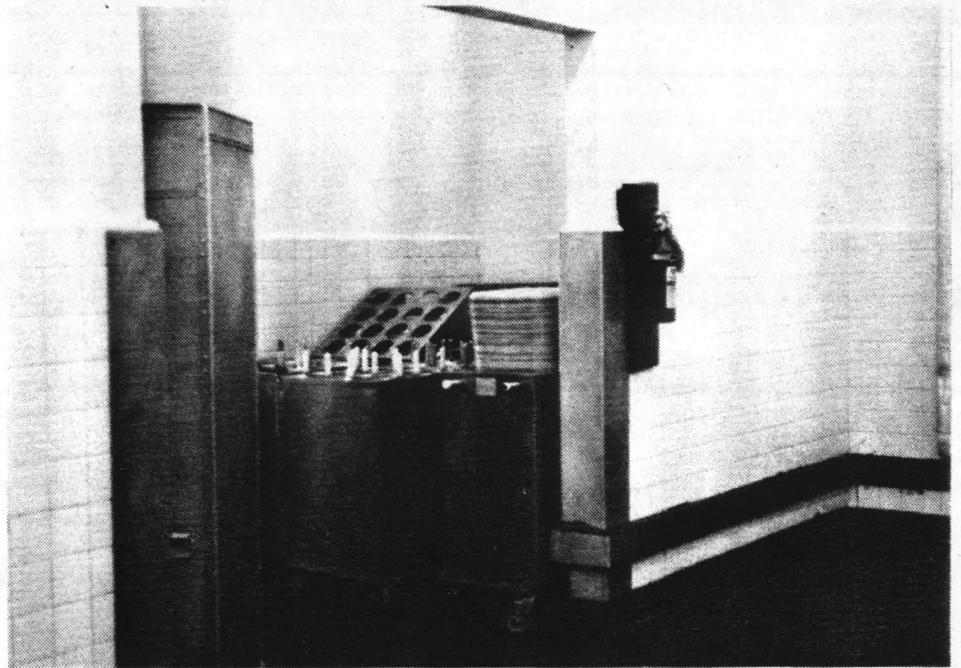
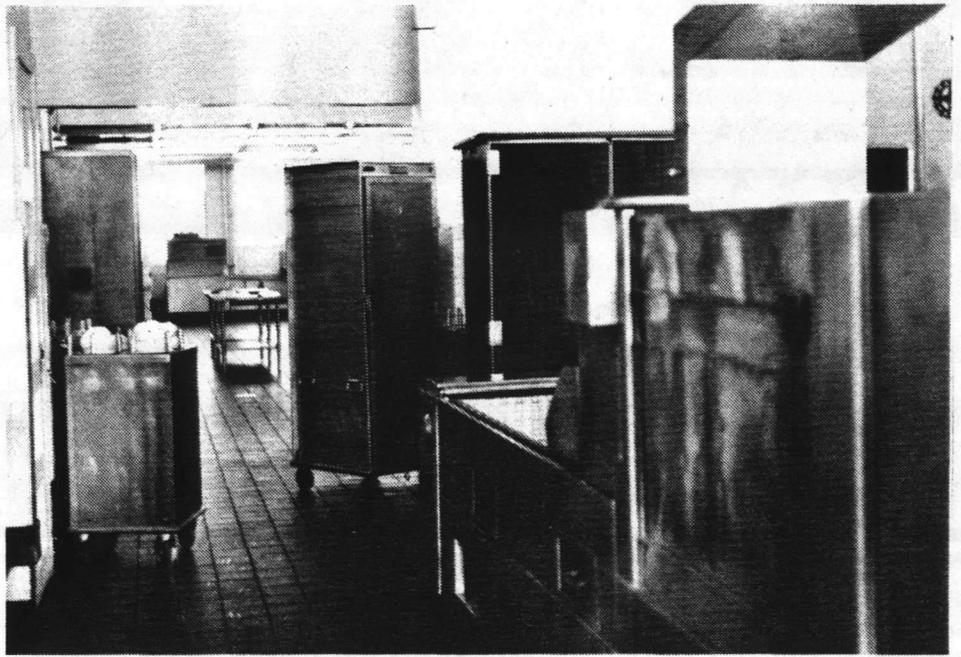


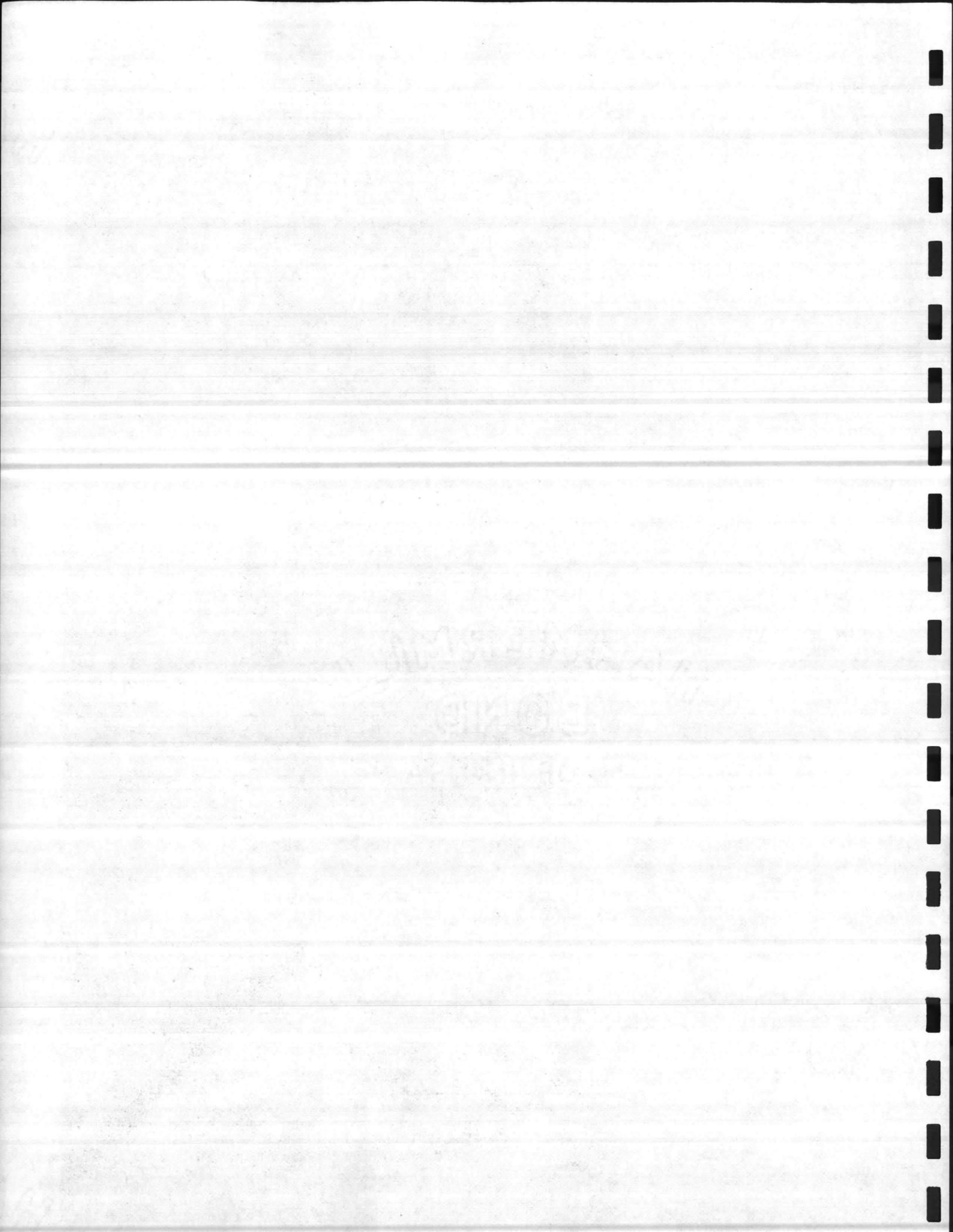
Mess Hall 325



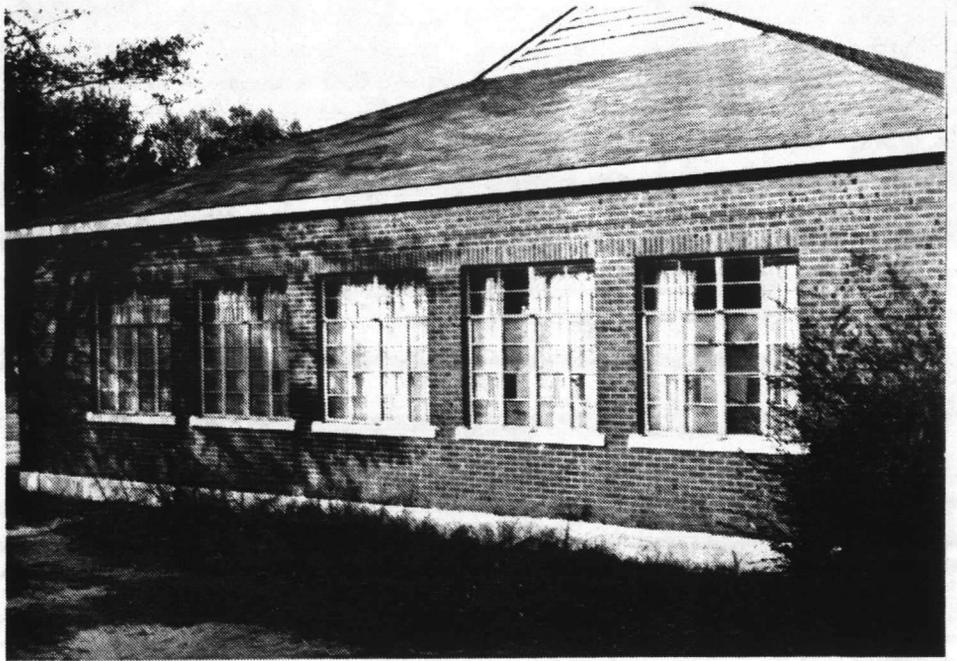


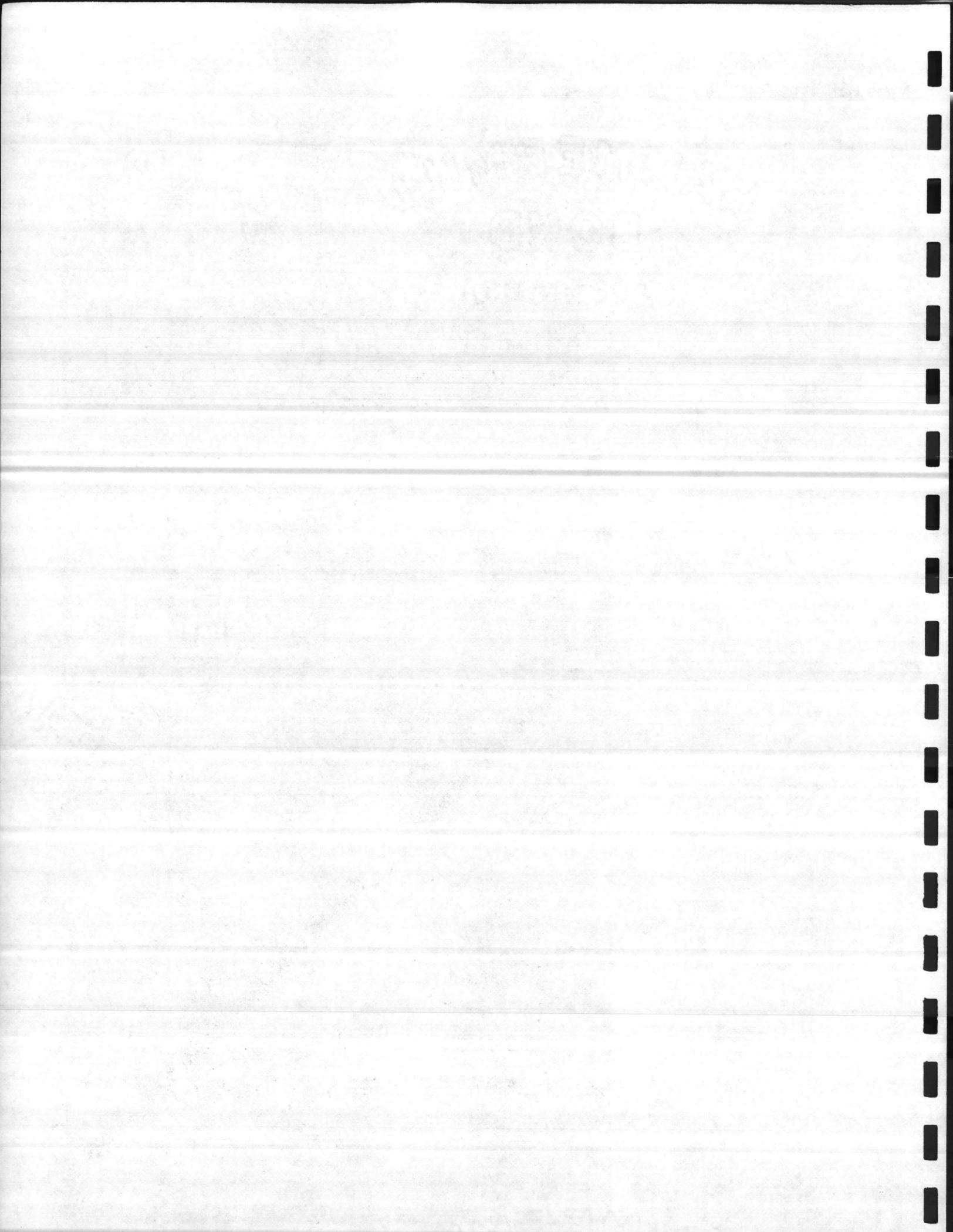
Mess Hall 325





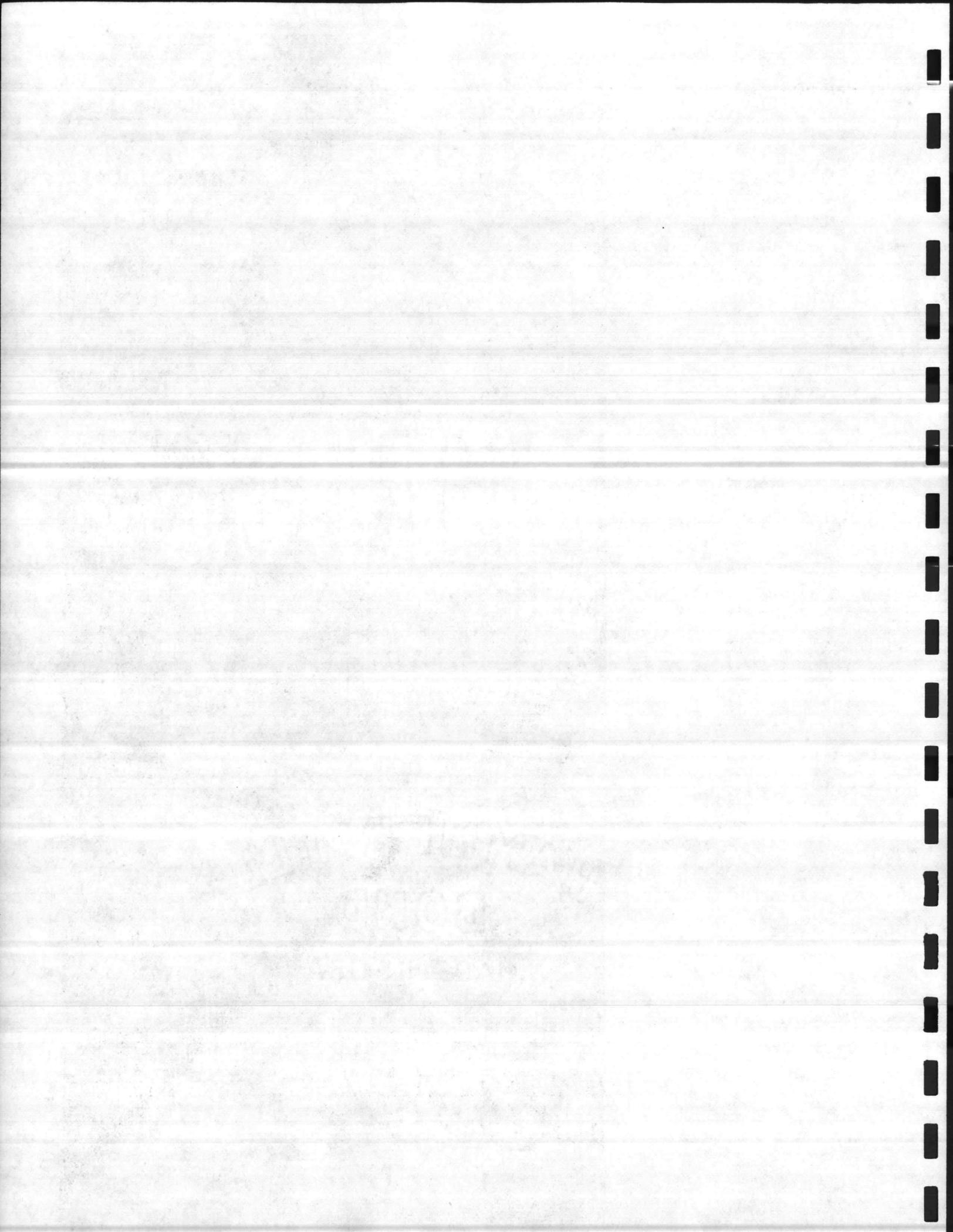
Mess Hall 411



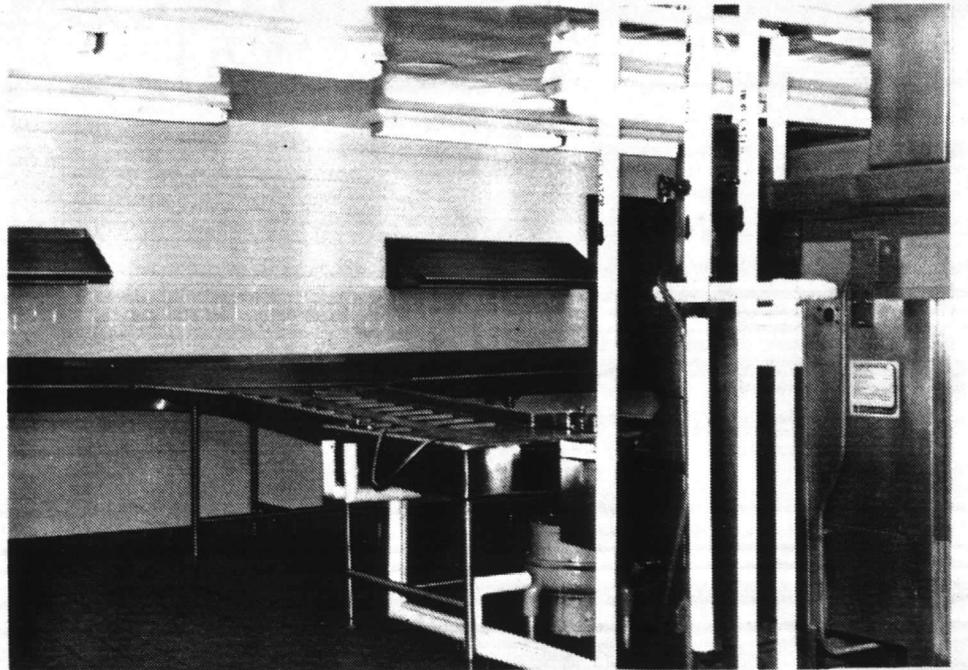


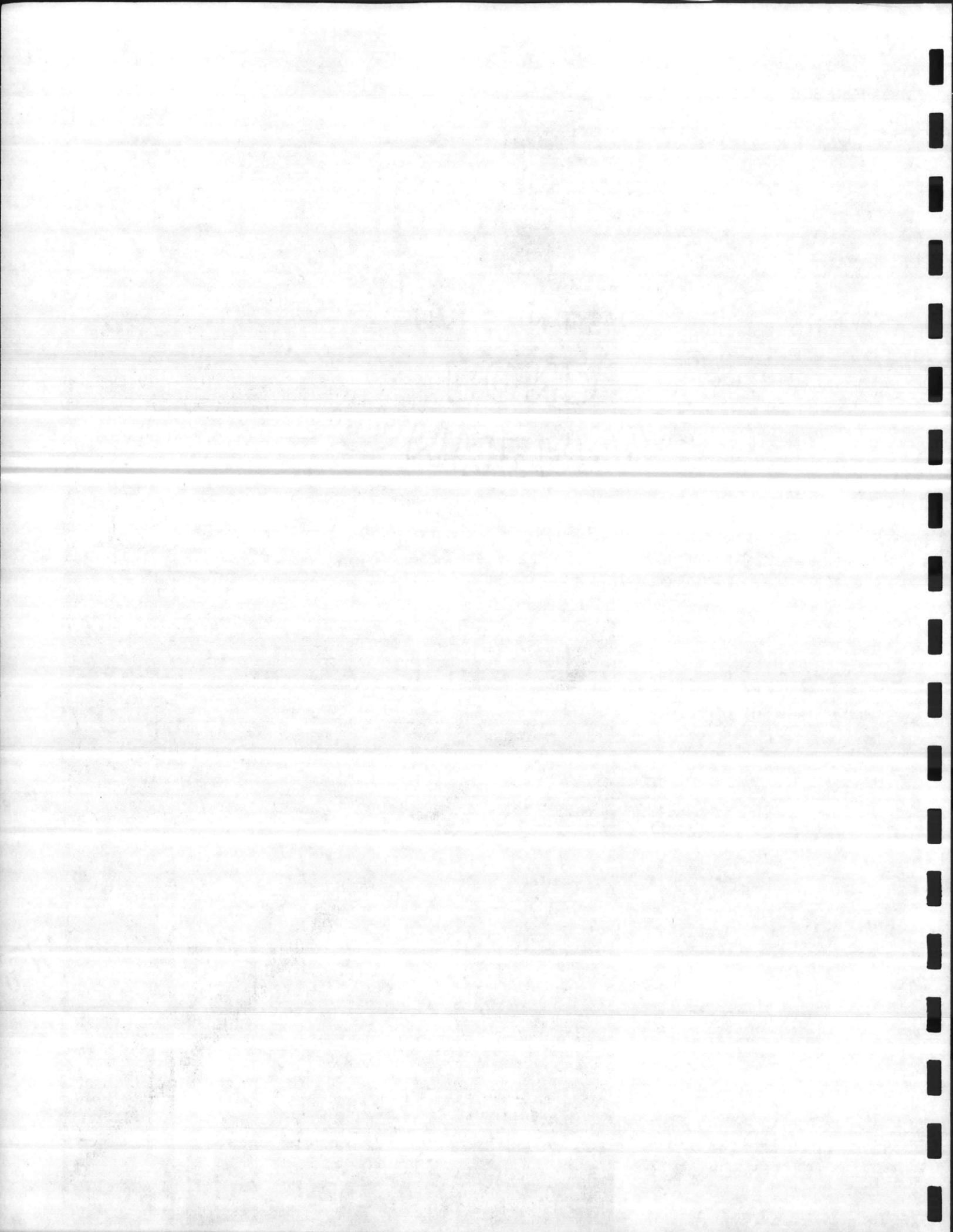
Mess Hall 508



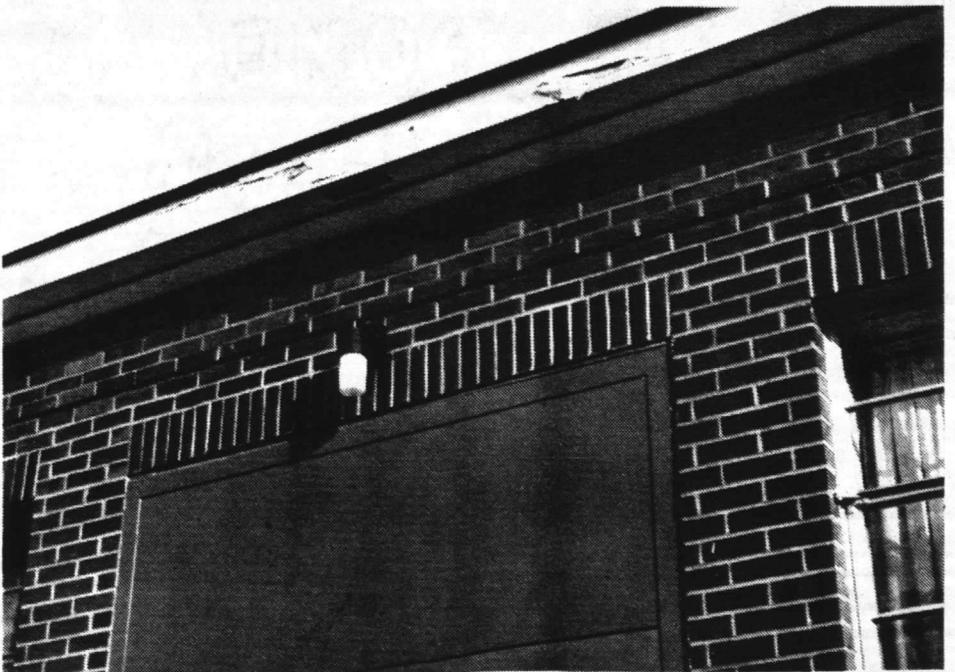
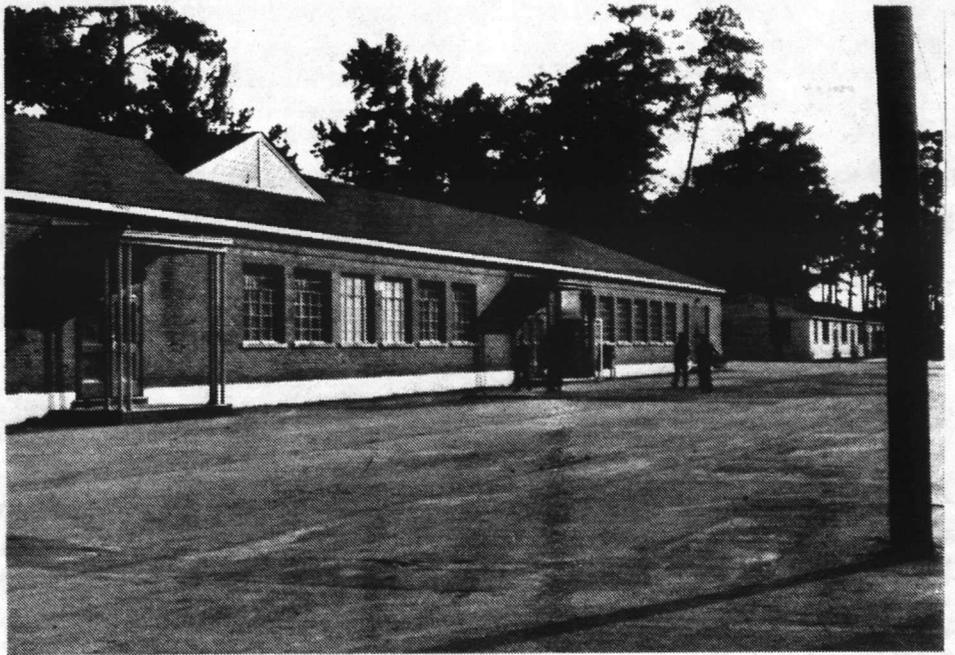


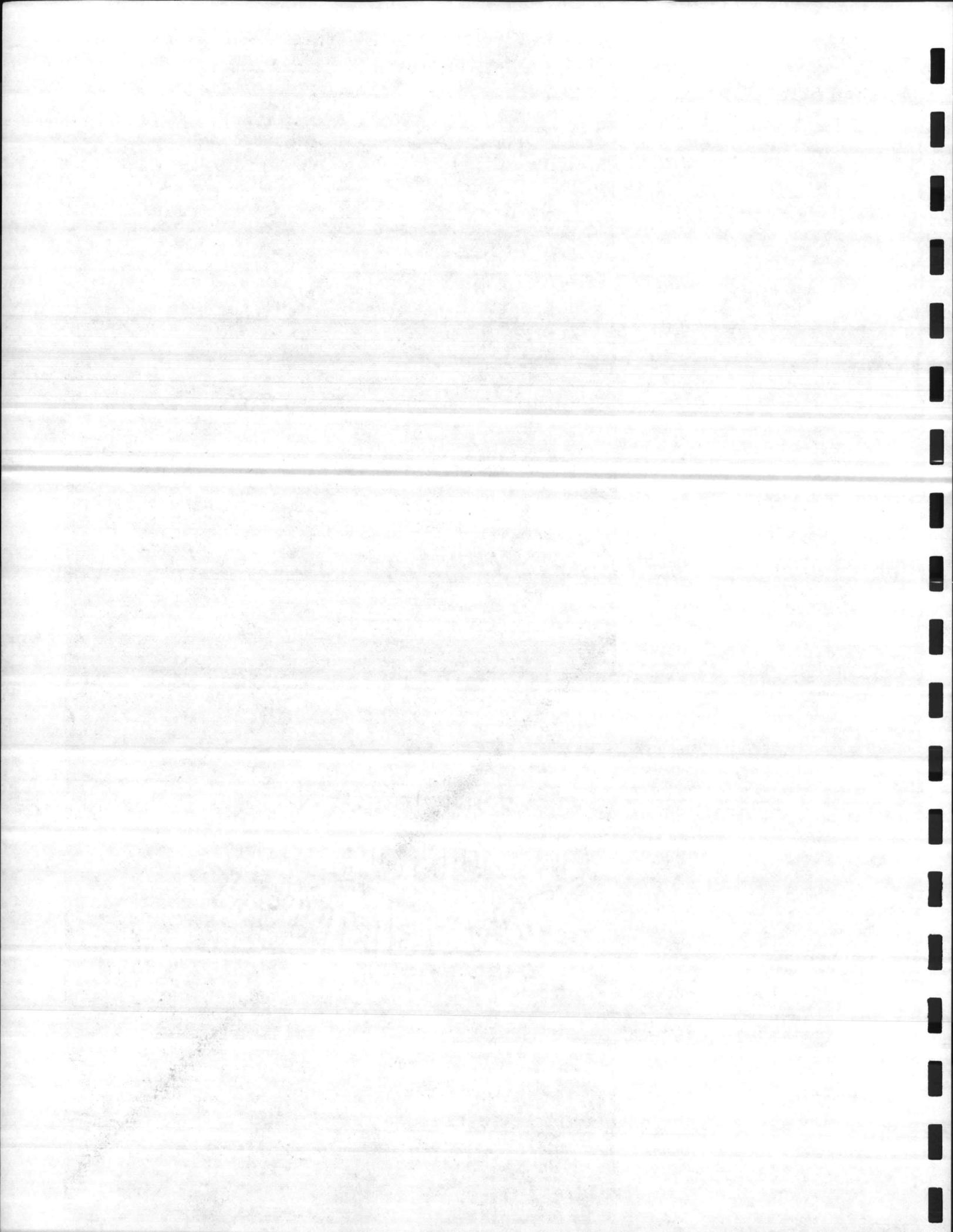
Mess Hall 508





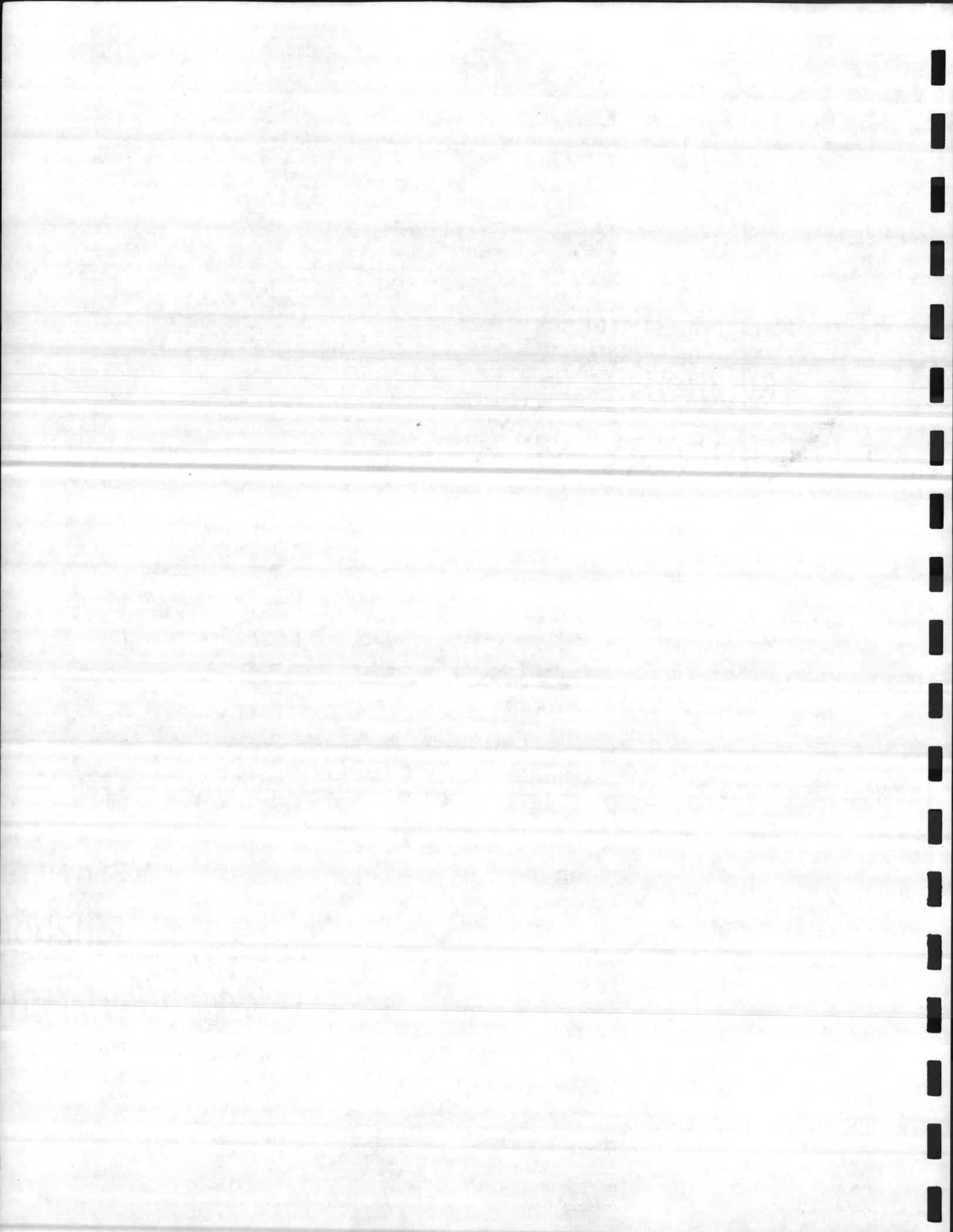
Mess Hall 521

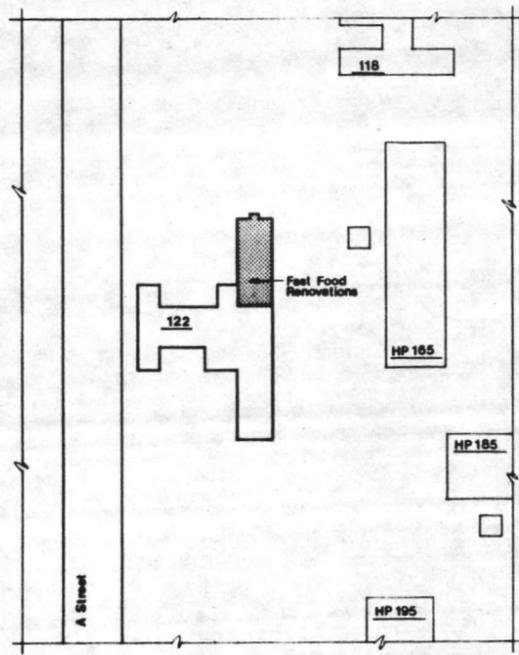




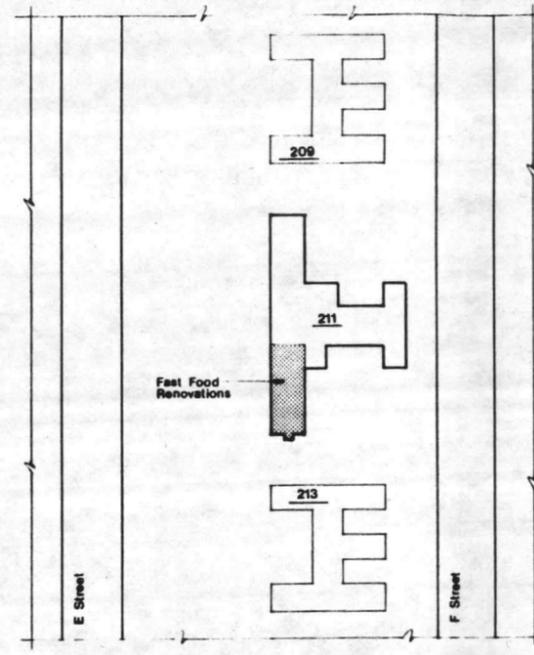
Mess Hall 521



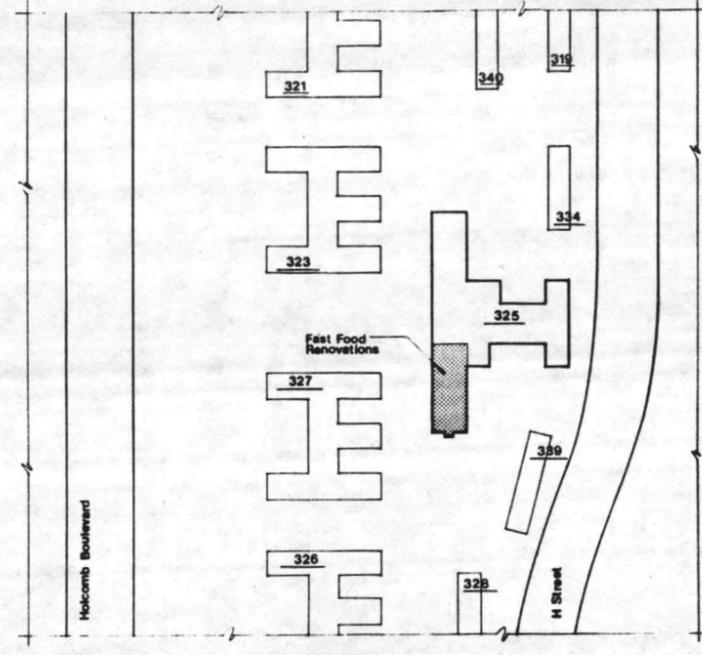




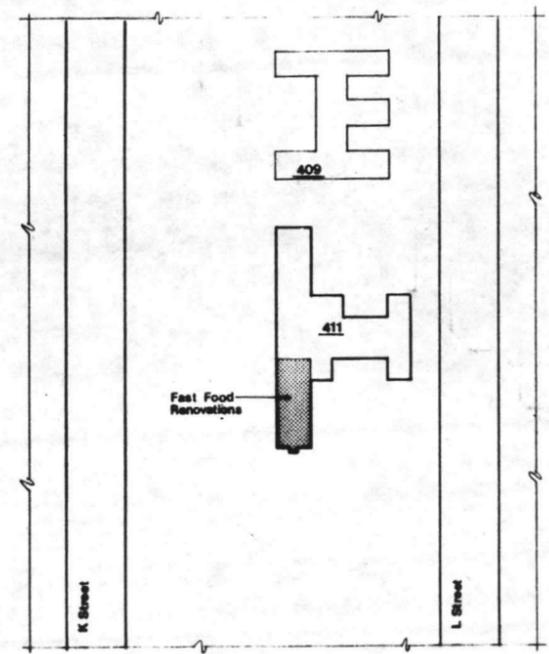
Mess Hall 122



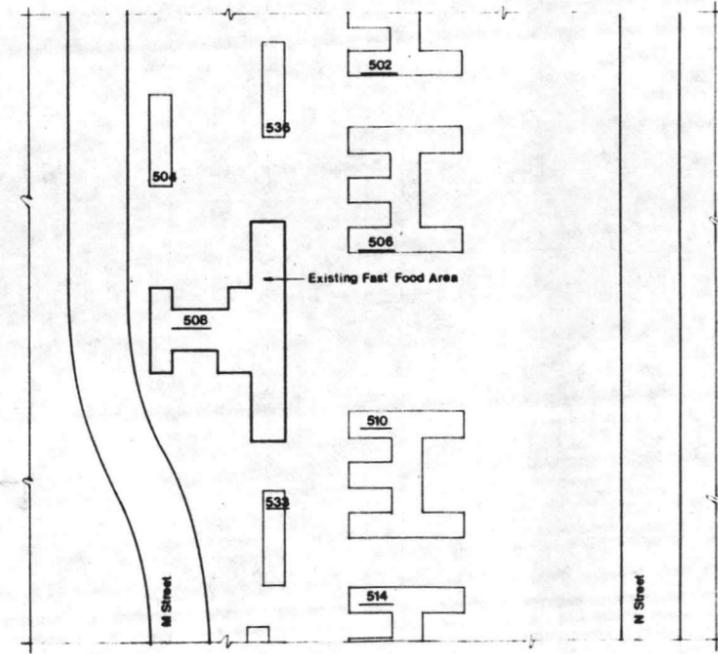
Mess Hall 211



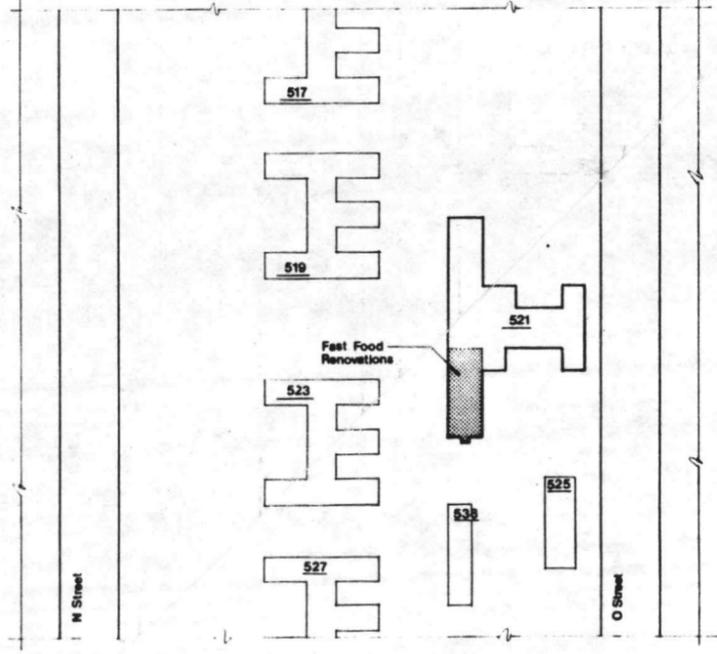
Mess Hall 325



Mess Hall 411

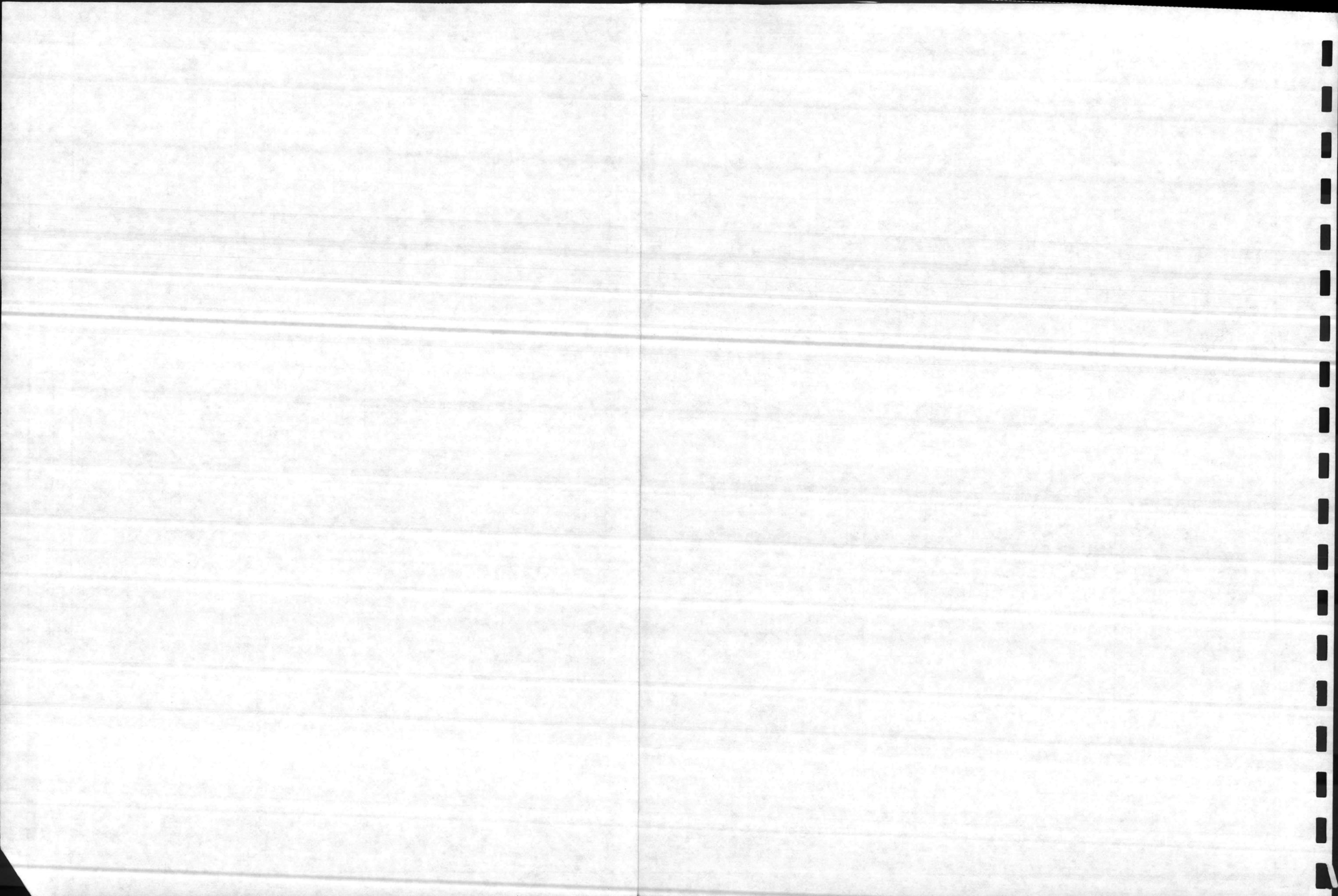


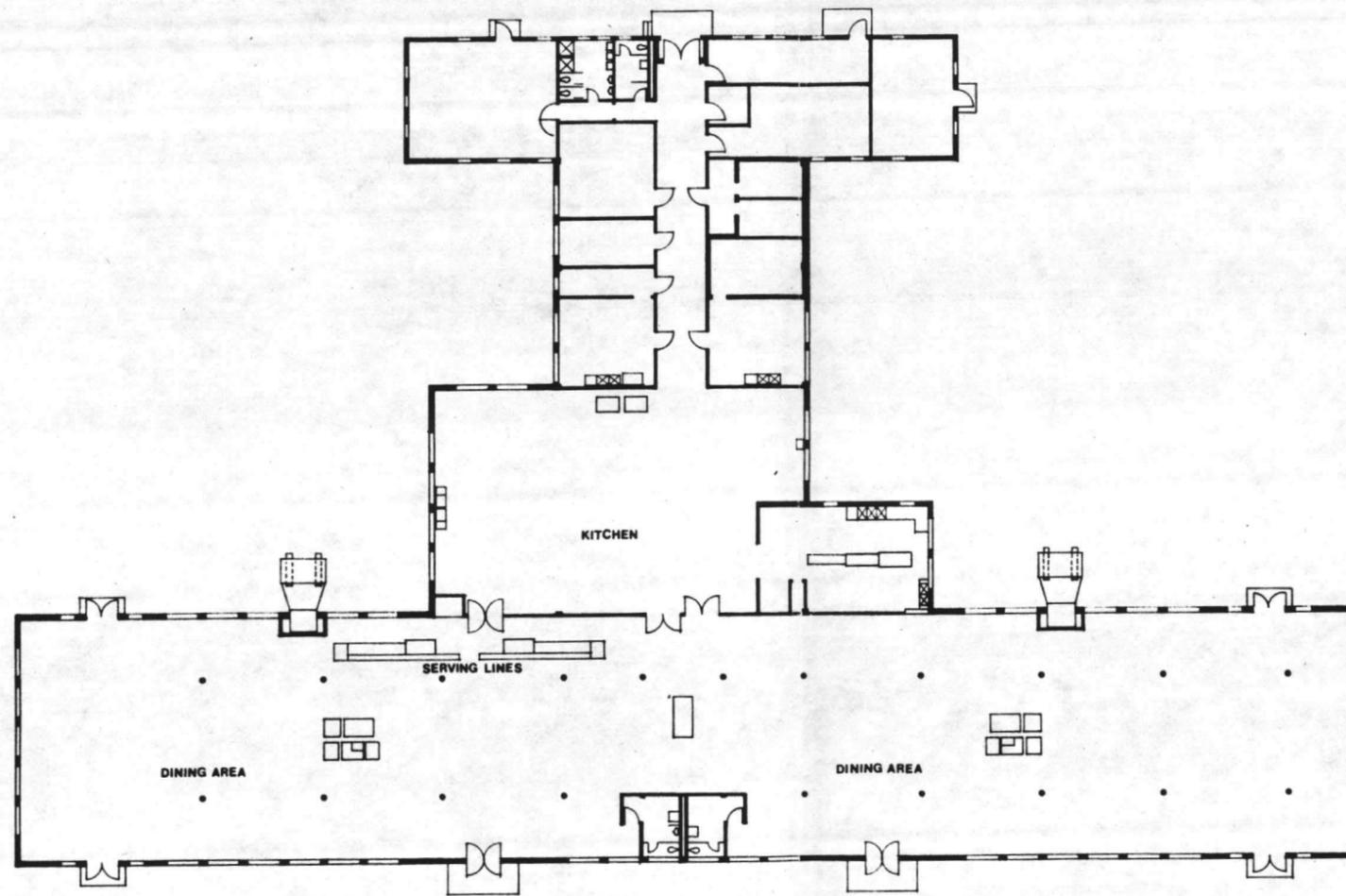
Mess Hall 508
To Remain In Use



Mess Hall 521

Locations for Proposed Mess Hall Fast Food Renovations





Mess Halls: 9, BB-7, 122, 211, 325, 411 & 521



REVISED

DATE

6/3/85

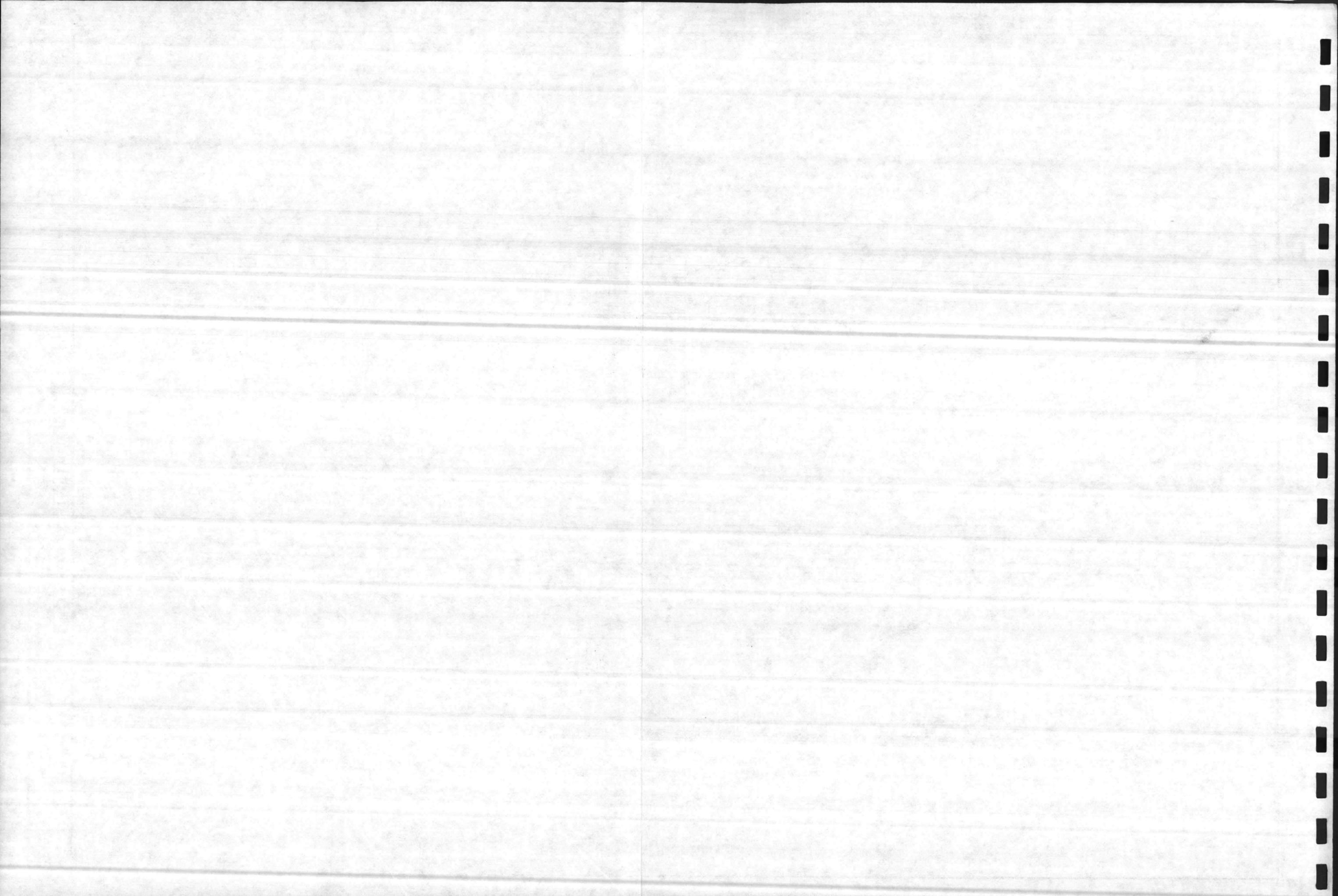
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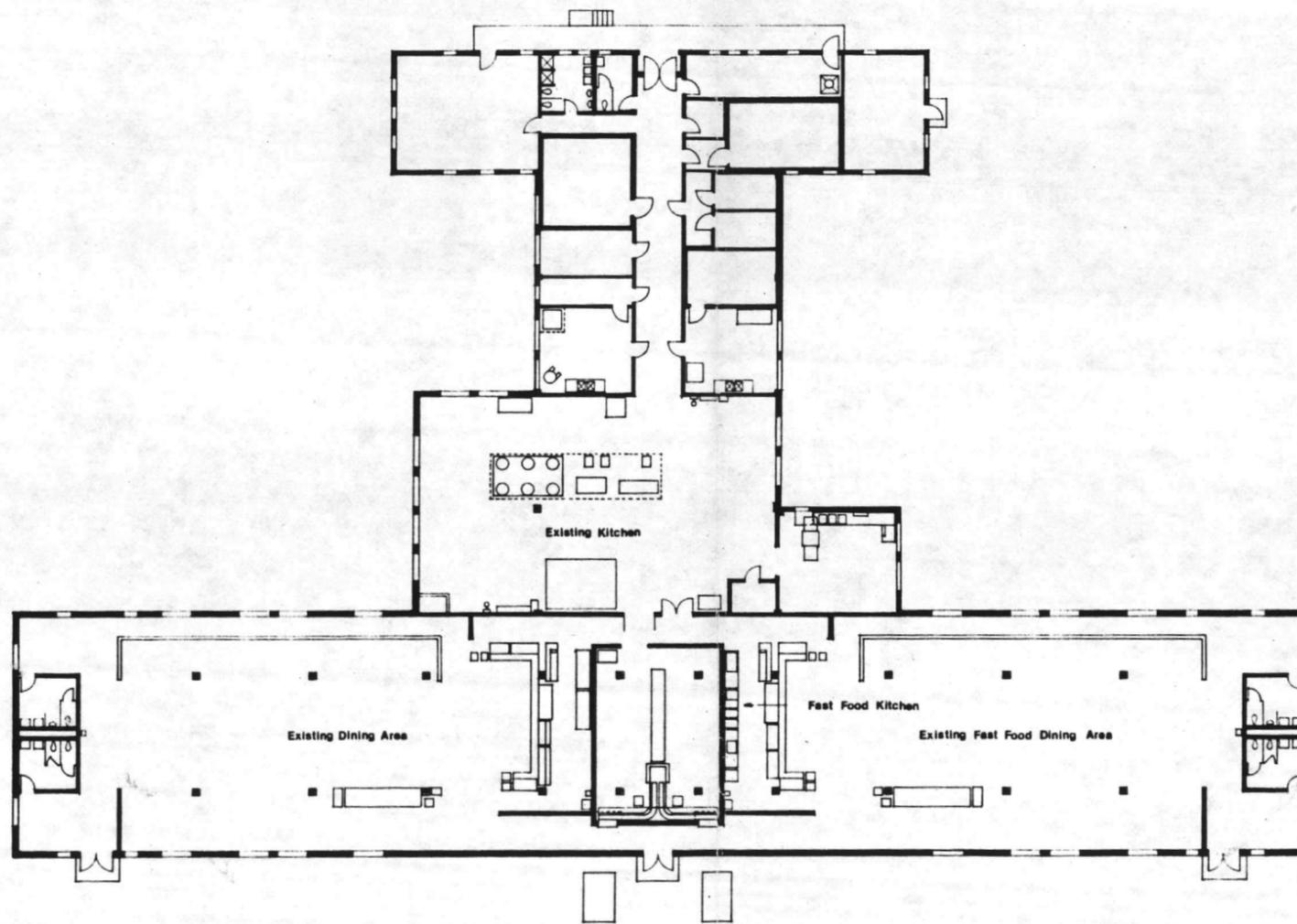
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2

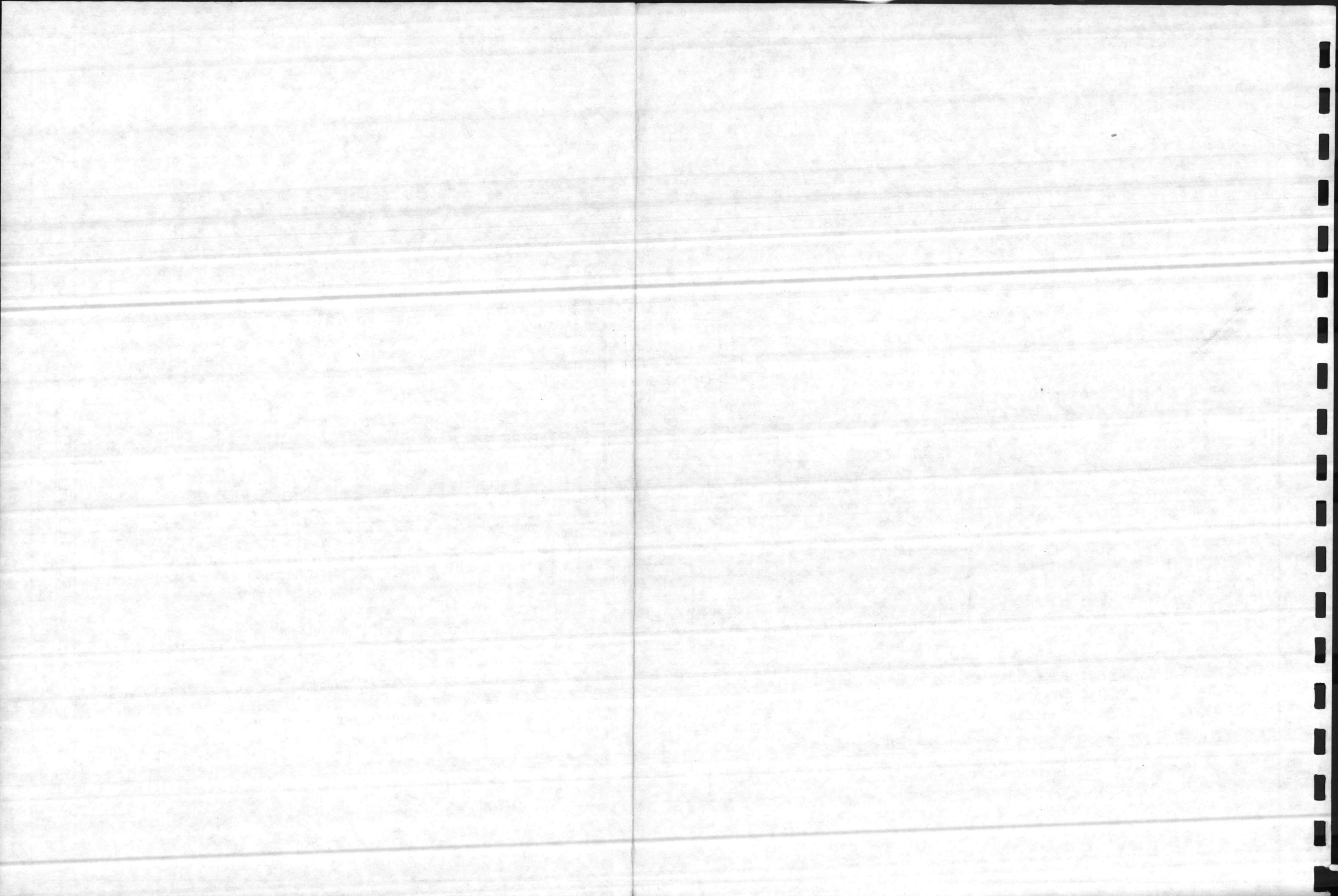
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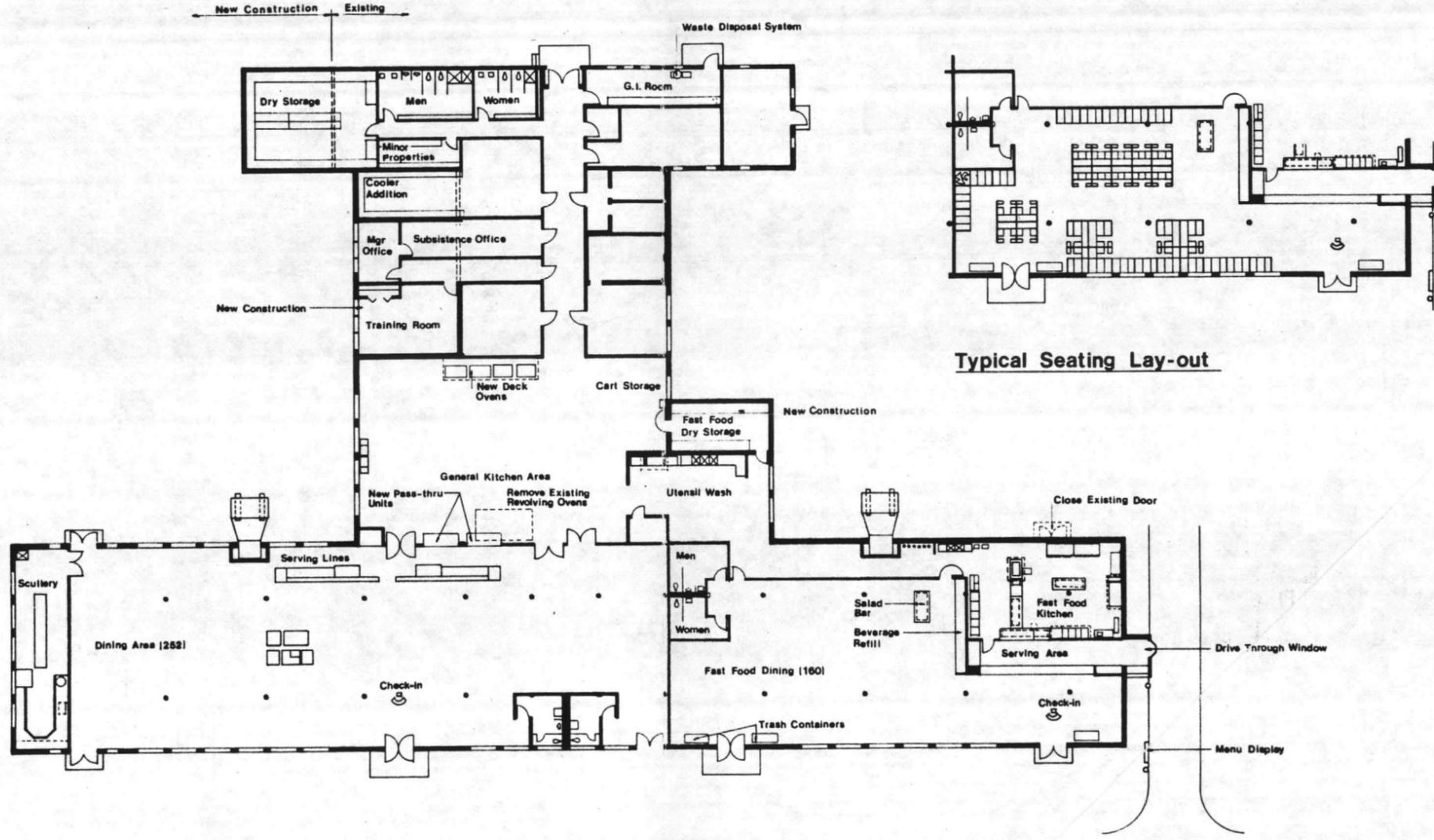
TOTAL





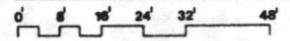
Mess Hall 508
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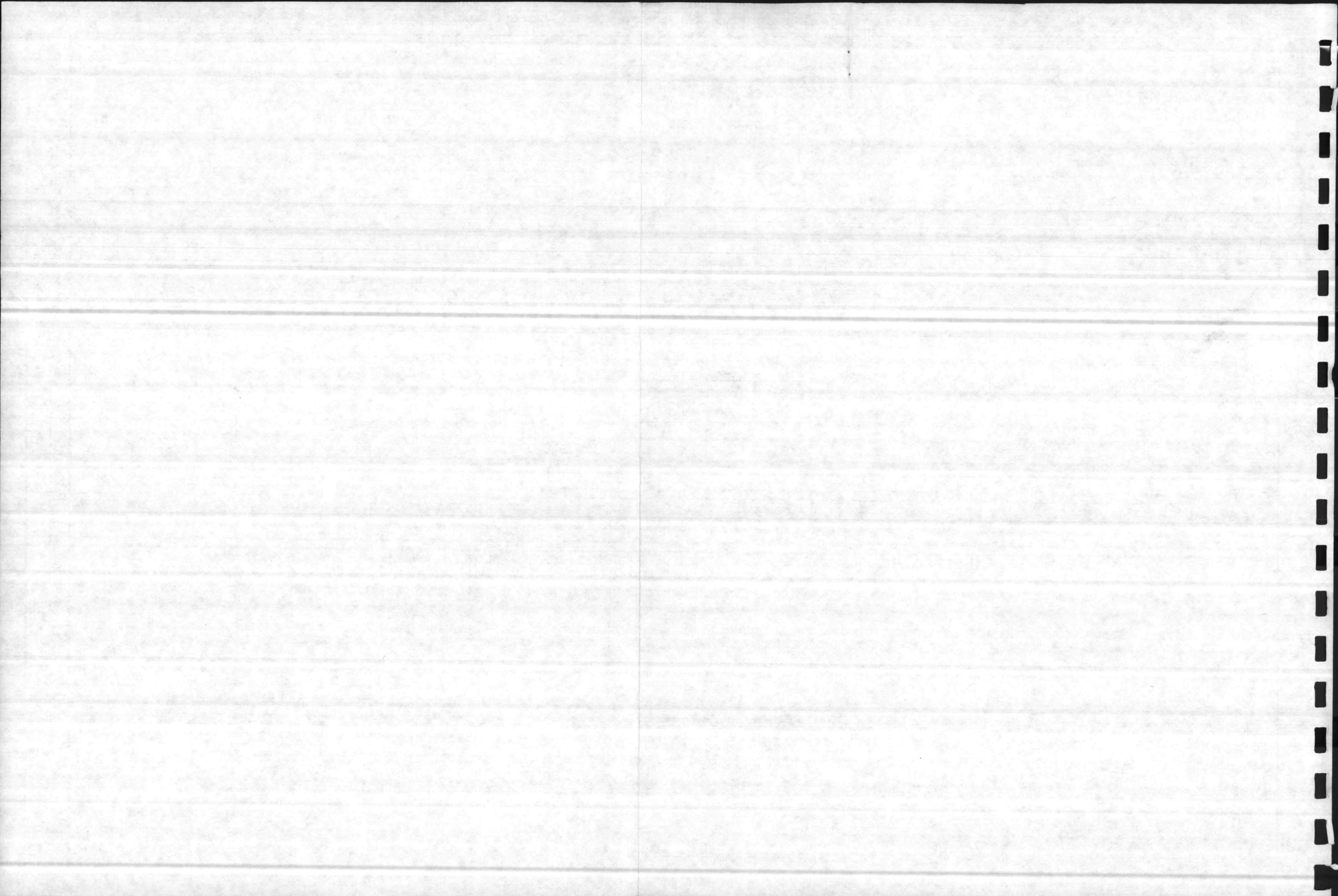


Typical Seating Lay-out

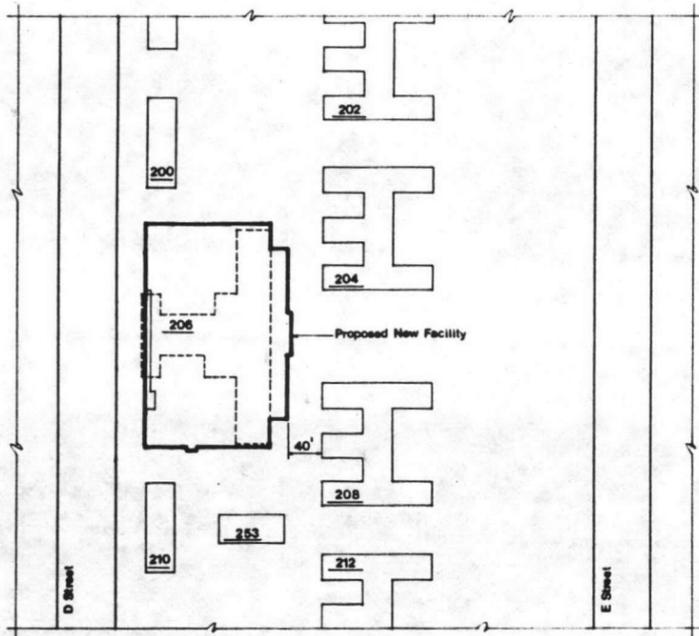
Mess Halls: 9, BB-7, 122, 211, 325, 411 & 521 Fast Food Renovations



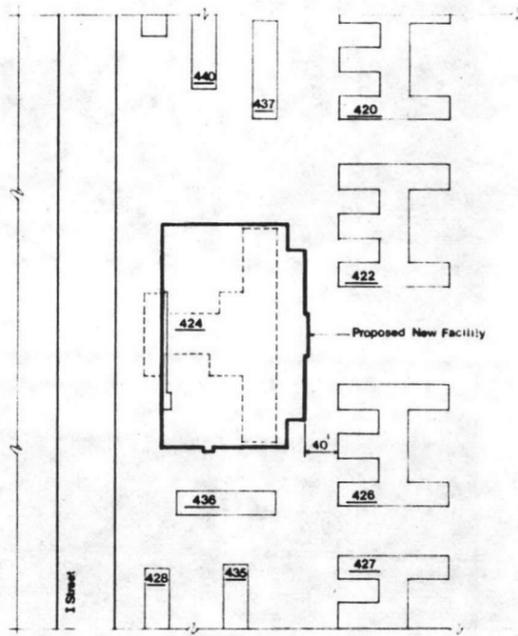
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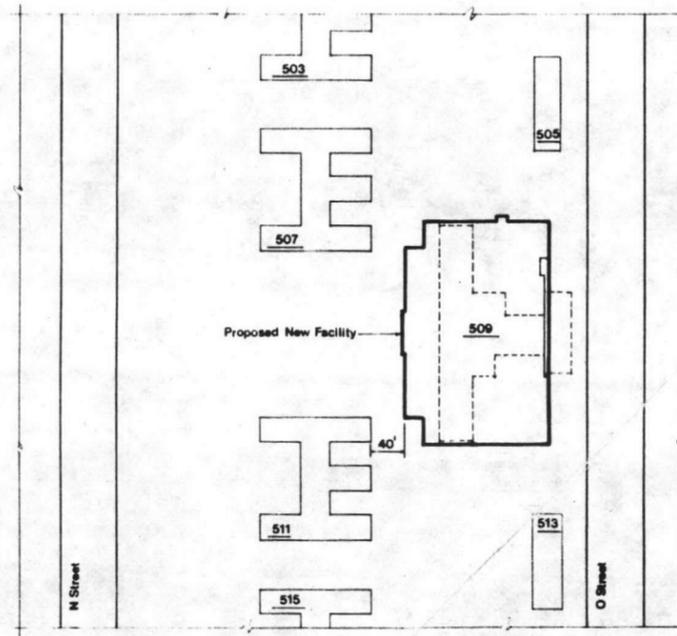
MESS HALL



Mess Hall 206



Mess Hall 424



Mess Hall 509

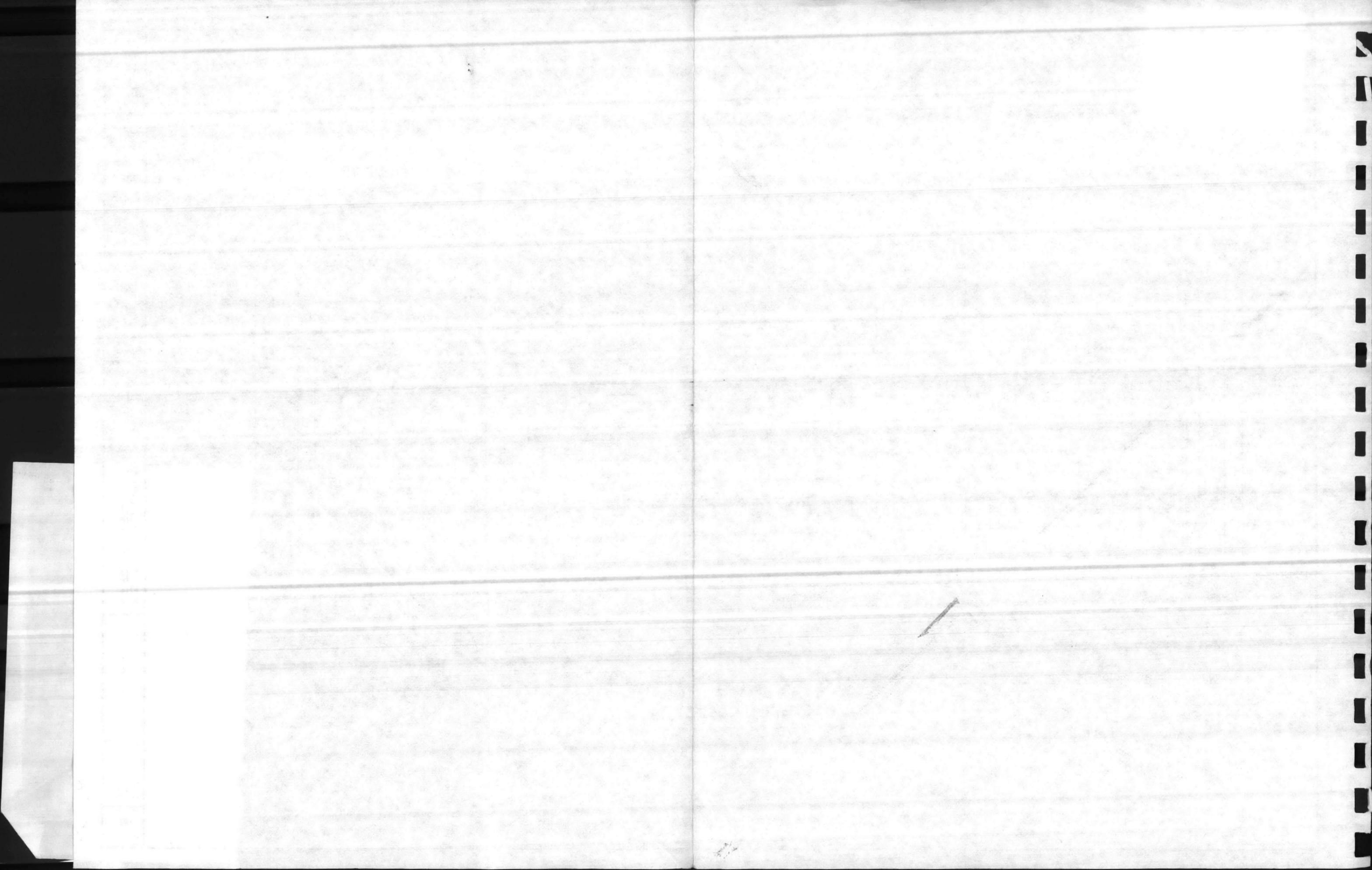


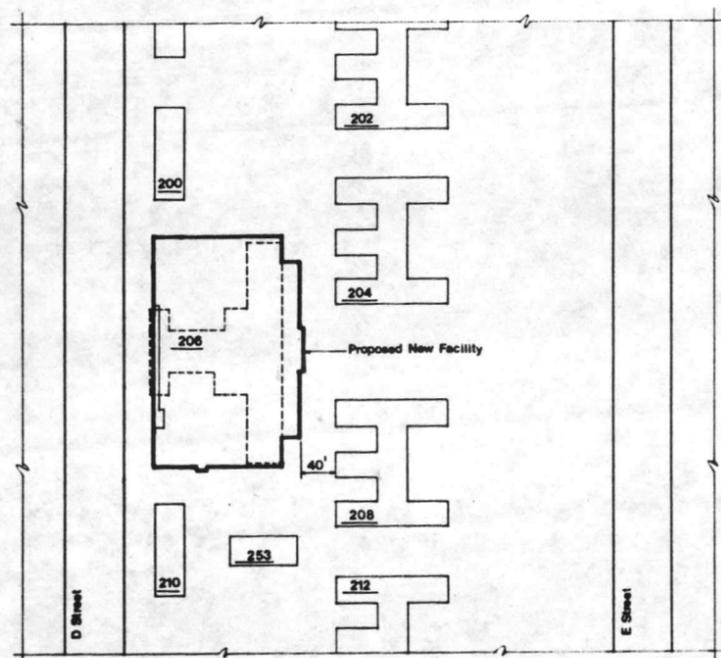
Proposed Locations for Prototype 3600 Man Mess Hall



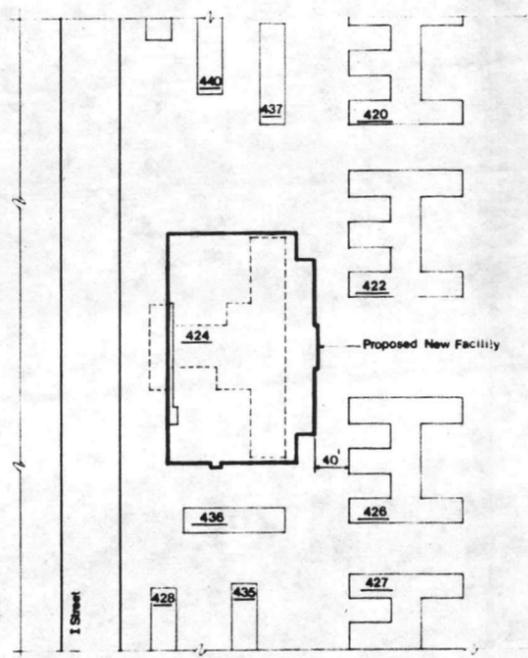
STUDY

WILBER, KENDRICK, WORKMAN AND WARREN ARCHITECTS-ENGINEERS CHARLOTTE, NORTH CAROLINA

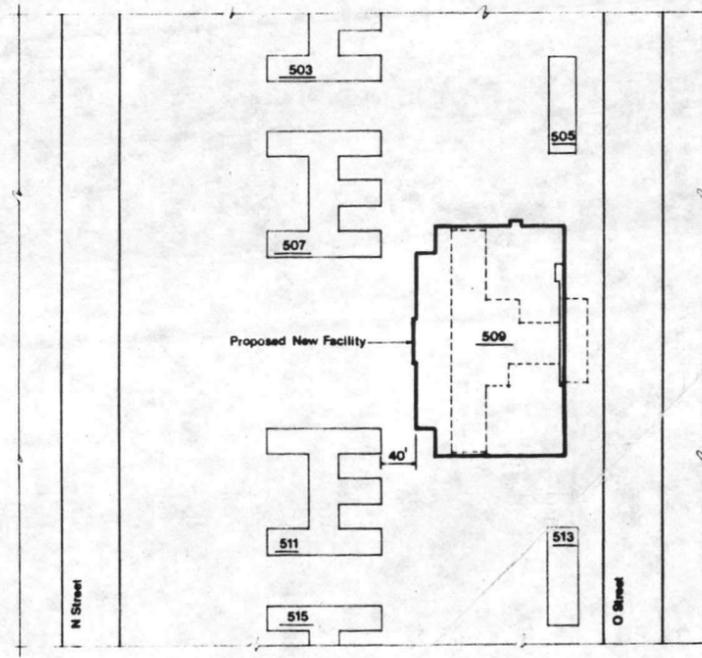




Mess Hall 206



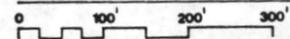
Mess Hall 424

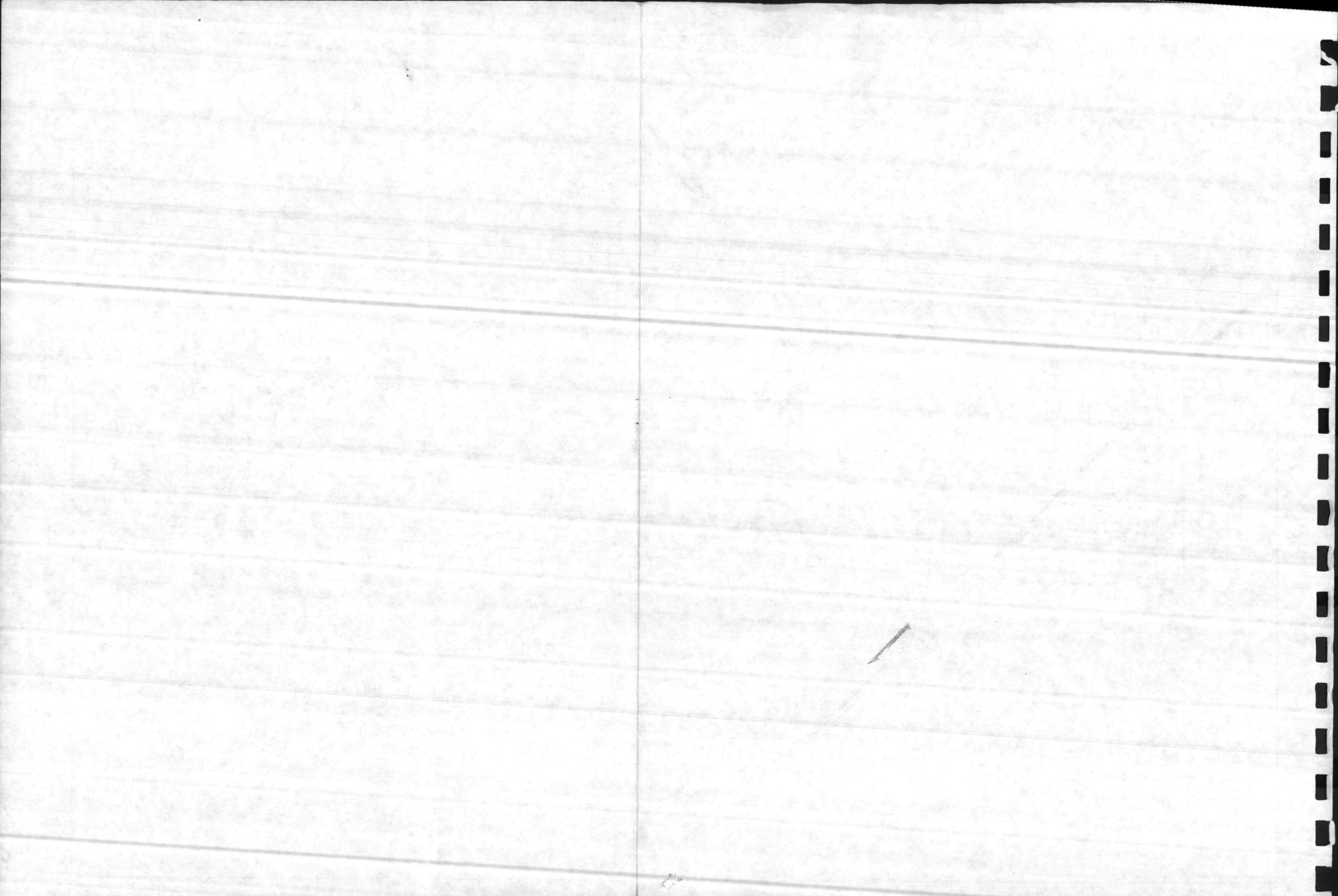


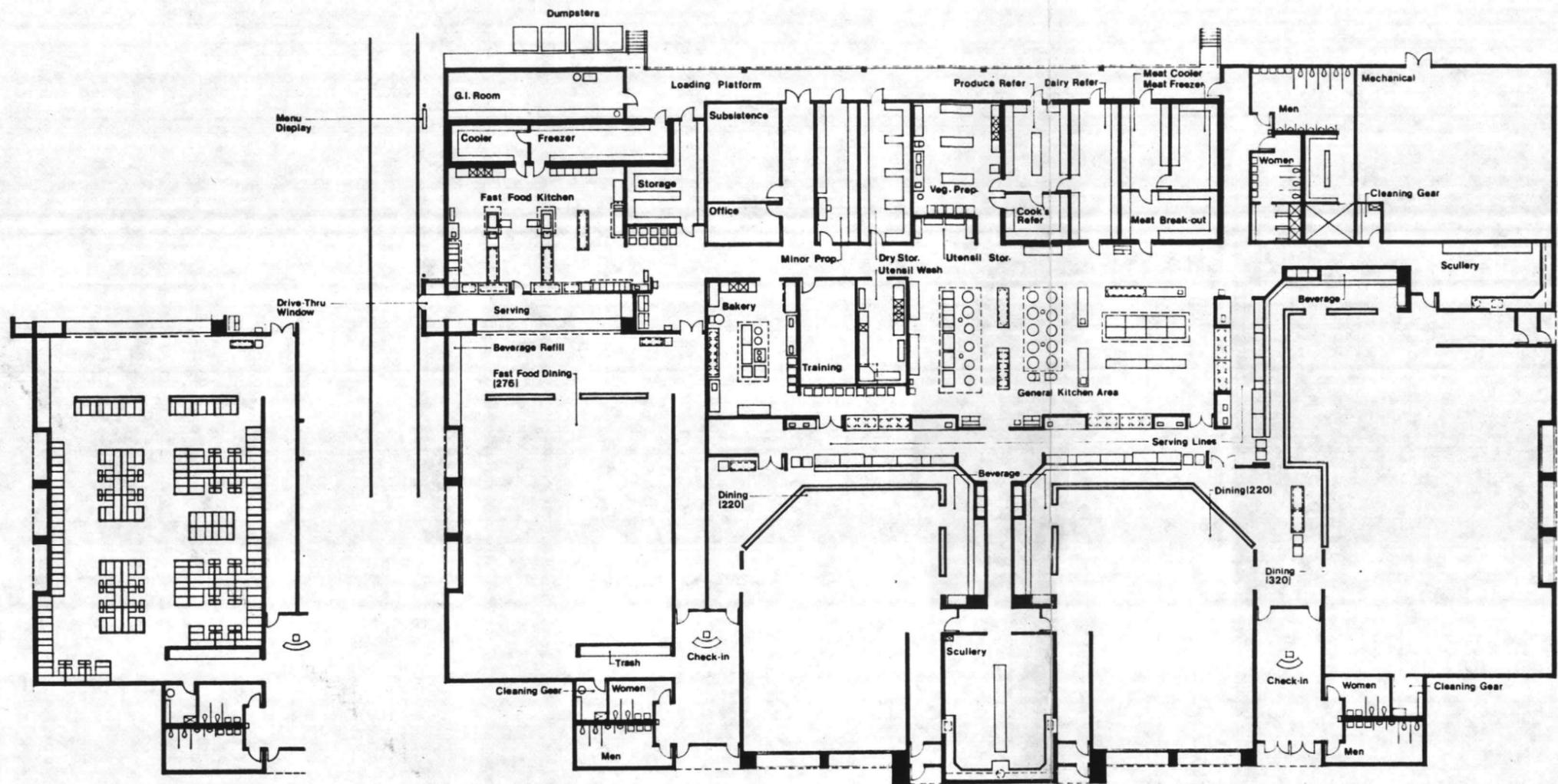
Mess Hall 509



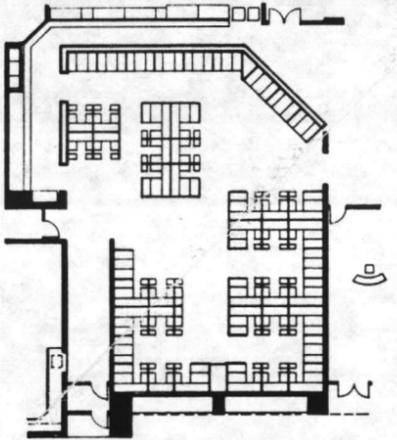
Proposed Locations for Prototype 3600 Man Mess Hall





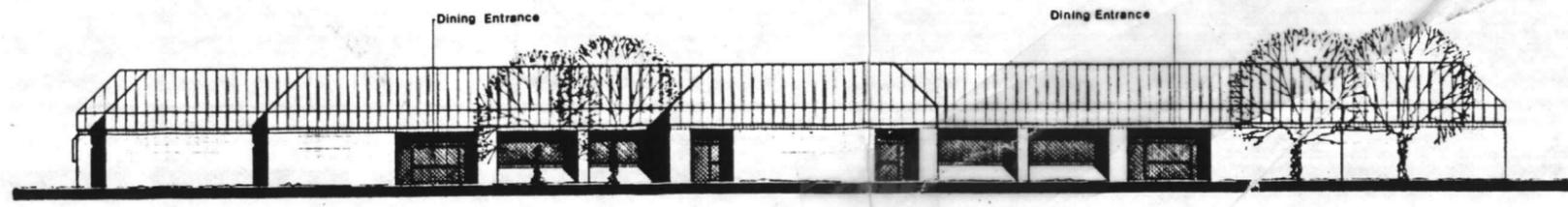
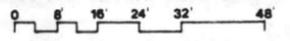


Typical Seating Lay-out

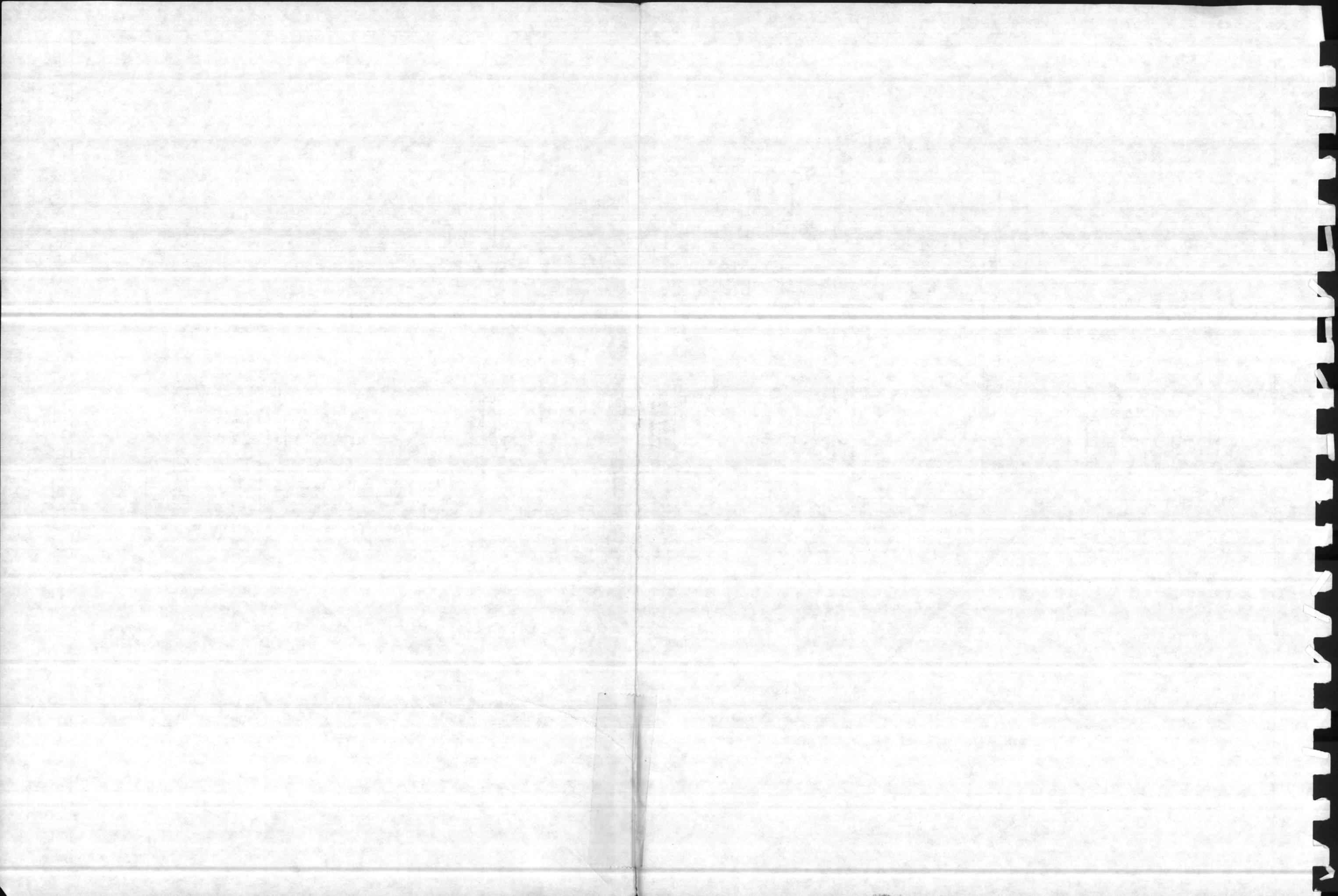


Typical Seating Lay-out

Prototype 3600 Man Mess Hall



Front Elevation



MESS HALL G-640
FAST FOOD RECOMMENDATIONS

The scope of this project is to design renovations and additions to accommodate fast food eat-in and take-out service. This study is to include evaluation and recommendations of existing HVAC problems.

The present facility accomodates 3600 men and operates three serving lines for conventional menu and one snack food line. Our recommendations include major renovations to the present snack line and dining area. This part of the mess hall will be enclosed with new partitions. Existing entrances and exits will require no modifications.

The original scope of the project included a drive-thru window. To meet this requirement would require the relocation of the present bakery and minor property areas. After consultation with Base Food Service; we have omitted that requirement.

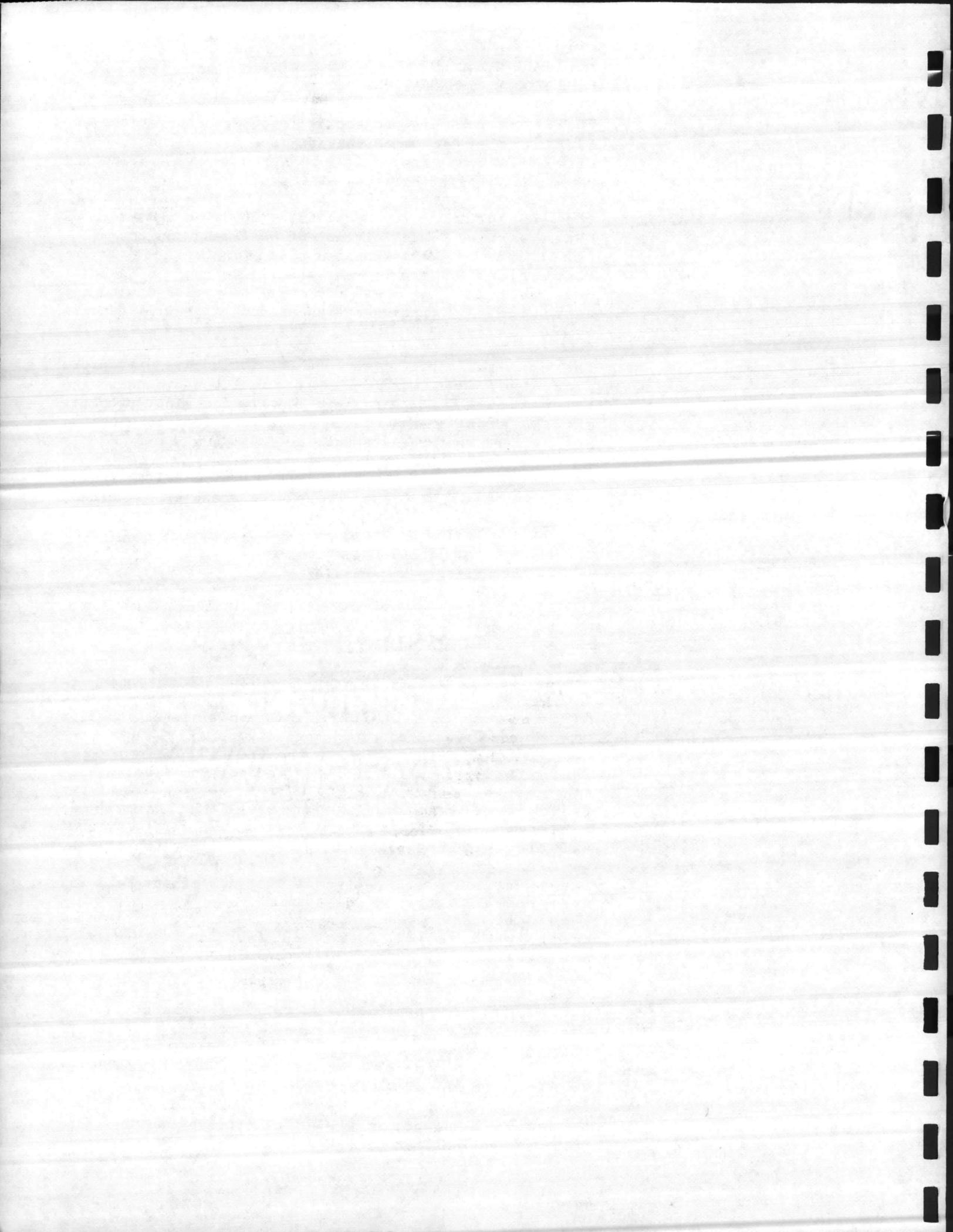
As stated in the scope of this project, asthetics and appearance of serving and dining areas are important elements of the overall project. Renovations would include the following items:

1. Special lighting systems
2. Acoustical tile ceiling
3. Vinyl wall covering/ceramic tile
4. Wood trim and molding
5. Quarry tile floor and base
6. Custom millwork
7. Artwork and decor items
8. Custom seating units

NOTE: These are typical items and finishes for this type of commerical fast food facility.

The existing facility has experienced excessive amounts of deterioration of waste lines. During one of our field investigations, we observed the removal and replacement of cast iron waste lines. We first reviewed existing utility plans to determine if the waste lines were designed with adequate drop or fall in elevation. The existing plans indicate that sufficient fall was designed into the waste lines. Another factor that should be considered is the amount and type of cleaning agents used in the mess hall facility. It would be advisable to review present procedures and applications of cleaning agents.

Another major contributing factor is the amount of food and paper waste that may be inadvertently disposed of through the existing waste system. Presently all food and paper waste are separated. Paper waste is transported to dumpsters located in the rear of the facility. Food waste is stored and sold. There are presently four paper waste collections and five food waste collections per week.

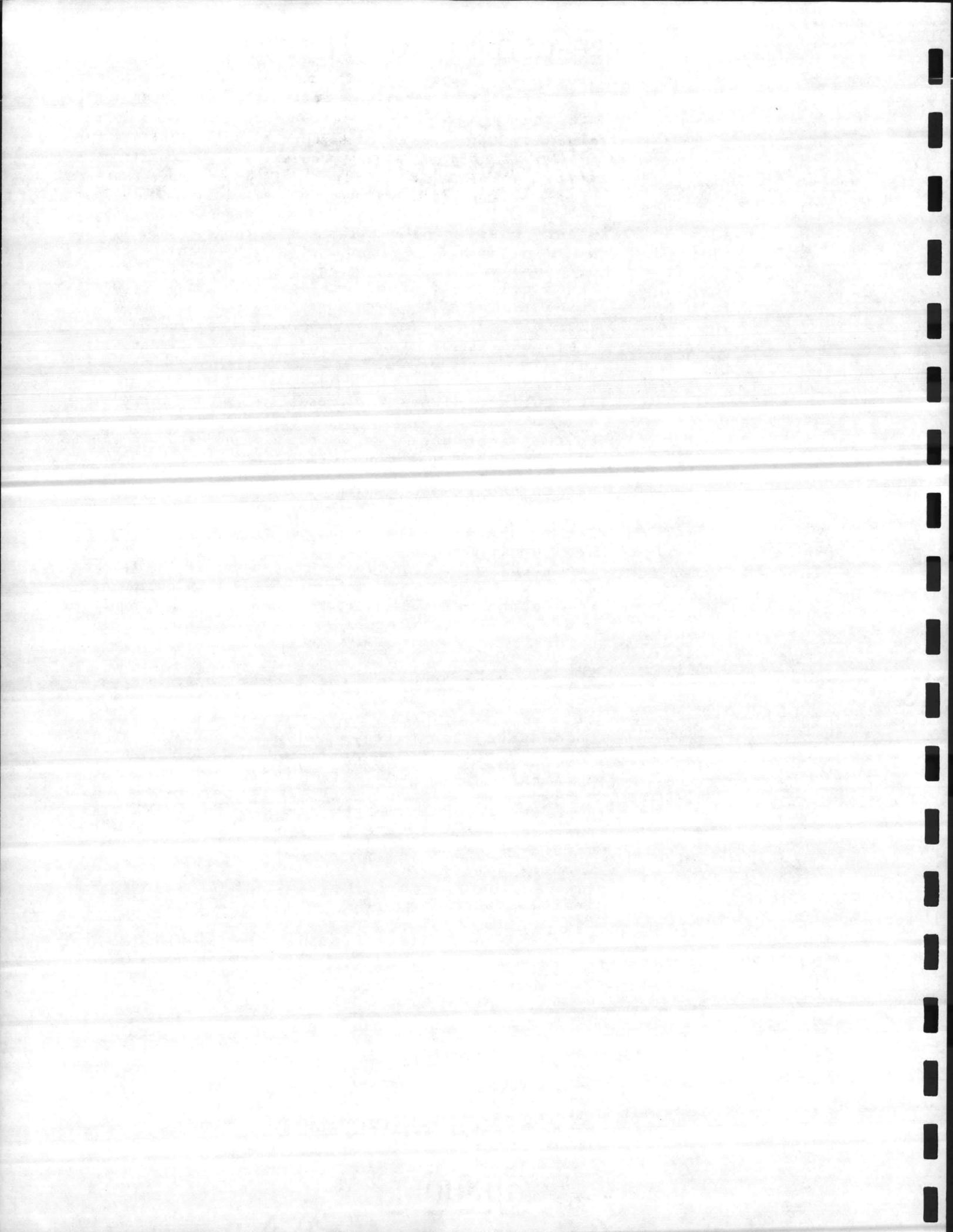


We recommend an engineered waste disposal system to be installed. The system would include three waste pulpers and one water press. The waste system produces a pulp mixture of food, paper and water. The pulp is then piped to the water press and extracts the water. One pulper is located in each scullery area. Separation of waste will not be required. Food and paper waste is removed from dishes and then deposited into the pulper. New pulp lines would run above existing ceiling to the water press. The water press is to be located in the area presently designated as the root storage. Originally this area was used for raw potato storage. The facility is using more processed potato products which eliminates the need for this area. A pulper would also be located in this area for miscellaneous waste items and cardboard boxes. All three pulpers are piped to the one water press.

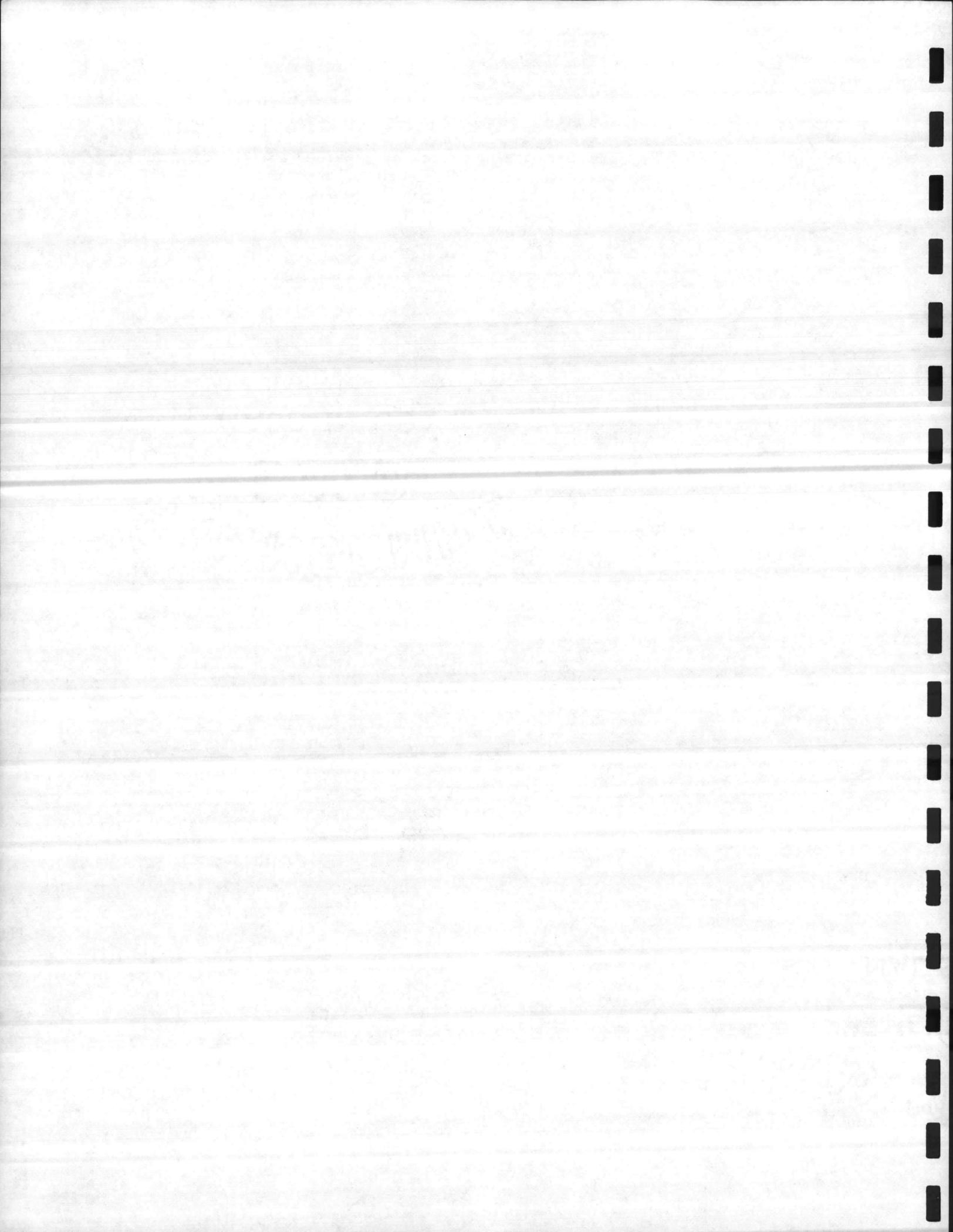
The engineered waste disposal system is a closed-loop design. Nearly 95% of the water that carries the pulp to the water press is recovered and returned to the pulper, keeping the unit continually flushed, and minimizing the introduction of fresh water. Bulk volume of waste should be reduced by 85%.

The existing mess hall has a number of HVAC related problems. Working conditions in the scullery are impaired by the excessive heat and steam generated by the dish machine. The present ventilation equipment is inadequate. We would recommend the installation of new make-up air ventilation equipment utilizing primarily outside air.

The existing hoods in the general kitchen area are another problem. Steam from the kettles rises and forms condensate on the under side of the hood. The condensate then builds up and drops into the product. Our firm has been in contact with Gaylord Industries and their area sales representatives. The existing hoods are a custom design, unlike Gaylord's standard hood models. The bottom center of the hood is flat, parallel to the floor. Typical hoods are sloped or have direct access to the filtering systems. Our first recommendation is to adjust the existing fans to increase CFM capacity by 50%; theory being that increased CFM will pull the steam and moisture across the bottom of the hood faster and thereby reduce condensation. This is by far the most economical alternative. If these modifications do not alleviate the problem, field modification or replacement of the hoods may be required.



The existing dining areas are also experiencing heating and cooling problems. The fast food concept separates conventional dining from the new renovated dining/serving area. We also recommend that new mechanical equipment, air distribution system and mechanical controls be provided for the fast food dining area. Separating zones and providing additional capacity will have a positive effect on the existing dining area.



MESS HALL G-640
COLLATERAL EQUIPMENT LIST

FAST FOOD KITCHEN AREA

Quantity	Description
2	3 Door Reach-in Refrigerators
8+	Bread Racks By Others
2	Fry Basket Racks
2	Auto Fry Filter Systems
10	Deep Fat Automatic Fry Kettles
2	Fry Dump Stations
2	Heat Lamp Fry Holding Stations
2	Auto Broilers
2	Mobile Work tables
3	Bun Toasters
2	Steam Holding Units
8	Microwave Ovens
3	Chef's Tables
1	72" Griddle
1	Two Eye Hotplate
1	Equipment Stand
5	Exhaust Hoods
2	3'-0" x 2'-6" Work tables
2	Potato Machines

FAST FOOD SERVING AREA

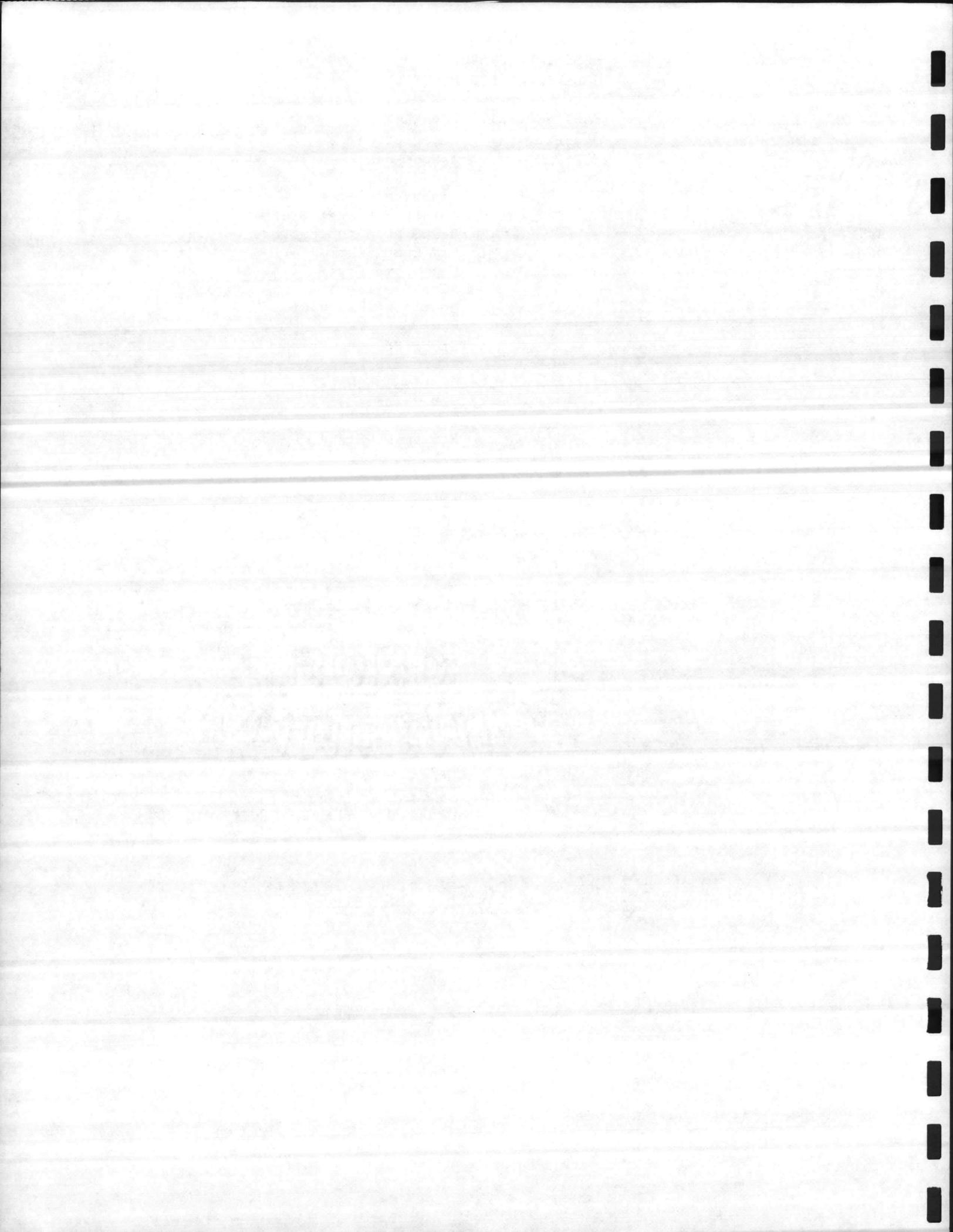
Quantity	Description
2	Carbonated Drink Dispensers
2	Ice Storage Units
2	Beverage Dispensers
2	Soft Serve/Milkshake Machines
8	Cup Dispensers
1	Microphone System
1	Refrigerated Salad Bar
2	Beverage Tables
1	Menu Display Panel

BEVERAGE REFILL AREA

Quantity	Description
2	Ice Dispensers
2	Carbonated Drink Dispensers
2	Beverage Dispensers
1	Coffee Urn
1	Microwave Oven
4	Cup Dispensers
6	Trash Containers
20'	Tray Slide

FAST FOOD DINING AREA

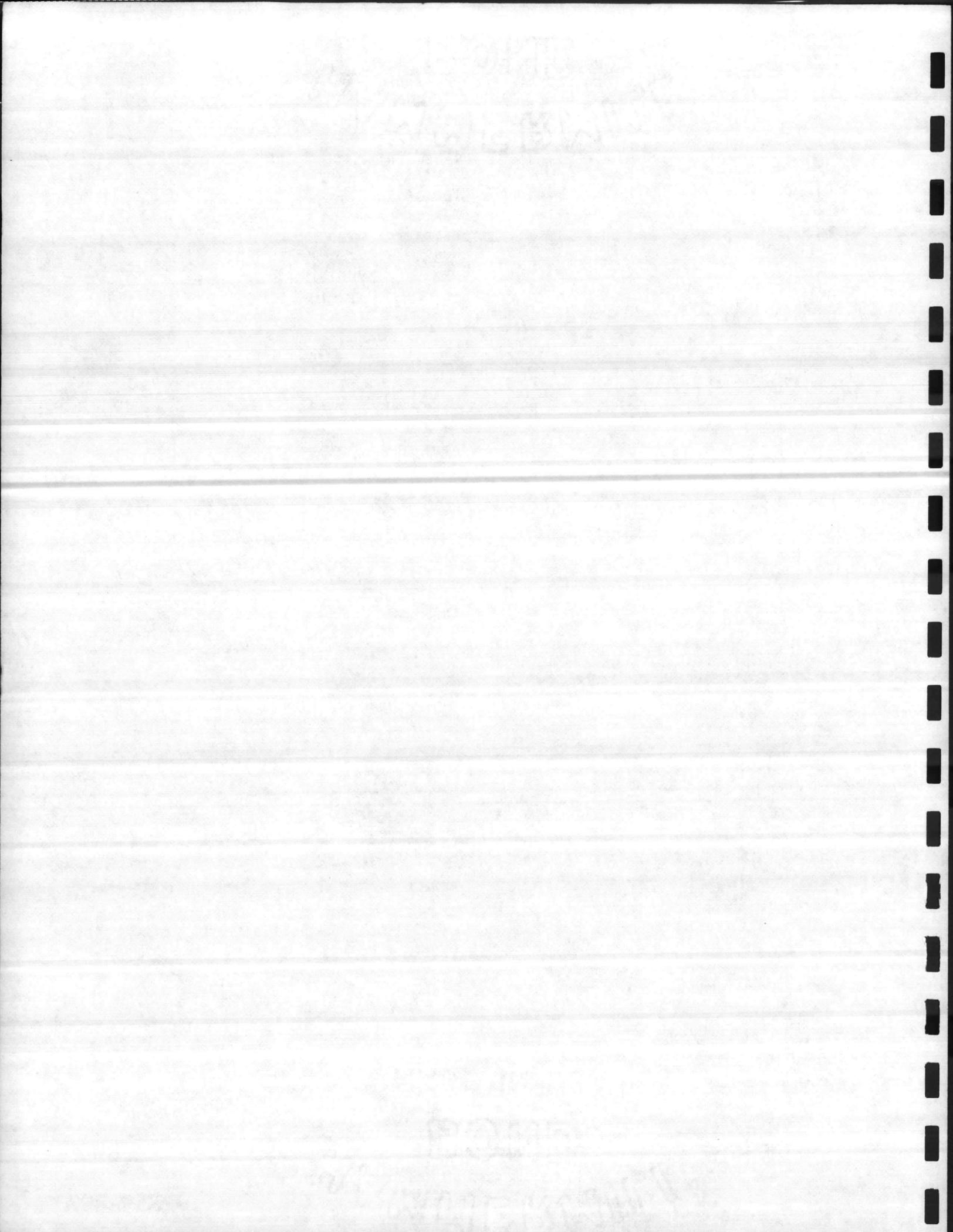
Quantity	Description
272	Fast Food Seats
68	Fast Food Tables



MESS HALL G-640
COLLATERAL EQUIPMENT LIST

EXISTING SCULLERY AREAS
Quantity Description
 2 Waste Pulpers

EXISTING ROOT STORAGE AREA
Quantity Description
 1 Waste Pulper
 1 Waste Press
 12' Low Metal Shelving



MESS HALL G-640
COLLATERAL EQUIPMENT COST ESTIMATE

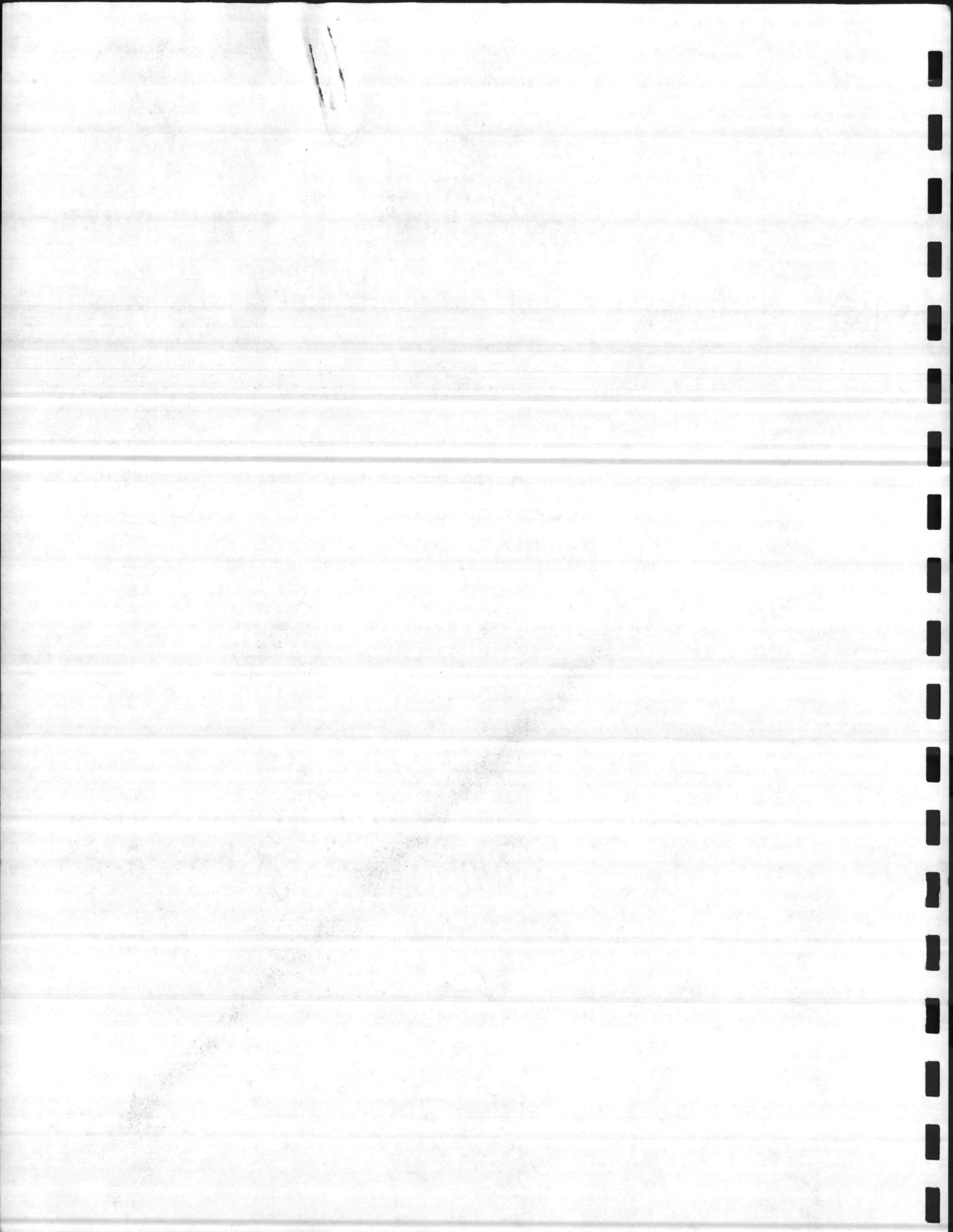
FAST FOOD KITCHEN AREA	\$104,300.00
FAST FOOD SERVING AREA	\$34,900.00
BEVERAGE REFILL AREA	\$15,900.00
FAST FOOD DINING AREA	\$48,960.00
EXISTING SCULLERY AREAS	
EXISTING ROOT STORAGE AREAS	\$83,847.00
VENTILATION EQUIPMENT	\$100,900.00
G-640 TOTAL COST ESTIMATE FOR COLLATERAL EQUIPMENT	\$445,707.00



MESS HALL G-640
ESTIMATED CONSTRUCTION COSTS

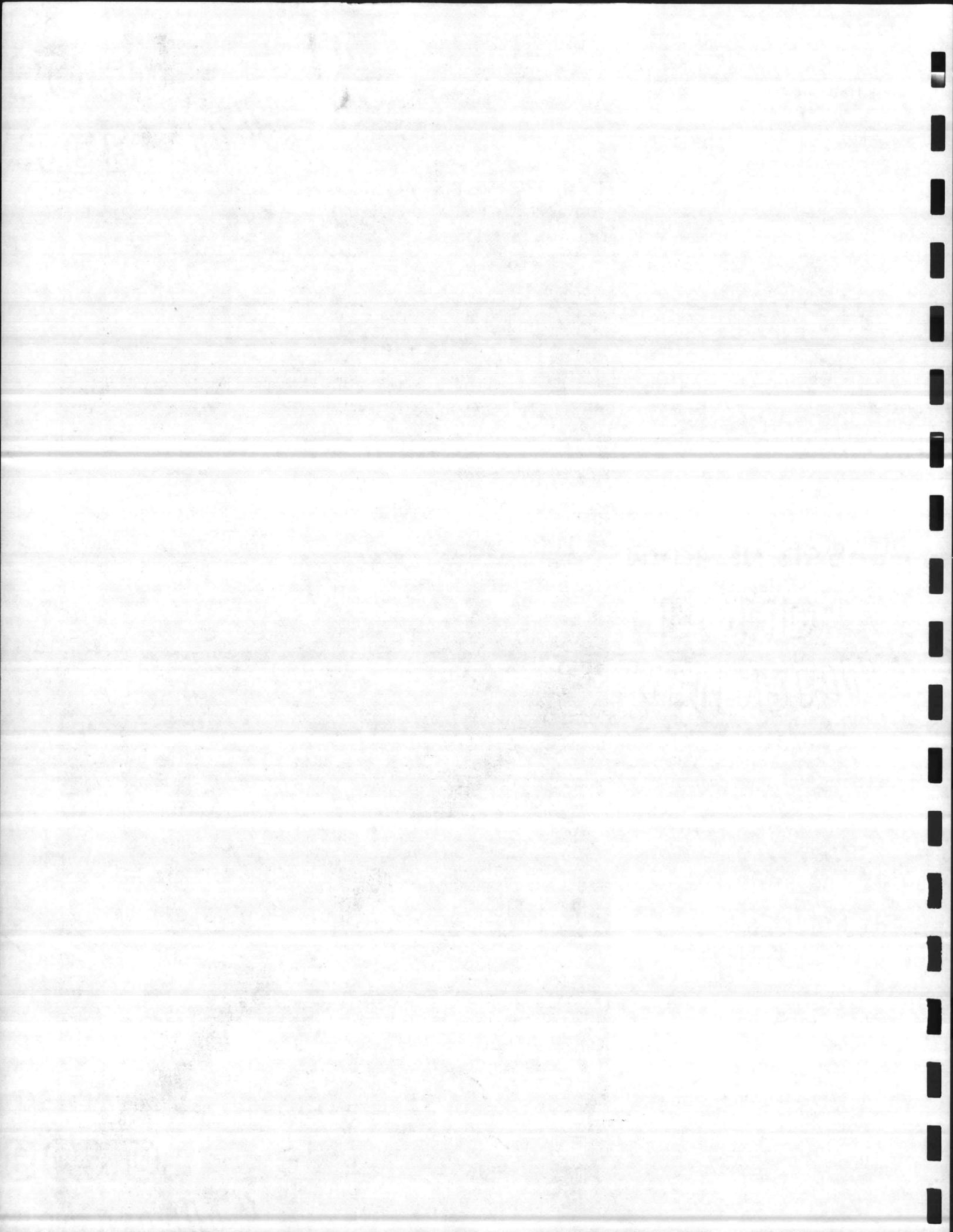
1. New Construction (Bldg Addition)	
900 SF @ \$85/SF	\$76,500.00
2. Renovated Areas (Existing Bldg)	
A. Serving & Preparation Areas	
2,300 SF @ \$60/SF	\$138,000.00
B. Dining Areas	
4,400 SF @ \$40/SF	<u>\$176,000.00</u>
SUBTOTAL	\$390,500.00
3. Site Support	
A. Site Utility Changes	\$10,000.00
B. Demolition	\$5,000.00
C. Site Improvements	<u>\$10,000.00</u>
SUPPORT COST SUBTOTAL	\$25,000.00
4. Collateral Equipment	<u>\$446,000.00</u>
TOTAL ESTIMATED COST BUILDING & EQUIPMENT	\$861,500.00

NOTE: Cost estimates apply only to fast food areas.
Unless described in this report, renovations to existing
areas are not part of this study.

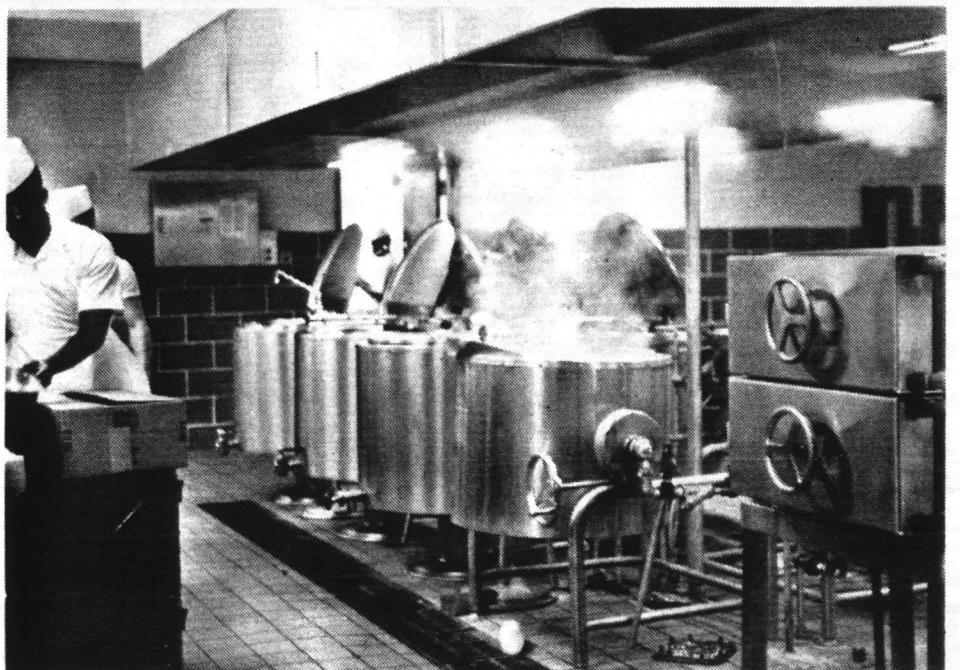
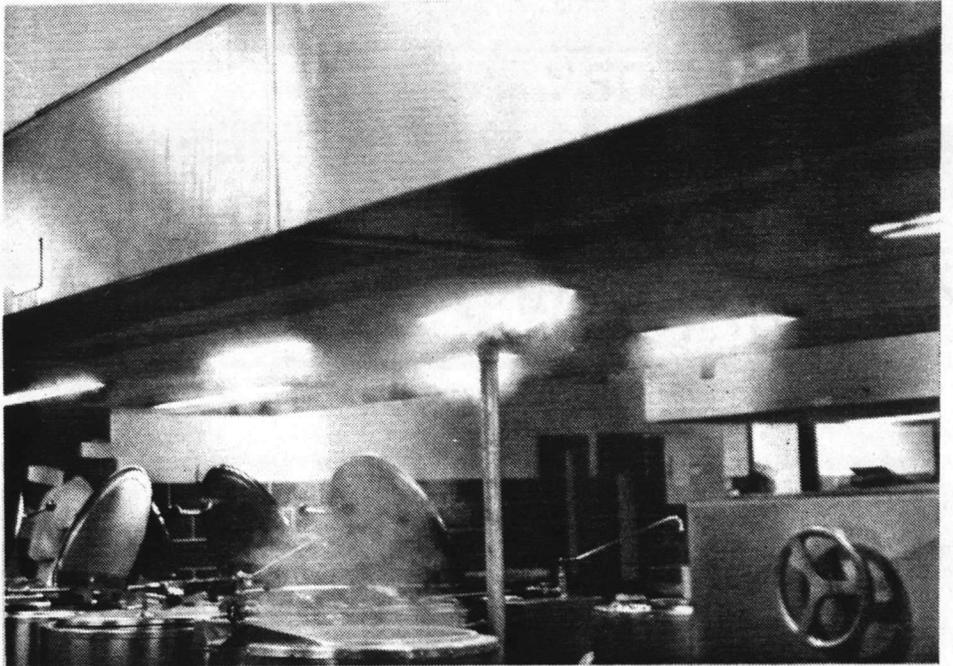


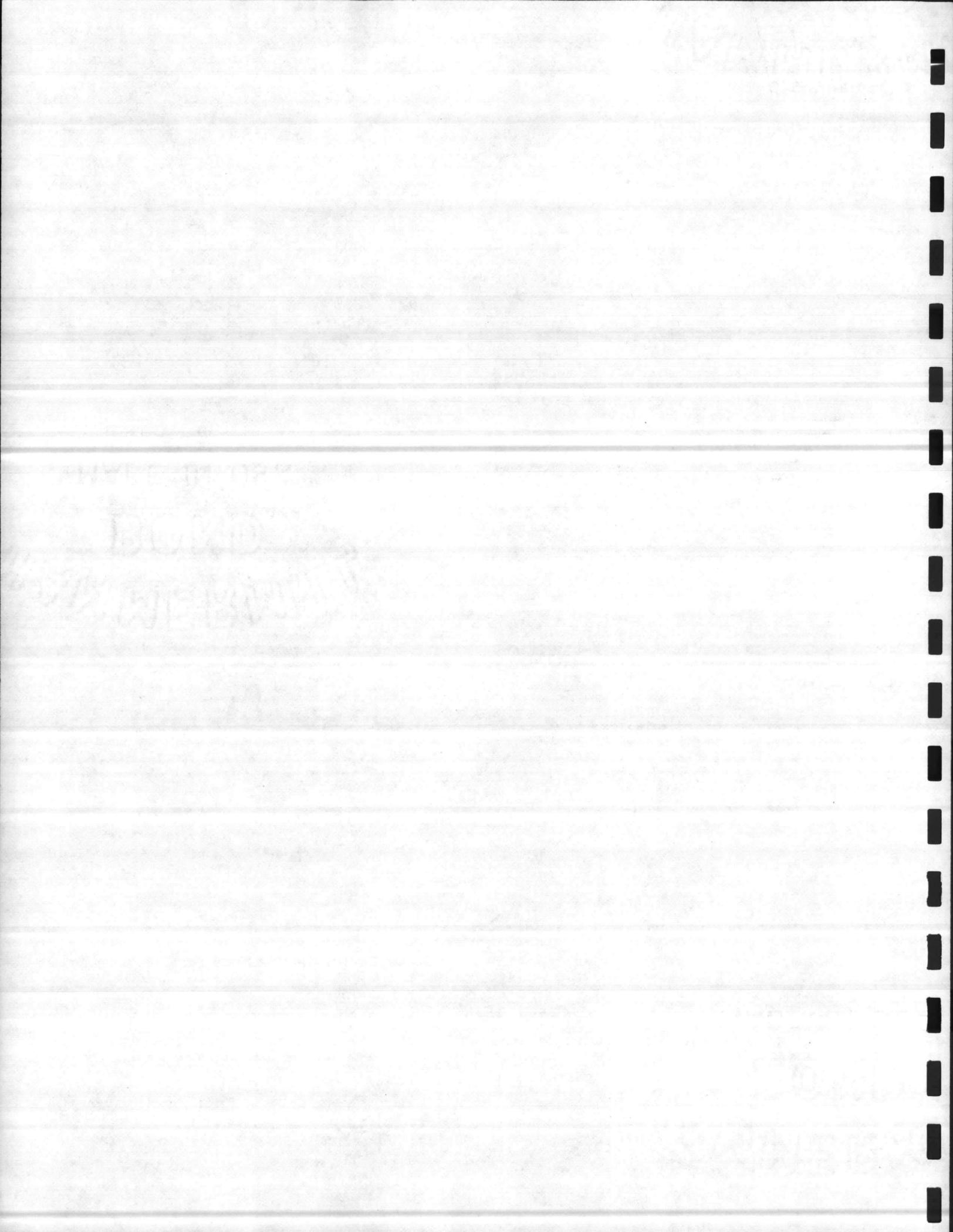
Mess Hall G-640

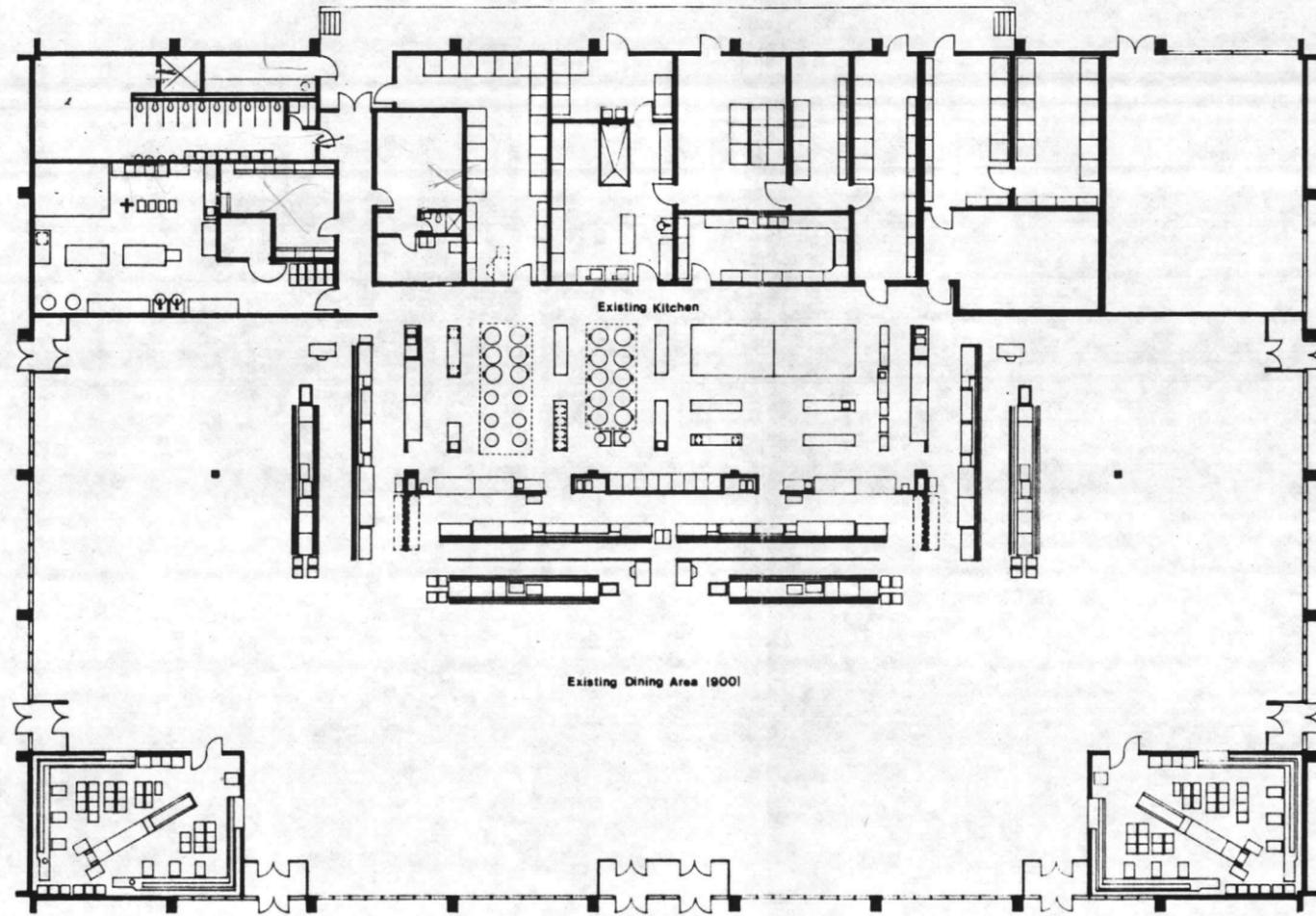




Mess Hall G-640







Mess Hall G-640



REVISED

DATE
6/3/85

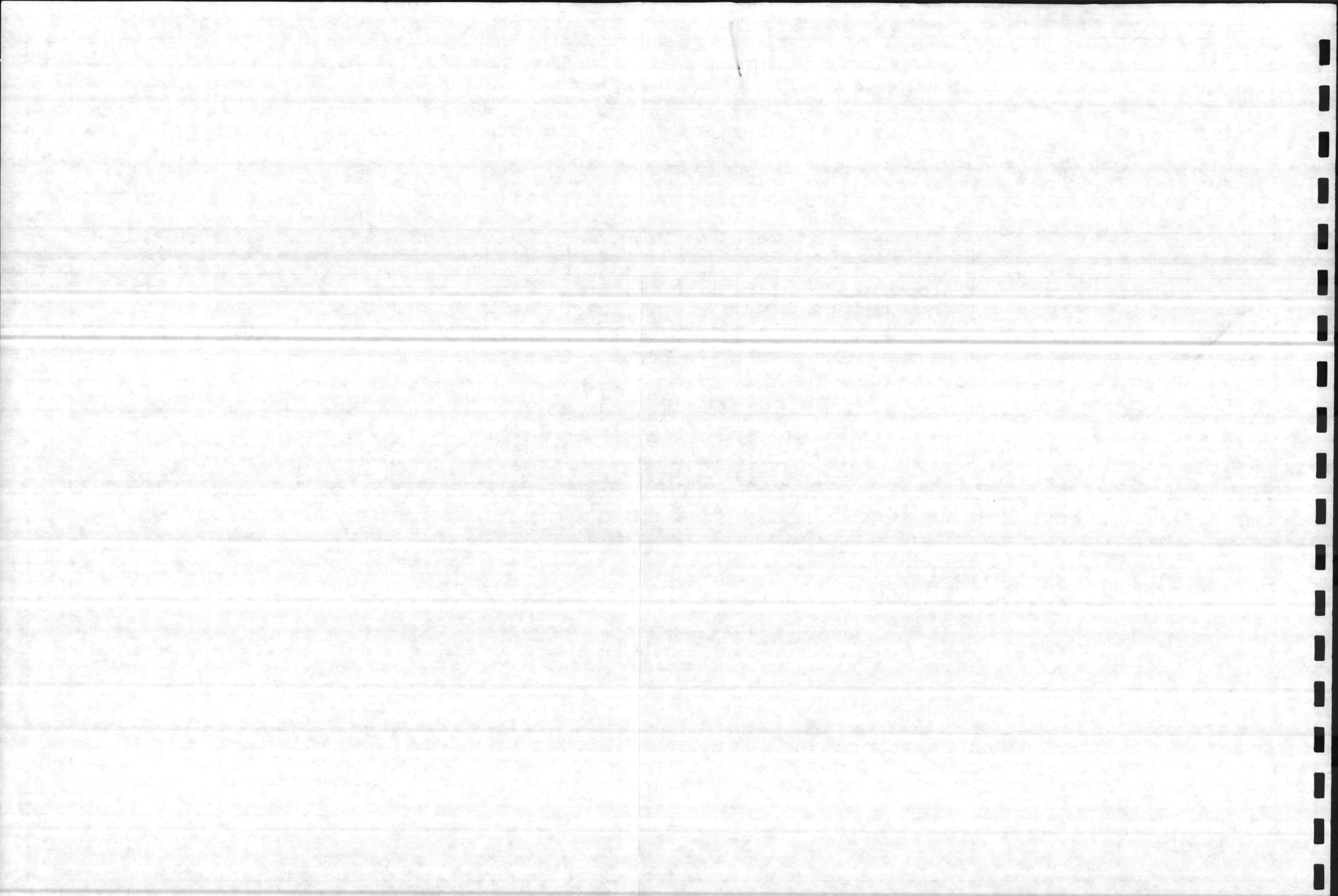
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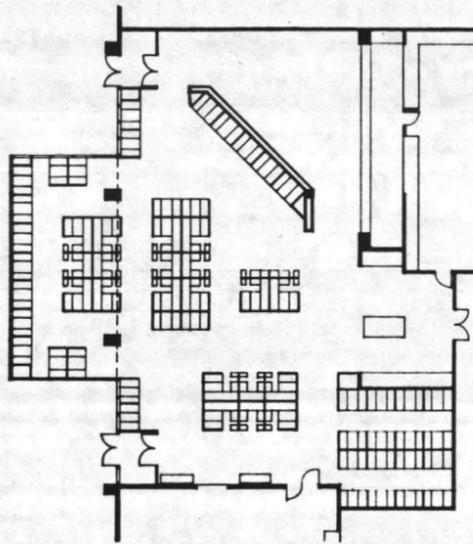
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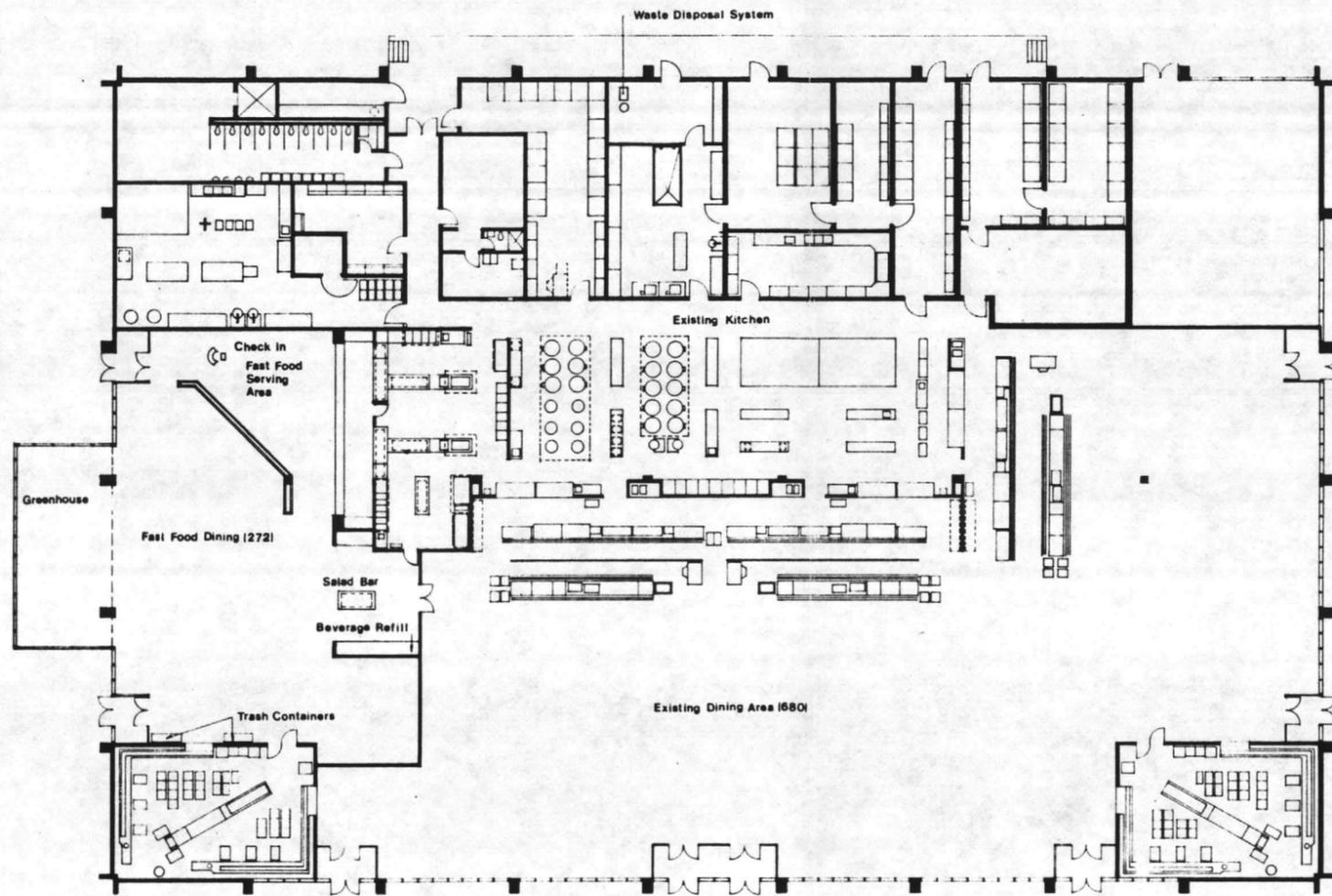
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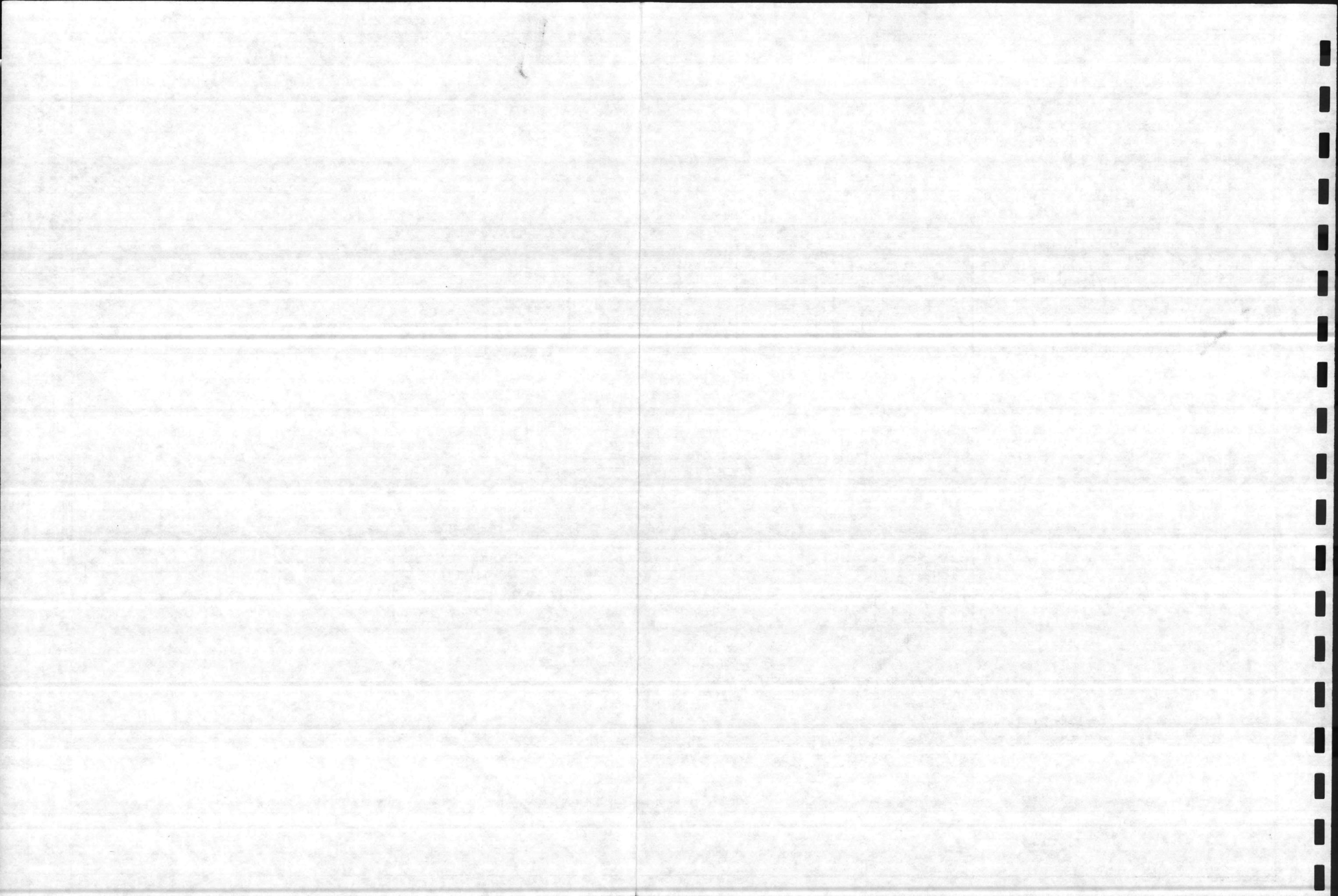


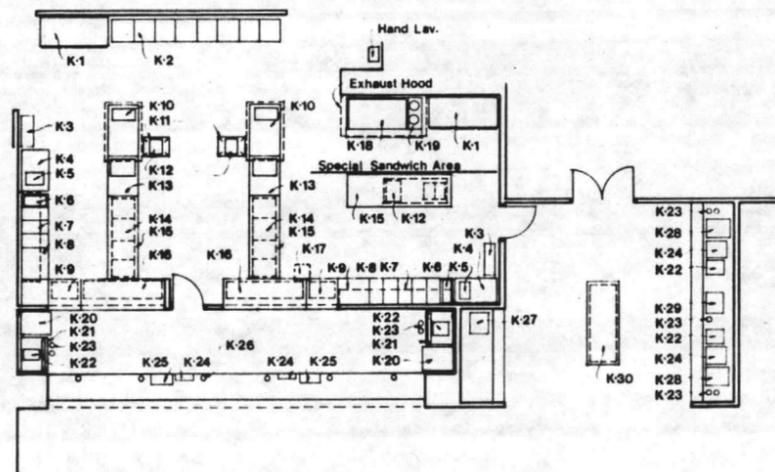
Typical Seating Lay-out



Mess Hall G-640 Fast Food Renovations



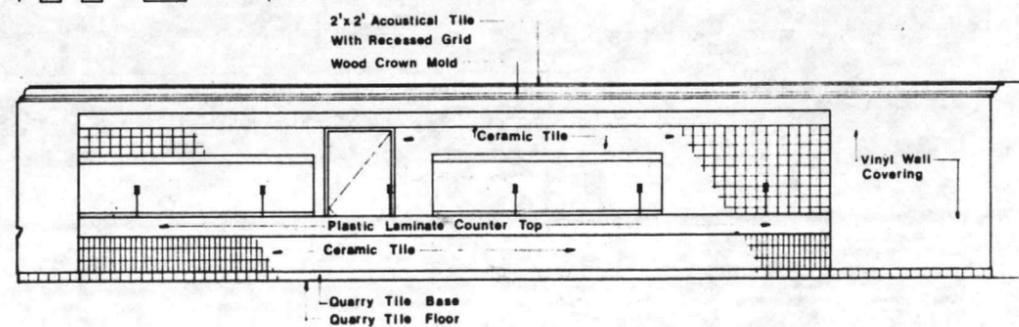
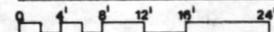




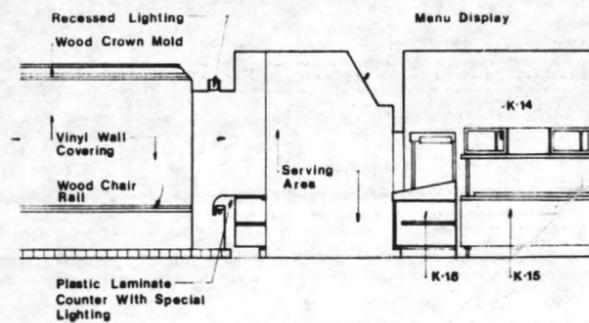
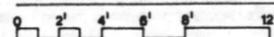
Equipment Schedule

- K-1 Reach-in Refrigerator
- K-2 Bun Racks
- K-3 Fry Basket Rack
- K-4 Work Table
- K-5 Potato Machine
- K-6 Auto-Filter
- K-7 Fry Kettles
- K-8 Dump Station
- K-9 Fry Holding Unit
- K-10 Auto Broiler
- K-11 Mobile Table
- K-12 Bun Toaster
- K-13 Steam Unit
- K-14 Microwave Ovens
- K-15 Chef's Table
- K-16 Holding Unit, Ref. Case
- K-17 T.V. Monitor
- K-18 Griddle & Stand
- K-19 Two Eye Hotplate
- K-20 Milkshake Softserve
- K-21 Beverage Table
- K-22 Beverage Dispenser
- K-23 Cup Dispensers
- K-24 Carbonated Drink Dispenser
- K-25 Ice Storage
- K-26 Microphone System
- K-27 Microwave Oven
- K-28 Ice Dispenser
- K-29 Coffee Urn
- K-30 Salad Bar

Typical Fast Food Floor Plan G-640



Interior Elevations



REVISED

DATE
6/3/85

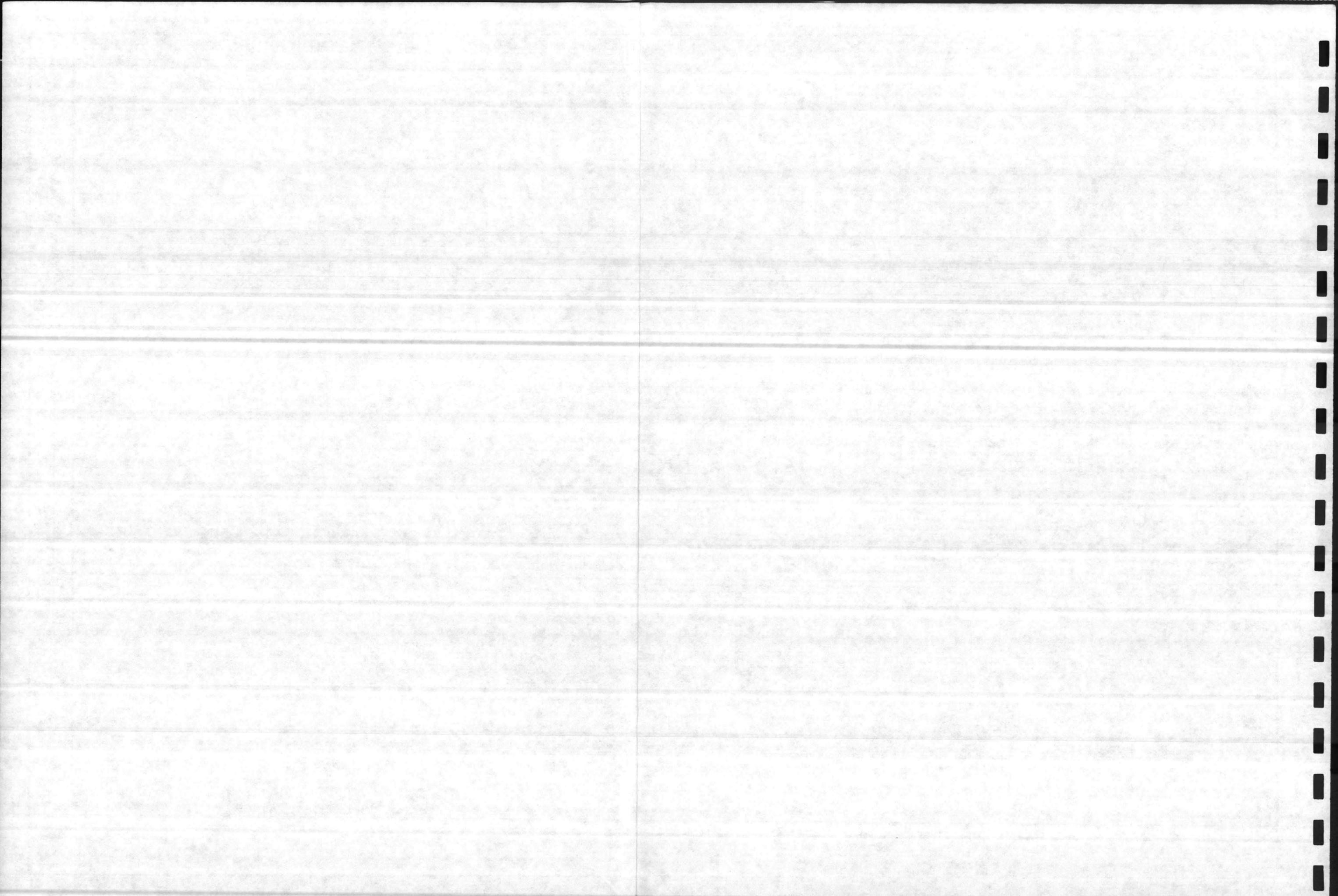
COMM. NO.

SHEET NO.

9

OF

TOTAL



MESS HALL AS-226
FAST FOOD RECOMMENDATIONS

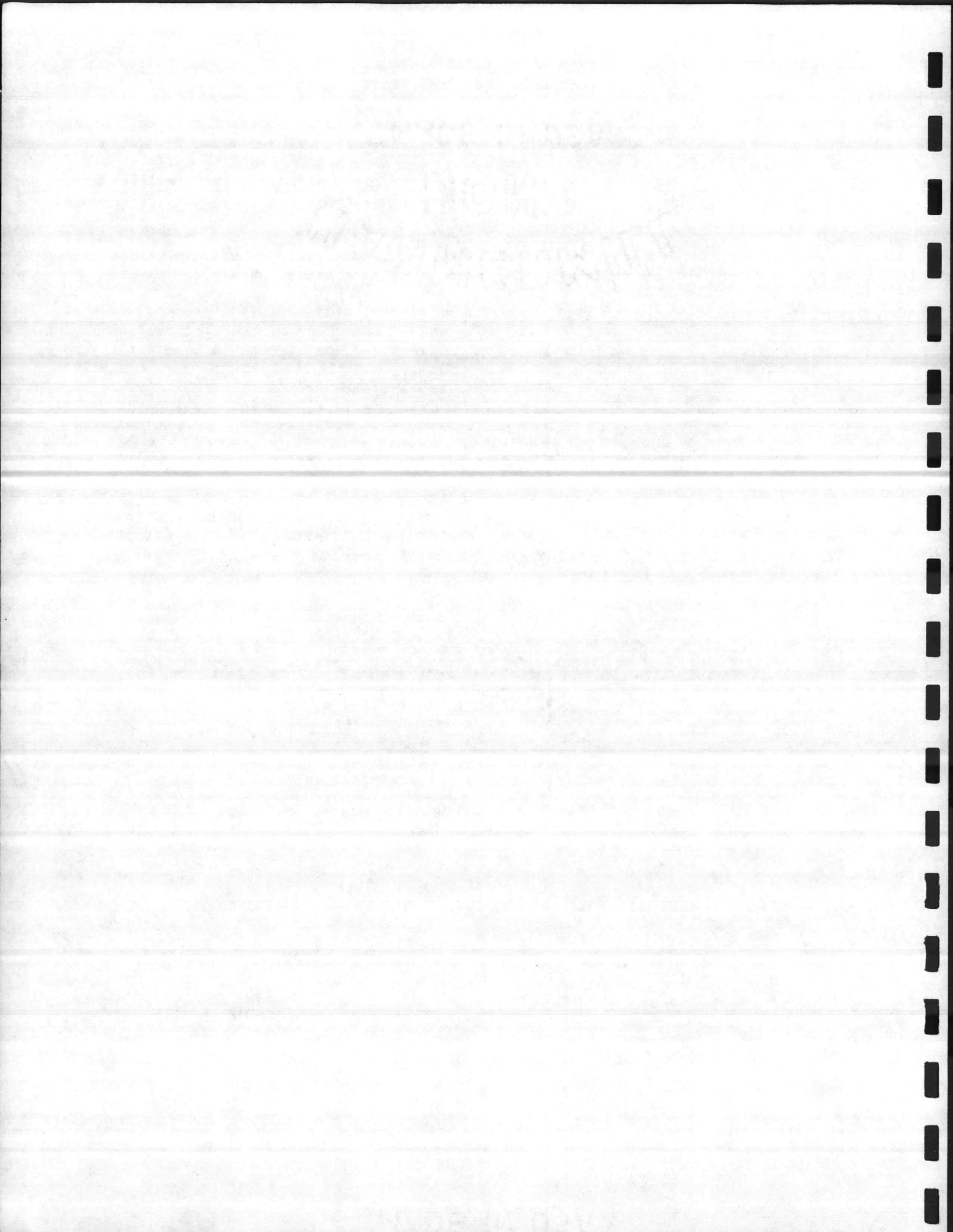
The present facility is a fully equipped mess hall which operates two conventional menu serving lines. Presently, another mess hall AS-4012 is under contract for major renovations and additions. That facility will also operate conventional menu serving lines. The scope of this project is to convert this facility into only fast food service. One side of the mess desk is scheduled to be renovated into an administrative area and is not included as part of this study.

This unit is different from the other projects in that it is an isolated fast food kitchen. Complete food preparation is required, unlike the other facilities which have access to a full service kitchen which provides ancillary services such as baking and vegetable preparation. Existing refrigeration and storage areas are to be reused. Some areas were shifted and modified to provide a new utensil wash, manager's office, training room and subsistence office.

As stated in the scope of this project, aesthetics and appearance of serving and dining areas are important elements of the overall project. Renovations would include the following items:

1. Special lighting system
2. Acoustical tile ceiling
3. Vinyl wall covering/ceramic tile
4. Wood trim and molding
5. Quarry tile floor and base
6. Custom millwork
7. Artwork and decor items
8. Custom seating units.

NOTE: These are typical items and finishes for this type of commercial fast food facility.



MESS HALL AS-226
 COLLATERAL EQUIPMENT LIST

FAST FOOD KITCHEN AREA

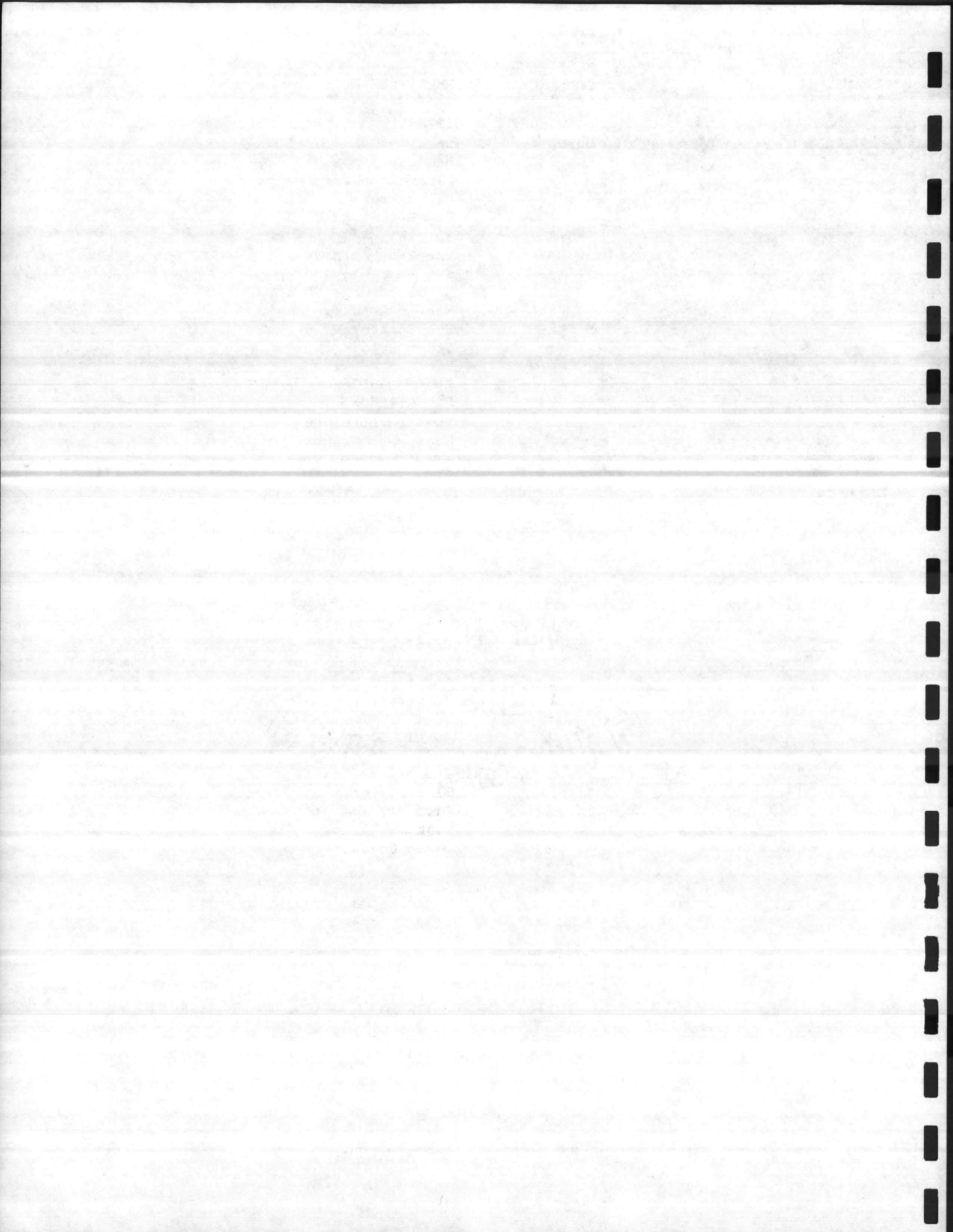
Quantity	Description
1	Hand Lavatory
1	Electric Water Cooler
6+	Bread Racks By Others
1	Fry Basket Rack
1	Auto Fry Filter System
4	Deep Fat Automatic Fry Kettles
1	Fry Dump Station
1	Auto Hamburger Broiler
1	Mobile Work Table
2	Bun Toasters
1	Steam Holding Unit
4	Microwave Ovens
2	Chef's Tables
1	72" Griddle
1	Two Eye Hotplate
1	Equipment Stand
1	6'-0" x 2'-6" Work table
3	Exhaust Hoods
2	Potato Machines
1	Ice Machine, cube type, 550 lb. storage, 400 lb. capacity
1	TV Monitor for special sandwiches
1	Sandwich holding unit with refrigerator base

BAKERY AREA

Quantity	Description
1	2 Compartment sink with drain boards
1	Baker's table
4	Ingredient bins
1	5 Qt. Mixer
1	60 Qt. Mixer
3	Utility Carts
1	2 Section Deck Oven
1	Stack Convection Oven
2	Proofing Cabinets
1	Slicer
1	Scale
1	6'-0" x 2'-6" Work table
1	8'-0" x 2'-6" Work table

VEGETABLE PREPARATION AREA

Quantity	Description
1	2 Compartment sink with drain boards
1	Sind Disposal
2	6'-0" x 2'-6" Work tables
1	4'-0" x 2'-6" Work table
1	Cutter Mixer
1	Slicer
1	Scale
1	Food Cutter



MESS HALL AS-226
COLLATERAL EQUIPMENT LIST

UTENSIL WASH AREA

Quantity	Description
1	Pot Wash Machine
1	Scullery Sink with drain board
1	Utensil Cart
1	Exhaust Hood

GI ROOM/SCULLERY AREA

Quantity	Description
2	Waster Pulpers
1	Water Press

FAST FOOD SERVING AREA

Quantity	Description
1	Carbonated Drink Dispenser
1	Ice Storage Unit
1	Beverage Dispenser
1	Soft Serve/Milkshake Machine
4	Cup Dispensers
1	Microphone System
1	Drive-thru Microphone/Menu Display
1	Refrigerated Salad Bar
1	Beverage Table
1	Menu Display Panel

BEVERAGE REFILL AREA

Quantity	Description
1	Ice Dispenser
1	Carbonated Drink Dispenser
2	Beverage Dispensers
1	Coffee Urn
1	Microwave Oven
5	Cup Dispensers
20'	Tray Slide

FAST FOOD DINING AREA

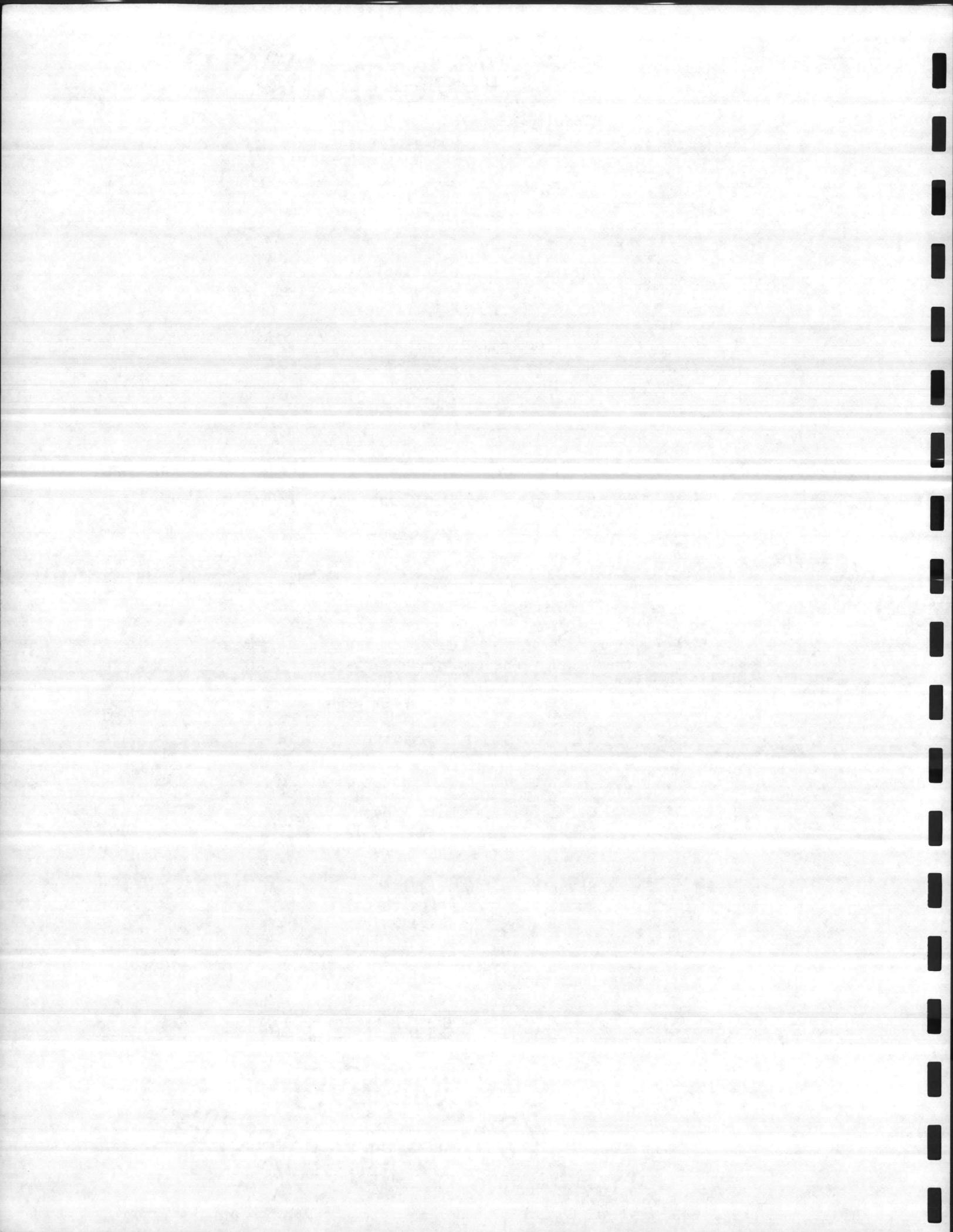
Quantity	Description
248	Fast Food Seats
62	Fast Food Tables
6	Trash Containers

EXISTING SCULLERY AREAS

Quantity	Description
1	Waste Pulper

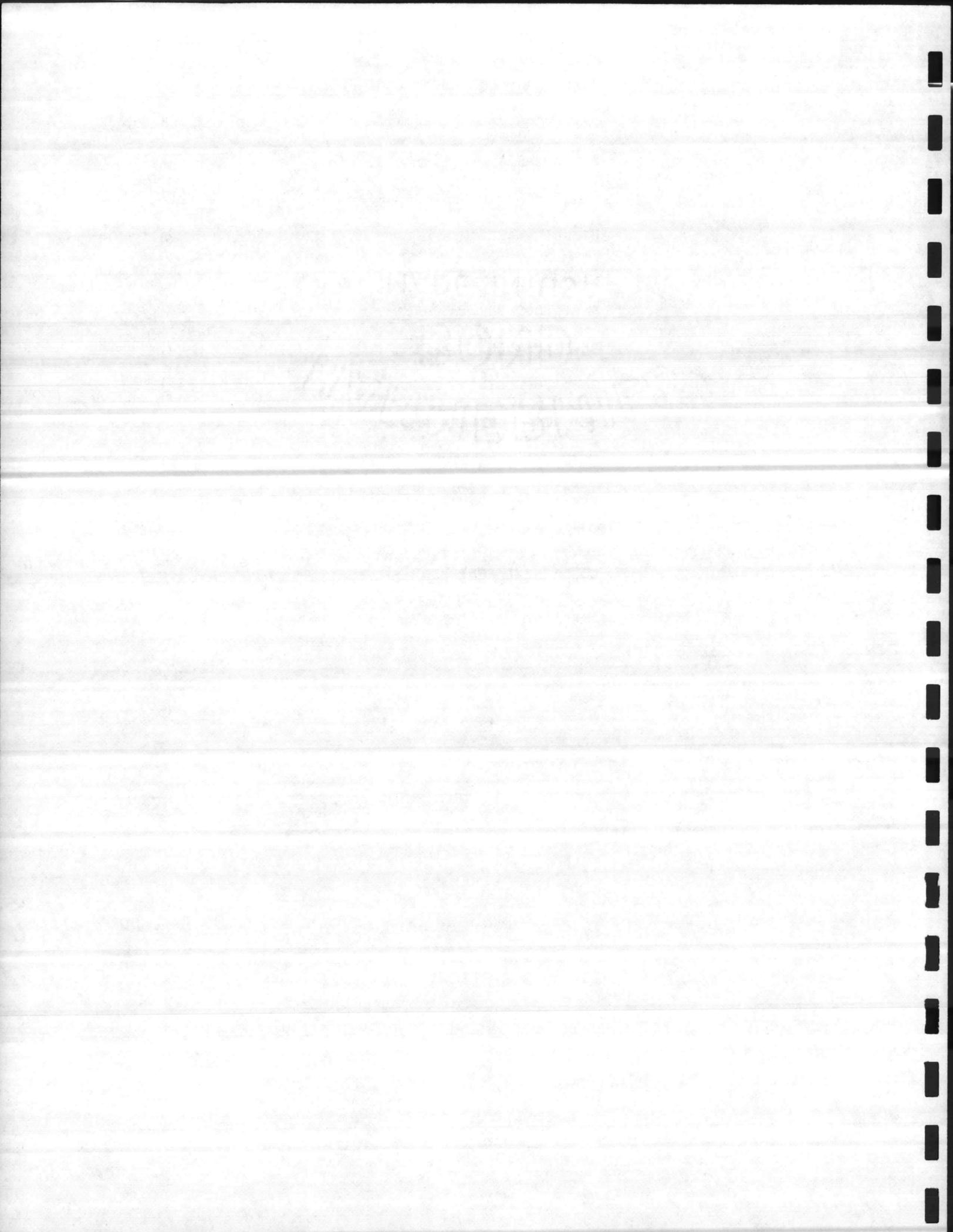
EXISTING ROOT STORAGE AREA

Quantity	Description
1	Waste Pulper
1	Waste Press
12'	Low Metal Shelving



MESS HALL AS-226
COLLATERAL EQUIPMENT COST ESTIMATE

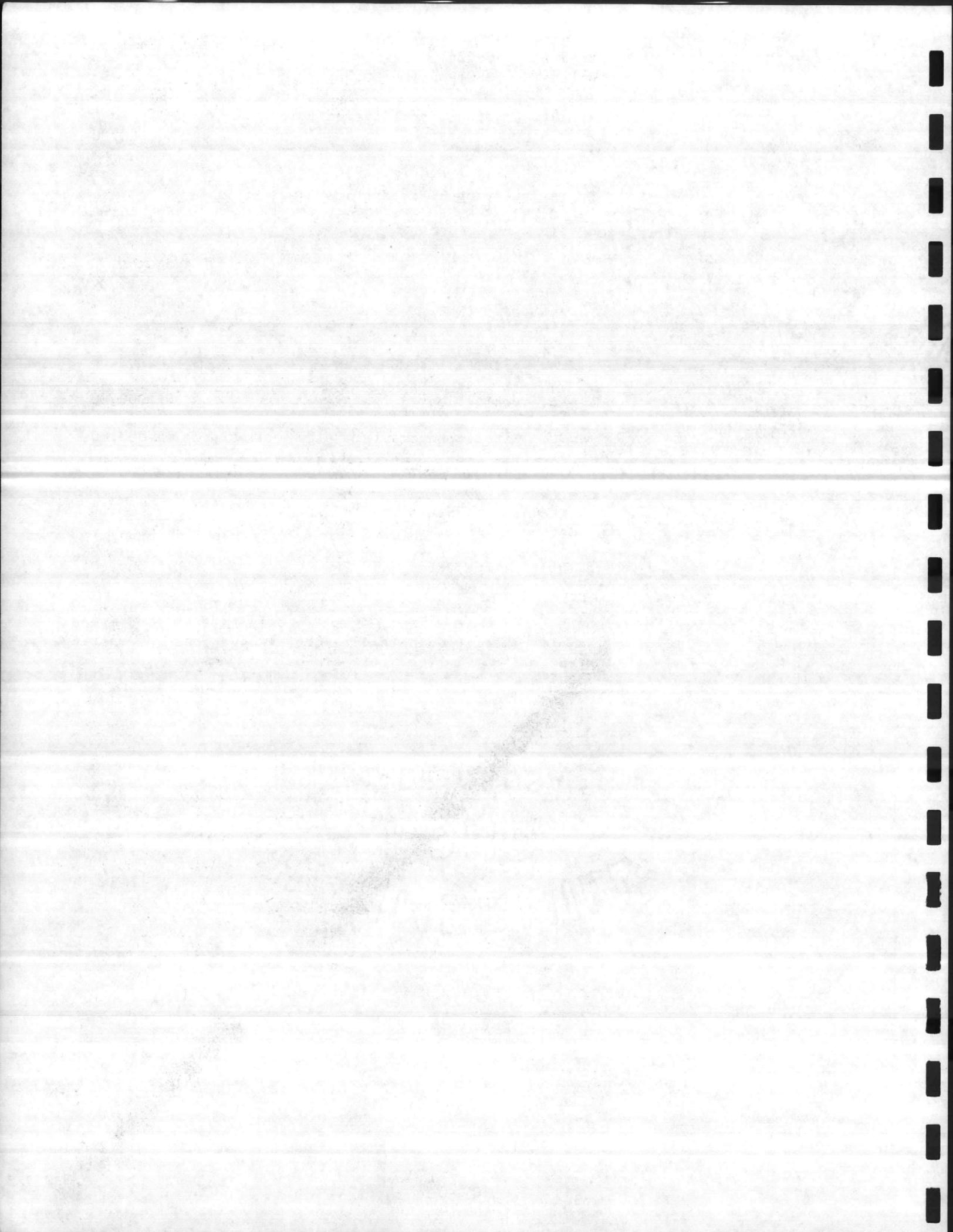
FAST FOOD KITCHEN AREA	\$63,350.00
BAKERY AREA	\$31,150.00
VEGETABLE PREPARATION AREA	\$17,650.00
UTENSIL WASH AREA	\$8,100.00
GI ROOM/SCULLERY AREA	\$61,323.00
FAST FOOD SERVING AREA	\$26,200.00
BEVERAGE REFILL AREA	\$11,700.00
FAST FOOD DINING AREA	\$54,080.00
EXISTING SCULLERY AREAS	
EXISTING ROOT STORAGE AREAS	\$61,683.00
VENTILATION EQUIPMENT	\$51,700.00
AS-226 TOTAL COST ESTIMATE FOR COLLATERAL EQUIPMENT	\$386,936.00



MESS HALL AS-226
ESTIMATED CONSTRUCTION COSTS

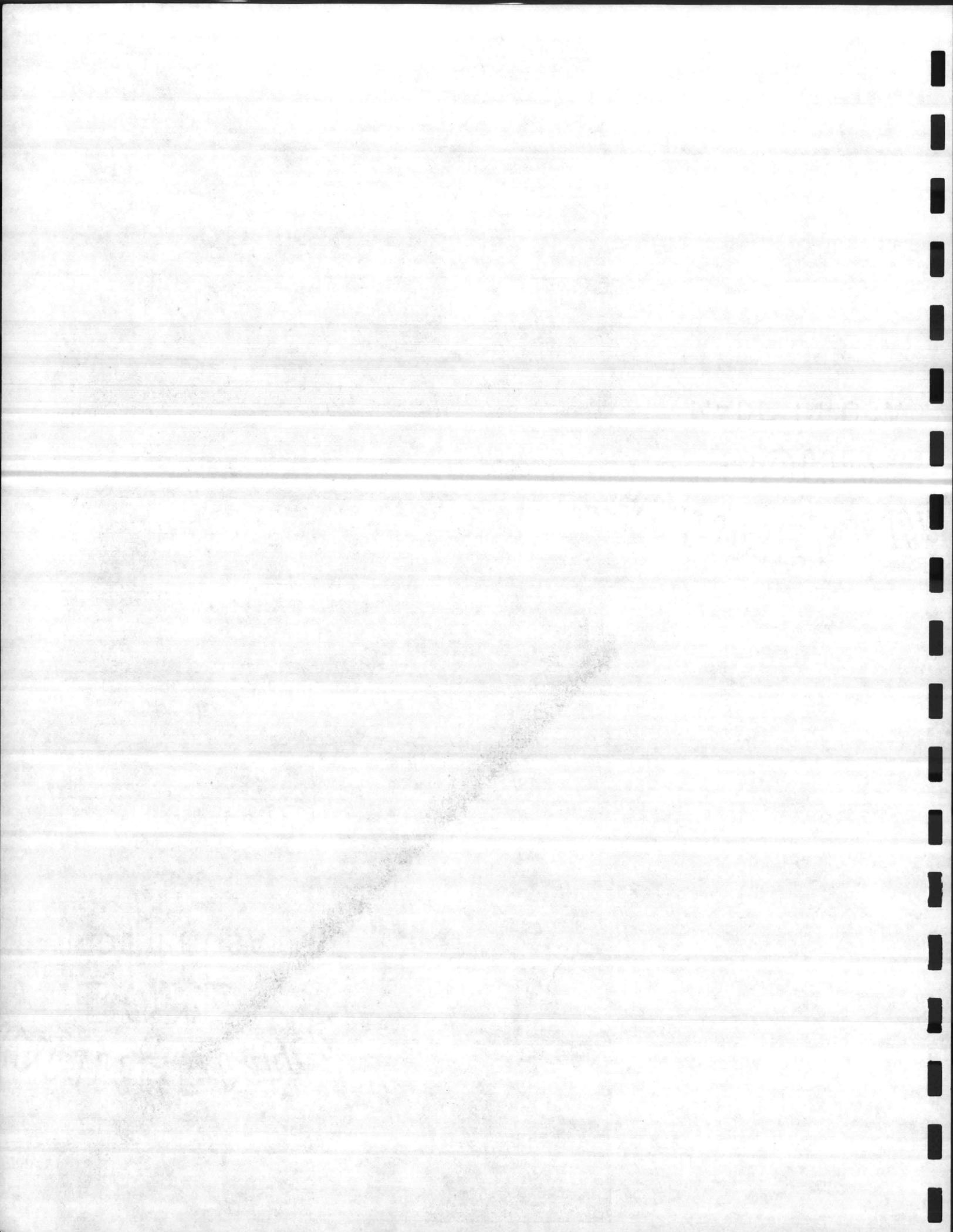
1. New Construction (Covered Exit)	
80 SF @ \$55/SF	\$4,000.00
2. Renovated Areas (Existing Bldg)	
A. Serving & Preparation Areas	
3,100 SF @ \$60/SF	\$186,000.00
B. Dining Areas	
6,100 SF @ \$45/SF	<u>\$274,500.00</u>
SUBTOTAL	\$464,500.00
3. Site Support	
A. Site Utility Changes	\$10,000.00
B. Demolition	\$5,000.00
C. Site Improvements	<u>\$5,000.00</u>
SUPPORT COST SUBTOTAL	\$20,000.00
4. Collateral Equipment	<u>\$387,000.00</u>
TOTAL ESTIMATED COST BUILDING & EQUIPMENT	\$871,500.00

NOTE: Cost estimates apply only to fast food areas.
Unless described in this report, renovations to existing
areas are not part of this study.

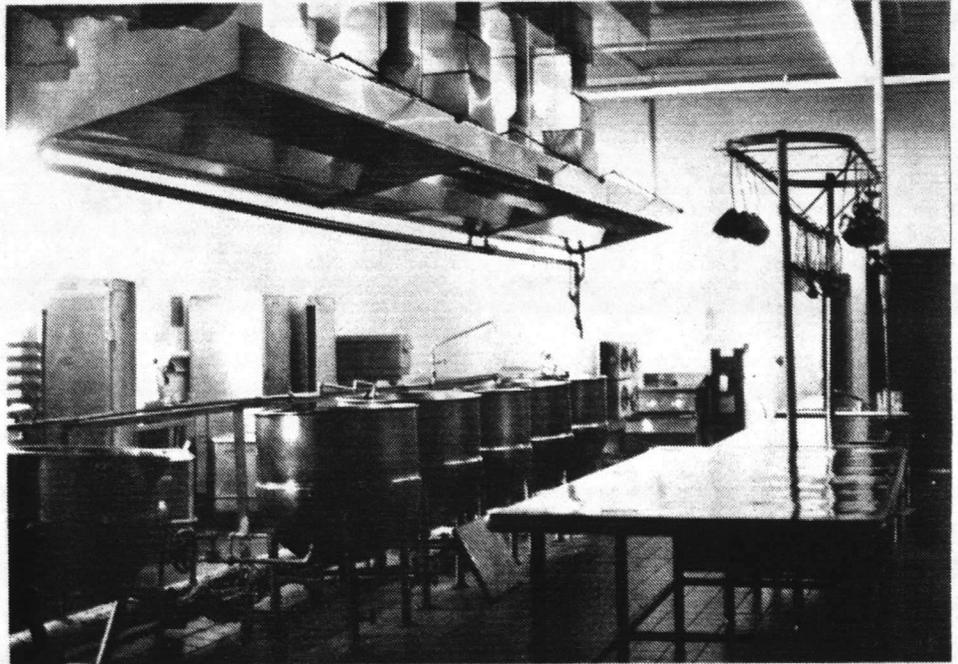
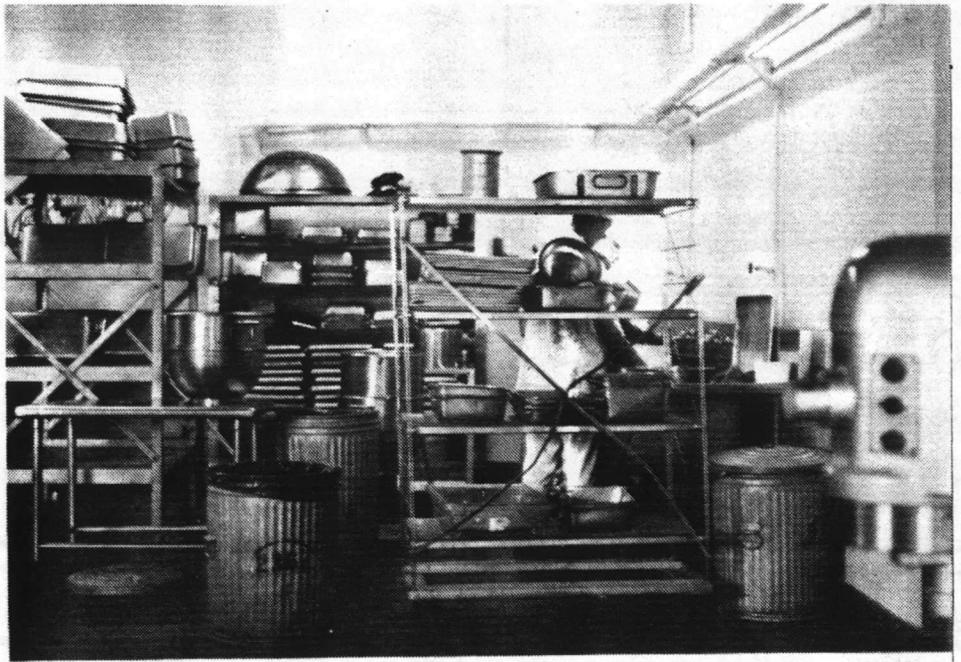


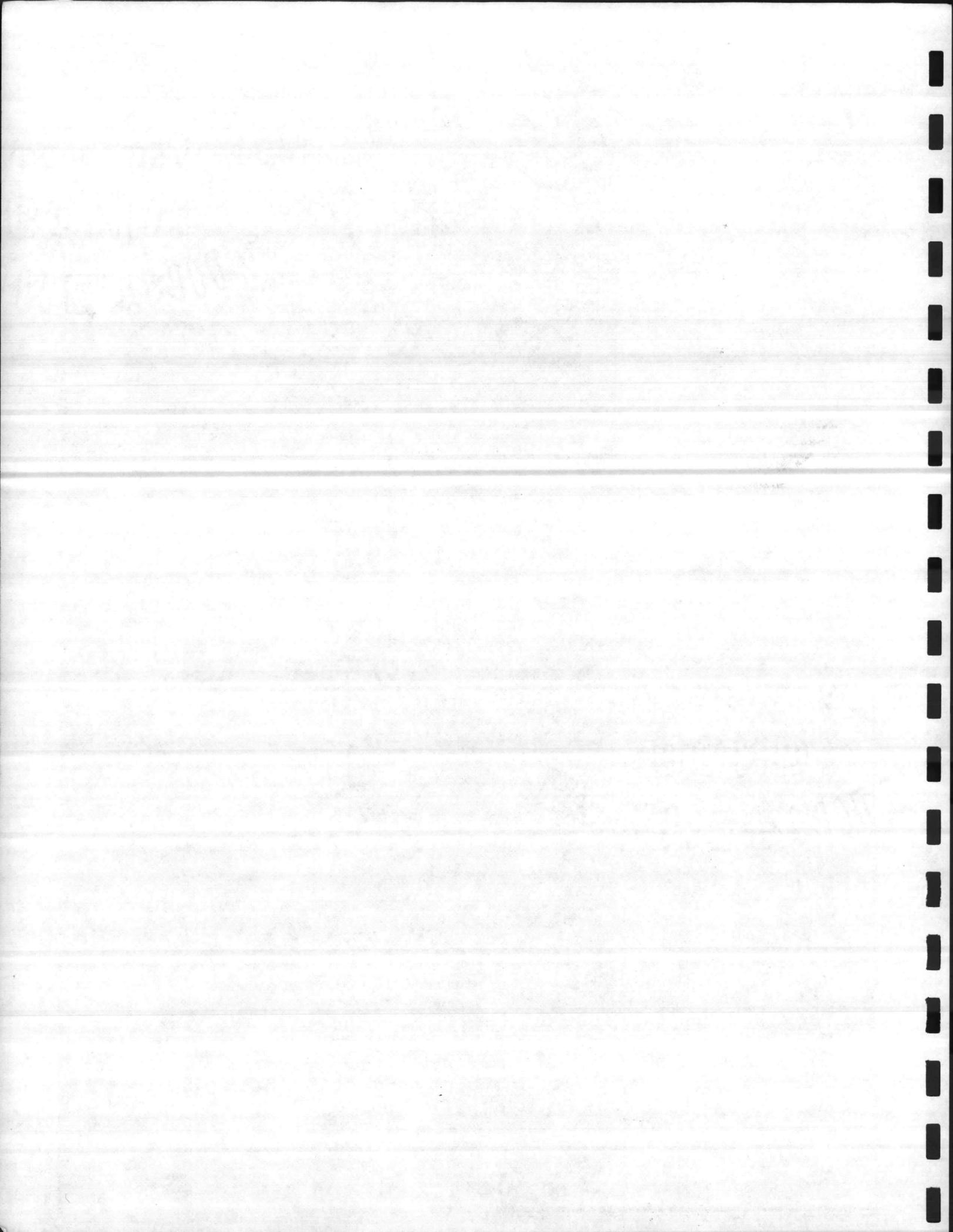
Mess Hall AS-226

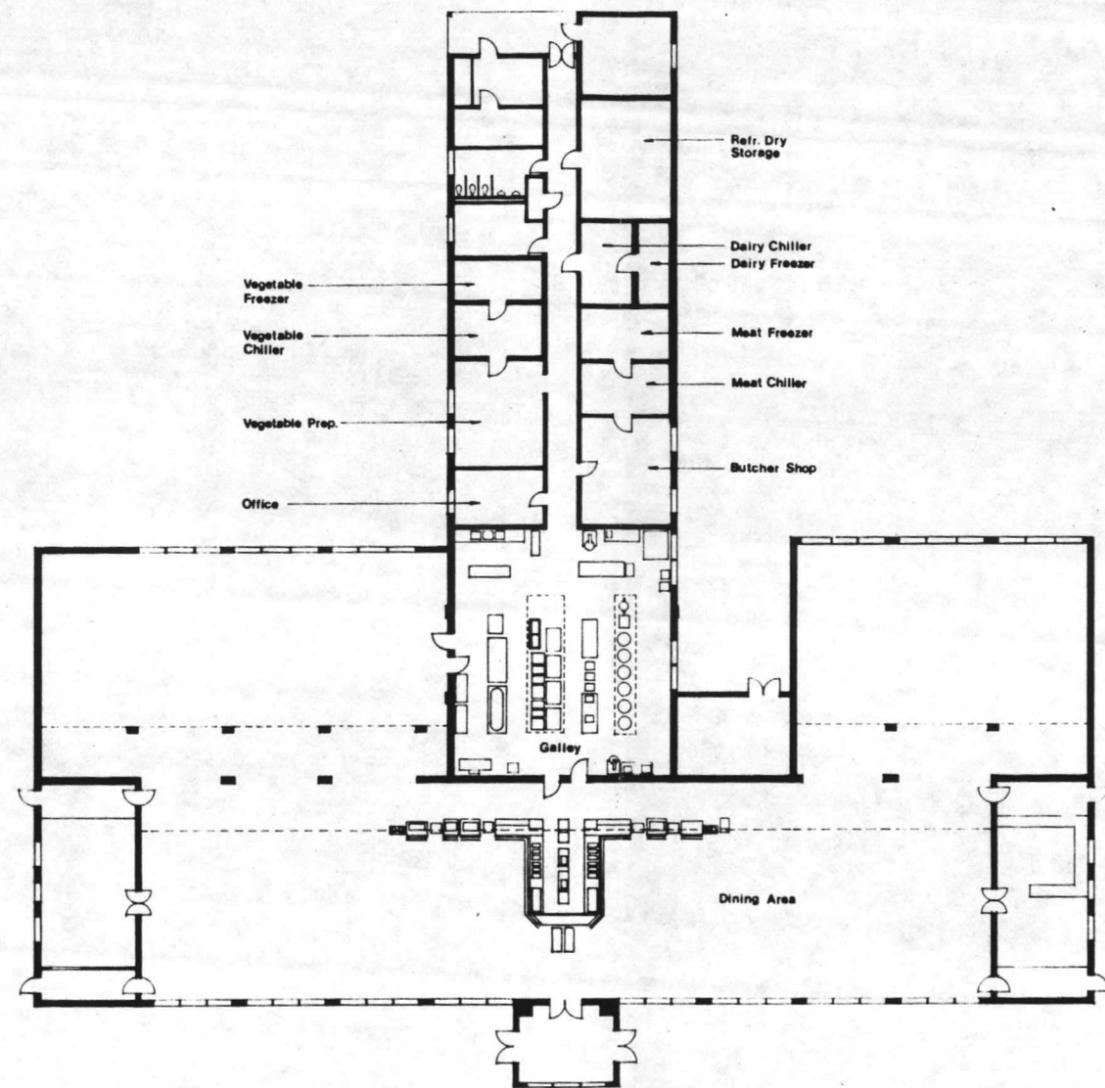




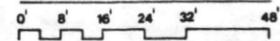
Mess Hall AS-226

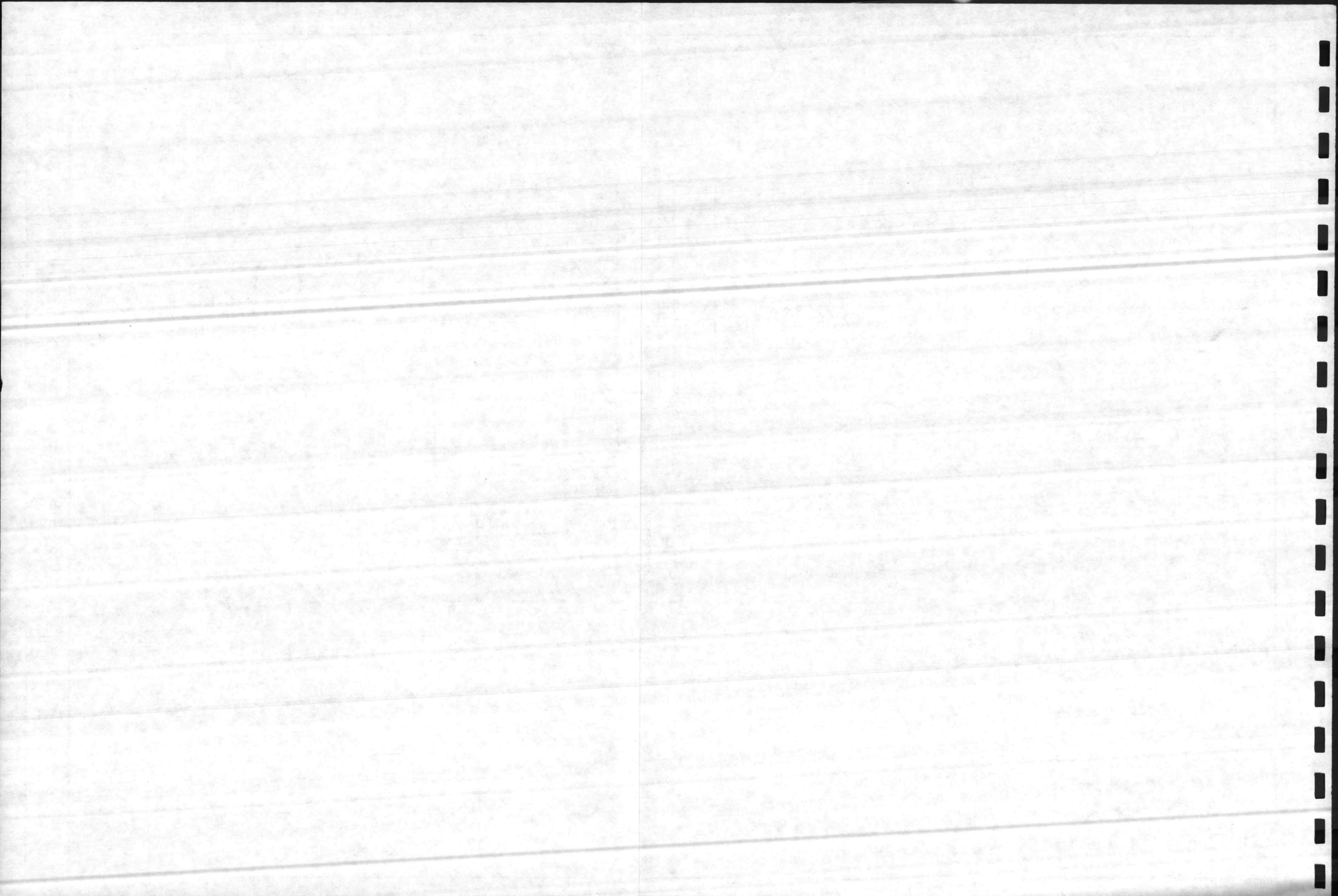


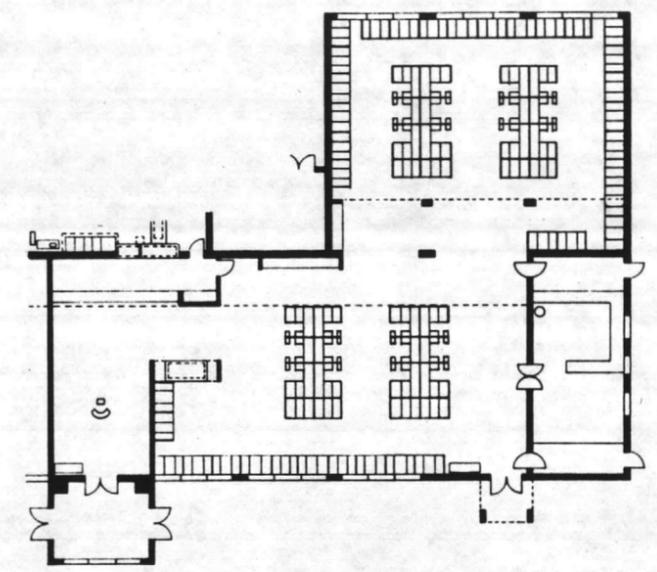
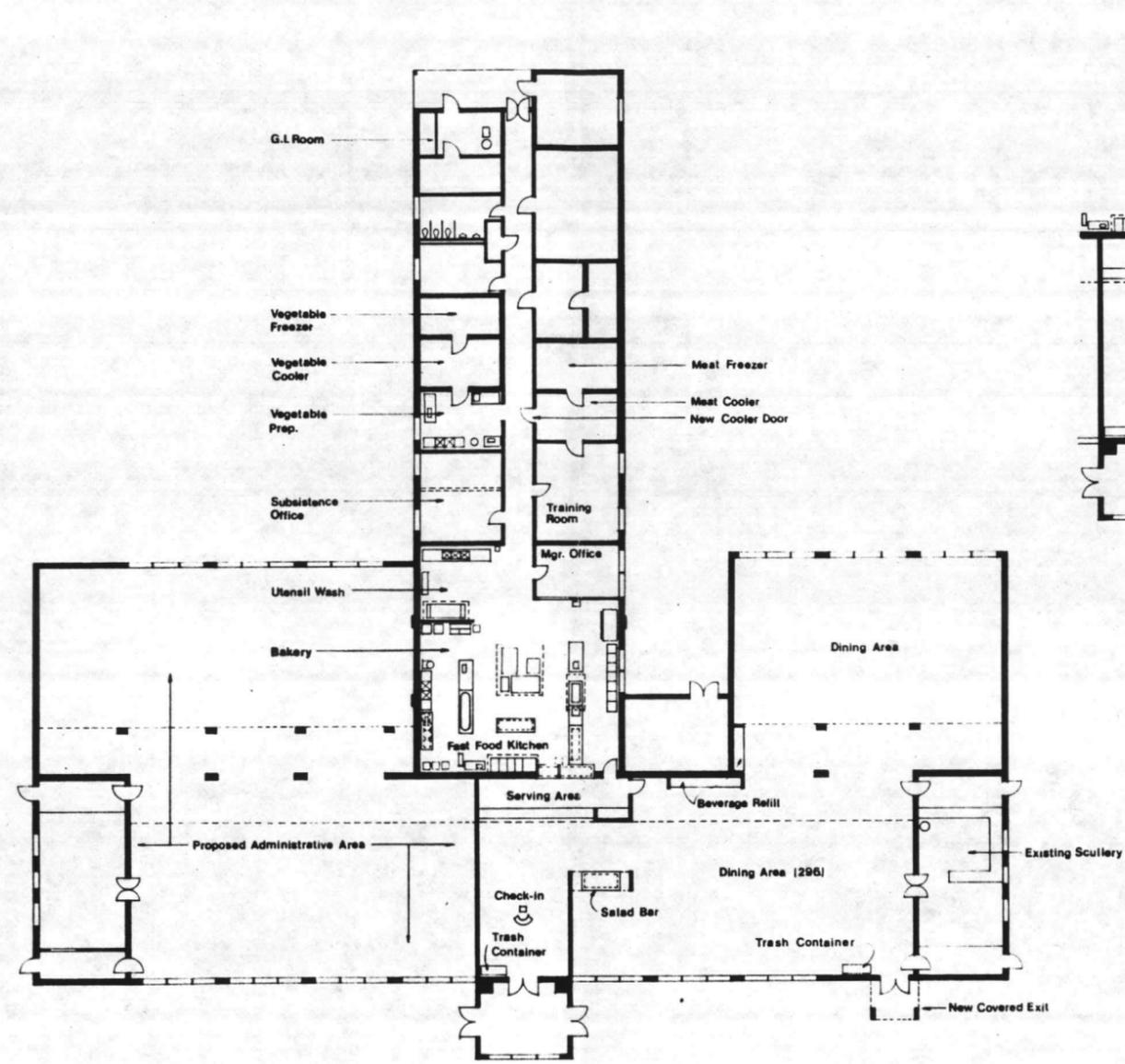




Mess Hall AS-226

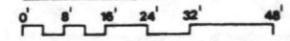






Typical Seating Lay-out

Mess Hall AS-226 Fast Food Renovations



REVISED

DATE
6/3/85

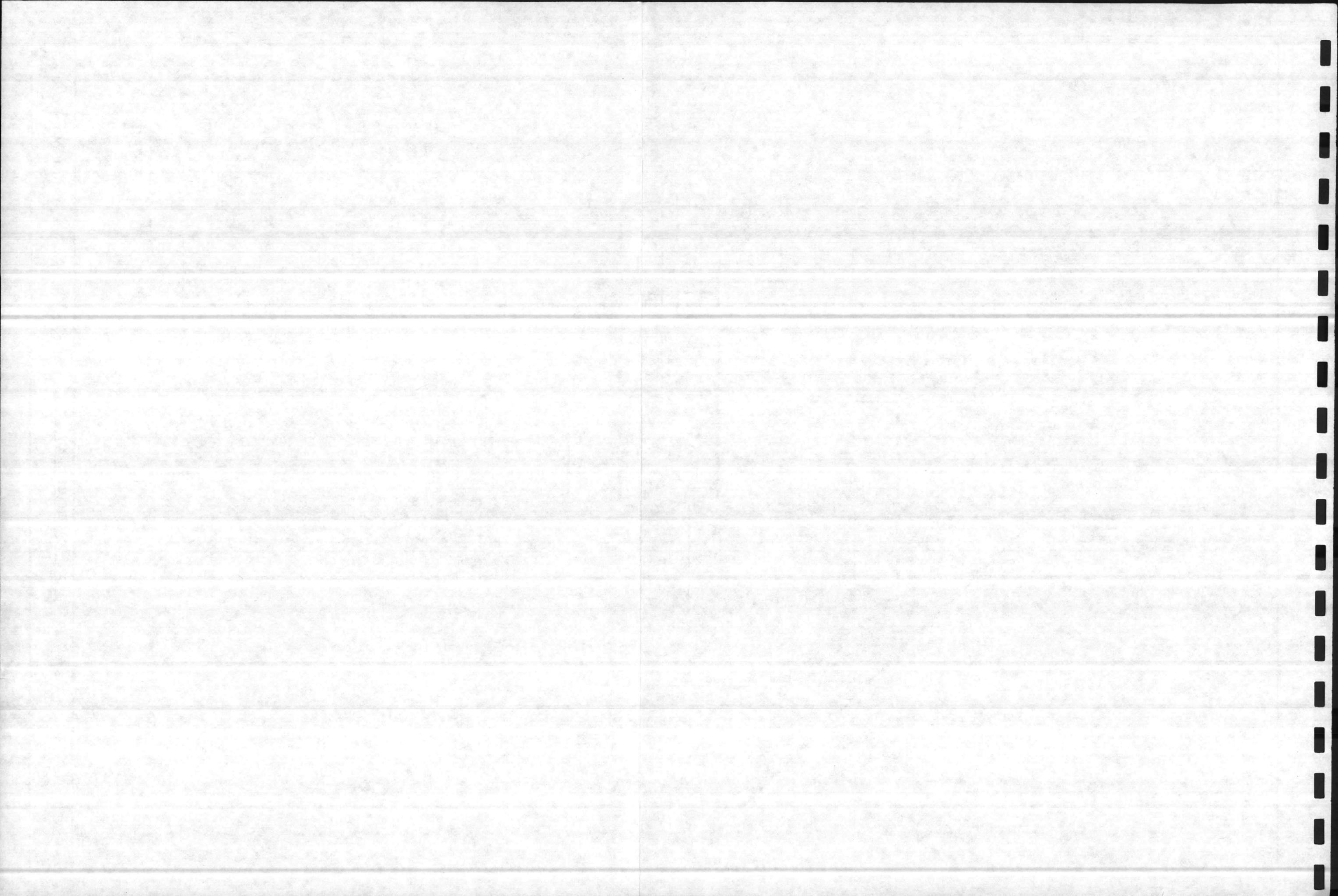
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**PROTOTYPE 1600 MAN MESS HALL
FAST FOOD RECOMMENDATIONS**

The scope of this project is to design a prototype 1600 man mess hall to be located in the Montford Point area. The new facility is scheduled to replace the existing Mess Hall M-424. The prototype is planned to be sited at the present location of Building M-409.

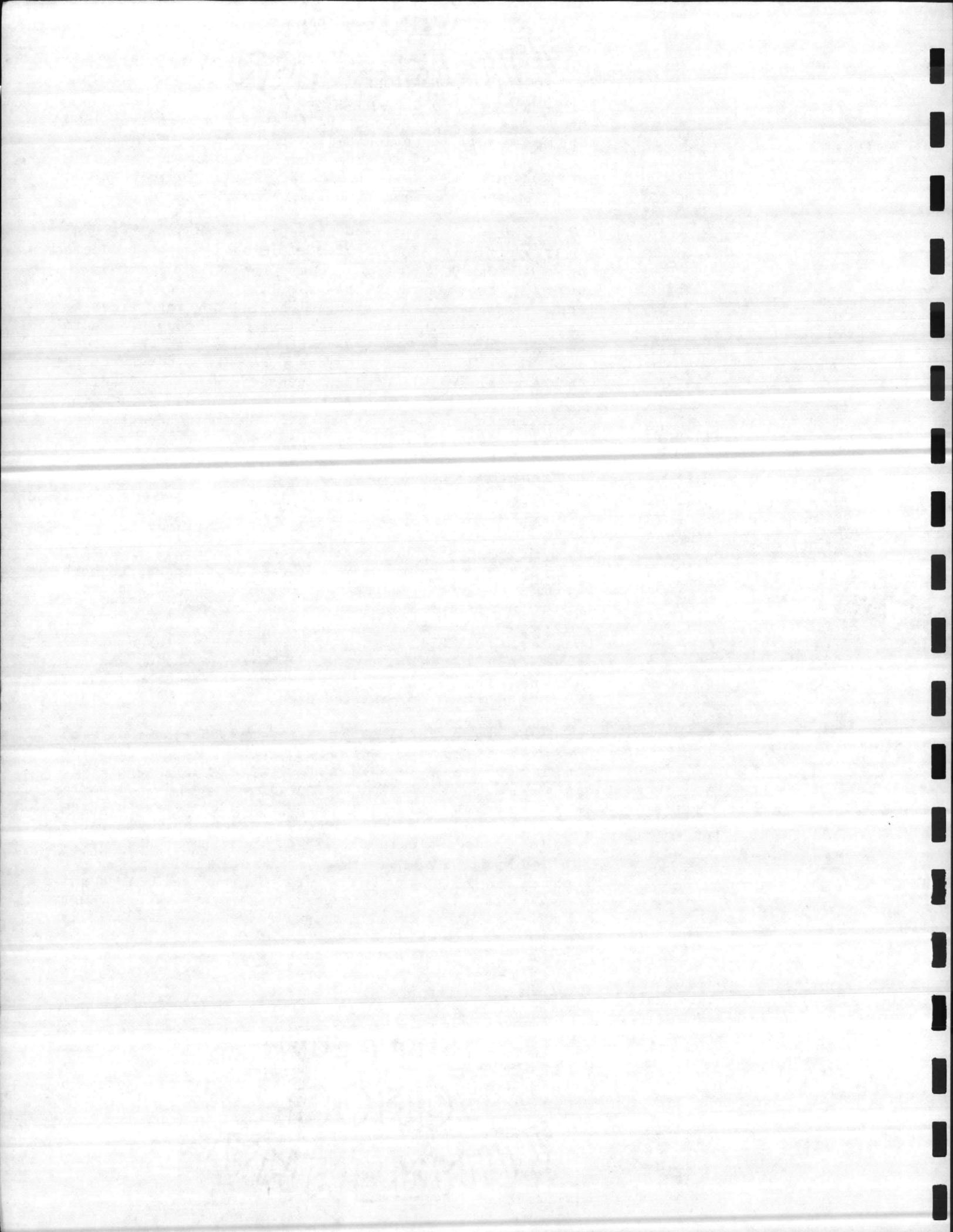
The prototype concept provides both conventional serving lines and fast food service. Dining is separated into three (3) major areas. This dining concept is in contrast to the traditional facility with one long mess deck. Passageways are situated behind beverage areas to provide access to the scullery without inconvenience to dining. This passageway also provides convenient access to beverage dispensing machines. Service windows at the scullery are positioned at exits for deposit of soiled dishes. Toilets for patrons are located at each entrance to the dining areas. Check-in counters are located for control of incoming patrons.

The general kitchen area is centrally located for ease of service to dining areas. Most storage and refrigerated areas have direct access from the loading platform and the general kitchen area. Toilets for both men and women provide shower, locker and dressing areas. Cleaning gear rooms are located for access to both dining and food preparation areas. A manager's office, subsistence office and training room are also provided.

The fast food kitchen provides eat-in, take-out and drive-thru service. Walk-in refrigeration and dry storage are located for direct access from the loading platform and food preparation area.

The prototype concept is designed to accommodate an engineered waste disposal system. At the existing facilities, all food and paper waste is separated. Paper waste is transported to dumpsters and food waste is stored and sold. We recommend a system with three (3) waste pulpers and one (1) water press. The waste system produces a pulp mixture of food, paper and water. One pulper is located in each scullery area. Separation of waste will not be required. Food and paper waste is scraped from dishes into a water trough that feeds directly into the waste pulper. The pulp is pumped to the water press located in the GI Room. A pulper in the GI Room is to be used for miscellaneous waste items and cardboard boxes. All three pulpers are piped to one water press.

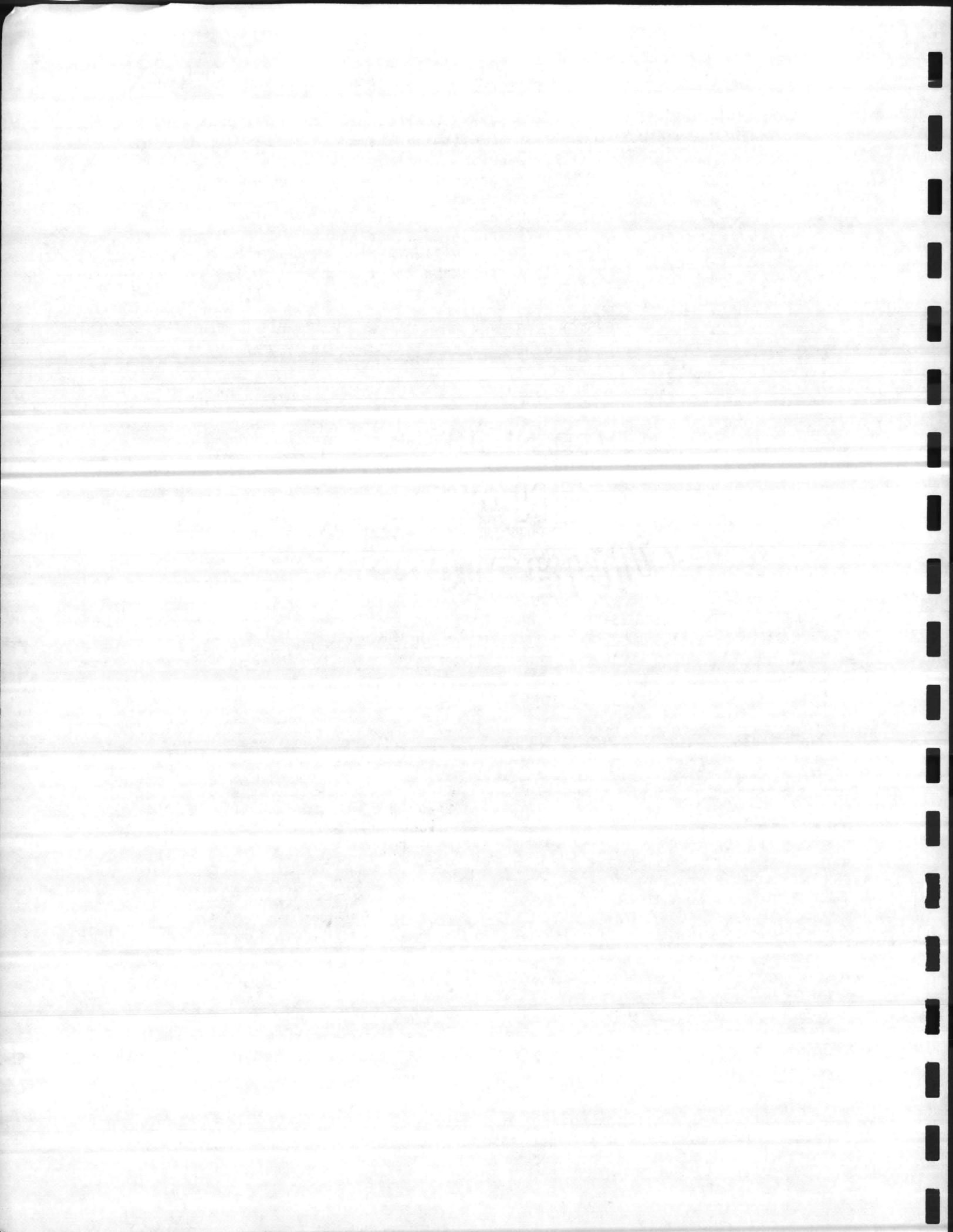
The engineered waste disposal system is a closed-loop design. Nearly 95% of the water that carries the pulp to the water press is recovered and returned to the pulper, keeping the unit continually flushed, and minimizing the introduction of fresh water. Bulk volume of waste should be reduced by 85%.



As stated in the scope of this project, aesthetics and appearance of serving and dining areas are important elements of the overall project. New construction would include the following items:

1. Special lighting systems
2. Acoustical tile ceiling
3. Vinyl wall covering/ceramic tile
4. Wood trim and molding
5. Quarry tile floor and base
6. Custom millwork
7. Artwork and decor items
8. Custom seating units

NOTE: These are typical items and finishes for this type of commercial fast food facility.



PROTOTYPE 1600 MAN MESS HALL
COLLATERAL EQUIPMENT LIST

GENERAL KITCHEN AREA

Quantity	Description
1	3 Compartment Sink with Drain Board
1	60 qt. Mixer with Bowls
5	10'-0" x 2'-6" Work tables
1	10'-0" x 2'-6" Work table with Sink
4	Ingredient Bins
2	40 gal. Tilting Skillets
3	Kettle Filler/Spray Station
3	Convection Steamers
4	3 Section Deck Ovens
4	60 gal. Steam Kettles
2	Rack Carts
3	40 gal. Steam Kettles
2	Steam Cabinets
2	Ice Machines, Cube Type, 400 lb. cap. 550 lb. storage
1	Ice Cart
1	Hand Lavatory
2	Exhaust Hoods
1	3 Door Reach-in Refrigerator
1	72" Griddle with Stand
2	Fry Kettles

VEGETABLE PREPARATION AREA

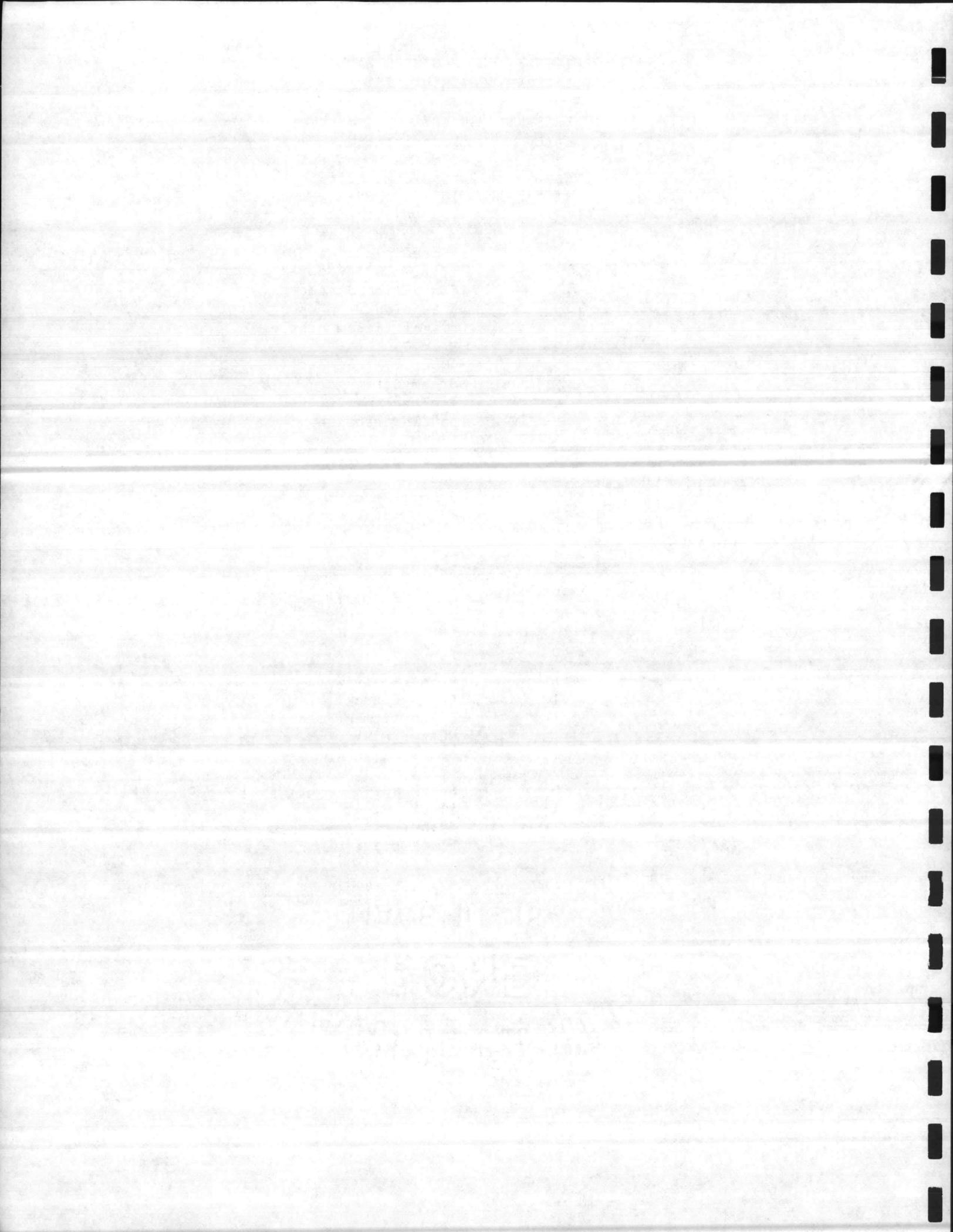
Quantity	Description
1	Produce Refrigerator 12' x 14' = 168 sq.ft.
1	Cook's Refrigerator 8' x 14' = 112 sq.ft.
45'	Metal Shelving
10'	Dunnage Rack
1	3 Compartment Sink
1	Cutter Mixer
1	Scale
2	Utility Carts
3	8'-0" x 2'-6" Work tables
1	6'-0" x 2'-6" Work table
1	Slicer
1	Food Cutter

DRY STORAGE AREA

Quantity	Description
60'	Metal Shelving
14'	Dunnage Rack

MINOR PROPERTIES

Quantity	Description
40'	Metal Shelving



PROTOTYPE 1600 MAN MESS HALL
 COLLATERAL EQUIPMENT LIST

DAIRY REFRIGERATOR

Quantity	Description
1	Dairy Refrigerator 8' x 22' = 176 sq.ft.
48'	Metal Shelving

MEAT FREEZER

Quantity	Description
1	Walk-in Meat Freezer 14' x 17' - 238 sq.ft.
40'	Metal Shelving
6'	Dunnage Racks

MEAT COOLER

Quantity	Description
1	Meat Cooler 12' x 14' = 168 sq.ft.
30'	Metal Shelving
6'	Dunnage Rack

UTENSIL WASH AND UTENSIL STORAGE

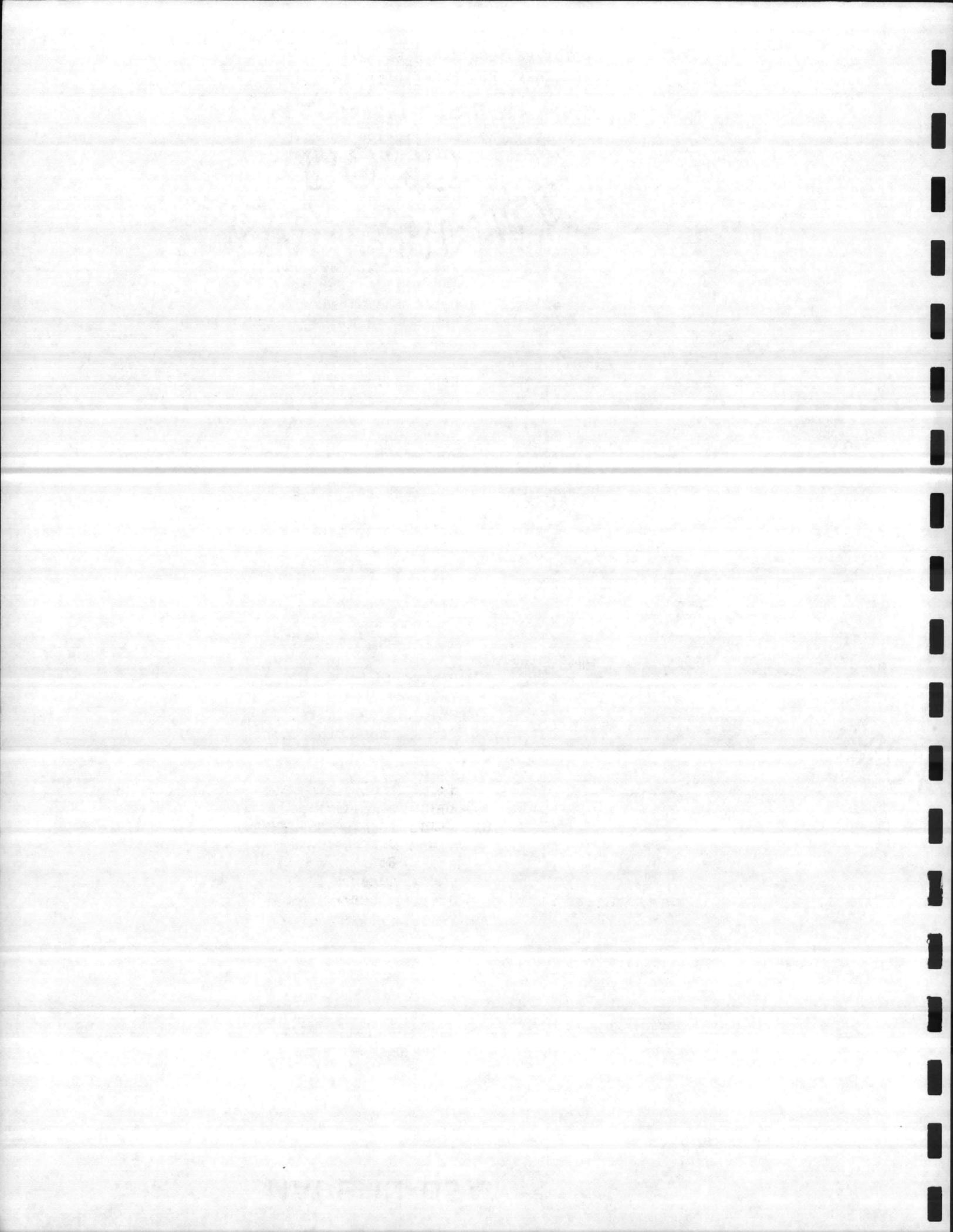
Quantity	Description
1	Pot Washing Machine
1	Dish Table
1	Disposal with Pre-rinse
1	Scullery Sink with Drain Boards
5	Utensil Carts
1	Exhaust Hood, 5' x 5'

BAKERY AREA

Quantity	Description
1	Two Compartment Sink with Drain Boards
2	Proofing Cabinets
2	Stack Convection Ovens
1	Trunnion Kettle
1	Scale
1	5 qt. Mixer
1	60 qt. Mixer
1	8'-0" x 2'-6" Bakers Table
2	8'-0" x 2'-6" Work tables
1	Slicer
4	Ingredient Bins
5	Utility Racks
1	Exhaust Hood

GI ROOM

Quantity	Description
38'	Low Metal Shelving
12	32 Gal. Metal Trash Cans
1	Can Rinser-sanitizer
1	Waste Pulper
1	Water Press



PROTOTYPE 1600 MAN MESS HALL
COLLATERAL EQUIPMENT LIST

SERVING LINES

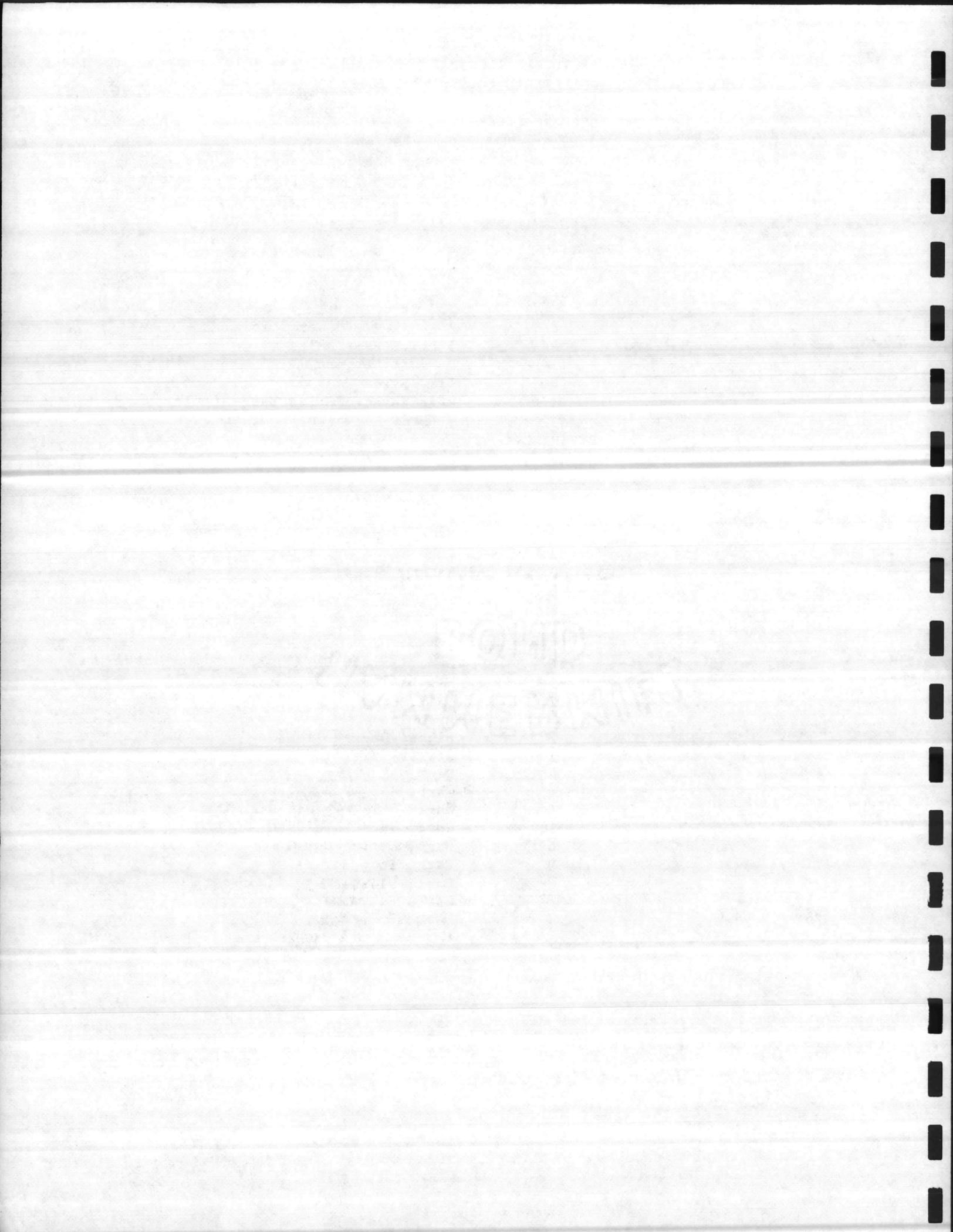
Quantity	Description
2	3 Door Hot Food Pass-thru Cabinet
2	3 Door Cold Food Pass-thru Cabinet
12	Pass Thru Carts
1	10' x 2'-6" Work table
1	8'-0" x 2'-6" Work table
1	5'-0" x 2'-6" Work table
4	Bun Toasters
2	Microwave Ovens
4	72" Griddles
4	2'-0" x 2'-6" Work tables
4	5 Pan Steam Tables
2	Dessert Servers
80'	Tray Slide
1	Refrigerated Salad Bar

BEVERAGE AREA

Quantity	Description
2	Coffee Urns
4	Beverage Dispensers
4	Ice Dispensers
2	Milk Dispensers
2	Carbonated Drink Dispensers
2	Water Fillers
60'	Tray Slide
2	Icecream Boxes

SCULLERY/DISH CARTS

Quantity	Description
2	Flight Type Dish Machines
2	Silver Soak Sink
65'	Dish Table
28'	Sloped Overshelf
1	Utility Sink
4	Cart, 9" Plates
6	Cart, 6-3/4" Dessert Dish
9	Cart, 5-1/2" Fruit Dish
18	Cart, Vegetable Dish
8	Cart, Coffee Cups
9	Cart, Soup and Salad
8	Cart, Glasses
8	Cart, Silverware and Trays
2	Waste Pulper



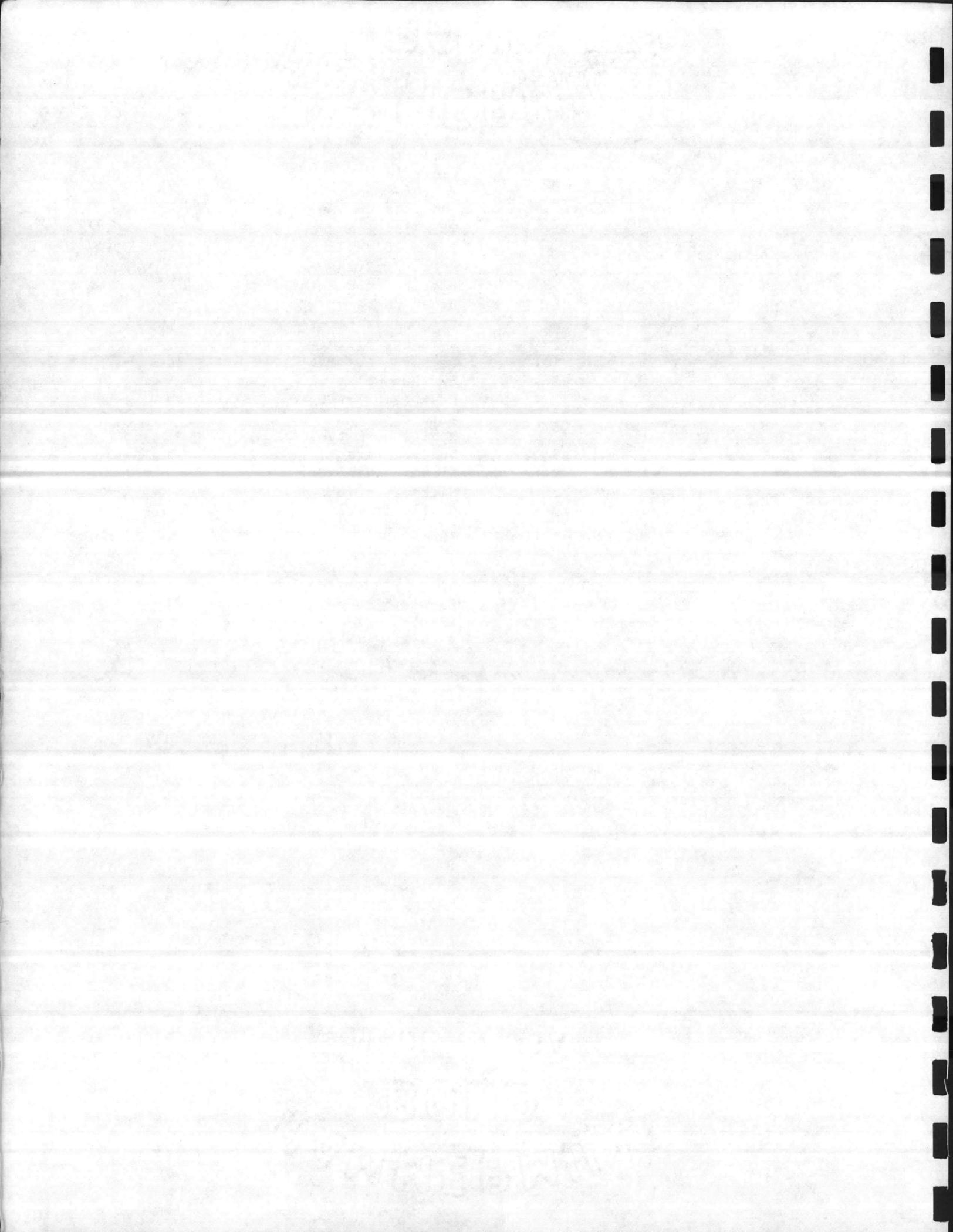
PROTOTYPE 1600 MAN MESS HALL
COLLATERAL EQUIPMENT LIST

FAST FOOD KITCHEN

Quantity	Description
1	Hand Lavatory
1	Electric Water Cooler
1	Walk-in Cooler 10' x 18' = 180 sq.ft.
1	Walk-in Freezer 10' x 16' = 160 sq.ft.
60'	Metal Shelving
18'	Storage Room Metal Shelving
6+	Bread Racks By Others
2	Fry Basket Racks
2	Auto Fry Filter Systems
10	Deep Fat Automatic Fry Kettles
2	Fry Dump Stations
2	Heat Lamp Fry Holding Stations
2	Auto Hamburger Broilers
2	Mobile Work tables
3	Bun Toasters
2	Steam Holding Units
8	Microwave Ovens
3	Chef's Tables
1	72" Griddle
1	Two Eye Hotplate
1	Equipment Stand
1	6'-0" x 2'-6" Work table
5	Exhaust Hoods
2	3'-0" x 2'-6" Work tables
2	Potato Mix Machines
1	Ice Machines, Cube Type, 400 lb. cap. 550 lb. storage
1	Ice Cart
1	3 Compartment Sink with Drain Baords
1	TV Monitor for special sandwiches
2	Sandwich units with refrigerated base

FAST FOOD SERVING AREA

Quantity	Description
2	Carbonated Drink Dispensers
2	Ice Storage Units
2	Beverage Dispensers
2	Soft Serve/Milkshake Machines
8	Cup Dispensers
1	Microphone System
1	Drive-thru Microphone/Menu Display
1	Refrigerated Salad Bar
2	Beverage Tables
1	Menu Display Panel



PROTOTYPE 1600 MAN MESS HALL
COLLATERAL EQUIPMENT LIST

BEVERAGE REFILL AREA

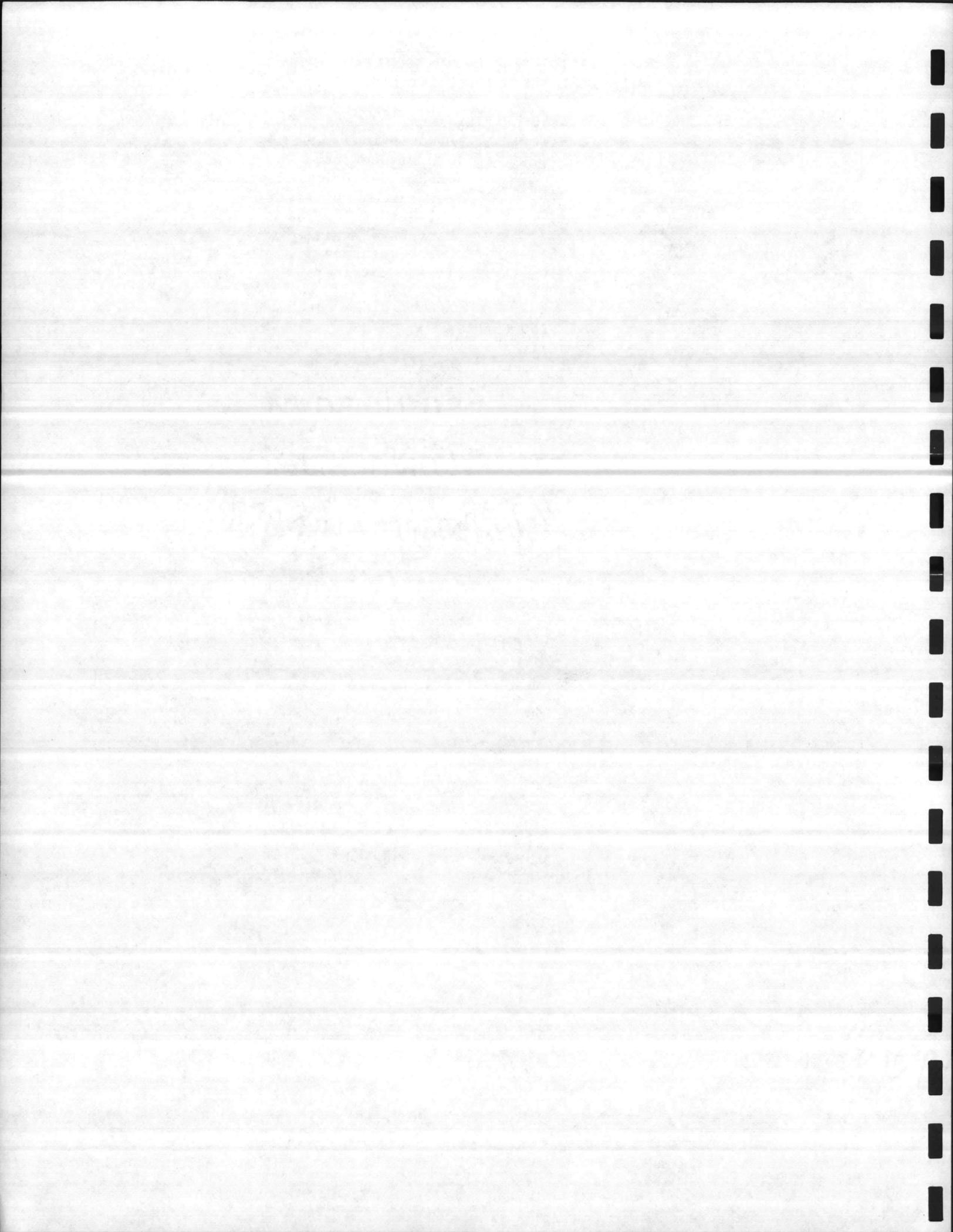
Quantity	Description
2	Ice Dispensers
2	Carbonated Drink Dispensers
2	Beverage Dispensers
1	Coffee Urn
1	Microwave Oven
5	Cup Dispensers
10	Trash Containers
20'	Tray Slide

CLEANING GEAR

Quantity	Description
1	Utility Mop Sink
15'	Shelving

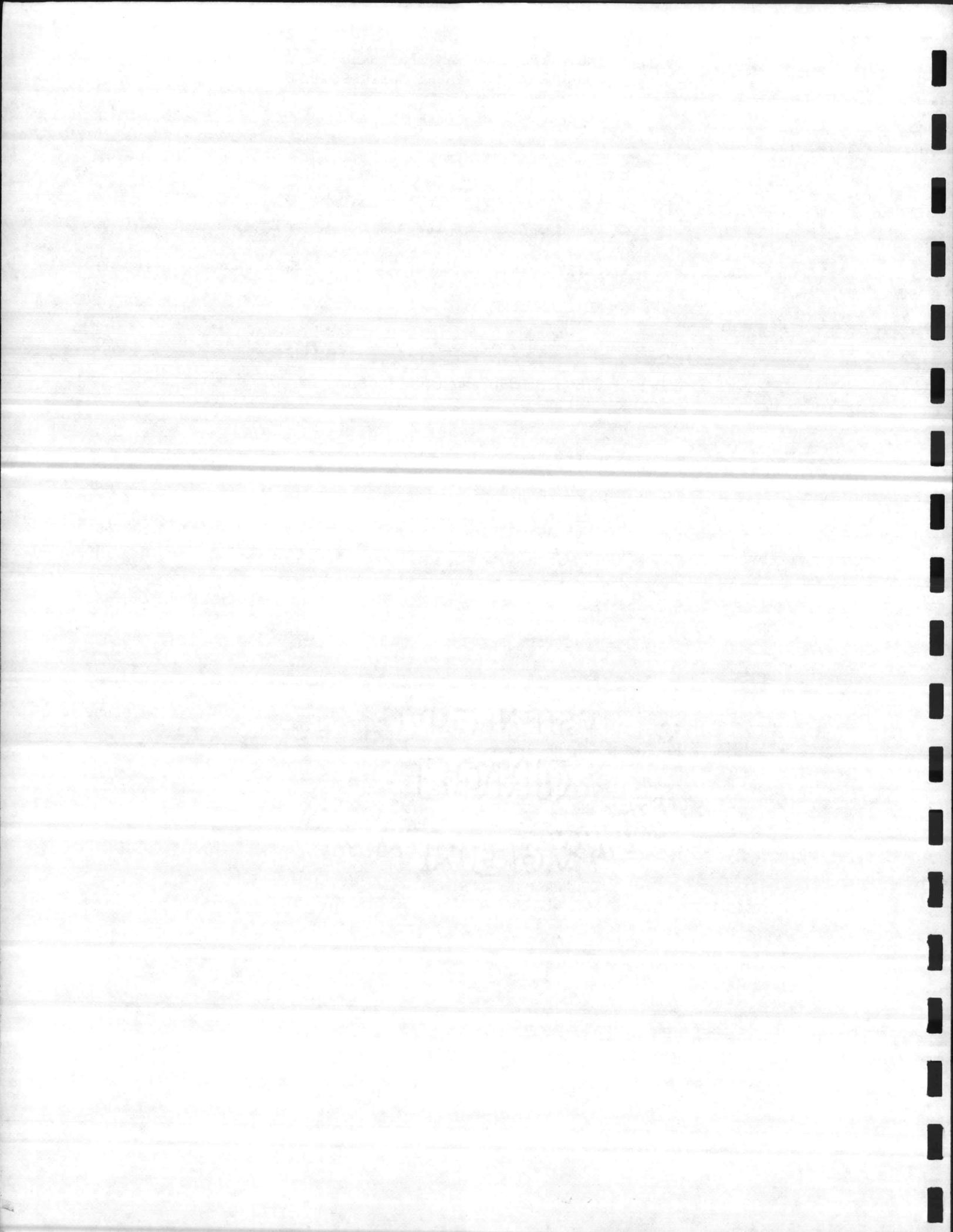
DINING AREAS

Quantity	Description
180	Fast Food Seats
45	Fast Food Tables
340	Regular Dining Seats
85	Regular Dining Tables



PROTOTYPE 1600 MAN MESS HALL
COLLATERAL EQUIPMENT COST ESTIMATE

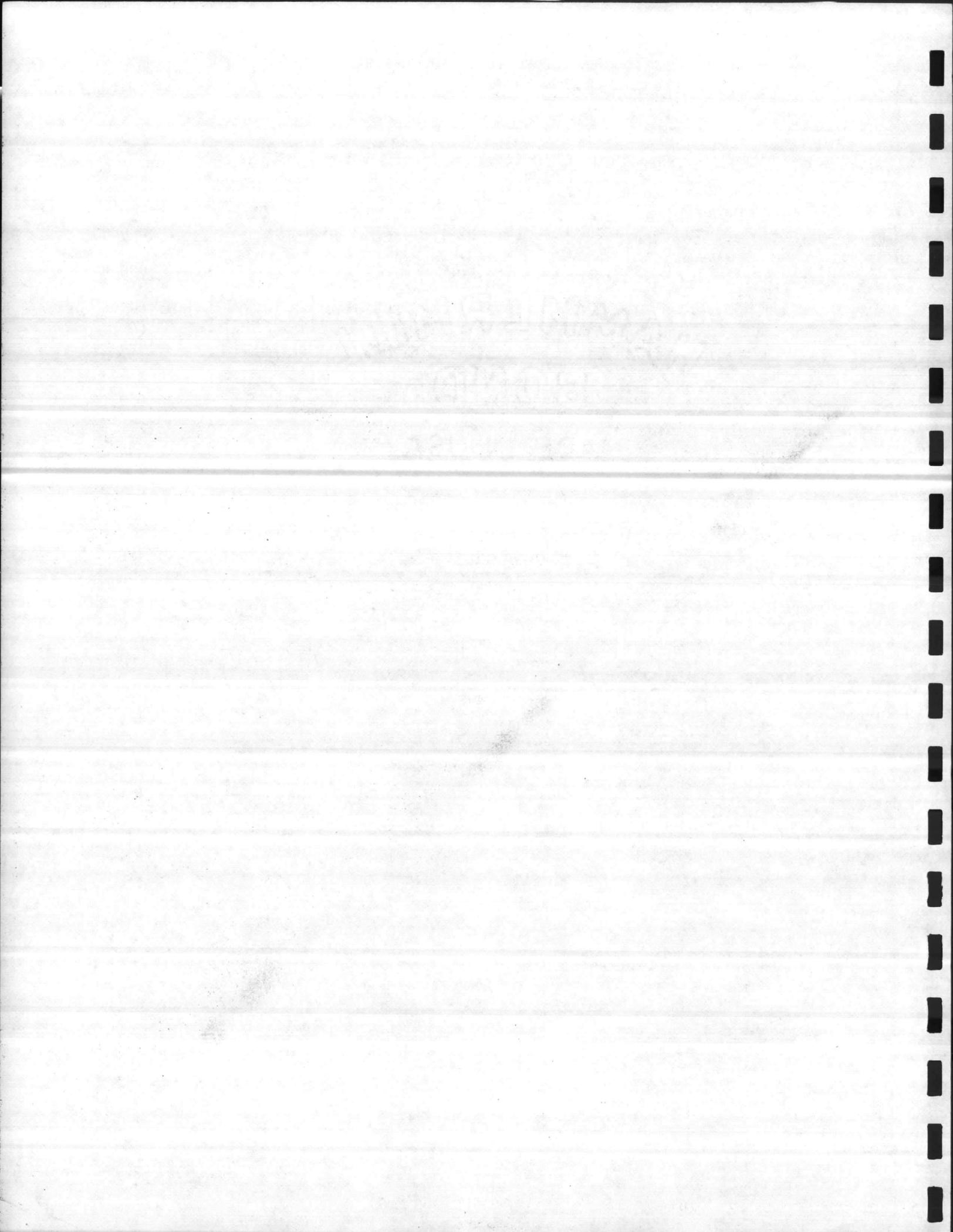
GENERAL KITCHEN AREA	\$128,030.00
VEGETABLE PREPARATION AREA	\$43,600.00
DRY STORAGE AREA	\$4,020.00
MINOR PROPERTIES AREA	\$2,400.00
DAIRY REFRIGERATOR	\$16,880.00
MEAT COOLER	\$15,440.00
MEAT FREEZER	\$22,830.00
UTENSIL WASH AND UTENSIL STORAGE	\$14,500.00
BAKERY AREA	\$39,150.00
GI ROOM	\$85,227.00
SERVING LINES	\$82,350.00
BEVERAGE AREA	\$35,600.00
SCULLERY/DISH CARTS	\$204,485.00
FAST FOOD KITCHEN	\$138,630.00
FAST FOOD SERVING AREA	\$39,900.00
BEVERAGE REFILL AREA	\$16,400.00
CLEANING GEAR	\$950.00
DINING AREAS	\$83,400.00
VENTILATION EQUIPMENT	\$175,900.00
1600 MAN MESS HALL TOTAL COST ESTIMATE FOR COLLATERAL EQUIPMENT	\$1,149,692.00

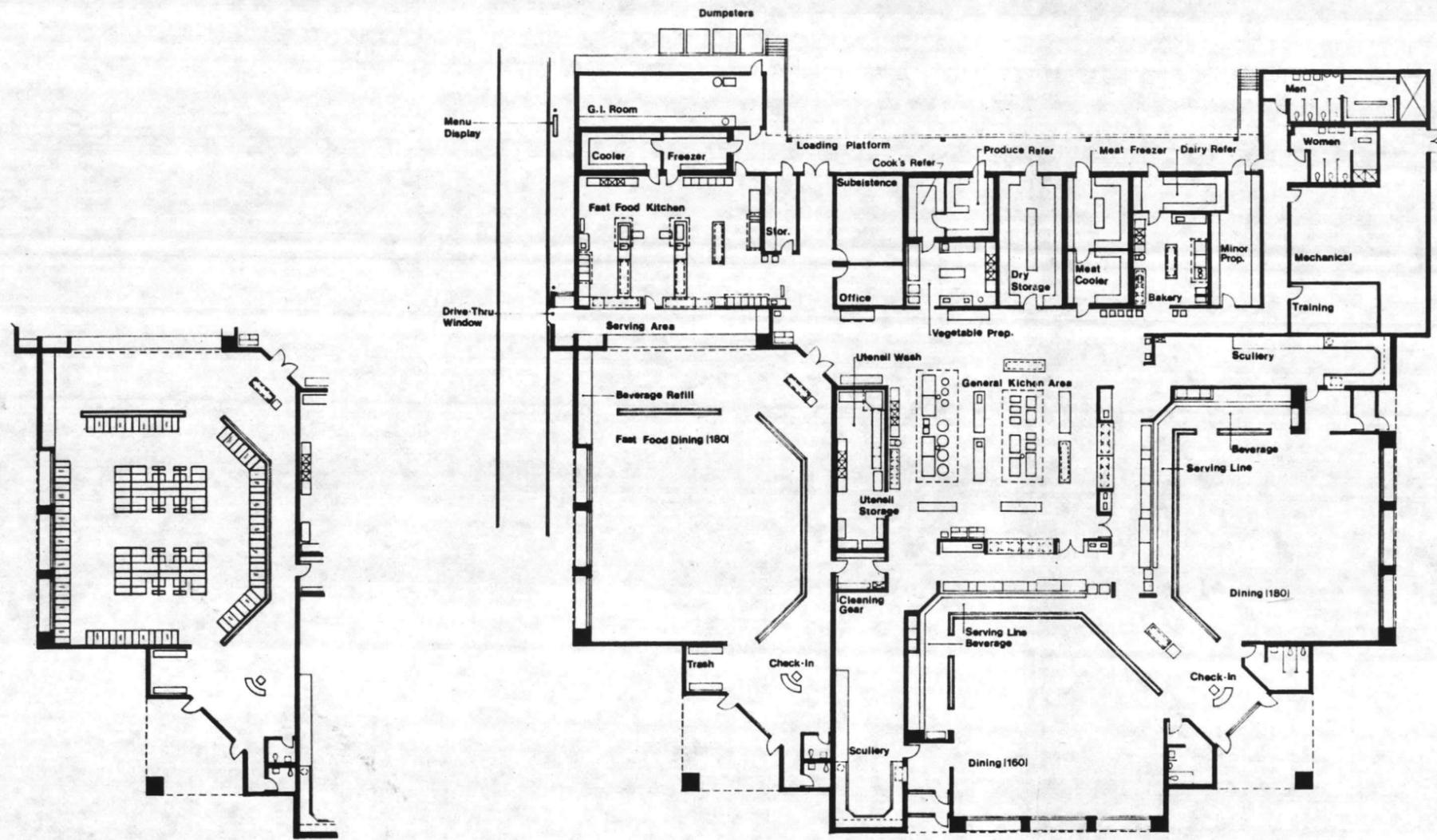


PROTOTYPE 1600 MAN MESS HALL
ESTIMATED CONSTRUCTION COSTS

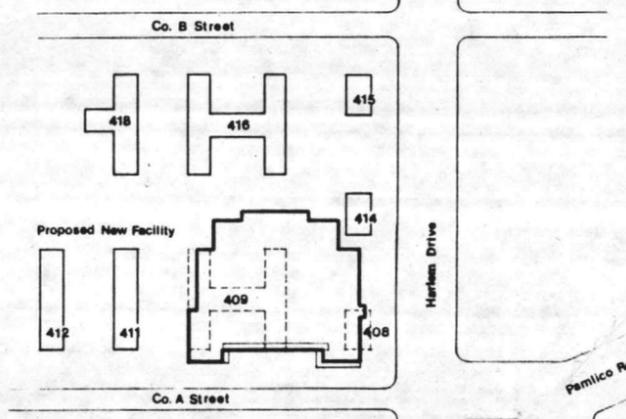
NEW BUILDINGS TO REPLACE MESS HALL M-424

1. New Construction (Building)	
30,900 SF @ \$67.50/SF	\$2,079,000.00
2. Site Support	
A. Site Utilities	\$70,000.00
B. Site Improvements	<u>\$125,000.00</u>
SUPPORT COST SUBTOTAL	\$195,000.00
3. Collateral Equipment	<u>\$1,150,000.00</u>
TOTAL ESTIMATED COST NEW BUILDING & EQUIPMENT	\$3,424,000.00





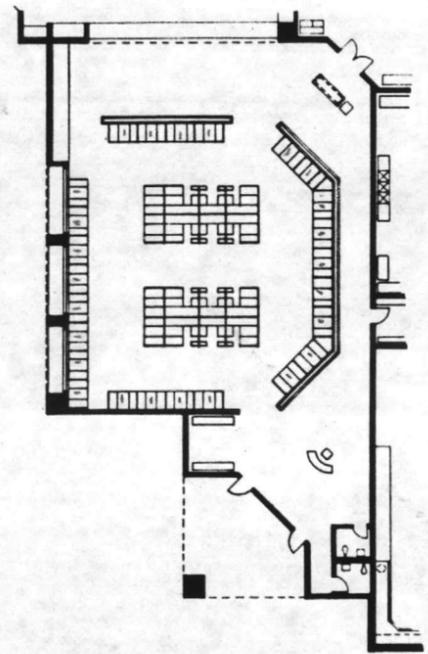
Prototype 1600 Man Mess Hall



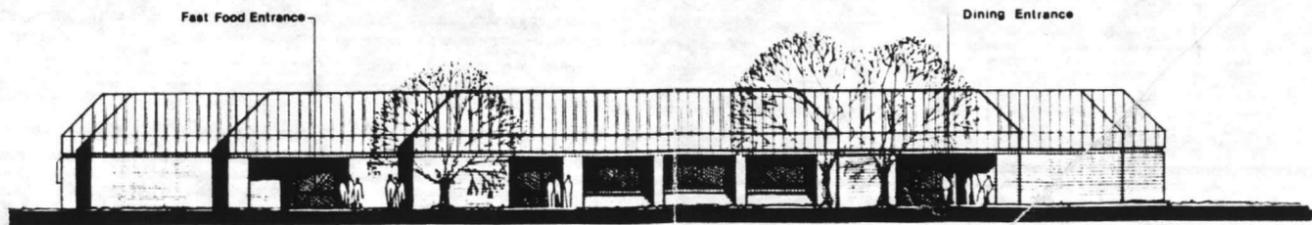
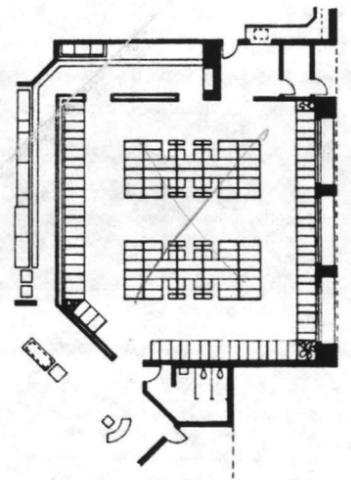
Proposed Location for Prototype 1600 Man Mess Hall



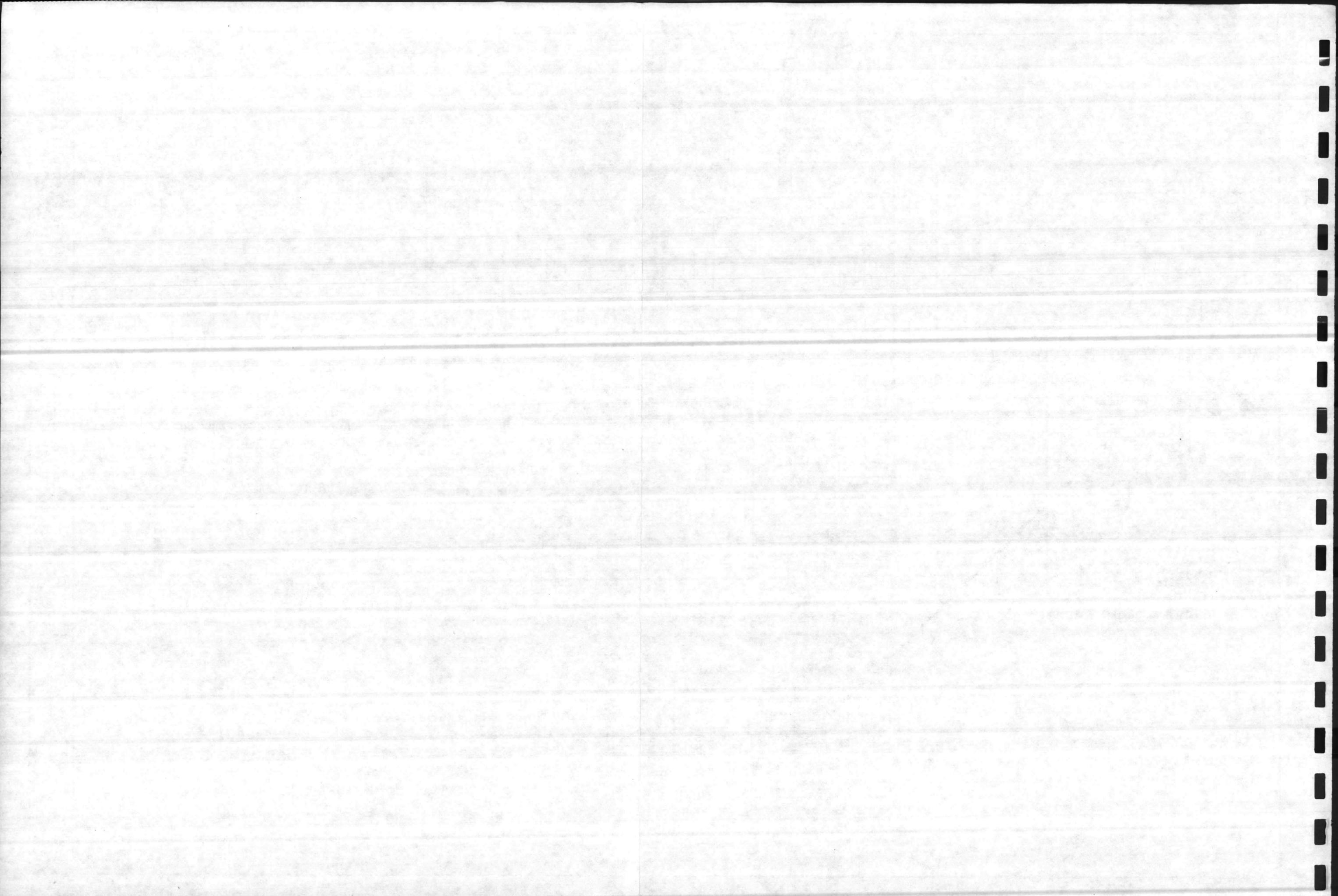
Typical Seating Lay-out



Typical Seating Lay-out



Front Elevation



**MESS HALLS 9 AND BB-7
FAST FOOD RECOMMENDATIONS**

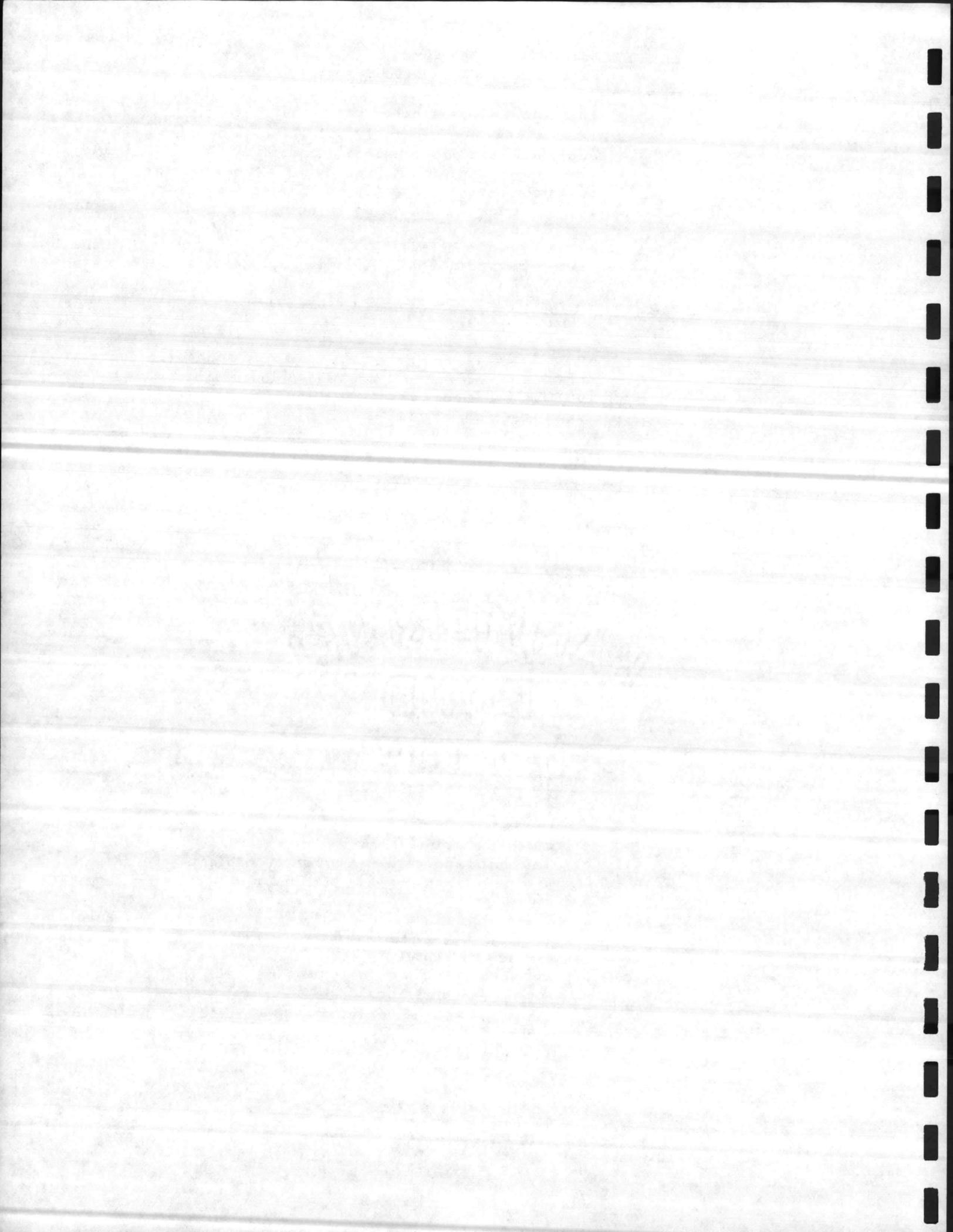
The present mess halls were constructed in 1941 and the last renovation was in 1976. These facilities are fully equipped and designed to accommodate 1000 to 1200 men. The scope of this project is to evaluate major renovation with the addition of fast service as compared to the construction of a new 1000 man mess hall. Proposed locations for the new prototype facilities are as follows: Mess Hall 9 is to be relocated in the area presently occupied by Building 54 and Mess Hall 7 is to be located on its present site. Base planning is to make final recommendation as to location of all new mess hall facilities.

In order to make a valid comparison, architectural schematic studies of both renovation/additions and a new 1000 man prototype were developed. The existing facility has a number of major problems that are addressed in this study. Renovation studies were limited to interior space only.

The fast food renovation concept separates conventional dining/serving from the fast food area. The scullery was relocated to the far end of the dining space. This relocation provides better patron circulation but requires the busing of clean dishes through dining areas. The fast food kitchen provides eat-in, take-out and drive-thru service. Reach-in refrigeration is provided because of the excessive distance to walk-in refrigeration. A new dry storage area is located adjacent to the utensil wash area.

Other modifications and additions to the existing facility include the following items:

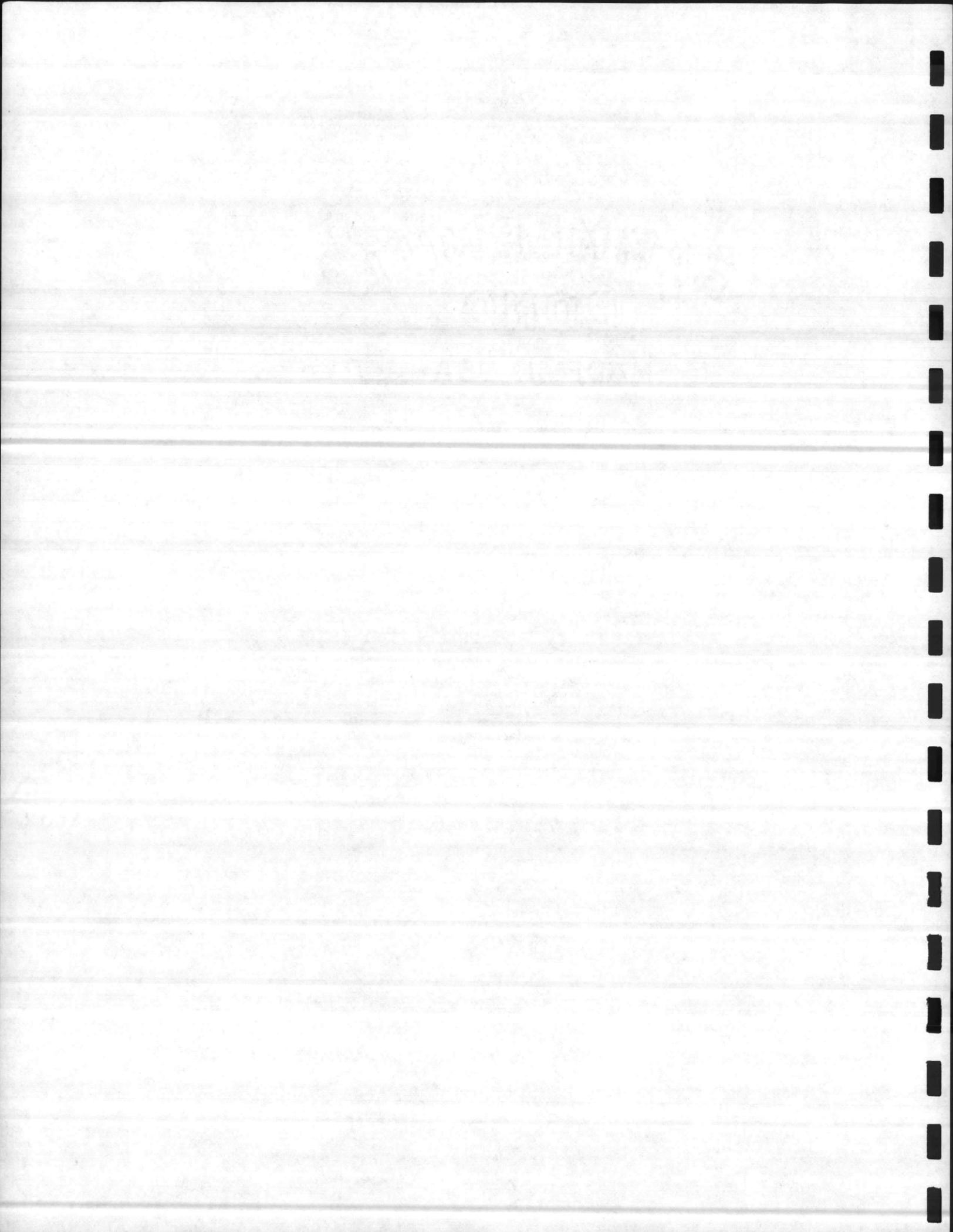
1. The existing revolving ovens are to be removed.
2. New deck ovens are provided in a different location with an exhaust system.
3. Additional construction will be needed for a training room, subsistence office, manager's office, walk-in refrigeration and dry storage.
4. New hot and cold pass-through cabinets are added to provide better service to the existing serving lines.
5. The utensil wash area was developed in the old scullery space. New pot washing machine, dish tables and exhaust system were added.
6. The existing men's toilet was enlarged for shower, locker and dressing areas.
7. A new women's toilet was developed to also provide shower, locker and dressing areas.
8. A waste disposal system is located in the new scullery area and the GI Room.



As stated in the scope of this project, asthetics and appearance of serving and dining are important elements of the overall project. Renovations to the entire facility would include the following items:

1. Special lighting systems
2. Mechanical systems
3. Acoustical tile ceiling
4. All floor finishes and materials
5. Vinyl wall covering/ceramic tile/painting
6. Wood trim and molding
7. Custom millwork
8. Art work and decor items
9. Custom seating units
10. Windows and insulation.

NOTE: These are typical items and finishes for this type of commerical fast food facility.



MESS HALLS 9 AND BB-7
COLLATERAL EQUIPMENT LIST

GENERAL KITCHEN AREA

Quantity	Description
1	3 Door Hot Food Pass-thru Cabinet
1	3 Door Cold Food Pass-thru Cabinet
6	Pass-thru Carts
4	3-Section Deck Oven
1	Exhaust Hood

SCULLERY AREA

Quantity	Description
1	Flight type Dish machine
1	Silver soak sink
40'	Dish table
12'	Sloped overself
1	Utility sink
1	Waste pulper

UTENSIL WASH AREA

Quantity	Description
1	Pot wash machine
1	Dish table
1	3-Compartment Sink with drain board
1	Exhaust hood

DRY STORAGE AREA

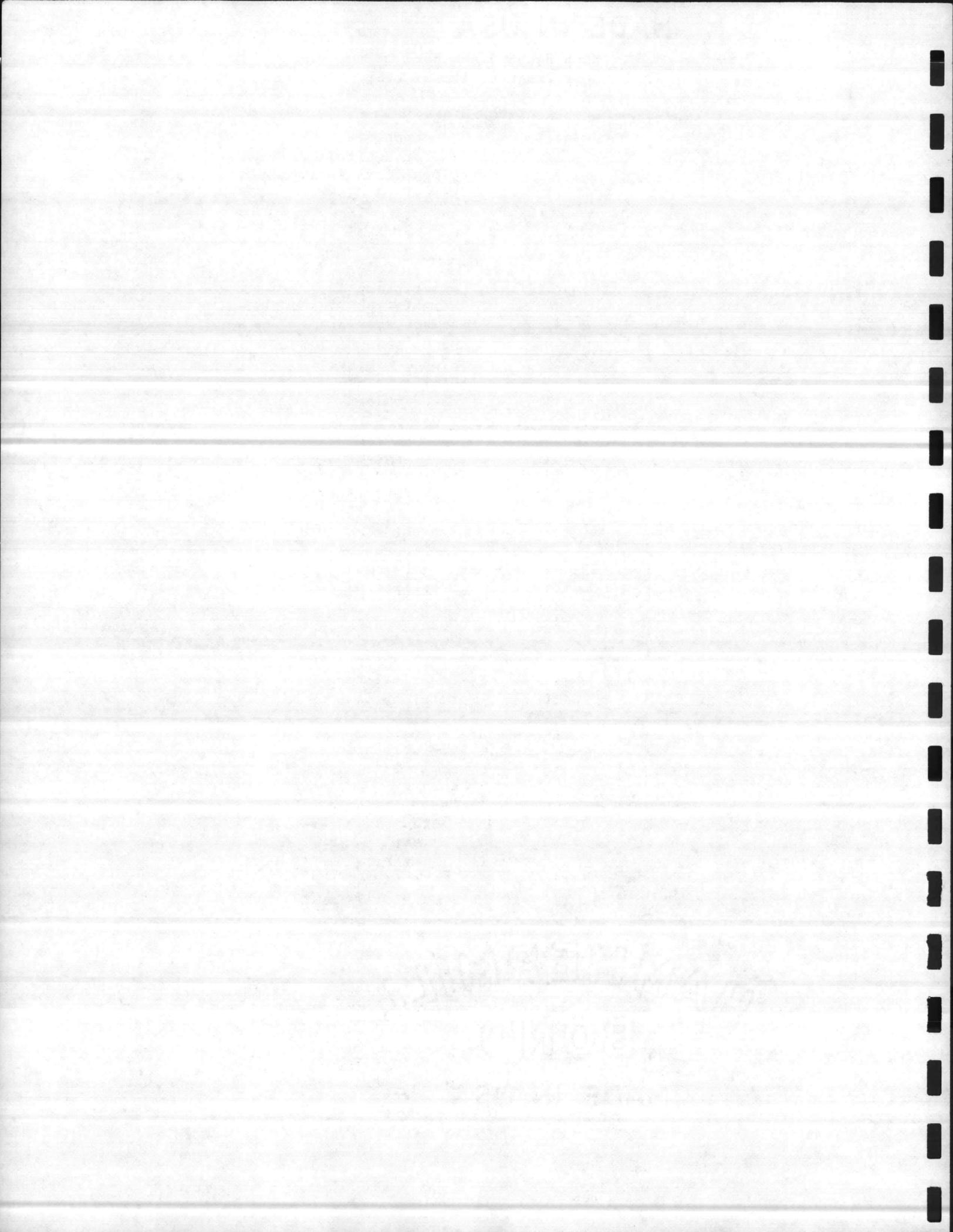
Quantity	Description
100'	Metal Shelving
24'	Dunnage Rack

MINOR PROPERTIES AREA

Quantity	Description
34'	Metal Shelving

COOLER ADDITION

Quantity	Description
56'	Metal Shelving



MESS HALLS 9 AND BB-7
 COLLATERAL EQUIPMENT LIST

FAST FOOD KITCHEN

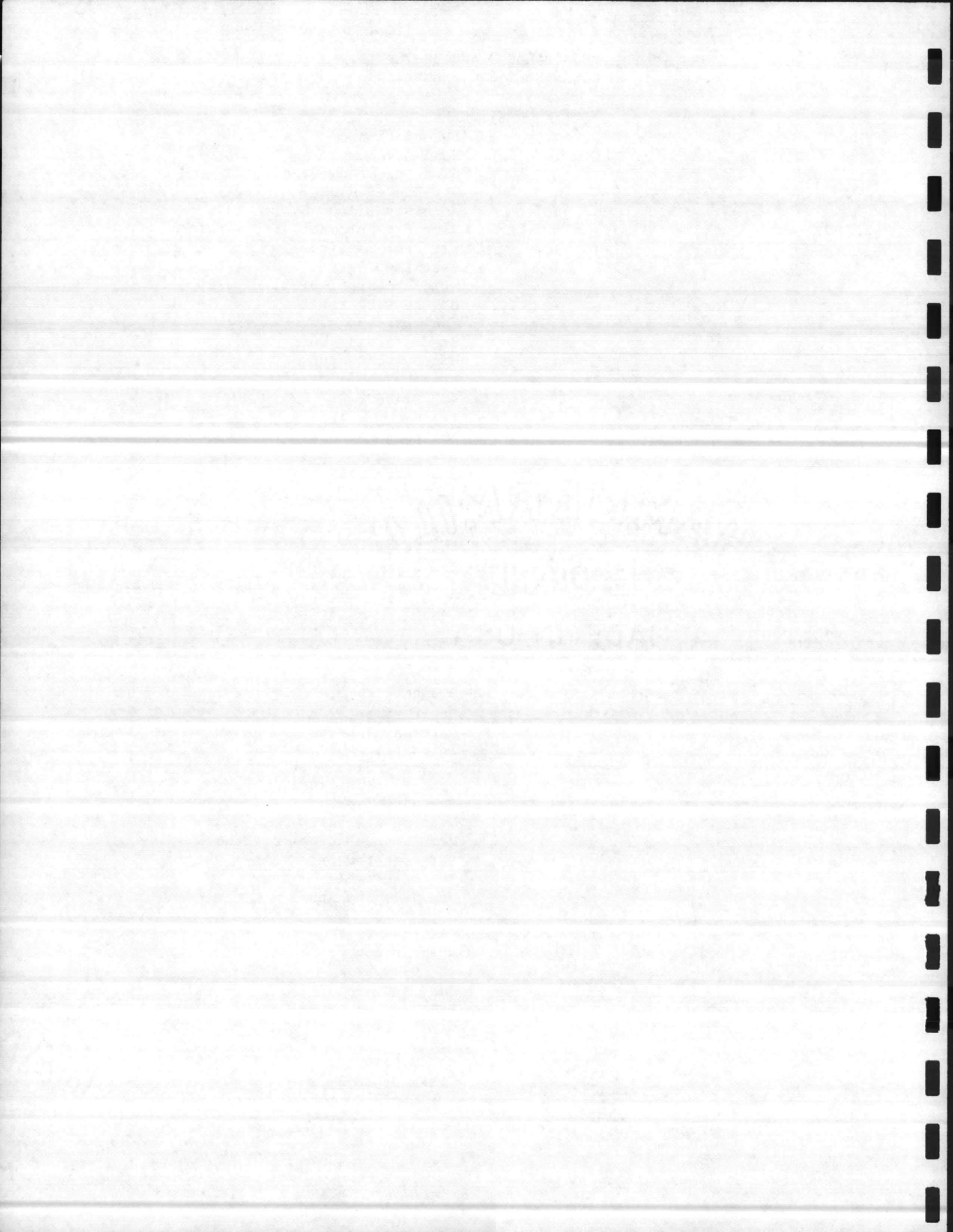
Quantity	Description
1	Hand Lavatory
6+	Bread Racks by Others
1	Fry Basket Rack
1	Auto Fry Filter System
5	Deep Fat Automatic Fry Kettles
1	Fry Dump Station
1	Heat Lamp Fry Holding Station
1	Auto Hamburger Broiler
1	Mobile Work table
2	Bun Toasters
1	Steam Holding Unit
4	Microwave Ovens
2	Chef's Tables
1	72" Griddle
1	Two Eye Hotplate
1	Equipment Stand
1	6'-0" x 2'-6" Work table
3	Exhaust Hoods
1	3'-0" x 2'-6" Work table
1	Potato Machine
1	Ice Machine, Cube Type, 400 lb. cap./ 550 lb. storage
1	Ice Cart
1	3 Compartment Sink with Drain Boards
1	TV Monitor for special sandwiches
1	Sandwich holding unit with refrigerated base

FAST FOOD SERVING AREA

Quantity	Description
1	Carbonated Drink Dispenser
1	Ice Storage Unit
1	Beverage Dispenser
1	Soft Serve/Milkshake Machine
4	Cup Dispensers
1	Microphone System
1	Drive-thru Microphone/Menu Display
1	Refrigerated Salad Bar
1	Beverage table
1	Menu display panel

BEVERAGE REFILL AREA

Quantity	Description
1	Ice Dispenser
1	Carbonated Drink Dispenser
2	Beverage Dispensers
1	Coffee Urn
1	Microwave Oven
5	Cup Dispensers
9	Trash Containers
20'	Tray Slide



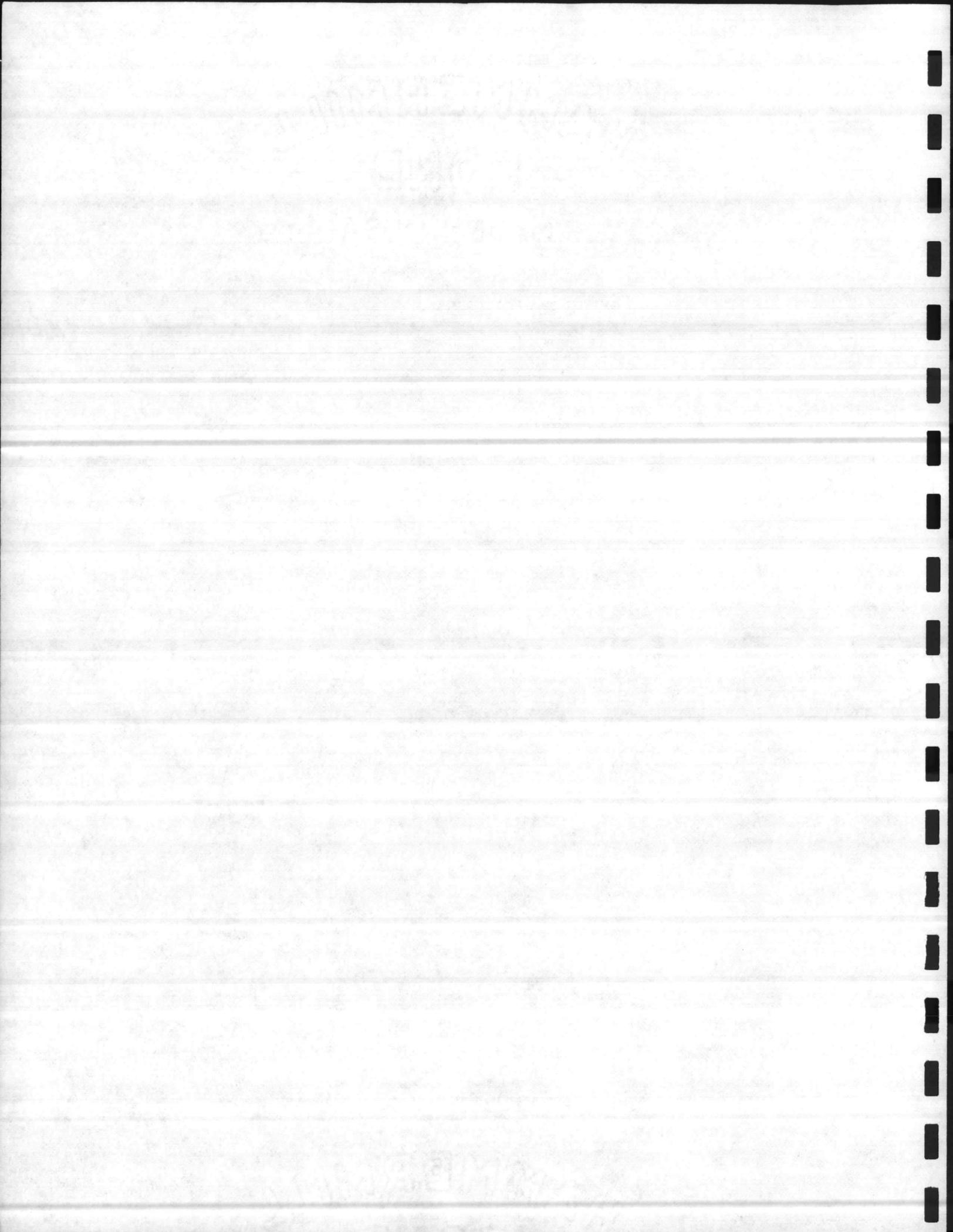
MESS HALLS 9 AND BB-7
COLLATERAL EQUIPMENT LIST

FAST FOOD DINING

Quantity	Description
160	Fast Food Seats
40	Fast Food Tables
252	Regular Dining Seats
63	Regular Dining Tables

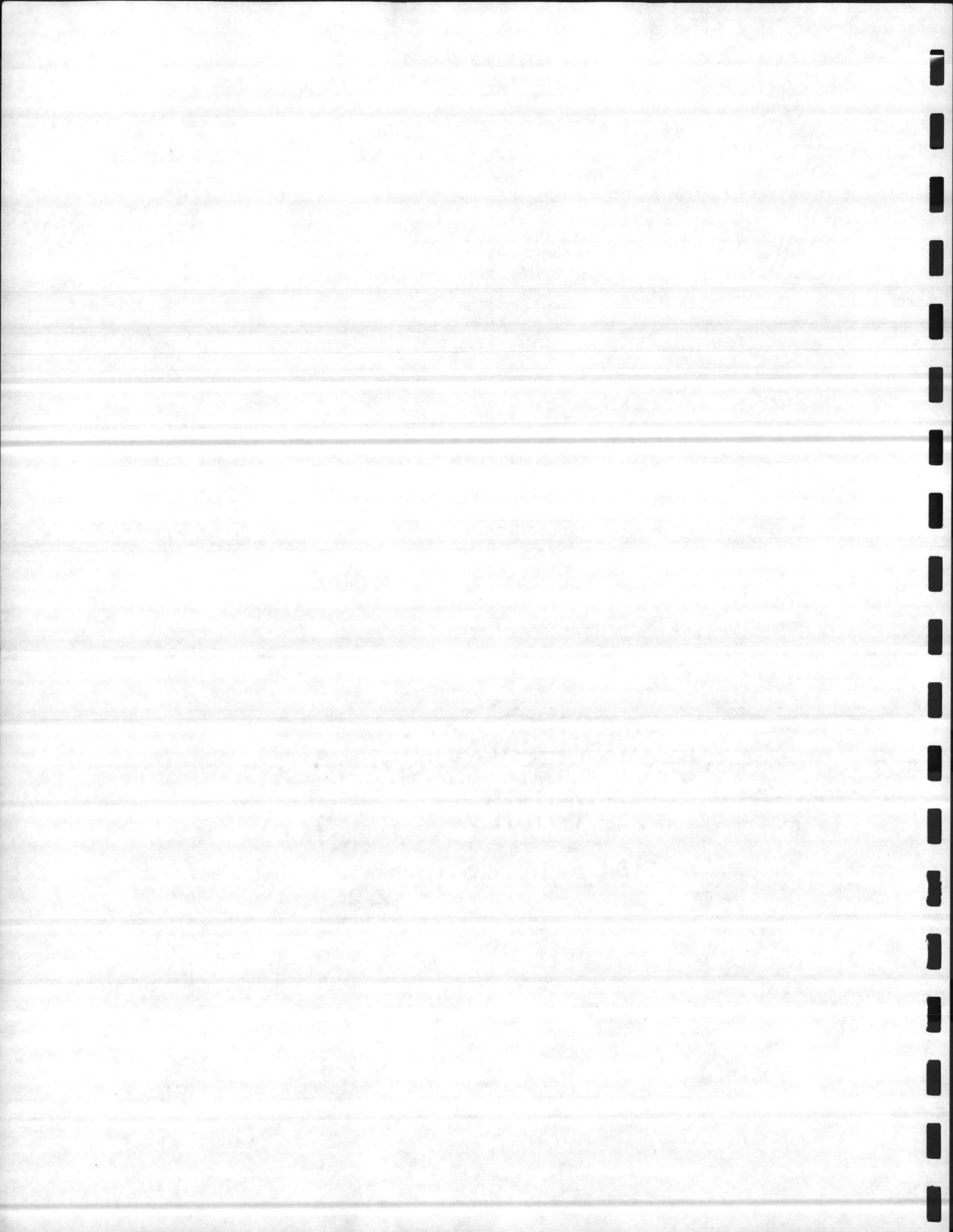
GI ROOM

Quantity	Description
1	Waste Pulper
1	Water Press



MESS HALLS 9 AND BB-7
COLLATERAL EQUIPMENT COST ESTIMATE

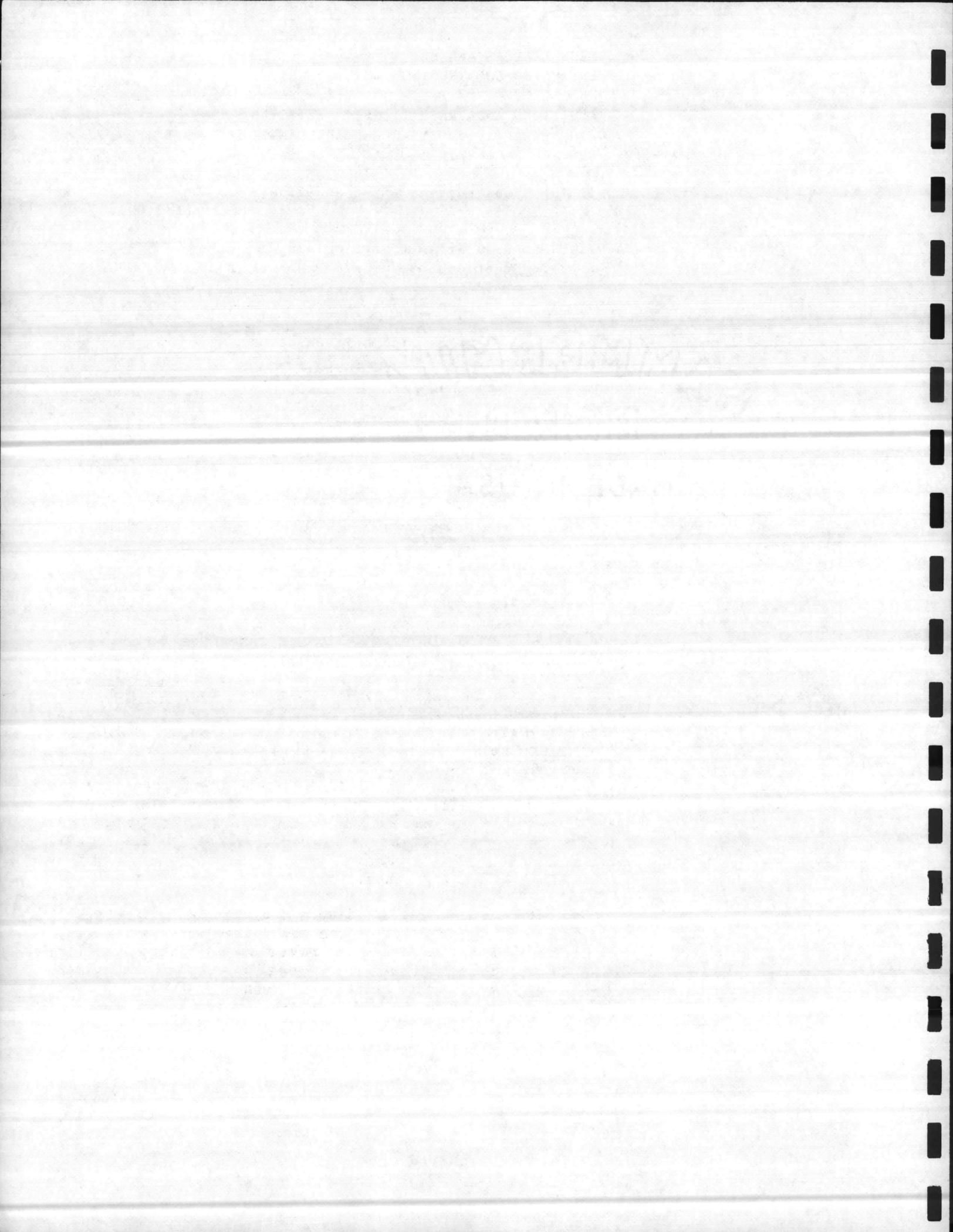
GENERAL KITCHEN AREA	\$ 41,180.00
SCULLERY AREA	\$37,965.00
UTENSIL WASH AREA	\$7,900.00
DRY STORAGE AREA	\$6,720.00
MINOR PROPERTIES AREA	\$2,040.00
COOLER ADDITION	\$3,360.00
FAST FOOD KITCHEN AREA	\$68,300.00
FAST FOOD SERVING AREA	\$26,200.00
BEVERAGE REFILL AREA	\$12,900.00
FAST FOOD DINING	\$66,300.00
GI ROOM	\$61,518.00
VENTILATION EQUIPMENT	\$56,900.00
9 AND BB-7 TOTAL COST ESTIMATE FOR COLLATERAL EQUIPMENT (TYPICAL EACH BUILDING)	\$391,283.00



MESS HALLS 9 AND BB-7
ESTIMATED CONSTRUCTION COSTS

ADDITIONS AND RENOVATIONS TO EXISTING,
1200 CAPACITY, 40 YEAR OLD BUILDINGS
TYPICAL EACH BUILDING

1. New Construction (Bldg Additions)	
2,200 SF @ \$85/SF	\$187,000.00
2. Renovated Areas (Existing Bldg)	
A. Additional Serving & Preparation Spaces	
1,900 SF @ \$65/SF	\$123,500.00
B. Present Serving & Preparation Spaces	
10,400 SF @ \$45/SF	\$468,000.00
C. Present Dining Spaces	
9,900 SF @ \$40/SF	<u>\$396,000.00</u>
SUBTOTAL	\$1,174,500.00
3. Site Support	
A. Site Utility Changes	\$35,000.00
B. Demolition	\$20,000.00
C. Site Improvements	<u>\$75,000.00</u>
SUPPORT COST SUBTOTAL	\$130,000.00
4. Collateral Equipment	<u>\$391,300.00</u>
TOTAL ESTIMATED COST ADDITIONS, RENOVATIONS & EQUIPMENT (TYPICAL EACH BUILDING)	\$1,695,800.00



PROTOTYPE 1000 MAN MESS HALL
FAST FOOD RECOMMENDATIONS

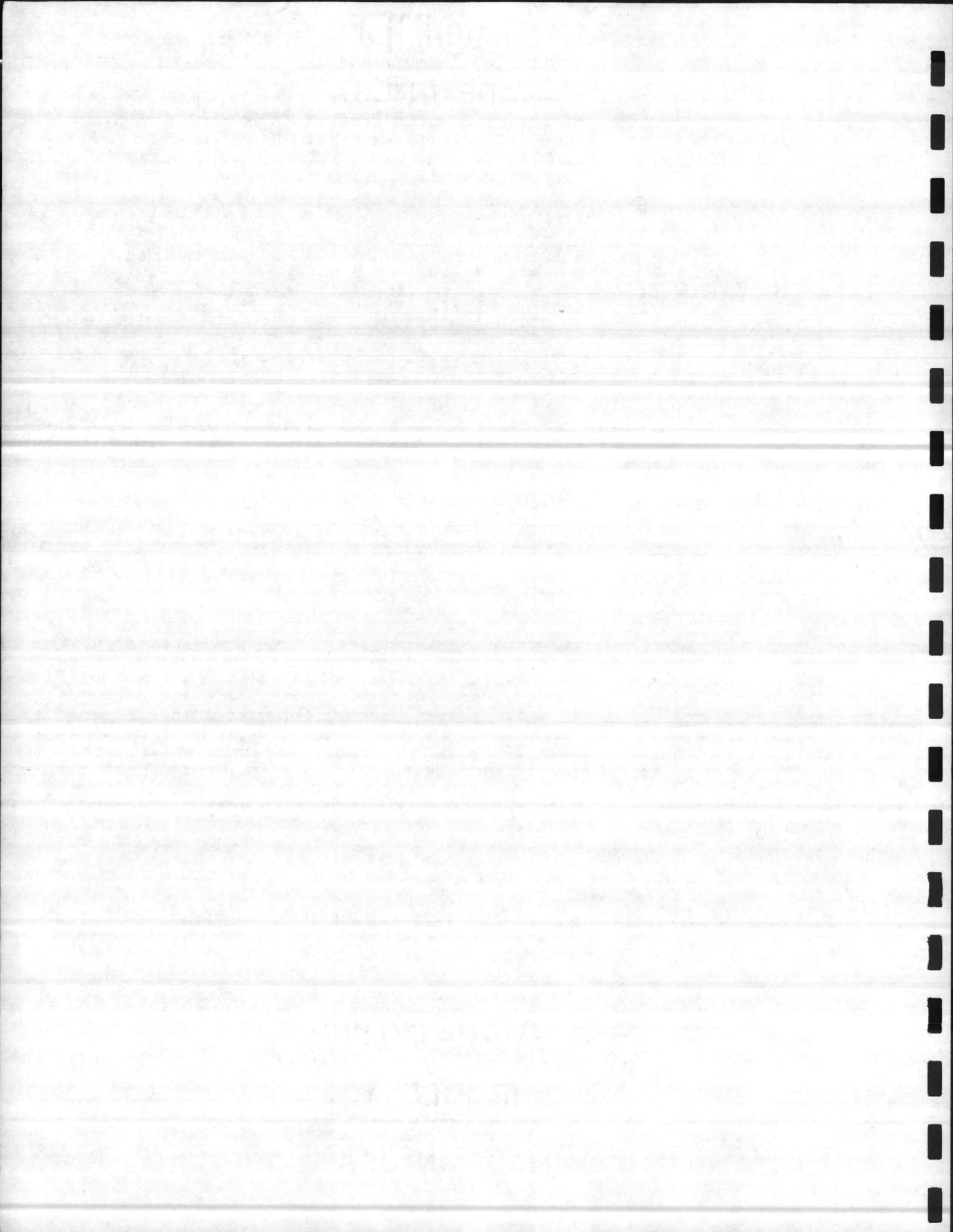
The prototype concept provides both conventional serving lines and fast food service. Dining is separated into four (4) major areas. This dining concept is in contrast to the traditional facility with one long mess deck. Passageways are situated behind beverage areas to provide access to the scullery without inconvenience to dining. This passageway also provides convenient access to beverage dispensing machines. Service windows at the scullery are positioned at exits for deposit of soiled dishes. Toilets for patrons are located at each entrance to the dining areas. Check-in counters are located for control of incoming patrons.

The general kitchen area is centrally located for ease of service to dining areas. Most storage and refrigerated areas have direct access from the loading platform and the general kitchen area. Toilets for both men and women provide shower, locker and dressing areas. Cleaning gear rooms are located for access to both dining and food preparation areas. A manager's office, subsistence office and training room are also provided.

The fast food kitchen provides eat-in, take-out and drive-thru service. Walk-in refrigeration and dry storage are located for direct access from the loading platform and food preparation area.

The prototype concept is designed to accommodate an engineered waste disposal system. At the existing facilities, all food and paper waste is separated. Paper waste is transported to dumpsters and food waste is stored and sold. We recommend a system with three (3) waste pulpers and one (1) water press. The waste system produces a pulp mixture of food, paper and water. One pulper is located in each scullery area. Separation of waste will not be required. Food and paper waste is scraped from dishes into a water trough that feeds directly into the waste pulper. The pulp is pumped to the water press located in the GI Room. A pulper in the GI Room is to be used for miscellaneous waste items and cardboard boxes. All three pulpers are piped to one water press.

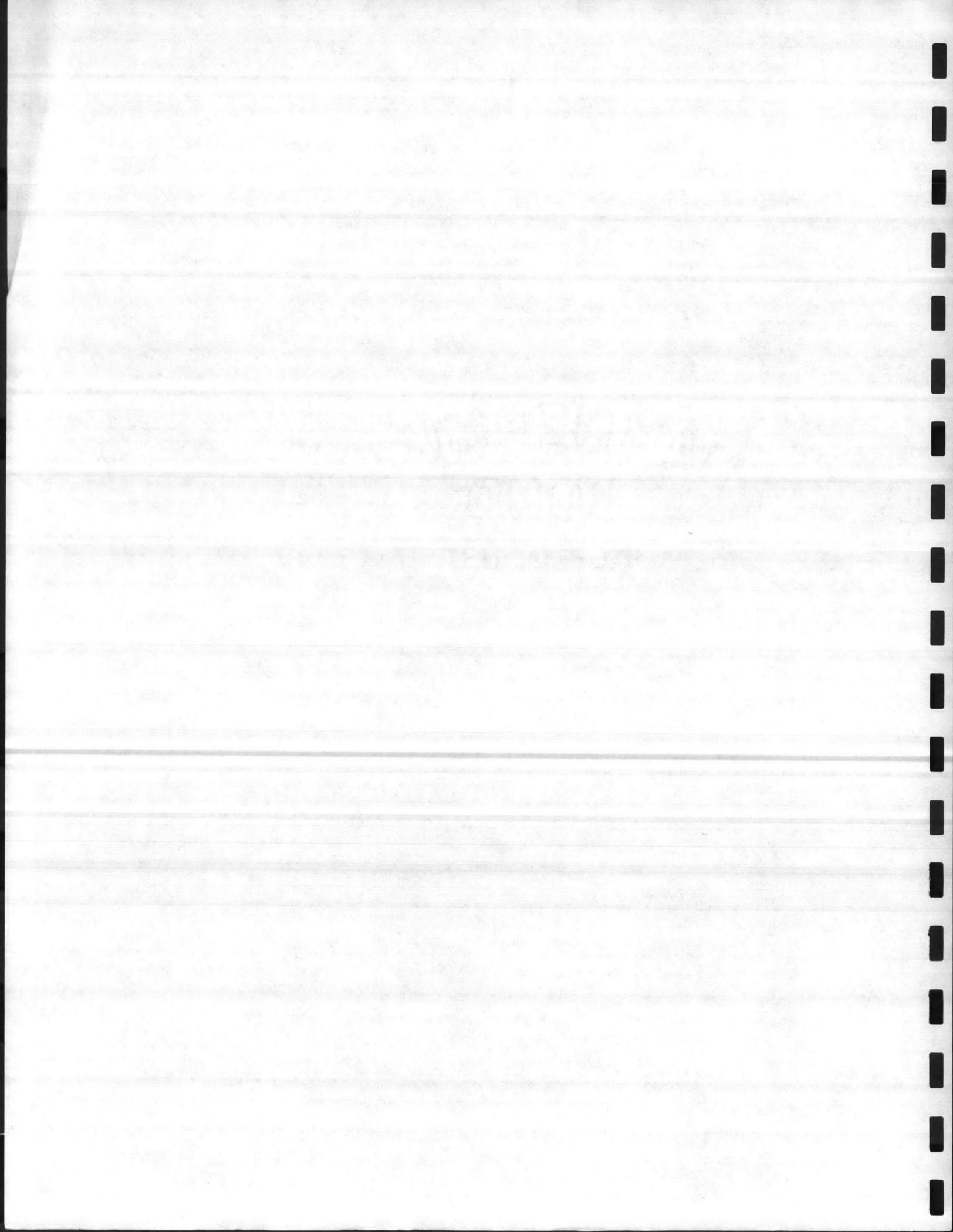
The engineered waste disposal system is a closed-loop design. Nearly 95% of the water that carries the pulp to the water press is recovered and returned to the pulper, keeping the unit continually flushed, and minimizing the introduction of fresh water. Bulk volume of waste should be reduced by 85%.



As stated in the scope of this project, aesthetics and appearance of serving and dining areas are important elements of the overall project. New construction would include the following items:

1. Special lighting systems
2. Acoustical tile ceiling
3. Vinyl wall covering/ceramic tile
4. Wood trim and molding
5. Quarry tile floor and base
6. Custom millwork
7. Artwork and decor items
8. Custom seating units

NOTE: These are typical items and finishes for this type of commercial fast food facility.



PROTOTYPE 1000 MAN MESS HALL
COLLATERAL EQUIPMENT LIST

GENERAL KITCHEN AREA

Quantity	Description
1	3 Compartment Sink with Drain Board
1	60 qt. Mixer with Bowls
2	10'-0" x 2'-6" Work tables
1	10'-0" x 2'-6" Work table with Sink
4	8'-0" x 2'-6" Work table
4	Ingredient Bins
2	40 gal. Tilting Skillets
3	Kettle Filler/Spray Station
2	Convection Steamers
3	3 Section Deck Ovens
3	60 gal. Steam Kettles
2	Rack Carts
2	40 gal. Steam Kettles
1	Steam Cabinet
2	Ice Machines, Cube Type, 400 lb. cap. 550 lb. storage
1	Ice Cart
1	Hand Lavatory
1	Electric Water Cooler
2	Exhaust Hoods
1	3 Door Reach-in Refrigerator
1	72" Griddle with Stand
2	Fry Kettles

VEGETABLE PREPARATION AREA

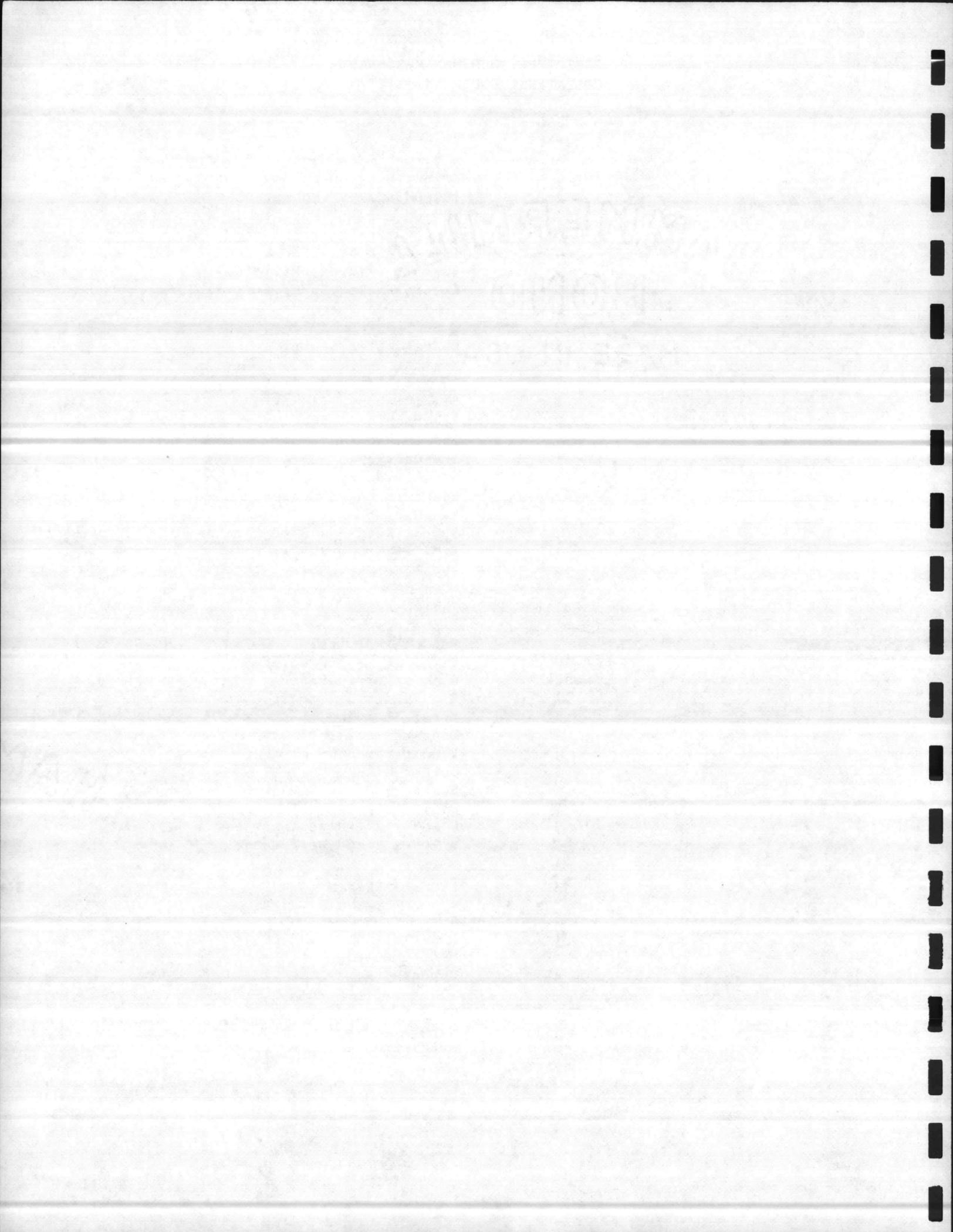
Quantity	Description
1	Produce Refrigerator 12' x 14' = 168 sq.ft.
1	Cook's Refrigerator 8' x 14' = 112 sq.ft.
45'	Metal Shelving
10'	Dunnage Rack
1	2 Compartment Sink
1	Cutter Mixer
1	Scale
2	Utility Carts
1	8'-0" x 2'-6" Work tables
2	6'-0" x 2'-6" Work table
1	Slicer
1	Food Cutter

DRY STORAGE AREA

Quantity	Description
60'	Metal Shelving
14'	Dunnage Rack

MINOR PROPERTIES

Quantity	Description
35'	Metal Shelving



PROTOTYPE 1000 MAN MESS HALL
COLLATERAL EQUIPMENT LIST

DAIRY REFRIGERATOR

Quantity	Description
1	Dairy Refrigerator 8' x 15' = 120 sq.ft
26'	Metal Shelving

MEAT FREEZER

Quantity	Description
1	Walk-in Meat Freezer 12' x 16' - 192 sq.ft.
36'	Metal Shelving
6'	Dunnage Racks

MEAT COOLER

Quantity	Description
1	Meat Cooler 12' x 12' = 144 sq.ft.
20'	Metal Shelving
4'	Dunnage Rack

UTENSIL WASH AND UTENSIL STORAGE

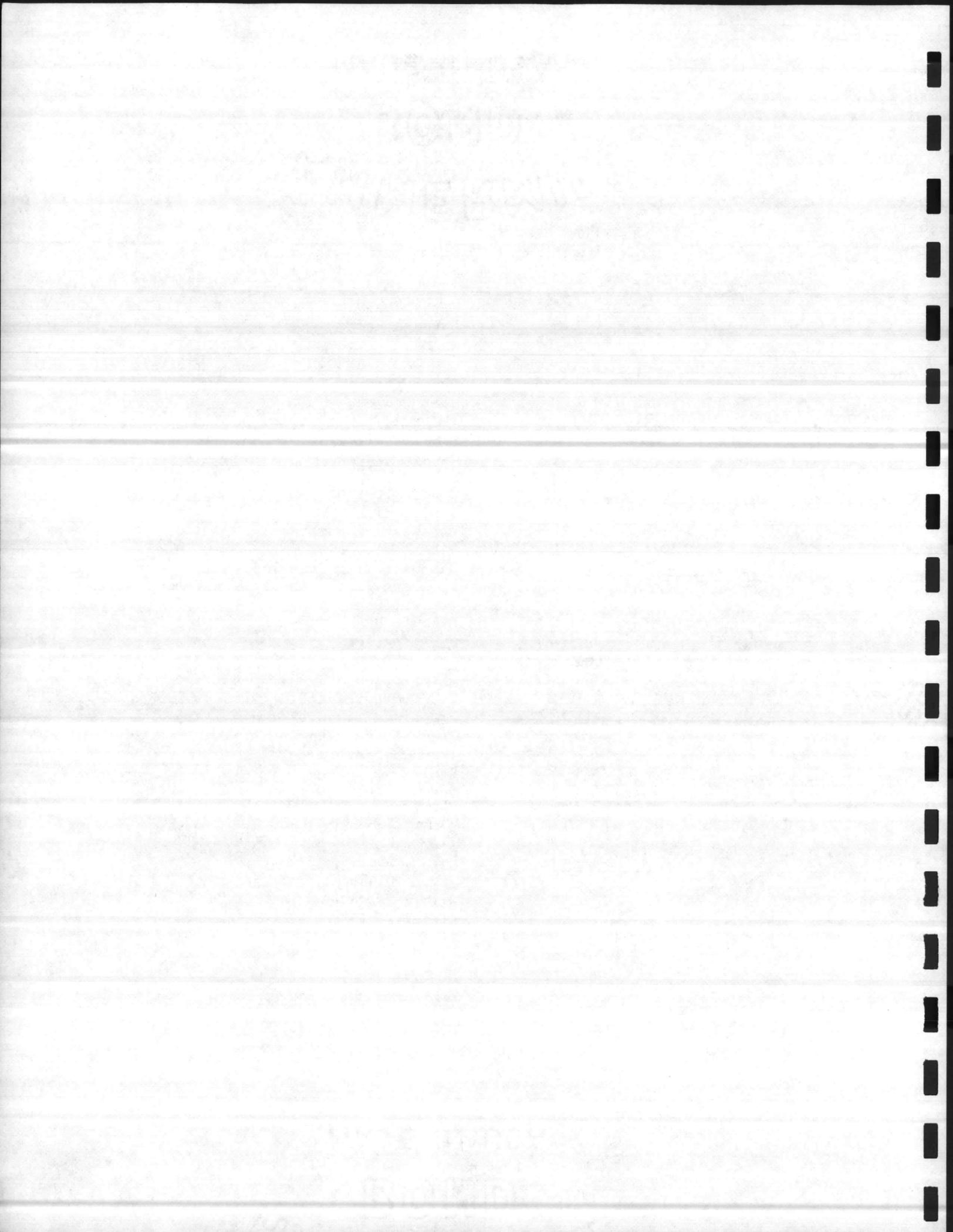
Quantity	Description
1	Pot Washing Machine
1	Dish Table
1	Disposal with Pre-rinse
1	Scullery Sink with Drain Boards
4	Utensil Carts
1	Exhaust Hood

BAKERY AREA

Quantity	Description
1	Two Compartment Sink with Drain Boards
2	Proofing Cabinets
1	Stack Convection Oven
1	Trunnion Kettle
1	Scale
1	5 qt. Mixer
1	60 qt. Mixer
1	8'-0" x 2'-6" Bakers Table
1	6'-0" x 2'-6" Work tables
1	Slicer
4	Ingredient Bins
5	Utility Racks
1	Exhaust Hood

GI ROOM

Quantity	Description
23'	Low Metal Shelving
8	32 Gal. Metal Trash Cans
1	Can Rinser-sanitizer
1	Waste Pulper
1	Water Press



PROTOTYPE 1000 MAN MESS HALL
 COLLATERAL EQUIPMENT LIST

SERVING LINES

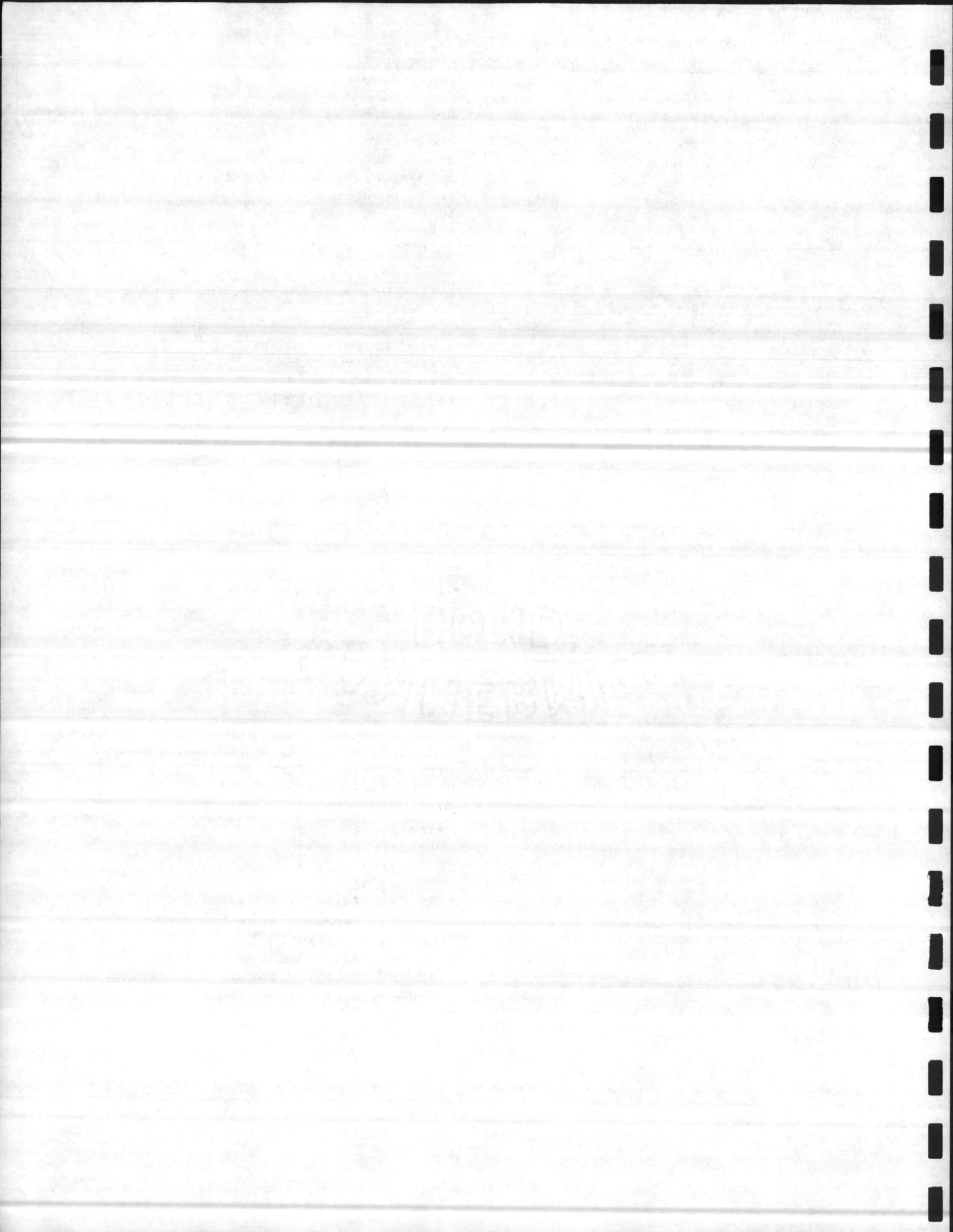
Quantity	Description
2	3 Door Hot Food Pass-thru Cabinet
2	3 Door Cold Food Pass-thru Cabinet
12	Pass Thru Carts
1	10' x 2'-6" Work table
1	8'-0" x 2'-6" Work table
1	5'-0" x 2'-6" Work table
4	Bun Toasters
2	Microwave Ovens
4	72" Griddles
2	2'-0" x 2'-6" Work tables
4	5 Pan Steam Tables
2	Dessert Servers
60'	Tray Slide
1	Refrigerated Salad Bar

BEVERAGE AREA

Quantity	Description
2	Coffee Urns
4	Beverage Dispensers
4	Ice Dispensers
2	Milk Dispensers
2	Carbonated Drink Dispensers
2	Water Fillers
48'	Tray Slide
2	Ice Cream Boxes

SCULLERY/DISH CARTS

Quantity	Description
2	Flight Type Dish Machines
2	Silver Soak Sink
58'	Dish Table
24'	Sloped Overshelf
1	Utility Sink
3	Cart, 9" Plates
4	Cart, 6-3/4" Dessert Dish
6	Cart, 5-1/2" Fruit Dish
11	Cart, Vegetable Dish
5	Cart, Coffee Cups
6	Cart, Soup and Salad
5	Cart, Glasses
6	Cart, Silverware and Trays
2	Waste Pulper



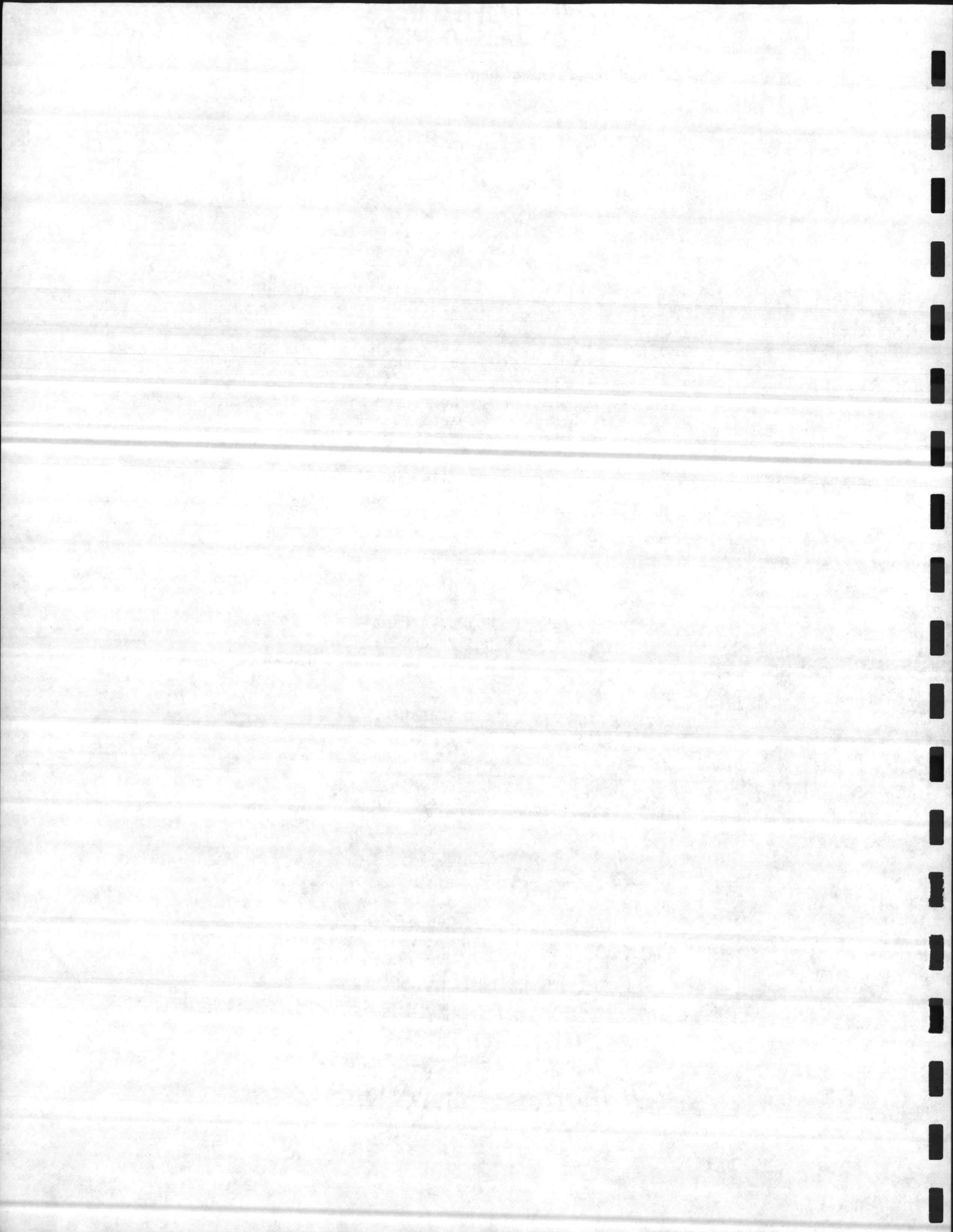
PROTOTYPE 1000 MAN MESS HALL
 COLLATERAL EQUIPMENT LIST

FAST FOOD KITCHEN

Quantity	Description
1	Hand Lavatory
1	Electric Water Cooler
1	Walk-in Cooler 8' x 12' = 96 sq.ft.
1	Walk-in Freezer 8' x 12' = 96 sq.ft.
50'	Metal Shelving
14'	Storage Room Metal Shelving
6+	Bread Racks By Others
1	Fry Basket Rack
1	Auto Fry Filter System
5	Deep Fat Automatic Fry Kettles
1	Fry Dump Station
1	Heat Lamp Fry Holding Station
1	Auto Hamburger Broiler
1	Mobile Work table
2	Bun Toasters
1	Steam Holding Unit
4	Microwave Ovens
2	Chef's Table
1	72" Griddle
1	Two Eye Hotplate
1	Equipment Stand
1	6'-0" x 2'-6" Work table
3	Exhaust Hoods
1	3'-0" x 2'-6" Work table
1	Potato Machine
1	Ice Machines, Cube Type, 400 lb. cap. 550 lb. storage
1	Ice Cart
1	3 Compartment Sink with Drain Baords
1	TV Monitor for special sandwiches
1	Sandwich holding unit with refrigerated base

FAST FOOD SERVING AREA

Quantity	Description
1	Carbonated Drink Dispensers
1	Ice Storage Units
1	Beverage Dispensers
1	Soft Serve/Milkshake Machines
4	Cup Dispensers
1	Microphone System
1	Drive-thru Microphone/Menu Display
1	Refrigerated Salad Bar
1	Beverage Table
1	Menu Display Panel



PROTOTYPE 1000 MAN MESS HALL
COLLATERAL EQUIPMENT LIST

BEVERAGE REFILL AREA

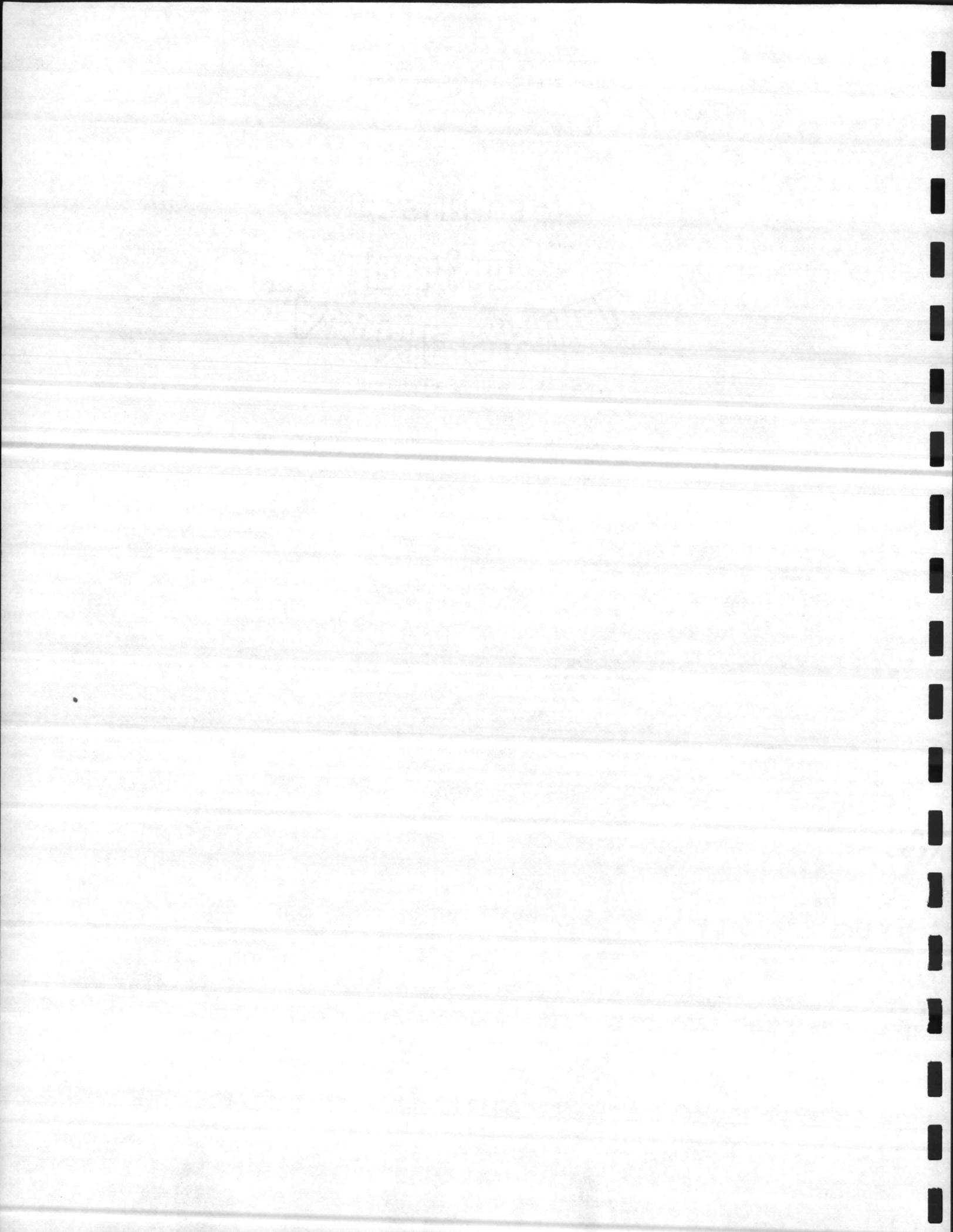
Quantity	Description
1	Ice Dispensers
1	Carbonated Drink Dispensers
2	Beverage Dispensers
1	Coffee Urn
1	Microwave Oven
5	Cup Dispensers
6	Trash Containers
20'	Tray Slide

CLEANING GEAR

Quantity	Description
1	Utility Mop Sink
5'	Shelving

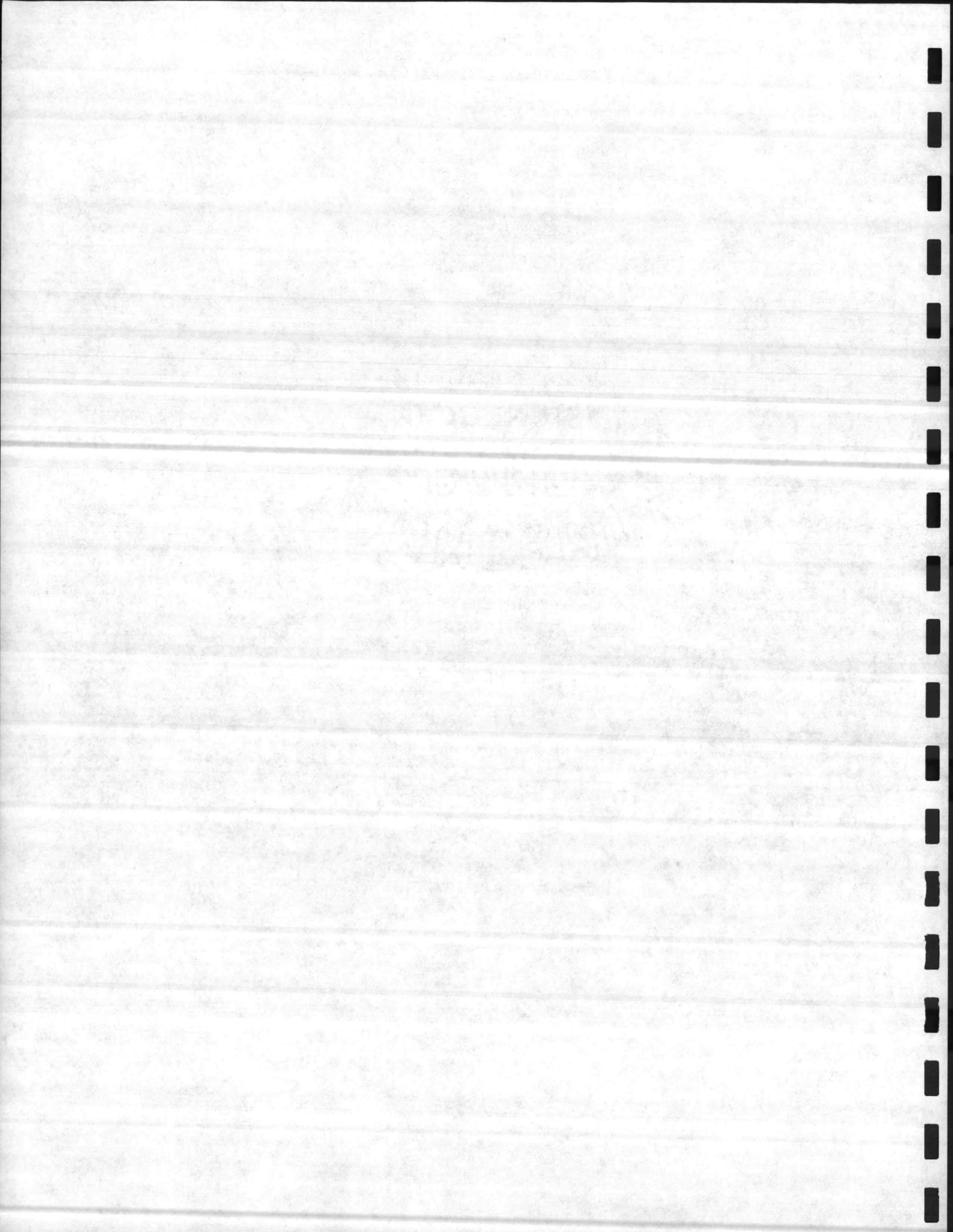
DINING AREAS

Quantity	Description
120	Fast Food Seats
30	Fast Food Tables
216	Regular Dining Seats
50	Regular Dining Tables



PROTOTYPE 1000 MAN MESS HALL
COLLATERAL EQUIPMENT COST ESTIMATE

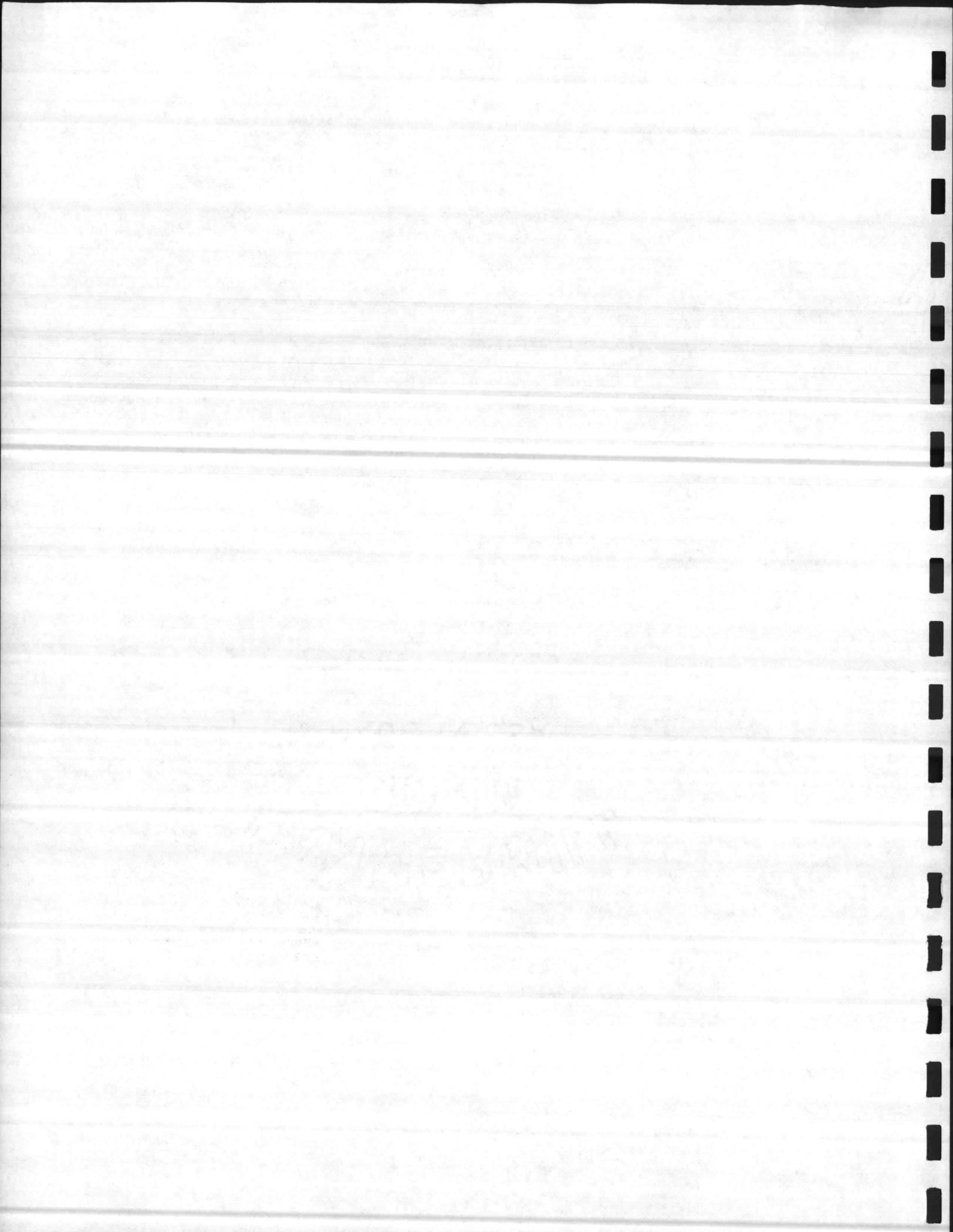
GENERAL KITCHEN AREA	\$98,685.00
VEGETABLE PREPARATION AREA	\$42,500.00
DRY STORAGE AREA	\$4,020.00
MINOR PROPERTIES AREA	\$1,050.00
DAIRY REFRIGERATOR	\$11,160.00
MEAT COOLER	\$13,270.00
MEAT FREEZER	\$18,680.00
UTENSIL WASH AND UTENSIL STORAGE	\$13,900.00
BAKERY AREA	\$32,450.00
GI ROOM	\$84,777.00
SERVING LINES	\$80,250.00
BEVERAGE AREA	\$35,000.00
SCULLERY/DISH CARTS	\$153,820.00
FAST FOOD KITCHEN	\$87,980.00
FAST FOOD SERVING AREA	\$26,200.00
BEVERAGE REFILL AREA	\$11,700.00
CLEANING GEAR	\$600.00
DINING AREAS	\$54,000.00
VENTILATION EQUIPMENT	\$148,700.00
1000 MAN MESS HALL TOTAL COST ESTIMATE FOR COLLATERAL EQUIPMENT	\$918,742.00



PROTOTYPE 1000 MAN MESS HALL
ESTIMATED CONSTRUCTION COSTS

NEW BUILDINGS TO REPLACE EXISTING MESS HALLS

1. New Construction (Building)	
22,200 SF @ \$70/SF	\$1,554,000.00
2. Site Support	
A. Site Utilities	\$50,000.00
B. Site Improvements	<u>\$100,000.00</u>
SUPPORT COST SUBTOTAL	\$150,000.00
3. Collateral Equipment	<u>\$919,000.00</u>
TOTAL ESTIMATED COST NEW BUILDING & EQUIPMENT	\$2,623,000.00



MESS HALLS 9 AND BB-7/
PROTOTYPE 1000 MAN MESS HALL
EVALUATIONS AND RECOMMENDATIONS

The evaluation of replacing Mess Halls 9 and BB-7 with two (2) new facilities is not as clear as the previous analysis of the Hadnot Point area facilities. The present facilities are structurally sound and capable of long range use. The advantages of consolidation do not apply and the prototype seating capacity is less than the existing mess halls. Presently, Mess Hall 9 averages 848 lunch patrons and Mess Hall BB-7 averages 682 lunch patrons. The prototype facility could easily accommodate these serving requirements.

EVALUATION CRITERIA

A. Energy Evaluation (Building Envelope):

Energy requirements for the existing mess hall facilities are estimated to be 19.6 BTU's per square foot. Renovations would include the following: additional wall insulation, additional attic insulation, insulated windows, new mechanical systems and new mechanical controls. After renovation, energy requirements are estimated to be 13.0 BTU's per square foot. The prototype 1000 energy requirements are estimated to be 11.3 BTU's per square foot. Using the above figures, we can make the following comparative calculations.

RENOVATED MESS HALLS

13.0 BTU's x 24,000 SF = 312,000 BTU's/facility
Est. Energy Use/Seat 312,000/1200 seats = 260

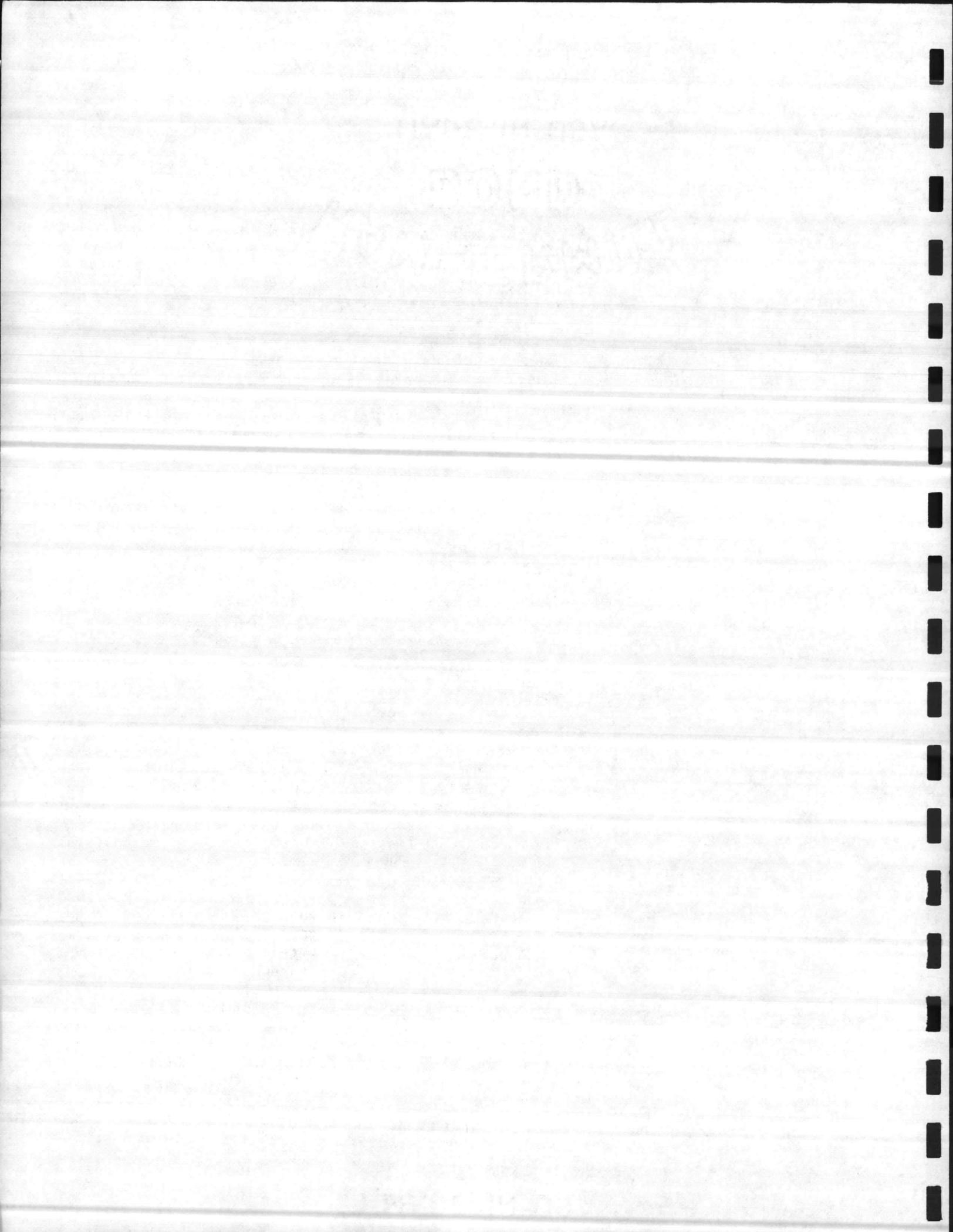
PROTOTYPE 1000 MAN MESS HALLS

11.3 BTU's x 22,000 SF = 248,600 BTU's/facility
Est. Energy Use/Seat 248,600/1000 seats = 249

Based on the above calculations, energy requirements for both the renovated facility and prototype are similar.

B. Cost Analysis:

Construction cost and collateral equipment cost for mess hall renovations are estimated to be \$1,695,800.00 per facility. Construction and collateral equipment costs for the prototype 1000 mess hall are estimated to be \$2,623,000.00 per facility. Using the above figures, the following comparative calculations are possible:



RENOVATED MESS HALLS

\$1,695,800. = \$1,413.17 cost/seat
1200 total seating capacity

PROTOTYPE 1000 MAN MESS HALLS

\$2,623,000. = \$2,623.00 cost/seat
1000 total seating capacity

Based on the above calculations, the prototype cost is 85% more per seat as compared to the renovated mess hall facility. However, the prototype figures include total new food service equipment. Evaluation of estimated construction cost only are as follows:

Prototype construction estimate	\$1,704,000.00
Renovation construction estimate	<u>\$1,304,000.00</u>
Additional new construction cost	\$ 400,000.00

Based on the above calculations, the prototype (discounting all collateral equipment) will cost approximately 30% more per seat as compared to the renovated mess hall facility.

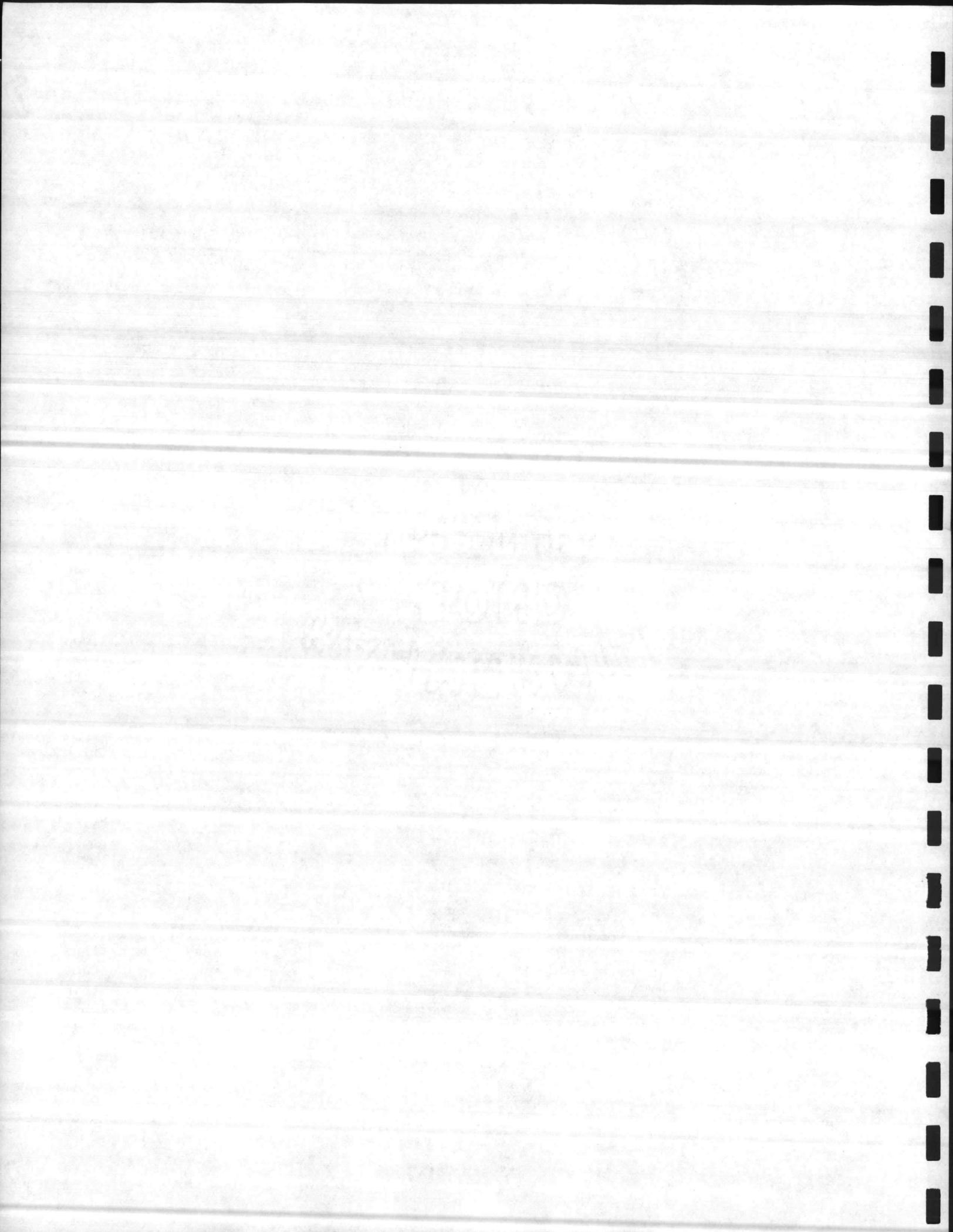
C. Future Contract Operation

Long range projection indicate that dining facility operations may be contracted out to private food service management companies. We contend that the prototype is more efficiently designed and capable of implementing long range base food service programs. Therefore, we also contend that the private food service management company would look more favorably at the operation of new facilities and, in turn, the overall operation of the facility would be more cost effective.

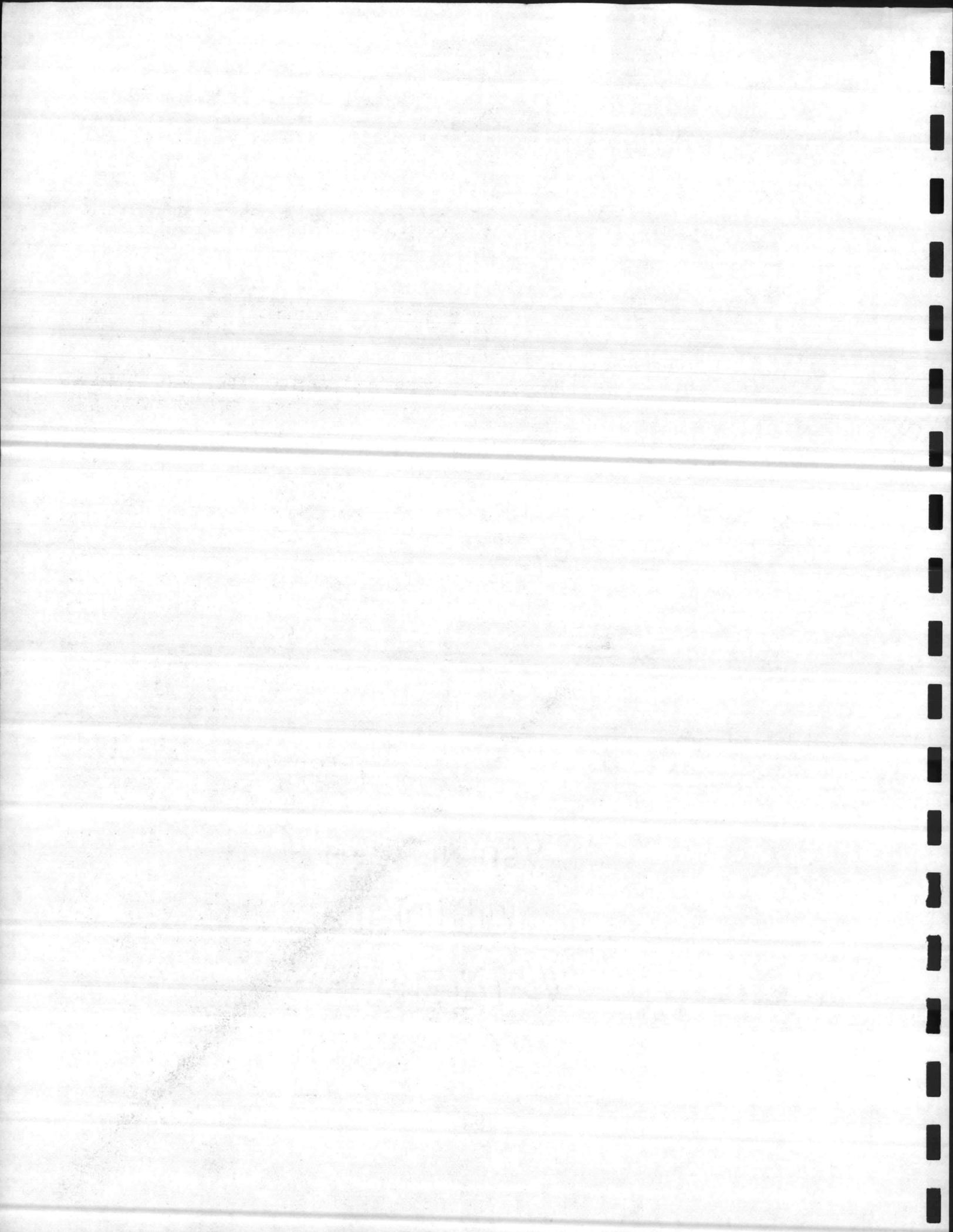
D. Aesthetics

Aesthetically, the same conclusions that were made about the Hadnot Point area facilities are applicable. Long range base food service programs should provide services that are competitive and comparable to off-base dining facilities. From an architectural and historical point of view, the existing facilities are of little significance.

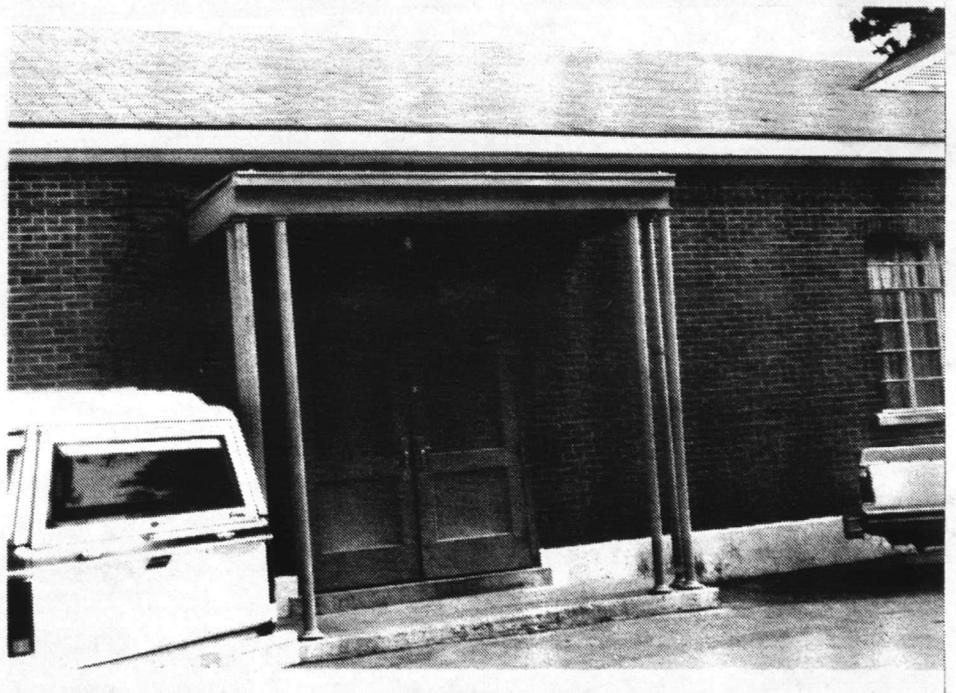
Economically, the renovation concept is clearly the best option. Comparing estimated construction cost only, the prototype facility will cost approximately 30% more than renovation. However, there are other equally important considerations that have to be incorporated in this recommendation. It is our contention that the new facility is more efficient and aesthetically compatible with long range food service concepts and programs. Another advantage to new construction is that existing mess halls can remain 100% operational during construction of the new prototype facilities.

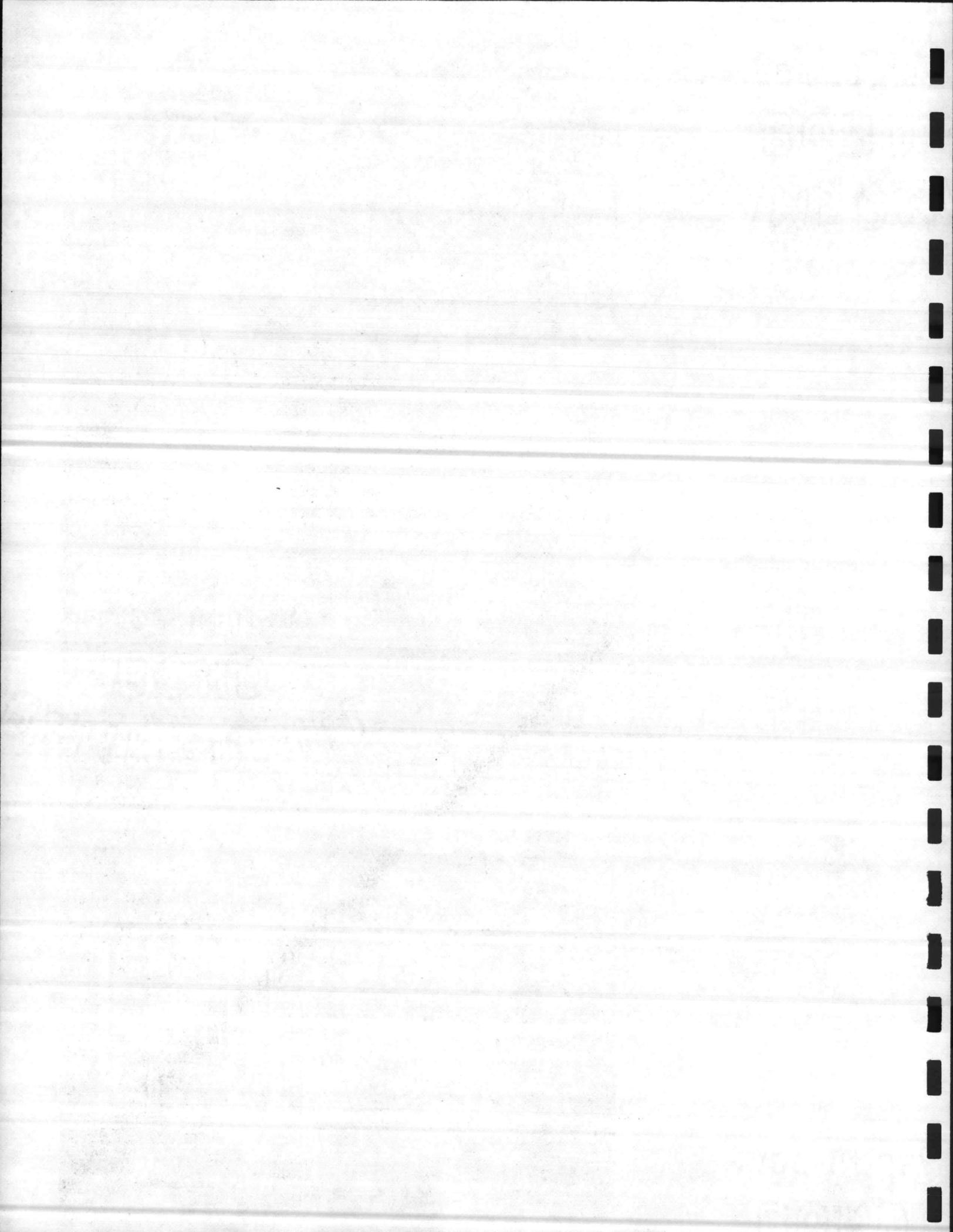


It is our recommendation that new prototype facilities be constructed to replace Mess Halls 9 and BB-7. Construction of these facilities will have a positive impact on the entire serving areas and will provide facilities capable of implementing long range food service programs. As previously indicated in this study, Mess Hall BB-7 would be located on the existing site. We recommend that base planning consider alternative locations so that the existing facility could remain operational during construction of the new mess hall.

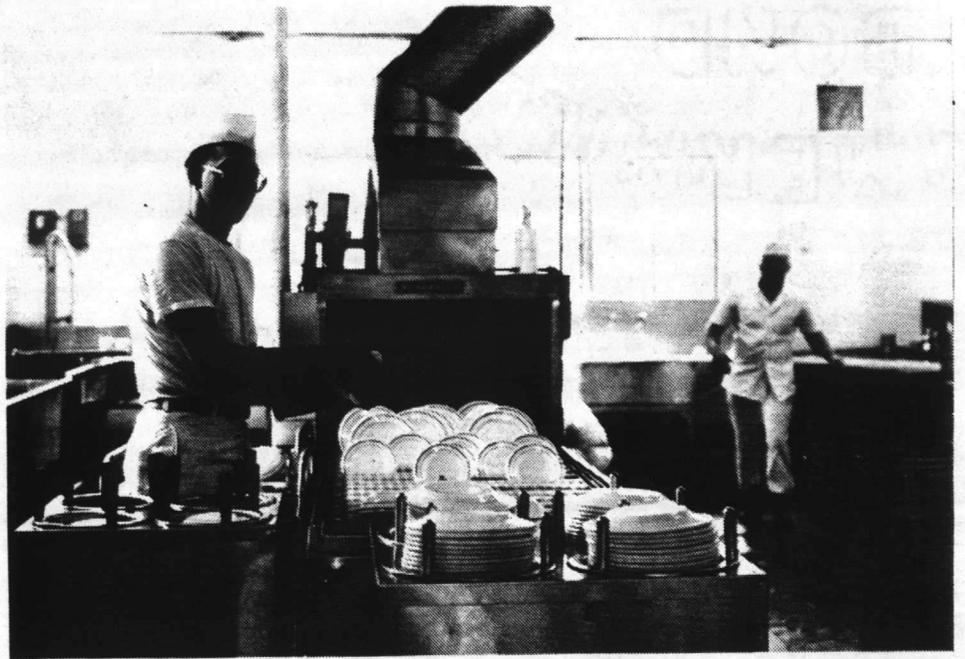


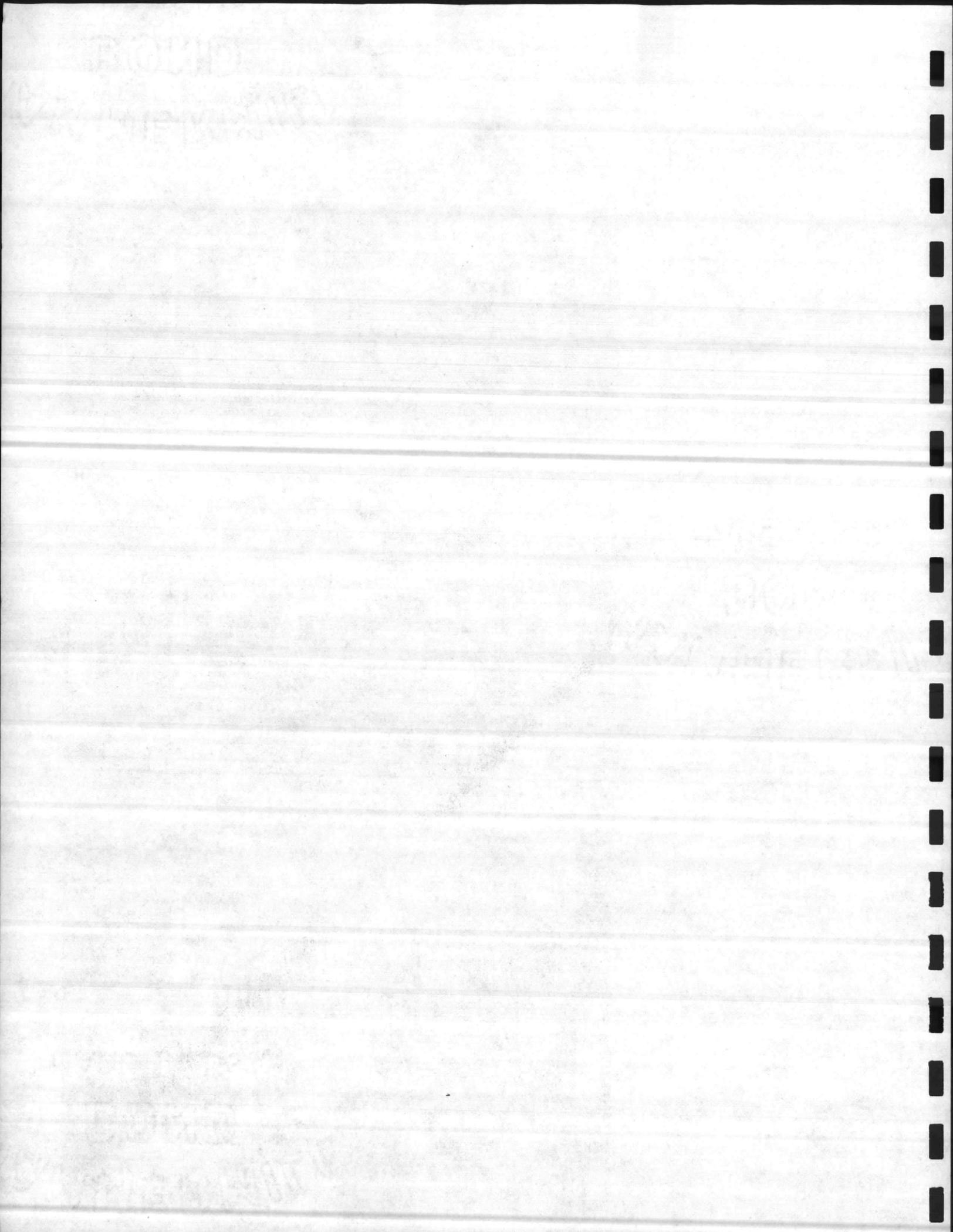
Mess Hall 9



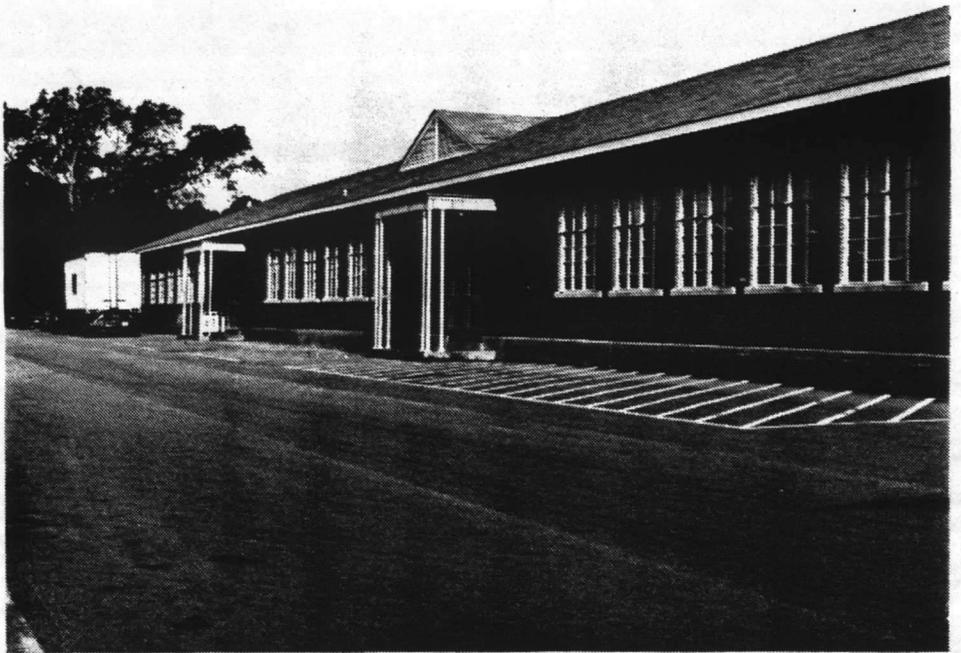


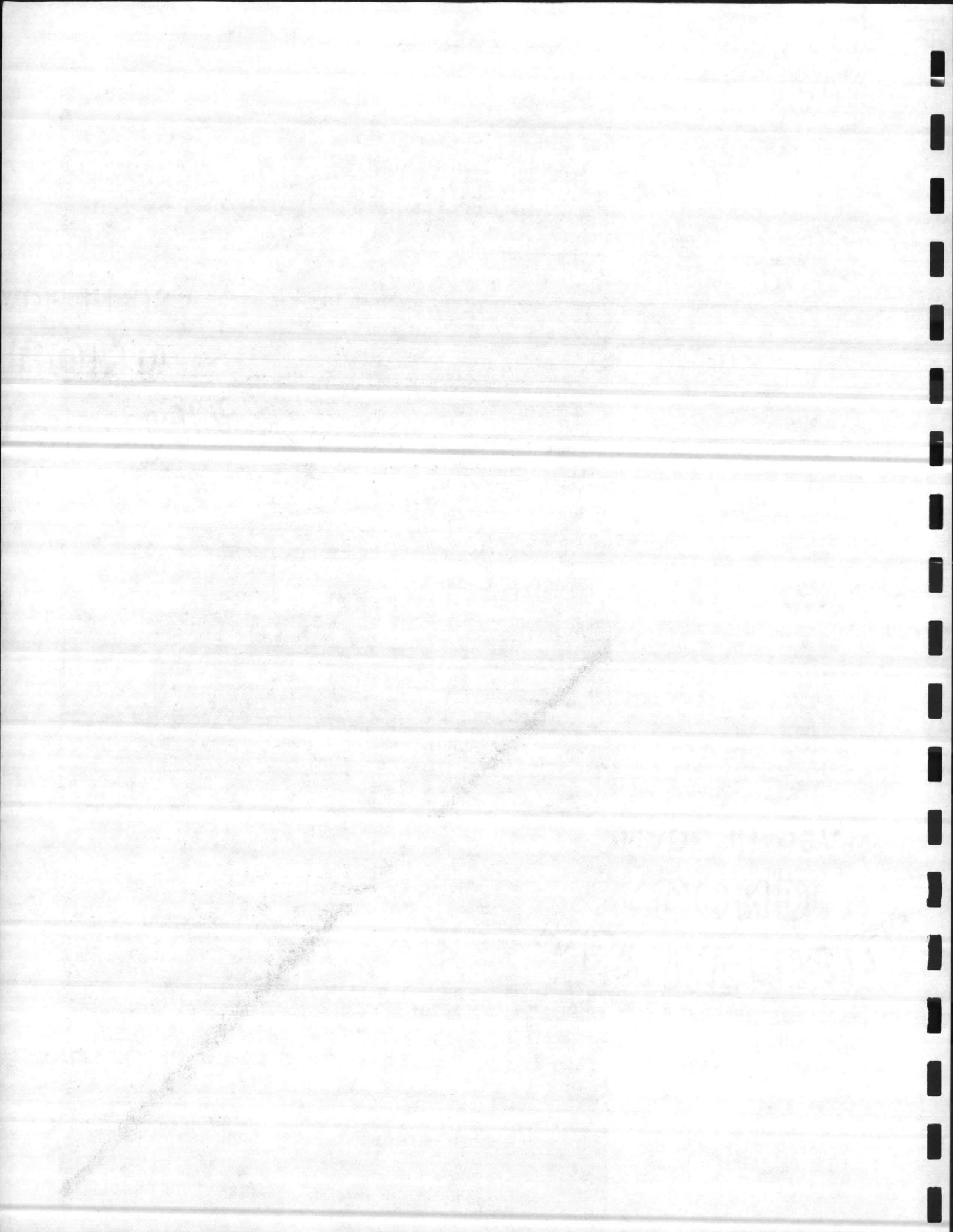
Mess Hall 9



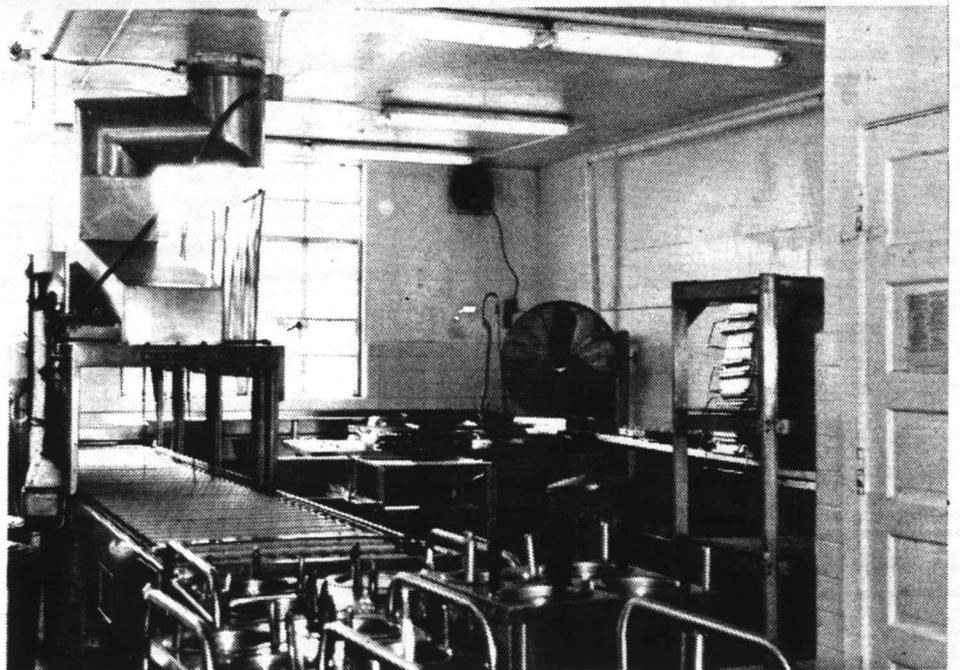
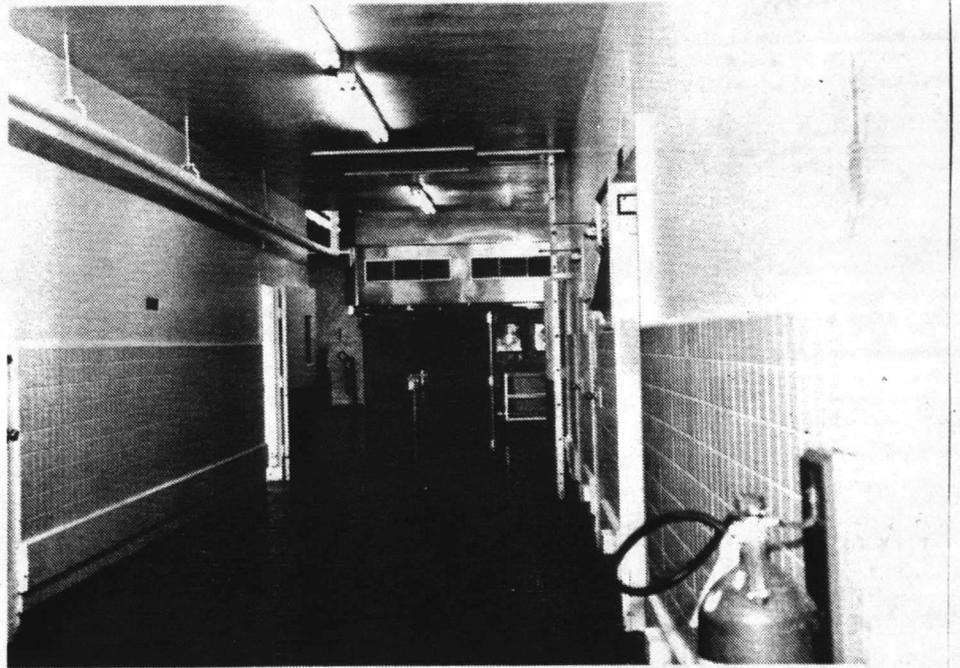


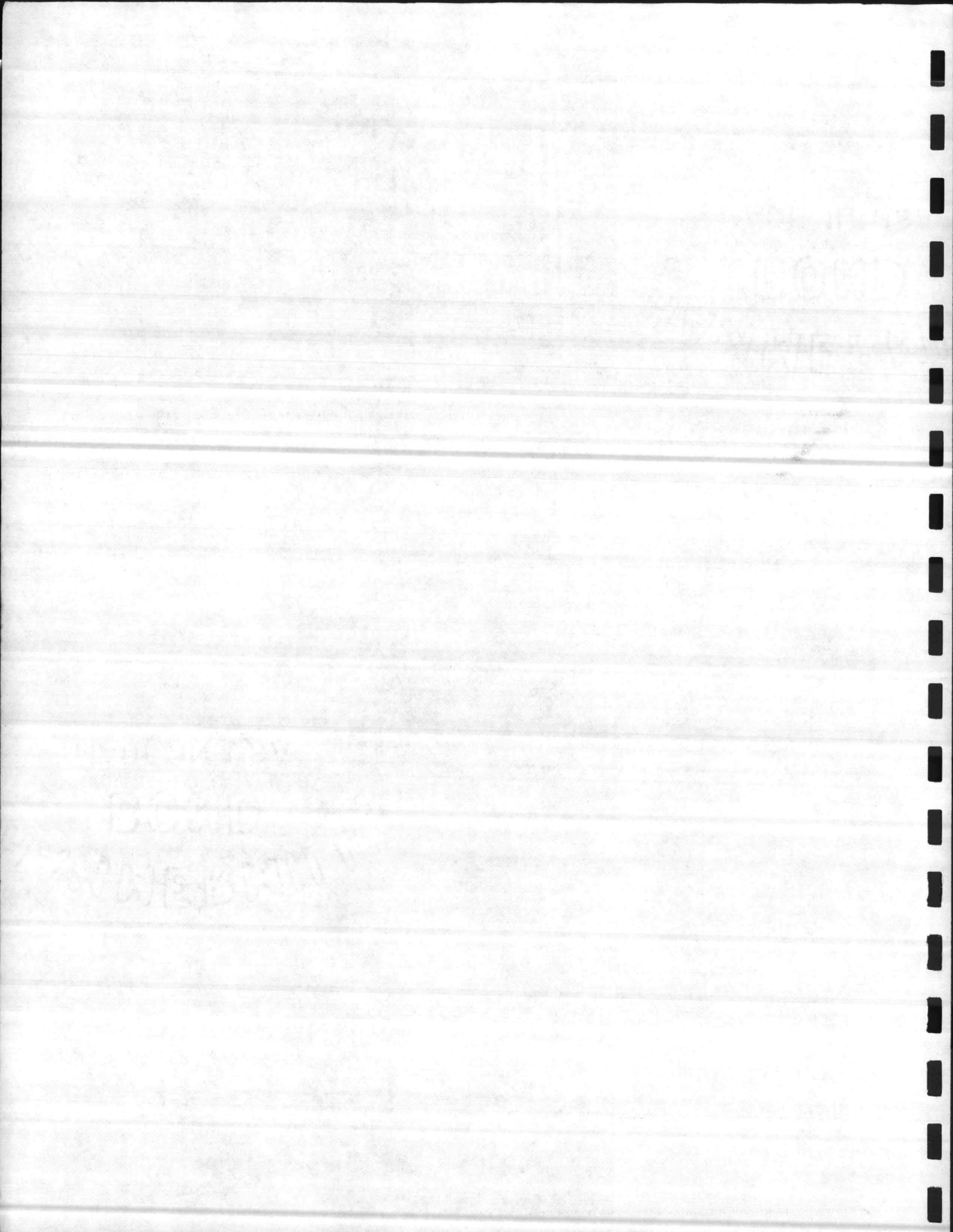
Mess Hall BB-7

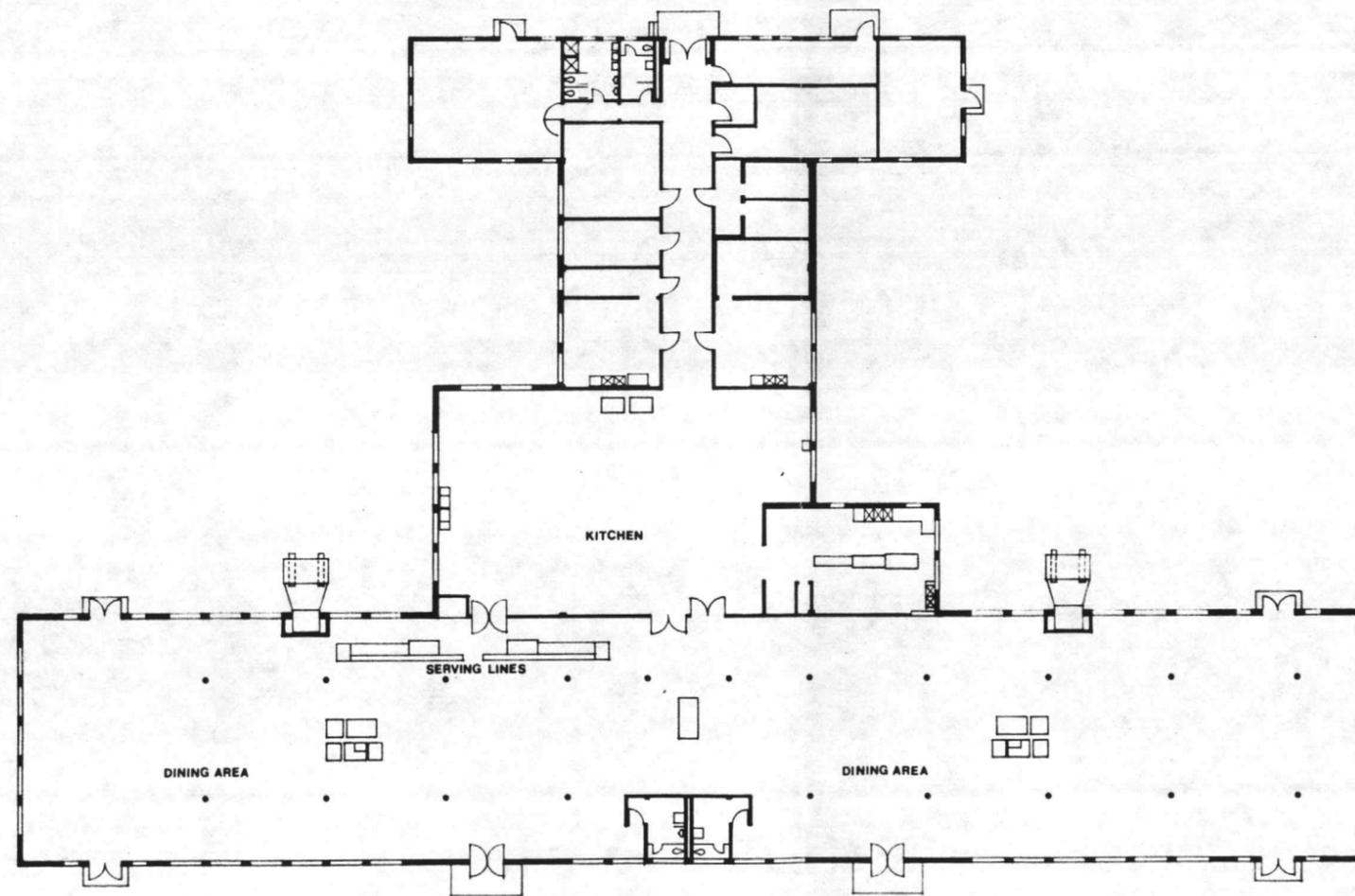




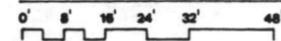
Mess Hall BB-7



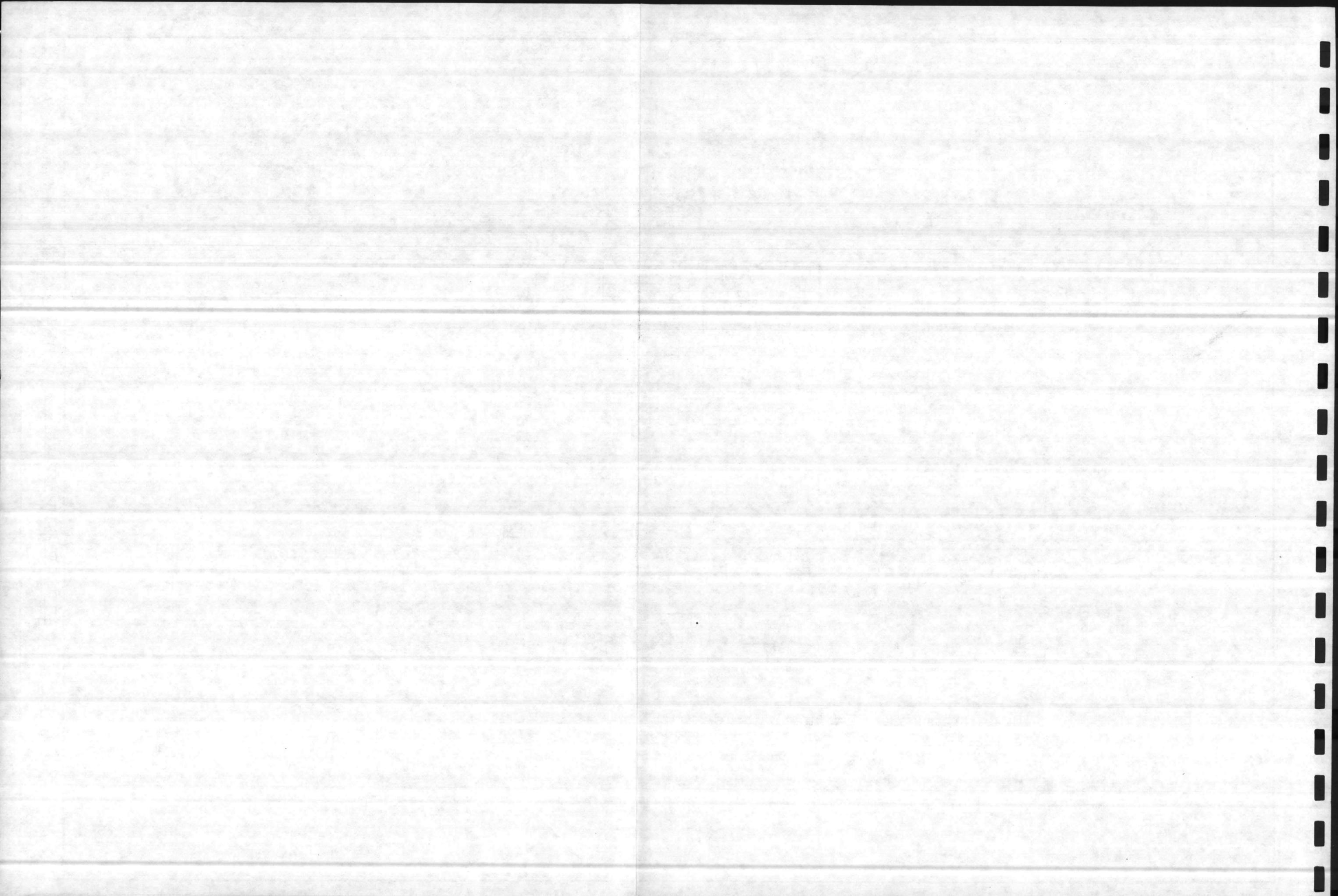


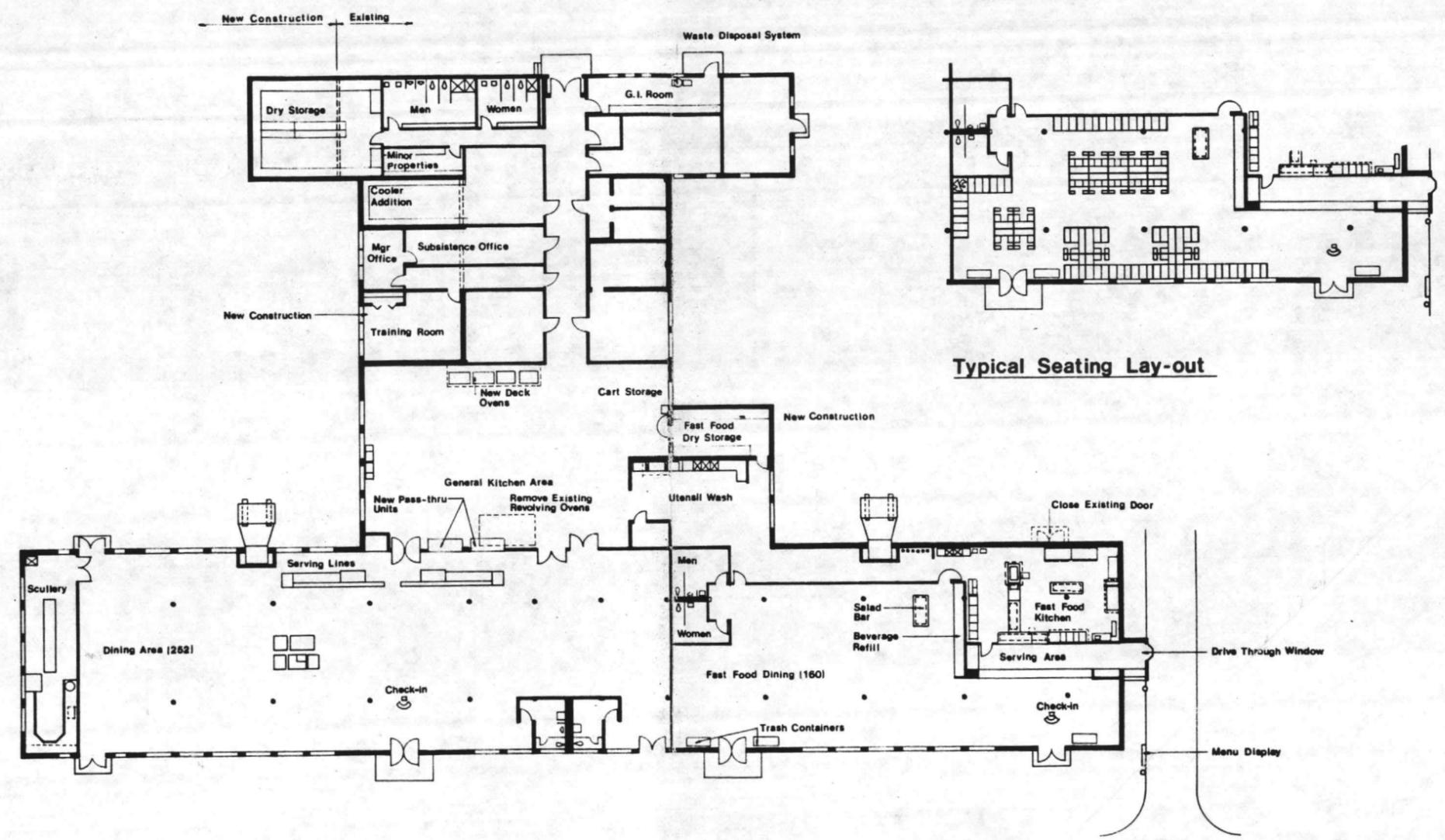


Mess Halls: 9, BB-7, 122, 211, 325, 411 & 521

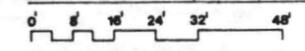


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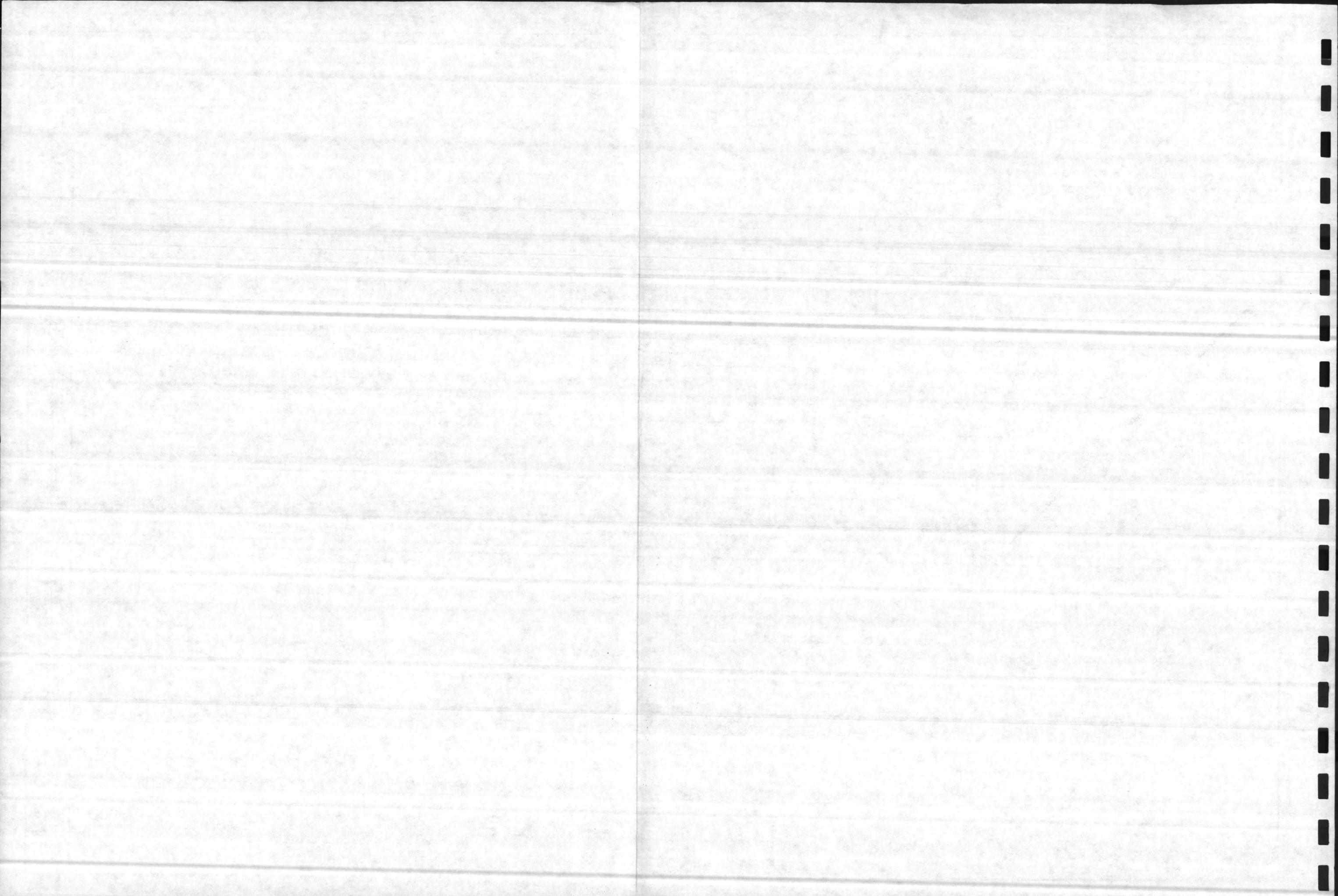


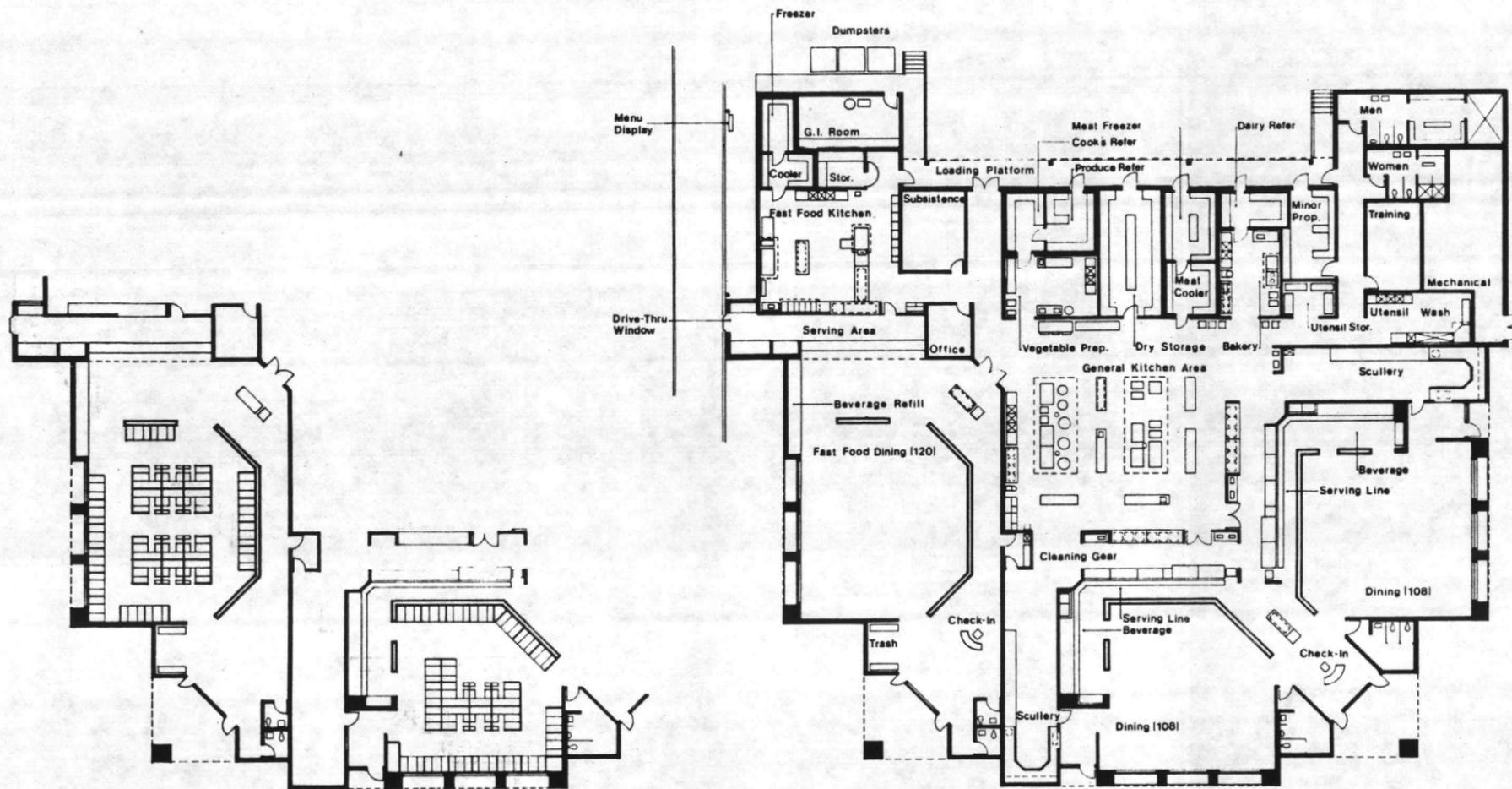


Mess Halls: 9, BB-7, 122, 211, 325, 411 & 521 Fast Food Renovations



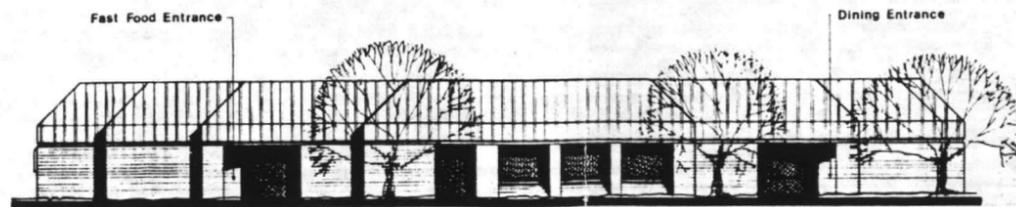
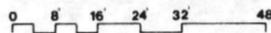
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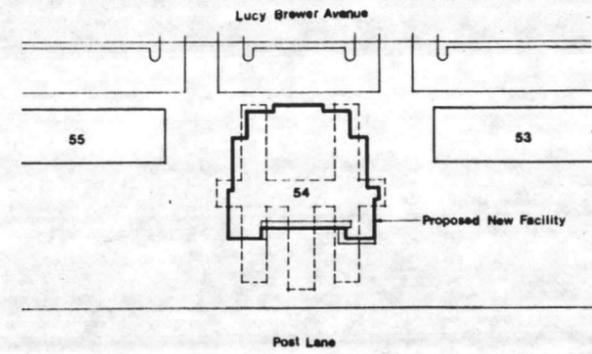


Typical Seating Lay-out

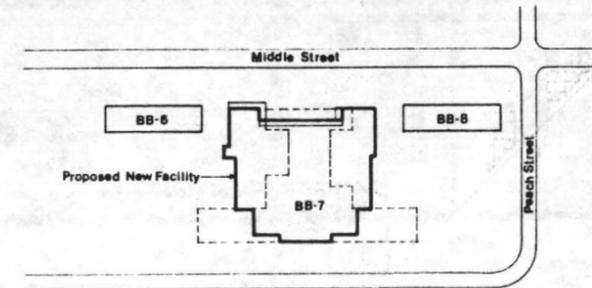
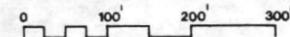
Prototype 1000 Man Mess Hall



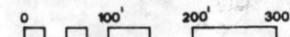
Front Elevation



Proposed Location for Prototype 1000 Man Mess Hall



Proposed Location for Prototype 1000 Man Mess Hall



REVISED

DATE
6/3/85

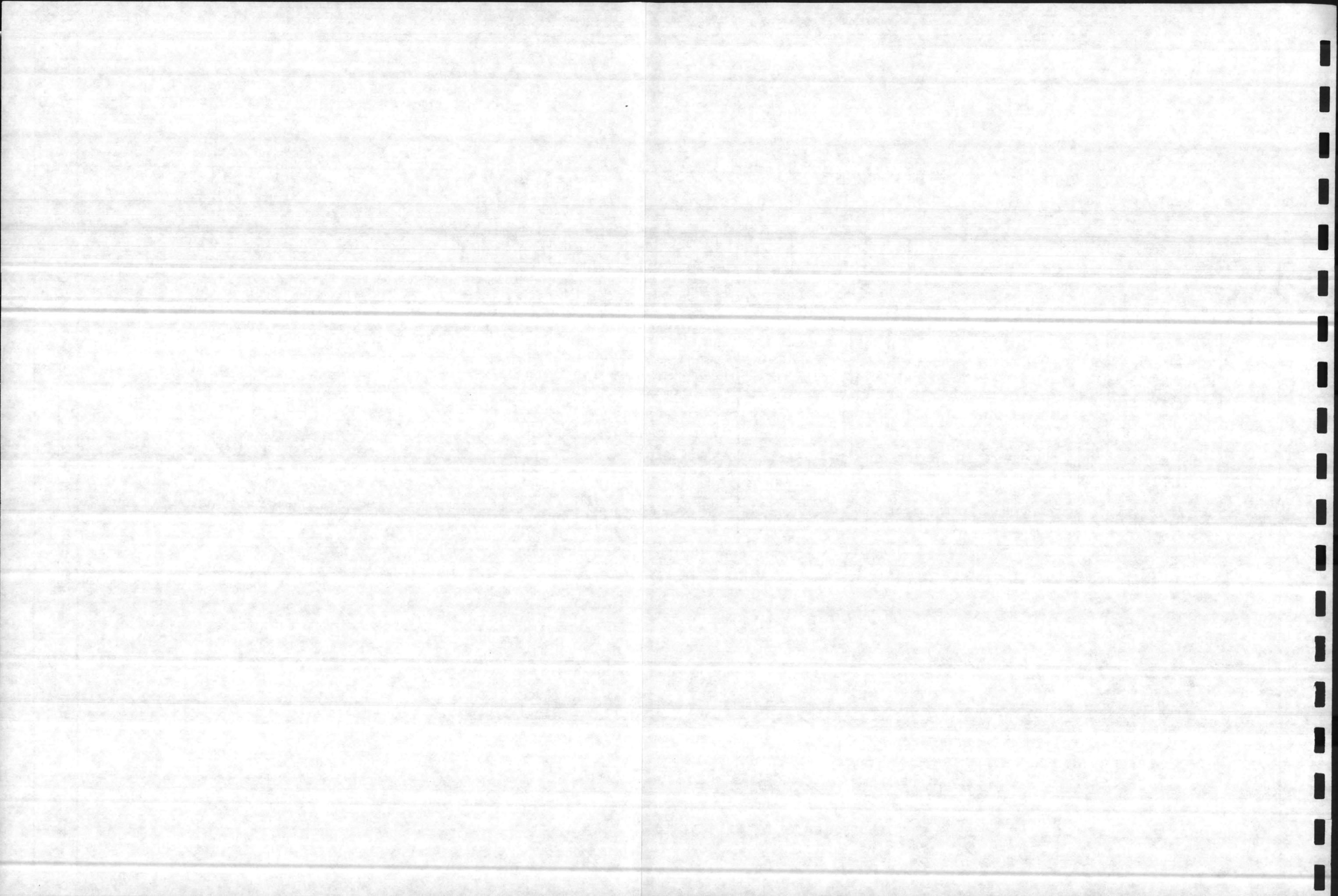
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MESS HALL FC-540
FAST FOOD RECOMMENDATIONS

The scope of this project is to design renovations and additions to accommodate fast food eat-in, take-out and drive-thru service.

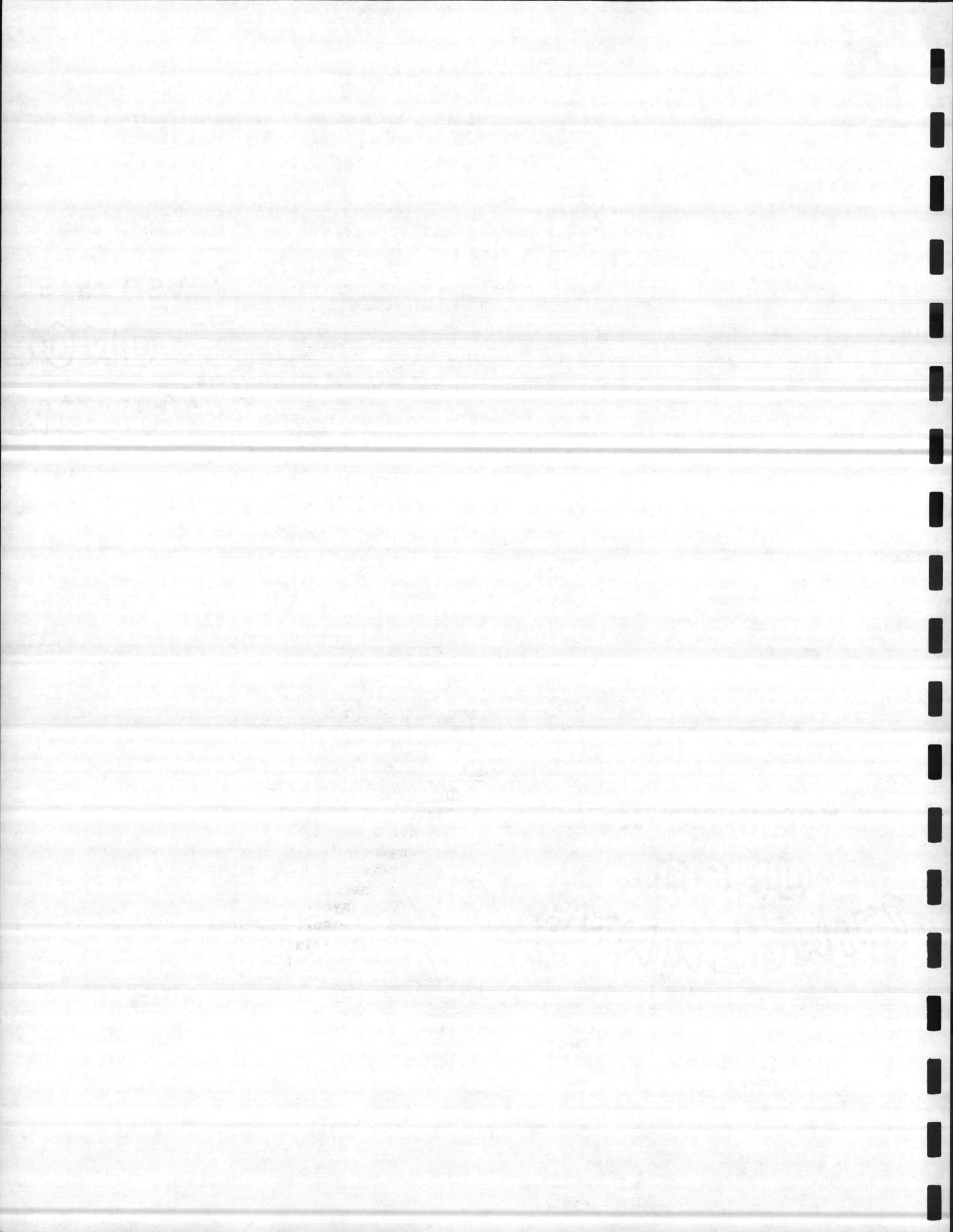
The present facility has existing problems that were not intended as part of the scope of this project but needed to be addressed. The administrative areas have been altered from the original plan. Toilets do not provide shower facilities and needed additional locker space. Minor properties storage is inadequate and all food storage areas are marginal.

The new fast food addition needs to include refrigerated and dry storage areas. Additional minor properties storage was added with access to both fast food and conventinal dining areas. The existing toilets were enlarged into the area presently occupied by the garbage cooler. This cooler will not be necessary when the new waste disposal system is installed. The GI room was enlarged to accommodate the waste system. A new subsistence office and training room were also incorporated in this addition. The manager's office was relocated to its original location.

As stated in the scope of this project, asthetics and appearance of serving and dining areas are important elements of the overall project. Renovations would include the following items:

1. Special lighting system
2. Acoustical tile ceiling
3. Vinyl wall covering/ceramic tile
4. Wood trim and molding
5. Quarry tile floor and base
6. Custom millwork
7. Artwork and decor items
8. Custom seating units.

NOTE: These are typical items and finishes for this type of commerical fast food facility.



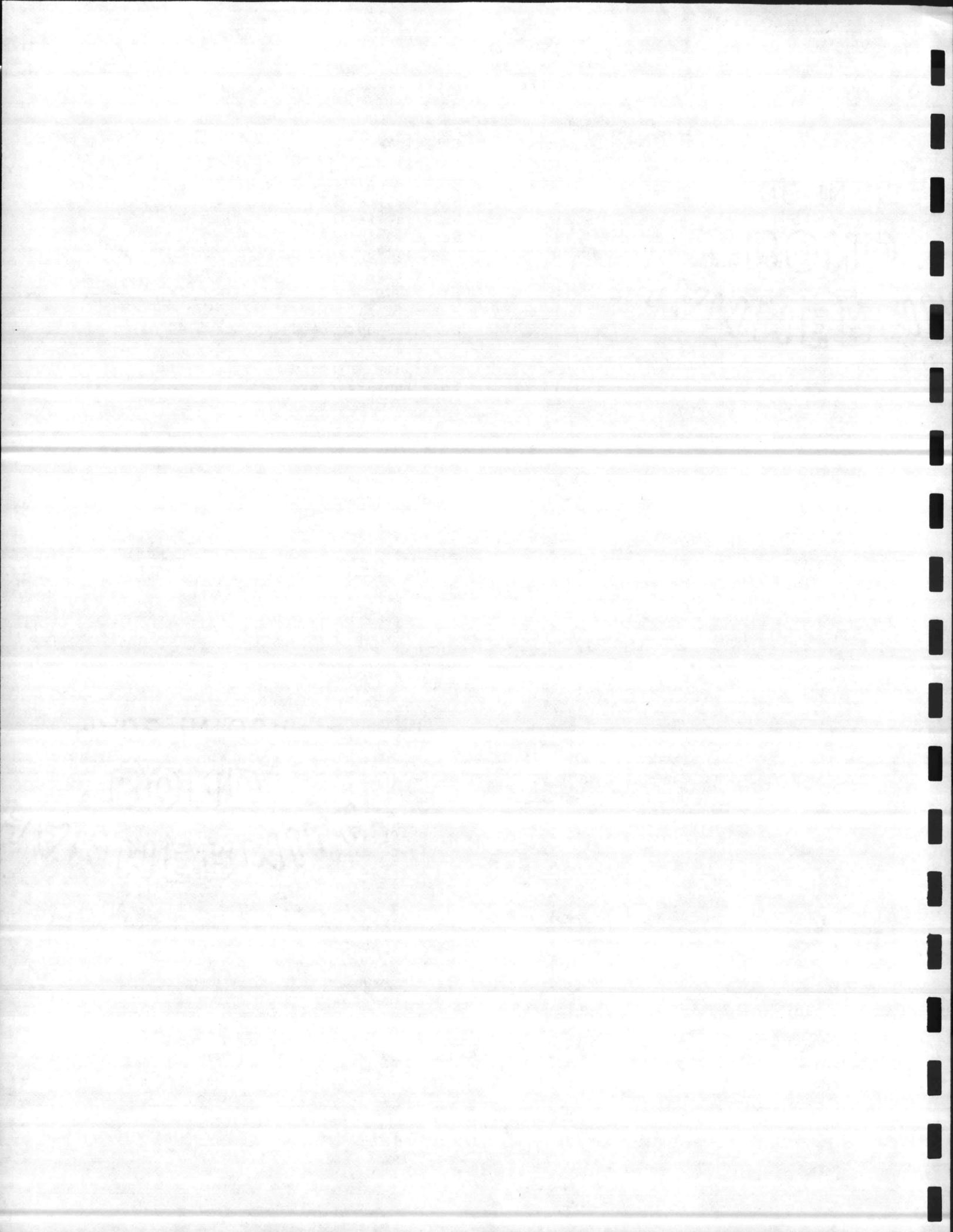
MESS HALL FC-540
 COLLATERAL EQUIPMENT LIST

FAST FOOD KITCHEN AREA

Quantity	Description
1	Walk-in cooler, 20' x 10' = 200 SF
26'	Metal shelving
6'	Dunnage racks
1	Walk-in freezer, 20' x 10' = 200 SF
26'	Metal shelving
6'	Dunnage racks
7+	Bread rack (by others)
1	Fry basket rack
1	Auto fry filter system
5	Deep fat automatic fry kettles
1	Fry dump station
1	Heat lamp fry holding station
1	Auto hamburger broiler
1	Mobile work table
2	Bun toasters
1	Steam Holding Unit
4	Microwave ovens
2	Chef's table
1	Sandwich holding unit with refrigerated base
1	TV monitor for special sandwiches
1	Slicer
1	6' Work table
1	72" griddle
1	Two eye hotplate
3	Exhaust hoods
1	3'-0" x 2'-6" work table
2	Potato mix machines
1	400 lb. Cube ice machine
1	3-Door reach-in refrigerator
1	3-Compartment sink with drain boards
1	6' Work table with overshef

FAST FOOD SERVING AREA

Quantity	Description
1	Carbonated drink dispenser
1	Ice storage unit
1	Beverage dispenser
1	Soft serve/milkshake machine
4	Cup dispensers
1	Microphone system
1	Drive-thru intercom system
1	Refrigerated salad bar
1	Menu Display panel
1	Beverage Table



MESS HALL FC-540
COLLATERAL EQUIPMENT LIST

BEVERAGE REFILL AREA

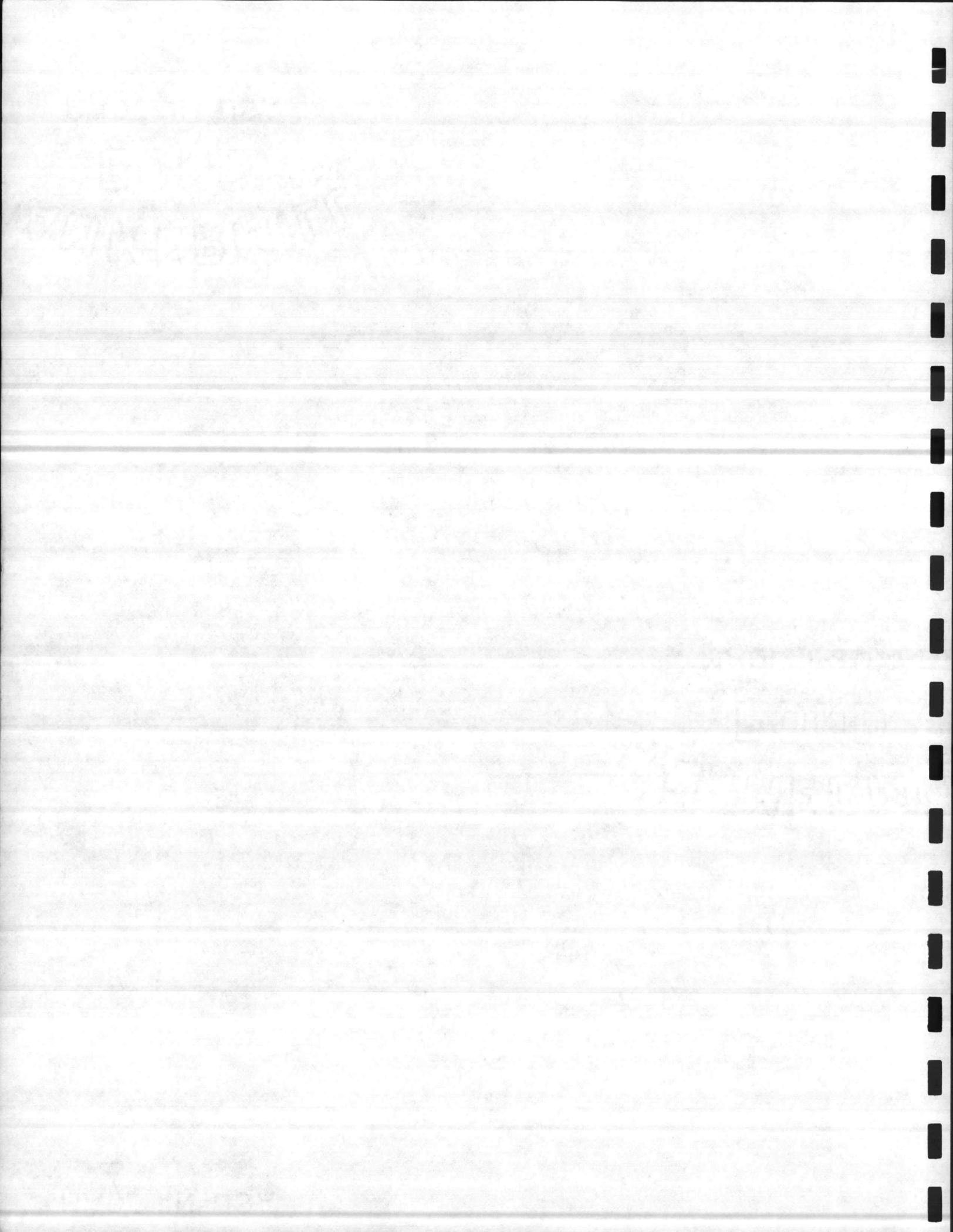
Quantity	Description
1	Ice dispenser
1	Carbonated drink dispenser
2	Beverage dispensers
1	Coffee urn
4	Cup dispensers
1	Microwave oven
20'	Tray Slide
6	Trash Containers

FAST FOOD DINING AREA

Quantity	Description
188	Fast Food Chairs
47	Fast Food Tables
6	Trash containers

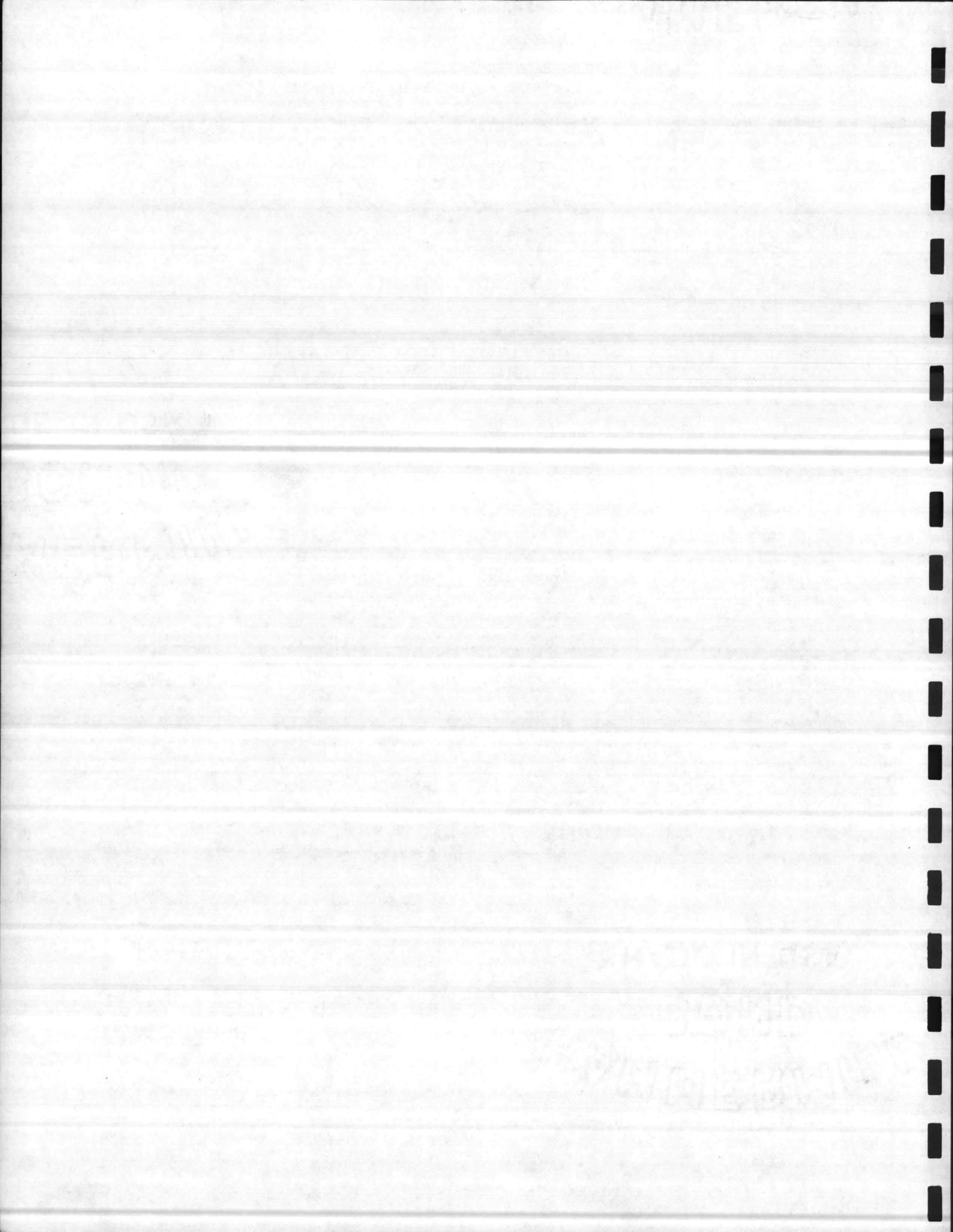
GI ROOM

Quantity	Description
1	Waste pulper
1	Water press
5'	Low metal shelving



MESS HALL FC-540
COLLATERAL EQUIPMENT COST ESTIMATE

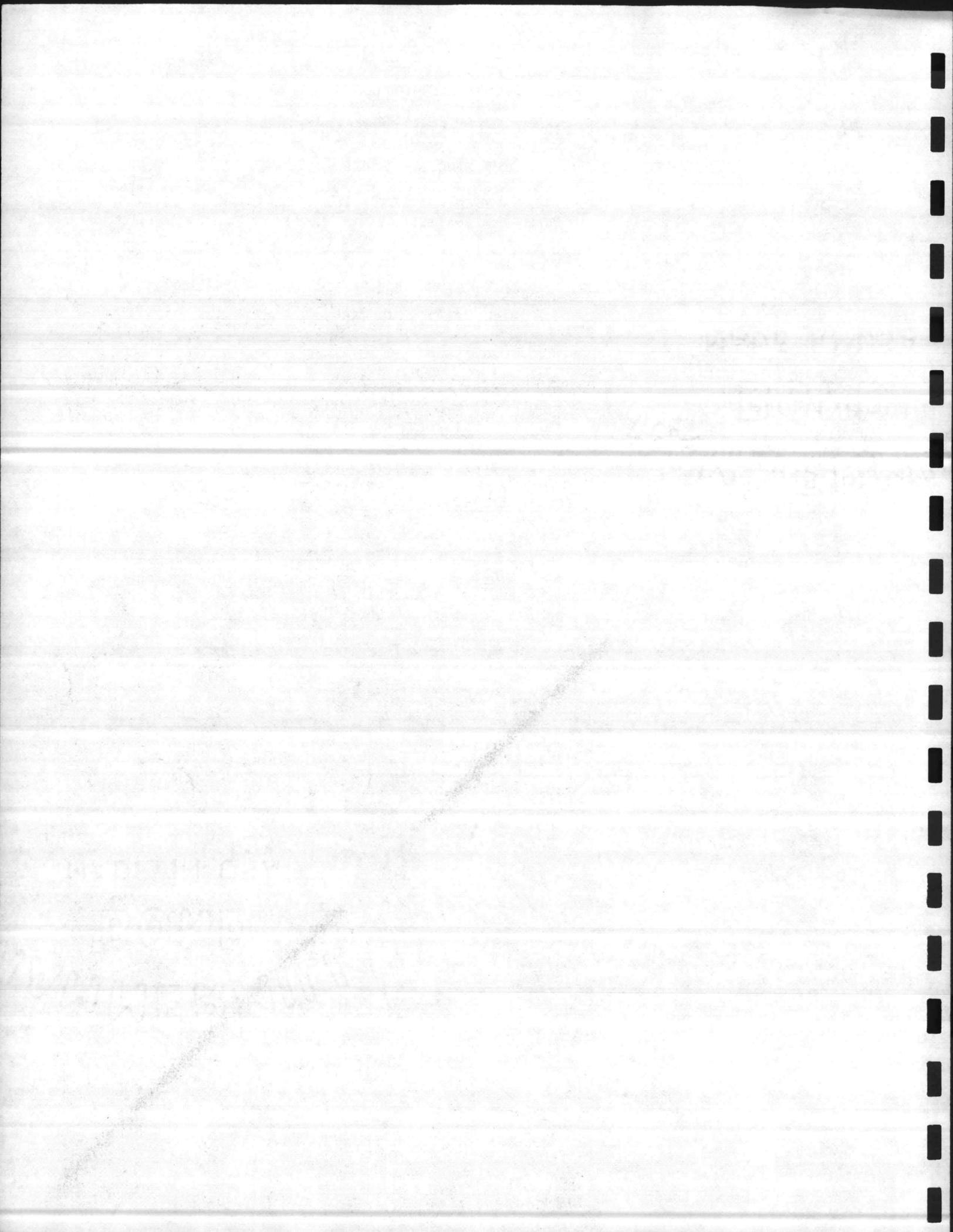
FAST FOOD KITCHEN AREA	\$111,880.00
FAST FOOD SERVING AREA	\$26,200.00
BEVERAGE REFILL AREA	\$12,400.00
FAST FOOD DINING AREA	\$34,640.00
GI ROOM	\$24,150.00
VENTILATION EQUIPMENT	\$34,700.00
FC-540 TOTAL COST ESTIMATE FOR COLLATERAL EQUIPMENT	\$243,970.00



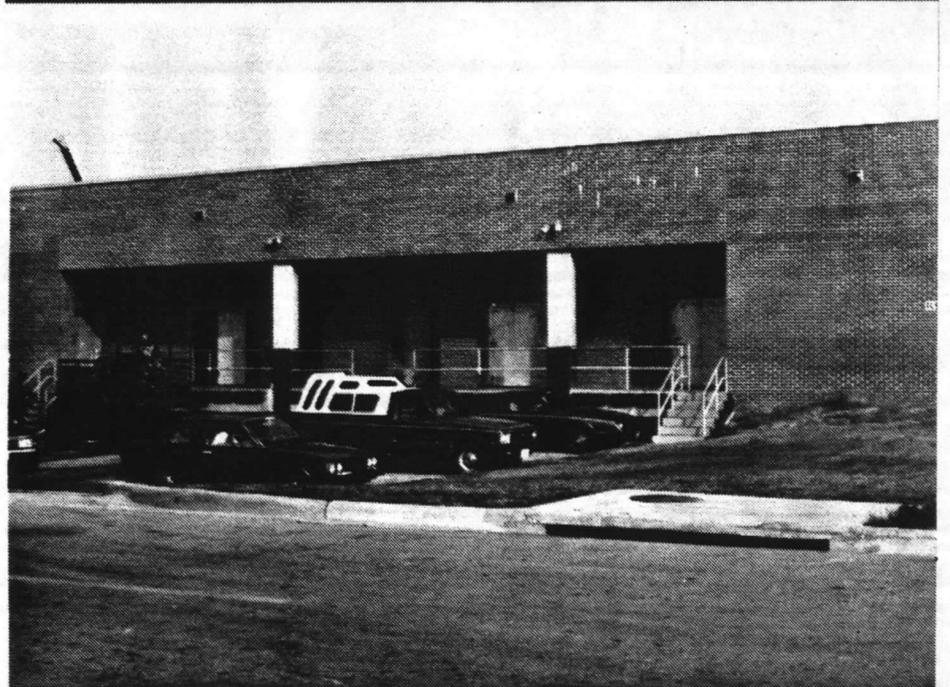
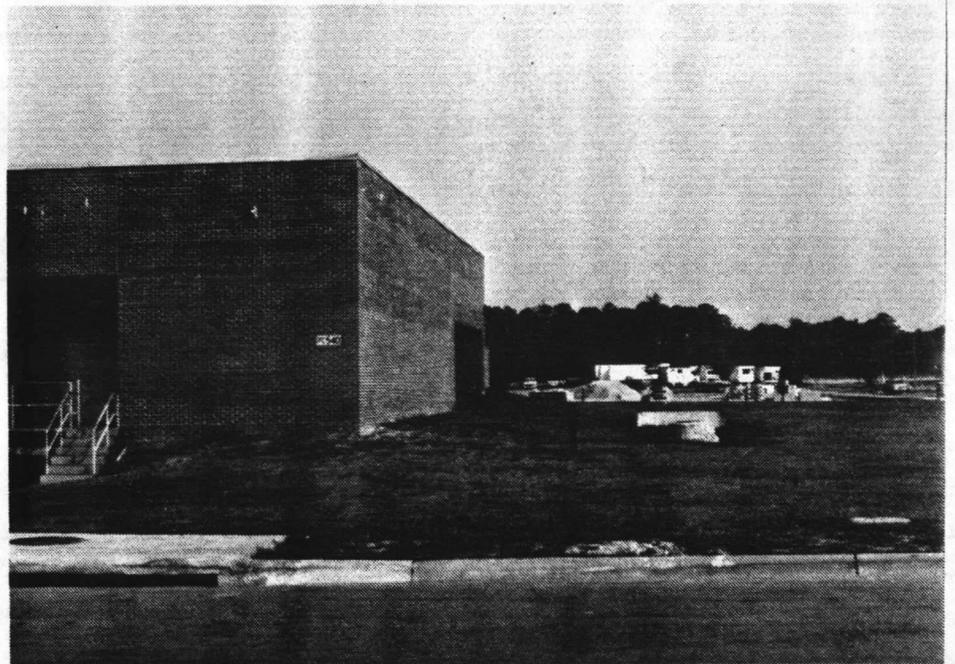
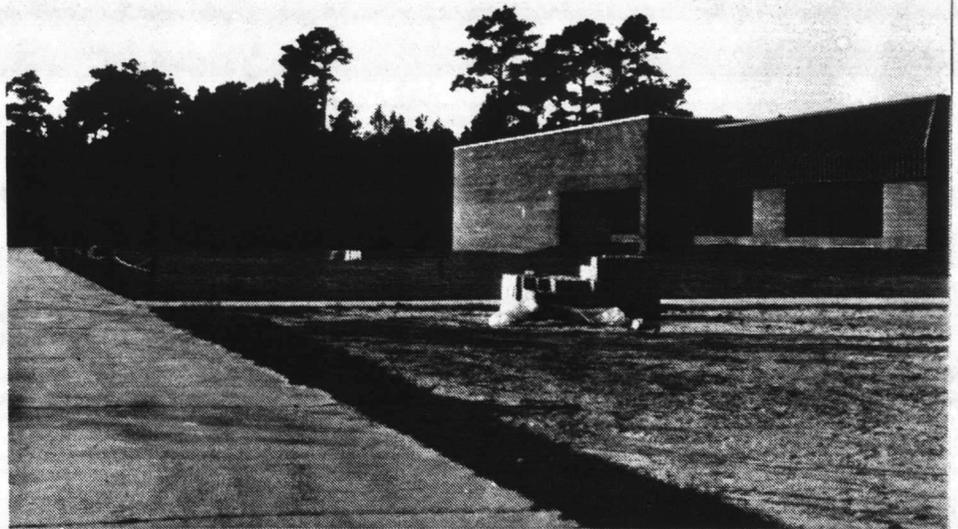
MESS HALL FC-540
ESTIMATED CONSTRUCTION COSTS

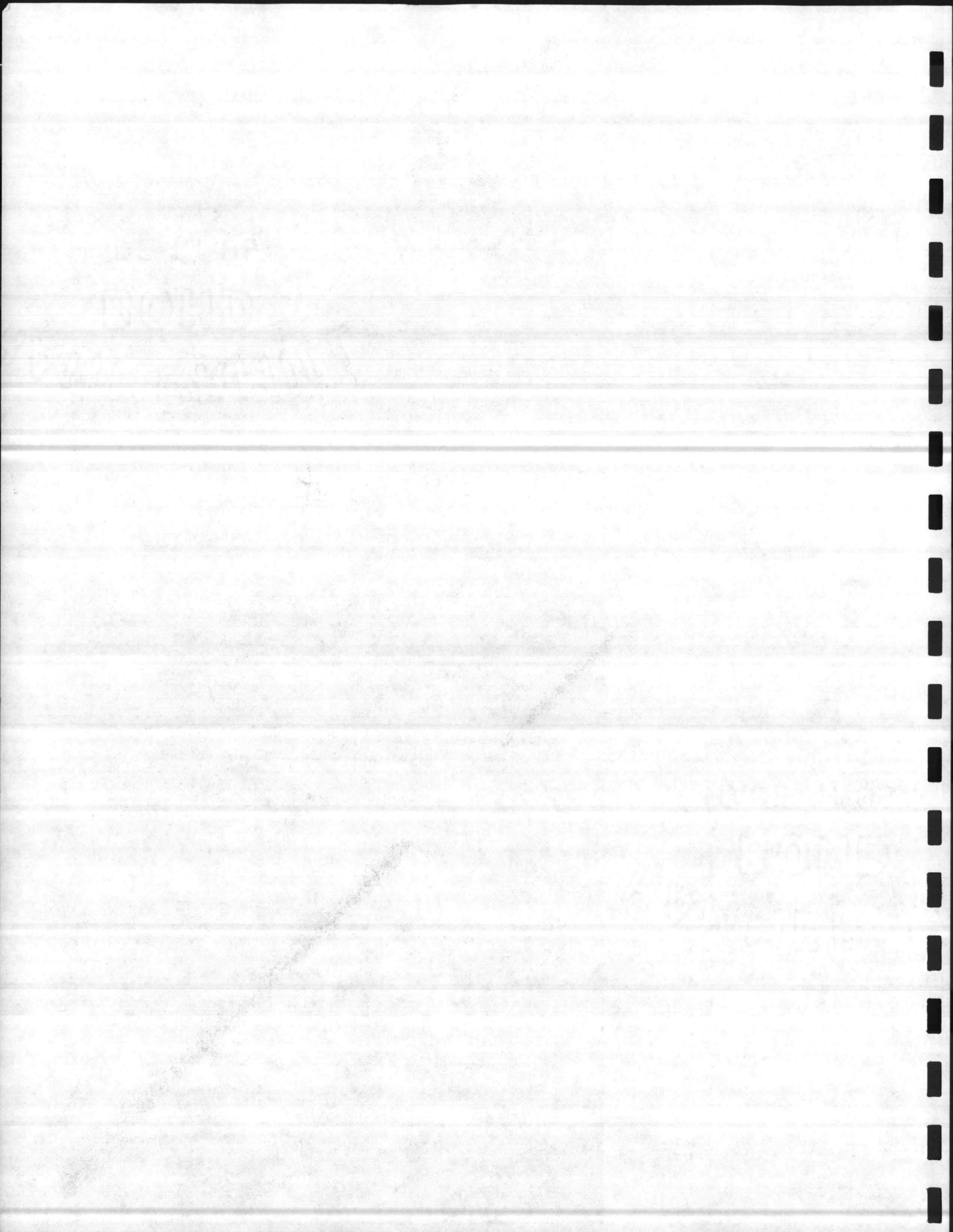
1. New Construction (Bldg Addition)	
7,860 SF @ \$75/SF	\$589,500.00
260 SF @ \$100/SF	\$26,000.00
2. Renovated Areas (Existing Bldg)	
200 SF @ \$65/SF	\$13,000.00
SUBTOTAL	\$628,500.00
3. Site Support	
A. Site Utility Changes	\$25,000.00
B. Demolition	\$10,000.00
C. Site Improvements	<u>\$50,000.00</u>
SUPPORT COST SUBTOTAL	\$85,000.00
4. Collateral Equipment	<u>\$244,000.00</u>
TOTAL ESTIMATED COST BUILDING & EQUIPMENT	\$957,500.00

NOTE: Cost estimates apply only to fast food areas.
Unless described in this report, renovations to existing
areas are not part of this study.



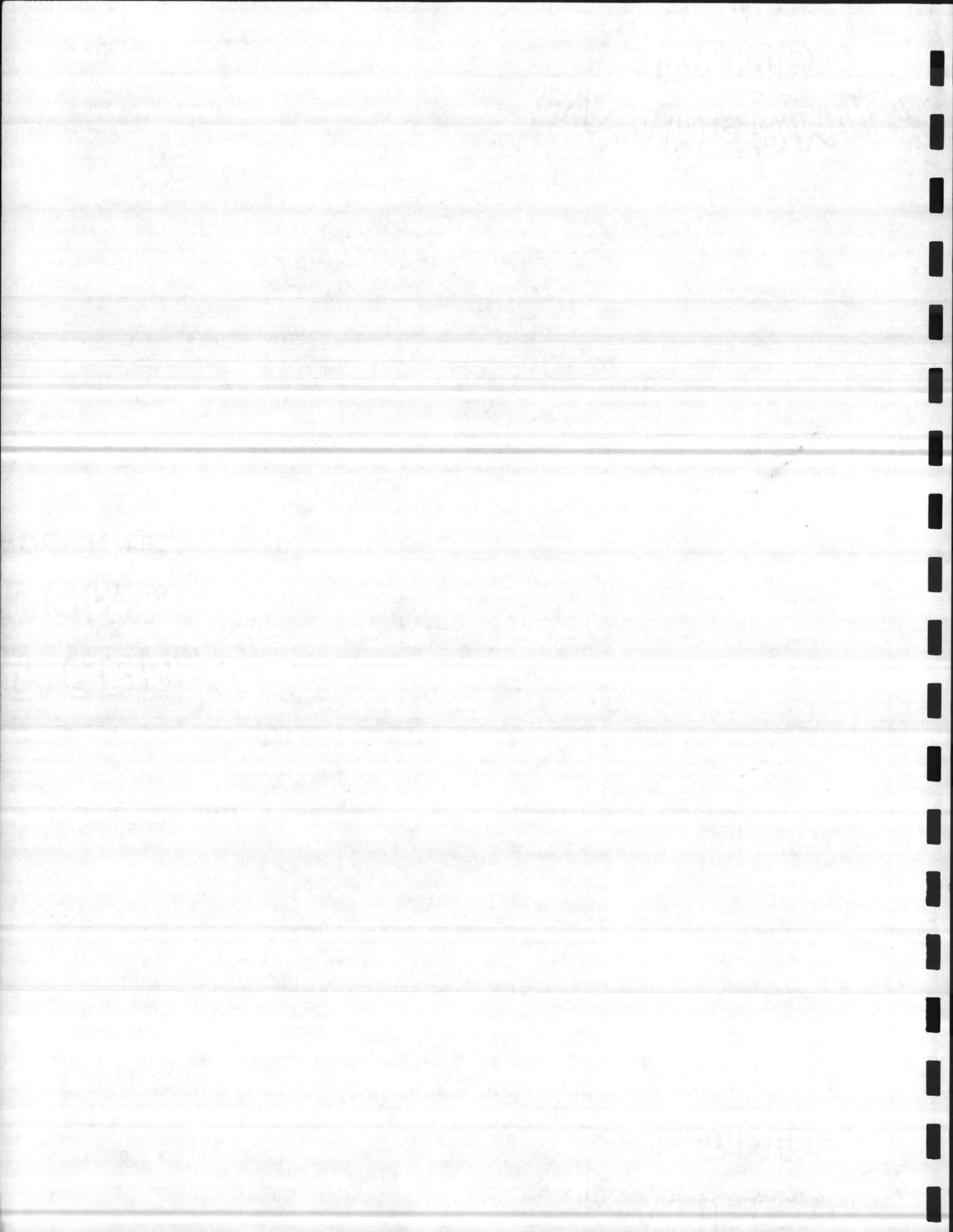
Mess Hall FC-540

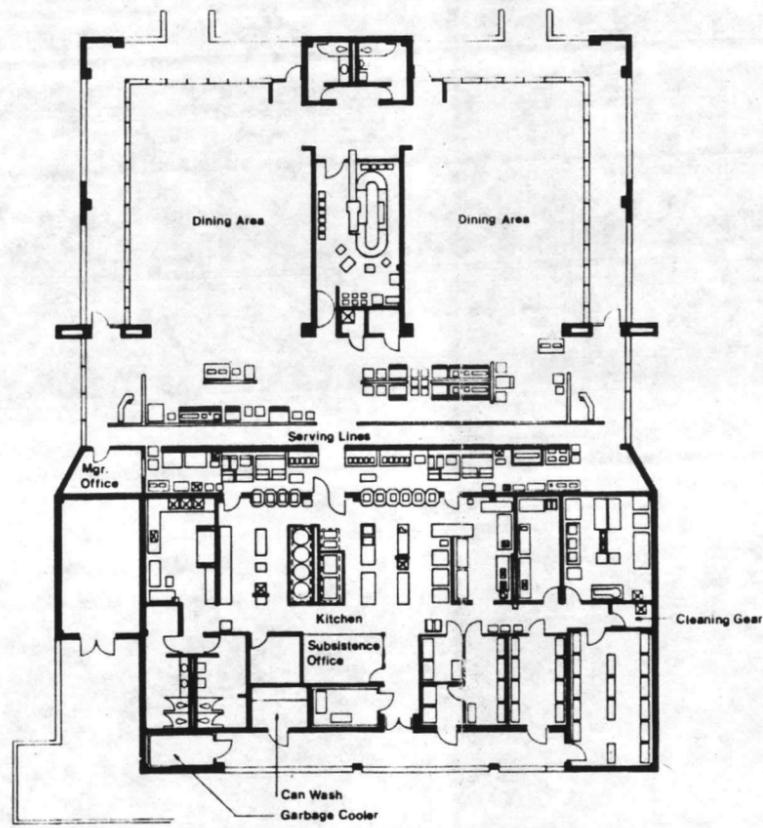




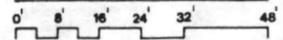
Mess Hall FC-540







Mess Hall FC-540



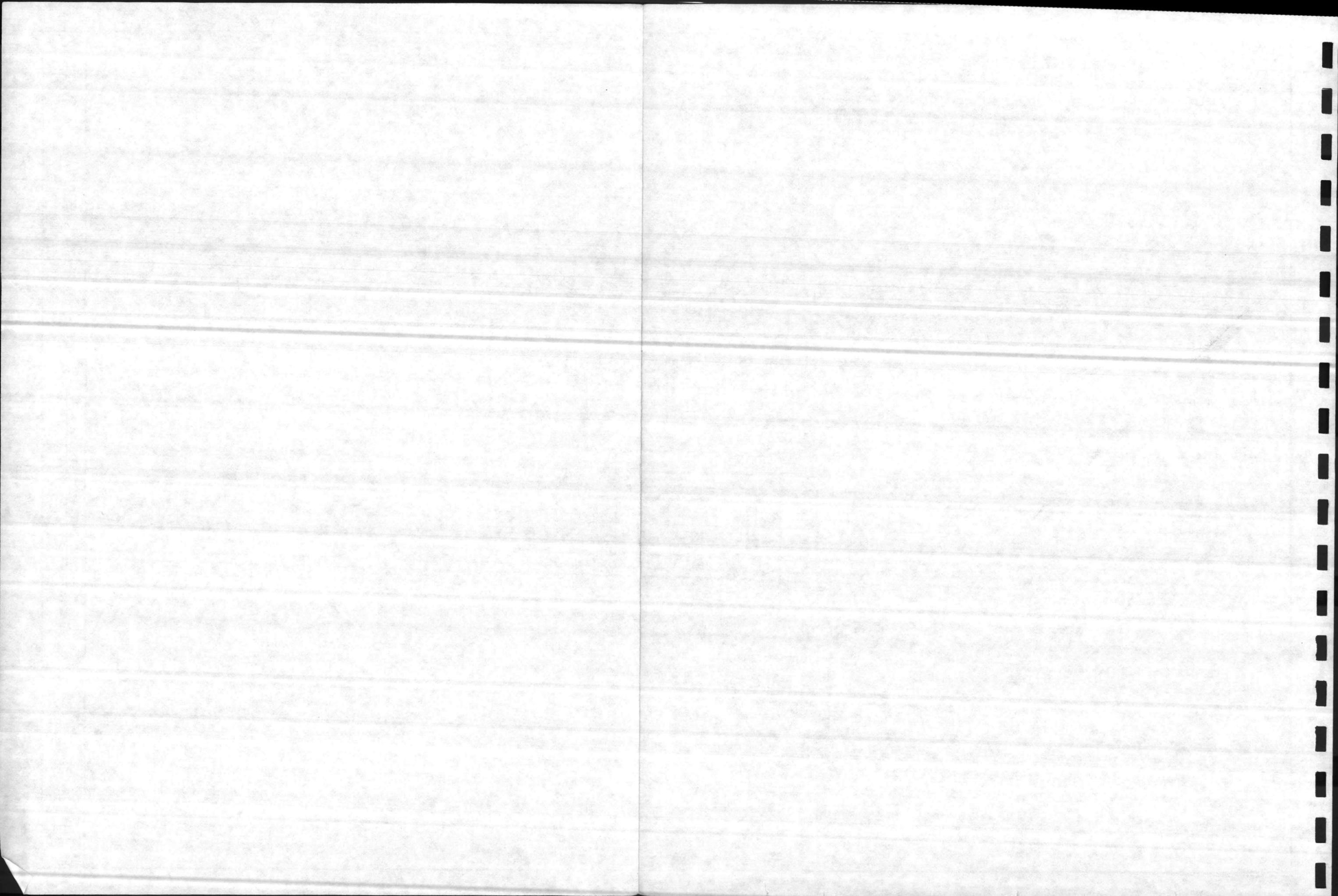
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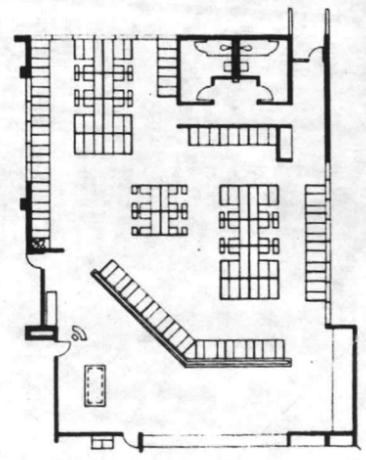
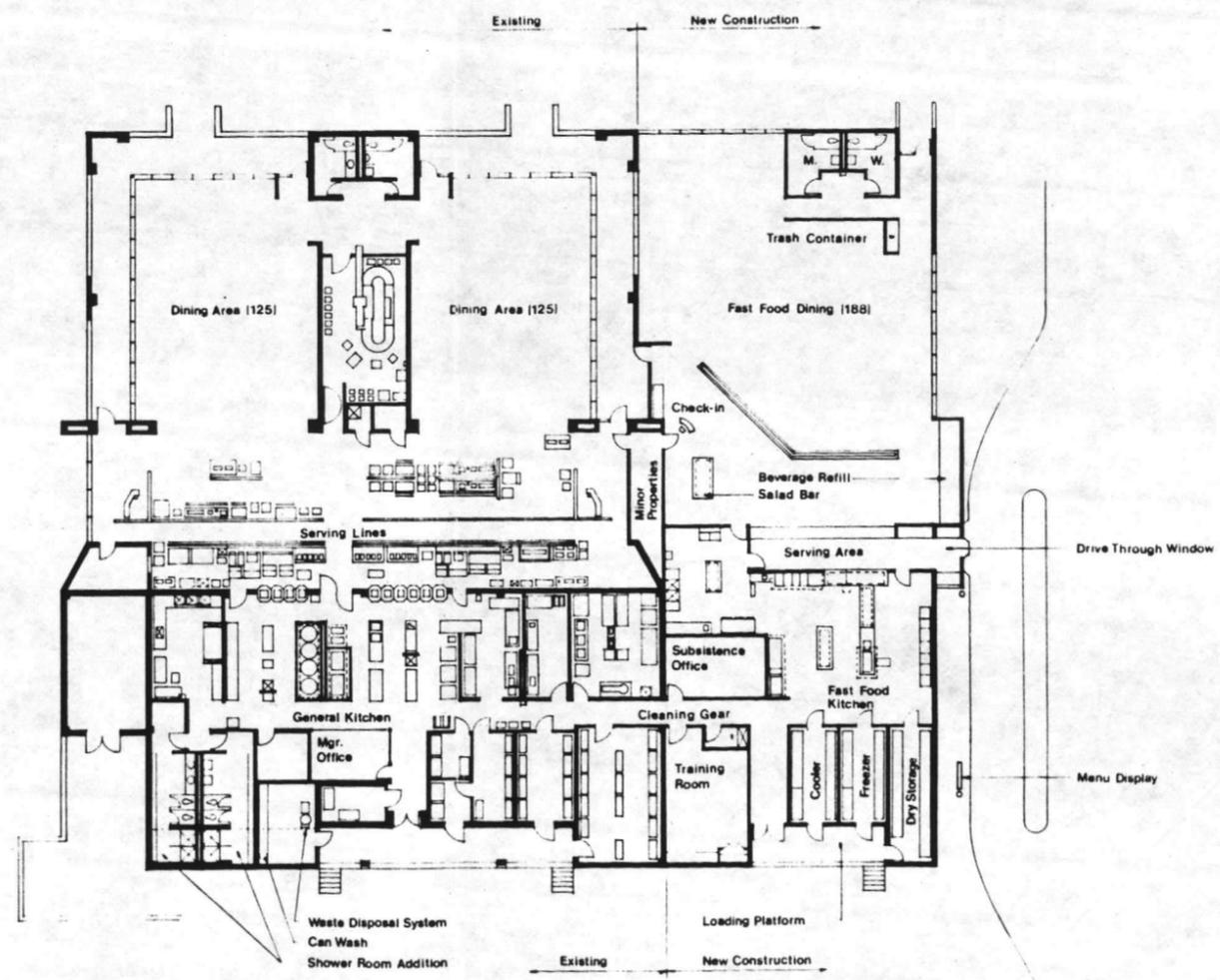
DATE
6/3/85
COMM. NO.

SHEET NO.

15

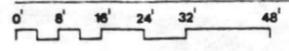
OF
TOTAL





Typical Seating Lay-out

Mess Hall FC-540 Fast Food Renovations



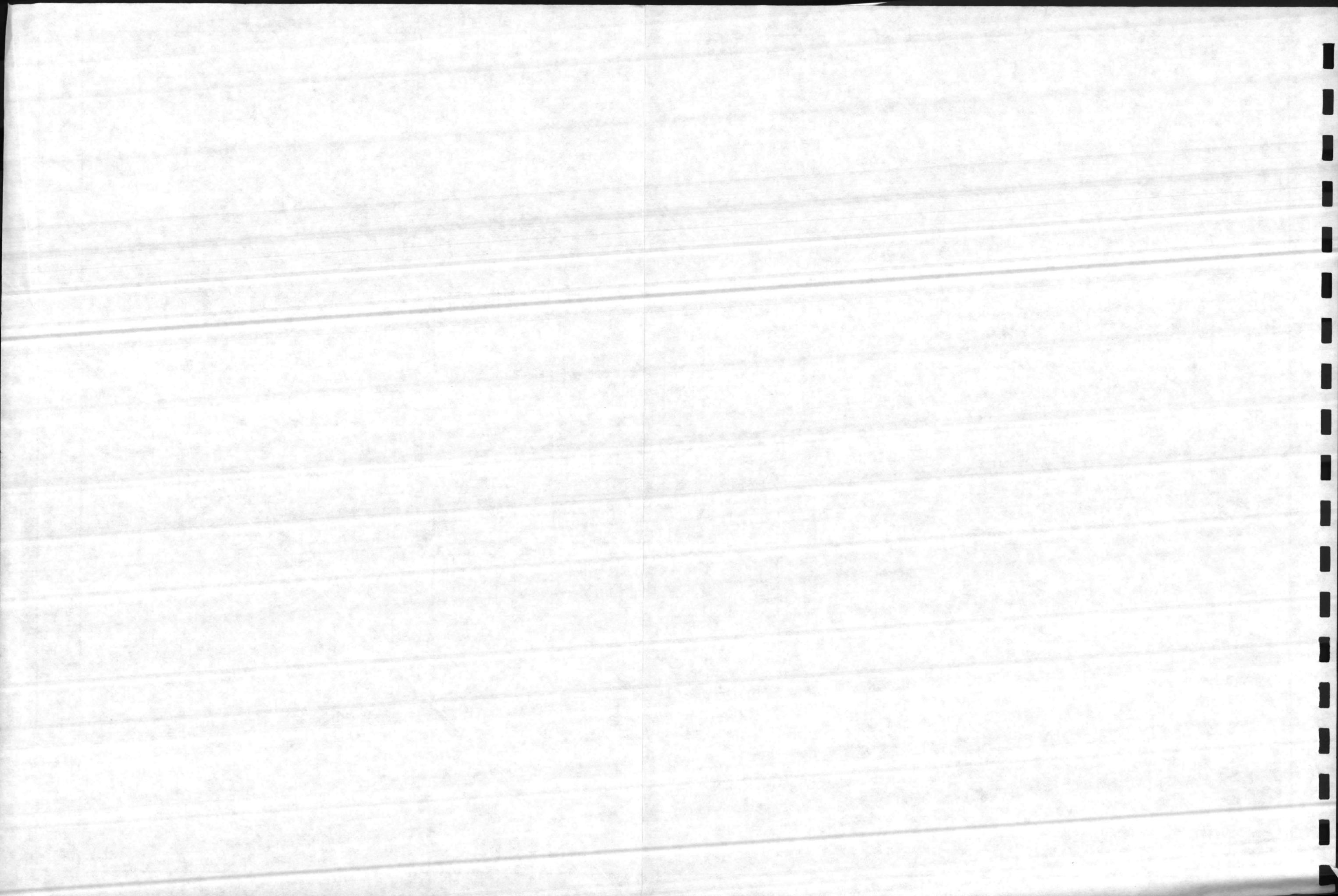
REVISED

DATE
6/3/85
COMM. NO.

SHEET NO.

16

OF
TOTAL

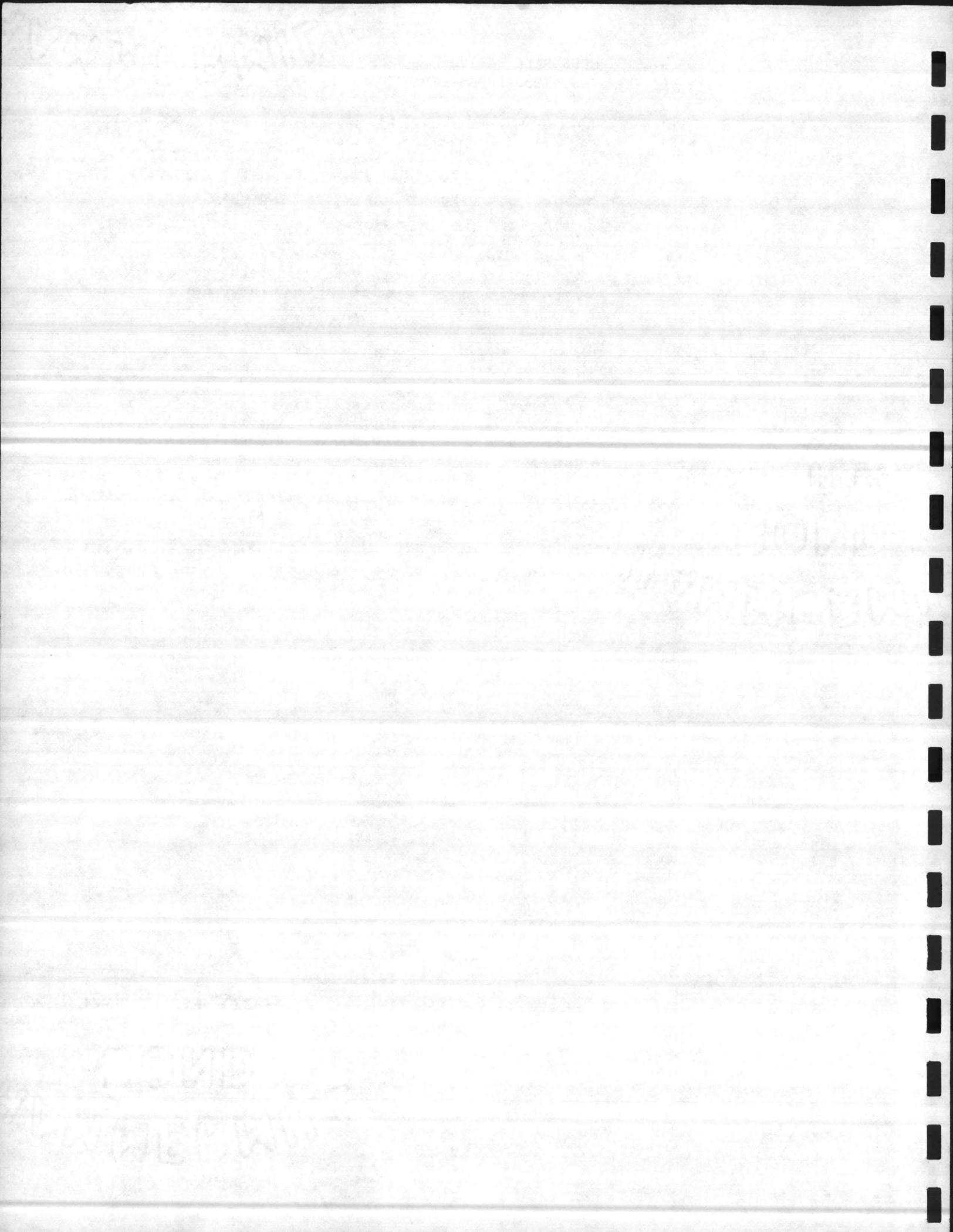


MESS HALL BA-103
FAST FOOD RECOMMENDATIONS

The scope of this project is to upgrade and modernize the existing fast food window take-out service.

The recommendations for this mess hall are twofold. Both the interior and exterior areas of this facility require major renovation in order to provide the fast food service as proposed in the scope of the project. The present fast food kitchen is inadequate to produce the quality and quantity of food required. An adjacent storage room will need to be incorporated into the kitchen area. New food service equipment and ventilation systems will be required. See collateral equipment listing below.

An equally important part of this project is the exterior appearance; also important is the way in which patrons place their orders at the service window. Our recommendation is to develop a deck area with several levels. The service window would be on one level while outside dining would be located on another level. Concrete walks would be provided for access to parking areas. An awning would be located above the service window for protection from the elements and also create visual interest to the space. Some windows would be closed to provide privacy to the outside dining area.



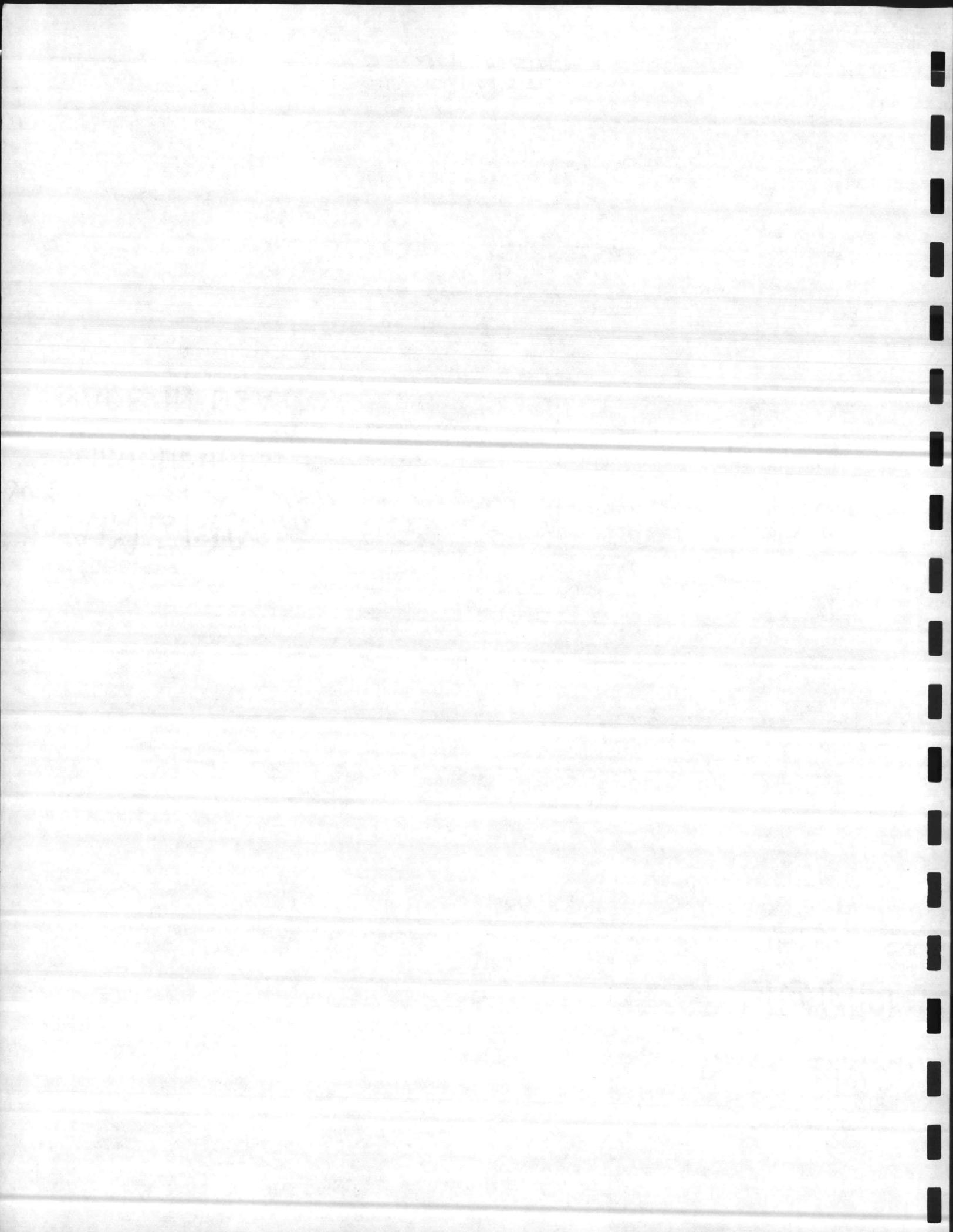
MESS HALL BA-103
COLLATERAL EQUIPMENT LIST

FAST FOOD KITCHEN AREA

Quantity	Description
1	Two eye hot plate
1	48" griddle
1	Sandwich unit
1	Overshelf
1	Chef's table
1	Bun toaster
1	Microwave oven
1	Auto filter system/dump station
2	Deep fat automatic fry kettles
1	Overshelf with heat lamps
1	Refrigerated base unit
1	Serving counter
4	Cup dispensers
1	Ice machine
1	Carbonated drink dispenser
1	Coffee urn
1	Beverage dispenser
1	Beverage station
1	Potato mix machine
1	Work table
2 systems	Ventilation equipment

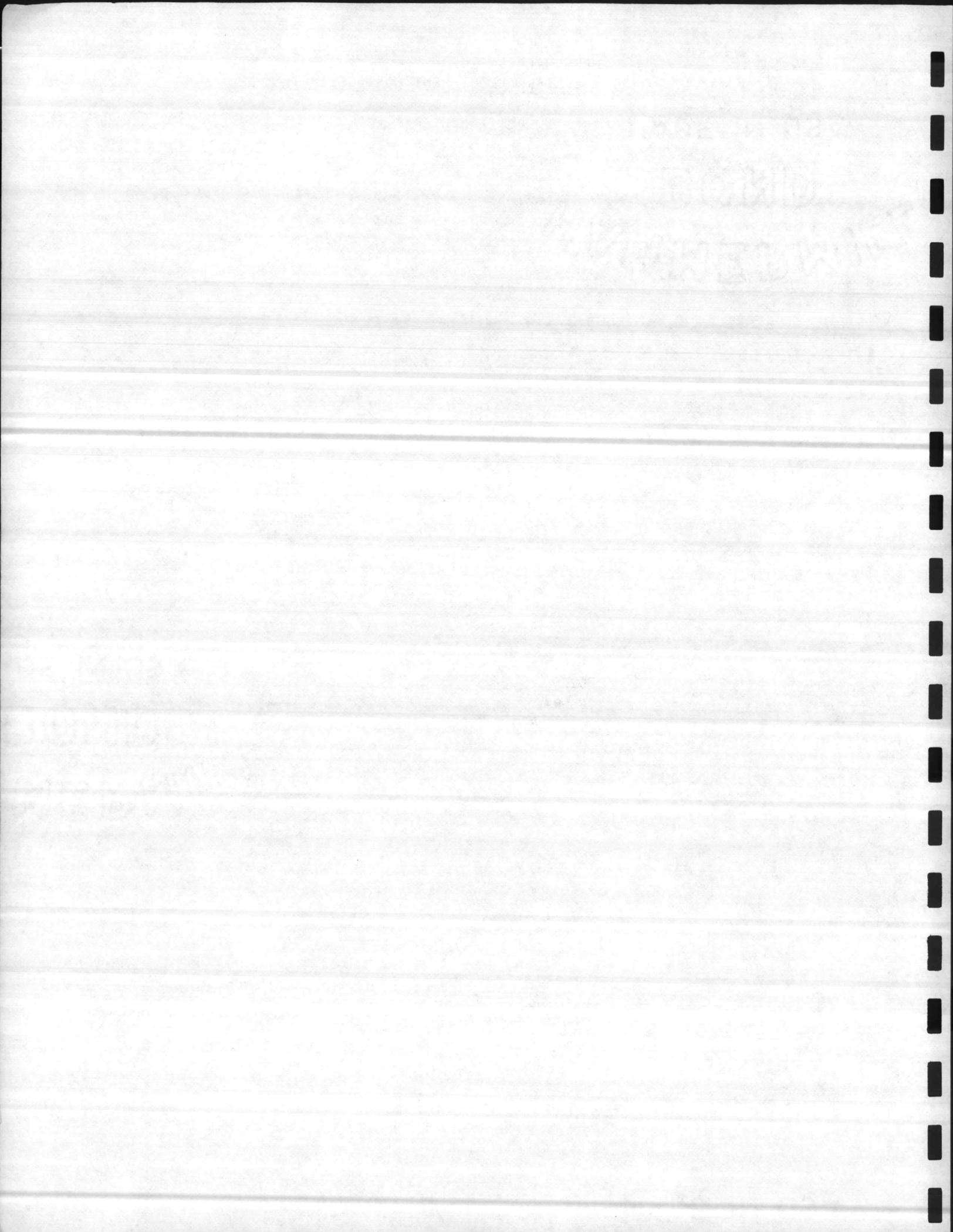
OUTSIDE DINING

Quantity	Description
6	Table/chair units
3	Trash container
1	Menu display



MESS HALL BA-103
COLLATERAL EQUIPMENT COST ESTIMATE

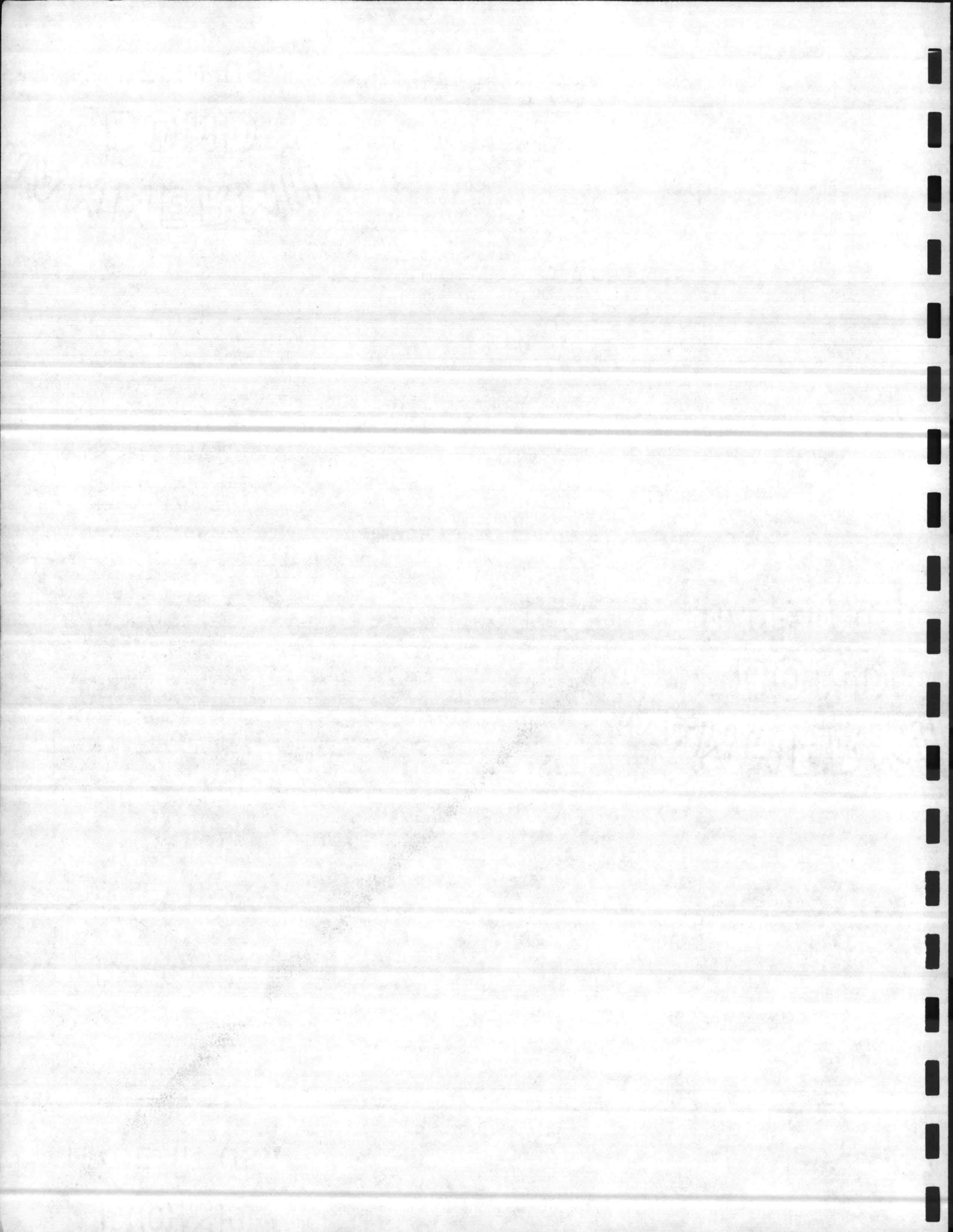
FAST FOOD KITCHEN AREA	\$32,020.00
OUTSIDE DINING AREA	\$3,200.00
VENTILATION EQUIPMENT	\$14,000.00
BA-103 TOTAL COST ESTIMATE FOR COLLATERAL EQUIPMENT	\$49,220.00



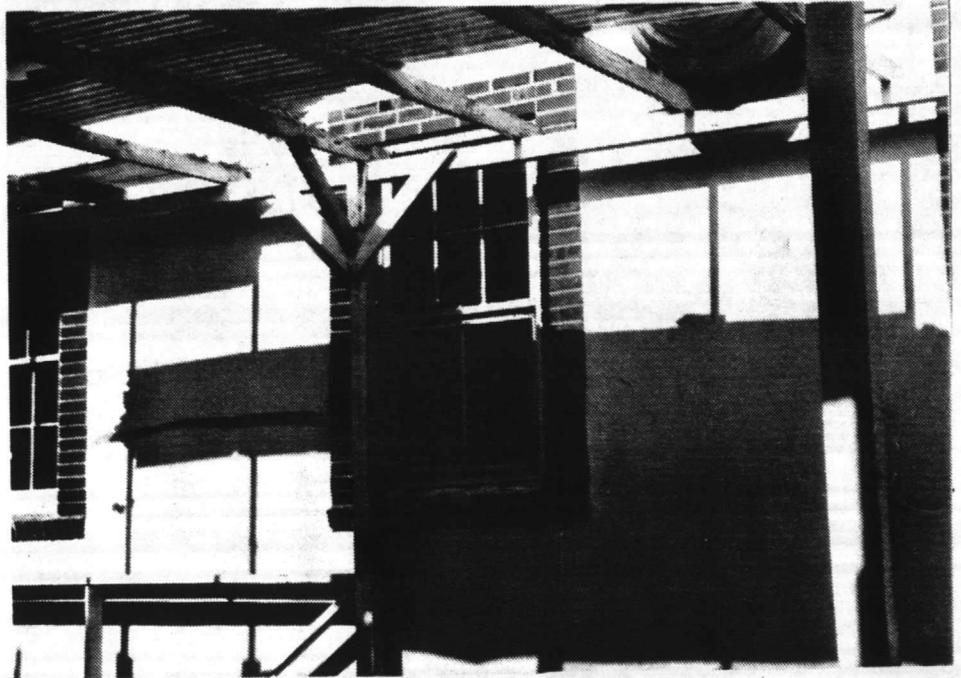
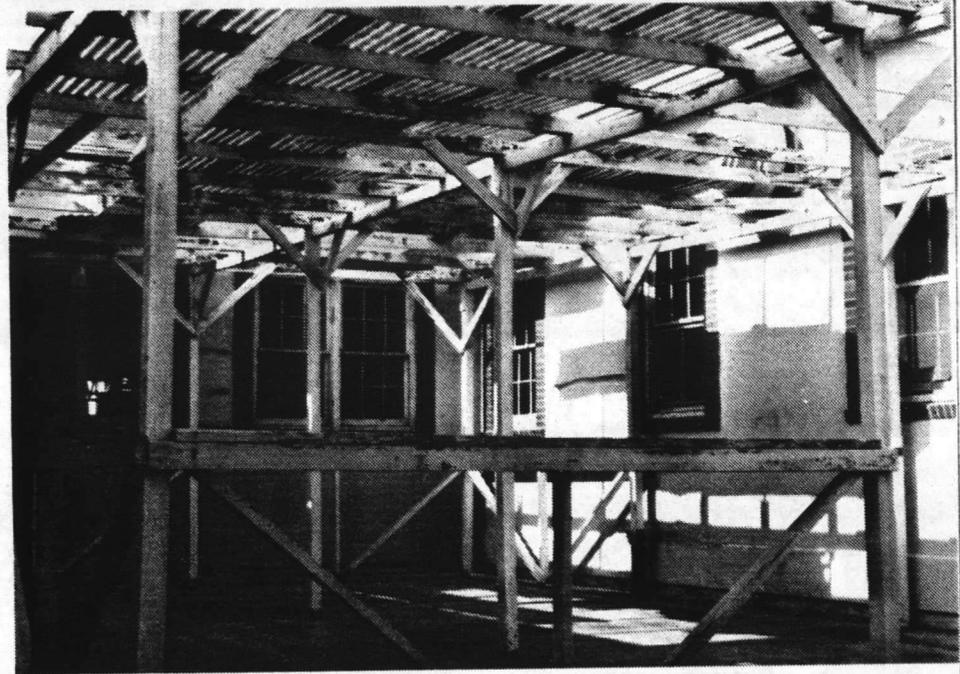
MESS HALL BA-103
ESTIMATED CONSTRUCTION COSTS

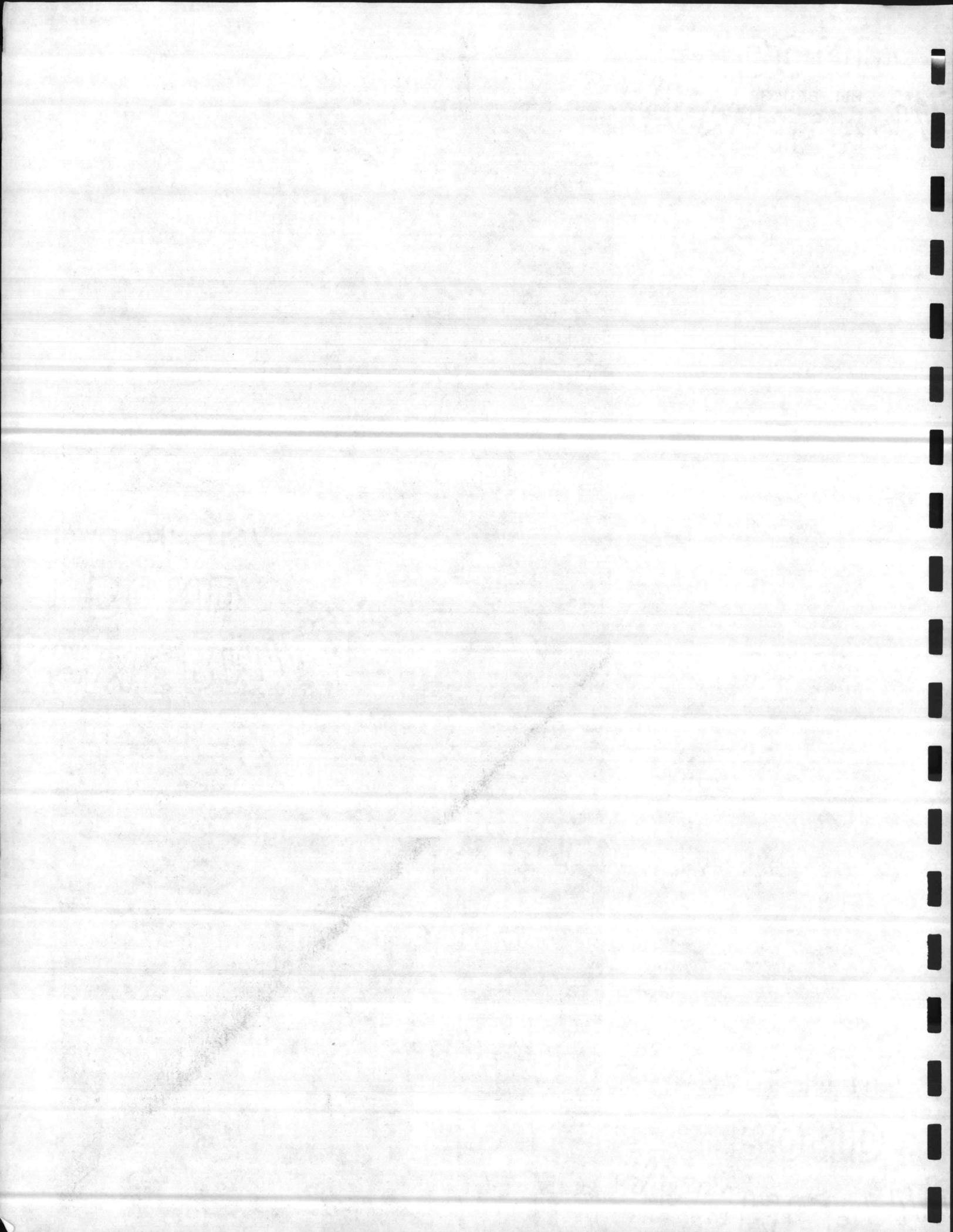
1. New Construction	
A. Treated Wood Deck	
1,000 SF @ \$20/SF	\$20,000.00
B. Awning Cover	
200 SF @ \$10/SF	\$2,000.00
2. Renovated Areas (Existing Bldg)	
A. Preparation Area	
330 SF @ \$75/SF	\$24,800.00
B. Window Removal & Patching	<u>\$10,000.00</u>
SUBTOTAL	\$56,800.00
3. Site Support	
A. Site Utility Changes	\$5,000.00
B. Demolition	\$5,000.00
C. Site Improvements	<u>\$10,000.00</u>
SUPPORT COST SUBTOTAL	\$20,000.00
4. Collateral Equipment	<u>\$49,000.00</u>
TOTAL ESTIMATED COST BUILDING & EQUIPMENT	\$125,000.00

NOTE: Cost estimates apply only to fast food areas.
Unless described in this report, renovations to existing
areas are not part of this study.

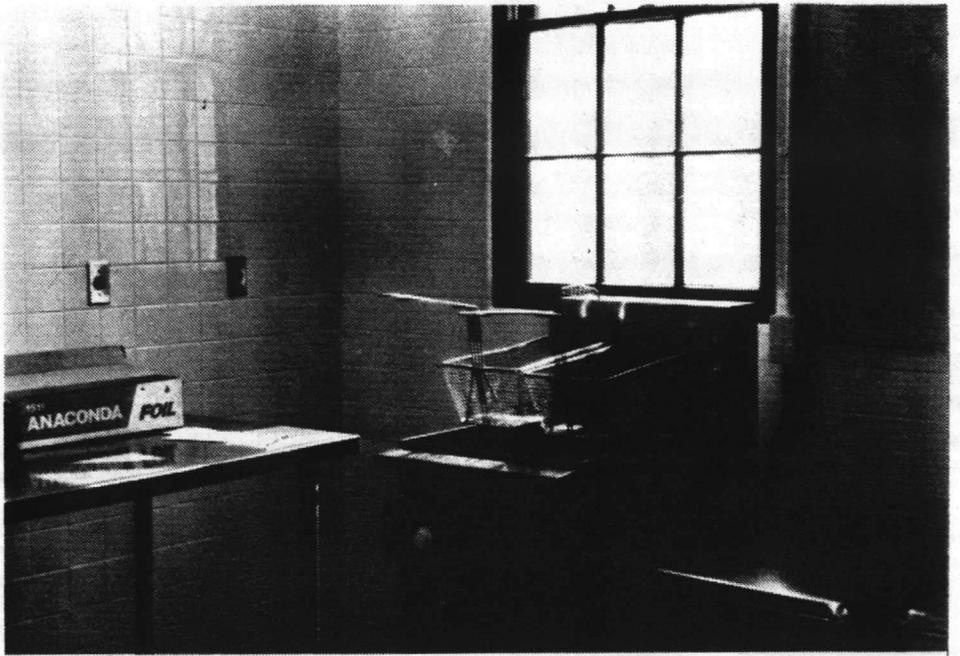


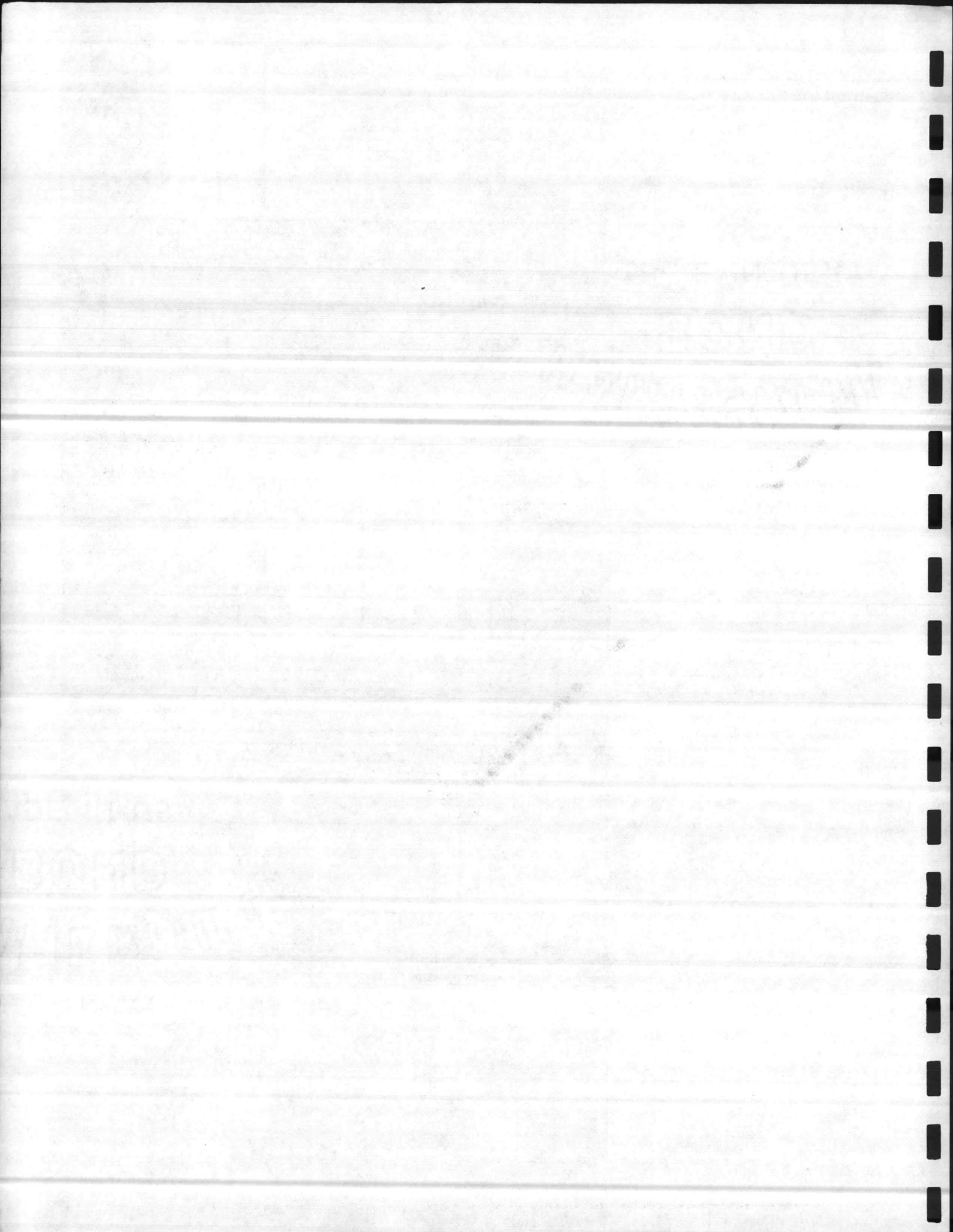
Mess Hall BA-103

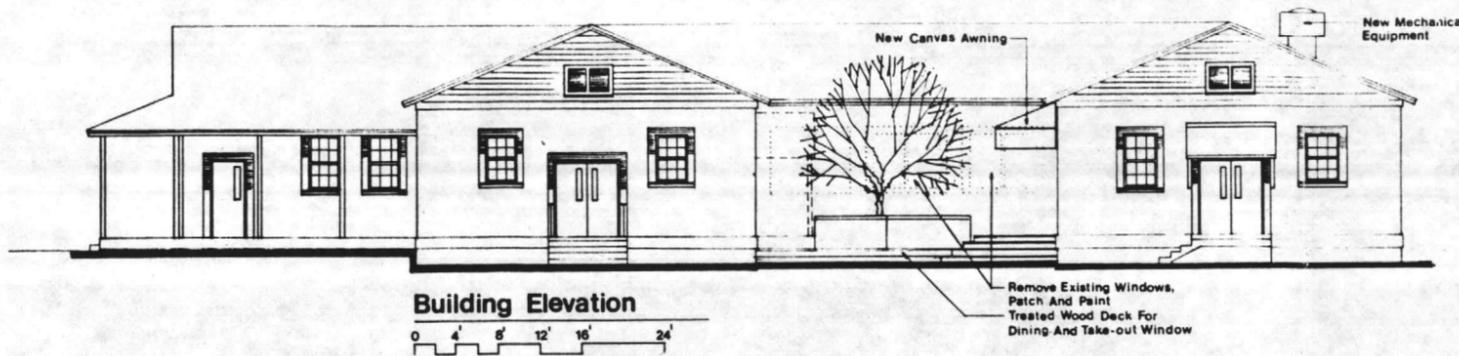




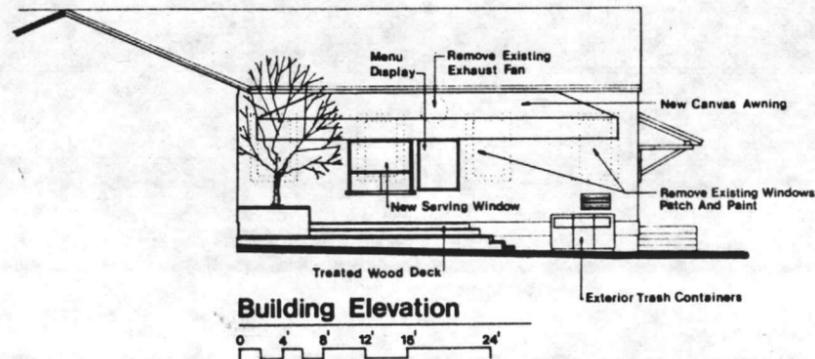
Mess Hall BA-103



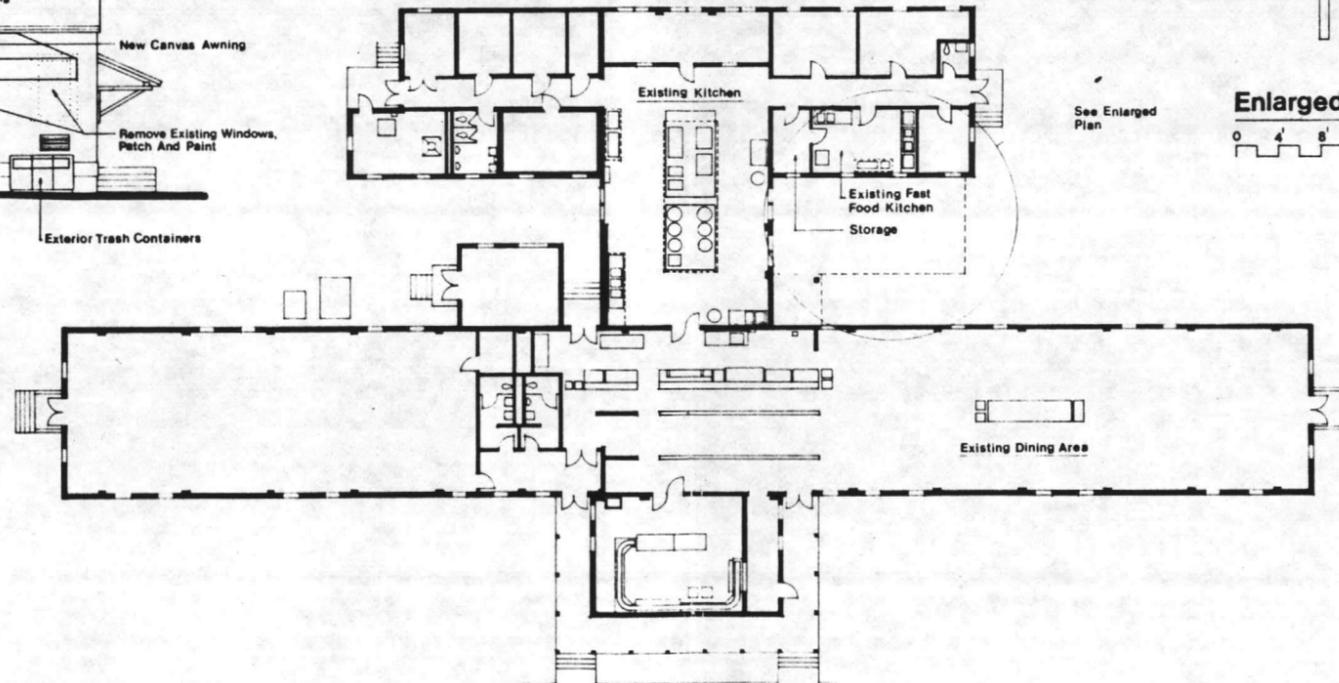




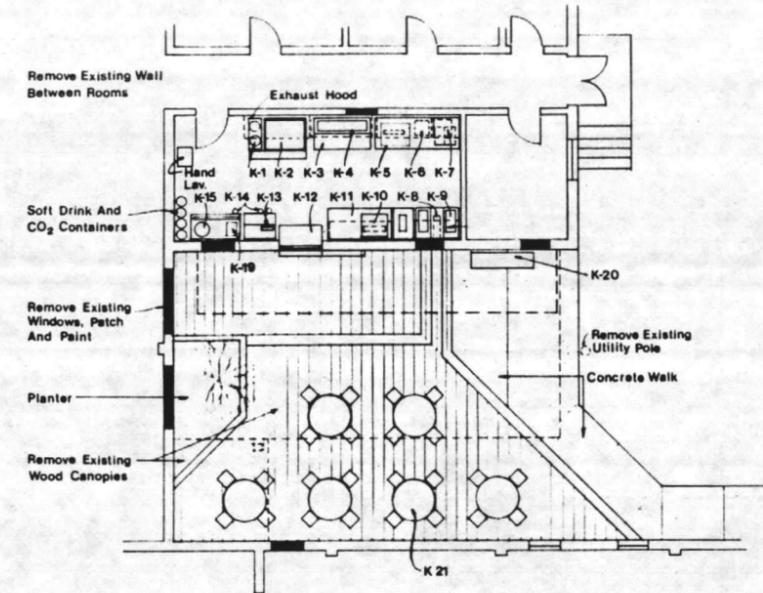
Building Elevation



Building Elevation



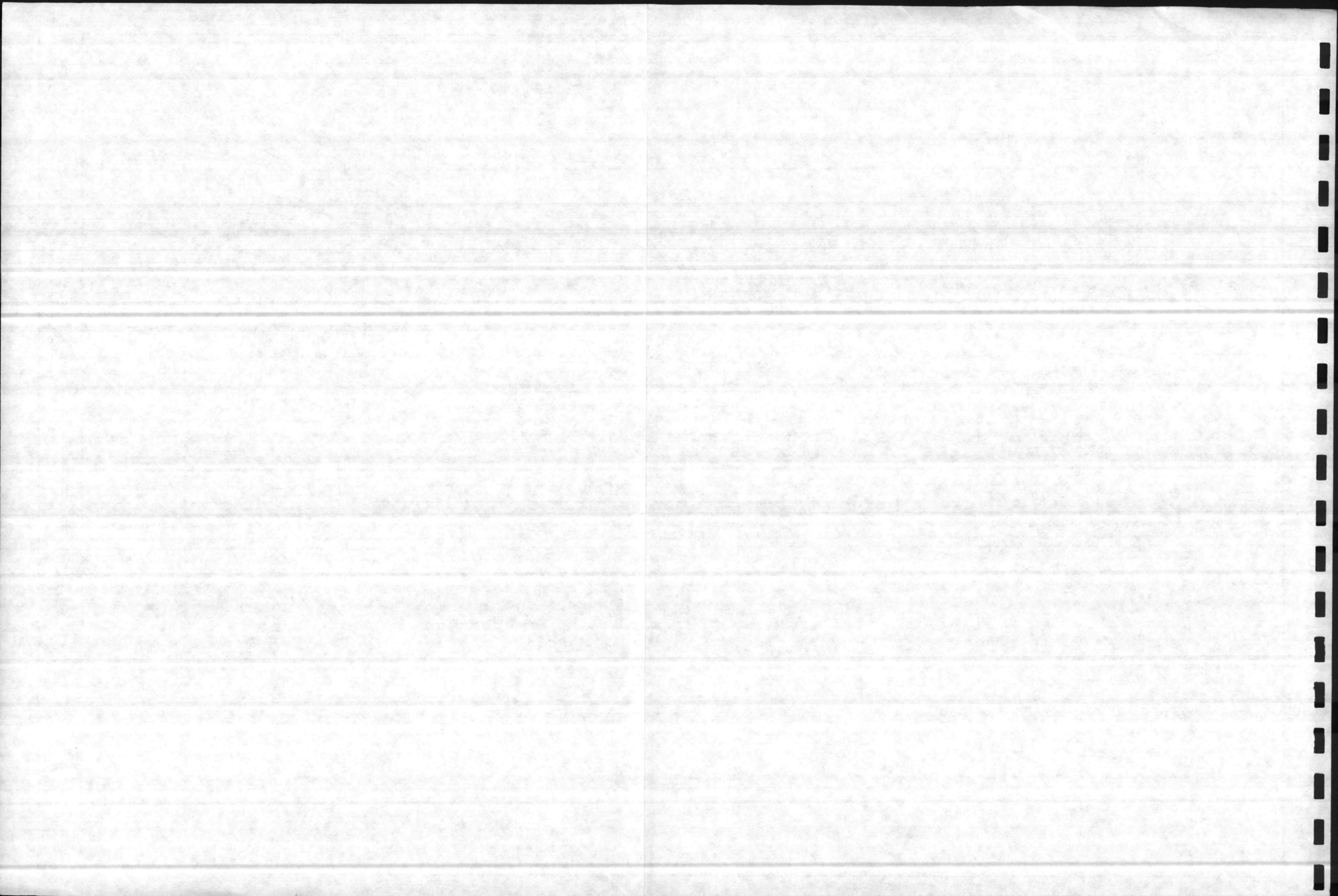
Mess Hall BA-103



Enlarged Fast Food Floor Plan

Equipment Schedule

- K-1 Two Eye Hotplate
- K-2 Griddle
- K-3 Sandwich Unit With Refrigerated Base
- K-4 Overshelf Bread Storage
- K-5 Chef's Table With Overshelf Steam Unit For Holddog And Bun Prep.
- K-6 Bun Toaster
- K-7 Microwave
- K-8 Auto Filter System And Dump Station
- K-9 Deep Fat Fry Kettle With Computer Controls And Auto-lift Basket
- K-10 Overshelf With Heat Lamps
- K-11 Refrigerated Base Unit
- K-12 Serving Counter
- K-13 Ice Machine And Soft Drink Dispensing System
- K-14 Cup Dispensers
- K-15 Coffee Urn
- K-16 Beverage Station
- K-17 Potato Machine
- K-18 Work Table
- K-19 Juice Dispenser
- K-20 Trash Containers
- K-21 Outside Seating



MESS HALL RR-3
FAST FOOD RECOMMENDATIONS

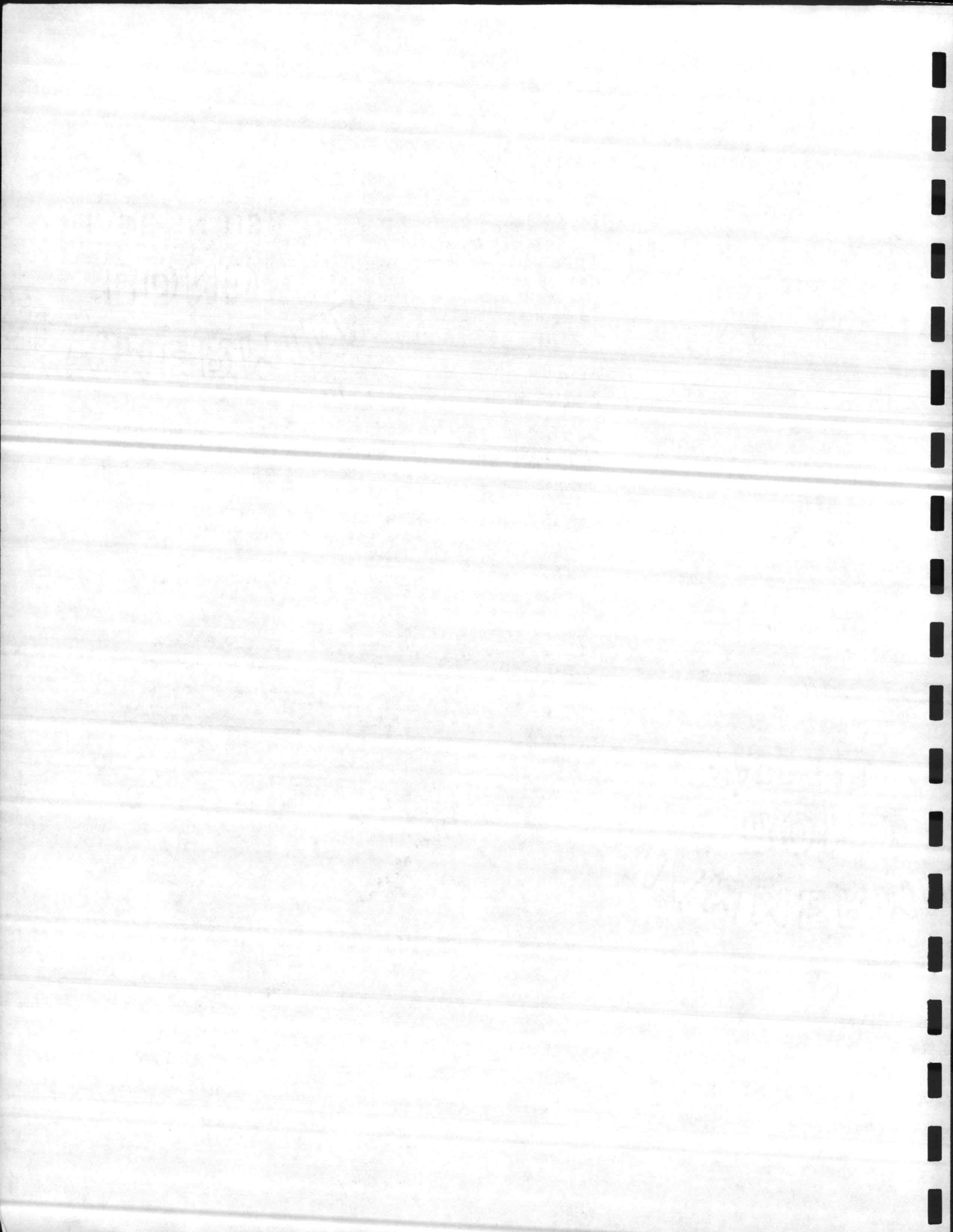
The scope of this project is to design renovation and additions to accommodate fast food eat-in and take-out service.

The original concept for this project was to locate fast food dining to the right half of the mess deck. The rotary ovens would be replaced by deck ovens and the fast food kitchen could be centrally located in the existing kitchen adjacent to the serving lines. This created a major problem due to the distance between conventional dining and the existing scullery area. The concept was reversed and additional space is required for the fast food kitchen. A display board was developed at the check-in area to conceal the double service doors to the main kitchen.

As stated in the scope of this project, aesthetics and appearance of serving and dining areas are important elements of the overall project. Renovations would include the following items:

1. Special lighting system
2. Acoustical tile ceiling
3. Vinyl wall covering/ceramic tile
4. Wood trim and molding
5. Quarry tile floor and base
6. Custom millwork
7. Artwork and decor items
8. Custom seating units.

NOTE: These are typical items and finishes for this type of commercial fast food facility.



MESS HALL RR-3
 COLLATERAL EQUIPMENT LIST

FAST FOOD KITCHEN AREA

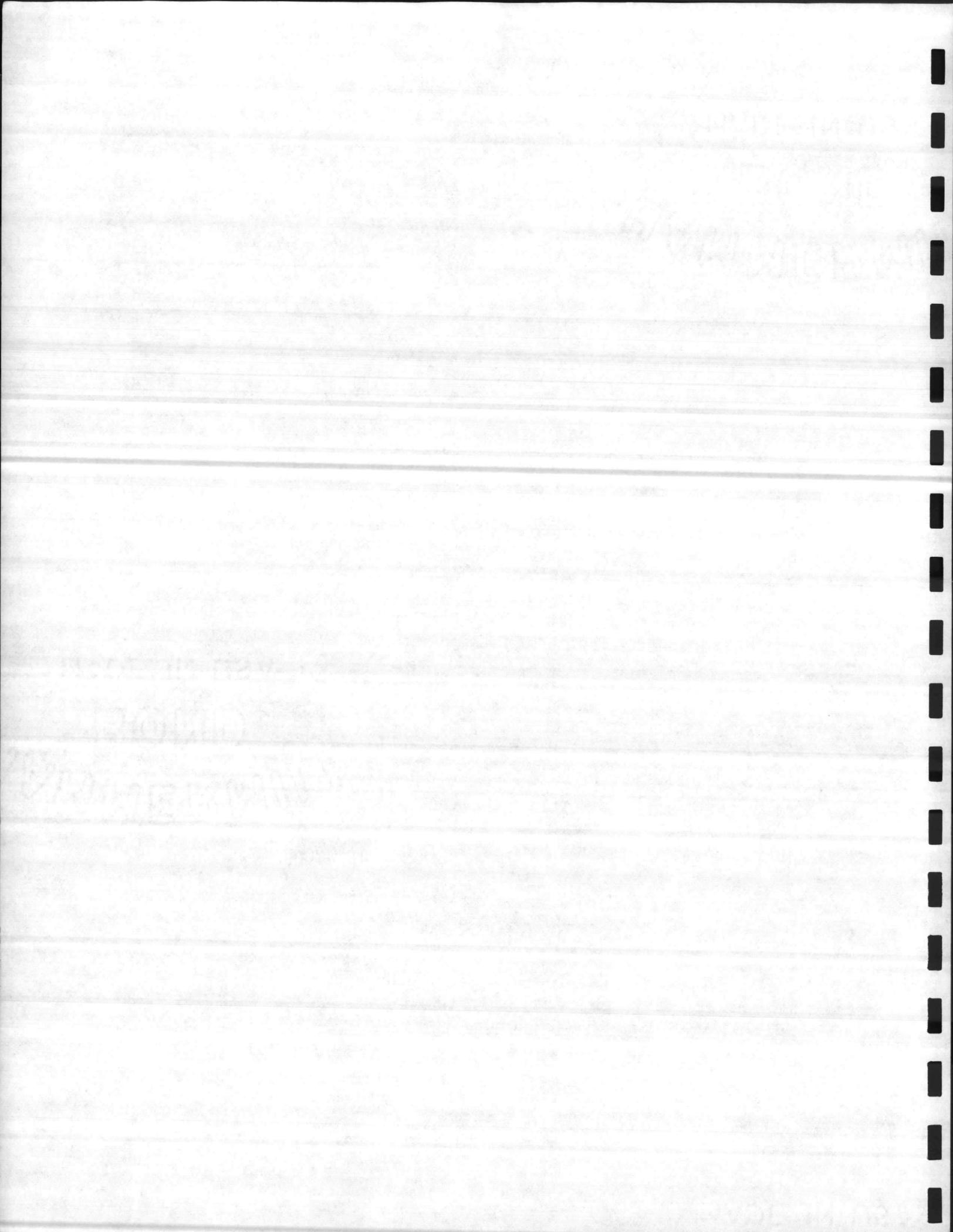
Quantity	Description
1	3-Door reach-in freezer
1	3-Door reach-in cooler
7+	Bread racks (by others)
1	Fry basket rack
1	Auto fry filter system
5	Deep fat automatic fry kettles
1	Fry dump station
1	Heat lamp fry holding station
1	Auto broiler
1	Mobile work table
2	Bun toasters
1	Steam holding unit
4	Microwave ovens
1	Chef's table
1	Sandwich holding unit with refrigerated base
1	TV monitor for special sandwiches
1	Slicer
1	6' x 2'-6" Work table
1	72" Griddle
1	Equipment Stand
1	Two eye hotplate
1	3' x 2'-6" Work table
1	Potato mix machine
3	Exhaust hoods
1	Ice Machine, cube type, 400 lb. cap. 550 lb. storage
1	3-Compartment Sink with drain board

FAST FOOD SERVING AREA

Quantity	Description
1	Carbonated drink dispensers
1	Ice storage unit
1	Beverage dispenser
1	Soft serve/milkshake machine
4	Cup dispensers
1	Microphone system
1	Refrigerated salad bar
1	Menu display panels
1	Beverage table

BEVERAGE REFILL AREA

Quantity	Description
1	Ice dispenser
1	Carbonated drink dispenser
2	Beverage dispensers
1	Coffee urn
5	Cup dispensers
1	Microwave oven
6	Trash containers
1	20' Tray slide



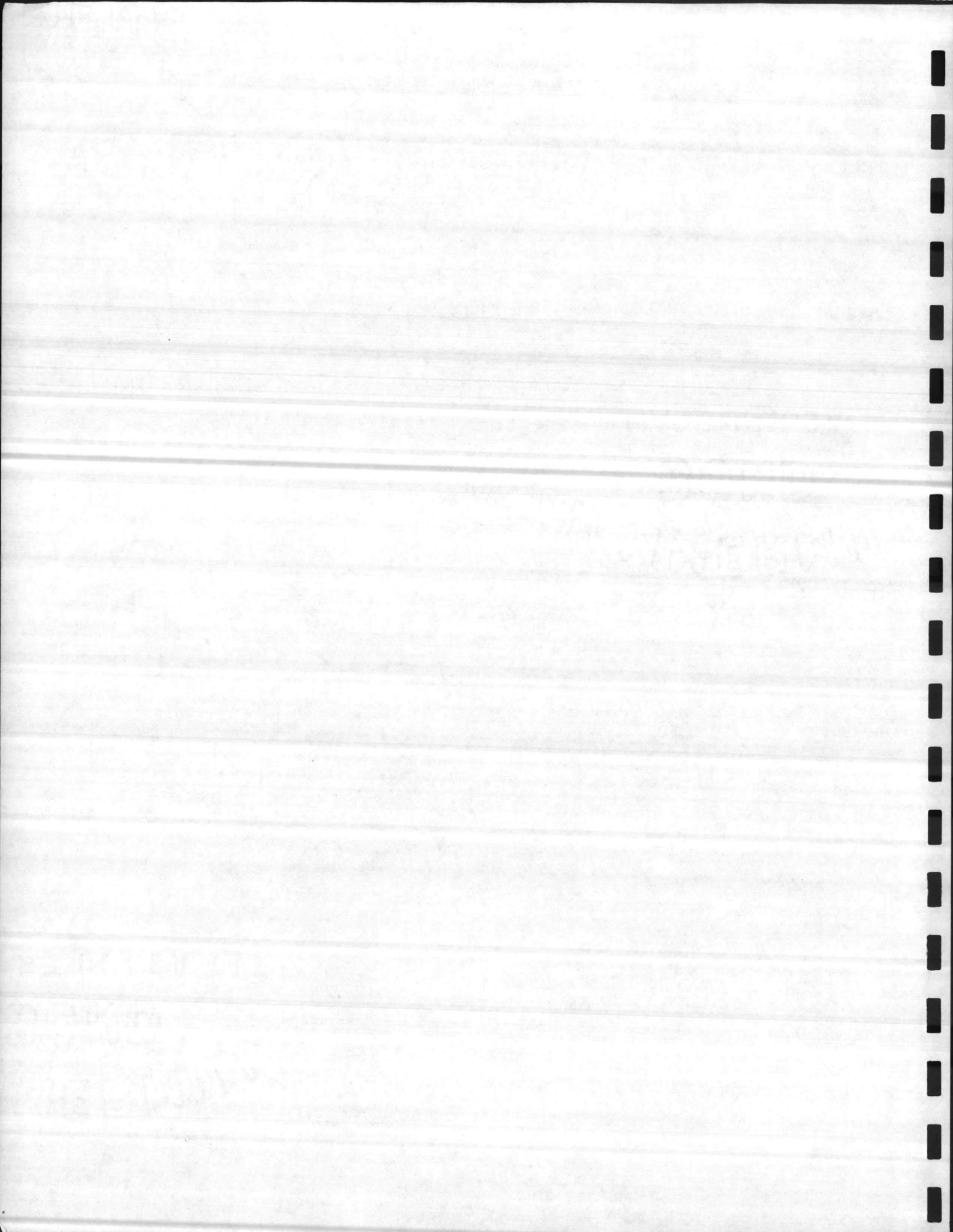
MESS HALL RR-3
COLLATERAL EQUIPMENT LIST

FAST FOOD DINING AREA

Quantity	Description
200	Fast food chairs
50	Fast food seats
9	Trash containers

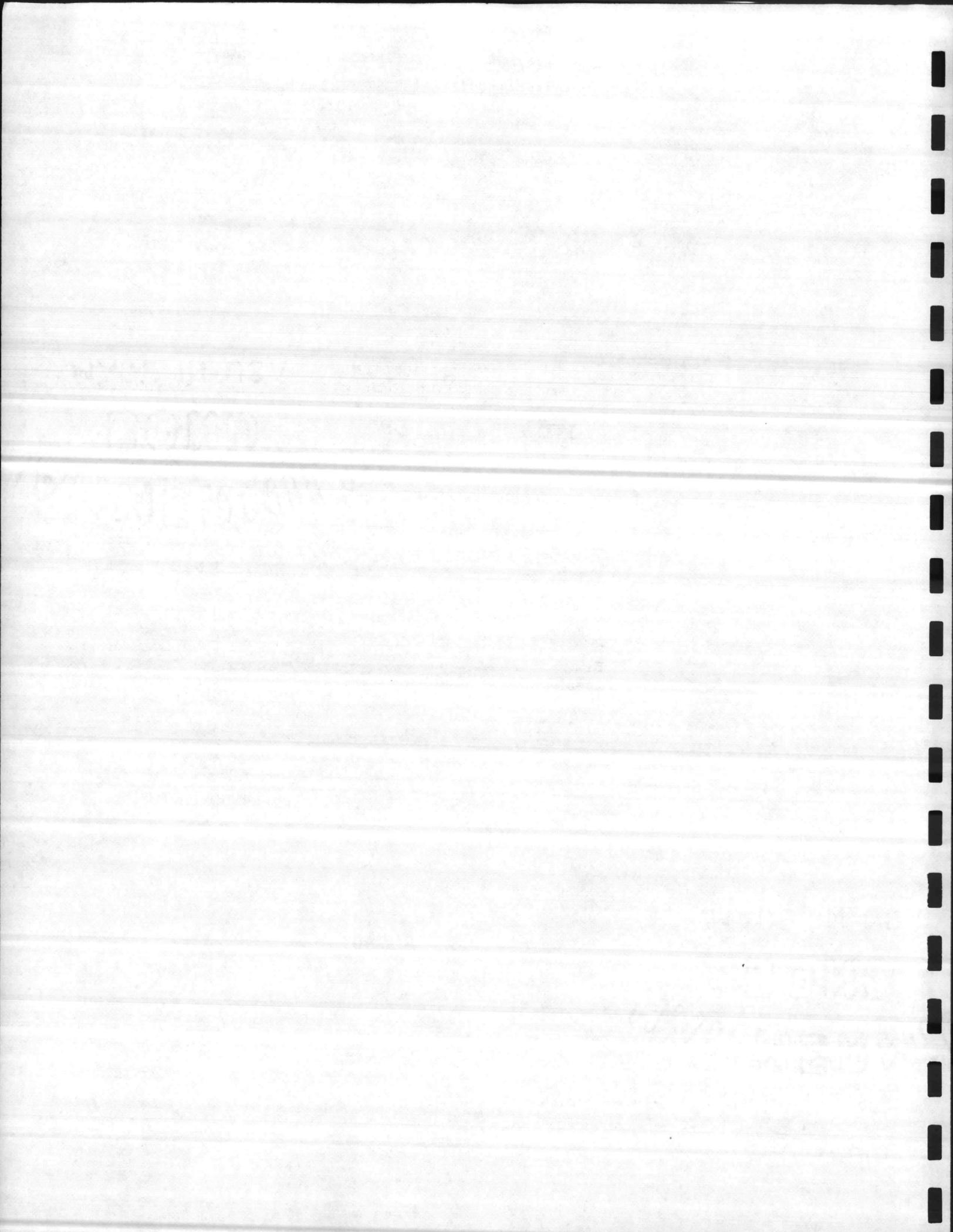
GI ROOM

Quantity	Description
1	Waste disposal system



MESS HALL RR-3
COLLATERAL EQUIPMENT COST ESTIMATE

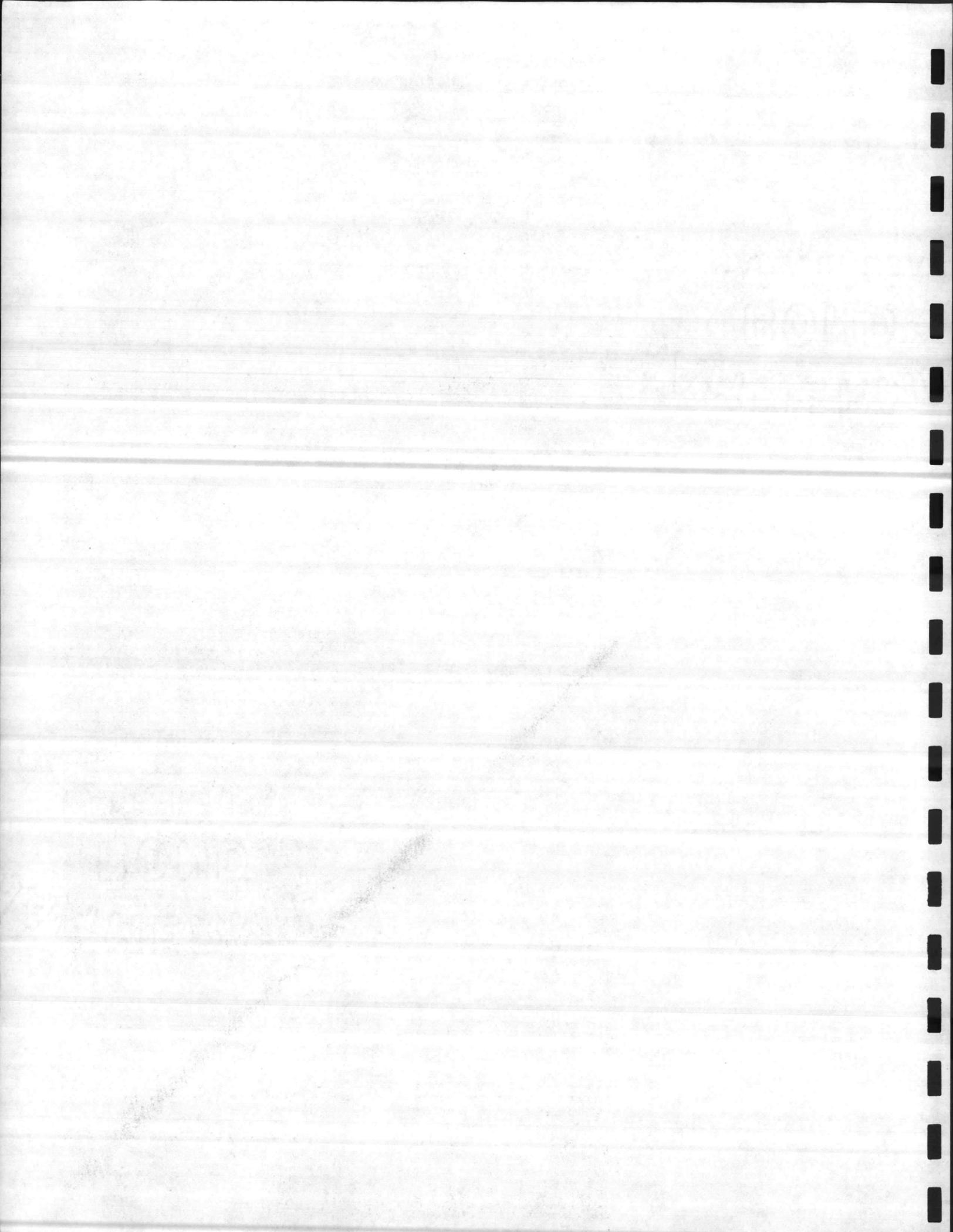
FAST FOOD KITCHEN AREA	\$79,200.00
FAST FOOD SERVING AREA	\$21,200.00
BEVERAGE REFILL AREA	\$12,500.00
FAST FOOD DINING AREA	\$37,200.00
GI ROOM	\$61,500.00
VENTILATION EQUIPMENT	\$34,700.00
RR-3 TOTAL COST ESTIMATE FOR COLLATERAL EQUIPMENT	\$246,300.00



MESS HALL RR-3
ESTIMATED CONSTRUCTION COSTS

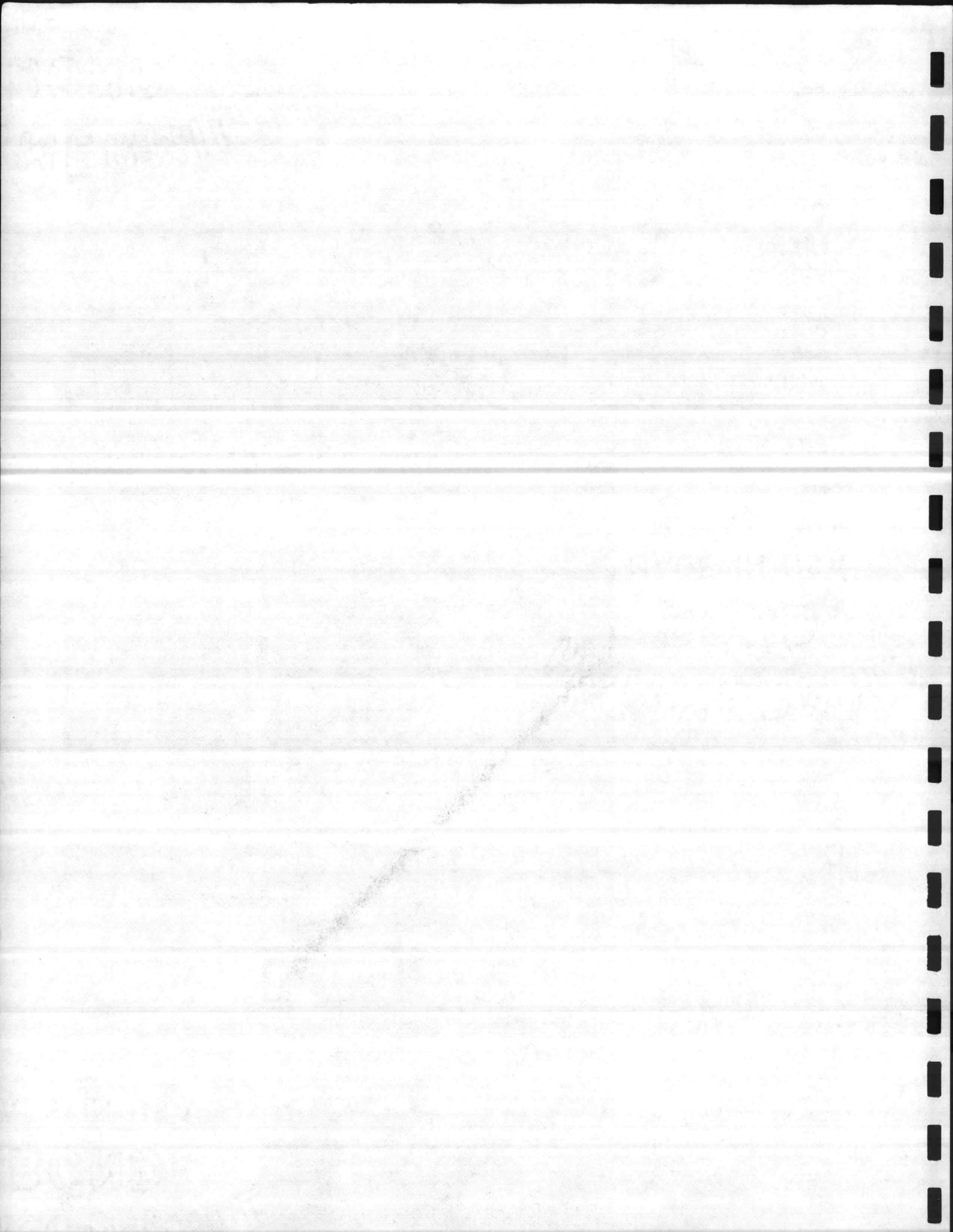
1. New Construction (Bldg Addition)	
1,100 SF @ \$75/SF	\$82,500.00
260 SF @ \$100/SF	\$26,000.00
2. Renovated Areas (Existing Bldg)	
A. Serving Area	
1,500 SF @ \$60/SF	\$90,000.00
B. Dining Areas	
3,500 SF @ \$45/SF	<u>\$157,500.00</u>
SUBTOTAL	\$330,000.00
3. Site Support	
A. Site Utility Changes	\$10,000.00
B. Demolition	\$5,000.00
C. Site Improvements	<u>\$10,000.00</u>
SUPPORT COST SUBTOTAL	\$25,000.00
4. Collateral Equipment	<u>\$246,000.00</u>
TOTAL ESTIMATED COST BUILDING & EQUIPMENT	\$601,000.00

NOTE: Cost estimates apply only to fast food areas.
Unless described in this report, renovations to existing
areas are not part of this study.

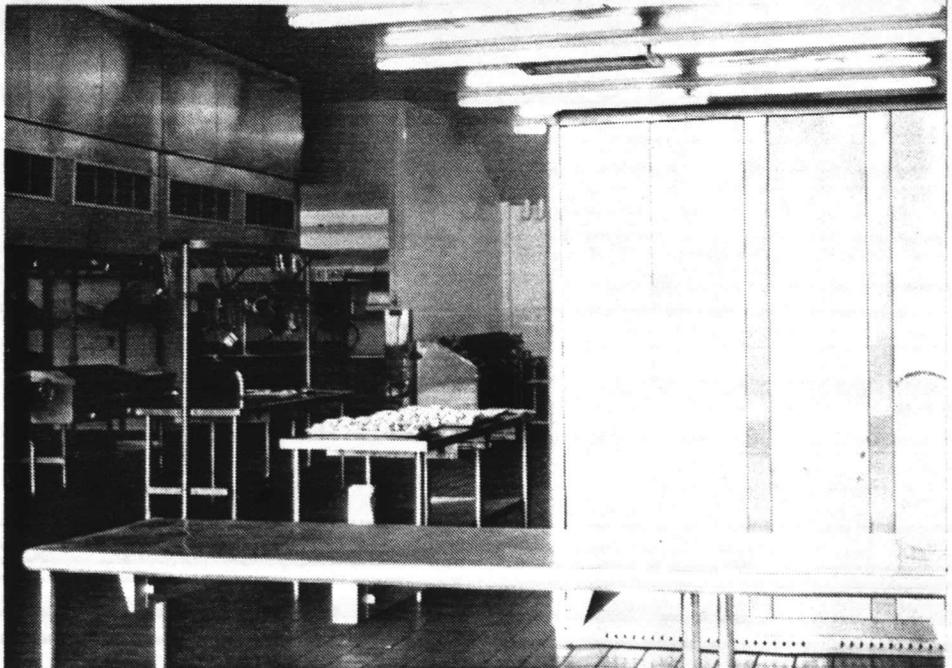
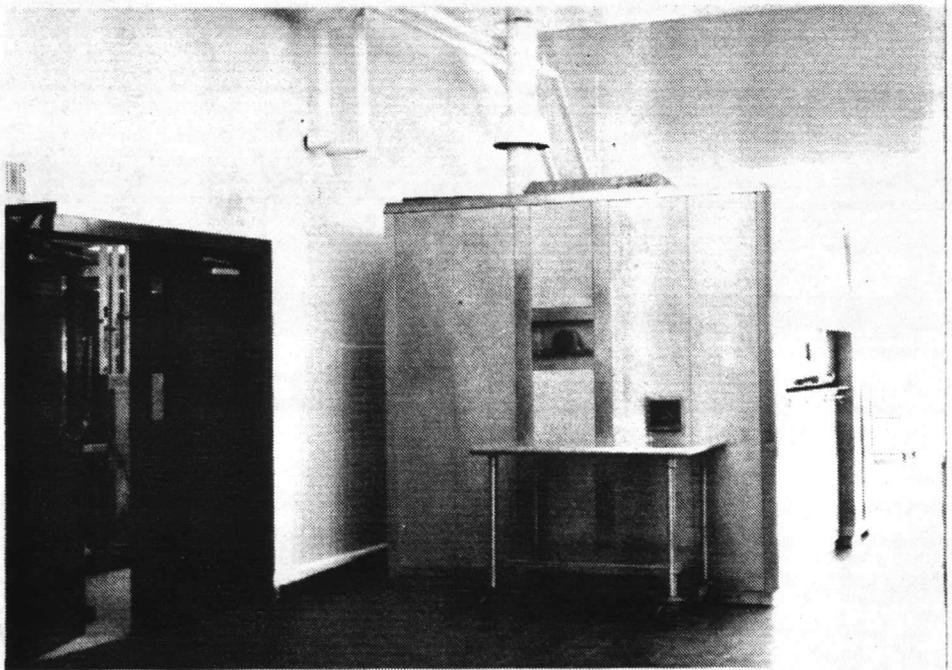
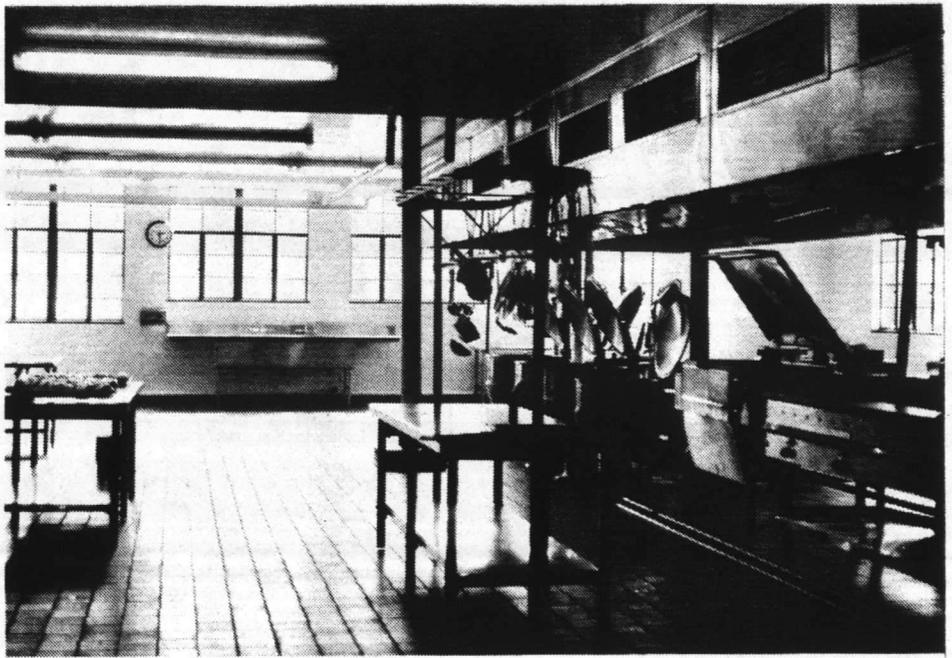


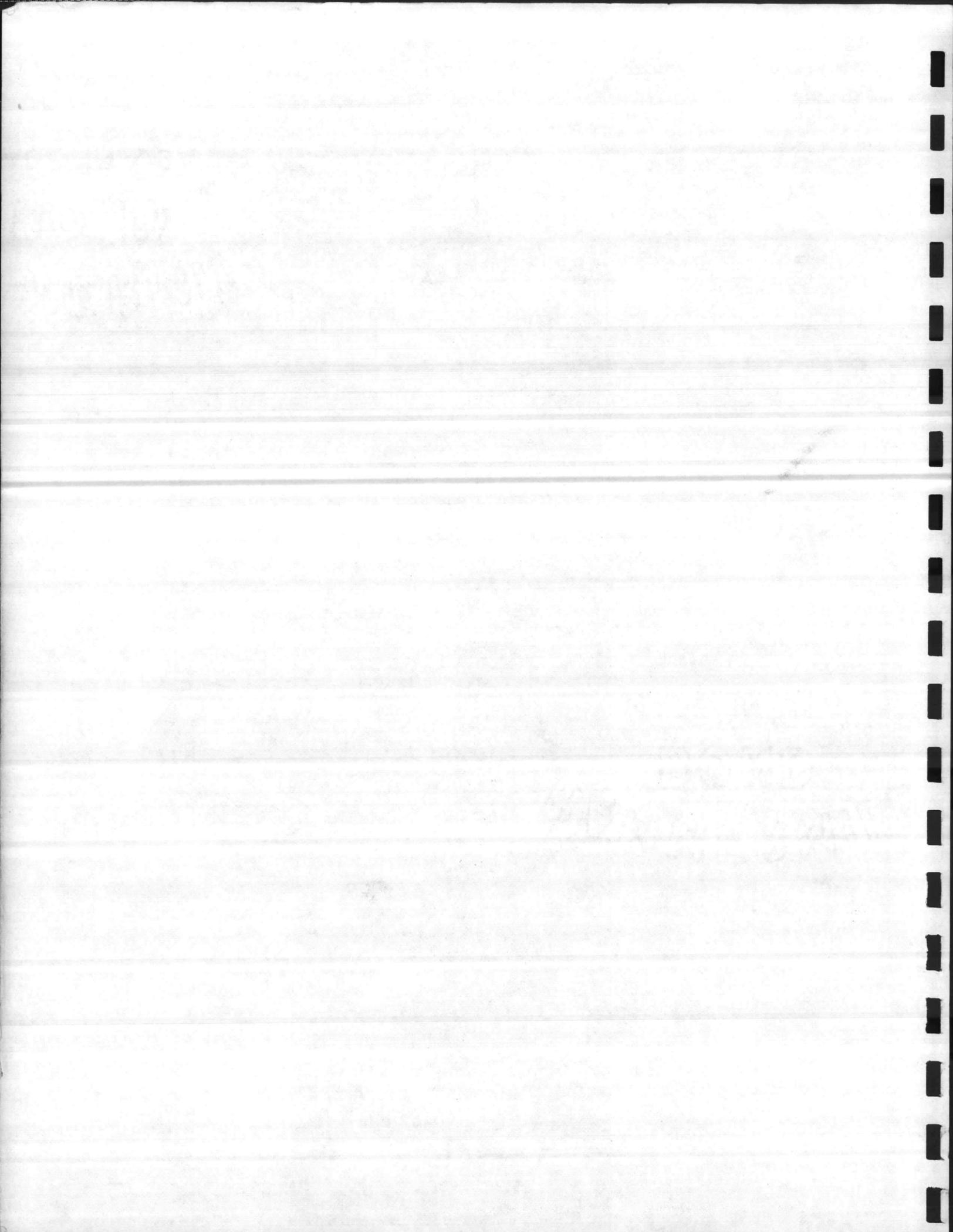
Mess Hall RR-3

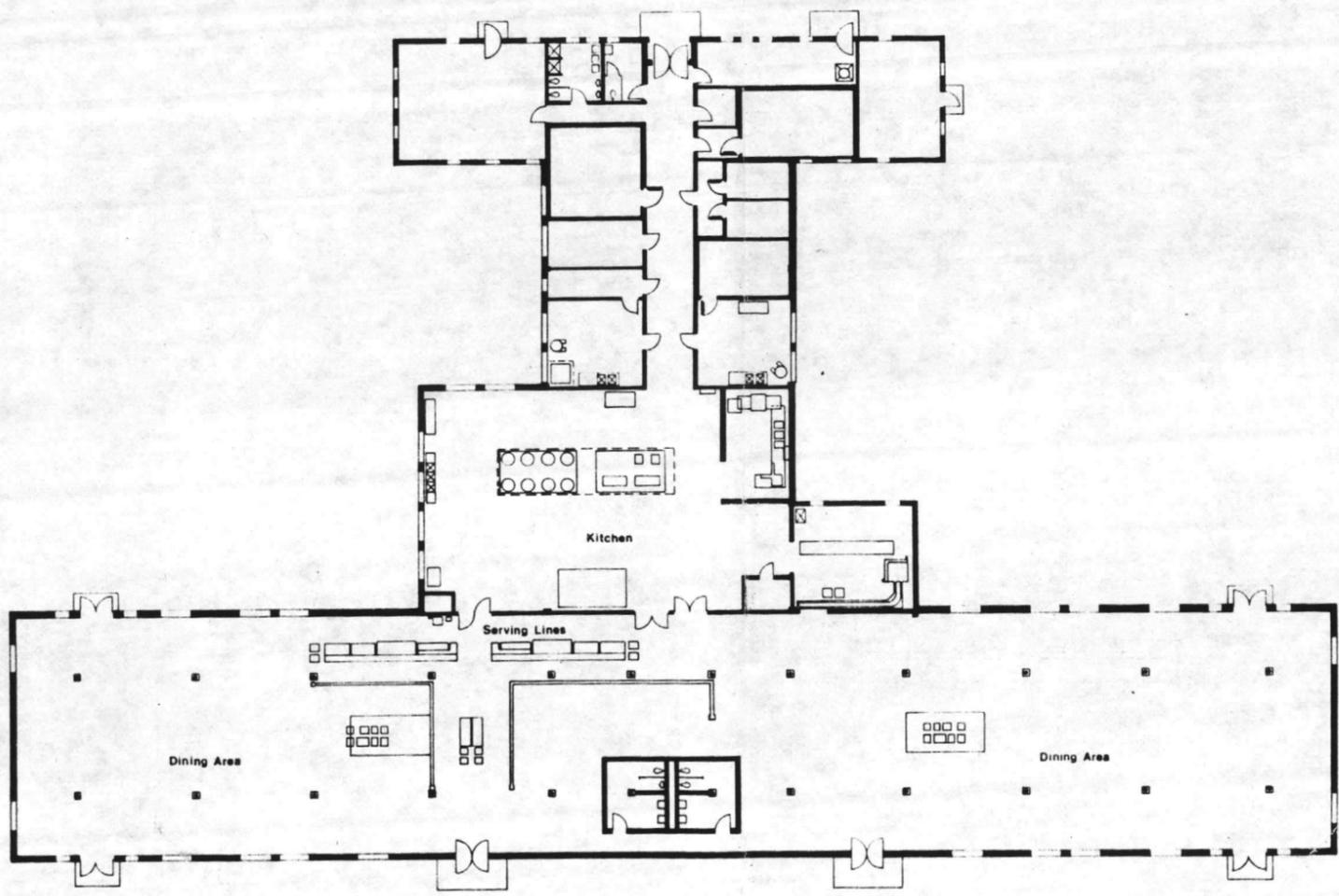




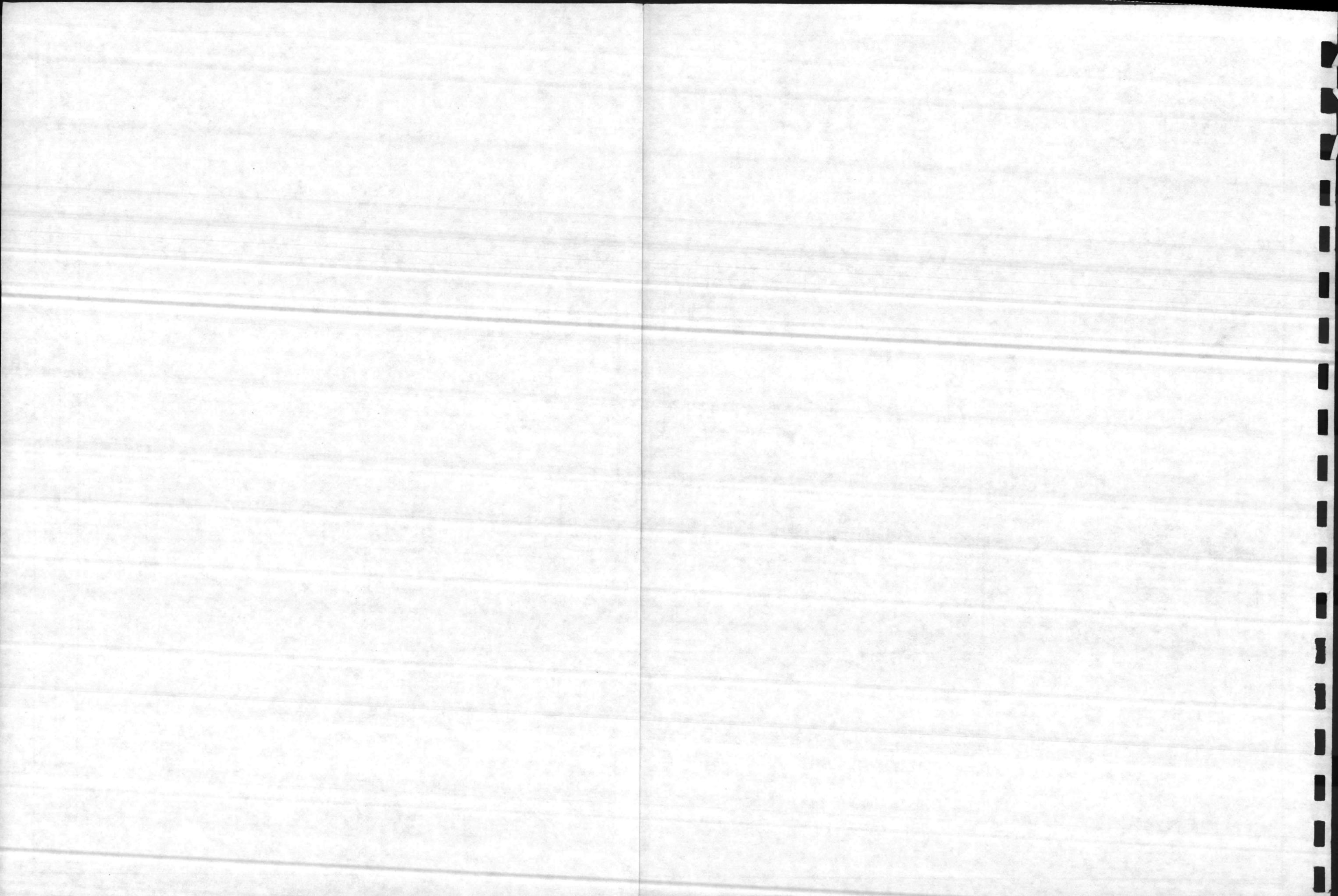
Mess Hall RR-3

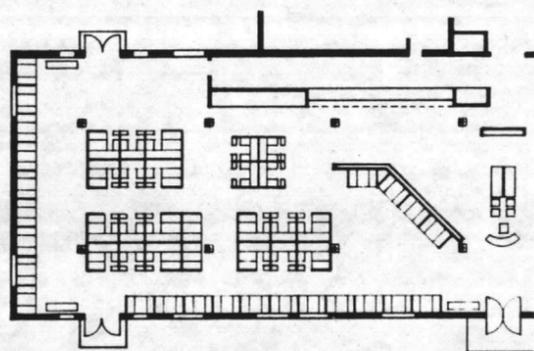




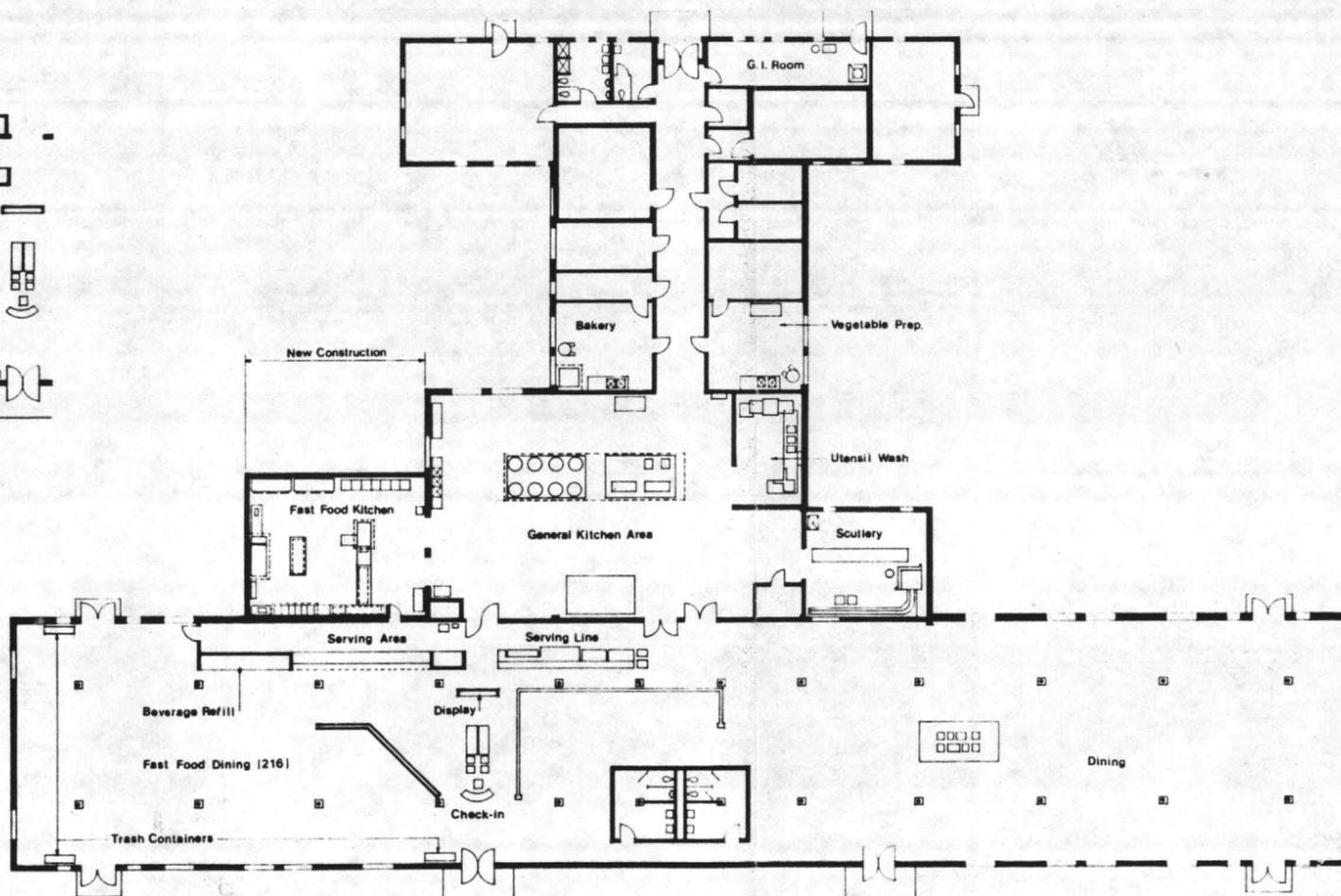


Mess Hall RR-3
 0 8' 16' 24' 32' 40'





Typical Seating Lay-out



Mess Hall RR-3 Fast Food Renovations

